



# Stanley Consultants INC.

A Stanley Group Company  
Engineering, Environmental and Construction Services - Worldwide

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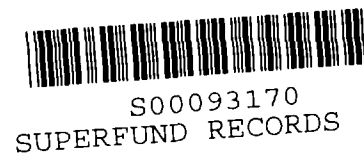
**SUPERFUND DIVISION**

|                       |
|-----------------------|
| Site: Clinton Coal    |
| ID # IAD984591438     |
| Region: 11.9          |
| Office: BID Documents |
| 11-29-99              |

1194455

November 29, 1999

Diana Engeman  
IANESUPR  
USEPA REGION 7  
901 North Fifth Street  
Kansas City, KS 66101



Dear Ms. Engeman:

Subject: Clinton, Iowa First Avenue Sewer Repair Documents

Enclosed is a copy of the bid documents for the rehabilitation of the First Avenue sewer in Clinton, Iowa for your information. Please advise us if you have any concerns or comments on the bid documents. Please note that bids are due in mid-January with notice to proceed and work starting as soon as a contract is executed between the City of Clinton and the accepted bidder. We are trying to get this work completed during winter when stormwater inflow is at a minimum.

Our work plan for sampling the removed sediments for purposes of disposal will be forwarded to you when it is finalized.

Sincerely,

Stanley Consultants, Inc.

Jay Brady, P.E.  
Sr. Environmental Engineer

Enclosure(s): Copy of Repair Documents

cc: Johanshir Golchin, Iowa Dept of Natural Resources  
Wayne Farrand, Iowa Dept of Natural Resources  
Jim Haag, City of Clinton

jmb:jmb::14615EPALI.wpd

# **Project Manual**

**for**

# **First Avenue Sewer Repair**

**City of Clinton  
Clinton, Iowa**

**November 1999**

# Project Manual

for

# First Avenue Sewer Repair

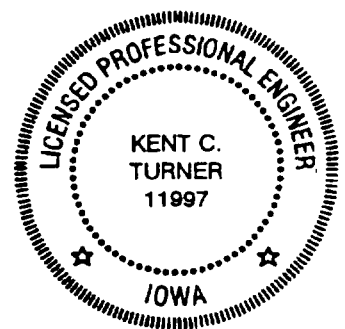
**City of Clinton  
Clinton, Iowa**

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa

  
Kent C. Turner 11/29/99  
11/29/99

My license renewal date is December 31, 2000.

Pages or sheets covered by this seal: As listed on Table of Contents



FIRST AVENUE SEWER REPAIR

CITY OF CLINTON  
CLINTON, IOWA

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|--------------------|--------------------|---------------------|
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| 14615-S3           | Plan Details       | 0                   |

Notice is hereby given that the City of Clinton, Iowa will receive Bids at the office of the City Clerk, 611 South Third Street, P. O. Box 2958, Clinton, Iowa 52733-2958 until December 29, 1999 at 2:00 pm, local time, for First Avenue Sewer Repair Project at which time Bids will be publicly opened and read aloud. Bids will be acted upon at the regular council meeting on January 11, 2000, or at such later time and place as may then be fixed. Regular council meetings are held on the second and fourth Tuesdays of each month.

General summary of Work to be performed:

**FIRST AVENUE SEWER REPAIR**

Work includes sediment removal from, and repair inside of, approximately 600' of concrete arch sewer located on First Avenue in Clinton, Iowa. Sediment is considered contaminated and requires special handling. First Avenue sewer is a combined sanitary and storm sewer and is classified by OSHA as confined space entry.

Work shall be in accordance with the Bidding Documents, including the Project Manual, and Drawings, which are on file at the office of the ENGINEER. A base set of Bidding Documents consisting of 1 Project Manual and 1 full-size set of Drawings may be obtained from Mr. Dick Rittenhouse, Stanley Consultants, Inc., 225 Iowa Avenue, Muscatine, Iowa, telephone 319-264-6238 upon deposit or payment in the amount of \$25.00. Additional Bidding Documents may be obtained at the same cost but are nonrefundable. The deposit for 1 base set will be refunded to those Bidders who return the Bidding Documents in good condition within 15 days following the Bid opening.

A prebid conference will be held at 10:00 am on December 13, 1999, at the City Council Chambers, City Hall, 611 South Third Street, Clinton, Iowa. Representatives of OWNER and ENGINEER will be present to discuss the Project.

All Bids shall be submitted in triplicate, on forms provided with the Project Manual, to the office of the City Clerk on or before the time specified above.

Each Bid shall be accompanied, in a separate sealed envelope, by Bid security in an amount of not less than 5% of the Bid. Bid Bonds must be executed by corporations authorized to contract as Surety in the State of Iowa and in a form described in the Contract Documents. Bid security shall be forfeited if the Bidder fails or refuses to sign and deliver a signed Agreement and furnish required contract security.

Upon notification of award, Successful Bidder shall furnish contract security in the form of performance and payment bonds described in the Contract Documents.

Performance of the Work is anticipated to start immediately after execution of the Agreement, and shall be completed within the time stated in the Contract Documents.

The City reserves the right to defer acceptance of any Bid for a period not to exceed 35 calendar days after the date Bids are to be received.

The City reserves the right to consider such factors as time of completion of the Work, materials and methods of construction, experience and responsibility of the Bidder, and similar factors in determining which Bid it deems to be in its best interests.

The City reserves the right to reject any or all Bids, to waive informalities or technicalities in any Bid and to accept the Bid which it deems to be in the best interest of the City.

CITY OF CLINTON, IOWA

by \_\_\_\_\_  
Deborah K. Neels  
City Clerk

Date \_\_\_\_\_

### 1.01 DEFINED TERMS

- A. Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:
1. Bidder --The individual or entity who submits a Bid directly to OWNER.
  2. Issuing Office --The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
  3. Successful Bidder--The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.

### 1.02 COPIES OF BIDDING DOCUMENTS

- A. Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bids may be obtained from the Issuing Office. The deposit will be refunded to each document holder of record who returns a complete set of Bidding Documents in good condition within 15 days after opening of Bids.
- B. Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- C. OWNER and ENGINEER in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

### 1.03 QUALIFICATIONS OF BIDDERS

- A. To demonstrate Bidder's qualifications to perform the Work, within 5 days of OWNER's request Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
1. Each Bid shall contain evidence of Bidder's qualification to do business in the State of Iowa or covenant to obtain such qualification prior to award of Contract.
  2. Written evidence or qualifications shall also include statement of similar work related to concrete sewer repair and related work, removal of contaminated materials, installation of shotcrete or installation of composite PVC/grout sewer lining completed in previous 5 years with name, address, and telephone number of references for work completed.

### 1.04 EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

- A. Sewer sediment sample information is included in Exhibit A, bound at end of Project Manual. Exhibit A is provided for Bidder's information to assist in preparation of Bid. Exhibit A is not a part of the Contract Documents. Neither OWNER nor ENGINEER make representation or interpretation of the information in Exhibit A.
- B. On request, OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.
- C. It is the responsibility of each Bidder before submitting a Bid to:
1. Examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
  2. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
  3. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;
  4. Obtain and carefully study (or assume responsibility for doing so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

5. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
  6. Become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;
  7. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
  8. Promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder; and
  9. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- D. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

#### 1.05 PRE-BID CONFERENCE

- A. A pre-Bid conference will be held at 10:00 am on December 13, 1999 at City Council Chambers, City Hall, 611 South Third Street, Clinton, Iowa. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

#### 1.06 SITE AND OTHER AREAS

- A. The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

#### 1.07 INTERPRETATIONS AND ADDENDA

- A. All questions about the meaning or intent of the Bidding Documents are to be submitted to ENGINEER in writing.

Mr. Kent C. Turner  
Stanley Consultants, Inc.  
Stanley Building  
225 Iowa Avenue  
Muscatine, IA 52761-3764

- B. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents.
- C. Questions received less than 5 days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.



- D. Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

#### 1.08 BID SECURITY

- A. Bid must be accompanied by Bid security made payable to OWNER in an amount of 5% of Bidder's maximum Bid price and in the form of a certified or bank check drawn on a bank in the state of Iowa, or a Bid Bond on the form attached issued by a surety meeting the requirements of paragraphs 5.01 and 5.02 of the General Conditions.
- B. Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 36 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- C. Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within 7 days after the Bid opening.

#### 1.09 CONTRACT TIMES

- A. The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth in the Agreement.

#### 1.10 LIQUIDATED DAMAGES

- A. Provisions for liquidated damages, if any, are set forth in the Agreement.

#### 1.11 SUBSTITUTE AND "OR-EQUAL" ITEMS

- A. The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions and may be supplemented in the General Requirements.

#### 1.12 PREPARATION OF BID

- A. Bid form is included with the Bidding Documents.
- B. All blanks on the Bid form shall be completed by printing in black ink or by typewriter and the Bid signed. A Bid price shall be indicated for each alternative or adjustment unit price item listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.
- C. Any lump sum Bid Price shall be stated in words and figures; in case of conflict, words take precedence.
- D. Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.
- E. Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official of the partnership shall be shown below the signature.

- F. Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.
- G. Bid by an individual shall show the Bidder's name and official address.
- H. Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture must be shown below the signature.
- I. Names shall be typed or printed in ink below the signatures.
- J. Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form.
- K. Address and telephone number for communications regarding the Bid shall be shown.
- L. Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number for the state of the Project, if any, shall also be shown on the Bid form.

#### 1.13 BASIS OF BID; EVALUATION OF BIDS

- A. Lump Sum:
  - 1. Bidders shall submit a Bid on a lump sum basis for the Base Bid and may include a separate price for each alternate described in the Bidding Documents as provided for in the Bid form. The price for each alternate will be the amount added to or deleted from the Base Bid if OWNER selects the alternate.
  - 2. In the evaluation of Bids, alternates will be applied in the same order as listed in the Bid form. OWNER may select or reject each alternate as best serves its interests, and may use prices bid for each selected alternate in determining Successful Bidder.
- B. The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in paragraph 11.02 of the General Conditions.

#### 1.14 SUBMITTAL OF BID

- A. Bids shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement for Bids and shall be accompanied by the Bid security and other required documents.
- B. Prepare Bids in triplicate on Bid Form bound in Project Manual.
- C. Sealed opaque envelopes containing OWNER's and ENGINEER's copies shall be plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED."
- D. Retain duplicate copy for BIDDER.
- E. Facsimile copies of Bids will not be accepted.

#### 1.15 MODIFICATION AND WITHDRAWAL OF BID

- A. Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- B. If within 24 hours after Bids are opened any Bidder files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

#### 1.16 OPENING OF BIDS

- A. Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously nonresponsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

#### 1.17 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- A. All Bids will remain subject to acceptance for the period of time stated in the Bid form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

#### 1.18 AWARD OF CONTRACT

- A. OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- B. More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that and the rejection of all Bids in which that Bidder has an interest.
- C. In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- D. In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- E. OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.
- F. If the Contract is to be awarded, OWNER will award the Contract to the Bidder whose Bid is in the best interests of the Project.

#### 1.19 CONTRACT SECURITY AND INSURANCE

- A. Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to performance and payment Bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by such Bonds.

#### 1.20 SIGNING OF AGREEMENT

- A. When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER. Within 10 days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

#### 1.21 SALES AND USE TAXES

- A. OWNER is exempt from Iowa state sales and use taxes on materials and equipment to be incorporated in the Work. Exemption No. 42-6004399. Said taxes shall not be included in the Bid. Refer to paragraph 6.10 of the Supplementary Conditions for additional information.

1.22 UNIT ADJUSTMENT PRICES

- A. Submit unit adjustment prices for items listed in Bid Form and described in Contract Documents.
- B. OWNER may accept or reject proposed unit adjustment prices without invalidating remainder of Bid or any Agreement based thereon.
  - 1. OWNER reserves right to change quantities to be furnished. Unit prices bid control, provided, however, if actual quantities of any unit price item increase or decrease from estimated quantities by more than 20%, OWNER and CONTRACTOR may renegotiate the unit price for such items furnished under the Contract Documents. If OWNER and CONTRACTOR cannot otherwise agree on a new unit price, the provisions of paragraph 11.9 of the General Conditions shall apply.
  - 2. CONTRACTOR's compensation will be computed on basis of final quantities incorporated in completed Work.
  - 3. In event of discrepancies between unit prices and unit price extensions listed in Bid, unit prices shall govern.
  - 4. Each Bid shall cover complete Work including costs incidental thereto. Bid shall include all costs of permits, fees, and similar expenses.

1.23 RETAINAGE

- A. Provisions concerning CONTRACTOR's rights to deposit securities instead of retainage are set forth in the Agreement.

END OF SECTION 00200

PROJECT AND CONTRACT IDENTIFICATION:

This Bid pertains to First Avenue Sewer Repair Project for the City of Clinton, Iowa.

THIS BID IS SUBMITTED TO: CITY CLERK  
CITY OF CLINTON  
611 SOUTH THIRD STREET  
P. O. BOX 2958  
CLINTON, IOWA 52733-5958

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.
2. Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 35 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.
3. In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
  - a. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged.

| Addendum No. | Addendum Date |
|--------------|---------------|
| _____        | _____         |
| _____        | _____         |
| _____        | _____         |
| _____        | _____         |

- b. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- c. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- d. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- e. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- f. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
- g. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

- h. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
  - i. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
4. Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
5. Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

a. Base Bid - Shotcrete:

\_\_\_\_\_ (words)  
 \_\_\_\_\_ (\$ \_\_\_\_\_).  
 (figures)

b. Unit Adjustment Prices: Required Base Bid quantities of the items listed below are set forth in the Specifications. If increases or decreases in these quantities occur, the Contract Price is to be adjusted by Change Order on the basis of the following. Adjustment prices are subject to acceptance by OWNER, and rejection of one or more adjustment prices will not invalidate acceptance of this Bid.

| Item                            | Unit | Unit Adjustment Price | Price |
|---------------------------------|------|-----------------------|-------|
| Sediment Disposal               | Ton  |                       | \$    |
| Sediment Treatment and Disposal | Ton  |                       | \$    |
| Shotcrete                       | CY   |                       | \$    |
| Reinforcing Bar                 | Lb.  |                       | \$    |
| Stay-in-Place Formwork          | SF   |                       | \$    |

c. Alternate No. 1 - PVC Liner System: (add) (deduct)

\_\_\_\_\_ (words)  
 \_\_\_\_\_ (\$ \_\_\_\_\_).  
 (figures)

d. Unit Adjustment Prices: Required Alternate Bid quantities of the items listed below are set forth in the Specifications. If increases or decreases in these quantities occur, the Contract Price is to be adjusted by Change Order on the basis of the following. Adjustment prices are subject to acceptance by OWNER, and rejection of one or more adjustment prices will not invalidate acceptance of this Bid.

| Item      | Unit | Unit Adjustment Price | Price |
|-----------|------|-----------------------|-------|
| PVC Liner | SF   |                       | \$    |

| Item            | Unit | Unit Adjustment Price | Price |
|-----------------|------|-----------------------|-------|
| Grout           | CY   |                       | \$    |
| Reinforcing Bar | Lb.  |                       | \$    |

6. Bidder agrees that the Work will be substantially completed and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
7. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.
8. **Exceptions and Clarifications:** Attach a separate sealed envelope labeled "Exceptions and Clarifications" to outside of sealed Bid, containing listing on Bidder's letterhead of all exceptions and clarifications to Contract Documents, referencing page number and paragraph of Contract Documents involved. If there are no exceptions or clarifications, include statement to such effect in Bid envelope. Excessive exceptions or clarifications may render Bid unresponsive. Bidder agrees to all provisions contained in Contract Documents unless specifically listed as an exception or clarification. If Bidder submits drawings, printed forms, standard statements, or other revisions which conflict with Contract Documents, the Contract Documents will prevail.
9. The following documents are attached to and made a condition of this Bid:
  - a. Statement of no Exceptions and Clarifications, if appropriate.
  - b. Exceptions and Clarifications to Contract Documents, if appropriate.
  - c. Required Bid security.
10. The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED ON \_\_\_\_\_, 19 \_\_\_\_

If Bidder is:

An Individual

Name (typed or printed): \_\_\_\_\_

By \_\_\_\_\_ (SEAL)  
(Individual's Name)

doing business as \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No. \_\_\_\_\_

A Partnership

Partnership Name: \_\_\_\_\_ (SEAL)

By \_\_\_\_\_  
*(Signature of general partner -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No. \_\_\_\_\_

A Corporation

Corporation Name: \_\_\_\_\_ (SEAL)

State of incorporation: \_\_\_\_\_

Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

By \_\_\_\_\_  
*(Signature -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

(CORPORATE SEAL)

Attest: \_\_\_\_\_  
*(Signature of Corporate Secretary)*

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No. \_\_\_\_\_

Date of Qualification to do business is \_\_\_\_\_

A Joint Venture

Joint Venturer Name: \_\_\_\_\_ (SEAL)

By \_\_\_\_\_  
*(Signature of joint venture partner -- attach evidence of authority to sign)*

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No. \_\_\_\_\_



1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SEWER 2

Lab Name: UNIVERSITY HYGIENIC LAB

Contract:

Lab Code: IOWA

Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 9303570

Sample wt/vol: 1.54 (g/mL) G

Lab File ID: E3170

Level: (low/med) MED

Date Received: 05/11/93

Moisture: decanted: (Y/N) N

Date Extracted: 05/25/93

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/27/93

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N

pH:

Number TICs found: 27

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

| CAS NUMBER  | COMPOUND NAME               | RT    | EST. CONC. | Q |
|-------------|-----------------------------|-------|------------|---|
| 1. 90120    | NAPHTHALENE, 1-METHYL-      | 17.32 | 110000     |   |
| 2. 1127760  | NAPHTHALENE, 1-ETHYL-       | 18.84 | 46000      |   |
| 3.          | DIMETHYL NAPHTHALENE ISOMER | 19.07 | 57000      |   |
| 4.          | DIMETHYL NAPHTHALENE ISOMER | 19.30 | 65000      |   |
| 5.          | DIMETHYL NAPHTHALENE ISOMER | 19.37 | 31000      |   |
| 6.          | DIMETHYL NAPHTHALENE ISOMER | 19.66 | 36000      |   |
| 7.          | TRIMETHYL NAPHTHALENE ISOME | 20.75 | 23000      |   |
| 8.          | TRIMETHYL NAPHTHALENE ISOME | 21.43 | 26000      |   |
| 9.          | UNKNOWN                     | 22.02 | 21000      |   |
| 10.         | UNKNOWN                     | 22.30 | 26000      |   |
| 11. 1989339 | 9H-FLUORENE-9-CARBOXYLIC AC | 22.44 | 23000      |   |
| 12.         | UNKNOWN                     | 22.67 | 21000      |   |
| 13.         | METHYL FLUORENE ISOMER      | 23.89 | 28000      |   |
| 14.         | METHYL FLUORENE ISOMER      | 24.15 | 21000      |   |
| 15. 7372885 | DIBENZOTHIOPHENE, 4-METHYL- | 26.18 | 20000      |   |
| 16.         | C15H12 PAH                  | 26.75 | 42000      |   |
| 17.         | C15H12 PAH                  | 26.84 | 47000      |   |
| 18.         | C15H12 PAH                  | 26.98 | 28000      |   |
| 19.         | UNKNOWN                     | 27.08 | 63000      |   |
| 20.         | C15H12 PAH                  | 27.16 | 28000      |   |
| 21. 57103   | HEXADECANOIC ACID           | 27.31 | 96000      |   |
| 22.         | C16H12 PAH                  | 27.74 | 29000      |   |
| 23.         | C16H14 PAH                  | 28.53 | 34000      |   |
| 24.         | C16H10 PAH                  | 29.29 | 46000      |   |
| 25.         | C17H12 PAH                  | 30.79 | 54000      |   |
| 26.         | C17H12 PAH                  | 31.00 | 28000      |   |
| 27.         | C17H12 PAH                  | 31.47 | 23000      |   |



1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SEWER 1

Lab Name: UNIVERSITY HYGIENIC LAB

Contract:

Lab Code: IOWA

Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 9303569

Sample wt/vol: 1.77 (g/mL) G

Lab File ID: E3169

Level: (low/med) MED

Date Received: 05/11/93

Moisture: decanted: (Y/N) N

Date Extracted: 05/25/93

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/27/93

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

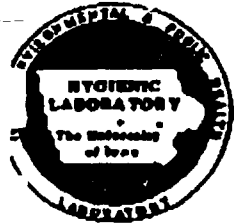
PC Cleanup: (Y/N) N

pH:

