



Project Number:

Date **December 15, 2016**

Work Plan Task	Description	Project Manager	Project Engineer	Project Engineer	Lead Technician	Asst. Technician	Electrical Engineer	Land Surveyor	Surv/ Const Tech	Admin Asst.	Total Labor Costs (\$)	
		Joe Litman	Lisa Karlgaard	Kyle/ Mark	Gary Vonasek	Josh Mayfield						Linda Kerr
		\$ 160	\$ 128	\$ 98	\$ 107	\$ 70	\$ 140	\$ 150	\$ 90	\$ 64		
1	2017 Operating Retrofit- Est. 16 Wks											
	Project Management	52	0	32	0	0	6	0	0	0	\$ 12,296	
	Preconstruction Meeting	4		2							\$ 836	
	Construction Meetings (10)	24		24							\$ 6,192	
	Coordination with H&H	24		6			6				\$ 5,268	
	2	Submittals	46	0	16	0	0	0	0	0	40	\$ 11,488
		Processing \$ Tracking	6								40	\$ 3,520
		Submittal Reviews	40		16							\$ 7,968
	3	Strucutural Review and Mod's	26	0	80	40	0	0	0	0	0	\$ 16,280
		Field Assessment	4		8							\$ 1,424
		Structural Analysis	6		32							\$ 4,096
		Modification Details	16		40	40						\$ 10,760
	4	On Site Admin	144	0	262	0	0	20	2	16	0	\$ 53,256
		At Bridge	128		256			20				\$ 48,368
		At Mach Shop	14									\$ 2,240
		Survey Verif.	2		6				2	16		\$ 2,648
	5	Contract Changes	20	0	24	0	0	0	0	0	0	\$ 5,552
		Work Orders	8		12							\$ 2,456
		Structural Mods.	12		12							\$ 3,096
	6	2017/ 18 Painting										
		Project Management	20	0	20	0	0	0	0	0	0	\$ 5,160
		Preconstruction Meeting	2		2							\$ 516
	7	Construction Meetings (6)	18		18							\$ 4,644
		Submittals	4	0	6	0	0	0	0	0	4	\$ 1,484
		Processing			2						4	\$ 452
	8	Submittal Reviews	4		4							\$ 1,032
		On Site Admin	60	0	192	0	0	0	0	0	0	\$ 28,416
		At Bridge (Est 12 weeks)	60		192							\$ 28,416
9	Contract Changes	2	0	6	0	0	0	0	0	0	\$ 908	
	Work Orders	2		6							\$ 908	
TOTALS		374	0	638	40	0	26	2	16	44	\$ 134,840	
OTHER DIRECT COSTS (ODC)									SUMMARY			
Description		Cost									LHB Labor Cost	\$ 134,840
Travel/ Insp vehicle		\$ 300									Other Direct Costs	\$ 700
Mail / Delivery											Total LHB Est Cost	\$ 135,540
Printing												
Supplies												
Survey Equipment		\$ 400									Subconsultant Costs (Hardesty & Hanover)	\$ 143,025
Total ODC		\$ 700									Total Est Costs	\$ 278,565



Construction Support Services for the Drive Machinery Retrofit
Minnesota Slip Pedestrian Bridge
for the City of Duluth as a subconsultant to LHB

9-Dec-16

		Project	Project	Mechanical	Electrical	Staff Engr.	
		Manager	Engineer	Lead	Lead		
Task 1	Project Coordination						
1.1	Project Management (6 months)	30	0	0	0	0	
1.2	Project Meetings (2 telecon mtgs)	8	8	0	0		
	Task Subtotal	38	8	0	0	0	46
	Task Costs	\$ 8,740.00	\$ 1,584.00	\$ -	\$ -	\$ -	\$ 10,324.00
Task 2	Shop Drawing Review						
2.1	Machinery Shops (30 shops)	2	4	16	0	160	
2.2	Structural Shops (20 shops)	2	4	16	0	120	
2.3	Electrical Submittals (40 catalog cuts)	2	4	0	16	120	
2.4	Procedure Submittals	2	16	8	4	0	
	Task Subtotal	8	28	40	20	400	496
	Task Costs	\$ 1,840.00	\$ 5,544.00	\$ 6,160.00	\$ 3,880.00	\$ 46,800.00	\$ 64,224.00
Task 3	RFIs and RFCs						
3.1	RFI Responses (4 total)	1	4	4	4		
3.2	RFC responses (2 total)	1	4	4	4		
	Task Hours	2	8	8	8	0	26
	Task Costs	\$ 460.00	\$ 1,584.00	\$ 1,232.00	\$ 1,552.00	\$ -	\$ 4,828.00
Task 4	Inspections						
4.1	Shop Inspection - Reducer Test	0	2	8	0	24	
4.2	Shop Inspection - Machine Shop	0	2	8	0	24	
4.2	Shop Inspection - Controls	0	2	0	8	24	
4.3	Field Commisioning	0	2	40	40	0	
		0	8	56	48	72	184
	Billable Rates	\$ 230.00	\$ 198.00	\$ 154.00	\$ 194.00	\$ 117.00	
	Task Costs	\$ -	\$ 1,584	\$ 8,624	\$ 9,312	\$ 8,424	\$ 27,944.00

	Total Labor Estimated Costs		\$ 107,320.00
		Expenses	\$ 8,375.00
			\$ 115,695.00

Travel Expenses							
Airfare & Travel	\$ 1,000.00			x		5	\$ 5,000.00
Hotel	\$ 150.00			x		15	\$ 2,250.00
Meals	\$ 75.00			x		15	\$ 1,125.00
							\$ 8,375.00



Structural Analysis & Modifications for the Machinery Retrofit Project
Minnesota Slip Pedestrian Bridge
for the City of Duluth as a subconsultant to LHB

9-Dec-16

		Project	Specialist	Senior Str.	Struct. Engr.		
		Manager	Marcic	Keung	Reichenbach		
Task 1	Structure Analysis						
1.1	Tower and Cwt Arm Analysis		30	146	9		
	Task Subtotal	0	30	146	9	0	185
	Task Costs	\$ -	\$ 5,850.00	\$ 19,710.00	\$ 855.00	\$ -	\$ 26,415.00
Task 2	Hinge Rework & Tower Strengthening						
2.1	Hinge Support Distribution	0	0	169	0		
	Task Subtotal	0	0	169	0	0	169
	Task Costs	\$ -	\$ -	\$ 22,815.00	\$ -	\$ -	\$ 22,815.00
Task 3	Strengthening & Further Analysis						
3.1	Counterweight Arm	1	8	8	24		
3.2	Span and Tower	1	8	8	24		
	Task Hours	2	16	16	48	0	82
	Task Costs	\$ 460.00	\$ 3,120.00	\$ 2,160.00	\$ 4,560.00	\$ -	\$ 10,300.00
Task 4							
		0	0	0	0	0	0
	Billable Rates	\$ 230.00	\$ 195.00	\$ 135.00	\$ 95.00		
	Task Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

	Total Labor Estimated Costs	\$ 59,530.00
	Cost Offset due to Design Phase Contract Under-run	\$ (32,200.00)

	Expenses	\$ -
	Total Net	\$ 27,330.00

Travel Expenses

Airfare & Travel	\$ 1,000.00			x		0	\$ -
Hotel	\$ 150.00			x		0	\$ -
Meals	\$ 75.00			x		0	\$ -
							\$ -