

APPENDIX P

REFINED BUILD CONCEPT LONG RANGE ESTIMATES

Segment	Segment 1 CBD	Segment 2 South	Segment 3 Central	Segment 4 GGI	Segment 5 North
Roadway	\$ 17,139,261.27	\$ 146,312,975.30	\$ 303,894,013.25	\$ 36,896,438.42	\$ 91,815,572.82
S&PM	\$ 204,046.64	\$ 4,843,655.56	\$ 2,118,088.40	\$ 4,704,960.63	\$ 3,372,621.06
Signalization	\$ -	\$ 2,113,345.84	\$ 11,776,416.08	\$ -	\$ 2,440,788.60
Bridges	\$ 149,819,025.09	\$ 243,385,860.27	\$ 229,640,981.67	\$ 136,449,783.18	\$ 68,984,692.79
Other (MOT, PE, CEI, etc.)	\$ 67,507,418.92	\$ 174,803,546.43	\$ 246,647,784.77	\$ 91,408,255.90	\$ 64,927,959.48
Total For Segment	\$ 234,669,751.92	\$ 571,459,383.40	\$ 794,077,284.17	\$ 269,459,438.13	\$ 231,541,634.75
Grand Total	\$2,101,207,492.37				

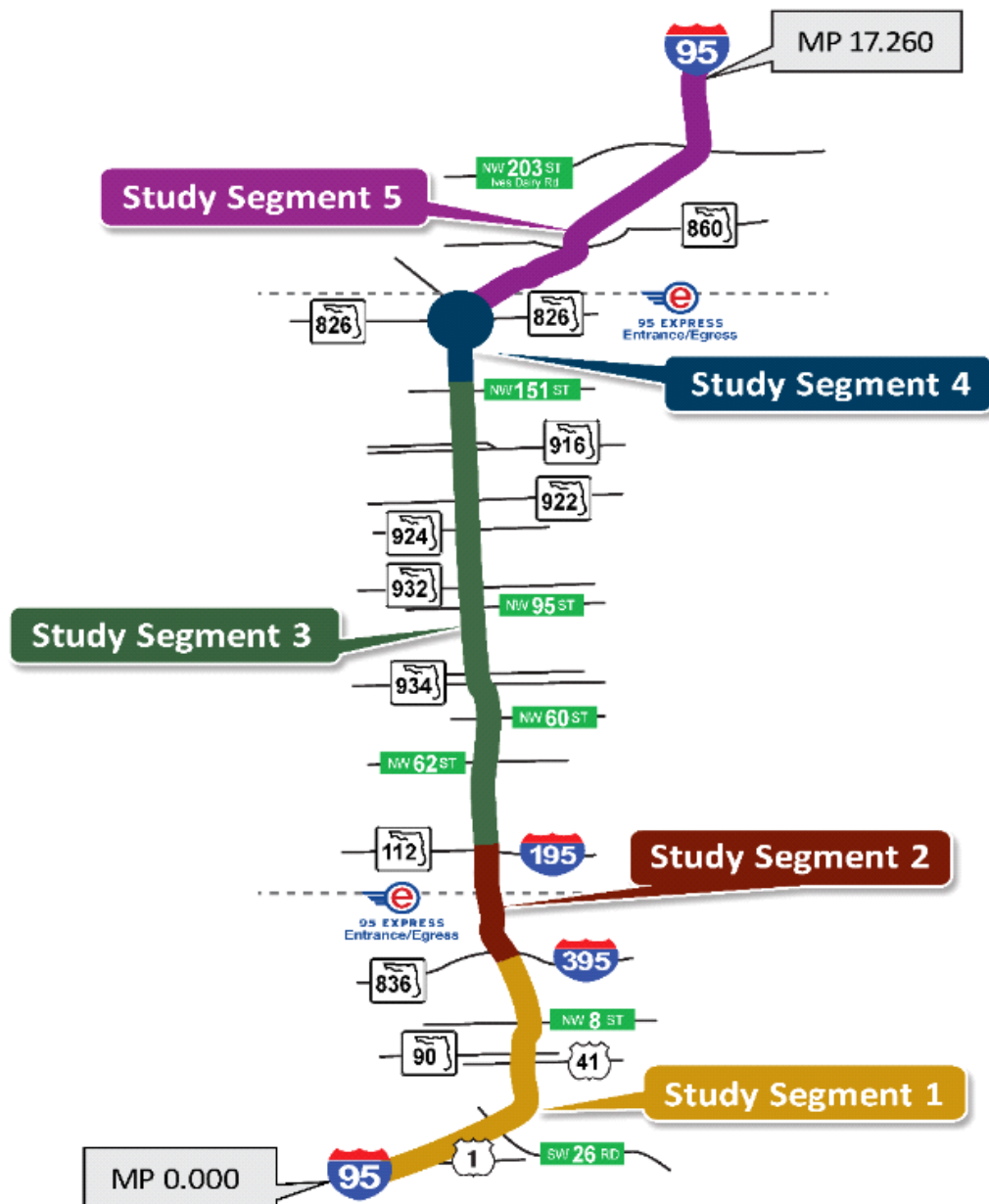
Legend:

S&PM - Signing and Pavement Markings

MOT - Maintenance of Traffic

PE - Preliminary Engineering

CEI - Construction Engineering & Inspection



CPS Corridor Segmentation

Sequence	Components																	
	Roadway						S&PM		Signalization	Bridges	Other							
	Earthwork	Roadway	Shoulder	Median	Drainage	RetainingWalls	Signing	Pavt Markings			ITS	Tolling	Lighting	Landscaping	MOT	Mobilization	Contingency	
Segment 1																		
1	\$ 493,324.69	\$ 8,612,206.78	\$ 39,263.68		\$ 505,187.84	\$ 2,550,038.40	\$ 102,568.86	\$ 30,314.84		\$ 149,819,025.09	\$ 1,176,700.00		\$ 3,343,274.31					
2	\$ 139,885.21	\$ 698,229.18	\$ 7,193.84		\$ 12,167.05		\$ 8,659.74	\$ 1,915.66										
3	\$ 202,813.96	\$ 1,090,884.77	\$ 16,581.30		\$ 32,167.42		\$ 15,294.24	\$ 3,986.47										
4	\$ 77,762.60	\$ 253,387.62	\$ 8,173.95		\$ 13,885.34		\$ 9,765.49	\$ 1,214.76										
5		\$ 484,732.71	\$ 451.61					\$ 993.90										
6		\$ 140,620.59	\$ 264.64					\$ 441.73										
7	\$ 43,022.67	\$ 83,331.16	\$ 4,526.94		\$ 5,169.75		\$ 6,448.24	\$ 368.11										
8	\$ 374,255.10	\$ 393,319.04	\$ 11,870.11		\$ 47,210.01		\$ 10,320.05	\$ 1,656.50										
9	\$ 126,453.18	\$ 171,218.93	\$ 126,281.25		\$ 373,379.95		\$ 7,949.21	\$ 2,148.84				\$ 53,958.16						
General																\$ 17,173,626.55	\$ 15,112,791.36	\$ 30,647,068.54
Component Total	\$17,139,261.27						\$204,046.64		\$0.00	\$149,819,025.09	\$67,507,418.92							
Segment 2																		
10	\$ 12,918,342.07	\$ 21,940,553.50	\$ 3,806,946.04	\$ 1,376,769.00	\$ 757,292.30	\$ 7,177,206.40	\$ 1,085,139.69	\$ 68,585.20		\$ 85,063,595.97	\$ 12,021,336.00	\$ 4,250,000.00	\$ 588,245.49					
11	\$ 1,165,397.89	\$ 3,331,460.03	\$ 489,170.52	\$ 432,845.88	\$ 137,234.22	\$ 857,147.20	\$ 121,179.55	\$ 6,287.46					\$ 108,045.09					
12	\$ 5,457,219.29	\$ 15,449,649.45	\$ 1,193,941.06		\$ 225,563.86	\$ 2,075,091.20	\$ 561,993.94	\$ 20,081.67		\$ 35,374,752.87			\$ 1,080,450.90					
13	\$ 4,347,965.37	\$ 5,693,196.39	\$ 1,192,644.42	\$ 503,357.04	\$ 300,317.08	\$ 2,235,105.60	\$ 486,953.83	\$ 19,412.09		\$ 15,665,187.83			\$ 696,290.58					
14	\$ 17,881,801.60	\$ 12,434,882.84	\$ 2,344,083.22		\$ 93,510.27	\$ 4,211,844.00	\$ 2,250,485.59	\$ 18,028.97		\$ 86,963,985.00			\$ 2,545,062.12					
15	\$ 3,698,323.53	\$ 3,260,937.97	\$ 668,743.29	\$ 386,782.02	\$ 137,049.48	\$ 1,121,952.83	\$ 121,179.55	\$ 10,392.13		\$ 6,946,681.67			\$ 108,045.09					
16	\$ 199,885.25	\$ 1,349,815.93	\$ 287,580.41		\$ 923,186.04		\$ 10,283.95	\$ 11,262.06		\$ 13,371,656.93			\$ 152,696.72					
17	\$ 659,617.03	\$ 764,810.56	\$ 656,470.44		\$ 2,167,282.78		\$ 26,759.55	\$ 25,630.33	\$ 2,113,345.84									
General	\$ -															\$ 41,820,600.89	\$ 36,802,128.79	\$ 74,630,644.76
Component Total	\$146,312,975.30						\$4,843,655.56		\$2,113,345.84	\$243,385,860.27	\$174,803,546.43							
TOTAL:	\$ 64,925,330.71	\$ 76,153,237.45	\$ 10,854,186.72	\$ 2,699,753.94	\$ 5,730,603.39	\$ 20,228,385.63	\$ 5,029,028.12	\$ 222,720.72	\$ 2,113,345.84	\$ 543,023,910.45	\$ 80,705,454.92	\$ 4,250,000.00	\$ 8,676,068.46	\$ -	\$ 58,994,227.44	\$ 51,914,920.15	\$ 105,277,713.30	

Legend:

MOT - Maintenance of Traffic

ITS - Intelligent Transportation System

Sequence	Components																
	Roadway						S&PM		Signalization	Bridges	Other						
	Earthwork	Roadway	Shoulder	Median	Drainage	RetainingWalls	Signing	Pavt Markings			ITS	Tolling	Lighting	Landscaping	MOT	Mobilization	Contingency
1	\$ 27,897,318.76	\$ 113,048,323.65	\$ 242,049.31	\$ 15,856,328.80	\$ 4,897,340.24	\$ 70,034,213.40	\$ 396,359.58	\$ 707,387.39		\$ 229,640,981.67	\$ 20,280,000.00	\$ 4,000,000.00	\$ 3,585,678.00	\$ 2,695,028.59			
2	\$ 3,226,304.63	\$ 6,017,772.49			\$ 3,062,074.79		\$ 530,821.01	\$ 32,575.77									
3	\$ 6,438,692.34	\$ 8,970,237.55	\$ 523,677.62		\$ 495,648.84		\$ 77,335.20	\$ 21,573.82					\$ 800,801.42				
4	\$ 6,287,094.27	\$ 14,661,326.38	\$ 967,194.04		\$ 737,063.64		\$ 116,809.28	\$ 40,625.13					\$ 1,195,226.00				
5	\$ 1,203,624.69	\$ 2,807,980.83	\$ 167,006.09		\$ 127,092.67		\$ 23,790.57	\$ 9,168.73					\$ 203,188.42				
6	\$ 868,142.57	\$ 202,503.22	\$ 215,136.92		\$ 911,265.46		\$ 10,272.95	\$ 3,796.64					\$ 176,307.39	\$ 26,654.04			
7	\$ 4,521,006.51	\$ 1,923,372.15	\$ 1,025,620.15		\$ 4,293,101.35		\$ 50,003.19	\$ 40,984.51					\$ 582,789.73	\$ 145,661.56			
8		\$ 362,759.86	\$ 2,582.54					\$ 10,509.57									
9		\$ 1,268,095.05	\$ 6,054.65					\$ 32,262.08									
10		\$ 623,757.75	\$ 2,250.04					\$ 13,812.98	\$ 11,776,416.08								
General															\$ 58,112,083.46	\$ 51,138,633.44	\$ 103,705,732.72
Component Total			\$303,894,013.25				\$2,118,088.40		\$11,776,416.08	\$229,640,981.67				\$246,647,784.77			
TOTAL:	\$ 50,442,183.77	\$ 149,886,128.93	\$ 3,151,571.36	\$ 15,856,328.80	\$ 14,523,586.99	\$ 70,034,213.40	\$ 1,205,391.78	\$ 912,696.62	\$ 11,776,416.08	\$ 229,640,981.67	\$ 20,280,000.00	\$ 4,000,000.00	\$ 6,543,990.96	\$ 2,867,344.19	\$ 58,112,083.46	\$ 51,138,633.44	\$ 103,705,732.72

Legend:

MOT - Maintenance of Traffic

ITS - Intelligent Transportation System

Sequence	Components																
	Roadway						S&PM		Signalization	Bridges	Other						
	Earthwork	Roadway	Shoulder	Median	Drainage	RetainingWalls	Signing	Pavt Markings			ITS	Tolling	Lighting	Landscaping	MOT	Mobilization	Contingency
Segment 4																	
1	\$ 7,424,808.59	\$ 11,459,017.01	\$ 59,928.16		\$279,234.06	\$17,673,450.60	\$4,674,618.34	\$ 30,342.29		\$136,449,783.18	\$12,899,950.00	\$ 3,750,000.00	\$2,236,036.05	\$236,570.43			
General															\$ 19,717,373.87	\$ 17,351,289.01	\$ 35,217,036.54
Component Total	\$36,896,438.42						\$4,704,960.63		\$0.00	\$136,449,783.18	\$91,408,255.90						
Segment 5																	
2	\$5,467,279.82	\$ 6,468,785.98	\$ 304,345.06	\$339,859.27	\$481,470.78	\$1,240,733.60	\$1,041,336.49	\$ 23,799.01		\$42,287,192.08			\$372,155.31				
3	\$514,781.13	\$ 439,623.95	\$154,787.63	\$28,919.09	\$104,352.87		\$8,677.19	\$ 3,065.97	\$830,080.36				\$85,912.11				
4	\$27,906,171.87	\$ 23,854,088.11	\$4,628,811.35	\$4,476,203.98	\$1,157,402.60		\$2,065,758.65	\$ 136,692.26		\$26,697,500.71			\$1,800,751.50				
5	\$2,920,265.33	\$ 1,098,691.01	\$1,277,966.01	\$241,096.79			\$40,709.58	\$ 13,131.15					\$384,160.32				
6	\$3,570,320.11	\$ 2,710,329.69	\$305,920.37	\$159,685.82	\$1,056,532.76	\$907,147.84	\$21,270.23	\$ 18,180.53	\$1,610,708.24				\$171,182.60				
General															\$ 16,942,783.71	\$ 14,909,649.66	\$ 30,261,364.27
Component Total	\$91,815,572.82						\$3,372,621.06		\$2,440,788.60	\$68,984,692.79	\$64,927,959.48						
TOTAL:	\$ 84,700,065.27	\$ 46,030,535.75	\$ 6,731,758.58	\$ 5,004,668.16	\$ 3,320,089.86	\$ 19,821,332.04	\$ 12,557,331.11	\$ 225,211.21	\$ 2,440,788.60	\$ 341,884,259.15	\$ 104,308,205.90	\$ 3,750,000.00	\$ 5,050,197.89	\$ 236,570.43	\$ 36,660,157.58	\$ 32,260,938.67	\$ 65,478,400.81

Legend:
MOT - Maintenance of Traffic
ITS - Intelligent Transportation System

Date: 7/3/2019 11:31:31 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 414964-1-22-01

Letting Date: 01/2099

Description: SR 9A/I-95 FROM N. OF NW 151 STREET TO BROWARD COUNTY LINE

District: 06 County: 87 MIAMI-DADE

Market Area: 13

Units: English

Contract Class: 4 Lump Sum Project: N

Design/Build: N

Project Length: 5.599 MI

Project Manager: WANG, BAOYING

Version 1-P Project Grand Total

\$501,001,072.88

Description: SR 9A/I-95 FROM N. OF NW 151 STREET TO BROWARD COUNTY LINE

Sequence: 1 NUR - New Construction, Undivided, Rural

Net Length: 1.345 MI
7,100 LFDescription: Segment 4 - Mainline NB and SB 3 EL + 4 GP lanes. Includes all ramps, bridges, and CD Roads.
Roadway pavement: Concrete

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	200.00 / 200.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.587
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	65.21 AC	\$93,209.42	\$6,078,186.28
120-6	EMBANKMENT	51,144.03 CY	\$26.33	\$1,346,622.31

Earthwork Component Total

\$7,424,808.59

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	8
Roadway Pavement Width L/R	47.00 / 47.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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160-4	TYPE B STABILIZATION	74,155.72 SY	\$5.65	\$418,979.82
285-701	OPTIONAL BASE,BASE GROUP 01	74,676.39 SY	\$15.72	\$1,173,912.85
350-3-7	PLAIN CEMENT CONC PAVT, 9"	74,155.72 SY	\$96.15	\$7,130,072.48

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	7

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	1,634.00 EA	\$4.59	\$7,500.06
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.69 GM	\$3,681.10	\$9,902.16
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	9.41 GM	\$1,375.14	\$12,940.07

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-27	SHLDR CONC BAR WALL, 14' NOISE WALL	4,731.00 LF	\$551.73	\$2,610,234.63
544-75-1	CRASH CUSHION	7.00 EA	\$17,973.89	\$125,817.23

Roadway Component Total	\$11,489,359.30
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SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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104-10-3	SEDIMENT BARRIER	18,460.04 LF	\$2.42	\$44,673.30
104-11	FLOATING TURBIDITY BARRIER	336.18 LF	\$14.12	\$4,746.86
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	336.18 LF	\$8.64	\$2,904.60
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,868.77	\$5,737.54
107-1	LITTER REMOVAL	16.30 AC	\$52.70	\$859.01
107-2	MOWING	16.30 AC	\$61.77	\$1,006.85
Shoulder Component Total				\$59,928.16

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	24.20 CY	\$1,499.14	\$36,279.19
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	1,080.00 LF	\$107.67	\$116,283.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	232.00 LF	\$170.05	\$39,451.60
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	54.00 EA	\$1,578.89	\$85,260.06
570-1-1	PERFORMANCE TURF	946.67 SY	\$2.07	\$1,959.61
Drainage Component Total				\$279,234.06

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$341.51	\$1,024.53
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	27.00 AS	\$1,083.27	\$29,248.29
700-2-14	MULTI- POST SIGN, F&I GM, 31- 50 SF	3.00 AS	\$4,562.19	\$13,686.57

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-4-114	OH STATIC SIGN STR, F&I, C 41- 50 FT	10.00 EA	\$95,355.51	\$953,555.10
700-4-127	OH STATIC SIGN STR, F&I, S 151- 200 FT	15.00 EA	\$238,854.96	\$3,582,824.40
700-4-140	OH STATIC SIGN STR, F&I, O BR MOUNT	5.00 EA	\$18,855.89	\$94,279.45
Signing Component Total				\$4,674,618.34

INTELLIGENT TRAFFIC SYSTEM (ITS) COMPONENT**Description of Work****EX-Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
ITS	ITS @ 3% OF PROJ COST	1.00 LS	\$12,899,950.00	\$12,899,950.00

TOLL	TOLLING LS	1.00 LS	\$3,750,000.00	\$3,750,000.00
	Comment: Includes full span gantry in Segment 5 and connections to other systems in Segment 4.			
	Intelligent Traffic System (ITS) Component Total			\$16,649,950.00

LIGHTING COMPONENT**Rural Lighting Subcomponent**

Description				Value	
Multiplier (Number of Poles)				105	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	21,000.00	LF	\$9.15	\$192,150.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	105.00	EA	\$643.67	\$67,585.35
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	105.00	EA	\$6,164.09	\$647,229.45
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	105.00	EA	\$1,645.25	\$172,751.25
Subcomponent Total					\$1,079,716.05

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-15	CONDUIT, F& I, BRIDGE MOUNT	33,000.00 LF	\$35.04	\$1,156,320.00
Lighting Component Total				\$2,236,036.05

LANDSCAPING COMPONENT**User Input Data**

Description	Value
Cost %	2.00
Component Detail	N

Landscaping Component Total	\$236,570.43
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BRIDGES COMPONENT**Bridge 4-1**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	202.00
Width (LF)	279.93
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	56,545.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.59
Basic Bridge Cost	\$8,481,879.00
Description	I-95 MAINLINE OVER BISCAYNE CANAL

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	56,545.00 SF	\$66.46	\$3,757,980.70
400-2-10	CONC CLASS II, APPROACH SLABS	622.07 CY	\$420.63	\$261,661.30
415-1-9	REINF STEEL- APPROACH SLABS	108,862.25 LB	\$1.02	\$111,039.50
Bridge 4-1 Total				\$12,612,560.50

Bridge 4-2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,053.00
Width (LF)	42.00
Type	High Level
Cost Factor	1.15
Structure No.	
Removal of Existing Structures area	43,928.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$184.00
Final Cost per SF	\$185.26
Basic Bridge Cost	\$8,137,584.00
Description	I-95 SB EXPRESS OVER FL TURNPIKE SB AND GOLDEN GLADES BUS STATION & PARKING

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	43,928.00 SF	\$66.46	\$2,919,454.88
400-2-10	CONC CLASS II, APPROACH SLABS	93.33 CY	\$420.63	\$39,257.40
415-1-9	REINF STEEL- APPROACH SLABS	16,332.75 LB	\$1.02	\$16,659.40
Bridge 4-2 Total				\$11,112,955.69

Bridge 4-3

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	610.00
Width (LF)	42.00
Type	High Level
Cost Factor	1.15
Structure No.	
Removal of Existing Structures area	25,548.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$184.00
Final Cost per SF	\$186.18
Basic Bridge Cost	\$4,714,080.00
Description	I-95 NB EXPRESS

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	25,548.00 SF	\$66.46	\$1,697,920.08
400-2-10	CONC CLASS II, APPROACH SLABS	93.33 CY	\$420.63	\$39,257.40
415-1-9	REINF STEEL- APPROACH SLABS	16,332.75 LB	\$1.02	\$16,659.40

Bridge 4-3 Total

\$6,467,916.89

Bridge 4-4

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	3,222.00
Width (LF)	46.00
Type	High Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	145,653.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$160.00
Final Cost per SF	\$160.41
Basic Bridge Cost	\$23,713,920.00
Description	I-95 SB EXPRESS OVER FL TURNPIKE AND SR 9

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	145,653.00 SF	\$66.46	\$9,680,098.38
400-2-10	CONC CLASS II, APPROACH SLABS	102.22 CY	\$420.63	\$42,996.80
415-1-9	REINF STEEL- APPROACH SLABS	17,888.50 LB	\$1.02	\$18,246.27

Bridge 4-4 Total

\$33,455,261.45

Bridge 4-5

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	3,692.00
Width (LF)	46.07
Type	High Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	170,072.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$160.00
Final Cost per SF	\$160.36
Basic Bridge Cost	\$27,214,470.40
Description	I-95 NB EXPRESS OVER FL TURNPIKE AND SR 9

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	170,072.00 SF	\$66.46	\$11,302,985.12
400-2-10	CONC CLASS II, APPROACH SLABS	102.38 CY	\$420.63	\$43,064.10
415-1-9	REINF STEEL- APPROACH SLABS	17,916.50 LB	\$1.02	\$18,274.83

Bridge 4-5 Total

\$38,578,794.45

Bridge 4-6

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	875.00
Width (LF)	27.00
Type	High Level
Cost Factor	1.15
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$184.00
Final Cost per SF	\$185.52
Basic Bridge Cost	\$4,347,000.00
Description	RAMP FROM PALMETTO EXPY EB TO I-95 SB EXPRESS OVER FL TURNPIKE SB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	60.00 CY	\$420.63	\$25,237.80
415-1-9	REINF STEEL- APPROACH SLABS	10,500.00 LB	\$1.02	\$10,710.00

Bridge 4-6 Total

\$4,382,947.80

Bridge 4-7

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	593.00
Width (LF)	40.00
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	23,282.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$152.25
Basic Bridge Cost	\$3,558,000.00
Description	RAMP FROM PALMETTO EXPY EB TO I-95 SB EXPRESS OVER PALMETTO EXPY

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	23,282.00 SF	\$66.46	\$1,547,321.72
400-2-10	CONC CLASS II, APPROACH SLABS	88.89 CY	\$420.63	\$37,389.80
415-1-9	REINF STEEL- APPROACH SLABS	15,555.75 LB	\$1.02	\$15,866.87
Bridge 4-7 Total				\$5,158,578.39

Bridge 4-8

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,883.00
Width (LF)	27.00
Type	High Level
Cost Factor	1.15
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$184.00
Final Cost per SF	\$184.71
Basic Bridge Cost	\$9,354,744.00
Description	RAMP FROM I-95 NB EXPRESS TO PALMETTO EXPY WB OVER FL TURNPIKE SB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	60.00 CY	\$420.63	\$25,237.80
415-1-9	REINF STEEL- APPROACH SLABS	10,500.00 LB	\$1.02	\$10,710.00
Bridge 4-8 Total				\$9,390,691.80

Bridge 4-9

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,186.00
Width (LF)	36.00
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	45,712.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$151.12
Basic Bridge Cost	\$6,404,400.00
Description	RAMP FROM I-95 NB EXPRESS TO PALMETTO EXPY WB OVER PALMETTO EXPY

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	45,712.00 SF	\$66.46	\$3,038,019.52
400-2-10	CONC CLASS II, APPROACH SLABS	80.00 CY	\$420.63	\$33,650.40
415-1-9	REINF STEEL- APPROACH SLABS	14,000.00 LB	\$1.02	\$14,280.00

Bridge 4-9 Total \$9,490,349.92

Bridge 4-10

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	300.00
Width (LF)	27.00
Type	High Level
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$160.00
Final Cost per SF	\$164.44
Basic Bridge Cost	\$1,296,000.00
Description	RAMP TO I-95 NB EXPRESS

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	60.00 CY	\$420.63	\$25,237.80
415-1-9	REINF STEEL- APPROACH SLABS	10,500.00 LB	\$1.02	\$10,710.00

Bridge 4-10 Total \$1,331,947.80

Bridge 4-11

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	401.40
Width (LF)	44.00
Type	High Level
Cost Factor	1.15
Structure No.	
Removal of Existing Structures area	17,446.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$184.00
Final Cost per SF	\$187.32
Basic Bridge Cost	\$3,249,734.40
Description	I-95 NB EXPRESS OVER NW 2ND AVE.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	17,446.00 SF	\$66.46	\$1,159,461.16
400-2-10		97.78 CY	\$420.63	\$41,129.20

	CONC CLASS II, APPROACH SLABS			
415-1-9	REINF STEEL- APPROACH SLABS	17,111.50 LB	\$1.02	\$17,453.73
Bridge 4-11 Total				\$4,467,778.49
Bridges Component Total				\$136,449,783.18

RETAINING WALLS COMPONENT

Retaining Wall 1

Description	Value
Length	1,983.00
Begin height	18.00
End Height	18.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	35,694.00 SF	\$29.18	\$1,041,550.92

Retaining Wall 2

Description	Value
Length	25,908.00
Begin height	22.00
End Height	22.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	569,976.00 SF	\$29.18	\$16,631,899.68

Retaining Walls Component Total	\$17,673,450.60
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Sequence 1 Total	\$197,173,738.71
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Sequence: 2 NDR - New Construction, Divided, Rural**Net Length:** 1.124 MI
5,937 LF**Description:** Segment 5 - Miami Gardens Interchange Improvements. Includes all bridges. Roadway
pavement: Asphalt**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	200.00 / 200.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.479
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	54.50 AC	\$93,209.42	\$5,079,913.39
120-6	EMBANKMENT	14,711.98 CY	\$26.33	\$387,366.43
Earthwork Component Total				\$5,467,279.82

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 15.00
Structural Spread Rate	440
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	24,406.98 SY	\$5.65	\$137,899.44
285-709	OPTIONAL BASE,BASE GROUP 09	10,330.09 SY	\$29.37	\$303,394.74
334-1-15	SUPERPAVE ASPHALTIC CONC, TRAFFIC E	2,176.84 TN	\$425.00	\$925,157.00
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	395.79 TN	\$209.90	\$83,076.32

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-27	SHLDR CONC BAR WALL, 14' NOISE WALL	1,189.00 LF	\$551.73	\$656,006.97

Pavement Marking Subcomponent

Description	Value
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Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.50	GM	\$792.34	\$3,565.53
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	4.50	GM	\$4,496.33	\$20,233.48

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-27	SHLDR CONC BAR WALL, 14' NOISE WALL	7,778.00	LF	\$551.73	\$4,291,355.94
544-75-1	CRASH CUSHION	4.00	EA	\$17,973.89	\$71,895.56

Roadway Component Total

\$6,492,584.99

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	6.00 / 6.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	6.00 / 6.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	8,351.14	SY	\$14.95	\$124,849.54
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	435.37	TN	\$137.06	\$59,671.81
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	316.63	TN	\$209.90	\$66,460.64

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	15,435.76	LF	\$2.42	\$37,354.54

104-11	FLOATING TURBIDITY BARRIER	281.10 LF	\$14.12	\$3,969.13
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	281.10 LF	\$8.64	\$2,428.70
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,868.77	\$5,737.54
104-18	INLET PROTECTION SYSTEM	7.00 EA	\$107.53	\$752.71
107-1	LITTER REMOVAL	27.26 AC	\$52.70	\$1,436.60
107-2	MOWING	27.26 AC	\$61.77	\$1,683.85
Shoulder Component Total				\$304,345.06

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	10.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	5.00 / 5.00
Paved Median Shoulder Width L/R	5.00 / 5.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	7,031.85 SY	\$14.95	\$105,126.16
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	362.81 TN	\$137.06	\$49,726.74
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	263.86 TN	\$209.90	\$55,384.21
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	503.70 LF	\$257.34	\$129,622.16
Median Component Total				\$339,859.27

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	20.24 CY	\$1,499.14	\$30,342.59
425-1-551	INLETS, DT BOT, TYPE E, <10'	7.00 EA	\$5,604.64	\$39,232.48
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	904.00 LF	\$107.67	\$97,333.68
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	392.00 LF	\$106.64	\$41,802.88
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	336.00 LF	\$170.05	\$57,136.80
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	45.00 EA	\$1,578.89	\$71,050.05
524-1-1	CONCRETE DITCH PAVT, NR, 3"	2,248.80 SY	\$63.56	\$142,933.73
570-1-1	PERFORMANCE TURF	791.58 SY	\$2.07	\$1,638.57
Drainage Component Total				\$481,470.78

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$341.51	\$1,024.53
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	27.00 AS	\$1,083.27	\$29,248.29
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00 AS	\$4,562.19	\$13,686.57
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	7.00 AS	\$6,127.09	\$42,889.63

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-4-114	OH STATIC SIGN STR, F&I, C 41-50 FT	5.00 EA	\$95,355.51	\$476,777.55
700-4-127	OH STATIC SIGN STR, F&I, S 151-200 FT	2.00 EA	\$238,854.96	\$477,709.92

Signing Component Total

\$1,041,336.49

LIGHTING COMPONENT**Rural Lighting Subcomponent****Description**

Multiplier (Number of Poles)

Value

31

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F&I, OPEN TRENCH	6,200.00 LF	\$9.15	\$56,730.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	31.00 EA	\$643.67	\$19,953.77
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	18,600.00 LF	\$2.87	\$53,382.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	31.00 EA	\$6,164.09	\$191,086.79
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	31.00 EA	\$1,645.25	\$51,002.75
Subcomponent Total				\$372,155.31

Lighting Component Total

\$372,155.31

BRIDGES COMPONENT**Bridge 5-1****Description**

Estimate Type

Primary Estimate

Length (LF)

Width (LF)

Type

Cost Factor

Structure No.

Removal of Existing Structures area

Default Cost per SF

Factored Cost per SF

Final Cost per SF**Value**

SF Estimate

YES

658.00

25.64

Overpass Widening

1.08

11,808.00

\$140.00

\$151.20

\$153.22

Basic Bridge Cost**\$2,550,913.34**

Description

I-95 SB OVER MIAMI GARDENS DRIVE

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	11,808.00 SF	\$66.46	\$784,759.68
400-2-10	CONC CLASS II, APPROACH SLABS	56.98 CY	\$420.63	\$23,967.50
415-1-9	REINF STEEL- APPROACH SLABS	9,971.50 LB	\$1.02	\$10,170.93
Bridge 5-1 Total				\$3,369,811.45

Bridge 5-2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	285.20
Width (LF)	11.56
Type	Overpass Widening
Cost Factor	1.08
Structure No.	
Removal of Existing Structures area	2,308.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$155.87
Basic Bridge Cost	\$498,493.09

Description

I-95 NB OVER MIAMI GARDENS DRIVE

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	2,308.00 SF	\$66.46	\$153,389.68
400-2-10	CONC CLASS II, APPROACH SLABS	25.69 CY	\$420.63	\$10,805.98
415-1-9	REINF STEEL- APPROACH SLABS	4,495.75 LB	\$1.02	\$4,585.66
Bridge 5-2 Total				\$667,274.42

Bridge 5-3

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	715.00
Width (LF)	26.87
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$181.86
Basic Bridge Cost	\$3,458,169.00

Description

RAMP FROM I-95 NB TO MIAMI GARDENS DRIVE

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	59.71 CY	\$420.63	\$25,115.82
415-1-9	REINF STEEL- APPROACH SLABS	10,449.25 LB	\$1.02	\$10,658.24
Bridge 5-3 Total				\$3,493,943.06

Bridge 5-4

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	226.20
Width (LF)	26.58
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$155.89
Basic Bridge Cost	\$901,859.40
Description	RAMP FROM MIAMI GARDENS DRIVE TO I-95 SB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	59.07 CY	\$420.63	\$24,846.61
415-1-9	REINF STEEL- APPROACH SLABS	10,337.25 LB	\$1.02	\$10,544.00
Bridge 5-4 Total				\$937,250.01

Bridge 5-5

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	104.00
Width (LF)	26.50
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$162.80
Basic Bridge Cost	\$413,400.00
Description	RAMP FROM I-95 SB TO MIAMI GARDENS DRIVE

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	58.89 CY	\$420.63	\$24,770.90
415-1-9	REINF STEEL- APPROACH SLABS	10,305.75 LB	\$1.02	\$10,511.86

Bridge 5-5 Total

\$448,682.77

Bridge 5-6

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	203.26
Width (LF)	27.00
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$186.55
Basic Bridge Cost	\$987,843.60
Description	RAMP FROM MIAMI GARDENS DRIVE TO I-95 SB OVER I-95

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	60.00 CY	\$420.63	\$25,237.80
415-1-9	REINF STEEL- APPROACH SLABS	10,500.00 LB	\$1.02	\$10,710.00

Bridge 5-6 Total

\$1,023,791.40

Bridge 5-7

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	234.45
Width (LF)	99.90
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	16,395.67
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$155.68
Basic Bridge Cost	\$3,513,233.25
Description	I-95 MAINLINE OVER SNAKE CREEK CANAL

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	16,395.67 SF	\$66.46	\$1,089,656.23
400-2-10	CONC CLASS II, APPROACH SLABS	222.00 CY	\$420.63	\$93,379.86
415-1-9	REINF STEEL- APPROACH SLABS	38,850.00 LB	\$1.02	\$39,627.00

Bridge 5-7 Total

\$4,735,896.34

Bridge 5-8

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	214.53
Width (LF)	278.76
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	41,862.14
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.21
Basic Bridge Cost	\$8,970,357.42
Description	IVES DAIRY RD MAINLINE OVER I-95 MAINLINE

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	41,862.14 SF	\$66.46	\$2,782,157.82
400-2-10	CONC CLASS II, APPROACH SLABS	619.47 CY	\$420.63	\$260,567.67
415-1-9	REINF STEEL- APPROACH SLABS	108,407.25 LB	\$1.02	\$110,575.40
Bridge 5-8 Total				\$12,123,658.31

Bridge 5-9

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	308.37
Width (LF)	250.06
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	53,976.88
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$154.32
Basic Bridge Cost	\$11,566,650.33
Description	IVES DAIRY RD MAINLINE OVER NE 17TH AVE

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	53,976.88 SF	\$66.46	\$3,587,303.44
400-2-10	CONC CLASS II, APPROACH SLABS	555.69 CY	\$420.63	\$233,739.88
415-1-9	REINF STEEL- APPROACH SLABS	97,245.75 LB	\$1.02	\$99,190.66
Bridge 5-9 Total				\$15,486,884.32
Bridges Component Total				\$42,287,192.08

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	973.00
Begin height	10.00
End Height	10.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	9,730.00 SF	\$29.18	\$283,921.40

Retaining Wall 2

Description	Value
Length	648.00
Begin height	10.00
End Height	10.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	6,480.00 SF	\$29.18	\$189,086.40

Retaining Wall 3

Description	Value
Length	479.00
Begin height	20.00
End Height	20.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	9,580.00 SF	\$29.18	\$279,544.40

Retaining Wall 4

Description	Value
Length	479.00
Begin height	20.00
End Height	20.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	9,580.00 SF	\$29.18	\$279,544.40

Retaining Wall 5

Description	Value
Length	325.00

Begin height	22.00
End Height	22.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	7,150.00	SF	\$29.18	\$208,637.00

Retaining Walls Component Total	\$1,240,733.60
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Sequence 2 Total	\$58,026,957.40
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Sequence: 3 WDU - Widen/Resurface, Divided, Urban**Net Length:** 0.246 MI
1,300 LF**Description:** Segment 5 - Improvements to Miami Gardens Drive. Roadway pavement: Asphalt**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	85.00 / 85.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.246
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.07	AC	\$93,209.42	\$472,571.76
120-1	REGULAR EXCAVATION	1,658.72	CY	\$21.49	\$35,645.89
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	292.49	CY	\$22.44	\$6,563.48
Earthwork Component Total					\$514,781.13

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	6
Existing Roadway Pavement Width L/R	24.00 / 48.00
Structural Spread Rate	110
Friction Course Spread Rate	110
Widened Outside Pavement Width L/R	12.00 / 0.00
Widened Inside Pavement Width L/R	0.00 / 10.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	110

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,922.92	SY	\$5.65	\$22,164.50
285-709	OPTIONAL BASE,BASE GROUP 09	3,272.95	SY	\$29.37	\$96,126.54
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	10,399.49	SY	\$3.70	\$38,478.11
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	571.97	TN	\$137.06	\$78,394.21
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	436.92	TN	\$137.06	\$59,884.26

337-7-80	ASPH CONC FC,TRAFFIC B,FC-9.5,PG 76-22	571.97 TN	\$193.61	\$110,739.11
337-7-80	ASPH CONC FC,TRAFFIC B,FC-9.5,PG 76-22	174.77 TN	\$193.61	\$33,837.22

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	4

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	166.00 EA	\$4.59	\$761.94
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.97 GM	\$792.34	\$1,560.91
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.97 GM	\$377.22	\$743.12

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Roadway Component Total

\$442,689.92

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	12.25 / 12.25
New Total Outside Shoulder Width L/R	12.25 / 12.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	5.00 / 5.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,299.94 LF	\$28.54	\$37,100.29
520-1-10	CONCRETE CURB & GUTTER, TYPE F	1,299.94 LF	\$28.54	\$37,100.29
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,444.37 SY	\$45.93	\$66,339.91
570-1-1	PERFORMANCE TURF	1,444.37 SY	\$2.07	\$2,989.85

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	2,599.87 LF	\$2.42	\$6,291.69
104-11	FLOATING TURBIDITY BARRIER	24.62 LF	\$14.12	\$347.63
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	24.62 LF	\$8.64	\$212.72
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,868.77	\$2,868.77
104-18	INLET PROTECTION SYSTEM	12.00 EA	\$107.53	\$1,290.36
107-1	LITTER REMOVAL	2.15 AC	\$52.70	\$113.30
107-2	MOWING	2.15 AC	\$61.77	\$132.81
Shoulder Component Total				\$154,787.63

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	10.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-5-11	TRAF SEP CONC-TYPE I, 4' WIDE	519.00 LF	\$49.96	\$25,929.24
570-1-1	PERFORMANCE TURF	1,444.37 SY	\$2.07	\$2,989.85
Median Component Total				\$28,919.09

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	4.43 CY	\$1,499.14	\$6,641.19
425-1-351	INLETS, CURB, TYPE P-5, <10'	9.00 EA	\$5,634.01	\$50,706.09
425-1-451	INLETS, CURB, TYPE J-5, <10'	3.00 EA	\$8,515.21	\$25,545.63
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	136.00 LF	\$106.64	\$14,503.04
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	40.00 LF	\$170.05	\$6,802.00
570-1-1	PERFORMANCE TURF	74.84 SY	\$2.07	\$154.92
Drainage Component Total				\$104,352.87

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00 AS	\$341.51	\$2,049.06
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,083.27	\$1,083.27
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$286.38	\$286.38
700-1-60	SINGLE POST SIGN, REMOVE	6.00 AS	\$22.48	\$134.88
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,562.19	\$4,562.19
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$561.41	\$561.41

Signing Component Total

\$8,677.19

SIGNALIZATIONS COMPONENT**Signalization 1****Description**

Type

Multiplier

Description

Value

6 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,400.00	LF	\$9.15	\$12,810.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	600.00	LF	\$18.70	\$11,220.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,696.69	\$11,393.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	44.00	EA	\$643.67	\$28,321.48
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.13	\$615.60
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	2.00	EA	\$1,329.97	\$2,659.94
649-21-21	STEEL MAST ARM ASSEMBLY, F&I, 78'	12.00	EA	\$46,192.45	\$554,309.40
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	40.00	AS	\$993.93	\$39,757.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$797.87	\$12,765.92
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	40.00	EA	\$379.67	\$15,186.80
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	40.00	AS	\$1,172.62	\$46,904.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.53	\$4,024.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$27,883.04	\$55,766.08
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$396.54	\$3,172.32
700-5-22	INTERNAL ILLUM SIGN, F&I OM, 12-18 SF	8.00	EA	\$3,090.78	\$24,726.24

Signalizations Component Total

\$830,080.36

LIGHTING COMPONENT**Conventional Lighting Subcomponent****Description**

Spacing

Pay Items**Value**

MAX

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,299.94	LF	\$9.15	\$11,894.45
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	169.63	LF	\$18.70	\$3,172.08
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	7.00	EA	\$643.67	\$4,505.69

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715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	4,408.70 LF	\$2.87	\$12,652.97
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	7.00 EA	\$6,024.31	\$42,170.17
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	7.00 EA	\$1,645.25	\$11,516.75
	Subcomponent Total			\$85,912.11
	Lighting Component Total			\$85,912.11
<hr/>				
Sequence 3 Total				\$2,170,200.30
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Sequence: 4 NDR - New Construction, Divided, Rural**Net Length:** 2.705 MI
14,281 LF**Description:** SR 9/I-95 Mainline 2 Express lanes with 5 GP lanes. Express lanes NB - Ingress, SB - Egress.
Includes all bridges and barrier/noise walls. Roadway pavement: Asphalt**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	300.00 / 300.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.705
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	196.73 AC	\$93,209.42	\$18,337,089.20
120-6	EMBANKMENT	363,428.89 CY	\$26.33	\$9,569,082.67
Earthwork Component Total				\$27,906,171.87