Number TICs found: 27

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME               | RT    | EST. CONC. | Q |
|------------|-----------------------------|-------|------------|---|
| 1. 90120   | NAPHTHALENE, 1-METHYL-      | 17.31 | 110000     |   |
| 2. 1127760 | NAPHTHALENE, 1-ETHYL-       | 18.84 | 35000      |   |
| 3.         | DIMETHYL NAPHTHALENE ISOMER | 19.08 | 66000      |   |
| 4.         | DIMETHYL NAPHTHALENE ISOMER | 19.30 | 66000      |   |
| 5.         | DIMETHYL NAPHTHALENE ISOMER | 19.66 | 51000      |   |
| 6.         | TRIMETHYL NAPHTHALENE ISOME | 20.76 | 31000      |   |
| 7.         | TRIMETHYL NAPHTHALENE ISOME | 21.43 | 38000      |   |
| 8.         | TRIMETHYL NAPHTHALENE ISOME | 21.52 | 25000      |   |
| 9.         | TRIMETHYL NAPHTHALENE ISOME | 21.72 | 35000      |   |
| 10.        | UNKNOWN                     | 22.02 | 28000      |   |
| 11.        | UNKNOWN                     | 22.30 | 28000      |   |
| 12.        | UNKNOWN                     | 22.67 | 30000      |   |
| 13.        | UNKNOWN HYDROCARBON         | 23.66 | 44000      |   |
| 14.        | METHYL FLUORENE ISOMER      | 23.90 | 48000      |   |
| 15.        | METHYL FLUORENE ISOMER      | 24.16 | 32000      |   |
| 16.        | C15H12 PAH                  | 26.75 | 71000      |   |
| 17.        | C15H12 PAH                  | 26.85 | 69000      |   |
| 18.        | C15H12 PAH                  | 26.99 | 52000      |   |
| 19.        | UNKNOWN                     | 27.09 | 83000      |   |
| 20.        | C16H12 PAH                  | 27.73 | 44000      |   |
| 21.        | C16H12 PAH                  | 28.53 | 62000      |   |
| 22.        | C16H10 PAH                  | 29.29 | 76000      |   |
| 23.        | C17H12 PAH                  | 30.79 | 110000     |   |
| 24.        | C17H12 PAH                  | 31.01 | 60000      |   |
| 25.        | C17H12 PAH                  | 31.49 | 34000      |   |
| 26.        | UNKNOWN                     | 32.36 | 41000      |   |
| 27.        | C20H12 PAH                  | 38.48 | 23000      |   |



# Hygienic Laboratory

The University of Iowa

Date of report: 06-04-1993

|||||.....|||||.....|||||.....|||||

EPD 6  
1004 WEST MADISON  
WASHINGTON IA 52353

RECEIVED  
JUN 07 1993  
IOWA DEPARTMENT OF  
NATURAL RESOURCES

|                     |                               |
|---------------------|-------------------------------|
| Sample Number       | 9303569                       |
| Date Received       | 05-11-1993                    |
| Project             | WMSF                          |
| Date Collected      | 05-05-1993 13:00              |
| Collection Site     | #1 storm sewer near city pool |
| Collection Town     | Clinton                       |
| Description         | water/oil                     |
| Reference Collector | GOLDBERG A L                  |
| Phone               | (319) 653-2195                |
| FWS Id & Type       |                               |
| Purchase Order      |                               |

## Results of Analyses

### GCMS Polyaromatic Hydrocarbons

| analyte                | Concentration ug/kg | Quantitation Limit |
|------------------------|---------------------|--------------------|
| Naphthalene            | 130000              | 10000              |
| Methylnaphthalene      | 140000              | 10000              |
| acenaphthylene         | 24000               | 10000              |
| Acenaphthene           | 160000              | 10000              |
| Dibenzofuran           | 48000               | 10000              |
| fluorene               | 120000              | 10000              |
| fluoranthene           | 220000              | 10000              |
| Anthracene             | 140000              | 10000              |
| benz[a]azulene         | < 10000             | 10000              |
| benz[a]anthracene      | 160000              | 10000              |
| Pyrene                 | 150000              | 10000              |
| Benzo(a)anthracene     | 76000               | 10000              |
| benz[b]fluoranthene    | 58000               | 10000              |
| Benzo(k)fluoranthene   | 51000               | 10000              |
| benz(a)pyrene          | 15000               | 10000              |
| benzo(1,2,3-cd)pyrene  | 50000               | 10000              |
| Dibenzo(a,h)anthracene | 25000               | 10000              |
| benz(a,g,h,i)perylene  | < 10000             | 10000              |
| unknowns               | 14000               | 10000              |

One or more compounds not included on the target compound list were observed in the GCMS analysis of this sample. These compounds were tentatively identified via searching the laboratory's mass spectral data base. A form tabulating the tentatively identified compounds and their associated retention times and estimated concentrations accompanies this report. Also, the quantitation limits are adjusted for a medium level sample preparation and sample dilution.

Date Analyzed: 05-27-1993  
Method: UHL 8270  
Date Extracted: 05-25-1993  
Reaction Method: EPA 3550

Analyst: JN  
Verified: TC  
Analyst: PJM,MB  
Verified: PM

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

# of pages 5



|                      |                     |          |                |
|----------------------|---------------------|----------|----------------|
| To                   | JAY BRADY           | From     | DIANA ENGEMAN  |
| Dept/Agency          | STANLEY CONSULTANTS | Phone    | (913) 551-7746 |
| Fax #                | (319) 264-6658      | Fax #    |                |
| NSN 7540-01-317 7388 |                     | 5099-101 |                |

TERRY E. BRANSTAD, GOVERNOR  
VISIT MEMO

GENERAL SERVICES ADMINISTRATION

LARRY J. WILSON, DIRECTOR

FIELD OFFICE NO. 6

DATE: 5 / 5 / 93

BY: A.F. Goldberger

LOCATION VISITED: City of Clinton

FACILITY NO. \_\_\_\_\_

OBSERVATIONS:

On May 5, 1993 Dan Stepe, Environmental Specialist, and I met Robert Betsinger near the public swimming pool, 101 S 1st St Clinton. The sample was collected from a manhole north of the pool parking lot adjacent to the former Allied Structural Steel Office. The sample was collected from a sewer substrate (sand) next to the channel. According to Bob Town, WWTP Superintendent, this line runs to the WWTP. The sample results appear to indicate coal tar & will be forwarded to DNR Uncontrolled site section.

cc: Clinton Co Uncontrolled Site File  
 Johanna Golcher, DNR

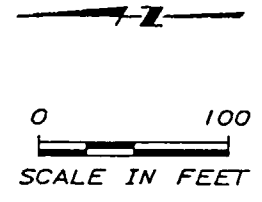
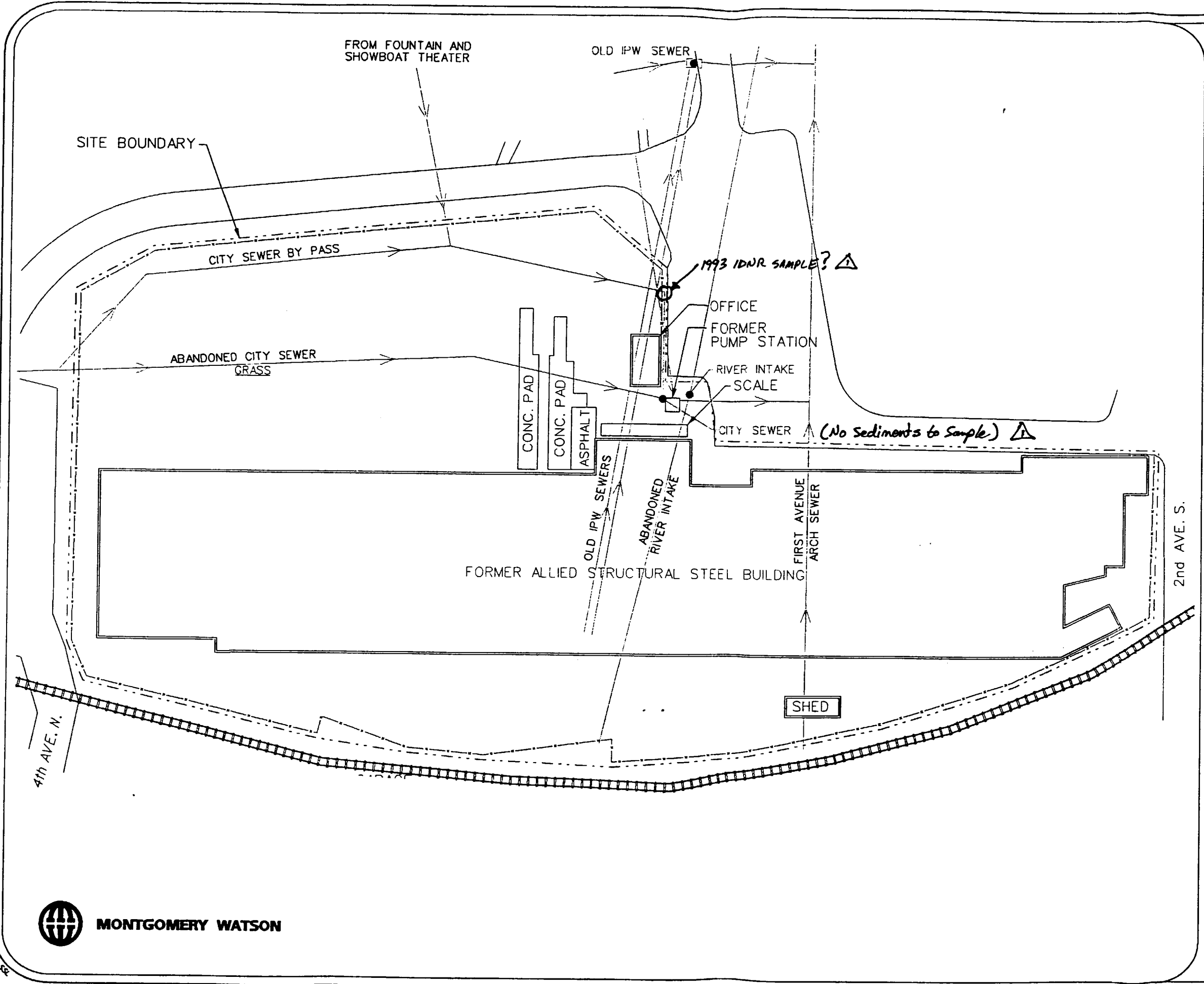
| Location Name                 | Old IPW Sewer | River Intake | Clinton FMGP Site Analytical Data Summary |       |        |       |        |       |        |       |        |   |  |  |  |  |  |  |
|-------------------------------|---------------|--------------|---|-------|--------|-------|--------|-------|--------|-------|--------|---|--|--|--|--|--|--|
|                               |               |              | Inorganic Parameters                      |       |        |       |        |       |        |       |        |   |  |  |  |  |  |  |
|                               |               |              | Sediment Samples Updated 8-25-98          |       |        |       |        |       |        |       |        |   |  |  |  |  |  |  |
| MR-01                         | MR-03         | MR-04        | MR-05                                     | MR-06 |        |       |        |       |        |       |        |   |  |  |  |  |  |  |
| Northing                      |               |              |   |       |        |       |        |       |        |       |        |   |  |  |  |  |  |  |
| Easting                       |               |              |   |       |        |       |        |       |        |       |        |   |  |  |  |  |  |  |
| Analytical Parameters (mg/kg) |               |              |   |       |        |       |        |       |        |       |        |   |  |  |  |  |  |  |
| Arsenic                       | 5.1           | 3.6          | 2.2                                       | J     | 2.7    | 2     | UJ     | 4.9   | J      | 2.4   | J      |   |  |  |  |  |  |  |
| Chromium                      | 27            | 15.8         | 9.6                                       | J     | 12.8   | 10.5  | J      | 19.3  | J      | 13.1  | J      |   |  |  |  |  |  |  |
| Copper                        | 73            | 29           | 6.9                                       |       | 10.4   | 8.8   |        | 19.4  |        | 18.1  |        |   |  |  |  |  |  |  |
| Iron                          | 24,500        | 13,700       | 11,800                                    | J     | 14,800 | J     | 20,600 | J     | 27,100 | J     | 15,500 | J |  |  |  |  |  |  |
| Lead                          | 423           | 145          | 10  |       | 12.9   | 8.8   |        | 22    |        | 15.4  |        |   |  |  |  |  |  |  |
| Nickel                        | 18.9          | 11           | 8.4                                       | J     | 11.3   | J     | 9.1    | J     | 15.6   | J     | 11     | J |  |  |  |  |  |  |
| Zinc                          | 466           | 215          | 40  | J     | 56     | 43    | J      | 82    | J      | 66    | J      |   |  |  |  |  |  |  |
| Cyanide                       | 4.6           | 1            | 1   | U     | 1      | 1     | U      | 1     | U      | 1     | U      |   |  |  |  |  |  |  |
| Nitrogen, Ammonia             | 30            | U            | 78  | U     | 40     | 28    |        | 102   |        | 47    |        |   |  |  |  |  |  |  |
| Sulfate                       | 8,870         | 2,820        | 1,220                                     |       | 2,060  | 1,260 |        | 2,080 |        | 3,360 |        |   |  |  |  |  |  |  |

| Location Name                 | Old IPW<br>Sewer | River<br>Intake | Clinton FMGP Site Analytical Data Summary |         |         |         |         |         | MR-05   | MR-06   |         |  |  |  |  |  |  |  |
|-------------------------------|------------------|-----------------|---|---------|---------|---------|---------|---------|---------|---------|---------|--|--|--|--|--|--|--|
|                               |                  |                 | Acid-Extractable Organic Compounds        |         |         |         |         |         |         |         |         |  |  |  |  |  |  |  |
|                               |                  |                 | Sediment Samples<br>Updated 8-25-98       |         |         |         |         |         |         |         |         |  |  |  |  |  |  |  |
| Northing                      |                  |                 | MR-01                                     | MR-03   | MR-04   |         |         |         |         |         |         |  |  |  |  |  |  |  |
| Easting                       |                  |                 |   |         |         |         |         |         |         |         |         |  |  |  |  |  |  |  |
| Analytical Parameters (mg/kg) |                  |                 |   |         |         |         |         |         |         |         |         |  |  |  |  |  |  |  |
| 4-Chloro-3-Methylphenol       | 6.6 U            | 3.3 U           | 0.33 U                                    | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  |  |  |  |  |  |  |  |
| 2-Chlorophenol                | 6.6 U            | 3.3 U           | 0.33 UJ                                   | 0.33 U  | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ |  |  |  |  |  |  |  |
| 2,4-Dichlorophenol            | 6.6 U            | 3.3 U           | 0.33 U                                    | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  |  |  |  |  |  |  |  |
| 2,4-Dimethylphenol            | 6.6 U            | 3.3 U           | 0.33 U                                    | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  |  |  |  |  |  |  |  |
| 2,4-Dinitrophenol             | 33 U             | 16.5 U          | 1.65 U                                    | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  |  |  |  |  |  |  |  |
| 2-Methyl-4,6-Dinitrophenol    | 33 U             | 16.5 U          | 1.65 U                                    | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  |  |  |  |  |  |  |  |
| 2-Nitrophenol                 | 6.6 U            | 3.3 U           | 0.33 U                                    | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  |  |  |  |  |  |  |  |
| 4-Nitrophenol                 | 13.2 U           | 6.6 U           | 0.66 U                                    | 0.66 U  | 0.66 U  | 0.66 U  | 0.66 U  | 0.66 U  | 0.66 U  | 0.66 U  | 0.66 U  |  |  |  |  |  |  |  |
| Pentachlorophenol             | 13.2 U           | 6.6 U           | 0.66 UJ                                   | 0.66 UJ | 0.66 UJ | 0.66 UJ | 0.66 UJ | 0.66 UJ | 0.66 UJ | 0.66 UJ | 0.66 UJ |  |  |  |  |  |  |  |
| Phenol                        | 6.6 U            | 3.3 U           | 0.33 UJ                                   | 0.33 U  | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ | 0.33 UJ |  |  |  |  |  |  |  |
| 2,4,5-Trichlorophenol         | 33 U             | 16.5 U          | 1.65 U                                    | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  | 1.65 U  |  |  |  |  |  |  |  |
| 2,4,6-Trichlorophenol         | 6.6 U            | 3.3 U           | 0.33 U                                    | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  | 0.33 U  |  |  |  |  |  |  |  |

| Location Name                   | Old IPW<br>Sewer | River<br>Intake | Clinton FMGP Site Analytical Data Summary<br>Polynuclear Aromatic Hydrocarbons |      |      |       |       |       | MR-05 | MR-06 |       |    |  |  |  |  |  |  |
|---------------------------------|------------------|-----------------|--|------|------|-------|-------|-------|-------|-------|-------|----|--|--|--|--|--|--|
|                                 |                  |                 | Sediment Samples<br>Updated 8-25-98  |      |      | MR-01 | MR-03 | MR-04 |       |       |       |    |  |  |  |  |  |  |
|                                 |                  |                 |  |      |      |       |       |       |       |       |       |    |  |  |  |  |  |  |
| Northing                        |                  |                 |  |      |      |       |       |       |       |       |       |    |  |  |  |  |  |  |
| Easting                         |                  |                 |  |      |      |       |       |       |       |       |       |    |  |  |  |  |  |  |
| Analytical Parameters (mg/kg)   |                  |                 |  |      |      |       |       |       |       |       |       |    |  |  |  |  |  |  |
| Acenaphthene                    | 1,570            | 58.8            | 0.08   | J    | 0.01 | UJ    | 0.3   | J     | 0.01  | UJ    | 4.4   | J  |  |  |  |  |  |  |
| Acenaphthylene                  | 1,230            | 30.9            | 0.01   | U    | 0.01 | U     | 0.01  | U     | 0.01  | U     | 0.01  | U  |  |  |  |  |  |  |
| Anthracene                      | 389              | 9.2             | 0.01   | U    | 0.01 | U     | 0.01  | U     | 0.03  |       | 0.4   |    |  |  |  |  |  |  |
| Benzo(a)anthracene *            | 242              | 4.5             | 0.1  |      | 0.01 | U     | 0.01  | U     | 0.05  |       | 0.9   |    |  |  |  |  |  |  |
| Benzo(a)pyrene *                | 196              | 3.5             | 0.01   | UJ   | 0.06 | J     | 0.01  | UJ    | 0.01  | UJ    | 1.3   | J  |  |  |  |  |  |  |
| Benzo(b)fluoranthene *          | 74.7             | 2.3             | 0.01   | U    | 0.07 |       | 0.2   |       | 0.2   |       | 1     |    |  |  |  |  |  |  |
| Benzo(g,h,i)perylene            | 55               | 1.7             | 0.01   | U    | 0.01 | U     | 0.01  | U     | 0.01  | U     | 0.4   |    |  |  |  |  |  |  |
| Benzo(k)fluoranthene *          | 41.9             | 1.1             | 0.01   | U    | 0.01 | U     | 0.01  | U     | 0.02  |       | 0.4   |    |  |  |  |  |  |  |
| Chrysene *                      | 269              | 4.3             | 0.01   | U    | 0.01 | U     | 0.01  | U     | 0.07  |       | 0.9   |    |  |  |  |  |  |  |
| Dibenzo(a,h)anthracene *        | 2.5              | 0.5             | U  | 0.01 | U    | 0.02  | 0.01  | U     | 0.01  |       | 0.01  | U  |  |  |  |  |  |  |
| Fluoranthene                    | 125              | 25              | U  | 0.05 |      | 0.04  | 0.2   |       | 0.7   |       | 0.2   |    |  |  |  |  |  |  |
| Fluorene                        | 831              | 25.4            | 0.01   | U    | 0.01 | U     | 0.01  | U     | 0.01  | U     | 0.01  | U  |  |  |  |  |  |  |
| Indeno(1,2,3-cd)pyrene *        | 53.1             | 1.3             | 0.01   | U    | 0.01 | U     | 0.01  | U     | 0.01  | U     | 0.4   |    |  |  |  |  |  |  |
| Naphthalene                     | 1,680            | 88.3            | 0.04   | J    | 0.01 | U     | 0.6   | J     | 0.01  | UJ    | 0.01  | UJ |  |  |  |  |  |  |
| Phenanthrene                    | 1,520            | 44.5            | 0.01   | U    | 0.01 | U     | 0.02  |       | 0.1   |       | 1.5   |    |  |  |  |  |  |  |
| Pyrene                          | 125              | 25              | U  | 0.01 | UJ   | 0.03  | 0.01  | UJ    | 0.5   | J     | 0.1   | UJ |  |  |  |  |  |  |
| Total Benzo(a)pyrene Equivalent | 233.67           | 4.33            | 0.01   |      | 0.09 |       | 0.02  |       | 0.035 |       | 1.535 |    |  |  |  |  |  |  |
| Total PAHs                      | 8,151.70         | 275.8           | 0.27   |      | 0.22 |       | 1.33  |       | 1.68  |       | 11.8  |    |  |  |  |  |  |  |

\* (Suspected) Carcinogenic PAH compound





NOTE:  
 BASE MAP DERIVED FROM  
 MARCH 21, 1994 AERIAL  
 PHOTOGRAPH (EPA, 1994).

