



Initial Baseline Schedule Narrative



Opitz Preliminary Baseline Schedule Narrative

95 Express Lanes Opitz Boulevard Project

Preliminary Baseline Schedule Narrative

The Team has reviewed in detail the 95 Express Lanes Opitz Boulevard Project and schedule requirements and has developed a Preliminary Baseline Schedule outlining our plan to successfully manage all phases of the work. This schedule has been optimized to deliver the Project on time while meeting the requirements of the RFP and Technical Requirements, minimizing impacts to road users and stakeholders, protecting the environment, avoiding utilities, and ensuring the safety of workers and the public. A summary of the Contract and Schedule Milestones are shown in Table 01.

Table 01: Contract and Schedule Milestones

Contract and Schedule Milestones	Date
Notice to Proceed	August 15, 2022
Start Stage 1 Work on Slip Ramp / Opitz Blvd Bridge	November 15, 2022
Start TMS Level A Testing – Slip Ramp	June 19, 2023
Start TMS Level B Testing – Slip Ramp	August 1, 2023
Open Pedestrian Facility on Opitz Blvd	July 14, 2023
Open New Slip Ramp to Traffic	December 5, 2023
Start TMS Level A Testing – Opitz Reversible Ramp	February 1, 2024
Start TMS Level B Testing – Opitz Reversible Ramp	March 14, 2024
Service Commencement Date	July 15, 2024
Final Completion	October 13, 2024

Work Breakdown Structure

The Team has developed a Preliminary Baseline Schedule in accordance with the RFP requirements and has organized the Schedule into a hierarchical Work Breakdown Structure (WBS), shown in Table 02, in order to demonstrate the relationships and activity durations amongst the milestones, permitting and contractor design(if needed), material procurement, utility relocation, and construction. All elements of the process are captured under these Level 1 tasks and are described below:

- A. Schedule Milestones:** Area reserved for easy review of the Project status. TMS Level A and B testing, Service Commencement and Final Completion dates will be tracked closely in this section to provide goals for keeping the project on schedule.
- B. Design and Permitting Phase:** Includes any design activities or permits required to be obtained after Plan Approval and Notice to Proceed is provided by Transurban. This includes both Owner and Contractor activities for obtaining permits or completing any additional design. This includes obtaining VPDES permit from DEQ for land disturbing activities. We have included time for revising and submitting alternate Maintenance of Traffic Plans for Transurban and VDOT to approve if necessary. This will be determined after the Final Plans are received if this is required or not.
- C. Stakeholder / Adjacent Project Coordination:** This section was added to track any coordination efforts with adjacent projects or other stakeholders within the project limits. Currently we are not aware of any other adjacent projects that would impact this project schedule and therefore there are currently no activities for this section.
- D. Material Procurement:** This section has been included to track the major and long lead time material procurement items from shop drawing to fabrication and delivery. As there are numerous items that will require long lead times to obtain, these activities are critical to start early in the project and to monitor to ensure the materials are delivered to the project on time to meet the schedule requirements. We will continue to update this section after NTP once more detailed

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information is provided from our subcontractor and suppliers for shop drawings, fabrication and delivery timeframes.

- E. Utilities:** This section will outline third part utility relocations including field investigation, third party designs and relocation work. Activities will be tied to Construction activities for which can not start until an existing utility has been relocated or moved out of conflict with the proposed work. It is currently unknown if there will be any utility relocations required until additional test pit information is provided. However, we are prepared to manage the process and determine what impacts (if any) to the schedule these utility conflicts may have.
- F. Construction:** The Construction section of the schedule is segmented by additional levels of WBS structure to divide the construction activities into Stages and elements of work for the Project. This grouping of work packages is proven to allow for easy and clear tracking of activity progress to ensure on-time completion of the Project and the Critical Milestones. We have distinguished the major phases of the project into four distinct areas: 1) New SB Slip Ramp, 2) Opitz Bridge Widening/Repairs, 3) Reversible T-Ramp Construction, and 4) Project Finishes. Each major area of work is then broken down further into the individual MOT stages to correspond with the project plans provided. Activities cover the scope of work necessary to complete the project on time and will be further broken down into additional shorter duration activities once the Final Plans are provided in the Final Baseline Schedule.

Table 02: WBS Structure

WBS Path	WBS Name
95EXPRESS-OPTIZ- BS-2	PRELIMINARY BASELINE SCHEDULE
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC	OPTIZ BLVD - I-95 EXPRESS LANES
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.A	SCHEDULE MILESTONES
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.A.A	PROJECT MILESTONES
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.B	DESIGN PHASE
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.B.A	CONCESSIONAIRE PLANS
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.B.B	CONTRACTOR PLANS
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.D	PERMITTING
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.D.A	CONCESSIONAIRE PERMITTING
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.D.B	CONTRACTOR PERMITTING
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.C	STAKEHOLDER / ADJACENT PROJECT COORDINATION
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.E	MATERIAL PROCUREMENT
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.E.A	ITS / TMS
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.E.B	SIGNAGE / SIGNALS / LIGHTING
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.E.C	STRUCTURAL STEEL / PILING
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.F	UTILITIES
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.F.1	PRIVATE UTILITY RELOCATIONS
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.F.2	NEW UTILITY SERVICES
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.F.2.1	POWER
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.F.2.2	COMM
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.G	CONSTRUCTION
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.G.A	RELOCATION OF EXIST. SB SLIP RAMP - STAGE 1A
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.G.A.A	ROADWAY / MOT
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.G.A.B	ITS / TMS / LIGHTING
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.G.A.C	SIGNAGE / STRIPING
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.G.A.D	FINISHES
95EXPRESS-OPTIZ- BS-2.I-95 NB RRC.G.B	OPTIZ BRIDGE WIDENING

