Agenda Item: 9.

# Memorandum

To: Programs, Projects and Operations Subcommittee

From: Amanda Grint, Water Resources Engineer

**Date**: June 7, 2012

Re: Professional Services Contract with HDR Engineering for Phase 3 of West Papillion

Regional Basin Number 5 (WP5)

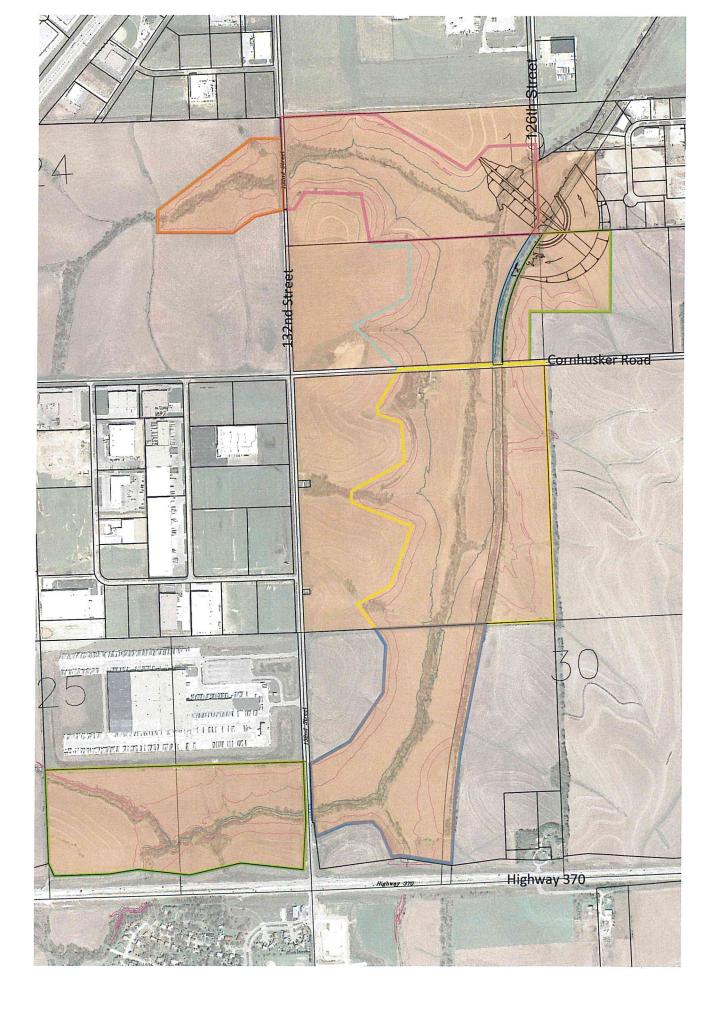
In January 2009, the Board approved the initial contract (Phase 1 of 3) with HDR Engineering, Inc. (HDR) in the amount of \$529,000 for professional services for the planning, permitting, design and construction of West Papillion Regional Basin Number 5 (WP5), see attached map. The work was planned to be completed in three phases. In March 2010, Phase 2 of the work, design and permitting, was approved bringing the total contract amount to \$1,346,700. In May 2011, an amendment was approved which included out of scope work performed under the Phase 2 contract bringing the total not to exceed amount to \$1,437,440. Phase 3 of the contract, mainly consisting of construction observation and administration, is presented for consideration and the details are shown in the attached proposed amendment from HDR, Engineering, Inc.

A summary of Amendment #3 is as follows:

- Project Management throughout the remainder of the project which is assumed to be 27 months.
- Completion of Phase 2 out of scope work which includes an extension on the project management timeline, additional coordination and exhibits, additional design on the proposed water quality basins and main dam as directed by NDNR.
- Construction Observation and Administration including meetings, inspections, full time construction observation, administrative services, shop drawing reviews, and permit compliance.
- Creation of the Operation and Maintenance Manual and Emergency Action Plan

HDR would provide the Phase 3 of the contract outlined in the attached scope of Amendment #3 to the Professional Services contract for the WP-5 project for a not to exceed amount of \$1,698,548. This would bring the total not to exceed amount of the contract to \$3,135,988.

Management recommends that the Subcommittee recommend to the Board that the General Manager be authorized to execute the proposed Professional Services Agreement Amendment #3 between the District and HDR Engineering, Inc. for the WP5 project, bringing the total not to exceed contract amount to \$3,135,988, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.



Sent Electronically June 6, 2012

June 6, 2012

John Winkler General Manager Papio-Missouri River Natural Resources District 8901 S. 154th Street Omaha, NE 68138-3621

RE:

WP-RB5 Flood Control Facility

HDR Project No. 98326

Construction Administration Services Amendment

Dear John:

HDR Engineering, Inc. is pleased to submit the attached Amendment 3 to our Agreement for providing professional planning and design services for WP-RB5. This amendment includes construction administration and bidding services.

Please sign both copies of the Agreement and retain one copy for your records and return the other signed copy for our files. Our receipt of your signed acceptance will constitute our Notice to Proceed.

We look forward to continue working with you on this very important project and continuing our working relationship with the P-MRNRD. If you have any questions, please contact me at 402-399-1078 at your convenience.

Very truly yours,

HDR ENGINEERING, INC.

Laurie Carretto Book

Laurie Carrette Zook, P.E.

