

COST BASED ESTIMATE

Date: 7/28/2023

MEMORANDUM TO: FILE

FROM: Summit Design and Engineering Services

SUBJECT: Project No. : U-5824

COST BASED ESTIMATE QUANTITY BREAKDOWNS

The breakdown of quantities for the following items have been prepared to assist the Design Services Unit in the preparation of the "Cost Based Estimate".

I Earthwork

The earthwork summary in the plans has been prepared in accordance with the following guidelines:

- | | | | |
|------------|-----------|------------|---|
| <u>Yes</u> | <u>No</u> | <u>N/A</u> | |
| <u>Yes</u> | _____ | _____ | a. Summary points do not exceed 3000'. |
| _____ | _____ | <u>N/A</u> | b. Summary points end / begin at each bridge (stream or grade separation). |
| <u>Yes</u> | _____ | _____ | c. Summary points end / begin near each major at-grade multi-lane intersection or at-grade railroad crossing. |
| _____ | _____ | _____ | d. -Y- Lines are included in their respective summaries. |
| <u>Yes</u> | _____ | _____ | e. On widening projects separate summaries are provided for right and left sides. |
| <u>Yes</u> | _____ | _____ | f. On existing divided facilities to be widened separate summaries are provided for right side and median widening. |

II. Pavement Quantities

Pavement quantity breakdowns have been prepared in accordance with the following chart:

<u>Full Lane Width</u> (10' or more width) (any layer of material constructed to a width of 10' or more and along a continuous pull)		<u>Miscellaneous Areas</u> (0 to 10' widening width) (ramps, intersections, tapers, short auxillary lanes median x-over, Rt. & Lt. turn lanes driveways, etc.)		<u>Wedging & Leveling</u>		
ITEM	TONS	Subgrade Contact (sq.yds)	TONS	Subgrade Contact (sq.yds)	TONS	Total (TONS)
S9.5B	13759	89,188	50	454	310	14120
I19.0C	9,515	41731	1517	6653	6234	17270
B25.0C	10485	45986	2727	11961	5108	18320

Please note that on widening projects where I-2 or like is used 2" deep on the widening portion and 1" deep on the existing pavement the first 1" of material on the widening section (less than 10' wide) should be calculated and included in the miscellaneous area and the second 1" should be included with the resurfacing and included in the full lane width (if 10' wide or greater).

PROJECT NO.: U-5824
 COMPUTED BY: JPM
 CHECKED BY: FEJ

SHEET OF
 SECTION: 226

GRADING (LUMP SUM)

(THIS COMPUTATION SHEET APPLIES ONLY TO PROJECTS WHICH HAVE BEEN PREDETERMINED TO USE THIS PAY ITEM. SEE ROADWAY DESIGN MANUAL, PART I, 11-6)

ITEM	QUANTITIES	UNIT	UNIT PRICE	PRICE
CLEARING AND GRUBBING	<u>3.10</u>	ACRES	\$ 10,000.00	<u>\$ 31,000.00</u>
UNCLASSIFIED EXCAVATION	<u>9,170</u>	YD ³	\$ 6.00	<u>\$ 55,020.00</u>
BORROW EXCAVATION	<u>36,360</u>	YD ³	\$ 6.25	<u>\$ 227,250.00</u>
SHOULDER BORROW	<u></u>	YD ³	\$ 6.25	<u>\$ -</u>
FINE GRADING	<u>58,870</u>	YD ²	\$ 2.50	<u>\$ 147,175.00</u>
REMOVAL OF EXISTING ASPHALT PAVEMENT	<u>8,700</u>	YD ²	\$ 2.50	<u>\$ 21,750.00</u>
REMOVAL OF EXISTING CONCRETE PAVEMENT	<u></u>	YD ²	\$ 10.00	<u>\$ -</u>
BREAKING OF EXISTING ASPHALT PAVEMENT	<u></u>	YD ²	\$ 2.00	<u>\$ -</u>
BREAKING OF EXISTING CONCRETE PAVEMENT	<u></u>	YD ²	\$ 5.00	<u>\$ -</u>
			TOTAL	<u>\$ 482,195.00</u>

IF THE SUMMATION OF THE ITEM AMOUNTS IS \$1,000,000.00 OR LESS, THEN THE GRADING MAY BE LET ON A "LUMP SUM" BASIS WITH CONCURRENCE OF THE DIVISION ENGINEER. IF THE COST OF ANY ONE OF THE ITEMS, EXCLUDING CLEARING AND GRUBBING AND FINE GRADING, IS 50% OR MORE OF THE TOTAL COST CALCULATED, THEN THAT ITEM SHALL BE INCLUDED AS AN INDIVIDUAL ITEM WITH THE OTHER ITEMS BEING DONE ON A "LUMP SUM GRADING" BASIS. A SPECIAL PROVISION WILL BE NEEDED IN THIS CASE AND THE PAY ITEM "GRADING" SHOULD BE INDICATED AS A "SP" IN THE ESTIMATE. IF THE SUM OF THE LUMP SUM ITEMS AMOUNTS EXCEEDS \$1,000,000.00 OR IS 25% MORE OF THE TOTAL COST OF THE PROJECT, THE PROJECT SHALL CONTAIN THE INDIVIDUAL ITEMS, IT WILL BE NECESSARY TO CALCULATE AND SHOW THE PAVEMENT STRUCTURE VOLUME ON THE SUMMARY OF EARTHWORK.

OTHER CONSIDERATIONS FOR LUMP SUM GRADING MAY UTILIZE A DOLLAR LIMIT. FOR EXAMPLE 3R PROJECTS WITH "TRENCHING & WIDENING" AND MINOR GRADING SHOULD BE CONSIDERED WHEN USE OF CROSS-SECTIONS FOR EARTHWORK BY THE RESIDENT ENGINEER IS NOT PRACTICAL. WHEN APPLYING LUMP SUM GRADING TO THESE SPECIAL APPLICATIONS, APPROVAL BY THE ASSISTANT STATE ROADWAY DESIGN ENGINEER AND PROPOSALS AND CONTRACTS SECTION ENGINEER IS REQUIRED ON A PROJECT-BY-PROJECT BASIS.

* LIST ALL QUANTITIES ON THE CALCULATION SHEET EVEN IF THE PAY ITEM PRICE EXCEEDS 50% OR MORE OF THE TOTAL COST.

PROJECT NO.: U-5824
COMPUTED BY: SSL
CHECKED BY: FEJ

SHEET OF
SECTION: 200

CLEARING AND GRUBBING

LINE	STATION	STATION	LOCATION	AREA FROM CADD OR LENGTH	WIDTH	SQUARE FEET
L	16+93	18+41	RT	2,571.67		2,571.67
L	20+29	22+26	LT	6,806.53		6,806.53
L	23+11	23+33	LT	991.95		991.95
L	22+85	24+91	RT	2,106.56		2,106.56
L	24+84	26+84	LT	10,597.41		10,597.41
L	27+66	28+64	LT	4,547.28		4,547.28
Y3	14+17	14+68	LT	1,015.86		1,015.86
L	28+44	31+59	RT	4,474.36		4,474.36
L	38+40	38+97	LT	3,129.66		3,129.66
L	40+48	40+83	LT	2,907.61		2,907.61
L	41+64	51+09	LT	51,333.15		51,333.15
L	45+61	51+40	RT	24,161.54		24,161.54
L	74+53	74+86	RT	788.66		788.66
Y9	10+55	11+44	RT	967.92		967.92
L	81+35	83+84	LT	6,782.20		6,782.20
L	91+49	91+57	LT	200.79		200.79
L	91+53	93+01	RT	1,781.43		1,781.43
L	96+41	98+47	LT	5,735.46		5,735.46
L	95+07	96+84	RT	2,886.02		2,886.02
Total Sq. Feet =					Total Sq. Feet	133,786.07
43560 Sq. Feet/ACRE					Acres	3.07
					SAY	3.10