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95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.B.A	STAGE 1
95EXPRESS-OPTIZ-_BS-2.I-95 NB	ROADWAY WORK
95EXPRESS-OPTIZ-_BS-2.I-95 NB	DEMO
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUBSTRUCTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB	UTILITIES
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUPERSTRUCTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.B.B	STAGE 2
95EXPRESS-OPTIZ-_BS-2.I-95 NB	ROADWAY WORK
95EXPRESS-OPTIZ-_BS-2.I-95 NB	DEMO
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUBSTRUCTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB	UTILITIES
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUPERSTRUTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.B.C	STAGE 3A
95EXPRESS-OPTIZ-_BS-2.I-95 NB	ROADWAY WORK
95EXPRESS-OPTIZ-_BS-2.I-95 NB	DEMO
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUBSTRUCTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB	UTILITIES
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUPERSTRUCTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.B.1	STAGE 3B
95EXPRESS-OPTIZ-_BS-2.I-95 NB	ROADWAY WORK
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUBSTRUCTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB	UTILITIES
95EXPRESS-OPTIZ-_BS-2.I-95 NB	SUPERSTRUCTURE
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.B.D	STAGE 4
95EXPRESS-OPTIZ-_BS-2.I-95 NB	ROADWAY WORK
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.C	REVERSIBLE T-RAMP
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.C.B	STAGE 3
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.C.C	STAGE 4
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.D	PROJECT CLOSEOUT
95EXPRESS-OPTIZ-_BS-2.I-95 NB RRC.G.D.B	PROJECT COMPLETION

Construction Sequencing

Our Schedule is organized by Four Major Areas of work. Within each Area, the Schedule is further divided into the specific MOT Stages to follow the approved plans. The Four Areas are broken out in the Schedule to identify the three main features of work with the fourth area to focus on Project Finishes as detailed below:

■ **1) Relocation of Existing SB Slip Ramp** – All work required for construction of the new Slip Ramp from I-95 Southbound to the Express Lanes is included in this area of work to include MOT, Demolition Work, Roadway/Drainage Construction, TMS/Lighting/Signage and Finishes required to open the new Slip Ramp to traffic. All of this work will be completed in MOT Stage 1. During this stage, minor lane shifts will be performed on the existing 95 Southbound and Express Lanes to create room and access to construct the new SB Slip Ramp and associated elements.

■ **2) Opitz Bridge Widening** – Work in this area will consist of all work to be performed on the Opitz Bridge Structure and roadway approaches. This includes MOT, Demolition Work, Bridge Rehabilitation/Repairs, Bridge Widening, TMS/Lighting/Signals/Signage and Finish Work to complete all work on Opitz Boulevard including accommodation for access to the new reversible ramp to the Express Lanes. This work is scheduled to be completed in four MOT Stages:

- Stage 1 – Traffic for both EB and WB Opitz Boulevard will be shifted to the outside of the existing roadway including reducing lane widths. Work will be focused on demolition and new

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construction of median area on the bridge and roadway approaches. This will include bridge substructure and joint reconstruction, bridge superstructure work and installation of utility infrastructure for future signal, lighting, signage and TMS elements.

- Stage 2 – In this stage, traffic will be shifted to the South side of Opitz Blvd. utilizing work completed in Stage 1. Work will focus on demolition and reconstruction of the bridge structure and approaches on the North Side of Opitz Blvd. Bridge rehab and repairs will continue in this stage including substructure repairs, bearing replacement and superstructure repairs at abutments and joints as well as new superstructure construction to construct the new pedestrian facilities, parapets, and fencing. Work will continue on installation of infrastructure and devices for signals, lighting, signage and TMS elements. On the roadway approaches, drainage, roadway widenings, sidewalks and work at the existing signal at Telegraph Road will be completed in this phase. Some work on 95 will also be completed in this phase to include modifications to the existing SWM Pond, grading and drainage work in the medians and construction of new OH sign foundations, guardrails and barrier walls. Bridge substructure work for the bridge widening on Opitz Blvd will also commence in this stage. New pedestrian facilities will be opened in this stage across the bridge and the approaches on Opitz Blvd including modifications made at Telegraph Road intersection for pedestrian crossings.
- Stage 3 – In this stage, traffic will be shifted to the North side of Opitz Blvd. utilizing work completed in previous stages. Work will focus on demolition and reconstruction of the bridge structure and approaches on the South Side of Opitz Blvd. This will include widening of Opitz Blvd Bridge and construction of new Abutments, Piers and Retaining Walls to accommodate the bridge and roadway widenings. Once the substructure work is completed, work will commence on installation of new bridge girders, bridge deck, parapet walls and completion of roadway approaches. This work will be accelerated to ensure there is ample time to complete the TMS work on schedule for Level A and B testing. Bridge rehab and repairs will continue in this stage on substructure elements, bearing replacements as well as at the abutments and deck joints. At the roadway approaches new roadway widening to tie into the bridge structure will be completed with new drainage, signage, guardrails and other roadway components. New TMS gates, signage and signal poles, cabinets and other components will be installed as well as remaining infrastructure in the approaches and on the bridge for wiring to tie to these components. Lighting components will be completed on the bridge and new lighting installed. Traffic will be configured in few minor shifts for EB Opitz Blvd to complete all the permanent components for the new reversible ramp while also completing all the new bridge work and repairs and accommodating construction of the new reversible ramp which is covered in the final major area of work section. During all minor shifts, the same number of travel lanes will be maintained on Opitz Blvd. Work on 95 to accommodate new signage, median grading and drainage, guardrails and barrier wall will be completed in this stage.
- Stage 4 – In this stage, traffic lanes will be shifted to their final configuration on Opitz Blvd while leaving the turning lanes to the new reversible ramp closed. Work in this stage will focus on permanent finish work to complete all construction on Opitz Blvd prior to opening all lanes to traffic including access to the new reversible ramp. This will include final milling and asphalt paving, striping and any remaining signage, grading and stabilization on the roadway approaches. All bridge repairs will be completed in previous stages so any remaining bridge deck milling and latex overlay including the final striping will be completed in this stage. This work will be concurrent with final testing of TMS equipment and any remaining work for the new signal at the intersection with the new reversible ramp. At the end of this stage, all work will be completed on Opitz Blvd and the area will be ready to open to traffic.

