

PROJECT MANUAL

LUMPKIN ROAD RECONSTRUCTION AND DRAINAGE IMPROVEMENTS  
FROM IH-10 TO NORTHBROOK DRIVE

WBS No. N-T17000-0012-4

Prepared for  
MEMORIAL CITY REDEVELOPMENT AUTHORITY

VOLUME 1 of 1

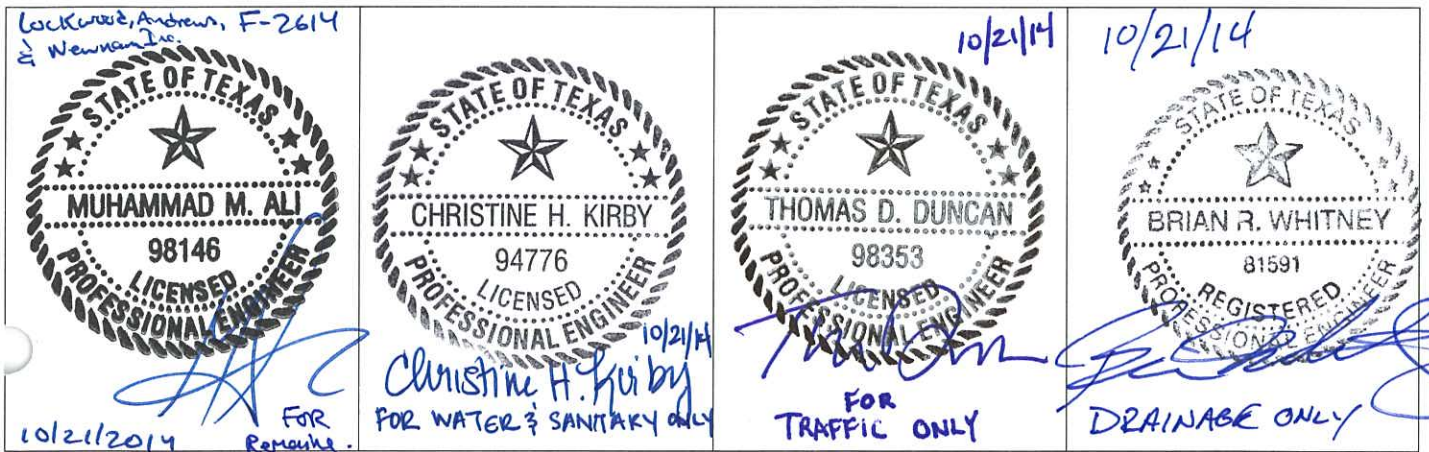
Divisions 00 through 16

October 2014



2925 Briarpark Drive, Suite 400  
Houston, TX 77042

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NOTE: The following Bold capitalized Specification Sections are included in the Harris County Flood Control District HCFCD Standard Specifications and Related Drawings located here:  
[http://www.hcfcd.org/downloads/techinfo/HCFCD\\_2005\\_Specifications.pdf](http://www.hcfcd.org/downloads/techinfo/HCFCD_2005_Specifications.pdf)

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Document 00200

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Document 00200

INSTRUCTIONS TO BIDDERS

1.0 RELATED DOCUMENTS

- A. Document 00210 - Supplementary Instructions to Bidders.
- B. Document 00320 - Geotechnical Information.
- C. Document 00330 - Existing Conditions.
- D. Document 00410 - Bid Form, Parts A & B.
- E. Document 00495 - Post-Bid Procedures.
- F. Document 00520 - Agreement.
- G. Document 00700 - General Conditions.
- H. Document 00800 - Supplementary Conditions.

2.0 DEFINITIONS

- A. Definitions set forth in Document 00700 - General Conditions and in other documents of Project Manual, are applicable to Bid Documents.
- B. *Addendum*: Written or graphic instrument issued prior to Bid opening, which clarifies, modifies, corrects, or changes Bid Documents.
- C. *Alternate*: The total amount bid for additions to work, as described in Section 01110 - Summary of Work. Each Alternate includes cost of effects on adjacent or related components, and Bidder's overhead and profit.
- D. *Bid*: A complete and properly signed offer to perform the Work in accordance with this Document and Document 00210 - Supplementary Instructions to Bidders.

- E. *Bid Date*: Date and time set for receipt of Bids as stated in Document 00210 - Supplementary Instructions to Bidders, or as modified by Addenda.
- F. *Bid Documents*: Project Manual, Drawings, and Addenda.
- G. *Bid Supplement*: A Bid submittal that is required in Document 00410 - Bid Form.
- H. *Bidder*: Person or firm, identified in Document 00410B - Bid Form - Part B, including its successors, and its authorized representative.
- I. *Code*: Code of Ordinances, Houston, Texas.
- J. *Low Bidder*: Apparent successful Bidder that qualifies as a responsible Bidder and that submits Bid with lowest Total Bid Price.
- K. *Project Manager*: Person designated in Document 00100 - Advertisement for Bids and Document 00220 - Request for Bid Information to represent the City during bidding and post-bid periods.
- L. *Project Manual*: Volume assembled for the Work that includes the bidding requirements, sample forms, Conditions of the Contract, and Specifications.
- M. *Security Deposit*: A certified check, cashier's check, or bid bond in the amount of 10 percent of the Total Bid Price.
- N. *Total Bid Price*: Total amount bid for performing the Work as identified by Bidder in Document 00410B - Bid Form - Part B, which amount includes:
  - 1. Stipulated Price;
  - 2. Total Base Unit Prices;
  - 3. Total Extra Unit Prices;
  - 4. Total Cash Allowances; and
  - 5. Total Alternates.



## INSTRUCTIONS TO BIDDERS

## CITY OF HOUSTON STANDARD DOCUMENT

### 3.0 ~~NOTICE TO BIDDERS~~

- A. ~~The City of Houston Fair Campaign Ordinance makes it unlawful for a Contractor to offer any contribution to a candidate for City elective office (including elected officers and officers-elect) during a certain period of time prior to and following the award of the Contract by the City Council. The term "Contractor" includes proprietors of proprietorships, all partners of partnerships, and all officers, directors, and holders of 10 percent or more of the outstanding shares of corporations. A statement disclosing the names and business addresses of each of these persons will be required to be submitted with each bid or proposal for a City Contract. Bidder shall complete and submit Document 00452 - Form A, Contractor Submission List, City of Houston Fair Campaign Ordinance, with its Bid to comply with this requirement. See Chapter 18 of the Code for further information.~~
- B. ~~Chapter 15, Article VIII, of the City's Code provides that no contract shall be let, nor any other business transaction entered into, by the City with any person indebted to the City or a qualifying entity, if the contractor or transaction comes within the provisions of Section 15-1(e) of the Code. Exceptions are provided in Section 15-126 of the Code. Bidder shall complete and submit Document 00455 - Affidavit of Ownership or Control, with its Bid to comply with this requirement.~~

### 4.0 BID DOCUMENTS

- A. The Bid Documents may be obtained at location specified in Document 00210 - Supplementary Instructions to Bidders.
- B. The Bid Documents are made available only for the purpose of bidding on the Work. Receipt of Bid Documents does not grant a license for other purposes.
- C. On receipt of Bid Documents, Bidder shall verify that documents are legible

and complete, compare contents of Project Manual with Document 00010 - Table of Contents, and compare Index of Drawings with Document 00015 - List of Drawings. Bidder shall notify Project Manager if Bid Documents are incomplete.

- D. If City of Houston Standard Specifications or Standard Details are required by the Project Manual, Bidder shall refer to Document 00210 - Supplementary Instructions to Bidders for purchase information.

### 5.0 EXAMINATION OF DOCUMENTS, SITE, AND LOCAL CONDITIONS

- A. Bidder shall examine Project site, become familiar with local conditions under which the Work shall be performed, conduct appropriate investigations, and correlate personal observations with requirements of the Bid Documents before submitting a Bid.
- B. Bidder shall make site investigations to the extent Bidder deems necessary to ascertain extent of subsurface conditions.
- C. Failure of Bidder to perform the investigations prior to submitting a Bid does not relieve Bidder of responsibility for investigations, interpretations and proper use of available information in the preparation of its Bid.
- D. Bidder shall observe limitations of access to occupied or restricted site as stated in Document 00210 - Supplementary Instructions to Bidders.

### 6.0 INTERPRETATIONS DURING BIDDING

- A. Bidder shall immediately submit Document 00220 - Request for Bid Information to Project Manager upon finding errors, discrepancies, or omissions in Bid Documents. Confirmation of receipt of questions by the City is the responsibility of Bidder.

Verbal discussions and answers are not binding.

- B. Document 00220 - Request for Bid Information must be received at least 10 days before the Bid Date to allow issuance of Addenda in accordance with Paragraph 7.0.D. Replies, if issued, are by Addenda.

**7.0 ADDENDA**

- A. Addenda that affect bidding requirements are applicable only during bidding period. Addenda to Document 00495 - Post-Bid Procedures are applicable only through issuance of the Notice to Proceed. Addenda that affect the Contract are a part of the Contract.
- B. BIDDERS WHO SUBMIT A BID ON THIS PROJECT SHALL BE PRESUMED TO HAVE RECEIVED ALL ADDENDA AND TO HAVE INCLUDED ANY COST THEREOF IN THEIR BIDS, REGARDLESS OF WHETHER THEY ACKNOWLEDGE THE ADDENDA OR NOT.
- C. The City will make Addenda available at same location where the Bid Documents may be obtained. The City will notify plan holders of record when Addenda are available. Bidders are responsible for obtaining Addenda after notification.
- D. No Addendum will be issued later than noon on Monday before Bid Date, except Addenda with minor clarifications, withdrawing request for Bids, or postponing Bid Date.

**8.0 SUBSTITUTION OF PRODUCTS**

- A. No substitutions of Products will be considered during the bidding period.

**9.0 PREPARATION OF BIDS**

- A. Bidder shall fill in applicable blanks in Document 00410A&B - Bid Form - Parts A & B and Bid Supplements. In addition,

Bidder shall bid all Alternates. Bidder shall properly sign Document 00410B - Bid Form.

- B. Bidder shall initial all pages, except signature page, of Document 00410B - Bid Form - Part B.
- C. Bidder is responsible for all costs incurred by the Bidder, associated with preparation of its Bid and compliance with Post-bid Procedures.
- D. Bidder may not adjust preprinted price on line items stating "Fixed Unit Price" in the description on the Bid Form.
- E. Bidder may increase preprinted price on line items stating "Minimum Bid Price" in the description on the Bid Form by crossing out the minimum and inserting revised price on the line above.
- F. Bidder may decrease preprinted price on line items stating "Maximum Bid Price" in the description on the Bid Form by crossing out the maximum and inserting revised price on the line above.
- G. Bidder shall insert a price no greater than the maximum preprinted range and no less than the preprinted range for line items stating "Fixed Range Unit Price" in the description on the Bid Form by crossing out prices noted and inserting revised price on the line above.
- H. Bidder may not adjust Cash Allowance amounts.

**10.0 BID SUBMISSION**

- A. City Secretary will receive Bids on Bid Date at location specified in Document 00210 - Supplementary Instructions to Bidders.
- B. Bids submitted after Bid Date will be returned to Bidder unopened.
- C. Verbal, facsimile, or electronic Bids are invalid and will not be considered.

## **INSTRUCTIONS TO BIDDERS**

## **CITY OF HOUSTON STANDARD DOCUMENT**

- D. Bidder shall submit in person or by mail one copy of the signed Document 00410 - Bid Form, Parts A and B, along with required Security Deposit, and required Bid Supplements, in a sealed, opaque envelope. In addition, Bidder shall clearly identify Project, Bid Date and Bidder's name on outside of envelope. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed for postal delivery.

### **11.0 BID SECURITY**

- A. Bidder shall submit a Security Deposit with its Bid.
- B. Certified Check or Cashier's Check
1. Bidder shall make check payable to the City of Houston.
  2. A check is submitted on the condition that if Bidder is named Low Bidder and fails either to timely and properly submit documents required in Document 00495 - Post-Bid Procedures, the City will cash the check in accordance with Paragraph 11.0.E.
- C. Bid Bond
1. The bid bond must be a valid and enforceable bond, signed by a surety that complies with other requirements set out by law.
  2. The bid bond must name the City of Houston as obligee, and be signed by the Bidder as principal and signed and sealed by the surety.
  3. The bid bond must be conditioned such that if Bidder is named Low Bidder and then fails to timely and properly submit documents required in Document 00495 - Post-Bid Procedures, surety will be obligated to pay to the City an amount in accordance with Paragraph 11.0.E.

- D. Security Deposits will be retained until after the Contract is awarded or all Bids are rejected.
- E. Low Bidder forfeits Security Deposit if it fails to timely and properly submit documents required in Document 00495 - Post-Bid Procedures. The City may claim an amount equal to the difference between the Total Bid Price of the defaulting Bidder and the Total Bid Price of the Bidder awarded the Contract. If Security Deposit is a check, the City will reimburse any remaining balance to the defaulting Bidder.

### **12.0 SUBCONTRACTORS AND SUPPLIERS**

- A. The City may reject proposed Subcontractors or Suppliers.
- B. Refer to Document 00800 - Supplementary Conditions, for MWBEPDBE, DBE and SBE goals.

### **13.0 MODIFICATION OR WITHDRAWAL OF BID**

- A. A Bidder may modify or withdraw a Bid submitted before the Bid Date by written notice to the City Secretary. The notice may not reveal the amount of the original Bid and must be signed by the Bidder.
- B. Bidder may not modify or withdraw its Bid by verbal, facsimile, or electronic means.
- C. A withdrawn Bid may be resubmitted up to the time designated for receipt of Bids.

### **14.0 BID DISQUALIFICATION**

- A. The City may disqualify a Bid if the Bidder:
1. fails to provide required Security Deposit in the proper amount;
  2. improperly or illegibly completes information required by the Bid Documents;

3. fails to sign Bid or improperly signs Bid;
4. qualifies its Bid; or
5. improperly submits its Bid.

- B. When requested, Low Bidder shall present satisfactory evidence that Bidder has regularly engaged in performing construction work as proposed, and has the capital, labor, equipment, and material to perform the Work.

**15.0 PREBID MEETING**

- A. A prebid meeting is scheduled to be held at the place, time, and date listed in Document 00210 - Supplementary Instructions to Bidders.
- B. All Bidders, subcontractors, and suppliers are invited to attend.
- C. Representatives of City Engineer will attend.

**16.0 OPENING OF BIDS**

- A. Bids are opened by the City Secretary and publicly read in City Council

Chambers on the Public Level in City Hall Annex at 11:00 a.m. on Bid Date.

- B. Place and date of Bid opening may be changed in accordance with Sections 15-3(b)(5) and 15-3(b)(6) of the City Code.

**17.0 EVALUATION AND CONSIDERATION OF BIDS**

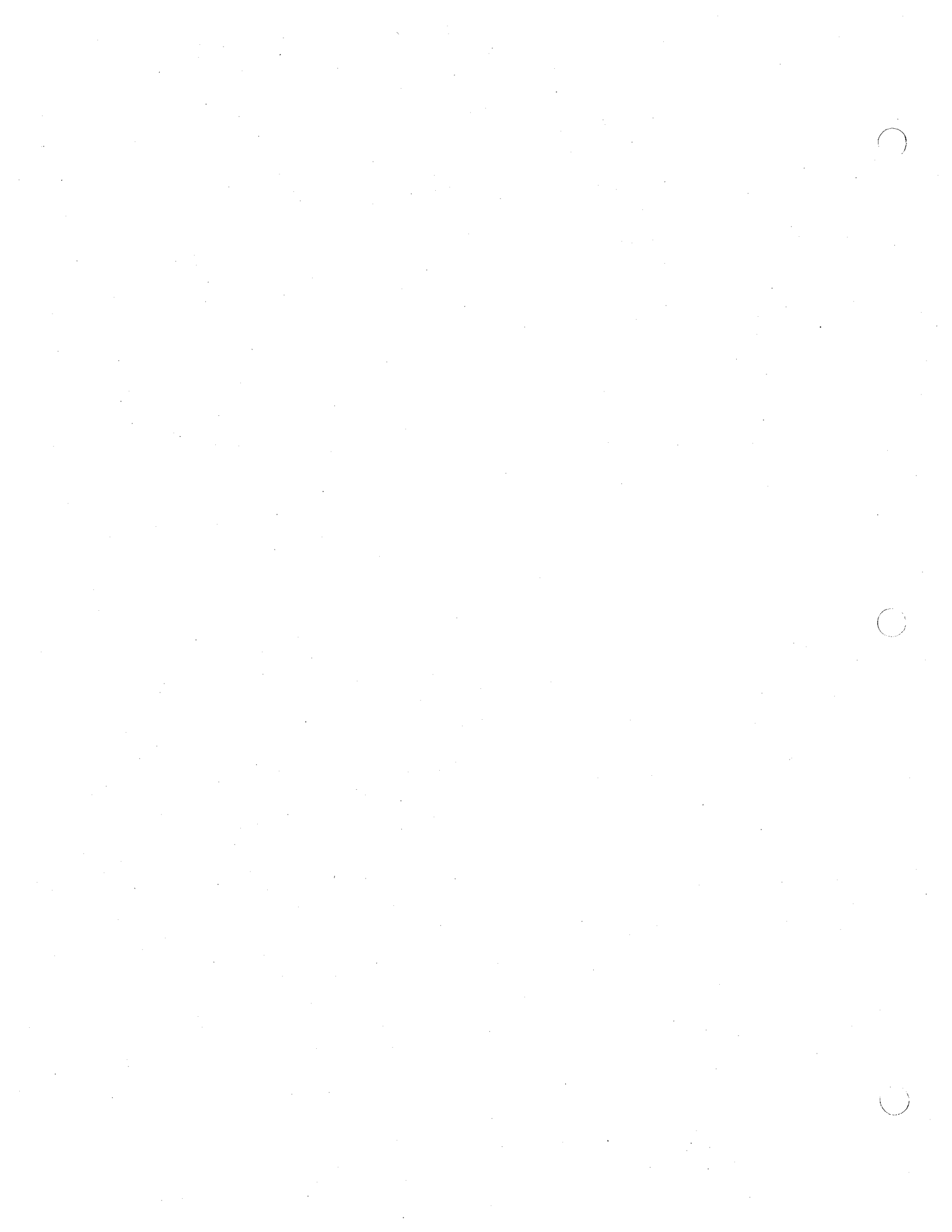
- A. Project Manager will tabulate, record, and evaluate Bids.
- B. The City may reject all Bids or may reject any defective Bid.

**18.0 ACCEPTANCE OF THE BID**

- A. The City will send to Low Bidder Document 00498 - Notice of Intent to Award. Acceptance by the City is conditioned upon Bidder's timely and proper submittal of documents required in Document 00495 - Post-Bid Procedures.
- B. The Bid remains open to acceptance and is irrevocable for the period of time stated in Document 00410A - Bid Form – Part A.

END OF DOCUMENT





Document 00210

**SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**

*The following Paragraphs modify Document 00200 - Instructions to Bidders. Where a portion of the Instructions to Bidders is modified or deleted by these Supplementary Instructions, the unaltered portions of the Instructions to Bidders remains in effect.*

The Owner and contract administrator for this project is the Memorial City Redevelopment Authority. References to the City of Houston related to ownership, approvals and contract administration should be understood to mean Memorial City Redevelopment Authority. All City of Houston contract requirements including all applicable City Ordinances will be administered by the Memorial City Redevelopment Authority. All applicable City, State and Federal Safety rules and requirements will apply. Any administrative or procedural related questions should be directed to the Memorial City Redevelopment Authority or its Resident Engineer for clarification.

4.0 – BID DOCUMENTS: Add the following Paragraphs to this Section:

A. Add the following Paragraph A.1:

1. Electronic Bid Documents on DVD may be purchased at the office of Lockwood, Andrews & Newnam Inc. located on the 4<sup>th</sup> Floor Lobby of 2925 Briarpark Drive, Houston, Texas 77042 with cash, check or money order for \$75.00 per set. Call Lockwood, Andrews & Newnam Inc. at (713) 266.6900 prior to picking up contract documents and drawings.

B. Add the following Paragraph D.1:

1. Copies of the City Standard Specifications and Details may be acquired at no cost on the City's website  
<http://edocs.publicworks.houstontx.gov/engineering-and-construction/specifications.html>

C. The following plan rooms, whose names, addresses, phone and fax numbers were last updated on October 21, 2014, have been authorized by Memorial City Redevelopment Authority to display Bid Documents for examination:

1. Associated General Contractors, (AGC-HHUI), Highway, Heavy Utilities and Industrial Branch, 2400 Augusta St., Suite 305, Houston, TX 77057, 713-334-7100, Fax 713-334-7130. Email: [msimons@agctx.org](mailto:msimons@agctx.org) (Attention: Mellora Simons)



2. F. W. Dodge Corporation - Website:  
[www.dodgeprojects.construction.com](http://www.dodgeprojects.construction.com)

5.0 - EXAMINATION OF DOCUMENTS, SITE, AND LOCAL CONDITIONS: Insert the following paragraph:

D. Add the following Paragraph D.1:

1. Work will be performed in public right-of-way. The site may be examined at any time during daylight hours.

9.0 – PREPARATION OF BIDS: Add the following Paragraph I to this Paragraph:

- I. For math errors the Memorial City Redevelopment Authority encounters in analyzing Bids, the following guidance will be used:

In the event of a conflict between:      The Bid Price is:

- |   |   |
|---|---|
| 1. Individual Unit Price and Extension of that Unit Price   | Individual Unit Price times Estimated Quantity  |
| 2. A Unit Price extension and total of Unit Price Extensions  | Sum of all Individual Unit Price Extensions   |
| 3. Individual Alternate and total of Alternates   | Sum of all Individual Alternates  |
| 4. Individual subtotals for Stipulated Price, Base Unit Prices, Extra Unit Prices, Contractor Bonus, Cash Allowances, and Alternates; and the Total Bid Price | Sum of Individual subtotals for Stipulated Price, Base Unit Prices, Extra Unit Prices, Contractor Bonus, Cash Allowances and Alternates |

10.0 – BID SUBMISSION: Add the following Paragraph A.1 to this Section:

A. Add the following Paragraph A.1:

1. Memorial City Redevelopment Authority will receive Bids at Lockwood, Andrews & Newnam Inc. at 2925 Briarpark Drive, Suite 300 Houston, Texas 77042 until 10:00 AM., local time on November 3, 2014.
2. Delete remaining paragraphs B through D and replace with paragraph B



- B. Submit one copy of the executed offer on the bid forms provided, properly signed, with required Security Deposit, and other Supplements to Bid Forms, in a sealed, opaque envelope. On the outside of the envelope, clearly identify the Bidders name, Project name, and the Memorial City Redevelopment Authority's name. Bids submitted by mail shall be enclosed in a separate envelope addressed for mailing, and identifying the enclosure as a bid.

14.0 BID DISQUALIFICATIONS: Delete Paragraph B and replace with the following:

- B. When requested, Low Bidder shall present satisfactory evidence that Bidder has regularly engaged in performing construction work as proposed, and has the capital, labor and material to perform the Work. Provide evidence within 48 hours from time of notice. Failure to provide evidence within stated time will cause Low Bidder to be considered non-responsive and in default forfeiting Security Deposit in accordance with provisions of Document 00200 – Instruction to Bidders. For prior work to be considered satisfactory, Bidder must demonstrate the following:
  - 1. Substantially Complete or Completion of at least three (3) projects each totaling \$3,000,000 or more, over the past five (5) years.
  - 2. Record of completing projects on schedule in a similar dense retail/commercial environment to be encountered for the Work.
  - 3. Said projects required work force and equipment sufficient for multiple crews working simultaneously.
  - 4. Said projects were of similar magnitude and complexity in a dense retail/commercial environment in the Houston region.
- C. Low Bidder must demonstrate ability to perform a minimum of 50% of the Work with own work force and equipment.

15.0 – PREBID MEETING: Add the following Paragraph A.1 to this Section:

- A. Add the following Paragraph A.1:
  - 1. A Non-Mandatory Prebid Meeting will be held at 10:00 AM on Tuesday, October 28, 2014 at the office of Lockwood, Andrews & Newnam Inc. at 2925 Briarpark Drive, Suite 301, Houston, Texas 77042.

END OF DOCUMENT



Document 00220

**REQUEST FOR BID INFORMATION**

PROJECT: Lumpkin Road Reconstruction and Drainage Improvements

PROJECT No.: WBS No. N-T17000-0012-3

TO: Lockwood, Andrews, & Newnam, Inc. – Muhammad Ali, P.E.  
2925 Briarpark Drive, Suite 300  
Houston, TX 77042-3720

Phone No. 713-266-6900

Fax No. 713-266-3438

Email Addr. MMALI@LAN-INC.COM

(Type or Print question legibly; use back if more space is needed)

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This request relates to \_\_\_\_\_ and/or \_\_\_\_\_  
Drawing / Detail No. Specification Section No.

Attachments to this request: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
(Type or Print Name)

\_\_\_\_\_  
(Type or Print Company Name)

**END OF DOCUMENT**

Document 00320

**GEOTECHNICAL INFORMATION**

1. DOCUMENT INCLUDES

- A. Soils investigation reports.
- B. Bidder's responsibilities.

2. RELATED DOCUMENTS

- A. Document 00340 – Environmental Information
- B. Section 02260 - Trench Safety Systems

3. SITE INVESTIGATION REPORTS

- A. In the design and preparation of Contract documents for this Project, the City and Design Consultant have used information in geotechnical reports for the investigation and analysis of soils and subsurface conditions at the Project site.
- B. An electronic copy of the report for this project is included in a CD-Rom affixed to the inside front cover of the project manual.
- C. Neither the City nor Design Consultant is responsible for accuracy or completeness of any information or data.

4. GEOTECHNICAL REPORTS

- A. Report No. G153-10, prepared by the firm of Aviles Engineering Corporation, entitled Geotechnical Investigation Reconstruction of Lumpkin Rd between IH-10 and Westview Dr in Houston, TX, dated February 2013, consisting of 70 pages.

This report is available for Bidder's information only. This report is not a warranty of subsurface conditions nor is it a part of the Contract Documents. Bidders are expected to examine the site and such report and decide for themselves the character of the materials to be encountered. The Memorial City Redevelopment Authority and the Design Consultant disclaim any responsibility for the accuracy, true locations and extent of the surface and subsurface investigations that have been prepared by others. The Memorial City Redevelopment Authority and the Design Consultant further disclaim any responsibility for interpretation of that data by Bidders, i.e., projecting soil-bearing values, rock profiles, soil stability and the presence, level and extend of underground water.

- B. Report No. G157-13, prepared by the firm of Aviles Engineering Corporation, entitled Geotechnical Investigation Memorial City Redevelopment Authority Lumpkin Rd from Westview to Northbrook Pavement and Storm Sewer Improvements, dated June 2014, consisting of 101 pages.

This report is available for Bidder's information only. This report is not a warranty of subsurface conditions nor is it a part of the Contract Documents. Bidders are expected to examine the site and such report and decide for themselves the character of the materials to be encountered. The Memorial City Redevelopment Authority and the Design Consultant disclaim any responsibility for the accuracy, true locations and extent of the surface and subsurface investigations that have been prepared by others. The Memorial City Redevelopment Authority and the Design Consultant further disclaim any responsibility for interpretation of that data by Bidders, i.e., projecting soil-bearing values, rock profiles, soil stability and the presence, level and extend of underground water.

