

Appendix A. Proposed Project Solutions

Proposed Project Solutions

SEISMIC UPGRADES

The project upgrades the **Abernethy Bridge and the eight other I-205 bridges** in the project area to withstand a major earthquake. I-205 is designated as a **statewide north-south lifeline route**, which means it must be operational quickly after a disaster renders other roadways unusable or impassable. This critical route will provide supplies and services to the region.

I-205 WIDENING

- The project **adds a third lane** in each direction on the seven-mile stretch of I-205 between Stafford Road and OR 99E. It also adds a northbound auxiliary ("entrance-to-exit") lane between OR 99E and OR 213.
- Widening I-205 requires **blasting in order to remove the rock** from the rock slope located in West Linn on the northbound side of I-205 between the Sunset Avenue overcrossing and just south of the OR 43 interchange. We will conduct additional analyses next year to determine impacts of the blasting, potential mitigations and duration of the work.

INTERCHANGE IMPROVEMENTS

- In order to improve safety and travel-time predictability on I-205, the project makes changes to **on- and off-ramps and intersections around interchanges.**
- **OR 43 interchange:** the project removes the current I-205 northbound on-ramp from OR 43 northbound. Northbound traffic will instead use a new left turn to access the existing on-ramp loop to I-205 northbound. Consolidating these two separate northbound access points eliminates the merging and weaving that currently occurs and reduces rear end crashes. The Broadway Street bridge overcrossing will also be removed. See inset below.
 - Analysis is still underway for other intersection improvements at OR 43 and OR 99E. We will present these findings later in the design process.

BRIDGE REPLACEMENTS

Widening I-205 requires **rebuilding West A Street and Sunset Avenue**, which cross over I-205. The Tualatin River, Borland Road and Woodbine Road bridges will also be replaced.

TRAVELER INFORMATION SIGNS

The project includes ODOT RealTime **traffic information signs** to help travelers get to where they're going more safely and efficiently. These signs can display traffic flow information, roadway conditions and advisory speeds limits.



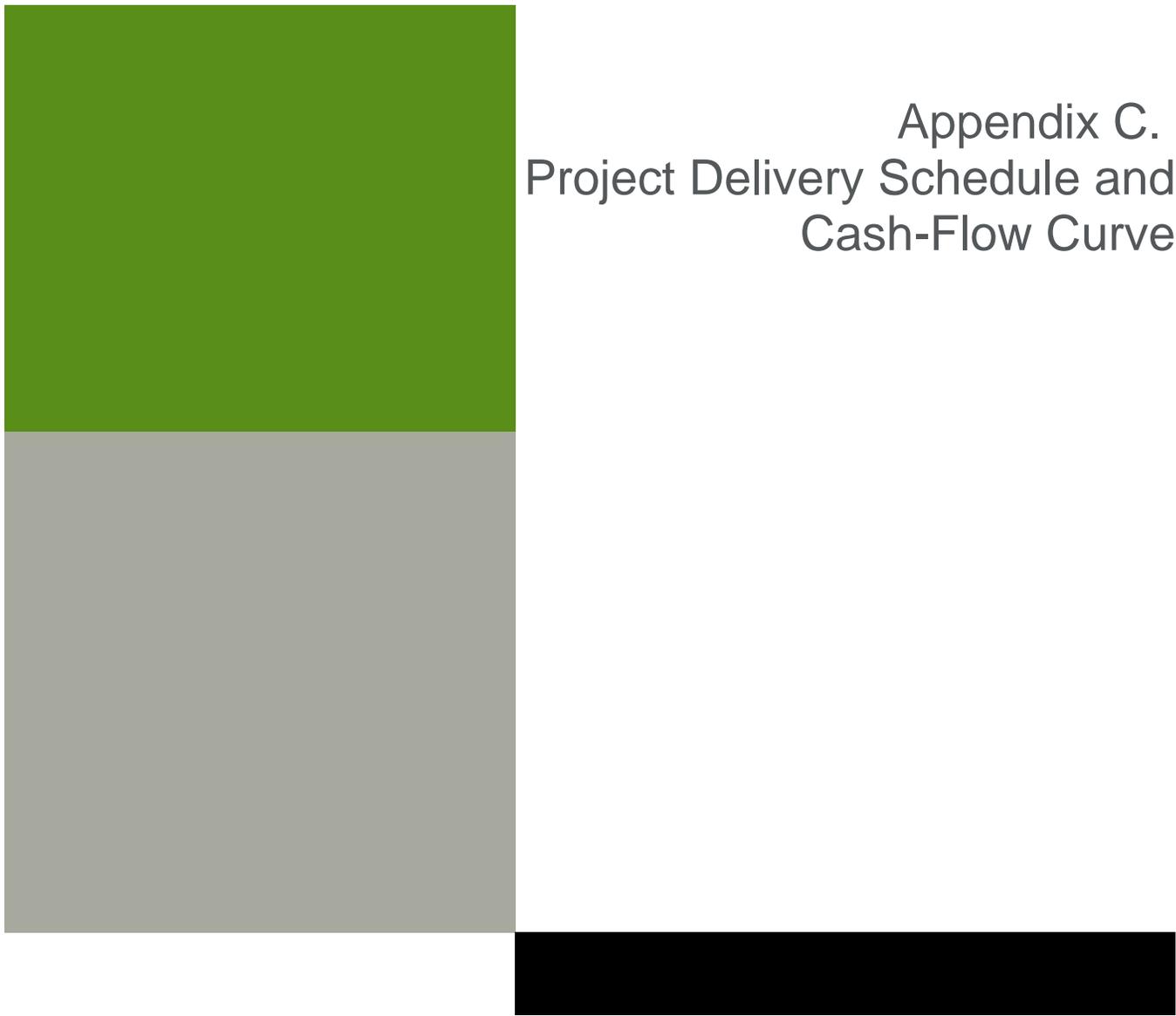


Appendix B. Recommended Alternative Phasing Map and Schedule

Recommended Construction Phasing Map and Schedule

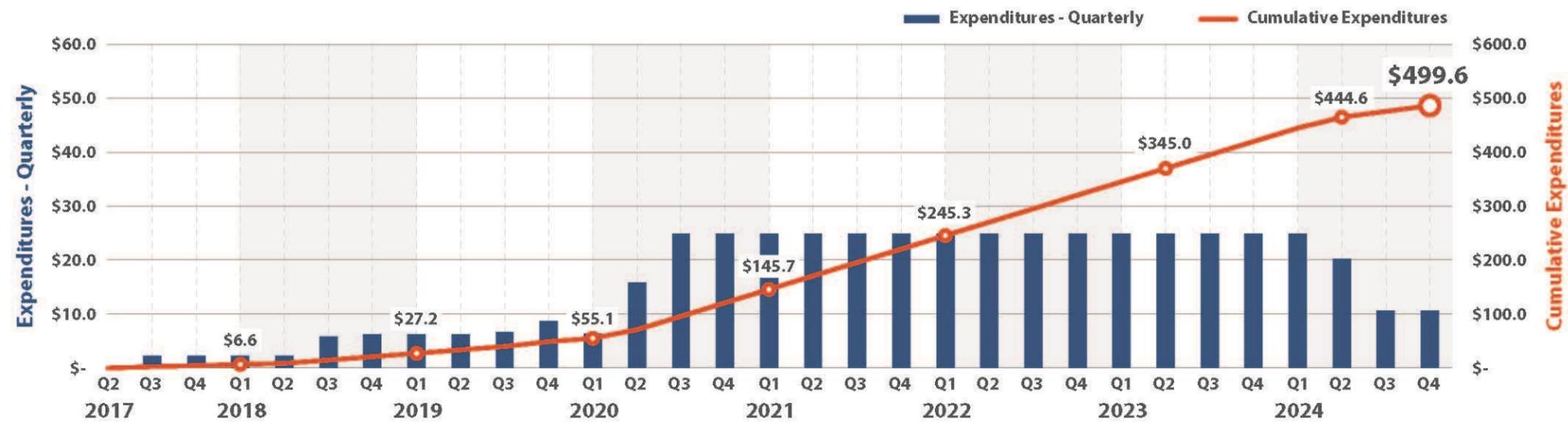


| Package | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------|---------------------------------|---------------------------------|------|------|------|------|
| A | | [Yellow bar spanning 2020-2024] | | | | |
| B | | [Blue bar spanning 2020-2024] | | | | |
| C | [Orange bar spanning 2019-2020] | | | | | |

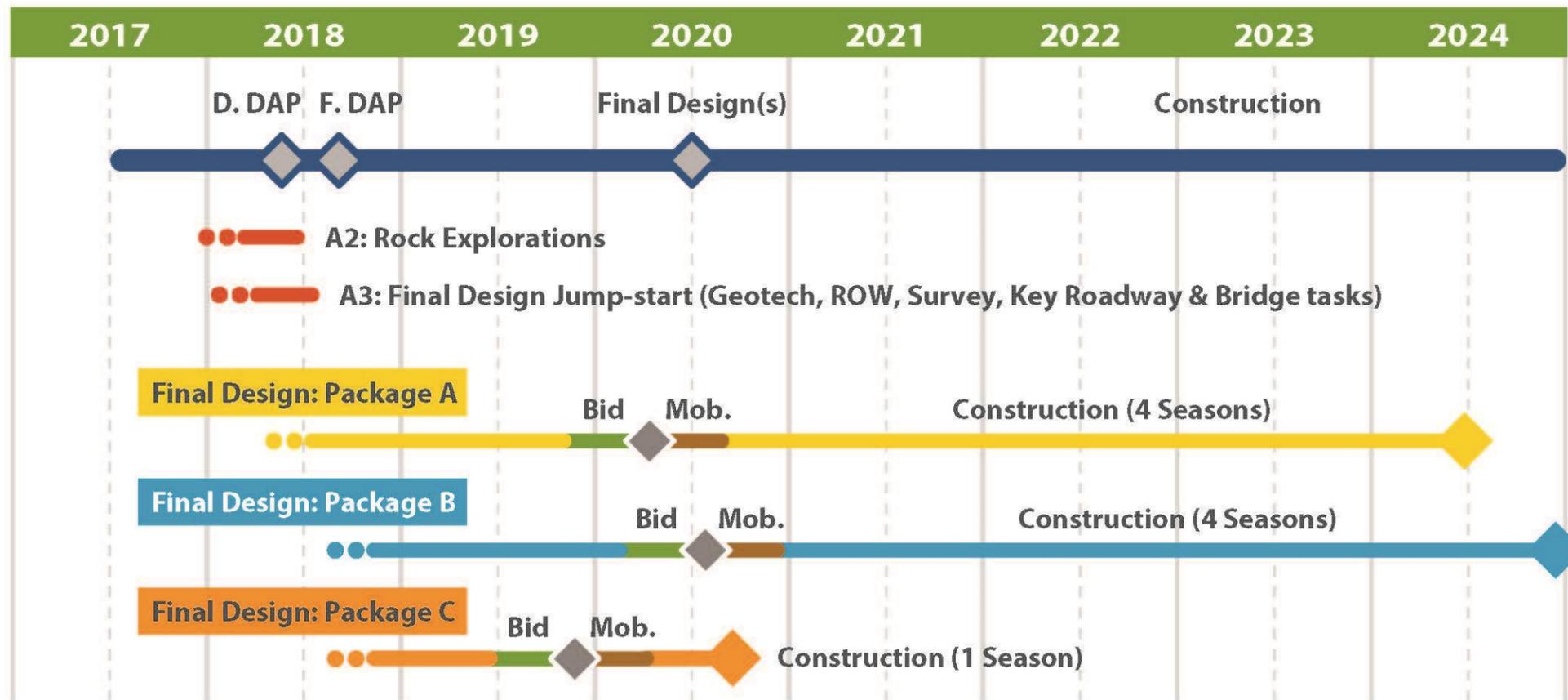


Appendix C. Project Delivery Schedule and Cash-Flow Curve

Expenditures for the Proposed Solution (3 Packages)



Project Delivery Schedule: Design / Contracting / Construction





Appendix D. Recommended Alternative – Detailed Project Cost Estimate



Detailed Project Cost Estimate

| PROGRAMMATIC OPINION OF COST | | | | | | | |
|--|---------------|---|---|---|---|-----------------|------------------|
| ITEM NO. | BID ITEM CODE | ITEM | CONSTRUCTION VARIABILITY CONTINGENCY (Range 0%-20%) | Northern Package PACKAGE A (ABERNETHY BRIDGE) | Southern Package PACKAGE B (I-205 FREEWAY WIDENING) | PACKAGE C (ATM) | TOTAL COST |
| 200 - TEMPORARY FEATURES AND APPURTENANCES | | | | | | | |
| 0010 | 0210-010000A | MOBILIZATION | 0% | \$ 14,826,200.00 | \$ 11,650,800.00 | \$ 319,600.00 | \$26,796,600.00 |
| 0020 | 0100-0101000T | TRAINING | 0% | \$ 370,700.00 | \$ 291,300.00 | \$ 8,000.00 | \$670,000.00 |
| 0030 | 0225-010000A | TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC | 0% | \$ 7,413,100.00 | \$ 5,825,400.00 | \$ 159,800.00 | \$13,398,300.00 |
| 0040 | 0256-010900J | TEMPORARY RETAINING WALL | 10% | \$ 112,200.00 | \$ - | \$ - | \$112,200.00 |
| 0050 | 0280-010000A | EROSION CONTROL | 0% | \$ 1,482,600.00 | \$ 1,165,100.00 | \$ 32,000.00 | \$2,679,700.00 |
| 0060 | 0294- | HAZMAT | 0% | \$ 741,300.00 | \$ 582,500.00 | \$ 16,000.00 | \$1,339,800.00 |
| 0070 | 0294-9Z9000K | CONTAMINATED SOIL MANAGEMENT | 15% | \$ 175,400.00 | \$ 1,784,800.00 | \$ - | \$1,960,200.00 |
| \$46,956,800.00 | | | | | | | |
| 300 - ROADWORK | | | | | | | |
| 0080 | 0305-010000A | CONSTRUCTION SURVEY WORK | 0% | \$ 1,482,600.00 | \$ 1,165,100.00 | \$ 32,000.00 | \$2,679,700.00 |
| 0090 | 0310-010600A | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | 0% | \$ 741,300.00 | \$ 582,500.00 | \$ 16,000.00 | \$1,339,800.00 |
| 0100 | 0320-010000R | CLEARING AND GRUBBING | 15% | \$ 157,300.00 | \$ 421,800.00 | \$ - | \$579,100.00 |
| 0110 | 0330-010500K | GENERAL EXCAVATION | 15% | \$ 780,000.00 | \$ 3,650,700.00 | \$ - | \$4,430,700.00 |
| 0120 | 0331-011200J | 24 INCH SUBGRADE STABILIZATION | 10% | \$ 128,400.00 | \$ 377,700.00 | \$ - | \$506,100.00 |
| 0130 | 0344-010100J | TREATED SUBGRADE, 9 INCHES THICK | 10% | \$ 119,500.00 | \$ 1,211,300.00 | \$ - | \$1,330,800.00 |
| 0140 | 0344-010800M | PORTLAND CEMENT | 10% | \$ 47,800.00 | \$ 484,000.00 | \$ - | \$531,800.00 |
| 0150 | 0350-010500J | SUBGRADE GEOTEXTILE | 15% | \$ 37,700.00 | \$ 284,600.00 | \$ - | \$322,300.00 |
| \$11,720,300.00 | | | | | | | |
| 400 - DRAINAGE AND SEWERS | | | | | | | |
| 0160 | 0405-010000K | ROCK EXCAVATION | 20% | \$ - | \$ 5,478,000.00 | \$ - | \$5,478,000.00 |
| 0170 | | ROCK PRE-SPLITTING | 20% | \$ - | \$ 600,000.00 | \$ - | \$600,000.00 |
| 0180 | | PRE-SURVEY | 20% | \$ - | \$ 120,000.00 | \$ - | \$120,000.00 |
| 0190 | | POST-SURVEY | 20% | \$ - | \$ 120,000.00 | \$ - | \$120,000.00 |
| 0200 | 04XX- | DRAINAGE | 20% | \$ 945,600.00 | \$ 1,339,500.00 | \$ - | \$2,285,100.00 |
| 0210 | | 4F/6F MITIGATION | 10% | \$ 220,000.00 | \$ 330,000.00 | \$ - | \$550,000.00 |
| \$9,153,100.00 | | | | | | | |
| 510 - Bridge Nos. 09738 & 09738A (Borland Rd.) | | | | | | | |
| 0220 | 05XX- | REPLACEMENT | 10% | \$ - | \$ 6,908,000.00 | \$ - | \$6,908,000.00 |
| \$6,908,000.00 | | | | | | | |
| 515 - Bridge Nos. 09737 & 09737A (Tualatin River) | | | | | | | |
| 0230 | 05XX- | REPLACEMENT | 10% | \$ - | \$ 21,692,000.00 | \$ - | \$21,692,000.00 |
| \$21,692,000.00 | | | | | | | |
| 520 - Bridge Nos. 09735 & 09735A (Woodbine Rd.) | | | | | | | |
| 0240 | 05XX- | REPLACEMENT | 15% | \$ - | \$ 4,692,000.00 | \$ - | \$4,692,000.00 |
| \$4,692,000.00 | | | | | | | |
| 525 - Bridge Nos. 09734 & 09734A (Blankenship Rd.) | | | | | | | |
| 0250 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | 10% | \$ - | \$ 2,420,000.00 | \$ - | \$2,420,000.00 |
| \$2,420,000.00 | | | | | | | |
| 530 - Bridge Nos. 09728 & 09728A (10th St.) | | | | | | | |
| 0260 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | 10% | \$ - | \$ 2,420,000.00 | \$ - | \$2,420,000.00 |
| \$2,420,000.00 | | | | | | | |
| 535 - Bridge No. XXXXX (Sunset Ave.) | | | | | | | |
| 0270 | 05XX- | REPLACEMENT | 10% | \$ - | \$ 2,684,000.00 | \$ - | \$2,684,000.00 |
| \$2,684,000.00 | | | | | | | |
| 540 - Bridge No. XXXXX (West A St.) | | | | | | | |
| 0280 | 05XX- | REPLACEMENT | 10% | \$ - | \$ 3,410,000.00 | \$ - | \$3,410,000.00 |
| 0290 | 05XX- | TRAFFIC MITIGATION | 10% | \$ - | \$ 137,500.00 | \$ - | \$137,500.00 |
| \$3,410,000.00 | | | | | | | |
| 545 - Bridge No. 09703 (Broadway St.) | | | | | | | |
| 0300 | 05XX- | DEMOLITION/REMOVAL | 10% | \$ - | \$ 748,000.00 | \$ - | \$748,000.00 |
| \$748,000.00 | | | | | | | |
| 550 - Bridge Nos. 09403, 09403A, 09403C, 09403R (Abernethy) | | | | | | | |
| 0310 | 05XX- | ABERNETHY BRIDGE | 15% | \$ 106,800,500.00 | \$ - | \$ - | \$106,800,500.00 |
| 0320 | 05XX- | ABERNETHY BRIDGE, SB RAMP | 10% | \$ 5,104,000.00 | \$ - | \$ - | \$5,104,000.00 |
| 0330 | 05XX- | ABERNETHY BRIDGE, NB RAMP | 10% | \$ 357,500.00 | \$ - | \$ - | \$357,500.00 |
| 0340 | 05XX- | HYDRAULIC MITIGATION | 10% | \$ 154,000.00 | \$ - | \$ - | \$154,000.00 |
| 0350 | 05XX- | ABERNETHY CREEK MITIGATION | 10% | \$ 544,500.00 | \$ - | \$ - | \$544,500.00 |
| 0360 | 05XX- | TEMPORARY WATER MANAGEMENT | 10% | \$ 330,000.00 | \$ - | \$ - | \$330,000.00 |
| 0370 | 05XX- | GEOTECHNICAL MITIGATION FOR LATERAL SPREAD | 5% | \$ 15,750,000.00 | \$ - | \$ - | \$15,750,000.00 |
| \$129,040,500.00 | | | | | | | |
| 555 - Bridge No. 09702 (Main St.) | | | | | | | |
| 0380 | 05XX- | RETROFIT/WIDENING | 10% | \$ 4,807,000.00 | \$ - | \$ - | \$4,807,000.00 |
| \$4,807,000.00 | | | | | | | |
| 560 - Retaining Walls | | | | | | | |
| 0390 | 0596-010800A | RETAINING WALL, MSE NO. 001 | 10% | \$ - | \$ 154,000.00 | \$ - | \$154,000.00 |
| 0400 | 0596-010800A | RETAINING WALL, CAST-IN-PLACE GRAVITY | 10% | \$ 1,221,000.00 | \$ - | \$ - | \$1,221,000.00 |
| 0410 | 0597-010000J | SOUND WALLS | 10% | \$ - | \$ 1,654,800.00 | \$ - | \$1,654,800.00 |
| \$3,029,800.00 | | | | | | | |
| 600 - BASES | | | | | | | |
| 0410 | 0620-012000J | COLD PLANE PAVEMENT REMOVAL, 2 INCHES DEEP | 15% | \$ 10,100.00 | \$ 3,700.00 | \$ - | \$13,800.00 |
| 0420 | 0640-XXXXXXX | ICTB | 10% | \$ - | \$ 95,600.00 | \$ - | \$95,600.00 |
| 0430 | 0640-XXXXXXX | ICTB PORTLAND CEMENT | 10% | \$ - | \$ 157,100.00 | \$ - | \$157,100.00 |
| 0440 | 0641-010200M | AGGREGATE BASE | 10% | \$ 786,500.00 | \$ 3,378,100.00 | \$ - | \$4,164,600.00 |
| \$4,431,100.00 | | | | | | | |