Project Manager

**Enclosures** 

# AMENDMENT TO OWNER-ENGINEER AGREEMENT Amendment No. \_3\_

1.	Backgi	round	Data:
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a.	Effective I	Date of Owner-Engineer Agreement: February 3, 2009
b.	Owner:	Papio-Missouri River Natural Resources District (P-MRNRD)
c.	Engineer:	HDR Engineering, Inc. (HDR)
d.	Project:	WP-5 Flood Control Facility

# 2. Description of Modifications:

- a. The Scope of Services currently authorized to be performed by Engineer in accordance with the Agreement and previous amendments, if any, is modified as follows:
  - Per Exhibit A, Part 1.A1.03 of the original agreement, the scope of services for Phase III, including construction contract administration services is included as Attachment 1 to this amendment.
  - 2) Exhibit D, Duties, Responsibilities and Limitations of Authority of Resident Project Representative.
  - 3) Exhibit E, Notice of Acceptability of Work.
- b. For the Phase III services set forth above, Owner shall pay Engineer the following additional compensation:
  - 1) An amount equal to Engineer's Direct Labor Costs times a factor of 3.15 for the services of Engineer's employees engaged on the Project, plus Reimbursable Expenses, provided however, and notwithstanding anything to the contrary contained in this Agreement, the total amount of money due to ENGINEER for such services and for Reimbursable Expenses and Engineer's Consultant's charges shall not exceed the amount of \$1,698,548 unless an additional payment for the services, expenses, or charges resulting in such excess is authorized in writing by Owner in advance of such services, expenses or charges being furnished, expended, or incurred, the amount of \$1,698,548 being intended by the parties as the maximum amount of money to be due to the Engineer under this Amendment for Phase III services.

c. The schedule for rendering services is August	t 2012 to December 2014.
Attachment 1 WP-5 Phase Attachment 2 WP-5 Phase	
<ul> <li>3. Agreement Summary (Reference only a. Original Agreement amount:</li> <li>b. Net change for prior amendments</li> <li>c. This amendment amount:</li> <li>d. Adjusted Agreement amount:</li> </ul>	\$ 529,000
The foregoing Agreement Summary is for reference including those set forth in Exhibit C.	ce only and does not alter the terms of the Agreement
Owner and Engineer hereby agree to modify the Amendment. All provisions of the Agreement no effect. The Effective Date of this Amendment is	he above-referenced Agreement as set forth in this t modified by this or previous Amendments remain in
OWNER:	ENGINEER:
By: John Winkler	By: Matthew Tondl, P.E.
Title: General Manager	Title: Senior Vice President
Date Signed:	Date Signed:

#### ATTACHMENT 1

## A1.03 Phase III Construction Contract Administration

- B. Upon successful completion of the Bidding and Negotiating Phase, and upon written authorization from Owner, Engineer shall:
  - 1. General Administration of Construction Contract: Consult with Owner and act as Owner's representative as provided in the Construction Contract. The extent and limitations of the duties, responsibilities, and authority of Engineer as assigned in the Construction Contract shall not be modified, except as Engineer may otherwise agree in writing. All of Owner's instructions to Contractor will be issued through Engineer, which shall have authority to act on behalf of Owner in dealings with Contractor to the extent provided in this Agreement and the Construction Contract except as otherwise provided in writing.
  - 2. Resident Project Representative (RPR): Provide the services of an RPR at the Site to assist the Engineer and to provide more extensive observation of Contractor's work. Duties, responsibilities, and authority of the RPR are as set forth in Exhibit D. The furnishing of such RPR's services will not limit, extend, or modify Engineer's responsibilities or authority except as expressly set forth in Exhibit D.
  - 3. NOT USED. Selecting Independent Testing Laboratory: Assist Owner in the selection of an independent testing laboratory to perform the services identified in Exhibit B, Paragraph B2.01.0.
  - 4. Pre-Construction Conference: Participate in a Pre-Construction Conference prior to commencement of Work at the Site.
  - Schedules: Receive, review, and determine the acceptability of any and all schedules that Contractor is required to submit to Engineer, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.
  - 6. Baselines and Benchmarks: As appropriate, establish baselines and benchmarks for locating the Work which in Engineer's judgment are necessary to enable Contractor to proceed.
  - 7. Visits to Site and Observation of Construction: In connection with observations of Contractor's Work while it is in progress:
    - a. Make visits to the Site at intervals appropriate to the various stages of construction, as Engineer deems necessary, to observe as an experienced and qualified design professional the progress of Contractor's executed Work. Such visits and observations by Engineer, and the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents, but

- rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment, as assisted by the Resident Project Representative, if any. Based on information obtained during such visits and observations, Engineer will determine in general if the Work is proceeding in accordance with the Contract Documents, and Engineer shall keep Owner informed of the progress of the Work.
- b. The purpose of Engineer's visits to, and representation by the Resident Project Representative, if any, at the Site, will be to enable Engineer to better carry out the duties and responsibilities assigned to and undertaken by Engineer during the Construction Phase, and, in addition, by the exercise of Engineer's efforts as an experienced and qualified design professional, to provide for Owner a greater degree of confidence that the completed Work will conform in general to the Contract Documents and that Contractor has implemented and maintained the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. Engineer shall not, during such visits or as a result of such observations of Contractor's Work in progress, supervise, direct, or have control over Contractor's Work, nor shall Engineer have authority over or responsibility for the means, methods. techniques, sequences, or procedures of construction selected or used by Contractor, for security or safety at the Site, for safety precautions and programs incident to Contractor's Work, nor for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the Work. Accordingly, Engineer neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish or perform the Work in accordance with the Contract Documents.
- 8. Defective Work: Reject Work if, on the basis of Engineer's observations, Engineer believes that such Work (a) is defective under the standards set forth in the Contract Documents, (b) will not produce a completed Project that conforms to the Contract Documents, or (c) will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. However, neither Engineer's authority to reject Work nor Engineer's decision to exercise or not exercise such authority shall give rise to a duty or responsibility of the Engineer to Contractors, Subcontractors, material and equipment suppliers, their agents or employees, or any other person(s) or entities performing any of the Work, including but not limited to any duty or responsibility for Contractors' or Subcontractors' safety precautions and programs incident to the Work.
- 9. Clarifications and Interpretations; Field Orders: Issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of Contractor's work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents. Subject to any limitations in the Contract Documents, Engineer may issue field orders authorizing minor variations in the Work from the requirements of the Contract Documents.

