



LOWER PLATTE SOUTH natural resources district

3125 Portia Street | P.O. Box 83581 • Lincoln, Nebraska 68501-3581
P: 402.476.2729 • F: 402.476.6454 | www.lpsnrd.org

Memorandum

Date: November 17, 2021
To: Urban Subcommittee
From: Jared Nelson, District Engineer
Subject: Urban Subcommittee Meeting Minutes – November 2021

The Urban Subcommittee met virtually at 5:30pm, on Monday, November 15, 2021. Subcommittee members participating included Tom Green, Gary Aldridge, Bob Andersen, Christine Lamberty, Luke Peterson, and Ray Stevens. Others participating included Board Chair Deb Eagan; NRD staff Paul Zillig, Dave Potter, Al Langdale, Mike Murren, Tracy Zayac and Jared Nelson; Mike Sotak and Lindy Rogers with FYRA Engineering. Director Green called the meeting to order at 5:33pm. There was one item the Subcommittee took action on, as described below. See related attachments.

(a.) Consideration of a Professional Services Agreement for the Salt Creek Levee Drainage Structure Inspection Project [ACTION] – Paul Zillig described how the Salt Creek Levee System has fifty-nine (59) drainage structures which penetrate through the levee which need to be inspected every five years. He discussed how these drainage structures (or ‘pipes’) are a very important component of the levee system, and the District needs to inspect them to meet U.S. Army Corps of Engineers (USACE) requirements.

Zillig referred to his attached Memorandum dated November 10, 2021, which describes the process of requesting proposals from qualified consulting firms for the Salt Creek Levee Drainage Structure Inspection Project. He explained how staff negotiated a contract with FRYA, for a not-to-exceed amount of \$298,085. He further explained that \$150k was put in the budget six months ago for this project, but the District can utilize other funds, from other projects not moving forward.

The Subcommittee reviewed and discussed the proposal. Staff answered questions regarding the amount budgeted. Staff explained that: Prior inspections (in 2012 and 2017) were used as a guide to estimate the cost during the budget process. Then recently when staff developed the Request for Proposal (RFP), more information was available, including new and more comprehensive USACE criteria on pipe inspections, and an additional 3,500 linear feet of pipe which need to be inspected this time (that was not previously).

It was moved by Stevens, seconded by Andersen, and approved by the Subcommittee (with Green, Andersen, Lamberty, Peterson, and Stevens voting yes, and Aldridge not voting) to recommend that the Board of Directors approve the Professional Services Agreement between FYRA Engineering and LPSNRD, in an amount not to exceed \$298,085, for Inspections of Salt Creek Levee Drainage Structures.

(b.) Reports. – Next, an updated on the Deadmans Run Flood Reduction Project was given to the Subcommittee. The USACE is currently reviewing the updated hydrologic and hydraulic numerical models for the project, which FYRA completed for the District.

There being no further business the meeting adjourned at approximately 6:20 pm.


JN/jn



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Memorandum

Date: November 10, 2021
To: Each Director
From: Paul D. Zillig, General Manager 
Subject: Professional Services – Salt Creek Levee Pipe Inspection Project

The Lower Platte South NRD is required to do a detailed inspect all drainage pipes thru the Salt Creek Levees every 5 years, this is a condition required for local sponsors to be eligible for the US Army Corps of Engineers' PL 84-99 Program assistance. We are required to complete this detailed inspection, in accordance with Corp's standards, this fiscal year.

The inspection will require hiring an engineering firm to do a detailed inspection via remote control cameras and/or a visual inspection for larger diameter pipes, it may be necessary to clean/power wash the interior of some of the 59 drainage structures (total pipe length is nearly 2 miles with 18 pipes 47 inches or greater in diameter, 29 pipes <47", and 12 box culverts). A report will be submitted on the condition of all the pipes and any recommendations. Inspections were completed in 2012 and 2017, additional work will be required and scoped this year.

Staff followed the attached, NRD Policy G-3.3 (Procedure for Hiring Consultants for Professional Services) to select a consultant for this project. In August, I appointed a Selection Team consisting of Al Langdale, Operation & Maintenance Coordinator; Jared Nelson, District Engineer; and myself. Staff notified all area firms experienced and interested in this type of work, advertised three times in the Lincoln Journal Star and for 3 weeks on the NRD website. Eight firms responded to the RFQ (Request for Qualifications) and the Selection Team reviewed this information and selected five firms (EA, E&A, FYRA, HDR, and JEO) to submit proposals and interview with the Selection Team. Interviews were held October 21st in the NRD Office.