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	14
Roadway Pavement Width L/R	83.00 / 88.00
Structural Spread Rate	440
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	334,805.80 SY	\$5.65	\$1,891,652.77
285-710	OPTIONAL BASE,BASE GROUP 10	273,430.02 SY	\$24.51	\$6,701,769.79
334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	59,693.81 TN	\$108.76	\$6,492,298.78
337-7-26	ASPH CONC FC,FC-5,FC-5, HIGH POLYMER	10,853.42 TN	\$196.29	\$2,130,417.81

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1

Skip Stripe No. of Stripes

12

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	4,747.00 EA	\$4.59	\$21,788.73
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	10.82 GM	\$792.34	\$8,573.12
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	32.46 GM	\$377.22	\$12,244.56
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	10.82 GM	\$4,496.33	\$48,650.29
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	32.46 GM	\$1,399.74	\$45,435.56

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-27	SHLDR CONC BAR WALL, 14' NOISE WALL	11,966.00 LF	\$551.73	\$6,602,001.18
544-75-1	CRASH CUSHION	2.00 EA	\$17,973.89	\$35,947.78
Roadway Component Total				\$23,990,780.37

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	10.00 / 10.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	O
Rumble Strips 1/2 No. of Sides	2

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	32,782.41 SY	\$14.95	\$490,097.03
334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	2,618.15 TN	\$108.76	\$284,749.99
337-7-88	ASPH CONC FC,TRAFFIC E,FC-12.5,PG 76-22	83.78 TN	\$152.01	\$12,735.40
546-72-1	GROUND-IN RUMBLE STRIPS, 16"	5.41 GM	\$1,739.80	\$9,412.32

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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521-8-7	CONC BARRIER, W/JUNCT SL, 36 SS	14,281.00 LF	\$259.69	\$3,708,632.89
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Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	37,130.12 LF	\$2.42	\$89,854.89
104-11	FLOATING TURBIDITY BARRIER	676.18 LF	\$14.12	\$9,547.66
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	676.18 LF	\$8.64	\$5,842.20
104-15	SOIL TRACKING PREVENTION DEVICE	3.00 EA	\$2,868.77	\$8,606.31
104-18	INLET PROTECTION SYSTEM	17.00 EA	\$107.53	\$1,828.01
107-1	LITTER REMOVAL	65.56 AC	\$52.70	\$3,455.01
107-2	MOWING	65.56 AC	\$61.77	\$4,049.64
Shoulder Component Total				\$4,628,811.35

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	10.00 / 10.00
Paved Median Shoulder Width L/R	10.00 / 10.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	O
Rumble Strips 1/2 No. of Sides	2

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	32,782.41 SY	\$14.95	\$490,097.03
334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	2,618.15 TN	\$108.76	\$284,749.99
337-7-25	ASPH CONC FC,INC BIT,FC-5,PG76-22	83.78 TN	\$209.90	\$17,585.42
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	14,281.00 LF	\$257.34	\$3,675,072.54
546-72-1	GROUND-IN RUMBLE STRIPS, 16"	5.00 GM	\$1,739.80	\$8,699.00
Median Component Total				\$4,476,203.98

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	48.68 CY	\$1,499.14	\$72,978.14
425-1-551	INLETS, DT BOT, TYPE E, <10'	17.00 EA	\$5,604.64	\$95,278.88
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	2,168.00 LF	\$107.67	\$233,428.56
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	936.00 LF	\$106.64	\$99,815.04
430-175-136		800.00 LF	\$170.05	\$136,040.00

	PIPE CULV, OPT MATL, ROUND, 36"S/CD			
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	109.00 EA	\$1,578.89	\$172,099.01
524-1-1	CONCRETE DITCH PAVT, NR, 3"	5,409.40 SY	\$63.56	\$343,821.46
570-1-1	PERFORMANCE TURF	1,904.11 SY	\$2.07	\$3,941.51
Drainage Component Total				\$1,157,402.60

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	6.00 AS	\$341.51	\$2,049.06
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	65.00 AS	\$1,083.27	\$70,412.55
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	6.00 AS	\$4,562.19	\$27,373.14
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	17.00 AS	\$6,127.09	\$104,160.53

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-4-114	OH STATIC SIGN STR, F&I, C 41- 50 FT	7.00 EA	\$95,355.51	\$667,488.57
700-4-127	OH STATIC SIGN STR, F&I, S 151- 200 FT	5.00 EA	\$238,854.96	\$1,194,274.80

Signing Component Total **\$2,065,758.65**

LIGHTING COMPONENT**Rural Lighting Subcomponent**

Description	Value
Multiplier (Number of Poles)	150

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	30,000.00 LF	\$9.15	\$274,500.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	150.00 EA	\$643.67	\$96,550.50
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	90,000.00 LF	\$2.87	\$258,300.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	150.00 EA	\$6,164.09	\$924,613.50
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	150.00 EA	\$1,645.25	\$246,787.50
Subcomponent Total				\$1,800,751.50

Lighting Component Total **\$1,800,751.50**

BRIDGES COMPONENT**Bridge 5-7**

Description	Value
Estimate Type	SF Estimate

Primary Estimate	YES
Length (LF)	193.00
Width (LF)	200.86
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	31,012.70
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.90
Basic Bridge Cost	\$5,814,897.00
Description	

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	31,012.70 SF	\$66.46	\$2,061,104.04
400-2-10	CONC CLASS II, APPROACH SLABS	446.36 CY	\$420.63	\$187,752.41
415-1-9	REINF STEEL- APPROACH SLABS	78,113.00 LB	\$1.02	\$79,675.26
Bridge 5-7 Total				\$8,143,428.71

Bridge 5-8

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	275.23
Width (LF)	217.28
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	47,842.40
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$154.84
Basic Bridge Cost	\$8,970,296.16
Description	

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	47,842.40 SF	\$66.46	\$3,179,605.90
400-2-10	CONC CLASS II, APPROACH SLABS	482.84 CY	\$420.63	\$203,096.99
415-1-9	REINF STEEL- APPROACH SLABS	84,497.00 LB	\$1.02	\$86,186.94
Bridge 5-8 Total				\$12,439,185.99

Bridge 5-9

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	200.18
Width (LF)	195.00

Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.65
Basic Bridge Cost	\$5,855,265.00
Description	

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	433.33 CY	\$420.63	\$182,271.60
415-1-9	REINF STEEL- APPROACH SLABS	75,832.75 LB	\$1.02	\$77,349.40
Bridge 5-9 Total				\$6,114,886.01
Bridges Component Total				\$26,697,500.71
Sequence 4 Total				\$92,723,381.03

Sequence: 5NUR - New Construction, Undivided, Rural**Net Length:** 1.159 MI
6,120 LF**Description:** New ramps at Ives Dairy Road interchange. Barrier/noise wall included in sequence 4. Roadway pavement: Asphalt**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.159
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	14.05	AC	\$93,209.42	\$1,309,592.35
120-6	EMBANKMENT	61,172.54	CY	\$26.33	\$1,610,672.98
Earthwork Component Total					\$2,920,265.33

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	440
Friction Course Spread Rate	80

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	29,920.23	SY	\$5.65	\$169,049.30
285-710	OPTIONAL BASE,BASE GROUP 10	16,768.93	SY	\$24.51	\$411,006.47
334-1-55	SUPERPAVE ASPH CONC, TRAF E, PG76-22	3,590.43	TN	\$108.76	\$390,495.17
337-7-26	ASPH CONC FC,FC-5,FC-5, HIGH POLYMER	652.81	TN	\$196.29	\$128,140.07

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	156.00 EA	\$4.59	\$716.04
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	2.32 GM	\$792.34	\$1,838.23
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	1.16 GM	\$380.66	\$441.57
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.32 GM	\$3,681.10	\$8,540.15
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	1.16 GM	\$1,375.14	\$1,595.16
Roadway Component Total				\$1,111,822.16

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	2.67 / 0.00
Paved Outside Shoulder Width L/R	5.00 / 10.00
Structural Spread Rate	440
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	O
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-710	OPTIONAL BASE,BASE GROUP 10	10,648.88 SY	\$24.51	\$261,004.05
334-1-15	SUPERPAVE ASPHALTIC CONC, TRAFFIC E	2,244.02 TN	\$425.00	\$953,708.50
337-7-26	ASPH CONC FC,FC-5,FC-5, HIGH POLYMER	35.90 TN	\$196.29	\$7,046.81
570-1-1	PERFORMANCE TURF	1,815.61 SY	\$2.07	\$3,758.31

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	15,912.12 LF	\$2.42	\$38,507.33
104-11	FLOATING TURBIDITY BARRIER	289.77 LF	\$14.12	\$4,091.55
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	289.77 LF	\$8.64	\$2,503.61
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,868.77	\$5,737.54
107-1	LITTER REMOVAL	14.05 AC	\$52.70	\$740.44
107-2	MOWING	14.05 AC	\$61.77	\$867.87
Shoulder Component Total				\$1,277,966.01

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	20.86 CY	\$1,499.14	\$31,272.06

430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	928.00 LF	\$107.67	\$99,917.76
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	200.00 LF	\$170.05	\$34,010.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	47.00 EA	\$1,578.89	\$74,207.83
570-1-1	PERFORMANCE TURF	816.01 SY	\$2.07	\$1,689.14
Drainage Component Total				\$241,096.79

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$341.51	\$1,024.53
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	24.00 AS	\$1,083.27	\$25,998.48
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00 AS	\$4,562.19	\$13,686.57
Signing Component Total				\$40,709.58

LIGHTING COMPONENT**Rural Lighting Subcomponent****Description****Value**

Multiplier (Number of Poles)

32

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	6,400.00 LF	\$9.15	\$58,560.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00 EA	\$643.67	\$20,597.44
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	19,200.00 LF	\$2.87	\$55,104.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	32.00 EA	\$6,164.09	\$197,250.88
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	32.00 EA	\$1,645.25	\$52,648.00
Subcomponent Total				\$384,160.32
Lighting Component Total				\$384,160.32

Sequence 5 Total**\$5,976,020.19**

Sequence: 6 NDU - New Construction, Divided, Urban**Net Length:** 0.487 MI
2,570 LF**Description:** Segment 5 - Ives Dairy Road Diverging Diamond Interchange. Roadway pavement: Asphalt**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	150.00 / 150.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.487
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	4.00 % / 4.00 %
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	17.71	AC	\$93,209.42	\$1,650,738.83
120-6	EMBANKMENT	72,904.72	CY	\$26.33	\$1,919,581.28
Earthwork Component Total					\$3,570,320.11

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	10
Roadway Pavement Width L/R	67.00 / 67.00
Structural Spread Rate	330
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	41,207.79	SY	\$5.65	\$232,824.01
285-709	OPTIONAL BASE,BASE GROUP 09	38,261.11	SY	\$29.37	\$1,123,728.80
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	6,313.08	TN	\$137.06	\$865,270.74
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	3,156.54	TN	\$154.76	\$488,506.13

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	8

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	591.00 EA	\$4.59	\$2,712.69
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.95 GM	\$792.34	\$1,545.06
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	3.89 GM	\$377.22	\$1,467.39
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.95 GM	\$3,681.10	\$7,178.14
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	3.89 GM	\$1,356.62	\$5,277.25
Roadway Component Total				\$2,728,510.22

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	12.25 / 12.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	5.00 / 5.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,569.78 LF	\$28.54	\$73,341.52
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,569.78 LF	\$28.54	\$73,341.52
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	2,855.31 SY	\$45.93	\$131,144.39
570-1-1	PERFORMANCE TURF	2,855.31 SY	\$2.07	\$5,910.49

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	5,139.55 LF	\$2.42	\$12,437.71
104-11	FLOATING TURBIDITY BARRIER	121.68 LF	\$14.12	\$1,718.12
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	121.68 LF	\$8.64	\$1,051.32
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,868.77	\$2,868.77
104-18	INLET PROTECTION SYSTEM	25.00 EA	\$107.53	\$2,688.25
107-1	LITTER REMOVAL	12.39 AC	\$52.70	\$652.95
107-2	MOWING	12.39 AC	\$61.77	\$765.33

Shoulder Component Total **\$305,920.37**

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	22.00

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	5,139.55 LF	\$28.54	\$146,682.76
570-1-1	PERFORMANCE TURF	6,281.67 SY	\$2.07	\$13,003.06
Median Component Total				\$159,685.82

DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	8.76 CY	\$1,499.14	\$13,132.47
425-1-351	INLETS, CURB, TYPE P-5, <10'	18.00 EA	\$5,634.01	\$101,412.18
425-1-451	INLETS, CURB, TYPE J-5, <10'	5.00 EA	\$8,515.21	\$42,576.05
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00 EA	\$3,854.23	\$11,562.69
425-2-41	MANHOLES, P-7, <10'	3.00 EA	\$4,751.59	\$14,254.77
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,288.00 LF	\$106.64	\$137,352.32
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	120.00 LF	\$170.05	\$20,406.00
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,440.00 LF	\$293.25	\$715,530.00
570-1-1	PERFORMANCE TURF	147.96 SY	\$2.07	\$306.28
Drainage Component Total				\$1,056,532.76

SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	12.00 AS	\$341.51	\$4,098.12
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,083.27	\$1,083.27
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00 AS	\$6,127.09	\$6,127.09
700-2-16	MULTI- POST SIGN, F&I GM, 101-200 SF	1.00 AS	\$9,961.75	\$9,961.75
Signing Component Total				\$21,270.23

SIGNALIZATIONS COMPONENT**Signalization 1**

Description	Value
Type	6 Lane Mast Arm
Multiplier	2
Description	

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,400.00 LF	\$9.15	\$12,810.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	600.00 LF	\$18.70	\$11,220.00

632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$5,696.69	\$11,393.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	44.00 EA	\$643.67	\$28,321.48
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00 LF	\$5.13	\$615.60
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	2.00 EA	\$1,329.97	\$2,659.94
649-21-21	STEEL MAST ARM ASSEMBLY, F&I, 78'	12.00 EA	\$46,192.45	\$554,309.40
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	40.00 AS	\$993.93	\$39,757.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$797.87	\$12,765.92
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	40.00 EA	\$379.67	\$15,186.80
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	40.00 AS	\$1,172.62	\$46,904.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.53	\$4,024.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$27,883.04	\$55,766.08
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$396.54	\$3,172.32

Signalization 2**Description**

Type

Multiplier

Description

Value

6 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,400.00	LF	\$9.15	\$12,810.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	600.00	LF	\$18.70	\$11,220.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,696.69	\$11,393.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	44.00	EA	\$643.67	\$28,321.48
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.13	\$615.60
641-2-11	PREST CNC POLE,F&I,TYP P-II,PEDESTAL	2.00	EA	\$1,329.97	\$2,659.94
649-21-21	STEEL MAST ARM ASSEMBLY, F&I, 78'	12.00	EA	\$46,192.45	\$554,309.40
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	40.00	AS	\$993.93	\$39,757.20
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$797.87	\$12,765.92
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	40.00	EA	\$379.67	\$15,186.80
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	40.00	AS	\$1,172.62	\$46,904.80
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.53	\$4,024.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$27,883.04	\$55,766.08

700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$396.54	\$3,172.32
Signalizations Component Total				\$1,610,708.24

LIGHTING COMPONENT**Conventional Lighting Subcomponent**

Description				Value	
Spacing				MAX	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,569.78	LF	\$9.15	\$23,513.49
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	335.34	LF	\$18.70	\$6,270.86
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	14.00	EA	\$643.67	\$9,011.38
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	8,715.34	LF	\$2.87	\$25,013.03
715-4-13	LIGHT POLE COMPLETE, F&I-STD, 40'	14.00	EA	\$6,024.31	\$84,340.34
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	14.00	EA	\$1,645.25	\$23,033.50
Subcomponent Total					\$171,182.59
Lighting Component Total					\$171,182.60

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	700.00
Begin height	5.00
End Height	22.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	9,450.00	SF	\$29.18	\$275,751.00

Retaining Wall 2

Description	Value
Length	700.00
Begin height	5.00
End Height	22.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	9,450.00	SF	\$29.18	\$275,751.00

Retaining Wall 3

Description	Value
Length	310.00
Begin height	22.00
End Height	22.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	6,820.00	SF	\$29.18	\$199,007.60

Retaining Wall 4

Description	Value
Length	244.00
Begin height	22.00
End Height	22.00
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	5,368.00	SF	\$29.18	\$156,638.24

Retaining Walls Component Total	\$907,147.84
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Sequence 6 Total	\$10,531,278.19
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Date: 7/3/2019 11:31:33 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 414964-1-22-01**Letting Date:** 01/2099**Description:** SR 9A/I-95 FROM N. OF NW 151 STREET TO BROWARD COUNTY LINE**District:** 06**County:** 87 MIAMI-DADE**Market Area:** 13**Units:** English**Contract Class:** 4 Lump Sum Project: N**Design/Build:** N**Project Length:** 5.599 MI**Project Manager:** WANG, BAOYING**Version 1-P Project Grand Total****\$501,001,072.88****Description:** SR 9A/I-95 FROM N. OF NW 151 STREET TO BROWARD COUNTY LINE

Project Sequences Subtotal	\$366,601,575.82
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102-1	Maintenance of Traffic	10.00 %	\$36,660,157.58
101-1	Mobilization	8.00 %	\$32,260,938.67

Project Sequences Total	\$435,522,672.07
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Project Unknowns	15.00 %	\$65,328,400.81
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal	\$150,000.00
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Version 1-P Project Grand Total**\$501,001,072.88**

Date: 7/3/2019 11:32:30 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 414964-8-22-01

Letting Date: 01/2099

Description: SR 9A/I-95 FROM SOUTH OF NW 62ND STREET TO NORTH OF NW 151 STREET

District: 06 County: 87 MIAMI-DADE

Market Area: 13 Units: English

Contract Class: 4 Lump Sum Project: N

Design/Build: N Project Length: 6.089 MI

Project Manager: WANG, BAOYING

Version 1-P Project Grand Total

\$794,077,284.17

Description: SR 9A/I-95 FROM SOUTH OF NW 62ND STREET TO NORTH OF NW 151 STREET

Sequence: 1 NDR - New Construction, Divided, Rural

Net Length: 5.404 MI
28,535 LF

Description: Mainline roadway typical section (Segment 3) 3-Express Lanes with 4 GP lanes - concrete pavement. All bridges are included in this sequence.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	100.00 / 100.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	5.404
Top of Structural Course For Begin Section	104.00
Top of Structural Course For End Section	104.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	1 to 1 / 1 to 1
Median Slope L/R	0 to 1 / 0 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	131.01 AC	\$91,307.72	\$11,962,224.40
120-6	EMBANKMENT	583,703.09 CY	\$27.30	\$15,935,094.36

Earthwork Component Total

\$27,897,318.76

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	16
Roadway Pavement Width L/R	108.00 / 108.00
Structural Spread Rate	0
Friction Course Spread Rate	80

Date: 7/3/2019 10:49:20 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 414964-7-22-01

Letting Date: 01/2099

Description: SR 9A/I-95 FROM US-1/SOUTH DIXIE HIGHWAY TO SOUTH OF NW 62ND STREET

District: 06 County: 87 MIAMI-DADE

Market Area: 13 Units: English

Contract Class: 4 Lump Sum Project: N

Design/Build: N Project Length: 5.707 MI

Project Manager: WANG, BAOYING

Version 1-P Project Grand Total

\$806,129,135.32

Description: SR 9A/I-95 FROM US-1/SOUTH DIXIE HIGHWAY TO SOUTH OF NW 62ND STREET

Sequence: 1 WUR - Widen/Resurface, Undivided, Rural

Net Length: 1.040 MI
5,490 LF

Description: Segment 1 - I-95 3 General Purpose Lanes

Special Average 7-ft Widening (Concrete Pavement Reconstruction Remainder average 49-ft Including

Conditions: shoulders) - 12-ft Lane, 10-ft inside/outside shoulder.

EARTHWORK COMPONENT

User Input Data

Description	Value
Standard Clearing and Grubbing Limits L/R	10.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.040
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.04	AC	\$93,209.42	\$469,775.48
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	1,049.43	CY	\$22.44	\$23,549.21

Earthwork Component Total

\$493,324.69

ROADWAY COMPONENT

User Input Data

Description	Value
Number of Lanes	3
Existing Roadway Pavement Width L/R	0.00 / 49.00
Structural Spread Rate	0

Friction Course Spread Rate	0
Widened Outside Pavement Width L/R	0.00 / 7.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	16,470.43 SY	\$5.65	\$93,057.93
285-701	OPTIONAL BASE,BASE GROUP 01	4,471.42 SY	\$15.72	\$70,290.72
350-3-7	PLAIN CEMENT CONC PAVT, 9"	4,270.11 SY	\$96.15	\$410,571.08

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	29,890.00 SY	\$15.72	\$469,870.80
	Comment: Ave. 49 FT of resurfacing existing concrete pavement. (49x5490=269010SF=29890SY)			
350-3-7	PLAIN CEMENT CONC PAVT, 9"	29,890.00 SY	\$96.15	\$2,873,923.50
	Comment: Ave. 49 FT of resurfacing existing concrete pavement. (49x5490=269010SF=29890SY)			
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	1,840.00 LF	\$257.34	\$473,505.60
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	12,921.00 LF	\$291.90	\$3,771,639.90
544-75-1	CRASH CUSHION	25.00 EA	\$17,973.89	\$449,347.25

EX-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
0705-11-5	DELINEATOR, FLEX HIGH PERF 36"- EXP MARK	287.00 EA	\$60.01	\$17,222.87
	Comment: 36" DELINEATOR @ 5'. UNIT PRICE OBTAINED FROM FDOT'S ITEM AVERAGE UNIT COST FROM 2000/01/01/ TO 2019/03/28			

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	561.00 EA	\$4.59	\$2,574.99
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.08 GM	\$3,681.10	\$7,656.69
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	2.08 GM	\$1,375.14	\$2,860.29

Roadway Component Total

\$8,642,521.62

SHOULDER COMPONENT

User Input Data

Description	Value
Existing Total Outside Shoulder Width L/R	8.00 / 8.00
New Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Existing Paved Outside Shoulder Width L/R	8.00 / 8.00
New Paved Outside Shoulder Width L/R	10.00 / 10.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	2

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	12,627.33	LF	\$2.42	\$30,558.14
104-11	FLOATING TURBIDITY BARRIER	103.98	LF	\$14.12	\$1,468.20
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	103.98	LF	\$8.64	\$898.39
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$2,862.99	\$5,725.98
104-18	INLET PROTECTION SYSTEM	3.00	EA	\$108.17	\$324.51
107-1	LITTER REMOVAL	2.52	AC	\$52.70	\$132.80
107-2	MOWING	2.52	AC	\$61.77	\$155.66
Shoulder Component Total					\$39,263.68

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	18.72	CY	\$1,511.39	\$28,293.22
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	160.00	LF	\$107.67	\$17,227.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	72.00	LF	\$170.05	\$12,243.60
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	11.00	EA	\$1,577.25	\$17,349.75
570-1-1	PERFORMANCE TURF	420.08	SY	\$2.07	\$869.57

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-891	INLETS, BARRIER WALL, <=10'	50.00	EA	\$8,584.09	\$429,204.50
Comment: ALONG THE PROPOSED NEW/RECONSTRUCTED BARRIERS AT 300'					
Drainage Component Total					\$505,187.84

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00	AS	\$341.51	\$1,024.53
700-1-12		21.00	AS	\$1,083.27	\$22,748.67

	SINGLE POST SIGN, F&I GM, 12-20 SF			
700-1-50	SINGLE POST SIGN, RELOCATE	3.00 AS	\$286.38	\$859.14
700-1-60	SINGLE POST SIGN, REMOVE	21.00 AS	\$22.48	\$472.08
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	3.00 AS	\$4,153.19	\$12,459.57
700-2-60	MULTI- POST SIGN, REMOVE	3.00 AS	\$561.41	\$1,684.23

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-3-207	SIGN PANEL, F&I OM, 201-300 SF	8.00	EA	\$7,915.08	\$63,320.64
	Comment: ASSUME 2 PER MILE EACH WAY				
Signing Component Total					\$102,568.86

INTELLIGENT TRAFFIC SYSTEM (ITS) COMPONENT**Description of Work****EX-Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
ITS	ITS PER FOOT	11,767.00	LF	\$100.00	\$1,176,700.00
	Comment: PLANNING LEVEL ESTIMATE, \$100/FOOT OF CORRIDOR.UNIT PRICE PER DEPARTMENT'S RECOMMENDATION BASED ON I-75				
Intelligent Traffic System (ITS) Component Total					\$1,176,700.00

LIGHTING COMPONENT**High Mast Lighting Subcomponent**

Description				Value	
Multiplier (Number of Poles)				47	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	23,500.00	LF	\$9.15	\$215,025.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	94.00	EA	\$643.67	\$60,504.98
715-1-12	LIGHTING CONDUCTORS, F&I, INSUL,NO.8-6	23,500.00	LF	\$1.98	\$46,530.00
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	70,500.00	LF	\$2.87	\$202,335.00
715-7-11	LOAD CENTER, F&I, SECONDARY VOLTAGE	1.00	EA	\$12,493.35	\$12,493.35
715-19-13	HIGH MAST LIGHT POLE, F&I, 120'	47.00	EA	\$59,227.75	\$2,783,704.25
715-500-2	POLE CABLE DISTRIBUTION SYS, HIGH MAST	47.00	EA	\$482.59	\$22,681.73
Subcomponent Total					\$3,343,274.31
Lighting Component Total					\$3,343,274.31

BRIDGES COMPONENT**Bridge 1-1**

Description	Value
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Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	513.50
Width (LF)	11.63
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870448
Removal of Existing Structures area	2,531.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$153.79
Basic Bridge Cost	\$902,967.16
Description	I-95 NB MAINLINE OVER SW 26TH

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	2,531.00	SF	\$66.46	\$168,210.26
400-2-10	CONC CLASS II, APPROACH SLABS	25.84	CY	\$420.63	\$10,869.08
415-1-9	REINF STEEL- APPROACH SLABS	4,522.00	LB	\$1.02	\$4,612.44
Bridge 1-1 Total					\$1,086,658.94

Bridge 1-2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	515.00
Width (LF)	56.80
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	870354
Removal of Existing Structures area	27,325.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$182.59
Basic Bridge Cost	\$5,265,360.00
Description	I-95 SB OVER METRORAIL - STEEL

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	27,325.00	SF	\$66.46	\$1,816,019.50
400-2-10	CONC CLASS II, APPROACH SLABS	126.22	CY	\$420.63	\$53,091.92
415-1-9	REINF STEEL- APPROACH SLABS	22,088.50	LB	\$1.02	\$22,530.27
Bridge 1-2 Total					\$7,157,001.69

Bridge 1-3

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	569.00

Width (LF)	72.00
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	870451
Removal of Existing Structures area	27,427.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$182.34
Basic Bridge Cost	\$7,374,240.00
Description	I-95 NB OVER METRORAIL - STEEL

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	27,427.00	SF	\$66.46	\$1,822,798.42
400-2-10	CONC CLASS II, APPROACH SLABS	160.00	CY	\$420.63	\$67,300.80
415-1-9	REINF STEEL- APPROACH SLABS	28,000.00	LB	\$1.02	\$28,560.00
Bridge 1-3 Total					\$9,292,899.22

Bridge 1-4

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	503.70
Width (LF)	80.15
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	870355
Removal of Existing Structures area	35,202.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$152.64
Basic Bridge Cost	\$6,055,733.25
Description	I-95 SB OVER SW 3RD AVE. / SW 15TH RD.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	35,202.00	SF	\$66.46	\$2,339,524.92
400-2-10	CONC CLASS II, APPROACH SLABS	178.11	CY	\$420.63	\$74,918.41
415-1-9	REINF STEEL- APPROACH SLABS	31,169.25	LB	\$1.02	\$31,792.64
Bridge 1-4 Total					\$8,501,969.22

Bridge 1-5

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	503.70
Width (LF)	54.40
Type	Overpass Bridge
Cost Factor	1.25

Structure No.	870452
Removal of Existing Structures area	25,972.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$152.64
Basic Bridge Cost	\$4,110,192.00
Description	I-95 NB OVER SW 3RD AVE. / SW 15TH RD.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	25,972.00	SF	\$66.46	\$1,726,099.12
400-2-10	CONC CLASS II, APPROACH SLABS	120.89	CY	\$420.63	\$50,849.96
415-1-9	REINF STEEL- APPROACH SLABS	21,155.75	LB	\$1.02	\$21,578.86
Bridge 1-5 Total					\$5,908,719.95

Bridge 1-6

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	3,139.00
Width (LF)	11.10
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870356
Removal of Existing Structures area	20,203.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$151.62
Basic Bridge Cost	\$5,268,246.48
Description	(6)I-95 SB OVER SW 8TH ST./ SW 7TH ST.,(6B)I-95 SB OVER SW 1ST ST. / W FLAGLER ST.,(6D)I-95 SB FROM NW 5TH ST. TO NW 6TH ST. 1 APPROACH SLAB - UNIT PRICE/2

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	20,203.00	SF	\$66.46	\$1,342,691.38
400-2-10	CONC CLASS II, APPROACH SLABS	24.67	CY	\$420.63	\$10,376.94
415-1-9	REINF STEEL- APPROACH SLABS	4,317.25	LB	\$1.02	\$4,403.60
Bridge 1-6 Total					\$6,625,718.40

Bridge 1-6A

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	422.00
Width (LF)	14.40
Type	Overpass Widening
Cost Factor	1.29

Structure No.	870356
Removal of Existing Structures area	0.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$180.60
Final Cost per SF	\$180.60
Basic Bridge Cost	\$1,097,470.08
Description	I-95 SB OVER MIAMI RIVER - STEEL - THIRD LEVEL - QUANTITY(SF)OF REMOVAL OF EXISTING STRUCTURE IN BRIDGE 1-6.

Bridge 1-6A Total	\$1,097,470.08
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Bridge 1-6C

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,700.00
Width (LF)	74.20
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	870356
Removal of Existing Structures area	119,802.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$150.00
Basic Bridge Cost	\$18,921,000.00
Description	I-95 SB FROM W FLAGER ST. TO NW 5TH ST.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	119,802.00	SF	\$66.46	\$7,962,040.92

Bridge 1-6C Total	\$26,883,040.92
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Bridge 1-7

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,030.00
Width (LF)	5.88
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870471
Removal of Existing Structures area	4,267.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$152.49
Basic Bridge Cost	\$915,727.68
Description	ON RAMP TO NB I-95 OVER SW 8TH ST. 1 APPROACH SLAB - UNIT PRICE/2

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	4,267.00 SF	\$66.46	\$283,584.82
400-2-10	CONC CLASS II, APPROACH SLABS	13.07 CY	\$420.63	\$5,497.63
415-1-9	REINF STEEL- APPROACH SLABS	2,287.25 LB	\$1.02	\$2,333.00
Bridge 1-7 Total				\$1,207,143.13

Bridge 1-8

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	3,270.00
Width (LF)	14.55
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870453
Removal of Existing Structures area	22,616.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$151.61
Basic Bridge Cost	\$7,193,869.20
Description	(8)I-95 NB OVER SW 8TH ST./ SW 7TH ST.,(8C)I-95 NB FROM NW 3RD ST. TO NW 6TH ST. 1 APPROACH SLAB - UNIT PRICE/2

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	22,616.00	SF	\$66.46	\$1,503,059.36
400-2-10	CONC CLASS II, APPROACH SLABS	32.33	CY	\$420.63	\$13,598.97
415-1-9	REINF STEEL- APPROACH SLABS	5,657.75	LB	\$1.02	\$5,770.91
Bridge 1-8 Total					\$8,716,298.44

Bridge 1-8A

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	422.00
Width (LF)	13.96
Type	Overpass Widening
Cost Factor	1.29
Structure No.	870453
Removal of Existing Structures area	0.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$180.60
Final Cost per SF	\$180.60
Basic Bridge Cost	\$1,063,936.27
Description	I-95 NB OVER MIAMI RIVER - STEEL - THIRD LEVEL - QUANTITY(SF)OF REMOVAL OF EXISTING STRUCTURE IN BRIDGE 1-8.

Bridge 1-8A Total

\$1,063,936.27

Bridge 1-8B

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,220.00
Width (LF)	76.60
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	870453
Removal of Existing Structures area	78,768.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$150.00
Basic Bridge Cost	\$14,017,800.00
Description	I-95 NB FROM W FLAGER ST. TO NW 3RD ST.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	78,768.00	SF	\$66.46	\$5,234,921.28

Bridge 1-8B Total

\$19,252,721.28

Bridge 1-9

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,840.00
Width (LF)	22.26
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	870479
Removal of Existing Structures area	18,241.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$180.00
Basic Bridge Cost	\$7,372,512.00
Description	RAMP FROM I-95 SB TO SW 7TH ST. - STEEL

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	18,241.00	SF	\$66.46	\$1,212,296.86

Bridge 1-9 Total

\$8,584,808.86

Bridge 1-9A

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	394.00
Width (LF)	20.00

Type	Overpass Widening
Cost Factor	1.29
Structure No.	870479
Removal of Existing Structures area	0.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$180.60
Final Cost per SF	\$180.60
Basic Bridge Cost	\$1,423,128.00
Description	RAMP TO 7TH ST. OVER MIAMI RIVER - STEEL - THIRD LEVEL - QUANTITY(SF)OF REMOVAL OF EXISTING STRUCTURE IN BRIDGE 9B.

Bridge 1-9A Total **\$1,423,128.00**

Bridge 1-9B

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,809.00
Width (LF)	15.13
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870479
Removal of Existing Structures area	14,602.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$151.94
Basic Bridge Cost	\$4,138,369.70
Description	RAMP TO 7TH ST. OVER MIAMI RIVER

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	14,602.00	SF	\$66.46	\$970,448.92
400-2-10	CONC CLASS II, APPROACH SLABS	33.62	CY	\$420.63	\$14,141.58
415-1-9	REINF STEEL- APPROACH SLABS	5,883.50	LB	\$1.02	\$6,001.17

Bridge 1-9B Total **\$5,128,961.37**

Bridge 1-10

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	2,396.30
Width (LF)	10.00
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870472
Removal of Existing Structures area	16,047.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$151.76
Basic Bridge Cost	\$3,623,205.60

Description SR 970 MAINLINE EB TO DOWNTOWN MIAMI 1 APPROACH
SLAB - UNIT PRICE/2

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	16,047.00 SF	\$66.46	\$1,066,483.62
400-2-10	CONC CLASS II, APPROACH SLABS	22.22 CY	\$420.63	\$9,346.40
415-1-9	REINF STEEL- APPROACH SLABS	3,888.50 LB	\$1.02	\$3,966.27
Bridge 1-10 Total				\$4,703,001.89

Bridge 1-11

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	835.00
Width (LF)	27.67
Type	Overpass Bridge
Cost Factor	1.67
Structure No.	870555
Removal of Existing Structures area	22,567.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$200.40
Final Cost per SF	\$201.99
Basic Bridge Cost	\$4,630,131.78
Description	RAMP FROM DOWNTOWN MIAMI TO I-95 SB - STEEL - THIRD LEVEL

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	22,567.00 SF	\$66.46	\$1,499,802.82
400-2-10	CONC CLASS II, APPROACH SLABS	61.49 CY	\$420.63	\$25,864.54
415-1-9	REINF STEEL- APPROACH SLABS	10,760.75 LB	\$1.02	\$10,975.96
Bridge 1-11 Total				\$6,166,775.11

Bridge 1-12

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	387.00
Width (LF)	19.00
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870473
Removal of Existing Structures area	6,243.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$151.20
Basic Bridge Cost	\$1,111,773.60
Description	RAMP FROM DOWNTOWN MIAMI TO I-95 SB

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,243.00	SF	\$66.46	\$414,909.78

Bridge 1-12 Total **\$1,526,683.38**

Bridge 1-12A

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	351.22
Width (LF)	27.67
Type	Overpass Bridge
Cost Factor	1.67
Structure No.	870473
Removal of Existing Structures area	8,603.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$200.40
Final Cost per SF	\$200.40
Basic Bridge Cost	\$1,947,538.78
Description	RAMP FROM DOWNTOWN MIAMI TO I-95 SB - STEEL - THIRD LEVEL

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	8,603.00	SF	\$66.46	\$571,755.38

Bridge 1-12A Total **\$2,519,294.16**

Bridge 1-12B

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	660.00
Width (LF)	45.00
Type	Overpass Bridge
Cost Factor	1.67
Structure No.	870473
Removal of Existing Structures area	25,965.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$200.40
Final Cost per SF	\$200.40
Basic Bridge Cost	\$5,951,880.00
Description	RAMP FROM DOWNTOWN MIAMI TO I-95 SB - STEEL - FOURTH LEVEL

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	25,965.00	SF	\$66.46	\$1,725,633.90

Bridge 1-12B Total **\$7,677,513.90**

Bridge 1-13

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	2,032.24
Width (LF)	11.35
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870475
Removal of Existing Structures area	17,946.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$151.86
Basic Bridge Cost	\$3,487,567.71
Description	RAMP FROM DOWNTOWN MIAMI TO I-95 NB

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	17,946.00	SF	\$66.46	\$1,192,691.16
400-2-10	CONC CLASS II, APPROACH SLABS	25.22	CY	\$420.63	\$10,608.29
415-1-9	REINF STEEL- APPROACH SLABS	4,413.50	LB	\$1.02	\$4,501.77
Bridge 1-13 Total					\$4,695,368.93

Bridge 1-13A

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,439.00
Width (LF)	6.00
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870556
Removal of Existing Structures area	8,631.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$152.12
Basic Bridge Cost	\$1,305,460.80
Description	RAMP FROM DOWNTOWN MIAMI TO I-95 NB 1 APPROACH SLAB - UNIT PRICE/2

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	8,631.00	SF	\$66.46	\$573,616.26
400-2-10	CONC CLASS II, APPROACH SLABS	13.33	CY	\$420.63	\$5,607.00
415-1-9	REINF STEEL- APPROACH SLABS	2,332.75	LB	\$1.02	\$2,379.41
Bridge 1-13A Total					\$1,887,063.47

Bridge 1-13B

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	254.10
Width (LF)	32.67
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	870475
Removal of Existing Structures area	8,301.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$150.00
Basic Bridge Cost	\$1,245,217.05
Description	RAMP FROM DOWNTOWN MIAMI TO I-95 NB

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	8,301.00	SF	\$66.46	\$551,684.46

Bridge 1-13B Total \$1,796,901.51

Bridge 1-14

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	161.33
Width (LF)	38.56
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	870474
Removal of Existing Structures area	5,389.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$150.00
Basic Bridge Cost	\$933,132.72
Description	RAMP FROM I-95 SB TO DOWNTOWN MIAMI

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	5,389.00	SF	\$66.46	\$358,152.94

Bridge 1-14 Total \$1,291,285.66

Bridge 1-14A

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,440.00
Width (LF)	14.33
Type	Overpass Widening
Cost Factor	1.08
Structure No.	870474

Removal of Existing Structures area	11,578.00
Default Cost per SF	\$140.00
Factored Cost per SF	\$151.20
Final Cost per SF	\$152.12
Basic Bridge Cost	\$3,120,042.24
Description	RAMP FROM I-95 SB TO DOWNTOWN MIAMI 1 APPROACH SLAB - UNIT PRICE/2

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	11,578.00	SF	\$66.46	\$769,473.88
400-2-10	CONC CLASS II, APPROACH SLABS	31.84	CY	\$420.63	\$13,392.86
415-1-9	REINF STEEL- APPROACH SLABS	5,572.00	LB	\$1.02	\$5,683.44
Bridge 1-14A Total					\$3,908,592.42

Bridge 1-15

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	230.00
Width (LF)	27.67
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	870476
Removal of Existing Structures area	10,903.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$155.79
Basic Bridge Cost	\$954,615.00
Description	RAMP FROM I-95 NB TO NW 3RD AVE. 1 APPROACH SLAB - UNIT PRICE/2

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	10,903.00	SF	\$66.46	\$724,613.38
400-2-10	CONC CLASS II, APPROACH SLABS	61.49	CY	\$420.63	\$25,864.54
415-1-9	REINF STEEL- APPROACH SLABS	10,760.75	LB	\$1.02	\$10,975.96
Bridge 1-15 Total					\$1,716,068.89
Bridges Component Total					\$149,819,025.09

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	2,502.00
Begin height	5.00
End Height	30.00

Multiplier 2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	87,570.00	SF	\$29.12	\$2,550,038.40

Retaining Walls Component Total					\$2,550,038.40
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Sequence 1 Total					\$166,671,904.49
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Sequence: 2 WUR - Widen/Resurface, Undivided, Rural**Net Length:** 0.132 MI
698 LF**Description:** Segment 1 - I-95 4 General Purpose Lanes 4' BUFFER**Special** Average 23-ft Widening (Concrete Pavement Reconstruction of Remainder average 55-ft**Conditions:** Including shoulders)**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	10.00 / 60.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.132
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.12	AC	\$93,209.42	\$104,394.55
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	1,581.58	CY	\$22.44	\$35,490.66
Earthwork Component Total					\$139,885.21

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Existing Roadway Pavement Width L/R	0.00 / 55.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 23.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,722.75	SY	\$5.65	\$21,033.54
285-701	OPTIONAL BASE,BASE GROUP 01	1,809.41	SY	\$15.72	\$28,443.93
350-3-7	PLAIN CEMENT CONC PAVT, 9"	1,783.82	SY	\$96.15	\$171,514.29

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	4,266.00	SY	\$15.72	\$67,061.52

350-3-7	Comment: Avg 55 FT of resurfacing existing concrete pavement. (55x698=38390SF=4266SY)			
	PLAIN CEMENT CONC PAVT, 9"	4,266.00 SY	\$96.15	\$410,175.90
	Comment: Avg 55 FT of resurfacing existing concrete pavement. (55x698=38390SF=4266SY)			

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	3

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	89.00 EA	\$4.59	\$408.51
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.26 GM	\$3,681.10	\$957.09
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	0.40 GM	\$1,375.14	\$550.06
Roadway Component Total				\$700,144.84

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	10.00 / 0.00
New Total Outside Shoulder Width L/R	15.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Existing Paved Outside Shoulder Width L/R	10.00 / 0.00
New Paved Outside Shoulder Width L/R	15.00 / 10.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,605.44 LF	\$2.42	\$3,885.16
104-11	FLOATING TURBIDITY BARRIER	13.22 LF	\$14.12	\$186.67
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	13.22 LF	\$8.64	\$114.22
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	1.00 EA	\$108.17	\$108.17
107-1	LITTER REMOVAL	0.32 AC	\$52.70	\$16.86
107-2	MOWING	0.32 AC	\$61.77	\$19.77

Shoulder Component Total**\$7,193.84****DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.38 CY	\$1,511.39	\$3,597.11
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	24.00 LF	\$107.67	\$2,584.08
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	16.00 LF	\$170.05	\$2,720.80
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	2.00 EA	\$1,577.25	\$3,154.50
570-1-1	PERFORMANCE TURF	53.41 SY	\$2.07	\$110.56
Drainage Component Total				\$12,167.05

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00 AS	\$1,083.27	\$3,249.81
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$286.38	\$286.38
700-1-60	SINGLE POST SIGN, REMOVE	3.00 AS	\$22.48	\$67.44
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	1.00 AS	\$4,153.19	\$4,153.19
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$561.41	\$561.41
Signing Component Total				\$8,659.74