- 10. Change Orders and Work Change Directives: Recommend change orders and work change directives to Owner, as appropriate, and prepare change orders and work change directives as required.
- 11. Shop Drawings and Samples: Review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto. Engineer shall meet any Contractor's submittal schedule that Engineer has accepted.
- 12. Substitutes and "or-equal": Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor, but subject to the provisions of Paragraph A2.02.A.2. of this Exhibit A.
- 13. Inspections and Tests: Require such special inspections or tests of Contractor's work as deemed reasonably necessary, and receive and review all certificates of inspections, tests, and approvals required by Laws and Regulations or the Contract Documents. Engineer's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Contract Documents. Engineer shall be entitled to rely on the results of such tests.
- 14. Disagreements between Owner and Contractor: Render formal written decisions on all duly submitted issues relating to the acceptability of Contractor's work or the interpretation of the requirements of the Contract Documents pertaining to the execution, performance, or progress of Contractor's Work; review each duly submitted Claim by Owner or Contractor, and in writing either deny such Claim in whole or in part, approve such Claim, or decline to resolve such Claim if Engineer in its discretion concludes that to do so would be inappropriate. In rendering such decisions, Engineer shall be fair and not show partiality to Owner or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.
- 15. Applications for Payment: Based on Engineer's observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation:
  - a. Determine the amounts that Engineer recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute Engineer's representation to Owner, based on such observations and review, that, to the best of Engineer's knowledge, information and belief, Contractor's Work has progressed to the point indicated, the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract

Documents, and to any other qualifications stated in the recommendation), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe Contractor's Work. In the case of unit price work, Engineer's recommendations of payment will include final determinations of quantities and classifications of Contractor's Work (subject to any subsequent adjustments allowed by the Contract Documents).

- b. By recommending any payment, Engineer shall not thereby be deemed to have represented that observations made by Engineer to check the quality or quantity of Contractor's Work as it is performed and furnished have been exhaustive, extended to every aspect of Contractor's Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment including final payment will impose on Engineer responsibility to supervise, direct, or control Contractor's Work in progress or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with Laws and Regulations applicable to Contractor's furnishing and performing the Work. It will also not impose responsibility on Engineer to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any portion of the Work in progress, materials, or equipment has passed to Owner free and clear of any liens, claims, security interests, or encumbrances, or that there may not be other matters at issue between Owner and Contractor that might affect the amount that should be paid.
- 16. Contractor's Completion Documents: Receive, review, and transmit to Owner maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Contract Documents, certificates of inspection, tests and approvals, Shop Drawings, Samples and other data approved as provided under Paragraph A1.035.A.11, and transmit the annotated record documents which are to be assembled by Contractor in accordance with the Contract Documents to obtain final payment. The extent of such review by Engineer will be limited as provided in Paragraph A1.035.A.11.
- 17. Substantial Completion: Promptly after notice from Contractor that Contractor considers the entire Work ready for its intended use, in company with Owner and Contractor, visit the Project to determine if the Work is substantially complete. If after considering any objections of Owner, Engineer considers the Work substantially complete, Engineer shall deliver a certificate of Substantial Completion to Owner and Contractor.
- 18. NOT USED. Additional Tasks: Perform or provide the following additional Construction Phase tasks or deliverables:
- 19. Final Notice of Acceptability of the Work: Conduct a final visit to the Project to determine if the completed Work of Contractor is acceptable so that Engineer may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final

payment, Engineer shall also provide a notice in the form attached hereto as Exhibit E (the "Notice of Acceptability of Work") that the Work is acceptable (subject to the provisions of Paragraph A1.035.A.15.b) to the best of Engineer's knowledge, information, and belief and based on the extent of the services provided by Engineer under this Agreement.

- C. Duration of Construction Phase: The Construction Phase will commence with the execution of the first Construction Contract for the Project or any part thereof and will terminate upon written recommendation by Engineer for final payment to Contractors. If the Project involves more than one prime contract as indicated in Paragraph A1.03.C, then Construction Phase services may be rendered at different times in respect to the separate contracts. Subject to the provisions of Article 3, Engineer shall be entitled to an equitable increase in compensation if Construction Phase services (including Resident Project Representative services, if any) are required after the original date for completion and readiness for final payment of Contractor as set forth in the Construction Contract.
- D. Limitation of Responsibilities: Engineer shall not be responsible for the acts or omissions of any Contractor, Subcontractor or Supplier, or other individuals or entities performing or furnishing any of the Work, for safety or security at the Site, or for safety precautions and programs incident to Contractor's Work, during the Construction Phase or otherwise. Engineer shall not be responsible for the failure of any Contractor to perform or furnish the Work in accordance with the Contract Documents.