Upon completion of the interviews the selection team reviewed the qualifications, experience, resources, and approach to the work and selected FYRA Engineering as the top priority consultant for the project. We then proceeded to prepare a scope and negotiate a contract with FYRA Engineering to conduct the work. Attached is a copy of the negotiated Time and Materials contract for "not to exceed" \$298,085 that will be presented to the Urban Subcommittee.

PDZ/pz
Encl. 2
cc: Corey Wasserburger & Steve Seglin, NRD Legal Counsel

G-3: PROCEDURE FOR HIRING CONSULTANTS FOR PROFESSIONAL SERVICES

If the estimated cost of hiring a consultant for engineering services is more than \$25,000, or for any other professional services is more than \$5,000, then the following procedure shall apply:

1. A list of all consultants interested in providing professional consultation services will be compiled and maintained by the District.
2. For professional services that are identified by the General Manager and Chair as being for ongoing projects and/or studies or "basic professional services."
 - a. The General Manager shall develop and keep updated background information on all firms interested in providing the specific services.
 - b. The General Manager shall develop a scope of services, shall select a qualified consultant, and negotiate an agreement for services subject to approval of the Board of Directors as provided in Paragraph 4.
3. For professional services that are identified by the General Manager and approved by the Chair as being for new major projects and/or studies:
 - a. Consultants having the appropriate qualifications may be mailed a Request for Proposals (RFP), and a notice of the RFP will be published in appropriate news media for three consecutive weeks. The RFP will include a general description of the project.
 - b. A selection team appointed by the General Manager shall review and evaluate the proposals and select a minimum of three consultants who have submitted proposals, unless fewer have submitted proposals. Factors to be considered in this selection shall include consultant qualifications, past performance of the consultant, and other information provided in response to the RFP. The consultants so selected shall be those deemed to be the most qualified to perform the required services.
 - c. The selection team will conduct interviews with the consultants selected to determine their interest in the project and ability to furnish the required service, any recent changes in their qualifications, their current and projected work load, and their willingness to meet time and price requirements. The team will rank the consultants in order of their preference, considering past performance, adequacy of staff and resources, consultant location in relation to project and familiarity with the area, approach to the project, and other pertinent factors,

- d. The General Manager will proceed to negotiate a proposed contract with the number one ranked consultant until an agreement is reached or officially terminated. In the event negotiations are terminated, the number two firm will be contacted to begin negotiations with them. This procedure will be repeated until an agreement is reached. If unable to negotiate a satisfactory agreement with any of the three final ranked consultants, the committee may select additional firms in order of preference according to the procedures previously described, or the process may be terminated.
4. At the conclusion of negotiations, the General Manager shall write a memo to the Board reviewing the selection process, and make a recommendation to the Board as to the best qualified consultant and the services agreement.



PROFESSIONAL SERVICES AGREEMENT

PROJECT: Inspections of Salt Creek Levee Drainage Structures FYRA Engineering, LLC JOB #: 002-21-06
CLIENT: Lower Platte South NRD
ADDRESS: 3125 Portia Street, Lincoln, NE 68521
CONTACT: Al Langdale TEL: 402.476.2729 FAX: 402.476.6454
CONSULTANT: FYRA Engineering, LLC
ADDRESS: 12702 Westport Pkwy, Suite 300, Omaha, NE 68138
CONTACT: Michael K. Sotak, P.E. TEL: 402.502.7131 FAX: 402.932.6940
PROJECT DESCRIPTION: Inspection and categorization of 59 culvert penetrations along the Salt Creek Levee System.

[X] SCOPE OF SERVICES (See Attachment) [X] SCHEDULE (See Original Agreement - No Change)

COMPENSATION:

The total compensation under this Agreement shall not exceed the dollar amount indicated herein or the amount authorized by Amendment(s) and/or Notice(s) to Proceed (NTP), whichever is the lesser.

[] LUMP SUM. Compensation for these services shall be a Lump Sum of \$ _____.

TIME AND MATERIALS. Compensation for these services will not exceed \$298,085.00 without written authorization and will be based on the following option (per the attached Budget or List of Hourly Rates), and Reimbursable Expenses based on actual costs incurred and approved by FYRA Engineering, LLC and as authorized in writing by Client.