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT: U-5824

COUNTY: Forsyth

DATE: 9/5/2023

COMPILED BY: Josh Jernigan

CHAIN	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE					
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+)15%		ROCK	SUITABLE	UNSUIT.	TOTAL		
SUMMARY 1																		
-L- LT	10+52.50	30+00.00	1,786					1,786	5,029		5,029	5,783		3,997				
-L- LT	30+00.00	50+50.00	2,709					2,709	9,935		9,935	11,425		8,716				
-L- LT	71+50.00	98+50.00	1,830					1,830	2,762		2,762	3,176		1,346				
-L- LT	100+00.00	106+50.00	551					551	89		89	102			449		449	
-L- RT	10+52.50	15+50.00	231					231	640		640	736		505				
-L- RT	44+50.00	70+00.00	3,441					3,441	3,266		3,266	3,756		315				
-L- RT	70+00.00	98+50.00	967					967	5,394		5,394	6,203		5,236				
-L- RT	100+00.00	106+50.00	44					44	677		677	779		735				
-Y1-	10+75.00	12+00.00	46					46	57		57	66		20				
-Y3-	10+25.00	12+13.74	130					130	230		230	265		135				
-Y4-	10+00.00	11+34.42	82					82	46		46	53			29		29	
-Y6-	10+51.94	12+00.00	181					181	27		27	31			150		150	
-Y7A-	10+51.50	11+50.00	23					23	52		52	60		37				
-Y8A-	10+46.96	12+90.79	324					324	87		87	100			224		224	
SUBTOTAL			12,345					12,345	28,291		28,291	32,535		21,041		852		852
SUMMARY 2																		
-L- LT	50+50.00	71+50.00	158					158	1,154		1,154	1,327		1,169				
-L- RT	15+50.00	44+50.00	544					544	4,882		4,882	5,614		5,070				
-Y2-	10+33.92	11+75.00	90					90	160		160	184		94				
-Y3-	13+06.66	15+25.00	252					252	120		120	138			114		114	
-Y4-	12+15.01	14+00.00	63					63	35		35	40			23		23	
-Y5-	10+39.69	11+50.00	12					12	51		51	59		47				
-Y7B-	12+00.00	13+03.45	20					20	41		41	47		27				
-Y8B-	11+25.00	12+42.99	94					94	22		22	25			69		69	
-Y9-	10+75.00	11+25.00	50					50	1		1	1			49		49	
-Y9-	12+44.85	14+85.00	138					138	44		44	51			87		87	
-Y10-	10+25.00	11+61.58	132					132	23		23	26			106		106	
-Y11A-	10+45.47	12+25.00	233					233	67		67	77			156		156	
-Y11B-	10+00.00	11+32.17	13					13	136		136	156		143				
SUBTOTAL			1,799					1,799	6,736		6,736	7,746		6,551		603		603
SHEET TOTALS			14,144					14,144	35,027		35,027	40,281		27,592		1,455		1,455

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT: U-5824

COUNTY: Forsyth

DATE: 9/5/2023

COMPILED BY: Josh Jernigan

CHAIN	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE					
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+)15%		ROCK	SUITABLE	UNSUIT.	TOTAL		
SUMMARY 3																		
-L- MED	17+00.00	22+00.00	55				55	94		94	108	53						
-L- MED	28+00.00	40+50.00	149				149	1,428		1,428	1,642	1,493						
-L- MED	43+00.00	54+00.00	157				157	528		528	607	450						
-L- MED	57+00.00	63+00.00						260		260	299	299						
-L- MED	66+00.00	75+50.00	63				63	304		304	350	287						
-L- MED	77+50.00	88+00.00	62				62	376		376	432	370						
-L- MED	90+50.00	93+50.00	44				44	60		60	69	25						
-L- (TEMP. PVMT	22+50.00	26+36.00	42				42								42			42
-L- (TEMP. PVMT	56+00.00	63+00.00	210				210								210			210
-L- (TEMP. PVMT	66+18.00	68+27.00	21				21								21			21
-TEMP1-	17+10.00	21+85.00	86				86								86			86
-TEMP2-	20+35.00	24+72.00	136				136								136			136
SUBTOTAL			1,025				1,025	3,050		3,050	3,508	2,978			495			495
SHEET TOTALS			1,025				1,025	3,050		3,050	3,508	2,978			495			495

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT: U-5824

COUNTY: Forsyth

DATE: 9/5/2023

COMPILED BY: Josh Jernigan

CUMULATIVE TOTALS	EXCAVATION					EMBANKMENT				BORROW	WASTE			
	TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+15%)		ROCK	SUITABLE	UNSUIT.	TOTAL
SHEET 1 SUMMARY	14,144				14,144	35,027		35,027	40,281	27,592		1,455		1,455
SHEET 2 SUMMARY	1,025				1,025	3,050		3,050	3,508	2,978		495		495
SHEET TOTALS	15,169				15,169	38,077		38,077	43,789	30,569		1,950		1,950
LOSS DUE TO CLEARING AND GRUBBING	-6,000				-6,000					6,000				
EARTH WASTE IN LIEU OF BORROW										-1,950		-1,950		-1,950
PROJECT TOTAL EST. 5% TO REPLACE TOP SOIL ON BORROW PIT	9,169				9,169	38,077		38,077	43,789	34,620 1,731				
GRAND TOTAL SAY	9,169 9,170									36,351 36,360				
ESTIMATED UNDERCUT	2,800													

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

PROJECT NO.: U-5824
 COMPUTED BY: SSL
 CHECKED BY: JPL

SHEET OF

SECTION: 500

FINE GRADING

NOTE: THE WIDTH IS MEASURED FROM EOP TO EOP

LINE	STATION	STATION	LOCATION	LENGTH	AREA FROM CADD OR WIDTH	SQUARE FEET
L	10+53	13+95	LT		1,476.21	1,476.21
L	10+53	13+95	RT		2,324.92	2,324.92
L	13+95	26+73	LT		39,049.19	39,049.19
L	13+95	26+73	RT		15,255.55	15,255.55
L	26+73	33+66	LT		26,387.79	26,387.79
L	26+73	33+66	RT		4,829.88	4,829.88
L	33+66	41+73	LT		29,340.15	29,340.15
L	33+66	41+73	RT		28,802.07	28,802.07
L	41+73	55+73	LT		43,383.74	43,383.74
L	41+73	55+73	RT		49,338.17	49,338.17
L	55+73	64+52	LT		5,195.33	5,195.33
L	55+73	64+61	RT		35,708.06	35,708.06
L	64+52	76+52	LT		15,581.98	15,581.98
L	64+61	76+52	RT		36,962.11	36,962.11
L	76+52	89+20	LT		41,388.49	41,388.49
L	76+52	89+20	RT		25,935.90	25,935.90
L	89+20	95+97	LT		22,586.49	22,586.49
L	89+20	94+43	RT		20,140.81	20,140.81
L	95+97	99+13	LT		6,913.32	6,913.32
L	94+43	99+13	RT		10,200.29	10,200.29
L	99+13	106+65	LT		9,300.60	9,300.60
L	99+13	106+65	RT		10,411.37	10,411.37
Y1	10+75	12+10	CL		1,578.88	1,578.88
Y2	10+40	11+75	CL		1,502.89	1,502.89
Y3	10+25	12+14	CL		5,209.95	5,209.95
Y3	13+07	15+25	CL		3,113.48	3,113.48
Y4	10+00	11+34	CL		3,074.86	3,074.86
Y4	12+15	13+75	CL		2,131.21	2,131.21
Y5	10+40	10+93	CL		1,198.65	1,198.65
Y6	10+53	12+00	CL		3,074.43	3,074.43
Y7A	10+52	12+00	CL		1,659.97	1,659.97
Y7B	12+00	13+03	CL		1,675.40	1,675.40
Y8A	10+48	12+93	CL		3,996.06	3,996.06
Y8B	11+25	12+43	CL		2,129.19	2,129.19
Y9	10+75	11+54	CL		2,845.79	2,845.79
Y9	12+33	13+75	CL		3,796.95	3,796.95
Y10	10+25	11+74	CL		4,000.38	4,000.38
Y11A	10+44	12+25	CL		5,291.25	5,291.25

Y11B	10+00	11+33	CL		2,986.43	2,986.43

TOTAL IN FT ²	529,778.20
TOTAL IN YD ²	58,864.24
SAY	58,870.00

PROJECT NO.: U-5824
COMPUTED BY: SSL
CHECKED BY: FEJ

SHEET OF

SECTION: 226

SUPPLEMENTARY CLEARING AND GRUBBING

CLEARING AND GRUBBING	=	SUPPLEMENTARY CLEARING AND GRUBBING
0 THRU 10 ACRES	=	1 ACRES
11 THRU 25 ACRES	=	2 ACRES
26 THRU 50 ACRES	=	3 ACRES
51 THRU 80 ACRES	=	4 ACRES
80 ACRES OR MORE	=	5 ACRES

