

Agenda Item: 6.

MEMORANDUM

TO: Programs, Projects and Operations Subcommittee

FROM: Amanda Grint, Water Resources Engineer

SUBJECT: Contract Amendment with HDR Engineering, Inc. for Design Services of Rumsey West Wetland Mitigation Bank

DATE: January 7, 2016

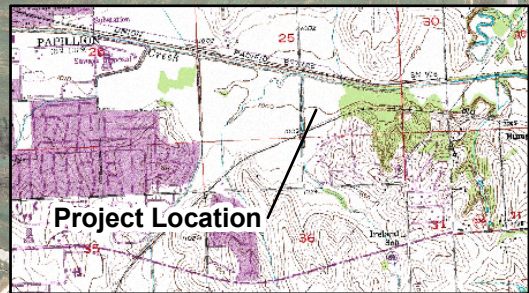
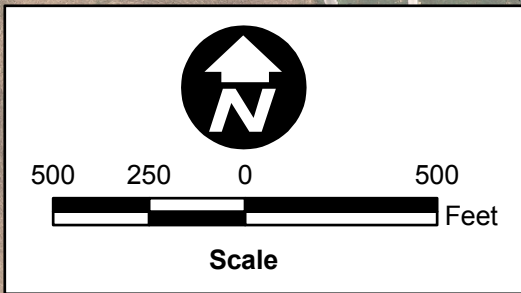
Since 2010, the District has had a contract in place with HDR Engineering, Inc. for the design, permitting and monitoring of Rumsey West wetland mitigation bank in the amount of \$94,869. See attached map. Initially, the project was designed in conjunction with Green Hearts, a nature preschool concept. The work completed to-date, in the amount of \$67,678, includes coordination with Green Hearts and design of the plan, work with the USACE and the Interagency Review Team (made up of stakeholders from various federal and state agencies) to move toward mitigation bank approval, and a completion of a Site Development Plan for the USACE.

As the R616/613 levee accreditation moves forward with USACE permitting, it has become evident that off-site mitigation is necessary for the project. The details of the levee project mitigation are still being worked out but Rumsey West has about the amount of needed mitigation and has a developed concept making it an ideal location. In order to meet the project specific mitigation rather than the wetland bank concept, we have asked HDR Engineering, to amend the contract and revise tasks. The amendment includes the following:

- Redesign of wetland banking concept to a project specific plan maximizing the acres of wetlands.
- Delete the task for IRT Coordination.
- Prepare plans and specs to be included in the levee accreditation plans.
- Supplemental topography for a diversion pipe.
- Soil boring and geotechnical analysis
- Seepage analysis

This additional work will provide a mitigation plan that can be submitted with the levee project USACE 404 application and will offset some of the costs of that contract.

Staff recommends that the Subcommittee recommend to the Board that the General Manager be authorized to execute the contract amendment with HDR Engineering, Inc. in the amount of \$75,737 for Rumsey West wetland design bringing the contract total to \$170,606 subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.



Project Location
Rumsey West

DATE
October 2010

FIGURE
1



**Papio-Missouri River Natural Resources District
Rumsey Station Wetland Mitigation Site
Amendment # 1**

ENGINEERING PROPOSAL

REFERENCED AGREEMENT

This Amendment pertains to an Agreement by and between Papio-Missouri River Natural Resources District (P-MRNRD), and HDR ENGINEERING, INC., (“HDR”), dated December 17, 2010, (“the Agreement”). HDR shall perform services on the project described below as provided herein as an amendment to this Agreement. This Amendment shall not be binding until it has been properly signed by both parties. Upon execution, this Amendment shall supplement the Agreement as it pertains to the project described below.

PART 1.0 PROJECT DESCRIPTION:

STATEMENT AND OBJECTIVES

The purpose of this Amendment is to revise the Site Design for the Rumsey West Wetland Mitigation Site (Site) and convert the existing draft Site Development Plan into a project specific wetland mitigation plan.

BACKGROUND AND BASIS OF PROPOSAL

The Rumsey West Wetland Mitigation Bank Site was initiated in 2010 to provide additional bank credits for P-MRNRD’s wetland mitigation umbrella bank. However, the completion of the design and associated Site Development Plan was delayed due to coordination issues with the Interagency Review Team and P-MRNRD priorities. In addition, a potential on-site tenant is no longer being considered.

Due to wetland mitigation needs associated with the right bank West Papillion Creek levee maintenance, P-MRNRD has determined that the Rumsey West site can serve as project specific mitigation. In addition, due to the loss of the on-site tenant and the associated design considerations made for the tenant, the site can be re-designed to achieve its full potential for wetland development. This Amendment was developed to identify tasks from the existing scope that need to be added, modified, or deleted. In addition, an approved scope of services was completed in October of 2010 (see Appendix A). The associated fee for this effort is \$4,609.