| PROGRAMMATIC OPINION OF COST (CONT.) | | | | | | | |
|---|---------------|---|---|---|---|----------------------------------|--------------------------|
| ITEM NO. | BID ITEM CODE | ITEM | CONSTRUCTION VARIABILITY CONTINGENCY (Range 0%-20%) | Northern Package PACKAGE A (ABERNETHY BRIDGE) | Southern Package PACKAGE B (I-205 FREEWAY WIDENING) | PACKAGE C (ATM) | TOTAL COST |
| 700 - WEARING SURFACES | | | | | | | |
| 0450 | 0730-010000M | EMULSIFIED ASPHALT FOR TACK COAT | 10% | \$ 4,400.00 | \$ 49,500.00 | \$ - | \$53,900.00 |
| 0460 | 0745-040200M | LEVEL 4, 1/2 INCH ACP | 10% | \$ 1,455,000.00 | \$ 5,623,500.00 | \$ - | \$7,078,500.00 |
| 0470 | 0745-0640100M | PG 70-22ER ASPHALT IN LEVEL 4, 1/2 INCH ACP | 10% | \$ 13.00 | \$ 50.00 | \$ - | \$63.00 |
| 0480 | 0755-010400J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 9 INCH THICK | 10% | \$ 200,200.00 | \$ 20,413,300.00 | \$ - | \$20,613,500.00 |
| 0490 | 0755-010700J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 11 INCH THICK | 10% | \$ - | \$ 10,230,000.00 | \$ - | \$10,230,000.00 |
| 0500 | 0759-011000F | CONCRETE CURBS, STANDARD CURB | 15% | \$ 117,300.00 | \$ 20,600.00 | \$ - | \$137,900.00 |
| 0510 | 0759-010600F | CONCRETE CURBS, LOW PROFILE MOUNTABLE CURB | 15% | \$ - | \$ 104,900.00 | \$ - | \$104,900.00 |
| 0520 | 0759-012200J | CONCRETE ISLANDS | 15% | \$ 111,400.00 | \$ - | \$ - | \$111,400.00 |
| 0530 | 0759-012800J | CONCRETE WALKS | 15% | \$ 221,900.00 | \$ 52,400.00 | \$ - | \$274,300.00 |
| 0540 | 0759-015400E | EXTRA FOR NEW SIDEWALK RAMPS | 15% | \$ 92,000.00 | \$ 71,900.00 | \$ - | \$163,900.00 |
| 0550 | 0759-051000E | TRUNCATED DOMES ON NEW SURFACES | 15% | \$ 18,400.00 | \$ 14,400.00 | \$ - | \$32,800.00 |
| | | | | | | | \$38,801,163.00 |
| 800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES | | | | | | | |
| 0560 | 0810-012900E | GUARDRAIL TERMINALS, NON-FLARED | 10% | \$ 2,800.00 | \$ 200,800.00 | \$ - | \$203,600.00 |
| 0570 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 2A | 10% | \$ 88,300.00 | \$ 989,200.00 | \$ - | \$1,077,500.00 |
| 0580 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 3 | 10% | \$ - | \$ 21,200.00 | \$ - | \$21,200.00 |
| 0590 | 0811-010200F | CABLE BARRIER, TEST LEVEL 4 | 10% | \$ - | \$ 198,000.00 | \$ - | \$198,000.00 |
| 0600 | 0820-010000F | CONCRETE BARRIER | 10% | \$ - | \$ - | \$ - | \$0.00 |
| 0610 | 0820-012700F | CONCRETE BARRIER, TALL | 10% | \$ - | \$ 1,262,000.00 | \$ - | \$1,262,000.00 |
| 0620 | 0830-012500E | IMPACT ATTENUATOR | 10% | \$ 99,000.00 | \$ 198,000.00 | \$ - | \$297,000.00 |
| 0630 | 08XX- | PAVEMENT MARKING | 10% | \$ 58,400.00 | \$ 697,100.00 | \$ - | \$755,500.00 |
| | | | | | | | \$3,814,800.00 |
| 900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS | | | | | | | |
| 0640 | 09XX- | SIGNING | 10% | \$ 368,500.00 | \$ 231,000.00 | \$ - | \$599,500.00 |
| 0650 | 0930-010100A | TRUSS SIGN BRIDGE | 10% | \$ 2,310,000.00 | \$ - | \$ - | \$2,310,000.00 |
| 0660 | 0930-010400A | MONOTUBE CANTILEVER SIGN STRUCTURE | 10% | \$ - | \$ 220,000.00 | \$ - | \$220,000.00 |
| 0670 | 0930-010500A | BRIDGE STRUCTURE MOUNTS | 10% | \$ 44,000.00 | \$ - | \$ - | \$44,000.00 |
| 0680 | 0970- | ILLUMINATION | 15% | \$ 1,150,000.00 | \$ 2,070,000.00 | \$ - | \$3,220,000.00 |
| 0690 | 0990-010100A | TRAFFIC SIGNAL INSTALLATION | 10% | \$ 770,000.00 | \$ - | \$ - | \$770,000.00 |
| 0700 | 0990-010200A | TRAFFIC SIGNAL MODIFICATION | 10% | \$ 55,000.00 | \$ - | \$ - | \$55,000.00 |
| 0710 | 0990- | DETECTOR INSTALLATION | 10% | \$ 385,000.00 | \$ - | \$ - | \$385,000.00 |
| 0720 | 0990-010400A | RAMP METER SIGNAL INSTALLATION | 10% | \$ 880,000.00 | \$ 880,000.00 | \$ - | \$1,760,000.00 |
| 0730 | 0990-929000A | TELECOMMUNICATIONS, (FIBER) | 10% | \$ 66,000.00 | \$ 1,089,000.00 | \$ - | \$1,155,000.00 |
| | | | | | | | \$10,518,500.00 |
| 910 - NB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0740 | 0990-929000A | MP 0.6 - VMS & ADVISORY SPEED | 10% | \$ - | \$ - | \$ 858,000.00 | \$858,000.00 |
| 0750 | 0990-929000A | MP 3.2 - ADVISORY SPEED | 10% | \$ - | \$ - | \$ 242,000.00 | \$242,000.00 |
| 0760 | 0990-929000A | MP 4.1 - FULL VMS | 10% | \$ - | \$ - | \$ 676,500.00 | \$676,500.00 |
| 0770 | 0990-929000A | MP 7.7 - VMS & ADVISORY SPEED | 10% | \$ - | \$ - | \$ 759,000.00 | \$759,000.00 |
| 0780 | 0990-929000A | MP 8.5 - ADVISORY SPEED | 10% | \$ - | \$ 357,500.00 | \$ - | \$357,500.00 |
| | | | | | | | \$2,893,000.00 |
| 920 - SB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0790 | 0990-929000A | MP 11.7 - REPLACE EXTG VMS | 10% | \$ - | \$ - | \$ 302,500.00 | \$302,500.00 |
| 0800 | 0990-929000A | MP 10.2 - ADVISORY SPEED | 10% | \$ - | \$ - | \$ 357,500.00 | \$357,500.00 |
| 0810 | 0990-929000A | MP 8.3 - ADVISORY SPEED | 10% | \$ - | \$ 357,500.00 | \$ - | \$357,500.00 |
| | | | | | | | \$1,017,500.00 |
| 1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL | | | | | | | |
| 0820 | 1012- | WATER QUALITY | 10% | \$ 778,300.00 | \$ 2,432,100.00 | \$ - | \$3,210,400.00 |
| 0830 | 1012- | DETENTION | 10% | \$ 278,300.00 | \$ 1,648,600.00 | \$ - | \$1,926,900.00 |
| 0840 | 1030-010100R | WEED CONTROL | 10% | \$ 58,500.00 | \$ 156,900.00 | \$ - | \$215,400.00 |
| 0850 | 1030-010800R | PERMANENT SEEDING | 10% | \$ 60,200.00 | \$ 161,400.00 | \$ - | \$221,600.00 |
| 0860 | 1040- | LANDSCAPING | 0% | \$ 1,482,600.00 | \$ 1,165,100.00 | \$ 32,000.00 | \$2,679,700.00 |
| | | | | | | | \$8,254,000.00 |
| SUBTOTAL FOR CONSTRUCTION W/O ENGINEERING, CONTINGENCIES OR ANTICIPATI | | | | | | | \$319,411,563.00 |
| | | UNKNOWN CONTINGENCIES (dependent of design contingencies above) | 15% | \$ 26,520,300.00 | \$ 20,819,700.00 | \$ 571,600.00 | \$47,911,600.00 |
| SUBTOTAL FOR CONSTRUCTION W/O ANTICIPATED ITEMS | | | | | | | \$367,323,163.00 |
| AGGREGATE CONTINGENCY | | | | \$43,723,400.00 | \$32,512,000.00 | \$862,100.00 | \$77,097,500.00 |
| ANTICIPATED ITEMS | | | | | | | |
| | | ANTICIPATED ITEMS | 0% | \$ 1,482,600.00 | \$ 1,165,100.00 | \$ 32,000.00 | \$2,679,700.00 |
| | | ENVIRONMENTAL MITIGATION | 0% | \$ 741,300.00 | \$ 582,500.00 | \$ 16,000.00 | \$1,339,800.00 |
| | | CONSTRUCTION ENGINEERING (CE) | 0% | \$ 20,332,300.00 | \$ 15,961,800.00 | \$ 438,200.00 | \$36,732,300.00 |
| | | | | | | | \$40,751,800.00 |
| SUBTOTAL FOR CONSTRUCTION (CURRENT DOLLARS) | | | | \$ 225,900,000.00 | \$ 177,400,000.00 | \$ 4,900,000.00 | \$408,200,000.00 |
| CONSTRUCTION YEAR COST INCLUDING INFLATION (TO MIDPOINT OF OF CONSTRUCTION) | | | | \$ 258,300,000.00 | \$ 205,600,000.00 | \$ 5,300,000.00 | \$469,200,000.00 |
| POTENTIAL COST FOR MEGA PROJECT (TO MIDPOINT OF CONSTRUCTION, INCLUDES ECONOMY OF SCALE) | | | | \$ 248,000,000.00 | \$ 197,400,000.00 | \$ 5,100,000.00 | \$ 450,500,000.00 |
| PROGRAMMATIC ITEMS | | | | | | | |
| | | | | | | PROFESSIONAL ENGINEERING (PE) | \$45,000,000.00 |
| | | | | | | RIGHT OF WAY (ROW) | \$1,400,000.00 |
| | | | | | | (ASSUMED) REIMBURSABLE UTILITIES | \$2,700,000.00 |
| | | | | | | | 49,100,000.00 |
| TOTAL PROJECT COST | | | | | | | \$499,600,000.00 |



| PACKAGE A - NORTHERN PACKAGE (ABERNETHY BRIDGE) | | | | | | | |
|--|---------------|---|------|----------|-----------------|---|-------------------------|
| OPINION OF COST | | | | | | | |
| ITEM NO. | BID ITEM CODE | ITEM | UNIT | QUANTITY | UNIT COST | CONSTRUCTION VARIABILITY CONTINGENCY (Range 0%-20%) | TOTAL PRICE |
| 200 - TEMPORARY FEATURES AND APPURTENANCES | | | | | | | |
| 0010 | 0210-010000A | MOBILIZATION | LS | 10.0% | \$14,826,186.23 | 0% | \$14,826,186.23 |
| 0020 | 0100-0101000T | TRAINING | LS | 0.25% | \$370,654.66 | 0% | \$370,654.66 |
| 0030 | 0225-010000A | TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC | LS | 5.0% | \$7,413,093.11 | 0% | \$7,413,093.11 |
| 0040 | 0256-010900J | TEMPORARY RETAINING WALL | SQFT | 1,200 | \$85.00 | 10% | \$112,200.00 |
| 0050 | 0280-010000A | EROSION CONTROL | LS | 1.0% | \$1,482,618.62 | 0% | \$1,482,618.62 |
| 0060 | 0294- | HAZMAT | LS | 0.5% | \$741,309.31 | 0% | \$741,309.31 |
| 0070 | 0294-9Z9000K | CONTAMINATED SOIL MANAGEMENT | CUYD | 19,060 | \$8.00 | 15% | \$175,352.00 |
| Subtotal | | | | | | | \$25,121,413.93 |
| 300 - ROADWORK | | | | | | | |
| 0080 | 0305-010000A | CONSTRUCTION SURVEY WORK | LS | 1.0% | \$1,482,618.62 | 0% | \$1,482,618.62 |
| 0090 | 0310-010600A | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | LS | 0.5% | \$741,309.31 | 0% | \$741,309.31 |
| 0100 | 0320-010000R | CLEARING AND GRUBBING | ACRE | 15 | \$9,000.00 | 15% | \$157,320.00 |
| 0110 | 0330-010500K | GENERAL EXCAVATION | CUYD | 35,700 | \$19.00 | 15% | \$780,045.00 |
| 0120 | 0331-011200J | 24 INCH SUBGRADE STABILIZATION | SQYD | 4,668 | \$25.00 | 10% | \$128,356.25 |
| 0130 | 0344-010100J | TREATED SUBGRADE, 9 INCHES THICK | SQYD | 10,868 | \$10.00 | 10% | \$119,542.50 |
| 0140 | 0344-010800M | PORTLAND CEMENT | TON | 362 | \$120.00 | 10% | \$47,769.18 |
| 0150 | 0350-010500J | SUBGRADE GEOTEXTILE | SQYD | 32,800 | \$1.00 | 15% | \$37,720.00 |
| Subtotal | | | | | | | \$3,494,680.87 |
| 400 - DRAINAGE AND SEWERS | | | | | | | |
| 0160 | 0405-010000K | ROCK EXCAVATION | CUYD | 0 | \$55.00 | 20% | \$0.00 |
| 0170 | | ROCK PRE-SPLITTING | LS | 1 | \$0.00 | 20% | \$0.00 |
| 0180 | | PRE-SURVEY | LS | 1 | \$0.00 | 20% | \$0.00 |
| 0190 | | POST-SURVEY | LS | 1 | \$0.00 | 20% | \$0.00 |
| 0200 | 04XX- | DRAINAGE | LS | 1 | \$788,000.00 | 20% | \$945,600.00 |
| 0210 | | 4F/6F MITIGATION | LS | 1 | \$200,000.00 | 10% | \$220,000.00 |
| Subtotal | | | | | | | \$1,165,600.00 |
| 510 - Bridge Nos. 09738 & 09738A (Borland Rd.) | | | | | | | |
| 0220 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 515 - Bridge Nos. 09737 & 09737A (Tualatin River) | | | | | | | |
| 0230 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 520 - Bridge Nos. 09735 & 09735A (Woodbine Rd.) | | | | | | | |
| 0240 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 15% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 525 - Bridge Nos. 09734 & 09734A (Blankenship Rd.) | | | | | | | |
| 0250 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 530 - Bridge Nos. 09728 & 09728A (10th St.) | | | | | | | |
| 0260 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 535 - Bridge No. XXXXX (Sunset Ave.) | | | | | | | |
| 0270 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 540 - Bridge No. XXXXX (West A St.) | | | | | | | |
| 0280 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0290 | 05XX- | TRAFFIC MITIGATION | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 545 - Bridge No. 09703 (Broadway St.) | | | | | | | |
| 0300 | 05XX- | DEMOLITION/REMOVAL | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 550 - Bridge Nos. 09403, 09403A, 09403C, 09403R (Abernethy) | | | | | | | |
| 0310 | 05XX- | ABERNETHY BRIDGE | LS | 1 | \$92,870,000.00 | 15% | \$106,800,500.00 |
| 0320 | 05XX- | ABERNETHY BRIDGE, SB RAMP | LS | 1 | \$4,640,000.00 | 10% | \$5,104,000.00 |
| 0330 | 05XX- | ABERNETHY BRIDGE, NB RAMP | LS | 1 | \$325,000.00 | 10% | \$357,500.00 |
| 0340 | 05XX- | HYDRAULIC MITIGATION | LS | 1 | \$140,000.00 | 10% | \$154,000.00 |
| 0350 | 05XX- | ABERNETHY CREEK MITIGATION | LS | 1 | \$495,000.00 | 10% | \$544,500.00 |
| 0360 | 05XX- | TEMPORARY WATER MANAGEMENT | LS | 1 | \$300,000.00 | 10% | \$330,000.00 |
| 0370 | 05XX- | GEOTECHNICAL MITIGATION FOR LATERAL SPREAD | LS | 1 | \$15,000,000.00 | 5% | \$15,750,000.00 |
| Subtotal | | | | | | | \$129,040,500.00 |
| 555 - Bridge No. 09702 (Main St.) | | | | | | | |
| 0380 | 05XX- | RETROFIT/WIDENING | LS | 1 | \$4,370,000.00 | 10% | \$4,807,000.00 |
| Subtotal | | | | | | | \$4,807,000.00 |
| 560 - Retaining Walls | | | | | | | |
| 0390 | 0596-010800A | RETAINING WALL, MSE NO. 001 | SF | 0 | \$100.00 | 10% | \$0.00 |
| 0400 | 0596-010800A | RETAINING WALL, CAST-IN-PLACE GRAVITY | SF | 14,800 | \$75.00 | 10% | \$1,221,000.00 |
| 0410 | 0597-010000J | SOUND WALLS | SF | 0 | \$20.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$1,221,000.00 |