ACRES SUPPLEMENTARY CLEARING AND GRUBBING

1 ACRES

PROJECT NO. : U-5824
COMPUTED BY: NCR
CHECKED BY: FEJ

SHEET OF

SECTION: 300

FOUNDATION CONDITIONING MATERIAL MINOR STRUCTURES

$$\begin{array}{rclclcl} \underline{16272} & \text{LIN. FT} & \times & 0.106 & = & \underline{1724.83} \text{ TONS} \\ & & & & \text{SAY} & \underline{1730} \text{ TONS} \end{array}$$

FOUNDATION CONDITIONING GEOTEXTILE

$$\begin{array}{rclclcl} \underline{16272} & \text{LIN. FT} & \times & 6 \text{ FT} / 18 & = & \underline{5424.00} \text{ SY} \\ & & & & \text{SAY} & \underline{5430} \text{ SY} \end{array}$$

PROJECT NO.: U-5824
COMPUTED BY: DIVISION
CHECKED BY:

SHEET OF
SECTION: 545

INCIDENTAL STONE BASE

(FURNISHED BY DIVISION)

Per Pre-Let Field Inspection Questions dated: July 25, 2023

SAY = 3,000 TONS

PROJECT NO.: U-5824
COMPUTED BY: DIVISION
CHECKED BY:

SHEET OF
SECTION: 607

INCIDENTAL MILLING

(FURNISHED BY DIVISION)

Per Pre-Let Field Inspection Questions dated: July 25, 2023

SAY = 6,300 SY

PROJECT NO.: U-5824

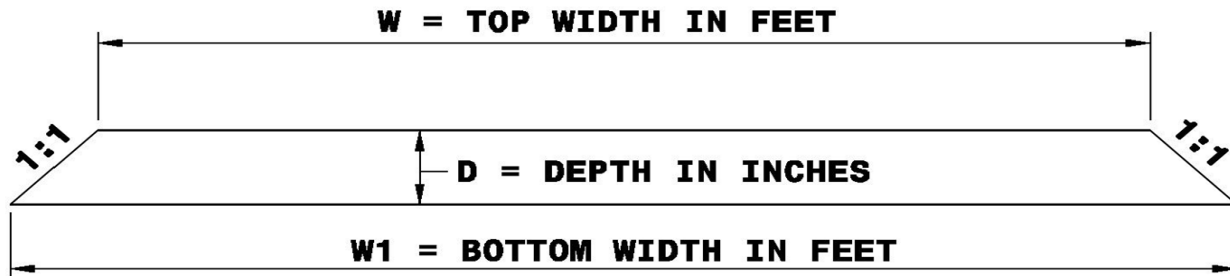
COMPUTED BY: SSL

CHECKED BY: FEJ

SHEET OF

SECTION: 610

ASPHALT CONCRETE BASE COURSE TYPE B25.0C



CALCULATE:

$$\text{LENGTH X } \frac{(W+W1)}{2} \times D \times 114\# / \text{YD}^2 / \text{IN} = \underline{\hspace{10em}} \text{ TONS}$$

$$9 \text{ FT}^2 / \text{YD}^2 \times 2000\# / \text{TON}$$

NOTE: IF USING AREA, NO LENGTH OR W1 FIGURE IS NEEDED IN COMPUTATION.

LINE	BEG STA.	END STA.	LENGTH	AREA / W	LOCATION	DEPTH	TONS
L	10+53	13+95	342.50	1374.795	LT	4	34.83
L	10+53	13+95	342.50	2271.536	RT	4	57.55
L	13+95	26+73	1278.24	39110.67	LT	4	990.80
L	13+95	26+73	1278.00	15485.55	RT	4	392.30
L	26+73	33+66	692.36	25805.14	LT	4	653.73
L	26+73	33+66	692.36	4595.941	RT	4	116.43
L	33+66	41+73	807.07	28397.49	LT	4	719.40
L	33+66	41+73	807.07	28662.37	RT	4	726.11
L	41+73	55+73	1400.59	41925.31	LT	4	1062.11
L	41+73	55+73	1400.08	49010.26	RT	4	1241.59
L	55+73	64+52	878.60	5123.077	LT	4	129.78
L	55+73	64+61	888.24	35356.01	RT	4	895.69
L	64+52	76+52	1199.67	15104.9	LT	4	382.66
L	64+61	76+52	1190.54	36598.96	RT	4	927.17
L	76+52	89+20	1268.33	40815.27	LT	4	1033.99
L	76+52	89+20	1268.33	25406.44	RT	4	643.63
L	89+20	95+97	676.90	22849.7	LT	4	578.86
L	89+20	94+43	523.48	19333.1	RT	4	489.77
L	95+97	99+13	315.75	6731.34	LT	4	170.53
L	94+43	99+13	469.17	10072.05	RT	4	255.16
L	99+13	106+65	752.80	9167.656	LT	4	232.25
L	99+13	106+65	752.80	10530.81	RT	4	266.78
Y1	10+75	12+10	134.50	1319.725	CL	4	33.43
Y2	10+40	11+75	135.50	1441.563	CL	4	36.52

Y3	10+25	12+14	188.74	5134.001	CL	4	130.06
Y3	13+07	15+25	217.96	3013.296	CL	4	76.34
Y4	10+00	11+34	134.27	3029.412	CL	4	76.75
Y4	12+15	13+75	160.18	2232.425	CL	4	56.55
Y5	10+40	10+93	53.05	1210.541	CL	4	30.67
Y6	10+53	12+00	147.38	3092.118	CL	4	78.33
Y7A	10+52	12+00	148.50	1267.127	CL	4	32.10
Y7B	12+00	13+03	103.24	1628.737	CL	4	41.26
Y8A	10+48	12+93	244.93	3735.640	CL	4	94.64
Y8B	11+25	12+43	117.99	1880.295	CL	4	47.63
Y9	10+75	11+54	78.84	2804.396	CL	4	71.04
Y9	12+33	13+75	142.15	3695.707	CL	4	93.62
Y10	10+25	11+74	148.59	4253.577	CL	4	107.76
Y11A	10+44	12+25	180.72	5161.892	CL	4	130.77
Y11B	10+00	11+33	132.88	2893.707	CL	4	73.31
Y1 WEDGE							47.10
Y4 WEDGE							103.45
Y7A WEDGE							40.66
Y7B WEDGE							65.19
Y8A WEDGE							10.58
Y8B WEDGE							26.60
Y11B WEDGE							215.67
L WEDGE							4598.79
						TOTAL	18319.94
						SAY	18320.00

PROJECT NO.:U-5824

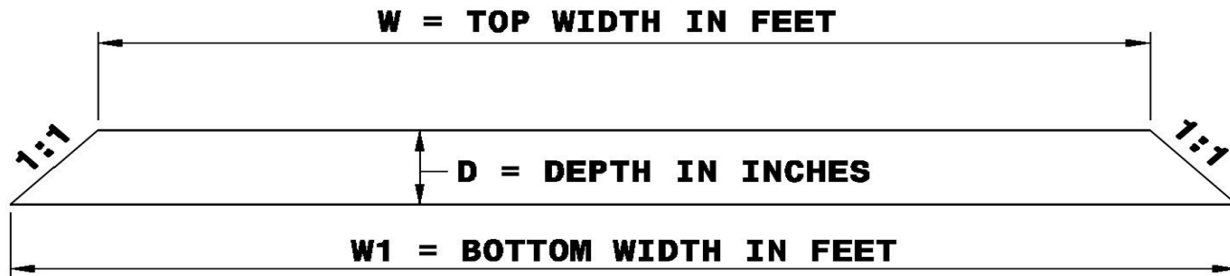
COMPUTED BY: SSL

CHECKED BY: FEJ

SHEET OF

SECTION: 610

ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C



CALCULATE:

$$\text{LENGTH X } \left(\frac{W+W1}{2} \right) \text{ X D X } 114\# / \text{YD}^2 / \text{IN} = \underline{\hspace{10em}} \text{ TONS}$$

$$9 \text{ FT}^2 / \text{YD}^2 \text{ X } 2000\# / \text{TON}$$

NOTE: IF USING AREA, NO LENGTH OR W1 FIGURE IS NEEDED IN COMPUTATION.

