

EXHIBIT B-4

SCOPE OF EARLY WORK

[SEE ATTACHED]

Exhibit F - Early Work Package/Deliverables
FLUOR-LANE Cash Flow by Package (20% - 80% Payment)

#	Pkg. No.	Package Content or Activities	March-12	April-12	May-12	June-12	July-12	Package/Activity 5-Mo. Total
A. FHWA Eligible Design Costs that will NOT be Reimbursed to FHWA if Project Does Not Reach Financial Close								
Project Wide								
1		Design Monthly Expenses	\$ 141,240	\$ 256,800	\$ 179,760	\$ 115,560	\$ 590,640	\$ 1,284,000
2		Project Management	\$ 113,400				\$ 453,600	\$ 567,000
3		Soundwall Analysis Report Segment 1		\$ 19,000			\$ 76,000	\$ 95,000
4		Soundwall Analysis Report Segment 4	\$ 38,000				\$ 152,000	\$ 190,000
5		Design Quality Management Plan	\$ 3,000		\$ 12,000			\$ 15,000
6		Right-of-Way Acquisition Plan	\$ 4,000	\$ 16,000				\$ 20,000
7		Utility Relocation Plan	\$ 4,000	\$ 16,000				\$ 20,000
8		Subsurface Utility Exploration	\$ 25,000				\$ 100,000	\$ 125,000
9		Environmental Mitigation and Permitting	\$ 68,000				\$ 272,000	\$ 340,000
Project Wide Costs FHWA Eligible Subtotal			\$ 396,640	\$ 307,800	\$ 191,760	\$ 115,560	\$ 1,644,240	\$ 2,656,000
Segment 1								
10	n/a	Geotechnical Laboratory Services	\$ 58,868			\$ 235,472		\$ 294,340
11	n/a	Geotechnical Analysis and Preliminary Recommendations	\$ 15,000		\$ 60,000			\$ 75,000
12	n/a	Geotechnical Data Report Volume 1	\$ 12,300				\$ 49,200	\$ 61,500
13	n/a	Geotechnical Engineering Report Volume 1	\$ 31,500				\$ 126,000	\$ 157,500
14	n/a	Geotechnical Field Services (Noise Barriers)						\$ -
15	n/a	Survey	\$ 68,870		\$ 275,482			\$ 344,352
17	1_C&G01	Clearing & Grubbing / Erosion and Sediment Control	\$ 42,300			\$ 169,200		\$ 211,500
18	n/a	Roadway Geometrics Review Package	\$ 10,500	\$ 42,000				\$ 52,500
19	1_UTI01a	Utility Coordination and Relocation Design - Zones 1.1, 1.2, 1.3	\$ 120,000			\$ 480,000		\$ 600,000
20	1_UTI01b					\$ 120,000		\$ 120,000
21	1_IGD01a	Initial Grading and Drainage (IGD) Package 1 - Zones 1.1, 1.2, 1.3	\$ 36,000			\$ 144,000		\$ 180,000
22	1_IGD01b					\$ 22,500		\$ 22,500
23	1_RDY01a	Final Roadway (FR) Package 1 - Zones 1.1, 1.2, 1.3	\$ 129,750		\$ 519,000			\$ 648,750
24	1_RDY01b				\$ 90,000	\$ 360,000		\$ 450,000
25	1_BRI01	Stage 1 Bridges, Zone 1.1 (B67A, B67B, B68)	\$ 18,000	\$ 72,000				\$ 90,000
29	1_RTW01a	Retaining Walls RW-8, RW-9, RW-10 (JHS Flyover)	\$ 8,250		\$ 33,000			\$ 41,250
30	1_RTW01b					\$ 15,000		\$ 15,000
33	1_BRI02	Stage 1 Bridges, Zone 1.2 (B69, B70, B71)	\$ 18,000	\$ 72,000				\$ 90,000
37	1_RTW02	Retaining Walls RW-4, RW-5, RW-6 (Chopawamsic and Telegraph)	\$ 10,500			\$ 42,000		\$ 52,500
38	1_BRI03	Stage 1 Bridges, Zone 1.3 (B72A)	\$ 6,000	\$ 24,000				\$ 30,000
39	1_BRI04	Stage 1 Bridges, Zone 1.3 (B72)	\$ 6,000	\$ 24,000				\$ 30,000
42	1_RTW03	Retaining Walls RW-1 RW-2, RW-3 (Flyover GHS)	\$ 22,500					\$ 22,500
Segment 1 Costs FHWA Eligible Subtotal			\$ 614,338	\$ 234,000	\$ 887,482	\$ 1,160,672	\$ 692,700	\$ 3,589,192
Segment 2								
47	n/a	Survey Services		\$ 40,000			\$ 160,000	\$ 200,000
Segment 2 Costs FHWA Eligible Subtotal			\$ -	\$ 40,000	\$ -	\$ -	\$ 160,000	\$ 200,000
Segment 3								
58	n/a	Survey Services	\$ 96,000				\$ 384,000	\$ 480,000
59	n/a	Geotech Services		\$ 130,000			\$ 520,000	\$ 650,000
60	3NRDY01a	Segment 3 NORTH ADVANCE ROADWAY - Erosion and Sediment Control, Clearing & Grubbing, Barrier Demo, Duct Banks & Phase 1 Steps 1&2	\$ 81,400	\$ 325,600				\$ 407,000
61	3NRDY01b	MOT (East Shldr Rehab and West Side Construction) (North of Sta. 1173+00)			\$ 12,400	\$ 49,600		\$ 62,000
62	3NRDY02a	Segment 3 NORTH ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)	\$ 295,800	\$ 1,183,200				\$ 1,479,000
63	3NRDY02b				\$ 238,200	\$ 952,800		\$ 1,191,000
65	3SRDY01	Segment 3 SOUTH COMPLETE ROADWAY - Roadway/Drainage Plans/Details, Erosion/Sediment Control, Sound Wall Plans/Details & MOT (South of Sta. 1173+00)					\$ 323,000	\$ 323,000
68	3NBRI02	Bridge B47 (Stage 1 TS&L)	\$ 21,000			\$ 84,000		\$ 105,000
72	3NBRI05	Bridge B49A (Stage 1 TS&L)	\$ 10,000			\$ 40,000		\$ 50,000
Segment 3 Costs FHWA Eligible Subtotal			\$ 504,200	\$ 1,638,800	\$ 250,600	\$ 173,600	\$ 2,179,800	\$ 4,747,000
Segment 4								
82	n/a	Survey Services	\$ 36,000				\$ 144,000	\$ 180,000
83	n/a	Geotech Services		\$ 99,200			\$ 396,800	\$ 496,000
84	4_RDY01a	Segment 4 ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Shldr Rehab and West Side Construction), Barrier Demo.	\$ 48,600	\$ 194,400				\$ 243,000
85	4_RDY01b				\$ 7,600	\$ 30,400		\$ 38,000
86	4_RDY02a	Segment 4 ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction)	\$ 107,600	\$ 430,400				\$ 538,000
87	4_RDY02b				\$ 125,600	\$ 502,400		\$ 628,000
89	4_BRI01	Bridge B29A (Stage 1 TS&L)	\$ 10,000			\$ 40,000		\$ 50,000
Segment 4 Costs FHWA Eligible Subtotal			\$ 202,200	\$ 724,000	\$ 133,200	\$ 70,400	\$ 1,043,200	\$ 2,173,000
TOTAL COSTS FOR FHWA ELIGIBLE			\$ 1,717,378	\$ 2,944,600	\$ 1,463,042	\$ 1,520,232	\$ 5,719,940	\$ 13,365,192

Exhibit F - Early Work Package/Deliverables
FLUOR-LANE Cash Flow by Package (20% - 80% Payment)

