

Memorandum

To: Programs Projects and Operations Subcommittee
Re: Professional Services Contract Amendment with Tetra Tech, Inc., for Phase II of the Missouri River Levee System Units R-613 and R616 Certification Project
Date: September 7, 2010
From: Brian L. Henkel P.E., Groundwater Management Engineer

Phase I (Investigative Phase) of the existing professional services contract with Tetra Tech for the certification of the Missouri River Levee System Units R-613 and R-616 (Levees) has been completed. The District is now properly prepared to revise the contract for the Alternatives Development Phase (Phase II) of the certification process. The scope of Phase II work (see attached) will include detailed analysis of modifications available to improve the Levees to meet certification requirements with the Federal Emergency Management Agency (FEMA) and the US Army Corps of Engineers (Corps). Modifications are needed to meet the changes in the Base Flood Elevation anticipated with the upcoming re-mapping of the floodplain.

Phase II includes an assessment of the feasibility of modification of the alignment for a portion of the Levees, at the confluence of the Platte and Missouri Rivers, to improve hydraulic capacity and provide habitat restoration opportunities. The alternatives analysis will be conducted utilizing the soon to be updated hydraulic modeling for the Papillion Creek and Platte River and include the most recent revisions to the Missouri River hydraulic models. This Phase II of the project will also entail extensive Geotechnical and Geophysical investigations and analysis which are critical to the levee certification process. Recent changes in the US Army Corps requirements on levee design and safety relate primarily to the levee embankment and foundation design defined by the geotechnical reports.

The original professional services contract for Phase I work was for an amount not to exceed \$330,878. This contract amendment for Phase II services is estimated to cost \$696,376, bringing the total not to exceed amount of the contract to \$1,027,254. The attached schedule calls for completion of this Phase II of the work by August 2011.

- **Staff recommends that the subcommittee recommend to the Board of Directors that the General Manager be authorized to execute the professional services contract amendment with Tetra Tech, Inc. for Phase II of the Missouri River Levee System Units R-613 and R-616 Certification Project, bringing the total not to exceed maximum amount of the contract to \$1,027,254, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.**

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND ENGINEER
FOR
PROFESSIONAL SERVICES

**P-MRNRD Missouri River R-613/R-616
Federal Levee Certification
Sarpy County, NE**

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN COUNCIL OF ENGINEERING COMPANIES

AMERICAN SOCIETY OF CIVIL ENGINEERS

This Agreement has been prepared for use with the Standard General Conditions of the Construction Contract (No. C-700, 2002 Edition) of the Engineers Joint Contract Documents Committee. Their provisions are interrelated, and a change in one may necessitate a change in the other. For guidance on the completion and use of this Agreement, see EJCDC User's Guide to the Owner-Engineer Agreement, No. E-001, 2002 Edition.

Copyright © 2004 National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

TABLE OF CONTENTS

	<u>Page</u>
ARTICLE 1 - SERVICES OF ENGINEER	1
1.01 Scope	1
ARTICLE 2 - OWNER'S RESPONSIBILITIES.....	1
2.01 General	1
ARTICLE 3 - SCHEDULE FOR RENDERING SERVICES.....	2
3.01 Commencement	2
3.02 Time for Completion	2
ARTICLE 4 - INVOICES AND PAYMENTS	2
4.01 Invoices	2
4.02 Payments	2
ARTICLE 5 - OPINIONS OF COST	3
5.01 Opinions of Probable Construction Cost.....	3
5.02 Designing to Construction Cost Limit	3
5.03 Opinions of Total Project Costs	3
ARTICLE 6 - GENERAL CONSIDERATIONS.....	3
6.01 Standards of Performance.....	3
6.02 Design without Construction Phase Services.....	5
6.03 Use of Documents.....	5
6.04 Insurance	6
6.05 Suspension and Termination	7
6.06 Controlling Law	8
6.07 Successors, Assigns, and Beneficiaries.....	8
6.08 Dispute Resolution.....	9
6.09 Environmental Condition of Site.....	9
6.10 Indemnification and Mutual Waiver	10
6.11 Miscellaneous Provisions	11
ARTICLE 7 - DEFINITIONS.....	11
7.01 Defined Terms	11
ARTICLE 8 - EXHIBITS AND SPECIAL PROVISIONS	13
8.01 Exhibits Included	13
8.02 Total Agreement	13
8.03 Designated Representatives.....	13

STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND ENGINEER
FOR
PROFESSIONAL SERVICES

THIS IS AN AGREEMENT effective as of Nov. 12 , 2009 ("Effective Date") between

Papio-Missouri River Natural Resources District (P-MRNRD) ("Owner") and

Tetra Tech, Inc. (Tetra Tech) ("Engineer").

Owner intends to investigate the technical, environmental and economic requirements to provide certification of the federal Missouri River Levee System Units R-613 and R-616 (Levees), located in southern and eastern Sarpy County, Nebraska to obtain Federal Emergency Management Association (FEMA) accreditation and to obtain US Army Corps of Engineers (USACE) approval for modifications deemed necessary for FEMA accreditation, said investigation to be conducted in accordance with applicable FEMA and USACE guidelines, such certification to possibly require design and construction services on the Levees (Project).

Owner and Engineer agree as follows:

ARTICLE 1 – SERVICES OF ENGINEER

1.01 Scope

- A. Engineer shall provide, or cause to be provided, the services set forth herein and in Exhibit A.

ARTICLE 2 – OWNER’S RESPONSIBILITIES

2.01 General

- A. Owner shall have the responsibilities set forth herein and in Exhibit B.
- B. Owner shall pay Engineer as set forth in Exhibit C.
- C. Owner shall be responsible for, and Engineer may rely upon, the accuracy and completeness of all requirements, programs, instructions, reports, data, and other information furnished by Owner to Engineer pursuant to this Agreement. Engineer may use such requirements, programs, instructions, reports, data, and information in performing or furnishing services under this Agreement.

ARTICLE 3 – SCHEDULE FOR RENDERING SERVICES

3.01 *Commencement*

- A. Engineer shall begin rendering services as of the Effective Date of the Agreement.

3.02 *Time for Completion*

- A. Engineer shall complete its obligations within a reasonable time. Specific periods of time for rendering services are set forth or specific dates by which services are to be completed are provided in Exhibit A, and are hereby agreed to be reasonable.
- B. If, through no fault of Engineer, such periods of time or dates are changed, or the orderly and continuous progress of Engineer's services is impaired, or Engineer's services are delayed or suspended, then the time for completion of Engineer's services, and the rates and amounts of Engineer's compensation, shall be adjusted equitably.
- C. If Owner authorizes changes in the scope, extent, or character of the Project, then the time for completion of Engineer's services, and the rates and amounts of Engineer's compensation, shall be adjusted equitably.
- D. Owner shall make decisions and carry out its other responsibilities in a timely manner so as not to delay the Engineer's performance of its services.
- E. If Engineer fails, through its own fault, to complete the performance required in this Agreement within the time set forth, as duly adjusted, then Owner shall be entitled to the recovery of direct damages resulting from such failure.

ARTICLE 4 – INVOICES AND PAYMENTS

4.01 *Invoices*

- A. *Preparation and Submittal of Invoices.* Engineer shall prepare invoices in accordance with its standard invoicing practices and the terms of Exhibit C. Engineer shall submit its invoices to Owner on a monthly basis. Invoices are due and payable within 30 days of receipt.

4.02 *Payments*

- A. *Application to Interest and Principal.* Payment will be credited first to any interest owed to Engineer and then to principal.
- B. *Failure to Pay.* If Owner fails to make any payment due Engineer for services and expenses within 30 days after receipt of Engineer's invoice, then:
 - 1. amounts due Engineer will be increased at the rate of 1.0% per month (or the maximum rate of interest permitted by law, if less) from said thirtieth day; and
 - 2. Engineer may, after giving seven days written notice to Owner, suspend services under this Agreement until Owner has paid in full all amounts due for services,

expenses, and other related charges. Owner waives any and all claims against Engineer for any such suspension.

- C. *Disputed Invoices.* If Owner contests an invoice, Owner may withhold only that portion so contested, and must pay the undisputed portion.
- D. *Legislative Actions.* If after the Effective Date of the Agreement any governmental entity takes a legislative action that imposes taxes, fees, or charges on Engineer's services or compensation under this Agreement, then the Engineer may invoice such new taxes, fees, or charges as a Reimbursable Expense to which a factor of 1.0 shall be applied. Owner shall pay such invoiced new taxes, fees, and charges; such payment shall be in addition to the compensation to which Engineer is entitled under the terms of Exhibit C.

ARTICLE 5 – OPINIONS OF COST

5.01 *Opinions of Probable Construction Cost*

- A. Engineer's opinions of probable Construction Cost are to be made on the basis of Engineer's experience and qualifications and represent Engineer's best judgment as an experienced and qualified professional generally familiar with the construction industry. However, since Engineer has no control over the cost of labor, materials, equipment, or services furnished by others, or over contractors' methods of determining prices, or over competitive bidding or market conditions, Engineer cannot and does not guarantee that proposals, bids, or actual Construction Cost will not vary from opinions of probable Construction Cost prepared by Engineer. If Owner wishes greater assurance as to probable Construction Cost, Owner shall employ an independent cost estimator as provided in Exhibit B.

~~5.02 *Designing to Construction Cost Limit*~~

- ~~A. If a Construction Cost limit is established between Owner and Engineer, such Construction Cost limit and a statement of Engineer's rights and responsibilities with respect thereto will be specifically set forth in Exhibit F, "Construction Cost Limit," to this Agreement.~~

5.03 *Opinions of Total Project Costs*

- A. The services, if any, of Engineer with respect to Total Project Costs shall be limited to assisting the Owner in collating the various cost categories which comprise Total Project Costs. Engineer assumes no responsibility for the accuracy of any opinions of Total Project Costs.

ARTICLE 6 – GENERAL CONSIDERATIONS

6.01 *Standards of Performance*

- A. The standard of care for all professional engineering and related services performed or furnished by Engineer under this Agreement will be the care and skill ordinarily used by members of the subject profession practicing under similar circumstances at the same time

and in the same locality. Engineer makes no warranties, express or implied, under this Agreement or otherwise, in connection with Engineer's services.