**PACKAGE A - NORTHERN PACKAGE (ABERNETHY BRIDGE)
 OPINION OF COST**

| ITEM NO. | BID ITEM CODE | ITEM | UNIT | QUANTITY | UNIT COST | CONSTRUCTION VARIABILITY CONTINGENCY (Range 0%-20%) | TOTAL PRICE |
|---|---------------|---|------|----------|-----------------|---|-------------------------|
| 600 - BASES | | | | | | | |
| 0410 | 0620-012000J | COLD PLANE PAVEMENT REMOVAL, 2 INCHES DEEP | SQYD | 8,750 | \$1.00 | 15% | \$10,062.50 |
| 0420 | 0640-XXXXXXX | ICTB | SQYD | 0 | \$2.00 | 10% | \$0.00 |
| 0430 | 0640-XXXXXXX | ICTB PORTLAND CEMENT | TON | 0 | \$120.00 | 10% | \$0.00 |
| 0440 | 0641-010200M | AGGREGATE BASE | TON | 32,500 | \$22.00 | 10% | \$786,500.00 |
| Subtotal | | | | | | | \$796,562.50 |
| 700 - WEARING SURFACES | | | | | | | |
| 0450 | 0730-010000M | EMULSIFIED ASPHALT FOR TACK COAT | TON | 16 | \$250.00 | 10% | \$4,400.00 |
| 0460 | 0745-040200M | LEVEL 4, 1/2 INCH ACP | TON | 20,350 | \$65.00 | 10% | \$1,455,025.00 |
| 0470 | 0745-0640100M | PG 70-22ER ASPHALT IN LEVEL 4, 1/2 INCH ACP | TON | 1,215 | \$0.01 | 10% | \$13.37 |
| 0480 | 0755-010400J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 9 INCH THICK | SQYD | 2,800 | \$65.00 | 10% | \$200,200.00 |
| 0490 | 0755-010700J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 11 INCH THICK | SQYD | 0 | \$75.00 | 10% | \$0.00 |
| 0500 | 0759-011000F | CONCRETE CURBS, STANDARD CURB | FOOT | 5,100 | \$20.00 | 15% | \$117,300.00 |
| 0510 | 0759-010600F | CONCRETE CURBS, LOW PROFILE MOUNTABLE CURB | FOOT | 0 | \$16.00 | 15% | \$0.00 |
| 0520 | 0759-012200J | CONCRETE ISLANDS | SQFT | 11,400 | \$8.50 | 15% | \$111,435.00 |
| 0530 | 0759-012800J | CONCRETE WALKS | SQFT | 32,155 | \$6.00 | 15% | \$221,869.50 |
| 0540 | 0759-015400E | EXTRA FOR NEW SIDEWALK RAMPS | EA | 32 | \$2,500.00 | 15% | \$92,000.00 |
| 0550 | 0759-051000E | TRUNCATED DOMES ON NEW SURFACES | EA | 32 | \$500.00 | 15% | \$18,400.00 |
| Subtotal | | | | | | | \$2,220,642.87 |
| 800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES | | | | | | | |
| 0560 | 0810-012900E | GUARDRAIL TERMINALS, NON-FLARED | EA | 1 | \$2,500.00 | 10% | \$2,750.00 |
| 0570 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 2A | FOOT | 3,650 | \$22.00 | 10% | \$88,330.00 |
| 0580 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 3 | FOOT | 0 | \$55.00 | 10% | \$0.00 |
| 0590 | 0811-010200F | CABLE BARRIER, TEST LEVEL 4 | FOOT | 0 | \$12.00 | 10% | \$0.00 |
| 0600 | 0820-010000F | CONCRETE BARRIER | FOOT | 0 | \$55.00 | 10% | \$0.00 |
| 0610 | 0820-012700F | CONCRETE BARRIER, TALL | FOOT | 0 | \$65.00 | 10% | \$0.00 |
| 0620 | 0830-012500E | IMPACT ATTENUATOR | EA | 3 | \$30,000.00 | 10% | \$99,000.00 |
| 0630 | 08XX- | PAVEMENT MARKING | LF | 26,550 | \$2.00 | 10% | \$58,410.00 |
| Subtotal | | | | | | | \$248,490.00 |
| 900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS | | | | | | | |
| 0640 | 09XX- | SIGNING | LS | 1 | \$335,000.00 | 10% | \$368,500.00 |
| 0650 | 0930-010100A | TRUSS SIGN BRIDGE | EA | 6 | \$350,000.00 | 10% | \$2,310,000.00 |
| 0660 | 0930-010400A | MONOTUBE CANTILEVER SIGN STRUCTURE | EA | 0 | \$200,000.00 | 10% | \$0.00 |
| 0670 | 0930-010500A | BRIDGE STRUCTURE MOUNTS | LS | 1 | \$40,000.00 | 10% | \$44,000.00 |
| 0680 | 0970- | ILLUMINATION | LS | 1 | \$1,000,000.00 | 15% | \$1,150,000.00 |
| 0690 | 0990-010100A | TRAFFIC SIGNAL INSTALLATION | EA | 2 | \$350,000.00 | 10% | \$770,000.00 |
| 0700 | 0990-010200A | TRAFFIC SIGNAL MODIFICATION | EA | 1 | \$50,000.00 | 10% | \$55,000.00 |
| 0710 | 0990- | DETECTOR INSTALLATION | EA | 5 | \$70,000.00 | 10% | \$385,000.00 |
| 0720 | 0990-010400A | RAMP METER SIGNAL INSTALLATION | EA | 4 | \$200,000.00 | 10% | \$880,000.00 |
| 0730 | 0990-9Z9000A | TELECOMMUNICATIONS, (FIBER) | LS | 1 | \$60,000.00 | 10% | \$66,000.00 |
| Subtotal | | | | | | | \$6,028,500.00 |
| 910 - NB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0740 | 0990-9Z9000A | MP 0.6 - VMS & ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0750 | 0990-9Z9000A | MP 3.2 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0760 | 0990-9Z9000A | MP 4.1 - FULL VMS | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0770 | 0990-9Z9000A | MP 7.7 - VMS & ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0780 | 0990-9Z9000A | MP 8.5 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 920 - SB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0790 | 0990-9Z9000A | MP 11.7 - REPLACE EXTG VMS | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0800 | 0990-9Z9000A | MP 10.2 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0810 | 0990-9Z9000A | MP 8.3 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL | | | | | | | |
| 0820 | 1012- | WATER QUALITY | LS | 1 | \$707,500.00 | 10% | \$778,250.00 |
| 0830 | 1012- | DETENTION | LS | 1 | \$253,000.00 | 10% | \$278,300.00 |
| 0840 | 1030-010100R | WEED CONTROL | ACRE | 15 | \$3,500.00 | 10% | \$58,520.00 |
| 0850 | 1030-010800R | PERMANENT SEEDING | ACRE | 15 | \$3,600.00 | 10% | \$60,192.00 |
| 0860 | 1040- | LANDSCAPING | LS | 1.0% | \$1,482,618.62 | 0% | \$1,482,618.62 |
| Subtotal | | | | | | | \$2,657,880.62 |
| SUBTOTAL FOR CONSTRUCTION W/O ENGINEERING, CONTINGENCIES OR ANTICIPATED ITEMS | | | | | | | \$176,802,270.79 |
| | | UNKNOWN CONTINGENCIES (Independent of design contingencies above) | LS | | 15% | | \$26,520,340.62 |
| Subtotal | | | | | | | \$203,322,611.41 |
| SUBTOTAL FOR CONSTRUCTION W/O ANTICIPATED ITEMS | | | | | | | \$203,322,611.41 |
| AGGREGATE CONTINGENCY | | | | | | | \$43,723,371.74 |
| ANTICIPATED ITEMS | | | | | | | |
| | | ANTICIPATED ITEMS | LS | 1.0% | \$1,482,618.62 | 0% | \$1,482,618.62 |
| | | ENVIRONMENTAL MITIGATION | LS | 0.5% | \$741,309.31 | 0% | \$741,309.31 |
| | | CONSTRUCTION ENGINEERING (CE) | LS | 10.0% | \$20,332,261.14 | 0% | \$20,332,261.14 |
| Subtotal | | | | | | | \$22,558,189.08 |
| SUBTOTAL FOR CONSTRUCTION (CURRENT DOLLARS) | | | | | | | \$225,878,800.48 |
| | | | | | 2017.5 | | |
| CONSTRUCTION YEAR COST INCLUDING INFLATION (TO MIDPOINT OF OF CONSTRUCTION) | | | | | 2022.5 | 3.00% | \$258,300,000.00 |
| POTENTIAL COST FOR MEGA PROJECT (TO MIDPOINT OF CONSTRUCTION, INCLUDES ECONOMY OF SCALE) | | | | | | | \$247,968,000.00 |



PACKAGE B - SOUTHERN PACKAGE (I-205 FREEWAY WIDENING)
OPINION OF COST

| ITEM NO. | BID ITEM CODE | ITEM | UNIT | QUANTITY | UNIT COST | CONSTRUCTION VARIABILITY CONTINGENCY (Range 0%-20%) | TOTAL PRICE |
|--|---------------|---|------|----------|-----------------|---|------------------------|
| 200 - TEMPORARY FEATURES AND APPURTENANCES | | | | | | | |
| 0010 | 0210-010000A | MOBILIZATION | LS | 10.0% | \$11,650,766.76 | 0% | \$11,650,766.76 |
| 0020 | 0100-010100T | TRAINING | LS | 0.25% | \$291,269.17 | 0% | \$291,269.17 |
| 0030 | 0225-010000A | TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC | LS | 5.0% | \$5,825,383.38 | 0% | \$5,825,383.38 |
| 0040 | 0256-010900J | TEMPORARY RETAINING WALL | SQFT | 0 | \$85.00 | 10% | \$0.00 |
| 0050 | 0280-010000A | EROSION CONTROL | LS | 1.0% | \$1,165,076.68 | 0% | \$1,165,076.68 |
| 0060 | 0294- | HAZMAT | LS | 0.5% | \$582,538.34 | 0% | \$582,538.34 |
| 0070 | 0294-9Z9000K | CONTAMINATED SOIL MANAGEMENT | CUYD | 194,000 | \$8.00 | 15% | \$1,784,800.00 |
| Subtotal | | | | | | | \$21,299,834.32 |
| 300 - ROADWORK | | | | | | | |
| 0080 | 0305-010000A | CONSTRUCTION SURVEY WORK | LS | 1.0% | \$1,165,076.68 | 0% | \$1,165,076.68 |
| 0090 | 0310-010600A | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | LS | 0.5% | \$582,538.34 | 0% | \$582,538.34 |
| 0100 | 0320-010000R | CLEARING AND GRUBBING | ACRE | 41 | \$9,000.00 | 15% | \$421,762.50 |
| 0110 | 0330-010500K | GENERAL EXCAVATION | CUYD | 167,080 | \$19.00 | 15% | \$3,650,698.00 |
| 0120 | 0331-011200J | 24 INCH SUBGRADE STABILIZATION | SQYD | 13,735 | \$25.00 | 10% | \$377,712.50 |
| 0130 | 0344-010100J | TREATED SUBGRADE, 9 INCHES THICK | SQYD | 110,120 | \$10.00 | 10% | \$1,211,320.00 |
| 0140 | 0344-010800M | PORTLAND CEMENT | TON | 3,667 | \$120.00 | 10% | \$484,043.47 |
| 0150 | 0350-010500J | SUBGRADE GEOTEXTILE | SQYD | 247,470 | \$1.00 | 15% | \$284,590.50 |
| Subtotal | | | | | | | \$8,177,741.99 |
| 400 - DRAINAGE AND SEWERS | | | | | | | |
| 0160 | 0405-010000K | ROCK EXCAVATION | CUYD | 83,000 | \$55.00 | 20% | \$5,478,000.00 |
| 0170 | | ROCK PRE-SPLITTING | LS | 1 | \$500,000.00 | 20% | \$600,000.00 |
| 0180 | | PRE-SURVEY | LS | 1 | \$100,000.00 | 20% | \$120,000.00 |
| 0190 | | POST-SURVEY | LS | 1 | \$100,000.00 | 20% | \$120,000.00 |
| 0200 | 04XX- | DRAINAGE | LS | 1 | \$1,116,225.00 | 20% | \$1,339,470.00 |
| 0210 | | 4F/6F MITIGATION | LS | 1 | \$300,000.00 | 10% | \$330,000.00 |
| Subtotal | | | | | | | \$7,987,470.00 |
| 510 - Bridge Nos. 09738 & 09738A (Borland Rd.) | | | | | | | |
| 0220 | 05XX- | REPLACEMENT | LS | 1 | \$6,280,000.00 | 10% | \$6,908,000.00 |
| Subtotal | | | | | | | \$6,908,000.00 |
| 515 - Bridge Nos. 09737 & 09737A (Tualatin River) | | | | | | | |
| 0230 | 05XX- | REPLACEMENT | LS | 1 | \$19,720,000.00 | 10% | \$21,692,000.00 |
| Subtotal | | | | | | | \$21,692,000.00 |
| 520 - Bridge Nos. 09735 & 09735A (Woodbine Rd.) | | | | | | | |
| 0240 | 05XX- | REPLACEMENT | LS | 1 | \$4,080,000.00 | 15% | \$4,692,000.00 |
| Subtotal | | | | | | | \$4,692,000.00 |
| 525 - Bridge Nos. 09734 & 09734A (Blankenship Rd.) | | | | | | | |
| 0250 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | LS | 1 | \$2,200,000.00 | 10% | \$2,420,000.00 |
| Subtotal | | | | | | | \$2,420,000.00 |
| 530 - Bridge Nos. 09728 & 09728A (10th St.) | | | | | | | |
| 0260 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | LS | 1 | \$2,200,000.00 | 10% | \$2,420,000.00 |
| Subtotal | | | | | | | \$2,420,000.00 |
| 535 - Bridge No. XXXXX (Sunset Ave.) | | | | | | | |
| 0270 | 05XX- | REPLACEMENT | LS | 1 | \$2,440,000.00 | 10% | \$2,684,000.00 |
| Subtotal | | | | | | | \$2,684,000.00 |
| 540 - Bridge No. XXXXX (West A St.) | | | | | | | |
| 0280 | 05XX- | REPLACEMENT | LS | 1 | \$3,100,000.00 | 10% | \$3,410,000.00 |
| 0290 | 05XX- | TRAFFIC MITIGATION | LS | 1 | \$125,000.00 | 10% | \$137,500.00 |
| Subtotal | | | | | | | \$3,410,000.00 |
| 545 - Bridge No. 09703 (Broadway St.) | | | | | | | |
| 0300 | 05XX- | DEMOLITION/REMOVAL | LS | 1 | \$680,000.00 | 10% | \$748,000.00 |
| Subtotal | | | | | | | \$748,000.00 |
| 550 - Bridge Nos. 09403, 09403A, 09403C, 09403R (Abernethy) | | | | | | | |
| 0310 | 05XX- | ABERNETHY BRIDGE | LS | 1 | \$0.00 | 15% | \$0.00 |
| 0320 | 05XX- | ABERNETHY BRIDGE, SB RAMP | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0330 | 05XX- | ABERNETHY BRIDGE, NB RAMP | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0340 | 05XX- | HYDRAULIC MITIGATION | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0350 | 05XX- | ABERNETHY CREEK MITIGATION | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0360 | 05XX- | TEMPORARY WATER MANAGEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0370 | 05XX- | GEOTECHNICAL MITIGATION FOR LATERAL SPREAD | LS | 1 | \$0.00 | 5% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 555 - Bridge No. 09702 (Main St.) | | | | | | | |
| 0380 | 05XX- | RETROFIT/WIDENING | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 560 - Retaining Walls | | | | | | | |
| 0390 | 0596-010800A | RETAINING WALL, MSE NO. 001 | SF | 1,400 | \$100.00 | 10% | \$154,000.00 |
| 0400 | 0596-010800A | RETAINING WALL, CAST-IN-PLACE GRAVITY | SF | 0 | \$75.00 | 10% | \$0.00 |
| 0410 | 0597-010000J | SOUND WALLS | SF | 75,220 | \$20.00 | 10% | \$1,654,840.00 |
| Subtotal | | | | | | | \$1,808,840.00 |



| PACKAGE B - SOUTHERN PACKAGE (I-205 FREEWAY WIDENING) | | | | | | | |
|---|---------------|---|------|----------|-----------------|--------------------------------------|-------------------------|
| OPINION OF COST | | | | | | | |
| ITEM NO. | BID ITEM CODE | ITEM | UNIT | QUANTITY | UNIT COST | CONSTRUCTION VARIABILITY CONTINGENCY | TOTAL PRICE |
| 600 - BASES | | | | | | | |
| 0410 | 0620-012000J | COLD PLANE PAVEMENT REMOVAL, 2 INCHES DEEP | SQYD | 3,200 | \$1.00 | 15% | \$3,680.00 |
| 0420 | 0640-XXXXXX | ICTB | SQYD | 43,450 | \$2.00 | 10% | \$95,590.00 |
| 0430 | 0640-XXXXXX | ICTB PORTLAND CEMENT | TON | 1,190 | \$120.00 | 10% | \$157,080.00 |
| 0440 | 0641-010200M | AGGREGATE BASE | TON | 139,590 | \$22.00 | 10% | \$3,378,078.00 |
| Subtotal | | | | | | | \$3,634,428.00 |
| 700 - WEARING SURFACES | | | | | | | |
| 0450 | 0730-010000M | EMULSIFIED ASPHALT FOR TACK COAT | TON | 180 | \$250.00 | 10% | \$49,500.00 |
| 0460 | 0745-040200M | LEVEL 4, 1/2 INCH ACP | TON | 78,650 | \$65.00 | 10% | \$5,623,475.00 |
| 0470 | 0745-064010M | PG 70-22ER ASPHALT IN LEVEL 4, 1/2 INCH ACP | TON | 4,558 | \$0.01 | 10% | \$50.14 |
| 0480 | 0755-010400J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 9 INCH THICK | SQYD | 285,500 | \$65.00 | 10% | \$20,413,250.00 |
| 0490 | 0755-010700J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 11 INCH THICK | SQYD | 124,000 | \$75.00 | 10% | \$10,230,000.00 |
| 0500 | 0759-011000F | CONCRETE CURBS, STANDARD CURB | FOOT | 895 | \$20.00 | 15% | \$20,585.00 |
| 0510 | 0759-010600F | CONCRETE CURBS, LOW PROFILE MOUNTABLE CURB | FOOT | 5,700 | \$16.00 | 15% | \$104,880.00 |
| 0520 | 0759-012200J | CONCRETE ISLANDS | SQFT | 0 | \$8.50 | 15% | \$0.00 |
| 0530 | 0759-012800J | CONCRETE WALKS | SQFT | 7,600 | \$6.00 | 15% | \$62,440.00 |
| 0540 | 0759-015400E | EXTRA FOR NEW SIDEWALK RAMPS | EA | 25 | \$2,500.00 | 15% | \$71,875.00 |
| 0550 | 0759-051000E | TRUNCATED DOMES ON NEW SURFACES | EA | 25 | \$500.00 | 15% | \$14,375.00 |
| Subtotal | | | | | | | \$36,580,430.14 |
| 800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES | | | | | | | |
| 0560 | 0810-012900E | GUARDRAIL TERMINALS, NON-FLARED | EA | 73 | \$2,500.00 | 10% | \$200,750.00 |
| 0570 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 2A | FOOT | 40,875 | \$22.00 | 10% | \$989,175.00 |
| 0580 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 3 | FOOT | 350 | \$55.00 | 10% | \$21,175.00 |
| 0590 | 0811-010200F | CABLE BARRIER, TEST LEVEL 4 | FOOT | 15,000 | \$12.00 | 10% | \$198,000.00 |
| 0600 | 0820-010000F | CONCRETE BARRIER | FOOT | 0 | \$55.00 | 10% | \$0.00 |
| 0610 | 0820-012700F | CONCRETE BARRIER, TALL | FOOT | 17,650 | \$65.00 | 10% | \$1,261,975.00 |
| 0620 | 0830-012500E | IMPACT ATTENUATOR | EA | 6 | \$30,000.00 | 10% | \$198,000.00 |
| 0630 | 08XX- | PAVEMENT MARKING | LF | 316,850 | \$2.00 | 10% | \$697,070.00 |
| Subtotal | | | | | | | \$3,566,145.00 |
| 900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS | | | | | | | |
| 0640 | 09XX- | SIGNING | LS | 1 | \$210,000.00 | 10% | \$231,000.00 |
| 0650 | 0930-010100A | TRUSS SIGN BRIDGE | EA | 0 | \$350,000.00 | 10% | \$0.00 |
| 0660 | 0930-010400A | MONOTUBE CANTILEVER SIGN STRUCTURE | EA | 1 | \$200,000.00 | 10% | \$220,000.00 |
| 0670 | 0930-010500A | BRIDGE STRUCTURE MOUNTS | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0680 | 0970- | ILLUMINATION | LS | 1 | \$1,800,000.00 | 15% | \$2,070,000.00 |
| 0690 | 0990-010100A | TRAFFIC SIGNAL INSTALLATION | EA | 0 | \$350,000.00 | 10% | \$0.00 |
| 0700 | 0990-010200A | TRAFFIC SIGNAL MODIFICATION | EA | 0 | \$50,000.00 | 10% | \$0.00 |
| 0710 | 0990- | DETECTOR INSTALLATION | EA | 0 | \$70,000.00 | 10% | \$0.00 |
| 0720 | 0990-010400A | RAMP METER SIGNAL INSTALLATION | EA | 4 | \$200,000.00 | 10% | \$880,000.00 |
| 0730 | 0990-929000A | TELECOMMUNICATIONS, (FIBER) | LS | 1 | \$990,000.00 | 10% | \$1,089,000.00 |
| Subtotal | | | | | | | \$4,490,000.00 |
| 910 - NB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0740 | 0990-929000A | MP 0.6 - VMS & ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0750 | 0990-929000A | MP 3.2 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0760 | 0990-929000A | MP 4.1 - FULL VMS | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0770 | 0990-929000A | MP 7.7 - VMS & ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0780 | 0990-929000A | MP 8.5 - ADVISORY SPEED | LS | 1 | \$325,000.00 | 10% | \$357,500.00 |
| Subtotal | | | | | | | \$357,500.00 |
| 920 - SB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0790 | 0990-929000A | MP 11.7 - REPLACE EXTG VMS | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0800 | 0990-929000A | MP 10.2 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0810 | 0990-929000A | MP 8.3 - ADVISORY SPEED | LS | 1 | \$325,000.00 | 10% | \$357,500.00 |
| Subtotal | | | | | | | \$357,500.00 |
| 1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL | | | | | | | |
| 0820 | 1012- | WATER QUALITY | LS | 1 | \$2,211,000.00 | 10% | \$2,432,100.00 |
| 0830 | 1012- | DETENTION | LS | 1 | \$1,498,700.00 | 10% | \$1,648,570.00 |
| 0840 | 1030-010100R | WEED CONTROL | ACRE | 41 | \$3,500.00 | 10% | \$156,887.50 |
| 0850 | 1030-010800R | PERMANENT SEEDING | ACRE | 41 | \$3,600.00 | 10% | \$161,370.00 |
| 0860 | 1040- | LANDSCAPING | LS | 1.0% | \$1,165,076.68 | 0% | \$1,165,076.68 |
| Subtotal | | | | | | | \$5,564,004.18 |
| SUBTOTAL FOR CONSTRUCTION W/O ENGINEERING, CONTINGENCIES OR ANTICIPATED ITEMS | | | | | | | \$138,797,893.62 |
| UNKNOWN CONTINGENCIES (Independent of design contingencies above) | | | LS | | | 15% | \$20,819,684.04 |
| Subtotal | | | | | | | \$20,819,684.04 |
| SUBTOTAL FOR CONSTRUCTION W/O ANTICIPATED ITEMS | | | | | | | \$159,617,577.67 |
| AGGREGATE CONTINGENCY | | | | | | \$32,512,021.55 | |
| ANTICIPATED ITEMS | | | | | | | |
| ANTICIPATED ITEMS | | | LS | 1.0% | \$1,165,076.68 | 0% | \$1,165,076.68 |
| ENVIRONMENTAL MITIGATION | | | LS | 0.5% | \$582,538.34 | 0% | \$582,538.34 |
| CONSTRUCTION ENGINEERING (CE) | | | LS | 10.0% | \$15,961,757.77 | 0% | \$15,961,757.77 |
| Subtotal | | | | | | | \$17,709,372.78 |
| SUBTOTAL FOR CONSTRUCTION (CURRENT DOLLARS) | | | | | | | \$177,326,950.45 |
| | | | | | 2017.5 | | |
| CONSTRUCTION YEAR COST INCLUDING INFLATION (TO MIDPOINT OF OF CONSTRUCTION) | | | | | 2023 | 3.00% | \$205,600,000.00 |
| POTENTIAL COST FOR MEGA PROJECT (TO MIDPOINT OF CONSTRUCTION, INCLUDES ECONOMY OF SCALE) | | | | | | | \$197,376,000.00 |