#	Pkg. No.	Package Content or Activities	March-12	April-12	May-12	June-12	July-12	Package/Activity 5-Mo. Total
B. Design Costs to be Reimbursed to FHWA, if Project Does Not Reach Financial Close								
Segment 1								
26	1_BRI05	Bridge B67A (Flyover JHS) Superstructure Final Design	\$ 27,000				\$ 108,000	\$ 135,000
27	1_BRI06a	Bridge B67A (Flyover JHS) Substructure Final Design	\$ 25,500			\$ 102,000		\$ 127,500
28	1_BRI06b						\$ 22,500	\$ 22,500
31	1_BRI07	Bridge B68 (Joplin Road) Final Design			\$ 36,000		\$ 144,000	\$ 180,000
34	1_BRI09	Bridge B69 (Russell Road) Final Design		\$ 39,000			\$ 156,000	\$ 195,000
35	1_BRI10	Bridge B70 (Chopawamsic Creek) Final Design		\$ 39,000			\$ 156,000	\$ 195,000
36	1_BRI11	Bridge B71 (Telegraph Road) Final Design		\$ 39,000			\$ 156,000	\$ 195,000
40	1_BRI12	Bridge B72 (Aquia Creek) Final Design					\$ 82,500	\$ 82,500
41	1_BRI13	Bridge B72A (Flyover GHS) Final Design		\$ 36,000			\$ 144,000	\$ 180,000
43	1_MRD01a	Traffic Plans Package 1 - Final Signing, Lighting	\$ 48,000		\$ 192,000			\$ 240,000
44	1_MRD01b					\$ 27,000	\$ 108,000	\$ 135,000
45	1_MRD02a	Traffic Plans Package 2 - ITS	\$ 64,500		\$ 258,000			\$ 322,500
46	1_MRD02b					\$ 42,000	\$ 168,000	\$ 210,000
Segment 1 Costs Reimbursed to FHWA if no F/C Subtotal			\$ 165,000	\$ 153,000	\$ 486,000	\$ 171,000	\$ 1,245,000	\$ 2,220,000
Segment 2								
49	2NRDY01a	Segment 2 NORTH ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Barrier Demo, Duct Banks, Phase 1 MOT (West Side Construction), (N. of Sta. 643)	\$ 23,400	\$ 93,600				\$ 117,000
50	2NRDY01b					\$ 3,600	\$ 14,400	\$ 18,000
51	2NRDY02	Segment 2 NORTH ROADWAY - Roadway/Draingae Plans/Details & Phase 2 MOT (East Side Construction) (N. of Sta 643)		\$ 81,200			\$ 324,800	\$ 406,000
52	2NSDW01	Segment 2 NORTH SOUND WALLS - Sound Wall Plans/Details & Phase 3 MOT (Sound Wall Construction) (N. of Sta.643)				\$ 14,400	\$ 57,600	\$ 72,000
53	2SRDY01	Segment 2 SOUTH COMPLETE ROADWAY - Roadway/Drainage Plans/Details, Erosion/Sediment Control, Sound Wall Plans/Details & MOT (South of Sta.643)					\$ 133,000	\$ 133,000
Segment 2 Costs Reimbursed to FHWA if no F/C Subtotal			\$ 23,400	\$ 174,800	\$ 3,600	\$ 28,800	\$ 515,400	\$ 746,000
Segment 3								
69	3NBRI03a	Bridge B47 (Substructure/ Precast Beams/Walls)	\$ 44,400	\$ 177,600				\$ 222,000
70	3NBRI03b					\$ 35,800	\$ 143,200	\$ 179,000
71	3NBRI04	Bridge B47 (Stage 2 Final Package)					\$ 84,000	\$ 84,000
74	3NBRI07	Bridge B49A (Stage 2 Final Package)					\$ 67,000	\$ 67,000
79	3NMRD01a	Segment 3 NORTH -Misc. Rdwy (Lighting/ITS/Tolling/Pavement Marking, Signals)	\$ 133,200	\$ 532,800				\$ 666,000
80	3NMRD01b				\$ 133,200		\$ 532,800	\$ 666,000
Segment 3 Costs Reimbursed to FHWA if no F/C Subtotal			\$ 177,600	\$ 710,400	\$ 169,000	\$ -	\$ 827,000	\$ 1,884,000
Segment 4								
92	4_MRD01a	Segment 4 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	\$ 96,000		\$ 384,000			\$ 480,000
93	4_MRD01b					\$ 48,000	\$ 192,000	\$ 240,000
Segment 4 Costs Reimbursed to FHWA if no F/C Subtotal			\$ 96,000	\$ -	\$ 384,000	\$ 48,000	\$ 192,000	\$ 720,000
TOTAL COSTS FOR FHWA REIMBURSEMENT IF NO F/C			\$ 462,000	\$ 1,038,200	\$ 1,042,600	\$ 247,800	\$ 2,779,400	\$ 5,570,000
C. Design Management Costs - will NOT be Reimbursed to FHWA if Project Does Not Reach Financial Close								
Design Management for milestone packages submitted for payment in March			\$ 416,574					\$ 416,574
Design Management for milestone packages submitted for payment in April				\$ 757,408				\$ 757,408
Design Management for milestone packages submitted for payment in May					\$ 530,185			\$ 530,185
Design Management for milestone packages submitted for payment in June						\$ 340,833		\$ 340,833
Design Management for milestone packages submitted for payment in July							\$ 1,742,038	\$ 1,742,038
Design Management - Monthly Totals			\$ 416,574	\$ 757,408	\$ 530,185	\$ 340,833	\$ 1,742,038	\$ 3,787,038
FHWA Non-payment; Early Work before Financial Close								
Segment 1								
32	1_BRI08	Bridge B67B (Quantic Creek)	\$ 19,500			\$ 78,000		\$ 97,500
Segment 1 FHWA Non Eligible Costs Subtotal			\$ 19,500	\$ -	\$ -	\$ 78,000	\$ -	\$ 97,500
Segment 2								
48	n/a	Geotech Services					\$ 180,000	\$ 180,000
54	2_BRI01	Minor Bridge Rehabs - B60A, B60B, B63, B63A, B65		\$ 41,600			\$ 166,400	\$ 208,000
55	2NMRD01a	Segment 2 NORTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	\$ 71,400		\$ 285,600			\$ 357,000
56	2NMRD01b					\$ 47,600	\$ 190,400	\$ 238,000
57	2SMRD01	Segment 2 SOUTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)					\$ 119,000	\$ 119,000
Segment 2 FHWA Non Eligible Costs Subtotal			\$ 71,400	\$ 41,600	\$ 285,600	\$ 47,600	\$ 655,800	\$ 1,102,000
Segment 3								
64	3NSDW01	Segment 3 NORTH SOUND WALLS - Sound Wall Plans/Details & Phase 3 MOT (Sound Wall Construction) (North of Sta. 1173+00)					\$ 50,000	\$ 50,000
66	3NBRI01	Seg 3 NORTH - Minor Bridge Rehabs - B32, B43A, 48B, B50		\$ 16,800			\$ 67,200	\$ 84,000

Exhibit F - Early Work Package/Deliverables
FLUOR-LANE Cash Flow by Package (20% - 80% Payment)

#	Pkg. No.	Package Content or Activities	March-12	April-12	May-12	June-12	July-12	Package/Activity 5-Mo. Total
67	3SBRI01	Seg 3 SOUTH-Minor Bridge Rehabs-B52, B52B, B53, B57, B57A, B59					\$ 90,000	\$ 90,000
73	3NBRI06	Bridge B49A (Structural Steel Package)	\$ 45,400				\$ 181,600	\$ 227,000
75	3SBRI02	Bridge B54 (Stage 1 TS&L)	\$ 12,800		\$ 51,200			\$ 64,000
76	3SBRI03	Bridge B54 (Stage 2 Final Package)		\$ 44,800			\$ 179,200	\$ 224,000
77	3SBRI04	Bridge B56 (Stage 1 TS&L)	\$ 15,000		\$ 60,000			\$ 75,000
78	3SBRI05	Bridge B56 (Stage 2 Final Package)		\$ 44,800			\$ 179,200	\$ 224,000
Segment 3 FHWA Non Eligible Costs Subtotal			\$ 73,200	\$ 106,400	\$ 111,200	\$ -	\$ 747,200	\$ 1,038,000

Segment 4								
88	4_SDW01	Segment 4 SOUND WALLS - Sound Wall Plans/Details & Phase 3 MOT (Sound Wall Construction)				\$ 33,600	\$ 134,400	\$ 168,000
90	4_BRI02	Bridge B29A (Substructure, Structural Steel, Walls)	\$ 42,000				\$ 168,000	\$ 210,000
Segment 4 FHWA Non Eligible Costs Subtotal			\$ 42,000	\$ -	\$ -	\$ 33,600	\$ 302,400	\$ 378,000

TOTAL COSTS FOR FHWA NON-PAYMENT	\$ 206,100	\$ 148,000	\$ 396,800	\$ 159,200	\$ 1,705,400	\$ 2,615,500
---	-------------------	-------------------	-------------------	-------------------	---------------------	---------------------

TOTAL COSTS FOR EARLY DESIGN WORK	\$ 2,385,478	\$ 4,130,800	\$ 2,902,442	\$ 1,927,232	\$ 10,204,740	\$ 21,550,692
--	---------------------	---------------------	---------------------	---------------------	----------------------	----------------------

TOTAL COSTS FOR EARLY DESIGN WORK WITH MARK-UP	\$ 2,814,865	\$ 4,874,344	\$ 3,424,881	\$ 2,274,134	\$ 12,041,593	\$ 25,429,817
---	---------------------	---------------------	---------------------	---------------------	----------------------	----------------------

Professional Services for Early Works

Mobilization of key staff	\$ 144,337	\$ 577,349				
Mobilization of remaining project staff for Early Works			\$ 137,099	\$ 548,395		
Partnering / Alignment Meetings	\$ 37,760					
Draft Project Management Plan	\$ 67,770	\$ 271,078				
Safety Plan	\$ 48,809	\$ 195,237				
Draft DBE/SWaM Plan	\$ 51,404	\$ 205,614				
Final DBE/SWaM Plan			\$ 89,878	\$ 359,514		
QA/QC Plan	\$ 140,321					
Baseline schedule	\$ 93,493	\$ 373,974				
Utility Conflict Report	\$ 18,800					
Traffic Control Plan				\$ 120,507	\$ 482,027	
Prepare Construction Subcontracting Plan			\$ 82,888	\$ 331,554		
Prepare construction mobilization plan					\$ 223,567	
Project Management	\$ 755,439				\$ 3,021,756	

Professional Services Subtotal	\$ 1,358,133	\$ 1,623,252	\$ 309,866	\$ 1,359,969	\$ 3,727,350	\$ 8,378,570
---------------------------------------	---------------------	---------------------	-------------------	---------------------	---------------------	---------------------

Total Monthly Payment	\$ 4,589,572	\$ 7,255,004	\$ 4,264,932	\$ 3,974,936	\$ 17,510,981	\$ 37,595,425
------------------------------	---------------------	---------------------	---------------------	---------------------	----------------------	----------------------

Summary of FHWA-Eligible Costs (from above):

A. TOTAL COSTS FOR FHWA ELIGIBLE	\$ 1,717,378	\$ 2,944,600	\$ 1,463,042	\$ 1,520,232	\$ 5,719,940	\$ 13,365,192
B. TOTAL COSTS FOR FHWA REIMBURSEMENT IF NO F/C	\$ 462,000	\$ 1,038,200	\$ 1,042,600	\$ 247,800	\$ 2,779,400	\$ 5,570,000
C. DESIGN MANAGEMENT MONTHLY TOTALS	\$ 416,574	\$ 757,408	\$ 530,185	\$ 340,833	\$ 1,742,038	\$ 3,787,038

TOTAL: \$ 22,722,230

Exhibit F - Early Work Package/Deliverables FLUOR-LANE Package Content/Scope of Work

#	Pkg. No.	Package Content or Activities	Content/Sheets
Project Wide			
1		Design Monthly Expenses	Direct expenses, reproduction, travel, etc.
2		Project Management	Labor associated with QA/QC, scheduling, staffing, etc.
3		Soundwall Analysis Report Segment 1	Soundwall Report
4		Soundwall Analysis Report Segment 4	Soundwall Report
5		Design Quality Management Plan	DQMP
6		Right-of-Way Acquisition Plan	Right of Way Plan Acquisition Plan
7		Utility Relocation Plan	Utility Relocation Plan
8		Subsurface Utility Exploration	Utility Relocation Data
9		Environmental Mitigation and Permitting	Permits, Memos
Segment 1			
10	n/a	Geotechnical Laboratory Services	Laboratory Reports
11	n/a	Geotechnical Analysis and Preliminary Recommendations	Draft Recommendations
12	n/a	Geotechnical Data Report Volume 1	Field Data, Geotech Reports for each Package
13	n/a	Geotechnical Engineering Report Volume 1	Field Data, Geotech Reports for each Package
14	n/a	Geotechnical Field Services (Noise Barriers)	Field Data, Geotech Reports for each Package
15	n/a	Survey	Survey Data
16	1_ROW01	Right of Way Acquisition Plans	Right of Way Plan Sheets
17	1_C&G01	Clearing & Grubbing / Erosion and Sediment Control Zones 1.1, 1.2, 1.3 - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Typical Sections, Roadway Plans, Roadway Details, Erosions/Sediment Plans/Control Details/Notes/Details, MOT Notes/Typical Sections/Plans/Details, Standards, Cross Sections
18	n/a	Roadway Geometrics Review Package	Title Sheet, Index of Sheets, Sheet Layout Plan, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Scroll plans and profiles, Typical Sections
19	1_UTI01a	Utility Coordination and Relocation Design - Zones 1.1, 1.2, 1.3 - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Subsurface utility data and test hole information, Utility Relocation Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
20	1_UTI01b	Utility Coordination and Relocation Design - Zones 1.1, 1.2, 1.3 - 100% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Subsurface utility data and test hole information, Utility Relocation Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
21	1_IGD01a	Initial Grading and Drainage (IGD) Package 1 - Zones 1.1, 1.2, 1.3 - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
22	1_IGD01b	Initial Grading and Drainage (IGD) Package 1 - Zones 1.1, 1.2, 1.3 - 100% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
23	1_RDY01a	Final Roadway (FR) Package 1 - Zones 1.1, 1.2, 1.3 - 30% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Soundwall Notes/ Typical Sections/Plans/Details, Cross Sections, Standards