Basic Services

Regional Detention Basin WP-5 for Papio-Missouri River Natural Resources District Sarpy County, NE

ENGINEERING PROPOSAL – PHASE III CONSTRUCTION CONTRACT ADMINISTRATION

# PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT OMAHA, NE ONE COMPANY Many Solutions<sup>14</sup>

#### BACKGROUND AND BASIS OF PROPOSAL

HDR Engineering, Inc. was selected by the P-MRNRD to provide planning, permitting, preliminary and final design and construction contract administration services for WP-5. WP-5 is a proposed regional detention basin to be located on an unnamed tributary to West Papillion Creek located in Sarpy County and is located near 126th and Cornhusker Road in Papillion, Nebraska. The contributing drainage area at the proposed retention basin is approximately 5.2 square miles. The drainage area of WP-5 is primarily agricultural land with minimal development.

To more concisely respond to project requirements, a phased approach is proposed. In Phase I, a feasibility study and preliminary design has been conducted to define the details of the project. Phase II generally including preparing final design documents and providing bidding assistance, while Phase III will consist of construction contract administration services.

This Scope of Services is to document Phase III professional services to the Papio-Missouri River NRD (P-MRNRD) for the construction administration services for WP-5 (Project).

#### SCOPE OF SERVICES - PHASE III - CONTRACT CONSTRUCTION ADMINISTRATION SERVICES

HDR will act as P-MRNRDs representative regarding construction contract administration of the construction of the Project elements. P-MRNRD will be kept informed of contractual matters and will make the final decision on matters that have a cost or

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schedule implication. HDR will furnish a full-time resident project representative (RPR), and other field staff in observing performance of Contractor's work. Duties, responsibilities, and authority of the RPR are as set forth in Exhibit D of the Agreement.

HDR will perform construction administration services. The Phase III scope of work is segmented into five (5) task series:

Task Series 100 - Project Management

Task Series 200 - Completion of Phase II Services

Task Series 300 - Meetings and Conferences

Task Series 400 - Construction Contract Administration Services

Task Series 500 - Operation and Maintenance Manual and Emergency Action Plan

The HDR Team proposes to provide the following professional services for Phase III over an anticipated 30 month project period from the time of contract authorization.

## TASK SERIES 100 PROJECT MANAGEMENT

Task Objectives:

Confirm that Project elements are being completed.

**HDR Activities:** 

<u>Task 110 Project Management.</u> Includes Project scheduling, administration and coordination activities on the Project. Internal HDR Project Team meetings will be conducted to discuss tasks, provide Project updates and review deliverables. Prepare monthly invoices and progress report.

<u>Task 120 Coordination Meetings.</u> Coordination meetings will be conducted with P-MRNRD during the Project. An agenda will be prepared prior to the meeting and meeting minutes prepared after the meeting.

120.1 <u>P-MRNRD Coordination Meetings.</u> Meet with P-MRNRD personnel to review and discuss Project progress. Assume a total of 2 meetings.

120.2 <u>Board/Subcommittee Presentation.</u> Conduct 1 presentation to the P-MRNRD Board/Subcommittee to provide an overview of the construction. A PowerPoint presentation will be prepared. One preparation meeting for the presentation is assumed.

Task Deliverables:

- · Monthly invoices and progress report
- Meeting agenda and minutes

Key Understandings:

- The duration of the project is 30 months.
- Meetings will be held at the offices of the P-MRNRD and attended by 2 HDR professionals.
- Two (2) coordination meetings are assumed.
- One (1) P-MRNRD Board/Subcommittee meeting presentation is assumed.

#### TASK SERIES 200 COMPLETION OF PHASE II SERVICES

**Task Objectives:** 

Design services to complete Phase II Services

**HDR Activities:** 

Task Series 100 - Project Management

Task 210 Task 100 Project Management. The professional services for Phase II was to be conducted over an anticipated nine (9) - month project period or until the end of November 2010. Amendment No. 2 extended the contract seven (7) month or June 2011. Changes in schedule due to Section 404 permitting coordination and design have resulted in a 12-month extension of the project.

<u>Task 220 Task 130 Technical Coordination</u>. Additional project coordination and production activities to assist P-MRNRD staff with land right/easement negotiations and right-of-way.

Task Series 400 - Interim Contract Document Preparation

Task 230 Task 410 Water Quality Basin Design. Following review of the supporting documentation for the Application for Plan Review and evaluation of the water quality basins' design and integrated operation with the main dam and reservoir, NDNR has requested that additional capacity to the principal/auxiliary spillway be provided for the South and North Water Quality basins. To accomplish this, the hydraulics of the South and North Water Quality basins will be reevaluated, the principal/auxiliary spillway grading modified, and plan sheets revised accordingly for submittal as an addendum to NDNR.

Task 240 Task 415 Dam Design. HDR evaluated and presented an alternative drawdown configuration to the NDNR that integrated the drawdown for the main dam into the principal spillway, allowing the separate drawdown structure to be eliminated from the project for a net savings of approximately \$300,000. The increase in drawdown pool elevation impacts on the dam were evaluated and documented to support this alternative and design plans revised.

Task 250 Task 420 Trail System and Basic Park Features. The removable boat ramp for the WP-5 reservoir was anticipated to be a manufacturer-supplied removable ramp with standard plan details and specifications that could be incorporated into the final bid package. The current removable boat ramp design calls for a fabricated structure mounted on guide rails. Plans and specifications are necessary to instruct contractor on ramp fabrication and installation.