[X] [] Subconsultant's Direct Job Wages times a factor of _____ [X] Budget/List of Subconsultant's Hourly Rates.

[] COST PLUS FIXED FEE. Compensation for these services shall be Subconsultant Cost plus a fixed professional fee, including Reimbursable Expenses. The estimated compensation for services is \$ _____ plus a fixed fee of \$ _____ for a total of \$ _____.

COMPENSATION DETAIL (See Following Pages)

SCHEDULE OF PAYMENTS (See Following Pages)

SERVICES AUTHORIZED BY: [X] Execution of Agreement or [] Amendment(s) and/or NTP

EXECUTION: Execution of this document by duly authorized representatives of FYRA Engineering, LLC and CLIENT, including FYRA Engineering LLC's Standard Conditions (original Agreement) and any attachments, Additional Provisions as indicated, and addenda, represents the entire Agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be amended or modified by written instrument, but such instrument is valid only upon signature by both parties.

CONSULTANT: FYRA Engineering, LLC CLIENT: Lower Platte South NRD
BY: Michael K. Sotak, P.E., D.WRE BY: Paul Zillig

SIGNATURE: [Handwritten Signature] SIGNATURE: _____

TITLE: Owner/Principal TITLE: General Manager

DATE: 1 November 2021 DATE: _____



FYRA ENGINEERING, LLC STANDARD CONDITIONS

SERVICES. FYRA Engineering will perform services for the Project as set forth in attachment and in accordance with these Terms & Conditions. FYRA Engineering has developed the Project scope of service, schedule, and compensation based on available information and various assumptions. The Client acknowledges that adjustments to the schedule and compensation may be necessary based on the actual circumstances encountered by FYRA Engineering in performing their services.

AUTHORIZED REPRESENTATIVES. The officer assigned to the Project by FYRA Engineering is the only authorized representative to make decisions or commitments on behalf of FYRA Engineering. The Client shall designate a representative with similar authority.

PROJECT REQUIREMENTS. The Client shall confirm the objectives, requirements, constraints, and criteria for the Project at its inception. If the Client has established design standards, they shall be furnished to FYRA Engineering at Project inception. FYRA Engineering will review the Client design standards and may recommend alternate standards considering the standard of care provision.

SITE ACCESS. The Client shall obtain all necessary approvals for FYRA Engineering to access the Project site(s).

PERIOD OF SERVICE. FYRA Engineering shall perform the services for the Project in a timely manner consistent with sound professional practice. FYRA Engineering will strive to perform its services according to the Project schedule set forth in attachment. The services of each task shall be considered complete when deliverables for the task have been presented to the Client. FYRA Engineering shall be entitled to an extension of time and compensation adjustment for any delay beyond FYRA Engineering control.

COMPENSATION. In consideration of the services performed by FYRA Engineering, the Client shall pay FYRA Engineering in the manner set forth in attachment. The parties acknowledge that terms of compensation are based on an orderly and continuous progress of the Project. Compensation shall be equitably adjusted for delays or extensions of time beyond the control of FYRA Engineering.

PAYMENT TERMS. FYRA Engineering shall submit monthly invoices for services performed and Client shall pay the full invoice amount within thirty (30) days of the invoice date. Invoices will be considered correct if not questioned in writing within ten (10) days of the invoice date. FYRA Engineering shall be entitled to a 2% per month administrative charge in the event of payment delay. Client payment to FYRA Engineering is not contingent on arrangement of project financing. Invoice payment delayed beyond sixty (60) days shall give FYRA Engineering the right to stop work until payments are current. Non-payment beyond seventy (70) days shall be just cause for termination by FYRA Engineering.

ADDITIONAL SERVICES. The Client and FYRA Engineering acknowledge that additional services may be necessary for the Project to address issues that may not be known at Project initiation or that may be required to address circumstances that were not foreseen. In that event, FYRA Engineering shall notify the Client of the need for additional services and the Client shall pay for such additional services in an amount and manner as the parties may subsequently agree.

INDEPENDENT CONSULTANT. FYRA Engineering shall serve as an independent consultant for services provided under this agreement. FYRA Engineering shall retain control over the means and methods used in performing their services and may retain subconsultants to perform certain services as determined by FYRA Engineering.

STANDARD OF CARE. Services provided by FYRA Engineering will be performed with the care and skill ordinarily exercised by members of the same profession practicing under similar circumstances. FYRA Engineering will not be liable for the cost of any omission that adds value to the Project.