Exhibit F - Early Work Package/Deliverables FLUOR-LANE Package Content/Scope of Work

#	Pkg. No.	Package Content or Activities	Content/Sheets
24	1_RDY01b	Final Roadway (FR) Package 1 - Zones 1.1, 1.2, 1.3 - 60% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Soundwall Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
25	1_BRI01	Stage 1 Bridges, Zone 1.1 (B67A, B67B, B68)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details
26	1_BRI05	Bridge B67A (Flyover JHS) Superstructure Final Design	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Substructure Layout, Transverse Sections, Deck Slab Plans,/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Bridge Conduit Details, Drilled Shaft Details, Scupper/Piping Details,, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary
27	1_BRI06a	Bridge B67A (Flyover JHS) Substructure Final Design - 80% Plans	Title Sheet, Index of Sheets, General Notes, Curved Bridge Layout, Sequence of Construction, Deck Slab Elevations, Framing Plan, Girder Elevations, Field Splice Details, Girder Details, Cross Frame Details, Integral Pier Cap Details, Dead Load Deflection Diagrams, Camber Diagram, Deck Elevation along Girder
28	1_BRI06b	Bridge B67A (Flyover JHS) Substructure Final Design - 90% Plans	Title Sheet, Index of Sheets, General Notes, Curved Bridge Layout, Sequence of Construction, Deck Slab Elevations, Framing Plan, Girder Elevations, Field Splice Details, Girder Details, Cross Frame Details, Integral Pier Cap Details, Dead Load Deflection Diagrams, Camber Diagram, Deck Elevation along Girder
29	1_RTW01a	Retaining Walls RW-8, RW-9, RW-10 (JHS Flyover) - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Retaining Wall Plans/Elevations/Details, Retaining Wall Cross Sections, Standards
30	1_RTW01b	Retaining Walls RW-8, RW-9, RW-10 (JHS Flyover) - 90% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Retaining Wall Plans/Elevations/Details, Retaining Wall Cross Sections, Standards
31	1_BRI07	Bridge B68 (Joplin Road) Final Design	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Slope Protection Details, Transverse Sections, Substructure Layout, Sequence of Construction Framing Plan, Beam Details, Cross Frame Details, Dead Load Deflection/Camber Diagrams, Deck Slab Plans,/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary
32	1_BRI08	Bridge B67B (Quantico Creek) and NB GP Quantico Creek Bridge	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Sequence of Construction, Approach Slab Details, Reinforcing Steel Schedule, Deck Repair Plan, Misc. Repair Details, Soundwall Plans/Elevations/Details, Standards
33	1_BRI02	Stage 1 Bridges, Zone 1.2 (B69, B70, B71)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details
34	1_BRI09	Bridge B69 (Russell Road) Final Design	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Slope Protection Details, Transverse Sections, Substructure Layout, Sequence of Construction Framing Plan, Field Splice Details, Girder Details, Cross Frame Details, Dead Load Deflection Diagrams, Deck Slab Plans,/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Abutment Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary
35	1_BRI10	Bridge B70 (Chopawamsic Creek) Final Design	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Slope Protection Details, Transverse Sections, Substructure Layout, Sequence of Construction Framing Plan, Field Splice Details, Girder Details, Cross Frame Details, Dead Load Deflection Diagrams, Deck Slab Plans,/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Abutment Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary
36	1_BRI11	Bridge B71 (Telegraph Road) Final Design	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Slope Protection Details, Transverse Sections, Substructure Layout, Sequence of Construction Framing Plan, Field Splice Details, Girder Details, Cross Frame Details, Dead Load Deflection Diagrams, Deck Slab Plans,/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary

Exhibit F - Early Work Package/Deliverables FLUOR-LANE Package Content/Scope of Work

#	Pkg. No.	Package Content or Activities	Content/Sheets
37	1_RTW02	Retaining Walls RW-4, RW-5, RW-6 (Chopawamsic and Telegra	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Retaining Wall Plans/Elevations/Details, Retaining Wall Cross Sections, Standards
38	1_BRI03	Stage 1 Bridges, Zone 1.3 (B72A)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details
39	1_BRI04	Stage 1 Bridges, Zone 1.3 (B72)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details
40	1_BRI12	Bridge B72 (Aquia Creek) Final Design	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Slope Protection Details, Transverse Sections, Substructure Layout, Sequence of Construction Framing Plan, Field Splice Details, Girder Details, Cross Frame Details, Dead Load Deflection Diagrams, Deck Slab Plans/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Abutment Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary
41	1_BRI13	Bridge B72A (Flyover GHS) Final Design	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Curved Bridge Layout, Sequence of Construction, Substructure Layout, Transverse Sections, Deck Slab Plans/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Bridge Conduit Details, Drilled Shaft Details, Scupper/Piping Details, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Deck Slab Elevations, Framing Plan, Girder Elevations, Field Splice Details, Girder Details, Cross Frame Details, Integral Pier Cap Details, Dead Load Deflection Diagrams, Camber Diagram, Deck Elevation along Girder, Design Summary
42	1_RTW03	Retaining Walls RW-1, RW-2, RW-3 (Flyover GHS)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Roadway Plans, Retaining Wall Plans/Elevations/Details, Retaining Wall Cross Sections, Standards
43	1_MRD01a	Miscellaneous Roadway Plans Package 1 - Final Signing, Pavement Marking, Lighting - 40% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
44	1_MRD01b	Miscellaneous Roadway Plans Package 1 - Final Signing, Pavement Marking, Lighting - 60% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
45	1_MRD02a	Miscellaneous Roadway Plans Package 2 - ITS - 30% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, Signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
46	1_MRD02b	Miscellaneous Roadway Plans Package 2 - ITS - 60% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, Signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
Segment 2			
47	n/a	Survey Services	Survey Data
48	n/a	Geotech Services	Field Data, Geotech Reports for each Package
49	2NRDY01a	Segment 2 NORTH ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Barrier Demo, Duct Banks, Phase 1 MOT (West Side Construction), (N. of Sta. 643) - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Typical Sections, Roadway Plans, Roadway Details, Erosions/Sediment Plans/Control Details/Notes/Details, MOT Notes/Typical Sections/Plans/Details, Standards
50	2NRDY01b	Segment 2 NORTH ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Barrier Demo, Duct Banks, Phase 1 MOT (West Side Construction), (N. of Sta. 643) - AFC Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Typical Sections, Roadway Plans, Roadway Details, Erosions/Sediment Plans/Control Details/Notes/Details, MOT Notes/Typical Sections/Plans/Details, Standards
51	2NRDY02	Segment 2 NORTH ROADWAY - Roadway/Draingae Plans/Details & Phase 2 MOT (East Side Construction) (N. of Sta 643)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards

Exhibit F - Early Work Package/Deliverables FLUOR-LANE Package Content/Scope of Work

#	Pkg. No.	Package Content or Activities	Content/Sheets
52	2NSDW01	Segment 2 NORTH SOUND WALLS - Sound Wall Plans/Details & Phase 3 MOT (Sound Wall Construction) (N. of Sta.643)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, MOT Notes/ Typical Sections/Plans/Details, Sound Wall Plans/Elevations/Details, Sound Wall Cross Sections, Standards
53	2SRDY01	Segment 2 SOUTH COMPLETE ROADWAY - Roadway/Drainage Plans/Details, Erosion/Sediment Control, Sound Wall Plans/Details & MOT (South of Sta.643)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
54	2_BRI01	Minor Bridge Rehabs - B60A, B60B, B63, B63A, B65	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, General Plan & Elevation, Sequence of Construction, Approach Slab Widening Details, Deck Drainage System Additions/Piping Details, Reinforcing Steel Schedule, Deck Repair Plan, Misc. Repair Details, Standards
55	2NMRD01a	Segment 2 NORTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking) - 30% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, Signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
56	2NMRD01b	Segment 2 NORTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking) - 60% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, Signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
57	2SMRD01	Segment 2 SOUTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, Signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
Segment 3			
58	n/a	Survey Services	Survey Data
59	n/a	Geotech Services	Field Data, Geotech Reports for each Package
60	3NRDY01a	Segment 3 NORTH ADVANCE ROADWAY - Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Shldr Rehab and West Side Construction), Barrier Demo. (North of Sta. 1173+00)- 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Typical Sections, Roadway Plans, Roadway Details, Erosions/Sediment Plans/Control Details/Notes/Details, MOT Notes/Typical Sections/Plans/Details, Standards
61	3NRDY01b	Segment 3 NORTH ADVANCE ROADWAY - Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Shldr Rehab and West Side Construction), Barrier Demo. (North of Sta. 1173+00) - 100% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Typical Sections, Roadway Plans, Roadway Details, Erosions/Sediment Plans/Control Details/Notes/Details, MOT Notes/Typical Sections/Plans/Details, Standards
62	3NRDY02a	Segment 3 NORTH ROADWAY- Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00) - 30% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
63	3NRDY02b	Segment 3 NORTH ROADWAY- Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00) - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards

Exhibit F - Early Work Package/Deliverables FLUOR-LANE Package Content/Scope of Work