- B. Owner shall not be responsible for discovering deficiencies in the technical accuracy of Engineer's services. Engineer shall correct any such deficiencies in technical accuracy without additional compensation except to the extent such corrective action is directly attributable to deficiencies in Owner-furnished information.
- C. Engineer may employ such Consultants as Engineer deems necessary to assist in the performance or furnishing of the services, subject to reasonable, timely, and substantive objections by Owner.
- D. Subject to the standard of care set forth in Paragraph 6.01.A, Engineer and its Consultants may use or rely upon design elements and information ordinarily or customarily furnished by others, including, but not limited to, specialty contractors, manufacturers, suppliers, and the publishers of technical standards.
- E. Engineer and Owner shall comply with applicable Laws and Regulations and Owner-mandated standards that Owner has provided to Engineer in writing. This Agreement is based on these requirements as of its Effective Date. Changes to these requirements after the Effective Date of this Agreement may be the basis for modifications to Owner's responsibilities or to Engineer's scope of services, times of performance, and compensation.
- F. Engineer shall not be required to sign any documents, no matter by whom requested, that would result in the Engineer having to certify, guarantee, or warrant the existence of conditions whose existence the Engineer cannot ascertain. Owner agrees not to make resolution of any dispute with the Engineer or payment of any amount due to the Engineer in any way contingent upon the Engineer signing any such documents.
- G. The General Conditions for any construction contract documents prepared hereunder are to be the "Standard General Conditions of the Construction Contract" as prepared by the Engineers Joint Contract Documents Committee (No. C-700, 2002 Edition) unless both parties mutually agree to use other General Conditions by specific reference in Exhibit J.
- H. Engineer shall not at any time 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 the Contractor's work in progress, nor for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the Work.
- I. Engineer neither guarantees the performance of any contractor nor assumes responsibility for any contractor's failure to furnish and perform the Work in accordance with the Contract Documents.
- J. Engineer shall not be responsible for the acts or omissions of any contractor, subcontractor, or supplier, or of any of their agents or employees or of any other persons (except Engineer's own employees and its Consultants) at the Site or otherwise furnishing or

performing any Work; or for any decision made on interpretations or clarifications of the Contract Documents given by Owner without consultation and advice of Engineer.

6.02 *Design Without Construction Phase Services*

- A. If Engineer's Basic Services under this Agreement do not include Project observation, or review of the Contractor's performance, or any other Construction Phase services, then (1) Engineer's services under this Agreement shall be deemed complete no later than the end of the Bidding or Negotiating Phase; (2) Engineer shall have no design or shop drawing review obligations during construction; (3) Owner assumes all responsibility for the application and interpretation of the Contract Documents, contract administration, construction observation and review, and all other necessary Construction Phase engineering and professional services; and (4) Owner waives any claims against the Engineer that may be connected in any way thereto.

6.03 *Use of Documents*

- A. All Documents are instruments of service in respect to this Project, and Engineer shall retain an ownership and property interest therein (including the copyright and the right of reuse at the discretion of the Engineer) whether or not the Project is completed. Owner shall not rely in any way on any Document unless it is in printed form, signed or sealed by the Engineer or one of its Consultants.
- B. A party may rely that data or information set forth on paper (also known as hard copies) that the party receives from the other party by mail, hand delivery, or facsimile, are the items that the other party intended to send. Files in electronic media format of text, data, graphics, or other types that are furnished by one party to the other are furnished only for convenience, not reliance by the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- C. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any transmittal errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files.
- D. When transferring documents in electronic media format, the transferring party makes no representations as to long-term compatibility, usability, or readability of such documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the documents' creator.
- E. Owner may make and retain copies of Documents for information and reference in connection with use on the Project by Owner. Engineer grants Owner a license to use the Documents on the Project, extensions of the Project, and other projects of Owner, subject to the following limitations: (1) Owner acknowledges that such Documents are not intended or represented to be suitable for use on the Project unless completed by Engineer, or for use or reuse by Owner or others on extensions of the Project or on any other project without

written verification or adaptation by Engineer; (2) any such use or reuse, or any modification of the Documents, without written verification, completion, or adaptation by Engineer, as appropriate for the specific purpose intended, will be at Owner's sole risk and without liability or legal exposure to Engineer or to Engineer's Consultants; (3) Owner shall indemnify and hold harmless Engineer and Engineer's Consultants from all claims, damages, losses, and expenses, including attorneys' fees, arising out of or resulting from any use, reuse, or modification without written verification, completion, or adaptation by Engineer; (4) such limited license to Owner shall not create any rights in third parties.

- F. If Engineer at Owner's request verifies or adapts the Documents for extensions of the Project or for any other project, then Owner shall compensate Engineer at rates or in an amount to be agreed upon by Owner and Engineer.

6.04 *Insurance*

- A. Engineer shall procure and maintain insurance as set forth in Exhibit G, "Insurance." Engineer shall cause Owner to be listed as an additional insured on any applicable general liability insurance policy carried by Engineer.
- B. Owner shall procure and maintain insurance as set forth in Exhibit G, "Insurance." Owner shall cause Engineer and Engineer's Consultants to be listed as additional insureds on any general liability or property insurance policies carried by Owner which are applicable to the Project.
- C. Owner shall require Contractor to purchase and maintain general liability and other insurance in accordance with the requirements of Paragraph 5.04 of the "Standard General Conditions of the Construction Contract," (No. C-700, 2002 Edition) as prepared by the Engineers Joint Contract Documents Committee and to cause Engineer and Engineer's Consultants to be listed as additional insureds with respect to such liability and other insurance purchased and maintained by Contractor for the Project.
- D. Owner and Engineer shall each deliver to the other certificates of insurance evidencing the coverages indicated in Exhibit G. Such certificates shall be furnished prior to commencement of Engineer's services and at renewals thereafter during the life of the Agreement.
- E. All policies of property insurance relating to the Project shall contain provisions to the effect that Engineer's and Engineer's Consultants' interests are covered and that in the event of payment of any loss or damage the insurers will have no rights of recovery against Engineer or its Consultants, or any insureds or additional insureds thereunder.
- F. At any time, Owner may request that Engineer or its Consultants, at Owner's sole expense, provide additional insurance coverage, increased limits, or revised deductibles that are more protective than those specified in Exhibit G. If so requested by Owner, and if commercially available, Engineer shall obtain and shall require its Consultants to obtain such additional insurance coverage, different limits, or revised deductibles for such periods of time as requested by Owner, and Exhibit G will be supplemented to incorporate these requirements.

6.05 *Suspension and Termination*

A. Suspension.

By Owner: Owner may suspend the Project upon seven days written notice to Engineer.

By Engineer: If Engineer's services are substantially delayed through no fault of Engineer, Engineer may, after giving seven days written notice to Owner, suspend services under this Agreement.

B. Termination. The obligation to provide further services under this Agreement may be terminated:

1. For cause,

- a. By either party upon 30 days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.
- b. By Engineer:
 - 1) upon seven days written notice if Owner demands that Engineer furnish or perform services contrary to Engineer's responsibilities as a licensed professional; or
 - 2) upon seven days written notice if the Engineer's services for the Project are delayed or suspended for more than 90 days for reasons beyond Engineer's control.
 - 3) Engineer shall have no liability to Owner on account of such termination.
- c. Notwithstanding the foregoing, this Agreement will not terminate under Paragraph 6.05.B.1.a if the party receiving such notice begins, within seven days of receipt of such notice, to correct its substantial failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt thereof; provided, however, that if and to the extent such substantial failure cannot be reasonably cured within such 30 day period, and if such party has diligently attempted to cure the same and thereafter continues diligently to cure the same, then the cure period provided for herein shall extend up to, but in no case more than, 60 days after the date of receipt of the notice.

2. For convenience,

- a. By Owner effective upon Engineer's receipt of notice from Owner.

C. *Effective Date of Termination.* The terminating party under Paragraph 6.05.B may set the effective date of termination at a time up to 30 days later than otherwise provided to allow

Engineer to demobilize personnel and equipment from the Site, to complete tasks whose value would otherwise be lost, to prepare notes as to the status of completed and uncompleted tasks, and to assemble Project materials in orderly files.

D. *Payments Upon Termination.*

1. In the event of any termination under Paragraph 6.05, Engineer will be entitled to invoice Owner and to receive full payment for all services performed or furnished and all Reimbursable Expenses incurred through the effective date of termination. Upon making such payment, Owner shall have the limited right to the use of Documents, at Owner's sole risk, subject to the provisions of Paragraph 6.03.E.
2. In the event of termination by Owner for convenience or by Engineer for cause, Engineer shall be entitled, in addition to invoicing for those items identified in Paragraph 6.05.D.1, to invoice Owner and to payment of a reasonable amount for services and expenses directly attributable to termination, both before and after the effective date of termination, such as reassignment of personnel, costs of terminating contracts with Engineer's Consultants, and other related close-out costs, using methods and rates for Additional Services as set forth in Exhibit C.

6.06 *Controlling Law*

- A. This Agreement is to be governed by the law of the state in which the Project is located.

6.07 *Successors, Assigns, and Beneficiaries*

- A. Owner and Engineer are hereby bound and the partners, successors, executors, administrators and legal representatives of Owner and Engineer (and to the extent permitted by Paragraph 6.07.B the assigns of Owner and Engineer) are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements, and obligations of this Agreement.
- B. Neither Owner nor Engineer may assign, sublet, or transfer any rights under or interest (including, but without limitation, moneys that are due or may become due) in this Agreement without the written consent of the other, except to the extent that any assignment, subletting, or transfer is mandated or restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.
- C. Unless expressly provided otherwise in this Agreement:
1. Nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by Owner or Engineer to any Contractor, Contractor's subcontractor, supplier, other individual or entity, or to any surety for or employee of any of them.
 2. All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of Owner and Engineer and not for the benefit of any other party.

3. Owner agrees that the substance of the provisions of this Paragraph 6.07.C shall appear in the Contract Documents.

6.08 *Dispute Resolution*

- A. Owner and Engineer agree to negotiate all disputes between them in good faith for a period of 30 days from the date of notice prior to invoking the procedures of Exhibit H or other provisions of this Agreement, or exercising their rights under law.
- B. If the parties fail to resolve a dispute through negotiation under Paragraph 6.08.A, then either or both may invoke the procedures of Exhibit H. If Exhibit H is not included, or if no dispute resolution method is specified in Exhibit H, then the parties may exercise their rights under law.

6.09 *Environmental Condition of Site*

- A. Owner has disclosed to Engineer in writing the existence of all known and suspected Asbestos, PCBs, Petroleum, Hazardous Waste, Radioactive Material, hazardous substances, and other Constituents of Concern located at or near the Site, including type, quantity, and location.
- B. Owner represents to Engineer that to the best of its knowledge no Constituents of Concern, other than those disclosed in writing to Engineer, exist at the Site.
- C. If Engineer encounters an undisclosed Constituent of Concern, then Engineer shall notify (1) Owner and (2) appropriate governmental officials if Engineer reasonably concludes that doing so is required by applicable Laws or Regulations.
- D. It is acknowledged by both parties that Engineer's scope of services does not include any services related to Constituents of Concern. If Engineer or any other party encounters an undisclosed Constituent of Concern, or if investigative or remedial action, or other professional services, are necessary with respect to disclosed or undisclosed Constituents of Concern, then Engineer may, at its option and without liability for consequential or any other damages, suspend performance of services on the portion of the Project affected thereby until Owner: (1) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the Constituents of Concern; and (2) warrants that the Site is in full compliance with applicable Laws and Regulations.
- E. If the presence at the Site of undisclosed Constituents of Concern adversely affects the performance of Engineer's services under this Agreement, then the Engineer shall have the option of (1) accepting an equitable adjustment in its compensation or in the time of completion, or both; or (2) terminating this Agreement for cause on 30 days notice.
- F. Owner acknowledges that Engineer is performing professional services for Owner and that Engineer is not and shall not be required to become an "arranger," "operator," "generator," or "transporter" of hazardous substances, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, which are or may be encountered at or near the Site in connection with Engineer's activities under this Agreement.