LINE	BEG. STA.	END STA.	LENGTH	AREA / W	LOCATION	DEPTH	TONS
L	10+53	13+95	342.50	470.83	LT	4	11.93
L	10+53	13+95	342.50	1404.92	RT	4	35.59
L	13+95	26+73	1278.24	29029.11	LT	4	735.40
L	13+95	26+73	1278.00	14303.76	RT	4	362.36
L	26+73	33+66	692.36	23378.34	LT	4	592.25
L	26+73	33+66	692.36	1681.864	RT	4	42.61
L	33+66	41+73	807.07	25211.12	LT	4	638.68
L	33+66	41+73	807.07	25133.72	RT	4	636.72
L	41+73	55+73	1400.59	35656.57	LT	4	903.30
L	41+73	55+73	1400.08	43435.77	RT	4	1100.37
L	55+73	64+52	878.60	2239.353	LT	4	56.73
L	55+73	64+61	888.24	32270.14	RT	4	817.51
L	64+52	76+52	1199.67	10057.96	LT	4	254.80
L	64+61	76+52	1190.54	33781.73	RT	4	855.80
L	76+52	89+20	1268.33	35309.71	LT	4	894.51
L	76+52	89+20	1268.33	19914.26	RT	4	504.49
L	89+20	95+97	676.90	19560.25	LT	4	495.53
L	89+20	94+43	523.48	17205.03	RT	4	435.86
L	95+97	99+13	315.75	5572.965	LT	4	141.18
L	94+43	99+13	469.17	9912.136	RT	4	251.11
L	99+13	106+65	752.80	7835.197	LT	4	198.49
L	99+13	106+65	752.80	8908.454	RT	4	225.68
Y1	10+75	12+10	134.50	589.47	CL	4	14.93
Y2	10+40	11+75	135.50	704.9781	CL	4	17.86

Y3	10+25	12+14	188.74	3980.048	CL	4	100.83
Y3	13+07	15+25	217.96	1827.905	CL	4	46.31
Y4	10+00	11+34	134.27	2248.85	CL	4	56.97
Y4	12+15	13+75	160.18	1636.138	CL	4	41.45
Y5	10+40	10+93	53.05	440.2573	CL	4	11.15
Y6	10+53	12+00	147.38	2383.373	CL	4	60.38
Y7A	10+52	12+00	148.50	538.133	CL	4	13.63
Y7B	12+00	13+03	103.24	798.446	CL	4	20.23
Y8A	10+48	12+93	244.93	2091.855	CL	4	52.99
Y8B	11+25	12+43	117.99	1030.040	CL	4	26.09
Y9	10+75	11+54	78.84	1891.569	CL	4	47.92
Y9	12+33	13+75	142.15	3067.028	CL	4	77.70
Y10	10+25	11+74	148.59	3333.040	CL	4	84.44
Y11A	10+44	12+25	180.72	4196.062	CL	4	106.30
Y11B	10+00	11+33	132.88	2422.375	CL	4	61.37
L WEDGE						4	5726.10
Y11B WEDGE						4	88.36
Y11A WEDGE						4	4.42
Y9 WEDGE						4	2.89
Y8B WEDGE						4	38.68
Y8A WEDGE						4	19.38
Y7B WEDGE						4	77.39
Y7A WEDGE						4	48.56
Y6 WEDGE						4	9.31
Y4 WEDGE						4	55.26
Y3 WEDGE						4	33.76
Y2 WEDGE						4	81.45
Y1 WEDGE						4	47.69
						TOTAL	17264.70
						SAY	17270.00

PROJECT NO.: U-5824

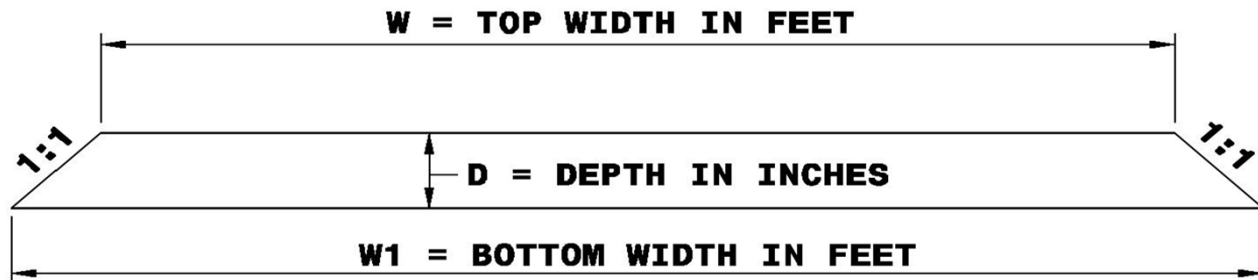
COMPUTED BY: SSL

CHECKED BY: FEJ

SHEET OF

SECTION: 610

ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B



CALCULATE:

$$\frac{\text{LENGTH} \times ((W+W1)/2) \times D \times 110\# / \text{YD}^2 / \text{IN}}{9 \text{ FT}^2 / \text{YD}^2 \times 2000\# / \text{TON}} = \underline{\hspace{2cm}} \text{ TONS}$$

NOTE: IF USING AREA, NO LENGTH OR W1 FIGURE IS NEEDED IN COMPUTATION.

LINE	BEG. STA.	END STA.	LENGTH	AREA / W	LOCATION	DEPTH	TONS
L	10+53	13+95	342.50	12123.47	LT	3	222.26
L	10+53	13+95	342.50	13938.78	RT	3	255.54
L	13+95	26+73	1278.24	45443.07	LT	3	833.12
L	13+95	26+73	1278.00	44562.03	RT	3	816.97
L	26+73	33+66	692.36	24812.66	LT	3	454.90
L	26+73	33+66	692.36	21747.79	RT	3	398.71
L	33+66	41+73	807.07	25217.41	LT	3	462.32
L	33+66	41+73	807.07	29095.22	RT	3	533.41
L	41+73	55+73	1400.59	47351.08	LT	3	868.10
L	41+73	55+73	1400.08	53962.83	RT	3	989.32
L	55+73	64+52	878.60	32677.13	LT	3	599.08
L	55+73	64+61	888.24	33333.7	RT	3	611.12
L	64+52	76+52	1199.67	41811.17	LT	3	766.54
L	64+61	76+52	1190.54	41199.64	RT	3	755.33
L	76+52	89+20	1268.33	42934.76	LT	3	787.14
L	76+52	89+20	1268.33	43170.78	RT	3	791.46
L	89+20	95+97	676.90	27943.59	LT	3	512.30
L	89+20	94+43	523.48	19268.31	RT	3	353.25
L	95+97	98+99	302.36	13543.35	LT	3	248.29
L	94+43	98+78	434.85	20058.13	RT	3	367.73
L	99+41	106+65	724.43	33563.59	LT	3	615.33
L	99+41	106+65	724.43	30927.92	RT	3	567.01
L	106+65	108+40	175.00	3421.399	LT	1.5	31.36

L	106+65	108+40	175.00	6377.269	RT	1.5	58.46
Y1	10+75	12+10	134.50	6706.583	CL	1.5	61.48
Y2	10+40	11+75	135.50	5181.781	CL	1.5	47.50
Y3	10+25	12+14	188.74	8897.522	CL	1.5	81.56
Y3	13+07	15+25	217.96	9762.897	CL	1.5	89.49
Y4	10+00	11+34	134.27	5083.806	CL	1.5	46.60
Y4	12+15	13+75	160.18	5801.729	CL	1.5	53.18
Y5	10+40	11+50	110.31	7105.733	CL	1.5	65.14
Y6	10+53	12+00	147.38	5841.726	CL	1.5	53.55
Y7A	10+52	11+51	99.50	4665.935	CL	1.5	42.77
Y7B	12+00	13+03	103.24	5321.166	CL	1.5	48.78
Y8A	10+48	12+93	244.93	12844.216	CL	1.5	117.74
Y8B	11+25	12+43	117.99	5337.953	CL	1.5	48.93
Y9	10+75	11+54	78.84	3665.256	CL	1.5	33.60
Y9	12+33	14+85	252.15	8424.822	CL	1.5	77.23
Y10	10+25	11+74	148.59	6671.659	CL	1.5	61.16
Y11A	10+45	12+25	179.75	7319.356	CL	1.5	67.09
Y11B	10+00	11+33	132.88	5116.763	CL	1.5	46.90
Driveways							
L	21+74	21+89	15.69	524.454	RT	2	6.41
L	43+98	44+19	20.40	166.544	RT	2	2.04
L	68+14	68+30	16.00	153.128	LT	2	1.87
L	69+43	69+63	20.00	200.885	LT	2	2.46
L	70+41	70+61	20.00	179.091	LT	2	2.19
L	70+91	71+07	16.00	465.235	RT	2	5.69
L	71+96	72+12	15.90	321.987	RT	2	3.94
L	79+16	79+32	15.91	196.905	RT	2	2.41
L	81+40	81+56	16.01	148.805	RT	2	1.82
L	82+43	82+59	16.00	154.205	RT	2	1.88
L	85+93	86+09	15.90	138.655	LT	2	1.69
L	86+70	86+86	15.91	145.515	LT	2	1.78
L	87+63	87+78	15.78	394.811	LT	2	4.83
L	88+19	88+35	16.10	235.625	RT	2	2.88
L	90+46	90+62	15.90	157.331	RT	2	1.92
L	92+67	92+91	23.85	241.994	LT	2	2.96
L	91+74	93+89	215.78	257.677	LT	2	3.15
L WEDGE							273.61
Y11B WEDGE							5.12
Y9 WEDGE							3.20
Y8A WEDGE							4.91
Y7B WEDGE							1.36
Y7A WEDGE							15.59
Y6 WEDGE							0.52
Y3 WEDGE							4.82
Deduction for Islands				19547.4		1.5	182.44
						TOTAL	14118.36
						SAY	14120.00