#	Pkg. No.	Package Content or Activities	Content/Sheets
64	3NSDW01	Segment 3 NORTH - Sound Wall Plans/Details & Phase 3 MOT (Sound Wall Construction) (North of Sta. 1173+00)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, MOT Notes/ Typical Sections/Plans/Details, Sound Wall Plans/Elevations/Details, Sound Wall Cross Sections, Standards
65	3SRDY01	Segment 3 SOUTH - Complete Roadway/Drainage Plans/Details, Erosion/Sediment Control, Sound Wall Plans/Details & MOT (South of Sta. 1173+00)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
66	3NBRI01	Seg 3 NORTH - Minor Bridge Rehabs - B32, B43A, 48B, B50	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, General Plan & Elevation, Sequence of Construction, Approach Slab Widening Details, Deck Drainage System Additions/Piping Details, Reinforcing Steel Schedule, Deck Repair Plan, Misc. Repair Details, Standards
67	3SBRI01	Seg 3 SOUTH-Minor Bridge Rehabs-B52, B52B, B53, B57, B57A, B59	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, General Plan & Elevation, Sequence of Construction, Approach Slab Widening Details, Deck Drainage System Additions/Piping Details, Reinforcing Steel Schedule, Deck Repair Plan, Misc. Repair Details, Standards
68	3NBRI02	Bridge B47 (Stage 1 TS&L)	Title Sheet, General Plan and Elevation, Notes, Special Details, Transverse Section, Pier Details
69	3NBRI03a	Bridge B47 (Substructure/ Precast Beams/Walls) - 30% Plans	Title Sheet, Index of Sheets, General Notes, Substructure Layout Sequence of Construction, Deck Slab Elevation Control, Framing Plan, Prestressed Concrete beam Data, Diagonal Framing Beam Details, End Diaphragm Details, Special Design Drilled Mini-Piles, Pier Plan & Elevation, Pier Details
70	3NBRI03b	Bridge B47 (Substructure/ Precast Beams/Walls) - 70% Plans	Title Sheet, Index of Sheets, General Notes, Substructure Layout Sequence of Construction, Deck Slab Elevation Control, Framing Plan, Prestressed Concrete beam Data, Diagonal Framing Beam Details, End Diaphragm Details, Special Design Drilled Mini-Piles, Pier Plan & Elevation, Pier Details
71	3NBRI04	Bridge B47 (Stage 2 Final Package)	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Transverse Sections, Deck Slab Plans/Sections, Bearing Details, Cast-in-Place Concrete Parapet Details, Joint Modification Details, Bridge Conduit Details, Scupper/Piping Details, conduit Routing Details, Traffic Control Deck Modifications Reinforcing Steel Schedule, Design Summary, Repair Notes, Joint Reconstruction, Deck Repair Plan/Sections, Abutment/Pier/Misc Repair Details
72	3NBRI05	Bridge B49A (Stage 1 TS&L)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details
73	3NBRI06	Bridge B49A (Structural Steel Package)	Title Sheet, Index of Sheets, General Notes, Curved Bridge Layout, Sequence of Construction, Deck Slab Elevations, Framing Plan, Girder Elevations, Field Splice Details, Girder Details, Cross Frame Details, Integral Pier Cap Details, Dead Load Deflection Diagrams, Camber Diagram, Deck Elevation along Girder
74	3NBRI07	Bridge B49A (Stage 2 Final Package)	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Substructure Layout, Transverse Sections, Deck Slab Plans/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Bridge Conduit Details, Drilled Shaft Details, Scupper/Piping Details,, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary
75	3SBRI02	Bridge B54 (Stage 1 TS&L)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details, Construction Staging
76	3SBRI03	Bridge B54 (Stage 2 Final Package)	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Slope Protection Details, Transverse Sections, Substructure Layout, Sequence of Construction Framing Plan, Field Splice Details, Girder Details, Cross Frame Details, Dead Load Deflection Diagrams, Deck Slab Plans/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Repair Notes, Joint Reconstruction, Deck/Misc Repair Details, Design Summary
77	3SBRI04	Bridge B56 (Stage 1 TS&L)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details, Construction Staging
78	3SBRI05	Bridge B56 (Stage 2 Final Package)	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Slope Protection Details, Transverse Sections, Substructure Layout, Sequence of Construction Framing Plan, Field Splice Details, Girder Details, Cross Frame Details, Dead Load Deflection Diagrams, Deck Slab Plans/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Repair Notes, Joint Reconstruction, Deck/Misc Repair Details, Design Summary

Exhibit F - Early Work Package/Deliverables FLUOR-LANE Package Content/Scope of Work

#	Pkg. No.	Package Content or Activities	Content/Sheets
79	3NMRD01a	Segment 3 NORTH -Misc. Rdwy (Lighting/ITS/Tolling/Pavement Marking, Signals) - 30% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Traffic Signal Plans/Timing/Notes/Details, Standards
80	3NMRD01b	Segment 3 NORTH -Misc. Rdwy (Lighting/ITS/Tolling/Pavement Marking, Signals) - 60% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Traffic Signal Plans/Timing/Notes/Details, Standards
81	3SMRD01	Segment 3 SOUTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking, Signals)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Traffic Signal Plans/Timing/Notes/Details, Standards
Segment 4			
82	n/a	Survey Services	Survey Data
83	n/a	Geotech Services	Field Data, Geotech Reports for each Package
84	4_RDY01a	Segment 4 ADVANCE ROADWAY - Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Shldr Rehab and West Side Construction), Barrier Demo. - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Typical Sections, Roadway Plans, Roadway Details, Erosions/Sediment Plans/Control Details/Notes/Details, MOT Notes/Typical Sections/Plans/Details, Standards
85	4_RDY01b	Segment 4 ADVANCE ROADWAY - Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Shldr Rehab and West Side Construction), Barrier Demo. - AFC Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Typical Sections, Roadway Plans, Roadway Details, Erosions/Sediment Plans/Control Details/Notes/Details, MOT Notes/Typical Sections/Plans/Details, Standards
86	4_RDY02a	Segment 4 ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) - 30% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
87	4_RDY02b	Segment 4 ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) - 80% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, Plan and Utility Legend, Survey Control Sheets, Alignment/Curve Data Sheets, Typical Sections, Edge Treatment Details, Roadway Plans, Ramp Gore Details, Enforcement Area Details, Conc Barrier Transition Details, Gantry/LUMS/Pole Transition Details, Barrier Transitions at Bridge Piers/Culverts, Barrier/Guard Fence Opening Details, Emergency Mechanical Gate Details, Roadway Details, Drainage Tabulation Sheets, Drainage Plans/Details/Inlets/Manholes, Culvert Extension Plans/Elevation/Details, Pipe Profiles, Erosion/Sediment Plans/Control Details/Notes/Details, Storm Water Management Pond Plans/Sections/Details, MS-19 Plans/Sections/Details, Retaining Wall Plans/Elevations/Details, MOT Notes/ Typical Sections/Plans/Details, Cross Sections, Standards
88	4_SDW01	Segment 4 - Sound Wall Plans/Details & Phase 3 MOT (Sound Wall Construction)	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, MOT Notes/ Typical Sections/Plans/Details, Sound Wall Plans/Elevations/Details, Sound Wall Cross Sections, Standards
89	4_BRI01	Bridge B29A (Stage 1 TS&L)	Title Sheet, General Plan and Elevation, Notes, Transverse Section, Pier Details, Abutment Details
90	4_BRI02	Bridge B29A (Substructure, Structural Steel, Walls)	Title Sheet, Index of Sheets, General Notes, Curved Bridge Layout, Sequence of Construction, Deck Slab Elevations, Framing Plan, Girder Elevations, Field Splice Details, Girder Details, Cross Frame Details, Integral Pier Cap Details, Dead Load Deflection Diagrams, Camber Diagram, Deck Elevation along Girder
91	4_BRI03	Bridge B29A (Stage 2 Final Package)	Title Sheet, Index of Sheets, General Notes, General Plan & Elevation, Substructure Layout, Transverse Sections, Deck Slab Plans,/Sections, Bearing Details, Elastomeric Expansion Dam, Cast-in-Place Concrete Parapet Details, Bridge Conduit Details, Drilled Shaft Details, Scupper/Piping Details,, Abutment Plan/Elevation/Details, Pier Plan/Elevation/Details, Reinforcing Steel Schedules, Engineering Geology, Approach Slab, Design Summary

Exhibit F - Early Work Package/Deliverables FLUOR-LANE Package Content/Scope of Work

#	Pkg. No.	Package Content or Activities	Content/Sheets
92	4_MRD01a	Segment 4 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking) - 30% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards
93	4_MRD01b	Segment 4 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking) - 60% Plans	Title Sheet, Index of Sheets, Sheet Layout Plan, Revision Data Sheet, General Notes, ITS/Tolling/Comm/LUMS Plans, Special Detail Sheets, Comm/Detection/Mounting/Installation Details, Transition Plan, Elevation, Interim System Plans, signing/Pavement Plans, Guide Sign, Sign Face Layouts/Schedule, Sign Elevation Sheets, Sign/Structure Details, Lighting/Electrical Plans/Details/Calculation Reports, Comm Electrical Service Plans, Standards

Exhibit F

Project Early Works Design Activities

Fluor – Lane Management Activities & Deliverables

1.0 DESIGN MANAGEMENT Scope of Work

1.1 Design Management Activities

The Work will include project management for the design activities encompassing scheduling, budgeting (internal and design subconsultants), coordination/liaison with all Project participants, supervising activities under each task, progress reporting, and invoicing.

Design Management tasks include:

- Management of the Design Builder Contractor's (DBC's) resources assigned to the Project and design sub-consultants.
- Create and execute design subconsultant contracts
- Tracking and reporting the progress of design subconsultant progress for budget, schedule, quality and innovation.
- Management, review and reporting of DBE/SWaM sub-consultants.
- Providing overall project coordination between technical disciplines involved in the project and interfacing and communicating the design concepts with the construction team.
- Providing interpretation, coordination and communication between the engineering and construction on project specific technical issues.
- Assigning appropriate resources to the Project.
- Assuring that agreements are in place for scopes of work.
- Create a Work Plan detailing the interrelationship of design events.
- Develop a schedule of deliverables (updated as required) as identified in the scope of services.
- Develop invoicing procedures.
- Establish and monitor interfaces between the TTMS and the DBC.
- Create and review input from the design team for payment invoicing and reconciliation.
- Implementation and management of reporting requirements to the Concessionaire, VDOT and FHWA.
- Early Works compliance monitoring.
- Develop and manage Document Control Procedures including: Designation of personnel responsible for internal Document Control; establishing locations for internal project documents; establishing internal electronic file formats and procedures; and developing procedures to transmit and receive documents (internal and external).
- Participate in coordination meetings.

1.2 Project Development Plans

Design Management tasks staff will assist in development, or develop and administer, the following Project Development Plans, as required by the Agreement:

- Design Quality Management Plan (DQMP)
- Project Specific Right-of-Way Plan
- Utility Relocation Plan
- Environmental Management Plan
- Document Management Plan
- DBE/SWaM Plan

1.3 Design Management Oversight Activities

The Work will include design oversight of the design activities and deliverables (**See Exhibit F for listing of the Project deliverable packages and content**). The DBC design management staff will review the design team activities, receive, distribute, provide comments and suggestions, resolve conflicts, audit for compliance with the DQMP, review for overall project coordination between technical disciplines, review for constructability, review for access, maintenance and operational considerations.

2.0 PROFESSIONAL SERVICES Scope of Work

2.1 Mobilization of key staff

Moving people to the project, subsistence, airline tickets, vehicles, gas, temporary hotels, home visits, moving house hold goods, training, indoctrinations, wages during mobilizations, mileage, support from human resources.

2.2 Mobilization of remaining project staff for Early Works

Moving people to the project, subsistence, airline tickets, vehicles, gas, temporary hotels, home visits, moving house hold goods, training, indoctrinations, wages during mobilizations, mileage, continued support from human resources.

2.3 Partnering / Alignment Meetings

Look for and hire facilitator, location planning, coordination with client, coordination with designers, major subcontractor coordination, payroll during sessions, printing, facilitation cost.

2.4 Draft Project Management Plan

Outlines of mobilization planning, equipment mobilization planning, organization planning, office planning, on operation planning.

2.5 Safety Plan

Develop Safety Plan in accordance with the Technical Requirements.

2.6 Draft DBE/SWaM Plan

List and plan our Objectives, DBE AND SWaM participation goals, DBE bid item goals, SWaM participation goals, outreach meetings and solicitations, review of subcontract bids, subcontractor outreach.