6.10 *Indemnification and Mutual Waiver*

- A. *Indemnification by Engineer.* To the fullest extent permitted by law, Engineer shall indemnify and hold harmless Owner, and Owner's officers, directors, partners, agents, consultants, and employees from and against any and all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to the Project, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Engineer or Engineer's officers, directors, partners, employees, or Consultants. The indemnification provision of the preceding sentence is subject to and limited by the provisions agreed to by Owner and Engineer in Exhibit I, "Allocation of Risks," if any.
- B. *Indemnification by Owner.* To the fullest extent permitted by law, Owner shall indemnify and hold harmless Engineer, Engineer's officers, directors, partners, agents, employees, and Consultants from and against any and all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to the Project, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Owner or Owner's officers, directors, partners, agents, consultants, or employees, or others retained by or under contract to the Owner with respect to this Agreement or to the Project.
- C. *Environmental Indemnification.* In addition to the indemnity provided under Paragraph 6.10.B of this Agreement, and to the fullest extent permitted by law, Owner shall indemnify and hold harmless Engineer and its officers, directors, partners, agents, employees, and Consultants from and against any and all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals, and all court, arbitration, or other dispute resolution costs) caused by, arising out of, relating to, or resulting from a Constituent of Concern at, on, or under the Site, provided that (i) any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) nothing in this paragraph shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence or willful misconduct.
- D. *Percentage Share of Negligence.* To the fullest extent permitted by law, a party's total liability to the other party and anyone claiming by, through, or under the other party for any cost, loss, or damages caused in part by the negligence of the party and in part by the negligence of the other party or any other negligent entity or individual, shall not exceed the percentage share that the party's negligence bears to the total negligence of Owner, Engineer, and all other negligent entities and individuals.

- E. *Mutual Waiver.* To the fullest extent permitted by law, Owner and Engineer waive against each other, and the other's employees, officers, directors, agents, insurers, partners, and consultants, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to the Project.

6.11 *Miscellaneous Provisions*

- A. *Notices.* Any notice required under this Agreement will be in writing, addressed to the appropriate party at its address on the signature page and given personally, by facsimile, by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.
- B. *Survival.* All express representations, waivers, indemnifications, and limitations of liability included in this Agreement will survive its completion or termination for any reason.
- C. *Severability.* Any provision or part of the Agreement held to be void or unenforceable under any Laws or Regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Engineer, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- D. *Waiver.* A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.
- E. *Accrual of Claims.* To the fullest extent permitted by law, all causes of action arising under this Agreement shall be deemed to have accrued, and all statutory periods of limitation shall commence, no later than the date of Substantial Completion.

ARTICLE 7 – DEFINITIONS

7.01 *Defined Terms*

- A. Wherever used in this Agreement (including the Exhibits hereto) terms (including the singular and plural forms) printed with initial capital letters have the meanings indicated in the text above or in the exhibits; in the following provisions; or in the "Standard General Conditions of the Construction Contract," prepared by the Engineers Joint Contract Documents Committee (No. C-700, 2002 Edition):
1. *Additional Services* – The services to be performed for or furnished to Owner by Engineer in accordance with Exhibit A, Part 2, of this Agreement.
 2. *Basic Services* – The services to be performed for or furnished to Owner by Engineer in accordance with Exhibit A, Part 1, of this Agreement.
 3. *Construction Cost* – The cost to Owner of those portions of the entire Project designed or specified by Engineer. Construction Cost does not include costs of services of Engineer or other design professionals and consultants, cost of land or

rights-of-way, or compensation for damages to properties, or Owner's costs for legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with the Project, or the cost of other services to be provided by others to Owner pursuant to Exhibit B of this Agreement. Construction Cost is one of the items comprising Total Project Costs.

4. *Constituent of Concern* – Any substance, product, waste, or other material of any nature whatsoever (including, but not limited to, Asbestos, Petroleum, Radioactive Material, and PCBs) which is or becomes listed, regulated, or addressed pursuant to [a] the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); [b] the Hazardous Materials Transportation Act, 49 U.S.C. §§1801 et seq.; [c] the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); [d] the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; [e] the Clean Water Act, 33 U.S.C. §§1251 et seq.; [f] the Clean Air Act, 42 U.S.C. §§7401 et seq.; and [g] any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
5. *Consultants* – Individuals or entities having a contract with Engineer to furnish services with respect to this Project as Engineer's independent professional associates, consultants, subcontractors, or vendors.
6. *Documents* – Data, reports, Drawings, Specifications, Record Drawings, and other deliverables, whether in printed or electronic media format, provided or furnished in appropriate phases by Engineer to Owner pursuant to this Agreement.
7. *Drawings* – That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings are not Drawings as so defined.
8. *Laws and Regulations; Laws or Regulations* – Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
9. *Reimbursable Expenses* – The expenses incurred directly by Engineer in connection with the performing or furnishing of Basic and Additional Services for the Project.
10. *Resident Project Representative* – The authorized representative of Engineer, if any, assigned to assist Engineer at the Site during the Construction Phase. The Resident Project Representative will be Engineer's agent or employee and under Engineer's supervision. As used herein, the term Resident Project Representative includes any assistants of Resident Project Representative agreed to by Owner. The duties and responsibilities of the Resident Project Representative, if any, are as set forth in Exhibit D.
11. *Specifications* – That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

12. *Total Project Costs* – The sum of the Construction Cost, allowances for contingencies, and the total costs of services of Engineer or other design professionals and consultants, together with such other Project-related costs that Owner furnishes for inclusion, including but not limited to cost of land, rights-of-way, compensation for damages to properties, Owner's costs for legal, accounting, insurance counseling and auditing services, interest and financing charges incurred in connection with the Project, and the cost of other services to be provided by others to Owner pursuant to Exhibit B of this Agreement.

ARTICLE 8 – EXHIBITS AND SPECIAL PROVISIONS

8.01 *Exhibits Included*

- A. Exhibit A, "Engineer's Services," consisting of 7 pages.
- B. Exhibit B, "Owner's Responsibilities," consisting of 3 pages.
- C. Exhibit C, "Payments to Engineer for Services and Reimbursable Expenses," consisting of 3 pages.
- ~~D. Exhibit D, "Duties, Responsibilities and Limitations of Authority of Resident Project Representative," consisting of 5 pages.~~
- E. Exhibit E, "Notice of Acceptability of Work," consisting of 3 pages.
- ~~F. Exhibit F, "Construction Cost Limit," consisting of 2 pages.~~
- G. Exhibit G, "Insurance," consisting of 2 pages.
- H. Exhibit H, "Dispute Resolution," consisting of 2 pages.
- I. Exhibit I, "Allocation of Risks," consisting of 3 pages.
- J. Exhibit J, "Special Provisions," consisting of 1 page.
- K. Exhibit K, "Amendment to Owner-Engineer Agreement," consisting of 2 pages.

8.02 *Total Agreement*

- A. This Agreement (consisting of pages 1 to 15 inclusive, together with the exhibits identified above) constitutes the entire agreement between Owner and Engineer and supersedes all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument based on the format of Exhibit K to this Agreement.

8.03 *Designated Representatives*

- A. With the execution of this Agreement, Engineer and Owner shall designate specific individuals to act as Engineer's and Owner's representatives with respect to the services to be performed or furnished by Engineer and responsibilities of Owner under this Agreement.

Such individuals shall have authority to transmit instructions, receive information, and render decisions relative to the Project on behalf of each respective party.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, the Effective Date of which is indicated on page 1.

Owner:

Papio-Missouri River Natural Resources
District

By: _____

Title: _____

Date
Signed: _____

Address for giving notices:

8901 S. 154th Street

Omaha, NE 68138-3621

Designated Representative (see Paragraph
8.03.A):

John Winkler

Title: General Manager

Phone Number: 402.444.6222

Facsimile Number: 402.895.6543

E-Mail Address: jwinkler@papionrd.org

Engineer:

Tetra Tech, Inc.

By: _____

Title: _____

Date
Signed: _____

Engineer License or Certificate No. E-8759

State of: Nebraska

Address for giving notices:

9910 North 48th Street

Suite 200

Omaha, NE 68152-1548

Designated Representative (see Paragraph 8.03.A):

Michael K. Sotak, P.E.

Title: Office Manager

Phone Number: 402.933.1345

Facsimile Number: 402.933.1346

E-Mail Address: Mike.Sotak@tetrattech.com

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT A**, consisting of 7 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated 12 Nov, 2009.

Engineer's Services

Article 1 of the Agreement is amended and supplemented to include the following agreement of the parties. Engineer shall provide Basic and Additional Services as set forth below.

PART 1 – BASIC SERVICES

The Engineer was selected to assist the Owner in obtaining Federal Emergency Management Administration (FEMA) accreditation of the Levees. Said accreditation assistance will first involve a technical investigation/categorization of the Levees, that likely will be followed by an alternatives analysis, which likely would be followed by design and construction of modifications to the Levees meeting the USACE approval process for levee modifications and any modification will be followed by certification of the existing and modified Levee system components to meet FEMA accreditation standards. The scope of services for the alternatives analysis phase will be formulated during the investigative phase described herein, as part of the Engineer's Basic Services hereunder. Future agreements between the Owner and Engineer and its subconsultants for performance of the alternatives analysis phase, and subsequent phases of the Project, will be negotiated at a later date.

A.1.01 Investigative Phase

The scope of services contained herein is related to the investigative phase of the project where the levee inventorying is conducted along with the review of all pertinent existing information. Additional information will be obtained through various field investigations and studies to supplement the existing information so that an alternatives analysis for certification of the levees can be formulated.

The following scope of services is broken down into 7 phases, as intended to describe the intended process. (A schedule for the services detailed above is provided for in Attachment 1 to Exhibit A):

Project Management

Prepare for and Attend Kickoff Meeting – Prepare agenda and pertinent information and attend a meeting with the Owner to review responsibilities, communication expectations and project scope and schedule.

Document Review – Review of all pertinent existing documents including preliminary studies, O&M manuals, available design information, inspection reports, etc.

Project Management – Monthly Client Meetings – Monthly meetings between Engineer's project manager and Owner representative(s) to review progress and work ahead for the coming weeks.

Project Management – Monthly Invoice/Schedule Update – Monthly preparation of Engineer's invoice including incorporation of internal and subconsultant invoices, description of services rendered and update of the Project schedule.