5. BIDDER RESPONSIBILITIES

- A. Bidder shall take full responsibility for interpretation and use of information contained in above listed reports for its bidding and construction purposes.
- B. Bidder may perform additional soils investigations as Bidder deems appropriate.

END OF DOCUMENT

Document 00340

ENVIRONMENTAL INFORMATION

1.0 DOCUMENT INCLUDES

- A. Environmental Site Assessment, if applicable.
- B. Asbestos and Lead Surveys, if applicable.
- C. Bidder's responsibilities.

2.0 RELATED DOCUMENTS

- A. Document 00320 - Geotechnical Information

3.0 SITE INVESTIGATION REPORTS

- A. In the design and preparation of Contract documents for this Project, the City and Design Consultant have used information in environmental site assessment reports for the investigation and analysis of soils and subsurface conditions at the Project site.
- B. In the design and preparation of Contract documents for this Project, the City and Design Consultant have relied upon information in surveys taken for Asbestos-containing Materials (ACMs) and lead at the Project site.
- C. An electronic copy of each report for this project is included in a CD-Rom affixed to the inside front cover of the project manual.
- D. Neither the City nor Design Consultant is responsible for accuracy or completeness of any information or data.

4.0 REPORTS

- A. Environmental Assessment Surveys
  - 1. Report No. E116-10, prepared by the firm of Aviles Engineering Corporation, entitled Phase I Environmental Site Assessment of Lumpkin Road from Interstate Highway 10 Westbound Frontage Road to Westview Drive Houston, Texas, dated September 13, 2010, consisting of 52 pages.



2. Report No. E119-10, prepared by the firm of Aviles Engineering Corporation, entitled Limited Phase II Environmental Site Assesment Lumpkin Road Improvements from Interstate Highway 10 Westbound Frontage Road to Westview Drive Houston, Texas, dated October 25, 2010, consisting of 11 pages.
3. Report No. E105-13, prepared by the firm of Aviles Engineering Corporation, entitled Phase I Environmental Site Assesment of Lumpkin Road Extension and Westview Detention Pond Houston, Texas, dated Novemeber 6, 2013 consisting of 304 pages.
4. Report No. E104-14, prepared by the firm of Aviles Engineering Corporation, entitled Updated Phase I Environmental Site Assesment of Lumpkin Road from Interstate Highway 10 Westbound Frontage Road to Westview Drive Houston, Texas, dated May 9, 2014, consisting of 346 pages.
5. Report No. E101-14, prepared by the firm of Aviles Engineering Corporation, entitled Report: Limited Phase II Environmental Site Assesment for Lumpkin Road North of Westview Drive and Westview Detention Basin Houston, Texas, dated March 28, 2014, consisting of 73 pages.

#### 5.0 BIDDER RESPONSIBILITIES

- A. Bidder shall take full responsibility for interpretation and use of information contained in above listed reports for bidding and construction purposes.
- B. Bidder may perform additional investigations as Bidder deems appropriate.

END OF DOCUMENT

Document 00410B

BID FORM – PART B

**1.0 TOTAL BID PRICE HAS BEEN CALCULATED BY BIDDER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):**

**A. STIPULATED PRICE:**

**\$N/A**

(Total Bid Price; minus Base Unit Prices, Extra Unit Prices, Cash Allowances and All Alternates, if any)

**B. BASE UNIT PRICE TABLE:**

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
<b>BASE BID GENERAL ITEMS</b>						
1	01502	Mobilization	LS	1	<u>\$300,000<sup>(1)</sup></u>	<u>\$300,000<sup>(1)</sup></u>
2	01555	Traffic Control and Regulation	LS	1	<u>\$100,000<sup>(2)</sup></u>	<u>\$100,000<sup>(2)</sup></u>
3	01270	Uniformed Police Officers	HR	3,185		
4	01555	Portable Concrete Low Profile Traffic Barrier Installed	LF	2,570		
5	01555	Portable Concrete Low Profile Traffic Barrier Moved & Reset	LF	2,570		
6	01555	Portable Concrete Low Profile Traffic Barrier Removed	LF	2,570		
7	01562	Tree and Plant Protection	LS	1		
8	01570	Inlet Protection Barrier	LF	500		
9	02922	Sodding	SY	3,100		
10	01570	Filter Fabric Fence	LF	5,000		
<b>BASE BID STORM ITEMS</b>						
11	02082	Type-C Manhole on Box Storm Sewer – Complete in Place	EA	17		
12	02082	Type-C Manhole	EA	2		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
13	HCFC 02120/ 02241/ 02314	Excavation and Off-Site Disposal	CY	29,673		
14	02200	Chain Link Fence	LF	1,869		
15	02200	30-foot Sliding Gate	EA	1		
16	02221	Remove and Dispose of 18-Inch Diameter Storm Sewer	LF	750		
17	02221	Remove and Dispose of 24-Inch Diameter Storm Sewer	LF	132		
18	02221	Remove and Dispose of 30-Inch Diameter Storm Sewer	LF	748		
19	02221	Remove and Dispose of 36-Inch Diameter Storm Sewer	LF	174		
20	02221	Remove and Dispose of Existing Inlets, All Types	EA	13		
21	02221	Remove and Dispose of Existing Manholes, All Types	EA	1		
22	02221	Remove and Dispose of Existing Junction Box, All Types	EA	3		
23	02221	Remove and Dispose of Existing 7-Foot x 4-Foot Box Culvert	LF	126		
24	02221	Remove and Dispose of Existing 7-Foot x 5-Foot Box Culvert	LF	573		
25	02221	Remove Existing Storm Sewer Leads	LF	72		
26	02221	Remove and Dispose of Concrete (Pilot Channel)	SY	865		
27	02221	Remove and Disposed of Backslope Interceptor Structure	EA	2		
28	02221	Clearing and Grubbing (Includes fence removal)	AC	3		
29	HCFC 02241	Care and Control of Water	LS	1		
30	02260	Trench Safety System	LF	2,424		
31	02540	Storm Sewer Rehab. Inside Joint Repair	EA	30		



Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
32	05321	Cement Stabilized Sand, 100 PSI (Westview Basin Only)	TON	7,871		
33	HCFC02315	Select Fill (Embankment)	TON	7,871		
34	HCFC02361	Reinforced Filter Fabric Fence	LF	1,850		
35	HCFC02364	Rock Filter Dam (Type 3)	LF	150		
36	HCFC02365	Stabilized Construction Entrance/Exit	SY	422		
37	HCFC02376	5-inch Concrete Slope Paving	SY	1,265		
38	HCFC02376	Backslope Interceptor Structure	EA	3		
39	02611	24-inch HDPE Storm Sewer by Open-Cut-Complete in Place	LF	275		
40	02611	24-inch diameter Storm Sewer by Open-Cut-Complete in Place	LF	429		
41	02611	30-inch diameter Storm Sewer by Open-Cut-Complete in Place	LF	40		
42	02611	33-inch diameter Storm Sewer by Open-Cut-Complete in Place	LF	15		
43	02611	36-inch diameter Storm Sewer by Open-Cut-Complete in Place	LF	89		
44	02631	Precast 8-Foot x 8-Foot Storm Sewer by Open-Cut – Complete in Place	LF	2,542		
45	02631	Precast 10-Foot x 6-Foot Storm Sewer by Open-Cut – Complete in Place	LF	769		
46	02631	Precast 10-Foot x 5-Foot Storm Sewer by Open-Cut – Complete in Place	LF	61		
47	02631	Precast 8-Foot x 5-Foot Storm Sewer by Open-Cut – Complete in Place	LF	37		
48	02631	Precast 7-Foot x 4-Foot Storm Sewer by Open-Cut – Complete in Place	LF	81		
49	02631	9-Foot x 5-Foot Box Storm Sewer by Open-Cut-Complete in Place	LF	66		



Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
50	02631	4-Foot x 4-Foot Box Storm Sewer by Open-Cut-Complete in Place	LF	40		
51	02631	Precast 8-Foot x 8-Foot Storm Sewer Cap (w/24-inch outlet) by Open-Cut – Complete in Place	EA	2		
52	02631	Precast 7-Foot x 5-Foot Storm Sewer End Cap	EA	1		
53	02632	Type PW Headwall (TxDOT ITEM 466)	EA	1		
54	02632/ 02633	Junction Box with Riser	EA	6		
55	02633	Type A Inlet	EA	8		
56	02633	Type C1 Inlet with Extension	EA	1		
57	02633	Type BB Inlet	EA	15		
58	02633	Type E Inlet	EA	3		
59	02670	28-Inch (9-Inch o/s) Modular Block	EA	316		
60	02670	Modular Block Wall (Complete) (block, Granular Backfill)	SF	22,320		
61	02751	7-Inch Concrete Pavement	SY	1,235		
62	02751	6-inch cement stabilized base (TxDot)	SY	1,318		
63	02754	7 inch High Early Strength concrete Driveway, including excavation and base	SF	750		
64	02771	Concrete Curb (All Heights)	LF	478		
65	HCFC 02911	Furnishing and placing 8-inch Topsoil	SY	12,569		
66	02922	Inlet Protection Sodding	SY	8,854		
67	02922	Sodding	SY	8,854		
68	HCFC 03310	Concrete Mow Strip (5-inches)	CY	221		
69	HCFC 03310	8-Foot Wide Concrete Pilot Channel	LF	550		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
70	HCFC03310	6-Foot Wide Concrete Pilot Channel	LF	292		
<b>BASE BID WATER</b>						
71	02082	3-Inch AI/VR Valve Assembly with Service Manhole	EA	2		
72	02221	Remove and Dispose of Existing Water Line Manholes, All Types	EA	2		
73	02221	Remove and Dispose of 36-Inch Diameter Water Line, All Material Types	LF	206		
74	02221	Remove and Dispose of 48-Inch Diameter Water Line, All Material Types	LF	210		
75	02511	12-Inch Water Line by Trenchless	LF	56		
76	02511	12-Inch Water Line in 20-Inch Casing	LF	18		
77	02511	8-Inch Water Line by Trenchless	LF	2,094		
78	02511	8-Inch Water Line with Restrained Joints	LF	179		
79	02511	8-Inch Water Line DIP Press CL 350	LF	60		
80	02511	36-Inch Water Line	LF	206		
81	02511	48-Inch Water Line	LF	210		
82	02513	4-Inch Wet Connection	EA	1		
83	02516	4-Inch Cut, Plug and Abandon	EA	1		
84	02513	6-Inch Wet Connection	EA	1		
85	02516	6-Inch Cut, Plug and Abandon	EA	1		
86	02513	8-Inch Wet Connection	EA	4		
87	02516	8-Inch Cut, Plug and Abandon	EA	5		
88	02513	12-Inch Wet Connection	EA	1		
89	02516	12-Inch Cut, Plug and Abandon	EA	1		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
90	02520	Fire Hydrant Assembly with 6-Inch gate valve	EA	9		
91	02520	6-Inch FH Lead (Open-Cut)	LF	98		
92	02520	Remove and Salvage Existing Fire Hydrant	EA	7		
93	02525	12-Inch x8-Inch TS&V	EA	1		
<b>BASE BID SANITARY</b>						
94	02082	Precast Standard Sanitary Manhole	EA	2		
95	02082	Precast Standard Drop Sanitary Manhole	EA	1		
96	02531	18-Inch Sanitary Sewer	LF	138		
97	02531	4-Inch Sanitary Sewer	LF	15		
98	02531	4-Inch Sanitary Sewer Force Main	LF	34		
<b>BASE BID PAVING</b>						
99	02741	Temporary Asphalt	SY	1,255		
100	02319	Filling of Ditch (Temporary TCP)	CY	750		
101	02221	Remove and Dispose of Asphaltic Concrete Pavement	SY	8,971		
102	02221	Remove and Dispose of Reinforced Concrete Pavement with or without Asphalt Overlay	SY	639		
103	02221	Remove and Dispose of Driveways (All Materials, All Thickness)	SY	1,721		
104	02221	Remove and Dispose of Sidewalks (All Materials, All Thickness)	SY	72		
105	02315	Roadway Excavation	CY	15,700		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
106	02221	Remove Concrete Curb, all heights	LF	1,000		
107	02771	Concrete Curb	LF	5,300		
108	02771	Concrete Curb (Toe Wall 0" to 18")	LF	700		
109	02337	Lime/Fly-Ash Stabilized Subgrade, 6-Inch	SY	13,403		
110	02337	Lime for Lime Stabilized Subgrade	Ton	200		
111	02754	7-Inch High Early Strength Concrete Driveway, Including Excavation and Base	SF	8,499		
112	02751	8-Inch Reinforced Concrete Pavement (High Early Strength)	SY	12,095		
113	TXDOT 360	10-Inch Continuously Reinforced Concrete Pavement (TXDOT) (High Early Strength)	SY	370		
114	TXDOT 360	6-Inch Cement Stabilized Base (TXDOT)	SY	370		
115	TXDOT 360	6-Inch Lime Treated Subgrade (TXDOT)	SY	370		
116	02752	Board Expansion Joint with Load Transfer Device	LF	1,362		
117	02752	Horizontal Dowels, All Lengths	EA	28		
118	02752	Saw-cut Concrete Pavement (All Depths)	LF	265		
119	321413	ADA Accessible Wheelchair Ramps	EA	6		
120	321413	ADA Detectable Warning Pavers	SY	49		
121	02775	4.5-Inch Thick Concrete Sidewalk	SF	23,460		
122	02319	Borrow	CY	1,860		
<b>BASE BID LANDSCAPE/ARCHITECTURAL</b>						
123	02950	Bed Preparation	SF	1,350		
124	02950	Shade Trees (Lumpkin Road Basic Amenities)	EA	49		



Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
125	02950	Low Flowering Tree	EA	54		
126	02810	Irrigation	SF	60,000		
127	02780	Sidewalk Concrete Accent Pavers	SF	4,795		
128	02751	Gathering Area	SF	2,000		
129	02870	Benches	EA	2		
130	02870	Bike Racks	EA	3		
131	02870	Trash Receptacle	EA	1		
132	DWG	Lighting	EA	29		
133	DWG	Electrical Service	LS	1		
<b>BASE BID SIGNAL DESIGN AND INTERCONNECT</b>						
134	02465	Drill Shaft (Traffic Signal Pole) (24-Inch)	LF	24		
135	02465	Drill Shaft (Traffic Signal Pole) (30-Inch)	LF	64		
136	02582	35-Foot Traffic Signal Pole	EA	2		
137	02582	40-Foot Traffic Signal Pole with Luminaire	EA	2		
138	02582	PED Pole Assembly	EA	2		
139	02582	Push Button Pole Assembly	EA	2		
140	02893	Traffic Signal Construction	EA	1		
141	02893	Temporary Traffic Signals	EA	1		
142	02893	Removal of Concrete Foundations	EA	4		
143	02893	Remove Traffic Signal Pole Assembly	EA	4		
144	02893	Electric Service (UL TYPE 3R)	EA	1		
145	16710	Traffic Signal Pull Box, Type A	EA	6		
146	16710	Traffic Signal Pull Box, Type B	EA	3		



Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
147	16710	Traffic Signal Pull Box, Type C	EA	1		
148	16711	1.5-Inch (Trench) Conduit PVC (SCHD 80)	LF	699		
149	16711	2-Inch (Trench) Conduit PVC (SCHD 80)	LF	58		
150	16711	2.5-Inch (Trench) Conduit PVC (SCHD 80)	LF	9		
151	16711	3-Inch (Trench) Conduit PVC (SCHD 80)	LF	28		
152	16711	4-Inch (Trench) Conduit PVC (SCHD 80)	LF	21		
153	16711	4-Inch (Bore) Conduit PVC (SCHD 80)	LF	682		
154	16713	Loop Detector Wire Cable	LF	975		
155	16713	Loop Detector Lead-In Cable	LF	3,030		
156	16715	Veh. Sig. Sec. (12-Inch) Inc. (Green Arrow) LED	EA	8		
157	16715	Veh. Sig. Sec. (12-Inch) Inc. (Yellow Arrow) LED	EA	8		
158	16715	Veh. Sig. Sec. (12-Inch) Inc. (Flashing Yellow Arrow) LED	EA	8		
159	16715	Veh. Sig. Sec. (12-Inch) Inc. (Red Arrow) LED	EA	8		
160	16715	Veh. Sig. Sec. (12-Inch) Inc. (Green) LED	EA	8		
161	16715	Veh. Sig. Sec. (12-Inch) Inc. (Yellow) LED	EA	8		
162	16715	Veh. Sig. Sec. (12-Inch) Inc. (Red) LED	EA	8		
163	16715	Back Plate (12-Inch) (3 Sec.)	EA	8		
164	16715	Back Plate (12-Inch) (4 Sec.)	EA	8		
165	16716	Ped. Sig. Sec. (12-Inch) LED (2 Indications)	EA	8		
166	16720	Traffic Signal Cable (Type A) (14 AWG) (3 CONDR)	LF	848		
167	16720	Traffic Signal Cable (Type A) (14 AWG) (5 CONDR)	LF	880		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
168	16720	Traffic Signal Cable (Type A) (14 AWG) (7 CONDR)	LF	2,140		
169	16720	Electrical CONDR (No. 8) Bare	LF	1,307		
170	16720	Electrical CONDR (No. 10) Insulated	LF	950		
171	16720	Signal Power (No. 4 THHN)	LF	105		
172	16724	Optical Detector Unit	EA	4		
173	16724	Phase Selector	EA	1		
174	16724	Optical Detector Cable	LF	580		
175	16730	Controller Cabinet 340 ITS	EA	1		
176	16731	Model 2070L Controller	EA	1		
177	16732	Battery Backup System	EA	1		
178	16734	WIMAX	EA	1		
179	16750	Audible Pedestrian Signal Units	EA	4		
<b>BASE BID SIGNING AND PAVEMENT MARKINGS</b>						
180	01554	Placement of Permanent Signs	EA	42		
181	01554	Relocate Existing Signs	EA	1		
182	02764	Raised Reflective Pavement Markers, Type I-C	EA	23		
183	02764	Raised Reflective Pavement Markers, Type I-C-R	EA	8		
184	02764	Raised Reflective Pavement Markers, Type II-A-A	EA	152		
185	02767	Thermoplastic Pavement Markings Remove (Yellow) 4-Inch (SLD)	LF	180		
186	02767	Thermoplastic Pavement Markings (Yellow) 4-Inch (SLD)	LF	2,334		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
187	02767	Thermoplastic Pavement Markings (Yellow) 4-Inch (BRK)	LF	3,536		
188	02767	Thermoplastic Pavement Markings (Yellow) 12-Inch (SLD)	LF	209		
189	02767	Thermoplastic Pavement Markings (Yellow) 24-Inch (SLD)	LF	60		
190	02767	Thermoplastic Pavement Markings (White) 4-Inch (SLD)	LF	353		
191	02767	Thermoplastic Pavement Markings (White) 4-Inch (BRK)	LF	320		
192	02767	Thermoplastic Pavement Markings (White) 6-Inch (SLD)	LF	250		
193	02767	Thermoplastic Pavement Markings (White) 12-Inch (SLD)	LF	642		
194	02767	Thermoplastic Pavement Markings (White) 24-Inch (SLD)	LF	146		
195	02767	Thermoplastic Pavement Markings (Solid Yellow Median Nose)	EA	2		
196	02767	Thermoplastic Pavement Markings (Word)	EA	3		
197	02767	Thermoplastic Pavement Markings (Arrow)	EA	18		

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**C. EXTRA UNIT PRICE TABLE:**

Item No.	Spec Ref.	Extra Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
1	01110	8-inch Line Stop	EA	2		
2	01110	De-Mobilization/Re-mobilization	LS	1	<u>\$50,000<sup>(2)</sup></u>	<u>\$50,000<sup>(2)</sup></u>
<b><u>TOTAL EXTRA UNIT PRICES</u></b>						<u>\$</u>

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**D. CASH ALLOWANCE TABLE:**

Item No.	Spec Ref.	Cash Allowance Short Title	Cash Allowance in figures (1)
1	01110	Street Cut Permits	\$5,000.00
2	01110	TxDOT Permit	\$5,000.00
3	01110	Proposed Power Pole and/or street light pole removal/relocation/replacement with re-circuit	\$20,000.00
<b><u>TOTAL CASH ALLOWANCES</u></b>			<b>\$50,000.00</b>

**E. CONTRACTOR INCENTIVE/BONUS TABLE:**

Item No.	Spec Ref.	Extra Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
1	00800	Substantial Completion of Contract Milestone 1: Westview Road at Lumpkin Road intersection prior to midnight on April 7, 2015, \$4,000.00 per day for a maximum of ten (10) days.	DAY	10	\$4,000 <sup>(1)</sup>	\$40,00,000 <sup>(1)</sup>
2	00800	Substantial Completion of Contract Milestone 2: Base Bid Improvements, prior to midnight on August 23, 2015, \$4,000.00 per day for a maximum of ten (10) days.	DAY	10	\$4,000 <sup>(1)</sup>	\$40,00,000 <sup>(1)</sup>
3	00800	Substantial Completion of Contract Milestone 3: BASE BID items and ALTERNATE BID items, prior to midnight on December 21, 2015, \$4,000.00 per day for a maximum of ten (10) days.	DAY	10	\$4,000 <sup>(1)</sup>	\$40,00,000 <sup>(1)</sup>
<b><u>TOTAL CONTRACTOR INCENTIVES</u></b>						<b>\$120,000.00</b>

REST OF PAGE INTENTIONALLY LEFT BLANK

**F. ALTERNATES TABLE:**

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
<b>ALT BID GENERAL ITEMS</b>						
1	01555	Traffic Control and Regulation	LS	1		
2	01270	Uniformed Police Officers	HR	2,275		
3	01555	Portable Concrete Low Profile Traffic Barrier Installed	LF	500		
4	01555	Portable Concrete Low Profile Traffic Barrier Moved & Reset	LF	500		
5	01555	Portable Concrete Low Profile Traffic Barrier Removed	LF	500		
6	01570	Inlet Protection Barrier	LF	200		
7	02922	Sodding	SY	1,000		
8	01570	Filter Fabric Fence	LF	2,000		
<b>ALT BID STORM ITEMS</b>						
9	02082	Type-C Manhole on Box Storm Sewer – Complete in Place	EA	19		
10	02082	Type-C Manhole	EA	2		
11	02221	Remove and Dispose of 18-Inch Diameter Storm Sewer	LF	574		
12	02221	Remove and Dispose of 24-Inch Diameter Storm Sewer	LF	254		
13	02221	Remove and Dispose of 30-Inch Diameter Storm Sewer	LF	134		
14	02221	Remove and Dispose of 36-Inch Diameter Storm Sewer	LF	126		
15	02221	Remove and Dispose of Existing Inlets, All Types	EA	7		
16	02221	Remove and Dispose of Existing Manholes, All Types	EA	3		
17	02260	Trench Safety System	LF	1,240		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
18	0540	Storm Sewer Rehabilitation – Inside Joint Repair	EA	170		
19	02631	24-Inch Diameter Storm Sewer by Open-Cut-Complete in Place	LF	128		
20	02221	Remove Existing Storm Sewer Leads	LF	90		
21	02631	4-Foot x 4-Foot Box Storm Sewer by Open-Cut-Complete in Place	LF	1,255		
22	02633	Type C1 Inlet with Extension	EA	5		
23	02633	Type BB Inlet	EA	12		
24	02633	Type E Inlet	EA	1		
25	02632/ 02633	Junction Box with Riser	EA	3		
<b>ALT BID WATER</b>						
26	02511	8-Inch Water Line by Trenchless	LF	1,197		
27	02511	8-Inch Water Line with Restrained Joints	LF	101		
28	02516	8-Inch Cut, Plug and Abandon	EA	1		
29	02520	Fire Hydrant Assembly with 6-Inch gate valve	EA	3		
30	02520	6-Inch FH Lead (Open-Cut)	LF	3		
31	02520	Remove and Salvage Existing Fire Hydrant	EA	2		
32	02525	8-Inch x8-Inch TS&V	EA	1		
<b>ALT BID SANITARY</b>						
33	02082	Precast Standard Sanitary Manhole	EA	7		
34	02531	18-Inch Sanitary Sewer	LF	1,220		
35	02531	8-Inch Sanitary Sewer	LF	51		

Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
<b>ALT BID PAVING</b>						
36	02741	Temporary Asphalt	SY	1,358		
37	02319	Filling of Ditch (Temporary TCP)	CY	750		
38	02221	Remove and Dispose of Asphaltic Concrete Pavement	SY	5,168		
39	02221	Remove and Dispose of Reinforced Concrete Pavement with or without Asphalt Overlay	SY	3,097		
40	02221	Remove and Dispose of Driveways (All Materials, All Thickness)	SY	1,339		
41	02221	Remove and Dispose of Sidewalks (All Materials, All Thickness)	SY	25		
42	02315	Roadway Excavation	CY	15,700		
43	02221	Remove Concrete Curb, all heights	LF	335		
44	02771	Concrete Curb, All Heights	LF	2,625		
45	02337	Lime/Fly-Ash Stabilized Subgrade, 6-Inch	SY	5,826		
46	02337	Lime for Lime Stabilized Subgrade	Ton	87		
47	02754	7-Inch High Early Strength Concrete Driveway, Including Excavation and Base	SF	10,281		
48	02751	8-Inch Reinforced Concrete Pavement (High Early Strength)	SY	5,318		
49	02752	Board Expansion Joint with Load Transfer Device	LF	640		
50	02752	Horizontal Dowels, All Lengths	EA	18		



Item No.	Spec Ref.	Base Unit Short Title	Unit of Measure	Estimated Quantity	Unit Price (this column controls)	Total in figures
51	02752	Saw-cut Concrete Pavement (All Depths)	LF	90		
52	321413	ADA Accessible Wheelchair Ramps	EA	2		
53	321413	ADA Detectable Warning Pavers	SY	15		
54	02775	4.5-Inch Thick Concrete Sidewalk	SF	11,944		
55	02319	Borrow	CY	1,860		
<b>ALT BID SIGNING AND PAVEMENT MARKINGS</b>						
56	01554	Placement of Permanent Signs	EA	22		
57	01554	Relocate Existing Signs	EA	2		
58	02764	Raised Reflective Pavement Markers, Type II-A-A	EA	81		
59	02767	Thermoplastic Pavement Markings Remove (Yellow) 4-Inch (SLD)	LF	1,480		
60	02767	Thermoplastic Pavement Markings (Yellow) 4-Inch (SLD)	LF	2,314		
61	02767	Thermoplastic Pavement Markings (Yellow) 4-Inch (BRK)	LF	1,738		
62	02767	Thermoplastic Pavement Markings (Arrow)	EA	18		

REST OF PAGE INTENTIONALLY LEFT BLANK

**F-1. CASH ALLOWANCE TABLE:**

Item No.	Spec Ref.	Cash Allowance Short Title	Cash Allowance in figures (1)
1	01110	Street Cut Permits	\$5,000.00
2	01110	Proposed Power Pole and/or street light pole removal/relocation/replacement with re-circuit	\$20,000.00
<b><u>TOTAL CASH ALLOWANCES</u></b>			\$50,000.00

REST OF PAGE INTENTIONALLY LEFT BLANK

**G. TOTAL BID PRICE:**

(Add Totals for Items A., B., C., D., E., F., AND F1 above)

\$ \_\_\_\_\_

**2.0 SIGNATURES:** By signing this Document, I agree that I have received and reviewed all Addenda and considered all costs associated with the Addenda in calculating the Total Bid Price.

