North Carolina Department of Transportation
Preliminary Estimate

TIP No. **B-4442** | **100%** | County: **Buncombe**
Route Future I-26
From Replace Bridges on I-26 over Reems Creek
Typical Section 6 Ln (3 in each direction), 26' median divided interstate

CONSTR. COST
$0

Prepared By: AECOM Date 6/29/2022
Requested By: NCDOT Date 6/29/2022

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
		800	Mobilization	1	LS		$ -
		801	Construction Surveying	1	LS		$ -
		200	Clearing and Grubbing (6 Acres)	1	LS		$ -
		200	Supplementary Clearing and Grubbing	1	Acre		$ -
		225	Unclassified Excavation	52,480	CY		$ -
		SP	Type I Standard Approach Fill, Station 315+22	1	LS		$ -
		225	Undercut Excavation	900	CY		$ -
		230	Borrow Excavation	29,110	CY		$ -
		240	Drainage Ditch Excavation	17	CY		$ -
		250	Removal of Existing Ashpalt Pavement	8,290	SY		$ -
		250	Breaking of Existing Asphalt Pavement	14,670	SY		$ -
		260	Proof Rolling	10	HR		$ -
		265	Select Granular Material	600	CY		$ -
		270	Geotextile for Soil Stabilization	2,400	SY		$ -
		SP	Temporary Shoring	10,400	SF		$ -
		275	Rock Plating	450	SY		$ -
		SP	Generic Grading Item (Type II Geotextile for Embk Stability)	3,800	SY		$ -
		SP	Generic Grading Item (Type V Geotextile for Embk Stability)	2,000	SY		$ -
		SP	Generic Grading Item (Rock Embankment Class VII)	30,800	TON		$ -
		300	Foundation Conditioning Material, Minor Structures	260	TON		$ -
		300	Foundation Conditioning Geotextile	820	SY		$ -
		310	48" RC Pipe Culverts, Class IV	280	LF		$ -
		310	15" RC Pipe Culverts, Class IV	1,136	LF		$ -
		310	18" RC Pipe Culverts, Class IV	152	LF		$ -
		310	24" RC Pipe Culverts, Class IV	360	LF		$ -
		310	30" RC Pipe Culverts, Class IV	244	LF		$ -
		310	15" CS Pipe Culverts, 0.064" Thick	184	LF		$ -
		310	18" CS Pipe Culverts, 0.064" Thick	48	LF		$ -
		310	24" CS Pipe Culverts, 0.064" Thick	40	LF		$ -
		310	15"CS Pipe Elbows, 0.064" Thick	12	EA		$ -
		310	18"CS Pipe Elbows, 0.064" Thick	2	EA		$ -
		310	24"CS Pipe Elbows, 0.064" Thick	2	EA		$ -
		330	36" Welded Steel Pipe 0.5" Thick, Grade B in Soil	100	LF		$ -
		330	36" Welded Steel Pipe 0.5" Thick, Grade B Not in Soil	100	LF		$ -
		340	Pipe Removal	112	LF		$ -
		500	Fine Grading (44,480 SY)	1	LS		$ -
		505	Shallow Undercut	400	CY		$ -
		505	Class IV Subgrade Stabilization	800	TON		$ -
		510	Stabilizer Aggregate	50	TON		$ -
		SP	Geotextile for Pavement Stabilization	16,505	SY		$ -
		520	Aggregate Base Course	23,300	TON		$ -
		545	Incidental Stone Base	100	TON		$ -
		607	Milling Asphalt Pavement, 1.5" Depth	850	SY		$ -
		607	Incidental Milling	1,200	SY		$ -
		610	Asphalt Conc Base Course, Type B25.0C	9,300	TON		$ -
		610	Asphalt Conc Intermediate Course, Type I19.0C	8,920	TON		$ -
		610	Asphalt Conc Surface Course, Type S9.5C	7,800	TON		$ -
		620	Asphalt Binder for Plant Mix	1,315	TON		$ -
		654	Asphalt Plant Mix, Pavement Repair	100	TON		$ -

