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EXECUTIVE SUMMARY

This Design Build project is Segment I of the planned I-64 Capacity Improvements on the Peninsula. The project limits are from 0.52 miles east of Route 238 (Yorktown Road) to 0.58 miles west of Route 143 (Jefferson Avenue). The 6.1-mile long project lies in the City of Newport News.

The original project limits were from 0.52 miles east of Route 238 (Yorktown Road) to 1.55 miles west of Route 143 (Jefferson Avenue). The additional project length was added to include shoulder strengthening and widening from 10' to 11' wide for both westbound and eastbound I-64 between Fort Eustis Boulevard and Jefferson Avenue.

The project will complete construction by the original planned completion date of December 1, 2017.

The current total project cost estimate is \$122,551,685 and decreased from the Initial Financial Plan estimate of \$144,000,000 due to the low bid that was received. Fourteen work orders have been negotiated equaling a total of \$18,690,415 in additional payments to the contractor above the bid price. There is no risk at this time of exceeding the current project cost estimate.

This project is funded from a combination of federal and state sources. The surplus allocations are Hampton Roads Transportation Accountability Commission (HRTAC) funds.

1. PROJECT DESCRIPTION

This project is Segment 1 of the planned I-64 Capacity Improvements on the Peninsula. The project limits are from 0.52 miles east of Route 238 (Yorktown Road) to 0.58 miles west of Route 143 (Jefferson Ave). The 6.1-mile-long project lies completely in the City of Newport News as shown in Figure 1. I-64 is classified as an Urban Interstate through the City of Newport News. The Virginia Department of Transportation (VDOT) initiated this proposed widening project to provide immediate congestion relief to the roadway corridor.

VDOT determined that the use of Design-Build contracting would expedite delivery. The Design-Builder will perform final design, right of way acquisition, and utility relocation and some construction activities concurrently. This project contributes to the Preferred Alternative and contributes to the Purpose & Need elements outlined in the Final Environmental Impact Statement (FEIS) and memorialized in the Record of Decision (ROD). The project incorporates context sensitive design where practical and in accordance with the resolution of the Transportation Planning Organization (TPO).



Figure 1: Project Limits

Under the terms of the design-build contract awarded by the Commonwealth Transportation Board (CTB) in February, 2015, the design-builder constructed the widening of I-64 from a 4 lane divided interstate to a 6 lane divided interstate from 0.52 miles east of Route 238 to 1.55 miles west of Route 143. The proposed improvements included the addition of one 12-foot-wide travel lane and one 12-foot-wide shoulder in each direction. This 4-lane section of I-64 ties into an 8-lane interstate system to the east and is currently the most congested section of the I-64 Peninsula corridor. The widening occurred in the median of the existing interstate, limiting the amount of right of way required to construct the project and avoiding impacts to existing interchanges. These improvements increased capacity, minimized geometric and structural deficiencies, provided more lanes for evacuation and improved safety by reducing congestion and improving vehicular level of service.

Four existing bridges (two east and west pairs) within the corridor were widened to the inside to accommodate the same typical section as the roadway. One pair of bridges over the CSX Railroad at Industrial Park Drive was widened and the design build team chose to replace these structures instead of performing repair and rehabilitation. Two box culverts at Stony Run were also extended/modified due to the interstate widening.

This section of I-64 was designed in accordance with Interstate-Urban Principal Arterial (GS-5) criteria with a design speed of 70mph and includes the following improvements:

- Two (2) additional travel lanes (one in each direction) within the existing median. The typical section includes one (1) additional 12' wide thru lane in each direction to provide a six (6) lane typical section and minimum 12' wide paved shoulders in the median in each direction and 14' wide paved shoulders adjacent to proposed median barriers.
- Improvements to three (3) existing median crossovers for emergency response and maintenance use, including relocation of one (1) existing crossover, paving of all cross overs, and upgrades to comply with current VDOT and AASHTO requirements.
- Construction of warranted and approved noise barriers.
- Incorporation of a raised median between concrete barriers.
- Shoulder strengthening and widening from 10' to 11' wide for the entire width of existing shoulder for both westbound and eastbound I-64 between Fort Eustis Boulevard and Jefferson Avenue.
- Included are the necessary safety improvements including guardrail, pier protection at the Bland Boulevard and Denbigh Boulevard overpasses and slope stabilization or widening.
- The Industrial Park Drive Bridges were replaced.
- Ramps and acceleration and deceleration lanes were extended. This includes extending the non-cloverleaf acceleration and deceleration lanes on I-64 for the Fort Eustis Boulevard Interchange.