2.7 Final DBE/SWaM Plan

List and plan our Objectives, DBE AND SWaM participation goals, DBE bid item goals, SWaM participation goals, outreach meetings and solicitations, review of subcontract bids, subcontractor outreach.

2.8 QA/QC Plan

Quality Control process, QC testing and inspection, QC organization and responsibility, QC inspection and administration, QC inspection and testing program, inspection forms, bridge and roadway inspection plans, Quality Assurance process, Quality Assurance testing and inspection, QA documentation, QA Inspector's Daily Reports, QA organization, QA responsibilities, QA deployment of key staff, QA inspection and testing program, QA inspection and administration.

2.9 Baseline schedule

P6 Baseline CPM Schedule per the contract submitted for approvals.

2.10 Utility Conflict Report

Main line and off main line utility identification, research owners of utility, contact name and contact information, identify size, location, length in conflict, Locate in reference to roadway stationing.

2.11 Traffic Control Plan

Phasing of construction planning, maintenance of traffic device planning, signing, MOT operation planning, concrete barrier location planning.

2.12 Prepare Subcontracting Plan

Risk assessment, contract development schedule, subcontract bid evaluation, mobilization checklist, invoicing requirements, bid item development planning, subcontractor work scheduling, permanent material planning, permanent material pricing.

2.13 Prepare Construction Mobilization Plan

Planning for equipment use schedule, equipment mobilization schedule, buy / sell analysis of equipment, yard planning, material storage planning, construction operation planning, maintenance planning, incorporate personnel planning, crane pick planning, false work planning, temporary earth retention design.

2.14 Project Management

Mobilization planning, organization planning, office planning, setup of yards planning, construction operation planning, project investigation work / design, coring shoulders, popping manholes, checking duct banks, construction over the shoulder reviews, technical work groups, construction reviews of designs, construction innovations.

**Exhibit F - Early Work Package/Deliverables
TRANSURBAN TTMS Cash Flow by Package**

DB Ref	Pkg. No.	Package Content or Activities	Month 1	Month 2	Month 3	Month 4	Month 5	Package/Activity Total LUMP SUM
Project Wide (includes System Integrator and other Vendors)								
DB #								
	TTMS 1	Design Management Plan	\$ 25,000					\$ 25,000
	TTMS 2	Quality Management Plan	\$ 20,000	\$ 80,000				\$ 100,000
	TTMS 3a	System Engineering Management Plan - Draft Document	\$ 15,000	\$ 22,500				\$ 37,500
	TTMS 3b	System Engineering Management Plan - Final Document		\$ 7,500	\$ 30,000			\$ 37,500
	TTMS 4a	I95 Express Project Architecture - Draft Document	\$ 24,000		\$ 36,000			\$ 60,000
	TTMS 4b	I95 Express Project Architecture - Final Document			\$ 12,000		\$ 48,000	\$ 60,000
	TTMS 5a	I95 Express Rule 940 Checklist - Draft Document	\$ 14,200		\$ 21,300	\$ -		\$ 35,500
	TTMS 5b	I95 Express Rule 940 Checklist - Final Document			\$ 7,100	\$ 28,400		\$ 35,500
	TTMS 6	Update of Interface Requirements and Schedule Milestones						\$ -
	TTMS 7	Performance Testing Commissioning Plan and Program - update of timeline and test strategy						\$ -
	TTMS 8a	Business Requirements Workshops/ Requirements Management - Draft Document	\$ 28,000			\$ 42,000		\$ 70,000
	TTMS 8b	Business Requirements Workshops/ Requirements Management - Final Document				\$ 14,000	\$ 56,000	\$ 70,000
	TTMS 9	Verification Cross Reference Index				\$ 20,000	\$ 80,000	\$ 100,000
	TTMS 10a	Prepare Functional Requirements and ETTM Specifications	\$ 27,200		\$ 108,800			\$ 136,000
	TTMS 11a	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements - Draft Document	\$ 55,800	\$ 83,700				\$ 139,500
	TTMS 11b	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements - Final Document		\$ 27,900			\$ 111,600	\$ 139,500
	TTMS 12	Review of IAG Technology implications and I95 solution (Janus v Badger)	\$ 9,600	\$ 38,400				\$ 48,000
	TTMS 13	Update System Requirements Specifications for TMS/AID Subsystem/LUMS/Reversing		\$ 52,000			\$ 208,000	\$ 260,000
	TTMS 14	Dynamic Tolling Algorithm documentation and update for I95						\$ -
	TTMS 15	Dynamic Tolling Algorithm Transmodeller Simulation Model update			\$ 19,200		\$ 76,800	\$ 96,000
	TTMS 16	Update of Pre Operations Plan to incorporate I95 requirements	\$ 20,000		\$ 80,000			\$ 100,000
	TTMS 17	Update System Requirements Specifications for ETC/Maintenance Online Management/Mobile Enforcement		\$ 52,000			\$ 208,000	\$ 260,000
	TTMS 18	Interface Control Documentation Coordination			\$ 14,000		\$ 56,000	\$ 70,000
	TTMS 19	Asset Management System Requirements Inclusion						\$ -
	TTMS20	Safety and Health Plan - draft plan						\$ -
Design Build Specific Input Segment 1								
DB #								
18	18	Roadway Geometrics Review Package	\$ 480	\$ 1,920	\$ -	\$ -		\$ 2,400
23	1RDY01a	Final Roadway (FR) Package 1 - Zones 1.1, 1.2	\$ 3,500				\$ 14,000	\$ 17,500
24	1RDY01b	Final Roadway (FR) Package 2 - Zone 1.3	\$ 3,500				\$ 14,000	\$ 17,500
43	1MRD01a	Traffic Plans Package 1 - Final Signing, Lighting	\$ 2,400		\$ 9,600			\$ 12,000
44	1MRD01b	Traffic Plans Package 1 - Final Signing, Lighting			\$ 1,600		\$ 6,400	\$ 8,000
45	1MRD02a	Traffic Plans Package 2 - ITS	\$ 8,400		\$ 33,600			\$ 42,000
46	1MRD02b	Traffic Plans Package 2 - ITS			\$ 9,000		\$ 21,000	\$ 30,000
Design Build Specific Input Segment 2								
DB #								
49	2NRDY01a	Segment 2 - North Advance Roadway Plans/Details, Erosion/Sediment Control, Duct Banks, Sound Wall Plans/Details & MOT	\$ 800	\$ 3,200				\$ 4,000
50	2NRDY01b	Segment 2 - North Advance Roadway Plans/Details, Erosion/Sediment Control, Duct Banks, Sound Wall Plans/Details & MOT	\$ 1,200	\$ 4,800	\$ -	\$ -		\$ 4,800
51	2SRDY02	Segment 2 NORTH ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (N. of Sta 643)			\$ 1,200	\$ -	\$ 4,800	\$ 6,000
53	2SRDY01	Segment 2 SOUTH COMPLETE ROADWAY - Roadway/Drainage Plans/Details, Erosion/Sediment Control, Sound Wall Plans/Details & MOT (South of Sta.643)					\$ 2,000	\$ 2,000
55	2NMRD01a	Segment 2 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	\$ 5,400		\$ 21,600			\$ 27,000
56	2NMRD01b	Segment 2 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)				\$ 7,000	\$ 28,000	\$ 35,000
57	2SMRD01	Segment 2 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)		\$ -			\$ 13,000	\$ 13,000
Design Build Specific Input Segment 3								
DB #								
60	3NRDY01a	Segment 3 NORTH - including Advance Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)	\$ 1,200	\$ 4,800				\$ 6,000
61	3NRDY01b	Segment 3 NORTH - including Advance Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)	\$ 1,200	\$ 4,800				\$ 6,000
62	3NRDY02a	Segment 3 NORTH - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)			\$ 1,200		\$ 4,800	\$ 6,000
63	3NRDY02b	Segment 3 NORTH - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)					\$ 3,000	\$ 3,000
65	3SRDY01	Segment 3 SOUTH - Complete Roadway/Drainage Plans/Details, Erosion/Sediment Control, Sound Wall Plans/Details & MOT (South of Sta. 1173+00)				\$ 3,200	\$ 12,800	\$ 16,000
79	3NMRD01a	Segment 3 NORTH - Misc. Rdwy (Lighting/ITS/Tolling/Pavement Marking, Signals)	\$ 9,600	\$ 38,400				\$ 48,000
80	3NMRD01b	Segment 3 NORTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking, Signals)			\$ 16,800	\$ -	\$ 67,200	\$ 84,000
81	3SMRD01	Segment 3 SOUTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking, Signals)						\$ -
Design Build Specific Input Segment 4								
DB #								
84	4RDY01a	Segment 4 ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Shldr Rehab and West Side Construction), Barrier Demo.	\$ 600	\$ 2,400				\$ 3,000
85	4RDY01b	Segment 4 ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Shldr Rehab and West Side Construction), Barrier Demo.			\$ 200	\$ 800		\$ 1,000
86	4RDY02a	Segment 4 ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction)	\$ 600	\$ 2,400				\$ 3,000
87	4RDY02b	Segment 4 ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction)	\$ -		\$ 600		\$ 2,400	\$ 3,000
92	4MRD01a	Segment 4 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	\$ 9,600		\$ 38,400			\$ 48,000
93	4MRD01b	Segment 4 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)				\$ 7,200	\$ 28,800	\$ 36,000
Monthly Totals			\$ 287,280	\$ 426,720	\$ 462,200	\$ 122,600	\$ 1,066,600	\$ 2,365,400
TTMS 21	Project Management and Project Specific for Early Works (inc System Integrator Works)		\$ 231,100				\$ 814,400	\$ 1,045,500
	General Management							
	Mobilization of key staff							
	implementation of Project Management Plan							
	Implementation of Quality Management Plan							
	Draft DBE/SWAM Plan (Final for design)							
	Mobilization of remaining project staff							
	Monthly progress/project reports							\$ -
	Utilities		\$ -					\$ -
	Project supplies		\$ -	\$ -				\$ -
TTMS 22a	Baseline schedule - First Issue for Interface Review		\$ 8,400		\$ 12,600			\$ 21,000
TTMS 22b	Baseline schedule - Interfaces Included				\$ 4,200		\$ 16,800	\$ 21,000
TTMS 23	Insurance certificates			\$ 20,000				\$ 20,000
TTMS 24	Project specific office and build out		\$ 2,000	\$ -	\$ 8,000			\$ 10,000
Monthly Total Cost			\$ 528,780	\$ 446,720	\$ 487,000	\$ 122,600	\$ 1,897,800	\$ 3,482,900

NOTE: Monthly Cash Flow as shown is for planning purposes only. Total LUMP SUM cost is as shown for Package/Activity