- LEGEND:
- SEWER LINE AND FLOW DIRECTION
  - SAMPLE LOCATION AND NAME

From: Montgomery Watson  
 Technical Memorandum No 1  
 TO: Diana Engeman, USEPA Region VII  
 October 1, 1998

△ Added by Stanley Consultants

ALLIANT /IPW  
 CLINTON FMGP SITE - CLINTON, IOWA

### SEWER SAMPLING LOCATIONS

FIGURE 4



From Montgomery Watson  
 Technical Memorandum No.  
 TO: Diana Engeman, USEPA Reg.  
 October 2, 1998 (Appendix D)

| Location Name                 | Old IPW Sewer | River Intake | Clinton FMGP Site Analytical Data Summary |         |         |         |         |         | MR-05   | MR-06   |         |         |         |         |         |         |         |         |
|-------------------------------|---------------|--------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                               |               |              | Volatile Organic Compounds                |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|                               |               |              | Sediment Samples Updated 8-4-98           |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|                               |               |              | MR-01                                     | MR-03   | MR-04   |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Analytical Parameters (mg/kg) |               |              |   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| Benzene                       | 0.5 U         | 1.5          | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Bromodichloromethane          | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Bromoform                     | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Bromomethane                  | 1 U           | 0.01 U       | 0.002 U                                   | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U |
| Carbon Tetrachloride          | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Chlorobenzene                 | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Chloroethane                  | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Chloroform                    | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Chloromethane                 | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Dibromochloromethane          | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| 1,1-Dichloroethane            | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| 1,2-Dichloroethane            | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| 1,1-Dichloroethene            | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| trans-1,2-Dichloroethene      | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| 1,2-Dichloropropane           | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| cis-1,3-Dichloropropene       | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| trans-1,3-Dichloropropene     | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Ethylbenzene                  | 30.6          | 3.23         | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Methylene Chloride            | 2.5 U         | 0.068        | 0.005 U                                   | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| 1,1,2,2-Tetrachloroethane     | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Tetrachloroethene             | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Toluene                       | 0.5 U         | 0.031 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| 1,1,1-Trichloroethane         | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| 1,1,2-Trichloroethane         | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Trichloroethene               | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Vinyl Chloride                | 0.5 U         | 0.005 U      | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Xylenes, Total                | 31.2 U        | 1.01         | 0.001 U                                   | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |

## EXHIBIT A

# SEWER SEDIMENT SAMPLE INFORMATION

Date Received \_\_\_\_\_  
 Date Distributed \_\_\_\_\_

**SHOP DRAWING TRANSMITTAL**

Transmittal No. \_\_\_\_\_

Project Title \_\_\_\_\_ Project No. \_\_\_\_\_ Contract No. \_\_\_\_\_ Section No. \_\_\_\_\_  
 Project Location \_\_\_\_\_ Contract Title \_\_\_\_\_

**CONTRACTOR'S TRANSMITTAL**

**ENGINEER'S/ARCHITECT'S ACTION**

Status Abbreviations:

R - Reviewed  
 RN - Reviewed as Noted

RS - Resubmit  
 RET - Returned Without Review  
 FIO - For Information Only

| Submittal No. & Type |       |              | Manufacturer | Mfr. Dwg. No. | Title | SC Dwg. No. | Status | Distribution (No.) |      |       |                  |              |  |
|----------------------|-------|--------------|--------------|---------------|-------|-------------|--------|--------------------|------|-------|------------------|--------------|--|
| New                  | Resub | Add'l Copies |              |               |       |             |        | Cont.              | Res. | Owner | Mfr. or Supplier | Design Dept. |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |
|                      |       |              |              |               |       |             |        |                    |      |       |                  |              |  |

CONTRACTOR Remarks \_\_\_\_\_

CONTRACTOR I.D. No. \_\_\_\_\_  
 CONTRACTOR Name \_\_\_\_\_  
 Address \_\_\_\_\_

By \_\_\_\_\_ Date \_\_\_\_\_

Action of any kind on drawings by ENGINEER/ARCHITECT does not relieve CONTRACTOR from responsibility for errors, correctness of details, or conformance to the contract.

ENGINEER'S/ARCHITECT'S Remarks \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

By \_\_\_\_\_  
 Date \_\_\_\_\_



## INSTRUCTIONS FOR SHOP DRAWING TRANSMITTAL

- 1 Shop Drawings and manufacturers' information submitted shall be accompanied by completed copies of the "Shop Drawings Transmittal Form." Submit number of copies as specified.
- 2 Number each transmittal consecutively, assigning resubmittals new transmittal number.
- 3 Do not include submittals for more than one section of specifications on the ENGINEER/ARCHITECT transmittal form (disregard if inapplicable).
- 4 A brief title under "Subject" should clearly identify the specific application of the equipment or material covered by the Shop Drawing, utilizing where possible the same title used in Drawings and Specifications.
- 5 Information under CONTRACTOR's TRANSMITTAL should be completed by CONTRACTOR prior to submittal.
- 6 Information under ENGINEER's/ARCHITECT's ACTION will be completed by ENGINEER/ARCHITECT.
- 7 ENGINEER's/ARCHITECT's action is classified as follows:
  - a) **Reviewed:** Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents or Procurement Documents. CONTRACTOR may proceed with fabrication of work in submittal.
  - b) **Reviewed As Noted:** Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents or Procurement Documents, except as noted by ENGINEER/ARCHITECT. CONTRACTOR may proceed with fabrication of work in submittal with modifications and corrections as indicated by ENGINEER/ARCHITECT.
  - c) **Resubmit:** Submittal has been reviewed and appears not to be in conformance to design concept of Project or with Contract Documents or Procurement Documents. CONTRACTOR shall not proceed with fabrication of work in submittal, but instead shall make any corrections required by ENGINEER/ARCHITECT and resubmit for review.
  - d) **Returned without Review:** Submittal is being returned without having been reviewed because: 1) not required by Contract Documents or Procurement Documents; 2) grossly incomplete; 3) indicates no attempt at conformance to Contract Documents or Procurement Documents; 4) cannot be reproduced; 5) lacks CONTRACTOR's completed approval stamp; or 6) lacks design professional's seal when required by law, Contract Documents or Procurement Documents. If submittal is required by Contract Documents or Procurement Documents, CONTRACTOR shall not proceed with Work as detailed in submittal, but instead shall correct defects and resubmit for review.
  - e) **For Information Only:** Submittal has not been reviewed but is being retained for informational purposes only.

## **PART 1 GENERAL**

### 1.01 SECTION INCLUDES

- A. On-site surface preparation and painting.

### 1.02 SUBMITTALS

- A. List of manufactured materials proposed, identifying manufacturer and type.

### 1.03 DELIVERY, STORAGE, AND HANDLING

- A. Deliver paint materials in sealed original labeled containers, bearing manufacturer's name, type of paint, brand name, color designation and instructions for mixing and/or reducing.
- B. Provide adequate storage facilities. Store paint materials at minimum ambient temperature of 50°F in well ventilated area.
- C. Take precautionary measures to prevent fire hazards and spontaneous combustion.

### 1.04 ENVIRONMENTAL REQUIREMENTS

- A. Ensure surface temperatures and the surrounding air temperature is above 50°F before applying finishes.
- B. Provide adequate temporary lighting on surfaces to be finished.
- C. Provide ventilation as required to ventilate for personnel painting in confined space.

## **PART 2 PRODUCTS**

### 2.01 MATERIALS

- A. Provide first and second coat of paint on shotcreted surfaces.
- B. First and second finish coats: "46-413" Tneme-Tar, by Tnemec Company, Inc., or equal, coal tar epoxy, 8 to 10 mils dry film thickness each coat; air, airless spray, or roller.

## **PART 3 EXECUTION**

### 3.01 INSPECTION

- A. Thoroughly examine surfaces scheduled to be painted prior to commencement of Work. Report in writing to ENGINEER, any condition that may potentially affect proper application. Do not commence until such defects have been corrected.
- B. Correct defects and deficiencies in surfaces which may adversely affect work of this Section.

### 3.02 PROTECTION

- A. Adequately protect other surfaces from paint and damage. Repair damage as a result of inadequate or unsuitable protection.
- B. Furnish sufficient drop cloths, shields, and protective equipment to prevent spray or droppings from fouling surfaces not being painted and in particular, surfaces within storage and preparation area.

- C. Place cotton waste, cloths, and material which may constitute a fire hazard in closed metal containers and remove daily from Site.

### 3.03 PREPARATION

- A. Cure shotcrete minimum of 28 days before applying coating. Brush off blast clean by compressed air nozzle blasting.
- B. Remove dirt from shotcrete surfaces. Allow to thoroughly dry.

### 3.04 APPLICATIONS

- A. Apply each coat at proper consistency. Materials shall be evenly spread and applied smoothly without runs or sags, by skilled workers. Do painting under conditions suitable to production of best quality work. Follow manufacturer's directions on container label.
- B. Do not apply finishes on surfaces that are not sufficiently dry.
- C. Composite PVC/grout sewer lining system does not require painting.

### 3.05 CLEANING

- A. As work proceeds and upon completion, promptly remove paint where spilled, splashed, or spattered.
- B. If weather conditions threaten to flood sewer, scaffolds, tools, and other materials shall be removed from sewer at end of each work day.
- C. Upon completion of work leave premises neat and clean.

END OF SECTION

- 1) K. C. Turner
- 2) J. L. Kill

- D. Determine operating procedures for placement in close quarters and extended distances where placement velocities and mix consistency may be adjusted during application.
- E. Protect adjacent surfaces not receiving shotcrete.

### 3.03 ALIGNMENT CONTROL

- A. Provide alignment devices to establish thickness and plane of required surfaces.
- B. Spacing of devices shall be adequate to provide control of thickness around circumference and along length of work.
- C. Plastic tubes, if used as alignment devices, shall be removed from shotcrete and void filled before final thin coating of shotcrete is placed.

### 3.04 APPLICATION

- A. Place reinforcement in accordance with ACI 506.2.
- B. Direct outlet nozzle perpendicular to surface to ensure maximum compaction with minimum rebound.
- C. Build-up to required thickness in multiple passes of nozzle to achieve layering.
- D. Broom or scarify surface of freshly-placed shotcrete to which, after hardening, additional layers of shotcrete are to be bonded. Dampen surface just prior to application of succeeding layers.
- E. Do not permit applied shotcrete to sag, slough, or displace.
- F. After plastic set of final layer, remove excess material outside of forms and alignment lines.
- G. Finish surface of final layer with steel trowel.
- H. Sound test applied material with hammer for voids. Expose voids and replace with new shotcrete ensuring full bond with adjacent work.
- I. Capture rebound, do not allow rebound to be carried away by sewer flow. Remove rebound from sewer and dispose of at location obtained by CONTRACTOR.
- J. Remove rebound material which does not fall clear of work; discard salvaged rebound.
- K. Apply curing compound to exposed surfaces in accordance with manufacturer's instructions.
- L. Immediately after placement, protect shotcrete from premature drying, excessively cold temperatures, and mechanical injury.
- M. Maintain shotcrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of shotcrete.

### 3.05 FIELD QUALITY CONTROL

- A. Field inspection will be performed by OWNER's Representative. CONTRACTOR shall allow inspection of work and provide access to air monitoring records before entry into confined space.
- B. CONTRACTOR's Testing firm will be responsible for obtaining and testing all samples. Repair core holes in accordance with ACI 506.2.



3.06 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of ACI 506.2.
- B. Do not permit applied work to damage adjacent surfaces.

END OF SECTION

- 1) K. C. Turner
- 2) J. L. Kill

Joint Venturer Name: \_\_\_\_\_ (SEAL)

By \_\_\_\_\_  
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Business address: \_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No. \_\_\_\_\_

Phone and FAX Number, and Address for receipt of official communications

\_\_\_\_\_

\_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above).

END OF SECTION 00410

**THIS AGREEMENT** is by and between \_\_\_\_\_  
(hereinafter called OWNER) and \_\_\_\_\_  
(hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**Article 1. THE PROJECT.**

1.1 The Project for which Work under the Contract Documents may be the whole or only a part is generally described as First Avenue Sewer Repair Project.1

**Article 2. ENGINEER.**

2.1 The Project has been designed by Stanley Consultants, Inc., who is hereinafter called ENGINEER and who is to act as OWNER's representative assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

**Article 3. CONTRACT TIMES.**

3.1 **Time of the Essence.** All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

3.2 **Dates for Substantial Completion and Final Payment.** The Work will be substantially completed on or before April 30, 2000, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions on or before May 15, 2000.

3.3 **Liquidated Damages.** None.

**Article 4. CONTRACT PRICE.**

4.1 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 5.1.1, 5.1.2, and 5.1.3 below:

4.1.1 For all Work, a Lump Sum of:

\_\_\_\_\_  
(words)  
\_\_\_\_\_  
(\$ \_\_\_\_\_).  
(figures)

Lump Sum Contract Price includes Alternate No. \_\_\_\_\_.

4.1.2 **Unit Adjustment Prices.** To adjust Lump Sum for changes from quantities required by Contract Documents.

Base Bid:

| Item                            | Unit | Unit Adjustment Price | Price |
|---------------------------------|------|-----------------------|-------|
| Sediment Disposal               | Ton  |                       | \$    |
| Sediment Treatment and Disposal | Ton  |                       | \$    |
| Shotcrete                       | CY   |                       | \$    |

| Item                   | Unit | Unit Adjustment Price | Price |
|------------------------|------|-----------------------|-------|
| Reinforcing Bar        | Lb.  |                       | \$    |
| Stay-in-Place Formwork | SF   |                       | \$    |

Alternate No. 1:

| Item            | Unit | Unit Adjustment Price | Price |
|-----------------|------|-----------------------|-------|
| PVC Liner       | SF   |                       | \$    |
| Grout           | CY   |                       | \$    |
| Reinforcing Bar | Lb.  |                       | \$    |

**Article 5. PAYMENT PROCEDURES.**

5.1 **Submittal and Processing of Payments.** CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

5.2 **Progress Payments; Retainage.** OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about the 15<sup>th</sup> day of each month during performance of the Work as provided in paragraphs 6.2.1 and 6.2.2 below, if CONTRACTOR's Application for Payments are received by OWNER by the last day of the preceding month. All such payments will be measured by the schedule of values established in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

5.2.1 Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions.

5.2.1.1 95% of Work completed (with the balance being retainage). If Work has been 50% completed as determined by ENGINEER, and if the character and progress of the Work have been satisfactory to OWNER and ENGINEER, OWNER, on recommendation of ENGINEER, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no retainage on account of Work subsequently completed, in which case the remaining progress payments prior to Substantial Completion will be in an amount equal to 100% of the Work completed less the aggregate of payments previously made; and

5.2.2 Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 97.5% of the Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02. B. 5 of the General Conditions and less 97.5% of ENGINEER's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

5.3 **Final Payment.** Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

**Article 6. CONTRACTOR'S REPRESENTATIONS.**

6.1 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

6.1.1 CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

6.1.2 CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

6.1.3 CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

6.1.4 CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.

6.1.5 CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

6.1.6 CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

6.1.7 CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

6.1.8 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

6.1.9 The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

**Article 7. CONTRACT DOCUMENTS.**

7.1 The Contract Documents consist of the following:

7.1.1 This Agreement (pages 1 to \_\_\_\_, inclusive).

7.1.2 Exhibits to this Agreement (pages 1 to \_\_\_\_, inclusive).

7.1.3 Performance Bond (pages 1 to \_\_\_\_, inclusive).

7.1.4 Payment Bond (pages 1 to \_\_\_\_, inclusive).

7.1.5 Other Bonds (pages 1 to \_\_\_\_, inclusive).

7.1.6 General Conditions (pages 1 to 42, inclusive).

7.1.7 Supplementary Conditions (pages 1 to \_\_\_\_, inclusive).

7.1.8 Specifications as listed in Project Manual table of contents.

7.1.9 Drawings consisting of a cover sheet and sheets as listed in Drawing List.

7.1.10 Addenda numbers \_\_\_\_ to \_\_\_\_ , inclusive.

7.1.11 Exhibits to this Agreement (enumerated as follows):

7.1.11.1 Notice to Proceed (pages \_\_\_\_ to \_\_\_\_ , inclusive) marked Exhibit \_\_\_\_.

7.1.11.2 Documentation submitted by CONTRACTOR prior to Notice of Award (pages \_\_\_\_ to \_\_\_\_ , inclusive) marked Exhibit \_\_\_\_.

7.1.12 The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:

7.1.12.1 Written Amendments;

7.1.12.2 Work Change Directives;

7.1.12.3 Change Order(s).

7.2 The documents listed in paragraph 7.1 are attached to this Agreement (except as expressly noted otherwise above).

7.3 There are no Contract Documents other than those listed above in this Article 7.

7.4 The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.04 of the General Conditions.

#### **Article 8. MISCELLANEOUS.**

8.1 **Terms.** Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

8.2 **Assignment of Contract.** No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and 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 the Contract Documents.

8.3 **Successors and Assigns.** OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

8.4 **Severability.** Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents 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.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on \_\_\_\_\_, 19\_\_ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

(CORPORATE SEAL)

(CORPORATE SEAL)

Attest \_\_\_\_\_

Attest \_\_\_\_\_

Address for giving notices:

Address for giving notices

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

(If OWNER is a corporation, attach evidence of authority to sign. If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Agreement.)

License No. \_\_\_\_\_  
(Where applicable)

Agent for service of process: \_\_\_\_\_

(If CONTRACTOR is a corporation attach evidence of authority to sign.)

Designated Representative:

Designated Representative:

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

Phone: \_\_\_\_\_

Facsimile: \_\_\_\_\_

Facsimile: \_\_\_\_\_

# Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

---

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place  
of Business):

OWNER (Name and Address):

## CONTRACT

Date:

Amount:

Description (Name and Location):

## BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

### CONTRACTOR AS PRINCIPAL

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

### SURETY

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

### CONTRACTOR AS PRINCIPAL

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

### SURETY

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.



1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Contract, which is incorporated herein by reference.
2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:
  - 3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER's right, if any, subsequently to declare a CONTRACTOR Default; and
  - 3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR's right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and
  - 3.3. The OWNER has agreed to pay the Balance of the Contract Price to:
    - 3.3.1. The Surety in accordance with the terms of the Contract;
    - 3.3.2. Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
  - 4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
  - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
  - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or
  - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;
    - 4.4.1. After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or
    - 4.4.2. Deny liability in whole or in part and notify the OWNER citing reasons therefor.
5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.
6. After the OWNER has terminated the CONTRACTOR's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:
  - 6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;
  - 6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
  - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.
7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.
8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
  - 12.1. Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.
  - 12.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
  - 12.3. CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
  - 12.4. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY--Name, Address and Telephone)

AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer or other party):

# Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

---

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place  
of Business):

OWNER (Name and Address):

## CONTRACT

Date:

Amount:

Description (Name and Location):

## BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

SURETY

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

SURETY

Company: \_\_\_\_\_ (Corp. Seal)

Signature: \_\_\_\_\_

Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:
  - 2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and
  - 2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default.
3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.
4. The Surety shall have no obligation to Claimants under this Bond until:
  - 4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
  - 4.2. Claimants who do not have a direct contract with the CONTRACTOR:
    1. Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and
    2. Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and
    3. Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.
5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.
6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
  - 6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
  - 6.2. Pay or arrange for payment of any undisputed amounts.
7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER's priority to use the funds for the completion of the Work.
9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory Bond and not as a common law bond.
14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.
15. DEFINITIONS
  - 15.1. Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.
  - 15.2. Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
  - 15.3. OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY--Name, Address and Telephone)

AGENCY or BROKER:                      OWNER'S REPRESENTATIVE (Engineer or other party):

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

Terms used in these Supplementary Conditions will have meanings assigned to them in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings indicated below, which are applicable to both the singular and plural thereof.

#### SC-1.01 DEFINITIONS

Add a new paragraph immediately after paragraph 1.01.A.50 of the General Conditions to read as follows:

51. *Instruction to Contractor*-- Same as "Field Order."

#### SC-2.02 COPIES OF DOCUMENTS

Delete paragraph 2.02 of General Conditions in its entirety and refer to Section 01300 regarding copies of Drawings and Project Manuals.

#### SC-2.03.A COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

Change paragraph 2.03., A. of the General Conditions to read:

A. The Contract Times will commence to run on the fifteenth day after Effective Date of Agreement.

#### SC-3.04 AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS

Amend paragraph 3.04.B. of the General Conditions by deleting the following words:

"or (ii) ENGINEER's approval of a Shop Drawing or Sample;"

#### SC-5.04 CONTRACTOR'S LIABILITY INSURANCE

Add the following new paragraph immediately after paragraph 5.04.B:

C. The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under paragraphs 5.04.A.1 and A.2 of the General Conditions:

- |   |             |
|---|-------------|
| a. State:                                     | Statutory.  |
| b. Applicable Federal (e.g., Longshoreman's): | Statutory   |
| c. Employer's Liability:                      | \$1,000,000 |

d. Workers' Compensation and Employer's Liability insurance shall include the proprietor/partners/executive officers.