■ **3) Reversible T-Ramp** – Work in this area will focus on construction of the new Reversible T-Ramp to tie Opitz Blvd. to the Express Lanes. This area will also include the subsequent work required on the Express Lanes and 95 NB/SB General Purpose Lanes to accommodate this new ramp. This work will be completed in Stages 3 and 4 of the overall MOT phasing. Work in this area will commence after the new SB Slip Ramp is completed and opened to traffic. The work will include demolition of existing facilities for the old SB Slip Ramp, construction of the new MSE Walls and roadway work for the new ramp,

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installation of new lighting, TMS, Signage components and roadway work for 95 SB and Express lanes to include drainage, roadway, barrier walls, guardrail and signage work. Work in this area will be coordinated with work on Opitz Blvd Stage 3 as superstructure work will tie into the abutment constructed with the new Reversible Ramp. Traffic lanes will be shifted on 95 SB and Express lanes in Stage 3 to accommodate the ramp construction. The focus will be completion of the ramp work to install all TMS, Signage and Lighting components to accommodate the start of Level A and B testing. In subsequent stage, work will focus on finishing roadway construction on 95 and Express Lanes to include pavement sections, barrier walls, guardrail, final grading and stabilization and signage. At the end of this stage the temporary MOT devices will be removed and all lanes will be shifted to their final configuration prior to the start of final milling, surface paving and striping on 95 SB and the Express Lanes.

■ **4) Project Finishes** – Work in this area will focus on completing any remaining work to reach both Service Commencement dates and Final Completion of the project. This will include final milling, surface paving and striping of 95 General Purpose Lanes and Express Lanes. Any remaining grading, stabilization and signage work. Final video inspections of storm drains and underdrains and Final Inspections with Transurban and VDOT and completion of any punchlist items. Review of all documentation required for closing out the project will be accomplished during this time and all required paperwork will be submitted for final approval including As-built Plans, Material Notebooks, Approved Submittals, O&M Manuals as well as finishing required burn in periods, Level A and B testing and performing any remaining field training or demonstrations for new equipment installed.

Schedule Calendars

The following is a description of the calendars used for this Project.

Standard 5-Day Holidays No Weather Calendar

This calendar is based on five working days per week with holidays inserted as non-work days. This calendar is used for all design and administrative activities in the CPM network.

Standard 5-Day Holiday w/Weather Calendar

This calendar is used for the majority of construction activities. It includes holidays inserted in the “Standard 5-Day Holidays No Weather” calendar as well as ‘block-out’ days for the anticipated normal weather in the region.

Winter Shutdown Calendar

Assigned to activities that are unable to be performed during mid-December through mid-March due to cold weather. Activities such as roadway paving and permanent striping are included in this restricted calendar.

Standard 7-Day Calendar

Assigned to activities that have durations based on calendar days instead of work days. Activities such as Material Fabrication, Level A and B Testing, Third Party Utility Work, Transurban and VDOT’s Reviews are included in this calendar.

Plan to Accomplish the Work / Means and Methods

The narrative below describes our Team’s overall plan and sequence of operations grouped by the Level I WBS Project disciplines. These include Design/Permitting, Material Procurement, Utilities and Construction. The sequencing of each discipline was developed by considering the construction phasing and determining the longest path to Project Completion. All factors were considered including utility work, manpower, subcontractors, materials, permitting constraints, TMS testing requirements and most importantly, public and workforce safety.

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Design/Permitting

This section of the schedule includes those activities that will be required for any remaining design and permitting acquisitions. This work will commence as soon as Notice to Proceed is received. Obtaining the permit from DEQ for land disturbing activities is on the critical path so focus will be on completed this first.