| PACKAGE C - ATM PACKAGE OPINION OF COST | | | | | | | |
|--|---------------|---|------|----------|--------------|---|---------------------|
| ITEM NO. | BID ITEM CODE | ITEM | UNIT | QUANTITY | UNIT COST | CONSTRUCTION VARIABILITY CONTINGENCY (Range 0%-20%) | TOTAL PRICE |
| 200 - TEMPORARY FEATURES AND APPURTENANCES | | | | | | | |
| 0010 | 0210-010000A | MOBILIZATION | LS | 10.0% | \$319,550.00 | 0% | \$319,550.00 |
| 0020 | 0100-010100T | TRAINING | LS | 0.25% | \$7,988.75 | 0% | \$7,988.75 |
| 0030 | 0225-010000A | TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC | LS | 5.0% | \$159,775.00 | 0% | \$159,775.00 |
| 0040 | 0256-010900J | TEMPORARY RETAINING WALL | SQFT | 0 | \$85.00 | 10% | \$0.00 |
| 0050 | 0280-010000A | EROSION CONTROL | LS | 1.0% | \$31,955.00 | 0% | \$31,955.00 |
| 0060 | 0294- | HAZMAT | LS | 0.5% | \$15,977.50 | 0% | \$15,977.50 |
| 0070 | 0294-9Z9000K | CONTAMINATED SOIL MANAGEMENT | CUYD | 0 | \$8.00 | 15% | \$0.00 |
| Subtotal | | | | | | | \$535,246.25 |
| 300 - ROADWORK | | | | | | | |
| 0080 | 0305-010000A | CONSTRUCTION SURVEY WORK | LS | 1.0% | \$31,955.00 | 0% | \$31,955.00 |
| 0090 | 0310-010600A | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | LS | 0.5% | \$15,977.50 | 0% | \$15,977.50 |
| 0100 | 0320-010000R | CLEARING AND GRUBBING | ACRE | 0 | \$9,000.00 | 15% | \$0.00 |
| 0110 | 0330-010500K | GENERAL EXCAVATION | CUYD | 0 | \$19.00 | 15% | \$0.00 |
| 0120 | 0331-011200J | 24 INCH SUBGRADE STABILIZATION | SQYD | 0 | \$25.00 | 10% | \$0.00 |
| 0130 | 0344-010100J | TREATED SUBGRADE, 9 INCHES THICK | SQYD | 0 | \$10.00 | 10% | \$0.00 |
| 0140 | 0344-010800M | PORTLAND CEMENT | TON | 0 | \$120.00 | 10% | \$0.00 |
| 0150 | 0350-010500J | SUBGRADE GEOTEXTILE | SQYD | 0 | \$1.00 | 15% | \$0.00 |
| Subtotal | | | | | | | \$47,932.50 |
| 400 - DRAINAGE AND SEWERS | | | | | | | |
| 0160 | 0405-010000K | ROCK EXCAVATION | CUYD | 0 | \$55.00 | 20% | \$0.00 |
| 0170 | | ROCK PRE-SPLITTING | LS | 1 | \$0.00 | 20% | \$0.00 |
| 0180 | | PRE-SURVEY | LS | 1 | \$0.00 | 20% | \$0.00 |
| 0190 | | POST-SURVEY | LS | 1 | \$0.00 | 20% | \$0.00 |
| 0200 | 04XX- | DRAINAGE | LS | 1 | \$0.00 | 20% | \$0.00 |
| 0210 | | 4F/6F MITIGATION | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 510 - Bridge Nos. 09738 & 09738A (Borland Rd.) | | | | | | | |
| 0220 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 515 - Bridge Nos. 09737 & 09737A (Tualatin River) | | | | | | | |
| 0230 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 520 - Bridge Nos. 09735 & 09735A (Woodbine Rd.) | | | | | | | |
| 0240 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 15% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 525 - Bridge Nos. 09734 & 09734A (Blankenship Rd.) | | | | | | | |
| 0250 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 530 - Bridge Nos. 09728 & 09728A (10th St.) | | | | | | | |
| 0260 | 05XX- | RETROFIT/WIDENING/BRIDGE RAISING | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 535 - Bridge No. XXXXX (Sunset Ave.) | | | | | | | |
| 0270 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 540 - Bridge No. XXXXX (West A St.) | | | | | | | |
| 0280 | 05XX- | REPLACEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0290 | 05XX- | TRAFFIC MITIGATION | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 545 - Bridge No. 09703 (Broadway St.) | | | | | | | |
| 0300 | 05XX- | DEMOLITION/REMOVAL | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 550 - Bridge Nos. 09403, 09403A, 09403C, 09403R (Abernethy) | | | | | | | |
| 0310 | 05XX- | ABERNETHY BRIDGE | LS | 1 | \$0.00 | 15% | \$0.00 |
| 0320 | 05XX- | ABERNETHY BRIDGE, SB RAMP | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0330 | 05XX- | ABERNETHY BRIDGE, NB RAMP | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0340 | 05XX- | HYDRAULIC MITIGATION | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0350 | 05XX- | ABERNETHY CREEK MITIGATION | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0360 | 05XX- | TEMPORARY WATER MANAGEMENT | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0370 | 05XX- | GEOTECHNICAL MITIGATION FOR LATERAL SPREAD | LS | 1 | \$0.00 | 5% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 555 - Bridge No. 09702 (Main St.) | | | | | | | |
| 0380 | 05XX- | RETROFIT/WIDENING | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 560 - Retaining Walls | | | | | | | |
| 0390 | 0596-010800A | RETAINING WALL, MSE NO. 001 | SF | 0 | \$100.00 | 10% | \$0.00 |
| 0400 | 0596-010800A | RETAINING WALL, CAST-IN-PLACE GRAVITY | SF | 0 | \$75.00 | 10% | \$0.00 |
| 0410 | 0597-010000J | SOUND WALLS | SF | 0 | \$20.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |



| PACKAGE C - ATM PACKAGE | | | | | | | |
|---|---------------|---|------|----------|--------------|---|-----------------------|
| OPINION OF COST | | | | | | | |
| ITEM NO. | BID ITEM CODE | ITEM | UNIT | QUANTITY | UNIT COST | CONSTRUCTION VARIABILITY CONTINGENCY (Range 0%-20%) | TOTAL PRICE |
| 600 - BASES | | | | | | | |
| 0410 | 0620-012000J | COLD PLANE PAVEMENT REMOVAL, 2 INCHES DEEP | SQYD | 0 | \$1.00 | 15% | \$0.00 |
| 0420 | 0640-XXXXXXX | ICTB | SQYD | 0 | \$2.00 | 10% | \$0.00 |
| 0430 | 0640-XXXXXXX | ICTB PORTLAND CEMENT | TON | 0 | \$120.00 | 10% | \$0.00 |
| 0440 | 0641-010200M | AGGREGATE BASE | TON | 0 | \$22.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 700 - WEARING SURFACES | | | | | | | |
| 0450 | 0730-010000M | EMULSIFIED ASPHALT FOR TACK COAT | TON | 0 | \$250.00 | 10% | \$0.00 |
| 0460 | 0745-040200M | LEVEL 4, 1/2 INCH ACP | TON | 0 | \$65.00 | 10% | \$0.00 |
| 0470 | 0745-0640100M | PG 70-22ER ASPHALT IN LEVEL 4, 1/2 INCH ACP | TON | 0 | \$0.01 | 10% | \$0.00 |
| 0480 | 0755-010400J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 9 INCH THICK | SQYD | 0 | \$65.00 | 10% | \$0.00 |
| 0490 | 0755-010700J | CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 11 INCH THICK | SQYD | 0 | \$75.00 | 10% | \$0.00 |
| 0500 | 0759-011000F | CONCRETE CURBS, STANDARD CURB | FOOT | 0 | \$20.00 | 15% | \$0.00 |
| 0510 | 0759-010600F | CONCRETE CURBS, LOW PROFILE MOUNTABLE CURB | FOOT | 0 | \$16.00 | 15% | \$0.00 |
| 0520 | 0759-012200J | CONCRETE ISLANDS | SQFT | 0 | \$8.50 | 15% | \$0.00 |
| 0530 | 0759-012800J | CONCRETE WALKS | SQFT | 0 | \$6.00 | 15% | \$0.00 |
| 0540 | 0759-015400E | EXTRA FOR NEW SIDEWALK RAMPS | EA | 0 | \$2,500.00 | 15% | \$0.00 |
| 0550 | 0759-051000E | TRUNCATED DOMES ON NEW SURFACES | EA | 0 | \$500.00 | 15% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES | | | | | | | |
| 0560 | 0810-012900E | GUARDRAIL TERMINALS, NON-FLARED | EA | 0 | \$2,500.00 | 10% | \$0.00 |
| 0570 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 2A | FOOT | 0 | \$22.00 | 10% | \$0.00 |
| 0580 | 0810-014600F | 31 INCH GUARDRAIL, TYPE 3 | FOOT | 0 | \$55.00 | 10% | \$0.00 |
| 0590 | 0811-010200F | CABLE BARRIER, TEST LEVEL 4 | FOOT | 0 | \$12.00 | 10% | \$0.00 |
| 0600 | 0820-010000F | CONCRETE BARRIER | FOOT | 0 | \$55.00 | 10% | \$0.00 |
| 0610 | 0820-012700F | CONCRETE BARRIER, TALL | FOOT | 0 | \$65.00 | 10% | \$0.00 |
| 0620 | 0830-012500E | IMPACT ATTENUATOR | EA | 0 | \$30,000.00 | 10% | \$0.00 |
| 0630 | 08XX- | PAVEMENT MARKING | LF | 0 | \$2.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS | | | | | | | |
| 0640 | 09XX- | SIGNING | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0650 | 0930-0101000A | TRUSS SIGN BRIDGE | EA | 0 | \$350,000.00 | 10% | \$0.00 |
| 0660 | 0930-0104000A | MONOTUBE CANTILEVER SIGN STRUCTURE | EA | 0 | \$200,000.00 | 10% | \$0.00 |
| 0670 | 0930-0105000A | BRIDGE STRUCTURE MOUNTS | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0680 | 0970- | ILLUMINATION | LS | 1 | \$0.00 | 15% | \$0.00 |
| 0690 | 0990-0101000A | TRAFFIC SIGNAL INSTALLATION | EA | 0 | \$350,000.00 | 10% | \$0.00 |
| 0700 | 0990-0102000A | TRAFFIC SIGNAL MODIFICATION | EA | 0 | \$50,000.00 | 10% | \$0.00 |
| 0710 | 0990- | DETECTOR INSTALLATION | EA | 0 | \$70,000.00 | 10% | \$0.00 |
| 0720 | 0990-0104000A | RAMP METER SIGNAL INSTALLATION | EA | 0 | \$200,000.00 | 10% | \$0.00 |
| 0730 | 0990-9Z90000A | TELECOMMUNICATIONS, (FIBER) | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$0.00 |
| 910 - NB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0740 | 0990-9Z90000A | MP 0.6 - VMS & ADVISORY SPEED | LS | 1 | \$780,000.00 | 10% | \$858,000.00 |
| 0750 | 0990-9Z90000A | MP 3.2 - ADVISORY SPEED | LS | 1 | \$220,000.00 | 10% | \$242,000.00 |
| 0760 | 0990-9Z90000A | MP 4.1 - FULL VMS | LS | 1 | \$615,000.00 | 10% | \$676,500.00 |
| 0770 | 0990-9Z90000A | MP 7.7 - VMS & ADVISORY SPEED | LS | 1 | \$690,000.00 | 10% | \$759,000.00 |
| 0780 | 0990-9Z90000A | MP 8.5 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$2,535,500.00 |
| 920 - SB ATM/VMS IMPROVEMENTS | | | | | | | |
| 0790 | 0990-9Z90000A | MP 11.7 - REPLACE EXTG VMS | LS | 1 | \$275,000.00 | 10% | \$302,500.00 |
| 0800 | 0990-9Z90000A | MP 10.2 - VMS & ADVISORY SPEED | LS | 1 | \$325,000.00 | 10% | \$357,500.00 |
| 0810 | 0990-9Z90000A | MP 8.5 - ADVISORY SPEED | LS | 1 | \$0.00 | 10% | \$0.00 |
| Subtotal | | | | | | | \$660,000.00 |
| 1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL | | | | | | | |
| 0820 | 1012- | WATER QUALITY | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0830 | 1012- | DETENTION | LS | 1 | \$0.00 | 10% | \$0.00 |
| 0840 | 1030-0101000R | WEED CONTROL | ACRE | 0 | \$3,500.00 | 10% | \$0.00 |
| 0850 | 1030-0108000R | PERMANENT SEEDING | ACRE | 0 | \$3,600.00 | 10% | \$0.00 |
| 0860 | 1040- | LANDSCAPING | LS | 1.0% | \$31,955.00 | 0% | \$31,955.00 |
| Subtotal | | | | | | | \$31,955.00 |
| SUBTOTAL FOR CONSTRUCTION W/O ENGINEERING, CONTINGENCIES OR ANTICIPATED ITEMS | | | | | | | \$3,810,633.75 |
| | | UNKNOWN CONTINGENCIES (dependent of design contingencies above) | LS | | | 15% | \$571,595.06 |
| Subtotal | | | | | | | \$571,595.06 |
| SUBTOTAL FOR CONSTRUCTION W/O ANTICIPATED ITEMS | | | | | | | \$4,382,228.81 |
| AGGREGATE CONTINGENCY | | | | | | | \$862,095.06 |
| ANTICIPATED ITEMS | | | | | | | |
| | | ANTICIPATED ITEMS | LS | 1.0% | \$31,955.00 | 0% | \$31,955.00 |
| | | ENVIRONMENTAL MITIGATION | LS | 0.5% | \$15,977.50 | 0% | \$15,977.50 |
| | | CONSTRUCTION ENGINEERING (CE) | LS | 10.0% | \$438,222.88 | 0% | \$438,222.88 |
| Subtotal | | | | | | | \$486,155.38 |
| SUBTOTAL FOR CONSTRUCTION (CURRENT DOLLARS) | | | | | | | \$4,868,384.19 |
| | | | | | 2017.5 | | |
| CONSTRUCTION YEAR COST INCLUDING INFLATION (TO MIDPOINT OF OF CONSTRUCTION) | | | | | 2020.5 | 3.00% | \$5,300,000.00 |
| POTENTIAL COST FOR MEGA PROJECT (TO MIDPOINT OF CONSTRUCTION, INCLUDES ECONOMY OF SCALE) | | | | | | | \$5,088,000.00 |

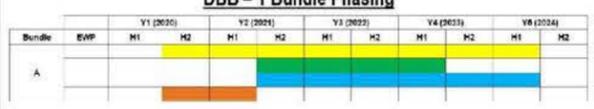
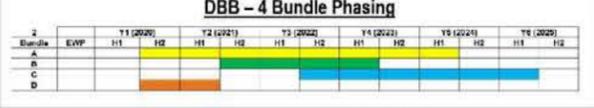
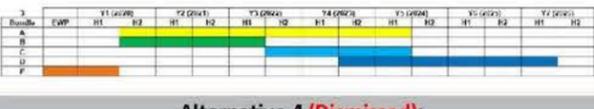
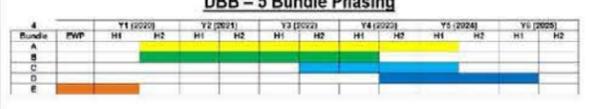


