

CALCULATIONS

ITEM 310 SUBBASE, TYPE I, GRADING A, AS PER PLAN

A. STA 222+55.27 TO STA 222+77.27, LT 22 FT. X 2 FT. X 0.50 FT. / 27 CU. FT./CU. YD.	=	0.81 CU. YDS.
B. STA 223+12.09 TO STA 223+22.09, LT 10 FT. X (30.17 FT. + 29.83 FT.)/2 X 0.5 FT. / 27 CU. FT./CU. YD.	=	5.56 CU. YDS.
C. STA 223+12.09 TO STA 223+22.09, RT 10 FT. X (30.17 FT. + 29.83 FT.)/2 X 0.5 FT. / 27 CU. FT./CU. YD.	=	5.56 CU. YDS.
D. STA 223+22.09 TO STA 223+47.09, LT 25 FT. X 31.83 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	14.74 CU. YDS.
E. STA 223+22.09 TO STA 223+47.09, RT 25 FT. X 31.83 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	14.74 CU. YDS.
F. STA 223+49.59 TO STA 223+54.59, RT 5 FT. X 2 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	0.19 CU. YDS.
G. STA 227+47.52 TO STA 227+52.52, LT 5 FT. X 2 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	0.19 CU. YDS.
H. STA 227+54.86 TO STA 227+79.86, LT 25 FT. X 31.83 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	14.74 CU. YDS.
I. STA 227+54.86 TO STA 227+79.86, RT 25 FT. X 31.83 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	14.74 CU. YDS.
J. STA 227+79.86 TO STA 227+89.86, LT 10 FT. X (30.17 FT. + 29.83 FT.)/2 X 0.5 FT. / 27 CU. FT./CU. YD.	=	5.56 CU. YDS.
K. STA 227+79.86 TO STA 227+89.86, RT 10 FT. X (30.17 FT. + 29.83 FT.)/2 X 0.5 FT. / 27 CU. FT./CU. YD.	=	5.56 CU. YDS.
L. STA 228+24.83 TO STA 228+46.83, RT 22 FT. X 2 FT. X 0.50 FT. / 27 CU. FT./CU. YD.	=	0.81 CU. YDS.
M. STA 236+08.23 TO STA 236+49.98, LT 41.75 FT. X 2 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	1.55 CU. YDS.
N. STA 236+67.18 TO STA 237+08.93, RT 41.75 FT. X 2 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	1.55 CU. YDS.
O. STA 238+08.13 TO STA 238+34.13, LT 26 FT. X 2 FT. X 0.50 FT. / 27 CU. FT./CU. YD.	=	0.96 CU. YDS.
P. STA 238+51.36 TO STA 238+93.11, RT 41.75 FT. X 2 FT. X 0.5 FT. / 27 CU. FT./CU. YD.	=	1.55 CU. YDS.
SUBTOTAL	=	88.81 CU. YDS.

TOTAL OF ITEM 310	= 89 CU. YDS.
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ITEM 402 ASPHALT CONCRETE, AC-20

1 - 1/2" Depth

A. STA 223+12.09 TO STA 223+22.09, LT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
B. STA 223+12.09 TO STA 223+22.09, RT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
C. STA 227+79.86 TO STA 227+89.86, LT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
D. STA 227+79.86 TO STA 227+89.86, RT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
SUBTOTAL	=	5.36 CU. YDS.

TOTAL OF ITEM 402	= 6 CU. YDS.
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ITEM 404 ASPHALT CONCRETE, AC-20

1 - 1/2" Depth

A. STA 222+55.27 TO STA 222+77.27, LT 22 FT. X 1.5 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.15 CU. YDS.
B. STA 222+72.09 TO STA 223+12.09, LT 40 FT. X (33 FT. + 29.17 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	5.76 CU. YDS.
C. STA 222+72.09 TO STA 223+12.09, RT 40 FT. X (33 FT. + 29.17 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	5.76 CU. YDS.
D. STA 223+12.09 TO STA 223+22.09, LT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
E. STA 223+12.09 TO STA 223+22.09, RT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
F. STA 223+49.59 TO STA 223+54.59, RT 5 FT. X 1.5 FT X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.03 CU. YDS.
G. STA 227+47.52 TO STA 227+52.52, LT 5 FT. X 1.5 FT X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.03 CU. YDS.
H. STA 227+79.86 TO STA 227+89.86, LT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
I. STA 227+79.86 TO STA 227+89.86, RT 10 FT. X (29.17 FT. + 28.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.34 CU. YDS.
J. STA 227+89.86 TO STA 228+29.86, LT 40 FT. X (33 FT. + 29.17 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	5.76 CU. YDS.