Material Procurement

Obtaining long lead time materials will be critical to the overall schedule. We have identified the most critical elements and including activities with obtain, submitting and approving shop drawings, fabricating and purchasing materials and delivery of materials to the project. These activities are then tied to installation activities in the Construction section. We have committed with Transurban to start on locking in certain elements prior to NTP as well as starting on shop drawings to ensure this work is completed on time. We will continue to monitor this closely with our subcontractors and suppliers to ensure the materials are tracking to be delivered per the schedule.

Utilities

It is anticipated that the impacts to existing utilities will be minimal and will likely not be on the critical path. However, we do have extensive experience working with all private utility owners in this region and will identify any utility conflicts early on in the project and coordinate relocation designs with the private utility owners so that their work can be completed well before it will impact any of the permanent work. This section is also being utilized to track work necessary for new services to be provided for the new electric services to TMS/Lighting/Signage equipment as well as for new VDOT Signal and lighting on Opitz Blvd. We will start all coordination efforts as soon as NTP is provided to ensure this work is never on the critical path.

Construction

Construction requires substantial resource coordination and management while working simultaneously in different areas, and sometimes in different stages. Our Project Team will employ a very detailed CPM to manage the multiple features of work. Field resource efficiency, planning and communication will be maximized utilizing three-week schedules in addition to the CPM, production planners, machine control, GPS and Field Data Capture. The sequence of work by Stage is described above.

Critical Path

Critical path is highlighted in the Preliminary Baseline CPM Schedule. In summary, the Critical Path runs directly through obtaining the DEQ permit to start initial land disturbing activities to include mobilization, initial MOT, clearing and E&S Controls. Procurement of OH Sign Structures necessary for work in Stage 1 for New SB Slip Ramp is also on the Critical Path.

Construction of the new SB Slip Ramp including the major grading, drainage, roadway, pavement section work is on the critical path leading to installation of TMS/Signage Components and installation of new OH Sign structures for Variable Message Signs. This work is proceeding the Level A and B testing which will proceed the opening of the new SB Slip Ramp. Completion and opening of the new SB Slip Ramp is on the Critical Path as this is needed to start construction on the new Reversible Ramp at Opitz Blvd.

Opening of the new SB Slip Ramp ties to decommissioning of the existing equipment at the existing SB Slip Ramp near Opitz Blvd. Once this equipment is removed, work will immediately commence on construction of the new reversible ramp which is on the critical path. This includes any new TMS/Lighting/Signage work on 95/Express Lanes and Opitz for the reversible ramp, MSE walls, abutment construction, structural steel and superstructure work that will tie into Opitz Blvd Bridge. This ties to Level A and B testing required for the new components installed at the new Reversible Ramp which ties to opening of the new ramp. Opening of the new ramp is the predecessor for Service

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Commencement Date and will include completion of all work as detailed in the RFP for this milestone. This will also kickoff any remaining work permissible to be completed after service commencement and all final inspections and punchlist work which is also on the Critical Path leading to Final Completion of the project.

Key Scheduling Assumptions

- Limited NTP will be provided by Transurban in order to lock in material fabrication dates and start shop drawings for long lead time items.
- Full NTP and Approved Plans will be provided by Transurban by August 15, 2022.
- Utility Relocations are minimal and will only be necessary for communication lines crossing I-95 north of Opitz Blvd and utility companies/owners will coordinate their relocations and provide new services in accordance with our Proposal Schedule.
- Coordination between Transurban TMS Contractor and Shirley's TMS contractor will be such that Level A and B testing can commence as soon as necessary equipment and infrastructure is installed and will take no more than 30 calendar days and 120 calendar days respectively.
- There are no hazardous materials, threatened & endangered species, permits or unforeseen environmental constraints, other than those identified in the RFP, that could delay the work.
- Any contaminated materials found onsite will have a concentration suitable for onsite fills.
- Crew leveling has been developed through crew-flow relationships between like activities.
- Crews are based on an 8-hour workday and 5-day workweek calendar. A detailed description of the calendars is included in this narrative.
- Generally, the schedule has been built with work in certain Areas of the Project starting when access is available and/or at the completion of a prior stage of work. We have provided some crew flow predecessor relationships in several locations throughout the schedule mainly where adjacent work is available and crew flow is logical as to not 'stack' too many construction elements within a stage.
- Finish-Start relationships are used as much as possible to create a logical flow of work in each area. There is some overlapping of activities such as with earthwork and drainage activities performed by different crews as required to work in multiple areas within the stages.

