

**CITY OF PEORIA, ARIZONA
COUNCIL COMMUNICATION**

CC: TC
Amend No. _____

Date Prepared: April 22, 2008

Council Meeting Date: May 20, 2008

TO: Terrence L. Ellis, City Manager
FROM: Stephen L. Bontrager, Utilities Director 
THROUGH: Shawn Kreuzwiesner, Engineering Manager
PREPARED BY: Leisa Burdine, Civil Engineer
SUBJECT: Approve Contract Amendment No. 2 with Project Engineering Consultants, Ltd for the assessment of an additional section of sewer line on Northern Avenue and 70 manholes on Northern and 95th Avenues, Capital Improvement Project UT00167. Contract No. LCON07706 (Solicitation No. P06-0106)

RECOMMENDATION:

That Mayor and Council approve Contract Amendment No. 2 with Project Engineering Consultants, Ltd (PEC) to evaluate an additional mile of sewer line on Northern Avenue and to inspect 70 sanitary sewer manholes on Northern and 95th Avenues in order to complete the rehabilitation design for an amount not-to-exceed \$162,179.00. Payment will be made from the Wastewater Utility Fund, account 2400-2550-543003-CIPWW-UT00167.

SUMMARY:

On July 11, 2006, Mayor and Council awarded an Engineering Services contract to PEC in the amount of \$312,700.00 for the rehabilitation of two large diameter sewer trunk lines located along Northern Avenue from 99th to 91st Avenues and 95th Avenue from Peoria to Northern Avenues. The original contract scope was to complete a condition assessment of the sewer lines and to develop construction plans to correct any identified deficiencies.

Contract Amendment No. 1 was awarded in the amount of \$2,800.00 to fund PEC's training of City staff to be certified under the National Association of Sewer Service Companies/Pipeline Assessment Certification Program (NASSCO/PACP) standards. This certification was provided to allow City staff to assist in collecting some of the condition assessment information on the sewer lines.

CITY CLERK USE ONLY:

- Consent Agenda
- Carry Over to Date: _____
- Approved
- Unfinished Business (Date heard previous: _____)
- New Business

ORD. # _____ RES. # _____
LCON# 07706 BIC. # _____
Action Date: _____

At this time, PEC's evaluation has documented a significant amount of deterioration in the sewer line on Northern Avenue from 99th to 91st Avenues. This request is to determine if similar deterioration is present in the second section of the sewer line as this section of sewer was constructed at the same time as the section located on Northern Avenue from 91st to 83rd Avenue. Accordingly, staff is recommended to include the evaluation of the Northern Avenue sewer from 91st to 83rd Avenues as part of this project scope. Also, during the sewer line inspections, PEC has noted that several of the sewer manholes have significant deterioration. However, the detailed inspection of the manholes was not included in the original project scope.

Contract Amendment No. 2 is being proposed to fund the condition assessment and development of construction plans to correct identified deficiencies for the sewer line in Northern Avenue from 91st to 83rd Avenues and the 70 manholes located within the project limits for an amount not to exceed \$162,179.00. The following summarizes PEC's contract funding to date, including the proposed contract amendment.

ITEM	AMOUNT
Original Contract Value	\$ 312,700.00
Contract Amendment No. 1 (NASSCO Certification of City Staff)	\$ 2,800.00
Contract Amendment No. 2	\$ 162,179.00
REVISED CONTRACT TOTAL	\$ 477,679.00

ATTACHMENT(s):

Exhibit "A" - Project Engineering Consultants Contract Amendment No. 2
Exhibit "B" - Area Map

EXHIBIT "A"

Project Engineering Consultants, Ltd.

April 29, 2008

Ms. Leisa Burdine, P.E.
City of Peoria - Utilities Department
8401 W. Monroe Street
Peoria, Arizona 85345

Re: Sewer Line Rehabilitation, Project No. P06-0106
Change Order No. 2 - Northern Avenue: 83rd Avenue to 91st Avenue & 70 Manholes

Dear Ms. Burdine:

Enclosed is our Change Order No. 2 Scope and Fee Proposal at the City's request for additional pipe and manhole inspection and assessment, rehabilitation design and construction administration on the existing sanitary sewer pipe located in Northern Avenue from 83rd Avenue to 91st Avenue and 70 manholes located along Northern Avenue from 99th Avenue to 83rd Avenue and along 95th Avenue from Peoria Avenue to Northern Avenue. Included are a scope of work, labor estimate and cost proposal for the amount of \$162,179.00. Please note that the change order scope closely follows the original scope with the addition of the 70 manholes.

If you need additional information, please let me know. Thanks.

Sincerely,



Mark V. Lee, P.E.
Project Manager

CHANGE ORDER NO. 2

SCOPE OF WORK

CITY OF PEORIA, UTILITIES DEPARTMENT

SEWER LINE REHABILITATION NORTHERN AVENUE: 83RD AVENUE TO 91ST AVENUE

CITY OF PEORIA PROJECT NO. P06-0106

The City of Peoria, Utilities Department (City) has requested that Project Engineering Consultants, Ltd. (Consultant) prepare this scope of work for additional pipeline evaluation, rehabilitation design, bidding and construction phase services for the sewer line in Northern Avenue from 83rd Avenue to 91st Avenue. Also included are 70 sanitary sewer manholes located in 95th Avenue from Peoria Avenue to Northern Avenue and Northern Avenue from 99th Avenue to 83rd Avenue. Tasks for this additional work includes the evaluation of the sewer line and manholes within the limits outlined above, recommend rehabilitation alternatives, prepare project bid documents based on the rehabilitation recommendations, provide bidding phase services, provide construction management and inspection services for the pipeline and manhole rehabilitation projects and provide post construction services. It is our understanding that the pipeline is 24-inch and consists of unlined reinforced concrete pipe. The project may entail rehabilitating the existing pipelines using conventional and/or trenchless rehabilitation technologies. The exact extent of the bidding quantities to be developed for construction will be determined as part of this work. Assumptions related to rehabilitation design are included in the respective Tasks as outlined below.