Project Management – Internal Kickoff Meeting – Prepare agenda and pertinent information and attend a meeting with the Engineer's team to define project roles, establish communication lines, review the Project schedule and discuss inter-relationships of tasks to be completed.

Stakeholder Meetings – Prepare for and attend two (2) meetings with Project stakeholders defined by Owner and Engineer to discuss the intended Project path and identify any input needed from stakeholder agencies. The Owner may also choose to receive input from stakeholder groups.

Prepare Scope of Work for Alternatives Development – Based upon findings in investigative phase, develop scope of work for alternatives development for the next phase of the Project.

USACE Coordination – Prepare for and attend three (3) meetings with the USACE to discuss progress on the Project and how the Project status and procedures agree with the USACE 208/408 and PL 84-99 procedures and program standards.

Alternatives Analysis & Deliverables

Stakeholder Meetings – Prepare for and attend two (2) meetings with Project stakeholders defined by Owner and Engineer to discuss the potential effects of a levee setback along the Missouri River R-613 levee. Stakeholder groups may include Sarpy County, City of Bellevue, NDOR, NGPC, or other agencies and organizations as deemed necessary by Owner and Engineer.

Alternatives Development – Missouri River Setback

Prepare economic, technical and environmental alternatives analysis for up to three (3) re-alignments for the setback of the Missouri River R-613 levee. Analysis is not intended to serve as the full requirements of an Environmental Assessment or USACE 408 review, but rather to investigate this alternative at a level of detail that will help guide the geophysical/geotechnical investigation of the existing and proposed levee system.

Deliverable – Benefit/Cost Summary – Upon completion of investigative effort, identify and prepare written summary of the benefits and benefitting entities of levee certification and assign an economic value to the benefits. Also address Project costs consistent with the information available at that time and assign an appropriate contingency. This phase will include a preliminary analysis of the cost of levee raises and more detailed cost information from the Missouri River R-613 levee setback analysis.

Deliverable – Review of US Hwy 75 Hydraulic Study – Review of documents pertinent to the Hydrology and Hydraulics (H/H) studies of the US Hwy 75 bridge improvements and preparation of items for Owner to be aware of that may affect the Project.

Deliverable - Other Information Review – Review of other information during investigative phase of Project not scoped at onset of Project.

Deliverable – Investigation Summary and Proposed Alternatives Analysis – Preparation of written summary of entire investigation phase services including benefit/cost summary, levee inspection,

geophysical analysis and overall system analysis. Summary to include proposed alternatives analysis including scope of next phase of levee certification work for the Project (Alternatives Analysis Phase.)

GIS Database Management

Incorporate Existing Information – Build Project database with all readily available, pertinent information.

Incorporate Levee Inspection Information – Incorporate levee inspection information into GIS database including photos, inspection logs and summary reports.

Incorporate Existing Geotechnical Information – Incorporate all available geotechnical information in levee areas from O&M manuals, bridge plans, or other available sources.

Prepare Maps Identifying Potential Underseepage Concerns – Prepare map using available soil information, aerial imagery and other factors to identify areas of possible concern for levee underseepage. Along with the geophysical investigation, this map will be used to develop an appropriate geotechnical investigation plan.

Levee Inspection / Inventory

Field Inspection of Levees – Preparation for and participation in pedestrian (walked) survey of approximately 18.2 miles of federal Missouri River Levee System Units R-613 and R-616. Survey to include logging of levee system as per USACE standard levee inspection procedures. Survey to include three members of Engineer's team and Owner staff as desired. Survey will include analysis of embankment, photographic journal, analysis of closure mechanisms, and inspection of all crossings and penetrations. Survey results to be logged on inspection logs.

Compare Field Notes with O&M Manuals/As-Built – Once survey is complete, logs will be compared to all available information that details the same information, including aerial imagery, plan sets, past inspection logs and as-built drawings in O&M manual.

Levee Inspection Report

Prepare Levee Inspection Memo – Once pedestrian survey is complete, prepare report of all inspection logs and findings pertinent to levee certification process and the Project. Information to be assembled into overall investigative phase report.

Review Levee Inspection Memo w/ Owner – Meet with Owner representatives to review findings in Levee Inspection Memo.

Identify Levee Deficiencies – Highlight within the Levee Inspection Memo all levee deficiencies found during pedestrian survey and analysis of all topographic information. Information to be assembled into Levee Inspection Memo.

Surveying

Assess Existing Information & Scope Survey for Phase 2 – Work with Owner to piece together all available and pertinent information related to topographic surveys along the Levees and scope what needs to be obtained during the next phase of the Project.

Hydrology and Hydraulics

Obtain and Review Available Hydrologic & Hydraulic Models/Reports – Work with Owner to obtain and review all pertinent Hydrologic & Hydraulic models related to the Levees.

Confirm Effective Models – Run pertinent hydraulic models to confirm published elevational data for established hydrology.

Conduct Interior Drainage Study – Prepare hydrologic and hydraulic information for all interior drainage within Levee systems. Compare findings with water surface elevations within creek and river systems using joint probability analysis or normal water surface elevations as per USACE and FEMA criteria.

Assess Capacity/Integrity of Existing Drainage Structures – Use field inspection notes, survey information and videotapes provided by NRD of all penetrations to assess the capacity and integrity of each structure. Note any deficiencies to be studied further in alternatives development phase.

System Analysis – Analyze the entire Papillion Creek, Missouri River and Platte River system along with interior drainage information as a whole instead of two-dimensionally along levee corridors. Analyze backwater and hydrograph peaking possibilities as well as sedimentation issues and make recommendations related to alternatives to be studied in next phase. Analysis shall also address USACE's Risk & Reliability concerns in 408 approval process.

Geophysical Investigation

Review Sub-Surface Information from As-Built, Design Reports & Geotech Reports – Obtain and review all available information with any sub-surface information including boring logs from O&M manual, bridge plans, design documents, or other readily available and pertinent documents.

Review GIS Potential Underseepage Maps – Review maps prepared in GIS Database Management for insight on areas within Levee system that are potentially subject to underseepage due to soil types or ancient channels, etc. Monitor areas during geophysical investigation.

PART 2 – ADDITIONAL SERVICES

A2.01 Additional Services Requiring Owner's Written Authorization

- A. If authorized in writing by Owner, Engineer shall furnish or obtain from others Additional Services of the types listed below.
 1. Preparation of applications and supporting documents (in addition to those furnished under Basic Services) for private or governmental grants, loans, or advances in connection with the Project; preparation or review of environmental assessments and impact statements; review and evaluation of the effects on the design requirements for the Project of any such

- statements and documents prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of the Project.
2. Services to make measured drawings of or to investigate existing conditions or facilities, or to verify the accuracy of drawings or other information furnished by Owner or others.
 3. Services resulting from significant changes in the scope, extent, or character of the portions of the Project designed or specified by Engineer or its design requirements including, but not limited to, changes in size, complexity, Owner's schedule, character of construction, or method of financing; and revising previously accepted studies, reports, Drawings, Specifications, or Contract Documents when such revisions are required by changes in Laws and Regulations enacted subsequent to the Effective Date of this Agreement or are due to any other causes beyond Engineer's control.
 4. Services resulting from Owner's request to evaluate additional Study and Report Phase alternative solutions beyond those identified in Paragraph A1.01.A.4.
 5. Services required as a result of Owner's providing incomplete or incorrect Project information to Engineer.
 6. Providing renderings or models for Owner's use.
 7. Undertaking investigations and studies including, but not limited to, detailed consideration of operations, maintenance, and overhead expenses; the preparation of feasibility studies, cash flow and economic evaluations, rate schedules, and appraisals; assistance in obtaining financing for the Project; evaluating processes available for licensing, and assisting Owner in obtaining process licensing; detailed quantity surveys of materials, equipment, and labor; and audits or inventories required in connection with construction performed by Owner.
 8. Furnishing services of Engineer's Consultants for other than Basic Services.
 9. Services attributable to more prime construction contracts than specified in Paragraph A1.03.C.
 10. Services during out-of-town travel required of Engineer other than for visits to the Site or Owner's office.
 11. Preparing for, coordinating with, participating in and responding to structured independent review processes, including, but not limited to, construction management, cost estimating, project peer review, value engineering, and constructibility review requested by Owner; and performing or furnishing services required to revise studies, reports, Drawings, Specifications, or other Bidding Documents as a result of such review processes.
 12. Preparing additional Bidding Documents or Contract Documents for alternate bids or prices requested by Owner for the Work or a portion thereof.
 13. Determining the acceptability of substitute materials and equipment proposed during the Bidding or Negotiating Phase when substitution prior to the award of contracts is allowed by the Bidding Documents.

14. Assistance in connection with Bid protests, rebidding, or renegotiating contracts for construction, materials, equipment, or services, except when such assistance is required by Exhibit F.
15. Providing construction surveys and staking to enable Contractor to perform its work other than as required under Paragraph A1.05.A.6, and any type of property surveys or related engineering services needed for the transfer of interests in real property; and providing other special field surveys.
16. Providing Construction Phase services beyond the original date for final completion of the Work.
17. Providing assistance in responding to the presence of any Constituent of Concern at the Site, in compliance with current Laws and Regulations.
18. Preparing and furnishing to Owner Record Drawings showing appropriate record information based on Project annotated record documents received from Contractor.
19. Preparation of operation and maintenance manuals.
20. Preparing to serve or serving as a consultant or witness for Owner in any litigation, arbitration, or other dispute resolution process related to the Project.
21. Providing more extensive services required to enable Engineer to issue notices or certifications requested by Owner.
22. Other services performed or furnished by Engineer not otherwise provided for in this Agreement.

A2.02 Additional Services Not Requiring Owner's Written Authorization

- A. Engineer shall advise Owner that Engineer is commencing to perform or furnish the Additional Services of the types listed below. For such Additional Services, Engineer need not request or obtain specific advance written authorization from Owner. Engineer shall cease performing or furnishing such Additional Services upon receipt of written notice from Owner.
 1. Services in connection with Work Change Directives and Change Orders to reflect changes requested by Owner.
 2. Services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or-equal" items; and services after the award of the Construction Contract in evaluating and determining the acceptability of a substitution which is found to be inappropriate for the Project or an excessive number of substitutions.
 3. Services resulting from significant delays, changes, or price increases occurring as a direct or indirect result of materials, equipment, or energy shortages.

4. Additional or extended services during construction made necessary by (1) emergencies or acts of God endangering the Work, (2) the presence at the Site of any Constituent of Concern, (3) Work damaged by fire or other cause during construction, (4) a significant amount of defective, neglected, or delayed work by Contractor, (5) acceleration of the progress schedule involving services beyond normal working hours, or (6) default by Contractor.
5. Services (other than Basic Services during the Post-Construction Phase) in connection with any partial utilization of any part of the Work by Owner prior to Substantial Completion.
6. Evaluating an unreasonable claim or an excessive number of claims submitted by Contractor or others in connection with the Work.
7. Services during the Construction Phase rendered after the date stated in A1.05.B.