K. STA 227+89.86 TO STA 228+29.86, RT 40 FT. X (33 FT. + 29.17 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	5.76 CU. YDS.
L. STA 228+24.83 TO STA 228+46.83, RT 22 FT. X 1.5 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.15 CU. YDS.
M. STA 236+03.13 TO STA 236+53.13, LT 50 FT. X 33.83 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	7.83 CU. YDS.
N. STA 236+03.13 TO STA 236+53.13, RT 50 FT. X 33.83 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	7.83 CU. YDS.
O. STA 236+53.13 TO STA 236+63.87, LT 10.74 FT. X (33.5 FT. + 33.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.67 CU. YDS.
P. STA 236+53.13 TO STA 236+63.87, RT 10.74 FT. X (33.5 FT. + 33.83 FT.)/2 X 0.125 FT. / 27 CU. FT./CU. YD.	=	1.67 CU. YDS.
Q. STA 236+63.87 TO STA 236+78.13, RT 14.26 FT. X 33.83 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	2.23 CU. YDS.
R. STA 236+63.87 TO STA 236+78.13, RT 14.26 FT. X 33.83 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	2.23 CU. YDS.
S. STA 238+23.20 TO STA 238+48.20, LT 25 FT. X 34.3 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	3.97 CU. YDS.
T. STA 238+23.20 TO STA 238+48.20, RT 25 FT. X 33.83 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	3.92 CU. YDS.
U. STA 238+48.20 TO STA 238+73.20, LT 25 FT. X 33.83 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	3.92 CU. YDS.
V. STA 238+48.20 TO STA 238+66.95, RT 25 FT. X 33.83 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	3.92 CU. YDS.
W. STA 236+08.23 TO STA 236+49.98, LT 41.75 FT. X 1.5 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.29 CU. YDS.
X. STA 236+67.18 TO STA 237+08.93, RT 41.75 FT. X 1.5 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.29 CU. YDS.
Y. STA 238+08.13 TO STA 238+34.13, LT 26 FT. X 1.5 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.18 CU. YDS.
Z. STA 238+51.36 TO STA 238+93.11, RT 41.75 FT. X 1.5 FT. X 0.125 FT. / 27 CU. FT./CU. YD.	=	0.29 CU. YDS.
SUBTOTAL	=	69.00 CU. YDS.

TOTAL OF ITEM 404	= 69 CU. YDS.
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ITEM 407 TACK COAT

A. STA 222+72.09 TO STA 223+12.09, LT 40 FT. X (29.17 FT. + 33 FT.)/2 / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	13.82 GAL.
B. STA 222+72.09 TO STA 223+12.09, RT 40 FT. X (29.17 FT. + 33 FT.)/2 / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	13.82 GAL.
C. STA 227+89.86 TO STA 228+29.86, LT 40 FT. X (29.17 FT. + 33 FT.)/2 / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	13.82 GAL.
D. STA 227+89.86 TO STA 228+29.86, RT 40 FT. X (29.17 FT. + 33 FT.)/2 / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	13.82 GAL.
E. STA 236+03.13 TO STA 236+53.13, LT 50 FT. X 33.83 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	18.79 GAL.
F. STA 236+03.13 TO STA 236+53.13, RT 50 FT. X 33.83 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	18.79 GAL.
G. STA 238+48.20 TO STA 238+73.20, LT 25 FT. X 33.83 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	9.40 GAL.
H. STA 238+48.20 TO STA 238+73.20, RT 25 FT. X 33.83 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	9.40 GAL.
I. STA 236+53.13 TO STA 236+63.81, LT 10.68 FT X (33.5 FT. + 33.83 FT.)/2 / 9 SQ. FT./SQ. YD. X 0.1 GAL./SQ. YD.	=	3.99 GAL.
J. STA 236+53.13 TO STA 236+63.81, RT 10.68 FT X (33.5 FT. + 33.83 FT.)/2 / 9 SQ. FT./SQ. YD. X 0.1 GAL./SQ. YD.	=	3.99 GAL.
K. STA 236+63.81 TO STA 236+78.13, LT 14.32 FT. X 33.83 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL./SQ. YD.	=	5.38 GAL.
L. STA 236+63.81 TO STA 236+78.13, RT 14.32 FT. X 33.83 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL./SQ. YD.	=	5.38 GAL.
M. STA 238+23.20 TO STA 238+48.20, LT 25 FT. X 34.3 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	9.53 GAL.
N. STA 238+23.20 TO STA 238+48.20, RT 25 FT. X 33.83 FT. / 9 SQ. FT./SQ. YD. X 0.1 GAL/SQ. YD.	=	9.40 GAL.
SUBTOTAL	=	149.33 GAL.