PART 2.0 SCOPE OF SERVICES:

Consistent with the Scope of Services, HDR proposes to provide the following professional services. Each task identified will be performed for the project.

A1.01 Study and Report Phase

TASK 100 – PROJECT MANAGEMENT AND QUALITY CONTROL

Task Objective: Confirm Project elements are being completed, quality control is conducted, and coordination with P-MRNRD on progress and deliverables.

HDR Activities: Conduct general project management tasks. Includes development of project initiation forms including monthly invoicing, progress reporting, project close out activities, and other administration project activities during the design and



monitoring of the wetland mitigation bank site. Perform quality reviews on deliverables.

Modified – These activities will be required for the duration of the project.

Meetings: None anticipated.

Task Deliverables: Monthly invoices and progress reports.

Key Understandings: **Modified** – Assumes a 3 month project schedule for site design activities. Annual monitoring will occur in years 2017, 2018, and 2019 (assuming construction occurs in late 2016 or prior to growing season in 2017).

TASK 200 – DELETE - IRT COORDINATION

~~**Task Objective:** Coordinate with IRT (no longer required as Site will no longer be used as bank site).~~

~~**HDR Activities:** Develop the components of a Site Development Plan generally following the outline provided in Exhibit B of the April 2000 Final Mitigation Banking Instrument. Includes one on-site visit to document existing site conditions.~~

~~**Meetings:** One meeting with IRT.~~

~~**Task Deliverables:** Site Development Plan~~

~~**Key Understandings:** Existing information for on-site wetlands will be used to document presence of existing wetlands. No wetland delineations are anticipated. One site visit is anticipated (one HDR scientist).~~

~~As part of coordination with the IRT on the Rumsey Station East Corrective Actions (Task 300 of Amendment #3 to the August 11, 2003 agreement), HDR would include discussions of the Rumsey West Design concurrent with this meeting. Any additional work required as a result of IRT consultation is not included in this proposal but can be performed as Additional Services.~~

ADD - TASK 300 – PREPARE WETLAND MITIGATION PLAN

Task Objective: Prepare wetland mitigation plan to accompany P-MRNRD Section 404 Permit submittal.

HDR Activities: Revise the existing Site Development Plan into a project specific wetland mitigation plan that addresses 33 CFR 332.4 (c) 2-14. Revisions include a revised Site concept, re-formatting, graphic updates, and text updates.

Organize and attend a coordination meeting with the U.S. Army Corps of Engineers (USACE) to discuss the change from a mitigation bank site to project specific mitigation. Respond to comments from USACE review of wetland mitigation plan.

Finalize the wetland mitigation plan based on USACE and P-MRNRD comments. Site Development Plan into a project specific wetland mitigation plan that addresses review comments.

Meetings: One meeting with USACE and P-MRNRD at Lake Wehrspann field office.



Task Deliverables: Draft and Final Wetland Mitigation Plan

Key Understandings:

- ▶ One draft wetland mitigation plan concept will be provided to P-MRNRD for review.
- ▶ Assumes USACE will have comments on the mitigation plan submitted with the Section 404 Permit.
- ▶ Meeting with USACE to occur before re-design and mitigation plan development efforts to assume USACE is coordinated with to obtain input on the re-design.

ADD - TASK 400 – SUPPLEMENTAL TOPOGRAPHIC SURVEY

Task Objective: Obtain additional topographic survey needed for design of the inlet structure.

HDR Activities: HDR will obtain topographic survey to support the design of the water control structure needed approximately 1,200 feet south (upstream) of the southwest corner of the Site. Above ground and marked utilities will be surveyed.

Task Deliverables: Topographic survey.

Key Understandings: P-MRNRD will coordinate access. Lamp, Rynearson & Associates, as a Subconsultant to HDR to conduct the topographic survey. See Appendix A for sub-consultant proposal.

ADD - TASK 500 – WETLAND DETERMINATION

Task Objective: Perform a wetland determination of the inlet structure and pipeline route location.

HDR Activities: Review the inlet location and pipeline location during the Site Visit (see Activity A1.02 Preliminary Design, Task 100). Determine if visual indicators of wetlands are present. Document result in a technical memorandum.

Task Deliverables: Final Wetland Determination Memorandum.

Key Understandings: Wetland determinations will be performed due to the end of the growing season. Vegetation and hydrology will be documented as Site conditions allow.



A1.02 Preliminary Design Phase

TASK 100 – SITE VISIT

HDR Activities: **Added** - A second site visit will be performed by project team to review the site for consistency with new design criteria. Conduct a field visit of the Rumsey West Wetland Mitigation Site. Verify existing wetland areas and water sources of wetland. Analyze general site and surrounding area topography. Arrange and conduct on-site meeting to verify project objectives and identify/determine future management objectives for the proposed wetland area (e.g. grazing, water level control etc.).