		665	Milled Rumble Strips (Asphalt Concrete)	13,970	LF		$ -
		806	Right-of-Way Markers	19	EA		$ -
		815	Subdrain Excavation	168	CY		$ -
		815	Geotextile for Subsurface Drains	500	SY		$ -
		815	Subdrain Coarse Aggregate	84	CY		$ -
		815	6" Perforated Subdrain Pipe	500	LF		$ -
		815	Subdrain Pipe Outlet	1	EA		$ -
		815	6" Outlet Pipe	6	LF		$ -
		828	Temporary Steel Plate Covers for Masonry Drainage Structures	8	EA		$ -
		838	Endwalls	12	CY		$ -
		SP	Flowable Fill	53	CY		$ -
		840	Masonry Drainage Structures	31	EA		$ -
		840	Masonry Drainage Structures	50	LF		$ -
		840	Frame With Two Grates, STD 840.20	25	EA		$ -
		840	Frame With Two Grates, STD 840.22	1	EA		$ -
		840	Frame With Two Grates, STD 840.24	1	EA		$ -
		840	Frame with Cover, STD 840.54	3	EA		$ -
		846	Shoulder Berm Gutter	2,780	LF		$ -
		854	Concrete Barrier, Type I (Single Slope)	3,092	LF		$ -
		862	Steel Beam Guardrail	3,875	LF		$ -
		862	Steel Beam Guardrail (Double Faced)	62.5	LF		$ -
		862	Additional Guardrail Posts	10	EA		$ -
		862	Guardrail End Units, Type CAT-1	3	EA		$ -
		SP	Guardrail End Units, Type TL-3	3	EA		$ -
		SP	Guardrail Anchor Units, Type B-77	4	EA		$ -
		863	Remove Existing Guardrail	9,600	LF		$ -
		SP	Temporary Guardrail Anchor Units, Type B-77	2	EA		$ -
		866	Woven Wire Fence, 47" Fabric	1,430	LF		$ -
		866	4" Timber Fence Posts, 7'-6" Long	70	EA		$ -
		866	5" Timber Fence Posts, 8'-0" Long	80	EA		$ -
		876	Rip Rap, Class I	550	TON		$ -
		876	Rip Rap, Class B	110	TON		$ -
		876	Geotextile for Drainage	1,030	SY		$ -
			Utility Construction				
			No Utility relocation				
			Misc. & Mob (10% Str & Utilities)				
			Misc. & Mob (25% Rdwy)				

Lgth 0.67 Miles

Contract Cost …… $ -

E. & C. 15% ……

Construction Cost …… **$ -**

CALCULATION OF QUANTITIES

PROJECT TIP NUMBER: B-4442

CONSTRUCTION WBS NUMBER: 38368.3.1

COUNTY: BUNCOMBE

FEDERAL AID NUMBER: 0019061

TOTAL LENGTH [USE EXACT THREE (3) FIGURES BEYOND DECIMAL]

STA.	297+00.000	**TO STA.**	332+11.460	=	3511.460	**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**

TOTAL LENGTH * = 3,511.460 **LIN. FT. / 5,280 =** 0.665 **MILES**

STRUCTURE LENGTHS

STA.	313+81.250	**TO STA.**	316+71.250	=	290.000	**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**
STA.		**TO STA.**		=		**LIN. FT.**

LENGTH OF STRUCTURES * = 290.000 **LIN. FT. / 5,280 =** 0.055 **MILES**

ROADWAY LENGTH (LESS STRUCTURES) = 0.610 **MILES**

NOTE: USED _____ **LANE FOR LENGTH**

*** LENGTH SHOWN TO THREE (3) DECIMAL PLACES USING NORMAL ROUNDING.**

Computed by: Mohammed Fallaha
(Please Print Name)

Checked by: Art McMillan
(Please Print Name)

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 200**

CLEARING AND GRUBBING

* Calculate Acreage for Tree Areas Only

LINE	STATION	STATION	LOCATION	SQUARE FEET
L	299+97	300+57	RT	1,038
L	297+00	313+58	LT	102,879
L	316+51	332+11	LT	83,422
L	325+45	332+11	RT	21,421
	Add 10%			20,876
Total Sq. Feet / **43560 Sq. Feet/ACRE** =			**Total**	229,636
			Acres*	5.27
			SAY	**6**

PROJECT NO.: B-4442
COMPUTED BY: MF
CHECKED BY: AM

SHEET 1 OF 1

SECTION: 200 OR 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.: B-4442 **SHEET 1 OF 1**

