



# **YAQUINA HEAD**

## **Traffic Study**

### **Appendix D: Cost Estimates**

## APPENDIX A

Planning-Level Cost Estimates

Planning-level cost estimates were developed for preferred improvement concepts. The cost estimates include construction, engineering, and a general contingency to account for unknown factors and anticipated project development risk level. Estimates do not include costs for right-of-way as costs vary considerably with location and additional design details may be needed to determine the amount of right-of-way needed. Cost ranges are provided, indicating a range of variables. The estimates are presented in 2022 dollars and can be expected to increase with inflation depending on the anticipated future year of expenditure.

ENTRANCE STATION IMPROVEMENTS						
<b>Entrance Station - Low Estimate</b>					<b>\$ 1,900,000</b>	<b>TOT</b>
TYPE	UNITS	QUANTITY	UNIT PRICE	COST	NOTES	
CLEARING AND GRUBBING	ACRE	0.3	\$ 20,000	\$ 6,000		
REMOVAL OF PAVEMENT, ASPHALT	SQYD	2050	\$ 12	\$ 24,600		
ROADWAY EXCAVATION	CUYD	1160	\$ 60	\$ 69,600	12" Depth	
AGGREGATE BASE	CUYD	770	\$ 75	\$ 57,750	8" Thick includes SUP	
ASPHALT CONCRETE PAVEMENT	TON	490	\$ 175	\$ 85,750	4" Thick Roadway 145#/cf	
ASPHALT CONCRETE PAVEMENT	TON	140	\$ 175	\$ 24,500	3" Thick SUP 145#/cf	
CURB, CONCRETE	LNFT	660	\$ 60	\$ 39,600		
SIDEWALK, CONCRETE	SQYD	150	\$ 150	\$ 22,500	4" Thick	
ACCESSIBILITY RAMP, CONCRETE	EACH	2	\$ 400	\$ 800		
REMOVE AND RESET SIGN	EACH	6	\$ 60	\$ 360		
PAVEMENT MARKINGS - STRIPES	LNFT	1920	\$ 3	\$ 5,760	4" stripes	
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	30	\$ 60	\$ 1,800	Stop bars 24" wide	
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	4	\$ 350	\$ 1,400		
NEW FEE BOOTHS	LPSM	1	\$ 450,000	\$ 450,000		
REINFORCED CONCRETE RETAINING WALL	SQYD	70	\$ 150	\$ 10,500	6' tall, ~100' long	
MISCELLANEOUS ITEMS			25%	\$ 200,230		
Subtotal 1				\$ 1,001,150		
TRAFFIC CONTROL			10%	\$ 100,115		
Subtotal 2				\$ 1,101,265		
MOBILIZATION			10%	\$ 110,127		
Subtotal 3				\$ 1,211,392		
CONTINGENCY			30%	\$ 363,417		
Subtotal 4				\$ 1,574,809		
CONSTRUCTION ENGINEERING (CE)			10%	\$ 157,481		
PRELIMINARY ENGINEERING (PE)			10%	\$ 157,481		
<b>TOTAL</b>				<b>\$ 1,889,771</b>		
<b>Entrance Station - High Estimate</b>					<b>\$ 2,300,000</b>	<b>TOT</b>
TYPE	UNITS	QUANTITY	UNIT PRICE	COST	NOTES	
CLEARING AND GRUBBING	ACRE	0.3	\$ 20,000	\$ 6,000		
REMOVAL OF PAVEMENT, ASPHALT	SQYD	3110	\$ 12	\$ 37,320		
ROADWAY EXCAVATION	CUYD	2010	\$ 60	\$ 120,600	16" Depth	
AGGREGATE BASE	CUYD	1510	\$ 75	\$ 113,250	12" Thick includes SUP	
ASPHALT CONCRETE PAVEMENT	TON	720	\$ 175	\$ 126,000	4" Thick Roadway 145#/cf	
ASPHALT CONCRETE PAVEMENT	TON	140	\$ 175	\$ 24,500	3" Thick SUP 145#/cf	
CURB, CONCRETE	LNFT	660	\$ 60	\$ 39,600		
SIDEWALK, CONCRETE	SQYD	150	\$ 150	\$ 22,500	4" Thick	
ACCESSIBILITY RAMP, CONCRETE	EACH	2	\$ 400	\$ 800		
REMOVE AND RESET SIGN	EACH	6	\$ 60	\$ 360		
PAVEMENT MARKINGS - STRIPES	LNFT	1920	\$ 3	\$ 5,760	4" stripes	
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	30	\$ 60	\$ 1,800	Stop bars 24" wide	
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	4	\$ 350	\$ 1,400		
NEW FEE BOOTHS	LPSM	1	\$ 450,000	\$ 450,000		
REINFORCED CONCRETE RETAINING WALL	SQYD	140	\$ 150	\$ 21,000	6' tall, ~200' long	
MISCELLANEOUS ITEMS			25%	\$ 242,723		
Subtotal 1				\$ 1,213,613		
TRAFFIC CONTROL			10%	\$ 121,361		
Subtotal 2				\$ 1,334,974		
MOBILIZATION			10%	\$ 133,497		
Subtotal 3				\$ 1,468,471		
CONTINGENCY			30%	\$ 440,541		
Subtotal 4				\$ 1,909,012		
CONSTRUCTION ENGINEERING (CE)			10%	\$ 190,901		
PRELIMINARY ENGINEERING (PE)			10%	\$ 190,901		
<b>TOTAL</b>				<b>\$ 2,290,815</b>		