2. Contractor's General Liability under paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages:

- |  |             |
|--|-------------|
| a. General Aggregate                                   | \$2,000,000 |
| b. Products--Completed Operations Aggregate            | \$1,000,000 |
| c. Personal and Advertising Injury                     | \$1,000,000 |
| d. Each Occurrence (Bodily Injury and Property Damage) | \$1,000,000 |
| e. Fire Damage (Any one fire)                          | \$100,000   |

- f. Medical Expense (Any one person) \$5,000
- g. Property Damage liability insurance will provide Explosion, Collapse and Underground coverages where applicable.
- h. Excess or Umbrella Liability:
  - General Aggregate \$2,000,000
  - Each Occurrence \$1,000,000

3. Automobile Liability under paragraph 5.04.A.6 of the General Conditions::

- a. Bodily injury:
  - Per Person \$1,000,000
  - Per Accident \$1,000,000
- b. Property Damage:
  - Each Accident \$1,000,000 or
- c. Combined Single Limit of \$1,000,000

4. The Contractual Liability coverage required by paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:

- a. Bodily injury:
  - Each Accident \$1,000,000
  - Annual Aggregate \$2,000,000
- b. Property Damage:
  - Each Accident \$1,000,000
  - Annual Aggregate \$2,000,000

5. Stanley Consultants, Inc., and City of Clinton, Iowa shall be included on policy as additional insureds by endorsement.

**SC-5.06.B BOILER MACHINERY AND OTHER PROPERTY INSURANCE**

Boiler and machinery insurance in accordance with paragraph 5.06.B of the General Conditions will be provided by OWNER and will provide coverage for the following objects subject to the following limits:

Objects to be insured: Blanket.

Limits \$20,000,000.

**SC-5.06.D DEDUCTIBLE AMOUNTS**

Property insurance will be subject to a deductible amount of \$1,000 in accordance with paragraph 5.06.D of the General Conditions.

**SC-6.05.C. SUBSTITUTES AND "OR-EQUALS"**

Amend the third sentence of paragraph 6.05.C of the General Conditions to read as follows:

"No "or-equal" or substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by a Change Order."

#### SC-6.09 LAWS AND REGULATIONS

Add a new paragraph immediately after paragraph 6.09.C. of the General Conditions to read as follows:

D. CONTRACTOR shall complete and submit attached Letter of Compliance and Notice of Non-Discrimination in Employment. Submittal shall be within 15 days after effective date of Agreement. CONTRACTOR shall post a copy of the Notice of Non-Discrimination in Employment and attached Equal Employment Opportunity is the Law form in a conspicuous place at the Project Site that is available to employees and applicants for employment. The postings shall be maintained in a readable condition throughout the duration of the Project.

#### SC-6.10 TAXES

OWNER is exempt from Iowa state sales and use taxes on materials and equipment to be incorporated in the Work. Exemption No. 42-6004399. Said taxes shall not be included in the Bid. After delivery to site of items on which CONTRACTOR is required to pay such taxes, CONTRACTOR shall submit to OWNER statement of such taxes paid on attached Iowa Contractor's Statement of Sales Tax form and Construction Contract - Claim for Refund form.

#### SC-6.13 SAFETY AND PROTECTION

Add a new paragraph immediately after paragraph 6.13.B of the General Conditions to read as follows:

C. CONTRACTOR shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connections with the Work. The OWNER, ENGINEER, and ENGINEER's consultant will not have such responsibility. No action under taken by the OWNER or ENGINEER under General Conditions paragraphs 15.01 or 15.02, or article 9 will constitute a transfer of this responsibility or acceptance of this responsibility by the OWNER, ENGINEER, or ENGINEER's consultant."

#### SC-6.17 SHOP DRAWINGS AND SAMPLES

Amend paragraph 6.17 of the General Conditions by deleting the following words:

"and approval" and "and approve"

Delete paragraph 6.17.D.3. of the General Conditions in its entirety and insert the following in its place:

3. If CONTRACTOR wishes to propose a variation from the requirements of the Contract Documents and a drawing or sample will be used to help describe the variation, the drawing or sample shall not be submitted as a Shop Drawing or sample, but rather will have specific notations regarding the variation and shall be transmitted to the ENGINEER with a letter describing all aspects of the variation, including any effect the variation will have on work of separate contractors, if any, and its effect, if any, on the Contract Price or Contract Time. If ENGINEER determines that the variation will be acceptable, the variation will be authorized by a Change Order executed by the OWNER and CONTRACTOR.

Delete paragraph 6.17.E.3. of the General Conditions in its entirety and insert the following in its place:

3. ENGINEER's review of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents; nor will any review by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.17.D.1."

SC-16 DISPUTE RESOLUTION

Add the following new paragraph immediately after paragraph 16.01:

16.02 *Mediation*

A. OWNER and CONTRACTOR agree that they shall submit any and all unsettled Claims or counterclaims, disputes, or other matters in question between them arising out of or relating to the Contract Documents or the breach thereof to mediation by the Construction Industry Arbitration Rules of the American Arbitration Association or other mediation to be agreed upon by OWNER and CONTRACTOR prior to either of them initiating against the other a demand for arbitration pursuant to paragraph SC-16.03, unless delay in initiating arbitration would irrevocably prejudice one of the parties. The 30 day time limit within which to file a demand for arbitration as provided in paragraphs SC-16.03.B and 16.03.C shall be suspended with respect to a dispute submitted to mediation within that time limit and shall remain suspended until 10 days after the termination of the mediation. The mediator of any dispute submitted to mediation under this agreement shall not serve as arbitrator of such dispute unless otherwise agreed.

END OF SUPPLEMENTARY CONDITIONS

# CONSTRUCTION CONTRACT - CLAIM FOR REFUND

COUNTY NO. \_\_\_\_\_

## IOWA DEPARTMENT OF REVENUE AND FINANCE

|  |       |          |           |
|--|-------|----------|-----------|
| NAME OF GOVERNMENTAL BODY, PRIVATE NONPROFIT EDUCATIONAL INSTITUTION OR NONPROFIT MUSEUM |       |          |           |
| CITY OF CLINTON, IOWA  |       |          |           |
| CURRENT MAILING ADDRESS - STREET OR RURAL ROUTE OR BOX NO                                |       |          |           |
| CITY HALL 611 SOUTH 3RD STREET P O BOX 2958  |       |          |           |
| ADDRESS 2  |       |          |           |
| CITY OR TOWN   | STATE | ZIP CODE | COUNTY NO |
| CLINTON  | IOWA  | 52732    | 23        |

| FOR OFFICE USE ONLY |               |     |
|---------------------|---------------|-----|
| ACCOUNT NUMBER      |               |     |
| CONTROL NUMBER      |               |     |
| 30-04               |               |     |
| TAX AMOUNT          |               |     |
| INTEREST AMOUNT     |               |     |
| TOTAL REFUND        |               |     |
| NAME                | SCO #         | DUP |
| EXAM DATE           | INTEREST DATE |     |
| COMMENTS            |               |     |

1. Federal identification number 42 6004399
2. Description of project \_\_\_\_\_
3. Final settlement date of contract \_\_\_\_\_ Claim must be filed within 6 months of final settlement
4. Was contract in writing? yes If so, date signed \_\_\_\_\_
5. Have you previously filed a claim for this project? \_\_\_\_\_

**Items 1, 2, 3, 4, 5 must be completed before your claim can be processed.**

**LIST CONTRACTORS AND SUBCONTRACTORS ONLY**  
ATTACH ADDITIONAL SHEETS IF NEEDED.

| NAME OF CONTRACTOR AND / OR SUBCONTRACTOR | MATERIAL PURCHASES AMOUNT | IOWA TAX PAID TO BE REFUNDED | LOCAL OPTION TAX TO BE REFUNDED |
|---|---------------------------|------------------------------|---------------------------------|
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
|   |                           |                              |                                 |
| SUBTOTALS                                 |                           |                              |                                 |

**TOTAL REFUND DUE - Add Iowa and local option tax paid columns**

SUBMIT ORIGINAL ONLY OF THIS FORM WITH ORIGINAL CONTRACTORS STATEMENTS TO:  
 COMPLIANCE DIVISION  
 IOWA DEPARTMENT OF REVENUE AND FINANCE  
 P. O. BOX 10456  
 DES MOINES, IOWA 50306

Questions call  
 1-515-281-6177  
 OR  
 1-800-367-3388

I, THE UNDERSIGNED, DECLARE UNDER PENALTY OF PERJURY THAT I HAVE EXAMINED THIS CLAIM, INCLUDING ALL ATTACHED CONTRACTORS STATEMENTS, AND, TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT IS A TRUE, CORRECT AND COMPLETE CLAIM. THIS CLAIM IS FILED PURSUANT TO SECTION 422.45(7) CODE OF IOWA.

|                      |  |  |   |                         |
|----------------------|--|--|---|-------------------------|
| CLAIMANT'S SIGNATURE | Deborah K Neels<br><small>PRINT NAME</small> | Finance Director<br><small>TITLE</small> | (319) 242 7545<br><small>TELEPHONE NUMBER</small> | <br><small>DATE</small> |
|----------------------|--|--|---|-------------------------|





|                                  |                |
|----------------------------------|----------------|
| Contractor's Name                |                |
| Address                          |                |
| City, State, ZIP Code            |                |
| Iowa Sales or Use Tax Permit No. | Federal ID No. |

|  |
|--|
| Name of government unit, private nonprofit education institution, nonprofit museum |
| Address  |
| City, State, ZIP Code  |
| If contract is not directly with above name, who is your contract directly with?   |

1. Project Description:  
 2. Is your contract written? If so, date signed:

| INCLUDE ONLY BUILDING MATERIALS THAT BECOME PART OF REAL PROPERTY. See instructions on reverse side. |                                 |                      |                                    |   |   |  |
|--|---------------------------------|----------------------|------------------------------------|---|---|--|
| A.<br>Name, City, and State of Material Supplier   | B.<br>Type of Building Material | C.<br>Purchase Price | D.<br>Amount of Iowa sales/use tax | E.<br>Did supplier collect Iowa sales or use tax? (yes or no) If no, who paid the tax and when? | F.<br>Amount of Iowa local option sales tax | G.<br>No. of county where Iowa local option tax paid |
| 1.   |                                 |                      |                                    |   |   |  |
| 2.   |                                 |                      |                                    |   |   |  |
| 3.   |                                 |                      |                                    |   |   |  |
| 4.   |                                 |                      |                                    |   |   |  |
| 5.   |                                 |                      |                                    |   |   |  |
| 6.   |                                 |                      |                                    |   |   |  |
| 7.   |                                 |                      |                                    |   |   |  |
| 8.   |                                 |                      |                                    |   |   |  |
| <b>TOTALS</b>  |                                 |                      |                                    |   |   |  |

Subscribed and sworn to by \_\_\_\_\_  
 before me this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_  
 Notary Public in and for \_\_\_\_\_ County of Iowa.

I, "Contractor," \_\_\_\_\_ being duly sworn upon oath depose and state that this statement is made pursuant to Section 422.45(7), Code of Iowa, that all statements made herein are true and accurate as I verily believe; that all of the tangible personal property described herein became an integral part of the project herein described, and sales or use tax was paid to Iowa thereon asserted.  
 Name \_\_\_\_\_ Title \_\_\_\_\_

## INSTRUCTIONS FOR CONTRACTOR'S STATEMENT

This Contractor's Statement must be prepared and sworn to by each general contractor, special contractor or subcontractor who fulfills a contract or subcontract pertaining to a project that is sponsored by agencies or instrumentalities of the Federal, state, county, municipal governments, private nonprofit educational institutions, or nonprofit museums. Upon completion of the contract, this form must be presented to that sponsor so they may file for a tax refund in accordance with Section 422.45(7), Iowa Code, as amended.

### Contractor:

Forward this statement to the sponsor (governmental unit, private nonprofit educational institution, nonprofit museum). Do NOT send it to the Iowa Department of Revenue and Finance.

### Sponsor:

This statement must be attached to the Construction Contract Claim for Refund (35-003). Both forms must be filed before the department can process your claim. **File the department's original copy only.** No substitutes will be accepted. The claim for refund must be filed within six months of the final settlement date of the contract.

## FORM DIRECTIONS

**Columns A through E must be completed. If local option sales tax was paid on the purchase price, complete Columns A through G.**

### A. Name, City and State of Material Supplier

"Out of stock" or "inventory" should be entered in Column A for materials that the contractor has manufactured or has in inventory, making the contractor the material supplier.

### B. Type of Building Material

Be specific. Only the items that become an integral part of the structure should be listed. The following is a nonexclusive list of items that DO NOT qualify: Equipment rental, machinery, equipment, tools, utilities, warning lights, barricades, kybos, forms, stakes, scaffolding, dynamite, lodging, fuel, and labor.

### C. Purchase Price

Cost of material shown in Column B. Do NOT include transportation charges, delivery charges or hauling charges. Do NOT include sales/use or local option sales tax in this column.

### D. Amount of Iowa Sales and Use Tax

Compute on the purchase price recorded in Column C. Do NOT include local option sales tax in Column D.

### E. Did Supplier Collect Iowa Sales or Use Tax?

If the answer is "no," include who paid the tax, the date the tax was paid, and the Iowa permit number under which it was remitted. If no Iowa tax was paid, please explain why not and/or which state in which the tax was paid.

### F. Amount of Iowa Local Option Sales Tax

In addition to the state sales and use tax in Column D, there may be purchases which were subject to an Iowa local option sales tax. Enter this local option sales tax in this column, not in Column D.

### G. Local Option Sales Tax

Number of the county for which local option sales tax was paid. See the list below.

#### IOWA COUNTIES AND COUNTY NUMBERS

|                |               |              |                  |               |
|----------------|---------------|--------------|------------------|---------------|
| 01-ADAIR       | 21-CLAY       | 41-HANCOCK   | 61-MADISON       | 81-SAC        |
| 02-ADAMS       | 22-CLAYTON    | 42-HARDIN    | 62-MAHASKA       | 82-SCOTT      |
| 03-ALLAMAKEE   | 23-CLINTON    | 43-HARRISON  | 63-MARION        | 83-SHULTZ     |
| 04-APPANOOSE   | 24-CRAWFORD   | 44-HENRY     | 64-MARSHALL      | 84-SIOUX      |
| 05-AUDUBON     | 25-DALLAS     | 45-HOWARD    | 65-MILLS         | 85-STORY      |
| 06-BENTON      | 26-DAVIS      | 46-HUMBOLDT  | 66-MITCHELL      | 86-TAMA       |
| 07-BLACK HAWK  | 27-DECATUR    | 47-IDA       | 67-MONONA        | 87-TAYLOR     |
| 08-BOONE       | 28-DELAWARE   | 48-IOWA      | 68-MONROE        | 88-UNION      |
| 09-BREMER      | 29-DES MOINES | 49-JACKSON   | 69-MONTGOMERY    | 89-VAN BUREN  |
| 10-BUCHANAN    | 30-DICKINSON  | 50-JASPER    | 70-MUSCATINE     | 90-WAPELLO    |
| 11-BUENA VISTA | 31-DUBUQUE    | 51-JEFFERSON | 71-O'BRIEN       | 91-WARREN     |
| 12-BUTLER      | 32-EMMET      | 52-JOHNSON   | 72-OSCEOLA       | 92-WASHINGTON |
| 13-CALHOUN     | 33-FAYETTE    | 53-JONES     | 73-PAGE          | 93-WAYNE      |
| 14-CARROLL     | 34-FLOYD      | 54-KEOKUK    | 74-PALO ALTO     | 94-WEBSTER    |
| 15-CASS        | 35-FRANKLIN   | 55-KOSSUTH   | 75-PLYMOUTH      | 95-WINNEBAGO  |
| 16-CEDAR       | 36-FREMONT    | 56-LEE       | 76-POCAHONTAS    | 96-WINNEBIEK  |
| 17-CERRO GORDO | 37-GREENE     | 57-LINN      | 77-POLK          | 97-WOODBURY   |
| 18-CHEROKEE    | 38-GRUNDY     | 58-LOUISA    | 78-POTTAWATTAMIE | 98-WORTH      |
| 19-CHICKASAW   | 39-GUTHRIE    | 59-LUCAS     | 79-POWESHIEK     | 99-WRIGHT     |
| 20-CLARK       | 40-HAMMON     | 60-LYON      | 80-WINGBOLD      |               |

## LETTER OF COMPLIANCE

Contractor \_\_\_\_\_

Project \_\_\_\_\_

Date \_\_\_\_\_

### TO WHOM IT MAY CONCERN:

**SUBJECT:** Equal Employment Opportunity

The following is furnished to provide the required proof of compliance with the applicable specifications.

I am complying with the applicable special provisions for EEO and wage rates.

1. I have held a meeting of my supervisory and personnel office employees with regard to the Company's EEO policy. My EEO Officer is:

Name \_\_\_\_\_ Telephone No. \_\_\_\_\_

Address \_\_\_\_\_

2. The following have been posted in a conspicuous place available to employees and applicants for employment.
  - a. Equal Employment Opportunity is.....THE LAW (Non-Federal)
  - b. Notice of Non-discrimination (Non-Federal)
  - c. A notice advising employees and applicants of specific training opportunities with name, address, and telephone number of contact person.
3. All employee facilities at the project site are desegregated, and there is non-discrimination regarding personnel actions.
4. Inclusion of the notation "*An Equal Opportunity Employer*" is made when advertising for employees.
5. I will use my best efforts to assure subcontractor compliance with the requirements of the applicable special provision.

Signed \_\_\_\_\_

Contractor \_\_\_\_\_

COMPANY LETTERHEAD HERE

NOTICE OF NON-DISCRIMINATION IN EMPLOYMENT

TO: \_\_\_\_\_

(Employees of Contractor, Union or organization of workers, employment referral agencies, and training program sponsors)

State or County financed contracts or subcontracts, are subject to Supplemental Specification 1008, Iowa Civil Rights Act of 1965 and Iowa Executive Order No. XV.

You are advised that under the provisions of these contracts and in accordance with the above cited rules and regulations, contractors and subcontractors are obliged to take affirmative action to provide equal opportunity without regard to race, color, religion, creed, sex, age, national origin, or disability. This obligation includes, but is not limited to, the following: HIRING, PLACEMENT, UPGRADING, TRANSFER, OR DEMOTION, RECRUITMENT, ADVERTISING, OR SOLICITATION FOR EMPLOYMENT, TREATMENT DURING EMPLOYMENT, RATES OF PAY OR OTHER FORMS OF COMPENSATION, SELECTION FOR TRAINING INCLUDING APPRENTICESHIP, LAYOFF OR TERMINATION

This obligation extends, so far as the responsibility of the undersigned is concerned, to any arrangement under which journeymen or apprentices are selected and referred for work on its projects.

This notice is furnished to you pursuant to the provisions of such contracts or subcontracts and the applicable rules and regulations as cited.

\_\_\_\_\_  
CEO  
\_\_\_\_\_  
DATE \_\_\_\_\_

TO ALL EMPLOYEES  
(your Company's Name)  
It is the policy of this company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, creed, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship and/or on-the-job training.

All employees are encouraged to refer minority and women applicants for employment.

The Equal Employment Opportunity Officer for the (Your Company Name) is:

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Phone # \_\_\_\_\_

# Equal Employment Opportunity is the **LAW**

## What Does Equal Employment Opportunity Mean?

It guarantees the right of all persons to apply and be considered for job opportunities on the basis of the person's ability to do the job. While employed, you should not be treated unfairly because of any of the protected characteristics.

## What Does the Law Cover?

Chapter 216 of the *Code of Iowa*, as amended, (The Iowa Civil Rights Act), prohibits discrimination in employment because of a person's:

|       |                    |
|-------|--------------------|
| Race  | Age (18 and older) |
| Creed | National Origin    |
| Color | Religion           |
| Sex   | Disability         |

## What Other Resources Are Available to Help with a Discrimination Problem?

You may also contact the local human rights, civil rights or human relations agency in your area, or the U.S. Equal Opportunity Commission (EEOC), a federal agency. The EEOC District Office is located at:

310 West Wisconsin Ave., Suite 800  
Milwaukee, WI 53203-2292  
414-297-1111

EEOC enforces Title VII of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, religion, sex, or national origin; the Age Discrimination in Employment Act (ADEA) which protects persons age 40 or older, and the Americans with Disabilities Act.