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT B**, consisting of 3 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated 12 Nov, 2009.

Owner's Responsibilities

Article 2 of the Agreement is amended and supplemented to include the following agreement of the parties.

B2.01 *In addition to other responsibilities of Owner as set forth in this Agreement, Owner shall at its expense:*

- A. Provide Engineer with all criteria and full information as to Owner's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which Owner will require to be included in the Drawings and Specifications; and furnish copies of Owner's standard forms, conditions, and related documents for Engineer to include in the Bidding Documents, when applicable.
- B. Furnish to Engineer any other available information pertinent to the Project including reports and data relative to previous designs, or investigation at or adjacent to the Site.
- C. Following Engineer's assessment of initially-available Project information and data and upon Engineer's request, furnish or otherwise make available such additional Project related information and data as is reasonably required to enable Engineer to complete its Basic and Additional Services. Such additional information or data would generally include the following:
 1. Property descriptions.
 2. Zoning, deed, and other land use restrictions.
 3. Property, boundary, easement, right-of-way, and other special surveys or data, including establishing relevant reference points.
 4. Explorations and tests of subsurface conditions at or contiguous to the Site, drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site, or hydrographic surveys, with appropriate professional interpretation thereof.
 5. Environmental assessments, audits, investigations, and impact statements, and other relevant environmental or cultural studies as to the Project, the Site, and adjacent areas.
 6. Data or consultations as required for the Project but not otherwise identified in the Agreement or the Exhibits thereto.

- D. Give prompt written notice to Engineer whenever Owner observes or otherwise becomes aware of the presence at the Site of any Constituent of Concern, or of any other development that affects the scope or time of performance of Engineer's services, or any defect or nonconformance in Engineer's services, the Work, or in the performance of any Contractor.
- E. Authorize Engineer to provide Additional Services as set forth in Part 2 of Exhibit A of the Agreement as required.
- F. Arrange for safe access to and make all provisions for Engineer to enter upon public and private property as required for Engineer to perform services under the Agreement.
- G. Examine all alternate solutions, studies, reports, sketches, Drawings, Specifications, proposals, and other documents presented by Engineer (including obtaining advice of an attorney, insurance counselor, and other advisors or consultants as Owner deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.
- H. Provide reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of the Project designed or specified by Engineer and such reviews, approvals, and consents from others as may be necessary for completion of each phase of the Project.
- I. Provide, as required for the Project:
 - 1. Accounting, bond and financial advisory, independent cost estimating, and insurance counseling services.
 - 2. Legal services with regard to issues pertaining to the Project as Owner requires, Contractor raises, or Engineer reasonably requests.
 - 3. Such auditing services as Owner requires to ascertain how or for what purpose Contractor has used the moneys paid.
 - 4. Placement and payment for advertisement for Bids in appropriate publications.
- J. Advise Engineer of the identity and scope of services of any independent consultants employed by Owner to perform or furnish services in regard to the Project, including, but not limited to, cost estimating, project peer review, value engineering, and constructibility review.
- K. Furnish to Engineer data as to Owner's anticipated costs for services to be provided by others (including, but not limited to, accounting, bond and financial, independent cost estimating, insurance counseling, and legal advice) for Owner so that Engineer may assist Owner in collating the various cost categories which comprise Total Project Costs.
- L. If Owner designates a construction manager or an individual or entity other than, or in addition to, Engineer to represent Owner at the Site, define and set forth as an attachment to this Exhibit B the duties, responsibilities, and limitations of authority of such other party and the relation thereof to the duties, responsibilities, and authority of Engineer.

- M. If more than one prime contract is to be awarded for the Work designed or specified by Engineer, designate a person or entity to have authority and responsibility for coordinating the activities among the various prime Contractors, and define and set forth the duties, responsibilities, and limitations of authority of such individual or entity and the relation thereof to the duties, responsibilities, and authority of Engineer as an attachment to this Exhibit B that is to be mutually agreed upon and made a part of this Agreement before such services begin.
- N. Attend the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job related meetings, and Substantial Completion and final payment inspections.
- O. Provide the services of an independent testing laboratory to perform all inspections, tests, and approvals of Samples, materials, and equipment required by the Contract Documents, or to evaluate the performance of materials, equipment, and facilities of Owner, prior to their incorporation into the Work with appropriate professional interpretation thereof.
- P. Provide Engineer with the findings and reports generated by the entities providing services to Owner pursuant to this paragraph.
- Q. ~~Perform or provide the following additional services: _____.~~

1.

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT C**, consisting of 3 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated 12 Nov, 2009.

Payments to Engineer for Services and Reimbursable Expenses

Article 2 of the Agreement is amended and supplemented to include the following agreement of the parties:

ARTICLE 2 – OWNER’S RESPONSIBILITIES

C2.01 Compensation For Basic Services (other than Resident Project Representative and Post-Construction) – Direct Labor Costs Times a Factor Method of Payment

- A. Owner shall pay Engineer for Basic Services set forth in Exhibit A, except for services of Engineer’s Resident Project Representative and Post-Construction Phase services, if any, as follows:
1. An amount equal to Engineer’s Direct Labor Costs times a factor of 3.02 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 \$330,878 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 \$330,878 being intended by parties as the maximum amount of money to be due to Engineer under this Agreement.
 2. Engineer’s Reimbursable Expenses Schedule is attached to this Exhibit C as Appendix 1.
 3. The total compensation for services under Paragraph C2.01 is estimated to be \$330,878 based on the following assumed distribution of compensation:
 - a. Investigative Phase \$330,878 (See Attachment 1 to Exhibit C)
 - b. Alternatives Development Phase \$_____ (To be negotiated at a later date)
 - c. Final Design and Bidding Phase \$_____ (To be negotiated at a later date)
 - d. Construction Observation Phase \$_____ (To be negotiated at a later date)
 4. Engineer may alter the distribution of compensation between individual phases of the work noted herein to be consistent with services actually rendered, but shall not exceed the total compensation amount unless approved in writing by Owner.

5. The total estimated compensation for Engineer's services included in the breakdown by phases as noted in Paragraph C2.01.A.3, incorporates all labor, overhead, profit, Reimbursable Expenses, and Engineer's Consultant's charges.
6. The portion of the amounts billed for Engineer's services which are related to services rendered on a Direct Labor Costs times a Factor basis will be billed based on the applicable Direct Labor Costs for the cumulative hours charged to the Project by Engineer's principals and employees multiplied by the above-designated factor, plus Reimbursable Expenses and Engineer's Consultant's charges incurred during the billing period.
7. Direct Labor Costs means salaries and wages paid to employees but does not include payroll related costs or benefits.
8. The Direct Labor Costs and the factor applied to Direct Labor Costs will be adjusted annually (as of date of execution of contract) to reflect equitable changes to the compensation payable to Engineer.

C2.02 Compensation For Reimbursable Expenses

- A. Owner shall pay Engineer for all Reimbursable Expenses at the rates set forth in Appendix 1 to this Exhibit C.
- B. Reimbursable Expenses include the following categories: transportation and subsistence incidental thereto; obtaining bids or proposals from Contractor(s); providing and maintaining field office facilities including furnishings and utilities; toll telephone calls and mobile phone charges; reproduction of reports, Drawings, Specifications, Bidding Documents, and similar Project-related items in addition to those required under Exhibit A, and, if authorized in advance by Owner, overtime work requiring higher than regular rates. In addition, if authorized in advance by Owner, Reimbursable Expenses will also include expenses incurred for computer time and the use of other highly specialized equipment.
- C. The amounts payable to Engineer for Reimbursable Expenses will be the Project-related internal expenses actually incurred or allocated by Engineer, plus all invoiced external Reimbursable Expenses allocable to the Project, the latter multiplied by a factor of 1.0.
- D. The Reimbursable Expenses Schedule will be adjusted annually (as of date of execution of contract) to reflect equitable changes in the compensation payable to Engineer.

C2.03 Other Provisions Concerning Payment

- A. Whenever Engineer is entitled to compensation for the charges of Engineer's Consultants, those charges shall be the amounts billed by Engineer's Consultants to Engineer times a factor of 1.0.
- B. Factors. The external Reimbursable Expenses and Engineer's Consultant's factors include Engineer's overhead and profit associated with Engineer's responsibility for the administration of such services and costs.

C. Estimated Compensation Amounts

1. Engineer's estimate of the amounts that will become payable for specified services are only estimates for planning purposes, are not binding on the parties, and are not the minimum or maximum amounts payable to Engineer under the Agreement.
2. When estimated compensation amounts have been stated herein and it subsequently becomes apparent to Engineer that a compensation amount thus estimated will be exceeded, Engineer shall give Owner written notice thereof. Promptly thereafter Owner and Engineer shall review the matter of services remaining to be performed and compensation for such services. Owner shall either agree to such compensation exceeding said estimated amount or Owner and Engineer shall agree to a reduction in the remaining services to be rendered by Engineer, so that total compensation for such services will not exceed said estimated amount when such services are completed. If Engineer exceeds the estimated amount before Owner and Engineer have agreed to an increase in the compensation due Engineer or a reduction in the remaining services, the Engineer shall be paid for all services rendered hereunder.
3. To the extent necessary to verify Engineer's charges and upon Owner's timely request, Engineer shall make copies of such records available to Owner at cost.

This is **Appendix 1 to EXHIBIT C**, consisting of 1 page, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated 12 Nov, 2009.

Reimbursable Expenses Schedule

Current agreements for engineering services stipulate that the Reimbursable Expenses are subject to review and adjustment per Exhibit C. Reimbursable expenses for services performed on the date of the Agreement are:

8"x11" Copies/ B&W	<u>\$0.10</u> /page
8"x11" Copies/ Color	<u>\$0.10</u> /page
11" x 17" Copies / B&W	\$0.10/page
11" x 17" Copies / Color	\$0.10/page
Presentation Boards (plot and mount)	\$150/board
Blue Print Copies	<u>\$0.20</u> /sq. ft.
Mileage (auto)	<u>\$0.55</u> /mile
GPS Camera	\$3/photo Not to Exceed \$100/day
Voice Conferencing	\$0.10/minute
Meals and Lodging	at cost

* All other direct costs will be invoiced at actual cost plus G&A of 13.46%

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT E**, consisting of 3 pages, referred to in
and part of the **Agreement between Owner and Engineer
for Professional Services** dated 12 Nov, 2009.

