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Table 1. Potential List of PHSP Pre-Design Studies – Updated 6/6/217

Phase 1 Scope Item		Estimated Costs (\$K)		Expenditures by Year		
Task	Purpose	Best Estimate	Reasonable Worst Case	Year 1	Year 2	Year 3
Pre-Design Field Studies						
1	Bathymetry survey	Current sediment depths	\$300	\$390	100%	
2	Surface sediment sampling	Current levels of contamination (N=300 to 500)	\$1,392	\$1,800	10%	90%
3	Fish tissue sampling	Current risk of eating fish (N=95)	\$510	\$765		100%
4	Surface water sampling	Fate and Transport model calibration	\$982	\$1,473	30%	70%
5	Sediment Coring	Subsurface extent of contamination (N=90)	\$1,568	\$2,350		100%
6	Fish Acoustic Tracking Study	Where fish are located	\$140	\$608	30%	70%
7	Camera Survey of Anglers	Where people fish in the river	\$150	\$225	30%	70%
8	Porewater sampling	Upstream for background metals	\$60	\$100		100%
Technical Analyses / Reporting						
A	Focused Work Plan for AOC scope		\$200	\$400	100%	
B	Refine SWACs and evaluate MNR trends		\$200	\$400	40%	60%
C	Evaluate background		\$300	\$450		60%
D	Refine active footprint		\$300	\$450		60%
E	Refine foodweb model and risks		\$350	\$525		100%
F	Data interpretation reports		\$450	\$860		100%
	<i>Management and Meetings (8%, 10%)</i>		\$552	\$1,080	0.3	0.4
	<i>Contingency Costs (10%, 10%)</i>		\$690	\$1,080	0.3	0.4
	<i>Oversight costs for DEQ, EPA, and Tribes (25%, 35%)</i>		\$1726	\$3,770	0.3	0.4
Estimated TOTAL Costs for Phase 1 Pre-Design Studies			\$9,870	\$16,734	\$3,443K	\$9,674K
					\$3,526K	

Note 1: These timeframes are approximate and begin post-discussion with EPA and after selection of a consultant to do the work (except for fish tracking pilot).

Note 2: Fish tracking study is only the pilot study at low-end cost; upper end is whole study. Sediment sampling count at low end is 300 and 500 at upper end.

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Note 3: Labor for preparation of ROD amendment is included in the technical analyses scope.

*SWAC = *concentration of contaminants*