TASK 1 – EVALUATION PHASE SERVICES

1.01 Meetings

The Consultant will meet with the City to present the results of the Evaluation Phase of the project for pipes and manholes included as outlined above. The Technical Memorandum as identified in Task 1.08 will be presented and discussed at the meeting.

1.02 Background Data

Collect and review data on the project pipelines including as-built data, shop drawings, flow data, quarter section maps, and other relevant information. The City will provide the Consultant with access to record drawings and database information about the project pipelines and manholes.

The Consultant will verify the existence and accessibility of each sewer manhole included in the project. The City will be notified of any missing manholes which may be buried. Buried manholes shall be raised by the City.

1.03 Geographical Information Systems

The Consultant will meet with the City's Geographical Information System (GIS) staff to acquire and review their GIS data structure and data use needs. We will

coordinate with the City GIS staff for the content and format of the data. The Consultant will also prepare a formal Database Design for use by the City and for eventual inclusion in the City's overall GIS Database Design. The Consultant will coordinate with the team members for the content and format of the data. The Consultant will prepare the conversion of the data collected by the CCTV investigation to the GIS data model for the City, QA/QC the City's data by comparing the field-collected data with the database information, prepare project maps showing pipe and manhole conditions using existing City GIS database information for streets and sewer locations for the background; and add CCTV inspection information.

1.04 Pipe Assessment

The Consultant will obtain the CCTV inspection data for the project pipelines (Northern Avenue from 91st Avenue to 83rd Avenue) from the City and review all of the video data to identify, quantify and log the visible defects existing within the pipeline into a project database. All coding, quantifying and assessment methodologies will be in accordance with the standards as set forth in the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP). The Consultant will convert defect coding if needed for different pipe materials. The Consultant will assign an overall condition grade to each pipe segment reflective of its condition. All segments identified during the CCTV investigation that would appear to progress to eminent failure resulting in severe surface impacts as well as a Sanitary Sewer Overflow (SSO) will be brought to the immediate attention of the City to draft a plan to mitigate the failure of the pipe. *For this task it is assumed that the format of the CCTV data collected and provided by the City is compatible with WinCan software and that the data may be edited as required for defect location, coding and scoring.*

1.05 Manhole Inspection and Assessment

The Consultant will identify the 70 manholes as provided by the City and included in the list below and will prepare maps depicting the locations of the manholes using the existing GIS database as prepared during the pipe assessments included in the original project scope as well as new GIS database information to be provided by the City, sewer quarter section maps and record drawings. This information will be coordinated with the City prior to beginning the inspections.

The Consultant will receive and review the manhole inspection data for the 70 manholes in question. ProPipe will complete the inspections as discussed in the Allowances section of this Scope of Work, in accordance with the NASSCO Manhole Assessment and Certification Program (MACP). The review will interpret and analyze the inspection information relative to any rehabilitation required. All manholes identified during the investigation that would appear to progress to eminent failure resulting in severe surface impacts as well as a Sanitary Sewer Overflow (SSO) will be brought to the immediate attention of the City to draft a plan to mitigate the failure of the pipe.

The Manholes to be inspected and assessed are included below:

95th Ave – Peoria Ave to Northern Ave
208SM001
207SM002
207SM001
206SM026
206SM025
206SM702
206SM024
205SM023
205SM022
204SM016
204SM015
204SM014
204SM013
203SM003
203SM002
203SM001
202SM003
202SM001
201SM018
200SM005
200SM706
200SM705
200SM704
200SM703
200SM702
200SM701

Northern Ave (Parallel Sewer to the North) 99th Ave & to the East
199SM700
200SM700
200SM707
200SM701
200SM712
200SM702
200SM703
200SM704
200SM706

Northern Ave (Parallel Sewer to the North) 99th Ave & to the East
200SM708

Northern Ave (Parallel Sewer to the South) - 99th Ave & to the East
199SM577
199SM578
199SM579
199SM580
199SM583
199SM582
199SM581
59-199SM700
60-199SM700

Northern Ave – e/o SR 101 to 83rd Ave
199SM586
199SM585
199SM584
199SM590
199SM588
199SM587
199SM565
199SM624
199SM564
199SM563
199SM562
199SM561
199SM560
199SM569
199SM568
199SM567
199SM566
199SM573
199SM572
199SM571
199SM570
199SM576
199SM575
199SM574

1.06 Pipe and Manhole Rehabilitation Rating

The Consultant shall develop a rehabilitation rating for each sewer pipe segment and manhole in this project that was inspected and assessed. The rehabilitation rating will take into account the defect types, number of occurrences and severity as well as any operational defects and the consequence of pipe failure. The rehabilitation rating will be used to identify and prioritize segments and manholes requiring rehabilitation as discussed in Task 1.08.

1.07 Rehabilitation Alternatives

The Consultant will identify and evaluate different rehabilitation alternatives suitable for the pipelines and manholes requiring rehabilitation. Alternative development will consider the condition assessment and anticipated remaining life of each affected pipe segment and manhole. The Consultant will recommend a rehabilitation technique for each pipe segment scheduled for rehabilitation that will be included in the project design and construction.

