

# Appendix J

# Capital Improvement Project

# Cost Worksheets

Content:

- CIP Prioritization Cost Worksheets

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# North Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: NSC-01  
 Project Description: Rock Armor and Scour Protection at Perched Alvo Rd Culvert Outfall on Tributary  
 NS110R010



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	0.10	\$ 5,000	\$ 500
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	0.10	\$ 2,500	\$ 300
			Subtotal =	\$ 1,200
			Contingency = 15%	\$ 200
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 1,400</b>

## 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
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 5,800</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
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 =	\$ 37,500
			Contingency = 15%	\$ 5,600
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 43,100</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	300	\$ 15	\$ 4,500
Rock Grade Control	CY	225	\$ 75	\$ 16,900
Grade Control Sheet Pile	SF	225	\$ 25	\$ 5,600
Rock Stilling Basin / Outlet Scour Protection	CY	50	\$ 75	\$ 3,800
Rock Toe and Slope Protection	CY	0	\$ 75	\$ -
Riparian Corridor Planting	SF	2,300	\$ 0.50	\$ 1,200
Site Restoration	ACRE	0.10	\$ 15,000	\$ 1,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Spillway Repair	SF	0	\$ 15	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 1,675	\$ 1,700
			Subtotal =	\$ 35,200
			Contingency = 30%	\$ 10,600
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 45,800</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>				<b>\$ 96,100</b>
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# North Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: NSC-02

Project Description: Bank Stabilization at Alvo Rd Crossing on Tributary NS010R015



## 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	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	0.30	\$ 2,500	\$ 800
Subtotal =				\$ 2,700
Contingency = 15%				\$ 400
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 3,100</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	25	\$ 20	\$ 500
Geotechnical Report	LUMP	0	\$ 4,500	\$ -
Global Stability Analysis	EACH	0	\$ 100	\$ -
Subtotal =				\$ 500
Contingency = 15%				\$ 100
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 600</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
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 =				\$ 37,500
Contingency = 15%				\$ 5,600
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 43,100</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	625	\$ 15	\$ 9,400
Rock Grade Control	CY	100	\$ 75	\$ 7,500
Grade Control Sheet Pile	SF	0	\$ 25	\$ -
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	75	\$ 75	\$ 5,600
Riparian Corridor Planting	SF	2,500	\$ 0.50	\$ 1,300
Site Restoration	ACRE	0.30	\$ 15,000	\$ 4,500
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Spillway Repair	SF		\$ 15	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 1,415	\$ 1,400
Subtotal =				\$ 29,700
Contingency = 30%				\$ 8,900
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 38,600</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>				<b>\$ 85,400</b>
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# North Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: NSC-03  
 Project Description: Rock Armor and Scour Protection and Grade Control N 134th St Culvert Outfall on Tributary NS410R005



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	0.20	\$ 5,000	\$ 1,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	0.20	\$ 2,500	\$ 500
Subtotal =				\$ 1,900
Contingency = 15%				\$ 300
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 2,200</b>

## 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
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 5,800</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	100	\$ 100	\$ 10,000
ROW	HOURS	40	\$ 100	\$ 4,000
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 =				\$ 37,500
Contingency = 15%				\$ 5,600
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 43,100</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	400	\$ 15	\$ 6,000
Rock Grade Control	CY	275	\$ 75	\$ 20,600
Grade Control Sheet Pile	SF	500	\$ 25	\$ 12,500
Rock Stilling Basin / Outlet Scour Protection	CY	50	\$ 75	\$ 3,800
Rock Toe and Slope Protection	CY	0	\$ 75	\$ -
Riparian Corridor Planting	SF	3,200	\$ 0.50	\$ 1,600
Site Restoration	ACRE	0.20	\$ 15,000	\$ 3,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Spillway Repair	SF	0	\$ 15	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 2,375	\$ 2,400
Subtotal =				\$ 49,900
Contingency = 30%				\$ 15,000
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 64,900</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>				<b>\$ 116,000</b>
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# North Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: NSC-04

Project Description: Bank Stabilization at N 84th St on Tributary NS030R005



## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	0.80	\$ 5,000	\$ 4,000
Prepare Easement Plat and Scripts	EACH	1	\$ 400	\$ 400
Construction Staking and As-Built Surveying	ACRE	0.80	\$ 2,500	\$ 2,000
Subtotal =				\$ 6,400
Contingency = 15%				\$ 1,000
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 7,400</b>