PROJECT NO.: U-5824
 COMPUTED BY: FEJ
 CHECKED BY:

SHEET OF
 SECTION: 620

ASPHALT BINDER FOR PLANT MIX

GRADE PG 64-22

SA-1	_____	TONS	X	0.068	=	_____	TONS
S4.75A	_____	TONS	X	0.070	=	_____	TONS
S9.5B	<u>14,120</u>	TONS	X	0.065	=	<u>917.80</u>	TONS
S9.5C	_____	TONS	X	0.059	=	_____	TONS
I19.0C	<u>17,270</u>	TONS	X	0.048	=	<u>828.96</u>	TONS
B25.0C	<u>18,320</u>	TONS	X	0.045	=	<u>824.40</u>	TONS
PADC, TYPE P-57	_____	TONS	X	0.030	=	_____	TONS
PADC, TYPE P-78M	_____	TONS	X	0.030	=	_____	TONS
PATCHING EXISTING PAVEMENT	_____	TONS	X	0.048	=	_____	TONS

**SUBTOTAL TONS ASPHALT BINDER
 FOR PLANT MIX, GRADE PG 64-22 = 2,571.16 TONS**

**TOTAL TONS ASPHALT BINDER
 FOR PLANT MIX = 2,571.16 TONS
 SAY 2,575 TONS**

THIS SHEET IS SHOWING RATES FROM THE 2023 QMS ASPHALT MANUAL

PROJECT NO.: U-5824

SHEET OF

COMPUTED BY: DH

CHECKED BY: FEJ

SECT. 654

ASPHALT PLANT MIX PAVEMENT REPAIR

(ROADS TO BE RESURFACED)

NOTE: USE STANDARD PAVEMENT CALCULATION FOR TYPE PAVEMENT USED FOR TONS

LINE	STATION	PIPE DIAMETER	LENGTH	X	TOTAL WIDTH	TONS
-L-	13+75	18	53.66	1.833	7.833	21.30
-L-	13+67	12	65.22	1.333	7.333	24.23
-L-	15+00	18	40.54	1.833	7.833	16.09
-L-	15+24	18	149.36	1.833	7.833	59.28
-L-	16+74	15	27.64	1.583	7.583	10.62
-L-	16+76	18	123.07	1.833	7.833	48.84
-L-	18+02	24	92.07	2.500	8.500	39.65
-L-	18+96	24	57.16	2.500	8.500	24.62
-L-	19+40	60	40.93	5.917	11.917	24.71
-L-	19+55	24	3.97	2.500	8.500	1.71
-L-	19+57	15	49.08	1.583	7.583	18.86
-L-	21+75	15	10.95	1.583	7.583	4.21
-L-	22+60	15	20.72	1.583	7.583	7.96
-L-	31+50	18	13.06	1.833	7.833	5.18
-L-	34+27	15	37.40	1.583	7.583	14.37
-L-	35+14	12	39.69	1.333	7.333	14.75
-L-	35+03	12	44.31	1.333	7.333	16.46
-L-	35+99	12	59.02	1.333	7.333	21.93
-L-	36+97	12	28.45	1.333	7.333	10.57
-L-	40+69	36	27.30	3.667	9.667	13.37
-L-	40+83	30	32.13	3.083	9.083	14.79
-L-	43+11	15	30.56	1.583	7.583	11.74
-L-	44+24	15	30.64	1.583	7.583	11.77
-L-	45+19	15	171.70	1.583	7.583	65.97
-L-	46+91	15	8.31	1.583	7.583	3.19
-L-	46+92	15	11.68	1.583	7.583	4.49
-L-	46+93	15	72.58	1.583	7.583	27.89
-L-	48+37	18	22.59	1.833	7.833	8.97
-L-	49+01	15	22.81	1.583	7.583	8.76
-L-	50+41	15	29.7	1.583	7.583	11.41
-L-	53+37	15	76.83	1.583	7.583	29.52
-L-	54+30	15	89.62	1.583	7.583	34.43
-L-	58+99	15	44.67	1.583	7.583	17.16
-L-	59+69	15	68.65	1.583	7.583	26.38
-L-	62+31	15	33.59	1.583	7.583	12.91
-L-	70+65	15	24.45	1.583	7.583	9.39

-L-	70+97	15	36.36	1.583	7.583	13.97
-L-	70+99	18	196.65	1.833	7.833	78.04
-L-	71+60	18	21.07	1.833	7.833	8.36
-L-	72+06	18	18.69	1.833	7.833	7.42
-L-	72+94	24	43.52	2.5	8.5	18.74
-L-	72+98	18	35.06	1.833	7.833	13.91
-L-	73+15	24	49.26	2.5	8.5	21.21
-L-	73+36	18	258.42	1.833	7.833	102.56
-L-	75+95	15	35.57	1.583	7.583	13.67
-L-	79+84	15	35.87	1.583	7.583	13.78
-L-	81+41	15	13.52	1.583	7.583	5.19
-L-	82+42	15	16.55	1.583	7.583	6.36
-L-	82+45	15	11.18	1.583	7.583	4.30
-L-	83+41	15	14.15	1.583	7.583	5.44
-L-	83+42	15	10.54	1.583	7.583	4.05
-L-	85+02	24	21.94	2.5	8.5	9.45
-L-	85+30	24	22.66	2.5	8.5	9.76
-L-	85+93	18	13.06	1.833	7.833	5.18
-L-	86+37	24	22.25	2.5	8.5	9.58
-L-	88+17	12	14.67	1.333	7.333	5.45
-L-	88+18	15	16.14	1.583	7.583	6.20
-L-	95+59	24	36.91	2.5	8.5	15.90
-L-	95+65	15	24.83	1.583	7.583	9.54
-L-	95+68	18	51.19	1.883	7.833	20.32
-L-	104+06	18	35.83	1.883	7.833	14.22
-Y1-	11+00	15	63.39	1.583	7.583	24.35
-Y2-	10+89	15	32.38	1.583	7.583	12.44
-Y3-	11+56	15	40.84	1.583	7.583	15.69
-Y3-	12+05	15	40.43	1.583	7.583	15.53
-Y5-	10+43	18	111.85	1.883	7.833	44.39
-Y5-	10+86	15	49.18	1.583	7.583	18.90
-Y6-	11+29	15	23.19	1.583	7.583	8.91
-Y9-	10+77	15	22.08	1.583	7.583	8.48
-Y9-	11+50	15	27	1.583	7.583	10.37
-Y10-	10+20	15	21.73	1.583	7.583	8.35
-Y10-	11+56	18	26.15	1.883	7.833	10.38
-Y10-	11+98	12	37.56	1.333	7.333	13.95
-Y11B-	11+46	15	24.6	1.583	7.583	9.45
Per Division based on PLFI questions dated 7/25/23						200
					TOTAL	1,521.27
					SAY	1,525.00

PROJECT NO.: U-5824SHEET OF
SECTION: 815**SUBSURFACE DRAINS**

SUBDRAIN EXCAVATION (USE 6' DEPTH FOR PROOF ROLLING AND 4' DEPTH ELSEWHERE) 112.0 YD³

GEOTEXTILE FOR SUBSURFACE DRAINS 500 YD²

SUBDRAIN COARSE AGGREGATE (USE 3' DEPTH) 84.0 YD³

6" PERFORATED SUBDRAIN PIPE 500 LIN. FT.