1.08 Prioritized Rehabilitation Recommendations

The Consultant will develop a prioritized rehabilitation program for rehabilitation of the defective pipe segments and manholes including anticipated costs and schedules. This information will be presented to the City in a Technical Memorandum prepared by the Consultant which outlines the findings of the pipeline and manhole investigation and assessment along with the suitable rehabilitation alternatives and recommendations for the total project. The memorandum will address the construction constraints and the form and nature of the contract documents.

1.09 Survey

For each recommended pipe rehabilitation project, the Consultant will conduct field surveys to locate survey monuments, some limited topographic features such as adjacent utility features and roadway width, and obtain sewer inverts to verify the provided as-built information for each pipeline. The survey data collected, along with the as-built data supplied by the City, will be the base information used to develop the construction drawings and documents.

Deliverables

Deliverables for this task include five (5) copies of the Technical Memorandum for Pre-design phase investigations.

TASK 2 – DESIGN PHASE SERVICES

2.01 Utility Coordination

The Consultant will research the locations of above and below ground utilities within the affected project areas for each of the pipelines and manholes to be rehabilitated or replaced. Utility quarter section maps and/or as-builts will be obtained from respective utilities. This information will be used during the

rehabilitation design analysis and incorporated into the construction drawings and contract documents.

2.02 Right-of-Way

The Consultant will collect existing public right-of-way information from the City and/or Maricopa County for each of the pipelines and manholes to be replaced or rehabilitated. This information will be used during the rehabilitation design analysis and incorporated into the construction drawings and contract documents.

2.03 Pipe and Manhole Rehabilitation Design

The Consultant will prepare a detailed design for each pipeline requiring rehabilitation in accordance with Task 1.08. For the purposes of this scope and fee estimation, the detailed design will be based on CIPP trenchless rehabilitation of approximately one mile of unlined concrete pipe in Northern Avenue from 91st Avenue to 83rd Avenue. The detailed design for pipes will include site-specific identification and design of the lining alternative. The designs will include structural requirements, access pit locations, bypass capacity requirements based on flow information provided by the City, process and preparation areas, maintenance of operations, right-of-way and construction limits, and other miscellaneous details. The Consultant will use the Technical Memorandum in Task 1.08 for pipe structural condition data related to the project rehabilitation designs. The structural pipe conditions (i.e. partially vs. fully deteriorated) will be evaluated to determine the most cost effective and appropriate rehabilitation design.

The Consultant will prepare plan details as required outlining the scope of work for manholes requiring rehabilitation. A schedule will be provided in the plan set that provides detailed manhole information such as number, location, size, depth, recommended rehabilitation, etc.

To the greatest extent possible, the Engineer will use the Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction (MAG Specifications) and MAG Uniform Standard Details for Public Works Construction (MAG Details), the Supplements to the MAG Specifications and Details, and the Uniform Standard Details developed by the City in the Design Phase.

2.04 Estimate of Probable Construction Cost

The Consultant will prepare an estimate of probable construction cost for each replacement and rehabilitation design in sufficient detail to identify and estimate the total cost of all trades required. Estimates will be prepared at the seventy (70%) and final (100%) completion levels. The Consultant will prepare a final bid schedule based on the items and quantities included in the final estimate of probable cost.

2.05 Preliminary Construction Plans (70%)

The Consultant will prepare and submit preliminary construction plans at the seventy percent (70%) completion level. Per the City's request, the plans will be developed at 1"=20' horizontal scale and 1"=2' vertical scale showing both the

plan and profile for the sewer lines. The construction drawings will include all pipe replacement and pipeline rehabilitation designs as well as the manhole details and schedule. The Consultant will deliver six (6) copies of the plans for City review, one week prior to a review/progress meeting. In addition, one set of the seventy percent (70%) construction documents will be submitted to each utility jurisdiction with facilities in the project limits.

2.06 Preliminary Technical Specifications

The Consultant will prepare and submit preliminary construction technical specifications at the seventy percent (70%) completion level. The technical specifications will include specifications required for the pipe and manhole replacement and rehabilitation designs. The Consultant will deliver six (6) copies of the specifications for City review one week prior to the review/progress meeting.

2.07 Final Construction Plans and Specifications (100%)

The Consultant will prepare and submit final sealed construction documents to the City including plans, specifications, calculations, bid tab and cost estimate. The final submittal will incorporate City comments obtained during the seventy percent (70%) review meeting and comments and information received from utility jurisdictions with facilities in the project limits. The construction technical specifications will include the City's boiler plate documents. The City will provide the boiler plate documents to PEC prior to the final submittal for completion of the specifications.

2.08 Provide Copies of Contract Documents

The Consultant will print and provide 35 sets of complete contract documents including plans and specifications to the City.

2.09 Project Review/Progress Meetings

The Consultant will conduct a project review/progress meeting with the City to review the seventy percent (70%) submittal and address comments and issues that the City may have.

Deliverables

Deliverables for this task includes the six (6) sets of plans and specifications for review and comment as listed in Tasks 2.07 and 2.08, one (1) set of original, sealed final mylars, one (1) set of original, sealed final technical specifications, 35 sets of complete contract documents as listed in Task 2.09 and one set of electronic files, on CD-ROM, of final plans and specifications, (AutoCAD2000 and MSWord).

The Consultant will conduct a quality assurance and control program to check each work product for consistency, clarity and constructability prior to submittal to the City.

TASK 3 – BIDDING PHASE SERVICES

3.01 Answer Contractor Questions & Prepare Bid Addenda

The Consultant will provide assistance during the bidding phase including responding to questions raised by potential bidders during the bidding period as requested by the City. These questions will be routed through one responsible

individual to assure consistency in responses. Decisions on issuing addenda will be conducted with the City of Peoria staff. The Consultant will prepare bid addenda as required during the bid period to respond to bidders' questions. Addenda will be prepared only as requested by the City.