**INTERPRETIVE CENTER**

**Interpretive Center - Low Estimate \$ 1,100,000 TOT**

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
CLEARING AND GRUBBING	ACRE	0.3	\$ 20,000	\$ 6,000
REMOVAL OF PAVEMENT, ASPHALT	SQYD	4040	\$ 12	\$ 48,480
ROADWAY EXCAVATION	CUYD	1670	\$ 60	\$ 100,200 12" Depth
AGGREGATE BASE	CUYD	1120	\$ 75	\$ 84,000 8" Thick includes SUP
ASPHALT CONCRETE PAVEMENT	TON	840	\$ 175	\$ 147,000 4" Thick Roadway 145#/cf
ASPHALT CONCRETE PAVEMENT	TON	110	\$ 175	\$ 19,250 3" Thick SUP 145#/cf
CURB, CONCRETE	LNFT	760	\$ 60	\$ 45,600
SIDEWALK, CONCRETE	SQYD	0	\$ 150	\$ - 4" Thick
ACCESSIBILITY RAMP, CONCRETE	EACH	2	\$ 400	\$ 800
REMOVE AND RESET SIGN	EACH	4	\$ 60	\$ 240
PAVEMENT MARKINGS - STRIPES	LNFT	990	\$ 3	\$ 2,970 4" stripes
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	90	\$ 60	\$ 5,400 Crosswalk Bars 24" wide
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	7	\$ 350	\$ 2,450
MISCELLANEOUS ITEMS			25%	\$ 115,598
	Subtotal 1			\$ 577,988
TRAFFIC CONTROL			10%	\$ 57,799
	Subtotal 2			\$ 635,786
MOBILIZATION			10%	\$ 63,579
	Subtotal 3			\$ 699,365
CONTINGENCY			30%	\$ 209,809
	Subtotal 4			\$ 909,174
CONSTRUCTION ENGINEERING (CE)			10%	\$ 90,917
PRELIMINARY ENGINEERING (PE)			10%	\$ 90,917
<b>TOTAL</b>				<b>\$ 1,091,009</b>