#### TASK SERIES 300 - MEETINGS AND CONFERENCES

Task Objectives:

Attend and conduct periodic meetings and conferences.

**HDR Activities:** 

<u>Task 310 Pre-Construction Conference.</u> HDR will assist P-MRNRD with organizing and holding a pre-construction meeting. Representatives from HDR, P-MRNRD, Contractor, and other interested parties will attend this meeting. The main purposes of this meeting will be to establish lines of communication, discuss areas of responsibility, establish operational constraints, and to discuss and clarify items. An agenda will be prepared by HDR prior to the conference and conference minutes will be prepared by HDR after the conference.

<u>Task 320 Interim Conferences</u>. Interim conferences may be scheduled to discuss construction issues at any time. These conferences may be schedule outside the normal monthly construction conferences. It is anticipated most issues will be addressed informally on the project site. It is assumed that 2 interim conferences will be required. Agenda will be prepared by the HDR Team prior to the conference and conference minutes will be prepared by the HDR Team after the conference.

<u>Task 330 Substantial Completion Inspection.</u> HDR to conduct a substantial completion inspection and submit a list of observed items requiring completion or correction.

<u>Task 340 Final Inspection</u>. HDR to conduct a final inspection and submit a list of observed items requiring completion or correction. The Final Inspection will be attended by the HDR, RPR, and P-MRNRD. Any deficiencies noted shall be addressed by HDR. P-MRNRD will be notified when the deficiencies have been corrected. After items on list have been completed or corrected, HDR to review final payment application.

<u>Task 350 Letter of Certification.</u> HDR will prepare a certification letter signed by the Engineer stating the work is in compliance with the plans and specifications in the construction contract.

#### Task Deliverables:

- Pre-construction conference agenda and minutes
- Interim conferences agenda and conference minutes
- Substantial Completion Inspection and Final Inspection Report
- Certification Letter

#### **Key Understandings:**

- Conferences will be held at the Engineer's field office established by the Contractor.
- Conference minutes will be prepared by HDR after the conference. P-MRNRD will provide comments on minutes.

# TASK SERIES 400 CONSTRUCTION CONTRACT ADMINISTRATIVE SERVICES

Task Objectives:

To provide construction contract administration services.

#### **HDR** Activities:

#### Task 410 Records and Reports. Document construction activities.

- 410.1 <u>Field Book.</u> Maintain field book as the official Construction Contract Document and readily accessible by P-MRNRD. HDR to maintain log book to record weather conditions; daily activities; decisions; and general observations.
- 410.2 <u>Weekly Report Summaries.</u> HDR will prepare a weekly report summarizing the daily activities.
- 410.3 <u>Maintain Quantities</u>. HDR will estimate and record daily quantities of installed items and keep cumulative quantities in the Field Book. These quantities will be reviewed and reconciled with the construction contractor. In addition, the adequacy and quantity of materials delivered but not installed will be verified.
- 410.4 <u>Payment Application Verification.</u> Contractor will prepare payment application and HDR to verify quantities. HDR will review and recommend payment.
- 410.5 <u>Maintain QC Test Results.</u> Contractor documentation of all testing submitted on a weekly basis will be provided to the P-MRNRD. This includes, but is not limited to, testing and sampling of earth fill, concrete, and drainfill.
- 410.6 <u>Maintain Photographic Documentation.</u> A photographic documentation record of construction activities will be maintained using a digital camera. A Word document will be created and a tabular format used to describe each photograph.
- 410.7 <u>Project Filing.</u> HDR to maintain files for correspondence, shop drawings and samples, change orders and other project related documents.
- 410.8 <u>As-Built Drawings</u>. HDR to prepare electronic as-built drawings corrected to reflect actual field conditions and changes made during the construction period. The Contractor will be responsible for marking up a set of prints as changes are identified. The HDR Team will be responsible for coordinating with and reviewing the construction contractor's as-built drawings.

#### Task 420 Construction Contract Support.

- 420.1 <u>Contract Document Clarification.</u> HDR to provide clarifications and interpretations of Contract Documents to Contractor in the form of requests for information (RFI).
- 420.2 <u>Survey Control and Verification Checks.</u> LRA, as a subconsultant to HDR, will provide survey control and verification checks for the Project. See Enclosure A for description of survey work.
- 420.3 <u>Material QATesting.</u> Thiele Geotech, Inc. as a subconsultant to HDR, will provide conduct Quality Assurance (QA) material testing for earthwork, drainfill, and concrete. HDR will conduct QA field moisture and density testing. See Enclosure A for description of material testing work.
- 420.4 <u>Material Shop Drawing Review.</u> HDR to review shop drawings and samples for compliance with contract documents.
- 420.5 <u>Submittal Reviews</u>. HDR will review and recommend approval of required submittals including but not limited to Water Control and Diversion Plan Temporary Waterway Crossing, Pollution Prevention Plan, Material Certifications, Concrete Mix Design,

- Reinforced Concrete Pipe Shop Drawings, 3-edge bearing strength and shop drawings for substitutions of "or equivalent" items.
- 420.6 <u>Construction Meetings.</u> HDR to facilitate periodic construction conferences with the Construction Contactor to discuss schedule, planned activities and other related work. It is assumed that the Engineer will attend the weekly construction meetings (73 conferences are assumed) at the same time that Engineer visits the site for observations. Agenda will be prepared by the HDR prior to the conference and conference minutes will be prepared by the HDR
- 420.7 <u>Change Order Negotiations</u>. HDR to assist in negotiating change orders.
- 420.8 <u>Technical Field Observation</u>. Engineer and other technical personnel also will make periodic visits to the site to observe the construction.
- 420.9 <u>Instrumentation Data Interpretation.</u> HDR to review instrumentation data and coordinate with Contractor.
- 420.10 <u>Design Modifications.</u> HDR will prepare drawings, details, cost estimates and specifications needed to prepare construction contract modifications due to changes in site conditions. Design changes are to be made upon direction of P-MRNRD directs HDR to begin the preparation

#### Task 430 Permit Compliance Support.

- 430.1 <u>SWPPP Compliance Monitoring.</u> Conduct minimum of weekly site visit to the site and prepare report on BMP performance. Submit on PWCP website.
- 430.2 <u>USACE Section 404 Notifications.</u> HDR to prepare notifications to USACE for the commencement of work and for the completion of work.