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EXHIBIT O - INITIAL BASELINE SCHEDULE		THE 95 EXPRESS LANES OPITZ BOULEVARD PROJECT					SHIRLEY CONTRACTING COMPANY, LLC		07-28-22									
Activity ID	Activity Name	Budgeted Total Cost	Dur	Start	Finish	Total Float	Gantt Chart (2022-2025)											
EXHIBIT O - INITIAL BASELINE SCHEDULE		\$59,127,675.84	595	05-31-22	10-13-24	0	10-13-24, EXHIBIT											
OPTIZ BLVD - I-95 EXPRESS LANES		\$59,127,675.84	595	05-31-22	10-13-24	0	10-13-24, OPTIZ											
SCHEDULE MILESTONES		\$135,000.00	867	05-31-22	10-13-24	0	10-13-24, SCHED											
PROJECT MILESTONES		\$135,000.00	867	05-31-22	10-13-24	0	10-13-24, PROJE											
MS-1000	ANTICIPATED NOTICE OF INTENT TO AWARD	\$0.00	0	05-31-22*		0	▶ ANTICIPATED NOTICE OF INTENT TO AWARD											
MS-1100	CONTRACT EXECUTION	\$0.00	76	05-31-22	08-14-22	0	■ CONTRACT EXECUTION											
MS-1200	NOTICE TO PROCEED	\$0.00	0	08-15-22		0	◆ NOTICE TO PROCEED											
MS-1250	START STAGE 1A WORK ON SLIP RAMP	\$0.00	0	11-15-22		0	◆ START STAGE 1A WORK ON SLIP RAMP											
MS-1300	COMPLETE CONTRACTOR MOT PLANS	\$0.00	0		11-15-22	105	◆ COMPLETE CONTRACTOR MOT PLANS											
MS-1350	START ITS / TMS FINAL TESTING/INTEGRATION - SLIP RAMP (LEVEL A)	\$0.00	0	06-19-23		0	◆ START ITS / TMS FINAL TESTING/INTEGRATION - SLIP RAMP (LEVEL A)											
MS-1400	START TMS CONTRACTOR PROGRAMMING/INTEGRATION - SLIP RAMP (LEVEL B)	\$0.00	0	08-01-23		0	◆ START TMS CONTRACTOR PROGRAMMING/INTEGRATION - SLIP RAMP (LEVEL B)											
MS-1450	OPEN PEDESTRIAN FACILITY ON OPITZ	\$0.00	0		07-14-23	367	◆ OPEN PEDESTRIAN FACILITY ON OPITZ											
MS-1500	OPEN NEW SLIP RAMP TO TRAFFIC	\$0.00	0		12-05-23	0	◆ OPEN NEW SLIP RAMP TO TRAFFIC											
MS-1550	START STAGE 1 WORK ON OPTIZ BLVD	\$0.00	0	11-15-22		20	◆ START STAGE 1 WORK ON OPTIZ BLVD											
MS-1600	START CONSTRUCTION OF REVERSIBLE T-RAMP	\$0.00	0	12-06-23		29	◆ START CONSTRUCTION OF REVERSIBLE T-RAMP											
MS-1650	START ITS / TMS FINAL TESTING/INTEGRATION - REVERSIBLE RAMP (LEVEL A)	\$0.00	0	02-01-24		0	◆ START ITS / TMS FINAL TESTING/INTEGRATION - REVERSIBLE RAMP (LEVEL A)											
MS-1700	START TMS CONTRACTOR PROGRAMMING/INTEGRATION - REVERSIBLE RAMP (LEVEL B)	\$0.00	0	03-14-24		0	◆ START TMS CONTRACTOR PROGRAMMING/INTEGRATION - REVERSIBLE RAMP (LEVEL B)											
MS-1800	OPEN REVERSIBLE RAMP TO TRAFFIC	\$0.00	0		07-15-24	0	◆ OPEN REVERSIBLE RAMP TO TRAFFIC											
MS-1900	SERVICE COMMENCEMENT DATE	\$0.00	0		07-15-24*	0	◆ SERVICE COMMENCEMENT DATE											
MS-1950	COMPLETE BRIDGE WIDENING WORK	\$0.00	0		05-08-24	68	◆ COMPLETE BRIDGE WIDENING WORK											
MS-2000	FINAL INSPECTIONS / COMPLETE PUNCHLIST	\$135,000.00	90	07-16-24	10-13-24	0	■ FINAL INSPECTIONS / COMPLETE PUNCHLIST											
MS-2100	ADMINISTRATIVE END OF CONTRACT	\$0.00	0		10-13-24	0	◆ ADMINISTRATIVE END OF CONTRACT											
MS-2200	FINAL COMPLETION DATE	\$0.00	0		10-13-24	0	◆ FINAL COMPLETION DATE											
DESIGN PHASE		\$0.00	119	05-31-22	11-15-22	67	▶ 11-15-22, DESIGN PHASE											
CONCESSIONAIRE PLANS		\$0.00	0			0												
CONTRACTOR PLANS		\$0.00	169	05-31-22	11-15-22	105	▶ 11-15-22, CONTRACTOR PLANS											
DES-1000	PREPARE/SUBMIT 1ST SUBMISSION MOT PLANS	\$0.00	90	05-31-22	08-28-22	92	■ PREPARE/SUBMIT 1ST SUBMISSION MOT PLANS											
DES-1100	OWNER / VDOT REVIEW / COMMENT MOT PLANS	\$0.00	17	08-29-22	09-14-22	92	■ OWNER / VDOT REVIEW / COMMENT MOT PLANS											
DES-1200	COMMENT REPSONSES - 1ST SUBMISSION PLANS	\$0.00	20	09-15-22	10-04-22	92	■ COMMENT REPSONSES - 1ST SUBMISSION PLANS											
DES-1300	PREPARE SUBMIT FINAL MOT PLANS	\$0.00	25	10-05-22	10-29-22	92	■ PREPARE SUBMIT FINAL MOT PLANS											
DES-1400	OWNER / VDOT REVIEW / APPROVE FINAL MOT PLANS	\$0.00	17	10-30-22	11-15-22	105	■ OWNER / VDOT REVIEW / APPROVE FINAL MOT PLANS											
PERMITTING		\$0.00	182	05-31-22	11-28-22	92	▶ 11-28-22, PERMITTING											
CONCESSIONAIRE PERMITTING		\$0.00	55	05-31-22	07-24-22	21	▶ 07-24-22, CONCESSIONAIRE PERMITTING											
PRMT-1300	OWNER OBTAIN VDOT LUP - SLIP RAMP (IF REQUIRED)	\$0.00	55	05-31-22	07-24-22	21	■ OWNER OBTAIN VDOT LUP - SLIP RAMP (IF REQUIRED)											
CONTRACTOR PERMITTING		\$0.00	106	08-15-22	11-28-22	92	▶ 11-28-22, CONTRACTOR PERMITTING											
PRMT-1200	CONTRACTOR OBTAIN DEQ PERMIT FOR LAND DISTURBANCE	\$0.00	60	08-15-22	10-13-22	0	■ CONTRACTOR OBTAIN DEQ PERMIT FOR LAND DISTURBANCE											
PRMT-1400	CONTRACTOR OBTAIN PW COUNTY PERMIT (IF REQUIRED)	\$0.00	30	10-30-22	11-28-22	92	■ CONTRACTOR OBTAIN PW COUNTY PERMIT (IF REQUIRED)											
PRMT-1500	CONTRACTOR OBTAIN VDOT LUP - BRIDGE AND REVERSIBLE RAMP (IF REQUIRED)	\$0.00	30	10-30-22	11-28-22	92	■ CONTRACTOR OBTAIN VDOT LUP - BRIDGE AND REVERSIBLE RAMP (IF REQUIRED)											
STAKEHOLDER / ADJACENT PROJECT COORDINATION		\$0.00	0			0												
MATERIAL PROCUREMENT		\$4,250,000.00	337	08-15-22	07-17-23	155	▶ 07-17-23, MATERIAL PROCUREMENT											
ITS / TMS		\$2,000,000.00	260	08-15-22	05-01-23	232	▶ 05-01-23, ITS / TMS											
MATL-1000	SUBMIT / APPROVE SHOP DRAWINGS	\$0.00	80	08-15-22	11-02-22	42	■ SUBMIT / APPROVE SHOP DRAWINGS											
MATL-1100	FABRICATE DELIVER ITS / TMS FOR SLIP RAMP	\$1,000,000.00	120	11-03-22	03-02-23	42	■ FABRICATE DELIVER ITS / TMS FOR SLIP RAMP											
MATL-1200	FABRICATE DELIVER ITS / TMS FOR REVERSIBLE RAMP	\$1,000,000.00	120	01-02-23	05-01-23	232	■ FABRICATE DELIVER ITS / TMS FOR REVERSIBLE RAMP											
SIGNAGE / SIGNALS / LIGHTING		\$1,000,000.00	337	08-15-22	07-17-23	125	▶ 07-17-23, SIGNAGE / SIGNALS / LIGHTING											
MATL-1300	SUBMIT / APPROVE SHOP DRAWINGS	\$0.00	77	08-15-22	10-30-22	0	■ SUBMIT / APPROVE SHOP DRAWINGS											
MATL-1400	FABRICATE DELIVER SIGN/POLE STRUCTURES FOR SLIP RAMP	\$500,000.00	200	10-31-22	05-18-23	0	■ FABRICATE DELIVER SIGN/POLE STRUCTURES FOR SLIP RAMP											