**Interpretive Center - High Estimate \$ 1,900,000 TOT**

TYPE	UNITS	QUANTITY	UNIT PRICE	COST
CLEARING AND GRUBBING	ACRE	0.3	\$ 20,000	\$ 6,000
REMOVAL OF PAVEMENT, ASPHALT	SQYD	4040	\$ 12	\$ 48,480
ROADWAY EXCAVATION	CUYD	1840	\$ 60	\$ 110,400 12" Depth
AGGREGATE BASE	CUYD	1230	\$ 75	\$ 92,250 8" Thick includes SUP
REMOVAL OF PAVEMENT, ASPHALT	SQYD	7460	\$ 12	\$ 89,520 2" Mill & Fill
ASPHALT CONCRETE PAVEMENT	TON	820	\$ 175	\$ 143,500 2" Mill & Fill
ASPHALT CONCRETE PAVEMENT	TON	940	\$ 175	\$ 164,500 4" Thick Roadway 145#/cf
ASPHALT CONCRETE PAVEMENT	TON	110	\$ 175	\$ 19,250 3" Thick SUP 145#/cf
CURB, CONCRETE	LNFT	850	\$ 60	\$ 51,000
SIDEWALK, CONCRETE	SQYD	110	\$ 150	\$ 16,500 4" Thick
ACCESSIBILITY RAMP, CONCRETE	EACH	2	\$ 400	\$ 800
REMOVE AND RESET SIGN	EACH	4	\$ 60	\$ 240
PAVEMENT MARKINGS - STRIPES	LNFT	4220	\$ 3	\$ 12,660 4" stripes
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	90	\$ 60	\$ 5,400 Crosswalk Bars 24" wide
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	7	\$ 350	\$ 2,450
MISCELLANEOUS ITEMS			25%	\$ 190,738
	Subtotal 1			\$ 953,688
TRAFFIC CONTROL			10%	\$ 95,369
	Subtotal 2			\$ 1,049,056
MOBILIZATION			10%	\$ 104,906
	Subtotal 3			\$ 1,153,962
CONTINGENCY			30%	\$ 346,189
	Subtotal 4			\$ 1,500,150
CONSTRUCTION ENGINEERING (CE)			10%	\$ 150,015
PRELIMINARY ENGINEERING (PE)			10%	\$ 150,015
<b>TOTAL</b>				<b>\$ 1,800,181</b>

**QUARRY COVE**

<b>Quarry Cove - Low Estimate</b>						<b>\$</b>	<b>600,000</b>	<b>TOT</b>
<b>TYPE</b>	<b>UNITS</b>	<b>QUANTITY</b>	<b>UNIT PRICE</b>		<b>COST</b>			
ROADWAY EXCAVATION	CUYD	150	\$	60 \$	9,000			12" Depth under old medians
ASPHALT CONCRETE PAVEMENT	TON	360	\$	175 \$	63,000			2" overlay 145#/cf
AGGREGATE BASE	CUYD	100	\$	75 \$	7,500			8" under old medians
CURB, CONCRETE	LNFT	1070	\$	60 \$	64,200			
SIDEWALK, CONCRETE	SQYD	440	\$	150 \$	66,000			4" Thick
ACCESSIBILITY RAMP, CONCRETE	EACH	6	\$	400 \$	2,400			
REMOVE AND RESET SIGN	EACH	6	\$	60 \$	360			
PAVEMENT MARKINGS - STRIPES	LNFT	740	\$	3 \$	2,220			4" stripes
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	80	\$	60 \$	4,800			Crosswalk Bars 24" wide
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	10	\$	350 \$	3,500			
MISCELLANEOUS ITEMS				25% \$	55,745			
	Subtotal 1				\$	278,725		
TRAFFIC CONTROL				10% \$	27,873			
	Subtotal 2				\$	306,598		
MOBILIZATION				10% \$	30,660			
	Subtotal 3				\$	337,257		
CONTINGENCY				30% \$	101,177			
	Subtotal 4				\$	438,434		
CONSTRUCTION ENGINEERING (CE)				10% \$	43,843			
PRELIMINARY ENGINEERING (PE)				10% \$	43,843			
	<b>TOTAL</b>				<b>\$</b>	<b>526,121</b>		