6" OUTLET PIPE (6 LINEAR FT. PER PIPE OUTLET) 6 LIN. FT.

SUBDRAIN PIPE OUTLET (USE 1 PER 500' OF PIPE) 1 EACH

EXCAVATION 500 LIN. FT. x 4 DEPTH x 0.056 = 112.0 YD³

AGGREGATE 500 LIN. FT. x 3' DEPTH x 0.056 = 84.0 YD³

NOTE: USE 6" SUBDRAIN PIPE UNLESS ANOTHER SIZE IS SPECIFICALLY RECOMMENDED BY THE GEOTECHNICAL UNIT.

Calculated by : FEJ

Checked by : JLJ

PROJECT NO.: U-5824

COMPUTED BY: JLJ

CHECKED BY:

SHEET OF

SECTION: 846

2'-6" CURB & GUTTER

LINE	STATION	STATION	SIDE	GROSS LENGTH	DEDUCTIONS		NET LENGTH
					DRIVES	OTHERS	
L	10+52.50	11+58.47	RT	106			106
L	10+52.50	13+57.26	LT	407			407
L	12+12.42	13+49.37	RT	164			164
L	13+96.26	16+57.62	RT	328			328
L	14+29.96	27+40.33	LT	1,416			1,416
L	16+91.98	25+71.94	RT	1,014	48.00		966
L	27+72.77	30+17.41	LT	319			319
L	30+39.41	33+21.92	LT	343			343
L	26+04.53	29+39.76	RT	418			418
L	29+61.76	33+68.65	RT	439			439
L	33+54.22	38+96.68	LT	606			606
L	34+02.05	36+21.78	RT	255			255
	36+55.39	37+08.70	RT	57			57
	37+44.31	41+55.95	RT	443			443
	39+32.69	51+16.31	LT	1,240			1,240
	51+42.02	51+77.46	LT	36			36
	52+03.17	52+48.39	LT	47			47
	42+13.38	43+53.02	RT	170			170
	43+89.68	43+95.42	RT	6			6
	44+21.90	44+97.06	RT	74			74
	45+23.50	52+81.76	RT	807			807
	52+83.53	54+94.91	LT	296			296
	53+20.25	55+51.27	RT	360			360
	55+28.70	59+12.06	LT	439			439
	55+97.13	60+00.02	RT	500			500
	59+53.06	60+14.93	LT	69			69
	60+31.05	65+43.34	RT	656			656
	60+50.93	61+19.57	LT	69			69
	61+55.57	61+91.66	LT	36			36
	62+27.66	62+63.16	LT	36			36
	62+99.16	63+67.91	LT	131			131
	63+86.88	66+11.79	LT	282			282
	66+41.78	67+52.50	LT	111			111
	66+13.65	66+98.45	RT	295			295
	67+34.45	69+50.85	RT	223	27.72	5.72	190
	67+74.50	68+11.20	LT	37			37
	68+33.20	69+11.20	LT	78			78
	69+33.34	69+39.87	LT	7			7
	69+65.83	70+37.86	LT	72			72
	70+63.86	71+58.13	LT	94			94

	71+80.26	72+04.86	LT	25		25	
	69+84.81	70+87.66	RT	105		105	
	71+09.60	71+93.28	RT	84		84	
	72+15.16	73+62.56	RT	148		148	
	73+84.43	76+34.93	RT	282		282	
	72+26.99	76+41.96	LT	466		466	
	76+67.95	85+90.37	LT	974		974	
	76+72.89	79+13.31	RT	282		282	
	79+35.19	79+49.93	RT	15		15	
	79+71.86	79+89.32	RT	17		17	
	80+11.32	81+36.79	RT	125		125	
	81+58.79	82+39.62	RT	81		81	
	82+61.62	83+37.65	RT	76		76	
	83+59.65	84+36.94	RT	77		77	
	84+58.94	85+86.83	RT	128		128	
	86+08.95	87+09.52	RT	101		101	
	87+31.65	88+15.53	RT	84		84	
	86+12.25	86+67.06	LT	55		55	
	86+88.93	87+60.00	LT	71		71	
	87+81.70	88+95.20	LT	114		114	
	88+37.65	90+42.79	RT	205		205	
	90+64.67	93+65.57	RT	373		373	
	93+89.28	97+00.00	RT	349		349	
	89+33.60	90+68.72	LT	185		185	
	90+90.84	92+31.40	LT	140		140	
	92+55.40	92+64.45	LT	9		9	
	92+94.27	93+70.61	LT	77		77	
	93+92.33	95+26.76	LT	136		136	
	95+48.47	95+90.78	LT	89		89	
	96+27.45	97+00.00	LT	111		111	
	100+30.00	101+82.41	RT	176		176	
	100+32.05	102+65.10	LT	242		242	
	102+98.13	104+07.14	LT	144		144	
	102+24.65	106+65.31	RT	449		449	
						TOTAL	18,399
						SAY	18,400

PROJECT NO.: U-5824

COMPUTED BY: SSL

CHECKED BY: FEJ

SHEET OF

SECTION: 848

CONCRETE CURB RAMP

LINE	STATION	LOCATION	NO. OF RAMPS
L	13+30	RT	1
L	13+56	LT	1
Y1	11+95	RT	1
Y1	11+82	LT	1
Y1	12+49	RT	1
Y1	12+49	LT	1
L	14+21	RT	1
L	14+59	LT	1
L	16+39	RT	1
L	16+98	RT	1
L	26+06	RT	1
Y3	13+70	RT	1
Y3	13+55	RT	1
Y3	13+35	LT	1
Y3	13+23	LT	1
Y3	13+29	RT	1
Y3	13+05	LT	1
Y3	12+12	RT	1
Y3	11+64	RT	1
Y3	11+92	LT	1
Y3	11+81.92	LT	1
Y3	11+50	LT	1
Y4	11+15	RT	1
Y4	11+25	LT	1
Y4	12+29	LT	1
Y4	12+18	RT	1
Y5	10+63	RT	1
Y5	10+58	LT	1
L	52+50	LT	1
L	52+80	LT	1
L	52+68	RT	1
L	53+29	RT	1
Y6	10+75	RT	1
Y6	10+68	LT	1
L	54+90	LT	1
L	55+23	RT	1
L	55+97	LT	1
L	56+17	RT	1
Column Total			38

LINE	STATION	LOCATION	NO. OF RAMPS
Y7B	12+60	RT	1
Y7B	12+91	LT	1
Y7A	10+61	RT	1
Y7A	10+60	LT	1
L	59+13	LT	1
L	59+53	LT	1
L	59+95	RT	1
L	60+35	RT	1
L	63+73	LT	1
L	64+68	RT	1
L	64+53	LT	1
L	65+48	RT	1
Y8B	11+94	RT	1
Y8B	12+31	LT	1
Y8A	10+59	RT	1
Y8A	11+04	LT	1
L	69+50	RT	1
L	69+85	RT	1
L	76+17	LT	1
L	76+03	RT	1
L	76+93	LT	1
L	76+92	RT	1
Y9	11+27	RT	1
Y9	11+25	LT	1
Y9	12+53	RT	1
Y9	12+53	LT	1
Y10	11+40	RT	1
Y10	11+40	LT	1
Y11A	10+79	RT	2
Y11A	10+56	LT	2
Y11B	11+22	RT	2
Y11B	11+13	LT	2
Column Total			36
Total			74
Say			80