Bidder:

\_\_\_\_\_  
(Print or type full name of your proprietorship, partnership, corporation, or joint venture.\*)

**\*\*By:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Name:

\_\_\_\_\_  
(Print or type name)

\_\_\_\_\_  
Title

Address:

\_\_\_\_\_  
(Mailing)

\_\_\_\_\_  
(Street, if different)

Telephone and Fax Number:

\_\_\_\_\_  
(Print or type numbers)

\* If Bid is a joint venture, add additional Bid Form signature sheets for each member of the joint venture.

\*\* Bidder certifies that the only person or parties interested in this offer as principals are those named above. Bidder has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding.

Note: This document constitutes a government record, as defined by § 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of the Texas Penal Code.

Footnotes for Tables B through E:

- (1) Fixed Unit Price determined prior to Bid. Cannot be adjusted by the Bidder.
- (2) Minimum Bid Price determined prior to Bid. Can be increased by the Bidder by crossing out the Minimum and noting revised price on the line above.
- (3) Maximum Bid Price determined prior to Bid. Can be decreased but not increased by Bidder by crossing out the Maximum and noting revised price on the line above. A Bid that increases the Maximum Bid Price may be found non-conforming and non-responsive.
- (4) Fixed Range Bid Price determined prior to Bid. Unit Price can be adjusted by Bidder to any amount within the range defined by crossing out prices noted and noting revised price on the line above.

Document 00430

BIDDER'S BOND

THAT WE, \_\_\_\_\_, as Principal,  
(Bidder)  
("Bidder"), and the other subscriber hereto, \_\_\_\_\_, as Surety, do hereby  
acknowledge ourselves to be held and firmly bound to the City of Houston, a municipal corporation, in the sum  
of \_\_\_\_\_ Dollars (\$) (an amount  
equal to 10 percent of the Total Bid Price, including Cash Allowances and Alternates, if any, for the payment of  
which sum, well and truly to be made to the City of Houston and its successors, the Bidder and Surety do bind  
themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

WHEREAS, the Bidder has submitted on or about this day a proposal offering to perform the following:

\_\_\_\_\_

(Project Name, Location and Number)

in accordance with the Drawings, Specifications, and terms and conditions related thereto to which reference is  
hereby made.

NOW, THEREFORE, if the Bidder's offer as stated in the Document 00410 – Bid Form is accepted by the  
City, and the Bidder executes and returns to the City Document 00520 – Agreement, required by the City, on  
the forms prepared by the City, for the Work and also executes and returns the same number of the  
Performance, Payment and Maintenance Bonds (such bonds to be executed by a Corporate Surety authorized  
by the State Board of Insurance to conduct insurance business in the State of Texas, and having an  
underwriting limitation in at least the amount of the bond) and other submittals as required by Document 00495  
- Post-Bid Procedures, in connection with the Work, within the Contract Time, then this obligation shall become  
null and void; otherwise it is to remain in full force and effect.

If Bidder is unable to or fails to perform the obligations undertaken herein, the undersigned Bidder and  
Surety shall be liable to the City for the full amount of this obligation which is hereby acknowledged as the  
amount of damages which will be suffered by the City on account of the failure of such Bidder to perform such  
obligations, the actual amount of such damages being difficult to ascertain.

Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually  
received or, if earlier, on the third day following deposit in a United States Postal Service post office or  
receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to the respective  
other Party at the address prescribed in the Contract documents, or at such other address as the receiving  
Party may hereafter prescribe by written notice to the sending Party.

IN WITNESS THEREOF, the Bidder and Surety have signed and sealed this instrument on the respective  
dates written below their signatures and have attached current Power of Attorney.

ATTEST, SEAL: (if a corporation)  
WITNESS: (if not a corporation)

By: \_\_\_\_\_  
Name:  
Title:

ATTEST/SURETY WITNESS: (SEAL)

By: \_\_\_\_\_  
Name:  
Title:  
Date:

\_\_\_\_\_  
(Name of Bidder)

By: \_\_\_\_\_  
Name:  
Title:  
Date:

\_\_\_\_\_  
(Full Name of Surety)

\_\_\_\_\_  
(Address of Surety for Notice)

\_\_\_\_\_  
(Telephone Number of Surety)

By: \_\_\_\_\_  
Name:  
Title:  
Date:

END OF DOCUMENT



Document 00450

**BIDDER'S STATEMENT OF MWBE/PDBE/DBE/SBE STATUS**

This certifies that the status of the Bidder, \_\_\_\_\_, in  
(Bidder's Name)

regard to the City of Houston Code of Ordinances, Chapter 15, Article V, relating to City-wide percentage goals for contracting with Minority and Women-owned Business Enterprises (MWBE) and Disadvantaged Business Enterprises (DBE), Chapter 15, Article VI, relating to City-wide percentage goals for contracting with Persons with Disabilities Business Enterprises (PDBE) and Chapter 15, Article IX, relating to City-wide percentage goals for contracting with a Small Business Enterprise (SBE) is as follows:

1. Bidder (individual, partnership, corporation) is  is not  a Minority Business Enterprise as certified by the Affirmative Action and Contract Compliance Division.
2. Bidder (individual, partnership, corporation) is  is not  a Women-owned Business Enterprise as certified by the Affirmative Action and Contract Compliance Division.
3. Bidder (individual, partnership, corporation) does  does not  declare itself to be a Persons with Disabilities Business Enterprise as defined above.
4. Bidder (individual, partnership, corporation) does  does not  declare itself to be a Disadvantaged Business Enterprise as defined above.
5. Bidder (individual, partnership, corporation) does  does not  declare itself to be a Small Business Enterprise as defined above.

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

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

Date: \_\_\_\_\_

END OF DOCUMENT

Document 00453

**BIDDER'S STATEMENT OF RESIDENCY**

The City may not award a contract for general construction, services, or purchases to a Nonresident Bidder unless Nonresident's Bid is lower than the lowest Bid submitted by a responsible Texas Resident Bidder by the same amount that a Texas Resident bidder would be required to underbid the Nonresident Bidder to obtain a comparable contract in the state in which Nonresident's principle place of business is located.

1. This certifies that the Bidder, \_\_\_\_\_, is a State of Texas Resident Bidder as defined in TEX. GOVT. CODE ANN. § 2252.001(4) (Vernon 1994).

\_\_\_\_\_  
Signature Title

"Texas Resident Bidder" means a bidder whose principal place of business is in this State, and includes a Contractor whose ultimate parent company or majority owner has its principal place of business in this State. *When bidder cannot sign 1, above, proceed to 2.*

2. a. \_\_\_\_\_ is a resident of \_\_\_\_\_ and is a Nonresident Bidder as defined in TEX. GOVT. CODE ANN. § 2252.001(3) (Vernon 1994).

\_\_\_\_\_  
Signature Title

"Nonresident Bidder" means a bidder whose principal place of business is not in this State, but excludes a contractor whose ultimate parent company or majority owner has its principal place of business in this State.

- b. The State of \_\_\_\_\_ Bidder's resident state \_\_\_\_\_ Does or Does Not have a state statute giving preference to resident bidders.

\_\_\_\_\_  
Signature Title

*If the answer to 2.b is that your state does have a statute giving preference to resident bidders, then you must provide a copy and proceed to 3.*

3. A copy of the State of \_\_\_\_\_ statute is attached.

\_\_\_\_\_  
Signature Title  
\_\_\_\_\_  
Date

END OF DOCUMENT

Document 00454

**AFFIDAVIT OF NON-INTEREST**

**BEFORE ME**, the undersigned authority, a Notary Public in and for the State of Texas, on this day personally appeared \_\_\_\_\_, who

Affiant

being by me duly sworn on his oath stated that he is \_\_\_\_\_,

Title

\_\_\_\_\_  
Name of Firm

the firm named and referred to and in the foregoing; and that he knows of no officer, agent, or employee of the City of Houston being in any manner interested either directly or indirectly in such Contract.

\_\_\_\_\_  
Affiant's Signature

SWORN AND SUBSCRIBED before me on \_\_\_\_\_,

Date

\_\_\_\_\_  
Notary Public in and for the State of TEXAS

\_\_\_\_\_  
Print or type name

My Commission Expires: \_\_\_\_\_  
Expiration Date

END OF DOCUMENT

ORIG. DEPT.: \_\_\_\_\_ FILE/I.D. NO.: \_\_\_\_\_

**INSTRUCTION: ENTITIES USING AN ASSUMED NAME SHOULD DISCLOSE SUCH FACT TO AVOID REJECTION OF THE AFFIDAVIT. THE FOLLOWING FORMAT IS RECOMMENDED: CORPORATE/LEGAL NAME DBA ASSUMED NAME.**

STATE OF \_\_\_\_\_ §  
  §                                   **AFFIDAVIT OF OWNERSHIP OR CONTROL**  
COUNTY OF \_\_\_\_\_ §

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_ [FULL NAME] (hereafter "Affiant"), \_\_\_\_\_ [STATE TITLE/CAPACITY WITH CONTRACTING ENTITY] of \_\_\_\_\_ [CONTRACTING ENTITY'S CORPORATE/LEGAL NAME] ("Contracting Entity"), who being by me duly sworn on oath stated as follows:

1. Affiant is authorized to give this affidavit and has personal knowledge of the facts and matters herein stated.
2. Contracting Entity seeks to do business with the City in connection with \_\_\_\_\_ Lumpkin Road Reconstruction WBS No. N-T17000-0012-3 [DESCRIBE PROJECT OR MATTER] which is expected to be in an amount that exceeds \$50,000.
3. The following information is submitted in connection with the proposal, submission or bid of Contracting Entity in connection with the above described project or matter.
4. Contracting Entity is organized as a business entity as noted below (check box as applicable).

**FOR PROFIT ENTITY:**

**NON-PROFIT ENTITY:**

- SOLE PROPRIETORSHIP
- CORPORATION
- PARTNERSHIP
- LIMITED PARTNERSHIP
- JOINT VENTURE
- LIMITED LIABILITY COMPANY
- OTHER (Specify type in space below)

- NON-PROFIT CORPORATION
- UNINCORPORATED ASSOCIATION

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



5. The information shown below is true and correct for the Contracting Entity and all owners of 5% or more of the Contracting Entity and, where the Contracting Entity is a non-profit entity, the required information has been shown for each officer, *i.e.*, president, vice-president, secretary, treasurer, etc. **[NOTE: IN ALL CASES, USE FULL NAMES, LOCAL BUSINESS AND RESIDENCE ADDRESSES AND TELEPHONE NUMBERS. DO NOT USE POST OFFICE BOXES FOR ANY ADDRESS. INCLUSION OF E-MAIL ADDRESSES IS OPTIONAL, BUT RECOMMENDED. ATTACH ADDITIONAL SHEETS AS NEEDED.]**

**Contracting Entity**

Name: \_\_\_\_\_  
Business Address **[NO./STREET]** \_\_\_\_\_  
**[CITY/STATE/ZIP CODE]** \_\_\_\_\_  
Telephone Number (\_\_\_\_) \_\_\_\_\_  
Email Address **[OPTIONAL]** \_\_\_\_\_  
Residence Address **[NO./STREET]** \_\_\_\_\_  
**[CITY/STATE/ZIP CODE]** \_\_\_\_\_  
Telephone Number (\_\_\_\_) \_\_\_\_\_  
Email Address **[OPTIONAL]** \_\_\_\_\_

**5% Owner(s) or More (IF NONE, STATE "NONE.")**

Name: \_\_\_\_\_  
Business Address **[NO./STREET]** \_\_\_\_\_  
**[CITY/STATE/ZIP CODE]** \_\_\_\_\_  
Telephone Number (\_\_\_\_) \_\_\_\_\_  
Email Address **[OPTIONAL]** \_\_\_\_\_  
Residence Address **[NO./STREET]** \_\_\_\_\_  
**[CITY/STATE/ZIP CODE]** \_\_\_\_\_  
Telephone Number (\_\_\_\_) \_\_\_\_\_  
Email Address **[OPTIONAL]** \_\_\_\_\_

**6. Optional Information**

Contracting Entity and/or \_\_\_\_\_ [NAME OF OWNER OR NON-PROFIT OFFICER] is actively protesting, challenging or appealing the accuracy and/or amount of taxes levied against \_\_\_\_\_ [CONTRACTING ENTITY, OWNER OR NON-PROFIT OFFICER] as follows:

Name of Debtor: \_\_\_\_\_

Tax Account Nos. \_\_\_\_\_

Case or File Nos. \_\_\_\_\_

Attorney/Agent Name \_\_\_\_\_

Attorney/Agent Phone No. (\_\_\_\_) \_\_\_\_\_

Tax Years \_\_\_\_\_

Status of Appeal [DESCRIBE] \_\_\_\_\_

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

Affiant certifies that he or she is duly authorized to submit the above information on behalf of the Contracting Entity, that Affiant is associated with the Contracting Entity in the capacity noted above and has personal knowledge of the accuracy of the information provided herein, and that the information provided herein is true and correct to the best of Affiant's knowledge and belief.

\_\_\_\_\_  
Affiant

**SWORN TO AND SUBSCRIBED** before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(Seal)

\_\_\_\_\_  
Notary Public

**NOTE:**

This affidavit constitutes a **government record** as defined by Section 37.01 of the Texas Penal Code. Submission of a false government record is punishable as provided in Section 37.10 of the Texas Penal Code. Attach additional pages if needed to supply the required names and addresses.

Document 00457

Conflict of Interest Questionnaire

Local Government Code Chapter 176 requires Bidders with the City of Houston ("City") to file a Conflict of Interest Questionnaire with the City Secretary of the City of Houston.

The Conflict of Interest Questionnaire is available for downloading on the Texas Ethics Commission's website at: <http://www.ethics.state.tx.us/forms/CIQ.pdf>. The completed Conflict of Interest Questionnaire will be posted on the City Secretary's website. Also you will find a list of the City Local Government Officers on the City Secretary's website.

For your convenience the CIQ form is attached as part of this document. Although the City has provided this document for the Bidders convenience, it is the Bidders responsibility to submit the latest version of the CIQ form as promulgated by the Texas Ethics Commission.

The Failure of any Bidder to comply with this law is a Class C misdemeanor.

END OF DOCUMENT

# CONFLICT OF INTEREST QUESTIONNAIRE

## FORM CIQ

For vendor or other person doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 1491, 80th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code by a person who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the person meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

### OFFICE USE ONLY

Date Received

**1** Name of person who has a business relationship with local governmental entity.

**2**  Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

**3** Name of local government officer with whom filer has employment or business relationship.

\_\_\_\_\_  
Name of Officer

This section (item 3 including subparts A, B, C & D) must be completed for each officer with whom the filer has an employment or other business relationship as defined by Section 176.001(1-a), Local Government Code. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income, other than investment income, from the filer of the questionnaire?

Yes       No

B. Is the filer of the questionnaire receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer named in this section AND the taxable income is not received from the local governmental entity?

Yes       No

C. Is the filer of this questionnaire employed by a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

Yes       No

D. Describe each employment or business relationship with the local government officer named in this section.

**4**

\_\_\_\_\_  
Signature of person doing business with the governmental entity

\_\_\_\_\_  
Date



Document 00495

POST-BID PROCEDURES

1.0 DOCUMENT ADDRESSES

- A. Notice of Intent to Award.
- B. Requirements of Bidder.
- C. Failure of Bidder to comply with requirements.
- D. Notice to Proceed.

2.0 NOTICE OF INTENT TO AWARD

- A. The Memorial City Redevelopment Authority will provide written Notice of Intent to Award to Low Bidder.

3.0 REQUIREMENTS OF BIDDER

- A. Within 7 days of receipt of Notice of Intent to Award, Low Bidder shall execute and deliver to Memorial City Redevelopment Authority, for the approval, documents indicated by an "X" below:

- Document 00600 - List of Proposed Subcontractors and Suppliers, Part A – MWBE/PDBE/DBE/SBE Participation Plan
- Executed Subcontract(s), Letter(s) of Intent, or documentation of good faith efforts to meet the MWBE/PDBE/DBE/SBE goals

- B. Within 7 days of receipt of Notice of Intent to Award, Low Bidder shall execute and deliver to Memorial City Redevelopment Authority for approval, documents indicated by an "X" below:

- Document 00500 - Form of Business
- Document 00501 - Resolution of Corporation
- Document 00520 - Agreement
- Document 00600 - List of Proposed Subcontractors and Suppliers, Part B - Schedule of Non-MWBE/PDBE/DBE/SBE Subcontractors and Suppliers
- Document 00601 - Drug Policy Compliance Agreement
- Document 00602 - Contractor's Drug-free Workplace Policy (*Contractor creates this document.*)

- Document 00604 - History of OSHA Actions and List of On-the-job Injuries
- Document 00605 - List of Safety Impact Positions (*Contractor completes this list. Do not submit if submitting Document 00606.*)
- Document 00606 - Contractor's Certification of No Safety Impact Positions (*Do not submit if submitting Document 00605.*)
- Document 00607 - Certification Regarding Debarment, Suspension, and Other Responsibility Matters
- Document 00608 - Contractor's Certification Regarding Non-segregated Facilities for Project Funded by AIP Grant
- Document 00610 - Performance Bond
- Document 00611 - Statutory Payment Bond
- Document 00612 - One-year Maintenance Bond
- Document 00613 - One-year Surface Correction Bond
- Document 00620 - Affidavit of Insurance (*with Certificate of Insurance attached*)
- Document 00622 - Name and Qualifications of Proposed Superintendent (*Contractor creates this document.*)
- Document 00623 - Contractor's Act of Assurance (SRF Form ED-103)
- Document 00624 - Affidavit of Compliance with Affirmative Action Program
- Document 00629 - Affidavit for FAA Form 7460-1
- Document 00630 - Certification of Agreement to Comply with Pay or Play Program
- Document 00631 - City of Houston Pay or Play Program – List of Participating Subcontractors
- Document 00809 – CDBG Requirements for Federally Funded Projects

C. Within 7 days of receipt of Notice of Intent to Award, Low Bidder shall execute the following forms and deliver them directly to the Memorial City Redevelopment Authority.

1. Original forms contained in Document 00805 - Affirmative Action Compliance Program:
  - Pages 00805-5 to 00805-7, Certification by Bidder Regarding Equal Employment Opportunity
  - Page 00805-8, Total Work Force Composition of the Company, or copy of latest EEO-1 form (*required only if Contractor has a work force of 50 or more people and the Original Contract Price is \$50,000 or more*)
  - Page 00805-9, Affirmative Action Compliance Program
  - Page 00805-10, Certificate from Contractor Appointing Officer or Employee to Supervise Payment of Employees
  - Page 00805-12, The Name of the Company's EEO Officer

2. Original completed form Document 00625 - Certification by Proposed Material Suppliers, Lessors, and Professional Service Providers Regarding Equal Employment Opportunity, for each proposed material supplier and equipment supplier.
- D. Designations of Subcontractors and Suppliers, who have been selected by Bidder in Part B - Schedule of Non-MWBE/PDBE/DBE/SBE Subcontractors and Suppliers of Document 00600 - List of Proposed Subcontractors and Suppliers, and accepted by the Memorial City Redevelopment Authority, may be changed only with prior notice and acceptance by Memorial City Redevelopment Authority as provided in Conditions of the Contract. For each Product Supplier subsequently added or substituted, provide an original completed form, Document 00625 - Certification by Proposed Material Suppliers, Lessors, and Professional Service Providers Regarding Equal Employment Opportunity, directly to the Memorial City Redevelopment Authority.
  - E. On Bidder's written request, Memorial City Redevelopment Authority may grant an extension of time, not to exceed 7 days, to furnish documents specified in Paragraph 3.0. If Bidder is required to resubmit documents specified in Paragraph 3.0, Bidder shall do so within time limits provided in the request for resubmission.
  - F. Designations of Subcontractors and Suppliers, who have been selected by Bidder in its Participation Plan, and accepted by the Memorial City Redevelopment Authority, may be changed only with prior notice and acceptance by the Memorial City Redevelopment Authority as provided in Document 00808 - Minority and Women-owned Business Enterprise (MWBE), Persons with Disabilities Business Enterprise (PDBE) and Small Business Enterprise (SBE) Program.
  - G. When requested by Project Manager, Bidder shall provide evidence of successfully completing similar utility construction projects over the past five (5) years, of similar magnitude and complexity. In addition, the Low Bidder must demonstrate the following:
    1. Record of completing projects on schedule in a similar urban environment.
    2. Sufficient work force and equipment for executing the project with multiple crews.

#### 4.0 FAILURE OF BIDDER TO COMPLY WITH REQUIREMENTS

- A. Should Bidder, on receipt of Notice of Intent to Award, fail to comply with requirements of this Document 00495 within stated time, the Memorial City

Redevelopment Authority may declare award in default and require forfeiture of the Security Deposit.

- B. After the Memorial City Redevelopment Authority's written notice of default to Low Bidder, the Memorial City Redevelopment Authority may award the Contract to Bidder whose offer is the next lowest bid, and Security Deposit of Bidder in default shall be forfeited to the Memorial City Redevelopment Authority in accordance with provisions of Document 00200 - Instructions to Bidders.

5.0 NOTICE TO PROCEED

- A. Upon the Memorial City Redevelopment Authority's execution of the Agreement and delivery to Contractor, Memorial City Redevelopment Authority Resident Engineer will give Document 00551 - Notice to Proceed to Contractor, which establishes Date of Commencement of the Work.

END OF DOCUMENT



Document 00500

**FORM OF BUSINESS**

Please mark the box describing your firm's form of business, fill in the requested information, and include the relevant attachments.

**Corporation**

Corporate Name: \_\_\_\_\_  
State of Incorporation: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Type of Corporation: \_\_\_\_\_

Certificate of Assumed Name, if operating under a name different than that on the corporate charter (the Certificate must have been issued within the past 10 years to be valid)

\*Certificate of Good Standing

\*Certificate of Existence (if non-Texas corporation, Certificate of Authority)

**Partnership/Joint Venture**

Partnership/Joint Venture Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
Type of Partnership/Joint Venture: \_\_\_\_\_

Copy of the Partnership or Joint Venture Agreement, **or**  
Affidavit with the name of the partnership or joint venture, the names of the individual partners or participants in the joint venture, and a statement that the partnership or joint venture is in existence

Certificate of Assumed Name, (the Certificate must have been issued within the past 10 years to be valid)

If firm is a limited partnership, the Certificate of Limited Partnership

If any partner or joint venturer is a corporation, the above information relating to corporation must be included as to each sum partner or joint venturer.

**Sole Proprietorship**

Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_

Certificate of Assumed Name, if operating under a name different than that of the sole proprietor (the Certificate must have been issued within the past 10 years to be valid)

*\* Must be furnished upon request of the Director and must be less than 90 days old.*

END OF DOCUMENT



Document 00501

**RESOLUTION OF CONTRACTOR**

\_\_\_\_\_ (“Contractor”),  
(Name of Contractor, e.g., “Biz. Inc.,” “Biz LLP”)  
is a \_\_\_\_\_,  
(Type of Organization, e.g.: Corporation, Limited Partnership, Limited Liability Partnership, Limited Liability Company, etc.)  
which is bound by acts of \_\_\_\_\_,  
(Name and Form of Governing Entity, e.g., “Biz Inc. Board of Directors”, “Bill Smith, GP”, etc.)  
 (“Governing Entity”).

On the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, the Governing Entity resolved, in accordance with all documents, rules, and laws applicable to the Contractor, that \_\_\_\_\_, is authorized to act as the  
(Contractor’s Representative)  
Contractor’s Representative in all business transactions (initial one) \_\_\_\_ conducted in the State of Texas OR \_\_\_\_ related to this Contract; and

The Governing Entity warrants that the above resolution (a) was entered into without dissent or reservation by the Governing Entity, (b) has not been rescinded or amended, and (c) is now in full force and effect; and

In authentication of the adoption of this resolution, I subscribe my name on this day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Authorized Signature for Governing Entity)

\_\_\_\_\_  
(Print or Type Name and Title of Authorized Signatory)

**SWORN AND SUBSCRIBED** before me on \_\_\_\_\_  
Date

\_\_\_\_\_  
Notary Public in and for the State of Texas

My Commission Expires: \_\_\_\_\_  
Expiration Date

\_\_\_\_\_  
Print or Type Name of Notary Public

Document 00520

**AGREEMENT**

**Project:** Lumpkin Road Reconstruction and Drainage Improvements

**Project Location:** Lumpkin Road (Key Map No. 449Z and 489D)

**Project No:** WBS No. N-T17000-0012-3

**The Owner:** Memorial City Redevelopment Authority, 8955 Katy Freeway, Suite 215, Houston, TX 77024

**Contractor:** \_\_\_\_\_

(Address for Written Notice) \_\_\_\_\_

**Fax Number:** \_\_\_\_\_

**Owner Representative is:** Don Huml - Executive Director

(Address for Written Notice) Memorial City Redevelopment Authority, 8955 Katy Freeway, Suite 215,  
Houston, TX 77024

**Fax Number:** (713)829-5720

**THE MEMORIAL CITY REDEVELOPMENT AUTHORITY AND CONTRACTOR AGREE AS FOLLOWS:**

**ARTICLE 1  
THE WORK OF THE CONTRACT**

1.1 Contractor shall perform the Work in accordance with the Contract.

**ARTICLE 2  
CONTRACT TIME**

2.1 Contractor shall achieve Date of Substantial Completion within 465 days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

2.2 The Parties recognize that time is of the essence for this Agreement and that the Memorial City Redevelopment Authority will suffer financial loss if the Work is not completed within the Contract Time. Parties also recognize delays, expense, and difficulties involved in proving in a legal or arbitration proceeding actual loss suffered by the Memorial City Redevelopment Authority if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Parties agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the Memorial City Redevelopment Authority the amount stipulated in Document 00800 – Supplementary Conditions, for each day beyond Contract Time.



**ARTICLE 3  
CONTRACT PRICE**

3.1 Subject to terms of the Contract, the Memorial City Redevelopment Authority will pay Contractor in current funds for Contractor's performance of the Contract, Contract Price of \$\_\_\_\_\_ which includes Alternates, if any, accepted below.

3.2 The Memorial City Redevelopment Authority accepts Alternates as follows:

Alternate No. \_\_\_\_\_

**ARTICLE 4  
PAYMENTS**

4.1 The Memorial City Redevelopment Authority will make progress payments to Contractor as provided below and in General and Supplementary Conditions of the Contract.

4.2 The Period covered by each progress payment is one calendar month ending on the [ ] 10th, [ ] 20th, or [ ] last day of the month.

4.3 The Memorial City Redevelopment Authority will issue Certificates for Payment and will make progress payments on the basis of such Certificates as provided in Conditions of the Contract.

