

Appendix H

Construction Cost Estimate

**Bow Lake Transfer Station
Preliminary Cost Estimate Summary
2/28/2006**

<u>Project Element</u>	<u>Cost</u>
Mobilization	\$500,000
Site Work	\$11,097,000
Transfer Building	\$16,073,000
Public Facilities Building	\$15,000
Fuel Facility	\$101,000
Maintenance Facility	\$429,000
Scale Facilities	\$953,000
Subtotal	\$29,168,000
Force Account Allowance	\$250,000
Contingency 20%	\$5,887,000
General & Special Conditions 10%	\$2,944,000
General Requirements 8%	\$2,355,000
Sales Tax	\$3,615,000
Total	\$44,219,000

**BOW LAKE TRANSFER STATION FACILITY MASTER PLAN
PREFERRED SITE PLAN
Preliminary Construction Cost Estimate**

26-Jul-06

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA SUBTOTAL
PREPARATION				
Mobilization (5% of other items but not greater than \$500,000)	1	LS	500000	500000 \$ 1,446,800
<u>SITEWORK</u>				
TEMPORARY EROSION AND SEDIMENT CONTROL				
Orange Safety Fence	450	LF	5.00	2,250
Temporary Silt Fence	500	LF	5.00	2,500
Temporary Rock Check Dams	8	EA	200.00	1,600
Temporary Drainage Ditches	1500	LF	5.00	7,500
Sod	360	100SF	8.00	2,880
Temporary Plastic Cover Measures	5,000	100SF	15.00	75,000
Temporary Straw Mulch Cover Measures	900	100SF	10.00	9,000
Erosion Control Matting	500	100SF	62.00	31,000
Quarry Spalls	200	Ton	40.00	8,000
Hydroseeding	6	Acre	2,500.00	15,000
Dust Control Measures	80100	GAL	75.00	6,000
Removal of TESC Measures	1	LS	10,000.00	10,000 170,730
EARTHWORK				
Excavation; Off-site Disposal 20 mile R/T	148000	CY	19.00	2,812,000
Overexcavation	5000	CY	22.00	110,000
Structural Backfill (From Stockpile and Import)	18000	CY	15.00	270,000
Embankment (From Stockpile and Import)	20000	CY	12.00	240,000
Disposal of Refuse Contaminated Soil Allowance	20000	CY	28.00	560,000
Gravel Toe Drain For Walls	260	CY	30.00	7,800
Site Grading	77000	SY	1.00	77,000
Retaining and Building Wall Drains, 4-Inch CPEP Drains	3500	LF	20.00	70,000
Drainage Sleeve, 4-Inch PVC	350	EA	20.00	7,000
Geotextile Drain Mat	33000	SF	5.00	165,000
Geotextile Type A (Allowance)	25000	SF	2.00	50,000 4,368,800
DEMOLITION & RECYCLING OF C&D				
Demolition Plan	1	LS	5,000.00	5,000
TSO Building	1	LS	40,000.00	40,000
Top Load Hopper Bay	1	LS	20,000.00	20,000
Pit Floor and Walls	1	LS	50,000.00	50,000
Salvage Knuckleboom Crane to Owner	1	LS	15,000.00	15,000
Top Load Bay Drive Retaining Walls	1	LS	40,000.00	40,000
Transfer Building Superstructure	35000	SF	3.00	105,000
Existing Pavements	150000	SF	0.40	60,000 330,000
Surface Water Management System				
Storm Drain, 6-Inch DI for Scale Pit Drains	200	LF	50.00	10,000
Storm Drain, 6-Inch CPEP for Roof Drains	300	LF	25.00	7,500
Storm Drain, 8-Inch CPEP for Roof Drains	300	LF	35.00	10,500
Storm Drain, 8-Inch CPEP	2000	LF	35.00	70,000
Storm Drain, 12-Inch CPEP	5100	LF	45.00	229,500
Storm Drain, 18-Inch CPEP	1100	LF	65.00	71,500
Storm Drain, 24-Inch CPEP	100	LF	85.00	8,500
Storm Drain, 24-Inch HDPE	700	LF	120.00	84,000
Storm Drain, 12-Inch DI	100	LF	65.00	6,500
Storm Drain, 8-Inch Perforated PVC	300	LF	45.00	13,500
Cleanout, 8-Inch	1	EA	400.00	400
Cleanout, 12-Inch	1	EA	500.00	500
Connection to Downstream System/ Energy Disipation Structure	1	LS	25000.00	25,000
Pipe Anchor	4	EA	500.00	2,000
Plug Valve, 8-Inch, Buried Sevice, Manually Operated	3	EA	1,500.00	4,500
Detention Vaults				
Procure	1	EA	100,000.00	100,000
Install	1	EA	30,000.00	30,000
Outlet Control Structure	1	EA	2,500.00	2,500