COMPUTED BY: MF

CHECKED BY: AM **SECTION: SP**

REINFORCED BRIDGE APPROACH FILLS

	LINE	STATION
Reinforced Bridge Approach Fills at:	L (LT/RT)	315+22.00

Undercut Excavation

400 CY as a Contingency Item

400 CY as a Contingency Item

100 CY as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

Total = 900 CY

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 240**

DRAINAGE DITCH EXCAVATION

LINE	SIDE	STATION	STATION	VOLUME CY^3
L	LT	322+00		9.00
L	LT	313+10		8.00
			TOTAL	17.00
			SAY	**20**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 250**

REMOVAL OF EXISTING ASPHALT PAVEMENT

(FILL IN THE BLANK FOR 'ASPHALT' OR 'CONCRETE'PAVEMENT)

LINE	STATION	STATION	LOCATION	LENGTH OR AREA	WIDTH	SQUARE YARDS
L	303+00	306+50	LT	13348.00		1483.11
L	303+00	306+50	RT	13453.00		1494.78
L	327+00	327+50	LT	1903.00		211.44
L	327+00	327+50	RT	1913.00		212.56
L	297+05	308+95	LT/RT	22500.00		2500.00
L	321+52	333+05	LT/RT	21425.00		2380.56
					TOTAL	8,282.44
					SAY	**8,290**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 250**

BREAKING OF EXISTING ASPHALT PAVEMENT

(FILL IN THE BLANK FOR 'ASPHALT' OR 'CONCRETE'PAVEMENT)

LINE	STATION	STATION	LOCATION	LENGTH OR AREA	WIDTH	SQUARE YARDS
L	306+50	313+60	LT	27724.00		3080.44
L	306+50	313+60	RT	27548.00		3060.89
L	316+85	327+00	LT	38370.00		4263.33
L	316+85	327+00	RT	38305.00		4256.11
					TOTAL	14,660.78
					SAY	**14,670**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 260**

PROOF ROLLING

(3 HRS. PER 24' WIDTH PER MILE)

LINE	BEG. STA.	END STA.	*WIDTH	HOURS PER MILE	MILES	HRS.
-L-	297+00.00	313+82.00	126.00	15.75	0.32	5.02
-L-	316+70.00	332+11.46	126.00	15.75	0.29	4.60
					TOTAL	9.62
					SAY	**10**

***SEE DESIGN MANUAL, PART I, 11-1A**

Select Granular Material

600 CY as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

Total = 600 CY

COMPUTED BY: MF CHECKED BY: AM

Geotextile for Soil Stabilization

400 SY as a Contingency Item

1400 SY as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

600 SY as a Contingency Item

per Recommendations for Pavement and Subgrade, dated December 3, 2021

Total = 2400 SY

SECTION: 275

Rock Plating

450 SY as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

Total = 450 SY

COMPUTED BY: MF CHECKED BY: AM

Type II Geotextile for Embk Stability

3,800 SY as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

Total = 3,800 SY

Type V Geotextile for Embk Stability

2,000 SY as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

Total = 2,000 SY

Rock Embankment Class VII

30,800 Tons as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

Total = 30,800 Tons

PROJECT NO. : B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 300**

FOUNDATION CONDITIONING MATERIAL MINOR STRUCTURES

2,444	**LIN. FT**	**X**	**0.106**	**=**	259.06	**TONS**
				SAY	260	**TONS**

FOUNDATION CONDITIONING GEOTEXTILE

2444	**LIN. FT**	**X**	**6 FT / 18**	**=**	814.67	**SY**
				SAY	820	**SY**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 500**

FINE GRADING

NOTE: THE WIDTH IS MEASURED FROM SHOULDER POINT TO SHOULDER POINT

LINE	STATION	STATION	LOCATION	LENGTH	AREA FROM CADD OR WIDTH	SQUARE FEET
-L-	297+00.00	313+19.00	LT			18672.00
-L-	297+00.00	313+19.00	LT			19084.00
-L-	317+26.00	332+11.46	LT			17164.00
-L-	317+26.00	332+11.46	LT			17614.00
-L-	297+00.00	313+19.00	RT			19245.00
-L-	297+00.00	313+19.00	RT			19194.00
-L-	317+26.00	332+11.46	RT			17726.00
-L-	317+26.00	332+11.46	RT			17059.00
-L-	297+00.00	313+19.00	LT			57027.00
-L-	317+26.00	332+11.46	LT			52059.00
-L-	297+00.00	313+19.00	RT			57016.00
-L-	317+26.00	332+11.46	RT			52011.00
					TOTAL IN FT^2	400,258
					TOTAL IN YD^2	44,473
					SAY	**44,480**