NOTICE OF ACCEPTABILITY OF WORK

PROJECT:

OWNER:

OWNER'S CONSTRUCTION CONTRACT IDENTIFICATION:

EFFECTIVE DATE OF THE CONSTRUCTION AGREEMENT:

CONSTRUCTION CONTRACT DATE:

ENGINEER:

To:

OWNER

And To:

CONTRACTOR

From:

ENGINEER

The Engineer hereby gives notice to the above Owner and Contractor that the completed Work furnished and performed by Contractor under the above Contract is acceptable, expressly subject to the provisions of the related Contract Documents, the Agreement between Owner and Engineer for Professional Services dated _____, _____, and the terms and conditions set forth on the reverse side of this Notice.

By: _____

Title: _____

Dated

:

(Reverse side of Notice)

CONDITIONS OF NOTICE OF ACCEPTABILITY OF WORK

The Notice of Acceptability of Work ("Notice") on the front side of this sheet is expressly made subject to the following terms and conditions to which all persons 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 date hereof.
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 on the front side of 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 on the front side of 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.

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT G**, consisting of 2 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated 12 Nov, 2009.

Insurance

Paragraph 6.04 of the Agreement is amended and supplemented to include the following agreement of the parties.

G6.04 Insurance

The Engineer shall purchase, and maintain until the expiration of two years after completion of the Engineer's services under the Agreement the following policies of insurance (required by paragraph 6.04 of the Agreement) with minimum requirements as follows:

- Workmens Compensation and Employers Liability
 - Workers' Compensation: statutory minimum
 - Longshore and Harbor Workers' Compensation Act endorsement and Admiralty Law endorsements (required only if the work involves maritime operations).
 - Employer's Liability: \$250,000.00 per accident.
- Professional malpractice
 - \$1,000,000.00 each claim
 - \$2,000,000.00 aggregate
- Commercial General Liability – ISO Occurrence Form
 - \$1,000,000.00 each occurrence
 - \$2,000,000.00 general aggregate
 - \$2,000,000.00 products – completed operations aggregate
 - \$1,000,000.00 personal & advertising injury
 - \$300,000.00 fire damage
 - \$5,000.00 medical expense
- Business Auto Liability - Owned, Non-Owned & Hired vehicles \$1,000,000.00 combined single limit.
- General Provisions:
 - All policies shall be endorsed to have any annual aggregate apply on a per-project basis or, instead of obtaining such endorsements, the Engineer shall purchase and maintain and until the expiration of two years after completion of the Engineer's services, a policy of umbrella insurance with limits of at least \$1,000,000.
 - All policies shall be endorsed to provide 30 days written notice to the NRD prior to termination or change in the coverage provided.
 - The NRD reserves the right to approve the Engineer's insurers.

- Workers Compensation and Commercial General Liability policies shall be endorsed to provide Waiver of Subrogation in favor of the NRD.
- The Commercial General Liability policy shall be endorsed to include the NRD as Additional Insured (form CG 20 10)
- Prior to commencement of the Engineer's services and from time to time thereafter at NRD's request, the Engineer shall submit certificates in form acceptable to the NRD evidencing that all such insurance policies are in effect.

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT H**, consisting of 2 pages, referred to in
and part of the **Agreement between Owner and Engineer
for Professional Services** dated 12 Nov, 2009.

Dispute Resolution

Paragraph 6.08 of the Agreement is amended and supplemented to include the following agreement of the parties:

[NOTE: Select one of the two alternatives provided]

H6.09 Dispute Resolution

- A. Mediation. Owner and Engineer agree that they shall first submit any and all unsettled claims, counterclaims, disputes, and other matters in question between them arising out of or relating to this Agreement or the breach thereof ("Disputes") to mediation by *[to be determined]*. If such mediation is unsuccessful in resolving a Dispute, then (a) the parties may mutually agree to a dispute resolution of their choice, or (b) either party may seek to have the Dispute resolved by a court of competent jurisdiction.

[or]

- ~~A. Arbitration. All Disputes between Owner and Engineer shall be settled by arbitration in accordance with the *[here insert the name of a specified arbitration service or organization]* rules effective at the Effective Date of the Agreement, subject to the conditions stated below. This agreement to arbitrate and any other agreement or consent to arbitrate entered into in accordance with this Paragraph H6.08.A will be specifically enforceable under prevailing law of any court having jurisdiction.~~
- ~~1. Notice of the demand for arbitration must be filed in writing with the other party to the Agreement and with the *[specified arbitration service or organization]*. The demand must be made within a reasonable time after the Dispute has arisen. In no event may the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such Dispute would be barred by the applicable statute of limitations.~~
- ~~2. All demands for arbitration and all answering statements thereto which include any monetary claims must contain a statement that the total sum or value in controversy as alleged by the party making such demand or answering statement is not more than \$_____ (exclusive of interest and costs). The arbitrators will not have jurisdiction, power, or~~

~~authority to consider, or make findings (except in denial of their own jurisdiction) concerning any Dispute if the amount in controversy in such Dispute is more than \$_____ (exclusive of interest and costs), or to render a monetary award in response thereto against any party which totals more than \$_____ (exclusive of interest and costs). Disputes that are not subject to arbitration under this paragraph may be resolved in any court of competent jurisdiction.~~

- ~~3. The award rendered by the arbitrators shall be in writing, and shall include: (i) a precise breakdown of the award; and (ii) a written explanation of the award specifically citing the Agreement provisions deemed applicable and relied on in making the award.~~
- ~~4. The award rendered by the arbitrators will be consistent with the Agreement of the parties and final, and judgment may be entered upon it in any court having jurisdiction thereof, and will not be subject to appeal or modification.~~
- ~~5. If a Dispute in question between Owner and Engineer involves the work of a Contractor, subcontractor, or consultants to the Owner or Engineer (each a "Joinable Party"), either Owner or Engineer may join each Joinable Party as a party to the arbitration between Owner and Engineer hereunder, and Engineer or Owner, as appropriate, shall include in each contract with each such Joinable Party a specific provision whereby such Joinable Party consents to being joined in an arbitration between Owner and Engineer involving the work of such Joinable Party. Nothing in this Paragraph H6.08.A.5 nor in the provision of such contract consenting to joinder shall create any claim, right, or cause of action in favor of the Joinable Party and against Owner or Engineer that does not otherwise exist.~~

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT I**, consisting of 3 pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated 12 Nov, 2009.

Allocation of Risks

Paragraph 6.10 of the Agreement is amended and supplemented to include the following agreement of the parties:

16.10.B *Limitation of Engineer's Liability*

~~[NOTE: Select one of the three alternatives listed below for 16.11 B.1]~~

1. ~~Engineer's Liability Limited to Amount of Engineer's Compensation.~~ To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of Engineer and Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants, and any of them, to Owner and anyone claiming by, through, or under Owner for any and all claims, losses, costs, or damages whatsoever arising out of, resulting from or in any way related to the Project or the Agreement from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability or breach of contract, or warranty express or implied of Engineer or Engineer's officers, directors, partners, employees, agents, or Engineer's Consultants, or any of them, shall not exceed the total compensation received by Engineer under this Agreement.

~~[or]~~

1. ~~Engineer's Liability Limited to Amount of Insurance Proceeds.~~ Engineer shall procure and maintain insurance as required by and set forth in Exhibit G to this Agreement. Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, the total liability, in the aggregate, of Engineer and Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants, and any of them, to Owner and anyone claiming by, through, or under Owner for any and all claims, losses, costs, or damages whatsoever arising out of, resulting from or in any way related to the Project or the Agreement from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability or breach of contract, or warranty express or implied, of Engineer or Engineer's officers, directors, partners, employees, agents, or Engineer's Consultants, or any of them (hereafter "Owner's Claims"), shall not exceed the total insurance proceeds paid on behalf of or to Engineer by Engineer's insurers in settlement or satisfaction of Owner's Claims under the terms and conditions of Engineer's

~~insurance policies applicable thereto (excluding fees, costs and expenses of investigation, claims adjustment, defense, and appeal). If no such insurance coverage is provided with respect to Owner's Claims, then the total liability, in the aggregate, of Engineer and Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants, and any of them to Owner and anyone claiming by, through, or under Owner for any and all such uninsured Owner's claims shall not exceed \$_____.~~

~~[or]~~

- ~~1. *Engineer's Liability Limited to the Amount of \$_____.* Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, the total liability, in the aggregate, of Engineer and Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants, and any of them, to Owner and anyone claiming by, through, or under Owner for any and all claims, losses, costs, or damages whatsoever arising out of, resulting from, or in any way related to the Project or the Agreement from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability or breach of contract, or warranty express or implied of Engineer or Engineer's officers, directors, partners, employees, agents, or Engineer's Consultants, or any of them, shall not exceed the total amount of \$_____.~~

~~[NOTE: If appropriate and desired, include I6.10.B.2 below]~~

- ~~2. *Exclusion of Special, Incidental, Indirect, and Consequential Damages.* To the fullest extent permitted by law, and notwithstanding any other provision in the Agreement, consistent with the terms of Paragraph 6.10.E the Engineer and Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants, or any of them, shall not be liable to Owner or anyone claiming by, through, or under Owner for any special, incidental, indirect, or consequential damages whatsoever arising out of, resulting from, or in any way related to the Project or the Agreement from any cause or causes, including but not limited to any such damages caused by the negligence, professional errors or omissions, strict liability, breach of contract, or warranties, express or implied, of Engineer or Engineer's officers, directors, partners, employees, agents, or Engineer's Consultants, or any of them, and including but not limited to:~~

~~[NOTE: list here particular types of damages that may be of special concern because of the nature of the project or specific circumstances, e.g., cost of replacement power, loss of use of equipment or of the facility, loss of profits or revenue, loss of financing, regulatory fines, etc. If the parties prefer to leave the language general, then end the sentence after the phrase "or any of them."]~~

~~[NOTE: the above exclusion of consequential and other damages can be converted to a limitation on the amount of such damages, following the format of Paragraph I6.10.B.1 above, by providing~~

~~that "Engineer's total liability for such damages shall not exceed \$_____."~~]

~~[NOTE: If appropriate and desired, include I6.10.B.3 below]~~

~~[NOTE: The foregoing provisions may be included as a supplement to Paragraph 6.10.E, which contains a mutual waiver of damages applicable to the benefit of both Owner and Engineer.]~~

3. ~~Agreement Not to Claim for Cost of Certain Change Orders.~~ Owner recognizes and expects that certain Change Orders may be required to be issued as the result in whole or part of imprecision, incompleteness, errors, omissions, ambiguities, or inconsistencies in the Drawings, Specifications, and other design documentation furnished by Engineer or in the other professional services performed or furnished by Engineer under this Agreement ("Covered Change Orders"). Accordingly, Owner agrees not to sue and otherwise to make no claim directly or indirectly against Engineer on the basis of professional negligence, breach of contract, or otherwise with respect to the costs of approved Covered Change Orders unless the costs of such approved Covered Change Orders exceed _____% of Construction Cost, and then only for an amount in excess of such percentage. Any responsibility of Engineer for the costs of Covered Change Orders in excess of such percentage will be determined on the basis of applicable contractual obligations and professional liability standards. For purposes of this paragraph, the cost of Covered Change Orders will not include any costs that Owner would have incurred if the Covered Change Order work had been included originally without any imprecision, incompleteness, error, omission, ambiguity, or inconsistency in the Contract Documents and without any other error or omission of Engineer related thereto. Nothing in this provision creates a presumption that, or changes the professional liability standard for determining if, Engineer is liable for the cost of Covered Change Orders in excess of the percentage of Construction Cost stated above or for any other Change Order. Wherever used in this paragraph, the term Engineer includes Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants.