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26-Jul-06

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA SUBTOTAL
Stormfilter Water Quality Vaults				
Procure	1	EA	240,000.00	240,000
Install	1	EA	25,000.00	25,000
Scale Pit Floor Drains	10	EA	700.00	7,000
Catch Basin, Type 1	25	EA	2,000.00	50,000
Catch Basin, Type 2, 48-Inch Diameter	15	EA	3,500.00	52,500
Catch Basin, Type 2, 60-Inch Diameter	10	EA	5,000.00	50,000
Catch Basin, Type 2, 72-Inch Diameter	5	EA	6,500.00	32,500
Coalescing Plate Oil/Water Separator	3	LS	12,000.00	36,000
Trench Drain	400	LF	125.00	50,000
Trench Drain Catch Basins	3	EA	500.00	1,500
System Cleanup and Silt Removal	1	LS	2000.00	2,000
Detection Tape	10000	LF	0.50	5,000
				1,227,900
SANITARY AND LEACHATE SEWER				
DI Gravity Sewer, 6-Inch Diameter	500	LF	60.00	30,000
DI Gravity Sewer, 8-Inch Diameter	600	LF	70.00	42,000
Drop connections	25	VF	400.00	10,000
Cleanout, 8-Inch	3	EA	400.00	1,200
Prcast Concrete Manhole, 48-Inch Diameter	10	EA	3500.00	35,000
Catch Basin, Type 1	5	EA	2000.00	10,000
Catch Basin, Type 2, 48-Inch Diameter	2	EA	35000.00	70,000
Flow Control Structure, Catch Basin Type 2, 54-Inch Diameter	1	EA	5000.00	5,000
Plug Valve, 8-Inch, Buried Service, Manually Operated	3	EA	1500.00	4,500
Wastewater Holding Tank, 15,000 gal	1	EA	75000.00	75,000
Detection Tape	1500	LF	0.50	750
Interior Coatings for Structures	1	LS	10000.00	10,000
				293,450
INDUSTRIAL WASTEWATER TREATMENT SYSTEM [1]				
Oil/Water Separator Vault, w/ Ladder, and Access Hatches	3	EA	10000.00	30,000
pH Control Vault, w/ Ladder and Access Hatches & Weir	1	EA	14000.00	14,000
Settling Vault, w/ Ladder, Access Hatches and Baffle Wall	1	EA	12000.00	12,000
Flow Measurement Assembly	1	EA	10000.00	10,000
Chemical Storage and Pump Enclosure w/ Tank, Pumps, etc.	1	EA	20000.00	20,000
pH Control System Equipment w/ System Design	1	LS	30000.00	30,000
IWWTF Building	90	SF	250.00	22,500
IWWTF Piping	1	LS	3000.00	3,000
				141,500
WATER SYSTEM				
Ductile Iron Water Main, 12-Inch Diameter, Restrained Joint	1250	LF	110.00	137,500
Ductile Iron Water Main, 10-Inch Diameter, Restrained Joint	1650	LF	90.00	148,500
Ductile Iron Water Main, 8-Inch Diameter, Restrained Joint	120	LF	80.00	9,600
Ductile Iron Water Main, 6-Inch Diameter, Restrained Joint	100	LF	70.00	7,000
Ductile Iron Water Main, 4-Inch Diameter, Restrained Joint	70	LF	40.00	2,800
PVC Water Main, 2-Inch Diameter	600	LF	25.00	15,000
PVC Water Main, 1.5-Inch Diameter	100	LF	20.00	2,000
PVC Water Main, 1-inch Diameter	100	LF	20.00	2,000
Pipeline Fittings	1	LS	10000.00	10,000
Gate Valve, 10-Inch, Buried Service	4	EA	1500.00	6,000
Gate Valve, 6-Inch, Buried Service	6	EA	800.00	4,800
Gate Valve, 4-Inch in Concrete Valve Box	1	EA	500.00	500
Gate Valve, 2-Inch in Concrete Valve Box	3	EA	400.00	1,200
Gate Valve, 1.5-Inch in Concrete Valve Box	2	EA	300.00	600
Gate Valve, 1-Inch in Concrete Valve Box	1	EA	250.00	250
Post Indicator Valves, 10"	1	EA	2500.00	2,500
Yard Hydrant Assembly, 1-Inch, w/ Hose Rack and Hose	3	EA	1500.00	4,500
Double Detector Check Valve Assembly (DDCVA), 10-Inch	1	EA	15000.00	15,000
Fire Department Siamese Connection	1	EA	2000.00	2,000
Precast Concrete Vault for DDCVA With 6-Inch Drain Line	1	EA	7000.00	7,000
Double Check Valve Assembly (DCVA), 4-Inch	1	EA	4000.00	4,000
Double Check Valve Assembly (DCVA), 2-Inch	1	EA	3000.00	3,000
Precast Concrete Vault for DCVA and Meter w/ 6-Inch Drain Line	2	EA	3000.00	6,000