Appendix E. Phasing Alternatives Evaluation Table





Phasing Alternatives Evaluations Table

| Phasing Alternatives Evaluations Table Most Negative (- -); Neutral = 0; Most Positive (+ +) | | | | | | |
|---|------------------------------------|---|---|---|-------------------------------------|---|
| Phasing Alternatives Evaluated | 1 Minimize initial project cost | 2 Maximize construction ease, work zone safety, and traffic mobility | 3 Achieve early operational and/or safety improvements | 4 Enhanced quality for Abernethy Bridge & rock removal | 5 Minimize construction duration | 6 Maximize Oregon-based contractor participation |
| Alternative 1 (Dismissed): Single, fast mega-project  DBB – 1 Bundle Phasing  | - | ++ | + | 0 | ++ | -- |
| Notes associated with above criteria: 1. Very limited pool of large, out-of-state Prime contractors without ODOT experience results in high bids and few bidders 2. Worksite control is easier with a single contractor 3. Able to prioritize work to achieve early operational and safety improvements 4. Limited opportunity to obtain specialty subcontractors 5. Shortest construction duration (completed by July, 2024) 6. No single OR contractor has enough contracting capacity Other notes: • Interim completion dates are easy to implement | | | | | | |
| Alternative 2 (Dismissed): Maximum staggering  DBB – 4 Bundle Phasing  | -- | -- | - | + | -- | + |
| Notes associated with above criteria: 1. Significant work overlap significantly increases cost risks 2. Very difficult worksite control with 4 overlapping contractors 3. Difficult to achieve early operational and safety benefits 4. Good opportunity to obtain specialty subcontractors 5. Long construction duration (completed by July, 2025) 6. Good packaging for OR contractors' skills and capacities Other notes: • Minimizes contractor delay risks | | | | | | |
| Alternative 3 (Dismissed): Staggered work type and location phasing  DBB – 5 Bundle Phasing  | - | - | - | + | -- | + |
| Notes associated with above criteria: 1. Limited pool of large, out-of-state prime contractors without ODOT experience results in high bids and few bidders; complex construction staging between contractors increases costs 2. Very difficult worksite control with 3 overlapping contractors 3. Difficult to achieve early operational and safety benefits 4. Good opportunity to obtain specialty subcontractors 5. Very long construction duration (completed by July, 2026) 6. Good packaging for OR contractors' skills and capacities | | | | | | |
| Alternative 4 (Dismissed): Phased by work-type  DBB – 5 Bundle Phasing  | 0 | - | - | + | - | + |
| Notes associated with above criteria: 1. Significant work area overlap increases cost despite work-type efficiencies; rock surplus requires haul-off vs reuse (higher costs) 2. Fair worksite control with 3 staggered contractors; 1-year of construction overlap 3. Difficult to achieve early operational and safety benefits 4. Good opportunity to obtain specialty subcontractors 5. Long construction duration (completed by July, 2025) 6. Good packaging for OR contractors' skills and capacities Other notes: • Design-Build compatible for Bundle D • Early work potential with ATM bundle | | | | | | |



| Phasing Alternatives Evaluations Table Most Negative (- -); Neutral = 0; Most Positive (+ +) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------------|---|---|---|-------------------------------------|---|-----------|--------|-----|----|----|----|----|----|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Phasing Alternatives Evaluated | 1 Minimize initial project cost | 2 Maximize construction ease, work zone safety, and traffic mobility | 3 Achieve early operational and/or safety improvements | 4 Enhanced quality for Abernethy Bridge & rock removal | 5 Minimize construction duration | 6 Maximize Oregon-based contractor participation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alternative 5 (Dismissed): Early operations | + | 0 | ++ | ++ | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  <p>DBB - 4 Bundle Phasing</p> <table border="1"> <thead> <tr> <th>S</th> <th></th> <th>Y1 (2020)</th> <th>Y2 (2021)</th> <th>Y3 (2022)</th> <th>Y4 (2023)</th> <th>Y5 (2024)</th> </tr> </thead> <tbody> <tr> <td>Bundle</td> <td>EWP</td> <td>H1</td> <td>H2</td> <td>H1</td> <td>H2</td> <td>H1</td> </tr> <tr> <td>A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>C</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>D</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | S | | Y1 (2020) | Y2 (2021) | Y3 (2022) | Y4 (2023) | Y5 (2024) | Bundle | EWP | H1 | H2 | H1 | H2 | H1 | A | | | | | | | B | | | | | | | C | | | | | | | D | | | | | | | <p>Notes associated with above criteria:</p> <ol style="list-style-type: none"> 1. Minimal work overlap decreases cost; cost optimized due to balance of “economy of scale” and number of bidders 2. Fair worksite control with 3 staggered contractors; small amounts of construction overlap 3. Achieves early operational improvements (by end of 2021) 4. Good opportunity to obtain specialty subcontractors 5. Long construction duration (completed by July, 2024) 6. Good packaging for OR contractors' skills and capacities <p>Other notes:</p> <ul style="list-style-type: none"> • Design-Build compatible for Bundle D • Early work potential with ATM bundle | | | | | |
| S | | Y1 (2020) | Y2 (2021) | Y3 (2022) | Y4 (2023) | Y5 (2024) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bundle | EWP | H1 | H2 | H1 | H2 | H1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Recommended Alternative 6: Lowest cost and early operations | ++ | + | ++ | + | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  <p>3 Bundle Phasing</p> <table border="1"> <thead> <tr> <th>S</th> <th></th> <th>Y1 (2020)</th> <th>Y2 (2021)</th> <th>Y3 (2022)</th> <th>Y4 (2023)</th> <th>Y5 (2024)</th> </tr> </thead> <tbody> <tr> <td>Bundle</td> <td>EWP</td> <td>H1</td> <td>H2</td> <td>H1</td> <td>H2</td> <td>H1</td> </tr> <tr> <td>A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>C</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | S | | Y1 (2020) | Y2 (2021) | Y3 (2022) | Y4 (2023) | Y5 (2024) | Bundle | EWP | H1 | H2 | H1 | H2 | H1 | A | | | | | | | B | | | | | | | C | | | | | | | <p>Notes:</p> <ol style="list-style-type: none"> 1. Low cost by balancing of “economy of scale” with bidder quantity 2. Minimizes contractor work zone overlap 3. Achieves early operational improvements (by end of 2021) 4. Very limited throw-away work and avoids contractor overlap 5. Long construction duration (completed by July, 2024) 6. Good packaging for OR contractors' skills and capacities <p>Offers flexibility for:</p> <ul style="list-style-type: none"> • Scalable scope (if full funding is not provided) • Implementing Design-Build (west of 10th Street, if desired) • Supports ODOT's DMWESB goals for all bundles • Early work potential with ATM bundle • Includes all benefits of Alternative 5 plus additional benefits | | | | | | | | | | | | |
| S | | Y1 (2020) | Y2 (2021) | Y3 (2022) | Y4 (2023) | Y5 (2024) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bundle | EWP | H1 | H2 | H1 | H2 | H1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Appendix F.
Recommended Alternative –
Project Element Roll Map
(See additional attachment)

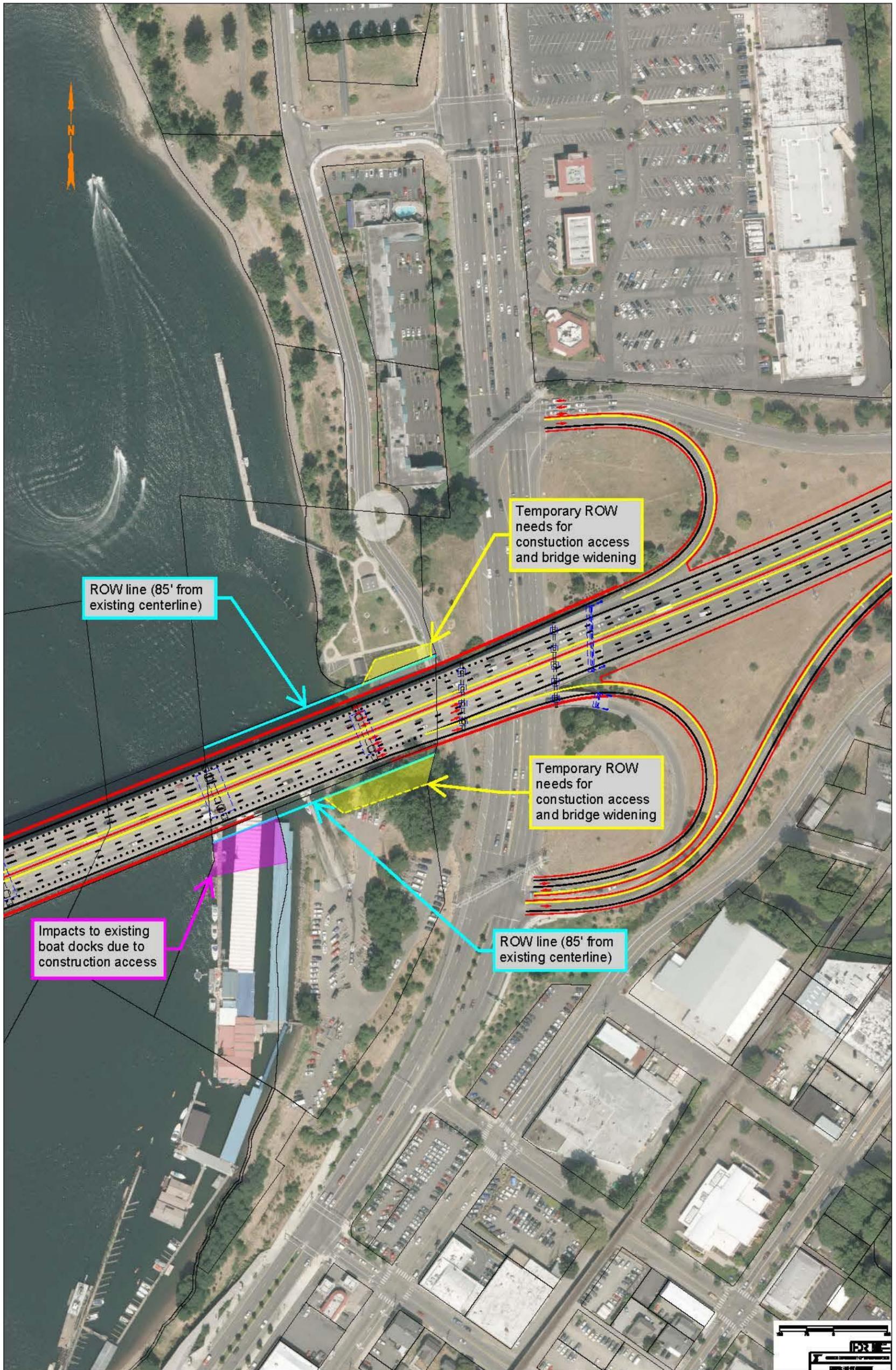


Appendix G. ROW Impacts Map



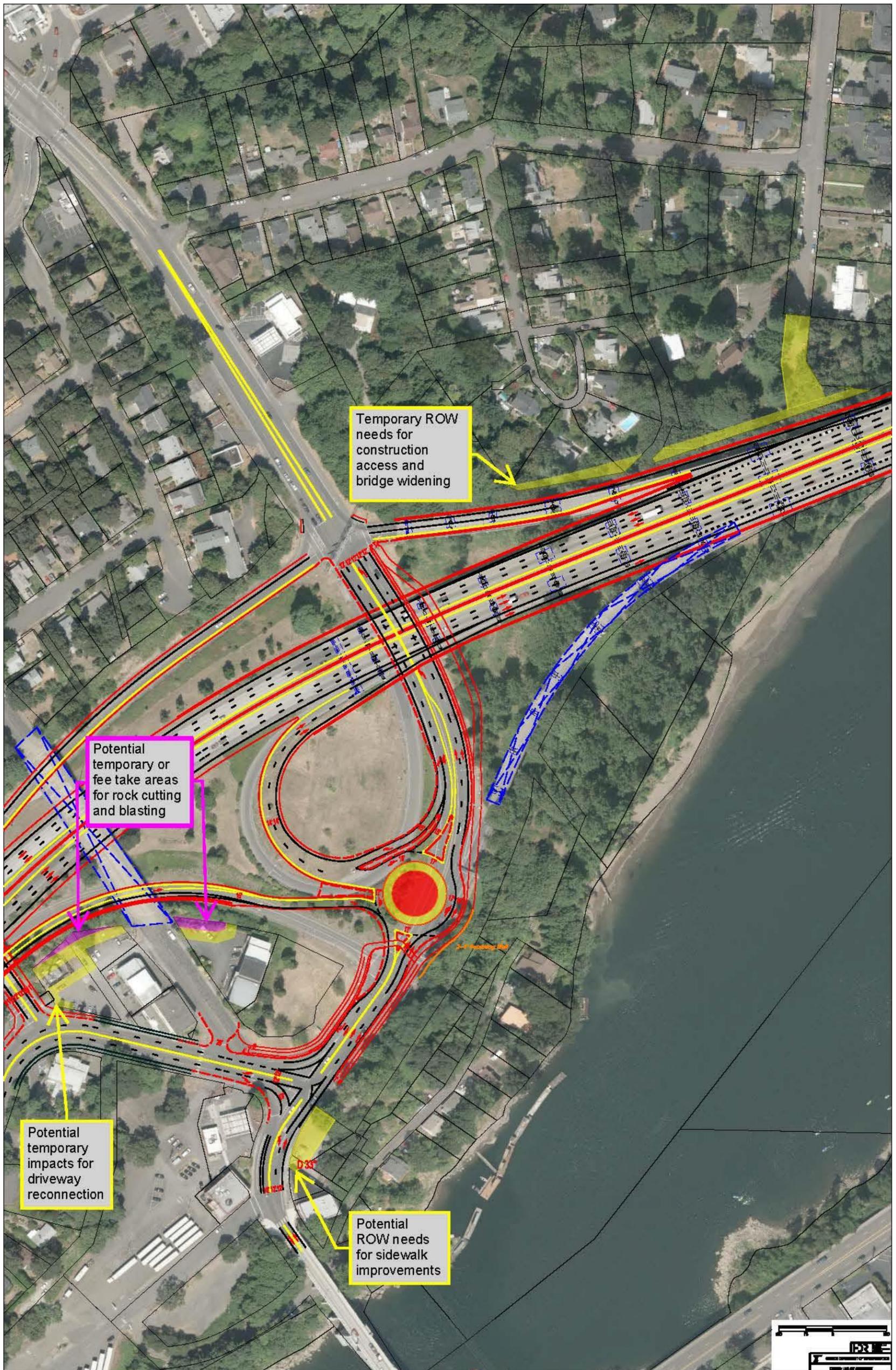


Conceptual ROW Impacts Map – OR 99E





Conceptual ROW Impacts Map – OR 43





Appendix H.
Recommended Alternative –
Supporting Roadway Graphics
Typical Section Renderings



I-205 View South of Overlook – Current View



I-205 View South of Overlook – Future View





I-205 View NB of Woodbine Road – Current View



I-205 View NB of Woodbine Road – Future View





I-205 View NB Towards Tualatin River Bridge – Current View



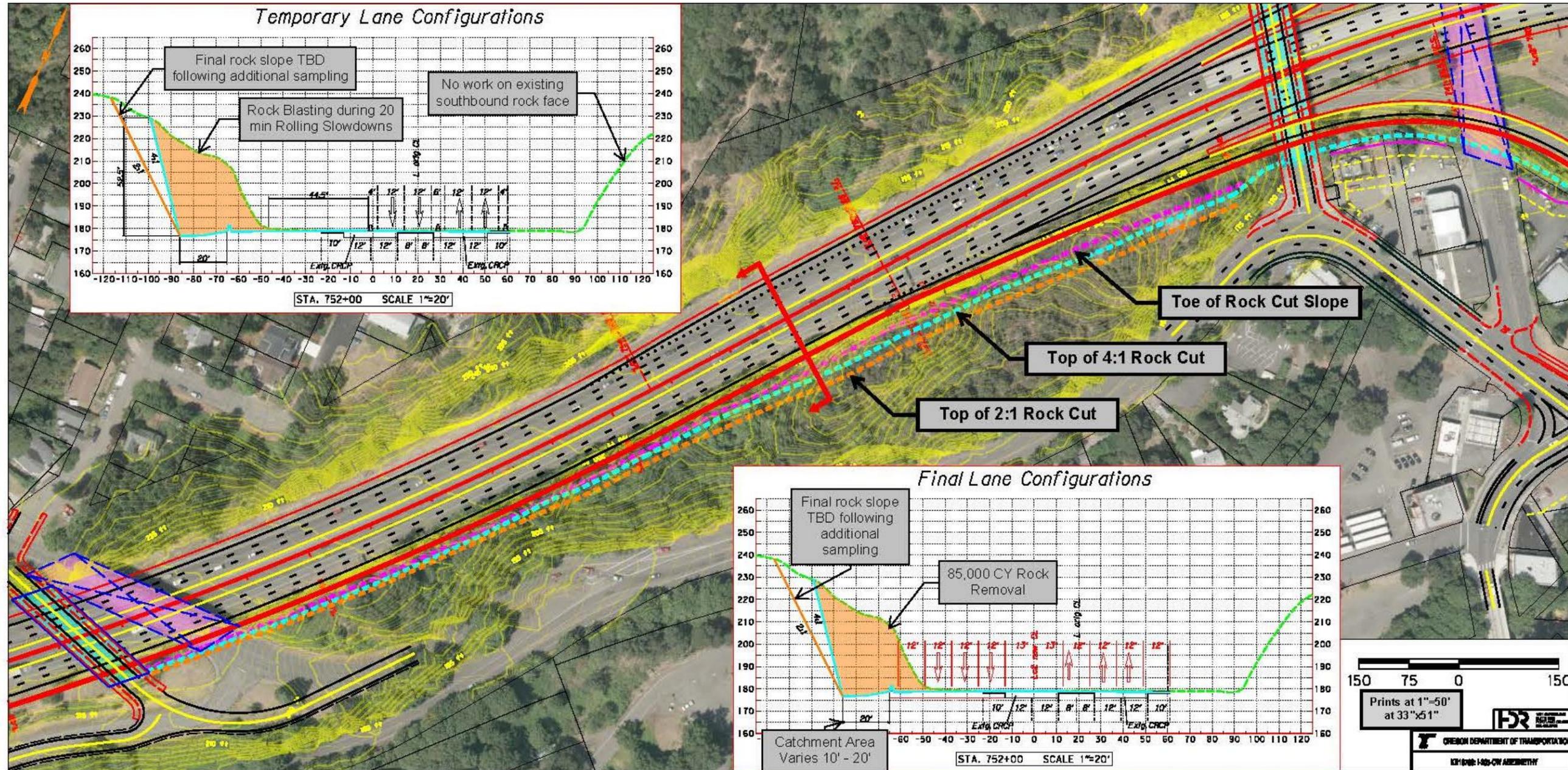
I-205 View NB Towards Tualatin River Bridge – Future View





Appendix I.
Recommended Alternative –
Supporting Roadway Graphics
Rock Cut Limits

