

APPENDIX K

**SR 28/281 Rock Island to I-90 Opinions of Cost**

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**PLANNING LEVEL OPINION OF COST SUMMARY**

Project Description: SR 28 Corridor Study	Client: Chelan-Douglas Transportation Council
Corridor Section: SR 28: Batterman Rd - Quincy	Date: Apr-22
Location: Douglas County, WA	Date of Cost Index: 2022
	Calculated By/Entered By: HTO/RO
	Checked By: KWW

**SR 28 Phase 2**

		ITEM	UNIT	ESTIMATED COST	UNIT QTY	COST
<b>I. RIGHT OF WAY</b>						
		RIGHT OF WAY	SF	\$8	421,300	\$3,370,400
		TEMPORARY CONSTRUCTION EASEMENTS	SF	\$2	-	\$0
		ADMINISTRATION (titles, appraisals, negotiations consultant, etc.)	EA	\$15,000	26	\$390,000
		<b>RIGHT OF WAY TOTAL</b>				<b>\$3,760,400</b>
		<b>FUTURE ROW COST BASED ON INFLATION RATE</b>	<b>Inflation 5%</b>	<b>ROW Year 2027</b>	<b>Cost Index 2022</b>	<b>Future Cost \$4,800,000</b>
<b>II. CONSTRUCTION</b>						
<b>1</b>		<b>PREPARATION/GRADING/DRAINAGE</b>				
	<b>1.1</b>	<b>PREPARATION</b>				
		CLEAR & GRUB, DEMO	ACRE	\$5,000	104	\$520,000
		REMOVING EXISTING PAVEMENT	SY	\$15	242,000	\$3,630,000
		REMOVAL STRUCTURES & OBSTRUCTIONS	LS	\$250,000	1	\$250,000
	<b>1.2</b>	<b>EARTHWORK</b>				
		ROADWAY EXCAVATION INCL. HAUL	CY	\$25	380,000	\$9,500,000
		STRUCTURE EX. CL. A INCL. HAUL	CY	\$45	4,800	\$216,000
		BORROW INCL. HAUL	TON	\$35	78,700	\$2,754,500
	<b>1.3</b>	<b>STORMWATER MITIGATION</b>				
		DETENTION AND TREATMENT	SF	\$10	4,530,240	\$45,302,400
	<b>1.4</b>	<b>STORM SEWER</b>				
		SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	LF	\$85	8,460	\$719,100
<b>2</b>		<b>STRUCTURE</b>				
		CONCRETE BRIDGES *	SF	\$300	39,800	\$11,940,000
		CONCRETE BRIDGE REMOVAL *	SF	\$35	24,700	\$864,500
		RETAINING WALLS: CUT, GRAVITY BLOCK	SF	\$75	34,000	\$2,550,000
		RETAINING WALLS: CUT, SOLDIER PILE	SF	\$150	118,800	\$17,820,000
		RETAINING WALLS: FILL, MSE	SF	\$75	126,700	\$9,502,500
		RETAINING WALLS: FILL, SOLDIER PILE	SF	\$150	137,700	\$20,655,000
		CULVERT	LF	\$1,750	1,400	\$2,450,000
		CULVERT REMOVAL	LF	\$200	900	\$180,000
<b>3</b>		<b>SURFACING</b>				
		HOT MIX ASPHALT	TON	\$80	238,400	\$19,072,000
		CRUSHED SURFACING	TON	\$35	265,400	\$9,289,000
<b>4</b>		<b>ROADSIDE DEVELOPMENT</b>				
		TEMP. WATER POLLUTION & EROSION CONTROL (2%)	LS	\$3,901,000	1	\$3,901,000
		SEEDING, MULCHING & FERTILIZING	ACRE	\$3,000	50	\$150,000

**PLANNING LEVEL OPINION OF COST SUMMARY**

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Location: Douglas County, WA	Date of Cost Index: 2022
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**SR 28 Phase 2**