<b>Quarry Cove - High Estimate</b>						<b>\$</b>	<b>900,000</b>	<b>TOT</b>
<b>TYPE</b>	<b>UNITS</b>	<b>QUANTITY</b>	<b>UNIT PRICE</b>		<b>COST</b>			
REMOVAL OF PAVEMENT, ASPHALT	SQYD	3010	\$	12 \$	36,120			
ROADWAY EXCAVATION	CUYD	1010	\$	60 \$	60,600			12" Depth under old medians
ASPHALT CONCRETE PAVEMENT	TON	660	\$	175 \$	115,500			4" Thick Roadway 145#/cf
AGGREGATE BASE	CUYD	100	\$	75 \$	7,500			8" depth under old medians
CURB, CONCRETE	LNFT	1070	\$	60 \$	64,200			
SIDEWALK, CONCRETE	SQYD	440	\$	150 \$	66,000			4" Thick
ACCESSIBILITY RAMP, CONCRETE	EACH	6	\$	400 \$	2,400			
REMOVE AND RESET SIGN	EACH	6	\$	60 \$	360			
PAVEMENT MARKINGS - STRIPES	LNFT	740	\$	3 \$	2,220			4" stripes
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	80	\$	60 \$	4,800			Crosswalk Bars 24" wide
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	10	\$	350 \$	3,500			
MISCELLANEOUS ITEMS				25% \$	90,800			
	Subtotal 1				\$	454,000		
TRAFFIC CONTROL				10% \$	45,400			
	Subtotal 2				\$	499,400		
MOBILIZATION				10% \$	49,940			
	Subtotal 3				\$	549,340		
CONTINGENCY				30% \$	164,802			
	Subtotal 4				\$	714,142		
CONSTRUCTION ENGINEERING (CE)				10% \$	71,414			
PRELIMINARY ENGINEERING (PE)				10% \$	71,414			
	<b>TOTAL</b>				<b>\$</b>	<b>856,970</b>		

LIGHTHOUSE / KEEPER'S GARDEN

**Lighthouse / Keeper's Garden - Low Estimate** **\$ 300,000 TOT**

TYPE	UNITS	QUANTITY	UNIT PRICE	COST	
ROADWAY EXCAVATION	CUYD	80	\$ 60	\$ 4,800	12" DEPTH
GENERAL EXCAVATION	CUYD	370	\$ 60	\$ 22,200	12" Depth on Mound
AGGREGATE BASE	CUYD	50	\$ 75	\$ 3,750	8" Thick
ASPHALT CONCRETE PAVEMENT	TON	50	\$ 175	\$ 8,750	4" Thick Roadway 145#/cf
CURB, CONCRETE	LNFT	377	\$ 60	\$ 22,620	
SIDEWALK, CONCRETE	SQYD	162	\$ 150	\$ 24,300	4" Thick
ACCESSIBILITY RAMP, CONCRETE	EACH	2	\$ 400	\$ 800	
REMOVE AND RESET SIGN	EACH	4	\$ 60	\$ 240	
PAVEMENT MARKINGS - STRIPES	LNFT	2140	\$ 3	\$ 6,420	4" stripes
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	80	\$ 60	\$ 4,800	Crosswalk Bars 24" wide
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	6	\$ 350	\$ 2,100	
GUARDRAIL TERMINAL SECTIONS	EACH	2	\$ 4,000	\$ 8,000	
MISCELLANEOUS ITEMS			25% \$	\$ 25,195	
	Subtotal 1			\$ 133,975	
TRAFFIC CONTROL			10% \$	\$ 13,398	
	Subtotal 2			\$ 147,373	
MOBILIZATION			10% \$	\$ 14,737	
	Subtotal 3			\$ 162,110	
CONTINGENCY			30% \$	\$ 48,633	
	Subtotal 4			\$ 210,743	
CONSTRUCTION ENGINEERING (CE)			10% \$	\$ 21,074	
PRELIMINARY ENGINEERING (PE)			10% \$	\$ 21,074	
<b>TOTAL</b>				<b>\$ 252,891</b>	