Sequence 2 Total**\$868,050.68**

Sequence: 3 WUR - Widen/Resurface, Undivided, Rural**Net Length:** 0.426 MI
2,250 LF**Description:** Segment 1 - I-95 2 General purpose lanes**Special** ASSUME AVG OF 5FT WIDENING (Concrete Pavement Reconstruction Remainder AVG 33FT**Conditions:** Including shoulders**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	10.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.426
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.07	AC	\$93,209.42	\$192,943.50
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	439.86	CY	\$22.44	\$9,870.46
Earthwork Component Total					\$202,813.96

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Existing Roadway Pavement Width L/R	0.00 / 33.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 5.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	4,749.59	SY	\$5.65	\$26,835.18
285-701	OPTIONAL BASE,BASE GROUP 01	1,332.39	SY	\$15.72	\$20,945.17
350-3-7	PLAIN CEMENT CONC PAVT, 9"	1,249.89	SY	\$96.15	\$120,176.92

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	8,250.00	SY	\$15.72	\$129,690.00
Comment: Ave. 33 FT of resurfacing existing concrete pavement. (33x2250=74250SF=8250SY)					

350-3-7	PLAIN CEMENT CONC PAVT, 9"	8,250.00 SY	\$96.15	\$793,237.50
	Comment: Ave. 33 FT of resurfacing existing concrete pavement. (33x2250=74250SF=8250SY)			

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	58.00	EA	\$4.59	\$266.22
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.85	GM	\$3,681.10	\$3,128.94
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	0.43	GM	\$1,375.14	\$591.31
Roadway Component Total					\$1,094,871.24

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	2.00 / 7.00
New Total Outside Shoulder Width L/R	4.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Existing Paved Outside Shoulder Width L/R	2.00 / 7.00
New Paved Outside Shoulder Width L/R	4.00 / 10.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	5,174.56	LF	\$2.42	\$12,522.44
104-11	FLOATING TURBIDITY BARRIER	42.61	LF	\$14.12	\$601.65
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	42.61	LF	\$8.64	\$368.15
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	1.00	EA	\$108.17	\$108.17
107-1	LITTER REMOVAL	1.03	AC	\$52.70	\$54.28
107-2	MOWING	1.03	AC	\$61.77	\$63.62
Shoulder Component Total					\$16,581.30

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	7.67 CY	\$1,511.39	\$11,592.36
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	64.00 LF	\$107.67	\$6,890.88
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	32.00 LF	\$170.05	\$5,441.60
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	5.00 EA	\$1,577.25	\$7,886.25
570-1-1	PERFORMANCE TURF	172.14 SY	\$2.07	\$356.33
Drainage Component Total				\$32,167.42

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	9.00 AS	\$1,083.27	\$9,749.43
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$286.38	\$286.38
700-1-60	SINGLE POST SIGN, REMOVE	9.00 AS	\$22.48	\$202.32
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	1.00 AS	\$4,153.19	\$4,153.19
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$561.41	\$561.41
Signing Component Total				\$15,294.24

Sequence 3 Total**\$1,361,728.16**

Sequence: 4 WUR - Widen/Resurface, Undivided, Rural**Net Length:** 0.163 MI
860 LF**Description:** Segment 1: Single Lane Ramps 5-ft Widening**Special** ASSUME AVG OF 5FT WIDENING (Concrete Pavement Reconstruction Remainder AVG 18FT**Conditions:** Including shoulder)**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	10.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.163
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.79	AC	\$93,209.42	\$73,635.44
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	183.92	CY	\$22.44	\$4,127.16
Earthwork Component Total					\$77,762.60

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Existing Roadway Pavement Width L/R	0.00 / 18.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 5.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	1,242.38	SY	\$5.65	\$7,019.45
285-701	OPTIONAL BASE,BASE GROUP 01	509.38	SY	\$15.72	\$8,007.45
350-3-7	PLAIN CEMENT CONC PAVT, 9"	477.84	SY	\$96.15	\$45,944.32

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	1,720.00	SY	\$15.72	\$27,038.40

350-3-7	Comment: Ave. 18 FT of resurfacing existing concrete pavement. (18x860=15480SF=1720SY)			
	PLAIN CEMENT CONC PAVT, 9"	1,720.00 SY	\$96.15	\$165,378.00
	Comment: Ave. 18 FT of resurfacing existing concrete pavement. (18x860=15480SF=1720SY)			

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.33	GM	\$3,681.10	\$1,214.76
Roadway Component Total					\$254,602.38

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 3.00
New Total Outside Shoulder Width L/R	0.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Existing Paved Outside Shoulder Width L/R	0.00 / 3.00
New Paved Outside Shoulder Width L/R	0.00 / 8.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,978.26	LF	\$2.42	\$4,787.39
104-11	FLOATING TURBIDITY BARRIER	16.29	LF	\$14.12	\$230.01
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	16.29	LF	\$8.64	\$140.75
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	1.00	EA	\$108.17	\$108.17
107-1	LITTER REMOVAL	0.39	AC	\$52.70	\$20.55
107-2	MOWING	0.39	AC	\$61.77	\$24.09
Shoulder Component Total					\$8,173.95

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	2.93 CY	\$1,511.39	\$4,428.37
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	32.00 LF	\$107.67	\$3,445.44
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	16.00 LF	\$170.05	\$2,720.80
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	2.00 EA	\$1,577.25	\$3,154.50
570-1-1	PERFORMANCE TURF	65.81 SY	\$2.07	\$136.23
Drainage Component Total				\$13,885.34

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	4.00 AS	\$1,083.27	\$4,333.08
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$286.38	\$286.38
700-1-60	SINGLE POST SIGN, REMOVE	4.00 AS	\$22.48	\$89.92
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	1.00 AS	\$4,153.19	\$4,153.19
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$561.41	\$561.41
Signing Component Total				\$9,765.49

Sequence 4 Total**\$364,189.76**

Sequence: 5 RSU - Resurfacing, Undivided**Net Length:** 0.134 MI
709 LF**Description:** Segment 1 - Single Lane Ramp Milling and Resurfacing**Special** IMPACTED ONE LANE RAMP - Concrete Pavement Reconstruction Remainder 55 FT Including
Conditions: gores**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 55.00
Structural Spread Rate	165
Friction Course Spread Rate	165

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01 Comment: Ave. 55 FT of resurfacing existing concrete pavement. (55x709=38995SF=4333SY)	4,333.00 SY	\$15.72	\$68,114.76
350-3-7	PLAIN CEMENT CONC PAVT, 9" Comment: Ave. 55 FT of resurfacing existing concrete pavement. (55x709=38995SF=4333SY)	4,333.00 SY	\$96.15	\$416,617.95

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.27 GM	\$3,681.10	\$993.90

Roadway Component Total	\$485,726.61
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SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Extended Amount
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			Unit Price	
104-11	FLOATING TURBIDITY BARRIER	13.43 LF	\$14.12	\$189.63
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	13.43 LF	\$8.64	\$116.04
104-18	INLET PROTECTION SYSTEM	1.00 EA	\$108.17	\$108.17
107-1	LITTER REMOVAL	0.33 AC	\$52.70	\$17.39
107-2	MOWING	0.33 AC	\$61.77	\$20.38
Shoulder Component Total				\$451.61
<hr/> Sequence 5 Total				\$486,178.22
<hr/>				

Sequence: 6 RSU - Resurfacing, Undivided**Net Length:** 0.061 MI
323 LF**Description:** Segment 1 - Single Lane Ramp Milling and Resurfacing**Special** IMPACTED ONE LANE RAMP - Concrete Pavement Reconstruction Remainder 35 FT Including
Conditions: gores**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 35.00
Structural Spread Rate	165
Friction Course Spread Rate	165

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01 Comment: Ave. 35 FT of resurfacing existing concrete pavement. (35x323=11305SF=1257SY)	1,257.00 SY	\$15.72	\$19,760.04
350-3-7	PLAIN CEMENT CONC PAVT, 9" Comment: Ave. 35 FT of resurfacing existing concrete pavement. (35x323=11305SF=1257SY)	1,257.00 SY	\$96.15	\$120,860.55

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.12 GM	\$3,681.10	\$441.73

Roadway Component Total	\$141,062.32
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SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Extended Amount
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			Unit Price	
104-11	FLOATING TURBIDITY BARRIER	6.12 LF	\$14.12	\$86.41
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	6.12 LF	\$8.64	\$52.88
104-18	INLET PROTECTION SYSTEM	1.00 EA	\$108.17	\$108.17
107-1	LITTER REMOVAL	0.15 AC	\$52.70	\$7.90
107-2	MOWING	0.15 AC	\$61.77	\$9.27
Shoulder Component Total				\$264.64
<hr/> Sequence 6 Total				\$141,326.96
				<hr/>

Sequence: 7 WUR - Widen/Resurface, Undivided, Rural**Net Length:** 0.049 MI
257 LF**Description:** Segment 1 - Single Lane Ramp with 10-ft Widening**Special** IMPACTED ONE LANE RAMP - ASSUME AVG OF 10FT WIDENING (Concrete Pavement**Conditions:** Reconstruction Remainder AVG 15FT Including shoulder)**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	10.00 / 60.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.049
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.42	AC	\$93,209.42	\$39,147.96
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	172.67	CY	\$22.44	\$3,874.71
Earthwork Component Total					\$43,022.67

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Existing Roadway Pavement Width L/R	0.00 / 15.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 10.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	571.41	SY	\$5.65	\$3,228.47
285-701	OPTIONAL BASE,BASE GROUP 01	295.13	SY	\$15.72	\$4,639.44
350-3-7	PLAIN CEMENT CONC PAVT, 9"	285.71	SY	\$96.15	\$27,471.02

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-701	OPTIONAL BASE,BASE GROUP 01	429.00	SY	\$15.72	\$6,743.88

350-3-7	Comment: Ave. 15 FT of resurfacing existing concrete pavement. (15x257=3855SF=429SY)			
	PLAIN CEMENT CONC PAVT, 9"	429.00 SY	\$96.15	\$41,248.35
	Comment: Ave. 15 FT of resurfacing existing concrete pavement. (15x257=3855SF=429SY)			

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.10 GM	\$3,681.10	\$368.11
Roadway Component Total				\$83,699.27

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	2.00 / 8.00
New Total Outside Shoulder Width L/R	2.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Existing Paved Outside Shoulder Width L/R	2.00 / 8.00
New Paved Outside Shoulder Width L/R	2.00 / 8.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	591.41 LF	\$2.42	\$1,431.21
104-11	FLOATING TURBIDITY BARRIER	4.87 LF	\$14.12	\$68.76
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	4.87 LF	\$8.64	\$42.08
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	1.00 EA	\$108.17	\$108.17
107-1	LITTER REMOVAL	0.12 AC	\$52.70	\$6.32
107-2	MOWING	0.12 AC	\$61.77	\$7.41
Shoulder Component Total				\$4,526.94

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	0.88 CY	\$1,511.39	\$1,330.02
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	8.00 LF	\$107.67	\$861.36
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	8.00 LF	\$170.05	\$1,360.40
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	1.00 EA	\$1,577.25	\$1,577.25
570-1-1	PERFORMANCE TURF	19.67 SY	\$2.07	\$40.72
Drainage Component Total				\$5,169.75

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,083.27	\$1,083.27
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$286.38	\$286.38
700-1-60	SINGLE POST SIGN, REMOVE	1.00 AS	\$22.48	\$22.48
700-2-13	MULTI- POST SIGN, F&I GM, 21-30 SF	1.00 AS	\$4,153.19	\$4,153.19
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$561.41	\$561.41
Signing Component Total				\$6,448.24

Sequence 7 Total**\$142,866.87**

Sequence: 8NUR - New Construction, Undivided, Rural**Net Length:** 0.224 MI
1,180 LF**Description:** Segment 1 - Single Lane Ramp Reconstruction**Special** NEW ONE LANE RAMP - ASSUME 25 FT WIDE**Conditions:****EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	10.00 / 60.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.224
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	1.90	AC	\$93,209.42	\$177,097.90
120-6	EMBANKMENT	7,487.93	CY	\$26.33	\$197,157.20
Earthwork Component Total					\$374,255.10

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 25.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	4,589.20	SY	\$5.65	\$25,928.98
285-701	OPTIONAL BASE,BASE GROUP 01	3,321.27	SY	\$15.72	\$52,210.36
350-3-7	PLAIN CEMENT CONC PAVT, 9"	3,278.00	SY	\$96.15	\$315,179.70

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.45	GM	\$3,681.10	\$1,656.50
Roadway Component Total					\$394,975.54

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	2.00 / 8.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	2.00 / 8.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	3,068.21	LF	\$2.42	\$7,425.07
104-11	FLOATING TURBIDITY BARRIER	55.88	LF	\$14.12	\$789.03
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	55.88	LF	\$8.64	\$482.80
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,862.99	\$2,862.99
107-1	LITTER REMOVAL	2.71	AC	\$52.70	\$142.82
107-2	MOWING	2.71	AC	\$61.77	\$167.40
Shoulder Component Total					\$11,870.11

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	4.02	CY	\$1,511.39	\$6,075.79
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	184.00	LF	\$107.67	\$19,811.28
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	40.00	LF	\$170.05	\$6,802.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	9.00	EA	\$1,577.25	\$14,195.25
570-1-1	PERFORMANCE TURF	157.34	SY	\$2.07	\$325.69
Drainage Component Total					\$47,210.01

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00 AS	\$1,083.27	\$5,416.35
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,562.19	\$4,562.19
Signing Component Total				\$10,320.05
Sequence 8 Total				\$838,630.81

Sequence: 9WUU - Widen/Resurface, Undivided, Urban**Net Length:** 0.184 MI
971 LF**Description:** Segment 1 - NW 3rd Court Widening with Milling and Resurfacing**Special** WIDEN 1 LANE (Mill Resurface Overbuild Remainder 36') THIS SEQUENCE INCLUDES ALL**Conditions:** THE PERIPHERALS ALONG NW 3RD CT, LIGHTING, SIDEWALK AND C&G.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	10.00 / 30.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.184
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	103.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	0.89	AC	\$93,209.42	\$82,956.38
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	1,938.36	CY	\$22.44	\$43,496.80
Earthwork Component Total					\$126,453.18

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Existing Roadway Pavement Width L/R	0.00 / 36.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	0.00 / 12.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	1,573.01	SY	\$5.65	\$8,887.51
285-709	OPTIONAL BASE,BASE GROUP 09	1,330.26	SY	\$29.37	\$39,069.74
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	3,883.97	SY	\$3.70	\$14,370.69
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	320.43	TN	\$137.06	\$43,918.14
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	178.02	TN	\$137.06	\$24,399.42

337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	155.36 TN	\$154.76	\$24,043.51
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	106.81 TN	\$154.76	\$16,529.92

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	N
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	2
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	2
Skip Stripe No. of Stripes	3

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	124.00 EA	\$4.59	\$569.16
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.47 GM	\$792.34	\$1,164.74
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.10 GM	\$377.22	\$414.94
Roadway Component Total				\$173,367.77

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	13.25 / 13.25
Total Outside Shoulder Perf. Turf Width L/R	5.00 / 5.00
Sidewalk Width L/R	6.00 / 6.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	970.99 LF	\$28.54	\$27,712.05
520-1-10	CONCRETE CURB & GUTTER, TYPE F	970.99 LF	\$28.54	\$27,712.05
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,294.66 SY	\$45.93	\$59,463.73
570-1-1	PERFORMANCE TURF	1,078.88 SY	\$2.07	\$2,233.28

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	1,941.98 LF	\$2.42	\$4,699.59
104-11	FLOATING TURBIDITY BARRIER	18.39 LF	\$14.12	\$259.67
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	18.39 LF	\$8.64	\$158.89
104-15		1.00 EA	\$2,862.99	\$2,862.99

	SOIL TRACKING PREVENTION DEVICE			
104-18	INLET PROTECTION SYSTEM	10.00 EA	\$108.17	\$1,081.70
107-1	LITTER REMOVAL	0.85 AC	\$52.70	\$44.80
107-2	MOWING	0.85 AC	\$61.77	\$52.50
Shoulder Component Total				\$126,281.25

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	7.00 EA	\$5,638.76	\$39,471.32
425-1-451	INLETS, CURB, TYPE J-5, <10'	2.00 EA	\$8,503.34	\$17,006.68
425-1-521	INLETS, DT BOT, TYPE C, <10'	1.00 EA	\$3,854.23	\$3,854.23
425-2-41	MANHOLES, P-7, <10'	1.00 EA	\$4,751.59	\$4,751.59
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	360.00 LF	\$106.64	\$38,390.40
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	920.00 LF	\$293.25	\$269,790.00
570-1-1	PERFORMANCE TURF	55.91 SY	\$2.07	\$115.73
Drainage Component Total				\$373,379.95

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$341.51	\$1,366.04
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,083.27	\$1,083.27
700-1-50	SINGLE POST SIGN, RELOCATE	1.00 AS	\$286.38	\$286.38
700-1-60	SINGLE POST SIGN, REMOVE	4.00 AS	\$22.48	\$89.92
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,562.19	\$4,562.19
700-2-60	MULTI- POST SIGN, REMOVE	1.00 AS	\$561.41	\$561.41
Signing Component Total				\$7,949.21

LIGHTING COMPONENT**Conventional Lighting Subcomponent****Description**

Spacing

Pay Items**Value**

MAX

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	970.99 LF	\$9.15	\$8,884.56
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	126.71 LF	\$18.70	\$2,369.48
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	4.00 EA	\$643.67	\$2,574.68
715-1-13		3,293.10 LF	\$2.87	\$9,451.20

	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2			
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	4.00 EA	\$6,024.31	\$24,097.24
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	4.00 EA	\$1,645.25	\$6,581.00
	Subcomponent Total			\$53,958.15
	Lighting Component Total			\$53,958.16
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Sequence 9 Total				\$861,389.52
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Sequence: 10 NDR - New Construction, Divided, Rural**Net Length:** 1.768 MI
9,333 LF**Description:** Segment 2 - NB and SB I-95 Mainline from NW 24th Street to South of NW 62nd Street
Roadway Pavement: Concrete**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	160.00 / 160.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.768
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	68.58 AC	\$93,209.42	\$6,392,302.02
120-6	EMBANKMENT	247,855.68 CY	\$26.33	\$6,526,040.05
Earthwork Component Total				\$12,918,342.07

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	12
Roadway Pavement Width L/R	82.00 / 82.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	190,806.53 SY	\$5.65	\$1,078,056.89
285-701	OPTIONAL BASE,BASE GROUP 01	171,435.52 SY	\$15.72	\$2,694,966.37
350-3-7	PLAIN CEMENT CONC PAVT, 9"	170,066.69 SY	\$96.15	\$16,351,912.24

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	10

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	2,625.00 EA	\$4.59	\$12,048.75
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	7.07 GM	\$4,496.33	\$31,789.05
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	17.68 GM	\$1,399.74	\$24,747.40

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER, 38" OR 44" HEIGHT	6,220.00 LF	\$291.90	\$1,815,618.00

Roadway Component Total

\$22,009,138.70

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-8-7	CONC BARRIER, W/JUNCT SL, 36 SS	14,084.00 LF	\$264.58	\$3,726,344.72

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	24,265.61 LF	\$2.42	\$58,722.78
104-11	FLOATING TURBIDITY BARRIER	441.90 LF	\$14.12	\$6,239.63
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	441.90 LF	\$8.64	\$3,818.02
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,862.99	\$5,725.98
104-18	INLET PROTECTION SYSTEM	11.00 EA	\$108.17	\$1,189.87
107-1	LITTER REMOVAL	42.85 AC	\$52.70	\$2,258.20
107-2	MOWING	42.85 AC	\$61.77	\$2,646.84

Shoulder Component Total

\$3,806,946.04

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	10.00 / 10.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	5,350.00 LF	\$257.34	\$1,376,769.00

Median Component Total

\$1,376,769.00

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	31.82 CY	\$1,511.39	\$48,092.43
425-1-551	INLETS, DT BOT, TYPE E, <10'	11.00 EA	\$5,604.64	\$61,651.04
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	1,416.00 LF	\$107.67	\$152,460.72
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	616.00 LF	\$106.64	\$65,690.24
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	528.00 LF	\$170.05	\$89,786.40
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	71.00 EA	\$1,577.25	\$111,984.75
524-1-1	CONCRETE DITCH PAVT, NR, 3"	3,535.20 SY	\$63.66	\$225,050.83
570-1-1	PERFORMANCE TURF	1,244.39 SY	\$2.07	\$2,575.89

Drainage Component Total

\$757,292.30

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	4.00 AS	\$341.51	\$1,366.04
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	43.00 AS	\$1,083.27	\$46,580.61
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	4.00 AS	\$4,562.19	\$18,248.76
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	11.00 AS	\$6,127.09	\$67,397.99

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-4-114	OH STATIC SIGN STR, F&I, C 41-50 FT	5.00 EA	\$95,355.51	\$476,777.55
700-4-128	OH STATIC SIGN STR, F&I, S 201 FT AND GR	2.00 EA	\$237,384.37	\$474,768.74
Signing Component Total				\$1,085,139.69

INTELLIGENT TRAFFIC SYSTEM (ITS) COMPONENT

Description of Work

ITS for Segment 2 (sequences 10 through 17).

EX-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
ITS	ITS @ 3% OF SEQUENCES 10-17	1.00 LS	\$12,021,336.00	\$12,021,336.00
TOLL	TOLLING LS	1.00 LS	\$4,250,000.00	\$4,250,000.00
Comment: Initial ingress/egress and system to system EL connections				
Intelligent Traffic System (ITS) Component Total				\$16,271,336.00

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description				Value
Multiplier (Number of Poles)				49
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F&I, OPEN TRENCH	9,800.00 LF	\$9.15	\$89,670.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	49.00 EA	\$643.67	\$31,539.83
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	29,400.00 LF	\$2.87	\$84,378.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	49.00 EA	\$6,164.09	\$302,040.41
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	49.00 EA	\$1,645.25	\$80,617.25
Subcomponent Total				\$588,245.49
Lighting Component Total				\$588,245.49

BRIDGES COMPONENT

Bridge 2-1

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	323.60
Width (LF)	171.66
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	38,884.49
Default Cost per SF	\$120.00

Factored Cost per SF	\$150.00
Final Cost per SF	\$154.11
Basic Bridge Cost	\$8,332,376.40
Description	I-95 MAINLINE OVER NW 29TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	38,884.49 SF	\$66.46	\$2,584,263.21
400-2-10	CONC CLASS II, APPROACH SLABS	381.47 CY	\$420.63	\$160,457.73
415-1-9	REINF STEEL- APPROACH SLABS	66,757.25 LB	\$1.02	\$68,092.40

Bridge 2-1 Total \$11,145,189.74

Bridge 2-2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	143.00
Width (LF)	240.78
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	24,101.94
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$159.31
Basic Bridge Cost	\$5,164,731.00
Description	I-95 MAINLINE OVER NW 32ND ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	24,101.94 SF	\$66.46	\$1,601,814.93
400-2-10	CONC CLASS II, APPROACH SLABS	535.07 CY	\$420.63	\$225,066.49
415-1-9	REINF STEEL- APPROACH SLABS	93,637.25 LB	\$1.02	\$95,510.00

Bridge 2-2 Total \$7,087,122.42

Bridge 2-3

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	285.00
Width (LF)	182.17
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	36,343.87
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00

Final Cost per SF	\$154.67
Basic Bridge Cost	\$7,787,767.50
Description	I-95 MAINLINE OVER NW 35TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	36,343.87 SF	\$66.46	\$2,415,413.60
400-2-10	CONC CLASS II, APPROACH SLABS	404.82 CY	\$420.63	\$170,279.44
415-1-9	REINF STEEL- APPROACH SLABS	70,843.50 LB	\$1.02	\$72,260.37

Bridge 2-3 Total \$10,445,720.91

Bridge 2-4

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	432.00
Width (LF)	140.20
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	42,395.79
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$153.08
Basic Bridge Cost	\$9,084,960.00
Description	I-95 MAINLINE OVER RAMP FROM SR 112 WB TO I-95 SB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	42,395.79 SF	\$66.46	\$2,817,624.20
400-2-10	CONC CLASS II, APPROACH SLABS	311.56 CY	\$420.63	\$131,051.48
415-1-9	REINF STEEL- APPROACH SLABS	54,523.00 LB	\$1.02	\$55,613.46

Bridge 2-4 Total \$12,089,249.14

Bridge 2-5

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	288.00
Width (LF)	165.92
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	33,449.05
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$154.62

Basic Bridge Cost**\$7,167,744.00**

Description

I-95 MAINLINE OVER I-195 MAINLINE

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	33,449.05 SF	\$66.46	\$2,223,023.86
400-2-10	CONC CLASS II, APPROACH SLABS	368.71 CY	\$420.63	\$155,090.49
415-1-9	REINF STEEL- APPROACH SLABS	64,524.25 LB	\$1.02	\$65,814.74

Bridge 2-5 Total**\$9,611,673.09****Bridge 2-6****Description****Value**

Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	229.00
Width (LF)	174.03
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	27,897.76
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00

Final Cost per SF**\$155.81****Basic Bridge Cost****\$5,977,930.50**

Description

I-95 MAINLINE OVER RAMP FROM SR 112 EB TO I-95 NB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	27,897.76 SF	\$66.46	\$1,854,085.13
400-2-10	CONC CLASS II, APPROACH SLABS	386.73 CY	\$420.63	\$162,670.24
415-1-9	REINF STEEL- APPROACH SLABS	67,677.75 LB	\$1.02	\$69,031.30

Bridge 2-6 Total**\$8,063,717.18****Bridge 2-7****Description****Value**

Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	145.00
Width (LF)	247.64
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	25,135.13
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00

Final Cost per SF**\$159.18****Basic Bridge Cost****\$5,386,170.00**

Description I-95 MAINLINE OVER NW 46TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	25,135.13 SF	\$66.46	\$1,670,480.74
400-2-10	CONC CLASS II, APPROACH SLABS	550.31 CY	\$420.63	\$231,476.90
415-1-9	REINF STEEL- APPROACH SLABS	96,304.25 LB	\$1.02	\$98,230.34
Bridge 2-7 Total				\$7,386,357.98

Bridge 2-8

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	470.00
Width (LF)	241.65
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	79,503.05
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$122.83
Basic Bridge Cost	\$13,629,060.00
Description	I-95 MAINLINE OVER NW 53RD ST AND NW 54TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	79,503.05 SF	\$66.46	\$5,283,772.70
400-2-10	CONC CLASS II, APPROACH SLABS	537.00 CY	\$420.63	\$225,878.31
415-1-9	REINF STEEL- APPROACH SLABS	93,975.00 LB	\$1.02	\$95,854.50
Bridge 2-8 Total				\$19,234,565.51
Bridges Component Total				\$85,063,595.97

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	14,084.00
Begin height	17.50
End Height	17.50
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12		246,470.00 SF	\$29.12	\$7,177,206.40

RET WALL SYSTEM, PERM, EX
BARRIER

Retaining Walls Component Total

\$7,177,206.40

Sequence 10 Total

\$151,054,011.66

Sequence: 11 NDR - New Construction, Divided, Rural**Net Length:** 0.319 MI
1,682 LF**Description:** Segment 2 - SB I-95 Mainline from NW 20th Street to NW 29th Street Roadway Pavement:
Concrete**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	150.00 / 0.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.319
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.80	AC	\$93,209.42	\$540,614.64
120-6	EMBANKMENT	23,728.95	CY	\$26.33	\$624,783.25
Earthwork Component Total					\$1,165,397.89

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	7
Roadway Pavement Width L/R	108.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	22,242.53	SY	\$5.65	\$125,670.29
285-701	OPTIONAL BASE,BASE GROUP 01	20,309.86	SY	\$15.72	\$319,271.00
350-3-7	PLAIN CEMENT CONC PAVT, 9"	20,186.50	SY	\$96.15	\$1,940,931.98

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	5

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	258.00	EA	\$4.59	\$1,184.22
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	0.64	GM	\$4,496.33	\$2,877.65
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.59	GM	\$1,399.74	\$2,225.59

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-27	SHLDR CONC BAR WALL, 14' NOISE WALL	1,682.00	LF	\$562.18	\$945,586.76

Roadway Component Total

\$3,337,747.49

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-8-3	CONC TRAF RAIL BAR,JCT SLAB,32"V SHP	1,682.00	LF	\$281.10	\$472,810.20

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,373.74	LF	\$2.42	\$10,584.45
104-11	FLOATING TURBIDITY BARRIER	79.65	LF	\$14.12	\$1,124.66
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	79.65	LF	\$8.64	\$688.18
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	2.00	EA	\$108.17	\$216.34
107-1	LITTER REMOVAL	7.72	AC	\$52.70	\$406.84
107-2	MOWING	7.72	AC	\$61.77	\$476.86

Shoulder Component Total

\$489,170.52

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	11.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	11.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	1,682.00 LF	\$257.34	\$432,845.88

Median Component Total

\$432,845.88

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	5.73 CY	\$1,511.39	\$8,660.26
425-1-551	INLETS, DT BOT, TYPE E, <10'	2.00 EA	\$5,604.64	\$11,209.28
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	256.00 LF	\$107.67	\$27,563.52
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	112.00 LF	\$106.64	\$11,943.68
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	96.00 LF	\$170.05	\$16,324.80
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	13.00 EA	\$1,577.25	\$20,504.25
524-1-1	CONCRETE DITCH PAVT, NR, 3"	637.20 SY	\$63.66	\$40,564.15
570-1-1	PERFORMANCE TURF	224.29 SY	\$2.07	\$464.28

Drainage Component Total

\$137,234.22

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	8.00 AS	\$1,083.27	\$8,666.16
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,562.19	\$4,562.19
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	2.00 AS	\$6,127.09	\$12,254.18

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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700-4-114	OH STATIC SIGN STR, F&I, C 41-50 FT	1.00 EA	\$95,355.51	\$95,355.51
Signing Component Total				\$121,179.55

LIGHTING COMPONENT**Rural Lighting Subcomponent**

Description				Value	
Multiplier (Number of Poles)				9	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,800.00	LF	\$9.15	\$16,470.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	9.00	EA	\$643.67	\$5,793.03
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	5,400.00	LF	\$2.87	\$15,498.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	9.00	EA	\$6,164.09	\$55,476.81
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	9.00	EA	\$1,645.25	\$14,807.25
Subcomponent Total					\$108,045.09
Lighting Component Total					\$108,045.09

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	1,682.00
Begin height	17.50
End Height	17.50
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	29,435.00	SF	\$29.12	\$857,147.20
Retaining Walls Component Total					\$857,147.20

Sequence 11 Total	\$6,648,767.84
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Sequence: 12 NUR - New Construction, Undivided, Rural**Net Length:** 1.081 MI
5,709 LF**Description:** Segment 2 NB CD Road from I-395 to SR 112/I-195 Roadway Pavement: Concrete**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	150.00 / 150.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.081
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	39.31 AC	\$93,209.42	\$3,664,062.30
120-6	EMBANKMENT	68,103.19 CY	\$26.33	\$1,793,156.99
Earthwork Component Total				\$5,457,219.29

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	6
Roadway Pavement Width L/R	0.00 / 89.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	56,458.28 SY	\$5.65	\$318,989.28
285-701	OPTIONAL BASE, BASE GROUP 01	56,667.62 SY	\$15.72	\$890,814.99
350-3-7	PLAIN CEMENT CONC PAVT, 9"	56,458.28 SY	\$96.15	\$5,428,463.62

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	5

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	1,022.00 EA	\$4.59	\$4,690.98

711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	2.16 GM	\$3,681.10	\$7,951.18
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	5.41 GM	\$1,375.14	\$7,439.51

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	29,940.00 LF	\$291.90	\$8,739,486.00
544-75-1	CRASH CUSHION	4.00 EA	\$17,973.89	\$71,895.56

Roadway Component Total \$15,469,731.12

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-8-3	CONC TRAF RAIL BAR,JCT SLAB,32"V SHP	4,072.00 LF	\$281.10	\$1,144,639.20

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	14,844.09 LF	\$2.42	\$35,922.70
104-11	FLOATING TURBIDITY BARRIER	270.32 LF	\$14.12	\$3,816.92
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	270.32 LF	\$8.64	\$2,335.56
104-15	SOIL TRACKING PREVENTION DEVICE	2.00 EA	\$2,862.99	\$5,725.98
107-1	LITTER REMOVAL	13.11 AC	\$52.70	\$690.90
107-2	MOWING	13.11 AC	\$61.77	\$809.80

Shoulder Component Total \$1,193,941.06

DRAINAGE COMPONENT

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	19.46 CY	\$1,511.39	\$29,411.65
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	872.00 LF	\$107.67	\$93,888.24
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	184.00 LF	\$170.05	\$31,289.20
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	44.00 EA	\$1,577.25	\$69,399.00
570-1-1	PERFORMANCE TURF	761.24 SY	\$2.07	\$1,575.77
Drainage Component Total				\$225,563.86

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	3.00 AS	\$341.51	\$1,024.53
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	22.00 AS	\$1,083.27	\$23,831.94
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00 AS	\$4,562.19	\$13,686.57

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-4-114	OH STATIC SIGN STR, F&I, C 41- 50 FT	3.00 EA	\$95,355.51	\$286,066.53
700-4-128	OH STATIC SIGN STR, F&I, S 201 FT AND GR	1.00 EA	\$237,384.37	\$237,384.37
Signing Component Total				\$561,993.94

LIGHTING COMPONENT**Rural Lighting Subcomponent****Description**

Multiplier (Number of Poles)

Value

90

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	18,000.00 LF	\$9.15	\$164,700.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	90.00 EA	\$643.67	\$57,930.30
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	54,000.00 LF	\$2.87	\$154,980.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	90.00 EA	\$6,164.09	\$554,768.10
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	90.00 EA	\$1,645.25	\$148,072.50
Subcomponent Total				\$1,080,450.90
Lighting Component Total				\$1,080,450.90

BRIDGES COMPONENT**Bridge 2-9**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	195.00
Width (LF)	28.22
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.83
Basic Bridge Cost	\$825,435.00
Description	RAMP FROM I-395 WB TO WYNWOOD/SR 112 CD ROAD OVER RAMP FROM SR 836 EB TO WYNWOOD/SR 112 CD ROAD

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	62.71 CY	\$420.63	\$26,377.71
415-1-9	REINF STEEL- APPROACH SLABS	10,974.25 LB	\$1.02	\$11,193.74
Bridge 2-9 Total				\$863,006.45

Bridge 2-10

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	219.20
Width (LF)	40.62
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	6,232.21
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.07
Basic Bridge Cost	\$1,335,585.60
Description	RAMP FROM I-395 WB TO I-95 NB OVER RAMPS FROM SR 836 EB TO WYNWOOD/SR 112 CD ROAD AND FROM SR 836 EB TO I-95 NB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,232.21 SF	\$66.46	\$414,192.68
400-2-10	CONC CLASS II, APPROACH SLABS	90.27 CY	\$420.63	\$37,970.27
415-1-9	REINF STEEL- APPROACH SLABS	15,797.25 LB	\$1.02	\$16,113.20
Bridge 2-10 Total				\$1,803,861.75

Bridge 2-11

Description	Value
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Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	159.00
Width (LF)	27.16
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$158.37
Basic Bridge Cost	\$647,766.00
Description	RAMP FROM SR 836 EB TO WYNWOOD/SR 112 CD ROAD OVER NW 17TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	60.36 CY	\$420.63	\$25,389.23
415-1-9	REINF STEEL- APPROACH SLABS	10,563.00 LB	\$1.02	\$10,774.26
Bridge 2-11 Total				\$683,929.49

Bridge 2-12

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	143.25
Width (LF)	27.94
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	2,801.42
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$159.29
Basic Bridge Cost	\$600,360.75
Description	RAMP FROM I-395 EB TO WYNWOOD/SR 112 CD ROAD OVER NW 17TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	2,801.42 SF	\$66.46	\$186,182.37
400-2-10	CONC CLASS II, APPROACH SLABS	62.09 CY	\$420.63	\$26,116.92
415-1-9	REINF STEEL- APPROACH SLABS	10,865.75 LB	\$1.02	\$11,083.06
Bridge 2-12 Total				\$823,743.11

Bridge 2-13

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	121.75

Width (LF)	72.69
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	6,194.93
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$160.94
Basic Bridge Cost	\$1,327,501.13
Description	RAMPS FROM SR 836 EB AND I-395 WB TO I-95 NB OVER NW 17TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	6,194.93 SF	\$66.46	\$411,715.05
400-2-10	CONC CLASS II, APPROACH SLABS	161.53 CY	\$420.63	\$67,944.36
415-1-9	REINF STEEL- APPROACH SLABS	28,267.75 LB	\$1.02	\$28,833.10
Bridge 2-13 Total				\$1,835,993.65

Bridge 2-14

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	119.45
Width (LF)	27.96
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	2,337.91
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$161.15
Basic Bridge Cost	\$500,973.30
Description	RAMP FROM I-95 NB TO WYNWOOD/SR 112 CD ROAD OVER NW 17TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	2,337.91 SF	\$66.46	\$155,377.50
400-2-10	CONC CLASS II, APPROACH SLABS	62.13 CY	\$420.63	\$26,133.74
415-1-9	REINF STEEL- APPROACH SLABS	10,872.75 LB	\$1.02	\$11,090.20
Bridge 2-14 Total				\$693,574.75

Bridge 2-15

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	936.25
Width (LF)	27.57

Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	18,066.33
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$181.42
Basic Bridge Cost	\$4,646,234.25
Description	RAMP FROM I-95 NB TO WYNWOOD/SR 112 CD ROAD OVER RAMPS FROM I-395 WB AND SR 836 EB TO I-95 NB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	18,066.33 SF	\$66.46	\$1,200,688.29
400-2-10	CONC CLASS II, APPROACH SLABS	61.27 CY	\$420.63	\$25,772.00
415-1-9	REINF STEEL- APPROACH SLABS	10,722.25 LB	\$1.02	\$10,936.70
Bridge 2-15 Total				\$5,883,631.24

Bridge 2-16

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	199.00
Width (LF)	94.95
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	13,226.49
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.69
Basic Bridge Cost	\$2,834,257.50
Description	WYNWOOD/SR 112 CD ROAD OVER NW 20TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	13,226.49 SF	\$66.46	\$879,032.53
400-2-10	CONC CLASS II, APPROACH SLABS	211.00 CY	\$420.63	\$88,752.93
415-1-9	REINF STEEL- APPROACH SLABS	36,925.00 LB	\$1.02	\$37,663.50
Bridge 2-16 Total				\$3,839,706.46

Bridge 2-17

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	2,050.93
Width (LF)	51.14
Type	Overpass Bridge
Cost Factor	1.50

Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$180.65
Basic Bridge Cost	\$18,879,220.84
Description	RAMP FROM I-95 NB TO SR 112 EB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	113.64 CY	\$420.63	\$47,800.39
415-1-9	REINF STEEL- APPROACH SLABS	19,887.00 LB	\$1.02	\$20,284.74
Bridge 2-17 Total				\$18,947,305.97
Bridges Component Total				\$35,374,752.87

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	4,072.00
Begin height	17.50
End Height	17.50
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	71,260.00 SF	\$29.12	\$2,075,091.20
Retaining Walls Component Total				\$2,075,091.20

Sequence 12 Total	\$61,438,744.24
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Sequence: 13 NDR - New Construction, Divided, Rural**Net Length:** 0.691 MI
3,647 LF**Description:** Segment 2 EB and WB I-195 just East of the interchange Roadway Pavement: Concrete**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	160.00 / 160.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.691
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	26.80 AC	\$93,209.42	\$2,498,012.46
120-6	EMBANKMENT	70,260.27 CY	\$26.33	\$1,849,952.91

Earthwork Component Total	\$4,347,965.37
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ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	6
Roadway Pavement Width L/R	46.00 / 43.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	36,063.75 SY	\$5.65	\$203,760.19
285-701	OPTIONAL BASE,BASE GROUP 01	36,598.63 SY	\$15.72	\$575,330.46
350-3-7	PLAIN CEMENT CONC PAVT, 9"	36,063.75 SY	\$96.15	\$3,467,529.56

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	4

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	466.00 EA	\$4.59	\$2,138.94
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	2.76 GM	\$4,496.33	\$12,409.87
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	2.76 GM	\$1,399.74	\$3,863.28

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	4,836.00 LF	\$291.90	\$1,411,628.40
544-75-1	CRASH CUSHION	2.00 EA	\$17,973.89	\$35,947.78
Roadway Component Total				\$5,712,608.48

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-8-7	CONC BARRIER, W/JUNCT SL, 36 SS	4,386.00 LF	\$264.58	\$1,160,447.88

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	9,481.93 LF	\$2.42	\$22,946.27
104-11	FLOATING TURBIDITY BARRIER	172.68 LF	\$14.12	\$2,438.24
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	172.68 LF	\$8.64	\$1,491.96
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	5.00 EA	\$108.17	\$540.85
107-1	LITTER REMOVAL	16.74 AC	\$52.70	\$882.20
107-2	MOWING	16.74 AC	\$61.77	\$1,034.03

Shoulder Component Total**\$1,192,644.42****MEDIAN COMPONENT****User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	1,956.00 LF	\$257.34	\$503,357.04

Median Component Total**\$503,357.04****DRAINAGE COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	12.43 CY	\$1,511.39	\$18,786.58
425-1-551	INLETS, DT BOT, TYPE E, <10'	5.00 EA	\$5,604.64	\$28,023.20
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	552.00 LF	\$107.67	\$59,433.84
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	240.00 LF	\$106.64	\$25,593.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	208.00 LF	\$170.05	\$35,370.40
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	28.00 EA	\$1,577.25	\$44,163.00
524-1-1	CONCRETE DITCH PAVT, NR, 3"	1,381.40 SY	\$63.66	\$87,939.92
570-1-1	PERFORMANCE TURF	486.25 SY	\$2.07	\$1,006.54

Drainage Component Total**\$300,317.08****SIGNING COMPONENT****Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00 AS	\$341.51	\$683.02
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	17.00 AS	\$1,083.27	\$18,415.59
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00 AS	\$4,562.19	\$9,124.38
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	5.00 AS	\$6,127.09	\$30,635.45

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
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700-4-114	OH STATIC SIGN STR, F&I, C 41-50 FT	2.00 EA	\$95,355.51	\$190,711.02
700-4-128	OH STATIC SIGN STR, F&I, S 201 FT AND GR	1.00 EA	\$237,384.37	\$237,384.37
Signing Component Total				\$486,953.83

LIGHTING COMPONENT**Rural Lighting Subcomponent**

Description				Value	
Multiplier (Number of Poles)				58	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	11,600.00	LF	\$9.15	\$106,140.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	58.00	EA	\$643.67	\$37,332.86
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	34,800.00	LF	\$2.87	\$99,876.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	58.00	EA	\$6,164.09	\$357,517.22
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	58.00	EA	\$1,645.25	\$95,424.50
Subcomponent Total					\$696,290.58
Lighting Component Total					\$696,290.58

