

FEATURE: Klamath River Dams Removal Yreka water supply Dam A modifications Most Probable Low	PROJECT: Klamath River Northern California/Southern Oregon		
	WOID: AF652	ESTIMATE LEVEL: Appraisal	
	REGION: MP	UNIT PRICE LEVEL: July-2010	
	FILE: C:\Estimating\Klamath\Klamath River Dams\Yreka Supply Line\MPL, MP, MPH\Klamath Dams Removal - Yreka Water Supply Line - MPL - Appraisal Est - 4-2011.xlsx\Pipe Crossing		

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		CIVIL					
	1	Remove & dispose steel frame with slide gates/weirs 14 ft wide x 9 ft tall, weight unknown assume contains heavy metals	86-68140	1	ea	\$6,000.00	\$6,000.00
	2	Remove & dispose by steel bulkhead panel 3'-2" ft wide x 5'-6" tall assume contains heavy metals	86-68140	1	ea	\$950.00	\$950.00
	3	Remove & dispose fish screen panels 3 ft wide x 5'-6" tall each assume contains heavy metals	86-68140	6	ea	\$950.00	\$5,700.00
	4	Cut, remove concrete deck 3 ft x 1'-7" x 6 in	86-68140	2.4	cf	\$140.00	\$336.00
	5	Remove & dipose wood frame building 16 ft x 12 ft with roll up door	86-68140	1	ea	\$24,000.00	\$24,000.00
	6	Furnish, install wood frame building 16 ft x 12 ft with two roll up doors 9 ft x 7 ft door, 12 ft x 7 ft door	86-68140	1	ea	\$47,500.00	\$47,500.00
	7	Furnish & install steel slide gate with pedestal lift 30" wide x 42", 500 lb ea.	86-68140	2	ea	\$3,800.00	\$7,600.00
	7a	Furnish and place concrete walls 3 @ 5-6 h x 5 w x 1 ft thick reinf. - 115 lb ea 27 #5 dowels, drill and grout		0	cy	\$1,250.00	
	7b	Extend 220v power to the site distance is about 350 ft, lots of clearing		0	lf	\$140.00	
	7c	Diversion & care assume 10 cfs for 40 days		0	ls	\$95,000.00	
		Note: All work on this sheet takes place on existing diversion dam with water flowing. Workers will be above flowing water on diversion structure.					
		SUBTOTAL THIS SHEET					
							\$92,086.00

QUANTITIES		PRICES	
BY Sayer	CHECKED	BY Craig A. Grush, P.E.	CHECKED DW 05-23-11
DATE PREPARED 01/15/11	PEER REVIEW / DATE Dave Edwards 1/24/11	DATE PREPARED 05/23/11	PEER REVIEW / DATE DCB 5/24/11

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PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		MECHANICAL					
	8	Furnish and install cylindrical tee fish screen (Q= 15 cfs) Assumes approach velocity = 0.33 ft/s Screen diameter = 30 inches Overall unit length = 128" Inclined track length = 10 ft All stainless steel 304 or 316 Assume: ISI screen model T30-42 with internal propellar drives and 12 volt DC winch	86-68410	1	ea	\$95,000.00	\$95,000.00
		Furnish and install three bulkheads, welded structural steel construction, protective coating.	86-68410				
	9a	- 3 Bulkheads, 500 lbs. ea.		1,500	lbs	\$7.00	\$10,500.00
	9b	-30 - 1/2" dia. x 9" epoxy anchors		30	ea	\$24.00	\$720.00
		DAM A MODIFICATIONS SUBTOTAL					\$198,306.00

QUANTITIES		PRICES	
BY R. Stephen	CHECKED R. Christensen	BY <i>[Signature]</i> Craig A. Grush, P.E.	CHECKED <i>[Signature]</i> 3/8/11
DATE PREPARED 01/20/11	PEER REVIEW / DATE T. Hummel P.E. 1/21/11	DATE PREPARED 03/08/11	PEER REVIEW / DATE <i>[Signature]</i> 3/9/11

FEATURE: Klamath River Dams Removal Yreka water supply Dam B modifications Most Probable Low	PROJECT: Klamath River Northern California/Southern Oregon
	WOID: AF652 ESTIMATE LEVEL: Appraisal
	REGION: MP UNIT PRICE LEVEL: July-2010
	FILE: C:\Estimating\Klamath\Klamath River Dams\Yreka Supply Line\MPL, MP, MPH\Klamath Dams Removal - Yreka Water Supply Line - MPL - Appraisal Est - 4-2011.xlsx\Pipe Crossing

