

Appendix J

Capital Improvement Project

Cost Worksheets

Content:

- CIP Prioritization Cost Worksheets

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Oak Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **OC-01**

Project Description: **Reset and Stabilize Pipe Outfall on Tributary OC020R005**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	0.30	\$ 5,000	\$ 1,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.20	\$ 2,500	\$ 500
			Subtotal =	\$ 2,000
			Contingency = 15%	\$ 300
TOTAL OPINION OF SURVEYING COST =				\$ 2,300

GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	25	\$ 20	\$ 500
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	0	\$ 100	\$ -
			Subtotal =	\$ 5,000
			Contingency = 15%	\$ 800
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 5,800

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	20	\$ 100	\$ 2,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	100	\$ 75	\$ 7,500
Construction Support	HOURS	60	\$ 100	\$ 6,000
			\$ -	\$ -
			Subtotal =	\$ 35,500
			Contingency = 15%	\$ 5,300
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 40,800

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	1	\$ 2,000	\$ 2,000
Excavation and Embankment in Place	CY	100	\$ 15	\$ 1,500
Rock Grade Control	CY	75	\$ 75	\$ 5,600
Grade Control Sheet Pile	SF	150	\$ 25	\$ 3,800
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 75	\$ -
Riparian Corridor Planting	SF	600	\$ 0.50	\$ 300
Site Restoration	ACRE	0.30	\$ 15,000	\$ 4,500
New Culvert	LF	25	\$ 500.0	\$ 12,500
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 1,510	\$ 1,500
			Subtotal =	\$ 31,700
			Contingency = 30%	\$ 9,500
TOTAL OPINION OF CONSTRUCTION COST =				\$ 41,200

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =				\$ 90,100
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Oak Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **OC-02**



Project Description: **Grade Control Knickpoint on Tributary OC020R005**

SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	0.50	\$ 5,000	\$ 2,500
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	0.20	\$ 2,500	\$ 500
Subtotal =				\$ 3,000
Contingency = 15%				\$ 500
TOTAL OPINION OF SURVEYING COST =				\$ 3,500

GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	25	\$ 20	\$ 500
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	0	\$ 100	\$ -
Subtotal =				\$ 5,000
Contingency = 15%				\$ 800
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 5,800

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	20	\$ 100	\$ 2,000
Permitting	HOURS	40	\$ 100	\$ 4,000
Final Design	HOURS	60	\$ 100	\$ 6,000
Develop Plans and Construction Documents	HOURS	100	\$ 75	\$ 7,500
Construction Support	HOURS	60	\$ 100	\$ 6,000
Subtotal =				\$ 35,500
Contingency = 15%				\$ 5,300
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 40,800

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	75	\$ 15	\$ 1,100
Rock Grade Control	CY	100	\$ 75	\$ 7,500
Grade Control Sheet Pile	SF	200	\$ 25	\$ 5,000
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 75	\$ -
Riparian Corridor Planting	SF	500	\$ 0.50	\$ 300
Site Restoration	ACRE	0.50	\$ 15,000	\$ 7,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 1,070	\$ 1,100
Subtotal =				\$ 22,500
Contingency = 30%				\$ 6,800
TOTAL OPINION OF CONSTRUCTION COST =				\$ 29,300

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =				\$ 79,400
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Oak Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **OC-03**

Project Description: **Grade Control Knickzones on Mainstem ECR010**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	3.50	\$ 5,000	\$ 17,500
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	1.50	\$ 2,500	\$ 3,800
Subtotal =				\$ 21,700
Contingency = 15%				\$ 3,300
TOTAL OPINION OF SURVEYING COST =				\$ 25,000

GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	125	\$ 20	\$ 2,500
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	0	\$ 100	\$ -
Subtotal =				\$ 7,000
Contingency = 15%				\$ 1,100
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 8,100

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	120	\$ 100	\$ 12,000
ROW	HOURS	40	\$ 100	\$ 4,000
Permitting	HOURS	60	\$ 100	\$ 6,000
Final Design	HOURS	100	\$ 100	\$ 10,000
Develop Plans and Construction Documents	HOURS	150	\$ 75	\$ 11,300
Construction Support	HOURS	120	\$ 100	\$ 12,000
Subtotal =				\$ 55,300
Contingency = 15%				\$ 8,300
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 63,600

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	4,050	\$ 15	\$ 60,800
Rock Grade Control	CY	1,800	\$ 75	\$ 135,000
Grade Control Sheet Pile	SF	2,250	\$ 25	\$ 56,300
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 75	\$ -
Riparian Corridor Planting	SF	19,700	\$ 0.50	\$ 9,900
Site Restoration	ACRE	3.50	\$ 15,000	\$ 52,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 15,725	\$ 15,700
Subtotal =				\$ 330,200
Contingency = 30%				\$ 99,100
TOTAL OPINION OF CONSTRUCTION COST =				\$ 429,300

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =				\$ 526,000
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Oak Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: **OC-04**

Project Description: **Grade Control Incision on Mainstem ECR020**



SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	7.80	\$ 5,000	\$ 39,000
Prepare Easement Plat and Scripts	EACH	3	\$ 400	\$ 1,200
Construction Staking and As-Built Surveying	ACRE	7.80	\$ 2,500	\$ 19,500
Subtotal =				\$ 59,700
Contingency = 15%				\$ 9,000
TOTAL OPINION OF SURVEYING COST =				\$ 68,700

GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	150	\$ 20	\$ 3,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	0	\$ 100	\$ -
Subtotal =				\$ 7,500
Contingency = 15%				\$ 1,100
TOTAL OPINION OF GEOTECHNICAL COST =				\$ 8,600

ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	180	\$ 100	\$ 18,000
ROW	HOURS	60	\$ 100	\$ 6,000
Permitting	HOURS	80	\$ 100	\$ 8,000
Final Design	HOURS	120	\$ 100	\$ 12,000
Develop Plans and Construction Documents	HOURS	200	\$ 75	\$ 15,000
Construction Support	HOURS	200	\$ 100	\$ 20,000
Subtotal =				\$ 79,000
Contingency = 15%				\$ 11,900
TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =				\$ 90,900

CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	7,850	\$ 15	\$ 117,800
Rock Grade Control	CY	3,200	\$ 75	\$ 240,000
Grade Control Sheet Pile	SF	5,250	\$ 25	\$ 131,300
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 75	\$ -
Riparian Corridor Planting	SF	39,700	\$ 0.50	\$ 19,900
Site Restoration	ACRE	7.80	\$ 15,000	\$ 117,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
			\$ -	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 31,300	\$ 31,300
Subtotal =				\$ 657,300
Contingency = 30%				\$ 197,200
TOTAL OPINION OF CONSTRUCTION COST =				\$ 854,500

TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =				\$ 1,022,700
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