4.4 Final payment, constituting entire unpaid balance of Contract Price, will be made by the Memorial City Redevelopment Authority to Contractor as provided in General and Supplementary Conditions of the Contract.

**ARTICLE 5  
CONTRACTOR REPRESENTATIONS**

5.1 Contractor represents:

5.1.1 Contractor has examined and carefully studied Contract documents and other related data identified in Bid Documents.

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

5.1.3 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.

5.1.4 Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in Contract documents and (2) reports and drawings of a hazardous environmental condition, if any, at the site which has been identified in Contract documents.

5.1.5 Contractor 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 Contractor, including applying specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract to be employed by Contractor, and safety precautions and programs incident thereto

5.1.6 Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for performance of the Work at Contract Price, within Contract Time, and in accordance with the Contract.

5.1.7 Contractor is aware of general nature of work to be performed by the Memorial City Redevelopment Authority and others at the site that relates to the Work as indicated in Contract documents.

5.1.8 Contractor has correlated information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract.

5.1.9 Contractor has given Resident Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract, and written resolution thereof by Resident Engineer is acceptable to Contractor.

5.1.10 Contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

5.1.11 Contractor understands and agrees that the Memorial City Redevelopment Authority and the Design Consultant disclaim any responsibility for the accuracy, true location and extent of the surface and subsurface investigations that have been prepared by others. Contractor further understands and agrees that the Memorial City Redevelopment Authority and the Design Consultant also disclaim any responsibility for interpretation of that data by Bidders, i.e., projecting soil-bearing values rock profiles, soil stability and the presence, level and extent of underground water.

## **ARTICLE 6 MISCELLANEOUS PROVISIONS**

6.1 The Contract may be terminated by either Party as provided in General and Supplementary Conditions of the Contract.

6.2 The Work may be suspended by the Memorial City Redevelopment Authority as provided in Conditions of the Contract.

## **ARTICLE 7 ENUMERATION OF CONTRACT DOCUMENTS**

7.1 The following documents are incorporated into this Agreement:

7.1.1 Document 00700 - General Conditions.

7.1.2 Document 00800 - Supplementary Conditions.

7.1.3 Division 01-General Requirements.

7.1.4 Divisions 02 through 16 of Specifications attached hereto or incorporated by reference in Document 00010 - Table of Contents.

7.1.5 Drawings listed in Document 00015 - List of Drawings and bound separately.

7.1.6 Addenda which apply to the Contract, are as follows:

Addendum No. 1, dated \_\_\_\_\_  
Addendum No. 2, dated \_\_\_\_\_  
Addendum No. 3, dated \_\_\_\_\_

7.1.7 Other documents:

<u>Document No.</u>	<u>Title</u>
<input checked="" type="checkbox"/> 00410B	Bid Form – Part B
<input checked="" type="checkbox"/> 00500	Form of Business
<input checked="" type="checkbox"/> 00501	Resolution of Corporation (if a corporation)
<input type="checkbox"/> 00608	Contractor's Certification Regarding Non-Segregated Facilities for Project Funded by AIP Grant
<input checked="" type="checkbox"/> 00610	Performance Bond
<input checked="" type="checkbox"/> 00611	Statutory Payment Bond
<input checked="" type="checkbox"/> 00612	One-year Maintenance Bond
<input checked="" type="checkbox"/> 00613	One-year Surface Correction Bond
<input checked="" type="checkbox"/> 00620	Affidavit of Insurance (with the Certificate of Insurance attached)
<input type="checkbox"/> 00623	Contractor's Act of Assurance (SRF Form ED-103)
<input checked="" type="checkbox"/> 00624	Affidavit of Compliance with Affirmative Action Program
<input type="checkbox"/> 00628	Affidavit of Compliance with Disadvantaged Business Enterprise (DBE) Program for Project Funded By AIP Grant
<input type="checkbox"/> 00630	Agreement to Comply with Pay or Play Program
<input type="checkbox"/> 00631	Pay or Play Program - List of Subcontractors
<input checked="" type="checkbox"/> 00800	Supplementary Conditions for Project CIP or AIP Funded
<input type="checkbox"/> 00801	FAA Supplementary Conditions
<input type="checkbox"/> 00802	SRF Supplementary Conditions
<input checked="" type="checkbox"/> 00805	Affirmative Action Compliance Program
<input type="checkbox"/> 00806	Disadvantaged Business Enterprise (DBE) Program
<input type="checkbox"/> 00807	Bidder/Contractor Requirements For Disadvantaged Business Enterprise (DBE) Program
<input checked="" type="checkbox"/> 00808	Minority and Women-owned Business Enterprise (MWBE) & Persons with Disabilities Business Enterprise (PDBE) Program
<input type="checkbox"/> 00810	Federal Wage Rate - Highway
<input type="checkbox"/> 00811	Federal Wage Rate - Building
<input type="checkbox"/> 00812	Federal Wage Rate - Heavy
<input checked="" type="checkbox"/> 00820	Wage Rate for Engineering Construction
<input type="checkbox"/> 00821	Wage Rate for Building Construction
<input type="checkbox"/> 00830	Trench Safety Geotechnical Information
<input type="checkbox"/> 00840	Pay or Play Program
<input type="checkbox"/> 00912	Rider

**ARTICLE 8  
SIGNATURES**

8.1 This Agreement is executed in four original copies and is effective as of the date of countersignature by Chairman of the Board.

**CONTRACTOR:**

(If Joint Venture)

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

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

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

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

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

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

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

**Memorial City Redevelopment Authority,  
HOUSTON, TEXAS**

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

Chair of the Board,  
Memorial City  
Redevelopment Authority

Date Signed:

\_\_\_\_\_

END OF DOCUMENT



Document 00600

**LIST OF PROPOSED SUBCONTRACTORS AND SUPPLIERS**

PROJECT NAME: Lumpkin Road Reconstruction TOTAL DBE AWARD: \$ \_\_\_\_\_  
ORIG. CONTRACT PRICE: \$ \_\_\_\_\_ TOTAL MWSBE AWARD: \$ \_\_\_\_\_  
PROJECT NO.: WBS No. N-T17000-0012-3 TOTAL HUB AWARD: \$ \_\_\_\_\_  
DATE OF REPORT: \_\_\_\_\_ TOTAL PDBE AWARD: \$ \_\_\_\_\_

NAICS (6 digits)	SUBCONTRACTOR OR SUPPLIER (INCLUDE "MWSBE", "PDBE", "DBE", OR "HUB" DESIGNATION) <sup>2</sup>	ADDRESS	SCOPE OF WORK <sup>3</sup>

- NOTES:**
1. RETURN FOR ALL PROJECTS AS REQUIRED IN DOCUMENT 00800 – SUPPLEMENTARY CONDITIONS. RETURN WITHIN THE SPECIFIED NUMBER OF DAYS AFTER RECEIPT OF NOTICE OF INTENT TO AWARD
  2. DESIGNATE FIRMS CERTIFIED BY THE CITY OFFICE OF BUSINESS OPPORTUNITY ON THIS FORM.
  3. DESCRIBE THE WORK TO BE PERFORMED, FOR WHICH THE FIRM IS CERTIFIED, SUCH AS "PAVING", "ELECTRICAL", ETC.
  4. CONTRACTOR SHALL EXECUTE CONTRACTS WITH APPROVED SUBCONTRACTORS AND SUPPLIERS WITHIN 30 DAYS AFTER THE DATE OF THE NOTICE TO PROCEED. COPIES OF CONTRACTS WITH DESIGNATED FIRMS MUST BE SENT TO THE OFFICE OF BUSINESS OPPORTUNITY.

SIGNATURE: \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_

NAME: \_\_\_\_\_  
(Type or Print)

TITLE: \_\_\_\_\_



Document 00604

HISTORY OF OSHA ACTIONS AND LIST OF ON-THE-JOB INJURIES

Prior to award of the Contract, Low Bidder will be required to file the following with the City:

1. A history of all OSHA actions, advisories, etc., Contractor has received on all jobs worked in any capacity, prime or subcontractor. The history shall be for the two-year period preceding the Bid Date of the Project.
2. A list of all on-the-job injuries, accidents, and fatalities suffered by any present or former employees of Contractor during the same two-year period.
3. If less than the two-year period, give the date Contractor started doing business.

This information must be submitted to the City within the time period stated in Document 00498 - Notice of Intent to Award. An officer of the company must certify in a notarized statement that the information submitted is true and correct.

END OF DOCUMENT





Document 00606

CONTRACTOR'S CERTIFICATION OF  
NO SAFETY IMPACT POSITIONS IN PERFORMANCE OF A CITY CONTRACT

**BEFORE ME**, the undersigned authority, on this day personally appeared

\_\_\_\_\_ ,  
Affiant

who being by me duly sworn on his oath stated that he is \_\_\_\_\_

Title

of \_\_\_\_\_

Contractor

and that no employee safety impact positions, as defined in §5.17 of Executive Order  
No. 1-31, will be involved in performing \_\_\_\_\_

Project

Contractor agrees and covenants that it shall immediately notify the City of Houston  
Director of Personnel if any safety impact positions are established to provide services  
in performing this City Contract.

\_\_\_\_\_  
Affiant's Signature

SWORN AND SUBSCRIBED before me on this day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public in and for the State of TEXAS

\_\_\_\_\_  
Print or Type Notary Public Name

My Commission Expires: \_\_\_\_\_  
Expiration Date

END OF DOCUMENT

Document 00607

**CERTIFICATION REGARDING DEBARMENT,  
SUSPENSION, AND OTHER RESPONSIBILITY MATTERS**

Contractor certifies to the best of its knowledge and belief that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal, State, or local department or agency;
2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph 2 of this certification; and
4. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Section 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to five years, or both.

Company:

\_\_\_\_\_  
Typed Name & Title of Authorized Representative

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

I am unable to certify the above statements. My explanation is attached.

END OF DOCUMENT

Document 00610

**PERFORMANCE BOND**

**THAT WE,** \_\_\_\_\_, as Principal, (the "Contractor"), and the other subscriber hereto, \_\_\_\_\_, as Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of Houston (the "City"), a municipal corporation, in the penal sum of \$\_\_\_\_\_ for the payment of which sum, well and truly to be made to the City, its successors and assigns, Contractor and Surety do bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

**THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:**

**WHEREAS,** the Contractor has on or about this day executed a Contract in writing with the City for \_\_\_\_\_, all of such work to be done as set out in full in said Contract documents therein referred to and adopted by the City Council, all of which are made a part of this instrument as fully and completely as if set out in full herein.

**NOW THEREFORE,** if the said Contractor shall faithfully and strictly perform the Contract in all its terms, provisions, and stipulations in accordance with its true meaning and effect, and in accordance with the Contract documents referred to therein and shall comply strictly with each and every provision of the Contract and with this Bond, then this obligation shall become null and void and shall have no further force and effect; otherwise the same is to remain in full force and effect. Should the Contractor fail to faithfully and strictly perform the Contract in all its terms, including but not limited to the indemnifications thereunder, the Surety shall be liable for all damages, losses, expenses and liabilities that the City may suffer in consequence thereof, as more fully set forth herein.

It is further understood and agreed that the Surety does hereby relieve the City or its representatives from the exercise of any diligence whatever in securing compliance on the part of the Contractor with the terms of the Contract, and the Surety agrees that it shall be bound to take notice of and shall be held to have knowledge of all acts or omissions of the Contractor in all matters pertaining to the Contract. The Surety understands and agrees that the provision in the Contract that the City will retain certain amounts due the Contractor until the expiration of 30 days from the acceptance of the Work is intended for the City's benefit, and the City will have the right to pay or withhold such retained amounts or any other amount owing under the Contract without changing or affecting the liability of the Surety hereon in any degree.

It is further expressly agreed by Surety that the City or its representatives are at liberty at any time, without notice to the Surety, to make any change in the Contract documents and in the Work to be done thereunder, as provided in the Contract, and in the terms and conditions thereof, or to make any change in, addition to, or deduction from the Work to be done thereunder; and that such changes, if made, shall not in any way vitiate the obligation in this Bond and undertaking or release the Surety therefrom.

It is further expressly agreed and understood that the Contractor and Surety will fully indemnify and save harmless the City from any liability, loss, cost, expense, or damage arising out of Contractor's performance of the Contract.

If the City gives Surety notice of Contractor's default, Surety shall, within 45 days, take one of the following actions:

1. Arrange for Contractor, with consent of the City, to perform and complete the Contract; or
2. Take over and assume completion of the Contract itself, through its agents or through independent contractors, and become entitled to the payment of the balance of the Contract Price.

If the Surety fails to take either of the actions set out above, it shall be deemed to have waived its right to perform and complete the Contract and receive payment of the balance of the Contract Price and the City shall be entitled to enforce any remedies available at law, including but not limited to completing the Contract itself and recovering any cost in excess of the Original Contract Price from the Surety.

This Bond and all obligations created hereunder shall be performable in Harris County, Texas. This Bond is given in compliance with the provisions of Chapter 2253, Texas Government Code, as amended, which is incorporated herein by this reference.

Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually received or, if earlier, on the third day following deposit in a United States Postal Service post office or receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to the respective other Party at the address prescribed in the Contract documents, or at such other address as the receiving party may hereafter prescribe by written notice to the sending party.



**IN WITNESS THEREOF**, the said Contractor and Surety have signed and sealed this instrument on the respective dates written below their signatures and have attached current Power of Attorney.

ATTEST, SEAL: (if a corporation)  
WITNESS: (if not a corporation)

\_\_\_\_\_  
Name of Contractor

By: \_\_\_\_\_  
Name:  
Title:

By: \_\_\_\_\_  
Name:  
Title:  
Date:

ATTEST/SURETY WITNESS:  
(SEAL)

\_\_\_\_\_  
Full Name of Surety

\_\_\_\_\_  
Address of Surety for Notice

\_\_\_\_\_  
Telephone Number of Surety

By: \_\_\_\_\_  
Name:  
Title:  
Date:

By: \_\_\_\_\_  
Name:  
Title: Attorney-in-Fact  
Date:

This Ordinance or Contract has been reviewed as to form by the undersigned legal assistant and have been found to meet established Legal Department criteria. The Legal Department has not reviewed the content of these documents.

\_\_\_\_\_  
Legal Assistant

\_\_\_\_\_  
Date

END OF DOCUMENT

Document 00611

**STATUTORY PAYMENT BOND**

**THAT WE,** \_\_\_\_\_, as Principal, hereinafter called Contractor and the other subscriber hereto, \_\_\_\_\_, as Surety, do hereby acknowledge ourselves to be held and firmly bound unto the City of Houston, a municipal corporation, in the sum of \$ \_\_\_\_\_ for the payment of which sum, well and truly to be made to the City of Houston, and its successors, the said Contractor and Surety do bind themselves, their heirs, executors, administrators, successors, jointly and severally.

**THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:**

**WHEREAS,** the Contractor has on or about this day executed a contract in writing with the City of Houston for \_\_\_\_\_

\_\_\_\_\_, all of such work to be done as set out in full in said Contract documents therein referred to and adopted by the City Council, all of which are made a part of this instrument as fully and completely as if set out in full herein;

**NOW, THEREFORE,** if the said Contractor shall pay all claimants supplying labor and materials to him or a Subcontractor in the prosecution of the Work provided for in the Contract, then, this obligation shall be void; otherwise the same is to remain in full force and effect;

**PROVIDED HOWEVER,** that this Bond is executed pursuant to the provisions of Chapter 2253, Texas Government Code, as amended, and all liabilities on this Bond shall be determined in accordance with the provisions of said Article to the same extent as if it were copied at length herein.

**IN WITNESS THEREOF**, the said Contractor and Surety have signed and sealed this instrument on the respective dates written below their signatures and have attached current Power of Attorney.

ATTEST, SEAL: (if a corporation)  
WITNESS: (if not a corporation)

\_\_\_\_\_  
Name of Contractor

By: \_\_\_\_\_  
Name:  
Title:

By: \_\_\_\_\_  
Name:  
Title:  
Date:

ATTEST/SURETY WITNESS:  
(SEAL)

\_\_\_\_\_  
Full Name of Surety

\_\_\_\_\_  
Address of Surety for Notice

\_\_\_\_\_  
Telephone Number of Surety

By: \_\_\_\_\_  
Name:  
Title:  
Date:

By: \_\_\_\_\_  
Name:  
Title: Attorney-in-Fact  
Date:

This Ordinance or Contract has been reviewed as to form by the undersigned legal assistant and have been found to meet established Legal Department criteria. The Legal Department has not reviewed the content of these documents.

\_\_\_\_\_  
Legal Assistant

\_\_\_\_\_  
Date

END OF DOCUMENT

Document 00612

**ONE-YEAR MAINTENANCE BOND**

**THAT WE,** \_\_\_\_\_, as Principal, hereinafter called Contractor, and the other subscriber hereto, \_\_\_\_\_, as Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of Houston, a municipal corporation, in the sum of \$ \_\_\_\_\_, for the payment of which sum well and truly to be made to the City of Houston and its successors, the said Contractor and Surety do bind themselves, their heirs, executors, administrators, successors, jointly and severally.

**THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:**

**WHEREAS,** the Contractor has on or about this day executed a Contract in writing with the City of Houston for \_\_\_\_\_

\_\_\_\_\_, all of such work to be done as set out in full in said Contract documents therein referred to and adopted by the City Council, all of which are made a part of this instrument as fully and completely as if set out in full herein.

**NOW THEREFORE,** if the said Contractor shall comply with the provisions of Paragraph 11.5.1 of the General Conditions, and correct work not in accordance with the Contract documents discovered within the established one-year period, then this obligation shall become null and void, and shall be of no further force and effect; otherwise, the same is to remain in full force and effect.

Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually received or, if earlier, on the third day following deposit in a United States Postal Service post office or receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to the respective other party at the address prescribed in the Contract documents, or at such other address as the receiving party may hereafter prescribe by written notice to the sending party.



**IN WITNESS THEREOF**, the said Contractor and Surety have signed and sealed this instrument on the respective dates written below their signatures and have attached current Power of Attorney.

ATTEST, SEAL: (if a corporation)

WITNESS: (if not a corporation)

\_\_\_\_\_  
Name of Contractor

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

Name:

Title:

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

Name:

Title:

Date:

ATTEST/SURETY WITNESS:

(SEAL)

\_\_\_\_\_  
Full Name of Surety

\_\_\_\_\_  
Address of Surety for Notice

\_\_\_\_\_  
Telephone Number of Surety

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

Name:

Title:

Date:

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

Name:

Title: Attorney-in-Fact

Date:

This Ordinance or Contract has been reviewed as to form by the undersigned legal assistant and have been found to meet established Legal Department criteria. The Legal Department has not reviewed the content of these documents.

\_\_\_\_\_  
Legal Assistant

\_\_\_\_\_  
Date

END OF DOCUMENT

Document 00613

**ONE-YEAR SURFACE CORRECTION BOND**

**THAT WE,** \_\_\_\_\_, as Principal, hereinafter called Contractor, and the other subscriber hereto, \_\_\_\_\_, as Surety, do hereby acknowledge ourselves to be held and firmly bound to the City of Houston, a municipal corporation, in the sum of \$\_\_\_\_\_ such sum being equal to four percent of the Original Contract Price, for the payment of which sum to be made to the City of Houston and its successors, Contractor and Surety do bind themselves, their successors, jointly and severally.

**THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:**

**WHEREAS,** the Contractor has entered into a Contract in writing with the City of Houston, Texas, dated of even date herewith, for \_\_\_\_\_, all of such work to be done in accordance with the Contract documents therein referred to, and adopted by the City Council of the City of Houston.

**NOW THEREFORE,** if the Contractor shall comply with the provisions of Paragraph 11.5.1 of the General Conditions, and repair, replace, restore, and correct surface work associated with backfill operations of subsurface work not in accordance with the Contract documents discovered within one year from the date that the One-year Maintenance Bond has expired, then this obligation shall become null and void, and shall be of no further force and effect; otherwise, the same is to remain in full force and effect.

Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually received or, if earlier, on the third day following deposit in a United States Postal Service post office or receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to the respective other party at the address prescribed in the Contract documents, or at such other address as the receiving party may hereafter prescribe by written notice to the sending party.

**IN WITNESS THEREOF**, the said Principal and Surety have signed and sealed this instrument on the respective dates written below their signatures.

ATTEST, SEAL: (if a corporation)

WITNESS: (if not a corporation)

\_\_\_\_\_  
Name of Contractor

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

Name:

Title:

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

Name:

Title:

Date:

ATTEST/SURETY WITNESS:

(SEAL)

\_\_\_\_\_  
Full Name of Surety

\_\_\_\_\_  
Address of Surety for Notice

\_\_\_\_\_  
Telephone Number of Surety

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

Name:

Title:

Date:

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

Name:

Title: Attorney-in-Fact

Date:

This Ordinance or Contract has been reviewed as to form by the undersigned legal assistant and have been found to meet established Legal Department criteria. The Legal Department has not reviewed the content of these documents.

\_\_\_\_\_  
Legal Assistant

\_\_\_\_\_  
Date

END OF DOCUMENT

Document 00620

**AFFIDAVIT OF INSURANCE**

**BEFORE ME**, the undersigned authority, on this day personally appeared

\_\_\_\_\_, who  
Affiant  
being by me duly sworn on his oath stated that he is \_\_\_\_\_, of  
Title

\_\_\_\_\_  
Contractor's Company Name  
the Contractor named and referred to within the Contract documents; that he is fully competent and authorized to give this affidavit and that the attached original insurance certificate truly and accurately reflects the insurance coverage that is now available and will be available during the term of the Contract.

\_\_\_\_\_  
Affiant's Signature

SWORN AND SUBSCRIBED before me on \_\_\_\_\_  
Date

\_\_\_\_\_  
Notary Public in and for the State of TEXAS

\_\_\_\_\_  
Print or type Notary Public name

My Commission Expires: \_\_\_\_\_  
Expiration Date

END OF DOCUMENT



Document 00624

**AFFIDAVIT OF COMPLIANCE WITH  
AFFIRMATIVE ACTION PROGRAM**

**BEFORE ME**, the undersigned authority, on this day personally appeared

\_\_\_\_\_, who  
Affiant

being by me duly sworn on his oath stated that he is \_\_\_\_\_,  
Title

of \_\_\_\_\_,  
Contractor

the Contractor named and referred to within the Contract documents; that he is fully competent and authorized to give this affidavit and that the Contract is in compliance with the Affirmative Action Program of the City and has done all that is required by the Contract documents, the Affirmative Action Program, and pursuant to Chapter 15, Code of Ordinances, City of Houston, §15.16 et seq.

\_\_\_\_\_  
Affiant's Signature

SWORN AND SUBSCRIBED before me on this day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public in and for the State of TEXAS

\_\_\_\_\_  
Print or Type Notary Public Name

My Commission Expires: \_\_\_\_\_  
Expiration

END OF DOCUMENT

Document 00625

CERTIFICATION BY PROPOSED MATERIAL SUPPLIERS,  
LESSORS, AND PROFESSIONAL SERVICE PROVIDERS  
REGARDING EQUAL EMPLOYMENT OPPORTUNITY

Company Name: \_\_\_\_\_ \$ \_\_\_\_\_  
(Supplier, Lessor, Professional Service Provider) (Amount of Contract)

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

Project No.: \_\_\_\_\_ WBS No. N-T17000-0012-3

Project Name: Lumpkin Road Reconstruction and Drainage Improvements

In accordance with the City of Houston Ordinance 78-1538, Supplier/Lessor/Professional Service Provider represents to be an equal opportunity employer and agrees to abide by the terms of the Ordinance. This certification is required of all Suppliers/Lessors/Professional Service Providers (herein Supplier) with contracts in the amount of \$10,000.00 or more.

- Yes  No Supplier agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age.
- Yes  No Supplier agrees that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, national origin, or age.
- Yes  No Supplier will comply with all provisions of Executive Order No. 11246 and rules, regulations and applicable orders of the Department of Labor or other Federal Agency responsible for enforcement of applicable equal opportunity and affirmative action provisions and will likewise furnish all information and reports required by the Mayor or Contract Compliance Officers for the purpose of investigation to ascertain and effect compliance with the City of Houston's Office of Affirmative Action and Contract Compliance.
- Yes  No The Supplier shall file and cause their sub-tier contractors to file compliance reports with the City in the form and to the extent as may be prescribed by the Mayor or Contract Compliance Officers. Compliance reports filed at such times as directed shall contain information including, but not limited to, the practices, policies, programs, and employment policies.

I hereby certify that the above information is true and correct.

\_\_\_\_\_  
COMPANY OFFICER (Signature)

\_\_\_\_\_  
DATE

\_\_\_\_\_  
NAME AND TITLE (Print or type)

END OF DOCUMENT

Document 00633

CERTIFICATION BY PROPOSED MATERIAL SUPPLIERS,  
LESSORS, AND PROFESSIONAL SERVICE PROVIDERS  
REGARDING EQUAL EMPLOYMENT OPPORTUNITY

Company Name: \_\_\_\_\_ \$ \_\_\_\_\_  
(Supplier, Lessor, Professional Service Provider) (Amount of Contract)

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

Company Telephone Number: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Web Page/URL Address: \_\_\_\_\_

Company Tax Identification Number: \_\_\_\_\_

Project No.: [WBS/CIP/AIP/File No.] N-T17000-0012-3

Project Name: [Legal Project Name] Lumpkin Road Reconstruction

In accordance with the City of Houston Ordinance 78-1538, Supplier/Lessor/Professional Service Provider represents to be an equal opportunity employer and agrees to abide by the terms of the Ordinance. This certification is required of all Suppliers/Lessors/Professional Service Providers (herein Supplier) with contracts in the amount of \$10,000.00 or more.

- Yes  No Supplier agrees not to discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age.
- Yes  No Supplier agrees that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, national origin, or age.
- Yes  No Supplier will comply with all provisions of Executive Order No. 11246 and rules, regulations and applicable orders of the Department of Labor or other Federal Agency responsible for enforcement of applicable equal opportunity and affirmative action provisions and will likewise furnish all information and reports required by the Mayor or Contract Compliance Officers for the purpose of investigation to ascertain and effect compliance with the City of Houston's Office of Affirmative Action and Contract Compliance.
- Yes  No The Supplier shall file and cause their sub-tier contractors to file compliance reports with the City in the form and to the extent as may be prescribed by the Mayor or Contract Compliance Officers. Compliance reports filed at such times as directed shall contain information including, but not limited to, the practices, policies, programs, and employment policies.

I hereby certify that the above information is true and correct.

\_\_\_\_\_  
COMPANY OFFICER (Signature) DATE

\_\_\_\_\_  
NAME AND TITLE (Print or type)

END OF DOCUMENT

Document 00642

**CERTIFICATION OF PAYMENT  
TO SUBCONTRACTORS AND SUPPLIERS**

The undersigned, \_\_\_\_\_, states that he is the \_\_\_\_\_,  
AffiantTitle  
of \_\_\_\_\_  
Contractor

and that he is duly authorized to execute this Certification of Payment to Subcontractors and Suppliers; that Contractor has made payments to Subcontractors and Suppliers for all labor, materials, equipment, and services furnished to date for Work on Project No. \_\_\_\_\_ in the amounts for which Contractor has been paid; that the labor, materials, equipment, and services covered by this Certificate of Payment have been furnished in accordance with and all in compliance with the Contract Documents; that no sums have been withheld by Contractor for Subcontractors and Suppliers as a result of any allegations of deficiencies in the Work; and that such payments were made in accordance with the Contract Documents and with the laws of the State of Texas.