An additional 2" asphalt and ¾" Thin Hot Mix Asphalt Concrete Overlay (THMACO) overlay of the existing and proposed travel lanes, shoulders and acceleration and deceleration lanes are being placed. The overlays included High Polymer Binder 64E-28. High polymer asphalt is more resistant to rutting and will provide increased resistance to reflective cracking from the underlying jointed concrete pavement. In addition to the geometric and capacity improvements, safety improvements at the Route 105 (Fort Eustis Boulevard) Interchange were implemented through clearing of vegetation to increase the sight distances at the entrance and exit ramps to and from I-64.

Project History

On April 21, 2014, the Federal Highway Administration (FHWA) issued a ROD for the first operationally independent section to be advanced from the FEIS. This section is approximately six miles with the termini located west of Exit 255 (Jefferson Avenue/Route 143) in the east and east of Exit 247 (Yorktown Road/Route 238) in the west. These locations provide logical termini, as improvements will tie back into the existing facility and not extend beyond or impact the existing interchanges. Exit 250 (Fort Eustis Boulevard/Route 105) is the only interchange located within this section. Impacts to this interchange will be avoided by confining lane widening to the median. The ROD was issued for an interim build condition which added one lane in each direction. FHWA and VDOT agreed that the full build condition of two additional lanes in each direction would be achieved at a later date.

Current Activities

All Design Activities are complete; construction closeout is underway. The project is within budget and met the schedule for construction completion on December 1, 2017.

A copy of the permit certification of compliance will be provided to VDOT Environmental for project closeout.

The 1-year establishment period by Shirley Contracting will begin upon the Department's acceptance of the project landscaping, expected to start in early December 2017. During the 1-year establishment period, the plants will be watered and mulch maintained and weed/litter control will be performed by Shirley contracting prior to final acceptance in December 2018.

Current Construction Activities Summary:

- 958 days worked of 989 contract days.
- Continued maintenance of E&S controls project-wide.
- Completed latex concrete overlays at Fort Eustis Blvd. Bridges. Continued painting at the existing Fort Eustis Bridges.
- Installed MSE Wall Coping at the Industrial Park Drive Bridges.
- Continued asphalt surface courses for eastbound I-64.
- Continued guardrail installation along eastbound shoulders.
- Continued general site grading and soils stabilization at various project areas.
- Begin planting in the landscaped median barriers.
- Facilitating project closeout processes.

UPC 104905 Project Website:

http://www.virginia-dot.org/projects/hamptonroads/i-64_widening_project.asp

The Environmental project website is also available for the public:

http://www.virginia-dot.org/projects/hamptonroads/i-64_peninsula_study.asp

2. SCHEDULE

The overall sequencing of the major phases of the construction work was performed as follows, the project is currently in Phase 4:

Phase 1: Along both I-64 Eastbound and Westbound, place temporary pavement markings and shift traffic towards the outside to allow placement of temporary traffic barrier service adjacent to the median widening. At bridge locations, the outside shoulder will be strengthened to allow traffic to shift further right for bridge sequencing.

Phase 2: Construct median widening along both I-64 Eastbound and Westbound, demolish and construct new portions of Bridges B-618, and B-619 over Fort Eustis Boulevard, Bridges B-620 and B-621 over Lee Hall Reservoir, and Bridges B-616 and B-617 over Industrial Park Drive. Upon completion, shift traffic towards the newly constructed median widening.

Phase 3: Perform all pavement repairs per Part 2, section 2.6.2 of the Request for Proposals (RFP) documents and demolish and reconstruct the portions of Bridges B-616 and B-617 over Industrial Park Drive started in Phase 2. For Bridges B-618 and B-619 over Fort Eustis Boulevard and Bridges B-620 and B-621 over Lee Hall Reservoir, the required joint repairs and substructure improvements will be made. The majority of noise wall construction will also take place in this phase. Then the improvements at Fort Eustis interchange will be constructed. Upon completion of Phase 3, traffic will be shifted to its ultimate location.

Phase 4: Complete any remaining pavement repairs and then place ¾" THMACO (Thin hot mix asphalt concrete overlay) surface treatment asphalt and complete "finishing" items. The additional 2" of SMA-12.5-inch asphalt concrete would be placed in this phase.