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EXHIBIT O - INITIAL BASELINE SCHEDULE		THE 95 EXPRESS LANES OPITZ BOULEVARD PROJECT					SHIRLEY CONTRACTING COMPANY, LLC		07-28-22																																													
Activity ID	Activity Name	Budgeted Total Cost	Dur	Start	Finish	Total Float	2022												2023												2024												2025											
							J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M														
MATL-1500	FABRICATE DELIVER MATERIALS FOR REVERSIBLE RAMP	\$500,000.00	200	12-30-22	07-17-23	125	FABRICATE DELIVER MATERIALS FOR REVERSIBLE RAMP																																															
STRUCTURAL STEEL / PILING		\$1,250,000.00	320	08-15-22	06-30-23	172	06-30-23, STRUCTURAL STEEL / PILING																																															
MATL-1600	SUBMIT / APPROVE SHOP DRAWINGS	\$0.00	80	08-15-22	11-02-22	172	SUBMIT / APPROVE SHOP DRAWINGS																																															
MATL-1700	FABRICATE DELIVER FOUNDATION / WALL PILING	\$250,000.00	120	11-03-22	03-02-23	175	FABRICATE DELIVER FOUNDATION / WALL PILING																																															
MATL-1800	FABRICATE DELIVER STRUCTURAL STEEL	\$1,000,000.00	240	11-03-22	06-30-23	172	FABRICATE DELIVER STRUCTURAL STEEL																																															
UTILITIES		\$100,000.00	376	05-31-22	06-10-23	372	06-10-23, UTILITIES																																															
PRIVATE UTILITY RELOCATIONS		\$0.00	280	05-31-22	03-06-23	105	03-06-23, PRIVATE UTILITY RELOCATIONS																																															
UTIL-1300	FINALIZE UTILITY RELOCATION PLANS / COORDINATE WITH UTILITY OWNERS	\$0.00	120	05-31-22	09-27-22	105	FINALIZE UTILITY RELOCATION PLANS / COORDINATE WITH UTILITY OWNERS																																															
UTIL-1400	RELOCATE EXISTING THIRD PARTY UTILITIES (TBD)	\$0.00	160	09-28-22	03-06-23	105	RELOCATE EXISTING THIRD PARTY UTILITIES (TBD)																																															
NEW UTILITY SERVICES		\$100,000.00	376	05-31-22	06-10-23	372	06-10-23, NEW UTILITY SERVICES																																															
POWER		\$90,000.00	320	05-31-22	04-15-23	428	04-15-23, POWER																																															
UTIL-2000	SUBMIT LOAD LETTERS / WORK ORDERS FOR NEW POWER SERVICES	\$0.00	30	05-31-22	06-29-22	142	SUBMIT LOAD LETTERS / WORK ORDERS FOR NEW POWER SERVICES																																															
UTIL-2100	DESIGN FOR POWER FEED TO PANEL H118A	\$30,000.00	60	06-30-22	08-28-22	142	DESIGN FOR POWER FEED TO PANEL H118A																																															
UTIL-2200	POWER COMPANY INSTALL METER / POWER SERVICE TO H118A	\$0.00	150	08-29-22	01-25-23	142	POWER COMPANY INSTALL METER / POWER SERVICE TO H118A																																															
UTIL-2300	DESIGN FOR POWER FEED TO PANEL H117A	\$30,000.00	90	06-30-22	09-27-22	298	DESIGN FOR POWER FEED TO PANEL H117A																																															
UTIL-2400	POWER COMPANY INSTALL METER / POWER SERVICE TO H117A	\$0.00	150	10-08-22	03-06-23	288	POWER COMPANY INSTALL METER / POWER SERVICE TO H117A																																															
UTIL-2500	DESIGN FOR POWER FEED FOR REVERSIBLE RAMP SIGNAL	\$30,000.00	120	06-30-22	10-27-22	448	DESIGN FOR POWER FEED FOR REVERSIBLE RAMP SIGNAL																																															
UTIL-2600	POWER COMPANY INSTALL METER / POWER SERVICE TO SIGNAL	\$0.00	150	11-17-22	04-15-23	428	POWER COMPANY INSTALL METER / POWER SERVICE TO SIGNAL																																															
COMM		\$10,000.00	300	08-15-22	06-10-23	372	06-10-23, COMM																																															
UTIL-2700	COORDINATE WITH VDOT / COMM COMPANY FOR SIGNAL COMM DESIGN	\$0.00	120	08-15-22	12-12-22	372	COORDINATE WITH VDOT / COMM COMPANY FOR SIGNAL COMM DESIGN																																															
UTIL-2800	INSTALL SERVICE FOR SIGNAL COMM AT REVERSIBLE RAMP	\$10,000.00	180	12-13-22	06-10-23	372	INSTALL SERVICE FOR SIGNAL COMM AT REVERSIBLE RAMP																																															
CONSTRUCTION		\$54,642,675.84	520	08-15-22	09-11-24	22	09-11-24, CONSTRUCTION																																															