	ITEM	UNIT	ESTIMATED COST	UNIT	QTY	COST
5	<b>TRAFFIC</b>					
	TRAFFIC BARRIER	LF	\$200		98,900	\$19,780,000
	GUARDRAIL	LF	\$250		43,700	\$10,925,000
	CHAIN LINK FENCE	LF	\$20		14,100	\$282,000
	ILLUMINATION	LS	\$0		1	\$0
	SIGNING	LS	\$188,000		1	\$188,000
	STRIPING	LF	\$2		622,800	\$1,245,600
	CURBS	LF	\$45		-	\$0
	CURB RAMP	EA	\$8,000		-	\$0
	SIDEWALKS	SY	\$65		-	\$0
	TRAFFIC CONTROL (10%)	LS	\$19,505,000		1	\$19,505,000
6	<b>OTHER ITEMS</b>					
	SURVEYING (2%)	LS	\$3,901,000		1	\$3,901,000
	NEW ROUNDABOUT AT MP 22.31	EST	\$1,002,000		1	\$1,002,000
	ROUNDABOUT WIDENING TO DUAL-LANE AT MP 25.73	EST	\$426,000		1	\$426,000
	ROUNDABOUT WIDENING TO DUAL-LANE AT MP 28.73	EST	\$426,000		1	\$426,000
	CONNECTION FROM CITY LIMITS TO FIVE-LANE SECTION	EST	\$3,402,000		1	\$3,402,000
	UTILITY RELOCATIONS	EST	\$0		1	\$0
7	<b>SUBTOTAL (ITEMS 1 THRU 6)</b>					<b>\$222,348,600</b>
8	<b>MOBILIZATION (10%)</b>					
	10% OF ITEM 7	EST	\$22,234,900		1	\$22,234,900
9	<b>CONSTRUCTION SUBTOTAL (ITEMS 7 &amp; 8)</b>					<b>\$244,583,500</b>
10	<b>SALES TAX</b>					
11	<b>AGREEMENTS (Utilities, WSP, etc.)</b>	EST	\$0		1	\$0
12	<b>SUBTOTAL (ITEMS 9 THRU 11)</b>					<b>\$244,583,500</b>
13	CONTINGENCY (30% OF ITEM 12)	EST	\$73,375,100		1	\$73,375,100
14	<b>CONSTRUCTION SUBTOTAL (ITEMS 12 &amp; 13)</b>					<b>\$317,958,600</b>
15	<b>FUTURE CN COST BASED ON INFLATION RATE</b>	Inflation	Const. Year	Cost Index		Future Cost
		10%	2029	2022		\$619,612,000
16	<b>CONSTRUCTION ADMINISTRATION</b>					
	CONSTRUCTION ENGINEERING (15% OF ITEM 14)	EST	\$47,693,800		1	\$47,693,800
	CITY ENGINEERING & ADMINISTRATION (5% OF ITEM 14)	EST	\$15,898,000		1	\$15,898,000
17	<b>FUTURE CN ADMIN COST BASED ON INFLATION RATE</b>	Inflation	Const. Year	Cost Index		Future Cost
		5%	2029	2022		\$89,481,000

**PLANNING LEVEL OPINION OF COST SUMMARY**

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Corridor Section: SR 28: Batterman Rd - Quincy	Date: Apr-22
Location: Douglas County, WA	Date of Cost Index: 2022
	Calculated By/Entered By: HTO/RO
	Checked By: KWW

**SR 28 Phase 2**

III.	ITEM	UNIT	ESTIMATED UNIT		COST
			COST	QTY	
	<b>PRELIMINARY WORK</b>				
	PRELIMINARY ENGINEERING (15.0% OF ITEM 14)	EST	\$47,693,800	1	\$47,693,800
	CITY ENGINEERING & ADMINISTRATION (5% OF ITEM 14)	EST	\$15,898,000	1	\$15,898,000
	ENVIRONMENTAL PERMITS/DOCUMENTS	EST	\$130,000	1	\$130,000
	<b>FUTURE PE COST BASED ON INFLATION RATE</b>	<b>Inflation</b>	<b>Design Year</b>	<b>Cost Index</b>	<b>Future Cost</b>
		5%	2025	2022	<b>\$73,766,000</b>
<b>IV.</b>	<b>TOTAL ESTIMATED COST (ITEMS I, 15, 17, &amp; III)</b>				
	SUB-TOTAL PROJECT COST (BASED ON INFLATION RATE)				\$787,659,000
<b>TOTAL PROJECT COST RANGE (BASED ON INFLATION RATE)</b>					<b>\$788,000,000</b>

The above opinion of cost is a planning level estimate only. It is based on best available information and scope at the time, not on the results of a detailed engineering study, and is supplied as a budgeting guide only. Perteet Inc. does not guarantee or warrant the accuracy of this planning level estimate.

\* Bridge installation and removal items include rebuild of the existing railroad structure at MP 22.06.

\*\* Separate projects in the OTHER ITEMS grouping include all construction costs plus temp. water pollution/TESC (2%), traffic control (10%), and surveying (2%).