## To Whom Does the Law Apply?

- Persons who apply for employment with, or employees of, private employers, state and local governments, and public and private educational institutions.
- Employment agencies, labor unions, contractors and sub-contractors, and apprenticeship programs.

## What Action Will an Agency Take?

The agency's professional staff will provide you with information on your rights, and will assist you in preparing your complaint and getting it legally filed. The staff will then take appropriate action in handling the complaint. There is no charge to file a complaint.

## What Should I Do If I Believe I've Been Discriminated Against?

You should immediately contact:

**Iowa Civil Rights Commission**  
211 East Maple Street, 2nd Floor  
Des Moines, Iowa 50319  
515-281-4121  
1-800-457-4416 (in Iowa)  
515-242-5840 (FAX)  
515-281-8085 (TDD)

You may contact the Commission by telephone or mail for information, or assistance in filing a complaint. The Commission's office hours are 8:00 a.m. to 4:30 p.m., Monday through Friday. You may leave a message at 515-281-4121 after hours for a return call. Your complaint must be filed within 180 days of the discriminatory act.

"Our liberties we prize and our rights we will maintain."

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Contract description.
- B. CONTRACTOR's access of sewer.
- C. Work sequence.
- D. Use of facility by OWNER.

### **1.02 CONTRACT DESCRIPTION**

- A. Work of the Project includes sediment removal from, and repair inside of, approximately 600' of concrete arch sewer located on First Avenue. Sediment is considered contaminated waste and requires special handling. First Avenue sewer is a combined sanitary and storm sewer and is classified by OSHA as confined space entry. Work is located in Clinton, Iowa for the City of Clinton, Iowa, OWNER.

### **1.03 CONTRACTOR'S ACCESS OF SEWER**

- A. Limited number of manholes give access to sewer for personnel, equipment, or sediment removal. Closest manhole to west end of repair area is located along First Avenue, approximately 50' west of railroad tracks. At east end of Project area, there is a manhole immediately adjacent to the First Avenue Pump Station.
- B. No access is allowed to property between railroad tracks and swimming pool parking lot due to environmental restrictions. Property between railroad tracks and swimming pool parking lot is surrounded by chain link fence and shall not be disturbed.
- C. CONTRACTOR, at its option, may access sewer through wet well of First Avenue Pump Station. Modifications to First Avenue Pump Station shall be responsibility of CONTRACTOR including, but not limited to, removal and replacement of portion of top slab, temporary bracing of walls while top slab is not in place, maintaining function of pump station throughout Project, and removal of temporary construction used during Project. Bench mark at northeast corner of wet well shall not be disturbed. CONTRACTOR shall submit plans for modifications to pump station to ENGINEER for review. Plans shall be sealed by engineer licensed in the state of Iowa.
- D. Maintain flow through sewer at all times or bypass pump to First Avenue or Third Avenue Pump Stations. Provide means and materials to achieve flow through or bypass around Project. Temporary lines for bypassing shall be protected and maintained.

### **1.04 WORK SEQUENCE**

- A. Coordinate construction schedule and operations with OWNER.

### **1.05 USE OF FACILITY BY OWNER**

- A. OWNER will have continuing need to use First Avenue Sewer and Pump Station to safely drain and convey sanitary wastewater and combined sanitary wastewater and stormwater to wastewater treatment plant.
- B. Cooperate with OWNER to minimize conflict, and to facilitate OWNER's operations.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Schedule of values.
- B. Applications for payment.
- C. Change procedures.
- D. Defect assessment.
- E. Unit adjustment prices.
- F. Alternates.

### **1.02 SCHEDULE OF VALUES**

- A. Submit a printed schedule on CONTRACTOR's standard form or electronic media printout.
- B. Submit Schedule of Values in duplicate within 15 days after date of OWNER-CONTRACTOR Agreement.
- C. Format: Identify each line item with number and title of specification Section.
- D. Include within each line item, a direct proportional amount of CONTRACTOR's overhead and profit.
- E. Revise schedule to list approved Change Orders, with each Application For Payment.

### **1.03 APPLICATIONS FOR PAYMENT**

- A. Submit 3 copies of each application on CONTRACTOR's electronic media driven form.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit with transmittal letter as specified for Submittals in Section 01330.
- F. Submit lien waivers.
- G. Substantiating Data: When ENGINEER requires substantiating information, submit data justifying dollar amounts in question. Include the following with the application:
  - 1. Partial release of liens from major subcontractors and vendors.
  - 2. Record documents as specified in Section 01700, for review by the OWNER which will be returned to the CONTRACTOR.
  - 3. Affidavits attesting to off-site stored products.
  - 4. Construction progress schedules, revised and current as specified in Section 01700.

### **1.04 CHANGE PROCEDURES**

- A. Submittals: Submit name of the individual authorized to receive change documents, and be responsible for informing others in CONTRACTOR's employ or Subcontractors of changes to the Work.



- B. ENGINEER will advise of minor changes in the Work not involving an adjustment to Contract Price or Contract Time by issuing Instruction to Contractor (ITC).
- C. ENGINEER may issue a Notice of Change which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. CONTRACTOR will prepare and submit an estimate within 10 days.
- D. CONTRACTOR may propose changes by submitting a request for change to the ENGINEER, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Price and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01600.
- E. Stipulated Price Change Order: Based on Notice of Change and CONTRACTOR's fixed price quotation.
- F. Work Directive Change: ENGINEER may issue a directive, on EJCDC 1910-8-F Work Directive Change signed by the OWNER, instructing the CONTRACTOR to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Price or Contract Time. Promptly execute the change.
- G. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- H. Change Order Forms: EJCDC 1910-8-B Change Order.
- I. Execution of Change Orders: ENGINEER will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- J. Correlation Of CONTRACTOR Submittals:
  - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.
  - 2. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
  - 3. Promptly enter changes in Project Record Documents.

#### 1.05 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the ENGINEER, it is not practical to remove and replace the Work, ENGINEER will instruct appropriate remedy or adjust payment.
- C. Individual specification sections may modify these options or may identify a specific formula or percentage price reduction.
- D. Authority of ENGINEER to assess the defect and identify payment adjustment, is final.
- E. Nonpayment for rejected products: Payment will not be made for rejected products for any of the following:
  - 1. Products wasted or disposed of in a manner that is not acceptable.
  - 2. Products determined as unacceptable before or after placement.
  - 3. Products not completely unloaded from the transporting vehicle.
  - 4. Products placed beyond the lines and levels of the required Work.
  - 5. Products remaining on hand after completion of the Work.

6. Loading, hauling, and disposing of rejected products.

#### 1.06 UNIT ADJUSTMENT PRICES

- A. Unit adjustment prices will be used to adjust Contract Price for additions to or deductions from quantities required by Contract Documents.
  1. Additions to Work will be made at 115% of prices submitted.
  2. Deletions from Work will be made at 90% of prices submitted.
  3. Net changes of quantities shall first be determined before price factors are applied.
- B. Unit adjustment prices apply only to additions to or deductions from quantities required by Contract Documents made necessary by unforeseen conditions or changes deemed necessary or desirable by ENGINEER during construction. Additions or deductions necessary to accommodate equipment furnished and installed under Agreement shall be made by CONTRACTOR at its expense, and unit adjustment prices shall not apply.

#### 1.07 ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at OWNER's option. Accepted Alternates will be identified in OWNER-CONTRACTOR Agreement.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates:
  1. Alternate No. 1:
    - a. Base Bid Item: Sections 03361 and 09900 and Drawings No. G1, S1, S2, and S3.
    - b. Alternate Item: Section 02958 and Drawings No. G1, S1, and S3.

#### **PART 2 PRODUCTS**

NOT USED

#### **PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Coordination and project conditions.
- B. Copies of Drawings and Project Manuals
- C. Project site administration.
- D. Field engineering.
- E. Preconstruction meeting.
- F. Health and safety plan.
- G. Cutting and patching.
- H. Special procedures.

### **1.02 COORDINATION AND PROJECT CONDITIONS**

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. After Substantial Completion, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of OWNER's activities.
- C. First Avenue Sewer is located beneath two sites contaminated from coal gas production and steel and iron works. Site soil and/or groundwater has benzene, toluene, ethylbenzene, xylene (BTEX), polynuclear aromatic hydrocarbons (PAHs) contamination, and possible lead contamination although lead contaminated surface soils have been removed. Assessment and clean up of the sites is being regulated by the United States Environmental Protection Agency (USEPA). Partial assessment documentation is available at the office of the ENGINEER, Stanley Consultants, Inc., 225 Iowa Avenue, Muscatine, Iowa 52761. Local depository of documents pertaining to the site is the Clinton Public Library, 306 8th Avenue S, Clinton, Iowa.
- D. Full-length and edited video tapes of sewer inspection performed in March, 1999 are available for viewing at City of Clinton City Hall located at 611 3rd Street, City of Clinton Water Pollution Control Plant located at 1901 Beaver Channel Parkway, and at Stanley Consultants, Inc., 225 Iowa Ave, Muscatine, Iowa. Copies of full-length video can be obtained from Stanley Consultants at a fee of \$25.00 per copy.

### **1.03 COPIES OF DRAWINGS AND PROJECT MANUALS**

- A. After Notice of Award, CONTRACTOR may obtain, at no charge, maximum of 5 complete sets of full-size Drawings, as listed in project manuals, and 5 sets of project manuals.
- B. Additional copies of project manuals and full-size Drawings may be obtained under following conditions:
  - 1. Project manuals:
    - a. Furnished at ENGINEER's reproduction cost plus handling charge.
    - b. If CONTRACTOR's requirement for additional project manuals necessitates reprinting of project manuals, CONTRACTOR shall pay entire cost of such reprinting.
    - c. Partial sets of project manuals will not be provided.
  - 2. Full-size Drawings: Complete sets of full-size Drawings may be purchased from ENGINEER at ENGINEER's reproduction cost plus handling charge per set.

- C. Revised Drawings and project manuals, if required, will be provided by ENGINEER to show authorized changes or extra Work under following conditions:
  - 1. Project manuals: Furnished at no charge, in same quantity as original issuance.
  - 2. Full-size Drawings:
    - a. One revised, complete set of full-size Drawings will be issued, at no charge, for each full-size set originally issued.
    - b. One revised, complete set of full-size Drawings will be issued, at no charge, for each full-size set originally issued, and for each full-size set purchased by CONTRACTOR after Notice of Award, up to 4 copies maximum.
  - 3. One full-size reproducible set will be issued to accommodate fifth and subsequent sets purchased by CONTRACTOR. CONTRACTOR shall use reproducible set to complete printing for additional Drawings in its possession.

#### 1.04 PROJECT SITE ADMINISTRATION

- A. CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out Work and perform construction as required by Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at site.
- B. Except in connection with safety or protection of persons or Work or property at site or adjacent thereto, and except as otherwise indicated in Contract Documents, all Work at site shall be performed during regular working hours, and CONTRACTOR shall not permit overtime work or performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent given after prior written notice to ENGINEER.
- C. Incompetent or incorrigible employees shall be dismissed from Work by CONTRACTOR or its representative when requested by ENGINEER, and such persons shall not again be permitted to return to Work without written consent of ENGINEER.
- D. Workmanship shall be of best quality.

#### 1.05 FIELD ENGINEERING

- A. Verify set-backs and easements; confirm drawing dimensions and elevations.
- B. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

#### 1.06 PRECONSTRUCTION MEETING

- A. ENGINEER will schedule a meeting after Notice of Award.
- B. Attendance Required: OWNER, ENGINEER, and CONTRACTOR.
- C. Agenda:
  - 1. Execution of OWNER-CONTRACTOR Agreement.
  - 2. Submission of executed bonds and insurance certificates.
  - 3. Distribution of Contract Documents.
  - 4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
  - 5. Designation of personnel representing the parties in Contract, and ENGINEER.
  - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  - 7. Scheduling.

8. Temporary utilities provided by CONTRACTOR.
9. Security and housekeeping procedures.
10. Procedure for testing.
11. Access by Resident Project Representative to confined space.

#### 1.07 HEALTH AND SAFETY PLAN

- A. Conform to OSHA requirements under 40 CRF 126. CONTRACTOR'S personnel shall have been 40-hour hazardous waste site operations trained with an 8-hour refresher within the past year. CONTRACTOR shall prepare health and safety plan in accordance with OSHA requirements. Health and safety plan shall include a work plan, hazard analysis, personal protective equipment, and other pertinent OSHA requirements.
- B. CONTRACTOR shall monitor sewer atmosphere. CONTRACTOR shall maintain sewer atmosphere at levels safe for human occupancy and/or provide appropriate personal protective equipment.
- C. CONTRACTOR shall provide suitable personal protective equipment to its employees, OWNER's, and ENGINEER's observers, and regulatory agency personnel.

### PART 2 PRODUCTS

NOT USED

### PART 3 EXECUTION

#### 3.01 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Execute cutting, fitting, and patching to complete Work, and to:
  1. Fit the several parts together, to integrate with other Work.
  2. Uncover Work to install or correct ill-timed Work.
  3. Remove and replace defective and non-conforming Work.
  4. Remove samples of installed Work for testing.
- C. Execute work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- D. Cut concrete materials using masonry saw or core drill.
- E. Restore Work with new products in accordance with requirements of Contract Documents.
- F. Identify hazardous substances or conditions exposed during the Work to the ENGINEER for decision or remedy.

#### 3.02 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.
- G. Where new Work abuts or aligns with existing, provide a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- H. Finish surfaces as specified in individual product sections.

END OF SECTION

## PART 1 GENERAL

### 1.01 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Safety procedures manual.
- L. Engineer's duties.

### 1.02 SUBMITTAL PROCEDURES

- A. Deliver submittals to:
  - Mr. Kent Turner
  - Stanley Consultants, Inc.
  - Stanley Building
  - 225 Iowa Avenue
  - Muscatine, Iowa 52761
- B. Transmit each item under Shop Drawing Transmittal Form, bound herein.
- C. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- D. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, as appropriate.
- E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite the Project, and deliver to ENGINEER at business address. Coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of the completed Work.

- I. Notify ENGINEER in writing, at time of submission, of any deviations in submittals from requirements of Contract Documents. Any such deviations permitted by ENGINEER will require modifications of Contract Documents.
- J. Provide space for Contractor and Architect/Engineer review stamps.
- K. When revised for resubmission, identify all changes made since previous submission.
- L. Begin no fabrication or Work which requires submittals until return of submittals by ENGINEER with ENGINEER stamp, as either "Reviewed" or Reviewed as Noted."
- M. Distribute copies of reviewed submittals which carry ENGINEER stamp as either "Reviewed" or "Reviewed as Noted" as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- N. Submittals not requested will not be recognized or processed.

#### 1.03 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules within 15 days after date of OWNER-CONTRACTOR Agreement. After review, resubmit required revised data within 10 days.
- B. Submit revised Progress Schedules with each Application for Payment.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Submit horizontal bar chart with separate line for each major portion of Work or operation identifying first work day of each week.
- F. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities.
- G. Provide separate schedule of submittal dates for shop drawings, product data, and samples, including dates reviewed submittals will be required from ENGINEER.

#### 1.04 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of OWNER-CONTRACTOR Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

#### 1.05 PRODUCT DATA

- A. Product Data: Submit to ENGINEER for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents. Provide copies and distribute in accordance with article "Submittal Procedures" and for record documents purposes described in Section 01700.
- B. Submit the number of copies which the CONTRACTOR requires, plus 4 copies which will be retained by the ENGINEER.



- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. After review distribute in accordance with article "Submittal Procedures" above and provide copies for record documents described in Section 01700.

#### 1.06 SHOP DRAWINGS

- A. Submit to ENGINEER for review for the limited purpose of checking for conformance to information given and the design concept expressed in the Contract Documents. Produce copies and distribute in accordance with article " Submittal Procedures" and for record documents purposes described in Section 01700.
- B. Minimum sheet size: 8-1/2" x 11".
- C. Make submittals to ENGINEER promptly in accordance with approved schedule, and in such sequence as to cause no delay in Work or in work of any other contractor.
- D. Shop Drawings:
  - 1. Submit one opaque reproducible copy of each Shop Drawing.
  - 2. Shop Drawings not larger than 36" x 120", copies of Drawings submitted shall be black line on white background or reproducible mylars.
  - 3. ENGINEER will photographically reproduce additional copies of Shop Drawings as required for distribution.
  - 4. ENGINEER will use 35 mm microfilm system in processing Shop Drawings. All Shop Drawings shall be suitable for microfilming. Shop Drawings submitted which are not suitable for microfilming will not be reviewed.
  - 5. If CONTRACTOR will not grant permission for ENGINEER to reproduce Shop Drawings, CONTRACTOR shall submit 4 copies of each Shop Drawing.
  - 6. For Shop Drawings larger than 36" x 120", printed catalog information or brochures, or other multiple page documents, submit 4 copies of each Shop Drawing.
- E. Submittals shall contain:
  - 1. Date of submission and dates of any previous submissions.
  - 2. Project title and number.
  - 3. Contract identification.
  - 4. Names of:
    - a. CONTRACTOR.
    - b. Supplier.
    - c. Manufacturer.
  - 5. Identification of product, with Specification section number.
  - 6. Field dimensions, clearly identified as such.
  - 7. Relation to adjacent or critical features of Work or materials.
  - 8. Applicable standards, such as ASTM or Federal Specification numbers.
  - 9. Identification of deviations from Contract Documents.
  - 10. Identification of revisions on resubmittals.
  - 11. An 8" x 3" blank space for CONTRACTOR and ENGINEER stamps.
  - 12. Indication of CONTRACTOR's approval, initialed or signed, with wording substantially as follows:

"CONTRACTOR represents to OWNER and ENGINEER that CONTRACTOR has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, or assumes full responsibility for doing so and has reviewed or coordinated each Shop Drawing Sample with requirements of Work and Contract Documents."
  - 13. If Contract Documents include performance specifications stating required results which can be verified as meeting stipulated criteria, so that further detailed design by CONTRACTOR prior to

fabrication is necessary, Shop Drawings must be prepared under seal of professional engineer registered in appropriate jurisdiction and Shop Drawing certification shall contain wording substantially as follows:

"I hereby certify that this Shop Drawing was prepared by me or under my direct personal supervision or that I have personally reviewed this Shop Drawing which was prepared by others, and I accept responsibility for the adequacy of the document to meet criteria stipulated in the Contract Documents to the same degree that I would if I had prepared it, and that I am a duly registered professional engineer under the laws of the state of Iowa, and that I am competent to prepare or review this document."

14. Shop Drawing Transmittal Form is bound herein. This form is also available on disk, formatted for WordPerfect 7.0, and for printing on HP LaserJet Series III using Swiss Roman and Dutch Roman fonts, and may be obtained from the ENGINEER. CONTRACTOR shall reproduce any additional copies required and use in accordance with instructions given with Transmittal Form. CONTRACTOR shall submit 4 copies of Transmittal Form for initial submittals and resubmittals.

F. Resubmission requirements: Make any corrections or changes in submittals required by ENGINEER and resubmit until stamped as either "Reviewed" or "Reviewed as Noted" by ENGINEER. Indicate any changes which have been made other than those requested by ENGINEER.

#### 1.07 SAMPLES

A. Submit to ENGINEER for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Produce duplicates and distribute in accordance with article "Submittal Procedures" and for record documents purposes described in Section 01700.

B. Samples For selection as specified in product sections:

1. Submit to ENGINEER for aesthetic, color, or finish selection.
2. After review, produce duplicates and distribute in accordance with article "Submittal Procedures" and for record documents purposes described in Section 01700.

C. Submit samples to illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

D. Include identification on each sample, with full Project information.

E. Submit the number of samples specified in individual specification sections; one of which will be retained by ENGINEER.

F. Reviewed samples which may be used in the Work are indicated in individual specification sections.

G. Samples will not be used for testing purposes unless specifically stated in the specification section.

#### 1.08 DESIGN DATA

A. Submit for the ENGINEER's knowledge as contract administrator or for the OWNER.

B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.

#### 1.09 TEST REPORTS

A. Submit for the ENGINEER's knowledge as contract administrator or for the OWNER.

- B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.

#### 1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by the manufacturer, installation/application subcontractor, or the CONTRACTOR to ENGINEER, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to ENGINEER.

#### 1.11 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, to ENGINEER for delivery to OWNER in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

#### 1.12 SAFETY PROCEDURES MANUAL

- A. CONTRACTOR shall prepare and submit to OWNER safety procedures manual defining CONTRACTOR's safety program for work on site. Manual shall include:
  1. Safety responsibilities of CONTRACTOR's personnel.
  2. Description of CONTRACTOR's safety program.
  3. Requirements of use of personal protective equipment.
  4. General safety-related rules of conduct.
  5. Fire prevention measures.
  6. Accident reporting procedures.
  7. Procedures for work in enclosed, confined spaces. Reference 29 CFR Part 1910.