PROJECT NO.: U-5824
 COMPUTED BY: SSL
 CHECKED BY: FEJ

SHEET OF

SECTION: 848

6" CONCRETE DRIVEWAY

LINE	STATION	LOCATION	WIDTH	SQUARE YARDS
L	11+59	RT	20	12.798
L	19+99	RT	20	12.798
L	21+71	RT	16	10.576
L	29+40	RT	16	10.576
L	30+20	LT	16	10.576
L	38+97	LT	30	18.354
L	43+53	RT	30	18.354
L	43+95	RT	20	12.798
L	44+97	RT	20	12.798
L	51+16	LT	20	12.798
L	51+77	LT	20	12.798
L	60+15	LT	30	18.354
L	61+20	LT	30	18.354
L	61+92	LT	30	18.354
L	62+63	LT	30	18.354
L	66+12	LT	24	15.020
L	66+98	RT	30	18.354
L	67+53	LT	16	10.576
L	67+01	RT	36	21.687
L	67+53	LT	16	10.576
L	68+11	LT	16	10.576
L	68+23	RT	16	10.576
L	69+11	LT	16	10.576
L	69+40	LT	20	12.798
L	70+38	LT	20	12.798
L	70+88	RT	16	10.576
L	71+58	LT	16	10.576
L	72+05	LT	16	10.576
L	71+93	RT	16	10.576
L	73+63	LT	16	10.576
L	79+13	RT	16	10.576
L	79+50	RT	16	10.576
L	79+89	RT	16	10.576
L	81+37	RT	16	10.576
L	82+40	RT	16	10.576
L	83+38	RT	16	10.576
L	84+37	RT	16	10.576
L	85+87	RT	16	10.576
L	85+90	LT	16	10.576
L	86+67	LT	16	10.576

L	87+10	RT	16	10.576
L	87+60	LT	16	10.576
L	88+16	RT	16	10.576
L	90+43	RT	16	10.576
L	90+69	LT	16	10.576
L	92+31	LT	18	11.687
L	92+64	LT	24	15.020
L	93+71	LT	16	10.576
L	95+27	LT	22	13.909
Y10	10+79	RT	25	15.576
			TOTAL	630.465
			SAY	640

PROJECT NO.: U-5824
COMPUTED BY: SSL
CHECKED BY: NCR

SHEET OF
SECTION: 858

ADJUSTMENTS & RELOCATION

(FURNISHED BY DIVISION)

- 1 EA ADJUSTMENT OF DROP INLET DSS
- 28 EA ADJUSTMENT OF MANHOLES 20+61 RT 23+57 RT 33+87 RT 36+55 RT 39+98 RT
41+21 RT 41+47 RT 44+81 RT 46+02 RT 49+50 LT 56+35 RT 57+51 RT 60+88 RT
64+38 RT 66+14 RT 69+56 RT 73+43 RT 13+69 LT -Y9- 77+36 RT 79+46 RT 82+03 RT 85+46 RT
88+86 RT 92+31 RT 95+82 RT 97+37 RT 97+28 LT -Y11- 11+47
- 76 EA ADJUSTMENT OF METER BOXES AND VALVE BOXES
13+49 LT 13+71 LT 13+12 RT 16+58 RT 16+49 RT 22+21 RT 22+36 RT
24+20 LT, 13+95 LT -Y3-, 14+43 LT -Y3-, 14+85 LT -Y3-, 26+99 LT 29+17 LT, 30+33 RT,
33+54 RT, 12+80 RT -Y4-, 13+37 RT -Y4-, 34+75 RT, 35+98 LT 36+55 RT 37+53 RT 39+68 LT
41+06 LT 44+25 RT 55+30 LT 55+30 LT 55+59 RT 12+34 RT -Y7B-
11+91 RT -Y7A- 11+66 LT -Y7A- 58+81 LT 58+82 LT 60+11 LT 60+12 LT 61+75 LT 61+89 LT 63+02 LT 63+16 LT
11+91 LT -Y8A- 64+87 RT 64+14 LT 64+47 LT 11+97 LT -Y8B- 64+87 LT 66+52 LT 67+16 LT
67+90 LT 68+42 LT 69+38 RT 69+96 RT 69+61 LT 71+02 RT 71+02 LT 72+29 LT 73+91 RT
76+33 RT 76+57 LT 78+50 RT 80+36 RT 81+73 RT 82+87 RT 83+72 RT
87+17 LT 87+07 RT 87+68 RT 88+91 RT 10+90 -Y10- 89+64 RT 89+67 LT 90+94 RT 91+18 LT 96+02 LT 95+99 LT 95+77 RT
99+63 LT 102+25 LT 102+65 LT

2018 English Standards & Quantity Estimates

Name: He Yang, PE
 Project Engineer: He Yang, PE

Date: 08/15/23

CONTRACT # _____
 TIP # U-5824

COUNTY Forsyth
 LETTING 11/21/2023

DIV. 9

MANAGEMENT UNIT DDRL
 MILEAGE 1.821 miles

PRIMARY ROUTE? YES

STANDARDS NEEDED:

- 1605.01 (TSF)
- 1606.01 (SSCF)
- 1607.01 (GCE)
- 1622.01 (TSDN)
- 1630.03 (TSD)
- 1630.05 (T.DIV)
- 1630.06 (SP. STILL)
- 1631.01 (MATT)
- 1632.02 (RIST-B)
- 1632.03 (RIST-C)
- 1633.01 (SC-A)
- 1633.02 (SC-B)
- 1635.02 (PIST-B)
- 1640.01 (BAFFLE)
- 1645.01 (STREAM)

DETAILS NEEDED:

- Skimmer Basin
- Wattle with Polyacrylamide
- Coir Fiber Wattle with PAM
- TRSC-A with Matting & PAM

SUMMARY SHEETS NEEDED:

- Matting Summary Sheet
- PSRM Summary Sheet
- Stabilization Guidelines

REFORESTATION SHEETS:

OF YEARS FOR PROJECT CONSTRUCTION 2 YRS
 MAINTENANCE FACTOR 2

CONSTRUCTION ENTRANCES

OF ENTRANCES: 10
 FILTRATION GEOTEXTILE REQUIRED 750 SY
 CLASS A STONE REQUIRED 250 TONS

SPECIAL STILLING BASINS

NO. OF DRILLED PIERS 0
 # OF SPECIAL STILLING BASINS 0 EA
 FILTRATION GEOTEXTILE REQUIRED 0 SY
 SEDIMENT CONTROL STONE 0 TON

OF SILT CHECKS TYPE A with MATTING & PAM

MATTING FOR EROSION CONTROL REQUIRED 9
 POLYACRYLAMIDE (PAM) REQUIRED 45 SY
 54 LB

OF WATTLES WITHOUT PAM 11

OF COIR FIBER WATTLES WITHOUT PAM 10

OF TEMPORARY STREAM CROSSINGS

FILTRATION GEOTEXTILE REQUIRED 2
 TEMPORARY PIPE FOR STREAM CROSSING 200 SY
 50 LF
 SEDIMENT CONTROL STONE 90 TON
 EROSION CONTROL STONE, CLASS B 80 TON

OF CSX RAILROAD BRIDGE CROSSINGS

TEMPORARY SILT FENCE REQUIRED 0
 FILTRATION GEOTEXTILE REQUIRED 0 LF
 0 SY

ADDITIONAL PROJECT INFORMATION

RIPARIAN BUFFERS (50 FT.) ON PROJECT NO
 HIGH QUALITY WATER (HQW) ON PROJECT NO
 DESIGN STANDARDS IN SENSITIVE WATERSHEDS (DSSW) NO 3
 303(d) STREAM FOR CONSTRUCTION-RELATED TURBIDITY NO
 BORROW EXCAVATION QUANTITY 0 CY

PROJECT IN FALLS LAKE WATERSHED NO
 PROJECT IN JORDAN LAKE WATERSHED NO
 WATTLES IN DITCHLINE WITHOUT PAM YES
 WATTLES USED AS SILT FENCE BREAKS NO
 AESTHETIC LITTER PICKUP REQUIRED NO

CRIMPING SP NEEDED ON PROJECT: NO

CCPCUA PERMIT AND SP REQUIRED : NO

SPECIAL PROVISIONS NEEDED:

- 1. SEEDMIX TYPE: West
- 2. TEMP. DIVERSION
- 3. IMPERVIOUS DIKE
- 4. NATIVE SEEDING & MULCHING (add above Temp. Seeding): West
- 22. CLEAN WATER DIVERSION
- 23. SAFETY FENCE
- 24. PERM. SOIL REINFORCEMENT
- 25. SKIMMER BASIN
- 6. LAWNFINISH
- 30. WATTLES WITH POLYACRYLAMIDE
- 32. COIR FIBER WATTLES WITH PAM
- 52. CONC. WASHOUT STR.
- 53. LITTER PICKUP (MOWING).
- 12. RESPONSE
- 16. MINIMIZE
- 17. STOCKPILE/HAUL ROAD
- 18. MATERIALS MANAGEMENT
- 19. WASTE/BORROW
- 36. TRSC-A W/ MAT & PAM
- 55. FABRIC INSERT INLET PROT
- 56. TACK FOR MULCH FOR ERC