GEN-1000	MOBILIZATION / SET UP FIELD OFFICE / LAYDOWN YARDS	\$2,985,500.00	45	09-06-22	11-07-22	0	MOBILIZATION / SET UP FIELD OFFICE / LAYDOWN YARDS																																															
GEN-1100	PRELIMINARY SURVEY / RECOVER CONTROL	\$20,000.00	30	10-04-22	11-14-22	0	PRELIMINARY SURVEY / RECOVER CONTROL																																															
GEN-1200	INSTALL PRELIMINARY MOT SIGNAGE / E&S CONTROLS	\$28,010.00	5	11-08-22	11-14-22	0	INSTALL PRELIMINARY MOT SIGNAGE / E&S CONTROLS																																															
GEN-1220	CLEAR AND GRUB / INSTALL ADDITIONAL E&S CONTROLS	\$75,000.00	7	11-15-22	11-23-22	91	CLEAR AND GRUB / INSTALL ADDITIONAL E&S CONTROLS																																															
GEN-1250	EROSION AND SEDIMENT CONTROL MAINTENANCE	\$477,933.00	450	11-15-22	09-04-24	27	EROSION AND SEDIMENT CONTROL MAINTENANCE																																															
GEN-1300	CONSTRUCTION SURVEY	\$325,000.00	450	11-15-22	09-04-24	27	CONSTRUCTION SURVEY																																															
GEN-1350	DAILY MOT NEEDS AND MAINTENANCE	\$2,520,857.00	450	11-15-22	09-04-24	27	DAILY MOT NEEDS AND MAINTENANCE																																															
GEN-1400	QA-QC	\$6,000,000.00	520	08-15-22	09-11-24	22	QA-QC																																															
RELOCATION OF EXIST. SB SLIP RAMP - STAGE 1A		\$9,675,505.00	263	11-15-22	12-05-23	0	12-05-23, RELOCATION OF EXIST. SB SLIP RAMP - S																																															
ROADWAY / MOT		\$2,807,359.00	180	11-15-22	08-07-23	68	08-07-23, ROADWAY / MOT																																															
SLIP-2700	SHIFT LANES INSTALL STAGE 1A MOT	\$84,029.00	15	11-15-22	12-07-22	0	SHIFT LANES INSTALL STAGE 1A MOT																																															
SLIP-2800	DEMO EXISTING ELEMENTS	\$95,759.00	15	12-08-22	01-05-23	0	DEMO EXISTING ELEMENTS																																															
SLIP-2900	INSTALL PERMANENT DRAINAGE - PH. 1	\$264,170.00	20	01-06-23	02-02-23	0	INSTALL PERMANENT DRAINAGE - PH. 1																																															
SLIP-3000	CUT / FILL ROUGH FINISH GRADE - PH. 1	\$95,759.00	15	02-03-23	02-23-23	5	CUT / FILL ROUGH FINISH GRADE - PH. 1																																															
SLIP-3100	INSTALL PERMANENT DRAINAGE - PH. 2	\$250,267.00	20	02-03-23	03-02-23	0	INSTALL PERMANENT DRAINAGE - PH. 2																																															
SLIP-3200	CUT / FILL ROUGH FINISH GRADE - PH. 2	\$127,679.00	20	03-03-23	03-30-23	0	CUT / FILL ROUGH FINISH GRADE - PH. 2																																															
SLIP-3300	PLACE SUB-BASE AGGREGATE	\$429,102.00	15	03-31-23	04-20-23	0	PLACE SUB-BASE AGGREGATE																																															
SLIP-3400	INSTALL UNDERDRAIN / ADJUST STRUCTURES TO GRADE	\$143,034.00	5	04-21-23	04-27-23	0	INSTALL UNDERDRAIN / ADJUST STRUCTURES TO GRADE																																															
SLIP-3450	FPS BARRIER WALL FOOTINGS	\$146,034.00	8	04-21-23	05-02-23	0	FPS BARRIER WALL FOOTINGS																																															
SLIP-3500	PAVEMENT SECTION	\$429,102.00	15	04-28-23	05-18-23	0	PAVEMENT SECTION																																															
SLIP-3600	BARRIER WALL / GUARDRAIL	\$456,356.00	25	05-19-23	06-23-23	73	BARRIER WALL / GUARDRAIL																																															
SLIP-3800	COMPLETE ROADWAY WORK AT OH SIGN FOUNDATION	\$286,068.00	10	07-25-23	08-07-23	68	COMPLETE ROADWAY WORK AT OH SIGN FOUNDATION																																															
ITS / TMS / LIGHTING		\$4,271,604.00	243	12-08-22	11-28-23	0	11-28-23, ITS / TMS / LIGHTING																																															
SLIP-1000	REMOVE EXISTING POLES AND EQUIPMENT	\$145,348.00	10	12-08-22	12-21-22	5	REMOVE EXISTING POLES AND EQUIPMENT																																															
SLIP-1400	INSTALL NEW LIGHT POLE FOUNDATIONS	\$218,022.00	15	02-24-23	03-16-23	15	INSTALL NEW LIGHT POLE FOUNDATIONS																																															
SLIP-1700	INSTALL LIGHTING CONDUIT / JB	\$218,022.00	15	03-17-23	04-06-23	15	INSTALL LIGHTING CONDUIT / JB																																															