BRIDGES COMPONENT**Bridge 2-18**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	180.56
Width (LF)	31.01
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	3,919.45
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$157.37
Basic Bridge Cost	\$839,874.84
Description	RAMP FROM I-95 NB TO SR 112 EB OVER NW 3RD AVE.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	3,919.45	SF	\$66.46	\$260,486.65
400-2-10	CONC CLASS II, APPROACH SLABS	68.91	CY	\$420.63	\$28,985.61
415-1-9	REINF STEEL- APPROACH SLABS	12,059.25	LB	\$1.02	\$12,300.44
Bridge 2-18 Total					\$1,141,647.54

Bridge 2-19

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	189.51
Width (LF)	57.07
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	7,570.91
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$157.03
Basic Bridge Cost	\$1,622,300.36
Description	SR 112/I-195 EB OVER NW 3RD AVE.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	7,570.91	SF	\$66.46	\$503,162.68
400-2-10	CONC CLASS II, APPROACH SLABS	126.82	CY	\$420.63	\$53,344.30
415-1-9	REINF STEEL- APPROACH SLABS	22,193.50	LB	\$1.02	\$22,637.37
Bridge 2-19 Total					\$2,201,444.71

Bridge 2-20

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	179.02
Width (LF)	42.15
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	5,281.44
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$157.44
Basic Bridge Cost	\$1,131,853.95
Description	SR 112/I-195 WB OVER NW 3RD AVE.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	5,281.44	SF	\$66.46	\$351,004.50
400-2-10	CONC CLASS II, APPROACH SLABS	93.67	CY	\$420.63	\$39,400.41
415-1-9	REINF STEEL- APPROACH SLABS	16,392.25	LB	\$1.02	\$16,720.10
Bridge 2-20 Total					\$1,538,978.96

Bridge 2-21

Description	Value
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Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	204.23
Width (LF)	56.68
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	8,102.87
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.52
Basic Bridge Cost	\$1,736,363.46
Description	RAMP FROM SR 112 WB TO I-95 NB OVER NW 3RD AVE.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	8,102.87 SF	\$66.46	\$538,516.74
400-2-10	CONC CLASS II, APPROACH SLABS	125.96 CY	\$420.63	\$52,982.55
415-1-9	REINF STEEL- APPROACH SLABS	22,043.00 LB	\$1.02	\$22,483.86
Bridge 2-21 Total				\$2,350,346.61

Bridge 2-22

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	182.00
Width (LF)	73.80
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	9,401.57
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$157.32
Basic Bridge Cost	\$2,014,740.00
Description	SR 112/I-95 EB OVER NW 2ND AVE.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	9,401.57 SF	\$66.46	\$624,828.34
400-2-10	CONC CLASS II, APPROACH SLABS	164.00 CY	\$420.63	\$68,983.32
415-1-9	REINF STEEL- APPROACH SLABS	28,700.00 LB	\$1.02	\$29,274.00
Bridge 2-22 Total				\$2,737,825.66

Bridge 2-23

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	182.00

Width (LF)	64.17
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	8,175.64
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.32
Basic Bridge Cost	\$1,401,472.80
Description	SR 112/I-95 WB OVER NW 2ND AVE.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	8,175.64 SF	\$66.46	\$543,353.03
400-2-10	CONC CLASS II, APPROACH SLABS	142.60 CY	\$420.63	\$59,981.84
415-1-9	REINF STEEL- APPROACH SLABS	24,955.00 LB	\$1.02	\$25,454.10
Bridge 2-23 Total				\$2,030,261.77

Bridge 2-24

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	193.50
Width (LF)	93.11
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	12,612.08
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$156.88
Basic Bridge Cost	\$2,702,517.75
Description	SR 112/I-95 EB OVER NW 1ST AVE.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	12,612.08 SF	\$66.46	\$838,198.84
400-2-10	CONC CLASS II, APPROACH SLABS	206.91 CY	\$420.63	\$87,032.55
415-1-9	REINF STEEL- APPROACH SLABS	36,209.25 LB	\$1.02	\$36,933.44
Bridge 2-24 Total				\$3,664,682.58
Bridges Component Total				\$15,665,187.83

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	4,386.00

Begin height	17.50
End Height	17.50
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	76,755.00	SF	\$29.12	\$2,235,105.60

Retaining Walls Component Total	\$2,235,105.60
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Sequence 13 Total	\$31,140,430.23
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Sequence: 14 NUR - New Construction, Undivided, Rural**Net Length:** 0.445 MI
2,349 LF**Description:** Segment 2: I-95/SR-112 Interchange Ramps Roadway Pavement: Concrete**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	433.00 / 433.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.445
Top of Structural Course For Begin Section	120.00
Top of Structural Course For End Section	120.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	46.71 AC	\$93,209.42	\$4,353,812.01
120-6	EMBANKMENT	513,786.16 CY	\$26.33	\$13,527,989.59
Earthwork Component Total				\$17,881,801.60

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	17
Roadway Pavement Width L/R	111.00 / 111.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	57,943.78 SY	\$5.65	\$327,382.36
285-701	OPTIONAL BASE,BASE GROUP 01	58,116.04 SY	\$15.72	\$913,584.15
350-3-7	PLAIN CEMENT CONC PAVT, 9"	57,943.78 SY	\$96.15	\$5,571,294.45

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	16

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3		1,081.00 EA	\$4.59	\$4,961.79

	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS			
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.89 GM	\$3,681.10	\$3,276.18
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	7.12 GM	\$1,375.14	\$9,791.00

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	19,139.00 LF	\$291.90	\$5,586,674.10
544-75-1	CRASH CUSHION	2.00 EA	\$17,973.89	\$35,947.78
Roadway Component Total				\$12,452,911.81

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-8-3	CONC TRAF RAIL BAR,JCT SLAB,32"V SHP	8,265.00 LF	\$281.10	\$2,323,291.50

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	6,107.59 LF	\$2.42	\$14,780.37
104-11	FLOATING TURBIDITY BARRIER	111.22 LF	\$14.12	\$1,570.43
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	111.22 LF	\$8.64	\$960.94
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,862.99	\$2,862.99
107-1	LITTER REMOVAL	5.39 AC	\$52.70	\$284.05
107-2	MOWING	5.39 AC	\$61.77	\$332.94
Shoulder Component Total				\$2,344,083.22

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	8.01 CY	\$1,511.39	\$12,106.23
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	360.00 LF	\$107.67	\$38,761.20
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	80.00 LF	\$170.05	\$13,604.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	18.00 EA	\$1,577.25	\$28,390.50
570-1-1	PERFORMANCE TURF	313.21 SY	\$2.07	\$648.34
Drainage Component Total				\$93,510.27

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00 AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	9.00 AS	\$1,083.27	\$9,749.43
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00 AS	\$4,562.19	\$4,562.19

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-4-114	OH STATIC SIGN STR, F&I, C 41-50 FT	11.00 EA	\$95,355.51	\$1,048,910.61
700-4-128	OH STATIC SIGN STR, F&I, S 201 FT AND GR	5.00 EA	\$237,384.37	\$1,186,921.85
Signing Component Total				\$2,250,485.59

LIGHTING COMPONENT**Rural Lighting Subcomponent****Description**

Multiplier (Number of Poles)

Value

212

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F&I, OPEN TRENCH	42,400.00 LF	\$9.15	\$387,960.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	212.00 EA	\$643.67	\$136,458.04
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO. 4-2	127,200.00 LF	\$2.87	\$365,064.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	212.00 EA	\$6,164.09	\$1,306,787.08
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	212.00 EA	\$1,645.25	\$348,793.00
Subcomponent Total				\$2,545,062.12
Lighting Component Total				\$2,545,062.12

BRIDGES COMPONENT**Bridge 2-25**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	701.01
Width (LF)	26.23
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	12,870.83
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$151.90
Basic Bridge Cost	\$2,758,123.85
Description	RAMP FROM I-95 NB TO SR 112/I-195 EB

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	12,870.83	SF	\$66.46	\$855,395.36
400-2-10	CONC CLASS II, APPROACH SLABS	58.29	CY	\$420.63	\$24,518.52
415-1-9	REINF STEEL- APPROACH SLABS	10,200.75	LB	\$1.02	\$10,404.76
Bridge 2-25 Total					\$3,648,442.50

Bridge 2-26

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	406.65
Width (LF)	28.11
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	8,002.32
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$153.27
Basic Bridge Cost	\$1,714,639.73
Description	RAMP FROM SR 112 WB TO I-95 SB

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	8,002.32	SF	\$66.46	\$531,834.19
400-2-10	CONC CLASS II, APPROACH SLABS	62.47	CY	\$420.63	\$26,276.76
415-1-9	REINF STEEL- APPROACH SLABS	10,932.25	LB	\$1.02	\$11,150.90
Bridge 2-26 Total					\$2,283,901.58

Bridge 2-27

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,320.80
Width (LF)	34.72
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	32,096.19
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$181.01
Basic Bridge Cost	\$8,254,471.68
Description	RAMP FROM I-95 SB TO SR 112 EB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	32,096.19 SF	\$66.46	\$2,133,112.79
400-2-10	CONC CLASS II, APPROACH SLABS	77.16 CY	\$420.63	\$32,455.81
415-1-9	REINF STEEL- APPROACH SLABS	13,503.00 LB	\$1.02	\$13,773.06
Bridge 2-27 Total				\$10,433,813.34

Bridge 2-28

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,359.37
Width (LF)	20.38
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	19,388.51
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$180.98
Basic Bridge Cost	\$4,986,712.91
Description	RAMP FROM I-95 NB TO SR 112 WB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	19,388.51 SF	\$66.46	\$1,288,560.37
400-2-10	CONC CLASS II, APPROACH SLABS	45.29 CY	\$420.63	\$19,050.33
415-1-9	REINF STEEL- APPROACH SLABS	7,925.75 LB	\$1.02	\$8,084.26
Bridge 2-28 Total				\$6,302,407.88

Bridge 2-29

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES

Length (LF)	900.30
Width (LF)	27.32
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	17,216.20
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$181.48
Basic Bridge Cost	\$4,427,315.28
Description	RAMP FROM I-95 SB EXPRESS TO SR 112 EB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	17,216.20 SF	\$66.46	\$1,144,188.65
400-2-10	CONC CLASS II, APPROACH SLABS	60.71 CY	\$420.63	\$25,536.45
415-1-9	REINF STEEL- APPROACH SLABS	10,624.25 LB	\$1.02	\$10,836.74
Bridge 2-29 Total				\$5,607,877.12

Bridge 2-30

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,044.91
Width (LF)	27.09
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	19,816.93
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$181.27
Basic Bridge Cost	\$5,095,190.14
Description	RAMP FROM I-95 SB TO NW 32ND ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	19,816.93 SF	\$66.46	\$1,317,033.17
400-2-10	CONC CLASS II, APPROACH SLABS	60.20 CY	\$420.63	\$25,321.93
415-1-9	REINF STEEL- APPROACH SLABS	10,535.00 LB	\$1.02	\$10,745.70
Bridge 2-30 Total				\$6,448,290.94

Bridge 2-31

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,043.39
Width (LF)	36.70
Type	Overpass Bridge

Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	26,805.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$181.28
Basic Bridge Cost	\$6,892,634.34
Description	NW 7TH AVE. OVER SR 112 EB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	26,805.00 SF	\$66.46	\$1,781,460.30
400-2-10	CONC CLASS II, APPROACH SLABS	81.56 CY	\$420.63	\$34,306.58
415-1-9	REINF STEEL- APPROACH SLABS	14,273.00 LB	\$1.02	\$14,558.46
Bridge 2-31 Total				\$8,722,959.68

Bridge 2-32

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	372.59
Width (LF)	27.14
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	7,077.79
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$183.57
Basic Bridge Cost	\$1,820,176.67
Description	RAMP FROM I-95 SB TO NW 32ND ST. OVER NW 36TH ST. AND NW 35TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	7,077.79 SF	\$66.46	\$470,389.92
400-2-10	CONC CLASS II, APPROACH SLABS	60.31 CY	\$420.63	\$25,368.20
415-1-9	REINF STEEL- APPROACH SLABS	10,554.25 LB	\$1.02	\$10,765.34
Bridge 2-32 Total				\$2,326,700.13

Bridge 2-33

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	348.21
Width (LF)	66.00
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	

Removal of Existing Structures area	16,086.26
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$153.82
Basic Bridge Cost	\$3,447,279.00
Description	RAMPS FROM SR 112 EB AND WB TO I-95 SB OVER NW 36TH ST. AND NW 35TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	16,086.26 SF	\$66.46	\$1,069,092.84
400-2-10	CONC CLASS II, APPROACH SLABS	146.67 CY	\$420.63	\$61,693.80
415-1-9	REINF STEEL- APPROACH SLABS	25,667.25 LB	\$1.02	\$26,180.60
Bridge 2-33 Total				\$4,604,246.24

Bridge 2-34

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	133.40
Width (LF)	41.36
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	3,862.31
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$159.98
Basic Bridge Cost	\$827,613.60
Description	RAMP FROM SR 112 EB TO I-95 SB OVER NW 7TH AVE.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	3,862.31 SF	\$66.46	\$256,689.12
400-2-10	CONC CLASS II, APPROACH SLABS	91.91 CY	\$420.63	\$38,660.10
415-1-9	REINF STEEL- APPROACH SLABS	16,084.25 LB	\$1.02	\$16,405.94
Bridge 2-34 Total				\$1,139,368.76

Bridge 2-35

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	924.46
Width (LF)	49.24
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	31,864.68
Default Cost per SF	\$120.00

Factored Cost per SF	\$150.00
Final Cost per SF	\$151.44
Basic Bridge Cost	\$6,828,061.56
Description	RAMP FROM SR 112 EB TO I-95 NB OVER SR 112 EB

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	31,864.68	SF	\$66.46	\$2,117,726.63
400-2-10	CONC CLASS II, APPROACH SLABS	109.42	CY	\$420.63	\$46,025.33
415-1-9	REINF STEEL- APPROACH SLABS	19,148.50	LB	\$1.02	\$19,531.47
Bridge 2-35 Total					\$9,011,344.99

Bridge 2-36

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	2,006.76
Width (LF)	28.64
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	40,225.30
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$180.66
Basic Bridge Cost	\$10,345,249.15
Description	RAMP FROM I-95 SB EXPRESS TO SR 112

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	40,225.30	SF	\$66.46	\$2,673,373.44
400-2-10	CONC CLASS II, APPROACH SLABS	63.64	CY	\$420.63	\$26,768.89
415-1-9	REINF STEEL- APPROACH SLABS	11,137.00	LB	\$1.02	\$11,359.74
Bridge 2-36 Total					\$13,056,751.22

Bridge 2-37

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,494.92
Width (LF)	39.35
Type	Overpass Bridge
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	41,182.28
Default Cost per SF	\$120.00
Factored Cost per SF	\$180.00
Final Cost per SF	\$180.89
Basic Bridge Cost	\$10,588,518.36

Description

RAMP FROM SR 112 TO I-95 NB EXPRESS

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	41,182.28 SF	\$66.46	\$2,736,974.33
400-2-10	CONC CLASS II, APPROACH SLABS	87.44 CY	\$420.63	\$36,779.89
415-1-9	REINF STEEL- APPROACH SLABS	15,302.00 LB	\$1.02	\$15,608.04
Bridge 2-37 Total				\$13,377,880.62
Bridges Component Total				\$86,963,985.00

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	8,265.00
Begin height	17.50
End Height	17.50
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	144,637.50 SF	\$29.12	\$4,211,844.00
Retaining Walls Component Total				\$4,211,844.00

Sequence 14 Total	\$128,743,683.61
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Sequence: 15 NDR - New Construction, Divided, Rural**Net Length:** 0.317 MI
1,676 LF**Description:** Segment 2: SR 112 just West of the interchange Roadway Pavement: Concrete**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	125.00 / 125.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.317
Top of Structural Course For Begin Section	110.00
Top of Structural Course For End Section	110.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Median Slope L/R	6 to 1 / 6 to 1
Median Shoulder Cross Slope L/R	5.00 % / 5.00 %
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	9.61	AC	\$93,209.42	\$895,742.53
120-6	EMBANKMENT	106,440.60	CY	\$26.33	\$2,802,581.00

Earthwork Component Total					\$3,698,323.53
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ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	9
Roadway Pavement Width L/R	64.00 / 60.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	23,089.79	SY	\$5.65	\$130,457.31
285-701	OPTIONAL BASE,BASE GROUP 01	23,335.59	SY	\$15.72	\$366,835.47
350-3-7	PLAIN CEMENT CONC PAVT, 9"	23,089.79	SY	\$96.15	\$2,220,083.31

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	7

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	343.00 EA	\$4.59	\$1,574.37
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	1.27 GM	\$4,496.33	\$5,710.34
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	2.22 GM	\$1,399.74	\$3,107.42

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	1,739.00	LF	\$291.90	\$507,614.10
544-75-1	CRASH CUSHION	2.00	EA	\$17,973.89	\$35,947.78
Roadway Component Total					\$3,271,330.10

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-8-3	CONC TRAF RAIL BAR,JCT SLAB,32"V SHP	2,321.00	LF	\$281.10	\$652,433.10

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,357.27	LF	\$2.42	\$10,544.59
104-11	FLOATING TURBIDITY BARRIER	79.35	LF	\$14.12	\$1,120.42
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	79.35	LF	\$8.64	\$685.58
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	2.00	EA	\$108.17	\$216.34
107-1	LITTER REMOVAL	7.69	AC	\$52.70	\$405.26
107-2	MOWING	7.69	AC	\$61.77	\$475.01

Shoulder Component Total

\$668,743.29

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	0.00 / 0.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	1,503.00	LF	\$257.34	\$386,782.02

Median Component Total

\$386,782.02

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	5.71	CY	\$1,511.39	\$8,630.04
425-1-551	INLETS, DT BOT, TYPE E, <10'	2.00	EA	\$5,604.64	\$11,209.28
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	256.00	LF	\$107.67	\$27,563.52
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	112.00	LF	\$106.64	\$11,943.68
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	96.00	LF	\$170.05	\$16,324.80
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	13.00	EA	\$1,577.25	\$20,504.25
524-1-1	CONCRETE DITCH PAVT, NR, 3"	634.80	SY	\$63.66	\$40,411.37
570-1-1	PERFORMANCE TURF	223.45	SY	\$2.07	\$462.54

Drainage Component Total

\$137,049.48

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	1.00	AS	\$341.51	\$341.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	8.00	AS	\$1,083.27	\$8,666.16
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	1.00	AS	\$4,562.19	\$4,562.19
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	2.00	AS	\$6,127.09	\$12,254.18

X-Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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700-4-114	OH STATIC SIGN STR, F&I, C 41-50 FT	1.00 EA	\$95,355.51	\$95,355.51
Signing Component Total				\$121,179.55

LIGHTING COMPONENT**Rural Lighting Subcomponent**

Description				Value	
Multiplier (Number of Poles)				9	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,800.00	LF	\$9.15	\$16,470.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	9.00	EA	\$643.67	\$5,793.03
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	5,400.00	LF	\$2.87	\$15,498.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	9.00	EA	\$6,164.09	\$55,476.81
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	9.00	EA	\$1,645.25	\$14,807.25
Subcomponent Total					\$108,045.09
Lighting Component Total					\$108,045.09

BRIDGES COMPONENT**Bridge 2-39**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	174.28
Width (LF)	70.70
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	8,624.77
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$157.64
Basic Bridge Cost	\$1,848,239.40
Description	SR 112 EB EXPRESS OVER NW 10TH AVE.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	8,624.77	SF	\$66.46	\$573,202.21
400-2-10	CONC CLASS II, APPROACH SLABS	157.11	CY	\$420.63	\$66,085.18
415-1-9	REINF STEEL- APPROACH SLABS	27,494.25	LB	\$1.02	\$28,044.14
Bridge 2-39 Total					\$2,515,570.93

Bridge 2-40

Description	Value
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Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	173.00
Width (LF)	41.38
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	5,011.38
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$157.70
Basic Bridge Cost	\$1,073,811.00
Description	SR 112 EB OVER NW 10TH AVE.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	5,011.38	SF	\$66.46	\$333,056.31
400-2-10	CONC CLASS II, APPROACH SLABS	91.96	CY	\$420.63	\$38,681.13
415-1-9	REINF STEEL- APPROACH SLABS	16,093.00	LB	\$1.02	\$16,414.86
Bridge 2-40 Total					\$1,461,963.30

Bridge 2-41

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	173.00
Width (LF)	84.04
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	10,177.79
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$157.70
Basic Bridge Cost	\$2,180,838.00
Description	SR 112 WB OVER NW 10TH AVE.

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	10,177.79	SF	\$66.46	\$676,415.92
400-2-10	CONC CLASS II, APPROACH SLABS	186.76	CY	\$420.63	\$78,556.86
415-1-9	REINF STEEL- APPROACH SLABS	32,683.00	LB	\$1.02	\$33,336.66
Bridge 2-41 Total					\$2,969,147.44
Bridges Component Total					\$6,946,681.67

RETAINING WALLS COMPONENT

Retaining Wall 1

Description	Value
Length	2,321.00
Begin height	17.50
End Height	15.70
Multiplier	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	38,528.60	SF	\$29.12	\$1,121,952.83

Retaining Walls Component Total	\$1,121,952.83
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Sequence 15 Total	\$16,460,087.56
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Sequence: 16 NUU - New Construction, Undivided, Urban**Net Length:** 0.430 MI
2,268 LF**Description:** Segement 2 - NW 7th Ave Reconstruction Roadway Pavement: Asphalt**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 0.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.430
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
120-6	EMBANKMENT	7,591.54 CY	\$26.33	\$199,885.25
Earthwork Component Total				\$199,885.25

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	28.00 / 28.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	15,410.69 SY	\$5.65	\$87,070.40
285-709	OPTIONAL BASE,BASE GROUP 09	14,110.51 SY	\$29.37	\$414,425.68
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,940.19 TN	\$137.06	\$265,922.44
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	1,164.12 TN	\$154.76	\$180,159.21

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	3

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	290.00 EA	\$4.59	\$1,331.10
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.72 GM	\$792.34	\$1,362.82
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	1.29 GM	\$377.22	\$486.61
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.72 GM	\$3,681.10	\$6,331.49
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	1.29 GM	\$1,356.62	\$1,750.04

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	1,378.00 LF	\$291.90	\$402,238.20
Roadway Component Total				\$1,361,077.99

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	8.25 / 8.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	6.00 / 6.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,267.76 LF	\$28.54	\$64,721.87
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,267.76 LF	\$28.54	\$64,721.87
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	3,023.68 SY	\$45.93	\$138,877.62

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,535.52 LF	\$2.42	\$10,975.96
104-11	FLOATING TURBIDITY BARRIER	107.38 LF	\$14.12	\$1,516.21

104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	107.38 LF	\$8.64	\$927.76
104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,862.99	\$2,862.99
104-18	INLET PROTECTION SYSTEM	22.00 EA	\$108.17	\$2,379.74
107-1	LITTER REMOVAL	5.21 AC	\$52.70	\$274.57
107-2	MOWING	5.21 AC	\$61.77	\$321.82
Shoulder Component Total				\$287,580.41

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	7.73 CY	\$1,511.39	\$11,683.04
425-1-351	INLETS, CURB, TYPE P-5, <10'	16.00 EA	\$5,638.76	\$90,220.16
425-1-451	INLETS, CURB, TYPE J-5, <10'	5.00 EA	\$8,503.34	\$42,516.70
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00 EA	\$3,854.23	\$11,562.69
425-2-41	MANHOLES, P-7, <10'	3.00 EA	\$4,751.59	\$14,254.77
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	1,000.00 LF	\$106.64	\$106,640.00
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	88.00 LF	\$170.05	\$14,964.40
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,152.00 LF	\$293.25	\$631,074.00
570-1-1	PERFORMANCE TURF	130.57 SY	\$2.07	\$270.28
Drainage Component Total				\$923,186.04

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	9.00 AS	\$341.51	\$3,073.59
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,083.27	\$1,083.27
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	1.00 AS	\$6,127.09	\$6,127.09
Signing Component Total				\$10,283.95

LIGHTING COMPONENT**Conventional Lighting Subcomponent****Description**

Spacing

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,267.76 LF	\$9.15	\$20,750.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	450.12 LF	\$18.70	\$8,417.24
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	12.00 EA	\$643.67	\$7,724.04

Value
MIN

715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	8,282.48 LF	\$2.87	\$23,770.72
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	12.00 EA	\$6,024.31	\$72,291.72
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	12.00 EA	\$1,645.25	\$19,743.00
Subcomponent Total				\$152,696.73
Lighting Component Total				\$152,696.72

BRIDGES COMPONENT**Bridge 2-38**

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	912.00
Width (LF)	67.28
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	61,362.88
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$151.46
Basic Bridge Cost	\$9,203,904.00
Description	NW 7TH AVE. OVER SR 112 EB

Bridge Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	61,362.88	SF	\$66.46	\$4,078,177.00
400-2-10	CONC CLASS II, APPROACH SLABS	149.51	CY	\$420.63	\$62,888.39
415-1-9	REINF STEEL- APPROACH SLABS	26,164.25	LB	\$1.02	\$26,687.54
Bridge 2-38 Total					\$13,371,656.93
Bridges Component Total					\$13,371,656.93

Sequence 16 Total	\$16,306,367.29
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Sequence: 17 WUU - Widen/Resurface, Undivided, Urban**Net Length:** 1.076 MI
5,682 LF**Description:** Segment 2 - NW 6th Ave, NW 29th St, NW 32nd St Milling and Resurfacing with minor widening**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	19.00 / 19.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	1.035
Top of Structural Course For Begin Section	102.00
Top of Structural Course For End Section	102.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Existing Front Slope L/R	6 to 1 / 6 to 1
Existing Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	4.96	AC	\$93,209.42	\$462,318.72
120-2-2	BORROW EXCAVATION, TRUCK MEASURE	8,792.26	CY	\$22.44	\$197,298.31
Earthwork Component Total					\$659,617.03

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	3
Existing Roadway Pavement Width L/R	18.00 / 18.00
Structural Spread Rate	165
Friction Course Spread Rate	80
Widened Outside Pavement Width L/R	3.00 / 3.00
Widened Structural Spread Rate	275
Widened Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	7,045.44	SY	\$5.65	\$39,806.74
285-709	OPTIONAL BASE,BASE GROUP 09	4,204.54	SY	\$29.37	\$123,487.34
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	22,727.23	SY	\$3.70	\$84,090.75
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,875.00	TN	\$137.06	\$256,987.50
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	520.83	TN	\$137.06	\$71,384.96
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	909.09	TN	\$154.76	\$140,690.77
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	312.50	TN	\$154.76	\$48,362.50

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	581.00	EA	\$4.59	\$2,666.79
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.30	GM	\$792.34	\$3,407.06
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.15	GM	\$377.22	\$811.02
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	4.30	GM	\$3,681.10	\$15,828.73
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	2.15	GM	\$1,356.62	\$2,916.73
Roadway Component Total					\$790,440.89

SHOULDER COMPONENT**User Input Data**

Description	Value
Existing Total Outside Shoulder Width L/R	0.00 / 0.00
New Total Outside Shoulder Width L/R	7.25 / 7.25
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Sidewalk Width L/R	5.00 / 5.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	5,681.81	LF	\$28.54	\$162,158.86
520-1-10	CONCRETE CURB & GUTTER, TYPE F	5,681.81	LF	\$28.54	\$162,158.86
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	6,313.12	SY	\$45.93	\$289,961.60

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	11,363.62	LF	\$2.42	\$27,499.96
104-11	FLOATING TURBIDITY BARRIER	107.61	LF	\$14.12	\$1,519.45
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	107.61	LF	\$8.64	\$929.75
104-15	SOIL TRACKING PREVENTION DEVICE	2.00	EA	\$2,862.99	\$5,725.98
104-18	INLET PROTECTION SYSTEM	55.00	EA	\$108.17	\$5,949.35
107-1	LITTER REMOVAL	4.95	AC	\$52.70	\$260.86
107-2	MOWING	4.95	AC	\$61.77	\$305.76

Shoulder Component Total

\$656,470.44

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
425-1-351	INLETS, CURB, TYPE P-5, <10'	39.00	EA	\$5,638.76	\$219,911.64
425-1-451	INLETS, CURB, TYPE J-5, <10'	11.00	EA	\$8,503.34	\$93,536.74
425-1-521	INLETS, DT BOT, TYPE C, <10'	6.00	EA	\$3,854.23	\$23,125.38
425-2-41	MANHOLES, P-7, <10'	6.00	EA	\$4,751.59	\$28,509.54
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,088.00	LF	\$106.64	\$222,664.32
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	5,384.00	LF	\$293.25	\$1,578,858.00
570-1-1	PERFORMANCE TURF	327.13	SY	\$2.07	\$677.16

Drainage Component Total

\$2,167,282.78

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	20.00	AS	\$341.51	\$6,830.20
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	3.00	AS	\$1,083.27	\$3,249.81
700-1-50	SINGLE POST SIGN, RELOCATE	3.00	AS	\$286.38	\$859.14
700-1-60	SINGLE POST SIGN, REMOVE	20.00	AS	\$22.48	\$449.60
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	3.00	AS	\$4,562.19	\$13,686.57
700-2-60	MULTI- POST SIGN, REMOVE	3.00	AS	\$561.41	\$1,684.23

Signing Component Total

\$26,759.55

SIGNALIZATIONS COMPONENT**Signalization 1****Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F&I, OPEN TRENCH	1,500.00	LF	\$9.15	\$13,725.00
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	500.00	LF	\$18.70	\$9,350.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,696.69	\$11,393.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$643.67	\$20,597.44
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.13	\$615.60
649-21-10		8.00	EA	\$41,171.28	\$329,370.24

	STEEL MAST ARM ASSEMBLY, F&I, 60'			
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$993.93	\$23,854.32
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$797.87	\$12,765.92
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,172.62	\$28,142.88
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.53	\$4,024.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$27,883.04	\$55,766.08
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$396.54	\$3,172.32

Signalization 2**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.15	\$13,725.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.70	\$9,350.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,696.69	\$11,393.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$643.67	\$20,597.44
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.13	\$615.60
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,171.28	\$329,370.24
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$993.93	\$23,854.32
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$797.87	\$12,765.92
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,172.62	\$28,142.88
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.53	\$4,024.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$27,883.04	\$55,766.08
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$396.54	\$3,172.32

Signalization 3**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00 LF	\$9.15	\$13,725.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00 LF	\$18.70	\$9,350.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$5,696.69	\$11,393.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00 EA	\$643.67	\$20,597.44
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00 LF	\$5.13	\$615.60
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,171.28	\$329,370.24
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$993.93	\$23,854.32
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$797.87	\$12,765.92
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,172.62	\$28,142.88
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.53	\$4,024.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$27,883.04	\$55,766.08
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$396.54	\$3,172.32

Signalization 4**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00 LF	\$9.15	\$13,725.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00 LF	\$18.70	\$9,350.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$5,696.69	\$11,393.38
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00 EA	\$643.67	\$20,597.44
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00 LF	\$5.13	\$615.60
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,171.28	\$329,370.24
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$993.93	\$23,854.32
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$797.87	\$12,765.92
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,172.62	\$28,142.88
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.53	\$4,024.48
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$27,883.04	\$55,766.08
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$396.54	\$3,172.32

Signalizations Component Total	\$2,113,345.84
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Sequence 17 Total	\$6,413,916.53
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Date: 7/3/2019 10:49:25 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 414964-7-22-01

Letting Date: 01/2099

Description: SR 9A/I-95 FROM US-1/SOUTH DIXIE HIGHWAY TO SOUTH OF NW 62ND STREET

District: 06

County: 87 MIAMI-DADE

Market Area: 13

Units: English

Contract Class: 4 Lump Sum Project: N

Design/Build: N

Project Length: 5.707 MI

Project Manager: WANG, BAOYING

Version 1-P Project Grand Total

\$806,129,135.32

Description: SR 9A/I-95 FROM US-1/SOUTH DIXIE HIGHWAY TO SOUTH OF NW 62ND STREET

Project Sequences Subtotal	\$589,942,274.43
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102-1	Maintenance of Traffic	10.00 %	\$58,994,227.44
101-1	Mobilization	8.00 %	\$51,914,920.15

Project Sequences Total	\$700,851,422.02
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Project Unknowns	15.00 %	\$105,127,713.30
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal	\$150,000.00
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Version 1-P Project Grand Total

\$806,129,135.32

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	811,668.82 SY	\$5.66	\$4,594,045.52
285-701	OPTIONAL BASE,BASE GROUP 01	689,030.74 SY	\$15.72	\$10,831,563.23
350-3-7	PLAIN CEMENT CONC PAVT, 9"	684,845.57 SY	\$96.15	\$65,847,901.56

X-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
705-11-4	DELINEATOR, FLEX HIGH PERFORMANCE 48"	5,707.00 EA	\$79.60	\$454,277.20

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	14

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	10,944.00 EA	\$4.55	\$49,795.20
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	21.62 GM	\$4,511.88	\$97,546.85
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	75.66 GM	\$1,397.94	\$105,768.14

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-72-27	SHLDR CONC BAR WALL, 14' NOISE WALL	57,070.00 LF	\$551.73	\$31,487,231.10
544-75-1	CRASH CUSHION	16.00 EA	\$17,973.89	\$287,582.24

Roadway Component Total

\$113,755,711.04

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	10.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	10.00 / 10.00
Structural Spread Rate	110

Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	74,191.60 LF	\$2.37	\$175,834.09
104-11	FLOATING TURBIDITY BARRIER	1,351.10 LF	\$14.12	\$19,077.53
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	1,351.10 LF	\$8.64	\$11,673.50
104-15	SOIL TRACKING PREVENTION DEVICE	6.00 EA	\$2,866.30	\$17,197.80
104-18	INLET PROTECTION SYSTEM	33.00 EA	\$107.73	\$3,555.09
107-1	LITTER REMOVAL	131.00 AC	\$50.73	\$6,645.63
107-2	MOWING	131.00 AC	\$61.57	\$8,065.67
Shoulder Component Total				\$242,049.31

MEDIAN COMPONENT**User Input Data**

Description	Value
Total Median Width	22.00
Performance Turf Width	0.00
Total Median Shoulder Width L/R	10.00 / 10.00
Paved Median Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
521-1-12	MEDIAN CONC BARRIER, SHORT GRADE SEP	57,070.00 LF	\$277.84	\$15,856,328.80
Median Component Total				\$15,856,328.80

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	97.28 CY	\$1,496.95	\$145,623.30
425-1-551	INLETS, DT BOT, TYPE E, <10'	33.00 EA	\$5,604.64	\$184,953.12
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	4,328.00 LF	\$107.67	\$465,995.76
430-175-124	PIPE CULV, OPT MATL, ROUND, 24" S/CD	1,864.00 LF	\$107.29	\$199,988.56
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	1,600.00 LF	\$161.82	\$258,912.00
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	217.00 EA	\$1,566.55	\$339,941.35
524-1-1	CONCRETE DITCH PAVT, NR, 3"	10,808.80 SY	\$63.71	\$688,628.65
570-1-1	PERFORMANCE TURF	3,804.70 SY	\$2.45	\$9,321.52

Retention Basin 1

Description	Value
Size	5 AC
Multiplier	1
Depth	6.00
Description	

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.00 AC	\$91,307.72	\$456,538.60
120-1	REGULAR EXCAVATION	48,400.00 CY	\$20.03	\$969,452.00
400-2-2	CONC CLASS II, ENDWALLS	30.00 CY	\$1,496.95	\$44,908.50
425-1-541	INLETS, DT BOT, TYPE D, <10'	1.00 EA	\$5,950.00	\$5,950.00
425-2-71	MANHOLES, J-7, <10'	2.00 EA	\$6,939.60	\$13,879.20
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$236.17	\$13,225.52
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	400.00 LF	\$292.52	\$117,008.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,860.00 LF	\$19.71	\$36,660.60
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	2.00 EA	\$2,102.27	\$4,204.54
570-1-1	PERFORMANCE TURF	24,200.00 SY	\$2.45	\$59,290.00

Retention Basin 2

Description	Value
Size	2.5 AC
Multiplier	1
Depth	6.00
Description	

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	2.50 AC	\$91,307.72	\$228,269.30
120-1	REGULAR EXCAVATION	24,200.00 CY	\$20.03	\$484,726.00
400-2-2	CONC CLASS II, ENDWALLS	18.00 CY	\$1,496.95	\$26,945.10
425-1-361	INLETS, CURB, TYPE P-6, <10'	1.00 EA	\$6,189.38	\$6,189.38
425-2-71	MANHOLES, J-7, <10'	1.00 EA	\$6,939.60	\$6,939.60
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	56.00 LF	\$236.17	\$13,225.52
430-175-160	PIPE CULV, OPT MATL, ROUND, 60"S/CD	200.00 LF	\$292.52	\$58,504.00
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,335.00 LF	\$19.71	\$26,312.85
550-60-234	FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN	1.00 EA	\$2,102.27	\$2,102.27
570-1-1	PERFORMANCE TURF	12,100.00 SY	\$2.45	\$29,645.00
Drainage Component Total				\$4,897,340.24

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	11.00 AS	\$340.39	\$3,744.29
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	130.00 AS	\$1,082.35	\$140,705.50
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	11.00 AS	\$4,519.62	\$49,715.82
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	33.00 AS	\$6,127.09	\$202,193.97
Signing Component Total				\$396,359.58

INTELLIGENT TRAFFIC SYSTEM (ITS) COMPONENT

Description of Work

EX-Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
ITS	ITS @ 3% OF PROJ COST	1.00 LS	\$20,280,000.00	\$20,280,000.00
TOLL	TOLLING LS	1.00 LS	\$4,000,000.00	\$4,000,000.00
Intelligent Traffic System (ITS) Component Total				\$24,280,000.00

LIGHTING COMPONENT

Rural Lighting Subcomponent

Description				Value	
Multiplier (Number of Poles)				300	
Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	60,000.00	LF	\$9.08	\$544,800.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	300.00	EA	\$651.97	\$195,591.00
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	180,000.00	LF	\$2.78	\$500,400.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	300.00	EA	\$6,164.09	\$1,849,227.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	300.00	EA	\$1,652.20	\$495,660.00
Subcomponent Total					\$3,585,678.00
Lighting Component Total					\$3,585,678.00

LANDSCAPING COMPONENT

User Input Data

Description	Value
Cost %	2.00
Component Detail	N
Landscaping Component Total	\$2,695,028.59

BRIDGES COMPONENT

Bridge 3-1

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	175.00
Width (LF)	242.50
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	42,440.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.61
Basic Bridge Cost	\$5,092,500.00
Description	I-95 MAINLINE OVER NW 62ND ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	42,440.00 SF	\$66.46	\$2,820,562.40
400-2-10	CONC CLASS II, APPROACH SLABS	538.89 CY	\$420.63	\$226,673.30
415-1-9	REINF STEEL- APPROACH SLABS	94,305.75 LB	\$1.02	\$96,191.86
Bridge 3-1 Total				\$8,235,927.57

Bridge 3-2

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	169.50
Width (LF)	216.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	36,603.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.85
Basic Bridge Cost	\$4,393,440.00
Description	I-95 MAINLINE OVER RAMP FROM NW 5TH CT. TO I-95 SB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	36,603.00 SF	\$66.46	\$2,432,635.38
400-2-10	CONC CLASS II, APPROACH SLABS	480.00 CY	\$420.63	\$201,902.40
415-1-9	REINF STEEL- APPROACH SLABS	84,000.00 LB	\$1.02	\$85,680.00
Bridge 3-2 Total				\$7,113,657.78

Bridge 3-3

Description	Value
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Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,512.67
Width (LF)	240.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	1,500.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$120.88
Basic Bridge Cost	\$43,564,896.00
Description	I-95 MAINLINE OVER NW 71ST, 73RD, AND 75TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	1,500.00 SF	\$66.46	\$99,690.00
400-2-10	CONC CLASS II, APPROACH SLABS	533.33 CY	\$420.63	\$224,334.60
415-1-9	REINF STEEL- APPROACH SLABS	93,332.75 LB	\$1.02	\$95,199.40
Bridge 3-3 Total				\$43,984,120.01

Bridge 3-4

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	180.67
Width (LF)	217.20
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	39,234.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.37
Basic Bridge Cost	\$4,708,982.88
Description	I-95 MAINLINE OVER NW 79TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	39,234.00 SF	\$66.46	\$2,607,491.64
400-2-10	CONC CLASS II, APPROACH SLABS	482.67 CY	\$420.63	\$203,025.48
415-1-9	REINF STEEL- APPROACH SLABS	84,467.25 LB	\$1.02	\$86,156.60
Bridge 3-4 Total				\$7,605,656.60

Bridge 3-5

Description	Value
Estimate Type	SF Estimate

Primary Estimate	YES
Length (LF)	160.15
Width (LF)	216.64
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	34,695.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$128.31
Basic Bridge Cost	\$4,163,387.52
Description	I-95 MAINLINE OVER NW 81ST ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	34,695.00 SF	\$66.46	\$2,305,829.70
400-2-10	CONC CLASS II, APPROACH SLABS	481.42 CY	\$420.63	\$202,499.69
415-1-9	REINF STEEL- APPROACH SLABS	84,248.50 LB	\$1.02	\$85,933.47
Bridge 3-5 Total				\$6,757,650.38

Bridge 3-6

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	147.91
Width (LF)	240.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	35,400.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$129.00
Basic Bridge Cost	\$4,259,808.00
Description	I-95 MAINLINE OVER LITTLE RIVER CANAL

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	35,400.00 SF	\$66.46	\$2,352,684.00
400-2-10	CONC CLASS II, APPROACH SLABS	533.33 CY	\$420.63	\$224,334.60
415-1-9	REINF STEEL- APPROACH SLABS	93,332.75 LB	\$1.02	\$95,199.40
Bridge 3-6 Total				\$6,932,026.01

Bridge 3-7

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES

Length (LF)	181.33
Width (LF)	227.14
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	41,120.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.34
Basic Bridge Cost	\$4,942,475.54
Description	I-95 MAINLINE OVER NW 95TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	41,120.00 SF	\$66.46	\$2,732,835.20
400-2-10	CONC CLASS II, APPROACH SLABS	504.76 CY	\$420.63	\$212,317.20
415-1-9	REINF STEEL- APPROACH SLABS	88,333.00 LB	\$1.02	\$90,099.66

Bridge 3-7 Total \$7,977,727.60

Bridge 3-8

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	430.66
Width (LF)	243.34
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	104,794.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$123.09
Basic Bridge Cost	\$12,575,616.53
Description	I-95 MAINLINE OVER NW 103RD ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	104,794.00 SF	\$66.46	\$6,964,609.24
400-2-10	CONC CLASS II, APPROACH SLABS	540.76 CY	\$420.63	\$227,459.88
415-1-9	REINF STEEL- APPROACH SLABS	94,633.00 LB	\$1.02	\$96,525.66

Bridge 3-8 Total \$19,864,211.31

Bridge 3-9R

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	446.50

Width (LF)	44.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$122.98
Basic Bridge Cost	\$2,357,520.00
Description	I-95 NB RAMP OVER NW 105TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	97.78 CY	\$420.63	\$41,129.20
415-1-9	REINF STEEL- APPROACH SLABS	17,111.50 LB	\$1.02	\$17,453.73