Project Quantities

ITEM NUMBER	SECTION	TRNS-PORT ITEM DESCRIPTION	QUANTITY	UNIT
0196000000-E	270	GEOTEXTILE FOR SOIL STABILIZATION	800	SY
1077000000-E	1005	#57 STONE	0	TON
3628000000-E	876	RIP RAP, CLASS I	0	TON
3635000000-E	876	RIP RAP, CLASS II	0	TON
3642000000-E	876	RIP RAP, CLASS A	0	TON
3649000000-E	876	RIP RAP, CLASS B	0	TON
3651000000-E	SP	BOULDERS	0	TON
3656000000-E	876	GEOTEXTILE FOR DRAINAGE	2080	SY
6000000000-E	1605	TEMPORARY SILT FENCE	30010	LF
6006000000-E	1610	EROSION CONTROL STONE, CLASS A	2580	TON
6009000000-E	1610	EROSION CONTROL STONE, CLASS B	1710	TON
6012000000-E	1610	SEDIMENT CONTROL STONE	3850	TON
6015000000-E	1615	TEMPORARY MULCHING	26.00	ACR
6018000000-E	1620	SEED FOR TEMPORARY SEEDING	1300.00	LB
6021000000-E	1620	FERTILIZER FOR TEMPORARY SEEDING	7.50	TON
6024000000-E	1622	TEMPORARY SLOPE DRAINS	590	LF
6029000000-E	SP	SAFETY FENCE	800	LF
6030000000-E	1630	SILT EXCAVATION	8140	CY
6036000000-E	1631	MATTING FOR EROSION CONTROL	22265	SY+DITCH
6037000000-E	SP	COIR FIBER MAT	4057	SY
6038000000-E	SP	PERMANENT SOIL REINFORCEMENT MAT	0	SY +
6042000000-E	1632	1/4" HARDWARE CLOTH	2300	SY
6043000000-E	SP	LOW PERMEABILITY GEOTEXTILE	9000	LF
6045000000-E	SP	*** TEMPORARY PIPE - (15")	0	SY
6045000000-E	SP	*** TEMPORARY PIPE - (18")	0	LF
6045000000-E	SP	*** TEMPORARY PIPE - (24")	0	LF
6045000000-E	SP	*** TEMPORARY PIPE - (36")	0	LF
6046000000-E	1636	TEMPORARY PIPE FOR STREAM CROSSING	50	LF
6048000000-E	SP	FLOATING TURBIDITY CURTAIN	0	SY
6069000000-E	1638	STILLING BASINS	0	CY
6070000000-N	1639	SPECIAL STILLING BASINS	2	EA
6071010000-E	SP	WATTLE	320	LF
6071012000-E	SP	COIR FIBER WATTLE	560	LF
6071013000-E	SP	WATTLE BARRIER	0	LF
6071014000-E	SP	COIR FIBER WATTLE BARRIER	0	LF
6071020000-E	SP	POLYACRYLAMIDE (PAM)	330	LB
6071030000-E	1640	COIR FIBER BAFFLE	1140	LF
6071050000-E	SP	*** SKIMMER - (1-1/2")	3	EA
6071050000-E	SP	*** SKIMMER - (2")	3	EA
6071050000-E	SP	*** SKIMMER - (2-1/2")	0	EA
6071050000-E	SP	*** SKIMMER - (3")	0	EA
6071050000-E	SP	*** SKIMMER - (4")	0	EA
6071050000-E	SP	*** SKIMMER - (5")	0	EA
6084000000-E	1660	SEEDING AND MULCHING	24.00	ACR
6087000000-E	1660	MOWING	21.00	ACR
6090000000-E	1661	SEED FOR REPAIR SEEDING	300.00	LB
6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	1.00	TON
6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	525.00	LB
6105000000-E	1663	WATER	0.0	M/G
6108000000-E	1665	FERTILIZER TOPDRESSING	15.25	TON
6111000000-E	SP	IMPERVIOUS DIKE	65	LF
6114500000-N	1667	SPECIALIZED HAND MOWING	10	MHR
6117000000-N	1675	RESPONSE FOR EROSION CONTROL	100	EA
6118000000-N	SP	ROOTWADS	0	EA
6120000000-E	SP	CULVERT DIVERSION CHANNEL	0	CY
6123000000-E	1670	REFORESTATION	0.00	ACR
6126000000-E	SP	STREAMBANK REFORESTATION	0.00	ACR
6129000000-E	SP	WETLAND REFORESTATION	0	ACR
6117500000-N	SP	CONCRETE WASHOUT STRUCTURE	10	EA
6114800000-N	SP	MANUAL LITTER REMOVAL	12	MHR
6114900000-E	SP	LITTER DISPOSAL	3	TON
6115000000-E	SP	MECHANICAL LITTER REMOVAL	0	SMI
6132000000-E	SP	GENERIC EROSION CONTROL ITEM - FABRIC INSERT INLET PROTECTION	44	EA
6125000000-E	SP	GENERIC EROSION CONTROL ITEM - FABRIC INSERT INLET PROTECTION CLEANOUT	132	EA
6135000000-E	SP	GENERIC EROSION CONTROL ITEM - DISKING	0	ACR
6135000000-E	SP	GENERIC EROSION CONTROL ITEM - RIPPING	0	ACR
6135000000-E	SP	GENERIC EROSION CONTROL ITEM - WETLAND GRASS PLANTING	0	ACR
6135000000-E	SP	GENERIC EROSION CONTROL ITEM - COMPOST BLANKET	0	ACR

Project Checklist

TIP

DATE

CHECKED BY

ROADWAY/PS/DDL

- SKIMMER/TIERED SKIMMER BASIN DETAIL(S) INCLUDED
- EARTHEN DAM WITH SKIMMER DETAIL INCLUDED
- INFILTRATION BASIN DETAIL INCLUDED
- BORROW PIT DEWATERING BASIN DETAIL INCLUDED
- WATTLE/COIR FIBER WATTLE DETAIL(S) INCLUDED
- SILT CHECK TYPE A WITH MATTING AND PAM DETAIL INCLUDED
- MATTING SUMMARY SHEET(S) AND STABILIZATION GUIDELINES INCLUDED
- ENV. SENS. AREAS SHOWN ON PLAN SHEETS
(TROUT/HQW/CA/303(d)/DSSW/STREAM RELOCATION)
- NEUSE/TAR-PAM/JORDAN LAKE/RANDLEMAN/CATAWBA RIVER BASIN (ESA)
- TREE REFORESTATION SHEET INCLUDED (APPROPRIATE WORDING IN SP)
- STREAMBANK/WETLAND/BUFFER REFORESTATION SHEETS INCLUDED
- STREAMBANK REFORESTATION SHOWN ON PLANS (MATTING ON SLOPE NOTE)
- STILLING BASIN NOTE (BRIDGES OVER WATER)
- EARTH BERMS/CLEAN WATER DIVERSION WITH DETAIL ON PLANS
- CULVERT PHASING ON PLANS/QUANTITIES INCLUDED
- TEMPORARY PIPE(S) QUANTITY (CULVERTS & STREAM CROSSING)
- SKIMMER BASIN QUANTITIES INCLUDED
- RISER BASIN QUANTITIES INCLUDED
- GRAVEL CONST. ENT. QUANTITIES INCLUDED
- STREAM RELOCATION QUANTITIES & SP'S INCLUDED
- SAFETY FENCE QUANTITY INCLUDED
- PLAN DESIGNED TO HQW/SENSITIVE WATERSHED STANDARDS
- QUANTITIES MATCH
- SPECIAL PROVISIONS MATCH

<u>TITLE SHEET</u>	
CORRECT TIP PROJECT NUMBER	<input type="checkbox"/>
NOTES (HQW/ESA/303(d)/SENS WATER STD/C & G)	<input type="checkbox"/>
CORRECT STANDARDS	<input type="checkbox"/>
BEGIN & ENDING PROJ. TIP NUMBER	<input type="checkbox"/>

SPECIAL PROVISIONS (PDF) PUT IN CONTRACTS FOLDER	<input type="checkbox"/>
LATE - EMAILED TO: _____	
DATE: _____	
BY: _____	

COMMENTS & NOTES: _____