**PLANNING LEVEL OPINION OF COST SUMMARY**

Project Description:	SR 28 Corridor Study	Client:	Chelan-Douglas Transportation Council
Corridor Section:	SR 281: MP 0.00 (I-90 interchange) to MP 9.77 (southern Quinicy limits)	Date:	Apr-22
Location:	Douglas County, WA	Date of Cost Index:	2022
		Calculated By/Entered By:	RO
		Checked By:	HTO/BMP

**SR 281**

		ITEM	UNIT	ESTIMATED COST	UNIT QTY	COST
<b>I. RIGHT OF WAY</b>						
		RIGHT OF WAY	SF	\$8	15,200	\$121,600
		TEMPORARY CONSTRUCTION EASEMENTS	SF	\$2	-	\$0
		ADMINISTRATION (titles, appraisals, negotiations consultant, etc.)	EA	\$15,000	3	\$45,000
		<b>RIGHT OF WAY TOTAL</b>				<b>\$166,600</b>
		<b>FUTURE ROW COST BASED ON INFLATION RATE</b>	<b>Inflation 5%</b>	<b>ROW Year 2027</b>	<b>Cost Index 2022</b>	<b>Future Cost \$213,000</b>
<b>II. CONSTRUCTION</b>						
<b>1</b>		<b>PREPARATION/GRADING/DRAINAGE</b>				
	<b>1.1</b>	<b>PREPARATION</b>				
		CLEAR & GRUB, DEMO	ACRE	\$5,000	68	\$340,000
		REMOVING EXISTING PAVEMENT	SY	\$15	92,000	\$1,380,000
		REMOVAL STRUCTURES & OBSTRUCTIONS	LS	\$250,000	1	\$250,000
	<b>1.2</b>	<b>EARTHWORK</b>				
		ROADWAY EXCAVATION INCL. HAUL	CY	\$25	230,000	\$5,750,000
		STRUCTURE EX. CL. A INCL. HAUL	CY	\$45	100	\$4,500
		BORROW INCL. HAUL	TON	\$35	6,600	\$231,000
	<b>1.3</b>	<b>STORMWATER MITIGATION</b>				
		DETENTION AND TREATMENT	SF	\$10	2,613,600	\$26,136,000
	<b>1.4</b>	<b>STORM SEWER</b>				
		SCHEDULE A STORM SEWER PIPE 18 IN. DIAM.	LF	\$85	3,900	\$331,500
<b>2</b>		<b>STRUCTURE</b>				
		CONCRETE BRIDGES	SF	\$300	23,000	\$6,900,000
		CONCRETE BRIDGE REMOVAL	SF	\$35	12,400	\$434,000
		RETAINING WALLS: CUT, GRAVITY BLOCK	SF	\$75	200	\$15,000
		RETAINING WALLS: CUT, SOLDIER PILE	SF	\$150	0	\$0
		RETAINING WALLS: FILL, MSE	SF	\$75	0	\$0
		RETAINING WALLS: FILL, SOLDIER PILE	SF	\$150	0	\$0
		CULVERT	LF	\$1,750	600	\$1,050,000
		CULVERT REMOVAL	LF	\$200	-	\$0
<b>3</b>		<b>SURFACING</b>				
		HOT MIX ASPHALT	TON	\$80	138,200	\$11,056,000
		CRUSHED SURFACING	TON	\$35	152,500	\$5,337,500
<b>4</b>		<b>ROADSIDE DEVELOPMENT</b>				
		TEMP. WATER POLLUTION & EROSION CONTROL (2%)	LS	\$1,406,000	1	\$1,406,000
		SEEDING, MULCHING & FERTILIZING	ACRE	\$3,000	26	\$78,300
<b>5</b>		<b>TRAFFIC</b>				
		TRAFFIC BARRIER	LF	\$200	51,600	\$10,320,000
		GUARDRAIL	LF	\$250	50	\$12,500
		CHAIN LINK FENCE	LF	\$20	50	\$1,000
		ILLUMINATION	LS	\$0	1	\$0
		SIGNING	LS	\$98,000	1	\$98,000
		STRIPING	LF	\$2	325,000	\$650,000
		CURBS	LF	\$45	-	\$0
		CURB RAMP	EA	\$8,000	-	\$0

**PLANNING LEVEL OPINION OF COST SUMMARY**

Project Description: SR 28 Corridor Study	Client: Chelan-Douglas Transportation Council
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Location: Douglas County, WA	Date of Cost Index: 2022
	Calculated By/Entered By: RO
	Checked By: HTO/BMP