Meetings: None.

Key Understandings: All necessary property right of entry will be acquired by P-MRNRD. Assumes five HDR professionals.

TASK 200 – HYDROLOGY/HYDRAULIC ANALYSIS

Task Objective: **Modified** - Evaluation of available existing hydrology and adaptation for use at proposed diversion location. Preparation of preliminary and final design of a stream diversion structure, conveyance, and outlet structure to provide intermittent flow to the proposed Rumsey West Wetland site.

HDR Activities: **Modified** - Review April 2009 feasibility study prepared by Jacobson Satchell (2009 Feasibility Study) for incorporation into concept design of water supply and control structures. Estimate storm discharge flow rates for design of diversion structure, conduit, and conduit outlet structure. The following provides specific information relative to these activities:

- ▶ Perform analysis of existing watershed hydrology to estimate the flow rates in Stream DR-1 for the 2-, 10-, and 100-year flood events at the proposed project location.
- ▶ Prepare a preliminary design and preliminary opinion of probable costs for an intake diversion structure, conduit, and outlet structure to divert a portion of the baseflow from stream DR-1 at a location upstream of the abandoned railroad embankment such that gravity flow through the conduit can supply water into the wetland.
- ▶ Prepare a hydraulic model of the proposed diversion location on the tributary for existing and proposed conditions will be prepared to compare local water surface profiles with and without the proposed diversion for the channel full (assumed to be approximately equal to 2-year) flow rate and the next most frequent flow rate available (likely 5- year or 10-year) in the HEC-HMS model.
- ▶ Present preliminary design to District representatives for discussion and authorization to proceed at a design review meeting.
- ▶ Prepare final design and contract documents and final opinion of probable costs.

Key Understandings: **Modified** - The following assumptions were considered for this task:

- ▶ Portions of the proposed wetland project are located within the critical zone of the levee system. The levee system is included in the USACE PL 8499 Program and a technical review of any development within the critical zone must be reviewed by the USACE.



- ▶ The 2009 Feasibility Study contains data needed for preliminary structure sizing and location.
- ▶ Existing topographic survey will be supplemented with additional topographic survey of the proposed diversion structure location as described in other tasks and will include location of know utilities.
- ▶ The HEC- HMS hydrologic model prepared by USACE, Omaha District and documented in the February 2010 “Papillion Creek Watershed Nebraska Hydrologic Analysis” will be utilized for the hydrologic analysis. The flow rates from the model for the subwatershed will be prorated based on the ratio of the model subwatershed area to the contributing area at the proposed diversion location. Any additional hydrologic analysis can be added as additional services.
- ▶ The proposed diversion structure is expected to be flush with the surface on the overbanks adjacent to the channel, and is not expected to adversely affect water surface profiles for storms greater than 5-year or 10-year annual recurrence frequency.
- ▶ The average baseflow in the stream DR-1 (estimated at 0.7 cfs) and the required amount of water to be diverted into the wetlands (0.5 to 1.5 cfs) listed in the April 2009 feasibility study are assumed to be acceptable values and will be used in the design of the diversion structure, conduit, and outlet.
- ▶ Temporary and permanent right-of-way widths necessary for construction and operation and maintenance of the diversion structure and conduit will be provided by P-MRNRD. Right-of-way and other easement issues will be resolved by P-MRNRD and not considered as a part of this scope.
- ▶ It is anticipated standard City of Omaha specifications will be applicable for the project components.
- ▶ Modification of existing levee embankment or structures are not included in this scope of services.

TASK 300 – MODIFIED – PRELIMINARY DESIGN GRADING AND LANDSCAPE PLAN

Task Objective: **Modified** - Revise the draft site design to maximize the potential of the Site for wetland development and in coordination with results from seepage analysis (see Task 400 below).

HDR Activities: **Preparation of Preliminary Design**

- ▶ The following sheets will be developed:
 - Cover Sheet
 - General Notes
 - Diversion and water control structures – includes determination of storm discharges and design for inlet structure, water control structures within the site, and outlet structure.
 - Grading Plan
 - Seeding Plan
 - Spot Grades
 - Plan and profile of pipe design layout
 - Details on diversion structure, cleanout/manholes
- ▶ Develop technical specifications
- ▶ Develop opinion of probable costs

~~**Delete (addressed in Section A1.03 – Final Design) - SWPPP plan narrative and drawing and grading permit in accordance with the Papio Creek Watershed Partnership guidance to comply with the Nebraska NPDES stormwater general permit. Prepare grading application for NPDES and Papio Creek Watershed**~~



~~Partnership permits. This includes completion of final grading plan and erosion control plan for submittal to Papio Creek Watershed Partnership.~~

No Change - HDR will prepare 11" x 17" construction drawings (8 sheets assumed using HDR drafting standards) and technical specifications (5 sections assumed using HDR standards) to describe the work necessary. An

Meetings: **No Change** - One (1) plan review meeting with P-MRNRD and two HDR professionals.