PROJECT NO.: B-4442

SECTION: 505

Shallow Undercut

200 CY as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

200 CY as a Contingency Item

per Recommendations for Pavement and Subgrade, dated December 3, 2021

Total = 400 CY

COMPUTED BY: MF

CHECKED BY: AM

PROJECT NO.: B-4442

SECTION: 505

Class IV Subgrade Stabilization

400 Tons as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

400 Tons as a Contingency Item

per Recommendations for Pavement and Subgrade, dated December 3, 2021

Total = 800 Tons

COMPUTED BY: MF

CHECKED BY: AM

Stabilizer Aggregate

50 Tons as a Contingency Item

per Recommendations for Pavement and Subgrade, dated December 3, 2021

Total = 50 Tons

Geotextile for Pavement Stabilization

16,505 SY as a Contingency Item

per Recommendations for Pavement and Subgrade, dated December 3, 2021

Total = 16,505 SY

PROJECT NO.: B-4442 SHEET 1 OF 1
COMPUTED BY: MF
CHECKED BY: AM SECTION: 520

AGGREGATE BASE COURSE

LINE	STATION	STATION	LENGTH OR AREA	W (FT)	W1 (FT)	D (FT)	TONS
L	297+00.00	303+00.00	12,074.31			0.83	754.64
L	297+00.00	303+00.00	19,531.38			0.83	1,220.71
L	297+00.00	303+00.00	7,353.67			0.83	459.60
L	303+00.00	313+73.37	130,744.89			0.83	8,171.56
L	316+79.67	327+50.00	128,994.36			0.83	8,062.15
L	327+50.00	332+11.46	8,623.35			0.83	538.96
L	327+50.00	332+11.46	14,811.64			0.83	925.73
L	327+50.00	332+11.46	5,413.66			0.83	338.35
L	297+05.31	308+94.68	22,500.00			0.83	1,406.25
L	321+51.61	333+04.78	21,425.00			0.83	1,339.06
						TOTAL	23,217.02
						SAY	**23,300**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: DIVISION
CHECKED BY: **SECTION: 545**

INCIDENTAL STONE BASE

(FURNISHED BY DIVISION)

Per Combined or Pre-Let Field Inspection Questions dated: _____

SAY = 100 **TONS**

6/9/2022

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 607**

MILLING ASPHALT PAVEMENT, 1.5" DEPTH

LINE	STATION	STATION	LOCATION	LENGTH OR AREA	WIDTH	SQUARE YARDS
-L-	297+00	297+50	LT	1911.60		212.40
-L-	297+00	297+50	RT	1908.90		212.10
-L-	331+61	332+11	LT	1910.14		212.24
-L-	331+61	332+11	RT	1906.57		211.84
					TOTAL	848.58
					SAY	**850**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: DIVISION
CHECKED BY: **SECTION: 607**

INCIDENTAL MILLING

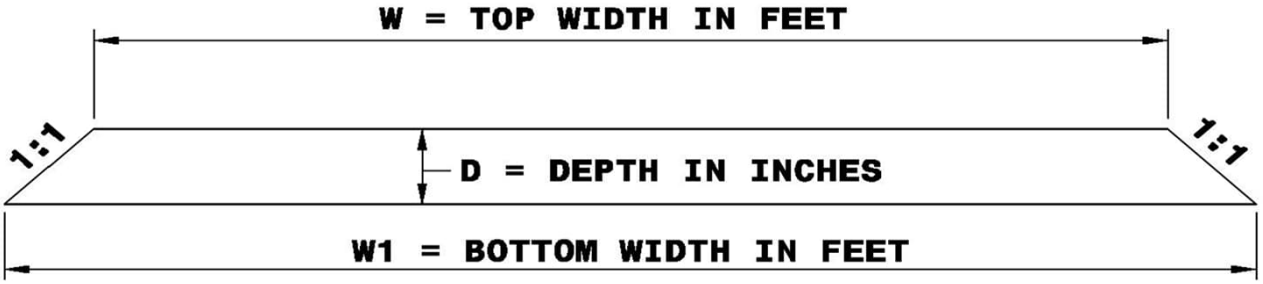
(FURNISHED BY DIVISION)