**SR 281**

		ESTIMATED UNIT			
	ITEM	UNIT	COST	QTY	COST
	SIDEWALKS	SY	\$65	-	\$0
	TRAFFIC CONTROL (10%)	LS	\$7,030,000	1	\$7,030,000
<b>6</b>	<b>OTHER ITEMS</b>				
	SURVEYING (2%)	LS	\$1,406,000	1	\$1,406,000
	CONNECTION TO EXISTING FIVE-LANE SECTION * **	EST	\$10,635,000	1	\$10,635,000
	NEW ROUNDABOUT AT MP 2.65 AT SR281 SPUR *	EST	\$866,000	1	\$866,000
	UPGRADED I-90/SR 281 INTERCHANGE * **	EST	\$6,780,000	1	\$6,780,000
	UTILITY RELOCATIONS	EST	\$0	1	\$0
<b>7</b>	<b>SUBTOTAL (ITEMS 1 THRU 6)</b>				<b>\$98,498,300</b>
<b>8</b>	<b>MOBILIZATION (10%)</b>				
	10% OF ITEM 7	EST	\$9,849,900	1	\$9,849,900
<b>9</b>	<b>CONSTRUCTION SUBTOTAL (ITEMS 7 &amp; 8)</b>				<b>\$108,348,200</b>
<b>10</b>	<b>SALES TAX</b>				
<b>11</b>	<b>AGREEMENTS (Utilities, WSP, etc.)</b>	EST	\$0	1	\$0
<b>12</b>	<b>SUBTOTAL (ITEMS 9 THRU 11)</b>				<b>\$108,348,200</b>
<b>13</b>	CONTINGENCY (30% OF ITEM 12)	EST	\$32,504,500	1	\$32,504,500
<b>14</b>	<b>CONSTRUCTION SUBTOTAL (ITEMS 12 &amp; 13)</b>				<b>\$140,852,700</b>
<b>15</b>	<b>FUTURE CN COST BASED ON INFLATION RATE</b>	<b>Inflation</b>	<b>Const. Year</b>	<b>Cost Index</b>	<b>Future Cost</b>
		<b>10%</b>	<b>2029</b>	<b>2022</b>	<b>\$274,483,000</b>
<b>16</b>	<b>CONSTRUCTION ADMINISTRATION</b>				
	CONSTRUCTION ENGINEERING (15% OF ITEM 14)	EST	\$21,128,000	1	\$21,128,000
	CITY ENGINEERING & ADMINISTRATION (5% OF ITEM 14)	EST	\$7,042,700	1	\$7,042,700
<b>17</b>	<b>FUTURE CN ADMIN COST BASED ON INFLATION RATE</b>	<b>Inflation</b>	<b>Const. Year</b>	<b>Cost Index</b>	<b>Future Cost</b>
		<b>5%</b>	<b>2029</b>	<b>2022</b>	<b>\$39,640,000</b>
<b>III.</b>	<b>PRELIMINARY WORK</b>				
	PRELIMINARY ENGINEERING (15.0% OF ITEM 14)	EST	\$21,128,000	1	\$21,128,000
	CITY ENGINEERING & ADMINISTRATION (5% OF ITEM 14)	EST	\$7,042,700	1	\$7,042,700
	ENVIRONMENTAL PERMITS/DOCUMENTS	EST	\$130,000	1	\$130,000
	<b>FUTURE PE COST BASED ON INFLATION RATE</b>	<b>Inflation</b>	<b>Design Year</b>	<b>Cost Index</b>	<b>Future Cost</b>
		<b>5%</b>	<b>2025</b>	<b>2022</b>	<b>\$32,762,000</b>
<b>IV.</b>	<b>TOTAL ESTIMATED COST (ITEMS I, 15, 17, &amp; III)</b>				
	SUB-TOTAL PROJECT COST (BASED ON INFLATION RATE)				\$347,098,000
<b>TOTAL PROJECT COST RANGE (BASED ON INFLATION RATE)</b>					<b>\$348,000,000</b>

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**SR 281**

ITEM	UNIT	ESTIMATED UNIT		QTY	COST
		COST			

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- \* Separate projects in the OTHER ITEMS grouping include all construction costs plus temp. water pollution/TESC (2%), traffic control (10%), and surveying (2%).
- \*\* Five-lane connection project within Qunicy includes cost to widen crossing of existing irrigation canal.
- \*\*\* Interchange costs do not include any bridge structures, only four new interchange ramps and two roundabout nodes.