Task Deliverables: **Modified** - Draft and Final Complete plans and technical specifications

Key Understandings: **Add** - Plans for the water control structure will be finalized based on topographic survey obtained in this Amendment. It is assumed standard specifications for inlet structure and outlet structures will be available. Grading plan for the Site will be developed from existing topographic mapping.

ADD - TASK 400 – UNDERSEEPAGE EVALUATION

Task Objective: Perform an underseepage evaluation and associated memorandum suitable evaluating the potential impacts of excavation adjacent to the flood control levee.

HDR Activities: HDR would perform the following activities:

- ▶ Review of Existing Information – Available geotechnical and geological information in the vicinity of the proposed project will be collected and reviewed. Some of this information will consist of the 2012 geotechnical investigation just south of the proposed project site and the NRCS Soil Survey maps for this area.
- ▶ Geotechnical Investigation – Since no site specific geotechnical data is available, an exploratory test boring will be needed to investigate the subsurface conditions at the proposed excavation. This boring will be advanced through the clay blanket soils and pervious sand stratum until the glacial till is encountered. A depth of 50 feet was assumed lab materials testing will be performed to assess the underseepage characteristics of the foundation soils. Thiele Geotech, as a sub-consultant to HDR, will conduct the subsurface investigation and laboratory testing. See Appendix C for sub-consultant proposal.
- ▶ Engineering Analyses – Based on the subsurface profile and engineering characteristics derived from the review of existing information and the results of the new boring, underseepage analyses will be performed to determine the impact of high water in West Papillion Creek and the proposed excavation on the stability of the earthen levee. USACE-Omaha District's criteria will be followed which sets the maximum allowable vertical exit gradient from the underseepage analyses to be 0.5 for a water level at the top of the levee. Iterations of the underseepage model will determine the maximum depth of excavation for the wetland that will meet the stability criteria.
- ▶ Preparation of Technical Memorandum – A technical memorandum will be prepared which will present the results of the boring and lab testing and the findings and recommendations from the underseepage analyses.

Key Understandings:



- ▶ P-MRNRD will submit seepage TM for technical review by USACE. No Section 408 submittal to the USACE will not be required
- ▶ A Drilling Plan for submittal to the USACE will not be required.

Task Deliverables: Draft and Final Seepage Analysis Technical Memorandum.

A1.03 Final Design Phase

Task 100 – Wetland Mitigation Design (Modified)

Task Objective: Prepare plans and specifications for the final design of the mitigation site based on comments/input under Section A1.02 Task 300.

HDR Activities: HDR would prepare final design documents for the wetland mitigation site. Drawings developed as part of Section A1.02 Task 300 will be revised based on the plan review meeting.

HDR will prepare a SWPPP plan narrative and drawing and develop the grading permit in accordance with Papio Creek Watershed Partnership (PCWP) guidance to comply with the Nebraska NPDES stormwater general permit. Prepare grading application for NPDES and PCWP permits. This includes completion of final grading plan and erosion control plan suitable for submittal to PCWP.

HDR will prepare 11" x 17" construction drawings (8 sheets assumed using HDR drafting standards) and technical specifications (5 sections assumed using HDR standards) to describe the work necessary. A revised opinion of probable construction costs will also be prepared based on the final design.

Key Understandings: P-MRNRD will be responsible for Division 00 Procurement and Control Requirements (bidding specifications). NPDES permit application assumes a maximum of 10 sheets will be developed. Construction monitoring for compliance with SWPPP is not included but can be performed as additional services.

Meetings: None. ~~One (1) plan review meeting with NRD staff with two HDR professionals.~~

Task Deliverables: Final plan drawings and technical specifications (one electronic and one hard copy submittal).

A1.04 Post-Construction Phase

Task 100 – Wetland Monitoring (No change to the following task)

Task Objective: Perform field investigations in accordance with the Protocol to assess the progress of wetland development at the Rumsey Station wetland mitigation bank sites (east and west) and prepare report detailing the findings of field investigations for submittal to the P-MRNRD. This task is for five (5) years of monitoring.