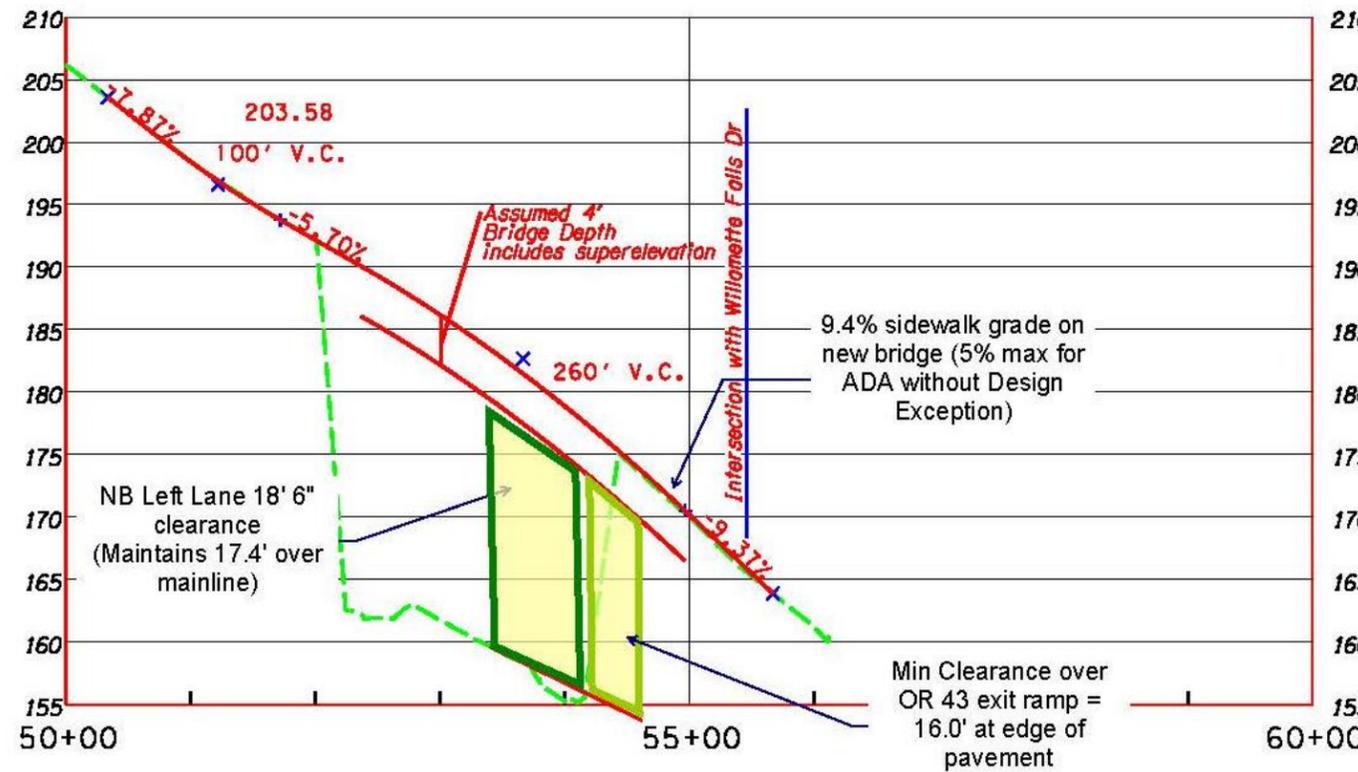
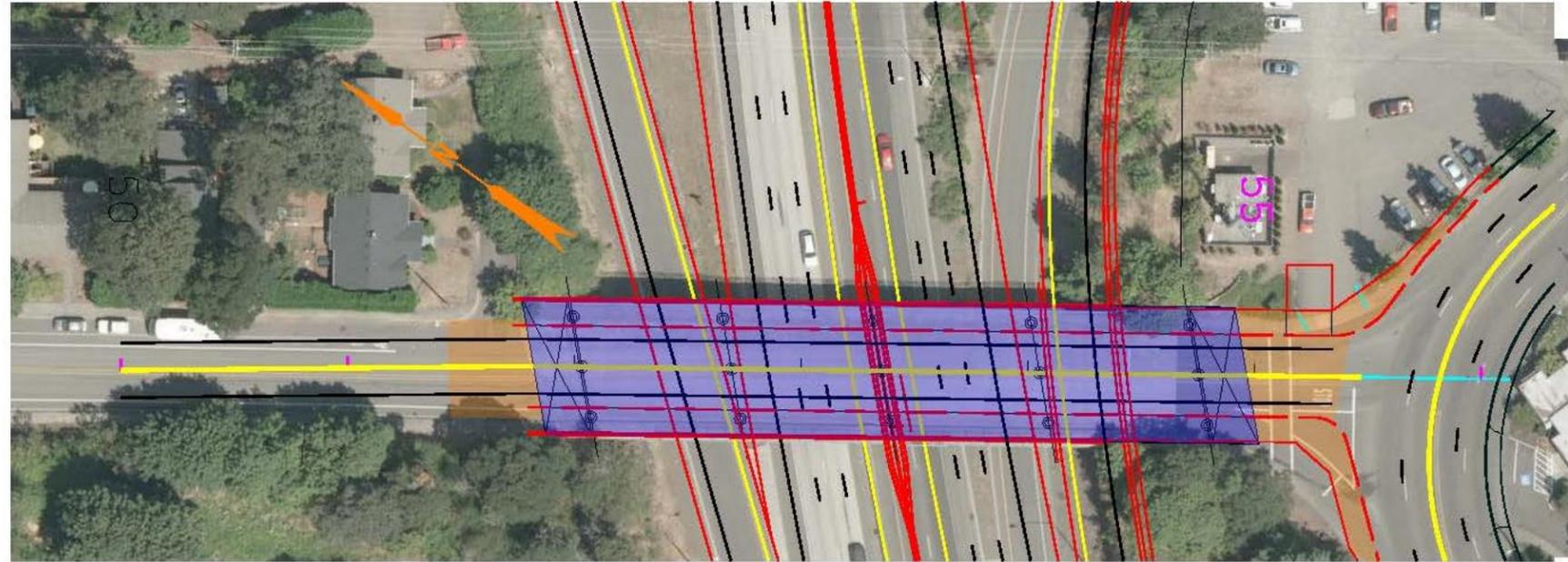
Rock Cut Area – Final Configuration





Appendix J.
Recommended Alternative –
Supporting Roadway Graphics
*West A Street Bridge
Replacement Details*

West A Street Plans and Profile View

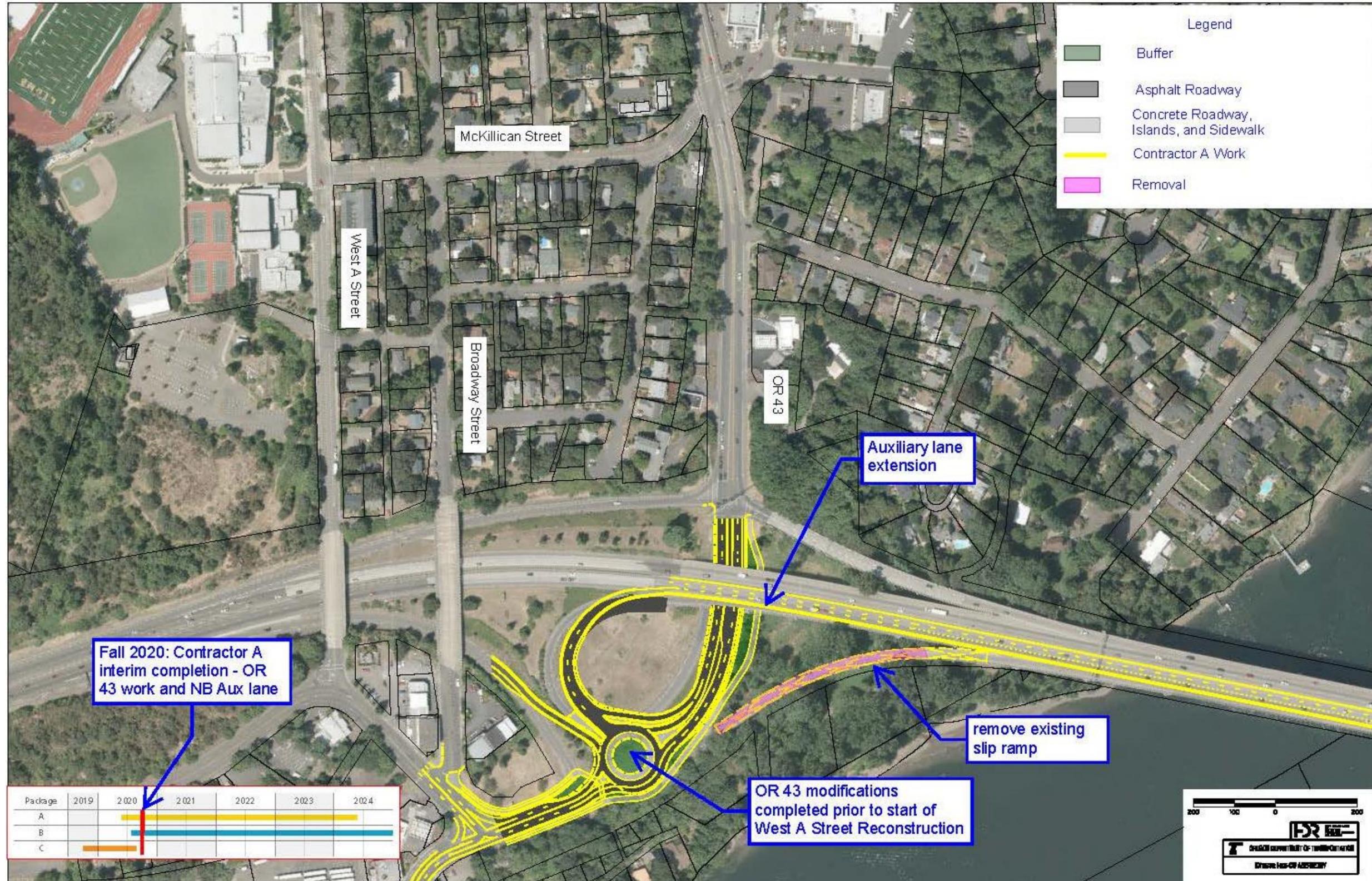


Existing Vertical Clearance at West A (Northbound):
 Left Lane = 17' 11"
 Right Lane = 17' 6"
 Off Ramp = 17' 5"

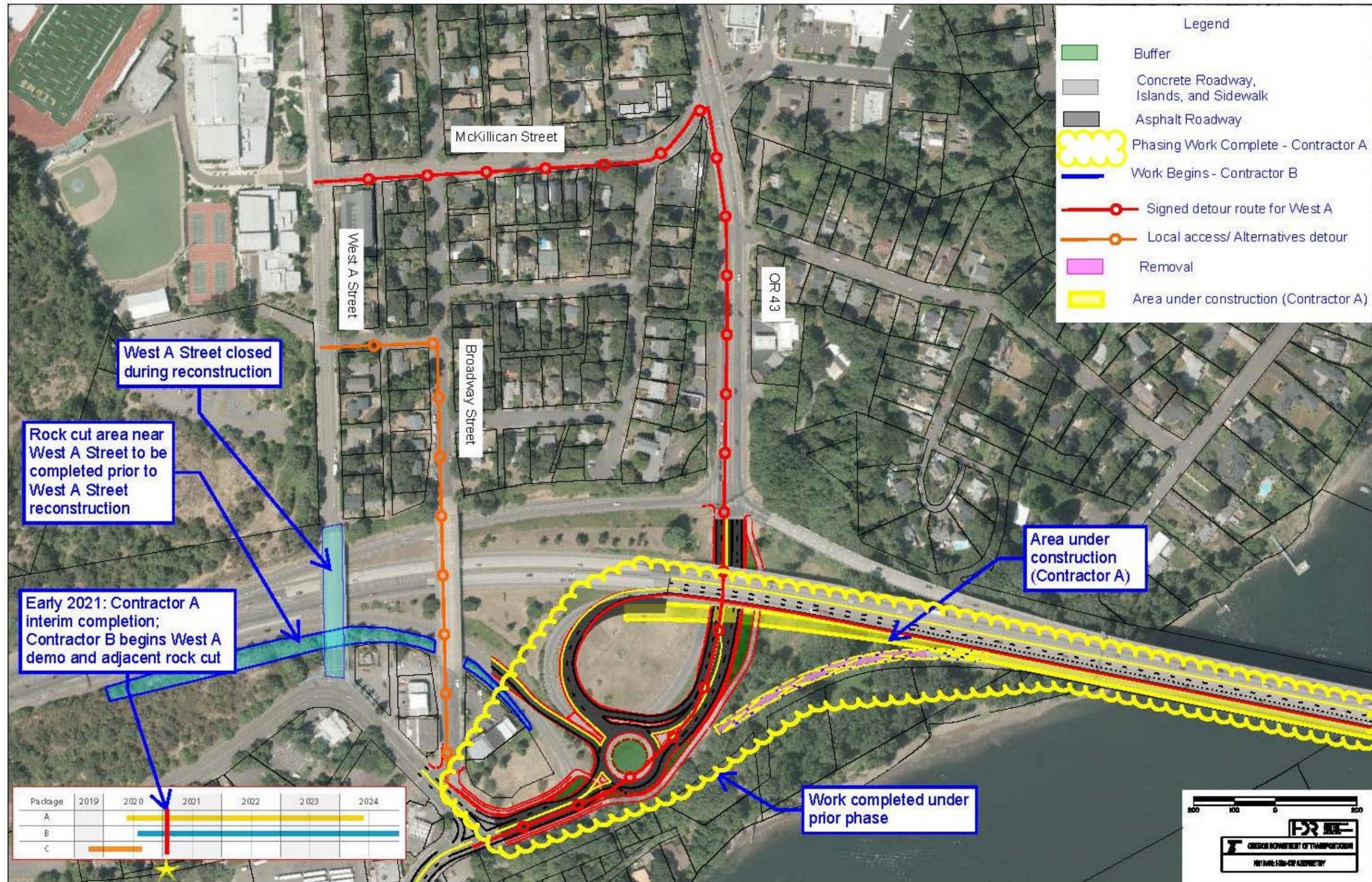
Proposed Vertical Clearance at West A:
 Left Lane (new) = 18' 6"
 Middle lane = 18' 1"
 Right lane = 17' 9"
 Off Ramp (lane) = 16' 5"

--- Proposed bent location
 --- Existing bent location
 Clearances include an assumed 9" CRCP overlay

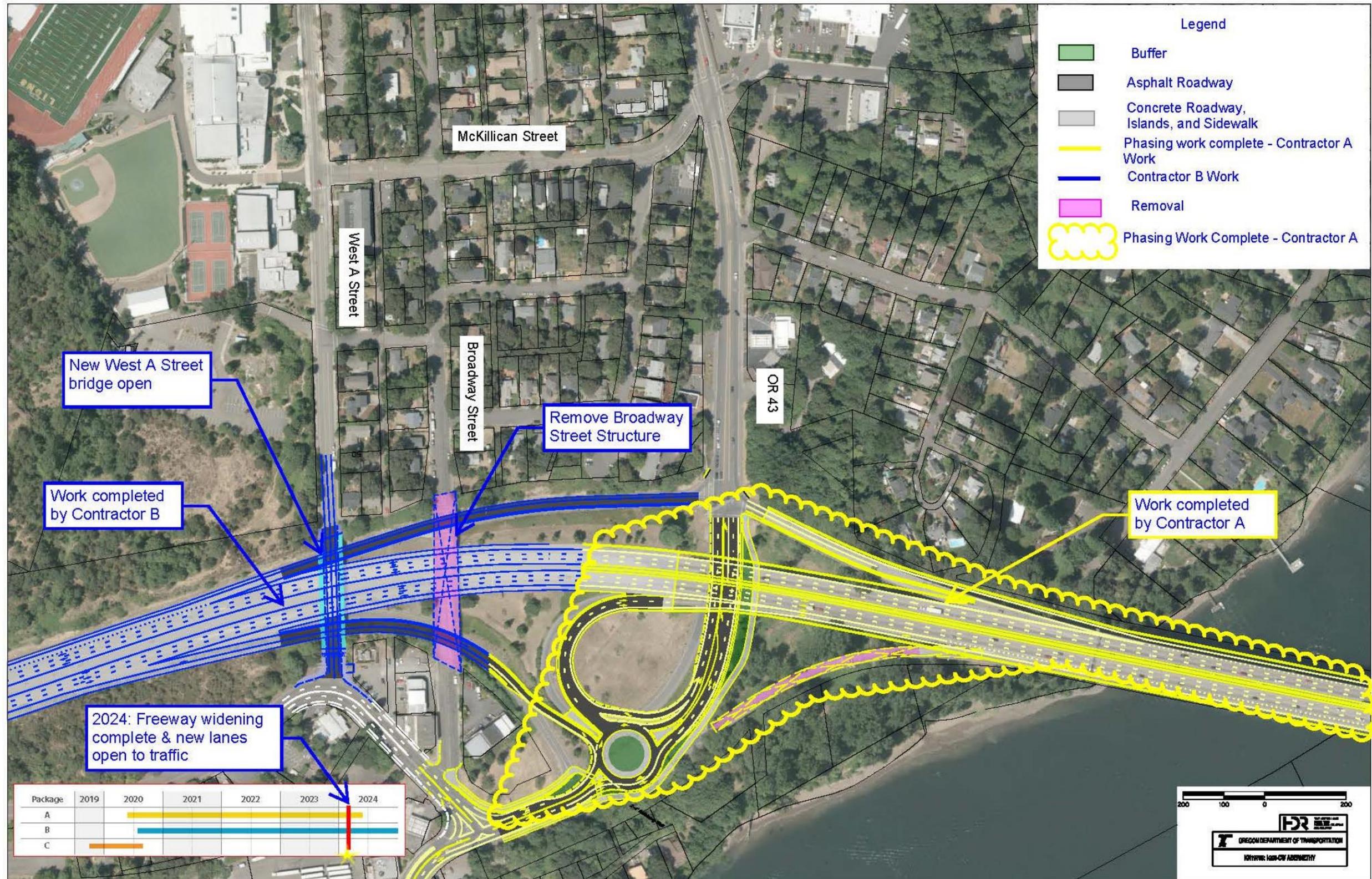
OR 43 and West A Street Bridge Construction Phasing – Phase 1 of 3.



OR 43 and West A Street Bridge Construction Phasing – Phase 2 of 3.



OR 43 and West A Street Bridge Construction Phasing – Phase 3 of 3.