TOTAL OF ITEM 407	= 150 GAL.
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ITEM 601 CRUSHED AGGREGATE SLOPE PROTECTION (CU. YDS.)

A. STA 223+17 TO STA 223+45, LT		
1 FT DEPTH AT 1.8:1 SLOPE = 1.15 FT DEPTH		
238.88 S.F. AREA X 1.15 FT / 27 CU. FT./CU. YD.	=	10.17 CU. YDS.
VARYING DEPTH, 5.72 FT AT ROCK CHANNEL PROTECTION TO 1.15 FT DEPTH		
161.5 S.F. AREA X (5.72 FT + 1.15 FT)/2 / 27 CU. FT./CU. YD.	=	20.55 CU. YDS.
LESS VOLUME FOR RETAINING WALL SHAFTS		
4 SHAFTS X 25.13 S.F. AREA X (5.72 FT + 3.52 FT)/2 / 27 CU. YD./CU. FT.	=	-17.20 CU. YDS.
SUBTOTAL A	=	13.52 CU. YDS.
B. SOUTH BASELINE STA 2+00 TO STA 3+00		
END AREA (S.F.)		VOLUME (CU. FT.)
STA 2+00	39.05	
STA 2+50	38.49	38.77
STA 3+00	39.05	38.77
SUBTOTAL B		= 77.54 CU. YDS.

C. STA 224+08 TO STA 224+69, RT		
1 FT DEPTH AT 1.8:1 SLOPE = 1.15 FT DEPTH		
629 S.F. AREA X 1.15 FT / 27 CU. FT./CU. YD.	=	29.47 CU. YDS.
VARYING DEPTH, 5.72 FT AT ROCK CHANNEL PROTECTION TO 1.15 FT DEPTH		
307.7 S.F. AREA X (5.72 FT + 1.15 FT)/2 / 27 CU. FT./CU. YD.	=	39.15 CU. YDS.
LESS VOLUME FOR RETAINING WALL SHAFTS		
7 SHAFTS X 25.13 S.F. AREA X (5.72 FT + 3.52 FT)/2 / 27 CU. YD./CU. FT.	=	-30.10 CU. YDS.
SUBTOTAL C	=	38.52 CU. YDS.
D. STA 226+52 TO STA 227+03, LT		
1 FT DEPTH AT 1.8:1 SLOPE = 1.15 FT DEPTH		
773.63 S.F. AREA X 1.15 FT / 27 CU. FT./CU. YD.	=	32.95 CU. YDS.
VARYING DEPTH, 5.72 FT AT ROCK CHANNEL PROTECTION TO 1.15 FT DEPTH		
416.5 S.F. AREA X (5.72 FT + 1.15 FT)/2 / 27 CU. FT./CU. YD.	=	52.99 CU. YDS.
LESS VOLUME FOR RETAINING WALL SHAFTS		
7.5 SHAFTS X 25.13 S.F. AREA X (5.72 FT + 3.52 FT)/2 / 27 CU. YD./CU. FT.	=	-32.25 CU. YDS.
SUBTOTAL D	=	53.69 CU. YDS.

E. NORTH BASELINE STA 5+00 TO STA 6+00		
END AREA (S.F.)		VOLUME (CU. YD.)
STA 5+00	40.20	
STA 5+50	37.91	72.33
STA 6+00	37.34	69.68
SUBTOTAL E		= 142.01 CU. YDS.

F. STA 227+66 TO STA 227+76, RT		
1 FT DEPTH AT 1.8:1 SLOPE = 1.15 FT DEPTH		
90.25 S.F. AREA X 1.15 FT / 27 CU. FT./CU. YD.	=	3.84 CU. YDS.
VARYING DEPTH, 5.72 FT AT ROCK CHANNEL PROTECTION TO 1.15 FT DEPTH		
25.50 S.F. AREA X (5.72 FT + 1.15 FT)/2 / 27 CU. FT./CU. YD.	=	3.24 CU. YDS.
SUBTOTAL F	=	7.09 CU. YDS.

TOTAL OF ITEM 601	= 333 CU. YDS.
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