Bridge 3-9R Total \$2,416,102.93

Bridge 3-10

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	150.10
Width (LF)	326.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$128.87
Basic Bridge Cost	\$5,871,912.00
Description	I-95 MAINLINE OVER NW 111TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	724.44 CY	\$420.63	\$304,721.20
415-1-9	REINF STEEL- APPROACH SLABS	126,777.00 LB	\$1.02	\$129,312.54

Bridge 3-10 Total \$6,305,945.74

Bridge 3-11

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	196.97
Width (LF)	243.20
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	47,900.00

Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$126.76
Basic Bridge Cost	\$5,748,372.48
Description	I-95 MAINLINE OVER NW 119TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	47,900.00 SF	\$66.46	\$3,183,434.00
400-2-10	CONC CLASS II, APPROACH SLABS	540.44 CY	\$420.63	\$227,325.28
415-1-9	REINF STEEL- APPROACH SLABS	94,577.00 LB	\$1.02	\$96,468.54

Bridge 3-11 Total \$9,255,600.30

Bridge 3-12R

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,348.62
Width (LF)	40.50
Type	High Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$200.00
Final Cost per SF	\$200.99
Basic Bridge Cost	\$10,923,822.00
Description	RAMP FROM I-95 NB TO NW 119TH ST. WB OVER I-95

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	90.00 CY	\$420.63	\$37,856.70
415-1-9	REINF STEEL- APPROACH SLABS	15,750.00 LB	\$1.02	\$16,065.00

Bridge 3-12R Total \$10,977,743.70

Bridge 3-13R

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	959.42
Width (LF)	34.00
Type	High Level
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$200.00
Final Cost per SF	\$201.39

Basic Bridge Cost**\$6,524,056.00**

Description

RAMP FROM NW 119TH ST. EB TO I-95 SB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	75.56 CY	\$420.63	\$31,782.80
415-1-9	REINF STEEL- APPROACH SLABS	13,223.00 LB	\$1.02	\$13,487.46

Bridge 3-13R Total

\$6,569,326.26

Bridge 3-14R**Description****Value**

Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,485.00
Width (LF)	34.00
Type	High Level
Cost Factor	1.50
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$160.00
Factored Cost per SF	\$240.00

Final Cost per SF**\$240.90****Basic Bridge Cost****\$12,117,600.00**

Description

RAMP FROM NW 119TH ST. EB TO I-95 NB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	75.56 CY	\$420.63	\$31,782.80
415-1-9	REINF STEEL- APPROACH SLABS	13,223.00 LB	\$1.02	\$13,487.46

Bridge 3-14R Total

\$12,162,870.26

Bridge 3-15R**Description****Value**

Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	944.76
Width (LF)	34.00
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00

Final Cost per SF**\$151.41****Basic Bridge Cost****\$4,818,276.00**

Description

RAMP FROM I-95 SB TO NW 119TH ST. WB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	75.56 CY	\$420.63	\$31,782.80
415-1-9	REINF STEEL- APPROACH SLABS	13,223.00 LB	\$1.02	\$13,487.46
Bridge 3-15R Total				\$4,863,546.26

Bridge 3-16R

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	677.54
Width (LF)	60.00
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$151.97
Basic Bridge Cost	\$6,097,860.00
Description	RAMP FROM I-95 SB TO NW 103RD ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	133.33 CY	\$420.63	\$56,082.60
415-1-9	REINF STEEL- APPROACH SLABS	23,332.75 LB	\$1.02	\$23,799.40
Bridge 3-16R Total				\$6,177,742.01

Bridge 3-17

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	176.25
Width (LF)	240.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	42,000.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.55
Basic Bridge Cost	\$5,076,000.00
Description	I-95 MAINLINE OVER NW 125TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	42,000.00 SF	\$66.46	\$2,791,320.00
400-2-10	CONC CLASS II, APPROACH SLABS	533.33 CY	\$420.63	\$224,334.60

415-1-9	REINF STEEL- APPROACH SLABS	93,332.75 LB	\$1.02	\$95,199.40
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Bridge 3-17 Total				\$8,186,854.01
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Bridge 3-18R

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	1,104.58
Width (LF)	42.00
Type	Overpass Bridge
Cost Factor	1.25
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$150.00
Final Cost per SF	\$151.21
Basic Bridge Cost	\$6,958,854.00
Description	RAMP FROM I-95 SB

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	93.33 CY	\$420.63	\$39,257.40
415-1-9	REINF STEEL- APPROACH SLABS	16,332.75 LB	\$1.02	\$16,659.40

Bridge 3-18R Total				\$7,014,770.81
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Bridge 3-19

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	186.92
Width (LF)	229.51
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	42,000.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.12
Basic Bridge Cost	\$5,148,001.10
Description	I-95 MAINLINE OVER NW 131ST ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	42,000.00 SF	\$66.46	\$2,791,320.00
400-2-10	CONC CLASS II, APPROACH SLABS	510.02 CY	\$420.63	\$214,529.71
415-1-9	REINF STEEL- APPROACH SLABS	89,253.50 LB	\$1.02	\$91,038.57

Bridge 3-19 Total

\$8,244,889.38

Bridge 3-20R

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	186.86
Width (LF)	54.35
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$127.13
Basic Bridge Cost	\$1,218,700.92
Description	RAMP FROM I-95 SB TO NW 125TH ST. OVER NW 131ST ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	120.78 CY	\$420.63	\$50,803.69
415-1-9	REINF STEEL- APPROACH SLABS	21,136.50 LB	\$1.02	\$21,559.23

Bridge 3-20R Total

\$1,291,063.84

Bridge 3-21

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	159.96
Width (LF)	216.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	34,000.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$128.32
Basic Bridge Cost	\$4,146,163.20
Description	I-95 MAINLINE OVER NW 135TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	34,000.00 SF	\$66.46	\$2,259,640.00
400-2-10	CONC CLASS II, APPROACH SLABS	480.00 CY	\$420.63	\$201,902.40
415-1-9	REINF STEEL- APPROACH SLABS	84,000.00 LB	\$1.02	\$85,680.00

Bridge 3-21 Total

\$6,693,385.60

Bridge 3-22

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	157.02
Width (LF)	108.11
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	15,000.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$128.48
Basic Bridge Cost	\$2,037,051.86
Description	I-95 NB OVER OPA LOCKA BLVD.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	15,000.00 SF	\$66.46	\$996,900.00
400-2-10	CONC CLASS II, APPROACH SLABS	240.24 CY	\$420.63	\$101,052.15
415-1-9	REINF STEEL- APPROACH SLABS	42,042.00 LB	\$1.02	\$42,882.84
Bridge 3-22 Total				\$3,177,886.85

Bridge 3-23

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	406.56
Width (LF)	134.72
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	17,000.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$123.27
Basic Bridge Cost	\$6,572,611.58
Description	I-95 SB OVER OPA LOCKA BLVD.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	17,000.00 SF	\$66.46	\$1,129,820.00
400-2-10	CONC CLASS II, APPROACH SLABS	299.38 CY	\$420.63	\$125,928.21
415-1-9	REINF STEEL- APPROACH SLABS	52,391.50 LB	\$1.02	\$53,439.33
Bridge 3-23 Total				\$7,881,799.12

Bridge 3-24R

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	798.39
Width (LF)	42.00
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	0.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$121.67
Basic Bridge Cost	\$4,023,885.60
Description	RAMP FROM I-95 SB TO NW 125TH ST. OVER NW 135TH ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-10	CONC CLASS II, APPROACH SLABS	93.33 CY	\$420.63	\$39,257.40
415-1-9	REINF STEEL- APPROACH SLABS	16,332.75 LB	\$1.02	\$16,659.40
Bridge 3-24R Total				\$4,079,802.41

Bridge 3-25

Description	Value
Estimate Type	SF Estimate
Primary Estimate	YES
Length (LF)	150.41
Width (LF)	243.89
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	36,000.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$128.85
Basic Bridge Cost	\$4,402,019.39
Description	I-95 MAINLINE OVER NW 143RD ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	36,000.00 SF	\$66.46	\$2,392,560.00
400-2-10	CONC CLASS II, APPROACH SLABS	541.98 CY	\$420.63	\$227,973.05
415-1-9	REINF STEEL- APPROACH SLABS	94,846.50 LB	\$1.02	\$96,743.43
Bridge 3-25 Total				\$7,119,295.87

Bridge 3-26

Description	Value
Estimate Type	SF Estimate

Primary Estimate	YES
Length (LF)	202.71
Width (LF)	224.53
Type	Overpass Bridge
Cost Factor	1.00
Structure No.	
Removal of Existing Structures area	45,000.00
Default Cost per SF	\$120.00
Factored Cost per SF	\$120.00
Final Cost per SF	\$126.57
Basic Bridge Cost	\$5,461,737.16
Description	I-95 MAINLINE OVER 151ST ST.

Bridge Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
110-3	REMOVAL OF EXISTING STRUCTURES/BRIDGES	45,000.00 SF	\$66.46	\$2,990,700.00
400-2-10	CONC CLASS II, APPROACH SLABS	498.96 CY	\$420.63	\$209,877.54
415-1-9	REINF STEEL- APPROACH SLABS	87,318.00 LB	\$1.02	\$89,064.36
Bridge 3-26 Total				\$8,751,379.06
Bridges Component Total				\$229,640,981.67

RETAINING WALLS COMPONENT**Retaining Wall 1**

Description	Value
Length	46,633.00
Begin height	18.00
End Height	18.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	839,394.00 SF	\$29.10	\$24,426,365.40

Retaining Wall 2

Description	Value
Length	71,240.00
Begin height	22.00
End Height	22.00
Multiplier	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
548-12	RET WALL SYSTEM, PERM, EX BARRIER	1,567,280.00 SF	\$29.10	\$45,607,848.00

Retaining Walls Component Total	\$70,034,213.40
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Sequence 1 Total	\$493,281,009.39
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Sequence: 2 NDR - New Construction, Divided, Rural**Net Length:** 7.220 MI
38,121 LF**Description:** Mainline Auxiliary Lanes - Concrete pavement 12-ft wide.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	0.00 / 23.33
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	7.220
Top of Structural Course For Begin Section	104.00
Top of Structural Course For End Section	104.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	0 to 1 / 0 to 1
Median Slope L/R	0 to 1 / 0 to 1
Median Shoulder Cross Slope L/R	0.00 % / 0.00 %
Outside Shoulder Cross Slope L/R	0.00 % / 0.00 %
Roadway Cross Slope L/R	3.00 % / 3.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	20.42	AC	\$91,307.72	\$1,864,503.64
120-6	EMBANKMENT	49,882.82	CY	\$27.30	\$1,361,800.99
Earthwork Component Total					\$3,226,304.63

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	12.00 / 0.00
Structural Spread Rate	0
Friction Course Spread Rate	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	50,828.10	SY	\$5.66	\$287,687.05
285-701	OPTIONAL BASE,BASE GROUP 01	53,623.64	SY	\$15.72	\$842,963.62
350-3-7	PLAIN CEMENT CONC PAVT, 9"	50,828.10	SY	\$96.15	\$4,887,121.82

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Concrete
Solid Stripe No. of Paint Applications	0
Solid Stripe No. of Stripes	1
Skip Stripe No. of Paint Applications	0
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
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711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	7.22 GM	\$4,511.88	\$32,575.77
Roadway Component Total				\$6,050,348.26

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	129.96	CY	\$1,496.95	\$194,543.62
425-1-551	INLETS, DT BOT, TYPE E, <10'	44.00	EA	\$5,604.64	\$246,604.16
430-174-124	PIPE CULV, OPT MATL, ROUND, 24"SD	5,776.00	LF	\$107.67	\$621,901.92
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	2,488.00	LF	\$107.29	\$266,937.52
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	2,144.00	LF	\$161.82	\$346,942.08
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	289.00	EA	\$1,566.55	\$452,732.95
524-1-1	CONCRETE DITCH PAVT, NR, 3"	14,439.80	SY	\$63.71	\$919,959.66
570-1-1	PERFORMANCE TURF	5,082.81	SY	\$2.45	\$12,452.88
Drainage Component Total					\$3,062,074.79

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	15.00	AS	\$340.39	\$5,105.85
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	174.00	AS	\$1,082.35	\$188,328.90
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	15.00	AS	\$4,519.62	\$67,794.30
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	44.00	AS	\$6,127.09	\$269,591.96
Signing Component Total					\$530,821.01

Sequence 2 Total				\$12,869,548.69
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Sequence: 3NUR - New Construction, Undivided, Rural**Net Length:** 2.414 MI
12,748 LF**Description:** 1-Lane Ramps - Asphalt Pavement and Barrier wall LT & RT**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.414
Top of Structural Course For Begin Section	112.00
Top of Structural Course For End Section	112.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	1 to 1 / 1 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	29.26	AC	\$91,307.72	\$2,671,663.89
120-6	EMBANKMENT	137,986.39	CY	\$27.30	\$3,767,028.45
Earthwork Component Total					\$6,438,692.34

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	15.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	38,244.10	SY	\$5.66	\$216,461.61
285-709	OPTIONAL BASE,BASE GROUP 09	21,714.15	SY	\$29.55	\$641,653.13
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	2,921.42	TN	\$136.43	\$398,569.33
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,752.85	TN	\$154.76	\$271,271.07

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	4.83	GM	\$785.13	\$3,792.18
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	4.83	GM	\$3,681.50	\$17,781.64

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	25,496.00	LF	\$291.90	\$7,442,282.40

Roadway Component Total

\$8,991,811.37

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	6.00 / 6.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	6.00 / 6.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	0
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	17,932.23	SY	\$14.95	\$268,086.84
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	934.86	TN	\$136.43	\$127,542.95
337-7-83	ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22	154.25	TN	\$154.76	\$23,871.73

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	33,144.88	LF	\$2.37	\$78,553.37
104-11	FLOATING TURBIDITY BARRIER	603.60	LF	\$14.12	\$8,522.83
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	603.60	LF	\$8.64	\$5,215.10
104-15	SOIL TRACKING PREVENTION DEVICE	3.00	EA	\$2,866.30	\$8,598.90
107-1	LITTER REMOVAL	29.26	AC	\$50.73	\$1,484.36
107-2	MOWING	29.26	AC	\$61.57	\$1,801.54

Shoulder Component Total

\$523,677.62

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	43.46 CY	\$1,496.95	\$65,057.45
430-174-124	PIPE CULV, OPT MATL, ROUND, 24" SD	1,936.00 LF	\$107.67	\$208,449.12
430-175-136	PIPE CULV, OPT MATL, ROUND, 36" S/CD	408.00 LF	\$161.82	\$66,022.56
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	97.00 EA	\$1,566.55	\$151,955.35
570-1-1	PERFORMANCE TURF	1,699.74 SY	\$2.45	\$4,164.36

Drainage Component Total

\$495,648.84

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	5.00 AS	\$340.39	\$1,701.95
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	49.00 AS	\$1,082.35	\$53,035.15
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	5.00 AS	\$4,519.62	\$22,598.10

Signing Component Total

\$77,335.20

LIGHTING COMPONENT**Rural Lighting Subcomponent****Description**

Multiplier (Number of Poles)

Value

67

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F&I, OPEN TRENCH	13,400.00 LF	\$9.08	\$121,672.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	67.00 EA	\$651.97	\$43,681.99
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	40,200.00 LF	\$2.78	\$111,756.00
715-4-14	LIGHT POLE COMPLETE, F&I-STD, 45'	67.00 EA	\$6,164.09	\$412,994.03
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	67.00 EA	\$1,652.20	\$110,697.40
Subcomponent Total				\$800,801.42

Lighting Component Total

\$800,801.42

Sequence 3 Total

\$17,327,966.79

Sequence: 4 NUR - New Construction, Undivided, Rural**Net Length:** 3.593 MI
18,969 LF**Description:** 2-Lane Ramps - Asphalt pavement with Barrier wall LT & RT**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	3.593
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	1 to 1 / 1 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	43.55	AC	\$91,307.72	\$3,976,451.21
120-6	EMBANKMENT	84,638.94	CY	\$27.30	\$2,310,643.06
Earthwork Component Total					\$6,287,094.27

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	24.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	84,306.35	SY	\$5.66	\$477,173.94
285-709	OPTIONAL BASE,BASE GROUP 09	51,279.34	SY	\$29.55	\$1,515,304.50
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	6,955.27	TN	\$136.43	\$948,907.49
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	4,173.16	TN	\$154.76	\$645,838.24

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	485.00	EA	\$4.55	\$2,206.75
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	7.19	GM	\$785.13	\$5,645.08
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	3.59	GM	\$380.66	\$1,366.57
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	7.19	GM	\$3,681.50	\$26,469.98
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	3.59	GM	\$1,375.14	\$4,936.75

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	37,938.00	LF	\$291.90	\$11,074,102.20

Roadway Component Total

\$14,701,951.51

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	6.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	6.00 / 10.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	0
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	35,113.59	SY	\$14.95	\$524,948.17
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,854.74	TN	\$136.43	\$253,042.18
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	229.52	TN	\$154.76	\$35,520.52

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	49,319.21	LF	\$2.37	\$116,886.53
104-11	FLOATING TURBIDITY BARRIER	898.15	LF	\$14.12	\$12,681.88
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	898.15	LF	\$8.64	\$7,760.02

104-15	SOIL TRACKING PREVENTION DEVICE	4.00 EA	\$2,866.30	\$11,465.20
107-1	LITTER REMOVAL	43.54 AC	\$50.73	\$2,208.78
107-2	MOWING	43.54 AC	\$61.57	\$2,680.76
Shoulder Component Total				\$967,194.04

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	64.67 CY	\$1,496.95	\$96,807.76
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	2,880.00 LF	\$107.67	\$310,089.60
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	608.00 LF	\$161.82	\$98,386.56
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	144.00 EA	\$1,566.55	\$225,583.20
570-1-1	PERFORMANCE TURF	2,529.19 SY	\$2.45	\$6,196.52
Drainage Component Total				\$737,063.64

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	8.00 AS	\$340.39	\$2,723.12
700-1-12	SINGLE POST SIGN, F&I GM, 12- 20 SF	72.00 AS	\$1,082.35	\$77,929.20
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	8.00 AS	\$4,519.62	\$36,156.96
Signing Component Total				\$116,809.28

LIGHTING COMPONENT**Rural Lighting Subcomponent****Description**

Multiplier (Number of Poles)

Value

100

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	20,000.00 LF	\$9.08	\$181,600.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	100.00 EA	\$651.97	\$65,197.00
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	60,000.00 LF	\$2.78	\$166,800.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	100.00 EA	\$6,164.09	\$616,409.00
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	100.00 EA	\$1,652.20	\$165,220.00
Subcomponent Total				\$1,195,226.00
Lighting Component Total				\$1,195,226.00

Sequence 4 Total\$24,005,338.74

Sequence: 5NUR - New Construction, Undivided, Rural**Net Length:** 0.617 MI
3,258 LF**Description:** 3-Lane CD Roads - Asphalt Pavement Barrier wall LT & RT**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.617
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	1 to 1 / 1 to 1
Outside Shoulder Cross Slope L/R	6.00 % / 6.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	7.48	AC	\$91,307.72	\$682,981.75
120-6	EMBANKMENT	19,071.17	CY	\$27.30	\$520,642.94
Earthwork Component Total					\$1,203,624.69

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	3
Roadway Pavement Width L/R	36.00 / 0.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	18,822.61	SY	\$5.66	\$106,535.97
285-709	OPTIONAL BASE,BASE GROUP 09	13,150.49	SY	\$29.55	\$388,596.98
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,791.77	TN	\$136.43	\$244,451.18
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	1,075.06	TN	\$154.76	\$166,376.29

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	333.00	EA	\$4.55	\$1,515.15
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	1.23	GM	\$785.13	\$965.71
710-11-231	PAINTED PAVT MARK,STD,YELLOW,SKIP,6"	1.23	GM	\$380.66	\$468.21
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.23	GM	\$3,681.50	\$4,528.24
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	1.23	GM	\$1,375.14	\$1,691.42

Peripherals Subcomponent

Description	Value
Off Road Bike Path(s)	0
Off Road Bike Path Width L/R	0.00 / 0.00
Bike Path Structural Spread Rate	0
Noise Barrier Wall Length	0.00
Noise Barrier Wall Begin Height	0.00
Noise Barrier Wall End Height	0.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
521-72-40	SHLDR CONC BARRIER,38" OR 44" HEIGHT	6,516.00	LF	\$291.90	\$1,902,020.40

Roadway Component Total

\$2,817,149.56

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	6.00 / 10.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	6.00 / 10.00
Structural Spread Rate	110
Friction Course Spread Rate	165
Total Width (T) / 8" Overlap (O)	0
Rumble Strips 1/2 No. of Sides	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
285-704	OPTIONAL BASE,BASE GROUP 04	6,030.48	SY	\$14.95	\$90,155.68
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	318.54	TN	\$136.43	\$43,458.41
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	39.42	TN	\$154.76	\$6,100.64

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	8,470.18	LF	\$2.37	\$20,074.33
104-11	FLOATING TURBIDITY BARRIER	154.25	LF	\$14.12	\$2,178.01
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	154.25	LF	\$8.64	\$1,332.72

104-15	SOIL TRACKING PREVENTION DEVICE	1.00 EA	\$2,866.30	\$2,866.30
107-1	LITTER REMOVAL	7.48 AC	\$50.73	\$379.46
107-2	MOWING	7.48 AC	\$61.57	\$460.54
Shoulder Component Total				\$167,006.09

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	11.11 CY	\$1,496.95	\$16,631.11
430-174-124	PIPE CULV, OPT MATL, ROUND,24"SD	496.00 LF	\$107.67	\$53,404.32
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	104.00 LF	\$161.82	\$16,829.28
430-984-129	MITERED END SECT, OPTIONAL RD, 24" SD	25.00 EA	\$1,566.55	\$39,163.75
570-1-1	PERFORMANCE TURF	434.37 SY	\$2.45	\$1,064.21
Drainage Component Total				\$127,092.67

SIGNING COMPONENT**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	2.00 AS	\$340.39	\$680.78
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	13.00 AS	\$1,082.35	\$14,070.55
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00 AS	\$4,519.62	\$9,039.24
Signing Component Total				\$23,790.57

LIGHTING COMPONENT**Rural Lighting Subcomponent****Description**

Multiplier (Number of Poles)

Value

17

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	3,400.00 LF	\$9.08	\$30,872.00
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	17.00 EA	\$651.97	\$11,083.49
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	10,200.00 LF	\$2.78	\$28,356.00
715-4-14	LIGHT POLE COMPLETE, F&I- STD, 45'	17.00 EA	\$6,164.09	\$104,789.53
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	17.00 EA	\$1,652.20	\$28,087.40
Subcomponent Total				\$203,188.42
Lighting Component Total				\$203,188.42

Sequence 5 Total**\$4,541,852.00**

Sequence: 6 NUU - New Construction, Undivided, Urban**Net Length:** 0.423 MI
2,235 LF**Description:** 1-Lane Surface Street Urban Curb & Gutter - Asphalt pavement new/reconstruction with 6-ft sidewalk on one side.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	0.423
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	5.13	AC	\$91,307.72	\$468,408.60
120-6	EMBANKMENT	14,642.27	CY	\$27.30	\$399,733.97
Earthwork Component Total					\$868,142.57

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	1
Roadway Pavement Width L/R	0.00 / 12.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	3,620.74	SY	\$5.66	\$20,493.39
285-709	OPTIONAL BASE,BASE GROUP 09	2,980.03	SY	\$29.55	\$88,059.89
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	409.75	TN	\$136.43	\$55,902.19
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	245.85	TN	\$154.76	\$38,047.75

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	0

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	0.85	GM	\$785.13	\$667.36
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.85	GM	\$3,681.50	\$3,129.28
Roadway Component Total					\$206,299.86

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	2.75 / 8.75
Total Outside Shoulder Perf. Turf Width L/R	0.50 / 0.50
Sidewalk Width L/R	0.00 / 6.00

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,235.02	LF	\$28.53	\$63,765.12
520-1-10	CONCRETE CURB & GUTTER, TYPE F	2,235.02	LF	\$28.53	\$63,765.12
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	1,490.02	SY	\$45.76	\$68,183.32
570-1-1	PERFORMANCE TURF	248.34	SY	\$2.45	\$608.43

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	4,470.05	LF	\$2.37	\$10,594.02
104-11	FLOATING TURBIDITY BARRIER	105.82	LF	\$14.12	\$1,494.18
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	105.82	LF	\$8.64	\$914.28
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,866.30	\$2,866.30
104-18	INLET PROTECTION SYSTEM	22.00	EA	\$107.73	\$2,370.06
107-1	LITTER REMOVAL	5.13	AC	\$50.73	\$260.24
107-2	MOWING	5.13	AC	\$61.57	\$315.85
Shoulder Component Total					\$215,136.92

DRAINAGE COMPONENT**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	7.62	CY	\$1,496.95	\$11,406.76
425-1-351	INLETS, CURB, TYPE P-5, <10'	16.00	EA	\$5,628.01	\$90,048.16
425-1-451	INLETS, CURB, TYPE J-5, <10'	5.00	EA	\$8,515.21	\$42,576.05
425-1-521	INLETS, DT BOT, TYPE C, <10'	3.00	EA	\$3,854.23	\$11,562.69
425-2-41	MANHOLES, P-7, <10'	3.00	EA	\$4,617.67	\$13,853.01
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	984.00	LF	\$107.29	\$105,573.36
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	88.00	LF	\$161.82	\$14,240.16

430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	2,120.00 LF	\$293.25	\$621,690.00
570-1-1	PERFORMANCE TURF	128.68 SY	\$2.45	\$315.27
Drainage Component Total				\$911,265.46

SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	9.00 AS	\$340.39	\$3,063.51
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	1.00 AS	\$1,082.35	\$1,082.35
700-2-15	MULTI- POST SIGN, F&I GM, 51- 100 SF	1.00 AS	\$6,127.09	\$6,127.09
Signing Component Total				\$10,272.95

LIGHTING COMPONENT**Conventional Lighting Subcomponent**

Description				Value
Spacing				MIN
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	2,235.02 LF	\$9.08	\$20,293.98
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	443.62 LF	\$18.92	\$8,393.29
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	15.00 EA	\$651.97	\$9,779.55
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	8,162.92 LF	\$2.78	\$22,692.92
715-4-13	LIGHT POLE COMPLETE, F&I- STD, 40'	15.00 EA	\$6,024.31	\$90,364.65
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	15.00 EA	\$1,652.20	\$24,783.00
Subcomponent Total				\$176,307.39
Lighting Component Total				\$176,307.39

LANDSCAPING COMPONENT**User Input Data**

Description	Value
Cost %	2.00
Component Detail	N

Landscaping Component Total **\$26,654.04**

Sequence 6 Total **\$2,414,079.19**

Sequence: 7 NUU - New Construction, Undivided, Urban**Net Length:** 2.028 MI
10,710 LF**Description:** 2-Lane Surface Street Urban Curb & Gutter - Asphalt pavement new/reconstruction with 6-ft sidewalk on one side.**EARTHWORK COMPONENT****User Input Data**

Description	Value
Standard Clearing and Grubbing Limits L/R	50.00 / 50.00
Incidental Clearing and Grubbing Area	0.00
Alignment Number	1
Distance	2.028
Top of Structural Course For Begin Section	105.00
Top of Structural Course For End Section	105.00
Horizontal Elevation For Begin Section	100.00
Horizontal Elevation For End Section	100.00
Front Slope L/R	6 to 1 / 6 to 1
Outside Shoulder Cross Slope L/R	2.00 % / 2.00 %
Roadway Cross Slope L/R	2.00 % / 2.00 %

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
110-1-1	CLEARING & GRUBBING	24.58	AC	\$91,307.72	\$2,244,343.76
120-6	EMBANKMENT	83,394.24	CY	\$27.30	\$2,276,662.75
Earthwork Component Total					\$4,521,006.51

ROADWAY COMPONENT**User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	0.00 / 24.00
Structural Spread Rate	275
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
160-4	TYPE B STABILIZATION	31,630.06	SY	\$5.66	\$179,026.14
285-709	OPTIONAL BASE,BASE GROUP 09	28,559.87	SY	\$29.55	\$843,944.16
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	3,926.98	TN	\$136.43	\$535,757.88
337-7-83	ASPH CONC FC,TRAFFIC C,FC-12.5,PG 76-22	2,356.19	TN	\$154.76	\$364,643.96

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	4
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	274.00 EA	\$4.55	\$1,246.70
710-11-101	PAINTED PAVT MARK,STD,WHITE,SOLID,6"	8.11 GM	\$785.13	\$6,367.40
710-11-131	PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.03 GM	\$377.24	\$765.80
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	8.11 GM	\$3,681.50	\$29,856.96
711-16-131	THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6"	2.03 GM	\$1,353.52	\$2,747.65
Roadway Component Total				\$1,964,356.66

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	2.75 / 8.75
Total Outside Shoulder Perf. Turf Width L/R	0.50 / 0.50
Sidewalk Width L/R	0.00 / 6.00

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
520-1-10	CONCRETE CURB & GUTTER, TYPE F	10,709.95 LF	\$28.53	\$305,554.87
520-1-10	CONCRETE CURB & GUTTER, TYPE F	10,709.95 LF	\$28.53	\$305,554.87
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	7,139.97 SY	\$45.76	\$326,725.03
570-1-1	PERFORMANCE TURF	1,189.99 SY	\$2.45	\$2,915.48

Erosion Control

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-10-3	SEDIMENT BARRIER	21,419.90 LF	\$2.37	\$50,765.16
104-11	FLOATING TURBIDITY BARRIER	507.10 LF	\$14.12	\$7,160.25
104-12	STAKED TURBIDITY BARRIER-NYL REINF PVC	507.10 LF	\$8.64	\$4,381.34
104-15	SOIL TRACKING PREVENTION DEVICE	3.00 EA	\$2,866.30	\$8,598.90
104-18	INLET PROTECTION SYSTEM	104.00 EA	\$107.73	\$11,203.92
107-1	LITTER REMOVAL	24.58 AC	\$50.73	\$1,246.94
107-2	MOWING	24.58 AC	\$61.57	\$1,513.39
Shoulder Component Total				\$1,025,620.15

DRAINAGE COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
400-2-2	CONC CLASS II, ENDWALLS	36.51 CY	\$1,496.95	\$54,653.64
425-1-351	INLETS, CURB, TYPE P-5, <10'	74.00 EA	\$5,628.01	\$416,472.74
425-1-451	INLETS, CURB, TYPE J-5, <10'	21.00 EA	\$8,515.21	\$178,819.41

425-1-521	INLETS, DT BOT, TYPE C, <10'	11.00 EA	\$3,854.23	\$42,396.53
425-2-41	MANHOLES, P-7, <10'	11.00 EA	\$4,617.67	\$50,794.37
430-175-124	PIPE CULV, OPT MATL, ROUND, 24"S/CD	4,720.00 LF	\$107.29	\$506,408.80
430-175-136	PIPE CULV, OPT MATL, ROUND, 36"S/CD	416.00 LF	\$161.82	\$67,317.12
430-175-148	PIPE CULV, OPT MATL, ROUND, 48"S/CD	10,144.00 LF	\$293.25	\$2,974,728.00
570-1-1	PERFORMANCE TURF	616.63 SY	\$2.45	\$1,510.74
Drainage Component Total				\$4,293,101.35

SIGNING COMPONENT

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
700-1-11	SINGLE POST SIGN, F&I GM, <12 SF	41.00 AS	\$340.39	\$13,955.99
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	5.00 AS	\$1,082.35	\$5,411.75
700-2-15	MULTI- POST SIGN, F&I GM, 51-100 SF	5.00 AS	\$6,127.09	\$30,635.45
Signing Component Total				\$50,003.19

LIGHTING COMPONENT**Conventional Lighting Subcomponent**

Description				Value
Spacing				MAX
Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	10,709.95 LF	\$9.08	\$97,246.35
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	1,397.57 LF	\$18.92	\$26,442.02
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	43.00 EA	\$651.97	\$28,034.71
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	36,322.56 LF	\$2.78	\$100,976.72
715-4-13	LIGHT POLE COMPLETE, F&I-STD, 40'	43.00 EA	\$6,024.31	\$259,045.33
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	43.00 EA	\$1,652.20	\$71,044.60
Subcomponent Total				\$582,789.73
Lighting Component Total				\$582,789.73

LANDSCAPING COMPONENT**User Input Data**

Description	Value
Cost %	2.00
Component Detail	N

Landscaping Component Total	\$145,661.56
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Sequence 7 Total	\$12,582,539.15
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Sequence: 8 RSU - Resurfacing, Undivided**Net Length:** 0.929 MI
4,905 LF**Description:** 2-Lane Surface Street M&R Urban**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	2
Roadway Pavement Width L/R	12.00 / 12.00
Structural Spread Rate	165
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	13,080.32 SY	\$3.71	\$48,527.99
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,079.13 TN	\$136.43	\$147,225.71
337-7-83	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22	1,079.13 TN	\$154.76	\$167,006.16

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	1

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	125.00 EA	\$4.55	\$568.75
710-11-101	PAINTED PAVT MARK, STD, WHITE, SOLID, 6"	1.86 GM	\$785.13	\$1,460.34
710-11-231	PAINTED PAVT MARK, STD, YELLOW, SKIP, 6"	0.93 GM	\$380.66	\$354.01
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.86 GM	\$3,681.50	\$6,847.59
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	0.93 GM	\$1,375.14	\$1,278.88

Roadway Component Total

\$373,269.43

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80

Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-11	FLOATING TURBIDITY BARRIER	92.90	LF	\$14.12	\$1,311.75
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	92.90	LF	\$8.64	\$802.66
104-18	INLET PROTECTION SYSTEM	2.00	EA	\$107.73	\$215.46
107-1	LITTER REMOVAL	2.25	AC	\$50.73	\$114.14
107-2	MOWING	2.25	AC	\$61.57	\$138.53
Shoulder Component Total					\$2,582.54
Sequence 8 Total					\$375,851.97

Sequence: 9RSU - Resurfacing, Undivided**Net Length:** 2.165 MI
11,431 LF**Description:** 3-Lane Surface Street M&R Urban**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	3
Roadway Pavement Width L/R	12.00 / 24.00
Structural Spread Rate	165
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	45,724.80 SY	\$3.71	\$169,639.01
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	3,772.30 TN	\$136.43	\$514,654.89
337-7-83	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22	3,772.30 TN	\$154.76	\$583,801.15

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	2

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	1,169.00 EA	\$4.55	\$5,318.95
710-11-101	PAINTED PAVT MARK, STD, WHITE, SOLID, 6"	4.33 GM	\$785.13	\$3,399.61
710-11-231	PAINTED PAVT MARK, STD, YELLOW, SKIP, 6"	4.33 GM	\$380.66	\$1,648.26
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	4.33 GM	\$3,681.50	\$15,940.90
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	4.33 GM	\$1,375.14	\$5,954.36

Roadway Component Total

\$1,300,357.13

SHOULDER COMPONENT**User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80

Total Width (T) / 8" Overlap (O) T
 Rumble Strips 1/2 No. of Sides 0

Erosion Control**Pay Items**

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
104-11	FLOATING TURBIDITY BARRIER	216.50	LF	\$14.12	\$3,056.98
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	216.50	LF	\$8.64	\$1,870.56
104-18	INLET PROTECTION SYSTEM	5.00	EA	\$107.73	\$538.65
107-1	LITTER REMOVAL	5.24	AC	\$50.73	\$265.83
107-2	MOWING	5.24	AC	\$61.57	\$322.63
Shoulder Component Total					\$6,054.65
Sequence 9 Total					\$1,306,411.78

Sequence: 10 RSU - Resurfacing, Undivided**Net Length:** 0.799 MI
4,217 LF**Description:** 4-Lane Arterial Surface Street M&R Urban includes all new signalization.**ROADWAY COMPONENT****User Input Data**

Description	Value
Number of Lanes	4
Roadway Pavement Width L/R	24.00 / 24.00
Structural Spread Rate	165
Friction Course Spread Rate	165

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
327-70-5	MILLING EXIST ASPH PAVT, 2" AVG DEPTH	22,491.39 SY	\$3.71	\$83,443.06
334-1-13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	1,855.54 TN	\$136.43	\$253,151.32
337-7-83	ASPH CONC FC, TRAFFIC C, FC-12.5, PG 76-22	1,855.54 TN	\$154.76	\$287,163.37

Pavement Marking Subcomponent

Description	Value
Include Thermo/Tape/Other	Y
Pavement Type	Asphalt
Solid Stripe No. of Paint Applications	1
Solid Stripe No. of Stripes	2
Skip Stripe No. of Paint Applications	1
Skip Stripe No. of Stripes	3

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	539.00 EA	\$4.55	\$2,452.45
710-11-101	PAINTED PAVT MARK, STD, WHITE, SOLID, 6"	1.60 GM	\$785.13	\$1,256.21
710-11-231	PAINTED PAVT MARK, STD, YELLOW, SKIP, 6"	2.40 GM	\$380.66	\$913.58
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	1.60 GM	\$3,681.50	\$5,890.40
711-16-231	THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6"	2.40 GM	\$1,375.14	\$3,300.34

Roadway Component Total**\$637,570.73****SHOULDER COMPONENT****User Input Data**

Description	Value
Total Outside Shoulder Width L/R	0.00 / 0.00
Total Outside Shoulder Perf. Turf Width L/R	0.00 / 0.00
Paved Outside Shoulder Width L/R	0.00 / 0.00
Structural Spread Rate	110
Friction Course Spread Rate	80
Total Width (T) / 8" Overlap (O)	T
Rumble Strips 1/2 No. of Sides	0

Erosion Control**Pay Items**

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
104-11	FLOATING TURBIDITY BARRIER	79.87 LF	\$14.12	\$1,127.76
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	79.87 LF	\$8.64	\$690.08
104-18	INLET PROTECTION SYSTEM	2.00 EA	\$107.73	\$215.46
107-1	LITTER REMOVAL	1.93 AC	\$50.73	\$97.91
107-2	MOWING	1.93 AC	\$61.57	\$118.83
Shoulder Component Total				\$2,250.04

SIGNALIZATIONS COMPONENT**Signalization 1****Description**

Type
Multiplier
Description

Value

4 Lane Mast Arm
2

Pay Items

Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00 LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00 LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00 EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00 LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 2**Description**

Type
Multiplier
Description

Value

4 Lane Mast Arm
2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 3**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111		2.00	AS	\$28,406.78	\$56,813.56

	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT			
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 4**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 5**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00

649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 6**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 7**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 8**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80

670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 9**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 10**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00

649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 11**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 12**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 13**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80

670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 14**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 15**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00

649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 16**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 17**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00 LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00 LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00 EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00 LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 18**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items				
Pay item	Description	Quantity Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00 LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00 LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00 PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00 EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00 AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00 LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.80	\$4,028.80

670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 19**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 20**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00

649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00 EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00 AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00 AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00 EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00 AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00 EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00 AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00 EA	\$390.13	\$3,121.04

Signalization 21**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04

Signalization 22**Description**

Type

Multiplier

Description

Value

4 Lane Mast Arm

2

Pay Items					
Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
630-2-11	CONDUIT, F& I, OPEN TRENCH	1,500.00	LF	\$9.08	\$13,620.00
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	500.00	LF	\$18.92	\$9,460.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	2.00	PI	\$5,772.80	\$11,545.60
635-2-11	PULL & SPLICE BOX, F&I, 13" x 24"	32.00	EA	\$651.97	\$20,863.04
639-1-112	ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON	2.00	AS	\$3,223.36	\$6,446.72
639-2-1	ELECTRICAL SERVICE WIRE, F&I	120.00	LF	\$5.15	\$618.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	8.00	EA	\$41,846.65	\$334,773.20
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	24.00	AS	\$992.98	\$23,831.52
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	16.00	AS	\$792.11	\$12,673.76
660-1-102	LOOP DETECTOR INDUCTIVE, F&I, TYPE 2	24.00	EA	\$379.67	\$9,112.08
660-2-106	LOOP ASSEMBLY, F&I, TYPE F	24.00	AS	\$1,182.68	\$28,384.32
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	16.00	EA	\$251.80	\$4,028.80
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	2.00	AS	\$28,406.78	\$56,813.56
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	8.00	EA	\$390.13	\$3,121.04
Signalizations Component Total					\$11,776,416.08
Sequence 10 Total					\$12,416,236.85

Date: 7/3/2019 11:32:33 AM

FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 414964-8-22-01**Letting Date:** 01/2099**Description:** SR 9A/I-95 FROM SOUTH OF NW 62ND STREET TO NORTH OF NW 151 STREET**District:** 06**County:** 87 MIAMI-DADE**Market Area:** 13**Units:** English**Contract Class:** 4 Lump Sum Project: N**Design/Build:** N**Project Length:** 6.089 MI**Project Manager:** WANG, BAOYING**Version 1-P Project Grand Total****\$794,077,284.17****Description:** SR 9A/I-95 FROM SOUTH OF NW 62ND STREET TO NORTH OF NW 151 STREET

Project Sequences Subtotal	\$581,120,834.55
-----------------------------------	-------------------------

102-1	Maintenance of Traffic	10.00 %	\$58,112,083.46
101-1	Mobilization	8.00 %	\$51,138,633.44

Project Sequences Total	\$690,371,551.45
--------------------------------	-------------------------

Project Unknowns	15.00 %	\$103,555,732.72
Design/Build	0.00 %	\$0.00

Non-Bid Components:

Pay item	Description	Quantity	Unit	Unit Price	Extended Amount
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)		LS	\$150,000.00	\$150,000.00

Project Non-Bid Subtotal	\$150,000.00
---------------------------------	---------------------

Version 1-P Project Grand Total**\$794,077,284.17**

APPENDIX Q

CORRIDOR-LEVEL CONOPS & PSEMP



Corridor Level Concept of Operations

Interstate 95 Corridor Planning Study

Version: 1.0

Approval date: insert approval date



District Six

Concept of Operations for Interstate 95 Corridor Planning Study Ver 1.0 (August 2019)

DOCUMENT CONTROL PANEL		
File Name:	I-95 Corridor Planning Study ConOps	
File Location:	K:\FTL_TPTO\040006342-SR 9A I95 US 1 Broward & Dade Line\SEMP	
Version Number:	1.0	
	Name	Date
Created By:	Gregg Letts, P.E., Kimley-Horn	7-5-2019
Reviewed By:	John McWilliams, P.E., Kimley-Horn	7-15-2019
	Greg Kyle, AICP, Kimley-Horn	8-5-2019
Modified By:	Gregg Letts, P.E., Kimley-Horn	8-9-2019
Approved By:	<i>[insert approver name, organization]</i>	<i>[insert approval date]</i>

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List of Acronyms and Abbreviations

23 CFR 940	Federal Rule for ITS Planning and Architecture Development
AVI	Automatic Vehicle Identification
ConOps	Concept of Operations
CCTV	Closed-Circuit Television
CPS	Corridor Planning Study
DDI	Diverging Diamond Interchange
DMS	Dynamic Message Sign
EL	Express Lanes
EOR	Engineer of Record
ETC	Electronic Toll Collection
FDOT	Florida Department of Transportation
FHP	Florida Highway Patrol
FLATIS	Florida Advanced Traveler Information System
FTE	Florida's Turnpike Enterprise
GGI	Golden Glades Interchange
GPL	General Purpose Lanes
IRV	Incident Response Vehicle
ITS	Intelligent Transportation Systems
LOS	Level of Service
LSDMS	Lane Status Dynamic Message Sign
MDX	Miami-Dade Expressway Authority
MOT	Maintenance of Traffic
OTM	Operations Task Manager
PD&E	Project Development and Environmental
RCTO	Regional Concept for Transportation Operations
RISC	Rapid Incident Scene Clearance
RITSA	Regional ITS Architecture
RSS	Ramp Signal System
RTMC	Regional Transportation Management Center
SEFRTOC	Southeast Florida Regional TMC Operations Committee
SELS	Statewide Express Lanes Software
TADMS	Toll Amount Dynamic Message Sign
TAS	Toll Amount Sign
TIM	Traffic Incident Management
TMC	Transportation Management Center
TSM&O	Transportation Systems Management and Operations
VDS	Vehicle Detection System
WGS	Warning Gate System

1. Overview

This express lanes Concept of Operations (ConOps) template is based on IEEE Guide for Information Technology – System Definition – Concept of Operations Document (IEEE Std 1362-1998) dated March 19, 1998. The content of the ConOps follows the guidance identified in the [Express Lanes Handbook](#) as is discussed in further detail throughout this express lanes ConOps template.