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DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA SUBTOTAL	
Fire Hydrant Assembly	5	EA	3,000.00	15,000	
Precast Concrete Fire Hydrant Protection Posts	32	EA	150.00	4,800	
Concrete Thrust Blocks	20	CY	250.00	5,000	
Irrigation System Water Meter, 1-1/2-Inch Diameter (by MWD)	1	EA	2,000.00	2,000	
Water Meter, 3-Inch Diameter	1	EA	5,000.00	5,000	
Detection Tape	800	LF	0.50	400	
Irrigation System Piping, See LANDSCAPING					423,950
BASE COURSE AND SURFACING					
Crushed Surfacing Base Course	11000	Ton	25.00	275,000	275,000
HOT MIX ASPHALT CONCRETE PAVEMENT					
Asphalt Overlay	2000	SY	35.00	70,000	
Asphalt Concrete Pavement, Class B (leveling & wearing course)	6500	Ton	55.00	357,500	427,500
CEMENT CONCRETE PAVING					
Recycle Area Slabs	220	CY	400.00	88,000	
Trailer Landing Gear Concrete Pad	70	CY	400.00	28,000	
Trailer Yard Concrete Drainage Slab	70	CY	400.00	28,000	144,000
ROADWAY STRUCTURES AND APPURTENANCES					
Concrete Rolled Curb and Gutter	4070	LF	25	101,750	
WSDOT F-1A Concrete Curb and Gutter	3600	LF	35	126,000	
WSDOT F-1 Concrete Curb	2400	LF	20	48,000	
Beam Guardrail, Type 1	2500	LF	40	100,000	
Beam Guardrail, Terminal Section	20	EA	1000	20,000	
Pavement Striping	1	LS	20000	20,000	
Traffic Signage					
Single Post Mounted	30	EA	300.00	9,000	
Double Post Mounted	20	EA	500.00	10,000	
Building/Structure Mounted	10	EA	200.00	2,000	
Informational Signage					
Building/Structure Mounted	30	EA	250.00	7,500	
Concrete Sidewalk, 5-Foot Wide, 5-Inch Thick	70	CY	350.00	24,500	
Sidewalk Curb Ramp	6	EA	200.00	1,200	
Recycled Plastic Wheel Stop, 6 Feet	45	EA	150.00	6,750	476,700
OTHER SITEWORK ITEMS					
Shoring for Extra Excavation Class B	8,000	SF	1.00	8,000	
Geotextile Fabric As Directed by Engineer	25000	SY	2.00	50,000	
Fencing					
Fuse Bonded Chainlink With Barbed Wire Top, 6 Foot	3200	LF	20.00	64,000	
Fuse Bonded Chainlink, Sngl Leaf 20' Gate	3	EA	1500.00	4,500	
Fuse Bonded Chainlink Swing Gate, Sngl Leaf 4' & 5'	4	EA	500.00	2,000	128,500
SITE RETAINING WALLS					
MSE/Soil Nail/Soldier Pile/Conc. Cantilever Type Walls	33000	SF	60.00	1,980,000	1,980,000
LANDSCAPING					
Topsoil (10-inch/10% organic amendment)	1,000	CY	30.00	30,000	
Amendments (2")	500	CY	30.00	15,000	
Fine Grading	5,000	SY	2.00	10,000	
Mulch	300	CY	30.00	9,000	
Trees					
Deciduous Tree, 2-Inch Caliper	45	EA	250.00	11,250	
Deciduous Tree, 6/7-Foot Height, Multi-stemmed	12	EA	120.00	1,440	
Deciduous Tree, 6/6-Foot Height	60	EA	120.00	7,200	
Shrubs					
5 Gallon Container	400	EA	40.00	16,000	
30-36" Height	100	EA	40.00	4,000	
18-21" Height	100	EA	30.00	3,000	
3 Gallon Container	200	EA	20.00	4,000	