Per Combined or Pre-Let Field Inspection Questions dated: _____

SAY = 1,200 **SY**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 610**

ASPHALT CONCRETE BASE COURSE
TYPE B25.0C



CALCULATE:

LENGTH X ((W+W1)/2) X D X 114# / YD^2 / IN = _____ **TONS**

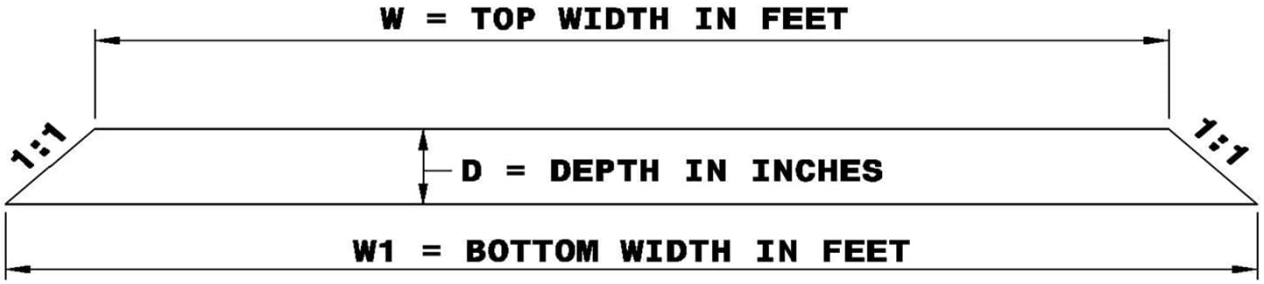
9 FT^2 / YD^2 X 2000# / TON

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

LINE	BEG STA.	END STA.	LENGTH	AREA / W	W1	DEPTH	TONS
-L-	297+00	303+00		11527		4.5	328.52
-L-	297+00	303+00		19148		4.5	545.72
-L-	297+00	303+00		7127		4.5	203.12
-L-	303+00	313+57		129455		4.5	3689.47
-L-	316+95	327+50		128512		4.5	3662.59
-L-	327+50	332+11		8319		4.5	237.09
-L-	327+50	332+11		14428		4.5	411.20
-L-	327+50	332+11		4989		4.5	142.19
-L-	298+00	302+50		Wedging		Var	39.19
-L-	328+00	330+50		Wedging		Var	33.92
						TOTAL	9293.01
						SAY	9300.00

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 610**

ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C



CALCULATE:

LENGTH X ((W+W1)/2) X D X 114# / YD^2 / IN = _____ **TONS**

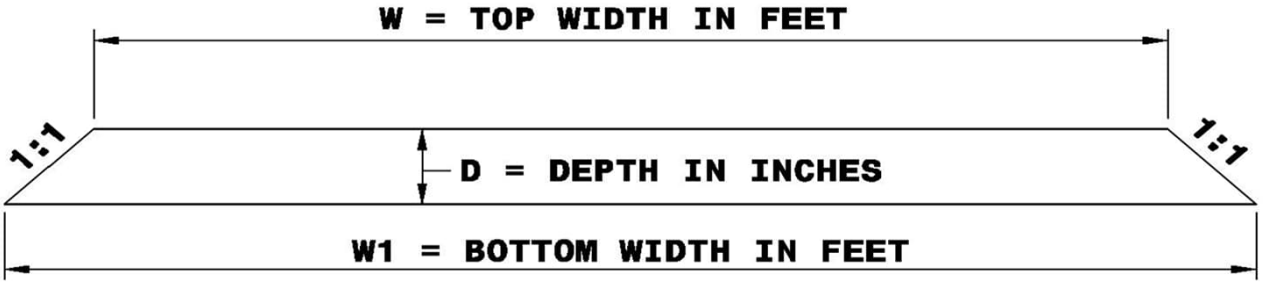
9 FT^2 / YD^2 X 2000# / TON

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

LINE	BEG. STA.	END STA.	LENGTH	AREA / W	W1	DEPTH	TONS
-L-	297+00	303+00		11415		4	289.18
-L-	297+00	303+00		19069		4	483.08
-L-	297+00	303+00		7081		4	179.39
-L-	303+00	313+57		129191		4	3272.84
-L-	316+95	327+50		128413		4	3253.13
-L-	327+50	332+11		8257		4	209.18
-L-	327+50	332+11		14349		4	363.51
-L-	327+50	332+11		4903		4	124.21
-L-	297+50	302+50		Wedging		Var	29.68
-L-	328+00	331+50		Wedging		Var	16.57
-L-	297+05	308+95		22500		2.5	356.25
-L-	321+52	333+05		21425		2.5	339.23
						TOTAL	8916.24
						SAY	8920.00