#### 1.13 ENGINEER DUTIES

- A. Review required submittals with reasonable promptness and in accord with schedule, only for general conformance to design concept of Project and compliance with information given in Contract Documents. Review shall not extend to means, methods, sequences, techniques, or procedures of construction or to safety precautions or program incident thereto. Review of a separate item as such will not indicate approval of assembly in which item functions.
- B. Affix stamp and initials or signature, and indicate requirements for resubmittal, or review of submittal. ENGINEER's action on submittals is classified as follows:
  1. **Reviewed:** Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents. CONTRACTOR may proceed with fabrication of work in submittal.
  2. **Reviewed As Noted:** Submittal has been reviewed and appears to be in conformance to design concept of Project and Contract Documents, except as noted by ENGINEER. CONTRACTOR may proceed with fabrication of work in submittal with modifications and corrections as indicated by ENGINEER.
  3. **Resubmit:** Submittal has been reviewed and appears not to be in conformance to design concept of Project or with Contract Documents. CONTRACTOR shall not proceed with fabrication of work in submittal, but instead shall make any corrections required by ENGINEER and resubmit for review.
  4. **Returned without Review:** Submittal is being returned without having been reviewed because: 1) not required by Contract Documents; 2) grossly incomplete; 3) indicates no attempt at conformance

to Contract Documents; 4) cannot be reproduced; 5) lacks CONTRACTOR's completed approval stamp; or 6) lacks design professional's seal when required by law or Contract Documents. If submittal is required by Contract Documents, CONTRACTOR shall not proceed with Work as detailed in submittal, but instead shall correct defects and resubmit for review.

5. **For Information Only:** Submittal has not been reviewed but is being retained for informational purposes only.

C. Return submittals to CONTRACTOR.

- D. ENGINEER's review of submittals shall not relieve CONTRACTOR from responsibility for any deviations from Contract Documents unless CONTRACTOR has, in writing, called ENGINEER's attention to such deviation at time of submission, and ENGINEER has given written concurrence pursuant to Contract Documents to specific deviation, nor shall any concurrence by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in submittals.

## **PART 2 PRODUCTS**

NOT USED

## **PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Sewer sediment removal, sampling, and disposal.

### **1.02 RELATED SECTIONS**

- A. Section 01300 - Administrative Requirements: Health and safety requirements.

### **1.03 SUBMITTALS**

- A. Proposed sanitary landfill for disposal.
- B. Proposed treatment method(s) and disposal location if sediments cannot be disposed of in a sanitary landfill without treatment.
- C. Analytical results for any additional testing required for disposal.
- D. Weigh tickets for sediment transport/disposal.
- E. Landfill/disposal facility receipts for sediment disposal.
- F. Weigh tickets and disposal facility receipts shall be legible with date, time, weight of load, trucking company, and disposal facility identified.

### **1.04 EXISTING CONDITIONS**

- A. Sewer has completely collapsed in 2 locations and has a number of areas where small voids have developed. Due to collapses and voids, overburden has eroded into sewer and has been nonuniformly distributed over approximately 700' segment from first collapse downstream to pump station wet well.
- B. Sediment thickness in 700' segment ranges from 4" to 6" to about 3'. Sediment is primarily soils and biological solids, but contains some concrete and steel reinforcing debris from collapse.
- C. Sediments may be contaminated with polynuclear aromatic hydrocarbons (PAHs), Benzene, toluene, ethylbenzene, and xylene (BTEX), lead and other constituents due to location of 2 contaminated industrial sites over portion of deteriorated sewer.

### **1.05 MEASUREMENT AND PAYMENT**

- A. If quantities of following items are changed from those required by Contract Documents, lump sum Contract Price will be adjusted on basis of unit adjustment prices set forth in Agreement.
  - 1. Sediment Disposal, ton (Ton): Unit adjustment price includes all costs for materials, labor, and equipment including temporary equipment necessary for removal of sediment from sewer, temporary storage of sediment while material is sampled and tested, truck loading and unloading, transport to permitted sanitary landfill, disposal fees, and clean up. Measurement of sediment shall be after free water is drained from sediment. Only weigh tickets from public scale or disposal facility scale will be accepted as a basis for payment.
  - 2. Sediment Treatment and Disposal, ton (Ton): Unit adjustment price includes all costs for materials, labor, and equipment for treatment and disposal of sediment in event sediment cannot be taken to a permitted disposal facility or sanitary landfill without first treating sediment. Unit adjustment price shall include additional testing and analysis required for disposal, permitting and fees, loading and unloading, transport, pretreatment if necessary, and disposal fees.

## PART 2 PRODUCTS

### 2.01 ACCEPTABLE TREATMENT AND DISPOSAL COMPANIES

- A. The following companies are acceptable if sediment requires treatment prior to disposal. If no treatment is required, local sanitary landfills are acceptable.
  - 1. Waste Management, 5245 West 38th Street, Cicero, IL 60804, telephone 708-222-5056, facsimile 708-656-0684. Contact Mr. Bill Gamlin or Mr. Brook Sipes.
  - 2. Peoria Disposal Company, 4700 N Sterling Avenue, Peoria, IL 61615, telephone 309-688-0760, facsimile 309-688-0881. Contact: Ms. Linda Kocher.

## PART 3 EXECUTION

### 3.01 REMOVAL

- A. Remove sediments from sewer from start of repair downstream to pump station wet well and wet well interior.
- B. Remove by mechanical methods insofar as practicable. Hydraulic flushing of sediments shall only be allowed during final cleaning after bulk of sediments are removed.

### 3.02 STOCKPILING AND SAMPLING

- A. Removed sediments shall be drained of free water and stockpiled for sampling. Free water drained from sediments shall be returned to sewer.
- B. Sediment stockpiles shall be on a lined, bermed area or in lined roll-off containers. Sediment stockpiles shall be covered to prevent precipitation and humans from contacting material.
- C. Stockpiles will be sampled by ENGINEER and analyzed by analytical laboratory retained by OWNER. Analysis will be expedited with results anticipated within 2 weeks of sampling. Special waste authorization will be obtained from Iowa Department of Natural Resources (IDNR) after test results are received. Special waste authorization should be received about 1 week after application.

### 3.03 TRANSPORT

- A. Trucks used for transport of sediments shall be lined with plastic liners.
- B. Loads shall be covered with tarps.
- C. Trucks shall be decontaminated upon completion of sediment disposal operation.

### 3.04 DISPOSAL

- A. Dispose of sediments in sanitary landfill in Iowa or Illinois providing analytical results are below levels specified below.
- B. Iowa: As listed in Iowa Administrative Code, Section 567, Ch. 102:

Toxicity Characteristic Leachate Procedure (TCLP) Test:

|                      |            |
|----------------------|------------|
| Arsenic              | 5.0 mg/l   |
| Barium               | 100.0 mg/l |
| Benzene              | 0.5 mg/l   |
| Cadmium              | 1.0 mg/l   |
| Carbon Tetrachloride | 0.5 mg/l   |
| Chlordane            | 0.03 mg/l  |

|                                |            |
|--------------------------------|------------|
| Chlorobenzene                  | 100.0 mg/l |
| Chloroform                     | 6.0 mg/l   |
| Chromium                       | 5.0 mg/l   |
| o-Cresol                       | 200.0 mg/l |
| m-Cresol                       | 200.0 mg/l |
| p-Cresol                       | 200.0 mg/l |
| Cresol                         | 200.0 mg/l |
| 2,4-D                          | 10 mg/l    |
| 1,4-Dichlorobenzene            | 7.5 mg/l   |
| 1,2-Dichlorethane              | 0.5 mg/l   |
| 1,1-Dichlorethylene            | 0.7 mg/l   |
| 2,4-Dinitrotoluene             | 0.13 mg/l  |
| Endrin                         | 0.02 mg/l  |
| Heptachlor (and its Hydroxide) | 0.008 mg/l |
| Hexachlorobenzene              | 0.13 mg/l  |
| Hexachloro-1,3-Butadiene       | 0.5 mg/l   |
| Hexachloroethane               | 3.0 mg/l   |
| Lead                           | 5.0 mg/l   |
| Lindane                        | 0.4 mg/l   |
| Mercury                        | 0.2 mg/l   |
| Methoxychlor                   | 10.0 mg/l  |
| Methyl ethyl ketone            | 200.0 mg/l |
| Nitrobenzene                   | 2.0 mg/l   |
| Pentachlorophenol              | 100.0 mg/l |
| Pyridine                       | 5.0 mg/l   |
| Selenium                       | 1.0 mg/l   |
| Silver                         | 5.0 mg/l   |
| Tetrachloroethylene            | 0.7 mg/l   |
| Toxaphene                      | 0.5 mg/l   |
| Trichloroethylene              | 0.5 mg/l   |
| 2,4,5-Trichlorophenol          | 400.0 mg/l |
| 2,4,6-Trichlorophenol          | 2.0 mg/l   |
| 2,4,5-TP (Silvex)              | 1.0 mg/l   |
| Vinyl Chloride                 | 0.2 mg/l.  |

C. Total polynuclear aromatic hydrocarbons PAHs: <500 mg/kg for the following compounds:

1. Acenaphthene,
2. Acenaphthylene,
3. Anthracene,
4. Benzo(a)Anthracene,
5. Benzo(a)Pyrene,
6. Benzo(b)Fluoranthene,
7. Benzo(g,h,i)Perylene,
8. Benzo(k)Fuoranthene,
9. Chrysene,
10. Dibenzo(a,h)Anthracene,
11. Fluoranthene,
12. Fluorine,
13. Indeno(1,2,3-cd)Pyrene,
14. Napthalene,
15. Phenanthrence,
16. Pyrene.

D. Carcinogenic PAHs: <200 mg/kg for the following compounds:

1. Benzo(a)Anthracene,
2. Benzo(a)Pyrene,
3. Benzo(b)Fluoranthene,

4. Benzo(k)Fluoranthene,
5. Chrysene,
6. Dibenzo(a,h)Anthracene,
7. Indeno(1,2,3-cd)Pyrene.

E. Cyanide: <1000 mg/kg.

F. Illinois: As listed in Illinois Administrative Code, Title 35: Part 721.

Toxicity Characteristic Leachate Procedure (TCLP) Test:

|                                |            |
|--------------------------------|------------|
| Arsenic                        | 5.0 mg/l   |
| Barium                         | 100.0 mg/l |
| Benzene                        | 0.5 mg/l   |
| Cadmium                        | 1.0 mg/l   |
| Carbon Tetrachloride           | 0.5 mg/l   |
| Chlordane                      | 0.03 mg/l  |
| Chlorobenzene                  | 100.0 mg/l |
| Chloroform                     | 6.0 mg/l   |
| Chromium                       | 5.0 mg/l   |
| o-Cresol                       | 200.0 mg/l |
| m-Cresol                       | 200.0 mg/l |
| p-Cresol                       | 200.0 mg/l |
| Cresol                         | 200.0 mg/l |
| 2,4-D                          | 10 mg/l    |
| 1,4-Dichlorobenzene            | 7.5 mg/l   |
| 1,2-Dichlorethane              | 0.5 mg/l   |
| 1,1-Dichlorethylene            | 0.7 mg/l   |
| 2,4-Dinitrotoluene             | 0.13 mg/l  |
| Endrin                         | 0.02 mg/l  |
| Heptachlor (and its Hydroxide) | 0.008 mg/l |
| Hexachlorobenzene              | 0.13 mg/l  |
| Hexachloro-1,3-Butadiene       | 0.5 mg/l   |
| Hexachloroethane               | 3.0 mg/l   |
| Lead                           | 5.0 mg/l   |
| Lindane                        | 0.4 mg/l   |
| Mercury                        | 0.2 mg/l   |
| Methoxychlor                   | 10.0 mg/l  |
| Methyl ethyl ketone            | 200.0 mg/l |
| Nitrobenzene                   | 2.0 mg/l   |
| Pentachlorophenol              | 100.0 mg/l |
| Pyridine                       | 5.0 mg/l   |
| Selenium                       | 1.0 mg/l   |
| Silver                         | 5.0 mg/l   |
| Tetrachloroethylene            | 0.7 mg/l   |
| Toxaphene                      | 0.5 mg/l   |
| Trichloroethylene              | 0.5 mg/l   |
| 2,4,5-Trichlorophenol          | 400.0 mg/l |
| 2,4,6-Trichlorophenol          | 2.0 mg/l   |
| 2,4,5-TP (Silvex)              | 1.0 mg/l   |
| Vinyl Chloride                 | 0.2 mg/l.  |

G. Waste shall contain no free liquids as determined by paint filter liquids test.

H. Waste shall not contain polychlorinated biphenyls (PCBs) at concentrations greater than 50 mg/kg.

I. If test results indicate that waste does not meet requirements for disposal in sanitary waste landfill, wastes shall be treated prior to disposal. Unit adjustment prices will be used.

END OF SECTION



## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Quality control and control of installation.
- B. Tolerances.
- C. Building codes and permits.
- D. References.
- E. Mock-up requirements.
- F. Testing and inspection services.
- G. Manufacturers' field services.
- H. Examination.
- I. Preparation.

### **1.02 RELATED SECTIONS**

- A. Section 02958 - Sewer Lining System: Tests required for PVC/grout composite liner.
- B. Section 03361 - Shotcrete: Tests required for concrete.

### **1.03 QUALITY CONTROL AND CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from ENGINEER before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

### **1.04 TOLERANCES**

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from ENGINEER before proceeding.

- C. Adjust products to appropriate dimensions; position before securing products in place.

#### 1.05 BUILDING CODES AND PERMITS

- A. Obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses.
- B. Pay all governmental charges and inspection fees necessary for prosecution of Work, which are applicable at time of opening of Bids. Pay all charges of utility service companies for connections to Work. OWNER will pay all charges of such companies for capital costs related thereto.
- C. Give all notices and comply with all laws, ordinances, building and construction codes, rules, and regulations applicable to Work. If CONTRACTOR observes that Specifications or Drawings are at variance therewith, give ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by appropriate Modification.
- D. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such laws, ordinances, rules, and regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that Specifications and Drawings are in accordance with such laws, ordinances, rules, and regulations.

#### 1.06 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Should specified reference standards conflict with Contract Documents, request clarification from the ENGINEER before proceeding.
- E. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the ENGINEER shall be altered from the Contract Documents by mention or inference otherwise in any reference document.
- F. Abbreviations used in Drawings and Specifications are as specified in ANSI Y1.1 and IEEE 260.
- G. Schedule of references:
  1. ACI - American Concrete Institute
  2. ANSI - American National Standards Institute
  3. ASTM - American Society for Testing and Materials
  4. CRSI - Concrete Reinforcing Steel Institute
  5. NFPA - National Fire Protection Association
  6. NRMCA - National Ready Mixed Concrete Association
  7. OSHA - Occupational Safety and Health Administration
  8. PCA - Portland Cement Association

#### 1.07 MOCK-UP REQUIREMENTS

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.

- B. Assemble and erect specified items with specified attachment, anchorage devices, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by ENGINEER and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by ENGINEER.

#### 1.08 TESTING AND INSPECTION SERVICES

- A. CONTRACTOR shall employ and pay for services of an independent testing agency or laboratory acceptable to the OWNER to perform specified testing.
  - 1. Prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time licensed engineer and responsible officer.
  - 2. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.
- B. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by OWNER.
  - 1. Laboratory: Authorized to operate in location in which Project is located.
  - 2. Laboratory Staff: Maintain a full time licensed engineer on staff to review services.
  - 3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.
- C. Testing, inspections and source quality control may occur on or off the project site. Perform off-site testing as required by the ENGINEER or the OWNER.
- D. Reports will be submitted by the independent firm to the ENGINEER and CONTRACTOR, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- E. Testing and employment of testing agency or laboratory shall not relieve CONTRACTOR of obligation to perform Work in accordance with requirements of Contract Documents.
- F. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER. Payment for re-testing or re-inspection will be charged to the CONTRACTOR by deducting testing charges from the Contract Sum/Price.
- G. Agency Responsibilities:
  - 1. Test samples of mixes submitted by CONTRACTOR.
  - 2. Provide qualified personnel at site. Cooperate with ENGINEER and CONTRACTOR in performance of services.
  - 3. Perform specified sampling and testing of products in accordance with specified standards.
  - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 5. Promptly notify ENGINEER and CONTRACTOR of observed irregularities or non-conformance of Work or products.
  - 6. Perform additional tests required by ENGINEER.
- H. Agency Reports: After each test, promptly submit 2 copies of report to ENGINEER and to CONTRACTOR. When requested by ENGINEER, provide interpretation of test results. Include the following:
  - 1. Date issued.
  - 2. Project title and number.
  - 3. Name of inspector.
  - 4. Date and time of sampling or inspection.
  - 5. Identification of product and specifications section.
  - 6. Location in the Project.

7. Type of inspection or test.
  8. Date of test.
  9. Results of tests.
  10. Conformance with Contract Documents.
- I. Limits On Testing Authority:
1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  2. Agency or laboratory may not approve or accept any portion of the Work.
  3. Agency or laboratory may not assume any duties of CONTRACTOR.
  4. Agency or laboratory has no authority to stop the Work.

#### 1.09 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to ENGINEER 15 days in advance of required observations.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01330, article "Manufacturers' Field Reports."

#### PART 2 PRODUCTS

NOT USED

#### PART 3 EXECUTION

##### 3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.

##### 3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Temporary utilities:
  - 1. Temporary electricity.
  - 2. Temporary lighting for construction purposes.
  - 3. Temporary heating.
  - 4. Temporary ventilation.
  - 5. Temporary water service.
  - 6. Temporary sanitary facilities.
- B. Construction facilities:
  - 1. Vehicular access.
  - 2. Parking.
  - 3. Progress cleaning and waste removal.
  - 4. Traffic regulation.
- C. Temporary controls:
  - 1. Barriers.
  - 2. Security.
  - 3. Pollution control.
- D. Removal of utilities, facilities, and controls.

### **1.02 TEMPORARY ELECTRICITY**

- A. Provide and pay for power service required as needed for construction operation.

### **1.03 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES**

- A. Provide and maintain lighting for construction operations to achieve a minimum lighting level in accordance with OSHA requirements for construction lighting.
- B. Equipment and materials need not be new.
- C. Maintain lighting and provide routine repairs.

### **1.04 TEMPORARY HEATING**

- A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations to protect materials and finishes from damage due to temperature or humidity.

### **1.05 TEMPORARY VENTILATION**

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

### **1.06 TEMPORARY WATER SERVICE**

- A. OWNER will pay cost of temporary water. Exercise measures to conserve energy. Connect to existing fire hydrants, extend and supplement with temporary valves and metering as needed to maintain specified conditions for construction operations.
- B. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

### 1.07 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

### 1.08 VEHICULAR ACCESS

- A. Provide unimpeded access for emergency vehicles. Maintain 30' width driveways with turning space between and around combustible materials.
- B. Provide and maintain access to fire hydrants and control valves free of obstructions.
- C. Provide means of removing mud from vehicle wheels before entering streets.
- D. Designated existing on-site roads may shall not be used for construction traffic.

### 1.09 PARKING

- A. Arrange for surface parking areas to accommodate construction personnel.
- B. Locate as indicated.
- C. When site space is not adequate, provide additional off-site parking.
- D. Tracked vehicles not allowed on paved areas.
- E. Do not allow heavy vehicles or construction equipment in parking areas.
- F. Maintenance:
  - 1. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
  - 2. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- G. Removal, repair:
  - 1. Remove temporary materials and construction before Substantial Completion.
  - 2. Repair existing facilities damaged by use, to original condition.
- H. Mud from site vehicles: Provide means of removing mud from vehicle wheels before entering streets.

### 1.10 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site.

### 1.11 TRAFFIC REGULATION

- A. CONTRACTOR shall receive approval for and coordinate schedule for temporary traffic lane closures required with OWNER.

### 1.12 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

- B. Provide barricades as required by governing authorities for public rights-of-way and for public access.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect nonowned vehicular traffic, stored materials, site, and structures from damage.

1.13 SECURITY

- A. Security program:
  - 1. Protect Work from theft, vandalism, and unauthorized entry.
  - 2. Initiate program in coordination with OWNER's existing security system at project mobilization.
  - 3. Maintain program throughout construction period until OWNER acceptance precludes the need for CONTRACTOR security.

1.14 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Final Application for Payment inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.

### **1.02 PRODUCTS**

- A. Provide products of qualified manufacturers suitable for intended use. Provide products of each type by a single manufacturer unless specified otherwise.

### **1.03 PRODUCT DELIVERY REQUIREMENTS**

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

### **1.04 PRODUCT STORAGE AND HANDLING REQUIREMENTS**

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

### **1.05 PRODUCT OPTIONS**

- A. Products specified by reference standards or by description only: Any product meeting those standards or description.
- B. Products specified by naming one or more manufacturers with a provision for substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.