#### Task Deliverables:

- Field Book and Quantity Book
- · Shop drawing review submittals
- Weekly construction reports
- Material testing reports
- Contractor Test Results
- Photographic Documentation
- Change order documentation
- As-Built drawings (1 hard copy and electronic copy)
- Construction Certification Form
- Design modifications
- SWPPP reports
- Construction conference agenda and minutes

#### **Key Understandings:**

- Anticipated duration of construction is 27 months from approximately September 1, 2012 to December 1, 2014.
- LRA, as a subconsultant to HDR, will provide survey control and verification checks during and
  after construction. Contractor will be responsible for cost of reestablishing survey control or
  rechecking nonconforming elevations.
- Contractor will be responsible for construction survey and staking. Contractor will be responsible to survey final cross sections and other grading work for record drawings.
- Full-time resident project representative (RPR) will provide construction quality assurance for the Project. A minimum of 1 RPR will be on site at all times and additional RPR will be used when multiple activities are under construction. For estimating purposes, it is assumed that 1.5 RPRs will be needed for the duration of the Project. The level of construction observation effort included in this scope equates to 8,855 hours for the RPR commencing with start of Contractor's field activities and during the period when the Contractor is performing work requiring observation, as determined by HDR. A 5-day week, 10 hour day for 117 weeks for 1.5 RPRs plus 2 weeks (80 hours) after project completion. Reasonable variations in work days and schedules are anticipated, but no protracted overtime, work stoppages or extended work

- schedules are assumed. At critical times, the Engineer and other technical personnel will be provided.
- Thiele Geotech, as a subconsultant to HDR will conduct QA material testing by conducting random testing on earthwork (Proctor and Atterberg), concrete (air, temperature, slump, and casting and breaking cylinders), and drainfill material. Thiele will conduct QC testing to verify concrete pavement thickness.
- HDR's RPR will not authorize any deviation from the Contract Documents.
- RPR will not exceed the limitations of ENGINEER's authority as set forth in the Agreement or the Contract Documents. RPR will not undertake any of the responsibilities of the Contractors, subcontractors, suppliers, or Contractor's superintendents.
- HDR will not supervise, direct or manage the Contractor's forces or Contractor's means and methods. HDR will not assume responsibility for health and safety of Contractor's personnel.
- The HDR Team will not assume responsibility for health and safety of contractor's personnel. While at the Site, if Engineer or RPR observes what Engineer or RPR suspects to be an unsafe condition, Engineer or RPR will inform Contractor's Superintendent and P-MRNRD of such suspected unsafe condition, and request Contractor's safety representative respond to P-MRNRD with an assessment of the condition and, if appropriate, an explanation of safety measures and precautions to be implemented. Upon notification to the Contractor's Superintendent, Engineer or RPR will leave the site until the Contractor's safety representative has appropriately responded to the P-MRNRD. Engineer's or RPR 's failure to recognize or discover an unsafe condition will not relieve Contractor of any responsibility Contractor has for job site safety for the Project, which shall remain Contractor's sole responsibility.
- P-MRNRD will make all decisions on contractual matters and will process and take appropriate
  action on performance and payment bonds approval, construction subcontractor's approval,
  Contractor pay requests, change orders, and other administrative matters.
- Photographic documentation will be provided in digital format only.
- A total of 6 change orders are assumed.
- Design changes are limited to basic changes to the original design and limited to the hours shown in the proposal. Changes due changes in change in site conditions or additional work will be conducted as Additional Services.
- HDR will not conduct any inspection or material testing at the pre-cast material plant or at the riprap quarry. Materials to be supplied from an approved NDOR supplier.

# TASK SERIES 500 OPERATION AND MAINTENANCE MANUAL AND EMERGENCY ACTION PLAN

An Operation and Maintenance (O&M) Manual containing information regarding the operation and maintenance of equipment will be prepared. In addition, instructions related to the emergency action plan will be prepared.

Task Objectives:

To prepare documentation on equipment.

**HDR Activities:** 

Task 510 Operation and Maintenance Manual. HDR will prepare an O&M Manual documenting the equipment purchased, agreements, permitting, and other general O&M activities. This manual will be included in the O&M manual in their entirety with any beneficial supplemental information resulting from the review.

<u>Task 520 Emergency Action Plan.</u> HDR will update the emergency action plan created during the design phase. Edits will be made to incorporate contact information and NDNR updates.

Task Deliverables:

- · Operation and Maintenance Manual
- Emergency Action Plan

Key Understandings:

- Two (2) hard copies and an electronic copy of the O&M Manual will be provided.
- EAP plan will be provided electronically.