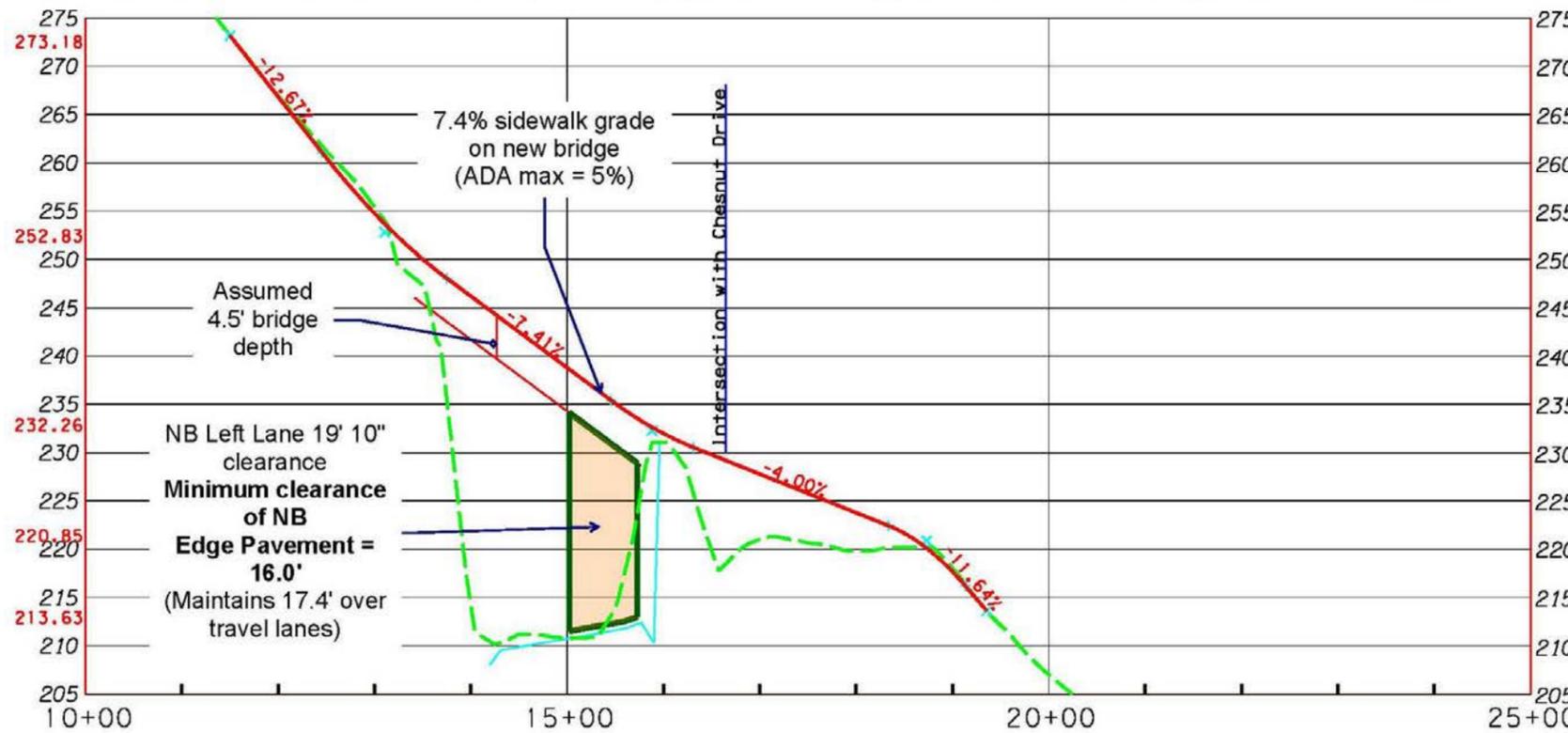
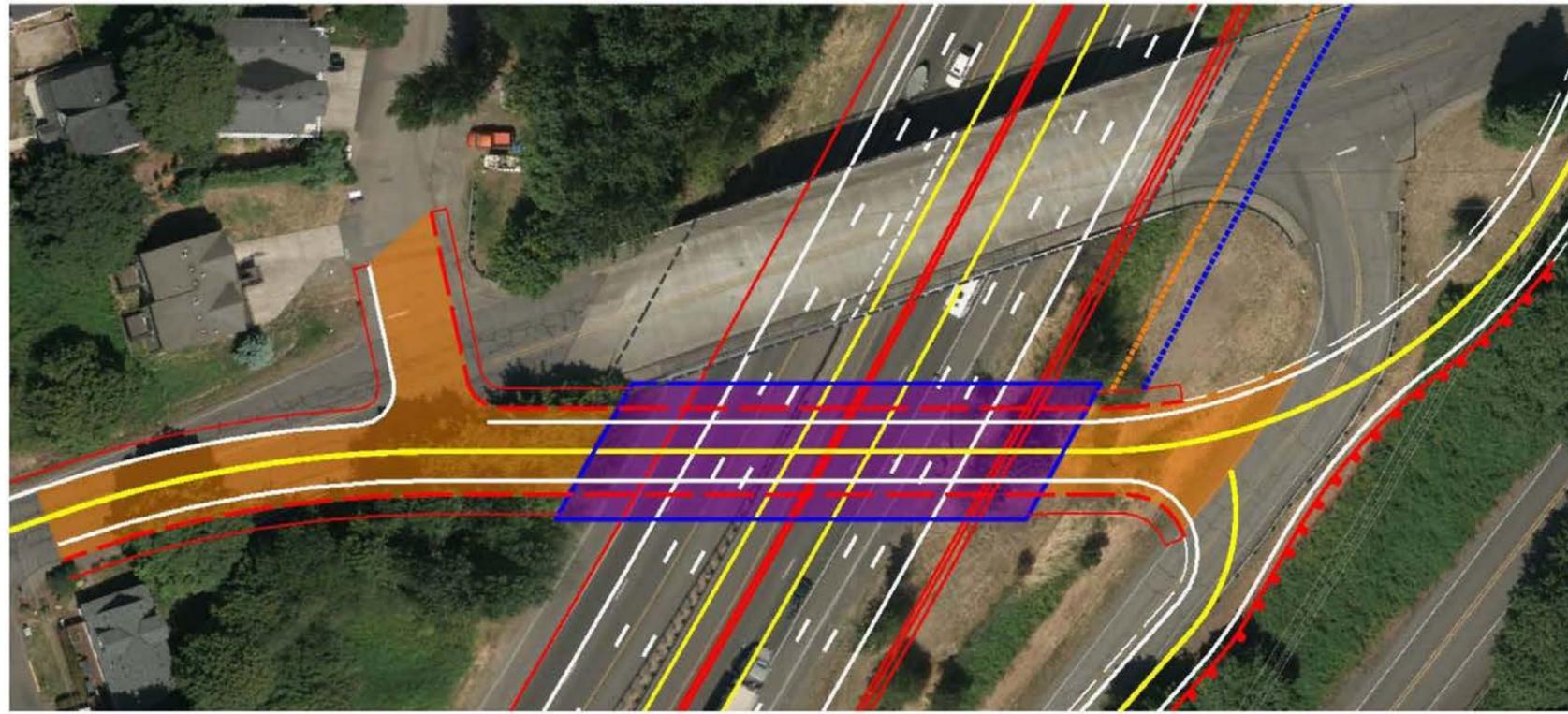




Appendix K.
Recommended Alternative –
Supporting Roadway Graphics
*Sunset Avenue Bridge
Replacement Details*



Sunset Avenue Plans and Profile View



Existing Vertical Clearance at Sunset (Northbound):

Left Lane = 20' 6"
 Right Lane = 19' 3"

Proposed Vertical Clearance at Sunset:

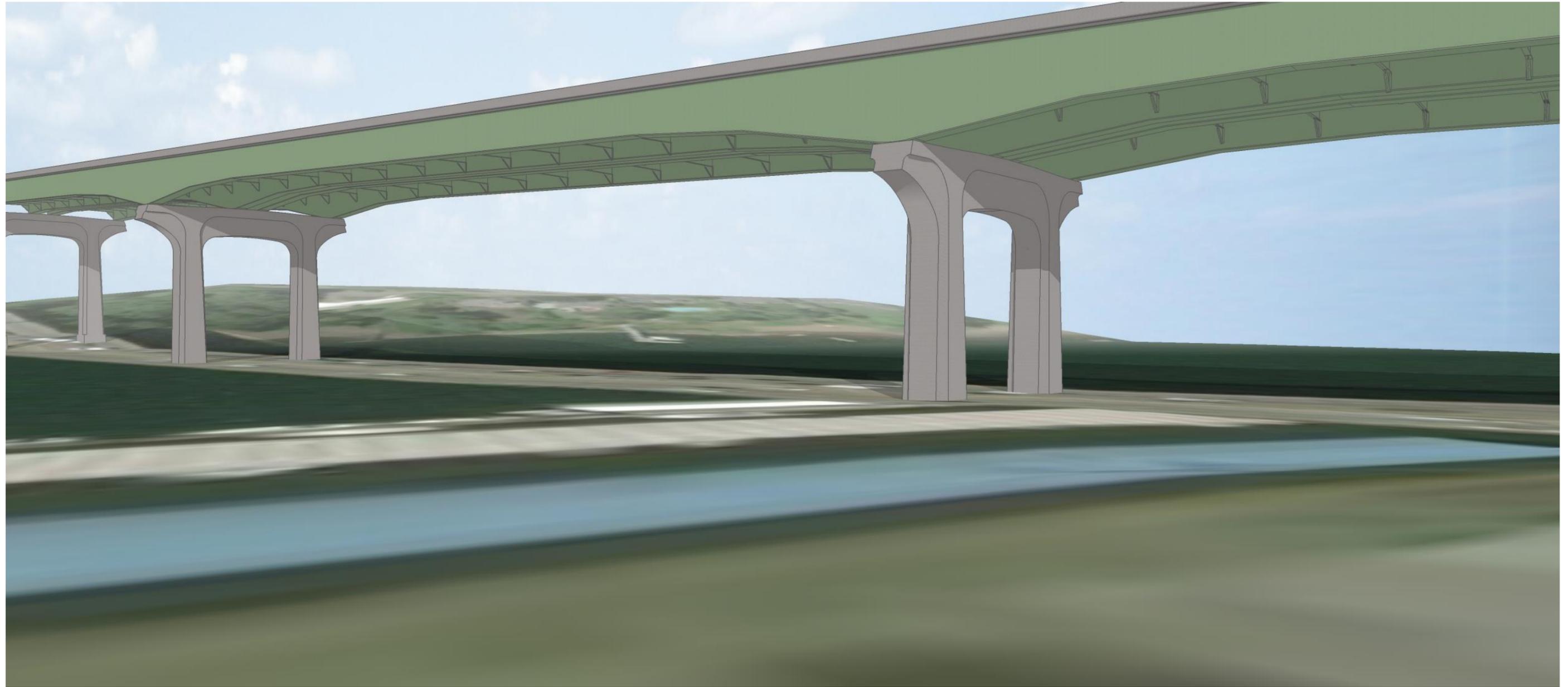
Left Lane (new) = 19' 10"
 Middle lane = 18' 6"
 Right lane = 17' 4"
 Right Edge of Pavement = 16'

NOTE - Clearances include an assumed 9" CRCP overlay.
 - - - Proposed bent location

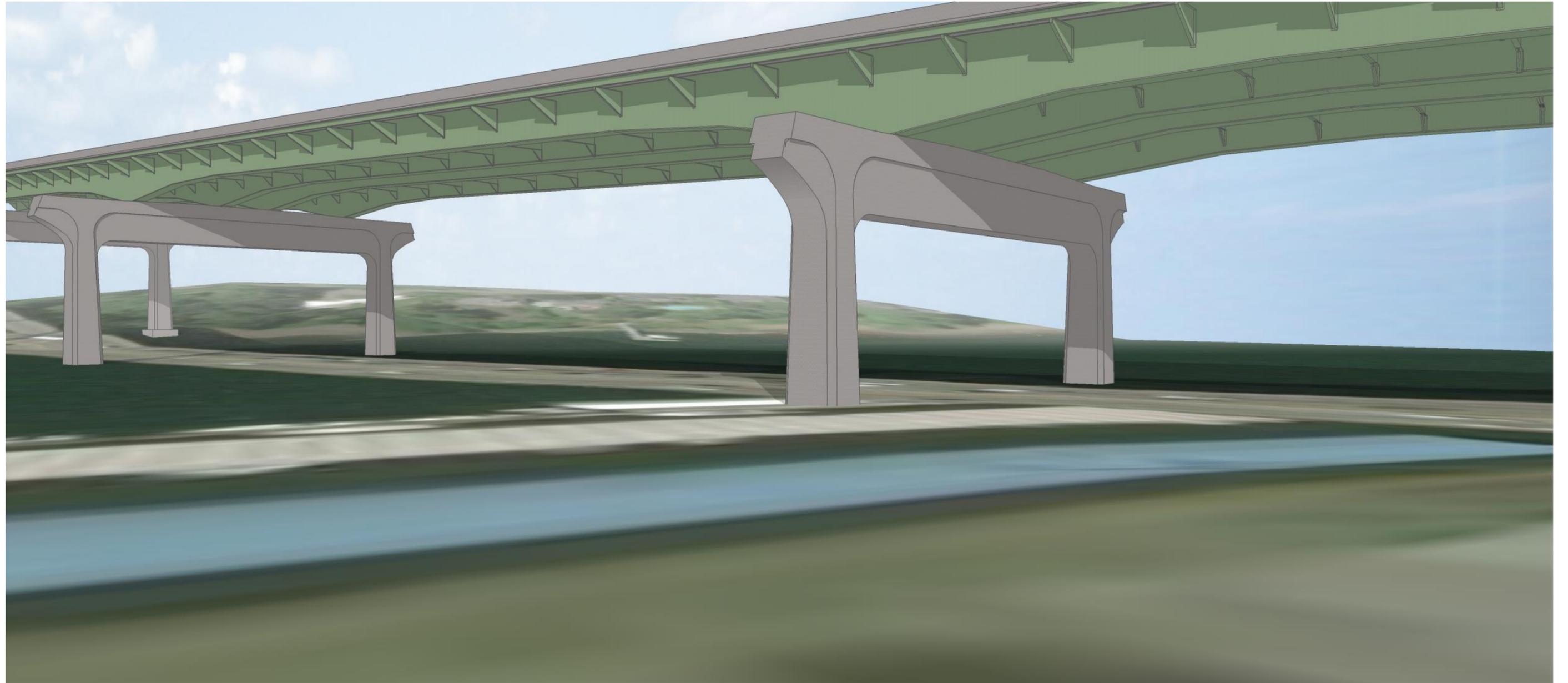


Appendix L. Recommended Alternative – Supporting Abernethy Bridge Graphics

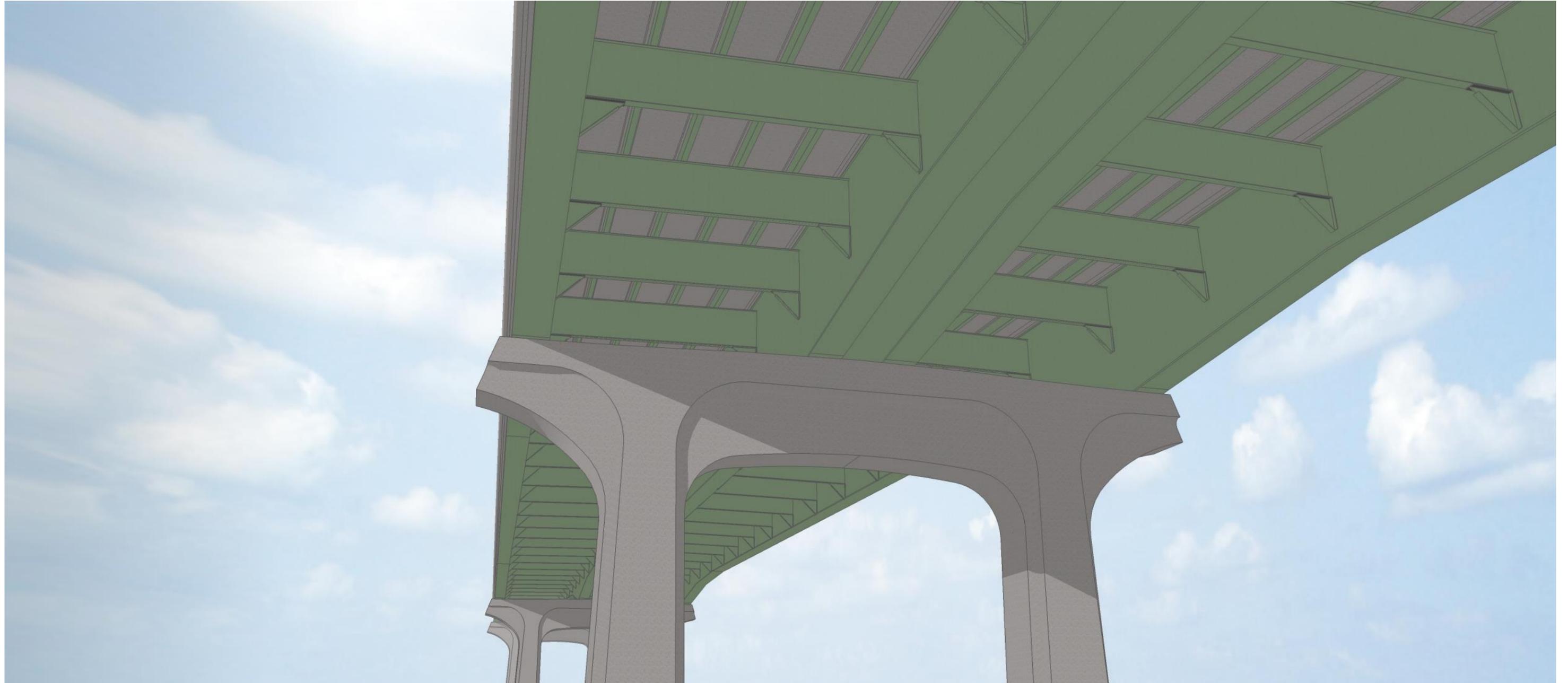
Abernethy Bridge – View 1 – Current View



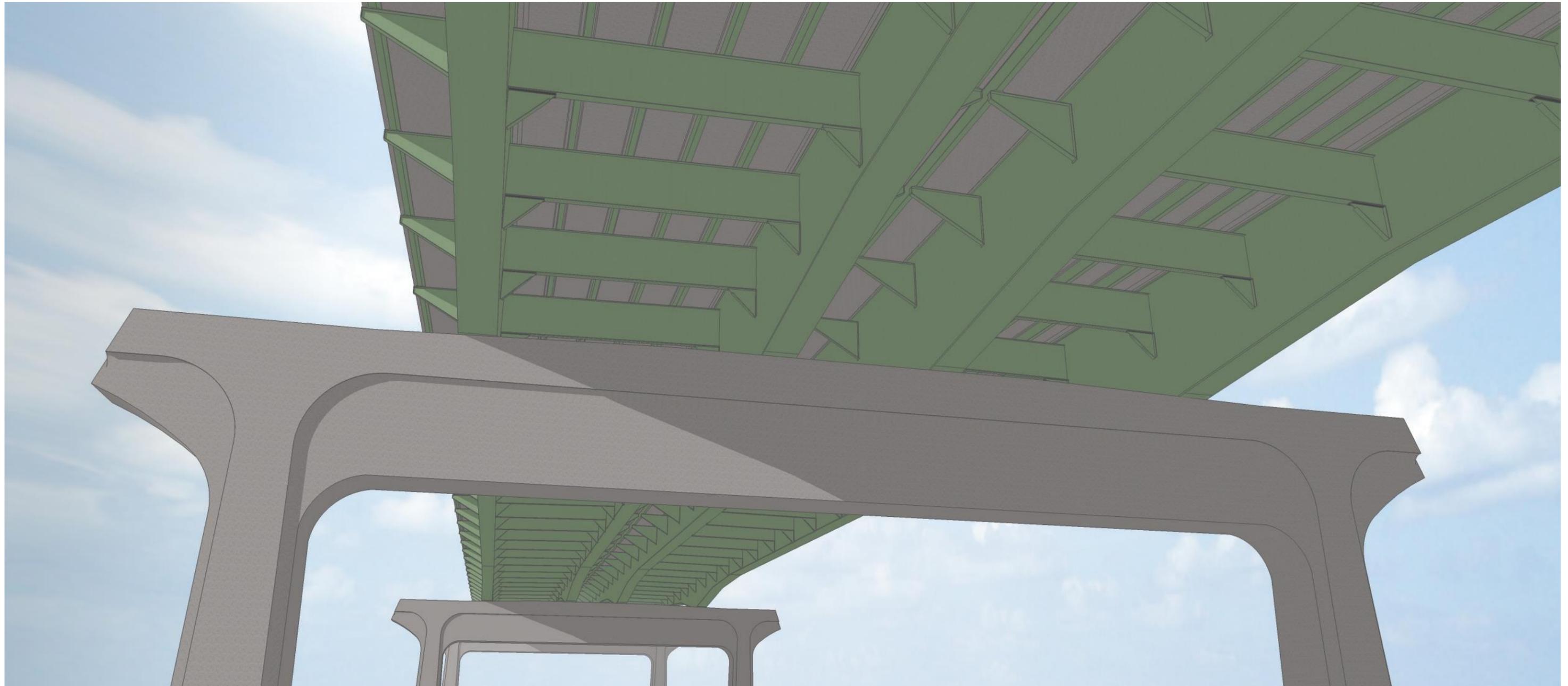
Abernethy Bridge – View 1 – Future Widening and Pier Replacement