HDR Activities: The progress of the development of the Rumsey Station wetland mitigation bank site will be assessed by determining post-construction vegetative communities at the site and existing and/or visible evidence of hydrology at the site. Soils



profiles in the upper eighteen (18) inches will be examined for changes in hydric characteristics at the hydrology sample points. Vegetation community and hydrology boundaries will be mapped through the use of sub-meter accuracy GPS instrumentation. One site visit will be made between April 15 and June 15 to document hydrology at the site. One site visit will be made between August 15 and October 15 to identify and map vegetation communities. Established ground-level photography photo points will be used. The report will provide a qualitative and quantitative assessment of the development of the Rumsey Station wetland mitigation bank site. The following components will be included in the report and meet the conditions of Section V, Part C – Monitoring Reports, from the final Banking Instrument:

- ▶ Project History
- ▶ Review of Project Goals and Objectives
- ▶ Site Hydrology Assessment (including hydrology figure)
- ▶ Vegetative Assessment (including vegetation community figure)
- ▶ Wetland Boundaries
- ▶ Evaluation of Success Criteria (vegetation diversity and percent cover)
- ▶ Proposed Credit Production
- ▶ Summary/Conclusions
- ▶ Attachment containing wetland monitoring data forms, site photographs, and monitoring protocol

Meetings: None anticipated.

Task Deliverables: One draft and two final Wetland Mitigation Bank Monitoring Reports, one electronic copy of the final report, ArcView shapefiles of vegetative communities, hydrology boundaries, wetland boundaries, credit producing areas, and ground-level photography point locations for each Rumsey East and Rumsey West.

Key Understandings: It is anticipated that only fall monitoring will be required.

PART 3.0 OWNER’S RESPONSIBILITIES:

In addition to those items identified in the Task Series above, Owner (P-MRNRD) responsibilities will include providing meeting location, reviews of deliverables, and access for additional survey needs.

PART 4.0 PERIODS OF SERVICE:

HDR proposes to implement this Project within the following schedule:

<u>Activity</u>	<u>Duration to Completion (working days from Notice-To-Proceed)</u>
A1.01 Study and Report Phase	
Task 300 – Prepare Wetland Mitigation Plan	
Task 400 – Supplemental Topographic Survey (weather dependent)	10
Task 500 – Wetland Determination (weather dependent)	15
	10
A1.02 Preliminary Design Phase	
Task 100 – Site Visit	10
Task 200 – Hydrology/Hydraulic Analysis	30
Task 300 – Grading and Landscaping	30



<u>Activity</u>	<u>Duration to Completion (working days from Notice-To-Proceed)</u>
Task 400 – Underseepage Evaluation	25
A1.03 Final Design Phase	
Task 100 – Wetland Mitigation Design	60
A1.04 Post-Construction Phase	
Task 100 – Wetland Monitoring	Fall 2019

PART 5.0 PROFESSIONAL SERVICES FEE:

The professional services fee estimate (Exhibit A), level-of-effort projections, and schedule, represent HDR’s professional judgment at this time. HDR proposes to perform these Services under the terms and conditions of the referenced agreement on the basis of per diem with a maximum fee not to exceed \$75,737. Lamp Rynearson and Associates will be used to obtain the additional topographic survey and Thiele Geotech will be used for subsurface investigation and laboratory testing.

<i>Agreement Summary (Reference only)</i>	
a. Original Agreement amount:	\$ 94,869
b. Approved Out of Scope Work (12/28/2010):	\$ 4,609
c. This Amendment No. 1:	\$ 71,128
d. Adjusted Agreement amount:	\$ 75,737
e. Total Agreement amount:	\$170,606



PROPOSAL ACCEPTANCE

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of this ____ day of _____, 20____.

**PAPIO-MISSOURI RIVER
NATURAL RESOURCES DISTRICT**

Name: _____

By: _____ John Winkler _____

Title: _____ General Manager _____

Date Signed: _____

_____ 8901 S. 154th Street _____

_____ Omaha, NE 68138 _____

Phone Number: _____ (402) 444-6222 _____

HDR ENGINEERING, INC.