**Material Testing Proposal** 

June 5, 2012 Exhibit A

# COST ESTIMATE Papio MRNRD, WP-5, QA Testing

Description		Estimated Quantity	Unit Rate	Estimated Cost
Earthwork				
Standard Proctor (ea.)		8.0	150.00	1,200.00
Atterberg Limits (/set)		8.0	68.00	544.00
Sieve Analysis of Aggregate (ea.)	47B Drainfill	10.0	70.00	700.00
Trip Charge - Zone 1 (/trip)	124.00 16 54.2456.00	12.0	50.00	600.00
Concrete				
Concrete Test Set (slump/air/temp/cast 4-4"	x8" OR 3-6"x12" cyl)	15.0	70.00	1,050.00
Compressive Strength of Cylinder (ea.)		60.0	15.00	900.00
Trip Charge - Zone 1 (/trip)	e e	23.0	50.00	1,150.00
Pavement Core (includes patch) (ea.)		30.0	60.00	1,800.00
Measured Length of Core (ea.)	*	30.0	8.00	240.00
Trip Charge - Zone 1 (/trip)		3.0	50.00	150.00
Level III Technician (/hr.)	Concrete Plant	10.0	61.00	610.00
Piezometers				
Installation of Piezometers		6.0	1,800.00	10,800.00
Settlement Plates				
Install Settlement Gauge (includes materials	) (ea.)	4.0	850.00	3,400.00
Extend Settlement Gauge (ea.)		40.0	60.00	2,400.00
Trip Charge - Zone 1 (/trip)		25.0	50.00	1,250.00
Settlement Plate & Piezometer Monitoring				
Settlement Readings (/hr.)		66.0	110.00	7,260.00
Trip Charge - Zone 1 (/trip)		22.0	50.00	1,100.00
Miscellaneous				
Senior Engineer (/hr.)		15.0	143.00	2,145.00
			Subtotal	37,299.00

#### Other Services

Any item or category not listed will be billed at our normal Fee Schedule rate in effect at the time of service.

Thiele Geotech Ind



LAMP RYNEARSON

& ASSOCIATES ENGINEERS | SURVEYORS | PLANNERS

14710 W. Dodge Rd., Sie. 100 Omoho, Nebroska 68154 [P] 402.496.2498 [F] 402.496.2730 www.RA-Inc.com

June 5, 2012

Ms. Laurie Carrette-Zook HDR 8404 Indian Hills Drive Omaha, NE 68114-4098

REFERENCE:

WP-RB5

Sarpy County Nebraska

Dear Ms. Carrette-Zook:

Lamp, Rynearson & Associates, Inc. (LRA) is pleased to present this proposal to HDR to provide surveying services associated with the above referenced project. We understand that the scope of our services for this project will include the following tasks:

#### **Easements**

Provide the necessary exhibit drawing and legal descriptions for the vacation of existing right of way and the dedication of new right of way for the WP-RB5 project. This task will include the right of way on Cornhusker Road, Lincoln Road, and 132<sup>nd</sup> Street. This task will also include the vacations and dedications associated with the relocation of the existing outfall sewer. We estimate no more than 10 exhibit drawings will be needed.

#### **Control Points**

Provide 3 control points at 6 different locations throughout the project. The locations will be the main dam, north water quality basin, south water quality basin, Lincoln Road, Cornhusker Road, and an additional location to be determined at a later date. We will set a 5/8" rebar marked with a lath for each control point.

#### Verification Surveys ...

Provide one as-built verification survey on the main dam. The information that we will provide will include the top, toe and grade breaks on the embankment at 100 foot intervals, and elevations on the main structural features of the dam including the drawdown, riser and impact silting basin.

Provide an as-built survey of the auxiliary spillway on a 25 foot grid. We estimate that this asbuilt survey will only need to be done one time.

For the north and south water quality basins we will provide an as-built verification survey of each area. The information that we will provide will include the top, toe and grade breaks on the embankment at 50 foot intervals, and elevations on the main structural features of the water quality basin including the drawdown riser, baffled spillway and articulated concrete spillway. Provide as-built information on the grading of Lincoln Road before paving is started. We will

Leaving a Legacy of Enduring Improvements to Our Communities - PURPOSE STATEMENT

ENGINEERS

SURVEYORS

PLANNERS

WP-RB5 Sarpy County Nebraska June 5, 2012 Page 2

locate the center line of Lincoln Road at 50 foot intervals with complete cross-sections performed every 100 feet.

We will provide as-built information on the Lincoln Road Bridge. As-built information will be gathered on the piers and abutments after the contractor stakes them. We will also collect data on the bearing seats, abutments and piers after construction. All coordinates and elevation data will be delivered to HDR for analysis in the form of a text file.

#### Fisheries improvements

We will provide lath at the centerline of enhancement located directly adjacent to shoreline. No grades will be given.

#### **As-Built Survey**

Provide a complete as-built survey of all improvements including all structures, sewers, grading and paving of the two separate recreation features on this project. Data will be provided to HDR in an ACAD drawing for your analysis.

We propose to bill for our services on the basis of hourly charge rates plus reimbursable expenses incurred. For the tasks listed above, our fees will not exceed \$60,000.

This fee proposal is not intended to be a binding contract, merely to assist with the contractor's initial bidding process. If Lamp, Rynearson & Associates, Inc. is successful in obtaining this work, we will at that time enter into a binding contract.

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. Please refer any questions, or comments to Matt Tinkham, our Survey Project Manager.

Sincerely,

LAMP, RYNEARSON & ASSOCIATES, INC.

Jodd L. Whitfield, L.S.