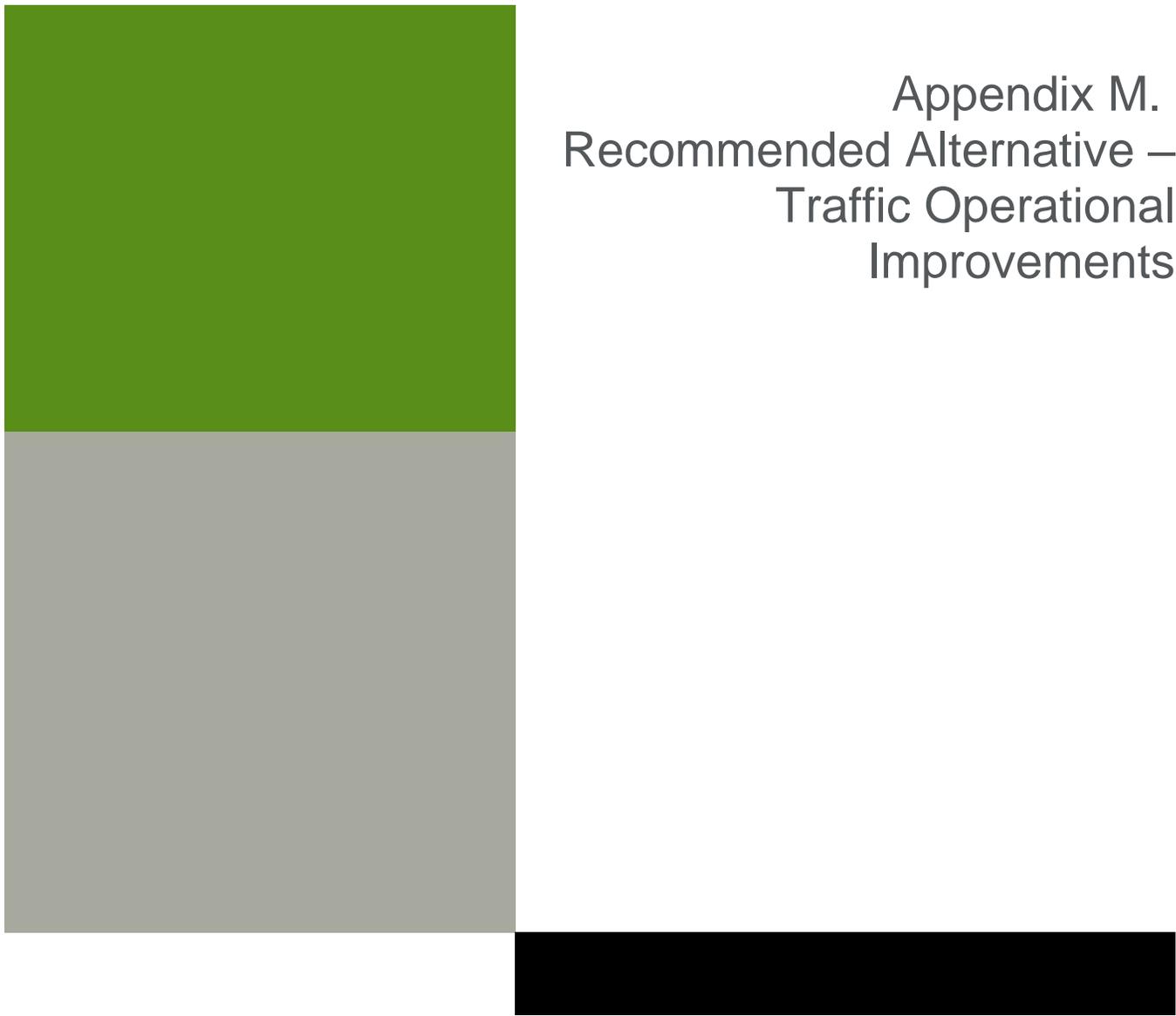


Abernethy Bridge – View 2 – Current View



Abernethy Bridge – View 2 – Future Widening and Pier Replacement





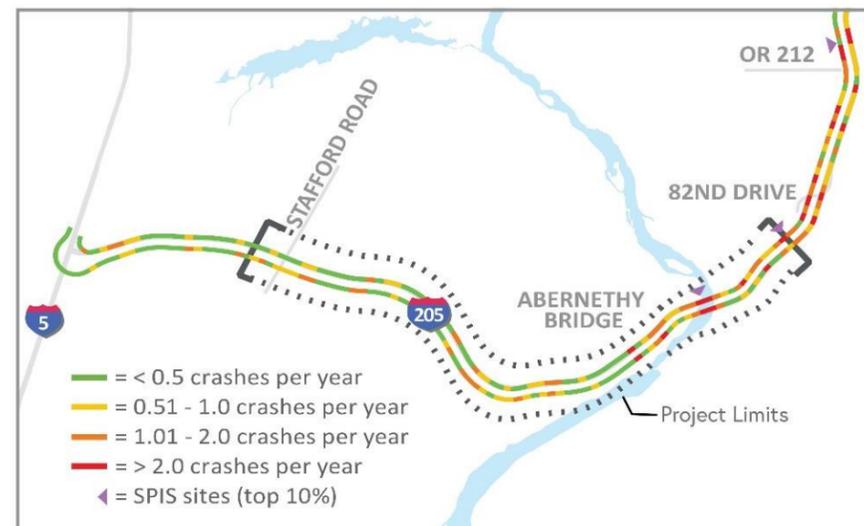
Appendix M. Recommended Alternative – Traffic Operational Improvements



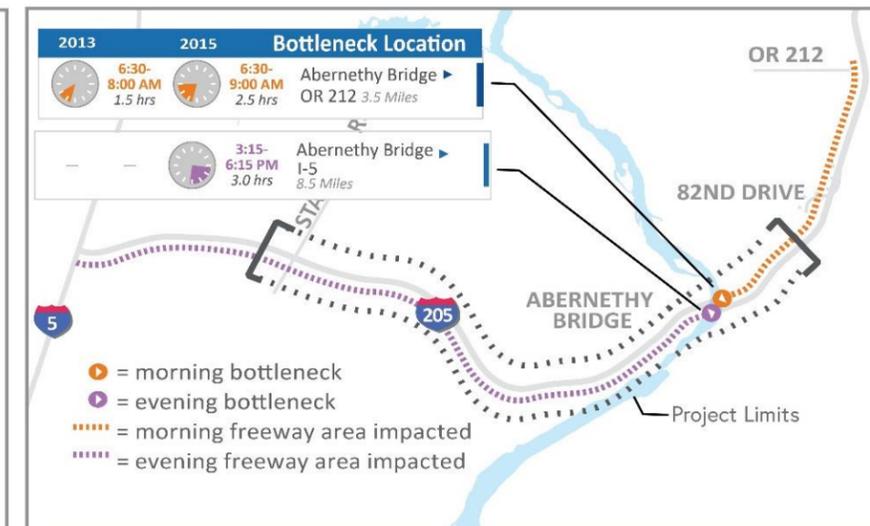
Existing bottlenecks and Project solutions



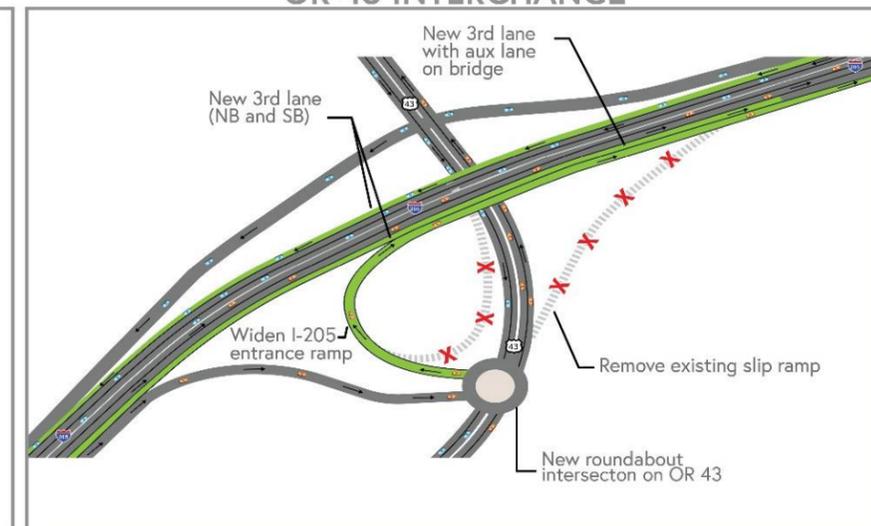
EXISTING CRASH FREQUENCY PER 10TH OF A MILE



EXISTING BOTTLENECK LOCATIONS AND DURATIONS



PROPOSED I-205 IMPROVEMENTS AT OR 43 INTERCHANGE





Appendix N.
Stormwater and Contaminated
Materials Storage Roll Map
(See additional attachment)

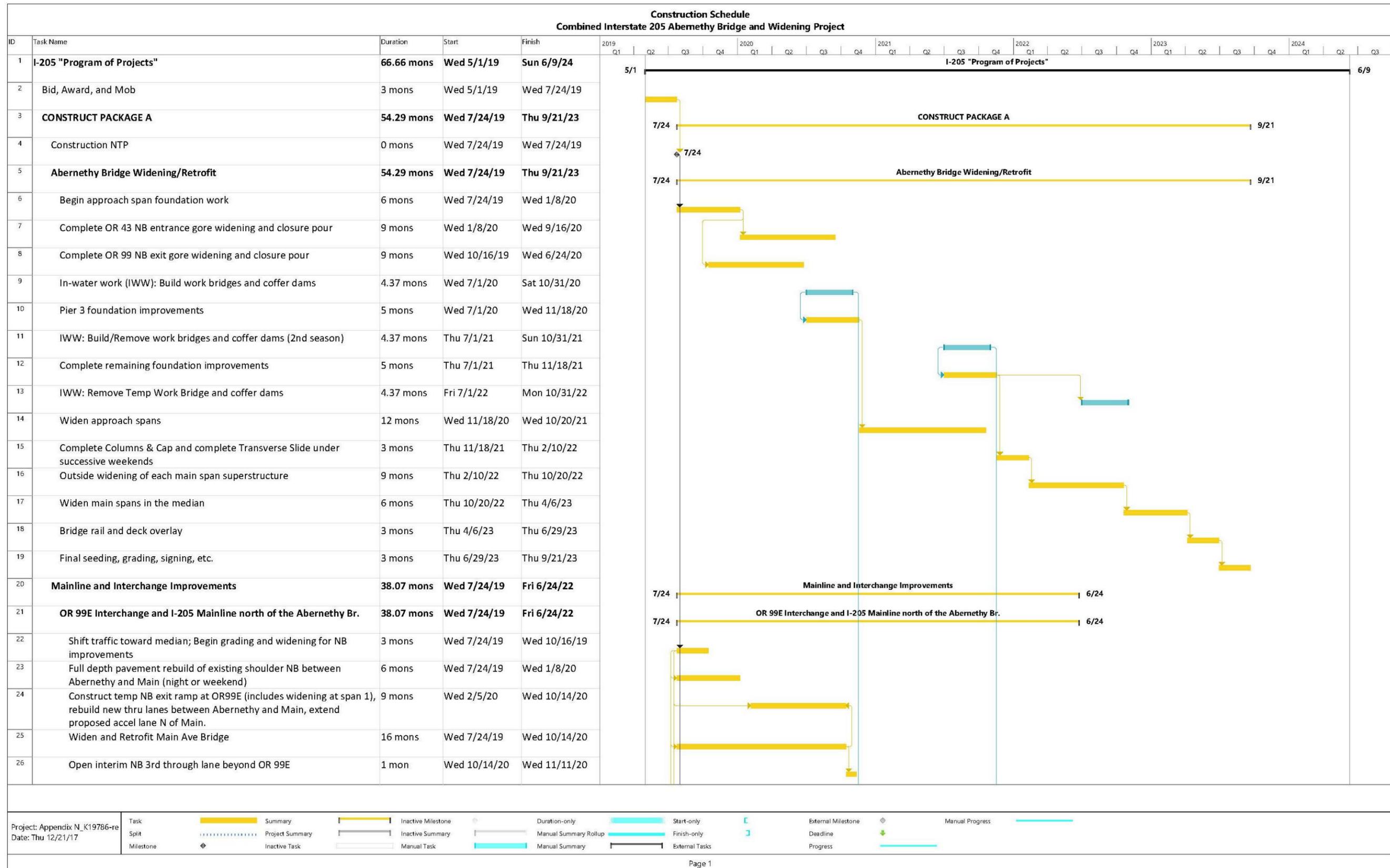




Appendix O. Recommended Alternative – Detailed Schedule

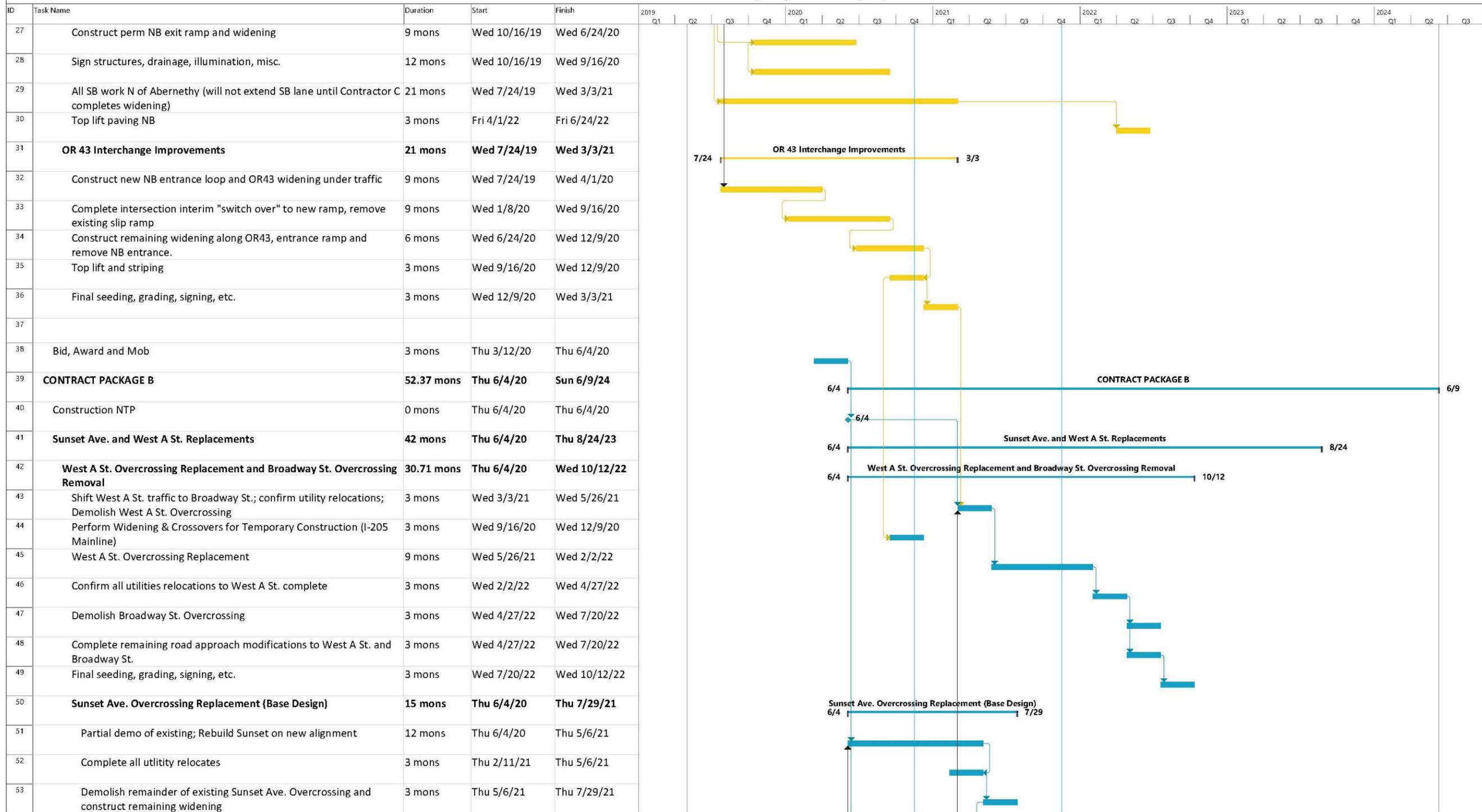


Detailed Project Construction Schedule





**Construction Schedule
 Combined Interstate 205 Abernethy Bridge and Widening Project**

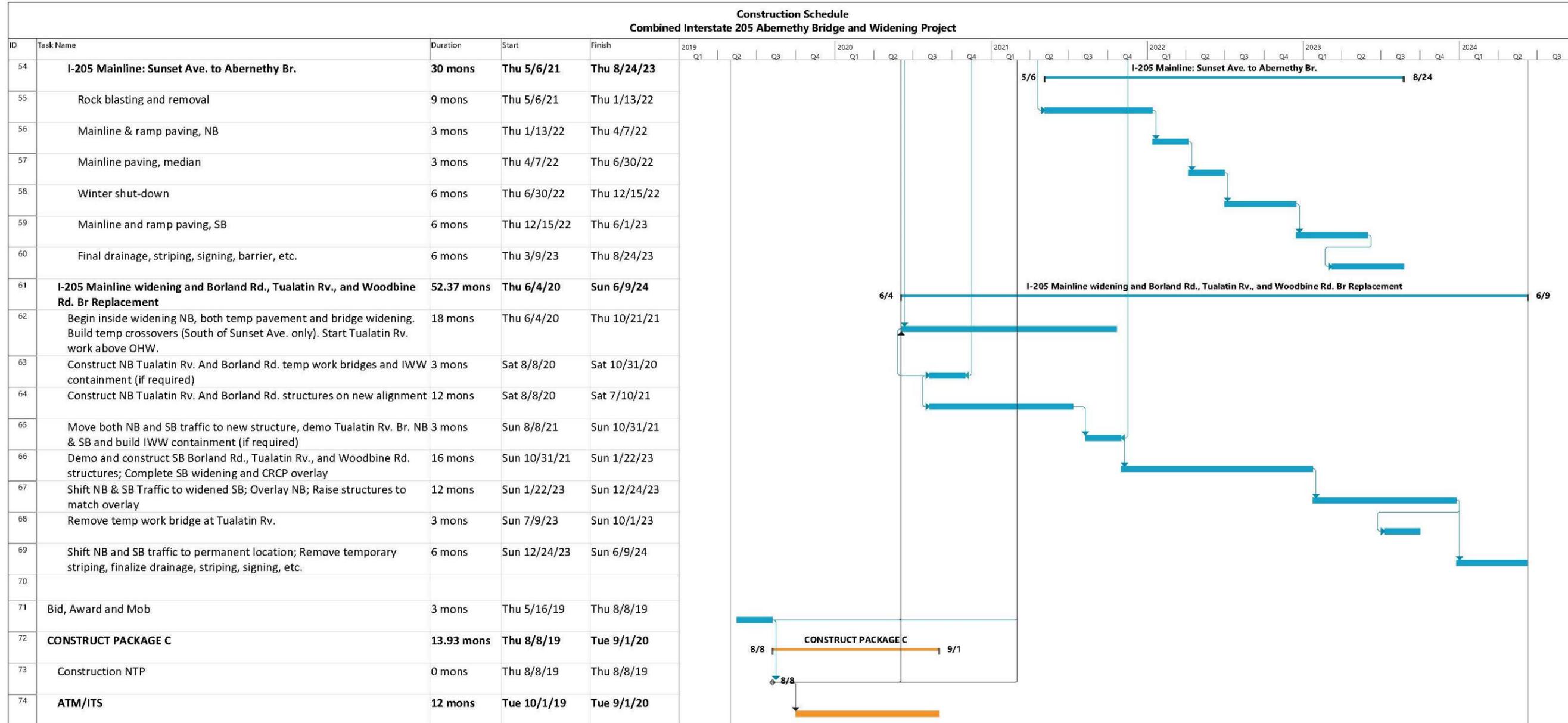


Project: Appendix N_K19786-re
 Date: Thu 12/21/17

| | | | | | | |
|-----------|-----------------|--------------------|-----------------------|----------------|--------------------|-----------------|
| Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Manual Progress |
| Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline | |
| Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Progress | |



Construction Schedule
Combined Interstate 205 Abernethy Bridge and Widening Project



Project: Appendix N_K19786-re
 Date: Thu 12/21/17

| | | | | | | |
|-----------|-----------------|--------------------|-----------------------|----------------|--------------------|-----------------|
| Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Manual Progress |
| Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline | Progress |
| Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Progress | Progress |