**Exhibit F - Early Work Package/Deliverables
TRANSURBAN TTMS Package Content/Scope of Work**

DB Ref	Pkg. No.	Package Content or Activities	Package Content
Project Wide (includes System Integrator and other Vendors)			
-	TTMS 1	Design Management Plan	Developing TTMS Design Management to meet the requirements as outlined in Fluor issued Design Quality Management Plan, [Deliverables are Final documents]
-	TTMS 2	Quality Management Plan	Developing TTMS Quality Management to meet the requirements as outlined in Fluor issued Quality Management Plan, [Deliverables are Final documents]
-	TTMS 3a	System Engineering Management Plan - Draft Document	Preparation of Systems Engineering Management Plan in accordance with FHWA requirements, review with VDOT and SPV [Deliverables are Draft Plan documents]
-	TTMS 3b	System Engineering Management Plan - Final Document	Preparation of Systems Engineering Management Plan in accordance with FHWA requirements, review with VDOT and SPV [Deliverables are Final Plan documents]
-	TTMS 4a	195 Express Project Architecture - Draft Document	195 Express Project Architecture Documentation ; Prepare and submit project architecture in accordance with Technical Requirements, [Deliverables are Draft documents]
-	TTMS 4b	195 Express Project Architecture - Final Document	195 Express Project Architecture Documentation ; Prepare and submit project architecture in accordance with Technical Requirements, [Deliverables are Final documents]
-	TTMS 5a	195 Express Rule 940 Checklist - Draft Document	195 Express Rule 940 Checklist Documentation :Prepare and submit Rule 940 Checklist in accordance with Technical Requirements, review with VDOT and FHWA, [Deliverables are Draft documents]
-	TTMS 5b	195 Express Rule 940 Checklist - Final Document	195 Express Rule 940 Checklist Documentation :Prepare and submit Rule 940 Checklist in accordance with Technical Requirements, review with VDOT and FHWA, [Deliverables are Final documents]
-	TTMS 6	Update of Interface Requirements and Schedule Milestones	Not in Early Works
-	TTMS 7	Performance Testing Commissioning Plan and Program - update of timeline and test strategy	Not in Early Works
-	TTMS 8a	Business Requirements Workshops/ Requirements Management - Draft Document	Business Requirements Workshops/ Requirements Management Documentation; o Undertake the Toll Collection System Business Rules Workshop and confirm the High Level Business Requirements and modifications to reporting. Confirm the tolling requirements for 195 slip ramps and integration with 495 Express Lanes. o Undertake the TMS Business Rules Workshop, confirm the High Level Business Requirements, modifications to reporting, document final business process the Use-Case for Reversible Roadway and for the associated Automated Roadway Sweep o develop documentation for review and comment and development of specifications [Deliverables are Draft documents]
-	TTMS 8b	Business Requirements Workshops/ Requirements Management - Final Document	Business Requirements Workshops/ Requirements Management Documentation; o Undertake the Toll Collection System Business Rules Workshop and confirm the High Level Business Requirements and modifications to reporting. Confirm the tolling requirements for 195 slip ramps and integration with 495 Express Lanes. o Undertake the TMS Business Rules Workshop, confirm the High Level Business Requirements, modifications to reporting, document final business process the Use-Case for Reversible Roadway and for the associated Automated Roadway Sweep o develop documentation for review and comment and development of specifications [Deliverables are Final Plan documents]
-	TTMS 9	Verification Cross Reference Index	Verification Cross Reference Index Documentation: Preparation of the verification cross reference index to incorporate updated business rules, concept of operations, new requirements and draft specifications [Deliverables are Draft documents]
-	TTMS 10a	Prepare Functional Requirements and ETTM Specifications	Prepare Functional Requirements and ETTM Specifications : o Prepare update of the functional requirements and ETTM specifications to include for reversible operations, LUMS and TMS and AID System/Subsystem Requirements Specifications. o Prepare update of the functional requirements and ETTM specifications for the Toll Collection, Mobile Enforcement System, and Maintenance On-Line Management System/Subsystem Requirements o Prepare design specifications for modification of the HOT OC planning to accommodate 195, including use of data room, rack locations and layouts, power loads and cooling requirements, network and cabling infrastructure requirements [Deliverables are Draft documents]
-	TTMS 11a	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements - Draft Document	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements : Use case requirements and workshops with VDOT to confirm Gate operations and Lane Use Management requirements, control scenarios and joint operations, including sharing and exchange of information, finalize interface requirements for control under Declared Emergency for gate operations, [Deliverables are Draft documents]
-	TTMS 11b	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements - Final Document	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements : Use case requirements and workshops with VDOT to confirm Gate operations and Lane Use Management requirements, control scenarios and joint operations, including sharing and exchange of information, finalize interface requirements for control under Declared Emergency for gate operations, [Deliverables are Final documents]
-	TTMS 12	Review of IAG Technology implications and 195 solution (Janus v Badger)	Document IAG Technology implications and 195 solution (Janus v Badger): perform analysis of Janus Reader impacts over Badger reader including engineering design/ development and identify hardware changes necessary to confirm loading and functional requirements for toll location layouts, and system performance changes, coordinate with VDOT as to changes to interface specifications and functional requirements, develop recommendation documentation for specification development, [Deliverables are Draft documents]
-	TTMS 13	Update System Requirements Specifications for TMS/AID Subsystem/LUMS/Reversing	Update System Requirements Specifications for TMS/AID Subsystem/LUMS/Reversing: incorporate required changes and new information into system requirements specifications – undertake systems requirements review, identify any gaps and prepare documentation for issue, [Deliverables are Draft documents]
-	TTMS 14	Dynamic Tolling Algorithm documentation and update for 195	Not in Early Works
-	TTMS 15	Dynamic Tolling Algorithm Transmodeller Simulation Model update	Update Transmodeller simulation model to include 195 Express Lanes network, undertake validation of model, calibration and preparation of future year model for assessment of dynamic tolling algorithm operations. Deliverable is Summary Report
-	TTMS 16	Update of Pre Operations Plan to incorporate 195 requirements	Prepare update to Pre Operations Plan - to inform Use cases and specifications- Issue of Final Draft Document
-	TTMS 17	Update System Requirements Specifications for ETC/Maintenance Online Management/Mobile Enforcement	Update System Requirements Specifications for ETC/Maintenance Online Management/Mobile Enforcement: incorporate required changes and new information into system requirements specifications – undertake systems requirements review, identify any gaps and prepare documentation for issue, [Deliverables are Draft documents]
-	TTMS 18	Interface Control Documentation Coordination	Interface Control Documentation; o Review and confirm with VDOT Tolling system interface requirements with VDOT CSC, update business rules for combined trips and revenue allocation o Review and evaluate specifications for the TMS Equipment for integration with the TMS. o Prepare update for TMS interface development and undertake workshops with VDOT o Prepare specific interface control documentation incorporating design plans, supporting documents [Deliverables are Draft documents]
-	TTMS 19	Asset Management System Requirements Inclusion	N/A
-	TTMS20	Safety and Health Plan - draft plan	N/A
Design Build Specific Input Segment 1			
18	18	Roadway Geometrics Review Package	TTMS Activities will include the review, comment on, participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings for the following, in conjunction with Fluor, the SPV and other stakeholders/contractors; • Develop, coordinate and provide alignment requirements and tolling design inputs for the toll gantry structure locations and traffic management system design inputs for the tolling and tms roadside elements, to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements, including reversible operations • Review and comment on Design-Build plans showing gantry structures and technical shelter locations to confirm design and installation of toll and traffic management system equipment system equipment • Review and comment on specific traffic management system device layouts as it relates to the civil infrastructure drawings and interfaces, including aid camera locations and field of view analysis, assessment of requirements with vendors and system integrator, pan tilt zoom camera coverage and field of view analysis, dms sign locations and line of sight assessments/implications, traffic sensor locations and configuration requirements/data requirements. • coordinate and provide load requirements and tolling design inputs for the toll gantry structures and traffic management system design inputs for the tolling and tms roadside elements to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements
23	1-R-1a	Final Roadway (FR) Package 1 - Zones 1.1, 1.2	As Above including • Review and comment on Design-Build plans showing gantry structures and technical shelter details to confirm design suitability for installation of toll and traffic management system equipment system equipment. • With the Design Builder/SPV, evaluate design for interfaces with TTMS including power and communications infrastructure requirements for the following design elements: • loading/layout and support services for Toll Gantries and Technical/Toll Shelters, • loading/layout and support services for New Stand-Alone Lane Use Management System (LUMS) Plans • loading/layout and support services for Sign Plans, Combination Sign Plans, and Stand-Alone Equipment Pole Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
24	1-R-1b	Final Roadway (FR) Package 2 - Zone 1.3	As Above
43	1-T-1a	Traffic Plans Package 1 - Final Signing, Lighting	TTMS Activities will include the review, comment on, participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings for the following, in conjunction with Fluor, the SPV and other stakeholders/contractors; • coordinate and provide location requirements and tolling design inputs for the tolling strategy implementation, toll gantry structures and traffic management system design inputs for the tms roadside elements to ensure the infrastructure is designed to meet the Tolling and Traffic Management System equipment installation and operations requirements. • Review and comment on Design-Build plans to confirm design and installation of toll and traffic management system equipment. • Review and comment on communications network design, including backbone, redundancy, layer 2/3 design, switches and other equipment, review and comment on design capacity/bandwidth analysis, • evaluate design for interfaces with TTMS, review for compliance with requirements of the following design elements from Design Builder, 4.1 Tolling 4.3 Communications/ITS Power 4.4 Lane Use Management (LUMS) 4.5 Gate Transitions 4.6 Signing / Pavement Marking Plans 4.7 Lighting / Electrical Plans 4.8 Traffic Signal Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
44	1-T-1b	Traffic Plans Package 1 - Final Signing, Lighting	As above
45	1-T-2a	Traffic Plans Package 2 - ITS	As Above
46	1-T-2b	Traffic Plans Package 2 - ITS	As Above
Design Build Specific Input Segment 2			
49	2NRDY01a	Segment 2 - North Advance Roadway Plans/Details, Erosion/Sediment Control, Duct Banks, Sound Wall Plans/Details & MOT	Develop, coordinate and provide alignment requirements and tolling design inputs for the toll gantry structure locations and traffic management system design inputs for the tolling and tms roadside elements, to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements, including reversible operations • Review and comment on Design-Build plans showing gantry structures and technical shelter locations to confirm design and installation of toll and traffic management system equipment system equipment • Review and comment on specific traffic management system device layouts as it relates to the civil infrastructure drawings and interfaces, including aid camera locations and field of view analysis, assessment of requirements with vendors and system integrator, pan tilt zoom camera coverage and field of view analysis, dms sign locations and line of sight assessments/implications, traffic sensor locations and configuration requirements/data requirements. • coordinate and provide load requirements and tolling design inputs for the toll gantry structures and traffic management system design inputs for the tolling and tms roadside elements to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements Review and comment on Design-Build plans showing gantry structures and technical shelter details to confirm design suitability for installation of toll and traffic management system equipment system equipment. • With the Design Builder/SPV, evaluate design for interfaces with TTMS including power and communications infrastructure requirements for the following design elements: • loading/layout and support services for Toll Gantries and Technical/Toll Shelters, • loading/layout and support services for New Stand-Alone Lane Use Management System (LUMS) Plans • loading/layout and support services for Sign Plans, Combination Sign Plans, and Stand-Alone Equipment Pole Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
50	2NRDY01b	Segment 2 - North Advance Roadway Plans/Details, Erosion/Sediment Control, Duct Banks, Sound Wall Plans/Details & MOT	As above
51	2SRDY02	Segment 2 - Complete Roadway Plans/Details, Erosion/Sediment Control, Duct Banks, Sound Wall Plans/Details & MOT	As above