Name: _____

By: _____ Matthew Tondl, PE _____

Title: _____ Senior Vice President _____

Date Signed: _____

_____ 8404 Indian Hills Drive _____

_____ Omaha, NE 68114 _____

Phone Number: _____ (402) 399-1000 _____

**Papio Missouri River NRD
Rumsey West Re-Design (Contract Amemdment)**

STAFF-HOUR TABULATION

TASK	Proj. Man.	Sr. Env. Sci	Sr. Civil Eng	Scientist	Landscape Arch	Sr. Engineer	Water Resource Engineer	Sr. Geotechnical	Geotechnical	Technician	QC	Tech Edit	Administrative	Total
A1.01 Study and Report Phase														
Task 100 - Project Managment and QC	40	0	0	0	0	0	0	0	0	0	28	0	12	80
Task 300 - Prepare Wetland Mitigation Plan	0	12	0	16	16	8	4	0	0	12	0	6	0	74
Task 400 - Supplemental Topographic Survey	0	2	2	0	0	0	0	0	0	2	0	0	0	6
Task 500 - Wetland Determination	0	2	0	4	0	0	0	0	0	2	0	0	0	8
Sub-Total	40	16	2	20	16	8	4	0	0	16	28	6	12	168
A1.02 - Prelim. Design Phase														
Task 100 - Site Visit	0	4	4	4	4	6	4	0	0	0	0	0	0	26
Task 200 - Hydrology/Hydraulic Analysis	0	0	0	0	0	6	40	0	0	0	0	0	0	46
Task 300 - Preparation of Preliminary Design	0	4	8	0	40	24	0	0	4	32	0	0	0	112
Task 400 - Underseepage Evaluation	0	0	0	0	0	0	0	10	26	4	0	0	0	40
Sub-Total	0	8	12	4	44	36	44	10	30	36	0	0	0	224
A1.03 - Final Design (Task 100 - Wetland Mitigation Design)	0	4	16	0	24	4	12	0	0	16	0	8	0	84
TOTAL HOURS	40	28	30	24	84	48	60	10	30	68	28	14	12	476

ESTIMATED DIRECT EXPENSES SUMMARY				
	QUANT	UNIT	UNIT COST	TOT. COST
Mileage	180	Miles	\$ 0.58	\$ 103.50
Topographic Survey (LRA)	1	LS	\$ 2,000.00	\$ 2,000.00
Geotechnical Boring (Thiele)	1	LS	\$ 3,505.00	\$ 3,505.00
Copies (B&W, 8.5 x 11)	35	Days	\$ 0.05	\$ 1.58
Copies (Color, 8.5 x 11)	15	Pages	\$ 0.45	\$ 6.75
Prints (B&W, 11 x 17)	40	Plots	\$ 0.09	\$ 3.60
Prints (color, 11x17)	15	Prints	\$ 0.90	\$ 13.50
Management on Directs and Subs	LS	Percent	10%	\$ 563.39
Technology Charge (per labor hour)	476	Hour	\$ 3.70	\$ 1,761.20
Total Direct Expenses Cost:				\$7,959

COST BY TASK			
	Labor	Expenses	Total Fee
A1.01 Study and Report Phase	\$ 24,070	\$ 2,648	\$ 26,721
A1.02 - Prelim. Design Phase	\$ 29,520	\$ 4,435	\$ 33,958
A1.03 - Final Design	\$ 10,140	\$ 313	\$ 10,449
October 2010 Approved Work	\$ 3,931	\$ 678	\$ 4,609
Total	\$ 67,661	\$ 8,073	\$ 75,737

APPENDIX A

**Papio-Missouri River Natural Resources District
Rumsey Station Wetland Mitigation Bank
Rumsey West Wetland Mitigation Design and Monitoring
Supplemental #1**

ENGINEERING PROPOSAL

STATEMENT AND OBJECTIVES

The following engineering proposal is to perform biological analysis at the Rumsey Station West Wetland Mitigation Bank Site (Site).

BACKGROUND AND BASIS OF PROPOSAL

As Owner acquired property to the west of the existing Rumsey Station Wetland Mitigation Site, a preliminary design was completed to incorporate wetland areas as part of an overall children's nature center as conceived by the non-profit organization, Green Hearts. Owner has requested Engineer to develop final plans and technical specifications for the Rumsey West site with an emphasis to incorporate the existing conceptual design while achieving maximum practicable wetland credits available for inclusion into the Owner's wetland mitigation bank. As part of meetings with the resource agencies, the need to identify fishery and macroinvertebrate species within the drainageway proposed for diversion was requested. The following describes these additional work tasks.

Task 100 – Macroinvertebrate Sampling

Task Objective: Identify macroinvertebrates within the drainageway.

HDR Activities: Collect and identify macroinvertebrates to the order level. Samples will be collected using a standard 10 X18 inch rectangular dip net/kick-net from multiple habitats. All kicknet samples will be composited into one sample jar. Supplemental visual surveys of the shoreline and shallow water habitats will be performed to collect any larger invertebrates such as mussels (Unionidae) and crayfish (Decapoda).

Task Deliverables: Technical memorandum detailing the method and results of collection.

Key Understandings: A maximum of five (5) stream reaches of 100' in length will be sampled. No metrics will be calculated.

Task 200 – Fish Identification

Task Objective: Identify fish species present within the drainageway.

HDR Activities: The stream will be sampled using the kick set or foot shuffle method. The stream will be sampled by setting the net perpendicular to the current and disturbing the substrate three meters in front of the net. The net will be picked up carefully but quickly to collect the fish. Kick set samples will be standardized for one minute in numerous riffles within the sample reach. Pools, runs, and raceways will be sampled by pulling the net upstream and downstream parallel to the bank. After each seine haul, the fish will be placed into buckets and the debris from the net will be discarded. Fish will be field identified and identified to their lowest practical level (i.e. genus, species).

Task Deliverables: Technical memorandum detailing the method and results of collection.

Key Understandings: All fish collected will be identified in the field. A maximum of five (5) stream reaches of 100' in length will be sampled. No metrics will be calculated.

PERIOD OF SERVICE

HDR proposes to implement this Project within the following schedule:

<u>Activity</u>	<u>Anticipated Completion Date</u>
Task 100	November 15, 2010
Task 200	November 15, 2010

PROFESSIONAL SERVICES FEE

The professional services fee estimate (Exhibit A), level-of-effort projections, and schedule, represent HDR's professional judgment at this time. HDR proposes to perform these Services under the terms and conditions of the referenced agreement on the basis of per diem with a maximum fee not to exceed \$4,609. No subconsultants will be used.

EXHIBIT A: LEVEL OF EFFORT AND FEE ESTIMATES

STAFF HOUR TABULATION					
TASK	PM	QA/QC	Sr. Scientist	Scientist	Total
Task 100	1	2	0	20	19
Task 200	1	2	4	14	21
	2	4	4	34	40
FEE SUMMARY					
ESTIMATED DIRECT LABOR					
CLASSIFICATION		TOTAL HOURS	HOURLY RATE	DIRECT LABOR COST	
PM		2	\$137.97	\$276	
QA/QC		4	\$190.89	\$764	
Sr. Scientist		4	\$137.97	\$552	
Scientist		34	\$68.80	\$2,339	
		44			
		TOTAL DIRECT LABOR COST:			\$3,930
ESTIMATED DIRECT EXPENSES					
	QUANT	UNIT	UNIT COST	TOT. COST	
Technology Charge	44	Hours	\$3.70	\$163	
Rental Car	2	Days	\$45.00	\$90	
Per Diem	1	Days	\$25.00	\$25	
Lodging	1	Days	\$75.00	\$75	
Fuel	22	Gallons	\$2.75	\$61	
Equipment/day	1	Man-days	\$100	\$100	
Camera	1	Man-days	\$15	\$15	
Shipping	2	Each	\$75.00	\$150	
		TOTAL ESTIMATED DIRECT EXPENSE:			\$678
		TOTAL ESTIMATED FEE:			\$4,609

APPENDIX B



LAMP RYNEARSON

14710 West Dodge Road, Suite 100
Omaha, Nebraska 68154

[P] 402.496.2498

[F] 402.496.2730

www.LRA-inc.com

December 2, 2015

Mr. Matt Pillard
HDR Engineering
8404 Indian Hills Drive
Omaha, NE 68114

REFERENCE: Proposal for Surveying Services
Rumsey West Site

Dear Mr. Pillard:

Lamp, Rynearson & Associates, Inc. (LRA) is pleased to present this proposal to HDR Engineering for surveying services associated with the property listed above. Our proposal is based on information in an email from you dated November 12, 2015 and subsequent telephone conversations. We understand that the scope of our services for this project will include the following tasks:

Topographic Survey

Complete a topographic survey of the area outlined on the attached sheet. The survey will include all physical features inside the survey area. The trees will be outlined but individual trees will not be located. LRA will pick up all observed evidence of utilities in the area. LRA will not place a ONE CALL ticket to have underground utilities located. LRA will leave 2 bench marks near this site for future use.

We propose to bill for our services on the basis of hourly charge rates plus reimbursable expenses incurred. For the tasks listed above, our total fees will not exceed \$ 2,000.

Our proposal is based on the following assumptions:

1. Boundary Survey is not included in the scope of this work.
2. We will not be required to reset any property corners or file any survey certificates for this project.

LAMP RYNEARSON COMPANIES



Proposal for Surveying Services
Rumsey West Site
December 2, 2015
Page 2

We appreciate the opportunity to present this proposal, and we look forward to assisting you in the successful completion of this project. We would be glad to discuss any questions you may have on our proposal. If this proposal is acceptable, we ask that you acknowledge by signing below and returning one signed copy to us.

Sincerely,

LAMP, RYNEARSON & ASSOCIATES, INC.



Matthew R. Tinkham, R.L.S.
Survey Project Manager

Accepted By:

Matt Pillard
HDR Engineering

Date

APPENDIX C



13478 Chandler Road
Omaha, Nebraska 68138-3716
402.556.2171 Fax 402.556.7831
www.thielegeotech.com

December 11, 2015

Mr. Patrick Poepsel, P.E.
HDR Engineering, Inc.
8404 Indian Hills Drive
Omaha, Nebraska 68114

**RE: PROPOSAL FOR GEOTECHNICAL EXPLORATION
PAPIO MRNRD, RUMSEY WEST WETLAND MITIGATION, PAPILLION CREEK,
EAST OF 66TH STREET , PAPILLION NEBRASKA**

Dear Mr. Poepsel:

Enclosed is our proposal for professional contract drilling services to be performed at the above-referenced project. The accompanying proposal describes our approach and proposed scope of services, the estimated cost, and the contract terms.

Thiele Geotech, Inc. (TG) looks forward to working with you on this project. If you have any questions or if there is any additional information that I can provide, please feel free to give me a call. If the accompanying proposal is acceptable, please return assigned copy to our office.

Respectfully,
Thiele Geotech, Inc.

A handwritten signature in blue ink that reads 'Cody Kimball'.

Cody Kimball, E.I.

Enclosures

**Professional Contract Drilling Services Proposal
Papio MRNRD, Rumsey West Wetland Mitigation
Papillion Creek, East of 66th Street
Papillion, Nebraska
December 11, 2015**

Thiele Geotech, Inc. is pleased to submit our proposal for professional contract drilling services to be performed at the above referenced site. The following sections detail our proposed scope of services and the estimated cost of these services. The Cost Estimate worksheet is attached in Exhibit A. This proposal will be held open for a period of 45 days from the above date.

PROJECT DESCRIPTION

The project site is identified as Rumsey Station Wetland Mitigation and is located near the Papillion Creek, east of 66th Street in Papillion, Nebraska.

SCOPE OF SERVICES

TG understands that HDR Engineering, Inc. is requesting professional contract drilling services be provided at the above-referenced project site.

These services are understood to include a single boring and lab work for the Rumsey West Wetland Mitigation project. One test boring will be sampled at a location determined by HDR. The boring will be advanced 50 feet using hollow stem auger drilling methodology. The boring must penetrate the clay blanket and alluvial sands until impervious glacial till is encountered. The borings will be sampled at intervals of 5 feet or less and a descriptive log of the test boring will be prepared. Cohesive samples will be kept in Shelby tubes and will be stored in our lab. The split barrel samples will be sealed in ziploc bags and will also be stored in our lab.

Based on the results of the test boring, a laboratory testing program will be established to evaluate the engineering properties of the various soil strata. HDR has provided a list and quantity of lab testing planned for this project.

The proposed scope of services does not include an evaluation of potential contamination on or near the site. If the environmental condition of the property is a concern, an environmental site assessment can be provided as an additional service.

ESTIMATED COST & SCHEDULE

Based on the indicated work scope, the total cost for this project is estimated at \$3,305. Actual work performed by Thiele Geotech and authorized by HDR Engineering will be invoiced at the rates indicated on the attached Cost Estimate worksheet.

Approximately one (1) day on-site will be required to complete the professional contract drilling services. TG is very sympathetic to changing schedules based upon client demands or weather conditions; therefore, TG will work with our client to accommodate their schedule.

ADDITIONAL SERVICES

Subsequent to completion of the study, additional services are often required that are not included in the above estimate. These include consultation with the design team and review of the final plans and specifications. In addition, construction phase quality control testing is an additional service not included in the above estimate. If we are requested to provide additional services including, but not limited to the above, you will be billed in accordance with our normal fee schedule. We would be happy to provide cost estimates for any additional services at your request.

EXHIBITS

Exhibit A - Cost Estimate

THIELE GEOTECH, INC.

By:  _____

Robert K. Lapke

13478 Chandler Road

Omaha, Nebraska 68138-3716

402/556-2171 Fax 402/556-7831

Drilling Cost Estimate Worksheet

Exhibit A

HDR- Papio MRNRD Rumsey West Wetland Mitigation
Papillion Creek & 66th Street, Omaha, NE

12/11/2015

Description	Estimated Quantity	Unit Rate	Estimated Cost
Drilling			
Mobilization (Zone 1)	1.0	140.00	140.00
Exploratory Drilling (hollow stem augers) (/ft.)	50.0	15.50	775.00
Grout borehole (/ft.)	50.0	7.00	350.00
Laboratory Analysis			
Atterberg Limits (/set)	3.0	80.00	240.00
Sieve Analysis (ea.)	6.0	75.00	450.00
Hydrometer Analysis (ea.)	6.0	110.00	660.00
Project Management			
Staff Engineer (/hr.)	4.0	90.00	360.00
Senior Project Engineer (/hr.)	1.0	170.00	170.00
		Subtotal	<u>3,145.00</u>
Contingency		5%	160.00
		Total	<u><u>3,305.00</u></u>