## 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
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 5,800</b>

## 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
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 63,600</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	0	\$ 2,000	\$ -
Excavation and Embankment in Place	CY	3,575	\$ 15	\$ 53,600
Rock Grade Control	CY	500	\$ 75	\$ 37,500
Grade Control Sheet Pile	SF	875	\$ 25	\$ 21,900
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	125	\$ 75	\$ 9,400
Riparian Corridor Planting	SF	20,600	\$ 0.50	\$ 10,300
Site Restoration	ACRE	0.80	\$ 15,000	\$ 12,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Spillway Repair	SF	0	\$ 15	\$ -
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 7,235	\$ 7,200
Subtotal =				\$ 151,900
Contingency = 30%				\$ 45,600
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 197,500</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>				<b>\$ 274,300</b>
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# North Salt Creek Watershed Masterplan - Cost Opinion Worksheet

Project ID: NSC-05



Project Description: Grade Control Knickpoint at Spillway on Tributary NS030R010

## SURVEYING

Description	Unit	Quantity	Unit Cost	Sub Total
Boundary and Topo Surveying	ACRE	1.20	\$ 5,000	\$ 6,000
Prepare Easement Plat and Scripts	EACH	0	\$ 400	\$ -
Construction Staking and As-Built Surveying	ACRE	1.20	\$ 2,500	\$ 3,000
			Subtotal =	\$ 9,000
			Contingency = 15%	\$ 1,400
<b>TOTAL OPINION OF SURVEYING COST =</b>				<b>\$ 10,400</b>

## GEOTECHNICAL

Description	Unit	Quantity	Unit Cost	Sub Total
Field Borings	LF	50	\$ 20	\$ 1,000
Geotechnical Report	LUMP	1	\$ 4,500	\$ 4,500
Global Stability Analysis	EACH	0	\$ 100	\$ -
			Subtotal =	\$ 5,500
			Contingency = 15%	\$ 800
<b>TOTAL OPINION OF GEOTECHNICAL COST =</b>				<b>\$ 6,300</b>

## ENGINEERING DESIGN AND CONSTRUCTION DOCUMENTS

Description	Unit	Quantity	Unit Cost	Sub Total
Preliminary Design	HOURS	120	\$ 100	\$ 12,000
ROW	HOURS	20	\$ 100	\$ 2,000
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 =	\$ 53,300
			Contingency = 15%	\$ 8,000
<b>TOTAL OPINION OF ENGINEERING AND CONSTRUCTION OBSERVATION COST =</b>				<b>\$ 61,300</b>

## CONSTRUCTION

Description	Unit	Quantity	Unit Cost	Sub Total
Removal of Existing Structures	LUMP	1	\$ 2,000	\$ 2,000
Excavation and Embankment in Place	CY	275	\$ 15	\$ 4,100
Rock Grade Control	CY	250	\$ 75	\$ 18,800
Grade Control Sheet Pile	SF	450	\$ 25	\$ 11,300
Rock Stilling Basin / Outlet Scour Protection	CY	0	\$ 75	\$ -
Rock Toe and Slope Protection	CY	0	\$ 75	\$ -
Riparian Corridor Planting	SF	2,200	\$ 0.50	\$ 1,100
Site Restoration	ACRE	1.20	\$ 15,000	\$ 18,000
New Culvert	LF	0	\$ 500.0	\$ -
Retaining Wall	SF	0	\$ 50	\$ -
Wetland Planting	ACRE	0.00	\$ 40,000	\$ -
Spillway Repair	SF	1,500	\$ 15	\$ 22,500
			\$ -	\$ -
			\$ -	\$ -
Mobilization and Bond	5%	1	\$ 3,890	\$ 3,900
			Subtotal =	\$ 81,700
			Contingency = 30%	\$ 24,500
<b>TOTAL OPINION OF CONSTRUCTION COST =</b>				<b>\$ 106,200</b>

<b>TOTAL SURVEYING, GEOTECHNICAL, ENGINEERING AND CONSTRUCTION COST OPINION =</b>	<b>\$ 184,200</b>
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