~~[NOTE: The parties may wish to consider the additional limitation contained in the following sentence.~~

~~Owner further agrees not to sue and otherwise to make no claim directly or indirectly against Engineer with respect to any Covered Change Order not in excess of such percentage stated above, and Owner agrees to hold Engineer harmless from and against any suit or claim made by the Contractor relating to any such Covered Change Order.]~~

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT J**, consisting of 1 pages, referred to in
and part of the **Agreement between Owner and Engineer
for Professional Services** dated 12 Nov, 2009.

Special Provisions

Paragraph(s) _____ of the Agreement is/are amended to include the following agreement(s) of the parties:

SUGGESTED FORMAT
(for use with E-500, 2002 Edition)

This is **EXHIBIT K**, consisting of 2 pages, referred to in
and part of the **Agreement between Owner and Engineer
for Professional Services** dated 12 Nov, 2009.

AMENDMENT TO OWNER-ENGINEER AGREEMENT

1. Background Data:

- a. Effective Date of Owner-Engineer Agreement: 12 November 2009
- b. Owner: Papio-Missouri River Natural Resources District
- c. Engineer: Tetra Tech, Inc.
- d. Project: Missouri River R-613/R-616 Federal Levee Certification

2. Nature of Amendment [Check those that are applicable and delete those that are inapplicable.]

- ☒ Additional Services to be performed by Engineer
- ☐ Modifications to Services of Engineer
- ☐ Modifications to Responsibilities of Owner
- ☐ Modifications to Payment to Engineer
- ☐ Modifications to Time(s) for rendering Services
- ☐ Modifications to other terms and conditions of the Agreement

3. Description of ~~Modifications~~-Additional Services

Attachment 1, "Modifications"

[List other Attachments, if any]

Alternatives Development Phase Services as detailed in Attachments 1, 1b, 2 and 3 to this Exhibit K as negotiated with Owner to continue certification process of this project.

Owner and Engineer hereby agree to modify the above-referenced Agreement as set forth in this Amendment. All provisions of the Agreement not modified by this or previous Amendments remain in effect. The Effective Date of this Amendment is 9 September 2010.

OWNER:

ENGINEER:

By: John Winkler

Title: General Manager

Date _____
Signed: _____

By: Michael K. Sotak, P.E.

Title: Office Manager

Date Signed: _____

This is **Attachment 1**, consisting of 1 page, to Amendment No. _____, dated _____, _____.

Modifications

[Include the following paragraphs that are appropriate and delete those not applicable to this amendment. Refer to paragraph numbers used in the Agreement or a previous amendment for clarity with respect to the modifications to be made. Use paragraph numbers in this document for ease of reference herein and in future correspondence or amendments.]

1. Engineer shall perform the following Additional Services:
2. 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:
3. The responsibilities of Owner are modified as follows:
4. For the Additional Services or the modifications to services set forth above, Owner shall pay Engineer the following additional or modified compensation:
5. The schedule for rendering services is modified as follows:
6. Other portions of the Agreement (including previous amendments, if any) are modified as follows:

Attachment 1 to Exhibit K

P-MRNRD MO River R-613/616 Federal Levee Certification - Alternatives Development Phase

Title: Name(s): Rate:	Tetra Tech								Lamp Ryneerson & Associates					Expenses	
	Proj Mgr	Sr. Engr.	Sr. Engr.	Sr. Scientist	Project Engr.	Project Engr.	CADD Tech	Sr.Geotech	Proj. Principle	Proj. Engr.	Proj. Engr.	Proj. Engr.	Survey Mgr.		
	Sotak	Musseter	Sexton/Chen	Holz / Bailey	Rogers	Gregalunas/Hanson	Klein	Chapel	Atkins	McIntosh	Hill	Oswald	Whitfield		
	\$190	\$227	\$210	\$180	\$125	\$100	\$65	\$170	\$170	\$123	\$150	\$100	\$134		
TASKS															
Project Management															
Prepare for and Attend Kickoff Meeting	8				4		4		4	4	4			\$40	\$4,232
Project Management - Client Mtg (6)	24				12		12			12	4				\$9,336
Project Management - Monthly Invoice/Schedule Update	48				12		12		4	12				\$40	\$14,016
Project Management - Internal Kickoff Meeting	12		4	4	4		4		5	5	5				\$7,143
Stakeholder Meeting (2)	16				16		16			8					\$7,624
USACE Coordination Meetings (3) (408 / PL 84-99, etc.)	12						12			8				\$50	\$4,514
															46,865
Levee Setback and Restoration Alternative Development															
Stakeholder Meeting (2) - NRD, USACE, NGPC	10						20			12				\$100	\$5,476
Refine Levee Setback Route South of US Hwy 34 Alignment	2				40		14			4		4		\$120	\$7,792
Develop Concept Plan for Levee Setback Route	6			30	60		16			4		20		\$140	\$12,872
Review Information & Make Recommendation for Potential Funding Routes	8			20	12										\$3,020
Present Information to NRD	4			12	4									\$600	\$1,860
Prepare Concept Design Memorandum	2		4	8	8				4	4		12		\$60	\$4,652
															35,672
US Hwy 75 Levee Modification															
Coordination Meeting with NDOR (2)	12				8		8							\$300	\$4,380
Develop Alternatives (3) for Raising US Hwy 75 Portion of R-613 Levee	4				60		8	16	16					\$200	\$13,020
Develop Costs for Alternatives	2				16		8	2	4	24		20			\$8,872
Present Information to NRD	2				2		2			6					\$1,568
Prepare Concept Design Memorandum	2		4		12		8	4						\$60	\$4,260
															27,720
RR Closure Alternatives															
Coordination Meeting with UPRR (2)	8				4						4			\$60	\$2,680
Coordination Meeting with BNSF (2)	8				4						4			\$60	\$2,680
Develop Alternatives (2) for Railroad Closure Sections at Hwy 370 and Hwy 75	12		80		60	2				8	40				\$33,764
Develop Costs for Alternatives	2		6		12					4	12				\$5,432
Present Information to NRD	2														\$380
Prepare Concept Design Memorandum	2		4		10					8	8	4		\$60	\$5,114
															50,050
Sediment/Scour Analysis															
Review Existing and Historical Information		40			8		24							\$2,000	\$14,480
Assess Sediment Transport Impacts on BFE's and Levee Stability		32			40		100	8						\$250	\$23,034
Prepare Analysis Report and Levee Certification Report Text		16			24		16	8						\$100	\$8,852
															46,366
Develop Final Levee Modification Plan															
Review Updated Papillion Creek Hydraulics Model					8		16			4					\$3,092
Review Updated Platte River Hydraulics Model	2				8		16			4				\$200	\$3,472
Prepare Final Levee Raise Map					16		6								\$2,800
Assess Previously Developed Alternatives	2				4		4			4					\$1,772
Assess Interior Channel Modifications Alternative for Papillion Creek	16				64	30	80	8		4					\$21,092
Develop Costs for Alternatives	2				12		8			4					\$2,892
Compile Survey Information and Assess Final Design Deficiencies										2			12		\$1,854
Present Information to NRD	4				2		2			4					\$1,702
Refine Design Memorandum	2		4		12		12	6						\$80	\$5,020
															43,696
Hydrology and Hydraulics															
Coordination Meeting with NRD (1)	3						3			3					\$1,239
Update System Analysis/Interior Drainage	2						32			6				\$100	\$4,418
															5,657
Geotech/Geophysics															
Geotechnical Investigation/Analysis (See attached detailed breakdown)															\$297,181
Geophysical Investigation (See attached detailed breakdown)															\$138,529
															435,710
GIS Database Management															
Load Concept Plans into GIS Database						20	4								\$2,260
Update Inundation Area Mapping	2					20									\$2,380
															4,640
Totals:	243	92	106	70	558	439	132	36	21	158	81	60	12	Total Contract:	696,376

Attachment 1b to Exhibit K

P-MRNRD MO River R-613/616 Federal Levee Certification - Alternatives Development Phase
Geotechnical and Geophysical Investigations

	Title: Name(s): Rate:	Sr Engineer/ Geologist	Sr. QC Review	Sr. Geophysicist	Sr Staff Engr.	Staff Engineer	Staff	GIS	Geophysicist	Project Asst.	Equipment & crew	Expenses	Sub-Total	Total
		Chapel	Johnson/Gard	Laymon	Trantham	Stock	Klein	Boyd	Gunter	several	several			
		\$180	\$250	\$155	\$110	\$100	\$65	\$90	\$90	\$65	1			
TASKS														
Project Development		40			20	50							\$14,400	
vehicle												440	\$440	
rig mobilization (\$3.75/mile)												2,475	\$2,475	
rig support vehicle (\$75/day)												330	\$330	
hotel/perdiem												286	\$286	
													\$0	17,931
Field Investigation		40			20	198	20						\$30,500	
Drill Rig & Crew											\$41,974		\$41,974	
vehicle												\$1,760	\$1,760	
rig mobilization (\$/mile)												\$107	\$107	
support vehicle (\$75/day)												\$2,145	\$2,145	
hotel/lodging (geol/engineer)												\$2,420	\$2,420	
hotel/lodging (drill crew)												\$3,872	\$3,872	
per diem												\$2,178	\$2,178	
Drill Crew Travel											\$14,332		\$14,332	
airfare												\$1,760	\$1,760	
Cone Penetration Testing											\$18,645		\$18,645	
Sampling Expenses												\$997	\$997	120,690
Laboratory Testing and Analysis		10			20	50							\$9,000	
Gradation (#4 to -200; assume 36)												\$2,520	\$2,520	
Atterberg Limits (assume 36)												\$2,880	\$2,880	
Moisture & Density												\$2,275	\$2,275	
Specific Gravity												\$1,600	\$1,600	
Direct Shear (3 point test; assume 12)												\$4,680	\$4,680	
Unconfined Compression												\$1,800	\$1,800	
Triaxial Testing (CU; assume 12)												\$14,770	\$14,770	
Triaxial Testing (CD; assume 6)												\$10,890	\$10,890	
Standard Compaction												\$1,500	\$1,500	
Consolidation / Swell												\$1,850	\$1,850	
Permeability (flexible wall; assume 6)												\$2,400	\$2,400	
Hydrometer Analysis												\$1,200	\$1,200	
Organic Content												\$700	\$700	58,065
Geotechnical Analysis		40			360	180							\$64,800	
														64,800
Geophysical Analysis		2												
Mobilization Project Preparation				24				2	32			\$6,548	\$13,328	
Field Investigation				56			280		280			\$35,583	\$87,663	
Data Processing				32				24	160			\$1,650	\$23,170	
Report Preparation				24				40	60	10		\$998	\$14,368	138,529
Report		40	4		60	75	30			9			\$24,835	
														24,835
Conceptual Plans		20	2		20	30	24						\$10,860	
														10,860

Total Contract: 435,710

Attachment 2 to Exhibit K

P-MRNRD R-613 & R-616 Levee Certification Task Descriptions – Phase II

Project Management

Prepare for and Attend Kickoff Meeting – Prepare agenda and pertinent information and attend a meeting with NRD and Consultant Team to review responsibilities, communication expectations and project scope and schedule.