COMPLIANCE WITH LAWS. FYRA Engineering shall perform its services consistent with sound professional practice and endeavor to incorporate laws, regulations, codes, and standards applicable at the time the work is performed. In the event that standards of practice change during the Project, FYRA Engineering shall be entitled to additional compensation where additional services are needed to conform to the standard of practice.



PERMITS AND APPROVALS. FYRA Engineering will assist the Client in preparing applications and supporting documents for the Client to secure permits and approvals from agencies having jurisdiction over the Project. The Client agrees to pay all application and review fees.

OWNERSHIP OF DOCUMENTS. Documents prepared by FYRA Engineering for the Project are instruments of service and shall remain the property of FYRA Engineering. Record documents of service shall be based on the printed copy. FYRA Engineering will furnish documents electronically; however, the Client releases FYRA Engineering from any liability that may result from documents used in this form. FYRA Engineering shall not be held liable for reuse of documents for any purpose other than those intended under the Project.

INSURANCE. FYRA Engineering will maintain the following insurance and coverage limits during the period of service. The Client will be named as an additional insured on the Commercial General Liability and Automobile Liability policies.

<u>Workers' Compensation</u>	As required by applicable state statute.
<u>Umbrella or Excess Liability</u>	\$2,000,000
<u>Commercial General Liability</u>	\$1,000,000 per occurrence (bodily injury including death & property damage) \$2,000,000 aggregate.
<u>Automobile Liability</u>	\$1,000,000 combined single limit for bodily injury and property damage.
<u>Professional Liability</u>	\$1,000,000 each claim and in the aggregate.

The Client shall make arrangements for Builder's Risk, Protective Liability, Pollution Prevention, and other specific insurance coverage warranted for the Project in amounts appropriate to the Project value and risks. FYRA Engineering shall be a named insured on those policies where FYRA Engineering may be at risk. The Client shall obtain the counsel of others in setting insurance limits for construction contracts.

WAIVER OF SUBROGATION. FYRA Engineering, LLC affirmatively agrees to obtain waiver of subrogation against the client and name the client as an additional insured on the Commercial General Liability and Automobile policies.

INDEMNIFICATION AND HOLD HARMLESS. FYRA Engineering, LLC shall indemnify and hold harmless the Client and its employees and agents from any and all liability, settlements, loss, defense costs, and expenses in connection with any action, suit, or claim resulting from the negligent acts, errors, or omissions in services provided pursuant to this Agreement by FYRA Engineering, LLC its employees, or Subconsultants and/or subcontractors. Client shall indemnify and hold harmless FYRA Engineering, LLC and its employees and agents from any and all liability, settlements, loss, defense costs, and expenses in connection with any action, suit, or claim resulting from the negligent acts, errors, or omissions in services provided pursuant to this Agreement by the Client, its employees, or subconsultants and/or subcontractors. However, if any such liability, settlements, loss, defense costs or expenses result from the concurrent negligence of FYRA Engineering, LLC, and the Client this indemnification applies only to the extent of the negligence of FYRA Engineering, LLC.



LIMITATION OF LIABILITY. 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, Subconsultant and all other negligent entities and individuals.

LEGAL EXPENSE. In the event that either party takes legal action against the other that is not prosecuted, is dismissed, or if the decision is rendered for the other party, the party taking legal action agrees to pay the other their attorney fees, court costs, and defense expenses that are allowable under Nebraska state law, within thirty (30) days of the court action.

CONSEQUENTIAL DAMAGES. Neither the Client nor FYRA Engineering shall be liable to the other for any consequential damages regardless of the nature or fault.

ENVIRONMENTAL MATTERS. The Client to its knowledge has disclosed all potential hazardous materials that may be encountered on the Project. In the event unknown hazardous materials are encountered, FYRA Engineering shall be entitled to additional compensation for appropriate actions to protect the health and safety of its personnel, and for additional services required to comply with applicable laws. The Client shall indemnify FYRA Engineering from any claim related to hazardous materials encountered on the Project except for those events caused by negligent acts of FYRA Engineering.

COST OPINIONS. If included in the scope of service, FYRA Engineering shall prepare cost opinions for the Project based on historical information that represents the judgment of a qualified professional. The Client and FYRA Engineering acknowledge that actual costs may vary from the cost opinions prepared and that FYRA Engineering offers no guarantee related to the Project cost.

INDEPENDENT COUNSEL. The Client agrees to obtain independent legal and financial counsel for the Project considering FYRA Engineering does not furnish these services.

CONTRACTOR SELECTION. FYRA Engineering may make recommendations concerning award of construction contracts and products. The Client acknowledges that the final selection of construction contractors and products is their sole responsibility.

SHOP DRAWING REVIEW. If included in the scope of service, FYRA Engineering shall review shop drawing submittals from the contractor solely for their conformance with the design intent of and performance criteria specified for the Project. FYRA Engineering shall not be liable for the performance of or consequential damages of any equipment furnished by the contractor under the Project.

CONSTRUCTION REVIEW. If included in the scope of service, FYRA Engineering shall observe the progress and content of the work to determine if the work is proceeding in general accordance with the Contract Documents. This construction review is intended to observe, document, and report information concerning the construction process. Observation of work at the Project site shall not make FYRA Engineering responsible for the work performed by another party; the means, methods, techniques, sequences, or procedures selected by another party; nor the safety precautions or programs of another party.

REJECTION OF WORK. FYRA Engineering may recommend that the Client reject work by construction contractors that does not conform to the requirements of the Project.

SAFETY. FYRA Engineering shall be responsible solely for the safety precautions or programs of its employees and no other party.

INFORMATION FROM OTHER PARTIES. The Client and FYRA Engineering acknowledge that FYRA Engineering will rely on information furnished by other parties in performing its services under the Project. FYRA Engineering shall not be liable for any damages that may be incurred by the Client in the use of third party information.



CONSTRUCTION RECORD DRAWINGS. If included in the scope of service, FYRA Engineering will deliver drawings to the Client incorporating information furnished by construction contractors. In that construction record drawings are based on information provided by others, FYRA Engineering cannot and does not warrant their accuracy.

FORCE MAJEURE. Neither party will hold the other responsible for damages or delay caused by Acts of God, acts of war, strikes, accidents, or other events beyond the other's control.

DISPUTE RESOLUTION. The Client and FYRA Engineering agree that they shall diligently pursue resolution of all disagreements within forty-five (45) days of either party's written notice using a mutually acceptable form of mediated dispute resolution prior to exercising their rights under law. FYRA Engineering shall continue to perform services for the Project and the Client shall pay for such services during the dispute resolution process unless the Client issues a written notice to suspend work.

SUSPENSION OF WORK. The Client may suspend services performed by FYRA Engineering with cause upon fourteen (14) days written notice. FYRA Engineering shall submit an invoice for services performed up to the effective date of the work suspension and the Client shall pay FYRA Engineering all outstanding invoices within fourteen (14) days. If the work suspension exceeds thirty (30) days from the effective work suspension date, FYRA Engineering shall be entitled to renegotiate the Project schedule and the compensation terms for the Project.

TERMINATION. The Client or FYRA Engineering may terminate services on the Project upon seven (7) days written notice in the event of substantial failure by the other party to fulfill its obligations of the terms hereunder. FYRA Engineering shall submit an invoice for services performed up to the effective date of termination and the Client shall pay FYRA Engineering all outstanding invoices within fourteen (14) days. The Client may withhold an amount for services that may be in dispute provided that the Client furnishes a written notice of the basis for their dispute and that the amount withheld represents a reasonable value.

GOVERNING LAW. The terms of agreement shall be governed by the laws of the state where the services are performed provided that nothing contained herein shall be interpreted in such a manner as to render it unenforceable under the laws of the state in which the Project resides.

ASSIGNMENT. Neither party shall assign its rights, interests, or obligations under the Project without the express written consent of the other party.

WAIVER OF RIGHTS. The failure of either party to enforce any provision of these terms and conditions shall not constitute a waiver of such provision nor diminish the right of either party to the remedies of such provision.

WARRANTY. FYRA Engineering warrants that it will deliver products under the Project within the standard of care. FYRA Engineering provides no other expressed or implied warranty.

SEVERABILITY. Any provision of these terms later held to violate any law shall be deemed void and all remaining provisions shall continue in force. In such event, the Client and FYRA Engineering will work in good faith to replace an invalid provision with one that is valid with as close to the original meaning as possible.

SURVIVAL. All provisions of these terms that allocate responsibility or liability between the Client and FYRA Engineering shall survive the completion or termination of services for the project.

NON-DISCRIMINATION. Consultant or their subcontractors shall not discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to their hire, tenure, terms, conditions, or privileges of employment, because of their race, color, religion, sex, national origin, age, sexual orientation, gender identity, genetic information, familial status, marital status, veteran status, or disability.

PROJECT TASK DESCRIPTIONS

1 PROJECT MANAGEMENT

1.1 LPSNRD Coordination Meetings

Preparation for and attendance of up to three (3) meetings, exclusive of other meetings specified in this document, with the Lower Platte South Natural Resources District (LPSNRD). Project meetings will occur every 2 months. Meeting minutes will be prepared by FYRA and distributed after each meeting for approval by LPSNRD.

1.2 Stakeholder Coordination Meetings

Preparation for and attendance of up to three (3) stakeholder coordination meetings, exclusive of other meetings specified in this document. Meeting minutes will be prepared by FYRA and distributed after each meeting for approval by the LPSNRD and stakeholders.

1.3 Presentation to NRD Board

Preparation for and attendance of one (1) LPSNRD board meeting to present the findings of the culvert investigations.

1.4 Monthly Invoicing & Project/Schedule Updates

Preparation of monthly project invoices, incorporation of sub-consultant invoices and a summary of work completed during the invoicing period. Invoices will be sent to the LPSNRD. Updates will include budget and schedule tracking.

2 SURVEY/CONFINED SPACE ENTRY PLANS

2.1 Existing Information Review/Summary

Gathering all as-built data on a total of fifty-nine (59) culverts from existing USACE O&M and other as-built data.

2.2 Confined Space Entry Plans

Development of confined space entry plans for up to eleven (11) culverts in accordance with the Nebraska Department of Labor, Office of Safety Confined Space Program.

2.3 Initial Site Visit

Initial site visit of each survey to determine entry locations, type of entry, and air quality readings if confined space plan is required.

3 CULVERT INTERIOR AND SITE INSPECTIONS

3.1 Culvert Cleaning

Cleaning and jetting (by a subcontractor) of up to fifteen (15) culverts. Jetted material/water will be discharged into Salt Creek.

3.2 Structure Inspections

Culvert inspections of up to fifty-nine (59) culverts by means of personal inspection of larger culverts (60" diameter and above) and video crawler inspection of all other culverts. Culverts under 18" diameter will be inspected with pole-cameras and by individuals as allowable. Videos will be provided for all inspections.

3.3 Download/Process/Organize Inspection Data

Categorization of inspection information for up to fifty-nine (59) culverts.

4 ENGINEERING ANALYSIS

4.1 Site Narratives

Development of a site narrative for up to fifty-nine (59) culverts. Site narrative will include description of culvert, site location map, existing as-built information, findings of the inspections, and other details that are important for culvert analysis. Photos will be included from the site inspection task.

4.2 Prepare Culvert Inspection Reports and Preliminary Ratings

Preparation of up to fifty-nine (59) culvert inspection reports following NAASCO's Pipeline Assessment Certification Program (PACP) standards along with other guidelines outlined in USACE's EM 1110-2-2902 Conduits Pipes, and Culverts Associated with Dams and Levee Systems. Reports shall include culvert information (size, location, type, joint length, bend locations, etc), location and descriptions of deficiencies, photos of the deficiencies, and preliminary pipe rating.

5 CULVERT RATINGS AND DELIVERABLES

5.1 Finalize Culvert Ratings

Detailed review of inspection reports and final culvert ratings of up to fifty-nine (59) culverts using both PACP ratings and USACE levee inspection ratings.

5.2 Quality Review of Deliverables

Internal review of all narratives, inspection reports, R/R/R alternatives, and cost estimates. All reviews will be completed by a professional engineer registered in the State of Nebraska.

5.3 Final Deliverables

Hard copies (number to be determined by the LPSNRD) and electronic documents of narratives, inspection reports, and R/R/R alternatives and cost estimates.

6 PRIORITIZATION/BUDGETING REPORT

6.1 Identify Probable R/R/R/ Alternatives

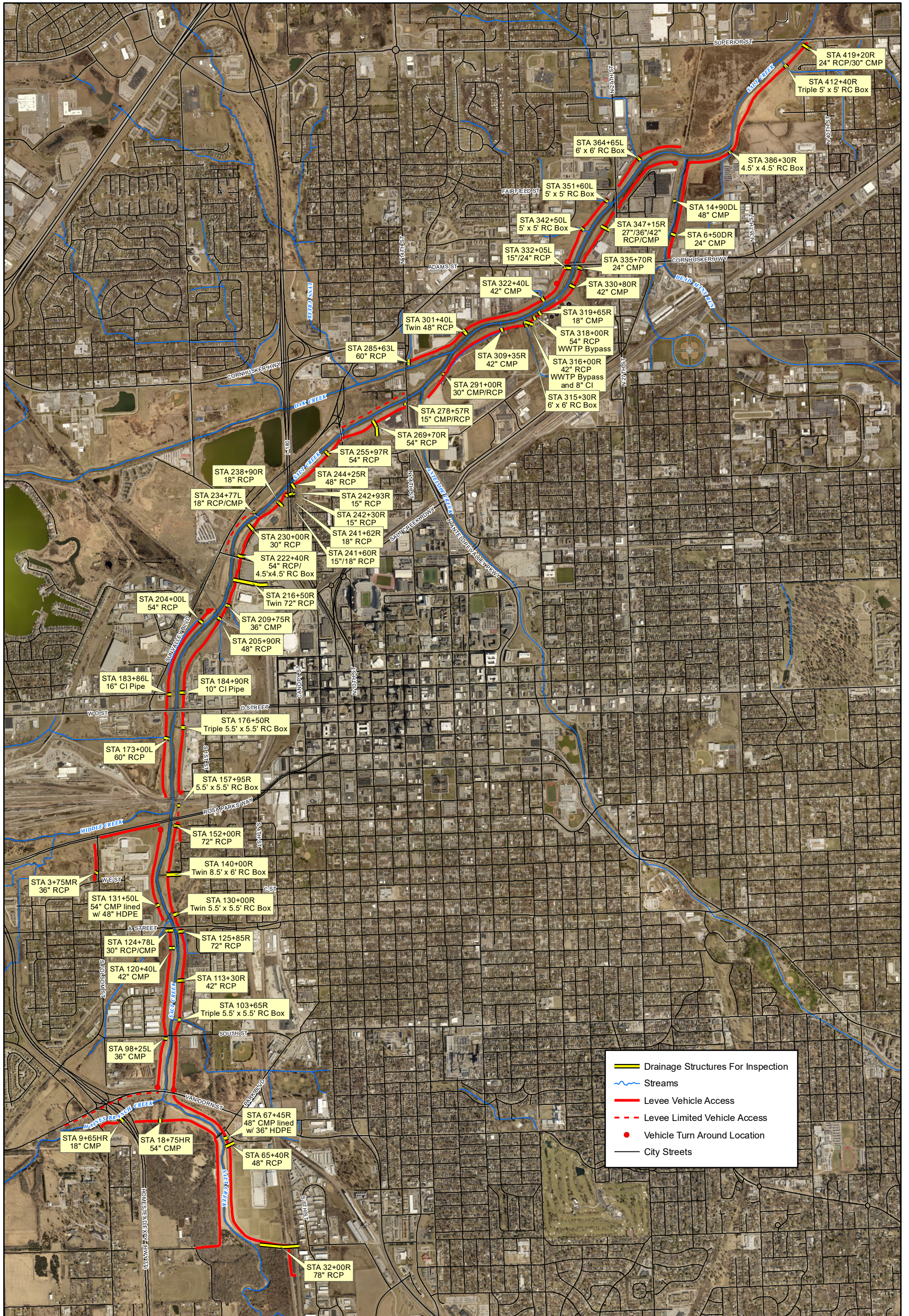
Identify probable methods of repair/replacement/rehabilitation methods of up to twenty-five (25) culverts that are determined to need attention in the near future. Methods of rehabilitation will be developed in line with USACE guidelines and Omaha District standards. A cost estimate will be developed using current day bid prices for the probable alternative for each of the twenty-five (25) culverts.

6.2 Risk-Based Structure R/R/R Prioritization

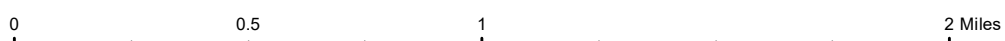
Develop a risk-based prioritization plan for the culverts needing future attention. Culverts will be assessed for probability of system failure due to culvert deficiencies, protected area behind the system, and estimated costs of probable rehabilitation methods.

Salt Creek Levee Drainage Structures for Inspection (2021)

Attachment 4



	Drainage Structures For Inspection
	Streams
	Levee Vehicle Access
	Levee Limited Vehicle Access
	Vehicle Turn Around Location
	City Streets



Map Created: September 2021 - By: Lower Platte South NRD, sdr