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DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA SUBTOTAL
2 Gallon Container	1,000	EA	20.00	20,000
Ground Cover, 1 Gallon Container	2,000	EA	10.00	20,000
Temporary Irrigation System	1	LS	30,000.00	30,000
Hydroseeding	4	AC	1,500.00	6,000
				186,890
SITE ELECTRICAL				
Electrical Distribution System:				
Trench Excavation, Bedding and Backfill	3,000	LF	20.00	60,000
Primary Power, Duct Bank	1,000	LF	50.00	50,000
Schedule 40 PVC, 3"	1,500	LF	10.00	15,000
Schedule 40 PVC, 2 1/2"	500	LF	8.50	4,250
Schedule 40 PVC, 2"	400	LF	6.00	2,400
Schedule 40 PVC, 1 1/4"	300	LF	4.50	1,350
Schedule 40 PVC, 1"	300	LF	3.50	1,050
Schedule 40 PVC, 3/4"	3,000	LF	3.00	9,000
Conductors:				
#3/0	15	100 LF	300.00	4,500
#1/0	10	100 LF	200.00	2,000
#4	14	100 LF	100.00	1,420
#6	16	100 LF	50.00	800
#8	5	100 LF	50.00	250
#10	10	100 LF	50.00	500
500 kCMil	10	100 LF	650.00	6,500
Transformer Vault	1	LS	7000.00	7,000
Grounding				
#4/0 GND	37	100 LF	250.00	9,250
#2/0 GND	9	100 LF	200.00	1,800
Handhole, testing	10	EA	200.00	2,000
Ground Rod	33	EA	100.00	3,300
Exothermic welds	60	EA	50.00	3,000
Handholes and Pull Boxes	4	EA	600.00	2,400
PUD Work Including Transformer		LS		-
Exterior Lighting:				
Metal Halide, 400 W, Pole-Mounted Light Fixtures	20	EA	1,000.00	20,000
Metal Halide, 400 W, Flood Pole-Mounted Light Fixtures	14	EA	1,000.00	14,000
Metal Halide, 70 W, Wall Pack Light Fixture	10	EA	500.00	5,000
In ground lighting, type Y	3	EA	500.00	1,500
Poles				
35 Foot, Steel	18	EA	2,000.00	36,000
25 Foot, Steel	10	EA	2,000.00	20,000
10 Foot, Steel	4	EA	800.00	3,200
20 Foot	2	EA	2,000.00	4,000
Standby Generator, 250 kW W/ Load Bank Incl. ATS	1	LS	150,000.00	150,000
Heat Tracing	1	LS	25,000.00	25,000
				466,470
COMMUNICATIONS SERVICE				
Trench Excavation, Bedding and Backfill	2,000	LF	6.00	12,000
Fire Alarm, Sched 40 PVC				
2"	1,000	LF	5.46	5,460
1"	900	LF	3.38	3,042
Telephone, Schedule 40 PVC				
4"	600	LF	12.55	7,530
3"	300	LF	9.43	2,829
2"	300	LF	5.46	1,638
1"	300	LF	3.38	1,014
Cable, Category 5E	80	100LF	63.50	5,080
Communication, Schedule 40 PVC				
2"	1,200	LF	5.46	6,552
1 1/4"	1,200	LF	4.09	4,908
1"	200	LF	3.38	676
RG-62A COAX	26	100LF	101.50	2,639
RS232-C	13	100LF	101.50	1,320

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26-Jul-06

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA	SUBTOTAL
Handholes	5	EA	250.00	1,250	
Communications Company Work	1	LS		-	55,938
<u>TRANSFER/TSO BUILDING</u>					
CAST-IN-PLACE CONCRETE WORK					
Strip, Step, Spread and Column Footings	1000	CY	500.00	500,000	
Retaining Walls	800	CY	1000.00	800,000	
Structural Slab and Beams	1220	CY	1500.00	1,830,000	
Slab-On-Grade	2100	CY	450.00	945,000	
Concrete Walls	740	CY	1000.00	740,000	
Columns	90	CY	1200.00	108,000	
Miscellaneous Concrete	100	CY	350.00	35,000	
Concrete Equipment Ftgs/Pads					
Compactors	140	CY	400.00	56,000	
Standby Engine Generator and Load Bank	10	CY	400.00	4,000	
HPUs	10	CY	400.00	4,000	
Floor Hardener	15000	SF	20.00	300,000	5,322,000
PRECAST CONCRETE (Optional Item)					
Sealant for Panels	1000	LF	8.00	8,000	
Optional Plant or Tilt-Up Panels For Lower Wall Areas	7650	SF	28.00	214,200	222,200
METALS					
Tipping and Push Wall Armor Plate	50000	LB	2.50	125,000	
Tipping Floor Armor Plate	15000	LB	3.50	52,500	
Stairway and Handrails	25000	LB	3.50	87,500	
Pipe Bollards	28	EA	250.00	7,000	
Misc. Embedded Steel Angles, Copings and Weldments	10000	LB	4.50	45,000	
Misc. Steel Fabricatons	15000	LB	4.50	67,500	
Roof Framing	4000	SF	7.00	28,000	
Guardrails	2000	LB	4.00	8,000	
Track-Off Grating	580	SF	30.00	17,400	
Spill Containment Trench Grating	60	SF	30.00	1,800	
Ladders	50	LF	50.00	2,500	
Locker and Bench Supports (powder coated)	1000	LB	10.00	10,000	
Ladder Saftey Post	1	EA	1000.00	1,000	
Self-Haul Tipping Floor Wall Coping and Broom Scuppers	1	LS	20000.00	20,000	
Compactor Gate Cover/Filter Housing	2	EA	4000.00	8,000	
Ceiling Lifting Points	6	EA	500.00	3,000	484,200
THERMAL AND MOISTURE PROTECTION					
Retaining Wall Dampproofing & Waterproofing	11000	SF	3.00	33,000	
Penetrating Waterproofing	10000	SF	1.50	15,000	
Thermal Insulation					
Building Walls	3000	SF	3.00	9,000	
Buildng Floor/Foundation Walls	6000	SF	2.00	12,000	
Building Roof	6000	SF	2.00	12,000	
Membrane Roofing System	1000	SF	100.00	100,000	
Flashings, Copings and Counter Flashings	1	LS	10000.00	10,000	
Underslab Vapor Barrier	6000	SF	0.40	2,400	
Sand Blanket for Vapor Barrier	35	CY	30.00	1,050	194,450
WOOD					
Rough Carpentry	1	LS	10000.00	10,000	
Finish Carpentry					
Standing and Running Trim	1500	LF	10.00	15,000	25,000
WINDOWS AND DOORS					
Hollow Metal Doors and Frames					
Insulated Door and Frame	13	EA	1000.00	13,000	
Uninsulated Door and Frame	30	EA	800.00	24,000	