**Exhibit F - Early Work Package/Deliverables
TRANSURBAN TTMS Package Content/Scope of Work**

DB Ref	Pkg. No.	Package Content or Activities	Package Content
53	2SRDY01	Segment 2 - Complete Roadway Plans/Details, Erosion/Sediment Control, Duct Banks, Sound Wall Plans/Details & MOT	As above
55	2NMRD01a	Segment 2 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	TTMS Activities will include the review, comment on, participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings for the following, in conjunction with Fluor, the SPV and other stakeholders/contractors; <ul style="list-style-type: none"> • coordinate and provide location requirements and tolling design inputs for the tolling strategy implementation, toll gantry structures and traffic management system design inputs for the tms roadside elements to ensure the infrastructure is designed to meet the Tolling and Traffic Management System equipment installation and operations requirements. • Review and comment on Design-Build plans to confirm design and installation of toll and traffic management system equipment. • Review and comment on communications network design, including backbone, redundancy, layer 2/3 design, switches and other equipment, review and comment on design capacity/bandwidth analysis, • evaluate design for interfaces with TTMS, review for compliance with requirements of the following design elements from Design Builder, <ul style="list-style-type: none"> 4.1 Tolling 4.3 Communications/ITS Power 4.4 Lane Use Management (LUMS) 4.5 Gate Transitions 4.6 Signaling / Pavement Marking Plans 4.7 Lighting / Electrical Plans 4.8 Traffic Signal Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
56	2NMRD01b	Segment 2 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	As Above
57	2SMRD01	Segment 2 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	As Above
Design Build Specific Input Segment 3			
60	3NRDY01a	Segment 3 NORTH - including Advance Roadway/Draingae Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)	Develop, coordinate and provide alignment requirements and tolling design inputs for the toll gantry structure locations and traffic management system design inputs for the tolling and tms roadside elements, to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements, including reversible operations <ul style="list-style-type: none"> • Review and comment on Design-Build plans showing gantry structures and technical shelter locations to confirm design and installation of toll and traffic management system equipment • Review and comment on specific traffic management system device layouts as it relates to the civil infrastructure drawings and interfaces, including aid camera locations and field of view analysis, assessment of requirements with vendors and system integrator, pan tilt zoom camera coverage and field of view analysis, dms sign locations and line of sight assessments/implications, traffic sensor locations and configuration requirements/data requirements. • coordinate and provide load requirements and tolling design inputs for the toll gantry structures and traffic management system design inputs for the tolling and tms roadside elements to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements Review and comment on Design-Build plans showing gantry structures and technical shelter details to confirm design suitability for installation of toll and traffic management system equipment system equipment. • With the Design Builder/SPV, evaluate design for interfaces with TTMS including power and communications infrastructure requirements for the following design elements: <ul style="list-style-type: none"> • loading/layout and support services for Toll Gantries and Technical/Toll Shelters, • loading/layout and support services for New Stand-Alone Lane Use Management System (LUMS) Plans • loading/layout and support services for Sign Plans, Combination Sign Plans, and Stand-Alone Equipment Pole Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
61	3NRDY01b	Segment 3 NORTH - including Advance Roadway/Draingae Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)	As Above
62	3NRDY02a	Segment 3 NORTH - Roadway/Draingae Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)	As Above
63	3NRDY02b	Segment 3 NORTH - Roadway/Draingae Plans/Details & Phase 2 MOT (East Side Construction) (North of Sta. 1173+00)	As Above
65	3SRDY01	Segment 3 SOUTH - Complete Roadway/Drainage Plans/Details, Erosion/Sediment Control, Sound Wall Plans/Details & MOT (South of Sta. 1173+00)	As Above
79	3NMRD01a	Segment 3 NORTH - Misc. Rdwy (Lighting/ITS/Tolling/Pavement Marking, Signals)	TTMS Activities will include the review, comment on, participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings for the following, in conjunction with Fluor, the SPV and other stakeholders/contractors; <ul style="list-style-type: none"> • coordinate and provide location requirements and tolling design inputs for the tolling strategy implementation, toll gantry structures and traffic management system design inputs for the tms roadside elements to ensure the infrastructure is designed to meet the Tolling and Traffic Management System equipment installation and operations requirements. • Review and comment on Design-Build plans to confirm design and installation of toll and traffic management system equipment. • Review and comment on communications network design, including backbone, redundancy, layer 2/3 design, switches and other equipment, review and comment on design capacity/bandwidth analysis, • evaluate design for interfaces with TTMS, review for compliance with requirements of the following design elements from Design Builder, <ul style="list-style-type: none"> 4.1 Tolling 4.3 Communications/ITS Power 4.4 Lane Use Management (LUMS) 4.5 Gate Transitions 4.6 Signaling / Pavement Marking Plans 4.7 Lighting / Electrical Plans 4.8 Traffic Signal Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
80	3NMRD01b	Segment 3 NORTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking, Signals)	As Above
81	3SMRD01	Segment 3 SOUTH - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking, Signals)	As above
Design Build Specific Input Segment 4			
84	4RDY01a	Segment 4 ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Side Rehab and West Side Construction), Barrier Demo.	Develop, coordinate and provide alignment requirements and tolling design inputs for the toll gantry structure locations and traffic management system design inputs for the tolling and tms roadside elements, to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements, including reversible operations <ul style="list-style-type: none"> • Review and comment on Design-Build plans showing gantry structures and technical shelter locations to confirm design and installation of toll and traffic management system equipment • Review and comment on specific traffic management system device layouts as it relates to the civil infrastructure drawings and interfaces, including aid camera locations and field of view analysis, assessment of requirements with vendors and system integrator, pan tilt zoom camera coverage and field of view analysis, dms sign locations and line of sight assessments/implications, traffic sensor locations and configuration requirements/data requirements. • coordinate and provide load requirements and tolling design inputs for the toll gantry structures and traffic management system design inputs for the tolling and tms roadside elements to ensure the infrastructure is designed to meet the Tolling System equipment and functional/technical requirements Review and comment on Design-Build plans showing gantry structures and technical shelter details to confirm design suitability for installation of toll and traffic management system equipment system equipment. • With the Design Builder/SPV, evaluate design for interfaces with TTMS including power and communications infrastructure requirements for the following design elements: <ul style="list-style-type: none"> • loading/layout and support services for Toll Gantries and Technical/Toll Shelters, • loading/layout and support services for New Stand-Alone Lane Use Management System (LUMS) Plans • loading/layout and support services for Sign Plans, Combination Sign Plans, and Stand-Alone Equipment Pole Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
85	4RDY01b	Segment 4 ADVANCE ROADWAY- Erosion and Sediment Control, Clearing & Grubbing, Duct Banks & Phase 1 Steps 1&2 MOT (East Side Rehab and West Side Construction), Barrier Demo.	As Above
86	4RDY02a	Segment 4 ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction)	As Above
87	4RDY02b	Segment 4 ROADWAY - Roadway/Drainage Plans/Details & Phase 2 MOT (East Side Construction)	As Above
92	4MRD01a	Segment 4 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	TTMS Activities will include the review, comment on, participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings for the following, in conjunction with Fluor, the SPV and other stakeholders/contractors; <ul style="list-style-type: none"> • coordinate and provide location requirements and tolling design inputs for the tolling strategy implementation, toll gantry structures and traffic management system design inputs for the tms roadside elements to ensure the infrastructure is designed to meet the Tolling and Traffic Management System equipment installation and operations requirements. • Review and comment on Design-Build plans to confirm design and installation of toll and traffic management system equipment. • Review and comment on communications network design, including backbone, redundancy, layer 2/3 design, switches and other equipment, review and comment on design capacity/bandwidth analysis, • evaluate design for interfaces with TTMS, review for compliance with requirements of the following design elements from Design Builder, <ul style="list-style-type: none"> 4.1 Tolling 4.3 Communications/ITS Power 4.4 Lane Use Management (LUMS) 4.5 Gate Transitions 4.6 Signaling / Pavement Marking Plans 4.7 Lighting / Electrical Plans 4.8 Traffic Signal Plans • Above activities also involve participation in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings
93	4MRD01b	Segment 4 - Misc. Roadway (Lighting/ITS/Tolling/Pavement Marking)	AS Above
TTMS 21		<u>Project Management and Project Specific for Early Works (inc</u> General Management Mobilization of key staff implementation of Project Management Plan Implementation of Quality Management Plan Draft DBE/SWAM Plan (Final for design) Mobilization of remaining project staff Monthly progress/project reports Utilities Project supplies	Project/Design Management tasks include: <ul style="list-style-type: none"> • Management of resources assigned to the Project including sub-consultants/system integrator. • Management, review and reporting of DBE/SWAM sub-consultants (Subconsultants). • Assigning appropriate resources to the Project. • Assuring that agreements are in place for subconsultants • Developing TTMS Project Management Plan , Quality Management Plan, including Design Management to meet the requirements as outlined in Fluor issued Design Management Plan, [Deliverables are Plan documents] and project controls, cost accounting, scheduling, invoicing, and other business related functions associated with the project. • Set up coordination meetings with the Design Builder/SPV, participate in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings. • Review the schedule of deliverables (updated when necessary) as identified in the scope of services provided by the Design Builder. • Develop and implement invoicing/payment procedures. • Develop and manage document control procedures • Prepare interface control documents, liaise with Design Builder, SPV and VDOT, • Provide input to the operations and maintenance requirements, including ease of access for maintenance, and operational requirements, • Implementation and management of reporting requirements to SPV. • Liaison with VDOT and other third parties. Citilog, vendors
TTMS 22a		Baseline schedule - First Issue for Interface Review	Baseline Schedule issued for review with Design Builder for interface requirements
TTMS 22b		Baseline schedule - Interfaces Included	Updated Baseline Schedule to include agreed interface requirements
TTMS 23		Insurance certificates	Provide evidence of Insurance coverage
TTMS 24		Project specific office and build out	Office Readiness