1.06 PRODUCT SUBSTITUTION PROCEDURES

- A. ENGINEER will consider requests for Substitutions only within 30 days after effective date of OWNER-CONTRACTOR Agreement.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the CONTRACTOR.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that CONTRACTOR:
  - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
  - 2. Will provide the same warranty for the Substitution as for the specified product.
  - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to OWNER.
  - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
  - 5. Will reimburse OWNER for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution submittal procedure:
  - 1. Submit 3 copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
  - 2. Submit Shop Drawings, Product Data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
  - 3. ENGINEER will notify CONTRACTOR in writing of decision to accept or reject request.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Closeout procedures.
- B. Final cleaning.
- C. Demonstration and instructions.
- D. Protecting installed construction.
- E. Project record documents.

### **1.02 CLOSEOUT PROCEDURES**

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for ENGINEER's review.
- B. Provide submittals to ENGINEER that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

### **1.03 FINAL CLEANING**

- A. Execute final cleaning prior to final project assessment.
- B. Clean site; sweep paved areas, rake clean landscaped surfaces.
- C. Remove waste and surplus materials, rubbish, and construction facilities from Project and Site.

### **1.04 PROTECTING INSTALLED CONSTRUCTION**

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- C. Prohibit traffic from landscaped areas.

### **1.05 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other modifications to the Contract.
  - 5. Reviewed Shop Drawings, Product Data, and Samples.
  - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by OWNER.
- C. Store record documents separate from documents used for construction.

- D. Record information concurrent with construction progress, not less than weekly.
- E. Submit documents to ENGINEER with claim for final Application for Payment.

**PART 2 PRODUCTS**

NOT USED

**PART 3 EXECUTION**

NOT USED

END OF SECTION

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Composite PVC/grout sewer lining system including reinforcing steel as applicable.

### **1.02 SUBMITTALS**

- A. Shop drawings for grout thickness, PVC thickness, and steel reinforcing. Design and associated drawings shall be performed under the supervision of an engineer licensed in the State of Iowa. Design documents and drawings shall be certified and sealed in accordance with Iowa regulations.
- B. Tests, or Certificates of compliance with standards specified in this Section prior to commencing grout placement for:
  - 1. Cement: From each car from which cement will be used.
  - 2. Aggregates: For each size aggregate from each source of aggregate, for grading, deleterious substances, and soundness.
  - 3. PVC liner.
- C. List of admixtures, curing compounds, and manufactured materials proposed identifying manufacturer and type. Provide data on specific items when requested by ENGINEER.
- D. Testing laboratory reports required prior to commencing grout placement for each class of grout and each size aggregate:
  - 1. Proposed grout design mix.
  - 2. Tests on grout cylinders from trial batch of proposed mix.
- E. Testing laboratory reports for tests on composite PVC/grout liner test beams.
- F. Video tape of sewer and sewer floor after sediment removal and surface preparation is completed. Video shall be high quality and in color. Lighting shall illuminate the details of the sewer while minimizing glare reflections. ENGINEER reserves the right to have CONTRACTOR re-video the sewer at no additional charge if tape quality does not clearly show extent of sediment removal and entire surface preparation.
- G. Video tape of liner after installation. Lighting shall illuminate the details of the sewer while minimizing glare reflections. ENGINEER reserves the right to have CONTRACTOR re-video the sewer at no additional charge if tape quality is inadequate.

### **1.03 QUALITY ASSURANCE**

- A. CONTRACTOR shall retain services of qualified independent testing laboratory.
- B. Responsibility of testing laboratory will include:
  - 1. Obtaining, making samples and trial batches and performing laboratory and field testing specified.
  - 2. Provide reports to ENGINEER giving information on materials, design mixes and testing performed.
  - 3. Reports shall indicate whether or not materials meet specifications.
- C. Perform Work in accordance with ASTM D 790.

### **1.04 MOCKUP**

- A. Provide mockup for each application crew using equipment, materials, and mix proportions proposed for Project.

- B. Mockup for each application crew shall be for entire circumference of arch part of sewer.
- C. Mockup shall be of sufficient size to indicate skills of applicators, be sampled for testing, and be incorporated into Work.
- D. Locate at east (downstream) end of sewer.
- E. Mockup may remain as part of the Work if mockup meets requirements of Contract Documents.

#### 1.05 ENVIRONMENTAL REQUIREMENTS

- A. Provide temporary lighting in the sewer to OSHA standards
- B. Ensure material temperatures are minimum 50°F or as recommended by Manufacturer prior to and during lining operations.
- C. During freezing or near freezing weather, provide protection of equipment located above ground.
- D. Suspend operations when sewer flow from storm runoff would prevent progress of the Work.
- E. Provide temporary ventilation systems for personnel safety and heating and conditioning of the atmosphere of the sewer.

#### 1.06 DESIGN CRITERIA

- A. Dead load: 10' of soil over sewer crown.
- B. Live load: H-20 wheel load distributed as if 5' of soil is above sewer crown.
- C. External hydrostatic pressure: Groundwater 10' over top of sewer crown.
- D. Internal hydrostatic pressure: 5 psi.
- E. Minimum safety factor: 1.5.
- F. Minimum design life: 50 years.
- G. Design shall be as if existing sewer pipe is "fully deteriorated" as indicated in ASTM F 1698.
- H. Curved arch top and sides shall be lined. Floor shall be left as is unless inspection after cleaning indicates serious deterioration.
- I. Liner shall work in combination with existing structure to form rigid structure capable of performing as rigid structure and withstand design loads.
- J. Repair work shall be performed from within sewer, including repair of collapsed sections. No access will be provided to Riverside Steel property shown on Drawings

#### 1.07 FIELD MEASUREMENTS

- A. Verify that field measurements are as shown on Drawings.

#### 1.08 MEASUREMENT AND PAYMENT

- A. If quantities of following items are changed from those required by Contract Documents, lump sum Contract Price will be adjusted on basis of unit adjustment prices set forth in Agreement.

## **PART 1 GENERAL**

### **1.01 SECTION INCLUDES**

- A. Pneumatically applied concrete including reinforcing steel and stay-in-place formwork.

### **1.02 SUBMITTALS**

- A. Shop Drawings on reinforcing steel.
- B. Tests, or certificates of compliance with standards specified in this Section prior to commencing concrete placement for:
  - 1. Cement: From each car from which cement will be used.
  - 2. Aggregates: For each size aggregate from each source of aggregate, for grading, deleterious substances and soundness.
- C. List of admixtures, curing compounds, and manufactured materials proposed identifying manufacturer and type. Provide data on specific items when requested by ENGINEER.
- D. Testing laboratory reports required prior to commencing concrete placement for each class of concrete and each size aggregate:
  - 1. Proposed concrete design mix.
  - 2. Tests on concrete cylinders from trial batch of proposed mix.
- E. Testing laboratory reports for tests on concrete cores or cubes taken in field.

### **1.03 QUALITY ASSURANCE**

- A. CONTRACTOR shall retain services of qualified independent testing laboratory.
- B. Responsibility of testing laboratory will include:
  - 1. Obtaining, making samples and trial batches and performing laboratory and field testing specified.
  - 2. Provide reports to ENGINEER giving information on materials, design mixes and testing performed.
  - 3. Reports shall indicate whether or not materials meet specifications.
- C. Perform Work in accordance with ACI 506.2.

### **1.04 MOCKUP**

- A. Provide mockup for each application crew using equipment, materials, and mix proportions proposed for Project.
- B. Mockup for each applicator shall be for both vertical and overhead positions.
- C. Mockup shall be of sufficient size to indicate skills of applicators, be cored for testing, and to be incorporated into Work.
- D. Locate at east (downstream) end of sewer.
- E. Mockup may remain as part of the Work if mockup meets requirements of Contract Documents.

### **1.05 ENVIRONMENTAL REQUIREMENTS**

- A. Provide temporary lighting in sewer.

- B. Ensure material temperatures are minimum 50°F prior to and during shotcreting operation.
- C. During freezing or near freezing weather, provide protection of equipment located above ground.
- D. Suspend shotcrete operations when sewer flow from storm runoff would prevent progress of Work.

#### 1.06 FIELD MEASUREMENTS

- A. Verify that field measurements are as shown on Drawings.

#### 1.07 MEASUREMENT AND PAYMENT

- A. If quantities of following items are changed from those required by Contract Documents, lump sum Contract Price will be adjusted on basis of unit adjustment prices set forth in Agreement.
  - 1. Shotcrete, cubic yard; (CY): Unit adjustment price includes labor, equipment, materials, tests, placing, forming, and finishing, curing, and incidental work necessary for shotcrete construction. Unit adjustment price does not include reinforcing steel.
  - 2. Cubic yards of shotcrete defined as volume contained within lines of structure shown on Drawings or measured in field. No reductions will be made for pipe openings or blockouts, etc., less than 1 cu ft in volume.
  - 3. Reinforcing Bar, pound (Lb): Unit adjustment price includes all work in connection with furnishing and installing. Pounds of reinforcing bar defined as theoretical weights of various sizes and lengths of bars shown on fabricator's Shop Drawings. Quantities will be reviewed by ENGINEER.
  - 4. Stay-In-Place Formwork, square foot (SF): Unit adjustment price includes all labor, equipment, materials, and incidental work in connection with furnishing and installing formwork required at existing sewer collapses.

### PART 2 PRODUCTS

#### 2.01 MATERIALS

- A. Cement: ASTM C150, Type I - Normal; gray color.
- B. Normal weight aggregate: ASTM C33, 3/8" maximum size.
- C. Admixtures:
  - 1. Chemical types to conform to ASTM C494 (wet mix only).
  - 2. Air entraining type to conform to ASTM C260, use at CONTRACTOR's option.
  - 3. Fly ash:
    - a. ASTM C618 with following modifications:
      - 1) Loss on ignition: 6% maximum.
      - 2) Free lime: 1% maximum.
      - 3) Sulfur trioxide, SO<sub>3</sub>: 4% maximum.
      - 4) Fly ash for total Project shall be obtained from single source.
      - 5) If used, concrete mixes shall be designed to include fly ash in amount of approximately 15% to 20% of cement by weight.
    - b. May be used at CONTRACTOR's option.
- D. Reinforcement:
  - 1. Bars: ASTM A615, Grade 60 deformed bars.
  - 2. Bend bars cold to conform to required details.
- E. Water: Clean and not detrimental to shotcrete.
- F. Curing compound: Conform to ASTM C 309, Type 2, Class A or B, and shall not be detrimental to application of subsequent surface finish materials.

1. PVC Liner, square foot; (SF): Unit adjustment price includes all costs for installation of PVC liner system including but not limited to joints, and J-channels.
2. Grout, cubic yard; (CY): Unit adjustment price includes all costs for grouting the space between PVC liner system and the existing concrete structure.
3. Reinforcing Bar, pound (Lb): Unit adjustment price includes all work in connection with furnishing and installing. Pounds of reinforcing defined as theoretical weights of various sizes and lengths shown on fabricator's shop drawings. Quantities will be reviewed by ENGINEER.

## **PART 2 PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Danby of North America, Inc., or equal.

### **2.02 LINER MATERIALS**

- A. PVC:
  1. Compounds: ASTM D 1784 Cell 12344-C or higher.
  2. Flexible PVC seal in joiner strip: Extrusion grade PVC with Shore A durometer of between 60 and 80 (ASTM D 2240).
  3. Size and shape: Allow delivery of materials into sewer through manholes or pump station wet well.
  4. Minimum PVC profile height: 0.5".
- B. Grout:
  1. High-strength, nonshrinkable, and flowable.
  2. Minimum strength: 5,000 psi at 28 days or greater if required by manufacturer.
  3. Specifically designed to achieve required design strengths and maximize penetration into existing structures voids and cracks.
  4. Grout shall form strong bonds to existing structure surfaces resulting in integral structural system.
- C. Steel reinforcement
  1. Bars: ASTM A 615, Grade 60 deformed.
  2. Bend bars cold to conform to required details.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Liner installation and grouting shall conform to ASTM F 1698.

### **3.02 EXAMINATION**

- A. Verify substrate conditions.
- B. Verify that conditions are acceptable and are ready to receive work.
- C. Form around lateral sewer penetrations into main sewer. Forms shall provide sewer laterals are not blocked during or after lining. Verify forms are:
  1. True to line and dimension.
  2. Adequately braced against vibration during placement.
  3. Constructed to permit escape of air during grouting operations.
- D. Provide correct placement of reinforcement and sufficient clearance exists around reinforcement to permit complete encasement.



- E. PVC joints shall be true and secure.

### 3.03 PREPARATION

- A. Minimize abrupt changes in thickness of repair. Taper lining at each end of repair area.
- B. Pressure water clean existing surfaces to prepare for grout. Water blast pressure shall be a minimum 5,000 psi.

### 3.04 ALIGNMENT CONTROL

- A. Use laser levels or other methods to control liner thickness.
- B. Liner thickness shall be, at a minimum, equal to design thickness established by supplier's licensed engineer.
- C. Offsets, bowing, and heaving in existing sewer structure shall be accommodated by using smooth gradual transitions.

### 3.05 GROUTING

- A. Grout at regular intervals as recommended by manufacturer. Maximum grout interval shall be 15'.
- B. Grout in manner that minimizes voids between liner and existing structure.
- C. Do not exceed hydrostatic pressure capacity of liner as determined by manufacturer.
- D. Follow grout mix design; Do not dilute with water. If problems are encountered with grouting; consult with manufacturer to resolve prior to resuming grouting.

### 3.06 FIELD QUALITY CONTROL

- A. Field inspection will be performed by OWNER's Representative. CONTRACTOR shall allow inspection of work, provide applicable personal protective equipment, monitor sewer atmosphere, protect OWNER's Representative during inspection, provide necessary confined space entry equipment. Air monitoring records shall be made available prior to inspection.
- B. Form 3 grout beams with designed grout prior to commencement of work. Break beams at 7, 14, and 28 days to verify grout strength. Beams shall be sized as specified below.
- C. During liner installation and grouting, form 3 test beams per 350' of installation using PVC liner and grout. Test beams shall be 6" wide and 24" long. Grout thickness shall be same as nominal design thickness for liner. Break one beam of each set at 7 days by applying load to grout surface as would be loading in sewer. Break other two beams of each set at 28 and 56 days respectively. Follow test Method I, ASTM D 790.

### 3.07 PROTECTION OF FINISHED WORK

- A. Finished work shall be protected from excessive sewage and storm flows until grout is adequately cured and bonded to existing structure.
- B. Sewer atmospheric temperatures shall be maintained at or above manufacturer's recommended cure temperatures for duration required to cure and bond to existing structure.

END OF SECTION

- 1) J. M. Brady
- 2) K. C. Turner

## 2.02 SHOTCRETE MIX

- A. Aggregate and water: Proportioned to achieve mix design.
- B. Conform to following requirements:
  - 1. Compressive strength (28 day minimum): 4,000 psi.
  - 2. Aggregate size (maximum): 3/8".
  - 3. Air entrainment, use at CONTRACTOR's option: 6% to 10%.
  - 4. Slump ( $\pm 1/2$ " ): 1".
- C. Develop mix design to give good compaction and low percentage of rebound; stiff enough not to sag.
- D. Thoroughly mix shotcrete. Apply mix within 45 minutes of adding portland cement to mix.
- E. Maintain quality control records during production of shotcrete; make records available.

## 2.03 EQUIPMENT

- A. Either wet-mix or dry-mix process may be used.
- B. Wet-mix process:
  - 1. Mixing equipment: Capable of thoroughly mixing aggregate, cement, and water in sufficient quantity to maintain continuous placement.
  - 2. Delivery equipment: Capable of discharging wet mix aggregate, cement, and water accurately, uniformly, and continuously.
- C. Dry-mix process:
  - 1. Mixing equipment: Capable of thoroughly mixing dry aggregate and cement in sufficient quantity to maintain continuous placement.
  - 2. Delivery equipment:
    - a. Air supply: Clean, dry air adequate for maintaining sufficient nozzle velocity, uniformly steady for work while simultaneously operating blow pipe for cleaning away rebound.
    - b. Capable of loading aggregate and cement mixture into delivery hose under full control while maintaining continuous stream of uniformly mixed material at required velocity to discharge nozzle.
    - c. Equip discharge nozzle with water injection system (water ring) for directing even distribution of water to aggregate and cement mixture.
  - 3. Water supply: Uniform water pressure at discharge nozzle sufficiently greater than operating air pressure to ensure intimate mixing with aggregate-cement mix; provide water pump to system if line water pressure is inadequate.

## 2.04 SHOTCRETE STRENGTH TESTS

- A. Trial batches for mix designs:
  - 1. Select shotcrete proportions to produce specified compressive strength of shotcrete, f<sub>c</sub>. Proportions shall be selected on basis of compressive strength tests of specimens continuously moist-cured until testing at 28 days.
  - 2. Specimens shall be cut from shotcreted test panels not earlier than 5 days after shotcreting. Conform to ASTM C1140 for preparing and testing specimens from shotcrete test panels.
  - 3. For mix acceptance purposes, average core strengths shall be at least equal to f<sub>c</sub> for cores with L/D of 2.0. For cores with L/D between 1.0 and 2.0, use correction factors given in ASTM C42. For sawed cubes, a correction factor of 0.85 shall be applied to compressive strengths to obtain equivalent strengths of drilled cores.
  - 4. Certified copies of test results for mix design performed within preceding 6-month period for same aggregate and cement for mix producing strength equal to required average compressive strengths may be submitted for review instead of conducting new trial batch tests.

- B. Field tests: Cut cores from sewer and test in accordance with ASTM C42; cut and test three 3" diameter cores or three 3" cubes from each sample on basis of not less than:
  - 1. One sample from each shift's placement.
  - 2. One sample from each 50 cu yd.
- C. Test specimens shall be soaked in water for minimum of 40 hours prior to testing. Average compressive strength of 3 cores taken from structure, representing a shift or 50 cu yd of shotcrete, must meet or exceed  $f_c$  with no individual core less than  $0.90 f_c$ . Average of 3 cubes taken representing a shift or 50 cu yd of shotcrete must equal or exceed  $f_c / 0.85$  with no individual cube less than  $0.88 f_c / 0.85$ .
- D. If tests indicate deficient strength, as defined by ACI 506.2 immediately adjust mix to increase average of subsequent test results and, when directed, carry out additional drilled core testing to establish that load-carrying capacity of structure is not jeopardized. If concrete fails to meet structural design requirements, promptly remove and replace or reinforce required to satisfy design requirements. Testing and remedial work shall be at no additional cost to OWNER.

#### 2.05 STAY-IN-PLACE FORMWORK

- A. Formwork may be constructed of material suitable for application.
- B. Provide stiffeners as necessary to prevent displacement of forms due to vibration or weight of shotcrete.
- C. Forms at sewer collapses will be left in-place and sewer may or may not be backfilled in future by others.

### PART 3 EXECUTION

#### 3.01 EXAMINATION

- A. Verify substrate conditions.
- B. Verify that conditions are acceptable and are ready to receive work.
- C. Form around lateral sewer penetrations into main sewer and at sewer collapse areas. Forms shall be constructed so sewer laterals are not blocked during or after shotcreting. Verify forms are:
  - 1. True to line and dimension.
  - 2. Adequately braced against vibration during placement.
  - 3. Constructed to permit escape of trapped air during gunning operations.
  - 4. Constructed to minimize rebound during gunning operations.
- D. Provide correct placement of reinforcement and sufficient clearance exists around reinforcement to permit complete encasement.
- E. Provide easy access to shotcrete surfaces for screeding and finishing, and to permit uninterrupted application.

#### 3.02 PREPARATION

- A. Minimize abrupt changes in thickness of repair. Taper shotcrete at two ends of repair area.
- B. Waterblast surfaces to receive shotcrete.
- C. Do not place shotcrete on surfaces where there is free water.

# FIRST AVENUE SEWER CONCRETE ARCH REPAIR

CITY OF CLINTON  
CLINTON, IOWA

STANLEY CONSULTANTS, INC

### GENERAL LEGEND:

#### VIEW MARKERS

- DESIGNATES CUTTING PLANE OF SECTION
- DESIGNATES LOCATION OF DETAIL
- DESIGNATES DIRECTION OF VIEW FOR ELEVATION

#### VIEW IDENTIFICATION:

SYSTEM IDENTIFIES VIEW AND DESIGNATES DRAWING(S) TO WHICH IT RELATES. THE INFORMATION ABOVE THE LINE (LETTER, IN ALPHABETIC SEQUENCE-DRAWING NUMBER ON WHICH VIEW IS DRAWN) IDENTIFIES THE VIEW. THE INFORMATION BELOW THE LINE INDICATES DRAWING NUMBER(S) OF DRAWING(S) ON WHICH VIEW IS CUT OR CALLED OUT.