For express lanes (EL), there are three levels of ConOps: regional, corridor, and project. Each region of the state that is planning and or implementing EL projects develops a Regional Concept for Transportation Operations (RCTO). The RCTO is developed prior to the Project Development and Environment (PD&E) process and provides a high-level regional vision for the proposed EL network and associated Transportation Systems Management and Operations (TSM&O) strategies. Corridor level ConOps are developed as part of the PD&E process and includes how the corridor will be implemented and phased over time. The project level ConOps is developed late in the PD&E process or during preliminary design and is specific to the project that will be designed and constructed. Refer to the [Express Lanes Handbook](#) for more information on the different types of EL ConOps.

The EL corridor or project ConOps is a planning-level document describing the operations, incident management, maintenance, stakeholder roles and responsibilities, connectivity, and integration of pricing and toll collection activities for the EL facility and associated systems. It is based on [Florida's Statewide Systems Engineering Management Plan \(SEMP\)](#), which outlines the roles and responsibilities for implementation and management of Intelligent Transportation System (ITS) projects. Stakeholders include operators (i.e., Transportation Management Centers), emergency responders, law enforcement, maintenance providers, local governments, transit agencies, customers, and others as deemed necessary by the Department for successful operations and maintenance (O&M) of the subject EL project. The ConOps determines the geographical and physical extent, user needs, sequence of activities performed, and the development, operations, and maintenance of the EL system.

If the EL project involves a direct connection between two EL facilities, the following is considered:

- If the direct connection is a separate project distinct from the adjoining EL facilities projects, then a ConOps specific to the direct connection is required; or,
- If the direct connection is part of one of the adjoining EL projects, the connection is included in that project and references the ConOps of the other EL facilities.

The EL project ConOps is a living document “delivered” before progressing to the system requirements and design phases and as such is updated as the various components of the project are implemented, tested and deployed. It is typical for additional changes to the user needs and project concept to occur in subsequent project phases; however, changes made later in the project need to be managed carefully as they result in greater cost.

The ConOps reflects the latest scope of the EL system and is aligned with the system requirements, design and implementation to confirm successful system testing, system validation, operations and maintenance.

The audience for the document includes all the stakeholders involved with the various components of the project, including implementers, operators and maintainers, as well as law enforcement and first-responders. The audience can be a variety of people or users with various levels of technical knowledge. The document is written using layman's English to define technical terms.

A corridor or project level EL ConOps follows this template. The first section of the EL ConOps document provides three elements: system identification; an overview of the document; and, a high-level overview of the proposed system.

1.1 Identification

This corridor-level ConOps document (i.e., Planning/Pre-PD&E phase) describes the operational requirements for the Interstate 95 (I-95) corridor within Miami-Dade County (study area). The southern extent of the project limits is at State Road (SR) 5/US 1/Dixie Highway and SW 16 Avenue in the City of Miami, which is approximately one-half mile south of the terminus of I-95. The northern extent of the project limits is the Broward/Miami-Dade County line, north of Ives Dairy Road. The eastern and western project limits for most of the corridor consists of one adjacent signalized intersection east and west of the I-95 interchanges, referred to as the interchange influence area. Project limits were extended at some interchanges due to the complexity of traffic operations, such as the Golden Glades Interchange (GGI) and SR 970/Downtown Distributor.

The corridor was divided into five segments for purposes of conceptual improvement development (see **Figure 1**):

1. Central Business District - SR 5/US 1/Dixie Highway to north of the SR 836/I-395 interchange (CBD)
2. North of the SR 836/I-395 interchange to north of the SR 112/I-195 interchange (South)
3. North of the SR 112/I-195 interchange to south of the GGI (Central)
4. Golden Glades Interchange (GGI)
5. North of the GGI to the Broward/Miami-Dade County line (North)

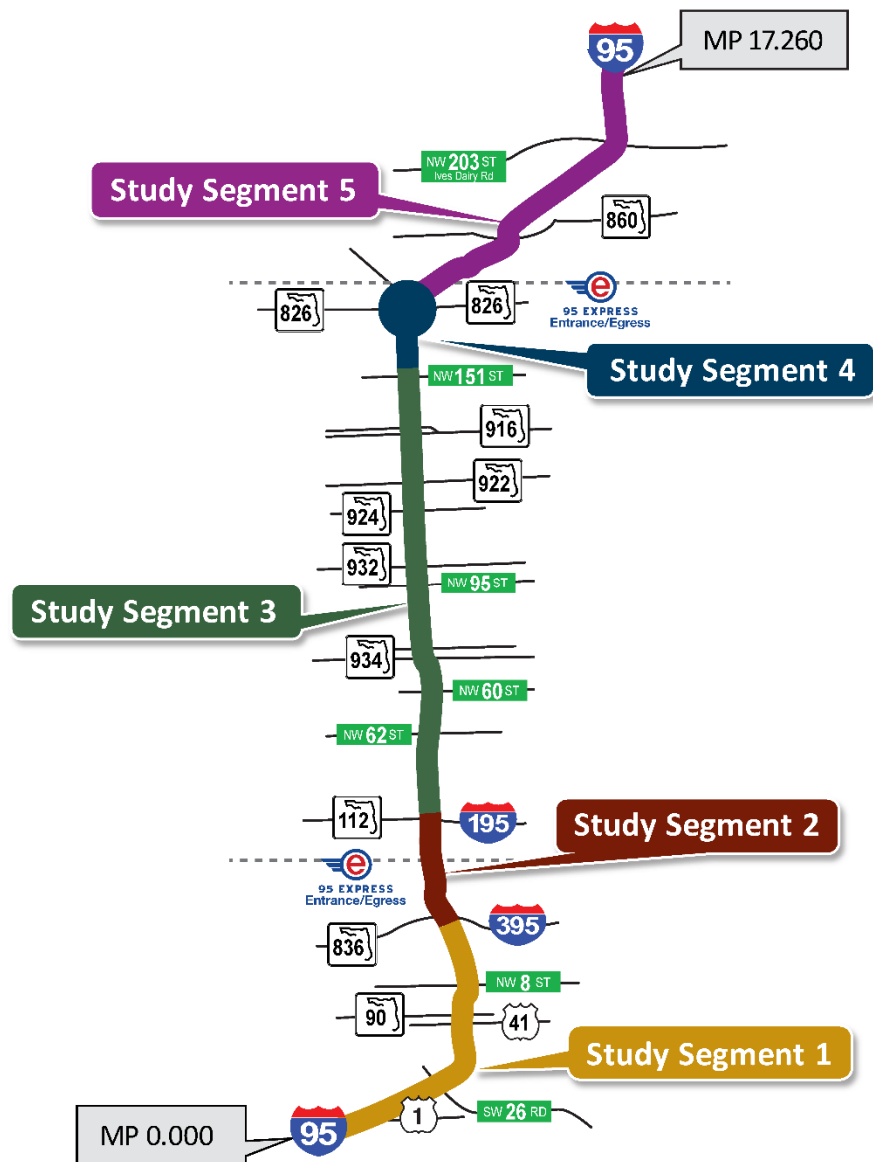


Figure 1: I-95 Corridor Planning Study Project Limits

Each EL project contains multiple components with existing subsidiary documents or in some cases existing ConOps for statewide platforms such as tolling systems, toll collection, and pricing software. All related ConOps documents are described in a hierarchical manner, identifying the position of this document relative to other ConOps or related subsidiary documents as shown in **Table 1**.

Document ID	Title of ConOps or Related Document	Summary of Contents
(Financial Project ID)	95 Express Concept of Operations_121908	Primary ConOps introducing express lanes and ramp metering to I-95 in Miami-Dade County.
422796-1-52-01; 422796-2-52-01	95 Express Lanes Phase 2 Concept of Operations FINAL (April 18, 2015)	14-mile extension of initial project along I-95 to Broward Blvd. in Broward County; adding four new tolling locations.
437053-1; 437053-2; 437053-3; 437053-4; 437053-5; 428358-1; 428358-4; 428358-5; and, 428358-8.	GGI Improvements ConOps_Overall Final 4.20.18	System-to-system EL Direct Connect ramps; Supplemental ITS; New Tolling (dynamic plus static)

Table 1: Format for Identification of all Concept of Operations or Related Subsidiary Documents for the Express Lanes Project

1.2 System Overview

1.2.1 Purpose of the System

The purpose of the I-95 Corridor Planning Study (CPS) is to develop and evaluate improvement concepts and perform a planning level operational analysis for the I-95 corridor within Miami-Dade County. The analysis includes the evaluation of the study interchanges, interchange influence areas, and ramp junctions. The purpose of the evaluation is necessary to identify deficiencies focusing on recurring bottlenecks along the I-95 mainline and to develop a series of proposed improvements to address the existing and future demands in the corridor.

1.2.2 High-Level System Overview

The final concept being recommended for PD&E phase includes additional EL capacity (i.e., a third EL in each direction) from SR 112/I-195 to south of the GGI and two continuous EL beginning at the southern end of the GGI Flyover and continuing north to the Broward/Miami-Dade County line. This is in addition to mainline geometric and interchange improvements throughout the I-95 corridor. The concept minimizes modifications to programmed/planned improvements from other projects at SR 90/SW 7/8 Street, SR 836/I-395, SR 924/SW 119 Street, and the GGI. The goal for the concept was to provide additional mainline and interchange capacity while minimizing right-of-way acquisition/impacts and construction costs. General design parameters include a 12-foot travel lane width, 10-foot wide EL inside shoulders, and a 4-foot buffer with express lanes markers (ELMs) between the EL and general purpose lanes (GPL). In addition to the physical geometric improvements, the CPS expands the following existing ITS system components, as shown in the 95 Express Systems Overview diagram (**Figure 2**):

Concept of Operations for Interstate 95 Corridor Planning Study Ver 1.0 (August 2019)

- Dynamic Message Signs (DMS) System
- Vehicle Detection System (VDS)
- Closed-Circuit Television (CCTV) Camera System
- FDOT Statewide Express Lanes Software (SELS)
- Electronic Toll Collection (ETC) System
- Warning Gate System (WGS)

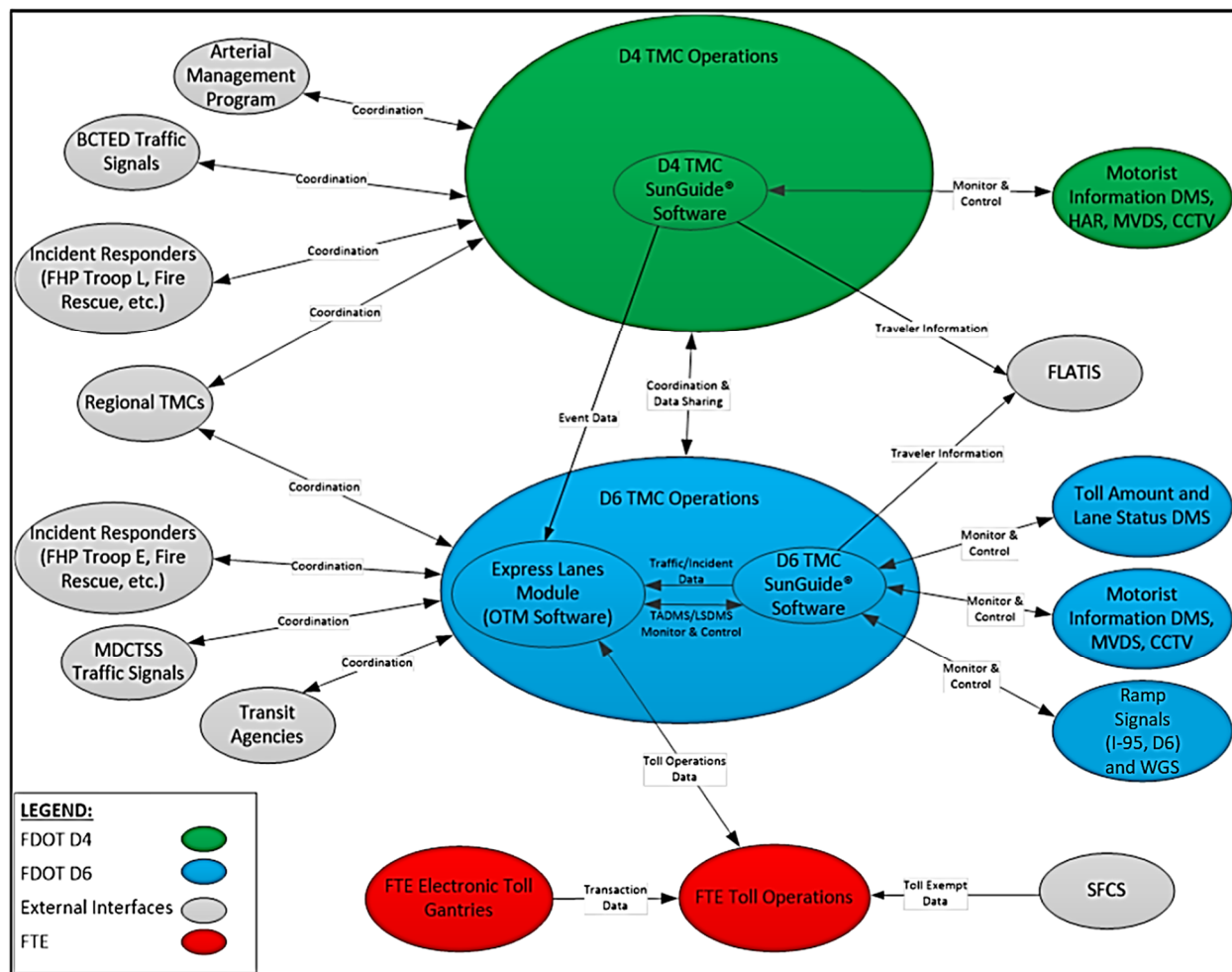


Figure 2: 95 Express Systems Overview

1.2.3 System Ownership and Operations

The corridor will be managed and operated by the Florida Department of Transportation (FDOT) District Six SunGuide® Transportation Management Center (D6 TMC). The D6 TMC will use the statewide SunGuide® software to monitor and control the ITS field devices. The toll operations functionality will be controlled through the FDOT Statewide Express Lanes (SELS) software as part of the Operations Task Manager (OTM) software. OTM interfaces with the SunGuide® software and the Florida's Turnpike Enterprise (FTE) back office software. FDOT D6 will utilize their respective contracts/resources for:

- TMC Operations
 - Freeway Operations
 - EL Operations
 - Ramp Signaling Operations
 - Arterial Operations
 - TMC Public Information
 - IT/Network Maintenance
- Incident Management
 - Road Rangers
 - Incident Response Vehicle (IRV)
 - Florida Highway Patrol (specific to EL)
- ITS Maintenance
- Roadway Maintenance

Florida Highway Patrol (FHP) and local police/fire rescue agencies will provide emergency response for the entire corridor. The FHP will also be responsible for enforcement in the field and along the EL as part of a Hireback Program.

Toll setting (via dynamic congestion pricing) will be the responsibility of the D6 TMC. Toll collection will be the responsibility of FTE, including the maintenance of the toll collection equipment on the toll gantries and within each toll building.

Refer to **Table 2** in Section 3.4 for the summary of existing stakeholder roles and responsibilities and **Table 3** in Section 5.6 for a high-level view of the Typical Responsibility Matrix for an FDOT District-maintained EL facility.

2. Referenced Documentation

The following documentation is referenced as part of the I-95 Corridor Planning Study Concept of Operations:

- FDOT Express Lanes Concept of Operations Template, 2018
- 95 Express Lanes Phase 2 Concept of Operations for I-95 from Golden Glades Interchange to Broward Boulevard, April 18, 2015

- Concept of Operations for Golden Glades Interchange Improvements Project_Overall FINAL, April 16, 2018
- SR 826/Palmetto Expressway E-W Express Lanes Concept of Operations, updated October 2017.
- Southeast Florida Express Lanes Regional Concept for Transportation Operations (RCTO), dated May 2014
- FDOT Express Lanes Handbook, dated April 2015.
- 95 Express Lanes Phase II Business Rules (Revision 7), dated March 8, 2016
- Operations Task Manager (OTM) User Manual (SELS), 8/17/2017
- <http://sunguide.info/index.php> (accessed 6/10/19)
- www.95express.com (accessed 6/10/19)

3. Existing System and Current Situation

3.1 Background, Objectives, and Scope

FDOT D6 began operating 95 Express Lanes (95X) 24 hours per day, seven days per week, within the study area in 2008. The EL are dynamically tolled using congestion-based pricing and offer a choice to commuters for travel through the corridor. The existing EL facility within Miami-Dade County has two tolling points in each direction (northbound and southbound) and its reported peak periods are 6 a.m. to 9 a.m. and 4 p.m. to 7 p.m. The existing access locations (i.e., ingress/egress) for each direction within the study area are as follows:

Northbound Ingress (Entry)

- I-95 northbound mainline at approximately NW 29 Street
- NW 39 Street (eastbound) direct connect ramp (with access from NW 10 Avenue, northbound and southbound)
- SR 112 (eastbound) direct connect ramp
- I-95 northbound mainline south of SR 860/Miami Garden Drive

Northbound Egress (Exit)

- I-95 northbound mainline at NW 151 Street
- GGI Park & Ride Lot direct connect ramp
- I-95 northbound mainline south of Ives Dairy Road

Southbound Ingress (Entry)

- I-95 southbound mainline south of Ives Dairy Road
- GGI Park & Ride Lot direct connect ramp
- I-95 southbound mainline at NW 151 Street

Southbound Egress (Exit)

- I-95 southbound mainline south of SR 860/Miami Gardens Drive
- SR 112 westbound
- I-95 southbound mainline at approximately NW 29 Street

This CPS identified a refined concept that would expand on the existing EL network. The objectives are to increase capacity through the I-95 corridor, complete key system-to-system interchange connections, as well as provide additional EL facility connections. See Section 4.2 for the description of the proposed changes to the corridor.

3.2 Operational Constraints

3.2.1 Capacity Limitations

Within the Miami-Dade County project limits, I-95 currently experiences AM peak period congestion in the southbound direction and PM peak period congestion in the northbound direction. The current Average Annual Daily Traffic (AADT) on I-95 within Miami-Dade County ranges from 203,500 to 225,000 vehicles per day and geometrically suffers from bottleneck locations in both directions approaching the GGI, including the express lanes tapering to a single-lane flyover with steep grades, slow speeds and high demands. By the year 2045, AADT is projected to reach 365,000 vehicles per day; this increase in traffic will significantly exceed the capacity of I-95 within the project limits, causing a wider spread of congestion on the I-95 corridor.

3.2.2 Regional Considerations

A major goal for EL in Southeast Florida is the availability of choice for long-distance commuters. As the EL network continues to expand, regional connectivity increases in importance; allowing commuters an option to remain within the EL as they traverse each limited access roadway. This study's refined concept includes (as shown in Section 3.1) new express-to express direct connect ramps within the GGI; helping to meet regional connectivity goals. Regional constraints of this CPS include direct EL connectivity between major interchanges at the southern termini of the corridor. These are due to the geometry and structural elements of the corridor. Most ramps and interchanges would be proposed at elevations and ramp levels higher than currently allowable for EL tolling.

3.2.3 Transportation Systems Management and Operations

This CPS introduces new access points (ingress/egress) to the existing EL facility. The maximum destinations on a toll amount sign that can currently be displayed is three. The additional express-to-express ramps recommended between 95X northbound and the Palmetto Express (826X) westbound would create a fourth destination for commuters heading northbound in the first tolling segment of the facility. This may cause an operational constraint if a tolling solution cannot be identified to address the additional destination without introducing additional structures and a new decision point for commuters within the EL.

3.2.4 Resources

The reconstruction of the SR 112/I-195 and I-95/95X Interchange introduces new direct access ramps with I-195 to the east. FDOT D6 will need to identify and budget for additional emergency response resources (i.e., Road Rangers, IRV, and FHP) due to the new access ramps.

The new access ramp also adds new ITS infrastructure including DMS, cameras, detectors and possibly warning gates, which may require the Department to budget for additional ITS maintenance resources.

The FDOT has implemented a mature ITS Program along the project corridor that is operated from the FDOT D6 TMC located at 1001 NW 111 Avenue, in Miami-Dade County. The D6 TMC operates 24 hours per day/7 days a week and uses the statewide SunGuide® Software to monitor and control the field devices. The regional fiber optic communications network connects the TMC and the District field devices, as well as having a connection to FTE back office systems and neighboring Regional TMCs (RTMCs). FTE Tolls has dedicated buffer tubes along the fiber optic network.

The D6 TMC participates in the Southeast Florida Regional TMC Operations Committee (SEFRTOC) to coordinate operations at interchanges with roadways operated by other RTMCs (FDOT D4, MDX, and FTE). Through the SEFRTOC, procedures exist for incident coordination, information dissemination, and sharing data/video. Each RTMC acts as the command and control center for their respective ITS programs. FDOT D6 pertinent ITS to this CPS include field devices, software, incident management, traveler information, EL, and ramp signaling.

The existing 95X currently traverses 21 miles within Miami-Dade County and Broward County and the D6 TMC is responsible for setting tolls along all tolling segments in each direction, communicating toll amounts to the FTE back office services, and posting messages and toll amounts on all 95X-assigned DMS. FTE provides the Electronic Toll Collection (ETC) System for all EL throughout the State of Florida. This includes the toll gantry equipment, toll tag readers, toll building equipment, and all back-office software for account management and customer service. The D6 TMC coordinates with the FDOT D4 TMC, located at 2300 Commercial Boulevard in Broward County, on all events along the 95X corridor. Though D6 TMC is responsible for toll setting for all existing tolling segments in both counties, each district RTMC is responsible for its own incident management and resources.

FDOT D4 is currently expanding 95X to the north into Palm Beach County. This extension will modify the existing tolling segments in Broward County and will alter the limits of responsibility of the D6 TMC. The next phase of this CPS (i.e., PD&E Phase) should update the existing 95X system as it relates to FDOT D6 and the D6 TMC.

Throughout the CPS area, the D6 TMC owns, operates and maintains ITS field devices and a fiber-optic communications network. The devices include:

- **Closed-Circuit Television (CCTV) Cameras** – CCTV cameras are used for monitoring the roadways to support incident detection, verification and incident clearance verification. Within the CPS area, there currently are 117 CCTV, including some specifically used to verify messages on the DMS, called V-CCTV. V-CCTV are typically at a ratio of one-to-one with the DMS it is positioned to view. The CCTV cameras provide full coverage and support full pan, tilt, and zoom capability. CCTV video is shared among the TMCs through a regional fiber communication network. The video is shared with the public through the Florida Advanced Traveler Information System (FLATIS) or FL511.com website. Video

is made available to local agencies through the Miami-Dade County Communications network or a direct link to the D6 TMC. Media also has access to all the regional video through the D6 TMC. Video is also shared with the public and local agencies through real time video streams on the Districts' TMCs websites and Traffic Land.

- Dynamic Message Signs (DMS)** – The D6 utilizes 11 DMS' and 8 ADMS' (Arterial DMS) to provide motorists with event information that may impact the motorists' decision to divert into or out of the EL. These full color, three-line, full-matrix DMS are used to disseminate event information (incidents, lane closures, weather, etc.), safety messages, travel time messages, and special alerts to motorists along the I-95 corridor. All DMS are monitored and controlled via the SunGuide® Software DMS Subsystem. Additionally, the D6 TMC maintains and operates 29 Toll Amount DMS (TADMS) and 12 Lane Status DMS (LSDMS) to support the Toll Operations for 95X. The TADMS are attached to static signs containing the EL destinations. The static signs containing the TADMS are referred to as Toll Amount Signs (TAS). The TADMS are full color, 7-character DMS inserts which display the toll amounts for each destination. In addition to the toll amounts, they should be able to display "\$0.00" and "CLOSED". Each 95X entrance (ingress) has at least one TAS upstream of its ramp entrance. The LSDMS are attached to static guide signs for each EL entrance. They are full color, one-line, 18-25 characters DMS that typically display the operational status of the 95X, such as "TOLLS ENFORCED", "OPEN", "EXPRESS LNS CLOSED", or "CONGESTED". The "CONGESTED" messages are displayed when the EL performance drops below the target of an average speed of 45 miles per hour. Each 95X entrance from the I-95 GPL has at least three LSDMS attached to the 95X entrance ramp guide signs. The SR 112, NW 39th Street, NW 10th Avenue, and GGI Park and Ride Lot approaches to 95X do not have LSDMS.
- Microwave Vehicle Detection Stations (MVDS)** are used to monitor traffic operations and collect real-time traffic flow data including volume, speed, and occupancy. The data is also used to support the traffic management functions such as detecting incidents and archiving traffic data for transportation planning and reporting purposes. The D6 TMC operates and maintains 196 MVDS within the CPS area, which are spaced at approximately one-third mile spacing. The MVDS are also used to support toll setting. Traffic data is collected every 20 seconds and disseminated to the SunGuide® Software. The D6 TMC utilizes OTM software and SELS that uses the collected speed and volume data (within the EL only) to feed a dynamic tolling algorithm which calculates 95X tolls based on its 15-minute change in demand.
- Ramp Signal System (RSS)** – As part of the *95 Express Lanes - Phase 1 Project*, FDOT launched Florida's first RSS. Ramp signals are controlled through the SunGuide® Software from the D6 TMC. The RSS field components are shown in **Figure 3** and a similar design exists at each I-95 on-ramp in both directions along the corridor. The upstream, local, and downstream detectors are MVDS. The passage, demand and ramp queue detectors are inductive loop detectors. All of the detectors pass through the ramp signal controller to the SunGuide® Software. The ramp signal controller is a 170E type and it controls the signal heads located at the stop bar between the demand and passage detectors.

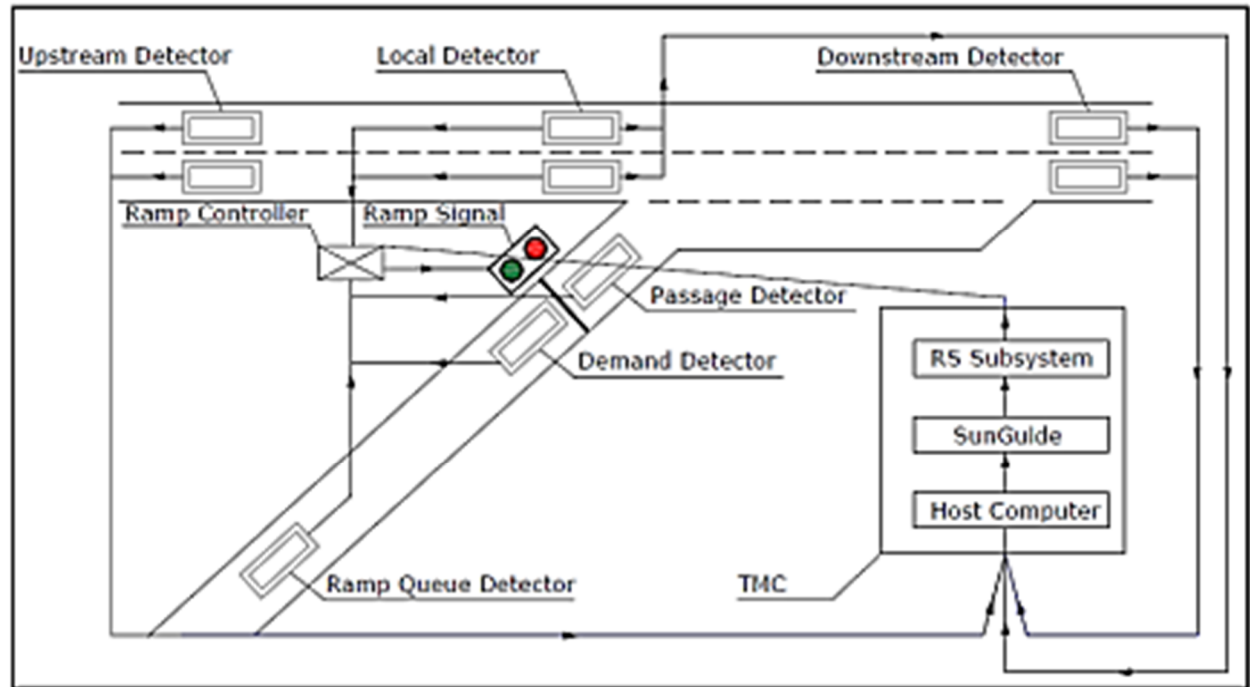


Figure 3: Ramp Signal System Components

- Warning Gate System (WGS)** - The WGS is a series of automated gates/signs that will be used to close access to 95X during incidents on the EL. The gates and signs will be in a master-slave configuration in the field for each location. The current WGS is comprised of three access (ingress/entrance) points located in Miami-Dade County: one at SR 112 eastbound for northbound 95X; one at the NW 39 St/NW 10 Ave direct access ramp for northbound 95X; and, one for the southbound 95X direct access ramp from the GGI Park and Ride Lot. The WGS can be operated either remotely from the D6 TMC using SunGuide® Software or directly in the field. The WGS is integrated into FDOT D6's existing fiber optic communications network and is powered by service locations. The WGS is maintained by FDOT D6 via an existing ITS maintenance contract.

3.2.5 TMC Software

The D6 TMC utilizes the SunGuide® Software. SunGuide® Software is FDOT's Statewide TMC software application for the control of ITS roadway devices, traffic and incident management, data collection, traveler information dissemination, as well as information exchange across a variety of transportation agencies.

The D6 TMC has GPS (AVI) devices on the Road Ranger vehicles that send GPS data to the SunGuide® Software to display and report on Road Ranger positioning. D6 TMC also has the OTM software that supports all aspects of the TMC operations: data collection, performance reporting, information dissemination, EL operations (including SELS), ramp signaling operations, Rapid Incident Scene Clearance (RISC) operations, Road Ranger break log, shifts change, communication logs, and ITS maintenance.

The D6 TMC has specific contractual operational performance measures that are tracked using the Operator Quality Control (OPQC) Database, which is also a component of OTM. OTM interfaces with the SunGuide® Software through a Databus communications that allows OTM to collect data from as well as send commands to the SunGuide® Software.

As part of OTM, the D6 TMC utilizes SELS to manage 95X toll setting. The dynamic, congestion-pricing tolling algorithm is based in SELS and utilizes the detector data (volume and speed) populated by the SunGuide® Software to compute changes in demand along the EL, which is used in combination with pre-configured level of services (LOS) tables to assign a toll to the facility for each tolling segment in each direction. The tolling algorithm is set to 15-minute intervals.

3.2.6 *Express Lanes*

Within the CPS, the D6 TMC manages two EL in each direction from approximately NW 29 Street to NW 151 Street (Segment 1) and from just south of Miami Gardens Drive to south of Ives Dairy Road (Segment 2). Segment 1 and Segment 2 are 7.3 miles and 1 mile, respectively. Within each segment, and in each direction, there is a toll gantry. There is one EL between Segment 1 and Segment 2 which incorporates the GGI Flyover ramps and one EL from the egress to Ives Dairy Road north to the Miami-Dade / Broward County line. The D6 TMC is responsible for toll setting, ITS maintenance and incident management along the I-95 corridor, including the EL.

3.2.7 *Toll Systems*

The tolling equipment within the CPS area (as it associated with Segments 1 and 2, as described in Section 3.3.2) is broken into two components: signing and tolling. The signing “system” is owned, maintained, and managed by the D6 TMC. Tolling messages including the status of the lanes and the toll amounts are disseminated to the DMS via SunGuide® Software.

The tolling equipment is owned and maintained by FTE. Customers of 95X are required to own and place in their vehicle a transponder that is an associated with the SunPass® tolling system. FTE uses the tolling equipment on the gantry within each segment to identify the customer using 95X and associates the effective toll at the time of them passing under the gantry to their individual account. FTE owns and operates their own ‘back-office’ software that manages the toll collection process.

95X also uses a method of “locking in” a customer’s toll in downstream tolling segments called Trip Building. 95X shows the toll amount for up to three destinations at any point of entry (ingress). The destinations are listed from top to bottom in order of closest to furthest distance. The toll amount shown on the DMS associated with each destination is the sum of the effective tolls at the time a customer enters the system. When a customer is “read” when passing his/her first toll gantry, their time stamp is recorded by the FTE tolling equipment and all downstream tolling segments associated with their entry location are locked in. If, however, the toll amount decreases on any given tolling segment they traverse during their “locked in” trip, the customer gets the benefit of the lower toll amount.

3.2.8 Incident Management

Existing incident management efforts along the CPS area include four key program elements: TIM Teams, Road Rangers, RISC, and IRV Operations. All these resources are managed by the D6 TMC. These resources are established throughout and will need to be expanded based on the CPS. As the project(s) continue to be refined and developed, the Engineer of Record (EOR) will need to identify and expand on these resources in future phases.

3.2.9 Enforcement Activities

The CPS area is enforced by FHP, Troop E, which includes the GPL and the RSS. Additionally, the D6 TMC utilizes a contract mechanism called the FHP Hireback Program in which FHP patrols 95X exclusively. The provide enforcement activities including speed, lane-diving (crossing illegally over the ELMs), illegal entry into the EL when the facility is closed, and High Occupancy Vehicle (HOV) and transponder misuseage.

3.2.10 Customer Service Activities

In addition to the DMS, FDOT provides additional traveler Information through a Statewide 511 System known as FLATIS. FLATIS provides traveler information via a website (www.FL511.com), a mobile application and an Interactive Voice Recognition (IVR) system by dialing 511. FLATIS is populated from information provided by both D4 and D6 TMCs via the SunGuide® Software. FLATIS provides users up-to-the minute reports on traffic events, regional travel times, construction events, links to other agencies and more. Snapshot images of CCTVs are also provided via the FLATIS website.

3.3 Stakeholders

The primary users of the CPS area are personal vehicle, transit, and commercial traffic. In addition to the motoring public, there are stakeholder agencies that play a critical role in the operations along the project corridor. **Table 2** provides a high-level description of the stakeholders affected by this project in addition to their roles and responsibilities.

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Table 2: Summary of Existing Stakeholder Roles and Responsibilities

Stakeholder Internal	Roles and Responsibilities
FDOT District 6 Operations	<ul style="list-style-type: none"> • Monitor corridor for congestion and incidents • Operation of EL facilities • Operate and maintain traffic management system components • Receive regular system status reports • Provide corridor Service Patrol • Develop and refine ramp metering operational strategies • Operate the Ramp Signaling System (RSS) • Operate the Warning Gate System (WGS)
Central Office	<ul style="list-style-type: none"> • Statewide guidelines on traffic and incident management • Statewide Florida 511 program • Statewide data sharing • Statewide regulations on traffic operations • SELS and SunGuide change management
Florida's Turnpike Enterprise	<ul style="list-style-type: none"> • Monitor corridor for congestion and incidents • Operation of EL facilities • Operate and maintain traffic management system components • Receive regular system status reports • Provide corridor Service Patrol • Operation, maintenance and marketing of Florida SunPass® services • Specification, development, and maintenance of open road tolling hardware including antennas, gantries, readers, communications and other infrastructure • Customer support including call center and account management
Florida Highway Patrol Troop E	<ul style="list-style-type: none"> • Partner in developing operational procedures • Enforcement of traffic laws • Incident scene management if Fire/Rescue services are not present • Enforcement of regulatory displays at ramp meter signals
Local and County Public Safety Agencies (Miami-Dade County Fire and Miami-Dade Police Dept.)	<ul style="list-style-type: none"> • Management of incident scenes in partnership with FHP • Provide emergency care and rescue services at incident sites • Provide fire containment and initial HAZMAT response and containment • Provide emergency medical care • Transport injured from incident scene to hospital
Local and County Transportation Agencies (Miami-Dade County Traffic Division)	<ul style="list-style-type: none"> • Manage regional traffic control efforts and assist in coordinating traffic across boundaries along alternate routes • Coordinate with other regional agencies during emergencies and evacuation for emergency traffic control in the event of freeway / expressway closure • Coordinate transit signal priority (TSP) services utilizing bus location data on parallel corridor routes

Concept of Operations for Interstate 95 Corridor Planning Study Ver 1.0 (August 2019)

Stakeholder Internal	Roles and Responsibilities
Public Transit Agency (Miami-Dade Transit and Broward County Transit)	<ul style="list-style-type: none"> • Provide bus and rail transit services in corridor including Express Bus • Provide and maintain park-and-ride facilities adjoining corridor supporting Express Bus • Provides service alerts and advisories • Provides next train arrival times • Provides next bus arrival times
Federal Highway Administration	<ul style="list-style-type: none"> • Provide funding support for key projects • Provide technical and procedural oversight for ITS and other program compliance on projects with Federal funding and/or on Interstate system
Miami-Dade Transportation Planning Organization (TPO)	<ul style="list-style-type: none"> • Develop Constrained Long-Range Transportation Plan, Transportation Improvement Plan and/or Regional Transportation Priorities Plan (typical) • Champion the enhancement of transportation systems management and operations for all agencies in region

Table 2 (Continued): Summary of Existing Stakeholder Roles and Responsibilities

3.4 Support Environment

The existing ITS systems are maintained by contractors managed from the D6 TMC. The ITS maintenance contract includes preventative and emergency repair services, separately for EL versus non-EL ITS devices. The ITS maintenance contractor has performance measures for responding to and resolving failures depending on the nature of the failure (e.g., critical versus non-critical). These services are tracked via the OTM software, also operated out of the D6 TMC.

FDOT D6 provides roadway maintenance/asset maintenance for I-95 within Miami-Dade County. The Road Rangers in Miami-Dade County are managed through the D6 TMC. FDOT D6 roadway maintenance contractors are contracted to maintain the system according to a level of service established within their respective scope of services. FTE has maintenance contracts with vendors to provide maintenance on the ETC.

4. Justification and Nature of Changes

4.1 Justification for changes

The I-95 CPS developed and evaluated improvement concepts during a planning level operational analysis for the I-95 corridor within Miami-Dade County. The study, conducted between 2018 and 2019, proposed a refined build concept that will be further evaluated during three future PD&E studies that will encompass the entirety of the corridor. The CPS concluded that new design features will need to be incorporated into each segment. These features will include:

- Interchange improvements at the Rickenbacker Causeway on-ramp and SR 970/ Downtown Distributor
- Incorporate 4' EL/GPL striped buffer
- New Wynwood/ Health District interchange

- Major interchange improvements at I-195/SR 112
- New direct EL connections to/from I-195
- At-grade widening to provide for three EL in each direction
- Consolidate closely spaced interchanges, with a collector-distributor system from NW 95 Street to NW 135 Street
- New direct EL connections to/from 826X at the GGI
- Widen EL flyover at GGI to provide two EL in each direction
- Interchange improvements at Miami Gardens Drive and Ives Dairy Road (DDI)
- Improve GPL southbound merge area at Ives Dairy Road

These improvements will be further evaluated in subsequent PD&E and Design Phases. These phases will further evaluate the ITS infrastructure and support required to manage the transportation network. At this stage of the CPS, these are the design elements that were considered when developing this ConOps.

Other design features that are applicable to the entire corridor include:

- Match programmed improvements being addressed in PD&E studies throughout the corridor.
- Minimize impacts to already approved project concepts currently in PD&E or design.
- Maintain existing ramps and connections that are deemed critical.
- Address geometric deficiencies where feasible.
- Incorporate interchange improvements where cost feasible.
- Reduce ‘throw away’ improvements at the GGI

Three PD&E studies will be conducted following the CPS to further evaluate all concepts and systems identified in this ConOps.

4.2 Description of the Desired Changes

The CPS identified improvements that will create additional capacity throughout the corridor, enhance regional connectivity, and increase safety of motorists. The development of these improvements during the PD&E and design phase will need to include ITS infrastructure and the proper resources to manage, operate and maintain the corridor. These additional systems and assets include, but are not limited to:

- Additional ITS Infrastructure – Due to the additional capacity, new roadway geometry, and enhanced connectivity the replacement and enhancement of ITS devices (CCTV cameras, DMS, Tolling equipment, etc.) will be necessary for infrastructure impacted during construction and when considering the additional capacity and enhanced connectivity.
- Additional operations staff – Proper staffing levels will need to be provided based on network coverage, operational strategies, and necessary coordination with external partners. Activities anticipated to be considered for expansion and further evaluation at this stage of project development include:

- Network coverage to provide 24/7/365 management of EL, GPL, messaging, and monitoring
 - Incident management response, resources and personnel
 - Enhanced performance measurement, analysis, and reporting
 - Engineering and operational analysis
 - IT support
 - Public information and outreach
- Additional ITS maintenance staff – Due to new infrastructure and additional devices being utilized for the future conditions, an evaluation of current maintenance staffing levels should be performed. A preliminary evaluation should be performed during the PD&E Phase to determine additional resources and personnel necessary for established maintenance protocols.

4.3 Change Priorities

At this time, no change priorities have been identified. The CPS associated with this ConOps is a part of the overall development to improve the operational capacity of I-95. The segments that were considered while developing this document will be further evaluated during three PD&E studies that are programmed in fiscal year 2021 and 2022. The future projects associated with the CPS will require extensive coordination and an all-encompassing approach to consider the infrastructure and operational changes that are a result of the future work.

4.4 Changes Considered but Not Included

Proposed changes identified in the CPS will be further evaluated during the PD&E Phase. At that time any proposed changes will be further evaluated to determine their validity for inclusion to move on to the design phase. This section will be expanded upon in each subsequent phase as individual projects are developed.

4.5 Assumptions and Constraints

The changes that are identified in the CPS will be further evaluated during the subsequent phases of project development. For the purposes of this ConOps high-level assumptions were identified, including the following:

- Additional resources for TMC Operations, Incident Response, Engineering/Technical Support, Public Information, and ITS Maintenance will be budgeted to achieve and maintain the project's goals.
- A comprehensive public information campaign will be developed to assist commuters with new I-95 GPL and 95X access locations at the SR 112 / I-195 Interchange, as well as for the new system-to-system (express-to-express) ramps between 95X south of the GGI and 826X.
- No changes in tolling procedures, nor additional software development will be needed to facilitate the new 95X access locations.

- Any existing mutual aid agreements will be evaluated, and new agreements will be developed to support any improvements made through direct connections.
- The systems and components required to operate and manage the system are defined in the RITSA or will be updated to be included as needed.
- The performance measures that are currently in place will be carried over to any new components, connections, or systems to serve as the basis for future evaluations and assessments.

4.6 System Validation

A system validation plan will be developed during the design phase, by the design EOR for each project generated from the I-95 CPS.

5. Concepts for the Proposed System

5.1 Operational Policies and Constraints

With the regional EL network growing and system to system connectivity improvements, the need to establish business rules, operational constraints, system configurations, and relationships to the RITSA and SITSA is essential. Specific details related to the EL diagrams which portray the layout of access points, dynamic signing, and toll gantry locations will be developed in the PD&E studies that will follow the CPS.

5.1.1 Operational Policies/Business Rules

FDOT established the initial business rules and operational policies for the 95X network during the deployment of Phase 1 of the system in 2008. These policies and business rules were updated for 95 Express Lanes Phase 2. The operational policies and business rules of future condition of the corridor will follow what is currently in place to ensure the goals and outcomes of the projects associated with the CPS are consistent.

FDOT is expanding the EL network across the State and therefore has established guidance and policy decisions that enable the operations of these facilities. The existing guidance and policy decisions are contained in the following documents:

- Florida Administrative Code 14-100.003 (Toll Rule) was established in 2008 and was amended on April 10, 2017. Additional Operating Policies include:
 - o Vehicle Eligibility – No trucks or utility/boat trailers will be allowed in the EL. All buses are allowed in the EL and are the only three-axle vehicle permitted.
 - o Enforceability for facility closures – Full color matrix DMS is the preferred sign type for EL projects. The regulatory sign message on the TADMS will be “CLOSED” using black background with white lettering. For the LSDMS, the sign message will be “EXPRESS LNS CLOSED” using black background with white lettering.
 - o Vehicle/Toll Exemptions – Only the limits of the Urban Partnership Agreement (UPA) (I-95 from I-395 in Miami Dade County to I-595/Broward Boulevard Park-

and-Ride Lot in Broward County) will allow exemptions for registered carpools with 3+ occupancy and registered buses.

- FDOT Central Office Express Lanes Handbook – This document was developed to provide statewide guidance in supporting regional transportation solutions. The contents of this document represent actions that need to happen on a statewide level and are developed to encourage the Consistent, Predictable, Repeatable (CPR) process. This handbook contains information related to planning and implementation of EL facilities and defines the use of data toll gantries. The handbook is considered a “living document” and will be modified and updated accordingly.
- 95 Express Lanes Phase 2 Business Rules Technical Memorandum - The business Rules document was developed to ensure regional operating consistency and are located in Appendix A. The business rules primarily focus on elements that affect how tolls are charged for various scenarios. The Business Rules Memorandum defines the following concepts and their impacts to tolling:
 - o Operating Modes
 - o Trip Tolls
 - o Toll Adjustments
 - o Special Cases
 - Closed Operations
 - Detector Malfunction
 - TADMS Malfunction
 - Stuck Segment Toll
 - Stuck Maximum Trip Toll
 - LSDMS Malfunction
 - Verification CCTV Camera Failures
 - FTE Communications Complications
 - Toll Setting Software Start-Up
 - Operating Mode Changes

5.1.2 Possible Constraints

The possible constraints for the proposed system include:

- Funding for EL O&M will be provided from toll revenues. It is critical to the success of the project that adequate funding levels for the additional resources are allocated to ensure the performance targets are met.
- Direct connection ramps are currently proposed to connect I-95, I-195, and SR 826. These connections will require operation policies and procedures to facilitate adequate ramp signage. Toll pricing will need to be further evaluated and agreed upon between FDOT D6 and FTE.
- Tolls exemption policies will need to be further investigated as new connection are made to ensure the exemptions promote efficient use of the system while achieving the expected goals and outcomes. These exemption policies shall be in accordance with FAC Rule 14-100.004 and will be further evaluated in the PD&E studies that follow this planning effort.

5.2 Description of the Proposed System

The Project limits are along I-95 from SR 836/I-395 in Miami-Dade County to Miami-Dade/Broward County Line. EL will run along the median, with buffer separation from the local lanes, within the project limits improving capacity and operating conditions throughout the project corridor. Dynamic, congestion-based pricing will be used to manage demand in the EL. Upon completion, the portion of 95X that the D6 TMC will manage will have three EL segments in the northbound I-95 direction, each with standard 12-foot wide lanes and 10-foot wide inside shoulders. The D6 TMC will manage two EL segments along the I-95 southbound direction, with similar geometrical characteristics as the northbound segments. Tubular delineators (ELMs) will separate the 95X from the GPL.

To improve operations of the above mentioned physical geometric improvements, 95X should also include, at a minimum, the following ITS system components in addition to the existing systems and devices:

- DMS System
- VDS
- CCTV Cameras System
- SELS Improvements
- ETC System (Gantries and Back Office)
- WGS
- RSS

The project is consistent with the South Florida RITSA that is defined for FDOT D6. The South Florida RITSA includes Market Packages related to the deployment of EL and RSS. The following Market Packages are used to define the Project ITS Architecture:

- ATMS02 Network Surveillance
- ATMS04 Freeway Control
- ATMS06 Traffic Information Dissemination
- ATMS07 Regional Traffic Control
- ATMS08 Traffic Incident Management System
- ATMS09 Traffic Forecast and Demand Management
- ATMS10 Electronic Toll Collection
- ATMS21 Roadway Closure Management

These system and devices, including the enhancement of existing systems and devices, will be further evaluated during the PD&E phase of the three projects that will follow the CPS.

5.2.1 *Dynamic Message Signs (DMS) System*

The project will include additional DMS in two functional areas as described below:

- Information Dissemination - The D6 TMC EL Operators will use the DMS to provide motorists with event information that may impact the motorists' decision to divert in to or out of the EL. They will also be used for travel times, vehicle alerts, safety messages, construction, and other messages approved by FDOT in accordance with the District's TMC standard operating procedures.
 - o DMS – will be placed in GPL prior to each ingress ramp into the EL and in the EL prior to each egress ramp out of the EL. The DMS will be controlled by the District TMC SunGuide® Software. DMS messages will be generated by the SunGuide® Software and will be associated with specific events created in the SunGuide® Software. The DMS located in Miami-Dade County will be integrated into D6 TMC network.
- Toll Operations
 - o Toll Amount DMS (TADMS) – The TADMS are attached to static signs containing the EL destinations. The static signs containing the TADMS are referred to as Toll Amount Signs. These signs display the toll amounts for each destination and monitoring and control functionality will be provided by the SELS, SunGuide® DMS Subsystem. In addition to the toll amounts, they should be able to display “\$0.00”, “CLOSED”, and “TEST”. They should be designed to provide a high degree of reliability and availability.
 - o Lane Status DMS (LSDMS) – The LSDMS are attached to static guide signs for the EL entrance. They typically display the operational status of 95X, such as “TOLLS ENFORCED”, “OPEN”, “EXPRESS LNS CLOSED”, or “CONGESTED”. The LSDMS will be controlled by the SELS, SunGuide® DMS Subsystem. The “CONGESTED” messages are displayed when the 95X performance drops below the target of an average speed of 45 miles per hour.

5.2.2 *Vehicle Detection System (VDS)*

The VDS will collect real-time traffic volumes, speeds, and occupancy data. The raw detector data will be processed to reduce erroneous data from the data set before it is fed into the dynamic pricing algorithm for calculating tolls. The VDS will be integrated into the TMC's SunGuide® Software for collecting and storing the raw data. This data will also be used by the D6 TMC Operators to detect incidents and can be used to post travel times. The VDS in the EL requires a higher level of accuracy and reliability as they play a critical part of determining tolls to be charged. The accuracy of the detectors should be 95% for speed, volume, and occupancy regardless of direction. When detectors are not providing the required level of accuracy, then they will be removed from the data fed into the dynamic pricing algorithm. The vehicle detectors within operational segments will be on the D6 TMC network and will be used to monitor traffic conditions, toll setting and reporting by D6 TMC. VDS should have a typical detector spacing of one-third (1/3) mile.

5.2.3 Closed-Circuit Television (CCTV) Cameras System

The additional CCTV cameras will be integrated into the existing CCTV control software used by the FDOT D6 TMC. The D6 TMC Operators will use the CCTV to quickly detect, verify, and monitor incidents in both the EL and GPL. The CCTV cameras will also be used by the D6 TMC EL Operators to confirm the messages and toll amounts posted on all DMS. The CCTV camera should be designed to provide 100% coverage of the EL and GPL.

It is the Department's goal to have one dedicated verification CCTV for each DMS within the project limits. The TADMS and LSDMS will be configured to the D6 TMC SunGuide® Software and will be used by D6 TMC EL Operators to confirm the messages posted. The CCTV camera will be used for incident management in Miami-Dade County along 95X and GPL and will be on the D6 TMC network.

5.2.4 Ramp Signal System (RSS)

The existing RSS will continue to be operated by the D6 TMC. The inclusion of additional RSS locations and components will be further evaluated during the PD&E phases that follow the CPS.

5.2.5 Warning Gate System (WGS)

FDOT D6 currently operates and maintains a WGS as it relates to specific ingress (entrance) locations for 95X in Miami-Dade County. The I-95 CPS currently recommends to expand on the WGS with the introduction of a new ingress location at I-195 westbound.

5.3 Incident Management Concepts

The following sections provide guidelines for the incident management concepts that will need to be considered during the PD&E and Design phases associated with the CPS. The final build conditions that are considered during the PD&E and design phases must maintain, or improve, the existing incident management concepts in place along the corridor.

5.3.1 Emergency Access

Emergency access along the Project corridor will be continuous because tubular delineators will be used to separate the EL from the General-Purpose Lanes. Any changes to access for the EL, regarding emergency management, must be evaluated by incident management stakeholders and all first responding agencies (FHP, Fire Rescue, Emergency Medical Services (EMS), etc.) prior to being incorporated in the final design conditions.

5.3.2 Staging, Investigation Areas, and Emergency Stopping Sites

Staging areas exist within the corridor at key locations for Road Rangers, IRV, and FHP. D6 utilizes a specific area within the GGI Park and Ride Lot for its investigation area. Additionally, 95X has five Emergency Stopping Sites (ESS) along the median shoulder: three northbound, and two southbound. The CPS provides continued presence of each of these strategies. The following are definitions and descriptions for each strategy:

- Staging areas - strategically placed locations for incident responders to have safe access to the EL. They will be located along each direction of the corridor where heavy demand is anticipated. It is recommended that they be placed immediately upstream of investigation areas, toll gantries, and EL entrance ramps.
- Investigation areas – provided for FHP and other responders to manage incidents and events, relocate vehicles blocking EL or access ramps, and perform other tasks related to traffic investigation. They will be used by first responders to assess incidents after lane blockages have been cleared. It is recommended that these areas are large enough to hold multiple tow trucks and response vehicles. They should be placed at interchange off ramps or toll gantry buildings where possible.
- Emergency Stopping Sites (ESS) – strategically placed along the 95X median shoulder providing increased shoulder width for disabled and emergency response vehicles to safely be off the EL travel lane. FHP also uses the ESS for staging and for police activity (i.e., issuing citations).

5.3.3 Incident Response Resources

The FDOT D6 TMC will supplement their current District contracts for Road Rangers and IRV to provide additional incident response resources along 95X. The staffing, personnel, and resources necessary to accommodate the future conditions will be further evaluated in the subsequent phase of the CPS.

5.4 Enforcement

Enforcement will play a critical role in maintaining the integrity of the EL. Enforcement will be provided at the toll gantries utilizing the existing FTE methods for identifying toll violators as they pass through the toll gantries. Vehicles must display a SunPass® transponder, and FTE's Violation Enforcement System will electronically monitor traffic. Drivers without transponders will have their license plates photographed and receive an Unpaid Toll Notice (UTN) for failing to pay a toll. Failure to resolve the UTN will result in a Uniform Traffic Citation (UTC). FDOT D6 utilizes the existing FHP Hireback Program for enforcement activities (other than toll violations) in the project corridor. Additional considerations for enforcement policies and procedures will need to be further evaluated during the PD&E phase, following the CPS.

5.5 Toll Signing Scheme

The proposed destination signing is shown in **Figure 4** and **Figure 5**. At this time, no tolling schemes have been identified or were considered during the planning phase of the project. It is recommended that the following categories be considered for the preferred alternative that is identified during the PD&E phase:

- EL Points of Ingress/Egress
- EL Segments
- Destination signing
- Toll Gantry Locations

Additional details related to these categories will be further evaluated during the PD&E phase that are programmed to follow the CPS.

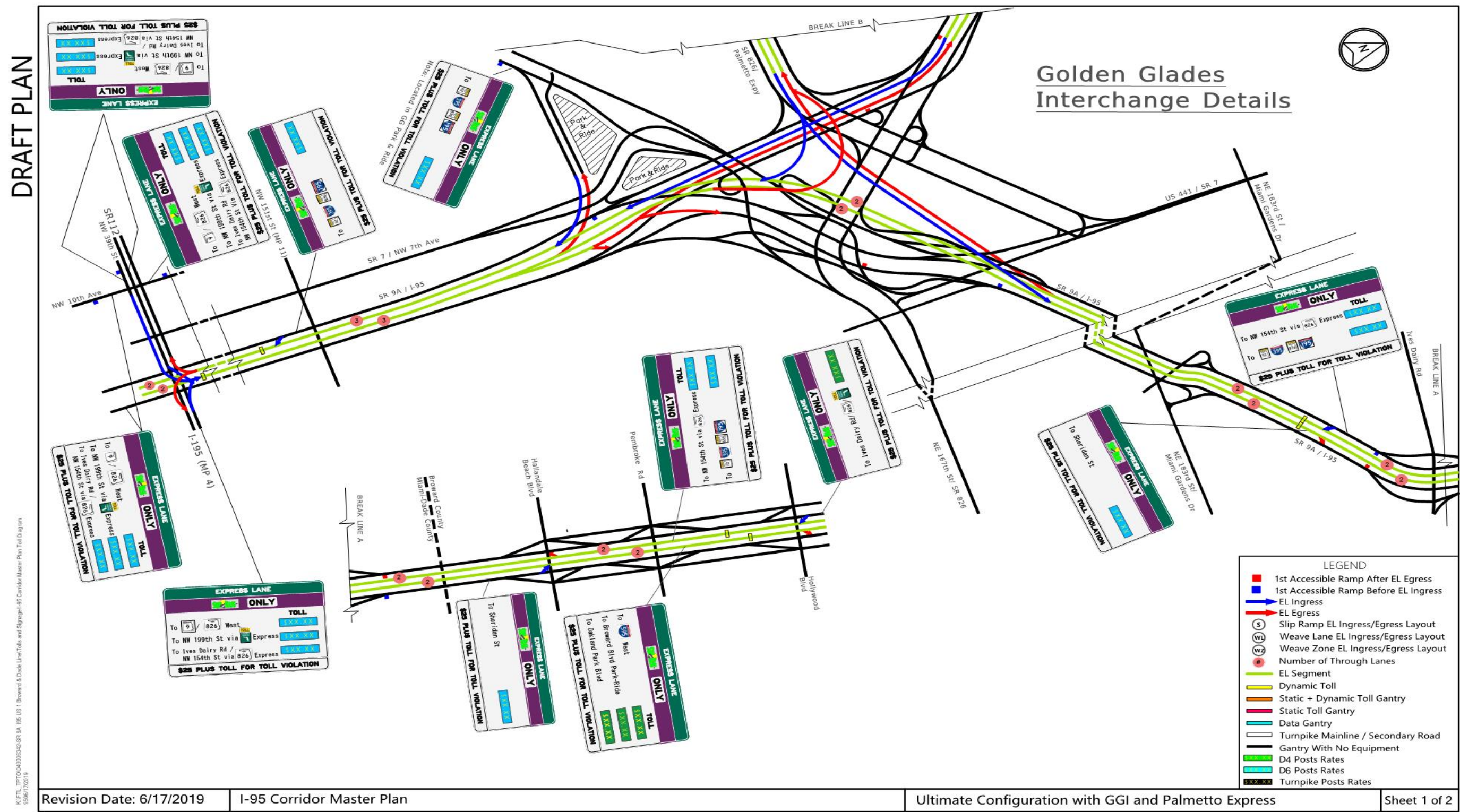


Figure 4: Proposed Express Lanes Toll Diagram (1 of 2)

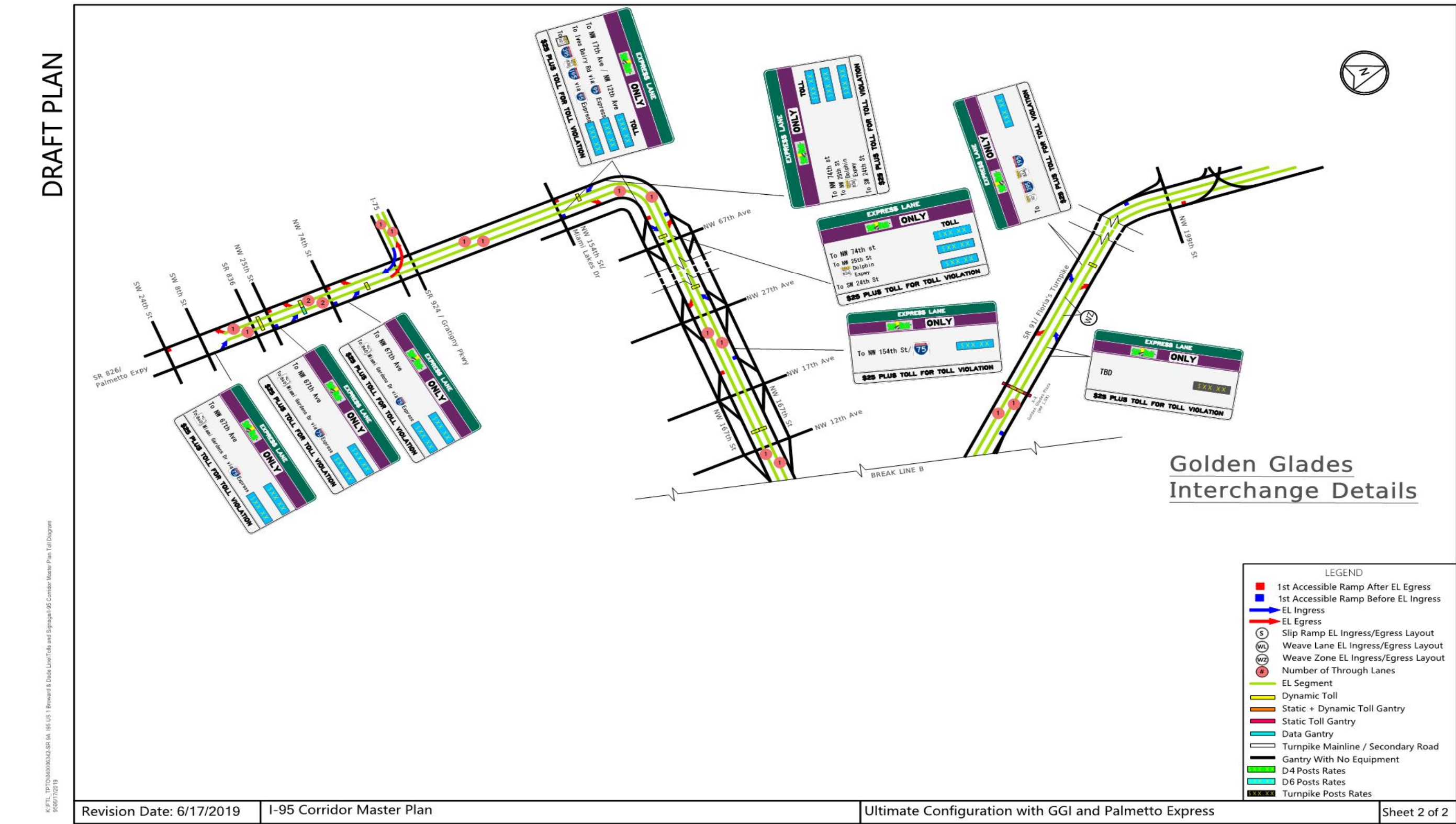


Figure 5: Proposed Express Lanes Toll Diagram (2 of 2)

5.6 User Profile and Support Environment

The Project O&M will be a multi-agency effort among internal stakeholders FDOT D6 and FTE. The User Profiles and Support Environments do not change; however, the project specific roles and responsibilities have been identified in **Table 3** and are further described below. The existing external interfaces and coordination will need to be further evaluated throughout the project development process.

The following section provides a summary of the current user profiles and support environment. The D6 TMC will be responsible for setting tolls for all segments and maximum trip tolls and communicating the toll amounts to the FTE for back office services. Operating procedures will be developed and maintained by the D6 TMC for toll setting operations. These procedures will include notification protocols between D6 TMC and FTE for equipment and communication failures. The software applications for toll setting will be developed and maintained by D6 SunGuide TMC. The D6 TMC will be responsible for monitoring, maintaining, and responding to ITS device failures along the corridor. The D6 TMC will develop maintenance plans to meet the following requirements:

- Detector Accuracy greater than or equal to 95% for all time periods for volumes and speeds.
- System Availability:
 - DMS Subsystem > 98.0%
 - Camera Subsystem > 99.0%
 - Detector Subsystem > 97.0%
 - Ramp Signaling Subsystem > 99.0%
- Response to any failure of 95X ITS devices will be considered a critical response as defined in each District's ITS Maintenance contract.
- Fiber Communications/Servers/Switches greater than or equal to 99.99%.

The PD&E and Design phases of the programmed projects for the corridor will develop updates to the incident management procedures among responding agencies and Maintenance of Traffic plans for events affecting 95X based on the preferred alternative. D6 TMC will be responsible for incident management dispatch, response, and clearance for portions of 95X in Miami-Dade County. The 95 Express Lanes Incident Management Plan identified mutual aid agreements among all incident responders and established incident management resources to support the following performance targets:

- Incident Verification (Event Creation to Event Confirmation) < two minutes
- Incident Response (Road Rangers/SIRV/IRV Notification to Road Rangers/SIRV/IRV Arrival) < five minutes
- Travel Lane Blocking Duration (First Travel Blockage to All Travel Lanes Open) < 20 minutes
- Facility Closed due to Non-Recurring Events < three percent of the time

FTE will be responsible for ETC, which include account management and maintaining the electronic tolling system (SunPass®) at the toll gantries and inside the toll buildings. FDOT D6 will be responsible for maintaining the gantry structures and toll buildings located in Miami-Dade County. FDOT D6 owns the tolling equipment in their respective District and FTE is only responsible for maintaining the equipment. The business rules for account management will be developed, maintained, and managed by the FTE.

Public Information Services will be a joint effort among all agencies involved, with FDOT D6 Public Information Office taking a lead role. A common public information software application will be used by all agencies, as applicable. Incident management and general inquiries will be supported by FDOT D6. FTE will take the lead on SunPass®/account management public inquiries. South Florida Commuter Services will take the lead regarding exemption registrations. Each transit agency will be responsible for inquiries regarding their respective transit services.

Performance reporting for the EL will be the responsibility of D6 TMC, i.e., Central Office quarterly reports. D6 TMC will be responsible for all reporting along the corridor. FTE will be responsible for toll and revenue reports.

Additional user profiles will be defined during the PD&E phases of the project that are a result of the CPS. The three PD&E studies will have the ability to detail specific information regarding each segment of the corridor and define the user and their roles and responsibilities for the I-95 corridor.

Concept of Operations for Interstate 95 Corridor Planning Study Ver 1.0 (August 2019)

Area of responsibility	I-95 Miami-Dade	
	GPL	EL
Roadway Monitoring/Notification	D6	D6
Incident Dispatch	D6	D6
Incident Response	D6	D6
Roadway (TMC) Performance Reporting	D6	D6
EL Performance Reporting	N/A	D6
Toll and Revenue Reporting	N/A	FTE
Toll Setting	N/A	D6
ITS Maintenance Monitoring/Notification	D6	D6
ITS Maintenance Dispatch	D6	D6
ITS Maintenance Response	D6	D6
ITS Maintenance Reporting	D6	D6
ITS Equipment Ownership		
CCTV	D6	D6
Toll Amount DMS ¹	N/A	D6
Lane Status DMS ¹	N/A	D6
Full DMS	D6	D6
Detectors	D6	D6
Cabinets/Laterals/Electrical	D6	D6
Ramp Signaling	D6	N/A
WGS	N/A	D6
ITS Equipment Network		
CCTV	D6	D6
Toll Amount DMS ¹	D6	D6
Lane Status DMS ¹	D6	D6
Full DMS	D6	D6
Detectors ²	D6	D6
Ramp Signaling	D6	N/A
WGS (Wireless)	N/A	D6
Tolling Equipment Ownership ³	N/A	FTE/D6
Toll Gantry Building	N/A	D6
Transaction Processing	N/A	FTE
Tolling Equipment Maintenance ⁴	N/A	FTE
Fiber Ownership	D6	D6
Power Ownership (Pay Bills)	D6	D6
Public Inquiries ⁵	D6	FTE/D6

Table 3: I-95 Express Lanes High-Level Roles and Responsibilities

1. Includes Dedicated CCTV.
2. I-95 will have two sets of detectors (one on D4 Network).
3. Each District will own the tolling equipment, structure and building within their respective District boundaries.
4. Does not include gantry structure and building. Gantry structure and building will be responsibility of District Maintenance.
5. FTE SunPass® Customer Service will handle customer account inquiries and FDOT D6 will provide support. Incident Management inquiries will be handled by the responsible agency. Registration inquiries will be handled by South Florida Commuter Services and Transit related inquiries will be handled by the responsible agency.

6. Operational Scenarios

This section demonstrates hypothetical scenarios that are anticipated to occur with the final design configurations that were considered in the CPS. It is recommended that this section is updated to reflect the final design features that will be incorporated into the design that results from the PD&E studies for the segments of I-95 being evaluated. The scenarios include the following: (1) typical operations of the new direct EL connections to/from I-195 and (2) typical operations of the new direct EL connections to/from 826X. The below scenarios contain details of multiple tasks occurring simultaneously with multiple D6 TMC Operations staff involved and are not necessarily in chronological order as depicted. Note, it is typical that the D6 TMC Operator and D6 TMC EL Operator will be notified of the incident from the FHP or RR before changes are noticed within SunGuide®. This applies for all operations listed below.

6.1 Typical Operations

Patty, a typical commuter using her personal vehicle, has experienced improved speeds and travel times along the I-95 GPL on her daily morning commute to work from Oakland Park to Downtown Miami and on her afternoon ride home. Her typical commute time has been reduced from one hour to 45 minutes. One Monday morning at 8:00 AM, Patty is on her way to work and sees a travel time message posted on the full-size, overhead DMS that is on I-95, south of Sunrise Boulevard. The message displays “I-595 to Broward/Miami-Dade County Line, 7.5 miles, 25 Minutes.” Patty thinks to herself, traffic must be heavy today and remembers that she has an important presentation to do that morning. Patty needs to be in the office by 9:00 AM to get ready for her presentation at 9:30 AM.

Patty is a SunPass® account holder and has read in the newspapers how the EL have been a reliable travel option since they were launched. As she approaches the southbound entrance to the EL, she sees the TADMS displaying a toll amount of \$8.00 to SR 112/SR 836/I-395 at 8:02 AM. She remembers reading that you are never charged more than what you see posted on the TADMS. She sees traffic in the GPL begin to slow down and decides to enter the EL. Patty feels that paying \$8.00 is worth being on time to get ready for the presentation. By taking the EL, she is able to arrive at her office safely and on-time.

Behind the scenes, the D6 TMC are actively monitoring the congestion along I-95 GPL, they verify there are no events along I-95 and verify the travel times are posting properly via the CCTVs. The RSS Operators monitor their computer screens and observe the release rates of the ramp signals reducing due to the congestion along I-95 southbound. The D6 TMC EL Operators are monitoring the SELS software map and speed graphs based on the data collected in real-time from the VDS, as well as, checking the CCTV along 95X. The D6 TMC EL Operators see demand increasing in the EL, but the speeds are free flowing. The SELS software notifies them that the tolls have adjusted in response to increasing demand for the EL. The SunGuide® software presents a video snapshot of the TADMS and the toll amounts that should be displayed. They confirm everything is working properly.

The travel time or transit time from the TADMS to the Toll Gantry is configured to be eight minutes within SELS. Therefore, the toll update at 8:00 AM would be charged to those detected between 8:08 AM and the next toll update. Patty's SunPass® is detected by the ETC system at the Gantry at 8:09 AM. The FTE back office software processes the data collected from the gantries and rebuilds Patty's trip to be travelling through the Segment 3S, Segment 2S, and Segment 1S gantries. The FTE back office software receives the toll amount data from SELS, which, when combined from each toll gantry (tolling point), has Patty's total trip equal to what she saw on the TADMS: \$8.00. The FTE back office software applies the total charge of \$8.00 to Patty's SunPass® account, which will be broken out by each tolling point.

6.2 Incident in the Direct Connection from I-195 to I-95 Express

On a typical weekday evening during rush hour and Bryan, a D6 TMC EL Operator, is monitoring the EL performance using the CCTV video feeds and data collection devices along I-95. Bryan receives a call from an FHP officer that there is an incident in the Westbound I-195 direct connection ramp to Northbound. The D6 TMC EL Operator views a multi-vehicle crash blocking the entire direct connection ramp lane using the nearest CCTV camera.

Bryan confirms the incident location and its impacts to the EL. Next, Bryan changes the toll operating mode in the SELS from "Dynamic" to "Closed" for the I-195 segment containing the incident and the direct connection ramps from Westbound I-195. The D6 TMC EL Operator logs the incident in the SELS and uses the AVL (AVI) subsystem of SunGuide® that provides the locations of all Road Rangers in the vicinity to dispatch Road Rangers to close the direct connection ramps. Once the Road Rangers are in place, Bryan coordinates with the TMC Operations Manager to activate the WGS and confirm all approaches from the direct connection ramps for northbound traffic are closed.

SunGuide® is used to change the messages on the TADMS on the approach to inform drivers of the incident on the direct connection ramp. Bryan manually adjusts the dynamic toll amount to set it to the base toll amount, and the toll adjustment is made retroactively for 10 minutes before the adjustment to account for any motorists caught on the ramp or caught in the congestion created by the incident.

To begin clearing the incident, the Bryan dispatches additional Road Rangers and any necessary response vehicles to the scene where they block other entrances to the EL, provide incident clearance support and divert any traffic in the EL to the GPL per predetermined maintenance of traffic (MOT) plans.

FHP has notified Miami-Dade Fire Rescue of the incident and they dispatch the nearest available unit to the incident. Miami-Dade Fire Rescue tends to any injuries that occurred during the incident at the scene and begins to transport injured motorists and passengers to the nearest hospital. The FHP officer on the scene coordinates with the other response vehicles on the scene to clear the ramp using the shoulders while relocating any damaged vehicles to the closest investigation area. Bryan continues to monitor the situation using the CCTV cameras and updates DMSs in the area based on new information he is able to confirm.

6.3 *Crash in the Express Lanes*

It is Wednesday afternoon and Robert, a D6 TMC EL Operator, is actively monitoring 95X with CCTV cameras and the SELS software map (i.e., congestion/speeds graphics). The D6 TMC EL Operator observes that speeds have dropped below a threshold of 45 MPH on 95X northbound at SR 860/Miami Gardens Drive. The D6 TMC EL Operator turns the CCTV and confirms there is a multi-vehicle crash in the inside shoulder and left EL. Robert is viewing the event via CCTV camera at the same time. Once confirmed, Robert enters the event in the SunGuide® software and changes the EL operating mode from “Dynamic” to “Closed” in the SELS software.

During this action, Robert then sets the tolls to zero (\$0.00) retroactively ten (10) minutes before the event was created to confirm any motorists who entered the EL are not charged for that segment. The SELS software posts “CLOSED” on the TADMS and “EXPRESS LNS CLOSED” on the LSDMS at the Ives Dairy Road entrance. At the same time, a D6 TMC EL Operator reviews the SunGuide® Software map, which depicts the location of the Road Rangers via the GPS system. The D6 TMC EL Operator identifies and dispatches the closest Road Ranger. The staged IRV and Flatbed Tow Truck are also dispatched. The D6 TMC EL Operator utilizes the SunGuide® software to generate a plan for disseminating information about the crash to the full size overhead DMSs, arterial DMSs and 511. This includes posting “Express Lanes Closed at Miami Gardens Drive” on the full size, overhead DMS located in the EL, as well as, the DMS located in the GPL south of the Miami Gardens Drive entrance to the EL.

Simultaneously, this information is sent to the 511 system. Robert notifies FHP Dispatch of the event, while observing Fire Rescue arriving on-scene via the CCTV camera. FHP Dispatch notifies the closest FHP Trooper, who arrives shortly after being notified. The Road Ranger, IRV and Flatbed Truck arrive at the crash and position their vehicles according to the MOT training received. This includes diverting all traffic in the EL northbound to exit Miami Gardens Drive to the GPL and blocking the northbound EL entrance ramp. The IRV contacts the Incident Commander (Fire Rescue at the time of arrival). The IRV also coordinates with FHP to identify a location to relocate the damaged vehicles and complete the investigation. They identify the vehicles to be relocated to the GGI Park and Ride Lot. The IRV gathers event information, assesses the situation, updates the D6 TMC and makes necessary adjustments to the MOT to improve on-scene safety for the responders and let the remaining vehicles in the EL navigate around the crash safely using the right EL.

The D6 TMC EL Operators continue to monitor the crash and update the event in SunGuide® Software, as well as, monitor the network around the incident. Robert notices heavy backups in the direct connection EL ramp from Eastbound 826X to Northbound 95X. Robert dispatches additional Road Rangers to close the direct connection EL ramp. The D6 TMC manages the closure according to the established procedures until the incident has completely cleared from the highway. Road Rangers then make a pass through the EL where the incident occurred to confirm vehicles, personnel, and debris have been cleared. Once confirmed, the Road Ranger contacts Robert at the FDOT D6 TMC to confirm the EL are ready to be reopened. DMS messaging is restored to support normal operations and the express are opened.

7. Summary of Benefits/Impacts

As previously described in Section 4.2, the operational impacts of the proposed system will increase the workload of the existing TMC Operations, Incident Responders, ITS Maintenance, and Roadway Maintenance resources. This additional workload will require additional funding for the operation and maintenance of the proposed system. Subsequently, this will require additional cross training for the system users. This includes training for EL operational procedures/strategies, incident coordination/response, maintenance of traffic procedures and enforcement.

7.1 Summary of Benefits

The benefits of these proposed connections, systems, and transportation network improvements have not been quantitatively assessed at this stage of project development. At this time the following benefits have been identified based on the suggested improvements:

- Increase the safety of motorists on the I-95 Corridor.
- Enhance regional connectivity.
- Improve emergency evacuations.
- Address future population and employment growth.
- Accommodate the growth in travel demand.
- Provide ease of access to freight activity.
- Provide uncongested routes for transit.
- Provide relief to adjacent facilities.

Additional analysis should be completed during the subsequent PD&E phases that follow the I-95 CPS. The goal of this analysis will be to demonstrate specific benefits anticipated from the improvements suggested in the CPS, as well as the improvements recommended as the preferred alternative of each PD&E study.

7.2 Monitoring and Analysis Activities

To maintain optimal performance of 95X it is recommended that FDOT maintain their comprehensive performance measure program to accurately measure how successful the system performs. The following performance measures should be maintained or be considered for inclusion in the current performance measure program:

- Monthly Performance Reporting/General Data Requests:
 - Total Trips
 - Tolls (These performance measures are generated and maintained by FTE)
 - Monthly Revenue
 - Total Revenue
 - Minimum and Maximum Range
 - Average Weekday
 - Average Peak Period Average Weekend
 - Average Off Peak
 - 85th Percentile Weekday

- Exempt Vehicle data
 - Toll Distribution by amount/by hour
- Volume (EL vs. GPL)
 - Average Peak Periods
 - Average Weekday
 - Average Weekend
- Speed (EL and GPL)
 - Percentage of Time Above 45 MPH
 - Average Overall
 - Average Peak Periods
- Facility Availability
 - Percentage of Time Closed due to Non-Recurring Events
 - Percentage of Time Closed due to Planned Events
- Additional analysis to be considered to maintain desirable system performance:
 - Speeds below 45 MPH in the EL (peak periods)
 - Amount of closures that impact availability of the EL
 - Frequency
 - Incident duration of time spent above threshold of incident clearance goal

8. Notes

This document serves as a corridor level document and should be reevaluated and updated to consider improvements being made at the project level.

9. Appendices

There is no appendix associated with this ConOps document.

10. Glossary

There is no glossary associated with this ConOps document.

End of Document

Concept of Operations for Interstate 95 Corridor Planning Study Ver 1.0 (August 2019)

The table below will be updated during each phase of the project. Version numbers shall be used to represent the evolution of the document as the project(s) is developed and refined.

DOCUMENT REVISION HISTORY			
Version Number	Approved Date	Description of Change(s)	Created/ Modified By
1.0		Corridor Level ConOps – Planning / Pre-PD&E Phase	Gregg Letts, P.E.



Project Systems Engineering Management Plan for: I-95 Corridor Planning Study

Florida Department of Transportation District Six

Version: 1.0

Approval date: insert approval date

PSEMP for I-95 Corridor Planning Study

DOCUMENT CONTROL PANEL		
File Name:	<i>I-95 Corridor Planning Study PSEMP DRAFT</i>	
File Location:	K:\FTL_TPTO\040006342-SR 9A I95 US 1 Broward & Dade Line\SEMP	
Version Number:	1	
	Name	Date
Created By:	Gregg Letts, P.E., Kimley-Horn	7/3/2019
Reviewed By:	John McWilliam, P.E., Kimley-Horn	7/15/2019
	Greg Kyle, AICP, Kimley-Horn	8/6/2019
Modified By:	Gregg Letts, P.E., Kimley-Horn	8/9/2019
Approved By:		

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List of Acronyms and Abbreviations

APL	Approved Product List
CCTV	Closed-Circuit Television
CEI	Construction, Engineering, and Inspection
CFP	Cost Feasible Plan
CMB	Change Management Board
ConOps	Concept of Operations
CPS	Corridor Planning Study
CVRIA	Connected Vehicle Reference Implementation Architecture
DMS	Dynamic Message Signs
FDOT	Florida Department of Transportation
FTE	Florida's Turnpike Enterprise
EOR	Engineer of Record
ITS	Intelligent Transportation Systems
MOE	Measure of Effectiveness
MOP	Measure of Performance
MP	Milepost
MVDS	Microwave Vehicle Detection System
PD&E	Project Development and Environmental
PITSA	Project Intelligent Transportation System Architecture
PM	Project Manager
PSEMP	Project Systems Engineering Management Plan
RCTO	Regional Concept for Transportation Operations
RFP	Request for Proposal
RITSA	Regional Intelligent Transportation System Architecture
RTVM	Requirements Traceability Verification Matrix
SEP	Systems Engineering Process
SITSA	Statewide Intelligent Transportation System Architecture
TMC	Transportation Management Center
TSM&O	Transportation System Management and Operations
WGS	Warning Gate System

PSEMP for I-95 Corridor Planning Study

1.1 Document Overview

This document is the Project Systems Engineering Management Plan (PSEMP) for the *I-95 Corridor Planning Study*. A PSEMP is a plan that helps manage and control a project utilizing systems engineering processes (SEP). The PSEMP identifies what items are to be developed, delivered, integrated, installed, verified, and supported.

The document is organized as follows:

- Section 1.2 – Need for a PSEMP
- Section 1.3 – Applicable Documents
- Section 1.4 – Systems Engineering Processes
- Section 1.5 – Project Management and Control

1.2 Need for a Project Systems Engineering Management Plan

The Florida Department of Transportation (FDOT) requires high-risk intelligent transportation systems (ITS) projects using federal funds to use a SEP.¹ The PSEMP documents how systems engineering will be used for ITS project management.

Florida's Statewide Systems Engineering Management Plan (SEMP) is used as a reference guide in the creation of this PSEMP.

1.2.1 Project Identification

Project Name: *I-95 Corridor Planning Study*

Financial Project Identification: 414964-6-22-01

Federal Aid Project Number: *None at this time.*

¹ FDOT Procedure titled Systems Engineering and ITS Architecture (Topic No 750-040-003). Available online at <http://www.dot.state.fl.us/proceduraldocuments/procedures.shtm>.

PSEMP for I-95 Corridor Planning Study

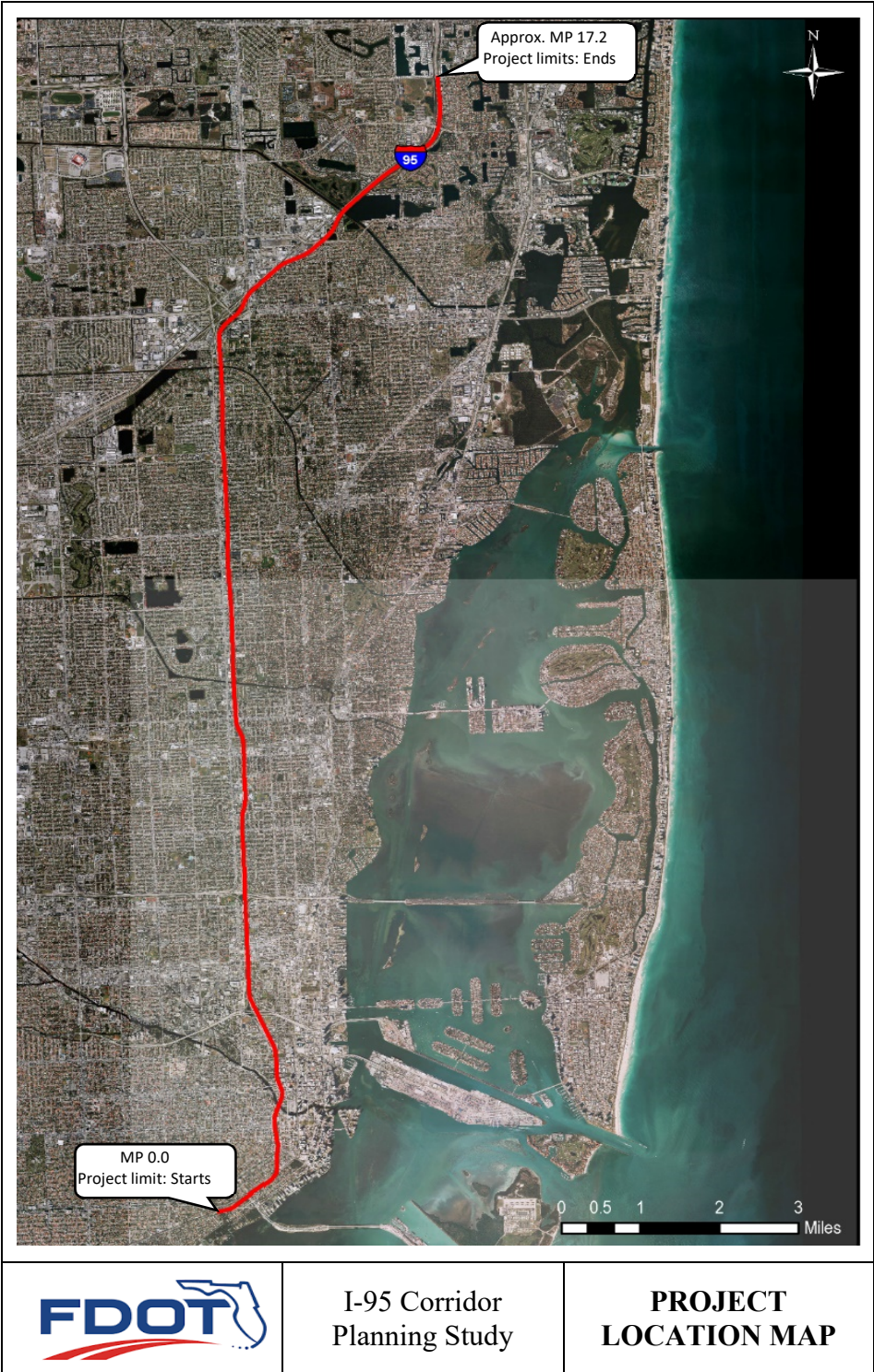


Figure 1: Project Location Map

PSEMP for I-95 Corridor Planning Study

1.2.2 Purpose and Scope

This document serves as the PSEMP for the I-95 Corridor Planning Study (I-95 CPS). It provides planning guidance for the technical management, procurement, installation, and acceptance of the project, which includes various geometric improvements including additional express lane capacity from SR 112/I-195 to the Broward/Miami-Dade County line and mainline geometric and interchange improvements throughout the corridor. The concept minimizes modifications to programmed/planned improvements from other projects at SR 90/SW 7/8 Street, SR 836/I-395, SR 924/SW 119 Street, and the Golden Glades Interchange (GGI). The purpose of the improvements is to address growth in vehicular traffic volumes, improve highway safety, address noise levels, and improve system-to-system connectivity.