Exhibit F - Early Work Package/Deliverable
TRANSURBAN SPV Management Cash Flow

EARLY WORKS for the SPV Management Costs (per attached scope) - Design Build Phase - \$2011 USD								
Item	Description		1	2	3	4	5	TOTAL
A:	Management and Delivery Team							
	Design Management Activities		\$ 35,267				\$ 141,067	
	Management Plans		\$ -	\$ -	\$ -		\$ -	
	Roadway Plans and Details		\$ 36,750				\$ 147,000	
	Drainage, SWM, and E&S Control		\$ 17,800				\$ 71,200	
	Staging and MOT Plans		\$ -	\$ -	\$ -	\$ -	\$ -	
	Sound Walls		\$ -	\$ -	\$ -	\$ -	\$ -	
	Retaining Walls		\$ 11,733				\$ 46,933	
	Structures		\$ -	\$ -			\$ -	
	New Bridge Plans		\$ -	\$ -	\$ -	\$ -	\$ -	
	Bridge Widening Plans		\$ -	\$ -	\$ -	\$ -	\$ -	
	Structural Support Services		\$ -	\$ -			\$ -	
	Miscellaneous Roadway Plans		\$ 15,000				\$ 60,000	
	ITS							
	Communications		\$ 8,667				\$ 34,667	
	Tolling and ITS		\$ -	\$ -	\$ -	\$ -	\$ -	
	Signing		\$ 10,000				\$ 40,000	
	Pavement Marking		\$ -	\$ -	\$ -	\$ -	\$ -	
	Lighting		\$ 10,000				\$ 40,000	
	Traffic Signals		\$ -	\$ -	\$ -	\$ -	\$ -	
	Ellectrical		\$ 10,000				\$ 40,000	
	Subtotal		\$ 155,217	\$ -	\$ -	\$ -	\$ 620,867	\$ 776,083
B:	Project Management for TTMS		\$ 155,000				\$ 620,000	\$ 775,000
	Sub - Total SPV Budget		\$ 310,217	\$ -	\$ -	\$ -	\$ 1,240,867	\$ 775,000
	Contingency @ 5 %		\$ 15,511	\$ -	\$ -	\$ -	\$ 62,043	\$ 77,554
	Monthly Early Works SPV Budget		\$ 325,727	\$ -	\$ -	\$ -	\$ 1,302,910	\$ 1,628,637
	Cumulative SPV Budget		\$ 325,727	\$ 325,727	\$ 325,727	\$ 325,727	\$ 1,628,637	

NOTE: Monthly Cash Flow as shown is for planning purposes only. Total LUMP SUM cost is as shown for Package/Activity

Exhibit F

PROJECT EARLY WORKS DESIGN ACTIVITIES

TRANSURBAN SPV – Management Activities

DESIGN BUILD EARLY WORKS

1.0 MANAGEMENT & PROJECT WIDE PLANS

1.1 Design Management Activities

SPV support will include review of project management deliverables for the designer activities encompassing scheduling, budgeting, coordination/liaison with all Project participants, supervising activities under each task, progress reporting, and invoicing, as well as the direct project management of the SPV activities.

Project Management tasks include:

- Management of resources assigned to the Project including sub-consultants.
- Management, review and reporting of DBE/SWaM sub-consultants.
- Assigning appropriate resources to the Project.
- Assuring that agreements are in place for scopes of work.
- Assisting in developing, implementing and review of the Design Quality Management Plan; and project controls, cost accounting, scheduling, invoicing, and other business related functions associated with the program.
- Review the Work Plan detailing the interrelationship of design events.
- Review the schedule of deliverables (updated when necessary) as identified in the scope of services.
- Develop and implement invoicing/payment procedures.
- Review the DBE/SWaM Plans, Construction Subcontracting and Construction Mobilization Plans, provide comment
- Develop and manage Document Control Procedures including: Designation of personnel responsible for internal Document Control; establishing locations for internal project documents; establishing internal electronic file formats and procedures; and developing procedures to transmit and receive documents (internal and external).
- Participate in coordination meetings, over-the-shoulders reviews, technical working groups and comment resolution meetings.
- Participate in Partnering/Alignment Meetings
- Provide input to the operations and maintenance requirements, including ease of access for maintenance, and operational requirements,
- Support of in obtaining project documentation, in verifying compliance with DQMP, in reviewing invoice payment for both the design-builder and TTMS.

- Establish and monitor interfaces between the design builder and TTMS.
- Management of payment disbursements with VDOT including reconciliations.
- Implementation and management of reporting requirements to VDOT and FHWA.
- Early Works compliance monitoring
- Liasion with VDOT and other third parties
- Initial development of the Public Information and Communications Plan, establishment of the Project Communications Team, and identification of management protocols with VDOT Communications Team.

The SPV support of the management plans is to receive, distribute, file, review, provide comments and suggestions, resolve conflicts and monitor implementation by the DB Contractor of the following:

- 1.2 Design Quality Management Plan (DQMP)**
- 1.3 Project Specific Right-of-Way Plan**
- 1.4 Utility Relocation Plan**
- 1.5 Survey**
- 1.6 Geotechnical Services**
- 1.7 Noise Analysis Report**
- 1.8 Environmental Mitigation and Permitting**

2.0 ROADWAY / DRAINAGE / UTILITIES / E&S / MOT / WALLS

The SPV support of the following design deliverables is to receive, distribute, file, review, provide comments and suggestions, resolve conflicts, audit for compliance with DQMP, review for overall project coordination between technical disciplines, review for access for maintenance and meeting operations requirements, and evaluate design for interfaces with TTMS of the following design elements:

2.1 Roadway Plans/Details

2.1.1 Roadway Alignments

- A. Alignments, Geometrics, Sections, & Profile Refinements
- B. Alignment and Survey Data
- C. Alignment and Survey Plan Sheets

2.1.2 Sections

- A. Pavement Report & Typical Sections Design
- B. Typical Section & Edge Treatment Plan Sheets
- C. Cross Section Design

D. Cross Section Plan Sheets

2.1.3 Utilities Shown

- A. Existing Utilities Shown
- B. Relocated/Protected Utilities

2.1.4 Roadway Details

- A. Ramp Gore Details
- B. Enforcement Area Details
- C. Concrete Barrier and Guardrail Details
- D. Emergency Access Barrier Opening Details

2.1.5 Roadway Plans

- A. Roadway Design
- B. Ancillary / Supplemental Sheets
- C. Roadway Plans

2.1.6 Drainage, H&H, SWM and E&S Control

Drainage, Hydrology/Hydraulics, Stormwater Management and Erosion/Sediment Control work associated with the Project includes:

- A. Existing Drainage System
- B. Proposed Drainage System
- C. Stormwater Management Facilities
- D. MS-19 Analysis and Design
- E. Erosion & Sedimentation (E&S) Control
- F. Bridge Scuppers/Deck Drainage Design
- G. Roadway Drainage Plan Sheets

2.1.7 Staging & MOT Plans

Construction Staging and Maintenance of Traffic (MOT) work associated with project includes:

- A. Staging / MOT Design
- B. MOT Plan Sheets

2.1.8 Sound Walls

- A. Roadway Sound Wall Design and Sheets

2.1.9 Retaining Walls

- A. Roadway Retaining Wall Design and Sheets

3.0 STRUCTURES

The SPV support of the following design deliverables is to receive, distribute, file, review, provide comments and suggestions, resolve conflicts, audit for compliance with DQMP, review for overall project coordination between technical disciplines, and evaluate design for interfaces with TTMS of the following design elements:

3.1 New Bridge Plans

3.1.1 Stage I Preliminary Design

3.1.2 Stage II Final Design

3.2 Bridge Widening Plans Major Rehabilitation & Retro-fit/Rehabilitation Plans (Minor Rehabilitation)

3.2.1 Stage I Preliminary Design:

3.2.2 Stage II Final Design

3.3 Structural Support Services for Roadway Details

3.3.1 Non-Standard Structural Items

3.4 Structural Support Services for Drainage Structures

3.4.1 Stage I Preliminary Design

3.4.2 Stage II Final Design

3.5 Structural Support Services for New Sound Walls

3.6.1 Stage I Preliminary Design:

3.5.2 Stage II Final Design:

3.6 Structural Support Services for Retaining Wall Plans

3.6.1 Stage I Preliminary Design

3.6.2 Stage II Final Design

3.7 Structural Support Services for Toll Gantries and Technical/Toll Shelters

3.7.1 Stage II Final Design

3.9 Structural Support Services for New Stand-Alone Lane Use Management System (LUMS) Plans

3.9.1 Stage I Final Design

3.9.2 Stage II Final Design

3.10 Structural Support Services for Sign Plans, Combination Sign Plans, and Stand-Alone Equipment Pole Plans

3.10.1 Stage I Final Design

3.10.2 Stage II Final Design

4.0 MISCELLANEOUS ROADWAY (ITS / COMMUNICATIONS / TOLLING / SIGNING / PAVEMENT MARKING / LIGHTING / TRAFFIC SIGNALS)

The SPV support of the following design deliverables is to receive, distribute, file, review, provide comments and suggestions, resolve conflicts, audit for compliance with DQMP, review for overall project coordination between technical disciplines, review for access for maintenance and meeting operations requirements, evaluate design for interfaces with TTMS, and review for compliance with requirements of the following design elements:

4.1 ITS, Tolling, Communications & LUMS Plans

4.2 Tolling

4.3 Communications/ITS Power

4.4 Lane Use Management (LUMS)

4.5 Gate Transitions

4.6 Signing / Pavement Marking Plans

4.7 Lighting / Electrical Plans

4.8 Traffic Signal Plans

TTMS EARLY WORKS

5.0 TTMS MANAGEMENT

The SPV support of the following design deliverables is to receive, distribute, file, review, provide comments and suggestions, resolve conflicts, audit for compliance with requirements, review for overall project coordination, review for maintenance concerns, review for meeting operations requirements, evaluate design approach for interfaces with the Design Build Contract design, and review for compliance with requirements of the following design elements:

TTMS 1	Design Management Plan
TTMS 2	Quality Management Plan
TTMS 3a	System Engineering Management Plan - Draft Document

TTMS 3b	System Engineering Management Plan - Final Document
TTMS 4a	I95 Express Project Architecture - Draft Document
TTMS 4b	I95 Express Project Architecture - Final Document
TTMS 5a	I95 Express Rule 940 Checklist - Draft Document
TTMS 5b	I95 Express Rule 940 Checklist - Final Document
TTMS 6	Not in Early Works
TTMS 7	Not in Early Works
TTMS 8a	Business Requirements Workshops/ Requirements Management - Draft Document
TTMS 8b	Business Requirements Workshops/ Requirements Management - Final Document
TTMS 9	Verification Cross Reference Index
TTMS 10a	Prepare Functional Requirements and ETTM Specifications
TTMS 11a	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements - Draft Document
TTMS 11b	Use Cases for Gate Operations and LUMS, control scenarios and document interface requirements - Final Document
TTMS 12	Review of IAG Technology implications and I95 solution (Janus v Badger)
TTMS 13	Update System Requirements Specifications for TMS/AID Subsystem/LUMS/Reversing
TTMS 14	Not in Early Works
TTMS 15	Dynamic Tolling Algorithm Transmodeller Simulation Model update
TTMS 16	Update of Pre Operations Plan to incorporate I95 requirements
TTMS 17	Update System Requirements Specifications for ETC/Maintenance Online Management/Mobile Enforcement
TTMS 18	Interface Control Documentation Coordination
TTMS 19	Not in Early Works
TTMS 20	Not In Early Works