Project Schedule:

- Notice to Proceed Date March 18, 2015
- Begin PE – Design and RW/Utilities activities March 18, 2015
- Begin Phase 1 Construction September 14, 2015
- Begin Phase 2 Construction March 21, 2016
- Begin Phase 3 Construction May 18, 2017
- Begin Phase 4 Construction July 28, 2017
- Project Ready for VDOT Walk-through November 13, 2017
- Final Construction Completion date December 1, 2017
- Landscaping 1-year establishment period final acceptance December 2018

PROJECT SCHEDULE OVERVIEW

Task		Start	Finish	YR 2015	YR 2016	YR 2017	YR 2018	YR 2019
Notice to Proceed		03/15	03/15					
UPC 104905	PE- Design	03/15	12/15					
	RW/Utilities	03/15	03/16					
	Construction	03/15	12/17					
Construction Complete		03/15	12/17					

3. PROJECT COST

VDOT’s Project Cost Estimating System (PCES) is the official source for all cost estimate information. The current total project cost estimate is \$122,551,685.

In February 2015, this project was awarded to Shirley Contracting Company based on their Design-Build construction proposal of \$84,878,685. Table 3.1 below shows the initial and current total project cost estimate for the I-64 Capacity Improvements – Segment I project. The project estimate has also been updated as noted in Table 3.2 below.

Table 3.1: Project Cost Estimates by Phase

Phase	Initial Financial Plan Estimate	Current Estimate 10/31/17
PE	\$3,995,000	\$4,135,000
RW	\$5,901,490	\$5,901,490
CN	\$134,103,510	\$112,515,195
Total	\$144,000,000	\$122,551,685

Cost Estimating Methodology

Work elements associated with the I-64 Capacity Improvements – Segment I project can be summarized in two components: (1) work to be carried out under the design-build contract by the design-builder and (2) work outside of the design-build contract for which VDOT is responsible or has already accomplished throughout the development of the project.

Design-Build Contract: The awarded design-build contract for the I-64 Capacity Improvements project is lump sum and includes the following major work elements to be provided by the design-builder: final design; right-of-way acquisition services; utility coordination; utility relocations; construction; and construction QA/QC. The initial estimated cost for the design-build contract was developed using the RFP Plans. The design-build contract is a fixed price, lump sum contract, with contractor payments based upon the project physical percent of completion.

Work Outside of Design-Build Contract: VDOT will remain responsible for updating the EIS documentation; preliminary engineering support services; oversight of final design; oversight of right-of-way acquisition services; payment for new right-of-way acquired for the project; landscaping maintenance after the 1-year establishment period ends; design-build risk contingency; and oversight of construction:

- **Preliminary Engineering:** VDOT has executed an agreement with a professional services firm to provide engineering and technical support during the design build project execution. Specifically, support for reviewing preliminary and final design submissions.
- **Right of Way Purchases:** In accordance with the design-build RFP, Part 2, Section 1.5, VDOT remains responsible for the actual cost of the purchase of right-of-way, all easements and miscellaneous fees associated with real estate closings as part of the Project and oversight of the right-of-way acquisition/payment/condemnation process.
- **Virginia Department of Transportation Project Oversight Costs:** VDOT costs to manage the project and provide oversight of the project are estimated to be \$8,463,199. These costs include overall project management, design reviews, contract administration, and construction oversight.

In addition, other preliminary engineering expenditures associated with project development of the I-64 Capacity Improvements project are reflected in the total project estimate.

Summary of Estimates and Expenditures

Table 3.4 depicts the project expenditures as of October 31, 2017, along with the current project estimate. It shows that the project costs incurred to date are within the project estimate.

Table 3.4: Comparison of Project Estimate and Expenditures

Phase	Current Estimate	Expenditures as of 10/31/17	Balance to Complete
PE	\$4,135,000	\$2,670,958	\$1,464,042
RW	\$5,901,490	\$32,494	\$5,868,996
CN	\$112,515,195	\$85,330,022	\$27,185,173
Total	\$122,551,685	\$88,033,474	\$34,518,211

4. PROJECT FUNDS

This Financial Plan Annual Update includes \$144 million in funding for the I-64 Capacity Improvements – Segment I project.

Table 4.1 summarizes the funding allocated to the I-64 Capacity Improvements – Segment I in the Final FY 2018-2023 SYIP by fund source and year.

Table 4.1: Summary of Funding by Source and Year

Source	Fund Name	Previous	FY 2018	FY 2019	Total
Federal	CTB Formula (NHS/NHPP) and Soft Match	\$373,590	\$ -	\$ -	\$373,590
State	GARVEE Bond Proceeds	\$90,626,410	\$ -	\$ -	\$90,626,410
State	Priority Transportation Funds	\$9,000,000	\$ -	\$ -	\$9,000,000
Other	Hampton Roads Funds	\$44,000,000	\$ -	\$ -	\$44,000,000
Total		\$144,000,000	\$0	\$0	\$144,000,000

The I-64 Capacity Improvements Project – Segment I is funded from a combination of federal and state sources.