Further details of the project can be obtained by reviewing other documents, such as the project I-95 Corridor Planning Study Concept of Operations (ConOps) v1.0 – 7-26-2019.

1.2.3 Technical Project Summary Schedule

High-level project schedule based on the 5-year work program 04-03-2019:

414964-1 – SR 9A/I-95 from North of NW 151 Street to Broward County line

	Fiscal Year
• PD&E Advertisement	2021
• PD&E Contract Executed	2021
• Environmental Management Office study.....	2023
• Location and Design Concept Acceptance (internal)	2023
• Location and Design Concept Acceptance public notice	2023
• Design Consultant Advertise	2024
• Design Contract Executed	2024
• Notice to proceed	2024
• Phase I plans review	2024
• Roadways plan	2026
• Construction	Tentative

414964-8 – SR 9A/I-95 from South of NW 62nd Street to North of NW 151

	Fiscal Year
• PD&E Advertisement	2021
• PD&E Contract Executed	2022
• Environmental Management Office study.....	2024
• Location and Design Concept Acceptance (internal)	2024
• Location and Design Concept Acceptance public notice	2024
• Design begins	2024
• Design consultant advertise	2024
• Construction	Tentative

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414964-7 – SR 9A/I-95 From US 1/South Dixie Highway to South of NW 62nd Street

	Fiscal Year
• PD&E Advertisement	2022
• PD&E Contract Executed	2022
• Environmental Management Office study.....	2024
• Location and Design Concept Acceptance (internal)	2024
• Location and Design Concept Acceptance public notice	2024
• Design Begins	2024
• Construction	Tentative

1.2.4 Relationship to Other Plans

- *Florida’s Statewide Systems Engineering Management Plan dated March 07, 2005.*
- *Golden Glades Interchange from SR 826/Palmetto Expressway Eastbound to I-95 Northbound Project Development and Environment Study, FM No. 428358-1-22-01.*
- *SR 826/Palmetto Expressway E-W Express Lanes PSEMP, dated July 2016.*
- *95 Express Lanes Phase 2 Concept of Operations for I-95 from Golden Glades Interchange to Broward Boulevard, dated April 18, 2015.*
- *Southeast Florida Express Lanes Regional Concept for Transportation Operations (RCTO), dated May 2014.*
- *Golden Glades Interchange Improvements – Overall, dated June 14, 2019*

1.2.4.1 Relationship to Florida’s *Ten-Year ITS Cost Feasible Plan*

The Ten-Year ITS Cost Feasible Plan (CFP) is a ten-year program and resource plan that identifies ITS projects in the overall context of Florida’s ITS Corridor Implementation Plans.² It represents a commitment of state- and District-managed ITS funds to provide a coordinated statewide program to develop ITS infrastructure on Florida’s major intrastate highways. The I-95 CPS project is not yet included in the Ten-Year ITS CFP.

The FDOT’s current Ten-Year ITS CFP is available online at http://www.dot.state.fl.us/trafficoperations/ITS/Projects_Deploy/Ten-Year_CFP.shtm.

1.2.4.2 Relationship to Florida’s *Statewide ITS Architecture*

The I-95 CPS project is included in the District 6 regional ITS architecture (RITSA), which will be developed as part of the Statewide ITS Architecture (SITSA). More information on the current SITSA is available online at <http://www.consystec.com/florida/default.htm>.

The FDOT D6 Transportation Management Center (TMC) monitors and controls the ITS field devices by using the Statewide SunGuide® Software. FDOT D6 TMC controls the functionality

² The FDOT’s ITS Corridor Implementation Plans are available online at http://www.dot.state.fl.us/trafficoperations/ITS/Projects_Deploy/CFP/CFP_Legacy.shtm.

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of the tolls with the SunGuide® Software. **Figure 2** demonstrates a high-level system overview for the I-95 corridor, and what are the stakeholders along the corridor.

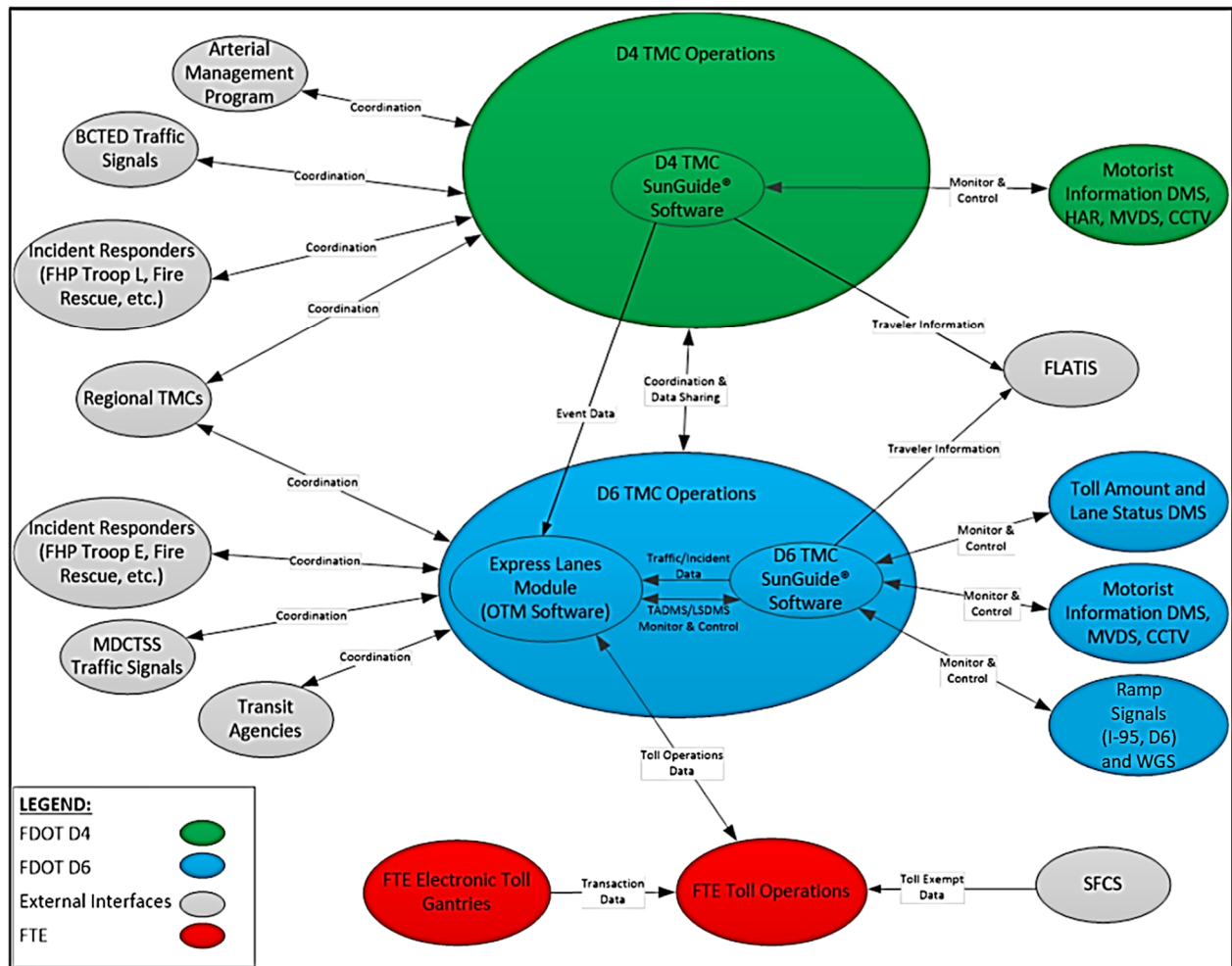


Figure 2: 95 Express System Overview

1.2.4.3 Relationship to Other “On-project” Plans

As I-95 CPS develops through PD&E and design phases, the FDOT Project Manager (PM) will be responsible with developing, maintaining, or updating the Quality Management (QM) Plan, ConOps, PSEMP, and the Requirements Traceability Verification Matrix (RTVM).

In addition to this document which details planning and guidance for the I-95 CPS as a whole, there will also be a project level ConOps and PSEMP for the individual projects listed earlier in the following fashion:

- 414964-1 – SR 9A/I-95 from North of NW 151 Street to Broward County line
- 414964-8 – SR 9A/I-95 from South of NW 62nd Street to North of NW 151
- 414964-7 – SR 9A/I-95 From US 1/South Dixie Highway to South of NW 62nd Street

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1.3 Applicable Documents

The following documents form a part of this document to the extent specified herein. In the event of a conflict between the contents of the documents referenced herein and the contents of this PSEMP, the final Request for Proposal (RFP) and Minimum Technical Requirements (MTRs; if required) shall be considered the superseding document for each project.

<i>I-95 Corridor Planning Study ConOps, Version 1.0, 6-6-2019</i>	<u>FDOT District 6</u> Project Manager: Ken Jeffries 305-470-5445 FPID: 414964-6-22-01
<i>National ITS Architecture, Version 7.0</i>	United States Department of Transportation 400 Seventh Street, Southwest Washington, D.C. 20590 www.standards.its.dot.gov/LearnAboutStandards/NationalITSArchitecture
<i>Statewide ITS Architecture</i>	Information on SITSA is available on line at www.consystec.com/florida/default.htm

Table 1: Reference Documents

1.4 Systems Engineering Processes

Key processes that will be used are:

- Identify portions of the RITSA that are being implemented
- Develop the Project ITS Architecture (PITSA)
- Develop the project-specific ConOps
- Develop the PSEMP
- Development and/or Validation of High-level Functional Requirements
- Development and/or Validation of Detailed Functional Requirements
- Technical Reviews
- Risk Identification, Assessment, and Mitigation
- Creation of the RTVM
- Creation of performance measure metrics
- System testing, integration, and acceptance

1.4.1 Developing the Project Intelligent Transportation System Architecture

Currently, the project is not identified in the RITSA and should be added as the design and construction work advances. The NITSA is currently undergoing a major upgrade which will combine the NITSA and Connected Vehicle Reference Implementation Architecture (CVRIA). The new software system will be called the Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT).

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This software has been around but is now being updated to incorporate both the NITSA and CVRIA. With the newly redeveloped system, the market packages and data flows are all changing names. Since the new system has not been released yet, and the other system is no longer being used, the PITSA requirements will need to be updated at a later time. The I-95 CPS includes the following service packages:

- Transportation Decision Support and Demand Management
- Electronic Toll Collection
- Road Closure Management (includes Warning Gate System)

The Transportation Decision Support and Demand Management suggest actions that can be implemented by the operational personnel based on the data and information obtained. The personnel can have the travel demand or tolling status to influence traveler route. **Figure 3** provides a high-level view on how the stakeholder operates with other entities.

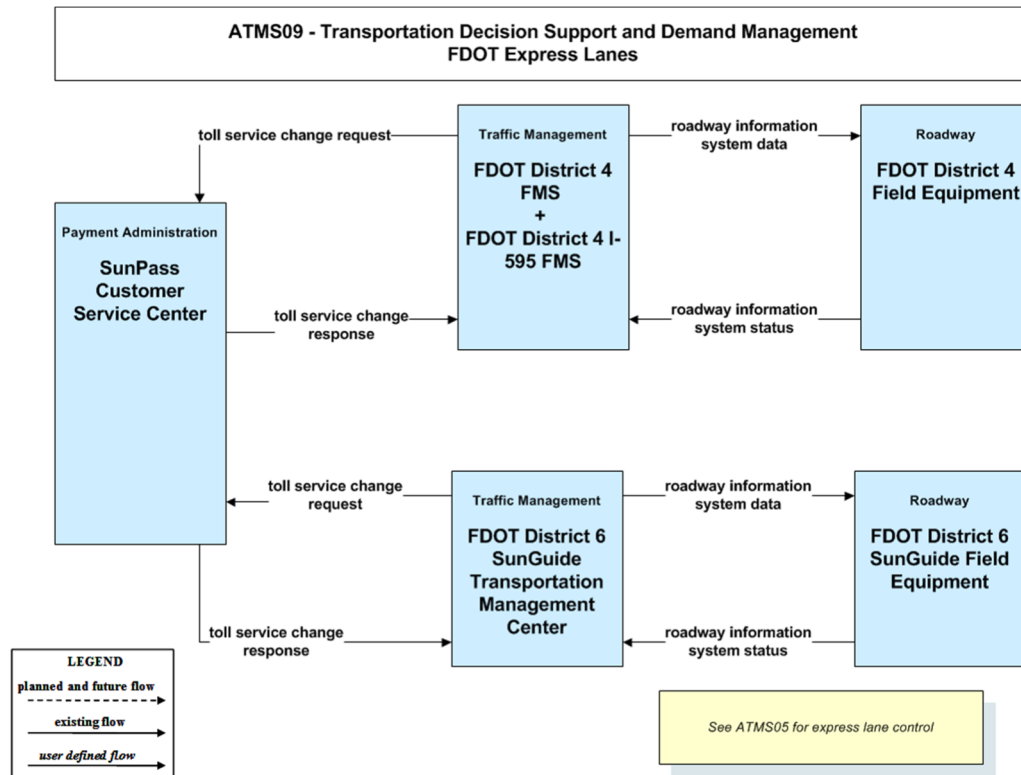


Figure 3: Transportation Decision Support and Management Diagram

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Electronic Toll Collection package provides the ability to charge tolls electronically and detect all of violations to the system. The fees collected on the system may be adjusted depending on the demand. **Figure 4** demonstrates how each entity is related in the system.

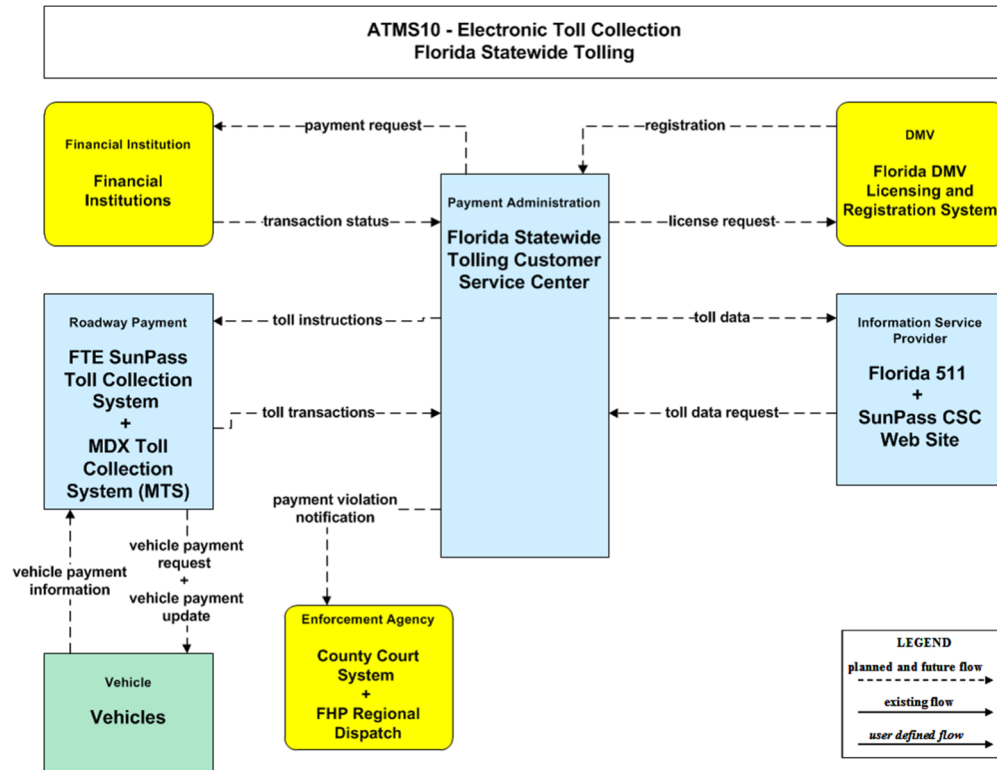


Figure 4: Electronic Toll Collection Diagram

The Road Closure Management package has the ability to close the road or the system once it is not safe for the traffic vehicle, and the package closes the road with automatic or remotely controlled gates or barriers which control access to the road. FDOT D6 currently operates and maintains a Warning Gate System (WGS) as it relates to specific ingress (entrance) locations for 95 Express in Miami-Dade County. The I-95 CPS currently recommends to expand the WGS with the introduction of a new ingress location at I-195 westbound. **Figure 5** is an illustration on how the stakeholder manages the roadway closure. **Figure 6** is a high-level overview of the relationship of the system to SunGuide® Software.

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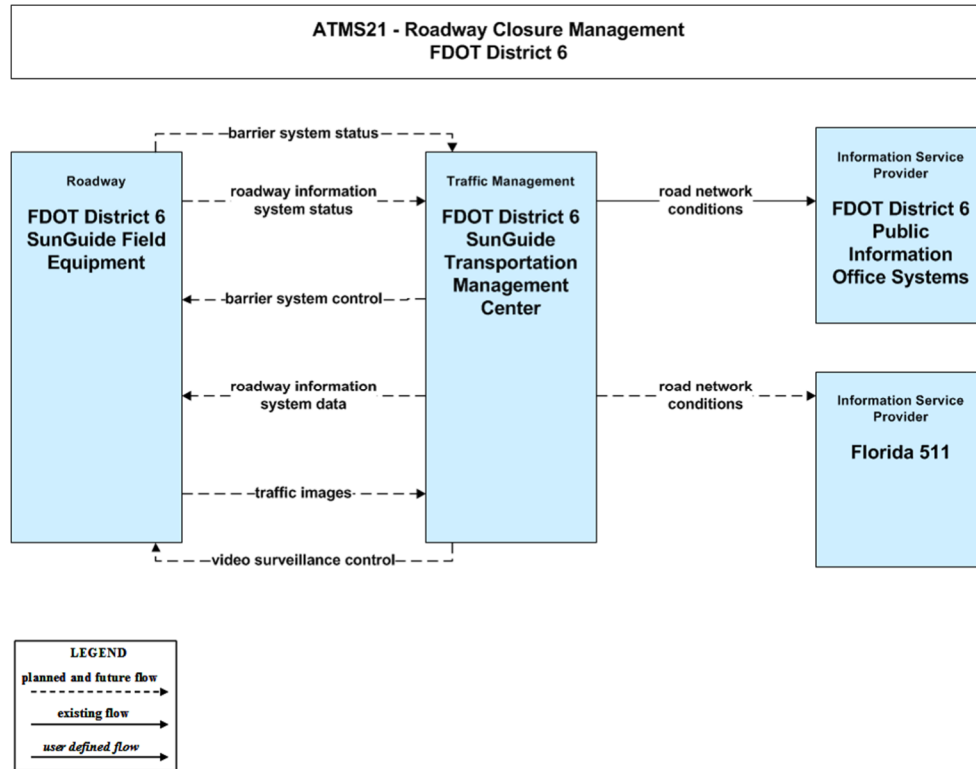


Figure 5: Roadway Closure Management

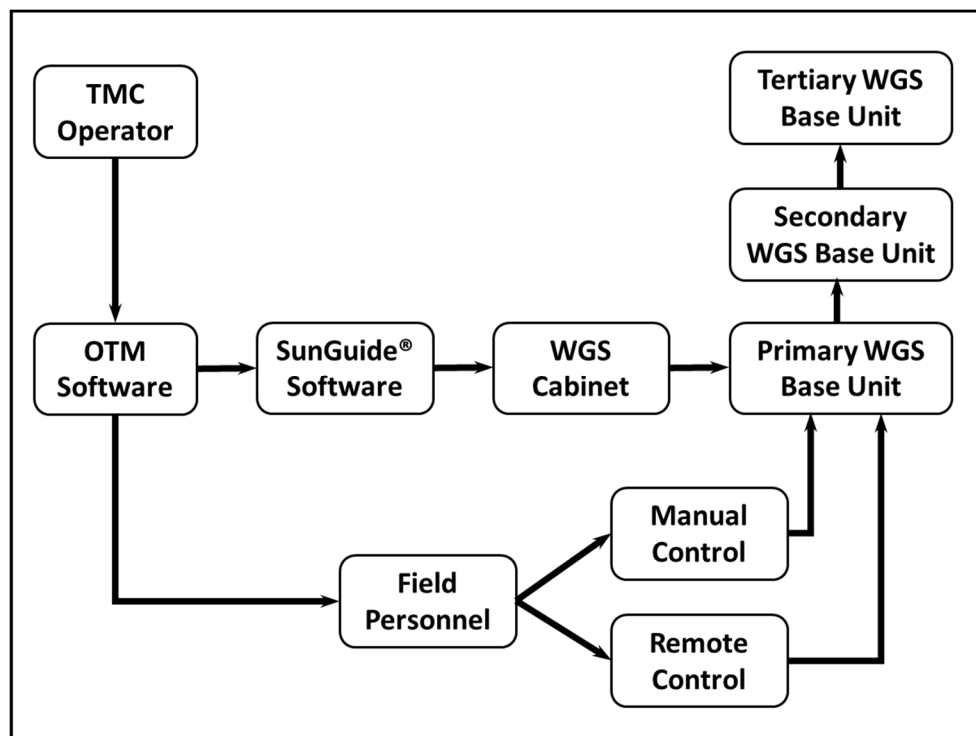


Figure 6: Warning Gate System (WGS) High-level Overview

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1.4.2 Creating High-Level Functional Requirements

The ConOps document for this project describes the preliminary high-level project requirements from the customer and stakeholder perspectives. These requirements are similar to those for the existing deployments within FDOT D6 and Florida's Turnpike Enterprise (FTE), and therefore will result in a very similar deployment. Regionally, the RCTO can also be referred to for high-level functional requirements for the region.

1.4.3 Creating Detailed Requirements

The detailed requirements for the project will be developed based on the FDOT Standard Specifications for Road and Bridge Construction and FDOT Design Standards. Only products listed on the FDOT Approved Products List (APL) will be installed on this project unless approved by the Department. APL approved products have been tested by the FDOT Traffic Engineering Research Lab (TERL) and found to be compliant with the requirements of the FDOT Standard Specifications for Road and Bridge Construction. The detailed requirements will be documented in a project-specific RTVM as discussed in **Section 1.4.7**.

1.4.4 Performing Trade-off Studies, Gap Analyses, or Technology Assessments

The ConOps compares the program needs with the capabilities of the existing system components, functions, and features. The PD&E Studies for the I-95 CPS, referred to in **Section 1.2.4**, will look at alternatives for the corridor PSEMPs, which will be developed for each PD&E.

1.4.5 Performing Technical Reviews

During design of each project phase, FDOT requires submittal of Phase I, II, III, and Signed and Sealed Plans and specifications. FDOT personnel and their consultants will be given 21 days to review each phase submittal and provide their comments via the FDOT Electronic Review Comments (ERC) system. Comments will be addressed by the designer and comment resolutions will be provided to the commenter for their review and approval.

During the implementation phase, the contractor will submit product information and specifications for all materials and devices to demonstrate their adherence to project requirements. The designer will review this documentation to determine whether or not the product meets the project specifications. If the product does not meet project specifications, the designer shall reject the product, noting the project specification is not met by the product. For any rejected products, the contractor shall submit additional documentation proving the product meets the specification or shall submit another product for review. In addition to the products and specifications, the contractor will also be required to submit test plans and procedures, system and subsystem testing plans, and as-built documentation, based on the RFP and other contract documents.

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1.4.6 Identifying, Assessing and Mitigating Risk

Risk Management is an important part of the SEP and must be incorporated into every portion of the project. Most ITS projects have inherent risks such as availability of power, permitting, available right of way and conflicting projects. The Risk for this I-95 CPS will be identified and analyzed during each PD&E project/segment.

Risks will be categorized into the following areas:

- “Low Risk” defines an area in which technical and project metrics are within plan or tolerances.
- “Medium Risk” defines an area in which one or more major technical or performance metrics are out of tolerance but are within the maximum established limits for low-impact recovery techniques.
- “High Risk” defines an area with potential serious failures in accomplishment, which requires major milestone re-planning or intensive reallocations of personnel and resources.

Mitigation action plans are required for all medium-risk and high-risk items. These plans assign specific actions to specific individuals to achieve detailed and correct analyses of each addressed risk and execute corrective actions. The FDOT D6 or their representative formulate these directive plans and intensely monitor progress against directives.

Effective mitigation plans will be developed by the FDOT D6 or their representatives, with the assistance of other key individuals. These individuals initiate mitigation actions, continually monitor the mitigation progress, and perform follow-up activities, as required. Mitigation action plans, procedures, schedules, and responsibility definitions are maintained by the FDOT PM or their representative.

The designer will be responsible for performing the following duties to mitigate the associated risks to the extent possible within the design phase. As the project goes on, the designer will have to establish coordination with local power companies in order to define the project’s utilities. There will be permits which the designer will have to request from the corresponded local agencies.

1.4.7 Creating the Requirements Traceability Verification Matrix

An RTVM consists of the functional, performance, and environmental requirements of the system. The designer will not be required to create an RTVM but will be responsible for the creation and use of appropriate test plans to demonstrate adherence to the requirements outlined within the contract and the FDOT Standard Specifications for Road and Bridge Construction. The RTVM for each project will be created for the designer in the PD&E but should be updated as needed throughout the life of the project.

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1.4.8 Creating Performance Measure Metrics

The development and use of Performance Measures is an effective means of showing the value of an ITS project. It is recommended that FDOT generate a comprehensive performance measure program to accurately measure how successfully the system is performing. The FDOT ITS Central Office compiles an annual report summarizing the progress of the Statewide ITS System. This annual report is supplemented with performance measures on ITS managed roadways provided by the individual Districts. These performance measures are generated from the SunGuide® Software Performance Measures Reporting System and include both Measures of Effectiveness (MOEs) and Measures of Performance (MOPs). As the I-95 CPS is further developed during the PD&E phase, subsystems will be identified that will be required to added to FDOT D6's list of MOEs and MOPs.

1.4.8.1 Measures of Effectiveness

The MOEs will be used to determine how well the system design meets the requirements and will quantify the project specific benefits.

The following MOEs should be considered by FDOT D6 and FTE on a monthly and annual basis:

- Monthly Performance Reporting/General Data Requests:
 - Total Trips
 - Tolls (FTE Reporting)
 - Monthly Revenue
 - Total Revenue
 - Minimum and Maximum Range
 - Average Weekday
 - Average Peak Period
 - Toll Distribution by amount/by hour
 - Average Weekend
 - Average Off Peak
 - 85th Percentile Weekday
 - Exempt Vehicle data
 - Exempt Vehicle data during Peak Periods
 - Volume (Express Lanes and General Use Lanes)
 - Average Weekday
 - Average Weekend
 - Average Peak Periods
 - Speed (Express Lanes and General Use Lanes)
 - Average Overall
 - Average Peak Periods
 - Percentage of Time Above 45 MPH
 - Percentage of Time Below 40 MPH
 - Facility Availability
 - Percentage of Time Closed due to Planned Events
 - Percentage of Time Closed due to Non-Recurring Events
- Conduct periodic analysis when system approaches undesirable performance:

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- Speeds drop below 45 MPH in the Express Lanes during peak periods (speed reliably)
- Extended or frequent closures that impact availability of the Express Lanes

1.4.8.2 Measures of Performance

The MOPs are the engineering performance measures that provide the design requirements needed to satisfy the MOEs. After functional system requirements are defined and low-level requirements are allocated by the Systems Engineer to the subsystems, components, and elements of the system, the Systems Engineer will select or specify the requirements that are testable. Testable requirements are MOPs that can be traced to stakeholder requirements and their MOEs. The following MOPs should be considered:

- Minimum Repair Times
 - Fiber Optic Cable
 - Closed-Circuit Television (CCTV) Cameras
 - Microwave Vehicle Detection System (MVDS)
 - Dynamic Message Signs (DMS)
 - Power Systems
 - Tolling equipment
 - Automatic Vehicle Identification (AVI)
 - Ramp Signal System (RSS)
 - Warning Gate System (WGS)
- Downtime of each device and device type
- Downtime of overall system (aggregated over a specified period of time)
- Time to detect failures of device
- Number of times device/system is down
- MVDS Accuracy Levels
- DMS Message Accuracy

1.4.9 *Conducting System Testing, Integration, Verification, Validation, and Acceptance Planning*

As the project is developed, it will be necessary to prepare an Integration and Test Plan that describes the performance and control of all aspects and levels of integration and testing. This plan will include milestones defining the completion of each test procedure and the beginning of the next corresponding test procedure. The plan will cover all processes to the extent possible and needed to ensure the FDOT of a properly tested, configured, and fully functional system.

The project will require coordination with the FDOT Transportation System Management & Operations (TSM&O) staff to define the optimum integration sequence for the various hardware and software functions and develop schedules and procedures for testing those products as they are integrated.

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Some tests which will be developed for the device's accuracy are the following:

- System Integration and Testing
- Stand-Alone Testing
- Subsystem Testing
- End-to-End Testing
- System Acceptance Testing
- Project Completion and Close Out

1.4.9.1 System Integration and Testing

The contractor will be responsible for all Integration and Testing for the System, and the Construction, Engineering and Inspection (CEI) engineer(s) will be responsible for oversight of all Integration and Testing efforts. Arrangements must be made with FDOT D6 and FTE personnel prior to performing any testing or integration that uses an existing communications system component. As part of the Integration and Test Plan, the contractor will provide Stand-Alone, Subsystem and System Acceptance Testing Procedures as described in detail in the following sections. Due to the overlap of tolling equipment and operations between FTE and FDOT D6, these procedures will be reviewed by FTE, FDOT D6, and Consultant personnel to ensure that the procedures will demonstrate full compliance with the project requirements.

As a part of this integration, the construction contractors will be responsible for integrating all ITS components installed in their contract into the SunGuide® software and the Statewide Express Lanes Software (SELS), as well as testing and confirming a fully functioning ITS/toll system.

1.4.9.2 Stand-Alone Testing

As previously described, the contractor is responsible for developing Stand-Alone Test (SAT) Procedures for each device used on the Project. The Stand-Alone Test Procedures are to be submitted as part of the Project Integration and Testing Plan. The procedures will be reviewed by FTE, FDOT D6, and Consultant personnel to ensure that the contractor clearly demonstrates their adherence to Project Requirements.

Each piece of equipment at each individual site must be tested to show compliance with the Project Requirements. Stand-Alone Testing of a site will be accomplished only after all equipment at that site can be shown to work as a stand-alone unit. Stand-Alone Testing must be completed prior to any System Integration efforts.

1.4.9.3 Subsystem Testing

The Subsystem Test Procedures are to be submitted as part of the Project Integration and Test Plan. The Subsystem Test shall be developed such that it demonstrates connectivity to the entire system and can demonstrate adherence to the project requirements for each of the systems being deployed. The procedures will be reviewed by FTE, FDOT D6, and Consultant personnel to ensure that the contractor clearly demonstrates their adherence to Project Requirements.

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1.4.9.4 End-to-End Testing

After successful completion of the subsystem testing, the contractor will be responsible for demonstrating all components of the project are detecting and tolling all vehicles. This shall be achieved by driving probe vehicles, with preestablished transponder serial numbers, within the express lanes in order to successfully show each vehicle is properly identified and charged for the segments in which the vehicle traveled. The contractor will provide documentation of the end-to-end test.

1.4.9.5 System Acceptance Testing

The contractor, while being observed by CEI, FTE, and FDOT D6 personnel, will perform a systemwide test at the FTE TMC in Pompano and the FDOT D6 TMC. The contractor will be responsible for ensuring all ITS components are operational at both TMCs. Due to the complexity of equipment being owned by FTE and FDOT D6, with I-95 Express Lanes equipment being operated by both FTE and FDOT D6, it is imperative that the system be fully functional at both TMCs.

1.4.9.6 Project Completion and Close Out

Upon successful completion of the final system test, the contractor will turn over responsibility for all components of the project to FDOT D6 and FTE. The contractor will provide documentation of the final system test. The contractor will also provide as-built documentation for all infrastructure as well as device warranties and all other applicable documentation.

1.5 Project Management and Control

The tasks in this activity include risk assessment and mitigation planning, technical project management monitoring, budget reallocation, and maintaining the cost and schedule status. Responsibilities of the FDOT PM or their representative and the CEI during this task are to ensure that the engineering process is complete and that the system design information is released to the appropriate users. **Figure 7** provides an illustration of the ITS project stages.

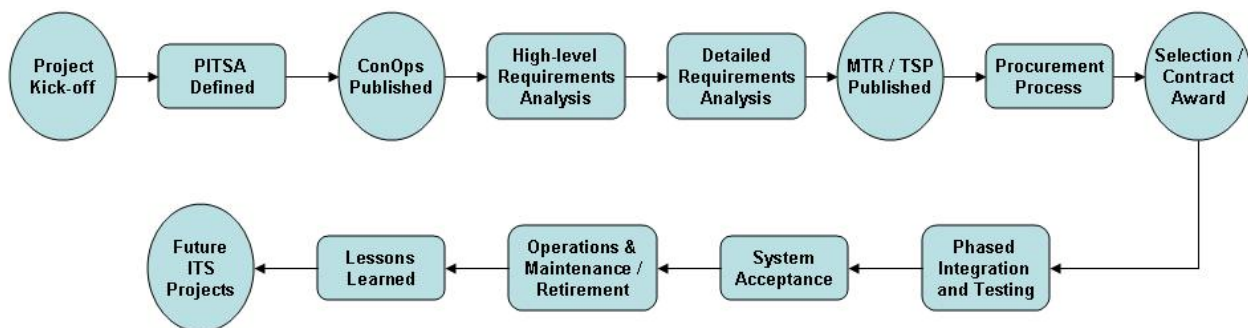


Figure 7: ITS Project Stages

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1.5.1 Organization Structure

The designer and contractor will work with the FDOT PMs, FTE and/or their representative and the CEI PM to facilitate the successful and efficient completion of the project.

The CEI will have the primary responsibility for construction inspection and oversight; however, the FDOT PMs, FTE and/or their representatives may share some of the inspection responsibilities for the project.

The contractor will be required to submit an organizational structure for the project as well. The designer will be responsible for all design aspects to include coordination with power companies, all utility schedules, obtaining all permits, all survey and geotechnical investigation, etc. The contractor's responsibilities are further defined in the RFP/Scope for the project.

1.5.2 Managing the Schedule

An initial schedule will be developed during the plans and specifications package development, which will be fine-tuned when the contractor is selected. The final project schedule will be developed with coordination between the FDOT PMs and/or their representatives, the CEI PM, and the contractor.

1.5.3 Procurement Management

The contractor and their sub-contractors will be responsible for procurement of all materials, devices, structures, etc. required to complete the construction, integration, and testing of the project. Any items to be used on the project must be submitted to the designer for their review and approval. The designer is responsible for reviewing the submittal to ensure that it is on the FDOT APL, as applicable, and meets all contract specifications and requirements. The contractor will only be compensated for items which have received approval of the designer and are performing as required by the project requirements.

1.5.4 Risk Management

The preliminary risk identification, assessment, and mitigation approach is described in **Section 1.4.6** herein. The FDOT PM reviews the matrix created by the Systems Engineer and adds some project-level or external risks that are deemed appropriate. This generates a new risk matrix. The new risk matrix will be evaluated by the FDOT PM and the Systems Engineer on a regular basis, especially during or after major reviews.

1.5.5 Subcontractor Management

The contractor is considered the "Prime" of the project. The prime contractor may hire or team up with subcontractors as needed. In such cases, the prime is directly responsible for managing the sub-contractors/sub-consultants. Sublet documentation is required to be submitted to FDOT D6 and FTE by the Contractor for any subcontractors who will be working on the project.

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The subcontractors sublet paperwork must be approved by FDOT D6 prior to them performing any work on the project.

1.5.6 Engineering Specialty Integration

Engineering specialties are highly focused engineering disciplines included in the project to support the FDOT D6 TMS&O PMs. These specialists increase the expertise available to the project team and support the specialty requirements of the project. For this project, it is not anticipated that anyone outside of FDOT/FTE Tolling, Construction, TMS&O, and Consultant staff will be required to assist with the Design, Construction Oversight, Integration or Testing for the Projects. For these projects, all ITS related engineering and implementation will be provided by the ITS Design Team and/or the ITS Contractor. The design and construction contractor representatives will be supported by other FDOT/FTE resources as required.

1.5.6.1 Integrated Logistics Support and Maintenance Engineering

This engineering specialty is responsible for determining the total support required for a system to ensure operational readiness and sustainability throughout its life cycle. The inclusion of integrated logistics support and maintenance engineering will be further evaluated during the PD&E and design phase of the *subsequent* projects.

1.5.7 Project Status Reviews

The PD&E Engineer of Record (EORs), designer, and contractor will have periodic meetings with the FDOT PMs or their representatives and other agencies as required for the resolution of concept, design, and/or construction issues. These meetings may include:

- Action Item reviews and resolution
- County technical issue resolution
- Permit agency coordination
- Local government agency coordination
- Scoping meetings
- Pre-construction meeting
- Major risk item reviews
- Critical path item status review
- Risk Analysis

Each contractor will, on a monthly basis, provide an updated Project Schedule and provide written progress reports that describe the items of concern and the work performed on each task.

In addition to the project specific progress meetings, the PD&E EOR(s), designer, or contractor will have periodic meetings with the other I-95 corridor projects being planned/designed/constructed simultaneously. This will help with the in-depth coordination that will need to take place to ensure the success of the I-95 corridor. It is recommended that at minimum, FDOT PMs, TSM&O/TMC staff, and tolling operations staff from every project listed in this document attend these meetings.

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1.5.8 Change Management

Changes related to the operations of the express lanes or the software used to manage them, SunGuide®, require careful review. The CEI, acting for the Construction PM, will inform stakeholders of changes to requirements, systems, and functionality to exhibit the subsequent outcomes. The CEI is responsible for coordinating with the ITS PM and the Construction PM to determine acceptance of any changes. All changes after the preliminary design must be well documented and distributed to all relevant stakeholders. A single document, developed in accordance with the Construction Project Administration Manual, will be compiled throughout the duration of the Project, which documents all changes that have been made to the Specifications and Plans. Design changes or field changes, due to unforeseen field conditions, must be documented as previously described as well as being included in the as-built set of plans.

Proposed changes to the SunGuide® software that improve the operational strategies used to manage the transportation network must be brought before the Change Management Board (CMB) that governs the changes to the software. These changes must be proposed, evaluated, and accepted prior to the completion of construction and will be evaluated during the testing of the system.

1.5.9 Quality Management

The EOR shall provide a Quality Management (QM) plan that describes the procedures to be utilized to verify, independently check, and review all design drawings, specifications, and other documentation prepared as a part of this project. The FDOT PM shall describe how the checking and review processes are to be documented to verify that the required procedures will be followed. The QM Plan may be one utilized by the designer as part of their normal operation or may be one specifically designed for this Project. The designer shall utilize either FDOT's quality control checklist (depending on which entity operates the system in question). The responsible Professional Engineer that performed the Quality Control (QC) review shall sign a statement certifying that the review will be conducted.

The contractor will be responsible for developing and maintaining a Construction QC Plan which describes their quality control procedures to verify, check, and maintain control of key construction processes and materials.

1.5.10 Systems Acceptance

The systems acceptance process is critical because this is where FDOT D6 becomes responsible for the continued maintenance and management of the systems, products, and processes delivered.

The Construction PM will assign a FDOT D6, Consultant or CEI staff member to oversee the project testing. The person designated to oversee the testing must be familiar with the FDOT D6 and FTE Network Architectures and ITS Systems. The designated individual will use the plans, specifications, and RTVM to supervise the entire testing process. They will provide the status of all tests in report form to the FDOT PM, who will carefully review the reports and decide upon the final acceptance of the system.

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1.5.11 Operations and Maintenance, Upgrade, and Retirement

At the start of construction, the construction contractor will be responsible for the maintenance of ITS devices within the project limits or as otherwise defined in the Contract. As a part of this maintenance support, the construction contractor will prepare an ITS Repair Plan for submittal and approval by FDOT D6 and FTE. Once completed, the ITS Repair Plan will become an Appendix to this PSEMP. This plan will be supplemented with a written assessment of all existing ITS devices and acceptance of the current condition of all ITS devices and infrastructure on the project. Any failures of devices within the project limits after the assessment is complete will be the contractor's responsibility to maintain.

It is recommended that, at minimum, shared use of CCTVs owned by one agency but in close proximity to the other is addressed to increase the surveillance capabilities of each agency without the unnecessary cost of installing new cameras. For devices that will not be shared, the understanding is that along FTE facilities, FTE will own and maintain all the ITS and Tolling devices, with the exception of any Toll Amount Dynamic Message Signs (TADMS) and Lane Status Dynamic Message Signs (LSDMS) that display information from FDOT D6. Those signs will be operated by FDOT D6 but maintained by FTE as they are within FTE right of way. FDOT D6 will own and maintain all ITS devices, LSDMS, and TADMS within their jurisdiction, while all tolling equipment will be operated and maintained by FTE. Each agency will be responsible for upgrading and retiring all devices at the conclusion of the warranty period within their jurisdiction in the same manner as discussed earlier in this paragraph.

1.5.12 Lessons Learned

At the completion of the Project, the contractor, FDOT Construction, Tolling (w/ FTE), TSM&O personnel, and project CEI personnel will meet to discuss lessons learned for this Project. The lessons learned will then be incorporated into this document by FDOT D6 TSM&O Staff, or their designee, prior to begin considered final.

2. User Definitions

None currently.

End of Document

PSEMP for I-95 Corridor Planning Study

The table below will be updated during each phase of the project. Version numbers shall be used to represent the evolution of the document as the project(s) is developed and refined.

DOCUMENT REVISION HISTORY			
Version Number	Approved Date	Description of Change(s)	Created/ Modified By
1.0		Initial PSEMP – Planning / Pre-PD&E Phase	Gregg Letts, P.E.