Deliverables

Deliverables for this task will include one set of documents detailing all assistance given to the City in answering Contractor bid questions during Task 3; one set of addenda prepared by the Consultant on behalf of the City under Task 3.01 and one set of documents detailing all assistance given to the City in evaluating bids and making a recommendation for award under Task 3.04.

TASK 4 – CONSTRUCTION PHASE SERVICES

4.01 On-Site Inspection and Review of Work

A Resident Project Representative (RPR) will be furnished and will observe performance of the work of the Contractor. The RPR furnished by the Consultant will be a registered Professional Engineer as recognized by the State of Arizona and will have experience in sewer line and trenchless construction. The RPR shall maintain a presence at the project site approximately 20 percent of the time. The RPR's dealings in matters pertaining to the on-site work shall in general be only with the inspector, the Consultant and the Contractor, and dealings with subcontractors shall only be through or with the full knowledge of the Contractor.

An inspector will be furnished by the Consultant to maintain a full time presence at the project site. Through on-site observations of the work in progress and field checks of materials and equipment by the Resident Project Representative and Inspector, the Consultant will endeavor to provide protection for the City against defects and deficiencies in the work of the Contractor; but the furnishing of such resident project representation will not make the Consultant responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions or programs, or for the Contractor's failure to perform their work in accordance with the contract documents. Both the inspector and the RPR will maintain a presence at the project site with sufficient frequency to be knowledgeable about the progress and quality of the work to:

- 1) Conduct on-site inspections of the work in progress to assist in determining if the work is proceeding in accordance with the construction documents and that completed work conforms to the construction documents.
- 2) Identify whenever it is believed that any work is unsatisfactory, faulty or defective or does not conform to the construction documents, or does not meet the requirements of inspections, tests or approval required to be made, or has been damaged prior to final payment; and advise when it is believed work should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- 3) Verify that tests, equipment and systems start-up and operating and maintenance instructions are conducted as required by the construction

documents and in presence of the required personnel, and that Contractor maintains adequate records thereof; observe, record and report appropriate details relative to the test procedures and start-ups.

- 4) Accompany visiting inspectors representing public or other agencies having jurisdiction over the project.

4.02 Interpretation of Construction Documents

The Consultant will receive and transmit clarifications and interpretations of the construction documents. The Resident Project Representative will notify the City's representative of the Consultant's decision prior to issuance to the Contractor.

4.03 Shop Drawings and Test Results

The Consultant will receive, review, evaluate, and distribute (or take other appropriate action in respect of) shop drawings, samples, test results, and other data which Contractor is required to submit. The Consultant's review shall be for conformance with the design concept of the project and compliance with the information given in the construction documents. Such review or other action shall not extend to means, methods, sequences, techniques or procedures of construction selected by Contractor(s), or to safety precautions and programs associated thereto. The Consultant will receive and review (for general contents as required by the construction documents) maintenance and operating schedules and instructions, operation and maintenance manuals, guarantees, and certificates of inspection which are to be assembled by Contractor(s) in accordance with the construction documents.

The Consultant will maintain a submittal log showing dates of submittal, transmittal action to other subconsultants, dates of return and review action. Copies of the log shall be furnished to the City and the Contractor monthly. The Consultant will promptly and in accordance with Project schedule requirements, review and approve, reject or take other appropriate action on the Contractor's request for substitutions. The Consultant will not approve any proposed substitution unless such substitution conforms to the project design concept and the construction contract documents including the contract price.

Submittal review efforts are based upon a maximum of two (2) reviews per submittal and that no more than fifty percent (50%) of the total number of first submittals will require two (2) reviews.

4.04 Meetings

The Consultant will conduct weekly construction progress meetings, prepare meeting agendas and prepare and distribute meeting minutes.

4.05 Schedules

The Consultant will review the progress schedule, schedule of shop drawing submissions and schedule of values prepared by Contractor, and consult with Consultant concerning their acceptability.

The Consultant will review and critique the Contractor's progress schedule in accordance with the construction documents. The Consultant will examine the work sequence, durations, interim milestones, and other appropriate scheduling features in accordance with the requirements of the construction documents. The Consultant will prepare a summary of the review comments and will meet and discuss the schedule comments with the Contractor and the City's representative.

The Consultant will review the Contractor's progress schedule updates to the construction schedule in accordance with the construction documents. The Consultant will perform a review of progress accomplished during the period and compare to planned schedule and discuss significant discrepancies with the Contractor. The Consultant and Contractor will establish, based on the data, the percent of project completion. Consultant will meet with Contractor on monthly basis to review and update the schedule data. Based upon the schedule update, the Consultant will recommend processing progress payments.

4.06 Change Orders

The Consultant will promptly consult with and advise the City concerning, and shall administer and manage, all change order requests and change orders. The Consultant will prepare, when requested by the City, required drawings, specifications and other supporting data regarding change order requests and change orders.

The Consultant will prepare and submit change order requests explaining the merits for the change and a recommendation for the City's approval and acceptance. The Consultant will negotiate an agreement with the Contractor as to scope of work and cost, time or both associated with the change in work. The change order shall include a written justification for the cost of the work.

The Consultant will administer and manage change order requests and change orders on behalf of the City. Change orders shall be prepared on a standard form provided by the City. Should a change order request be accepted by the City in the absence of an agreement with the Contractor as to cost, time, or both, the Consultant will receive and maintain all documentation pertaining to the change order request required of the Contractor; examine such documentation on the City's behalf; take such other action as may be reasonably necessary or as the City may request; and make a recommendation to the City concerning any appropriate adjustment in the construction cost and/or time and prepare a change order for Contractor's acceptance and City approval.

4.07 Records

The Consultant will maintain and provide detailed project records and documentation during the construction phase including correspondence, schedules, submittals, test data, project data, payments, change orders, meeting minutes, clarifications, mark-ups of drawings and specifications, control system documentation and other such documentation. Project records will be delivered to the City's representative upon completion of the construction contract.

The Consultant will maintain at the job site files for correspondence, reports of job conferences, shop drawings and samples submissions, reproductions of original construction documents including all addenda, change orders, field orders, additional drawings issued subsequent to the execution of the construction contract, Consultant's clarifications and interpretations of the construction documents, progress reports, and other project related documents.

Prepare daily reports recording Contractor's work performed on the job site, major construction equipment on-site, weather conditions, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, on-site equipment, subcontractors on-site, observations in general and specific observations in detail as to observing test procedures.

Receive, review and process daily inspection reports.

Maintain a digital photographic file of the progress of the construction activities throughout the duration of the project. This photo file will consist of color photographs taken to document specific construction activities where the information may be of future value. The photographs will be labeled as to the subject, and date of the photo and the photos will be kept in files which have been formatted to represent the specific construction area of the Project.

4.08 Reports

Each month, the Consultant will furnish to the City the project progress meeting minutes describing the progress of the work and Contractor's compliance with the approved progress schedule and schedule of shop drawing submissions.

4.09 Substantial and Final Completion Inspection

Following notice from the Contractor, The Consultant will conduct an inspection to determine if the Project or the work associated with interim milestones is substantially complete in accordance with the construction documents. If the Consultant considers the work substantially complete, the Consultant will deliver to the City and the Contractor the Certificate of Substantial Completion and the punch list, the date for completion of the punch list, and recommend the division of responsibilities between the City and the Contractor. If the work is not substantially complete, the process shall be repeated until the work is substantially complete. Definition of substantially complete as it relates to this project will be determined during the development of the bid documents.

The Consultant will, upon completion of the punch list items as notified by the Contractor, make final inspection to determine if the finished work has been completed to the standard required by the construction documents, determine whether required inspections and approvals for permit compliance have been satisfactorily completed, and Contractor has fulfilled the obligations so that Consultant may recommend, in writing, final payment to Contractor and may give written notice to City and the Contractor that the work is acceptable, subject to any conditions therein expressed and in consultation with the City whether the work is finally complete.

4.10 Material Testing

The Consultant will coordinate for the materials testing of the project and will be the primary communication between subconsultant and Contractor.

4.11 Certify Contractor Progress Payments

The Consultant will review, prepare comments, and reach agreement with the Contractor on the progress represented in the Contractor's schedule of values. The monthly schedule update, schedule of values, in combination with the Consultant's field observations, and the progress schedule shall be used by the Consultant to determine the appropriateness of the Contractor's request for payment.

The Consultant will on review of applications for payment and the accompanying data and schedules, determine the amounts owed to Contractor and recommend in writing, payments to Contractor in such amounts. Recommendations of payment will constitute a representation to City, based on such observations and review, that: the work has progressed to the point indicated; to the best of Consultant's knowledge, information and belief, the quality of such work is in accordance with the Contract Documents; and payment of the amount recommended is due and owing to the Contractor.

For unit price work, the Consultant's recommendations for payment will constitute a determination of completed quantities of such work.

TASK 5 – POST CONSTRUCTION PHASE SERVICES

5.01 Closeout Binder

The Consultant will prepare a project closeout binder that includes all of the project construction-related paperwork from beginning of construction to completion of construction.

5.02 Record Drawings

The Consultant will prepare a set of record drawings showing those changes made during construction and sealed by the engineer of record. Record drawing information shall be based on marked-up prints, drawings, and other data furnished by Contractor(s) to Consultant which Consultant will review for accuracy and completeness. The Consultant's Resident Project Representative will review and coordinate the record drawings. The record drawings shall be available to the City within thirty (30) days of receipt of all data in its entirety from the Contractor.

5.03 One Year Warranty Inspection

Warranty Inspections - Services after completion of the construction phase, such as inspections upon request during the 12-month guarantee period, reporting observed discrepancies under guarantees in the construction contract documents, and provide assistance for resolution of defects to be corrected under warranty. The City shall provide CCTV video of all project pipes installed in this project for the Consultant's review to insure the Contractor's conformance to the project goals and objectives.

Deliverables

One (1) set of reproducible record drawings on mylar and five (5) full size black line copies to submit to the City. Record drawing information will be added manually to existing mylars for the project by the Consultant as the record set. The record drawings shall be conformed to reflect shop drawing review, substitutions, clarifications and change order information.

One (1) set of electronic files representing record drawing information copied on two (2) compact disks. This set of record drawings shall be developed in electronic format using AutoCAD 2000. *(Note: The record drawing electronic files will be used as facility drawings by the City. The sealed set of record drawings defined in Task 2.07 shall represent the official record drawing set for the Project.)*

Deliverables for this task will include one set of documents detailing all assistance given to the City in answering Contractor bid questions during Task 3; one set of addenda prepared by the Consultant on behalf of the City under Task 3.01 and one set of documents detailing all assistance given to the City in evaluating bids and making a recommendation for award under Task 3.04.

EXHIBIT B
ALLOWANCES & ADDITIONAL SERVICES

Printing and Reproduction

Work under this item includes reimbursement for printing and reproduction services related to the project documents at all stages of submittal.

Pipe Replacement Design

The Consultant will prepare a detailed design for any pipe replacement location(s) in accordance with Task 1.07. For the purpose of this scope and fee estimation, the detailed design for pipe replacement is based on dig and replace construction methods for approximately 40 feet of pipe. The design may include structural requirements, access pit locations, bypass requirements, process and preparation areas, maintenance of operations, right-of-way and construction limits, and other miscellaneous details.

To the greatest extent possible, the Engineer will use the Maricopa Association of Governments Uniform Standard Specifications for Public Works Construction (MAG Specifications) and MAG Uniform Standard Details for Public Works Construction (MAG Details), the Supplements to the MAG Specifications and Details, and the Uniform Standard Details developed by the City in the Design Phase.

Manhole Inspection (ProPipe)

The 70 manholes as identified by the City of Peoria (see Task 1.05) will be inspected in the field by ProPipe Professional Pipe Services to determine the structural condition of the existing manholes. The method of investigation will be completed in accordance with the NASSCO Manhole Assessment and Certification Program (MACP) which includes documenting any defects in the manholes including type, location in manhole for each part of the manhole including the frame and cover, adjusting rings, cone, shaft, bench, etc. Included with this work is all traffic control and permits from the appropriate agency as required.

Results will be provided to the Consultant in electronic format including photographs, inspection notes and results of the field investigation from which an accurate assessment of the manhole condition can be made.

Geotechnical Investigation (Ninyo & Moore)

The Consultant will provide a geotechnical investigation through its subconsultant, Ninyo & Moore. Geotechnical investigations will be conducted for each pipe replacement location as required. This information will be used during the rehabilitation design analysis and incorporated into the contract documents. Such work will include a Geotechnical Report that outlines the results of the field and laboratory analyses with presentations of the engineering parameters for design of the improvements and recommendation for construction. Also included will be narrative descriptions of the surface and subsurface conditions, laboratory test results and recommendations related to excavation characteristics, subgrade support for new pavements, pavement design recommendations, backfill criteria and the re-use of on-site soils for engineered fill.

Material Testing (Ninyo & Moore)

The Consultant will provide material testing service for tests as required to be performed by the City in the construction contract documents. All such work will be completed by Ninyo & Moore in accordance with the City of Peoria materials testing requirements as provided by the City. This work will be applicable for both the dig-and-replace scenario and the trenchless technologies.

Inspection and testing shall be coordinated with the construction schedule. Testing and inspection services shall include: perform observation during placement and testing of bedding and backfill material and structural fill for compliance with specifications; perform a minimum of one test per lift for every 500 linear feet of fill placed; conduct particle size, liquid limit, plastic limit, plasticity index and maximum density of each soil type; perform sampling and testing during placement of pavement section material consisting of subgrade, aggregate base material and asphalt materials; conduct associated laboratory testing of pavement section related materials; perform observation and testing services during on-site grading activities for utility trench backfill, parking lot subgrade and roadway subgrade; project coordination by the project manager, review of test data by a professional engineer and typing and distribution of test results by data processor.

Written reports of all testing results which identify the required data and identify conformance or non-conformance with the Construction Contract Document will be maintained by the Consultant and provided to the City at the completion of the Project. The Consultant will take appropriate action on all such testing and inspection reports, including acceptance, rejection, requiring additional testing or corrective work, or such other action the Consultant deems appropriate. The Consultant will promptly reject Work which does not conform to and comply with testing requirements.

Sub-Surface Utility Investigation – Potholing

The Consultant will identify and provide subsurface utility investigations – potholes as needed for each pipeline where replacement or reconstruction is recommended (see Task 1.09). This information will be obtained through a reputable potholing contractor to be named at a future date. The pothole information will be used during the design analysis and incorporated into the construction drawings and contract documents. No potholing is anticipated in locations where trenchless rehabilitation methods such as Cured-In-Place Pipe (CIPP) or spot repair are recommended.

Public Information Support (Inroads Info)

The Consultant shall assist the City's Public Information Specialist with the Community Relations Program for items that may be required and have not been specifically identified in the Scope of Services. This work will be completed through Inroads Info, Inc. Inroads will insure the public is aware and informed about how a project will impact their day-to-day lives or business. She is able to work ahead of the contractor or engineer to engage the customer in dialogue and their concerns before events become a bigger issue.

Extended Services

Extended services during construction made necessary by;

- 1) work damaged by fire or other cause during construction;

- 2) a significant amount of defective or neglected work of Contractor(s);
- 3) prolongation of the contract time of any prime contract;
- 4) acceleration of the progress schedule involving services beyond normal working hours;
- 5) default by Contractor(s).

Additional services in connection with the Project, including services normally furnished by the City and services not otherwise provided for in this scope of services.

The City and the Consultant agree that there may be certain additional or extended services required to be performed by the Consultant during the contract period that cannot be defined sufficiently at the time of execution of this contract. Such services shall be authorized in writing in accordance with applicable contract provisions.

CITY OF PEORIA

**SEWERLINE REHABILITATION - NORTHERN AVENUE: 91ST AVE TO 99TH AVE
& 95TH AVENUE: PEORIA AVE TO NORTHERN AVE**

PROJECT NO. P06-0106

CHANGE ORDER NO. 2

TOTAL FEE ESTIMATE (PIPE & MANHOLE)

Date: 4/29/08

Design Fee	Pipe		Manhole		Total
Task 1	\$24,498	+	\$12,179	=	\$36,677
Task 2	\$18,114	+	\$10,057	=	\$28,171
Task 3	\$554	+	\$554	=	\$1,108
Task 4	\$27,484	+	\$18,879	=	\$46,363
Task 5	<u>\$1,471</u>	+	<u>\$1,390</u>	=	<u>\$2,861</u>
Subtotals	\$72,120	+	\$43,059	=	\$115,179

Allowances

Printing and Reproduction	\$1,000	+	\$500	=	\$1,500
Pipe Replacement Design (PEC)	\$6,500	+	\$0	=	\$6,500
Manhole Inspection (Pro Pipe) (70 MH x \$200/MH)	\$0	+	\$14,000	=	\$14,000
Geotechnical Investigation (Ninyo & Moore)	\$4,500	+	\$0	=	\$4,500
Material Testing (Ninyo & Moore)	\$3,000	+	\$1,000	=	\$4,000
Potholing (Subcontractor to be determined)	\$3,000	+	\$0	=	\$3,000
Public Information Support (Inroads, Inc.)	\$2,500	+	\$2,500	=	\$5,000
Extended Services	<u>\$5,000</u>	+	<u>\$3,500</u>	=	<u>\$8,500</u>
Subtotals	\$25,500	+	\$21,500	=	\$47,000
Subtotals	\$97,620	+	\$64,559	=	\$162,179
NOT TO EXCEED FEE					\$162,179

CITY OF PEORIA
SEWERLINE REHABILITATION - NORTHERN AVENUE: 91ST AVE TO 95TH AVE & 95TH AVENUE: PEORIA AVE TO NORTHERN AVE
PROJECT NO. P08-0108

CHANGE ORDER NO. 2

MANHOLE - LABOR ESTIMATE

29-Apr-08

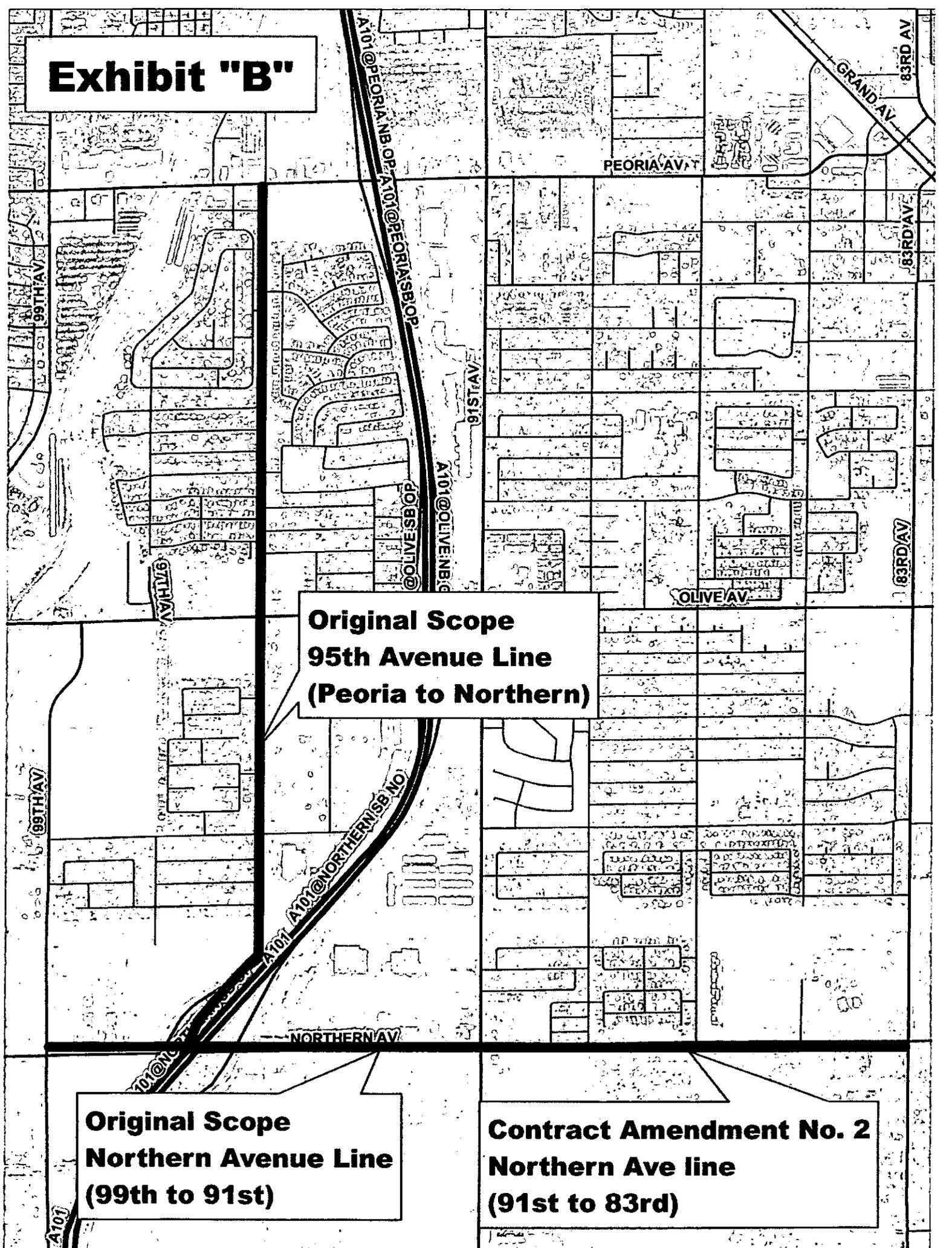
TASK NO.	TASK	Principal (DMDC)		Project Manager		Project Engineer		Design Engineer		CAD/DWG Technician		Resident Project Representative		Field Inspector		Survey Manager		Survey Crew		Total Direct Labor Fees																		
		HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT	HRS	AMT															
1 EVALUATION PHASE SERVICES																																						
1.01	Meetings																																					
1.02	Background Data																																					
1.03	Geographical Information Systems (GIS) Database Design																																					
1.04	Pipe Assessment																																					
1.05	Methods Inspection & Assessment																																					
1.06	Pipe & Manhole Rehabilitation Rating																																					
1.07	Rehabilitation Alternatives																																					
1.08	Prioritized Rehabilitation Recommendations																																					
1.09	Survey																																					
	Subtotal Task 1	3	\$ 198	19	\$ 874	34	\$ 1,155	32	\$ 900	35	\$ 990	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	124	\$ 4,178															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Overhead (185%)</td> <td style="width: 15%;">Subtotal</td> <td style="width: 15%;">Profit (10%)</td> <td style="width: 15%;">Total</td> </tr> <tr> <td></td> <td>\$9,894</td> <td></td> <td>\$11,072</td> </tr> <tr> <td></td> <td></td> <td></td> <td>\$1,107</td> </tr> <tr> <td></td> <td></td> <td></td> <td>\$12,179</td> </tr> </table>																							Overhead (185%)	Subtotal	Profit (10%)	Total		\$9,894		\$11,072				\$1,107				\$12,179
Overhead (185%)	Subtotal	Profit (10%)	Total																																			
	\$9,894		\$11,072																																			
			\$1,107																																			
			\$12,179																																			
2 DESIGN PHASE SERVICES																																						
2.01	Utility Coordination																																					
2.02	Right-of-Way																																					
2.03	Pipe & Manhole Rehabilitation Design																																					
2.04	Estimate of Probable Construction Cost																																					
2.05	Preliminary Construction Plans (10%)																																					
2.06	Preliminary Technical Specifications																																					
2.07	Final Construction Plans and Specifications (100%)																																					
2.08	Provide Copies of Contract Documents																																					
2.09	Project Review/Progress Meetings																																					
	Subtotal Task 2	2	\$ 132	12	\$ 552	28	\$ 998	30	\$ 900	32	\$ 990	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	105	\$ 3,450															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Overhead (185%)</td> <td style="width: 15%;">Subtotal</td> <td style="width: 15%;">Profit (10%)</td> <td style="width: 15%;">Total</td> </tr> <tr> <td></td> <td>\$5,093</td> <td></td> <td>\$9,143</td> </tr> <tr> <td></td> <td></td> <td></td> <td>\$914</td> </tr> <tr> <td></td> <td></td> <td></td> <td>\$10,057</td> </tr> </table>																							Overhead (185%)	Subtotal	Profit (10%)	Total		\$5,093		\$9,143				\$914				\$10,057
Overhead (185%)	Subtotal	Profit (10%)	Total																																			
	\$5,093		\$9,143																																			
			\$914																																			
			\$10,057																																			
3 BIDDING PHASE SERVICES																																						
3.01	Answer Contractor Questions & Prepare Bid Addenda																																					
	Subtotal Task 3	0	\$ 0	1	\$ 48	1	\$ 48	0	\$ 0	4	\$ 110	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	6	\$ 190															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Overhead (185%)</td> <td style="width: 15%;">Subtotal</td> <td style="width: 15%;">Profit (10%)</td> <td style="width: 15%;">Total</td> </tr> <tr> <td></td> <td>\$314</td> <td></td> <td>\$504</td> </tr> <tr> <td></td> <td></td> <td></td> <td>\$50</td> </tr> <tr> <td></td> <td></td> <td></td> <td>\$364</td> </tr> </table>																							Overhead (185%)	Subtotal	Profit (10%)	Total		\$314		\$504				\$50				\$364
Overhead (185%)	Subtotal	Profit (10%)	Total																																			
	\$314		\$504																																			
			\$50																																			
			\$364																																			