Federal Sources

CTB Formula: PPTA Federal (CF1140) – The Final FY 2018-2023 SYIP includes \$298,872 in CTB Formula - PPTA Federal funds (NHS/NHPP) allocated in previous years. The CTB funds are for bridge and interstate improvements on this high priority interstate project.

CTB Formula: PPTA Soft Match (CF1141) – The Final FY 2018-2023 SYIP includes \$74,718 in CTB Formula - PPTA Soft Match funds allocated in previous years. CTB funds are for bridge and interstate improvements on this high priority interstate project.

State Sources

GARVEE Bond Proceeds: GARVEE (CNB296) – The Final FY 2018-2023 SYIP includes \$90,626,410 in GARVEE Bond Proceeds.

Priority Transportation Funds: Access PTF (CNS246) - The Final FY 2018-2023 SYIP includes \$9,000,000 in Priority Transportation Funds Proceeds.

Other Sources

Hampton Roads Funds: - Hampton Roads Transportation Funds (FASHAM) - The Final FY 2018-2023 SYIP includes \$44,000,000 in Hampton Roads Transportation Funds previously allocated by the HRTPO.

5. FINANCING ISSUES

There are no financing issues on this project.

6. CASH FLOW

I-64 Capacity Improvements – Segment I project is a high priority for both VDOT and the local area. Allocations are re-evaluated annually through the SYIP update. I-64 Capacity Improvements – Segment I projected annual cash expenditures were based on the project schedule provided by the Design-Builder. A comparison of actual and remaining projected expenditures to allocations by fiscal year is shown in Table 6.1 - Cash Flow Analysis.

Table 6.1: Cash Flow Analysis

	Previous	FY 2018	FY 2019	FY 2019
PE	\$2,626,417	\$1,200,000	\$0	\$0
Right of Way	\$32,494	\$5,000	\$0	\$0
Construction	\$67,961,726	\$44,553,469	\$0	\$0
Total Annual Expenditures	\$70,620,637	\$45,758,469	\$0	\$0
Cumulative Expenditures	\$70,620,637	\$116,379,106	\$116,379,106	\$116,379,106
Total Annual Allocations	\$144,000,000	\$0	\$0	\$0
Cumulative Allocations	\$144,000,000	\$144,000,000	\$144,000,000	\$144,000,000
Cumulative Allocation Surplus (Deficit)	\$73,379,363	\$27,620,894	\$27,620,894	\$27,620,894

7. P3 ASSESSMENT

This interstate project cannot be tolled and is not a candidate for delivery via the Public Private Transportation Act (PPTA).

8. RISK AND RESPONSE STRATEGIES

The Department's current budget in the Six-Year Improvement Program for Fiscal Years 2018-2023 is \$144,000,000 for I-64 Capacity Improvements – Segment I project.

This project is expected to complete as scheduled on December 1, 2017. A remaining schedule risk was the placement of the final pavement surface in the fall season. To address this risk, the design build team has hired additional paving crews and work all available day and night hours to complete on time.

The project's contingency and scope validation budget included in the project estimate covered all work orders received on the project. The total of approved work orders is \$18,695,175.

9. ANNUAL UPDATE CYCLE

The submission date of the Initial Financial Plan was December 1, 2014. The first annual update was submitted in December 2015 with a "data as of" date of October 31, 2015. Future annual updates will be submitted by December 1 of that year, with a "data as of" date of October 31 of that year.

10. SUMMARY OF COST CHANGES SINCE LAST YEAR'S FINANCIAL PLAN

The Cost Flow Analysis in Table 6.1 was updated to reflect actual expenditures and remaining expenditures anticipated. The planned PE and RW phase expenditures were less than budgeted.

11. COST AND FUNDING TRENDS SINCE INITIAL FINANCIAL PLAN

The Cost Flow Analysis in Table 6.1 was updated to reflect actual expenditures and remaining expenditures anticipated. The planned PE and RW phase expenditures were less than budgeted. Additionally, UPC 111926 will be added as a child project. This UPC is needed to account for the Hampton Roads Transportation Funds which are billed and posted in VDOT's financial system. It does not have any effect on the total project funds.

12. SUMMARY OF SCHEDULE CHANGES SINCE LAST YEAR'S FINANCIAL PLAN

There are no schedule changes since last year's financial plan.

13. SCHEDULE TRENDS SINCE INITIAL FINANCIAL PLAN

There are no trends that have impacted the project schedule since the initial financial plan.