Project Management – Monthly Client Meetings – Monthly meetings between consultant team project manager and client representative(s) to review progress and work ahead for the coming weeks.

Project Management – Monthly Invoice/Schedule Update – Monthly preparation of consultant invoice including incorporation of internal and subconsultant invoices, description of services rendered and update of MS Project schedule.

Project Management – Internal Kickoff Meeting – Prepare agenda and pertinent information and attend a meeting with the consultant team to define project roles, establish communication lines, review project schedule and discuss inter-relationships of tasks to be completed.

Stakeholder Meetings – Prepare for and attend two (2) meetings with project stakeholders defined by NRD and consultant team to relay the intended project path and identify any input needed from stakeholder agencies. The NRD may also choose to receive input from stakeholder groups.

USACE Coordination Meetings – Prepare for and attend three (3) meetings with the U.S. Army Corps of Engineers to discuss progress on the levee certification project and how it meshes with the Corps' 208/408 and PL 84-99 programs.

Levee Setback and Restoration Alternative Development

Stakeholder Meetings – Prepare for and attend two (2) meetings with project stakeholders defined by NRD and consultant team to discuss the potential effects of a levee setback along the MO River R-613 levee. Stakeholder groups may include Sarpy County, City of Bellevue, NDOR, NGPC, etc.

Refine Levee Setback Route South of US Hwy 34 Alignment – Select most viable route for levee setback alternative and confluence of Missouri and Platte Rivers, utilizing available land rights, utility and land use information.

Develop Concept Plan for Levee Setback Route – Develop conceptual plan view including plan view sketches and conceptual stream/planting details for restoring new riverward land as defined by new levee setback route. Design concepts will follow guidelines established for USACE Missouri River Recovery Program.

Review Information & Make Recommendation for Potential Funding Routes – Meet with USACE and possibly USFWS to discuss potential funding avenues for all phases of levee setback alternative and development of recovered land as defined in concept plan.

Present Information to NRD - Meet with NRD representatives to review information prepared within this task group.

Prepare Concept Design Memorandum – Prepare written summary of design and planning assumptions made in this task group pertinent to the identification, formulation and analysis of alternatives related to the levee setback and related development of riverward land.

US Hwy 75 Levee Modification

Coordination Meetings with NDOR – Prepare for and attend two (2) meetings with NDOR regarding US 75 Plattsmouth to the Platte project and status of any possible bridge/highway modifications and adjacent roadway modifications (Allied Road). Discuss possible transfer of levee from Highway 75 to proposed Allied Road or adjacent embankment/structural wall and ROW transfers/easements. Present possible alternatives to NDOR for preliminary approval. Determine if possible levee embankment would need to include build-out for Allied Road and possible cost share from NDOR.

Develop Alternatives for Raising US Hwy 75 Portion of R-613 Levee – Prepare economic and technical alternatives analysis for up to three (3) alternatives for the US Highway 75 levee tie-back. Analysis is intended to investigate the alternatives at a level of detail that will help guide the investigation into the next phase.

Develop Costs for Alternatives – Develop opinion of project costs for alternatives prepared within this task group for the purpose of screening alternatives and selecting preferred alternative.

Present Information to NRD - Meet with NRD representatives to review information prepared within this task group.

Deliverable – Concept Design Memorandum – Prepare written summary of design and planning assumptions made in this task group pertinent to the identification, formulation and analysis of alternatives related to connecting the R-

613 levee along the left bank of the Platte River with the closure sections through the railroads near LaPlatte Road.

Railroad Closure Alternatives

Coordination Meeting with Railroads – Prepare for and attend two (2) meetings with Union Pacific Railroad and Burlington Northern Santa Fe Railroad to discuss alternatives and coordination process for R-613 and R-616 closure section.

Alternatives Development – Prepare two (3) alternatives to the existing sandbag closure sections using guidelines set forth by railroads, FEMA and USACE. Alternatives shall include rough draft of maintenance plans for structures and operations required during a high water event.

Develop Costs for Alternatives – Develop opinion of project costs for alternatives prepared within this task group for the purpose of screening alternatives and selecting preferred alternative.

Present Information to NRD - Meet with NRD representatives to review information prepared within this task group.

Deliverable – Concept Design Memorandum – Prepare written summary of design and planning assumptions made in this task group pertinent to the identification, formulation and analysis of alternatives related to upgrading the existing sandbag closures beneath the US Hwy 75 and NE Hwy 370 railroad bridges to current design standards.

Sediment/Scour Analysis

Review existing and historical information – Obtain and review available bathymetric/topographic data, historical aerial photographs, as-built plans for the Papillion Creek channelization and other infrastructure, and other relevant information to assess aggradation/degradation and lateral stability trends in the Missouri and Platte Rivers and Papillion Creek within the R-613 and R-616 project areas.

Assess potential sediment transport impacts on BFE's and Levee Stability¹ – Perform a qualitative assessment of potential sediment transport and scour impacts on the Missouri and Platte River levees based on the available information. Develop and apply a sediment routing model (either HEC-RAS v4.1 or HEC-6T) of the downstream approximately 6.3 miles of Papillion Creek to quantify aggradation/degradation potential and likely impacts to BFE's and levee stability. This reach includes the 5.3-mile reach between the mouth and

¹ Based on the presently available information, it is assumed that sediment transport and scour will not have a significant impact on BFE's and levee stability along the Missouri and Platte Rivers within the R-613 and R-616 project areas, but are a potential issue in Papillion Creek.

Capehart Road that is within the R-613 project area and approximately 1-mile upstream reach that will serve as the sediment supply reach.

Prepare analysis report and certification report text – Prepare a report summarizing the information review and methods, assumptions and results of the sediment transport analysis. Prepare relevant text for the levee certification report, including text that specifically addresses questions posed on the FEMA MT-2 form.

Develop Final Levee Modification Plan

Review Updated Hydraulic Models – Obtain and review updated Papillion Creek and Platte River hydraulic models currently being updated by the USACE.

Prepare Final Levee Raise Map - Determine areas of insufficient levee freeboard along Papillion Creek and the Platte River. Prepare a final levee raise map for the R-613 and R-616 project areas.

Assess Previously Developed Alternatives – Expand upon previous alternatives assessment and potential changes due to updated hydraulics.

Assess Interior Channel Modifications for Papillion Creek – Compare existing channel profile to design channel profile where available. Use Design Memorandum typical sections and invert profiles to recreate design bench elevations. Compare these to existing cross sections provided by the USACE with additional survey as needed (provided by the NRD). Assess ability to improve channel hydraulics by restoring original channel design geometry (remove sediment.)

Develop Costs for Alternatives – Develop opinion of project costs for alternatives prepared within this task group for the purpose of screening alternatives and selecting preferred alternative.

Compile Survey Information and Assess Final Design Deficiencies – assess all available survey information as compiled by NRD and identify any missing information that will be needed for final design phase.

Present Information to NRD - Meet with NRD representatives to review information prepared within this task group.

Refine Design Memorandum - Prepare and present design memorandum outlining overall modification plan. This will include discussions and alternatives for all levee modifications to obtain required freeboard including levee raises, structural modifications and possible channel modifications. Concept cost estimates will be included with each alternative.

Hydrology and Hydraulics

Coordination Meeting with NRD – Upon completion of analyzing updated hydraulic models received from USACE, meet with NRD to review findings and effects on previous recommendations made within H/H analyses.

Update System Analysis/Interior Drainage – Update all interior drainage and overall system models to reflect new conditions found in update Papillion Creek and Platte River hydraulic models.

GIS Database Management

Land Concept Plans into GIS Database – Update all planning level concept plans for levee modifications and levee setback into GIS database.

Update Inundation Area Mapping – Incorporate into the GIS database new inundation area maps based on new hydraulic models provide by USACE for Papillion Creek and the Platte River.

Geotechnical and Geophysical Investigation

Project Development – Review prior geotechnical investigations and existing geotechnical data. Visit the site and identify suitable exploration locations; look for evidence indicating potential geotechnical concerns. Mobilize equipment to the site.

Field Investigation – Obtain utility locates and stake boring and CPT sounding locations; drill and sample exploratory borings, log cuttings and sample soils to confirm previous studies/existing data. Conduct cone penetration testing. Transport samples to the geotechnical laboratory.

Laboratory Testing and Analysis – conduct geotechnical laboratory testing to confirm and supplement previous data, including: soil strength parameters using triaxial, direct shear, and unconfined methods; consolidation properties; hydraulic conductivity; unit weight and water content; index properties; and other pertinent geotechnical properties needed for the analyses.

Geotechnical Analysis – use previous investigation and current laboratory testing results to evaluate levee stability and seepage conditions using Geostudio modeling software according to USACE recommendations. Calculate settlement potential for anticipated new levee sections and/or raises, evaluate potential piping issues, and identify conceptual mitigative alternatives for problems that are identified.

Geophysical Analysis – Conduct preparatory analysis, assemble and mobilize equipment, and travel to the site. Conduct a field geophysical investigation consisting of ground-based high resolution resistivity survey on the levee crest of approximately 18 miles of flood control levee. Collect and analyze data from the field investigation, and prepare a technical memorandum and/or letter-report presenting the results of the analysis. Work with the geotechnical and civil engineering team to correlate the geophysical results into the geotechnical field investigation, which is envisioned to follow or be conducted concurrently with the geophysical study.

Report – Prepare an engineering report describing the geotechnical investigation above, including graphs, tables, and figures, boring logs, descriptions of the subsurface conditions, and presenting the results of our analyses, our conclusions, opinions, and recommendations regarding geotechnical issues identified at the site. Recommend additional investigation and analysis if additional work is determined to be needed for certain areas or conditions.

Conceptual Plans – Prepare details and plan sheets showing conceptual level mitigation alternatives and respective locations for the alternatives proposed to repair or modify levee alignments. Provide geotechnical guidance to the design team during the conceptual design phases of the work.

Attachment 3 to Exhibit K

P-MRNRD MO River R-613/616 Federal Levee Certification - Alternatives Development Phase

Project Schedule