Exhibit "B"

**Original Scope
95th Avenue Line
(Peoria to Northern)**

**Original Scope
Northern Avenue Line
(99th to 91st)**

**Contract Amendment No. 2
Northern Ave line
(91st to 83rd)**



PLACEHOLDER



CONTRACT AMENDMENT Change Order

Materials Management
Procurement
8314 W. Cinnabar Ave.
Peoria, AZ 85345
Telephone: (623) 773-7115
Fax: (623) 773-7118
Buyer: Lisa Houg, CPPB

Solicitation No.: P06-0106 Page 1 of 21
Amendment No.: Two (2) Date: April 21, 2008

Project No.: S-0701 Agreement Date: July 13, 2006
Project Description: Design Services for Sewer Line Rehabilitation
Completion Date:
Change Order Type: Owner Initiated Errors & Omissions Unknown Conditions Phased Award

Contract Price Change:

Original Contract Price:	\$312,700.00
Total of previous change orders:	2,800.00
Original contract price plus previous change order(s):	315,500.00
The contract price due to this change order will be increased by:	162,179.00
The new contract price including this change order will be:	\$477,679.00

Contract Time Change:

The contract time will be increased by NA days.
The new date for completion of all work will be NA

Contractor hereby acknowledges receipt and agreement. A signed copy shall be filed with the City of Peoria, Materials Management Division.

Project Engineering
Consultants, Ltd.
Company Name

Signature	Date	Typed Name and Title	Company Name
2310 W. Mission Lane, Suite 4		Phoenix AZ 85021	
Address		City State	Zip Code

Attested By:

Mary Jo Kief, City Clerk

JC 052008
CC Number

LCON07706B
Contract Number

Official File

Joe Kurrus, Sr. Civil Engineer, Utilities Department

Lisa Houg, Contract Officer

Approved by: Herman Koebergen, Materials Manager

Approved as to Form: Stephen M. Kemp, City Attorney

The above referenced Contract Amendment is hereby Executed
_____, _____, at Peoria, Arizona

Terrence L. Ellis, City Manager