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		CIVIL					
	10	Excavation for structure	86-68140	40	cy	\$75.00	\$3,000.00
	11	Compacted backfill for structure	86-68140	30	cy	\$55.00	\$1,650.00
	12	Concrete removal, 2'x2' cut opening	86-68140	4	cf	\$140.00	\$560.00
	13	Furnish & place concrete in structure	86-68140	8	cy	\$1,250.00	\$10,000.00
	14	Remove & dipose existing trashrack 5 ft x 9 ft assume contains heavy metals	86-68140	1	ea	\$2,400.00	\$2,400.00
	15	Furnish & install grating	86-68140	25	sf	\$190.00	\$4,750.00
	15a	Furnish and place concrete wall size, 9.5 ft tall, 5 ft w, 1 ft thick 11 #5 dowels, drill and grout reinf - 200 lb		0	cy	\$2,100.00	
	15b	Extend 220v power to the site distance is about 280 ft, lots of clearing		0	lf	\$140.00	
	16	Diversion & care assume 10 cfs for 10 days	86-68140	1	ls		\$47,500.00
	17	Create access to dam	86-68140	1	ls		\$28,500.00
		SUBTOTAL THIS SHEET					\$98,360.00

QUANTITIES		PRICES	
BY Sayer	CHECKED	BY <i>[Signature]</i> Craig A. Grush, P.E.	CHECKED <i>[Signature]</i> 05-23-11
DATE PREPARED 01/15/11	PEER REVIEW / DATE Dave Edwards 1/24/11	DATE PREPARED 05/23/11	PEER REVIEW / DATE <i>[Signature]</i> 5/24/11

FEATURE: Klamath River Dams Removal Yreka water supply Dam B modifications Most Probable Low	PROJECT: Klamath River Northern California/Southern Oregon
	WOID: AF652 ESTIMATE LEVEL: Appraisal REGION: MP UNIT PRICE LEVEL: July-2010
	FILE: C:\Estimating\Klamath\Klamath River Dams\Yreka Supply Line\MPL, MP, MPH\Klamath Dams Removal - Yreka Water Supply Line - MP - Appraisal Est - 2-2011.xlsx\Summary

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		MECHANICAL					
	18	Furnish and install cylindrical tee fish screen (Q= 15 cfs) Assumes approach velocity = 0.33 ft/s Screen diameter = 30 inches Overall unit length = 128" Vertical track length = 12 ft All stainless steel 304 or 316 Assume: ISI screen model T30-42 with internal propellar drives and 12 volt DC winch	86-68410	1	ea	\$95,000.00	\$95,000.00
		Furnish and install bulkhead to replace trashrack, welded structural steel construction, protective coating.	86-68410				
	19a	- 1 Bulkhead, 1,200 lbs.		1,200	lbs	\$7.00	\$8,400.00
	19b	-18 - 1/2" dia. x 9" epoxy anchors		18	ea	\$24.00	\$432.00
		DAM B MODIFICATIONS SUBTOTAL					\$202,192.00

QUANTITIES		PRICES	
BY R. Stephen	CHECKED R. Christensen	BY <i>[Signature]</i> Craig A. Grush, P.E.	CHECKED <i>[Signature]</i> 3/8/11
DATE PREPARED 01/20/11	PEER REVIEW / DATE T. Hummel P.E. 1/21/11	DATE PREPARED 03/08/11	PEER REVIEW / DATE <i>[Signature]</i> 3/9/11

FEATURE: Klamath River Dams Removal Yreka water supply Yreka pipe crossing - mount pipe on haul bridge Iron Gate Reservoir Most Probable Low	PROJECT: Klamath River Northern California/Southern Oregon <hr/> WOID: AF652 ESTIMATE LEVEL: Appraisal REGION: MP UNIT PRICE LEVEL: July-2010 FILE: C:\Estimating\Klamath\Klamath River Dams\Yreka Supply Line\MPL, MP, MPH\Klamath Dams Removal - Yreka Water Supply Line - MPL - Appraisal Est - 4-2011.xlsx\Pipe Crossing
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PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		CIVIL					
	20	Three span, pre-engineered pipe support access bridge, with 7.5' box truss Span lengths are 100', 200', 100'. Support one 24" Dia. Welded steel pipe. Steel pipe and supports, Wt.=150 lbs/linear ft Water, Wt.=200 lbs/linear ft	86-68140	0	ea	\$650,000.00	
		Finish & place reinforced concrete caps for abutment 1 and pier 1 (4' diameter column)					
	21	Concrete	86-68140	0	cy	\$2,400.00	
	22	Reinforcement, epoxy coated	86-68140	0	lb	\$1.90	
		Drilled shafts					
	23	5'-0" Diameter @ pier 1 (Pier drilled shaft requires 12 CY of concrete and 5,000 lbs of reinforcement)	86-68140	0	lf	\$5,500.00	
	24	3'-0" Diameter @ abutment 1 (Abutment drilled shafts require 14 CY of concrete and 8,000 lbs of reinforcement)	86-68140	0	lf	\$1,400.00	
		SUBTOTAL THIS SHEET					

QUANTITIES		PRICES	
BY Sayer	CHECKED Clough 1/11/11	BY Craig A. Grush, P.E.	CHECKED 05-23-11
DATE PREPARED 01/10/11	PEER REVIEW / DATE Jesus Romero, PE 1/12/11	DATE PREPARED 05/23/11	PEER REVIEW / DATE 5/24/11