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Monthly Payment Schedule and Cash Curve

Monthly Payment Schedule

Period Ending (Month)	Projected Monthly Total:	Projected Cumulative Total:
September 2022	\$ 1,579,886	\$ 1,579,886
October 2022	\$ 1,849,159	\$ 3,429,045
November 2022	\$ 1,072,060	\$ 4,501,105
December 2022	\$ 1,764,570	\$ 6,265,674
January 2023	\$ 3,884,786	\$ 10,150,460
February 2023	\$ 3,767,429	\$ 13,917,889
March 2023	\$ 2,465,257	\$ 16,383,147
April 2023	\$ 1,902,693	\$ 18,285,840
May 2023	\$ 4,029,892	\$ 22,315,732
June 2023	\$ 3,552,054	\$ 25,867,786
July 2023	\$ 3,865,526	\$ 29,733,312
August 2023	\$ 3,204,136	\$ 32,937,448
September 2023	\$ 2,935,529	\$ 35,872,977
October 2023	\$ 1,920,389	\$ 37,793,366
November 2023	\$ 1,805,221	\$ 39,598,587
December 2023	\$ 2,017,137	\$ 41,615,724
January 2024	\$ 1,550,779	\$ 43,166,503
February 2024	\$ 2,729,302	\$ 45,895,805
March 2024	\$ 2,720,752	\$ 48,616,557
April 2024	\$ 2,021,123	\$ 50,637,680
May 2024	\$ 2,310,147	\$ 52,947,827
June 2024	\$ 2,670,330	\$ 55,618,157
July 2024	\$ 1,921,350	\$ 57,539,507
August 2024	\$ 819,759	\$ 58,359,265
September 2024	\$ 447,958	\$ 58,807,223
October 2024	\$ 320,453	\$ 59,127,676
	\$ 59,127,675.84	