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DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA	SUBTOTAL
Relite Frame	14	EA	500.00	7,000	
Color Anodized 'Aluminum Store Front	300	SF	110.00	33,000	
Color Anodized 'Aluminum Relites	250	SF	105.00	26,250	
Door Hardware	43	SET	500.00	21,500	
Solid Core Wood Doors	8	EA	700.00	5,600	
Glazing	1000	SF	10.00	10,000	
Daylighting Wall Panels	5800	SF	25.00	145,000	
Daylighting Roof Panels	6400	SF	25.00	160,000	
Coiling Overhead Doors, Electrically Operated	3550	SF	35.00	124,250	569,600
FINISHES					
Light Guage Metal Framing System	15000	SF	5.00	75,000	
Gypsum Wallboard/Water Resistant Gypsum Wallboard	30000	SF	3.00	90,000	
Suspended Acoustical Panel Ceiling System	5000	SF	5.00	25,000	
Resilient Flooring (Tile or Sheet)	5000	SF	8.00	40,000	
FRP wall covering	2100	SF	5.00	10,500	
Sand Blast Exposed Concrete Walls	10000	SF	2.00	20,000	
Painting:					
Primary Structural Framing	1	LS	50000.00	50,000	
Coiling Overhead Doors and Frames	7200	SF	1.50	10,800	
Hollow Metal Doors and Frames	43	EA	500.00	21,500	
Relite Frames	14	EA	500.00	7,000	
Wood Doors	8	EA	400.00	3,200	
Interior Walls and Ceiling	30000	SF	1.50	45,000	
Miscellaneous Metals	5000	SF	1.50	7,500	
Floor Striping and Numbering	1	LS	4000.00	4,000	409,500
SPECIALTIES					
Ceiling and Wall Access Doors	5	EA	700.00	3,500	
Acoustical Wall And Ceiling Panels	1000	SF	20.00	20,000	
Room and Employee Instructional Signs	80	EA	150.00	12,000	
Plastic Laminate Casework, Upper and Lower	60	LF	600.00	36,000	
Plastic Laminate Lavatory Counters	24	LF	100.00	2,400	
Locker Room Bench	2	EA	500.00	1,000	
Shelf and Clothes Rod	2	EA	300.00	600	
Personnel Lockers	20	EA	300.00	6,000	
Toilet Partitions/Urinal Screens	3	EA	500.00	1,500	
Shelf and Clothes Rod	12	LF	75.00	900	
Window Treatment	1	LS	3000.00	3,000	86,900
FURNISHINGS					
Breakroom Furniture Allowance	1	LS	2000.00	2,000	
Office Furniture Allowance	1	LS	3000.00	3,000	
Compactor Breakroom Furniture Allowance	1	LS	1000.00	1,000	6,000
EQUIPMENT					
Kitchen Appliances	1	LS	5000.00	5,000	
Elevator, 2500 LB, 4 Stop	1	EA	70,000	70,000	
Compactors	2	EA	1,200,000	2,400,000	
Dust Extraction Systems	2	EA	75,000	150,000	
Truck Wheel Wash	2	EA	50,000	100,000	
Knuckleboom Crane at Yard Waste Stalls	2	EA	180,000	360,000	3,085,000
SPECIAL CONSTRUCTION					
Photovoltaic Net Meetering System, 10,000 Peak Watts	1,200	SF	125	150,000	
Modular Green Roof	5,000	SF	25	125,000	
Green Roof Establishment	1	LS	5,000	5,000	
Drip Irrigation System for Green Roof	5,000	SF	5	25,000	
Rainwater Harvesting System					
Gutter and Rain Leader System	500	LF	60	30,000	
4000 Gal Vertical Tanks w/ Supports	2	EA	20,000	40,000	
4000 Gal Horizontal Tank	1	EA	15,000	15,000	

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Filter, Pump and Distribution Piping	1	LS	15,000	15,000
Preengineered Metal Building Inc. Design & Erection w/ upgrade	68,000	SF	52	3,536,000
				3,941,000
MECHANICAL				
Building HVAC System (Inc. Toilet Rm Equip)	1	LS	120,000.00	120,000
Lower Level Supply and Exhaust Air System				
Fan Equipment	1	LS	8,000.00	8,000
Ductwork	250	LF	30.00	7,500
Utility Compressed Air System, 120-psi				
Air Compressor	1	EA	4,300.00	4,300
Piping, Fittings, Valves and Outlets	900	LF	15.00	13,500
Compactor Gate Housing Filters	1	LS	2,000.00	2,000
Drain/Waste and Vent System:				
Ductile Iron Piping, 4-Inch Diameter With Fittings	50	LF	35.00	1,750
Ductile Iron Piping, 6-Inch Diameter With Fittings	200	LF	40.00	8,000
Ductile Iron Piping, 8-Inch Diameter With Fittings	50	LF	50.00	2,500
Cleanouts	8	EA	700.00	5,600
Spill Containment Plug Valve and Operator	1	EA	3,000.00	3,000
Floor Drain With Trash Bucket, 12-Inch	6	EA	1,500.00	9,000
Floor Drain With Trash Bucket, 8-Inch	4	EA	1,000.00	4,000
Trench Drain With Catch Basin and Trash Basket	100	LF	80.00	8,000
Tipping Floor Drain At Truck Washout (12")	1	EA	1,500.00	1,500
Utility Water System:				
2-Inch Reduced Pressure Backflow Prevention Device	1	EA	2,500.00	2,500
2-Inch Water Meter	1	EA	1,000.00	1,000
Copper Pipe, Type K, 2-Inch Diameter	40	LF	30.00	1,200
Copper Pipe, Type K, 1.5-Inch Diameter	800	LF	25.00	20,000
Copper Pipe, Type K, 1.25-Inch Diameter	150	LF	20.00	3,000
Bronze Gate Valve, 2-Inch	4	EA	100.00	400
Bronze Gate Valve, 1.5-Inch	4	EA	80.00	320
Bronze Gate Valve, 1.-Inch	8	EA	70.00	560
Bronze Ball Valve, 1.25 & 1-Inch	30	EA	80.00	2,400
Miscellaneous Valves	1	LS	2000.00	2,000
Pressure Reducing Valves, 1.5-Inch	2	EA	280.00	560
Pressure Reducing Valves, 1.25-Inch	11	EA	250.00	2,750
Pressure Booster Pump Package with Controls	1	LS	35,000.00	35,000
Self-Retracting Hose Reels, 50-Feet of 1-Inch Hose	2	EA	2,000.00	4,000
Self-Retracting Hose Reels, 75-Feet of 1-Inch Hose	2	EA	2,000.00	4,000
Self-Retracting Hose Reels, 100-Feet of 1-Inch Hose	2	EA	2,000.00	4,000
Electric Hose Reels, 150-Feet of 1-Inch Hose	2	EA	3,000.00	6,000
Wye Strainer, 2-Inch	2	EA	200.00	400
3/4-Inch Hose Bib	19	EA	200.00	3,800
Pipe Insulation and Jacket	1,500	LF	15.00	22,500
Bronze Check Valve, 2-Inch	1	EA	200.00	200
Potable Water System:				
Pressure Reducing Valve, 2-Inch	1	EA	300.00	300
Copper Pipe, Type K, 1.5-Inch Diameter	100	LF	25.00	2,500
Copper Pipe, Type K, 1-Inch Diameter	25	LF	20.00	500
Copper Pipe, Type K, 1/2-Inch Diameter	45	LF	16.00	720
Bronze Gate Valve, 2-Inch	8	EA	100.00	800
Bronze Gate Valve, 1.5-Inch	4	EA	80.00	320
Bronze Gate Valve, 1-Inch	20	EA	70.00	1,400
Eyewash and Shower Unit, Freeze Protected	2	EA	3,000.00	6,000
Pipe Insulation and Jacket	200	LF	15.00	3,000
Water Heater	2	EA	500.00	1,000
Fire Protection Sprinkler System:				
System Vendor Design Engineering and Permit	1	LS	5,000.00	5,000
Dry/Wet Pipe Sprinkler Systems, Installed and Tested	90,000	SF	3.00	270,000
Sprinkler System Alarm Valve/Connection to FA System	1	LS	5,000.00	5,000
Restroom Facilities:				
Water Closet With Flush Valve and Trim	8	EA	1,000.00	8,000
Lavatory With Trim	8	EA	800.00	6,400

**BOW LAKE TRANSFER STATION FACILITY MASTER PLAN
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DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA SUBTOTAL	
Urinal With Trim (waterless)	4	EA	1,500.00	6,000	
Shower Stall With Trim	2	EA	1,200.00	2,400	
Grab Bars	4	EA	400.00	1,600	
Toilet Seat Cover dispenser	8	Ea	100.00	800	
Mirror	8	EA	300.00	2,400	
Paper Towel Dispensers	8	EA	200.00	1,600	
Toilet Paper Holders	8	EA	50.00	400	
Liquid Soap Dispensers	8	EA	200.00	1,600	
Kitchen Sink with Trim	1	EA	600.00	600	
Emergency Eyewash and Shower	3	EA	2,500.00	7,500	
Valve Tags and Pipe Labeling	1	LS	6,000.00	6,000	
Gas Monitoring System	1	LS	25,000.00	25,000	682,080
ELECTRICAL					
Electrical Distribution Equipment					
Service Entrance Switchboard	1	LS	50,000.00	50,000	
MCC, 480 V, 1600 A, 3 Ph, 4 W	1	LS	100,000.00	100,000	
Transformer, 75KVA	1	EA	5,000.00	5,000	
Panelboards	1	LS	20,000.00	20,000	
PLC CPU	1	EA	2,000.00	2,000	
Rack	1	EA	500.00	500	
I/O Module	3	EA	500.00	1,500	
software	1	EA	3,000.00	3,000	
power supply/misc	1	EA	1,000.00	1,000	
Misc., installation/troubleshooting	1	EA	5,000.00	5,000	
Conduit, GRS:					
3-Inch	1000	LF	29.00	29,000	
2-Inch	1500	LF	14.00	21,000	
1-1/2-Inch	2000	LF	12.00	24,000	
Branch Circuits	82600	SF	1.55	128,030	
Wiring Devices	82600	SF	0.15	12,390	
General Building Lighting	1	LS	150,000.00	150,000	
Tipping Floor Lighting	68,000	SF	4.00	272,000	
Power/Miscellaneous					
Heat Trace Systems	1,500	LF	13.00	19,500	
Instrusion Security System	1	LS	10,000.00	10,000	
Equipment connections	82,600	SF	0.55	45,430	
Remote on/off controls	3	EA	350.00	1,050	
Remote EF fan zone control	1	EA	400.00	400	
Wireless controls	3	EA	2,000.00	6,000	
Telephone:					
Telephone terminal board	1	LS	1,500.00	1,500	
Distribution Wiring	1	LS	15,000.00	15,000	
Instruments	4	EA	200.00	800	
Work by Communications Company	1	LS	5,000.00	5,000	
Fire Detection and Alarm System					
FACP	1	EA	5,000.00	5,000	
Addressable smoke detector	20	EA	200.00	4,000	
Addressable Pull Station	18	EA	110.00	1,980	
Addressable Horn/Strobe ADA	30	EA	150.00	4,500	
Addressable Strobe ADA	15	EA	90.00	1,350	
Addressable Duct smoke detector	10	EA	375.00	3,750	
Addressable heat detector	30	EA	190.00	5,700	
FA wiring/misc	1	LS	40,000.00	40,000	
System Checkout and Commissioning	1	LS	50000.00	50,000	\$1,045,380
<u>PUBLIC FACILITIES</u>					
CAST-IN-PLACE CONCRETE WORK					
Slab-On-Grade	4	CY	450.00	1,800	
Miscellaneous Concrete	1	CY	350.00	350	2,150

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METALS					
Guard Posts	4	EA	150.00	600	
Misc. Embedded Steel Angles, Copings and Weldments, Galv	1,000	LB	3.50	3,500	
Misc. Steel Fabricatons, Galv	500	LB	4.00	2,000	6,100
WOOD					
Rough Carpentry	1	LS	1,000.00	1,000	1,000
STRUCTURAL/ARCHITECTURAL					
Kiosk Structure	1	LS	5,000.00	5,000	5,000
ELECTRICAL					
Public Facilities	1	LS	1,000.00	1,000	1,000
<u>FUEL FACILITY</u>					
CAST-IN-PLACE CONCRETE WORK					
Slab-On-Grade	30	CY	400.00	12,000	
Tank Foundation	10	CY	350.00	3,500	15,500
METALS					
Canopy Framing	10,000	LB	3.00	30,000	
Canopy Panels and Facia	800	SF	10.00	8,000	
Guard Posts	4	EA	150.00	600	38,600
MECHANICAL					
Above-Grade Dike Tank (2000 Gal)	1	LS	12,000.00	12,000	
Fuel Dispensing Equipment	1	LS	15,000.00	15,000	
Lubrication Equipment	0	LS	10,000.00	-	
Spill Containment Sump System	1	LS	5,000.00	5,000	32,000
ELECTRICAL					
Power Supply	1	LS	8,000.00	8,000	
Canopy Lighting	4	EA	500.00	2,000	
Power To Fuel Dispensing System	1	LS	5,000.00	5,000	15,000
<u>MAINTENANCE FACILITY</u>					
CAST-IN-PLACE CONCRETE WORK					
Concrete Footings	36	CY	500.00	18,000	
Concrete Walls	58	CY	1,000.00	58,000	
Slab-On-Grade	50	CY	450.00	22,500	
Lt Wt. Roof Deck	30	CY	350.00	10,500	
Miscellaneous Concrete	5	CY	350.00	1,750	
Concrete Coatings	2,500	SF	6.00	15,000	125,750
PRECAST CONCRETE					
Sealant for Panels	200	LF	8.00	1,600	
Plant or Tilt-Up Panels For Lower Wall Areas	800	SF	28.00	22,400	24,000
DOORS AND WINDOWS					
Hollow Metal Door and Frame, Uninsulated	4	EA	800.00	3,200	
Coiling Overhead Doors, Electrically Operated	448	SF	35.00	15,680	15,680
METALS					
Open Web Bar Joists 24" on center	300	LF	12.00	3,600	
Metal Decking	2,500	SF	5.00	12,500	
Guard Posts	10	EA	150.00	1,500	
Misc. Embedded Steel Angles, Copings and Weldments, Galv	1,000	LB	3.50	3,500	
Misc. Steel Fabricatons, Galv	1,500	LB	4.00	6,000	27,100
WOOD					