FEATURE: Klamath River Dams Removal Yreka water supply Yreka pipe crossing - mount pipe on haul bridge Iron Gate Reservoir Most Probable Low	PROJECT: Klamath River Northern California/Southern Oregon <hr/> WOID: AF652 ESTIMATE LEVEL: Appraisal REGION: MP UNIT PRICE LEVEL: July-2010 FILE: C:\Estimating\Klamath\Klamath River Dams\Yreka Supply Line\MPL, MP, MPH\Klamath Dams Removal - Yreka Water Supply Line - MPL - Appraisal Est - 4-2011.xlsx\Pipe Crossing
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PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		CIVIL					
		Furnish & place reinforced concrete caps for abutment 2 and pier 2 (4' diameter column)					
	25	Concrete	86-68140	0	cy	\$2,400.00	
	26	Reinforcement, epoxy coated	86-68140	0	lb	\$1.90	
		Drilled shafts					
	27	5'-0" Diameter @ pier 2 (Pier drilled shaft requires 12 CY of concrete and 5,000 lbs of reinforcement)	86-68140	0	lf	\$5,500.00	
	28	3'-0" Diameter @ abutment 2 (Abutment drilled shafts require 14 CY of concrete and 8,000 lbs of reinforcement)	86-68140	0	lf	\$1,400.00	
	29	Remove & dispose existing steel pipe, 1/4 inch wall, 24" dia. assume contains heavy metals	86-68140	0	lf	\$45.00	
	30	Welded steel pipe, 1/4 inch wall, 24 inch dia. epoxy primer, polyurethane top coat, exterior coal-tar epoxy lined	86-68140	2,100	lf	\$190.00	\$399,000.00
	31	Install/Remove 2 access ramps for piers, dumped compacted gravel in river	86-68140	0	cy	\$95.00	
	32	Excavation for pipe trench	86-68140	1,800	cy	\$14.00	\$25,200.00
	33	CLSM pipe bedding	86-68140	200	cy	\$285.00	\$57,000.00
	34	Backfill in pipe trench	86-68140	1,400	cy	\$28.00	\$39,200.00
		PIPE CROSSING SUBTOTAL					\$520,400.00

QUANTITIES		PRICES	
BY	CHECKED Sayer	BY <i>[Signature]</i> Craig A. Grush, P.E.	CHECKED <i>[Signature]</i> 05-23-11
DATE PREPARED 01/05/11	PEER REVIEW / DATE Jesus Romero, PE 1/09/11	DATE PREPARED 05/23/11	PEER REVIEW / DATE <i>[Signature]</i> 5/24/11

FEATURE: Klamath River Dams Removal Yreka water supply Most Probable Low SUMMARY	PROJECT: Klamath River Northern California/Southern Oregon <hr/> WOID: AF121 ESTIMATE LEVEL: Appraisal <hr/> REGION: MP UNIT PRICE LEVEL: July-2010 <hr/> FILE: C:\Craig Stuff @ Work\{2011 PP.xlsx\PP1110
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PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		Dam A Modifications					\$198,306.00
		Dam B Modifications					\$202,192.00
		Pipe Crossing					\$520,400.00
		Subtotal					\$920,898.00
		Mobilization	5%	+/-			\$46,000.00
		Subtotal 1 with Mobilization					\$966,898.00
		Escalation to Notice to Proceed (NTP), from July 2010 to July 2020 (assumes 1.5%/yr compounding over 10 years)					\$155,227.00
		Subtotal 2 = Subtotal 1 with Mobilization + Escalation to NTP					\$1,122,125.00
		Design Contingencies	13%	+/-			\$127,875.00
		Allowance for Procurement Strategies (APS)	0%	+/-			
		Type of solicitation assumed is: Competitive RFP					
		CONTRACT COST					\$1,250,000.00
		Construction Contingencies	23%	+/-			\$300,000.00
		FIELD COST					\$1,550,000.00
		Non-Contract Costs:	52%	+/-			\$850,000.00
		(Environmental & Cultural Resources Mitigation ~ 35%, Design Data Collection ~ 1%, Engineering Design ~ 3%, Permitting ~ 2%, Procurement ~ 1%, Construction Management ~ 9%, and Closeout ~ 1%)					
		CONSTRUCTION COST					\$2,400,000.00

Ref.: For appropriate use and terminology, see Reclamation Manual, Directives and Standards FAC; 09-01, 09-02 and 09-03.

QUANTITIES		PRICES	
BY Refer to Previous Sheets	CHECKED Refer to Previous Sheets	BY <i>[Signature]</i> Craig A. Grush, P.E.	CHECKED <i>[Signature]</i> 05-10-11
DATE PREPARED	PEER REVIEW / DATE Refer to Previous Sheets	DATE PREPARED 05/10/11	PEER REVIEW / DATE <i>[Signature]</i> 05-10-11