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 610**

ASPHALT CONCRETE SURFACE COURSE
TYPE S9.5C



CALCULATE:

LENGTH X ((W+W1)/2) X D X 112# / YD^2 / IN = _____ **TONS**

9 FT^2 / YD^2 X 2000# / TON

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

LINE	BEG. STA.	END STA.	LENGTH	AREA / W	W1	DEPTH	TONS
-L-	297+00	303+00		66580		3	1242.83
-L-	303+00	313+57		128957		3	2407.20
-L-	316+95	327+50		128325		3	2395.40
-L-	327+50	332+11		49889		3	931.26
-L-	297+05	308+95		22500		3	420.00
-L-	321+52	333+05		21425		3	399.93
						TOTAL	7796.62
						SAY	7800.00

PROJECT NO.: B-4442
COMPUTED BY: MF
CHECKED BY: AM

SHEET 1 OF 1

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		TONS	X	0.067	=		TONS
S9.5C	7,800	TONS	X	0.060	=	468.00	TONS
I19.0C	8,920	TONS	X	0.048	=	428.16	TONS
B25.0C	9,300	TONS	X	0.045	=	418.50	TONS
PADC, TYPE P-57		TONS	X	0.025	=		TONS
PADC, TYPE P-78M		TONS	X	0.030	=		TONS

SUBTOTAL TONS ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	=	1,314.66	TONS

TOTAL TONS ASPHALT BINDER FOR PLANT MIX	=	1,314.66	TONS
	SAY	1,315	TONS

SECTION: 654

Asphalt Plant Mix, Pavement Repair

100 TONS as a Contingency Item

per CFI

Total = 100 TONS

COMPUTED BY: MF CHECKED BY: AM

PROJECT NO.: B-4442 SHEET 1 OF 1
COMPUTED BY: MF
CHECKED BY: AM SECTION: 665

MILLED RUMBLE STRIPS

LINE	STATION	STATION	LOC LT/RT	LENGTH (ft)
L	297+00	313+44	LT	1,644
L	297+00	313+54	LT	1,654
L	297+00	313+61	RT	1,661
L	297+00	313+70	RT	1,670
L	316+82	332+11	LT	1,529
L	316+92	332+11	LT	1,519
L	316+99	332+11	RT	1,512
L	317+09	332+11	RT	1,502
Add 10%				1,269
			TOTAL	13,960
			SAY	**13,970**

PROJECT NO.: B-4442 SHEET 1 OF 1

COMPUTED BY: MF

CHECKED BY: AM SECTION: 806

RIGHT-OF-WAY MARKERS

LINE	STATION	LOC LT/RT	Markers
L	307+20.000	LT	1
L	308+37.580	LT	1
L	310+70.000	LT	1
L	310+70.000	LT	1
L	312+90.000	LT	1
L	313+35.000	LT	1
L	313+35.000	LT	1
L	316+50.000	LT	1
L	316+50.000	LT	1
L	316+90.000	LT	1
L	319+50.000	LT	1
L	321+40.000	LT	1
L	322+30.000	LT	1
L	322+80.000	LT	1
L	325+60.000	LT	1
L	325+75.000	LT	1
L	329+12.000	LT	1
L	329+50.000	LT	1
L	329+80.000	LT	1
		TOTAL	19
		SAY	**19**

PROJECT NO.: B-4442

SHEET 1 OF 1

SECTION: 815

SUBSURFACE DRAINS

SUBDRAIN EXCAVATION	(USE 6' DEPTH FOR PROOF ROLLING AND 4' DEPTH ELSEWHERE)	168.0	YD^3
GEOTEXTILE FOR SUBSURFACE DRAINS	……...…..…..….....	500	YD^2
SUBDRAIN COARSE AGGREGATE (USE 3' DEPTH)	……..……..…	84.0	YD^3
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	6	DEPTH x 0.056 =	168.0	YD^3
AGGREGATE	500	LIN. FT. x	3'	DEPTH x 0.056 =	84.0	YD^3