**Lighthouse / Keeper's Garden - High Estimate** **\$ 700,000 TOT**

TYPE	UNITS	QUANTITY	UNIT PRICE	COST	
REMOVAL OF PAVEMENT, ASPHALT	SQYD	3330	\$ 12	\$ 39,960	2" Depth for Mill and Fill
ROADWAY EXCAVATION	CUYD	1110	\$ 60	\$ 66,600	12" DEPTH
GENERAL EXCAVATION	CUYD	370	\$ 60	\$ 22,200	12" Depth on Mound
AGGREGATE BASE	CUYD	50	\$ 75	\$ 3,750	8" Thick
ASPHALT CONCRETE PAVEMENT	TON	370	\$ 175	\$ 64,750	4" Thick Roadway 145#/cf
CURB, CONCRETE	LNFT	377	\$ 60	\$ 22,620	
SIDEWALK, CONCRETE	SQYD	162	\$ 150	\$ 24,300	4" Thick
ACCESSIBILITY RAMP, CONCRETE	EACH	2	\$ 400	\$ 800	
REMOVE AND RESET SIGN	EACH	4	\$ 60	\$ 240	
PAVEMENT MARKINGS - STRIPES	LNFT	2140	\$ 3	\$ 6,420	4" stripes
PAVEMENT MARKINGS - CROSSWALK BARS	LNFT	80	\$ 60	\$ 4,800	Crosswalk Bars 24" wide
PAVEMENT MARKINGS, TYPE A, STRAIGHT ARROW	EACH	6	\$ 350	\$ 2,100	
GUARDRAIL TERMINAL SECTIONS	EACH	2	\$ 4,000	\$ 8,000	
MISCELLANEOUS ITEMS			25% \$	\$ 64,635	
	Subtotal 1			\$ 331,175	
TRAFFIC CONTROL			10% \$	\$ 33,118	
	Subtotal 2			\$ 364,293	
MOBILIZATION			10% \$	\$ 36,429	
	Subtotal 3			\$ 400,722	
CONTINGENCY			30% \$	\$ 120,217	
	Subtotal 4			\$ 520,938	
CONSTRUCTION ENGINEERING (CE)			10% \$	\$ 52,094	
PRELIMINARY ENGINEERING (PE)			10% \$	\$ 52,094	
<b>TOTAL</b>				<b>\$ 625,126</b>	

**PEDESTRIAN TRAIL**

**Pedestrian Trail - Low Estimate (Per Mile) \$ 800,000 TOT**

TYPE	UNITS	QUANTITY	UNIT PRICE	COST	NOTES
CLEARING AND GRUBBING	ACRE	0	\$ 20,000	\$ -	
ASPHALT CONCRETE PAVEMENT	TON	765.6	\$ 175	\$ 133,980	8 foot wide 3" thick 145#/cf
AGGREGATE BASE	CUYD	1043.0	\$ 75	\$ 78,222	8 foot wide 8" thick
ROADWAY EXCAVATION	CUYD	1564.4	\$ 60	\$ 93,867	8 foot wide 12" depth
GUARDRAIL	LNFT	1.0	\$ 35	\$ 35	
MISCELLANEOUS ITEMS (LOWER DIFFICULTY)			25%	\$ 76,517	
	Subtotal 1			\$ 382,621	
TRAFFIC CONTROL			10%	\$ 38,262	
	Subtotal 2			\$ 420,883	
MOBILIZATION			10%	\$ 42,088	
	Subtotal 3			\$ 462,972	
CONTINGENCY			30%	\$ 138,891	
	Subtotal 4			\$ 601,863	
CONSTRUCTION ENGINEERING (CE)			10%	\$ 60,186	
PRELIMINARY ENGINEERING (PE)			10%	\$ 60,186	
<b>TOTAL</b>			<b>Per Mile Cost</b>	<b>\$ 722,236</b>	

**Pedestrian Trail - High Estimate (Per Mile) \$ 1,100,000 TOT**

TYPE	UNITS	QUANTITY	UNIT PRICE	COST	NOTES
CLEARING AND GRUBBING	ACRE	0	\$ 20,000	\$ -	
ASPHALT CONCRETE PAVEMENT	TON	765.6	\$ 175	\$ 133,980	8 foot wide 3" thick 145#/cf
AGGREGATE BASE	CUYD	1043.0	\$ 75	\$ 78,222	8 foot wide 8" thick
ROADWAY EXCAVATION	CUYD	1564.4	\$ 60	\$ 93,867	8 foot wide 12" depth
GUARDRAIL	LNFT	1.0	\$ 35	\$ 35	
MISCELLANEOUS ITEMS (HIGHER DIFFICULTY)			85%	\$ 260,159	
	Subtotal 1			\$ 566,262	
TRAFFIC CONTROL			10%	\$ 56,626	
	Subtotal 2			\$ 622,889	
MOBILIZATION			10%	\$ 62,289	
	Subtotal 3			\$ 685,178	
CONTINGENCY			30%	\$ 205,553	
	Subtotal 4			\$ 890,731	
CONSTRUCTION ENGINEERING (CE)			10%	\$ 89,073	
PRELIMINARY ENGINEERING (PE)			10%	\$ 89,073	
<b>TOTAL</b>			<b>Per Mile Cost</b>	<b>\$ 1,068,877</b>	