\_\_\_\_\_  
Affiant's Signature

SWORN AND SUBSCRIBED before me on \_\_\_\_\_  
Date

\_\_\_\_\_  
Notary Public in and for the State of TEXAS

\_\_\_\_\_  
Print or type name

My Commission Expires: \_\_\_\_\_  
Expiration Date

END OF DOCUMENT



Document 00646

**PAYMENT NOTIFICATION – EXPLANATION OF WITHHOLDING**

Legal Project Name: \_\_\_\_\_

Outline Agreement No.: \_\_\_\_\_ WBS No.: \_\_\_\_\_

Contractor's Company Name: \_\_\_\_\_

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

Date: \_\_\_\_\_

**SUBCONTRACTOR PAYMENT INFORMATION:**

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

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

City, State, and Zip Code: \_\_\_\_\_

Business Phone Number: \_\_\_\_\_

Amount of Subcontractor Invoice: \_\_\_\_\_

Amount of Payment Made: \_\_\_\_\_

Amount of Payment Withheld: \_\_\_\_\_

Date Payment First Withheld: \_\_\_\_\_

**DETAILED EXPLANATION OF WITHHOLDING:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
(Signature of Contractor's Representative)

\_\_\_\_\_  
(Print or Type Name of Contractor's Representative)

Document 00700

**GENERAL CONDITIONS**

August 1, 2013 EDITION

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ARTICLE 1 - GENERAL PROVISIONS

1.1 DEFINITIONS

1.1.1 *Agreement:* Document signed by the Parties and binding the Parties, containing the name of Contractor, title and location of the Project, Original Contract Time, Original Contract Price, enumeration of documents included in the Contract, and other provisions.

1.1.2 *Bonds:* Performance Bond, Payment Bond, Maintenance Bond, and other Surety instruments executed by Surety. When in singular form, refers to individual instrument.

1.1.3 *Business Enterprise:* Any business entity registered in a program authorized by 49 C.F.R. § 26 (where applicable) or City Code of Ordinances, Chapter 15, Article II, relating to Equal Opportunity Employment and taking affirmative action to ensure that applicants are employed and employees are treated without regard to race, religion, color, sex, national origin, or age. The term "Business Enterprise" may include any Disadvantaged Business Enterprise ("DBE"), Minority Business Enterprise ("MBE"), Woman Business Enterprise ("WBE"), Small Business Enterprise ("SBE"), Person with Disability Enterprise ("PDBE"), and any Historically Underutilized Business ("HUB").

1.1.4 *Business Enterprise Policy:* Contract documents and applicable policies relating to Business Enterprises and authorized under 49 C.F.R. § 26 or City Code of Ordinances, Chapter 15, Article II.

1.1.5 *Cash Allowance:* An estimated sum of money to be used only for a limited class of expenditures such as utility relocation costs, fees for special licenses or permits, or other "pass-through" costs that would be the same for any contractor. Cash Allowances may not be used to purchase goods or services that are not specified in the Contract. The unspecified items must be purchased according to the terms of Article 7.

1.1.6 *Change Order:* Written instrument prepared by the City and signed by City Engineer and Contractor, specifying the following:

- .1 a change in the Work;
- .2 a change in Contract Price, if any; and
- .3 a change in Contract Time, if any.

The value of a Change Order is the net amount after offsetting all deductions against all additions effected by the Change Order.

1.1.7 *City:* The City of Houston, a home rule municipality located principally within Harris County, Texas, including its successors and its authorized representatives.

1.1.8 *City Engineer:* The City Engineer, or the City employee representing the City Engineer, designated in the Agreement and authorized to represent the City, or successors.

1.1.9 *Claim:* Written demand or written assertion by one Party seeking adjustment of the Contract, payment of money, extension of time, or other relief under the Contract and includes, but is not limited to, claims for materials, labor, equipment, delay, changes, adjustments, substitutions, fees and third party claims. The Party making the Claim has the responsibility to substantiate the Claim.

1.1.10 *Conditions of the Contract:* General Conditions and Supplementary Conditions.

1.1.11 *Construction Manager:* Person or firm under contract with the City as its authorized representative to oversee and administer construction of the Work, and who may perform the role of Project Manager and Inspector, as designated by City Engineer in writing.

1.1.12 *Contract:* The Agreement; documents enumerated in and incorporated into the Agreement; Modifications; and amendments.

1.1.13 *Contract Price:* The monetary amount stated in the Agreement adjusted by Change Order, and increases or decreases in Unit Price Quantities, if any.

1.1.14 *Contract Time:* The number of days stated in the Agreement to substantially complete the Work, plus days authorized by Change Order.

1.1.15 *Contractor:* Person or firm identified as such in the Agreement including its successors and its authorized representatives.

1.1.16 *Date of Commencement of the Work:* Date established in Notice to Proceed on which Contract Time will commence. This date will not be changed by failure of Contractor, or persons or entities for whom Contractor is responsible, to act.

1.1.17 *Date of Substantial Completion:* Date that construction, or portion thereof designated by City Engineer, is certified by City Engineer to be substantially complete.

**1.1.18 Design Consultant:** Person or firm, under contract with the City, to provide professional services during construction and its authorized representatives. If a Design Consultant is not employed for services during construction, Project Manager will perform duties of Design Consultant designated in the Contract in addition to usual duties of Project Manager.

**1.1.19 Drawings:** Graphic and pictorial portions of the Contract that define the character and scope of the Work.

**1.1.20 Extra Unit Price:** Unit Prices, which may be required for completion of the Work. These Unit Prices and Unit Price Quantities are in the Contract and are included in Original Contract Price.

**1.1.21 Furnish:** To supply, pay for, deliver to the site, and unload.

**1.1.22 General Requirements:** The sections of Division 01 Specifications that specify administrative and procedural requirements and temporary facilities required for the Work.

**1.1.23 Inspector:** City's employee or agent authorized to assist with inspection of the Work.

**1.1.24 Install:** Unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, clean, protect, and similar operations.

**1.1.25 Legal Holiday:** Day established by the City Council as a holiday.

**1.1.26 Major Unit Price Work:** An individual Unit Price item,

- .1 whose value is greater than five percent of Original Contract Price,
- .2 whose value becomes greater than five percent of Original Contract Price as the result of an increase in quantity, or
- .3 whose value is \$100,000, whichever is least.

**1.1.27 Mayor's Office of Business Opportunity:** any reference to, or use of, the "Office of Affirmative Action" shall mean the Mayor's Office of Business Opportunity, or any such future name to which it is changed.

**1.1.28 Minor Change in the Work:** A written change in the Work, ordered by City Engineer, that does not change Contract Price or Contract Time, and that is consistent with the general scope of the Contract.

**1.1.29 Modification:** Change Order, Work Change Directive, or Minor Change in the Work.

**1.1.30 Notice of Noncompliance:** A written notice by City Engineer to Contractor regarding defective or nonconforming work that does not meet the Contract requirements, and that establishes a time by which Contractor shall correct the defective or nonconforming work.

**1.1.31 Notice to Proceed:** A written notice by City Engineer to Contractor establishing Date of Commencement of the Work.

**1.1.32 Original Contract Price:** The monetary amount originally stated in the Agreement.

**1.1.33 Parties:** Contractor and the City. When in singular form, refers to Contractor or the City.

**1.1.34 Pollutant:** Any materials subject to the Texas Solid Waste Disposal Act.

**1.1.35 Pollutant Facility:** Any facility regulated by the State of Texas to protect the health and environment from contamination by Pollutants, including without limitation, landfills, oil and gas production and storage facilities, wastewater facilities, waste injection wells, and storage tanks (including drums).

**1.1.36 Product:** Materials, equipment, or systems incorporated into the Work or to be incorporated into the Work.

**1.1.37 Product Data:** Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by Contractor to illustrate a Product.

**1.1.38 Project:** Total construction, of which the Work performed under the Contract may be the whole or a part, and which may include construction by the City or by separate contractors.

**1.1.39 Project Manager:** City Engineer's authorized representative for administration of the Work. Titles used within the City's departments may be different than those used in this definition.

**1.1.40 Provide:** Furnish and Install, complete, ready for intended use.

**1.1.41 Samples:** Physical examples that illustrate Products, or workmanship, and establish standards by which the Work is judged.



1.1.42 *Shop Drawings:* Drawings, diagrams, schedules, and other data specially prepared for the Work by Contractor, Subcontractor or Supplier, to illustrate a portion of the Work.

1.1.43 *Specifications:* Divisions 01 through 16 of the documents that are incorporated into the Agreement, consisting of written General Requirements and requirements for Products, standards, and workmanship for the Work, and performance of related services.

1.1.44 *Stipulated Price:* Single lump sum amount stated in the Contract for completion of the Work, or for designated portion of the Work.

1.1.45 *Subcontractor:* Person or firm that has direct or indirect contract with Contractor or with another Subcontractor to perform a portion of the Work and its authorized representatives.

1.1.46 *Superintendent:* Employee of Contractor having authority and responsibility to act for and represent Contractor.

1.1.47 *Supplementary Conditions:* Part of Conditions of the Contract that amends or supplements General Conditions.

1.1.48 *Supplier:* Manufacturer, distributor, materialman, or vendor having a direct agreement with Contractor or Subcontractor for Products, or services and its authorized representatives.

1.1.49 *Surety:* Corporate entity that is bound by one or more Bonds, and is responsible for completion of the Work, including the correction period, and for payment of debts incurred in fulfilling the Contract. Surety shall include co-surety or reinsurer, as applicable.

1.1.50 *Underground Facilities:* Pipes, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments and encasements containing such facilities that exist below ground level.

1.1.51 *Unit Price:* An amount stated in the Contract for an individual, measurable item of work, which, when multiplied by actual quantity incorporated into the Work, amounts to full compensation for completion of the item, including work incidental to it.

1.1.52 *Unit Price Quantities:* Quantities indicated in the Contract that are approximations made by the City for contracting purposes.

1.1.53 *Work:* Entire construction required by the Contract, including all labor, Products, and services provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a portion of the Project.

1.1.54 *Work Change Directive:* A written change in the Work, ordered by City Engineer, that is within the general scope of the Contract and consisting of additions, deletions, or other revisions. A Work Change Directive will state proposed basis for adjustment, if any, in Contract Price or Contract Time, or both.

## 1.2 EXECUTION, CORRELATION, AND INTENT

1.2.1 Execution of the Contract by Contractor is conclusive that Contractor has visited the Work site, become familiar with local conditions under which the Work will be performed, and fully informed itself as to conditions and matters which can affect the Work or costs. Contractor further agrees that it has carefully correlated personal observations with requirements of the Contract.

1.2.2 The Contract and Modifications have been read and carefully considered by Contractor, who understands and agrees to their sufficiency for the Work. The Contract may not be more strongly construed against the City than against Contractor and Surety.

1.2.3 Contractor shall include all items necessary for proper execution and completion of the Work.

1.2.4 Reference to standard specifications, manuals, or codes of a technical society, organization, or association, or to laws or regulations of a governmental authority, whether specific or implied, mean the latest edition in effect as of date of receipt of bids, except as may be otherwise specifically stated in the Contract.

1.2.5 No provision of any referenced standard, specification, or manual changes the duties and responsibilities of the City, City Engineer, Contractor, or Design Consultant from those set forth in the Contract. Nor do these provisions assign to Design Consultant any duty or authority to supervise or direct performance of the Work or any duty or



authority to undertake any actions contrary to provisions of the Contract.

1.2.6 Organization of Specifications into divisions, sections, and articles and arrangement of Drawings does not control Contractor in dividing the Work among Subcontractors or in establishing the extent of work to be performed by any trade.

1.2.7 Unless otherwise defined in the Contract, words which have well-known construction industry technical meanings are used in the Contract in accordance with these recognized meanings.

### 1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 Drawings, Specifications, and other documents prepared by the City or by Design Consultant are instruments of service through which the Work to be executed by Contractor is described. Contractor may retain one Contract record set.

1.3.2 Neither Contractor, Subcontractor, nor Supplier will own or claim a copyright to documents contained in the Contract or any part of the Contract.

1.3.3 Documents contained in the Contract, prepared by the City or by Design Consultant, and copies furnished to Contractor, are for use solely with respect to the Work. They may not be used by Contractor, Subcontractor or Supplier on other projects or for additions to the Work, outside the scope of the Work, without the specific written consent of City Engineer, and Design Consultant, when applicable.

1.3.4 Contractor, Subcontractors, and Suppliers are granted a limited license to use and reproduce applicable portions of the Contract appropriate to and for use in execution of their work under the Contract.

### 1.4 INTERPRETATION

1.4.1 Specifications are written in an imperative streamlined form and are directed to Contractor, unless noted otherwise. When written in this form, words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

1.4.2 In the interest of brevity, the Contract frequently omits modifying words such as "all" and "any" and articles such as "the" and "an", but an absent modifier or article is not intended to affect interpretation of a statement.

## ARTICLE 2 - THE CITY

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### 2.1 LIMITATIONS OF THE CITY'S OFFICERS AND EMPLOYEES

2.1.1 No officer or employee of the City may authorize Contractor to perform an act or work contrary to the Contract, except as otherwise provided in the Contract.

### 2.2 DUTIES OF THE CITY

2.2.1 If a building permit is required, the City will process an application for, and Contractor shall purchase the building permit before Date of Commencement of the Work.

2.2.2 The City will make available to Contractor a reproducible set of Drawings. Additional copies will be furnished, on Contractor's request, at the cost of reproduction.

2.2.3 When necessary for performance of the Work, the City will provide surveys describing physical characteristics, legal limitations, legal description of site, and horizontal and vertical control adequate to lay out the Work.

2.2.4 Information or services that the City is required to provide under the Contract will be provided by the City with reasonable promptness to avoid delay in orderly progress of the Work.

2.2.5 The Contract imposes no implied duty on the City. The City does not warrant any plans or specifications associated with the Contract.

2.2.6 Except as expressly stated in this Article, the City owes no duty to the Contractor or any subcontractor.

### 2.3 AVAILABILITY OF LAND AND USE OF SITE

2.3.1 The City will furnish, as indicated in the Contract, rights-of-way, land on which the Work is to be performed, and other land designated in the Contract for use by Contractor unless otherwise provided in the Contract.

2.3.2 Contractor shall confine operations at site to those areas permitted by law, ordinances, permits, and the Contract, and may not unreasonably encumber site with materials or equipment.

2.3.3 In addition to land provided by the City under Section 2.3, Contractor shall provide all land and access to land that may be required for use by Contractor for temporary construction facilities or for storage of materials and equipment, and shall indemnify the City during its use of the land as stated in Section 3.25.

2.4 *THE CITY'S RIGHT TO STOP THE WORK*

2.4.1 If Contractor fails to carry out the Work in accordance with the Contract, or fails to correct work which is not in accordance with requirements of the Contract as required in Sections 12.1 and 12.2, the City may, by Notice of Noncompliance, order Contractor to stop the Work or any portion of the Work until the cause for the order has been eliminated. However, the right of the City to stop the Work will not give rise to a Claim for delay or to a duty on the part of the City to exercise this right for the benefit of Contractor or any other person or entity, except to the extent required by Section 6.2. If Contractor corrects the defective or nonconforming work within the time established in Notice of Noncompliance, City Engineer will give written notice to Contractor to resume performance of the Work.

2.5 *THE CITY'S RIGHT TO CARRY OUT WORK*

2.5.1 If Contractor fails to carry out work in accordance with the Contract, and fails within the period established in a Notice of Noncompliance to correct the nonconforming work, the City may, after expiration of the required period, correct the deficiencies without prejudice to other remedies the City may have, including rights of the City under Section 14.1.

2.5.1.1 When the City corrects deficiencies, City Engineer will issue an appropriate Change Order and deduct from payments then or thereafter due Contractor the cost of correcting the deficiencies, including compensation for Design Consultant's and Construction Manager's additional services and expenses made necessary by such default, neglect, or failure. This action by the City and amounts charged to Contractor are both subject to prior approval of City Engineer. If payments, then or thereafter due Contractor, are not sufficient to cover these amounts, Contractor shall pay the difference to the City.

2.5.2 Notwithstanding the City's right to carry out work, maintenance and protection of the Work

remains Contractor's responsibility, as provided in the Contract.

ARTICLE 3 - CONTRACTOR

3.1 *RESPONSIBILITIES*

3.1.1 Contractor shall maintain office with agent in the greater City of Houston area during the Contractor's performance under the Contract. Contractor shall file its street address with City Engineer.

3.1.2 Contractor and Contractor's employees shall not give or lend money or anything of value to an officer or employee of the City. Should this Paragraph 3.1.2 be violated, City Engineer may terminate the Contract under Section 14.1.

3.2 *REVIEW OF CONTRACT AND FIELD CONDITIONS BY CONTRACTOR*

3.2.1 Contractor shall carefully study and compare documents contained in the Contract with each other and with information furnished by the City pursuant to Section 2.2 and shall immediately report, in writing, any errors, inconsistencies, or omissions to City Engineer. If work is affected, Contractor shall obtain a written interpretation or clarification from City Engineer before proceeding with the affected work. However, Contractor will not be liable to the City for failure to report an error, inconsistency, or omission in the Contract unless Contractor had actual knowledge or should have had knowledge of the error, inconsistency, or omission.

3.2.2 Contractor shall take field measurements and verify field conditions, and shall carefully compare the conditions and other information known to Contractor with the Contract, before commencing activities. Contractor shall immediately report, in writing, to City Engineer for interpretation or clarification of discrepancies, inconsistencies, or omissions discovered during this process.

3.2.3 Contractor shall make a reasonable attempt to understand the Contract before requesting interpretation from City Engineer.

3.3 *SUPERVISION AND CONSTRUCTION PROCEDURES*

3.3.1 Contractor shall supervise, direct, and inspect the Work competently and efficiently, devoting the attention and applying the skills and



expertise as necessary to perform the Work in accordance with the Contract. Contractor is solely responsible and has control over construction means, methods, techniques, sequences, and procedures of construction; for safety precautions and programs in connection with the Work; and for coordinating all work under the Contract.

3.3.2 Regardless of observations or inspections by the City or City's consultants, Contractor shall perform and complete the Work in accordance with the Contract and submittals approved pursuant to Section 3.18. The City is not liable or responsible to Contractor or Surety for work performed by Contractor that is not in accordance with the Contract regardless of whether discovered during construction or after acceptance of the Work.

### 3.4 SUPERINTENDENT

3.4.1 Contractor shall employ a competent Superintendent and necessary assistants who shall be present at the site during performance of the Work. Communications given to Superintendent are binding on the Contractor.

3.4.2 Contractor shall notify City Engineer in writing of its intent to replace the Superintendent. Contractor may not replace the Superintendent if City Engineer makes a reasonable objection in writing.

### 3.5 LABOR

3.5.1 Contractor shall provide competent, qualified personnel to survey and lay out the Work and perform construction as required by the Contract. The City may, by written notice, require Contractor to remove from the Work any employee of Contractor or Subcontractors to whom City Engineer makes reasonable objection.

3.5.2 Contractor shall comply with the applicable Business Enterprise Policy set out in this Agreement and in the Supplementary Conditions.

3.5.3 When Original Contract Price is greater than \$1,000,000, Contractor shall make Good Faith Efforts to award subcontracts or supply agreements in at least the percentages set out in the Supplementary Conditions for Business Enterprise Policy. Contractor acknowledges that it has reviewed the requirements for Good Faith Efforts on file with the City's Mayor's Office of Business Opportunity and shall comply with them.

3.5.3.1 Contractor shall require written subcontracts with Business Enterprises and shall submit all disputes with Business Enterprises to

voluntary arbitration. Business Enterprise subcontracts complying with City Code of Ordinances Chapter 15, Article II must contain the terms set out in Subparagraph 3.5.3.2. If Contractor is an individual person, as distinguished from a corporation, partnership, or other legal entity, and the amount of the subcontract is \$50,000 or less, the subcontract must also be signed by the attorneys of the respective parties.

3.5.3.2 Contractor shall ensure that subcontracts with Business Enterprise firms are clearly labeled "**THIS CONTRACT MAY BE SUBJECT TO ARBITRATION ACCORDING TO THE TEXAS GENERAL ARBITRATION ACT**" and contain the following terms:

- .1 (Business Enterprise) may not delegate or subcontract more than 50 percent of work under this subcontract to any other subcontractor without the express written consent of the Director.
- .2 (Business Enterprise) shall permit representatives of the City of Houston, at all reasonable times, to perform (1) audits of the books and records of the Subcontractors and Suppliers, and (2) inspections of all places where work is to be undertaken in connection with this subcontract. (Business Enterprise) shall keep the books and records available for this purpose for at least four years after the end of its performance under this subcontract. Nothing in this Section shall affect the time for bringing a cause of action nor the applicable statute of limitations.
- .3 Within five business days of execution of this subcontract, Contractor and (Business Enterprise) shall designate in writing to the Director an agent for receiving any notice required or permitted to be given pursuant to Chapter 15 of the Houston City Code of Ordinances, along with the street and mailing address and phone number of the agent.
- .4 As concluded by the parties to this subcontract, and as evidenced by their signature to this subcontract, any controversy between the parties involving the construction or application of the terms of this subcontract may submitted to arbitration, under the Texas General Arbitration Act (TEX. CIV. PRAC. & REM. CODE ANN., Ch 171 -- "Act"). Arbitration will be conducted



according to procedures agreed upon by both parties to the subcontract. All arbitrations will be conducted in Houston, Texas unless the parties agree to another location in writing.

3.5.4 The requirements and terms of the City of Houston Pay or Play Program, as set out in Executive Order 1-7 and Ordinance 2007-0534, are incorporated into the Contract for all purposes. Contractor shall comply with the terms and conditions of the Pay or Play Program as they are set out at the time of City Council approval of this agreement. IF CONTRACTOR DOES NOT PAY IN ACCORDANCE WITH THE PAY OR PLAY PROGRAM WITHIN 30 DAYS OF THE DATE CITY ENGINEER SENDS CONTRACTOR WRITTEN NOTIFICATION, CITY CONTROLLER MAY DEDUCT FUNDS UP TO THE AMOUNT OWED FROM ANY PAYMENTS OWED TO CONTRACTOR UNDER THIS AGREEMENT, AND CONTRACTOR WAIVES ANY RECOURSE.

### 3.6 PREVAILING WAGE RATES

3.6.1 Contractor shall comply with governing statutes providing for labor classification of wage scales for each craft or type of laborer, worker, or mechanic.

3.6.2 Prevailing wage rates applicable to the Work may be one or a combination of the following wage rates identified in Division 00:

- .1 Federal Wage Rate General Decisions
  - .1 Highway Rates
  - .2 Building Rates
  - .3 Heavy Construction Rates
  - .4 Residential Rates
- .2 City Prevailing Wage Rates
  - .1 Building Construction Rates
  - .2 Engineering Construction Rates
  - .3 Asbestos Worker Rates

3.6.3 Each week Contractor shall submit to the City's Mayor's Office of Business Opportunity certified copies of payrolls showing classifications and wages paid by Contractor, Subcontractors, and Suppliers for each employee under the Contract, for any day included in the Contract.

### 3.7 LABOR CONDITIONS

3.7.1 In the event of labor disputes affecting Contractor or Contractor's employees, Contractor

shall utilize all possible means to resolve disputes in order that the Work not be delayed to any extent. These means will include seeking injunctive relief and filing unfair labor practice charges, and any other action available to Contractor.

3.7.2 When Contractor has knowledge that any actual or potential labor dispute is delaying or is threatening to delay timely performance of the Work, Contractor shall immediately notify City Engineer in writing. No Claims will be accepted by City Engineer for costs incurred as a result of jurisdictional or labor disputes.

### 3.8 DRUG DETECTION AND DETERRENCE

3.8.1 It is the policy of the City to achieve a drug-free work force and to provide a workplace that is free from the use of illegal drugs and alcohol. It is also the policy of the City that manufacture, distribution, dispensation, possession, sale, or use of illegal drugs or alcohol by contractors while on the City's premises is prohibited. By executing the Contract, Contractor represents and certifies that it meets and will comply with all requirements and procedures set forth in the Mayor's Policy on Drug Detection and Deterrence, City Council Motion No. 92-1971 ("Mayor's Policy") and the Mayor's Drug Detection and Deterrence Procedures for Contractors, Executive Order No. 1-31, (Revised) ("Executive Order"). Mayor's Policy is on file in the office of the City Secretary. Copies of Executive Order may be obtained at the location specified in the Advertisement for Bids.

3.8.1.1 The Executive Order applies to the City's contracts for labor or services except the following:

- .1 contracts authorized by Emergency Purchase Orders,
- .2 contracts in which imposition of requirements of the Executive Order would exclude all potential bidders or proposers, or would eliminate meaningful competition for the Contract,
- .3 contracts with companies that have fewer than 15 employees during any 20-week period during a calendar year and no safety impact positions,
- .4 contracts with non-profit organizations providing services at no cost or reduced cost to the public, and
- .5 contracts with federal, state, or local governmental entities.



3.8.1.2 Prior to execution of the Contract, Contractor shall have filed with the City:

- .1 a Drug Policy Compliance Agreement form (Attachment "A" to the Executive Order), and
- .2 a copy of Contractor's drug free workplace policy, and
- .3 a written designation of all safety impact positions, if applicable, or a Contractor's Certification of a No Safety Impact Positions form (Attachment "C" to the Executive Order).

3.8.1.3 Every six months during performance of the Contract and upon completion of the Contract, Contractor shall file a Drug Policy Compliance Declaration form (Attachment "B" to the Executive Order). The Contractor shall submit the Drug Policy Compliance Declaration within 30 days of expiration of each six-month period of performance and within 30 days of completion of the Contract. The first six-month period shall begin on Date of Commencement of the Work.

3.8.1.4 Contractor shall have a continuing obligation to file updated designation of safety impact positions when additional safety impact positions are added to Contractor's employee workforce during performance of the Work.

3.8.1.5 Contractor shall require its Subcontractors and Suppliers to comply with the Mayor's Policy and Executive Order. Contractor is responsible for securing and maintaining required documents from Subcontractors and Suppliers for the City inspection throughout the term of the Contract.

3.8.1.6 Failure of Contractor to comply with requirements will be a material breach of the Contract entitling the City to terminate in accordance with Section 14.1.

### 3.9 MATERIALS & EQUIPMENT

3.9.1 Unless otherwise provided in the Contract, Contractor shall provide and assume full responsibility for Products, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, transportation, temporary facilities, supplies, and other facilities and incidentals necessary for Furnishing, performing, testing, starting-up, and completing the Work.

3.9.1.1 Contractor, Subcontractors, and Suppliers shall use Ultra Low Sulfur Diesel Fuel in all diesel operating vehicles and motorized equipment utilized in performing the Work. Ultra Low Sulfur

Diesel Fuel is defined as diesel fuel having 15 ppm or the applicable standard set by state or federal law or rules and regulations of the Texas Commission on Environmental Quality, or the Environmental Protection Agency, whichever is less in sulfur content. Off-road Ultra Low Sulfur Diesel Fuel may be used in lieu of on-road Ultra Low Sulfur Diesel Fuel. Contractor shall provide, upon request by City Engineer, proof that Contractor, Subcontractors, and Suppliers are using Ultra Low Sulfur Diesel Fuel.

3.9.2 Contractor shall provide Products that are:

- .1 new, unless otherwise required or permitted by the Contract, and
- .2 of specified quality.

If required by City Engineer, Contractor shall furnish satisfactory evidence, including reports of required tests, as to kind and quality of Products.

3.9.3 Contractor shall store Products in a safe, neat, compact, and protected manner. Contractor shall also store Products delivered during the work, along the right-of-way:

- .1 so as to cause the least inconvenience to property owners, tenants, and general public; and
- .2 so as not to block access to, or be closer than, three feet to any fire hydrant.

Contractor shall protect trees, lawns, walks, drives, streets, and other improvements that are to remain, from damage. If private or public property is damaged by Contractor, Contractor shall, at its sole expense, restore the damaged property to at least its original condition.

3.9.3.1 Contractor shall obtain City Engineer's approval for storage areas used for Products for which payment has been requested under Paragraph 9.6.1. Contractor shall provide the City access to the storage areas for inspection purposes. Products, once paid for by the City, become the property of the City and may not be removed from place of storage, without City Engineer's written permission except for a movement to the site. Contractor's Installation Floater, required under Section 11.2, shall cover all perils, including loss or damage to Products during storage, loading, unloading, and transit to the site.

### 3.10 PRODUCT OPTIONS AND SUBSTITUTIONS

3.10.1 For Products specified by reference standards or by description only, Contractor may provide any Product meeting those standards or description.

3.10.2 For Products specified by naming one or more manufacturers with provision for substitutions or equal, Contractor may submit a request for substitution for any manufacturer not named.

3.10.3 City Engineer will consider requests for substitutions only within the first 15 percent of Contract Time, or first 90 days after date of Notice to Proceed, whichever is less.

3.10.4 Contractor shall document each request for substitution with complete data substantiating compliance of proposed substitution with the Contract.

3.10.5 A request for substitution constitutes a representation that Contractor:

- .1 has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified Product;
- .2 shall provide the same warranty for the substitution as for the specified Product;
- .3 shall coordinate installation of the proposed substitution and make changes to other work which may be required for the Work to be completed, with no additional cost or increase in time to the City;
- .4 confirms that cost data is complete and includes all related costs under the Contract;
- .5 waives Claim for additional costs or time extensions that may subsequently become apparent; and
- .6 shall provide review or redesign services by a design consultant with appropriate professional license and shall obtain re-approval and permits from authorities.

3.10.6 City Engineer will not consider and will not approve substitutions when:

- .1 they are indicated or implied on Shop Drawing or Product Data submittals without separate written request; or
- .2 acceptance will require revision to the Contract.

3.10.7 City Engineer may reject requests for substitution, and his decision will be final and binding on the Parties.

3.11 *CASH ALLOWANCES*

3.11.1 Contract Price includes Cash Allowances as identified in the Contract.

3.11.2 The City will pay the actual costs of Cash Allowance item exclusive of profit, overhead or administrative costs. If actual costs exceed the Cash Allowance, City Engineer must approve a Change Order for the additional costs.

3.12 *WARRANTY*

3.12.1 Contractor warrants to the City that Products furnished under the Contract are:

- .1 free of defects in title;
- .2 of good quality; and
- .3 new, unless otherwise required or permitted by the Contract.

If required by the City Engineer, Contractor shall furnish satisfactory evidence as to kind, quality and title of Products, and that Products conform to requirements of the Contract.

3.12.2 In the event of a defect in a Product, either during construction or warranty period, Contractor shall take appropriate action with manufacturer of Product to assure correction or replacement of defective Product with minimum delay.

3.12.3 Contractor warrants that the Work is free of defects not inherent in the quality required or permitted, and that the Work does conform with the requirements of the Contract. Contractor further warrants that the Work has been performed in a thorough and workmanlike manner.

3.12.4 Contractor warrants that the Work is free of concentrations on polychlorinated biphenyl (PCB) and other substances defined as hazardous by the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) or any other applicable law or regulation.

3.12.5 Work not conforming to requirements of Section 3.12, including substitutions not properly approved and authorized, may be considered nonconforming work.

3.12.6 Contractor's warranty excludes remedy for damage or defect caused by:

- .1 improper or insufficient maintenance by the City;
- .2 normal wear and tear under normal usage; or
- .3 claim that hazardous material was incorporated into the Work, if that material was specified in the Contract.



3.12.7 Contractor warrants that title to all work covered by Contractor's request for payment passes to the City upon incorporation into the Work or upon Contractor's receipt of payment, whichever occurs first. The Contractor further warrants that the title is free of all liens, claims, security interests or other interests ("Encumbrances"). If not, upon written demand from City Engineer, Contractor shall immediately take legal action necessary to remove Encumbrances.

### 3.13 TAXES

3.13.1 Contractor shall pay all sales, consumer, use, and similar taxes, which are in effect or scheduled to go into effect on or before bids are received, related to work provided by Contractor.

3.13.2 Contractor shall obtain, and require Subcontractors and Suppliers to obtain, necessary permits from the state and local taxing authorities to perform contractual obligations under the Contract, including sales tax permits.

3.13.3 The City is exempt from the Federal Transportation and Excise Tax. Contractor shall comply with federal regulations governing the exemptions.

3.13.4 Products incorporated into the Work are exempt from state sales tax according to provisions of the TEX. TAX CODE ANN. CH. 151, Subsection H.

### 3.14 PERMITS, FEES, AND NOTICES

3.14.1 Unless otherwise provided in the Contract, Contractor shall secure and pay for all construction permits, licenses, and inspections:

- .1 necessary for proper execution and completion of the Work; and
- .2 legally required at time bids are received.

### 3.15 CONSTRUCTION SCHEDULES

3.15.1 On receipt of Notice to Proceed, Contractor shall promptly prepare and submit construction schedule for the Work for City Engineer's review. The schedule must reflect the minimum time required to complete the Work not to exceed Contract Time.

3.15.2 Contractor shall give 24-hour written notice to City Engineer before commencing work or resuming work where work has been stopped.

Contractor shall also give the same notice to inspectors.

3.15.3 Contractor shall incorporate milestones specified in Summary of Work Specification into the construction schedule. Contractor's failure to meet a milestone, as determined by City Engineer, may be considered a material breach of the Contract.

3.15.4 Each month, Contractor shall submit to City Engineer a copy of an updated construction schedule indicating actual progress, incorporating applicable changes, and indicating courses of action required to assure completion of the Work within Contract Time.

3.15.5 Contractor shall keep a current schedule of submittals that coordinates with the construction schedule, and shall submit the initial schedule of submittals to City Engineer for approval.

### 3.16 DOCUMENTS AND SAMPLES AT THE SITE

3.16.1 Contractor shall maintain at the site, and make available to City Engineer, one record copy of Drawings, Specifications, and Modifications. Contractor shall maintain the documents in good order and marked currently to record changes and selections made during construction. In addition, Contractor shall maintain at the site, approved Shop Drawings, Product Data, Samples, and similar submittals, which will be delivered to City Engineer prior to final inspection as required in Paragraph 9.11.4.

3.16.2 Contractor shall maintain all books, documents, papers, accounting records, and other relevant documentation pursuant to the Work and shall make the books, documents, papers, and accounting records available to representatives of the City for review and audits during the Contract term and for the greater of three years following Date of Substantial Completion or until all litigation or audits are fully resolved.

3.16.3 Contractor shall provide to City Attorney all documents and records that City Attorney deems necessary to assist in determining Contractor's compliance with the Contract, with the exception of those documents made confidential by federal or state law or regulation.

### 3.17 MANUFACTURER'S SPECIFICATIONS

3.17.1 Contractor shall handle, store, and Install Products and perform all work in the manner

required by Product manufacturer. Should the Contract and manufacturer's instructions conflict, Contractor shall report conflict to City Engineer for resolution prior to proceeding with the affected work.

3.17.2 References in the Contract to the manufacturer's specifications, directions, or recommendations, mean manufacturer's current published documents in effect as of date of receipt of bids, or in the case of a Modification, as of date of Modification.

3.18 *SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES*

3.18.1 Shop Drawings, Product Data, and Samples are not part of the Contract. The purpose of Contractor submittals is to demonstrate, for those portions of the Work for which submittals are required, the way Contractor proposes to conform to information given and design concept expressed in the Contract.

3.18.2 Contractor shall submit to Project Manager for review the Shop Drawings, Product Data, and Samples, which are required by the Contract. Review by Project Manager is subject to limitations of Paragraph 4.1.4. Contractor shall transmit the submittals to the Project Manager with reasonable promptness and in a sequence, so as to cause no delay in the Work or in activities of the City or of separate contractors. Contractor shall transmit submittals in time to allow a minimum of 30 days for Project Manager's review prior to date Contractor needs reviewed submittals returned. This time may be shortened for a particular job requirement if approved by Project Manager in advance of submittal.

3.18.3 Contractor shall certify that the content of submittals conforms to the Contract without exception by affixing Contractor's approval stamp and signature. By certifying and submitting Shop Drawings, Product Data, and Samples, Contractor represents, and Contractor's stamp of approval shall state, that Contractor has determined and verified materials, quantities, field measurements, and field construction criteria related to the submittal, and has checked and coordinated information contained within the submittals with requirements of the Contract.

3.18.4 Contractor may not perform any work requiring submittal and review of Shop Drawings, Product Data, or Samples until the submittal has been returned with appropriate review decision by

the Project Manager. Contractor shall perform work in accordance with the review.

3.18.5 If Contractor performs any work requiring submittals prior to review and acceptance of the submittals by Project Manager, such work is at Contractor's risk and the City is not obligated to accept work if the submittals are later found to be unacceptable.

3.18.6 If, in the opinion of Project Manager, the submittals are incomplete, or demonstrate an inadequate understanding of the Work or lack of review by the Contractor, then submittals may be returned to the Contractor for correction and resubmittal.

3.18.7 Contractor shall direct specific attention in writing and on the resubmitted Shop Drawings, Product Data, or Samples to any additional proposed revisions, other than those revisions requested by Project Manager on previous submittals.

3.18.8 Contractor is not relieved of responsibility for deviations from requirements of the Contract by Project Manager's review of Shop Drawings, Product Data, or Samples unless Contractor has specifically informed Project Manager in writing of the deviation at the time of the submittal, and Project Manager has given written approval of the deviation.

3.18.9 When professional certification of performance criteria of Products is required by the Contract, the City may rely upon accuracy and completeness of the calculations and certifications.

3.18.10 For Product colors or textures to be selected by the City, Contractor shall submit all samples together to allow preparation of a complete selection schedule.

3.18.11 Contractor shall submit informational submittals, on which Project Manager is not expected to take responsive action, as required by the Contract.

3.18.12 Submittals made by Contractor which are not required by the Contract may be returned to Contractor without action.

3.19 *CULTURAL RESOURCES AND ENDANGERED SPECIES*

3.19.1 Contractor may not remove or disturb, or cause to be removed or disturbed, any historical, archaeological, architectural, or other cultural



artifacts, relics, vestiges, remains, or objects of antiquity. If Contractor discovers one of these items, Contractor shall immediately notify City Engineer and further comply with the requirements of 13 Tex. Admin. Code Chs. 25 and 26 (2002), or successor regulation. Contractor shall protect site and cultural resources from further disturbance until professional examination can be made or until clearance to proceed is authorized in writing by City Engineer.

**3.19.2** Should either threatened or endangered plant or animal species be encountered, Contractor shall cease work immediately in the area of encounter and notify City Engineer.

**3.20** *CUTTING AND PATCHING*

3.20.1 Contractor is responsible for necessary cutting, fitting, and patching to accomplish the Work and shall suitably support, anchor, attach, match, and trim or seal materials to work of other contractors. Contractor shall coordinate the Work with work of other contractors to minimize conflicts, as provided in Article 6.

3.20.2 Contractor may not endanger work by cutting, digging, or other action, and may not cut or alter work of other contractors except by written consent of City Engineer and affected contractor.

**3.21** *CLEANING*

3.21.1 Contractor shall perform daily cleanup of all dirt, debris, scrap materials and other disposable items resulting from Contractor's operations, whether on-site or off-site. Unless otherwise authorized in writing by City Engineer, Contractor shall keep all streets, access streets, driveways, areas of public access, walkways, and other designated areas clean and open at all times.

3.21.2 Failure of Contractor to maintain a clean site, including access streets, is the basis for City Engineer to issue a Notice of Noncompliance. Should compliance not be attained within the time period in the Notice of Noncompliance, City Engineer may authorize necessary cleanup to be performed by others and the cost of the cleanup will be deducted from monies due Contractor.

Contractor shall legally dispose off-site, all waste materials and other excess materials resulting from Contractor's operations.

**3.22** *SANITATION*

3.22.1 Contractor shall provide and maintain sanitary facilities at site for use of all construction

forces under the Contract. Newly-constructed or existing sanitary facilities may not be used by Contractor.

**3.23** *ACCESS TO WORK AND TO INFORMATION*

3.23.1 Contractor shall provide the City, Design Consultant, testing laboratories, and governmental agencies which have jurisdictional interests, access to the Work in preparation and in progress wherever located. Contractor shall provide proper and safe conditions for the access.

3.23.2 If required by City Engineer, Contractor shall furnish information concerning character of Products and progress and manner of the Work, including information necessary to determine cost of the Work, such as number of employees, pay of employees, and time employees worked on various classes of the Work.

**3.24** *TRADE SECRETS*

3.24.1 Contractor will not make any claim of ownership of trade secrets as to products used in the Work, or preparation of any mixture for the Work. City Engineer will at all times have the right to demand and Contractor shall furnish information concerning materials or samples of ingredients of any materials used, or proposed to be used, in preparation of concrete placed or other work to be done. Mixtures, once agreed on, shall not be changed in any manner without knowledge and consent of City Engineer. The City will make its best efforts to protect confidentiality of proprietary information.

**3.25** *INDEMNIFICATION*

3.25.1 CONTRACTOR AGREES TO AND SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") HARMLESS FOR ALL CLAIMS, CAUSES OF ACTION, LIABILITIES, FINES, AND EXPENSES (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS, AND ALL OTHER DEFENSE COSTS AND INTEREST) FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THE CONTRACT INCLUDING, WITHOUT LIMITATION, THOSE CAUSED BY:

.1 CONTRACTOR'S AND/OR ITS AGENTS', EMPLOYEES', OFFICERS', DIRECTORS', CONTRACTORS', OR



- SUBCONTRACTORS' (COLLECTIVELY IN NUMBERED SUBPARAGRAPHS .1 through .3, "CONTRACTOR") ACTUAL OR ALLEGED NEGLIGENCE OR INTENTIONAL ACTS OR OMISSIONS;
- .2 THE CITY'S AND CONTRACTOR'S ACTUAL OR ALLEGED CONCURRENT NEGLIGENCE, WHETHER CONTRACTOR IS IMMUNE FROM LIABILITY OR NOT;
- .3 THE CITY'S AND CONTRACTOR'S ACTUAL OR ALLEGED STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY, WHETHER CONTRACTOR IS IMMUNE FROM LIABILITY OR NOT.

CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY HARMLESS DURING THE TERM OF THE CONTRACT AND FOR FOUR YEARS AFTER THE CONTRACT TERMINATES. CONTRACTOR SHALL NOT INDEMNIFY THE CITY FOR THE CITY'S SOLE NEGLIGENCE.

3.25.2 NOTWITHSTANDING ANYTHING TO THE CONTRARY, THE LIABILITY OF CONTRACTOR FOR THE CITY'S CONCURRENT NEGLIGENCE SHALL NOT EXCEED \$1,000,000.

3.26 *RELEASE AND INDEMNIFICATION – PATENT, COPYRIGHT, TRADEMARK, AND TRADE SECRET INFRINGEMENT*

3.26.1 UNLESS OTHERWISE SPECIFICALLY REQUIRED BY THE CONTRACT, CONTRACTOR AGREES TO AND SHALL RELEASE AND DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") FROM ALL CLAIMS OR CAUSES OF ACTION BROUGHT AGAINST THE CITY BY ANY PARTY, INCLUDING CONTRACTOR, ALLEGING THAT THE CITY'S USE OF ANY EQUIPMENT, SOFTWARE, PROCESS, OR DOCUMENTS CONTRACTOR FURNISHES DURING THE TERM OF THE CONTRACT INFRINGES ON A PATENT, COPYRIGHT, OR TRADEMARK, OR MISAPPROPRIATES A TRADE SECRET. CONTRACTOR SHALL PAY ALL COSTS (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS, AND ALL OTHER DEFENSE COSTS, AND INTEREST) AND DAMAGES AWARDED.

3.26.2 CONTRACTOR SHALL NOT SETTLE ANY CLAIM ON TERMS WHICH PREVENT THE CITY FROM USING THE EQUIPMENT, SOFTWARE, PROCESS, OR PRODUCT WITHOUT THE CITY ENGINEER'S PRIOR WRITTEN CONSENT.

3.26.3 UNLESS OTHERWISE SPECIFICALLY REQUIRED BY THE CONTRACT, WITHIN 60 DAYS AFTER BEING NOTIFIED OF THE CLAIM, CONTRACTOR SHALL, AT ITS OWN EXPENSE, EITHER:

- .1 OBTAIN FOR THE CITY THE RIGHT TO CONTINUE USING THE EQUIPMENT, SOFTWARE, PROCESS, OR PRODUCT, OR
- .2 IF BOTH PARTIES AGREE, REPLACE OR MODIFY THEM WITH COMPATIBLE AND FUNCTIONALLY EQUIVALENT PRODUCTS.

IF NONE OF THESE ALTERNATIVES IS REASONABLY AVAILABLE, THE CITY MAY RETURN THE EQUIPMENT, SOFTWARE, OR PRODUCT, OR DISCONTINUE THE PROCESS, AND CONTRACTOR SHALL REFUND THE PURCHASE PRICE.

### 3.27 *INDEMNIFICATION PROCEDURES*

3.27.1 *Notice of Indemnification Claims:* If the City or Contractor receives notice of any claim or circumstances which could give rise to an indemnified loss, the receiving party shall give written notice to the other Party within 10 days. The notice must include the following:

- .1 a description of the indemnification event in reasonable detail,
- .2 the basis on which indemnification may be due, and
- .3 the anticipated amount of the indemnified loss.

This notice does not estop or prevent the City from later asserting a different basis for indemnification or a different amount of indemnified loss than that indicated in the initial notice. If the City does not provide this notice within the 10-day period, it does not waive any right to indemnification except to the extent that Contractor is prejudiced, suffers loss, or incurs expense because of the delay.

3.27.2 *Defense of Indemnification Claims:*

- .1 *Assumption of Defense:* Contractor may assume the defense of the claim at its own expense with counsel chosen by it that is reasonably satisfactory to the City. Contractor shall then control the defense and any negotiations to



settle the claim. Within 10 days after receiving written notice of the indemnification request, Contractor must advise the City as to whether or not it will defend the claim. If Contractor does not assume the defense, the City shall assume and control the defense, and all defense expenses constitute an indemnified loss.

.2 *Continued Participation:* If Contractor elects to defend the claim, the City may retain separate counsel to participate in, but not control, the defense and to participate in, but not control, any settlement negotiations. Contractor may settle the claim without the consent or agreement of the City, unless it:

- .1 would result in injunctive relief or other equitable remedies or otherwise require the City to comply with restrictions or limitations that adversely affect the City;
- .2 would require the City to pay amounts that Contractor does not fund in full; or
- .3 would not result in the City's full and complete release from all liability to the plaintiffs or claimants who are parties to or otherwise bound by the settlement.

### **3.28 CONTRACTOR DEBT**

**IF CONTRACTOR, AT ANY TIME DURING THE TERM OF THIS AGREEMENT, INCURS A DEBT, AS THE WORD IS DEFINED IN SECTION 15-122 OF THE HOUSTON CITY CODE OF ORDINANCES, IT SHALL IMMEDIATELY NOTIFY CITY CONTROLLER IN WRITING. IF CITY CONTROLLER BECOMES AWARE THAT CONTRACTOR HAS INCURRED A DEBT, IT SHALL IMMEDIATELY NOTIFY CONTRACTOR IN WRITING. IF CONTRACTOR DOES NOT PAY THE DEBT WITHIN 30 DAYS OF EITHER SUCH NOTIFICATION, CITY CONTROLLER MAY DEDUCT FUNDS IN AN AMOUNT EQUAL TO THE DEBT FROM ANY PAYMENTS OWED TO CONTRACTOR UNDER THIS AGREEMENT, AND CONTRACTOR WAIVES ANY RECOURSE THEREFOR. CONTRACTOR SHALL FILE A NEW AFFIDAVIT OF OWNERSHIP, USING THE FORM DESIGNATED BY CITY, BETWEEN FEBRUARY 1**

**AND MARCH 1 OF EVERY YEAR DURING THE TERM OF THE CONTRACT.**

### ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

#### 4.1 *CONTRACT ADMINISTRATION*

4.1.1 City Engineer will provide administration of the Contract and City Engineer is authorized to issue Change Orders, Work Change Directives, and Minor Changes in the Work.

4.1.2 City Engineer may act through Project Manager, Design Consultant, or Inspector. When the term "City Engineer" is used in the Contract, action by City Engineer is required unless City Engineer delegates his authority in writing. The City Engineer may not delegate authority to render decisions under Section 4.4.

The City does not have control over or charge of, and is not responsible for, supervision, construction, and safety procedures enumerated in Section 3.3. The City does not have control over or charge of and is not responsible for acts or omissions of Contractor, Subcontractors, or Suppliers.

4.1.3 The City and Design Consultant may attend project meetings and visit the site to observe progress and quality of the Work. The City and Design Consultant are not required to make exhaustive or continuous on-site inspections to check quality or quantity of the Work.

4.1.4 Project Manager will review and approve or take other appropriate action on Contractor's submittals, but only for limited purpose of checking for conformance with information given and design concept expressed in the Contract.

4.1.5 Project Manager's review of the submittals is not conducted for purpose of determining accuracy and completeness of other details, such as dimensions and quantities, or for substantiating instructions for installation or performance of Products, all of which remain the responsibility of Contractor.

4.1.6 Project Manager's review of submittals does not relieve Contractor of its obligations under Sections 3.3, 3.12, and 3.18. Review does not constitute approval of safety precautions or, unless otherwise specifically stated by Project Manager in writing, of construction means, methods, techniques, sequences, or procedures. Project Manager's review of a specific item does not indicate approval of an assembly of which the item is a component.

4.1.7 Based on field observations and evaluations, Project Manager will process Contractor's progress payments, certify amounts due Contractor, and issue Certificates for Payment in the amount certified.

4.1.8 Project Manager will receive and forward to City Engineer for his review and records, written warranties and related documents required by the Contract and assembled by Contractor.

4.1.9 Upon written request by Contractor or Project Manager, City Engineer will resolve matters of interpretation of or performance of the Contract, which are not Claims. City Engineer's decisions are final and binding on the Parties.

4.1.10 City Engineer may reject work which does not conform to the Contract.

4.1.11 When City Engineer considers it necessary to implement the intent of the Contract, City Engineer may require additional inspection or testing of work in accordance with Paragraphs 13.6.3 and 13.6.4, whether such work is fabricated, Installed, or completed.

#### 4.2 COMMUNICATIONS IN ADMINISTRATION OF THE CONTRACT

4.2.1 Except as otherwise provided in the Contract or when authorized by City Engineer in writing, Contractor shall communicate with Project Manager. Contractor shall communicate with Design Consultant, Design Consultant's subconsultants, and separate contractors through Project Manager. The City will communicate with Subcontractors and Suppliers through Contractor.

#### 4.3 CLAIMS AND DISPUTES

4.3.1 *Documentation by Project Manager:* Contractor shall submit Claims, including those alleging an error or omission by Project Manager or Design Consultant, to Project Manager for documentation and recommendation to City Engineer.

4.3.2 *Decision of City Engineer:* Upon submission of Claim by Project Manager or Contractor, City Engineer will resolve Claims in accordance with Section 4.4.

4.3.3 *Time Limits on Claims:* Claims by Contractor must be made within 90 days after occurrence of event giving rise to the Claim.

4.3.4 *Continuing the Contract Performance:* Pending final resolution of a Claim including referral to non-binding mediation, unless otherwise agreed in writing, Contractor shall proceed diligently with the performance of the Contract and the City will continue to make payments in accordance with the Contract.

4.3.4.1 Pending final resolution of a Claim including referral to non-binding mediation, Contractor is responsible for safety and protection of physical properties and conditions at site.

4.3.5 *Claims for Concealed or Unknown Conditions:* Concealed or unknown physical conditions include utility lines, other man-made structures, storage facilities, Pollutants and Pollutant Facilities, and the like, but do not include conditions arising from Contractor operations, or failure of Contractor to properly protect and safeguard subsurface facilities. Concealed conditions also include naturally-occurring soil conditions outside the range of soil conditions identified through geotechnical investigations, but do not include conditions arising from groundwater, rain, or flood.

4.3.5.1 If conditions are encountered at the site which are Underground Facilities or otherwise concealed or unknown conditions which differ materially from:

- .1 those indicated by the Contract; or
- .2 conditions which Contractor could have discovered through site inspection, geotechnical testing, or otherwise;

then Contractor will give written notice to City Engineer no later than five days after Contractor's first observation of the condition and before condition is disturbed. Contractor's failure to provide notice constitutes a waiver of a Claim.

4.3.5.2 City Engineer will promptly investigate concealed or unknown conditions. If City Engineer determines that conditions at the site are not materially different and that no change in Contract Price or Contract Time is justified, City Engineer will notify Contractor in writing, stating reasons. If City Engineer determines the conditions differ materially and cause increase or decrease in Contractor's cost or time required for performance of part of the Work, City Engineer will recommend an adjustment in Contract Price or Contract Time, or both, as provided in Article 7. Opposition by a Party to the City Engineer's determination must be made within 21



days after City Engineer has given notice of the decision. If the Parties cannot agree on adjustment to Contract Price or Contract Time, adjustment is subject to further proceedings pursuant to Section 4.4.

4.3.6 *Claims for Additional Cost:* If Contractor wishes to make a Claim for increase in Contract Price, Contractor shall give written notice before proceeding with work for which Contractor intends to submit a Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

4.3.6.1 Contractor may file a Claim in accordance with Section 4.4 if Contractor believes it has incurred additional costs, for the following reasons:

- .1 written interpretation of City Engineer;
- .2 order by City Engineer to stop the Work when Contractor is not at fault;
- .3 suspension of the Work by City Engineer;
- .4 termination of the Contract by City Engineer; or
- .5 The City's non-compliance with another provision of the Contract.

4.3.6.2 No increase in Contract Price is allowed for delays or hindrances to the Work, except for direct and unavoidable extra costs to Contractor caused by failure of the City to provide information and services, or to make land and materials available, when required of the City under the Contract. Any increase claimed is subject to the provisions of Section 4.4 and Article 7.