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

Calculated by :
Checked by :

SECTION: 815

6" Perforated Subdrain Pipe

500 LF as a Contingency Item

per NCDOT Geotechnical Report - Design and Construction Recommendations, dated February 14, 2022

Total = 500 LF

COMPUTED BY: MF CHECKED BY: AM

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 866**

WOVEN WIRE FENCE, 47" FABRIC

$$E = \left[\frac{A - (8B + 16C + 16D)}{14} \right] - \left(\frac{B + C + D}{2} \right) \qquad F = (2B + 3C + 3D)$$

STATION TO STATION	LT. OR RT.	A FABRIC L.F.	B END BRACE	C CORNER BRACE	D LINE BRACE	E 4" POSTS	F 5" POSTS
307+20 TO 308+38	LT	120	2		1	5	7
310+70 TO 313+35	LT	291	2	3	1	12	16
316+71 TO 325+75	LT	911	2	7	4	45	37
329+12 TO 329+80	LT	78	2	1	1	0	10
316+88 TO 316+89	RT	28	2			0	4
TOTAL		1,428				62	74
SAY		**1,430**				**70**	**80**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 876**

PLAIN RIP RAP, CLASS I

(WITH OR WITHOUT FILTER FABRIC)

LINE	STATION	LOCATION	DITCH (Y/N)	PIPE DIAMETER	TONS
L	313+05.24	LT	Y	15	22
L	312+73.07	LT	Y	15	70
L	325+59.78	LT	N	48	25
L	328+77.28	LT	Y	30	11
L	323+75.5	LT	Y	48	155
L	330+12.80	LT	Y	30	160
L	328+50.25	LT	N	30	7
L	298+06.37	RT	Y	24	7
L	330+68.86	RT	Y	30	19
					68
				TOTAL	544
				SAY	**550**

PROJECT NO.: B-4442 **SHEET 1 OF 1**
COMPUTED BY: MF
CHECKED BY: AM **SECTION: 876**

PLAIN RIP RAP, CLASS B

(WITH OR WITHOUT FILTER FABRIC)

LINE	STATION	LOCATION	DITCH (Y/N)	PIPE DIAMETER	TONS
L	297+64.76	LT	Y	24	99
L	321+13.76	LT	N	18	2
L	317+36.38	LT	N	15	1
L	317+37.43	RT	N	15	1
L	308+51.46	RT	N	15	1
L	312+70.69	RT	N	15	1
L	300+98.66	RT	N	15	1
L	302+80.58	RT	N	24	2
L	325+34.28	RT	Y		1
				TOTAL	109
				SAY	**110**

PROJECT NO.: B-4442
COMPUTED BY: MF
CHECKED BY: AM

SECTION: 876

GEOTEXTILE FOR DRAINAGE

(AT PIPE OUTLETS - CLASS I RIP RAP)

LINE	STATION	PIPE SIZE (in)	PIPE WITH DITCH (Y OR N)	SQUARE YARDS
L (RT)	298+00	24	Y	15
L (LT)	312+74		Y	130
L (LT)	322+81	48	Y	50
L (LT)	325+55			40
L (LT)	328+50 TO 328+75		Y	15
L (LT)	328+87	30	Y	22
L (RT)	330+45 TO 330+85		Y	40
			TOTAL	312
			SAY	**315**

PROJECT NO.: B-4442
COMPUTED BY: MF
CHECKED BY: AM

SECTION: 876

GEOTEXTILE FOR DRAINAGE

(AT PIPE OUTLETS - CLASS B RIP RAP)

LINE	STATION	PIPE SIZE (in)	PIPE WITH DITCH (Y OR N)	SQUARE YARDS
L (RT)	300+98	15	N	5
L (RT)	302+77	24	N	11
L (RT)	308+44	15	N	5
L (RT)	312+74	15	N	5
L (LT)	317+35	15	N	5
L (RT)	317+35	15	N	5
L (LT)	321+16	18	N	7
L (RT)	321+35 TO 323+20		Y	180
L (LT)	322+80 TO 325+38		Y	220
L (RT)	325+34		Y	5
L (LT)	328+81 TO 330+50		Y	225
			TOTAL	673
			SAY	**675**