

Project Estimate Report: Development Phase

for

HVUT 2 - NE Cornfoot Rd

August 6, 2020

Requested by: Zef Wagner

Prepared by: Ryan Webb

Location: NE Cornfoot Rd between NE 47th Avenue and NE Alderwood Rd (700ft west)

Description: Reconstruct pavement with Portland Cement Concrete (PCC) street

Current Cross-Section:

26' roadway featuring two 13' lanes without curb or sidewalk on the southside, intermittent curb on the north side and a proposed 12' Multi-Use Path (part of another project) in 50' Right-of-Way.

Proposed Cross-Section:

26' roadway featuring two 13' lanes without curb or sidewalk on the southside, intermittent curb on the north side and a proposed 12' Multi-Use Path (part of another project) in 50' Right-of-Way.

Issues:

- Water – None identified.
- BES (storm, sanitary, water-quality facilities) – Five outfalls in Columbia Slough
- Signals and Street Lighting – None identified
- Environmental and Zoning – Numerous outfalls into Columbia Slough
- Contaminated Media – None identified.
- Right-of-Way Needs – None identified.
- Railroads (BNSF; UPRR; PTTR) – None identified.
- Parks (landscaping and irrigation) – None identified.
- Other Jurisdictions (counties, schools, Port, ODOT, Tri-Met) – Within Multnomah County Drainage District (MCDD).

Cost Estimate:

Total Construction	\$ 8,171,091
Project Management (5%)	\$ 354,418
Design Engineering (25%)	\$ 1,772,091
Construction Management (15%)	\$ 1,063,255
Right-of-Way (Cost + 30% Contingency)	\$
Overhead (80.85%)	\$ 2,578,924
Total Inflation and Allowance for Design Refinement	\$ 5,605,703

Total Project Estimate: \$ 18,660,969

Estimating Assumptions:

- Existing conditions are based on GIS and Google Street view.
- Assume pavement section will be 12" Aggregate Base and 12" Plain Concrete Pavement.
- Assume new inlets and leads, which will flow into new Stormwater Quality Units and outfalls into Columbia Slough, per Daniel Jenkins/BES – 2020.
- Assume corners at NE 55th Avenue (northside) and all corners at NE 47th Avenue will be rebuilt by NE Cornfoot MUP project (T00811).
- Assume corners at NE 55th Avenue (southside) will need to be rebuilt to meet ADA standards.
- Assumed traffic control for PCC construction: close one lane, making a one-way street, with flaggers at major driveways (6 flaggers per day) and detour for traffic in the direction of the closed lane.
- Assumed 12 sequential arrow signs (lane closure/merge/one-way and detour routing).
- Assume that street trees will be planted and established by NE Cornfoot MUP project.
- The years of inflation for this project is 4 years.
- The allowance for design refinement is 20%.
- The level of confidence for this estimate is low.

Review & Approval:

ebh

Jason Grassman August 25, 2020
Reviewed by Engineer of Record Date

Steve Tamm August 25, 2020
Reviewed and Approved by Engineering Services Division Manager Date

Attachments:

- Detailed estimate spreadsheet
- Site map

**CITY OF PORTLAND, OREGON
BUREAU OF TRANSPORTATION
PRELIMINARY ENGINEER'S ESTIMATE FOR PROJECTS GREATER THAN \$1M
NE Cornfoot Rd - PCC Reconstruct**

Date: August 6, 2020

By: Ryan Webb

PRELIMINARY ENGINEER'S ESTIMATE FOR THE IMPROVEMENT OF NE CORNFOOT ROAD FROM NE ALDERWOOD ROAD TO NE 47TH AVENUE

VALUES IN BLUE ARE PERCENT OF CONTRACT.

BID ITEMS

NO.	ITEMS OF WORK AND MATERIALS	SPEC REFERENCE	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION	0210	LS	1.00	\$ 635,986.97	\$ 635,986.97
2	TEMPORARY PROTECTION & DIRECTION OF TRAFFIC	0225	LS	1.00	\$ 231,267.99	\$ 231,267.99
3	TEMPORARY SIGNS	0225	SQFT	1,200.00	\$ 20.50	\$ 24,600.00
4	TEMPORARY BARRICADES, TYPE II	0225	EACH	10.00	\$ 100.00	\$ 1,000.00
5	TEMPORARY BARRICADES, TYPE III	0225	EACH	20.00	\$ 150.00	\$ 3,000.00
11	TEMPORARY PLASTIC DRUMS	0225	EACH	100.00	\$ 56.00	\$ 5,600.00
18	SEQUENTIAL ARROW SIGNS	0225	EACH	12.00	\$ 1,788.00	\$ 21,456.00
19	PORTABLE CHANGEABLE MESSAGE SIGNS	0225	EACH	12.00	\$ 8,836.00	\$ 106,032.00
20	FLAGGERS	0225	HOUR	4,320.00	\$ 55.40	\$ 239,328.00
21	TRAFFIC CONTROL SUPERVISOR	0225	DAY	90.00	\$ 400.00	\$ 36,000.00
24	EROSION CONTROL	0280	LS	1.00	\$ 57,817.00	\$ 57,817.00
28	SEDIMENT FENCE, SUPPORTED	0280	FOOT	7,400.00	\$ 4.20	\$ 31,080.00
30	INLET PROTECTION	0280	EACH	50.00	\$ 118.00	\$ 5,900.00
31	POLLUTION CONTROL PLAN	0290	LS	1.00	\$ 5,781.70	\$ 5,781.70
45	REMOVAL OF STRUCTURES & OBSTRUCTIONS	0310	LS	1.00	\$ 231,267.99	\$ 231,267.99
47	CLEARING AND GRUBBING	0320	LS	1.00	\$ 144,542.49	\$ 144,542.49
51	GENERAL EXCAVATION	0330	CUYD	15,714.00	\$ 30.00	\$ 471,420.00
55	12 INCH SUBGRADE STABILIZATION	0331	SQYD	3,206.70	\$ 55.40	\$ 177,651.18
60	SUBGRADE GEOTEXTILE	0350	SQYD	21,378.00	\$ 1.79	\$ 38,266.62
67	VIDEO INSPECTION OF SEWERS, MAINLINE	0401	FOOT	3,836.00	\$ 4.83	\$ 18,527.88
74	STORMWATER PLANTERS	0415	SQFT	688.00	\$ 47.70	\$ 32,817.60
81	10 INCH PIPE, PVC ASTM D3034 SDR35, BEDDING TYPE: D, COMPLETE	0445	FOOT	909.00	\$ 174.42	\$ 158,547.78
82	12 INCH PIPE, PVC ASTM D3034 SDR35, BEDDING TYPE: D, COMPLETE	0445	FOOT	3,836.00	\$ 187.52	\$ 719,326.72
90	CONCRETE MANHOLES, 48 INCH, 0-8 FT DEPTH	0470	EACH	19.00	\$ 7,356.80	\$ 139,779.20
94	CONCRETE MANHOLES, SEDIMENTATION	0470	EACH	8.00	\$ 7,943.75	\$ 63,550.00
95	STORMWATER VAULT 96"	0470	EACH	5.00	\$ 40,000.00	\$ 200,000.00
96	STORMWATER VAULT 72"	0470	EACH	1.00	\$ 31,000.00	\$ 31,000.00
97	STORMWATER VAULT 60"	0470	EACH	1.00	\$ 25,000.00	\$ 25,000.00
98	OUTFALL	0470	EACH	5.00	\$ 10,000.00	\$ 50,000.00
102	CONCRETE INLETS, TYPE G-2	0470	EACH	45.00	\$ 3,586.70	\$ 161,401.40
105	CONCRETE INLETS, TYPE METAL	0470	EACH	19.00	\$ 1,030.28	\$ 19,575.28
109	CONCRETE INLETS, TYPE BEEHIVE	0470	EACH	7.00	\$ 2,006.25	\$ 14,043.75
114	CONNECTION TO EXISTING STRUCTURES	0490	EACH	6.00	\$ 1,335.88	\$ 8,015.29
119	MANHOLES OVER EXISTING SEWERS	0490	EACH	3.00	\$ 4,200.00	\$ 12,600.00
149	AGGREGATE BASE, 12 INCHES THICK	0640	SQYD	21,378.00	\$ 28.00	\$ 598,584.00
166	PLAIN CONCRETE PAVEMENT, UNBONDED, 12 INCHES THICK	0756	SQYD	21,378.00	\$ 70.00	\$ 1,496,460.00
168	CONCRETE CURBS, CURB AND GUTTER	0759	FOOT	14,800.00	\$ 44.88	\$ 664,224.00
175	MONOLITHIC CURB GUTTER AND DRIVEWAYS	0759	SQFT	4,800.00	\$ 23.34	\$ 112,032.00

NO.	ITEMS OF WORK AND MATERIALS	SPEC REFERENCE	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL AMOUNT
183	CONCRETE DRIVEWAY CONNECTIONS	0759	SQFT	4,000.00	\$ 13.00	\$ 52,000.00
213	THERMOPLASTIC, NON-PROFILE, 120 MILS, EXTRUDED	0865	FOOT	28,100.00	\$ 1.40	\$ 39,340.00
214	PAVEMENT LEGEND, TYPE B: ARROWS	0867	EACH	10.00	\$ 318.90	\$ 3,189.00
221	PAVEMENT BAR, TYPE B	0867	SQFT	40.00	\$ 8.80	\$ 352.00
TOTAL BID ITEMS						\$ 7,088,363.84

##### ANTICIPATED ITEMS #####						
NO.	ITEMS OF WORK AND MATERIALS	SPEC REFERENCE	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL AMOUNT
8	STORMWATER PLANTINGS AND PLANT ESTABLISHMENT		SQFT	619.20	\$ 20.00	\$ 12,384.00
15	BOLI FEE PAYMENT		LS	1.00	\$ 7,088.36	\$ 7,088.36
16	CONTRACT CONTINGENCY (REQUIREMENT TO ACCEPT BIDS UP TO 10% OVER ESTIMATE)		LS	1.00	\$ 708,836.38	\$ 708,836.38
TOTAL ANTICIPATED ITEMS						\$ 728,308.75

SCHEDULE SUMMARY

BID ITEMS		\$ 7,088,364	
CONSTRUCTION CONTINGENCY	5% of Bid Items*	\$ 354,418	
SUBTOTAL		\$ 7,442,782	
ANTICIPATED ITEMS		\$ 728,309	
TOTAL CONSTRUCTION		\$ 8,171,091	
PROJECT MANAGEMENT	5% of Bid Items	\$ 354,418	
DESIGN ENGINEERING	25% of Bid Items	\$ 1,772,091	
CONSTRUCTION MANAGEMENT	15% of Bid Items	\$ 1,063,255	
SUBTOTAL		\$ 3,189,764	
PROJECT ENGINEERING & MANAGEMENT OVERHEAD	80.85% of PM, Eng., and CM	\$ 2,578,924	
TOTAL PROJECT ENGINEERING & MANAGEMENT		\$ 5,768,689	
RIGHT-OF-WAY LAND, IMPROVEMENTS, AND DAMAGES		\$ -	
RIGHT-OF-WAY APPRAISAL, TITLE INSURANCE, AND NEGOTIATION		\$ -	
RIGHT-OF-WAY CONTINGENCY	30% of Land, Improve, and Damages	\$ -	
TOTAL PROJECT RIGHT-OF-WAY		\$ -	
	Years	Inflation	
INFLATION RATE ON CONSTRUCTION CONTRACT	4	5.1% of Construction	\$ 1,798,811
INFLATION RATE ON PERSONNEL COSTS	4	2.3% of Eng. & Mgmt.	\$ 549,312
ALLOWANCE FOR DESIGN REFINEMENT		20% of Const, Eng. & Mgmt., and Inflation	\$ 3,257,580

NO.	ITEMS OF WORK AND MATERIALS	SPEC REFERENCE	UNIT	TOTAL QUANTITY	UNIT PRICE	TOTAL AMOUNT
-----	-----------------------------	----------------	------	----------------	------------	--------------

TOTAL INFLATION AND ALLOWANCE FOR DESIGN REFINEMENT

\$ 5,605,703

TOTAL PROJECT ESTIMATE \$ 19,545,483

LS* Unit Price shown is in Pound, Each, or Foot Basis as applicable

Remove * and change unit to 1 in the Bid Form

Use 3.5% Construction Contingency for Federal-Aid Projects

Blue numbers, % may be changed by Engineer with EOR concurrence.

80.85% overhead rate is for the 19/20 fiscal years and applies to all projects, regardless of funding source

(i.e. federal, I/A, LID's, GTR, PDC, ODOT, OTIA)

Yellow Highlighted Quantity Items are calculated values from Quantities Tab

Orange Highlighted prices are to be calculated in Fuel/Asphalt Worksheet

Refer to NOTES tab for info on the use of each Bid Item

When printing Estimate for review, hide columns C, D, and E

Input number of years for inflation rate

O&M COSTS PER YEAR w.o. OVERHEAD

UNIT QUANTITY PER YEAR UNIT PRICE TOTAL

Quantities

Job No. _____

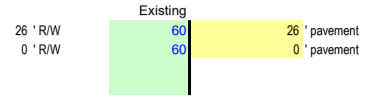
Location: NE Comfoot Rd - NE Alderwood Rd to NE 47th Ave

Description: Reconstruct the street using PCC

Current Cross-Section:

Proposed Cross-Section:

Typical Sections	SW/Curb	PL	Swale/Curb	Parking	Bike	Travel	Left turn	Travel	Bike	Parking	Swale/Curb	PL	SW/Curb
	0	0	0	0	0	13	0	13	0	0	0	0	0



PCC	Base & Wearing	L, ft.	W, ft.	Area, sf	Depth, in.	Vol., cy	Tons
PCC		7400	26	192400.0			2.1 T/CY
2			0	0.0		0.0	0.0
3				0.0		0.0	0.0
4				0.0		0.0	0.0
				192400		0	0

Linked to Level 3, if using level 2 create new link to template

Aggregate Base - Thickness	L, ft.	W, ft.	Area, sf	Area, SY	Depth, in.
1 4 Inch Thick			0.0	0.0	
2 6 Inch Thick			0.0	0.0	
3 8 Inch Thick			0.0	0.0	
4 12 Inch Thick	7400	26	192400.0	21377.8	12

Total 4 Inch Thick
Total 6 Inch Thick
Total 8 Inch Thick
Total X Inch Thick

Area, SY
0
0
0
21378

Aggregate Base - Tons	L, ft.	W, ft.	Area, sf	Depth, in.	Vol., cy	Tons
1			0.0		0.0	0.0
2			0.0		0.0	0.0
3			0.0		0.0	0.0
4			0.0		0.0	0.0
			0		0	0

1.9 T/CY

Subgrade Stabilization	Area, sy
	3207

15% used, if you want to change it get concurrence from EOR

Subgrade Geotextile	Area, sy
	21378

General Excavation - from Thickness	Area, sf	Depth, in.	Vol., cy
1 Roadway	192400.0	24	14251.9
2 Roadway	0.0		0.0
3 Roadway	0.0		0.0
Curb	0		0.0
Curb & Gutter	29600	16	1461.7
Sidewalk	0		0.0
			15714

Swale curb & gutter

General Excavation - from Tons	Area, sf	Depth, in.	Vol., cy
1 Roadway	192400.0		0.0
2 Roadway	0.0		0.0
3 Roadway	0.0		0.0
Curb	0		0.0
Curb & Gutter	29600		0.0
Sidewalk	0		0.0
			0

Swale curb & gutter

Create link to Estimate >>

Concrete Curbs	L, ft.	W, ft.	Area, sf
Curb			0
Curb & 18" Gutter	14800	2	29600

Sidewalks	L, ft.	W, ft.	Area, sf
Separated			0
Monolithic Curb & Sidewalk			0
Monolithic Curb Gutter & Sidewalk			0
			0

Driveways	Dwy L, ft.	Wings L, ft.	W, ft.	Area, sf	# D/W
Adjacent to Swale				0	
Adjacent to Planting Strip	30	10	12	4800	10
Monolithic Curb & Driveway				0	
Monolithic Curb Gutter & Driveway				0	
	30			4800	

Driveway Connections	Dwy L, ft.	Wings L, ft.	W, ft.	Area, sf	# D/W
Asphalt Connections				0	
Concrete Connections	30	10	10	4000	10

Inlets & Leads	Length	Total #DIV/01	1 per	ft.
SW Inlets			1 per	
PB Inlets			1 per	
G-2 Inlets		0	2 per	400
CG-2 Inlets		0	2 per	400
Inlet Lead				LF
Rip Rap				CY

Swales	L, ft.	W, ft.	Area, sf
			0

Trees	L, ft.	Dwys, ft.	1 every 25'
Trees in Swales		0	0
Trees in Planting Strip			0
Trees in Tree Wells		0	0
			0

Topsoil	L, ft.	W, ft.	D, ft.	Vol., cy
Tree Wells				0
				0
				0

Retaining Wall	L, ft.	Ht, ft.	Area, sf
Segmental			0
Prefabricated modular			0

Striping	L, ft.	L, ft.	L, Tot., ft.
Removal	0	0	0
Permanent	0	0	0

Factor:	2	2	0.6	2	1.125	1	1
	Bike	Turn	skip	double	2 way LT	Fog	Spiral
Removal							
Permanent							
E Circle							
W Circle							

Marking	L, ft.	L, ft.	L, Tot., ft.
Arrows			0
Stop Bars			0

Signs	ODOT #	City #	ea	Dimensions, in	Area, sf	Name
G	G5500		6	24	0	Street name
G	G5550		9	60	0	Destination
R2	R 1060		36	36	0	Yield
W7	R 5020		36	12	0	One Way (Rt. Arrow)
W7			30	30	0	roundabout left thru/right only
W7			30	30	0	roundabout left thru/right thru
Y1	R 4020		18	18	0	15 MPH Rider
Y3	R 1700		30	30	0	Traffic Circle Ahead
posts/footings			0.0		0	

Illumination	Ea
New LL Poles	
Wood Pole Lights	
Cobra	
Single Ornamental	
Twin Ornamental	

Summary	
G	0.0
R2	0.0
W7	0.0
Y1	0
Y3	0.0
	0

R/W	Area	Cost / SF	Land Cost	No. Properties	Acq./ Prop	Appr./ Prop	Total R/W
Location					\$6,000	\$3,000	
Walsh Holdings LLC			\$ -		\$ -	\$ -	-
Vancouver Ways Land Co.			\$ -		\$ -	\$ -	-
							\$ -

Insert values