- SECTION A-S1  
S1, S2 VIEW IDENTIFICATION NUMBER  
DRAWING NUMBER(S) ON WHICH VIEW IS CUT OR CALLED OUT
- DETAIL B-S1  
S1
- ELEVATION C-S1  
S1

THE NUMBER AND/OR LETTER IN THE TRIANGLE INDICATES THE REVISION NUMBER IDENTIFIED. THE LETTER "A" IMMEDIATELY TO THE RIGHT OF THE TRIANGLE INDICATES THE REVISION IS PART OF A CONTRACT ADDENDUM. WHEN REVISIONS INVOLVE LESS THAN ENTIRE DRAWING, PRINCIPAL ASPECTS OF REVISIONS ARE "CLOUDED".

#### DIMENSIONS AND SCALE

DIMENSIONS AND/OR ELEVATIONS MARKED THUS (\*) MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

DIMENSIONS ARE GENERALLY TO SCALE, BUT SHOULD NOT BE SCALED. USE DIMENSIONS SHOWN. NTS (NOT TO SCALE) IS SHOWN ONLY WHERE DIMENSION IS OBVIOUSLY OUT OF SCALE.

NUMERIC SCALE VALUES (1/4" = 1'-0", ETC) APPLY ONLY AT FULL SCALE.

#### ABBREVIATIONS:

- CY CUBIC YARD
- EF EACH FACE
- HORIZ HORIZONTAL
- MAX MAXIMUM
- MH MANHOLE
- MIN MINIMUM
- PSI POUNDS PER SQUARE INCH
- R RADIUS
- SF SQUARE FOOT
- S/W SIDEWALK
- VERT VERTICAL

#### SYMBOLOLOGY:

- CONCRETE
- SHOTCRETE
- ASPHALT
- EARTH
- TREE
- STREET LIGHT
- FIRE HYDRANT
- POWER POLE
- FENCE

#### DRAWING INDEX:

- G1 - COVER SHEET
- S1 - PLAN AND PROFILE
- S2 - SECTIONS AND NOTES
- S3 - PLAN DETAILS

#### CERTIFICATION:

I HEREBY CERTIFY THAT REVISION 0 TO THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

*Kent C. Turner* 11/29/99  
KENT C. TURNER 11-29-99

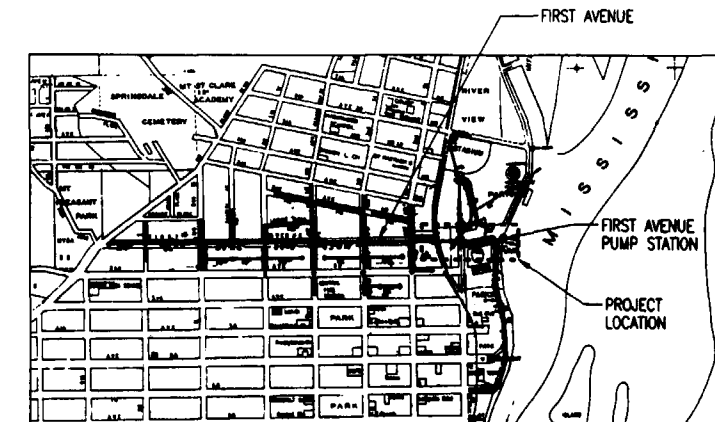
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G1, S1-S3



### LOCATION MAP



CLINTON, IOWA

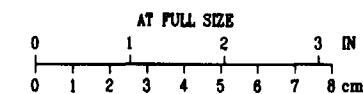
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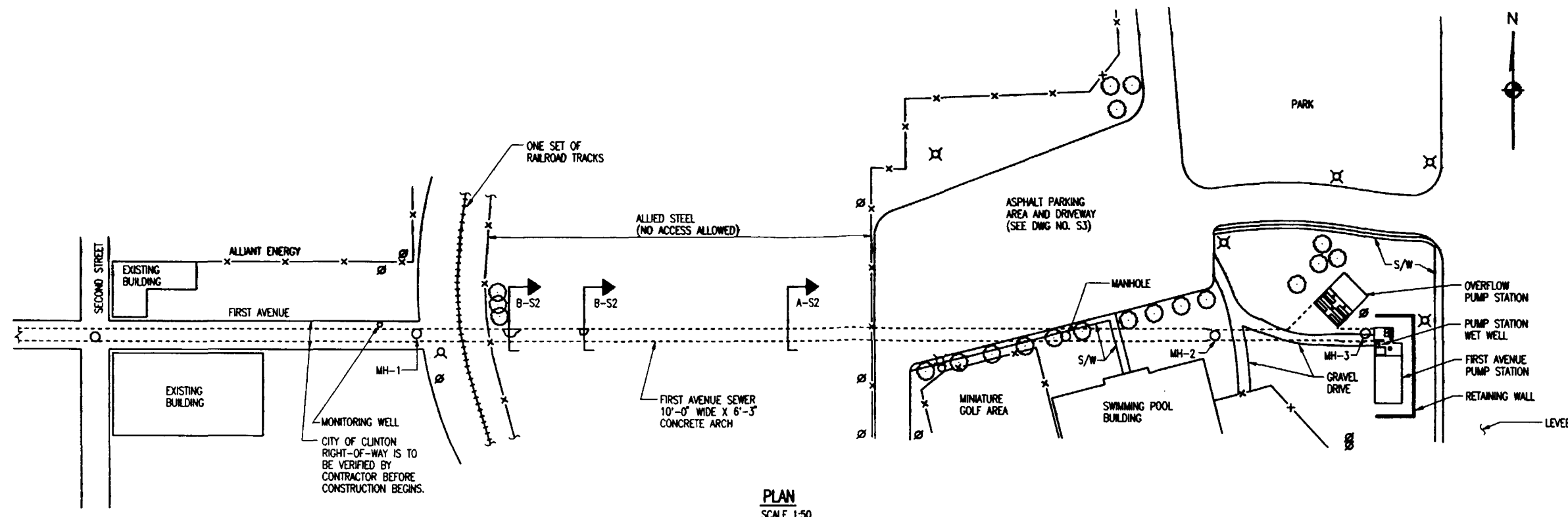
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CITY OF CLINTON, IOWA  
FIRST AVENUE SEWER  
CONCRETE ARCH REPAIR

COVER SHEET

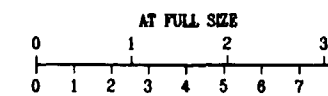
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| DRAWN: KJ HENKEL                | NO. 14615   |
| CHECKED: KC TURNER              | G1          |
| APPROVED: <i>Kent C. Turner</i> |             |
| DATE: NOVEMBER 29, 1999         |             |





- NOTES:
- IF PVC/GROUT LINER ALTERNATE SYSTEM IS USED THE EXTENT OF LINER PLACEMENT SHALL BE THE SAME AS INDICATED FOR THE EXTENT OF SHOT.
  - ELEVATION 100.00 IS A REFERENCE ELEVATION AS THE TOP SLAB OF THE FIRST AVENUE PUMP STATION WET WELL.
  - ESTIMATED WEIGHT OF SEDIMENT TO BE REMOVED 700 TONS.

SEE NOTE 2



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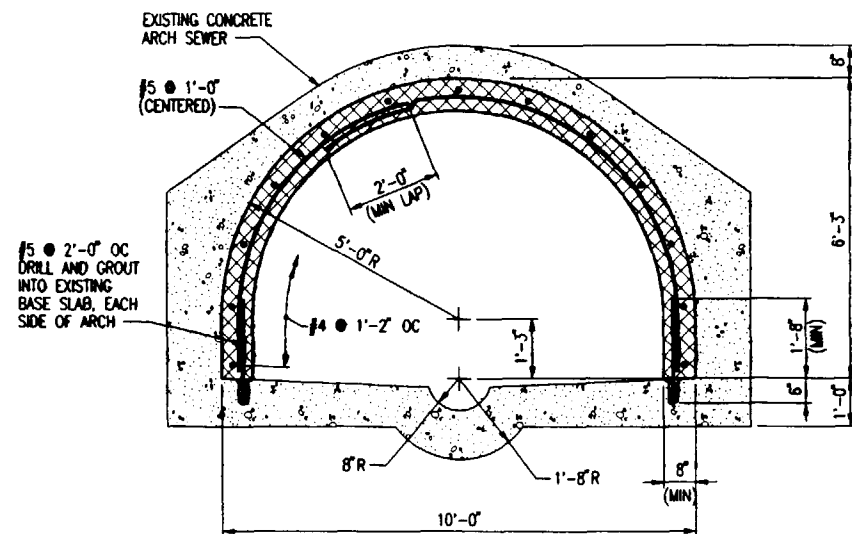
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PLAN AND PROFILE

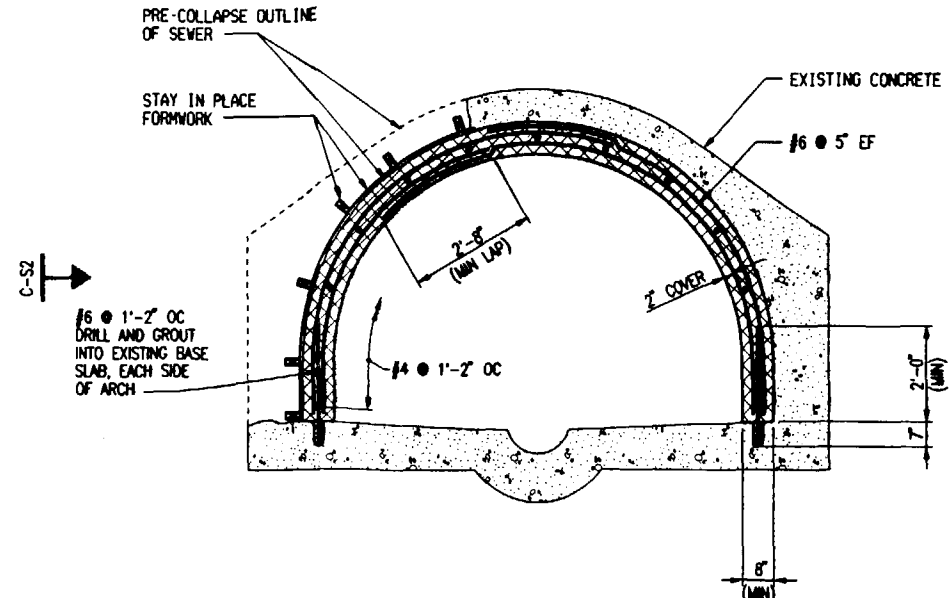
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| DRAWN    | KJ HENKEL          | NO. 14615    |
| CHECKED  | KC TURNER          |              |
| APPROVED | <i>[Signature]</i> |              |
| DATE     | NOVEMBER 29, 1999  | S1           |

SCALE: HORIZ 1:50  
VERT 1:5



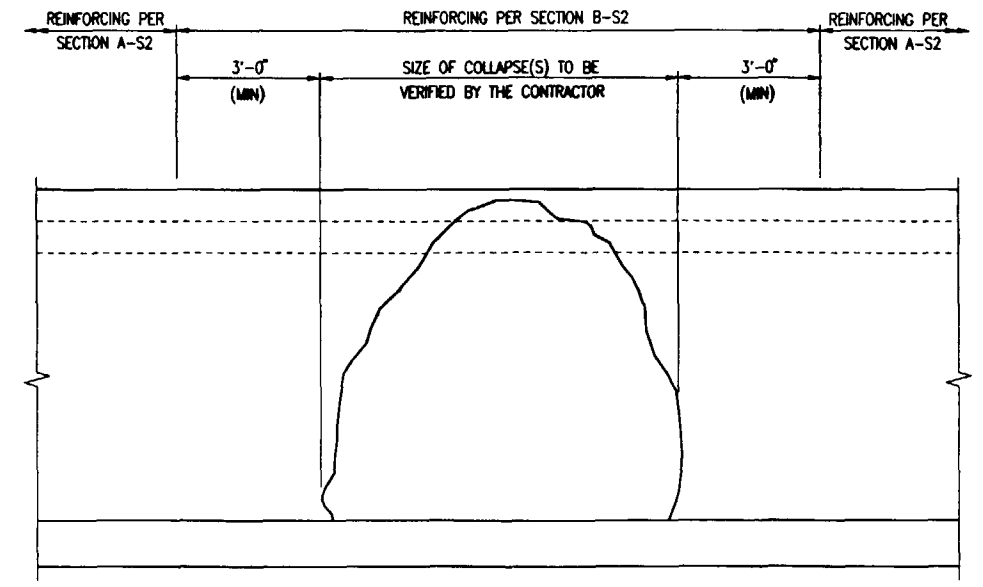
SECTION A-S2  
S1

TYPICAL SECTION THRU SEWER  
SCALE: 1/2" = 1'-0"



SECTION B-S2  
S1

TYPICAL SECTION THRU COLLAPSED SEWER  
SCALE: 1/2" = 1'-0"  
SEE SECTION A-S2 FOR DIMENSIONS NOT SHOWN ABOVE



ELEVATION C-S2  
S2  
SCALE: 1/2" = 1'-0"

NOTES:

- MATERIALS:  
SHOTCRETE MINIMUM COMPRESSIVE STRENGTH: 4,000 PSI @ 28 DAYS.  
REINFORCING STEEL: ASTM A615 GRADE 60.
- ESTIMATED VOLUME OF SHOTCRETE: 243.6 CY.  
ESTIMATE IS BASED ON A CROSS SECTION AREA OF SHOTCRETE OF 11.44 SF. ESTIMATED AREA OF STAY-IN-PLACE FORMWORK: 110 SF.
- CONTRACTOR IS TO CALCULATE THE REQUIRED QUANTITY OF REINFORCING.
- THE LONGITUDINAL REINFORCING IS TO BE LAPPED 2'-0".
- SHOTCRETE LINER IS TO FORM A SMOOTH CIRCULAR ARCH ABOVE A 1'-3" VERTICAL WALL AT EACH SIDE. THE ARCH SHALL HAVE A 8" MINIMUM THICKNESS AT ANY "LOW" POINT OF THE EXISTING CONCRETE ARCH.
- DETAILS SHOWN ON THIS DRAWING ARE FOR THE SHOTCRETE REPAIR OF THE SEWER. DETAILS SHOWN ON THIS DRAWING ARE NOT APPLICABLE FOR THE COMPOSITE PVC/GROUT SEWER LINING ALTERNATE SYSTEM OF REPAIR.
- DETAILS SHOWN IN SECTION B-S2 ARE TO BE USED WHENEVER A SECTION OF THE EXISTING SEWER LARGER IN AREA THAN 2.0 SF HAS COMPLETELY COLLAPSED.

| NO. | REVISIONS | D/WN | AP/YD | AP/YD |
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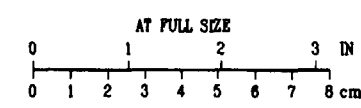
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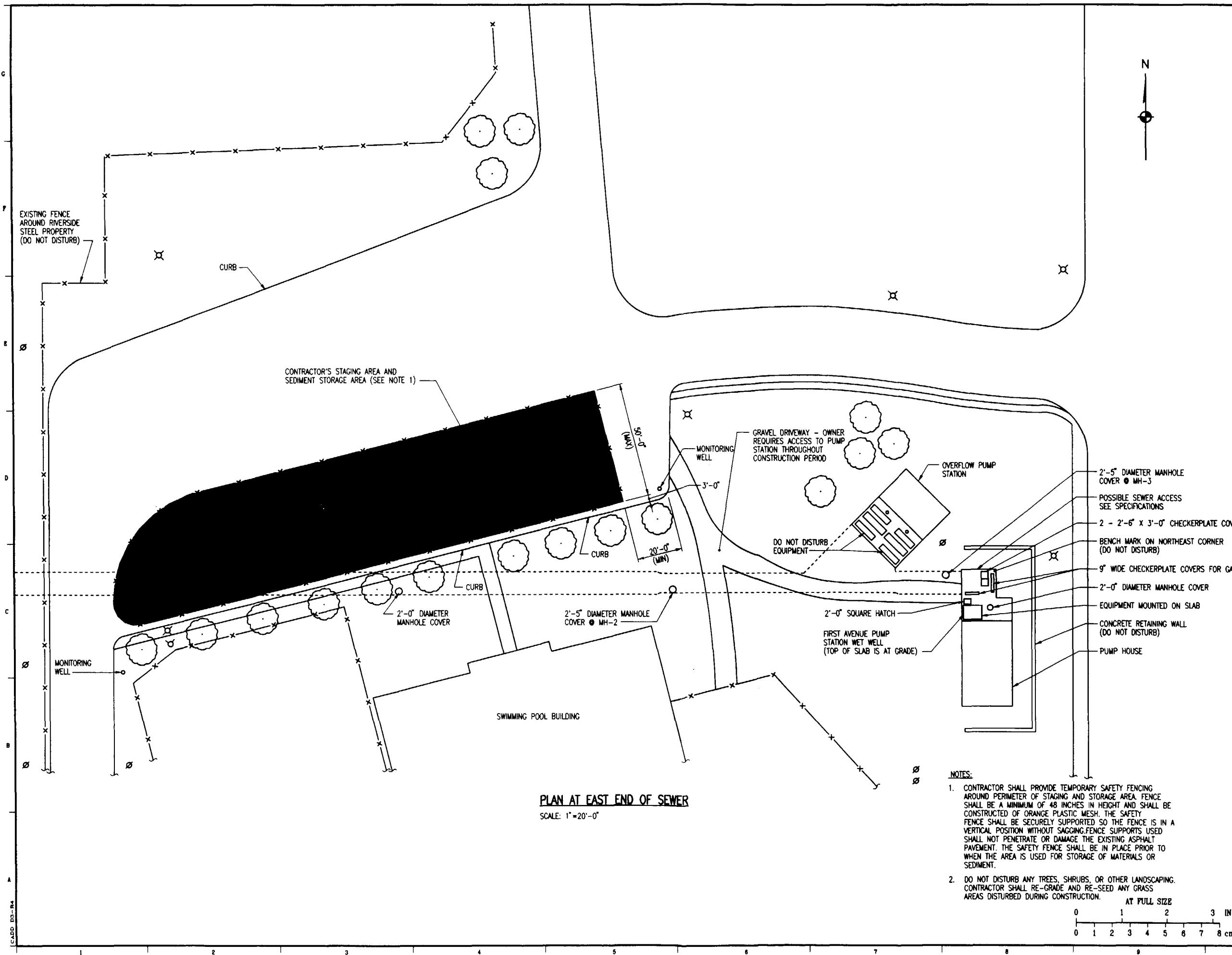
SECTIONS AND NOTES

DESIGNED LW SANDHAAS  
DRAWN KJ HENKEL  
CHECKED KC TURNER  
APPROVED [Signature]  
DATE NOVEMBER 29, 1999

SCALE: AS SHOWN  
NO. 14815

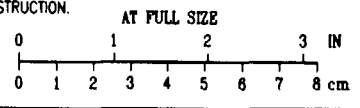
S2






**PLAN AT EAST END OF SEWER**  
SCALE: 1"=20'-0"

- NOTES:**
1. CONTRACTOR SHALL PROVIDE TEMPORARY SAFETY FENCING AROUND PERIMETER OF STAGING AND STORAGE AREA. FENCE SHALL BE A MINIMUM OF 48 INCHES IN HEIGHT AND SHALL BE CONSTRUCTED OF ORANGE PLASTIC MESH. THE SAFETY FENCE SHALL BE SECURELY SUPPORTED SO THE FENCE IS IN A VERTICAL POSITION WITHOUT SAGGING. FENCE SUPPORTS USED SHALL NOT PENETRATE OR DAMAGE THE EXISTING ASPHALT PAVEMENT. THE SAFETY FENCE SHALL BE IN PLACE PRIOR TO WHEN THE AREA IS USED FOR STORAGE OF MATERIALS OR SEDIMENT.
  2. DO NOT DISTURB ANY TREES, SHRUBS, OR OTHER LANDSCAPING. CONTRACTOR SHALL RE-GRADE AND RE-SEED ANY GRASS AREAS DISTURBED DURING CONSTRUCTION.



|     |           |     |      |      |
|-----|-----------|-----|------|------|
| NO. | REVISIONS | DWN | APVD | APVD |
|     |           |     |      |      |

  
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CITY OF CLINTON, IOWA  
 FIRST AVENUE SEWER  
 CONCRETE ARCH REPAIR

**PLAN DETAILS**

|                               |                |
|-------------------------------|----------------|
| DESIGNED <u>KC TURNER</u>     | SCALE AS SHOWN |
| DRAWN <u>KJ HENKEL</u>        | NO. 14815      |
| CHECKED <u>KC TURNER</u>      |                |
| APPROVED <u>[Signature]</u>   |                |
| DATE <u>NOVEMBER 29, 1999</u> | <b>S3</b>      |

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