Survey Group Leader

Matthew R. Tinkham, L.S.

Survey Project Manager

Accepted By:

HDR Date

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(Exhibit A - Engineer's Services)

EICDC E-500 Agreement Between Owner and Engineer for Proletisinal Services

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This is <b>EXHIBIT D</b> , consisting of $\underline{5}$ pages, referred to in
and part of the Agreement between Owner and Engineer
for Professional Services dated

# Duties, Responsibilities, and Limitations of Authority of Resident Project Representative

Article 1 of the Agreement is supplemented to include the following agreement of the parties:

#### D1.01 Resident Project Representative

- A. Engineer shall furnish a Resident Project Representative ("RPR") to assist Engineer in observing progress and quality of the Work. The RPR may provide full time representation or may provide representation to a lesser degree.
- B. Through RPR's observations of Contractor's work in progress and field checks of materials and equipment, Engineer shall endeavor to provide further protection for Owner against defects and deficiencies in the Work. However, Engineer shall not, during such RPR field checks or as a result of such RPR observations of Contractor's work in progress, supervise, direct, or have control over Contractor's Work, nor shall Engineer (including the RPR) have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any contractor, for security or safety at the Site, for safety precautions and programs incident to any contractor's work in progress, or for any failure of a contractor to comply with Laws and Regulations applicable to such contractor's performing and furnishing of its work. The Engineer (including RPR) neither guarantee the performances of any contractor nor assumes responsibility for Contractor's failure to furnish and perform the Work in accordance with the Contract Documents. In addition, the specific terms set forth in Paragraph A1.05 of Exhibit A of the Agreement are applicable.
- C. The duties and responsibilities of the RPR are as follows:
  - General: RPR is Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Contractor's work in progress shall in general be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
  - 2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
  - 3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
  - 4. Liaison:

- a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the intent of the Contract Documents.
- b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
- c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
- 5. Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
- 6. Shop Drawings and Samples:
  - a. Record date of receipt of Samples and approved Shop Drawings.
  - b. Receive Samples which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
  - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.
- 7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
- 8. Review of Work and Rejection of Defective Work:
  - a. Conduct on-Site observations of Contractor's work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
  - b. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection, or approval.
- 9. Inspections, Tests, and System Start-ups:
  - a. Consult with Engineer in advance of scheduled inspections, tests, and systems start-ups.

- b. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
- c. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems start-ups.
- d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Engineer.

#### 10. Records:

- a. Maintain at the Site orderly files for correspondence, reports of job conferences, reproductions of original Contract Documents including all change orders, field orders, work change directives, addenda, additional Drawings issued subsequent to the execution of the Construction Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, Shop Drawing and Sample submittals received from and delivered to Contractor, and other Project-related documents.
- b. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, weather conditions, data relative to questions of change orders, field orders, work change directives, or changed conditions, Site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
- c. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
- d. Maintain records for use in preparing Project documentation.
- e. Upon completion of the Work, furnish original set of all RPR Project documentation to Engineer.

# 11. Reports:

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Engineer proposed change orders, work change directives, and field orders. Obtain backup material from Contractor.
- c. Furnish to Engineer and Owner copies of all inspection, test, and system start-up reports.

- d. Immediately notify Engineer of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Constituent of Concern.
- 12. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
- 13. Certificates, Operation and Maintenance Manuals: During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

#### 14. Completion:

- a. Participate in visits to the Project to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
- b. Participate in a final visit to the Project in the company of Engineer, Owner, and Contractor, and prepare a final list of items to be completed and deficiencies to be remedied.
- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work (Exhibit E).

#### D. Resident Project Representative shall not:

- 1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
- 2. Exceed limitations of Engineer's authority as set forth in this Agreement.
- 3. Undertake any of the responsibilities of Contractor, Subcontractors or Suppliers.
- 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.
- Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

6	5.	Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7	7.	Accept shop drawing or sample submittals from anyone other than Contractor.
8	3.	Authorize Owner to occupy the Project in whole or in part.
		·

	This is <b>EXHIBIT</b> E, consisting of <u>2</u> pages, referred to in and part of the <b>Agreement between Owner and Engineer</b> for <b>Professional Services</b> dated,
	NOTICE OF ACCEPTABILITY OF WORK
PROJECT:	
OWNER:	
CONTRAC	CTOR:
OWNER'S	CONSTRUCTION CONTRACT IDENTIFICATION:
EFFECTIV	E DATE OF THE CONSTRUCTION CONTRACT:
ENGINEER	₹:
NOTICE D	ATE:
То:	Owner
And To:	Contractor
From:	Engineer
and perform	er hereby gives notice to the above Owner and Contractor that the completed Work furnished ed by Contractor under the above Contract is acceptable, expressly subject to the provisions of Contract Documents, the Agreement between Owner and Engineer for Professional Services,, and the terms and conditions set forth in this Notice.
Ву:	
Title:	
Dated:	

#### CONDITIONS OF NOTICE OF ACCEPTABILITY OF WORK

The Notice of Acceptability of Work ("Notice") is expressly made subject to the following terms and conditions to which all those who receive said Notice and rely thereon agree:

- 1. This Notice is given with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
- 2. This Notice reflects and is an expression of the professional judgment of Engineer.
- 3. This Notice is given as to the best of Engineer's knowledge, information, and belief as of the Notice Date.
- 4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's work) under Engineer's Agreement with Owner and under the Construction Contract referred to in this Notice, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Agreement and Construction Contract.
- 5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract referred to in this Notice, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents.