

**ESTIMATE OF PROBABLE
CONSTRUCTION COSTS**

FILE: 2018-12-07 Goldeneye ROM Estimate.xlsx
 DATE: December 7, 2018
 ESTIMATE BY: DCD
 STATUS: ROM
 JOB No.: 18,164



Lake Cushman Maintenance Company

SITTS & HILL ENGINEERS, INC.
 CIVIL ■ STRUCTURAL ■ SURVEYING
 4815 CENTER STREET | TACOMA, WA 98409
 PHONE: 253-474-9449 | FAX: 253-474-0153

PROJECT: LCMC - North Goldeneye Drive Culvert Replacement

DESCRIPTION	Sub-Total
TOTAL ESTIMATED BASE CONSTRUCTION COST	
<i>(Base Construction Cost Sub-Total from following Summary sheets)</i>	
Construction Preparation and TESC	\$117,519
Demolition and Excavation	\$179,260
Culvert Installation and Road Restoration	\$234,954
ADDITIONAL SOFT COSTS	
Engineering services <i>(remaining budget for Phase 2, per Phase 1 proposal dated 6/28/2018)</i>	\$34,500
Additional topographic survey services <i>(includes additional topographic survey)</i>	\$4,000
Geotechnical construction support <i>(including site visits to observe subgrade conditions, material compaction, etc.)</i>	\$5,000
Biologist post permit coordination and construction support/plant monitoring <i>(coordination - \$2,500, construction support - \$2,200, 5-year plant monitoring - \$5,500)</i>	\$10,200
Permitting fees (with Mason County, WDFW, USACE, and City of Tacoma as required) <i>(includes known fees with Mason County, additional permit fees TBD)</i>	\$2,700
Project closeout <i>(includes topographic survey of as-built conditions, preparation of record drawings)</i>	\$8,000
CONSTRUCTION ALTERNATE ADDS/DEDUCTS*	
Alternate #1: aluminum box culvert	add \$16,600
Alternate #2: concrete box culvert	add \$149,000
Alternate #3: minimize extent of channel regrading to greenbelt	deduct \$28,200
Alternate #4: dispose of excavation spoils locally	deduct \$60,100
NOTES:	
* Listed alternate add/deduct values include mobilization, contractor OH&P, sales tax and contingency (not included in Total Estimated Construction Cost)	
TOTAL ESTIMATED CONSTRUCTION COST =	
	\$596,132

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DESCRIPTION	Sub-Total
CONSTRUCTION PREPARATION AND TESC SUMMARY SHEET	
TOTAL ESTIMATED BARE COST	\$69,000
<i>(from following sheet(s))</i>	
Mobilization	5% \$3,450
Sub-Total	\$72,450
Contractor Overhead and Profit	15% \$10,868
DIRECT CONSTRUCTION COST	\$83,318
Washington State Sales Tax	8.5% \$7,082
Sub-Total	\$90,399
Contingency	30% \$27,120
BASE TOTAL COST	\$117,519
NOTES:	
BASE CONSTRUCTION COST SUB-TOTAL =	\$117,519

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ITEM DESCRIPTION	Qty.	Unit	Unit Price	Sub-Total
CONSTRUCTION PREPARATION				
Staking/Layout <i>(assume 3 days, two-person survey crew)</i>	1	LS	\$6,000	\$6,000
Alternate emergency vehicle access <i>(allowance)</i> <i>(grade access to Tacoma Power easement and prepare surface in compliance with Mason County EVA requirements)</i>	1	LS	\$10,000	\$10,000
TEMPORARY EROSION AND SEDIMENTATION CONTROL				
Temporary inflatable cofferdam rental <i>(assume 4 week rental period, 4' high, 25' long - includes installation and removal)</i>	2	EA	\$5,000	\$10,000
Provide temporary stream diversion pump system <i>(assume rental of one 6" submersible pump, 150 LF 6" discharge hose)</i>	30	Day	\$800	\$24,000
Culvert subgrade dewatering <i>(allowance)</i>	15	Day	\$600	\$9,000
Miscellaneous TESC measures	1	LS	\$5,000	\$5,000
Maintain TESC measures throughout construction	1	LS	\$5,000	\$5,000

NOTES:

BARE COST SUB-TOTAL (this sheet) = \$69,000

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DESCRIPTION	Sub-Total
DEMOLITION AND EXCAVATION SUMMARY SHEET	
TOTAL ESTIMATED BARE COST	
\$105,250	
<i>(from following sheet(s))</i>	
Mobilization	5% \$5,263
Sub-Total \$110,513	
Contractor Overhead and Profit	15% \$16,577
DIRECT CONSTRUCTION COST	
\$127,089	
Washington State Sales Tax	8.5% \$10,803
Sub-Total \$137,892	
Contingency	30% \$41,368
BASE TOTAL COST	
\$179,260	
NOTES:	
BASE CONSTRUCTION COST SUB-TOTAL = \$179,260	

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ITEM DESCRIPTION	Qty.	Unit	Unit Price	Sub-Total
DEMOLITION				
Sawcut pavement <i>(full depth sawcut where applicable)</i>	50	LF	\$5	\$250
Haul and dispose of pavement <i>(assume 4" HMA pavement, 50 mile round trip for disposal)</i>	170	SY	\$30	\$5,100
Remove and dispose of culvert <i>(60 LF 52" diameter CMP culvert)</i>	1	LS	\$2,000	\$2,000
Demolition of existing water, telephone, and power utilities	1	LS	\$5,000	\$5,000
Temporary water, telephone, and power utilities <i>(to maintain existing services - coordinated by contractor/owner through various utility purveyors)</i>	1	LS	\$10,000	\$10,000
Misc. removal of vegetation for construction access	1	LS	\$5,000	\$5,000
EXCAVATION				
Excavate to culvert subgrade, load into trucks <i>(assume 14' culvert bottom subgrade width, with 1-1/2H:1V side slopes to daylight)</i>	1215	CY	\$5	\$6,075
Full regrade of upstream channel* (baseline) <i>(assume approximately 4' flat bottom stream width, 1-1/2H:1V slopes to daylight, matching prevailing steam gradient)</i>	180	CY	\$100	\$18,000
Coordinate with neighboring property owner** (allowance)	1	LS	\$5,000	\$5,000
Limited regrade of upstream channel*** (deduct) <i>(assume approximately 4' flat bottom stream width, 1-1/2H:1V slopes to daylight, limited to greenbelt)</i>	60	CY	-\$17,000	
Haul and dump excavated spoils remotely (baseline) <i>(assume 50 mile round trip for disposal)</i>	1395	CY	\$35	\$48,825
Haul and dump excavated spoils locally (deduct) <i>(assume 8 mile round trip for disposal, and spread material at disposal location)</i>	1	LS	-\$36,300	

NOTES:

- * Regrade stream channel approximately 250 LF upstream of culvert to restore prevailing gradient
- ** Administration of construction easement and potential compensation to private property owner
- *** Limit regrading of stream channel to greenbelt, no encroachment on private property

BARE COST SUB-TOTAL (this sheet) = \$105,250

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PROJECT: LCMC - North Goldeneye Drive Culvert Replacement

DESCRIPTION		Sub-Total
CULVERT INSTALLATION AND ROAD/SITE RESTORATION SUMMARY SHEET		
TOTAL ESTIMATED BARE COST		\$137,950
<i>(from following sheet(s))</i>		
Mobilization	5%	\$6,898
	Sub-Total	\$144,848
Contractor Overhead and Profit	15%	\$21,727
DIRECT CONSTRUCTION COST		\$166,575
Washington State Sales Tax	8.5%	\$14,159
	Sub-Total	\$180,733
Contingency	30%	\$54,220
BASE TOTAL COST		\$234,954
NOTES:		
BASE CONSTRUCTION COST SUB-TOTAL =		\$234,954

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ITEM DESCRIPTION	Qty.	Unit	Unit Price	Sub-Total
CULVERT INSTALLATION				
4-feet compacted depth quarry spalls <i>(apply and compact quarry spalls until firm and unyielding subgrade is achieved at subgrade elevation)</i>	150	CY	\$40	\$6,000
12" compacted depth culvert bedding course <i>(crushed surfacing top course, compacted in 8" lifts to 95% max dry density)</i>	35	CY	\$40	\$1,400
64 LF Aluminized steel pipe arch (baseline) <i>(64 LF, 142" x 91" 10 gage aluminized, including aluminized steel wing walls, off-load, and installation)</i>	1	LS	\$55,000	\$55,000
64 LF Aluminum box culvert (±\$65,000) (add) <i>(64 LF, 11'-4" wide x 7'-2" high interior dimensions, including aluminum wing walls, off-load, and installation)</i>	1	LS	\$10,000	
64 LF Precast concrete box culvert (±\$145,000) (add) <i>(64 LF, 12' wide x 5' high nominal interior dimensions, including precast concrete wing walls, off-load, and installation)</i>	1	LS	\$90,000	
Bed material inside culvert (allowance) <i>(64 LF, 12' wide x 2' high, material matching characteristics of natural channel, if not sourced from stream regrade)</i>	60	CY	\$60	\$3,600
Material above culvert to restore road subgrade <i>(crushed surfacing base course and/or top course, compacted in 8" lifts to 95% max dry density)</i>	1040	CY	\$40	\$41,600
ROAD AND SITE RESTORATION				
Asphalt pavement restoration <i>(assume 4" HMA over 6" CSTC)</i>	170	SY	\$55	\$9,350
Water utility restoration <i>(assume 8"Φ ductile iron pipe with 4' cover)</i>	75	LF	\$60	\$4,500
Buried power and telephone utilities restoration <i>(assume six 2"Φ PVC conduits with 3' cover)</i>	450	LF	\$10	\$4,500
Restore disturbed area with native plantings + 1-yr warranty <i>(5-year plant monitoring not included as contractor fee, to be provided by jointly by LCMC and biologist)</i>	4000	LF	\$3	\$12,000

NOTES:

BARE COST SUB-TOTAL (this sheet) = \$137,950