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DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AREA	SUBTOTAL
Rough Carpentry	1	LS	1,000.00	1,000	1,000
THERMAL AND MOISTURE PROTECTION					
Membrane Roofing	25	100 SF	250.00	6,250	
Scuppers and Downspouts	200	LF	25.00	5,000	11,250
EQUIPMENT					
Lubrication System	1	LS	30,000.00	30,000	
Work Benches	2	EA	1,000.00	2,000	
Repair Equipment	1	LS	20,000.00	20,000	
Power and Small Tools	1	LS	50,000.00	50,000	102,000
MECHANICAL					
Plumbing Systems	1	LS	15,000.00	15,000	
Ventilation Systems	1	LS	50,000.00	50,000	
Dry/Wet Pipe Sprinkler Systems, Installed and Tested	2,500	SF	3.00	7,500	72,500
ELECTRICAL					
Fire Detection and Alarm System	2,500	SF	3.00	7,500	
Electrical Power	2,500	SF	15.00	37,500	
Electrical Lighting	2,500	SF	5.00	12,500	50,000
				-	
SCALE FACILITES (NORTH AND SOUTH)					
				-	
CAST-IN-PLACE CONCRETE WORK					
Footings	125	CY	400.00	50,000	
Walls	30	CY	500.00	15,000	
Slab-On-Grade	60	CY	400.00	24,000	
Miscellaneous Concrete	10	CY	350.00	3,500	92,500
METALS					
Guard Posts	12	EA	200.00	2,400	
Misc. Embedded Steel Angles, Copings and Weldments	1000	LB	2.50	2,500	
Misc. Steel Fabricatons	1000	LB	3.00	3,000	7,900
TRUCK SCALE SYSTEM					
50', '70' and 82, 100 Ton, Pit-Type Electronic Scales, South	3	EA	55,000.00	165,000	
40-Foot, 40 Ton, 2-Section, Pit-Type Electronic Scales, North	2	EA	45,000.00	90,000	
Peripheral Traffic Control and Data Equipment					
Traffic Control Lights	12	EA	1,000.00	12,000	
Lane Control Lights	5	EA	500.00	2,500	
Ticket Printer/Intercom Kiosks, Post-Mounted	2		5,000.00	10,000	279,500
SCALE HOUSE STRUCTURAL/ARCHITECTURAL					
Scale House No. 1	330	SF	400.00	132,000	
Scale Booth	141	SF	400.00	56,400	
Scale House No. 2 (Temporary)	250	SF	400.00	100,000	
Lockers	8	EA	300.00	2,400	290,800
SCALE FACILITY CANOPY STRUCTURAL/ARCHITECTURAL					
North Scale Facility Canopy	0	SF	50.00	-	
South Scale Facility Canopy	2,400	SF	50.00	120,000	120,000
MECHANICAL					
HVAC Systems	1	LS	80,000.00	80,000	
Plumbing	1	LS	12,000.00	12,000	92,000
ELECTRICAL					
Scale House Electrical Power and Lighting					
Panel, 480V 3 ph 150A w/main	2	EA	3,500.00	7,000	
Panel, 208V 3ph w/main	2	EA	2,750.00	5,500	
Panel, 208V 3ph MLO	2	EA	1,800.00	3,600	

**BOW LAKE TRANSFER STATION FACILITY MASTER PLAN
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26-Jul-06

DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL	AREA SUBTOTAL
Transformer, 45kVA	2	EA	2,160.00	4,320	
Equipment connections	30	EA	200.00	6,000	
Branch Circuits	721	SF	2.00	1,442	
Wiring devices	721	SF	1.25	901	
Intercom system	1	LS	12,000.00	12,000	
Lighting	1	LS	12,000.00	12,000	
Fire Alarm					
Addressable Smoke Detector	8	EA	200.00	1,600	
Addressable Horn/Strobe, ADA	3	EA	150.00	450	
Addressable Strobe, ADA	3	EA	90.00	270	
FA Wiring	721	SF	0.85	613	
Heat Trace Systems	2	EA	300.00	600	
Telephone/Data	1	LS	3,000.00	3,000	
Security	3	EA	500.00	1,500	
Traffic Control Wiring	1	LS	10,000.00	10,000	70,796
FORCE ACCOUNT ALLOWANCE					
Force Account Allowance	1	LS	\$250,000	\$250,000	\$250,000
SUBTOTAL CONSTRUCTION BASE BID				\$29,435,000	29,420,000
CONTINGENCY 20%				\$5,887,000	
General & Special Conditions (Division 0) 10%				\$2,943,500	
General Requirements (Division 1) 8%				\$2,354,800	
TOTAL CONSTRUCTION BASE BID PLUS CONTINGENCY				\$40,620,000	
WASHINGTON STATE SALES TAX (8.9%)				3,615,000	
TOTAL CONSTRUCTION INCLUDING WSST (2006 Dollars)				\$44,235,000	

NOTES:

Abbreviations:

CY = cubic yard
EA = each
LF = linear foot
LS = lump sum
MSF = 1,000 square feet
SF = square feet
SY = square yard