4.3.6.3 The City is not liable for Claims for delay when Date of Substantial Completion occurs prior to expiration of Contract Time.

4.3.7 *Claims for Additional Time:* If Contractor wishes to make a Claim for an increase in Contract Time, Contractor shall give written notice as provided in Section 8.2. In case of continuing delay, only one Claim is necessary.

#### 4.4 *RESOLUTION OF CLAIMS AND DISPUTES*

4.4.1 City Engineer will review Claims and take one or more of the following preliminary actions within 30 days of receipt of Claim:

- .1 submit a suggested time to meet and discuss the Claim with City Engineer;
- .2 reject Claim, in whole or in part, stating reasons for rejection;

- .3 recommend approval of the Claim by the other Party;
- .4 suggest a compromise; or
- .5 take other actions as City Engineer deems appropriate to resolve the Claim.

4.4.2 City Engineer may request additional supporting data from claimant. Party making Claim shall, within 10 days after receipt of City Engineer's request, submit additional supporting data requested by City Engineer.

4.4.3 At any time prior to rendering a written decision regarding a Claim, City Engineer may refer Claim to non-binding mediation. If Claim is resolved, City Engineer will prepare and obtain all appropriate documentation. If Claim is not resolved, City Engineer will take receipt of Claim and begin a new review under Section 4.4.

4.4.4 If Claim is not referred to or settled in non-binding mediation, City Engineer may conduct a hearing and will render a written decision, including findings of fact, within 75 days of receipt of Claim, or a time mutually agreed upon by the Parties in writing. City Engineer may notify Surety and request Surety's assistance in resolving Claim. City Engineer's decision is final and binding on the Parties.

#### 4.5 *CONDITION PRECEDENT TO SUIT; WAIVER OF ATTORNEY FEES AND INTEREST*

4.5.1 Neither the City nor Contractor may recover attorney fees for any claim brought in connection with this Contract.

4.5.2 Neither the City nor the Contractor may recover interest for any damages claim brought in connection with this Contract except as allowed by TEXAS LOCAL GOVERNMENT CODE Chapter 2251.

#### 4.6 *INTERIM PAYMENT WAIVER & RELEASE*

4.6.1 In accordance with section 4.3, the Contractor shall use due diligence in the discovery and submission of any Claim against the City related to the Contractor's work.

4.6.2 The Contractor shall submit any Claim to the City not later than the 90th day after the occurrence of the event giving rise to the Claim.

4.6.3 Any failure to timely comply with the requirements of section 4.6.2 waives and releases any Claim when the Contractor submits an application for payment after the 90th day.

4.6.4 This waiver does not cover any retainage. In case of any conflict of law, this language shall be revised to the minimum extent necessary to avoid legal conflict. This waiver is made specifically for the benefit of the City.

#### ARTICLE 5 - SUBCONTRACTORS AND SUPPLIERS

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##### 5.1 *AWARD OF SUBCONTRACTS OTHER CONTRACTS FOR PORTIONS OF THE WORK*

5.1.1 Contractor may not contract with a Subcontractor, Supplier, person, or entity that City Engineer has made a reasonable and timely objection to.

5.1.2 If City Engineer has a reasonable objection to person or entity proposed by Contractor, Contractor shall propose another with whom City Engineer has no reasonable objection.

5.1.3 Contractor shall execute contracts with approved Subcontractors, Suppliers, persons, or entities before the Subcontractors or Suppliers begin work under the Contract.

5.1.4 Contractor shall notify City Engineer in writing of any proposed change of Subcontractor, Supplier, person, or entity previously accepted by the City.

5.1.5 Contractor shall make timely payments to Subcontractors and Suppliers for performance of the Contract. Contractor shall protect, defend, and indemnify the City from any claim or liability arising out of Contractor's failure to make the payments. Disputes relating to payment of Business Enterprise Subcontractors or Suppliers will be submitted to arbitration in same manner as other disputes under Business Enterprise subcontracts. Failure of Contractor to comply with decisions of arbitrator may be determined by City Engineer a material breach leading to termination of the Contract.

##### 5.2 *CONTRACTOR RESPONSIBILITY FOR SUBCONTRACTORS*

5.2.1 Contractor is responsible to the City, as may be required by laws and regulations, for all acts and omissions of Subcontractors, Suppliers, and other persons and organizations performing or furnishing any of the Work under direct or indirect contract with Contractor.

5.2.2 Contractor shall make available to each proposed Subcontractor, prior to execution of subcontract, copies of the Contract to which Subcontractor is bound by this Section 5.2. Contractor shall notify Subcontractor of any terms of proposed subcontract which may be at variance with the Contract.

5.2.3 The City's approval of Subcontractor or Suppliers does not relieve Contractor of its obligation to perform, or to have performed to the full satisfaction of the City, the Work required by the Contract.

5.2.4 Unless there is a contractual relationship between Contractor and a Subcontractor or Supplier to the contrary, Contractor shall withhold no more retainage from Subcontractors or Suppliers than City withholds from Contractor under this Agreement. However, once a Subcontractor or Supplier completes performance, Contractor shall release all retainage to that Subcontractor or Supplier regardless if City continues to retain under this Agreement.

5.2.5 Prior to a Subcontractor or Supplier commencing performance for Contractor, Contractor shall meet with that Subcontractor or Supplier to provide instructions on invoicing procedures, dispute resolution procedures, and statutory rights, such as claim filing procedures under the McGregor Act. Subcontractors and Suppliers must certify to the City Engineer that Contractor has fulfilled the requirements of this Section.

#### ARTICLE 6 - CONSTRUCTION BY THE CITY OR BY SEPARATE CONTRACTORS

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##### 6.1 *THE CITY'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS*

6.1.1 The City may perform on-site construction operations related to the Work and as part of the Project with the City's workforce or with separate contractors.

##### 6.2 *COORDINATION*

6.2.1 The City will coordinate activities of the City's workforce and of each separate contractor with work of Contractor, and Contractor shall cooperate with the City and separate contractors.



6.2.1.1 Contractor shall participate with other separate contractors and the City in reviewing their construction schedules when directed to do so by the Project Manager. Contractor shall make revisions to construction schedule and Contract Price deemed necessary after joint review and mutual agreement. Construction schedules shall then constitute schedules to be used by Contractor, separate contractors, and the City, until subsequently revised.

6.2.2 Contractor shall afford to the City and to separate contractors reasonable opportunity for introduction and storage of their materials and equipment, and for performance of their activities.

6.2.3 If part of Contractor's work depends on proper execution of construction or operations by the City or a separate contractor, Contractor shall, prior to proceeding with that portion of the Work, inspect the other work and promptly report to City Engineer apparent discrepancies or defects in the other construction that would render it unsuitable for the proper execution of the Work. Failure of Contractor to report apparent discrepancies or defects in the other construction shall constitute acknowledgment that the City's or separate contractor's completed or partially completed construction is fit and proper to receive Contractor's work, except as to discrepancies or defects not then reasonably discoverable.

#### 6.3 *MUTUAL RESPONSIBILITY*

6.3.1 The responsible party bears the costs caused by delays, by improperly timed activities, or by nonconforming construction.

6.3.2 Contractor shall promptly remedy damage caused by Contractor to completed or partially completed construction or to property of the City or separate contractor.

6.3.3 Claims or disputes between Contractor and other City contractors, or subcontractors of other City contractors, working on the Project must be submitted to binding arbitration in accordance with Construction Industry Arbitration Rules of the American Arbitration Association upon demand by any party to the dispute or by the City.

#### 6.4 *THE CITY'S RIGHT TO CLEAN UP*

6.4.1 If dispute arises among Contractor, separate contractors, and the City as to responsibility under their respective contracts for maintaining premises and surrounding area free from waste materials and rubbish as described in Section 3.21,

the City may clean up and allocate cost among those responsible, as determined by City Engineer.

### ARTICLE 7 - CHANGES IN THE WORK

#### 7.1 *CHANGES*

7.1.1 Changes in scope of the Work, subject to limitations in Article 7 and elsewhere in the Contract, may be accomplished without invalidating the Contract, or without notifying Surety by:

- .1 Change Order;
- .2 Work Change Directive; or
- .3 Minor Change in the Work.

7.1.2 The following types of Change Orders require City Council approval:

- .1 a single Change Order that exceeds five percent of Original Contract Price,
- .2 a Change Order which, when added to previous Change Orders, exceeds five percent of Original Contract Price,
- .3 a Change Order, in which the total value of increases outside of the general scope of work approved by City Council, when added to increases outside the general scope of work approved by City Council in previous Change Orders, exceeds 40 percent of the Original Contract Price, even if the net increase to the Original Contract Price is five percent or less.

In this context, "increase" means an increase in quantity resulting from the addition of locations not within the scope of work approved by City Council, or the addition of types of goods or services not bid as unit price items.

Nothing in this Section is intended to permit an increase of the Contract Price in excess of the limit set out in TEX. LOC. GOV'T CODE ANN. §252.048 or its successor statute.

7.1.3 Contractor shall proceed promptly to execute changes in the Work provided in Modifications, unless otherwise stated in the Modification.

#### 7.2 *WORK CHANGE DIRECTIVES*

7.2.1 A Work Change Directive cannot change Contract Price or Contract Time, but is evidence that the Parties agree that a change, ordered by directive, will be incorporated in a subsequently issued Change Order as to its effect, if any, on Contract Price or Contract Time.

7.2.2 Failure by Contractor to commence work identified in a Work Change Directive within the time specified by City Engineer, or to complete the work in a reasonable period of time, may be determined by City Engineer to be a material breach of Contract.

7.2.3 A Work Change Directive is used in the absence of total agreement of the terms of a Change Order. Interim payments are made in accordance with Paragraph 9.6.1.

7.2.4 If Contractor signs a Work Change Directive, then Contractor agrees to its terms including adjustment in Contract Price and Contract Time or method for determining them. Agreement by the Parties to adjustments in Contract Price and Contract Time are immediately recorded as a Change Order.

7.2.5 City Engineer, by Work Change Directive, may direct Contractor to take measures as necessary to expedite construction to achieve Date of Substantial Completion on or before expiration of Contract Time. When the Work is expedited solely for convenience of the City and not due to Contractor's failure to prosecute timely completion of the Work, then Contractor is entitled to an adjustment in Contract Price equal to actual costs determined in accordance with Article 7.

7.3 *ADJUSTMENTS IN CONTRACT PRICE*

7.3.1 Adjustments in Contract Price are accomplished by Change Order and are based on one of the following methods:

- .1 mutual acceptance of fixed price, properly itemized and supported by sufficient data to permit evaluation;
- .2 unit prices stated in the Contract or subsequently agreed upon;
- .3 cost to be determined in a manner agreed upon by the Parties and mutually acceptable fixed or percentage fee; or

	<u>Overhead</u>	<u>Profit</u>
to Contractor for change in the Work performed by Subcontractors:	10 percent	0 percent
to first tier Subcontractors for change in the Work performed by its Subcontractors:	10 percent	0 percent
to Contractor and Subcontractor for change in the Work performed by their respective firms:	10 percent	5 percent

.4 as provided in Paragraph 7.3.2.

7.3.2 If Contractor does not agree with a change in Contract Price or Contract Time or the method for adjusting them specified in the Work Change Directive within 21 days from date of the Work Change Directive's issuance, method and adjustment are determined by City Engineer. If Project Manager or Contractor disagree with City Engineer's determination they then may file a Claim in accordance with Section 4.4.

7.3.2.1 If City Engineer determines a method and adjustment in Contract Price under Paragraph 7.3.2, Contractor shall provide, in a form as City Engineer may prescribe, appropriate supporting data for items submitted under Paragraph 7.3.2. Failure to submit the data within 21 days of request for the data by City Engineer shall constitute waiver of a Claim.

7.3.2.2 Unless otherwise provided in the Contract, costs for the purposes of this Paragraph 7.3.2 are limited to the following:

- .1 costs of labor, including labor burden as stated below for social security, unemployment insurance, customary and usual fringe benefits required by agreement or custom, and Workers' Compensation insurance;
  - .1 the maximum labor burden applied to costs of labor for changes in the Work is 55 percent;
- .2 costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 rental costs of machinery and equipment, exclusive of hand tools, whether rented from Contractor or



- others, with prior approval of City Engineer;
- .4 costs of premiums for Bonds and insurance and permit fees related to the change in the Work;
- .5 additional costs of direct supervision of work and field office personnel directly attributable to the change; and
- .6 allowances for overhead and profit as stated below.
  - .1 the maximum allowances for overhead and profit on increases due to Change Orders;
  - .2 for changes in the Work performed by Contractor and Subcontractors, allowance for overhead and profit are applied to an amount equal to cost of all additions less cost of all deletions to the Work. Allowance for overhead to Contractor and first tier Subcontractors on changes performed by Subcontractors are applied to an amount equal to the sum of all increases to the Work by applicable Subcontractors.

7.3.3 If the City deletes or makes a change, which results in a net decrease in Contract Price, the City is entitled to a credit calculated in accordance with Paragraphs 7.3.1 and 7.3.2 and Subparagraphs 7.3.2.1, and 7.3.2.2.1 through 7.3.2.2.5. When both additions and credits covering related work or substitutions are involved in a change, allowance for overhead and profit is figured on the basis of a net increase, if any, with respect to that change in accordance with Subparagraph 7.3.2.2.6.

7.3.4 When Contractor agrees with the determination made by City Engineer concerning adjustments in Contract Price and Contract Time, or the Parties otherwise reach agreement upon the adjustments, the agreement will be immediately recorded by Change Order.

#### 7.4 *MINOR CHANGES IN THE WORK*

7.4.1 A Minor Change in Work is binding on the Parties. Contractor shall acknowledge, in a written form acceptable to City Engineer, that there is no change in Contract Time or Contract Price and shall carry out the written orders promptly.

### ARTICLE 8 - TIME

#### 8.1 *PROGRESS AND COMPLETION*

8.1.1 Time is of the essence in the Contract. By executing the Contract, Contractor agrees that Contract Time is a reasonable period for performing the Work.

8.1.2 *Computation of Time:* In computing any period of time prescribed or allowed by the General Conditions, the day of the act, event, or default after which designated period of time begins to run is not to be included. Last day of the period so computed is to be included, unless it is a Sunday or Legal Holiday, in which event the period runs until end of next day which is not a Sunday or Legal Holiday. Sundays and Legal Holidays are considered to be days and are to be included in all other time computations relative to Contract Time.

8.1.3 Contractor may not commence the Work prior to the effective date of insurance and Bonds required by Article 11.

8.1.4 Contractor shall proceed expeditiously and without interruption, with adequate forces, and shall achieve Date of Substantial Completion within Contract Time.

8.1.5 Should progress of the Work fall behind construction schedule, except for reasons stated in Paragraph 8.2.1, Contractor shall promptly submit at the request of Project Manager, updated construction schedule to City Engineer for approval. Contractor's failure to submit updated schedule may, at City Engineer's discretion, constitute a material breach of the Contract. Contractor shall take action necessary to restore progress by working the hours, including night shifts and lawful overtime operations as necessary, to achieve Date of Substantial Completion within Contract Time.

8.1.6 Except in connection with safety or protection of persons or the Work or property at the site or adjacent to the site, and except as otherwise indicated in the Contract, all the Work at the site will be performed Monday through Saturday between the hours of 7:00 a.m. and 7:00 p.m. Contractor may not perform work between 7:00 p.m. and 7:00 a.m., on a Sunday, or on a Legal Holiday, without giving City Engineer 24-hour prior written notice and receiving written consent of City Engineer.

#### 8.2 *DELAYS AND EXTENSIONS OF TIME*

8.2.1 Contractor may request extension of Contract Time for a delay in performance of work

that arises from causes beyond control and without fault or negligence of Contractor. Examples of these causes are:

- .1 acts of God or of the public enemy,
- .2 acts of government in its sovereign capacity,
- .3 fires,
- .4 floods,
- .5 epidemics,
- .6 quarantine restrictions,
- .7 strikes,
- .8 freight embargoes,
- .9 unusually severe weather; and
- .10 discovery of Pollutants or Pollutant Facilities at the site.

8.2.2 For any reason other than those listed in Section 4.3.6.2, if the Contractor's work is delayed in any manner or respect, the Contractor shall have no claim for damages and shall have no right of additional compensation from the City by reason of any delay or increased expense to the Contractor's work, except for an extension of time as provided in this provision.

8.2.3 Contractor may request an extension of Contract Time for delay only if:

- .1 delay is caused by failure of Subcontractor or Supplier to perform or make progress; and
- .2 cause of failure is beyond control of both Contractor and Subcontractor or Supplier.

8.2.4 Claims relating to Contract Time must be made in accordance with Paragraph 4.3.7.

8.2.5 Claims for extending or shortening Contract Time are based on written notice promptly delivered by the Party making Claim to other Party. Claim must accurately describe occurrence generating Claim, and a statement of probable effect on progress of the Work.

8.2.6 Claims for extension of Contract Time are considered only when a Claim is filed within the time limits stated in Paragraph 4.3.3.

- .1 Notwithstanding paragraph 4.3.3, an extension of time for delays under this paragraph may be granted only upon written application by the Contractor within 48 hours from the claimed delay.

8.2.7 Written notice of Claim must be accompanied by claimant's written statement that adjustment claimed is entire adjustment to which claimant is entitled as a result of the occurrence of

the event. When the Parties cannot agree, Claims for adjustment in Contract Time are determined by City Engineer in accordance with Section 4.4.

8.2.8 Adjustments to Contract Time are accomplished by Change Order.

## ARTICLE 9 - PAYMENTS AND COMPLETION

### 9.1 *UNIT PRICE WORK*

9.1.1 Where the Contract provides that all or part of the Work is based on Unit Prices, the Original Contract Price includes, for all Unit Price work, an amount equal to the sum of Unit Prices times Unit Price Quantities for each separately identified item of Unit Price work.

9.1.2 Each Unit Price includes an amount to cover Contractor's overhead and profit for each separately identified item.

9.1.3 The Contractor may not make a Claim against the City for excess or deficiency in Unit Price Quantities provided in the Contract, except as provided in Subparagraph 9.1.4.1. Payment at the prices stated in the Contract is in full for the completed work. Contractor is not entitled to additional payment for materials, supplies, labor, tools, machinery and all other expenditures incidental to satisfactory completion of the Work.

9.1.4 City Engineer may increase or decrease quantities of the Work within limitations stated in Paragraph 7.1.2. Contractor is entitled to payment for actual quantities of items provided at Unit Prices set forth in the Contract.

9.1.5 Where the final quantity of work performed by Contractor on Major Unit Price Work item differs by more than 25 percent from quantity of the item stated in the Contract, a Party may request an adjustment in Unit Price, for the portion that differs by more than 25 percent, by a Change Order under Section 7.3.

### 9.2 *ESTIMATES FOR PAYMENT, UNIT PRICE WORK*

9.2.1 Following the day of each month indicated in the Contract, Project Manager will prepare a Certificate for Payment for the preceding monthly period based on estimated units of work completed. Prior to preparing Certificate of Payment, Contractor shall have submitted to City Engineer on a form



approved by the Director of the Mayor's Office of Business Opportunity, evidence satisfactory to the City Engineer of payments made to Subcontractors and Suppliers for the month preceding the month for which the Certificate for Payment is prepared.

9.2.2 Before final completion, City Engineer will review and confirm with Contractor the actual final installed Unit Price quantities. City Engineer's determination of actual final installed Unit Price quantities will be included in the final Certificate for Payment and any previous underpayments and overpayments will be reconciled with the actual final Unit Price quantities. Contractor shall file written notice of intent to appeal, if any, City Engineer's determination within 10 days of receipt of final Certificate for Payment. Upon expiration of the 10-day period, City Engineer's decision is final and binding on the Parties. If Contractor submits notice within the 10-day period, Contractor shall submit a Claim in accordance with Section 4.4.

### 9.3 *STIPULATED PRICE WORK*

9.3.1 For work contracted on a Stipulated Price basis, 10 days before submittal of first Application for Payment, Contractor shall submit to City Engineer a Schedule of Values allocated to various portions of the Work, prepared in the form and supported by the data as City Engineer may require to substantiate its accuracy. This schedule, as approved by City Engineer, is used as a basis for approval of Contractor's Applications for Payment.

### 9.4 *APPLICATIONS FOR PAYMENT, STIPULATED PRICE WORK*

9.4.1 For work contracted on a Stipulated Price basis, Contractor shall submit Applications for Payment to City Engineer each month on a form acceptable to City Engineer in accordance with Schedule of Values. Application must indicate percentages of completion of each portion of the Work listed in Schedule of Values as of the end of the period covered by the Application for Payment.

9.4.2 Applications for Payment must be supported by substantiating data as City Engineer may require and must reflect retainages as provided below. Evidence satisfactory to the City Engineer of payments made to Subcontractors and Suppliers for the month preceding the month for which the Application for Payment is submitted must accompany each Application for Payment on a form approved by the Director of Mayor's Office of Business Opportunity. Application must be sworn and notarized.

### 9.5 *CERTIFICATES FOR PAYMENT*

9.5.1 City Engineer will, within 10 days after the date specified in the Contract for Unit Price work, or upon receipt of Contractor's Application for Payment for Stipulated Price work, issue a Certificate for Payment for work based on amount which City Engineer determines is properly due, with copy to Contractor.

9.5.2 Unless otherwise provided in the Contract, payment for completed work and for properly stored Products is conditioned upon compliance with procedures satisfactory to City Engineer to protect the City's interests. Procedures will include applicable insurance, storage, and transportation to site for materials and equipment stored off-site. Contractor is responsible for maintaining materials and equipment until Date of Substantial Completion.

9.5.3 Contractor shall document its use of Ultra Low Sulfur Diesel Fuel by providing invoices and receipts evidencing Contractor's use.

### 9.6 *COMPUTATIONS OF CERTIFICATES FOR PAYMENT*

9.6.1 Subject to the provisions of the Contract, the amount of each Certificate for Payment is calculated as follows:

- .1 that portion of Contract Price allocated to completed work as determined by:
  - .1 multiplying the percentage of completion of each portion of the Work listed in the Schedule of Values by the value of that portion of the Work, or
  - .2 multiplying Unit Price quantities Installed times the Unit Prices listed in the Contract;
- .2 plus progress payments for completed work that has been properly authorized by Modifications;
- .3 less retainage of five percent;
- .4 plus actual costs, properly substantiated by certified copies of invoices and freight bills, of non-perishable materials and equipment delivered and properly stored, if approved in advance by Project Manager, less 15 percent;
- .5 less any previous payments by the City.

### 9.7 *DECISIONS TO WITHHOLD CERTIFICATION*



9.7.1 City Engineer may decline to certify payment and may withhold payment in whole or in part to the extent reasonably necessary to protect the City if, in City Engineer's opinion, there is reason to believe that:

- .1 nonconforming work has not been remedied;
- .2 the Work cannot be completed for unpaid balance of Contract Price;
- .3 there is damage to the City or another contractor;
- .4 the Work will not be completed within Contract Time and that unpaid balance will not be adequate to cover actual and liquidated damages;
- .5 probable evidence that third party claims will be filed in court, in arbitration, or otherwise;
- .6 Contractor has failed to make payments to Subcontractors or Suppliers for labor, material, or equipment; or
- .7 Contractor has persistently failed to carry out work in accordance with the Contract.
- .8 Contractor has not paid Subcontractors or Suppliers because of a payment dispute; or
- .9 Contractor has failed to provide satisfactory evidence described in Paragraphs 9.2.1, 9.4.2, and 9.8.2.

9.7.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

9.7.3 City Engineer may decline to certify payment and may withhold request for payment in whole or in part upon failure of Contractor to submit initial construction schedule or monthly schedule updates, as required in Paragraphs 3.15.1 and 3.15.3.

#### 9.8 *PROGRESS PAYMENTS*

9.8.1 The City will make payment, in an amount certified by City Engineer, within 20 days after City Engineer has issued a Certificate for Payment.

9.8.2 The City has no obligation to pay or to facilitate the payment to a Subcontractor or Supplier, except as may otherwise be required by law. Contractor shall comply with the prompt payment requirements of Chapter 2251 of the Government Code. State law requires payment of Subcontractors and Suppliers by Contractor within 7 calendar days

of Contractor's receipt of payment from the City, unless there is a payment dispute between Contractor and a Subcontractor or Supplier evidenced on a form approved by the Director of Mayor's Office of Business Opportunity and submitted to the City Engineer each month with Application for Payment or Estimate for Payment.

9.8.2.1 The City may, upon request and at the discretion of City Engineer, furnish to Subcontractor information regarding percentages of completion or the amounts applied for by Contractor, and action taken thereon by the City because of work done by the Subcontractor.

9.8.2.2 Contractor shall prepare and submit to City Engineer a Certification of Payment to Subcontractors and Suppliers form to be attached to each monthly Estimate for Payment or Application for Payment.

9.8.3 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Work by the City, does not constitute acceptance of work which is not in accordance with the Contract.

#### 9.9 *DATE OF SUBSTANTIAL COMPLETION*

9.9.1 When Contractor considers the Work, or a portion thereof designated by City Engineer, to be substantially complete, Contractor shall prepare and submit to Project Manager a comprehensive punch list of items to be completed or corrected. Failure to include an item on the punch list does not alter the responsibility of Contractor to comply with the Contract.

9.9.1.1 By submitting the punch list to Project Manager, Contractor represents that work on the punch list will be completed within the time provided for in Subparagraph 9.9.4.3.

9.9.2 Upon receipt of Contractor's punch list, Project Manager will inspect the Work, or designated portion thereof, to verify that the punch list contains all items needing completion or correction. If Project Manager's inspection discloses items not on Contractor's punch list, the items must be added to the punch list of items to be completed or corrected. If Project Manager's inspection reveals that Contractor is not yet substantially complete, Contractor shall complete or correct the deficiencies and request another inspection by Project Manager. The City may recover the costs of re-inspection from Contractor.

9.9.3 Prior to City Engineer's issuing a Certificate of Substantial Completion, Contractor shall also provide:

- .1 Certificate of Occupancy for new construction, or Certificate of Compliance for remodeled work, as applicable, and
- .2 compliance with Texas Accessibility Standards through state inspection of the Work, if required. If Contractor calls for inspection in a timely manner and the inspection is delayed through no fault of Contractor, and City Engineer so confirms, City Engineer may, upon request by Contractor, add the inspection to the punch list in Paragraph 9.9.2 and issue a Certificate of Substantial Completion.

9.9.4 When the Work, or designated portion thereof, is determined by City Engineer to be sufficiently complete in accordance with the Contract so the City can occupy or utilize the Work, or designated portion thereof, for the purpose for which it is intended, City Engineer will prepare a Certificate of Substantial Completion that incorporates the punch list in Paragraph 9.9.2 and establishes:

- .1 Date of Substantial Completion;
- .2 responsibilities of the Parties for security, maintenance, heating, ventilating and air conditioning, utilities, damage to the Work, and insurance; and
- .3 fixed time within which Contractor shall complete all items on punch list of items to be corrected accompanying the certificate.

9.9.5 Warranties required by the Contract shall commence on the Date of Substantial Completion unless otherwise provided by City Engineer in Certificate of Substantial Completion. Warranties may not commence on items not substantially completed.

9.9.6 After Date of Substantial Completion and upon application by Contractor and approval by City Engineer, the City may make payment, reflecting adjustment in retainage, if any, as follows:

- .1 with the consent of Surety, the City may increase payment to Contractor to 96 percent of Contract Price, less value of items to be completed and accrued liquidated damages.

9.9.7 Contractor shall complete or correct the items in Paragraph 9.9.2 within the time period set out in the Certificate of Substantial Completion. If Contractor fails to do so, the City may issue a Notice

of Noncompliance and proceed according to Section 2.5.

#### 9.10 *PARTIAL OCCUPANCY OR USE*

9.10.1 The City may occupy or use any completed or partially completed portion of the Work at any stage, provided the occupancy or use is consented to by Contractor and Contractor's insurer and authorized by public authorities having jurisdiction over the Work. Consent of Contractor to partial occupancy or use may not be unreasonably withheld.

9.10.2 Immediately prior to the partial occupancy or use, Project Manager and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used to determine and record condition of the Work.

9.10.3 Partial occupancy or use of a portion of the Work does not constitute acceptance of work not in compliance with requirements of the Contract.

#### 9.11 *FINAL COMPLETION AND FINAL PAYMENT*

9.11.1 Contractor shall review the Contract and inspect the Work prior to Contractor notification to City Engineer that the Work is complete and ready for final inspection. Contractor shall submit affidavit that the Work has been inspected and that the Work is complete in accordance with requirements of the Contract.

9.11.2 Project Manager will make final inspection within 15 days after receipt of Contractor's written notice that the Work is ready for final inspection and acceptance. If Project Manager finds the Work has been completed in accordance with the Contract, Contractor shall submit items set out in Paragraph 9.11.4 and, for stipulated price contracts, a final Application for Payment. City Engineer will, within 10 days, issue Certificate of Final Completion stating that to the best of City Engineer's knowledge, information, and belief, the Work has been completed in accordance with the Contract, and will recommend acceptance of the Work by City Council.

9.11.3 Should work be found not in compliance with requirements of the Contract, City Engineer will notify Contractor in writing of items of noncompliance. Upon inspection and acceptance of the corrections by Project Manager, compliance with all procedures of Paragraph 9.11.2, and Contractor's submission of the items set out in Paragraph 9.11.4, the City Engineer will issue Certificate of Final



Completion to Contractor as provided in Paragraph 9.11.2.

9.11.4 Contractor shall submit the following items to City Engineer before City Engineer will issue a Certificate of Final Completion:

- .1 affidavit that payrolls, invoices for materials and equipment, and other indebtedness of Contractor connected with the Work, less amounts withheld by the City, have been paid or otherwise satisfied. If required by City Engineer, Contractor shall submit further proof including waiver or release of lien or claims from laborers or Suppliers of Products;
- .2 certificate evidencing that insurance required by the Contract to remain in force after final payment is currently in effect, will not be canceled or materially changed until at least 30 days written notice has been given to the City;
- .3 written statement that Contractor knows of no substantial reason that insurance will not be renewable to cover correction and warranty period required by the Contract;
- .4 consent of Surety to final payment; and
- .5 copies of record documents, maintenance manuals, tests, inspections, and approvals.

Upon City Engineer's issuance of a Certificate of Final Completion, Contractor may request increase in payment to 99 percent of Contract Price, less accrued liquidated damages.

9.11.5 If Contractor fails to submit required items in Paragraph 9.11.4 within 10 days of Project Manager's inspection of the Work under Paragraph 9.11.2 or Paragraph 9.11.3, City Engineer may, but is not obligated to:

- .1 deduct liquidated damages accrued from monies held;
- .2 proceed to City Council for acceptance of the Work, minus some or all of the items Contractor fails to submit under Paragraph 9.11.4; and,
- .3 upon acceptance by City Council of the portion of the Work completed, make final payment as set out in Paragraph 9.11.8.

9.11.6 If final completion is materially delayed through no fault of Contractor, or by issuance of Change Orders affecting date of final completion, and City Engineer so confirms, the City may, upon application by Contractor and certification by City

Engineer, and without terminating the Contract, make payment of balance due for that portion of the Work fully completed and accepted.

9.11.7 If remaining balance due for work not corrected is less than retainage stipulated in the Contract, Contractor shall submit to City Engineer written consent of Surety to payment of balance due for that portion of the Work fully completed and accepted, prior to certification of the payment. The payment is made under terms governing final payment, except that it does not constitute waiver of Claims.

9.11.8 The City will make final payment to Contractor within 30 days after acceptance of the Work by City Council, subject to limitations, if any, as stated in the Contract.

9.11.9 Acceptance of final payment by Contractor shall constitute a waiver of all Claims, whether known or unknown, by Contractor, except those previously made in writing and identified by Contractor as unsettled at time of final Application for Payment.

#### 9.12 LIQUIDATED DAMAGES

9.12.1 Contractor, Surety, and the City agree that failure to complete the Work within Contract Time will cause damages to the City and that actual damages from harm are difficult to estimate accurately. Therefore, Contractor, Surety, and the City agree that Contractor and Surety are liable for and shall pay to the City the amount stipulated in Supplementary Conditions as liquidated damages, and that the amount of damages fixed therein is a reasonable forecast of just compensation for harm to the City resulting from Contractor's failure to complete the Work within Contract Time. The amount stipulated will be paid for each day of delay beyond Contract Time until Date of Substantial Completion.

9.12.2 Contractor shall pay the City an amount equal to \$1,200.00 per diesel operating vehicle or piece of motorized equipment per incident of high sulfur diesel fuel usage.

#### ARTICLE 10 - SAFETY PRECAUTIONS

##### 10.1 SAFETY PROGRAMS

10.1.1 Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with performance of the



Contract. Contractor shall submit a safety program to City Engineer prior to mobilizing for the Work, and is solely responsible for safety, efficiency, and adequacy of ways, means, and methods, and for damage which might result from failure or improper construction, maintenance, or operation performed by Contractor.

10.2 *POLLUTANTS AND POLLUTANT FACILITIES*

10.2.1 If Contractor encounters material on-site which it reasonably believes to be a Pollutant or facilities which it reasonably believes to be a Pollutant Facility, Contractor shall immediately stop work in affected area and immediately notify City Engineer, confirming the notice thereafter in writing.

10.2.2 If City Engineer determines that the material is a Pollutant or facility is a Pollutant Facility, work in affected area may not be resumed except by Modification, and only if the work would not violate applicable laws or regulations.

10.2.3 If City Engineer determines that the material is not a Pollutant or a facility is not a Pollutant Facility, work in affected area will be resumed upon issuance of a Modification.

10.2.4 Contractor is not required to perform, unless authorized by Change Order, work relating to Pollutants or Pollutant Facilities except for that work relating to Pollutants or Pollutant Facilities specified in the Contract.

10.3 *SAFETY OF THE ENVIRONMENT, PERSONS, AND PROPERTY*

10.3.1 Contractor shall take reasonable precautions for safety and shall provide reasonable protection to prevent damage, injury, or loss from all causes, to:

- .1 employees performing work on-site, and other persons who may be affected thereby;
- .2 work, including Products to be incorporated into the Work, whether in proper storage, under control of Contractor or Subcontractor; and
- .3 other property at or adjacent to the site, such as trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal or replacement in course of construction.

10.3.2 Contractor shall give notices and comply with applicable laws, ordinances, rules,

regulations, and lawful orders of public authorities bearing on safety of persons, property, or environment.

10.3.2.1 Contractor shall comply with requirements of Underground Facility Damage Prevention and Safety Act TEX. UTIL. CODE ANN. Ch. 251 (Vernon Supp. 2002).

10.3.2.2 Contractor shall comply with all safety rules and regulations of the Federal Occupational Health and Safety Act of 1970 and subsequent amendments (OSHA).

10.3.3 Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection of persons and property, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent sites and utilities.

10.3.4 Contractor shall designate responsible member of Contractor's organization at site whose duty is prevention of accidents. This person will be Contractor's Superintendent unless otherwise designated by Contractor in writing to City Engineer.

10.3.5 Contractor shall prevent windblown dust and may not burn or bury trash debris or waste products on-site. Contractor shall prevent environmental pollution, including but not limited to particulates, gases and noise, as a result of the Work.

10.3.6 When use or storage of hazardous materials or equipment, or unusual methods are necessary for execution of the Work, Contractor shall exercise utmost care and carry on the activities under supervision of properly qualified personnel.

10.3.7 Contractor shall promptly remedy damage and loss to property referred to in Subparagraphs 10.3.1.2 and 10.3.1.3, caused in whole or in part by Contractor, or Subcontractors, which is not covered by insurance required by the Contract. Contractor is not required to remedy damage or loss attributable to the City, Design Consultant, or other contractors.

10.4 *EMERGENCIES*

10.4.1 In emergencies affecting safety of persons or property, Contractor shall act at Contractor's discretion to prevent imminent damage, injury, or loss. Additional compensation or extension of time claimed by Contractor because of emergencies are determined as provided in Article 7.

ARTICLE 11 - INSURANCE AND BONDS

11.1 *GENERAL INSURANCE  
REQUIREMENTS*

11.1.1 With no intent to limit Contractor's liability under indemnification provisions set forth in Paragraphs 3.25 and 3.26, Contractor shall provide and maintain in full force and effect during term of the Contract and all extensions and amendments thereto, at least the following insurance and available limits of liability.

11.1.2 If any of the following insurance is written as "claims made" coverage and the City is required to be carried as additional insured, then Contractor's insurance shall include a two-year extended discovery period after last date that Contractor provides any work under the Contract.

11.1.3 Aggregate amounts of coverage, for purposes of the Contract, are agreed to be amounts of coverage available during fixed 12-month policy period.

11.2 *INSURANCE TO BE PROVIDED BY  
CONTRACTOR*

11.2.1 *Risks and Limits of Liability:* Contractor shall provide at a minimum insurance coverage and limits of liability set out in Table 1.

11.2.1.1 If Limit of Liability for Excess Coverage is \$2,000,000 or more, Limit of Liability for Employer's Liability may be reduced to \$500,000.

11.2.2 *Form of Policies:* Insurance may be in one or more policies of insurance, form of which is subject to approval by City Engineer. It is agreed, however, that nothing City Engineer does or fails to do with regard to insurance policies relieves Contractor from its duties to provide required coverage and City Engineer's actions or inactions will never be construed as waiving the City's rights.

11.2.3 *Issuers of Policies:* Issuer of any policy shall have:

- .1 a Certificate of Authority to transact business in Texas, or
- .2 have a Best's rating of at least B+ and a Best's Financial Size Category of Class VI or better, according to the most current edition of Best's Key Rating Guide, and the issuer must be

an eligible nonadmitted insurer in the State of Texas.

Each insurer is subject to approval by City Engineer in City Engineer's sole discretion as to conformance with these requirements, pursuant to Paragraph 11.2.2.

11.2.4 *Insured Parties:* Each policy, except those for Workers' Compensation and Owner's and Contractor's Protective Liability, must name the City, its officers, agents, and employees as additional insured parties on original policy and all renewals or replacements during term of the Contract. The City's status as additional insured under Contractor's insurance does not extend to instances of sole negligence of the City unmixed with any fault of Contractor.

11.2.5 *Deductibles:* Contractor assumes and bears any claims or losses to extent of deductible amounts and waives any claim it may ever have for same against the City, its officers, agents, or employees.

11.2.6 *Cancellation:* Contractor shall notify the Director in writing 30 days prior to any cancellation or material change to Contractor's insurance coverage. Within the 30 day period, Contractor shall provide other suitable policies in lieu of those about to be canceled or nonrenewed so as to maintain in effect the required coverage. If Contractor does not comply with this requirement, the City Engineer, at his or her sole discretion, may:

- .1 immediately suspend Contractor from any further performance under this Contract and begin procedures to terminate for default, or
- .2 purchase the required insurance with City funds and deduct the cost of the premiums from amounts due to Contractor under this Contract.

11.2.7 *Subrogation:* Each policy except Owner's and Contractor's Protective Liability must contain endorsement to the effect that issuer waives any claim or right in nature of subrogation to recover against the City, its officers, agents, or employees.

11.2.8 *Endorsement of Primary Insurance:* Each policy, except Workers' Compensation policies, must contain an endorsement that the policy is primary insurance to any other insurance available to additional insured with respect to claims arising hereunder.

11.2.9 *Liability for Premium:* Contractor is solely responsible for payment of all insurance



premium requirements hereunder and the City is not obligated to pay any premiums.

11.2.10 *Additional Requirements for Workers' Compensation Insurance Coverage:* Contractor shall, in addition to meeting the obligations set forth in Table 1, maintain throughout the term of the Contract Workers' Compensation coverage as required by statute, and Contractor shall specifically comply with requirements set forth in Paragraph 11.2.10. The definitions set out below shall apply only for purposes of this Paragraph 11.2.10.

11.2.10.1 Definitions:

- .1 *Certificate of Coverage:* A copy of certificate of insurance, or coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory Workers' Compensation insurance coverage for Contractor's, Subcontractor's, or Supplier's employees providing services for the duration of the Contract.
- .2 *Duration of the Work:* Includes the time from Date of Commencement of the Work until Contractor's work under the Contract has been completed and accepted by City Council.
- .3 *Persons providing services for the Work (Subcontractor in Texas Labor Code § 406.096):* includes all persons or entities performing all or part of services Contractor has undertaken to perform on the Work, regardless of whether that person contracted directly with Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of the entity, or employees of entity which furnishes persons to provide services on the Work. Services include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to the Work. Services do not include activities unrelated to the Work, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

11.2.10.2 Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of coverage agreements, which meets the statutory requirements of TEX. LAB. CODE ANN., Section 401.011(44) for employees of

Contractor providing services on the Work, for duration of the Work.

11.2.10.3 Contractor shall provide a Certificate of Coverage to the City prior to being awarded the Contract.

11.2.10.4 If coverage period shown on Contractor's original Certificate of Coverage ends during duration of the Work, Contractor shall file new Certificate of Coverage with the City showing that coverage has been extended.

11.2.10.5 Contractor shall obtain from each person providing services on the Work, and provide to City Engineer:

- .1 Certificate of Coverage, prior to that person beginning work on the Work, so the City will have on file Certificates of Coverage showing coverage for all persons providing services on the Work; and
- .2 no later than seven days after receipt by Contractor, new Certificate of Coverage showing extension of coverage, if coverage period shown on current Certificate of Coverage ends during the duration of the Work.

11.2.10.6 Contractor shall retain all required Certificates of Coverage for the duration of the Work and for one year thereafter.

11.2.10.7 Contractor shall notify City Engineer in writing by certified mail or personal delivery, within 10 days after Contractor knew or should have known, of any change that materially affects provision of coverage of any person providing services on the Work.

11.2.10.8 Contractor shall post on-site a notice, in text, form and manner prescribed by Texas Workers' Compensation Commission, informing all persons providing services on the Work that they are required to be covered, and stating how person may verify coverage and report lack of coverage.

11.2.10.9 Contractor shall contractually require each person with whom it contracts to provide services on the Work to:

- .1 provide coverage, based on proper reporting of classification codes, payroll amounts and filing of any coverage agreements, which meets statutory requirements of TEX. LAB. CODE ANN., Section 401.011(44) for all its employees providing services on the Work, for the duration of the Work;



- .2 provide to Contractor, prior to that person's beginning work on the Work, a Certificate of Coverage showing that coverage is being provided for all employees of the person providing services on the Work, for the duration of the Work;
- .3 provide Contractor, prior to the end of the coverage period, a new Certificate of Coverage showing extension of coverage, if the coverage period shown on the current Certificate of Coverage ends during the duration of the Work;
- .4 obtain from each other person with whom it contracts, and provide to Contractor: (1) Certificate of Coverage, prior to other person's beginning work on the Work; and (2) new Certificate of Coverage showing extension of coverage, prior to end of coverage period, if coverage period shown on the current Certificate of Coverage ends during duration of the Work.
- .5 retain all required Certificates of Coverage on file for the duration of the Work and for one year thereafter;
- .6 notify City Engineer in writing by certified mail or personal delivery within 10 days after person knew, or should have known, of change that materially affects provision of coverage of any person providing services on the Work; and
- .7 contractually require each person with whom it contracts to perform as required by Paragraphs 11.2.10.1 through 11.2.10.7, with Certificates of Coverage to be provided to person for whom they are providing services.

11.2.10.10 By signing the Contract or providing or causing to be provided a Certificate of Coverage, Contractor is representing to the City that all employees of Contractor who will provide services on the Work will be covered by Workers' Compensation coverage for the duration of the Work, that coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with appropriate insurance carrier. Contractor is not allowed to self-insure Workers' Compensation. Contractor may be subject to administrative penalties, criminal penalties, civil penalties, or other civil actions for providing false or misleading information.

11.2.10.11 Contractor's failure to comply with Paragraph 11.2.10 is a breach of the Contract by Contractor, which entitles the City to declare the Contract void if Contractor does not remedy breach within 10 days after receipt of notice of breach from City Engineer.

11.2.11 *Subcontractor Insurance Requirements:* Contractor shall require Subcontractors and Suppliers to obtain Commercial General Liability, Workers' Compensation, Employer's Liability and Automobile Liability coverage that meets all the requirements of Paragraph 11.2. The amount must be commensurate with the amount of the subcontract, but not less than \$500,000 per occurrence. Contractor shall require all Subcontractors with whom it contracts directly, whose subcontracts exceed \$100,000, to provide proof of Commercial General Liability and Automobile Liability insurance coverage meeting the above requirements. Contractor shall comply with all requirements set out under Paragraph 11.2.10 as to Workers' Compensation Insurance for all Subcontractors and Suppliers.

TABLE 1  
REQUIRED COVERAGE

(Coverage)	(Limit of Liability)
.1 Workers' Compensation	Statutory Limits for Workers' Compensation
.2 Employer's Liability	Bodily Injury by Accident \$1,000,000 (each accident) Bodily Injury by Disease \$1,000,000 (policy limit) Bodily Injury by Disease \$1,000,000 (each employee)

.3 Commercial General Liability: Including Contractor's Protective, Broad Form Property Damage, Contractual Liability, Explosion, Underground and Collapse, Bodily Injury, Personal Injury, Products, and Completed Operations (for a period of six years following completion of the Work).	Combined single limit of \$1,000,000 (each occurrence), subject to general aggregate of \$2,000,000; Products and Completed Operations \$1,000,000 aggregate.
.4 Owner's and Contractor's Protective Liability	\$1,000,000 combined single limit each Occurrence/aggregate
.5 Installation Floater (Unless alternative coverage approved by City Attorney)	Value of stored material or equipment, listed on Certificates of Payments, but not yet incorporated into the Work
.6 Automobile Liability Insurance: (For automobiles furnished by Contractor in course of his performance under the Contract, including Owned, Non-owned, and Hired Auto coverage)	\$1,000,000 combined single limit each occurrence for (1) Any Auto or (2) All Owned, Hired, and Non-Owned Autos
.7 Excess Coverage	\$1,000,000 each occurrence/combined aggregate in excess of limits specified for Employer's Liability, Commercial General Liability, and Automobile Liability
Defense costs are excluded from face amount of policy. Aggregate Limits are per 12-month policy period unless otherwise indicated.	

11.3 *PROOF OF INSURANCE*

11.3.1 Prior to commencing services and at time during the term of the Contract, Contractor shall furnish City Engineer with Certificates of Insurance, along with Affidavit from Contractor confirming that Certificate accurately reflects insurance coverage that is available during term of the Contract. If requested in writing by City Engineer, Contractor shall furnish City Engineer with certified copies of Contractor's actual insurance policies. Failure of Contractor to provide certified copies, as requested, may be deemed, at City Engineer's or City Attorney's discretion, a material breach of the Contract.

11.3.2 Notwithstanding the proof of insurance requirements, Contractor shall continuously maintain in effect required insurance coverage set forth in Paragraph 11.2. Failure of Contractor to comply with this requirement does constitute a material breach by Contractor allowing the City, at its option, to immediately suspend or terminate work, or exercise any other remedy allowed under the Contract. Contractor agrees that the City has not waived or is not estopped to assert a material breach of the Contract because of any acts or omissions by the City regarding its review or non-review of insurance documents provided by Contractor, its agents, employees, or assigns.

11.3.3 Contractor shall provide updated certificates of insurance to the Director upon request.

The Contractor shall be responsible for delivering a current certificate of insurance in the proper form to the Director as long as Contractor is required to furnish insurance coverage under Paragraph 11.2.

11.3.4 Every certificate of insurance Contractor delivers in connection with this Contract shall

- .1 be less than 12 months old;
- .2 include all pertinent identification information for the Insurer, including the company name and address, policy number, NAIC number or AMB number, and authorized signature;
- .3 include in the Certificate Holder Box the Project name and reference numbers, contractor's email address, and indicates the name and address of the Project Manager;
- .4 include the Contractor's email address in the Certificate Holder Box;
- .5 include the Project reference numbers on the City address so the Project reference number is visible in the envelope window; and
- .6 be appropriately marked to accurately identify all coverages and limits of the policy, effective and expiration dates, and waivers of subrogation in favor of the City for Commercial General Liability, Automobile Liability, and Worker's Compensation/Employers' Liability.



11.4 *PERFORMANCE AND PAYMENT BONDS*

11.4.1 For Contracts over the value of \$25,000, Contractor shall provide Bonds on the City's standard forms covering faithful performance of the Contract and payment of obligations arising thereunder as required in the Contract pursuant to Chapter 2253 of the Government Code. The Bonds must be for 100 percent of Original Contract Price and in accordance with conditions stated on standard City Performance and Payment Bond and Statutory Payment Bond forms. Bonds may be obtained from Contractor's usual source and cost for the Bonds are included in Contract Price.

11.5 *MAINTENANCE BONDS*

11.5.1 *One-year Maintenance Bond:* Contractor shall provide Bond on standard City One-year Maintenance Bond form, providing for Contractor's correction, replacement, or restoration of any portion of the Work which is found to be not in compliance with requirements of the Contract during one-year correction period required in Paragraph 12.2. The Maintenance Bond must be for 100 percent of the Original Contract Price.

11.6 *SURETY*

11.6.1 A Bond that is given or tendered to the City pursuant to the Contract must be executed by a surety company that is authorized and admitted to write surety Bonds in the State of Texas.

11.6.2 If a Bond is given or tendered to the City pursuant to the Contract in an amount greater than 10 percent of Surety's capital and surplus, Surety shall provide certification that Surety has reinsured that portion of the risk that exceeds 10 percent of Surety's capital and surplus. The reinsurance must be with one or more reinsurers who are duly authorized, accredited, or trusted to do business in the State of Texas. The amount reinsured by reinsurer may not exceed 10 percent of reinsurer's capital and surplus. The amount of allowed capital and surplus must be based on information received from State Board of Insurance.

11.6.3 If the amount of a Bond is greater than \$100,000, Surety shall:

- .1 also hold certificate of authority from the United States Secretary of Treasury to qualify as surety on obligations permitted or required under federal law; or,

.2 Surety may obtain reinsurance for any liability in excess of \$100,000 from reinsurer that is authorized and admitted as a reinsurer in the State of Texas and is the holder of a certificate of authority from the United States Secretary of the Treasury to qualify as surety or reinsurer on obligations permitted or required under federal law.

11.6.4 Determination of whether Surety on the Bond or the reinsurer holds a certificate of authority from the United States Secretary of the Treasury is based on information published in Federal Register covering the date on which Bond was executed.

11.6.5 Each Bond given or tendered to the City pursuant to the Contract must be on City forms with no changes made by Contractor or Surety, and must be dated, executed, and accompanied by power of attorney stating that the attorney in fact executing such the bond has requisite authority to execute such Bond. The Bonds must be dated and must be no more than 30 days old.

11.6.6 Surety shall designate in its Bond, power of attorney, or written notice to the City, an agent resident in Harris County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of the suretyship.

11.6.7 Contractor shall furnish information to a payment bond beneficiary as required by TEX. GOV'T CODE ANN. CH. 2253.

11.7 *DELIVERY OF BONDS*

11.7.1 Contractor shall deliver required Bonds to the City within time limits stated in Notice of Intent to Award and prior to Date of Commencement of the Work.

ARTICLE 12 - UNCOVERING AND CORRECTION OF THE WORK

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12.1 *UNCOVERING OF THE WORK*

12.1.1 If a portion of the Work has been covered which City Engineer has not specifically requested to observe prior to its being covered, City Engineer may request to see such work and it must be uncovered by Contractor. If such work is in accordance with the Contract, the costs of uncovering and covering such work are charged to the City by Change Order. If such work is not in



accordance with the Contract, Contractor shall pay for uncovering and shall correct the nonconforming Work promptly after receipt of Notice of Noncompliance to do so.

## 12.2 *CORRECTION OF THE WORK*

12.2.1 Contractor shall promptly correct or remove work rejected by City Engineer or work failing to conform to requirements of the Contract, whether observed before or after Date of Substantial Completion and whether fabricated, Installed, or completed.

12.2.2 Contractor bears costs of correcting the rejected or nonconforming work including additional testing and inspections, and compensation for Design Consultant's services and expenses made necessary thereby.

12.2.3 If within one year after Date of Substantial Completion, or after date for commencement of warranties established under Paragraph 9.9.5 or by other applicable special warranty required by the Contract, whichever is later in time, any of the Work is found not to be in accordance with the requirements of the Contract, Contractor shall correct such work promptly after receipt of Notice of Noncompliance to do so.

12.2.4 One-year correction period for portions of the Work completed after Date of Substantial Completion will begin on the date of acceptance of that portion of the Work. This obligation under this Paragraph survives acceptance of the Work under the Contract and termination of the Contract.

12.2.5 The one-year correction period does not establish a duration for the Contractor's general warranty under Paragraph 3.12. The City retains the right to recover damages from the Contractor as long as may be permitted by the applicable statute of limitations.

12.2.6 If Contractor does not proceed with correction of the nonconforming work within time fixed by Notice of Noncompliance, the City may correct nonconforming work or remove nonconforming work and store salvageable Products at Contractor's expense. Contractor shall pay the costs of correction of nonconforming work and removal and storage of salvageable Products to the City. If Contractor does not pay costs of the correction or removal and storage within 10 days after written notice, the City may sell the Products at auction or at private sale. The City will account for proceeds thereof after deducting costs and damages that would have been borne by Contractor, including compensation for services of Design Consultant and

necessary expenses. If the proceeds of sale do not cover costs which Contractor should have borne, Contractor shall pay the value of the deficiency to the City.

12.2.7 Contractor bears cost of correcting work originally installed by Contractor, the City, or by separate contractors and damaged by Contractor's correction or removal of Contractor's work.

## 12.3 *ACCEPTANCE OF NONCONFORMING WORK*

12.3.1 If City Engineer prefers to accept work which is not in accordance with requirements of the Contract, City Engineer may do so only by issuance of Change Order, instead of requiring its removal and correction. City Engineer will determine Contract Price reduction. The reduction will become effective even if final payment has been made.

## ARTICLE 13 - MISCELLANEOUS PROVISIONS

### 13.1 *GOVERNING LAWS*

13.1.1 The Contract is subject to the laws of the State of Texas, the City Charter and Ordinances, the laws of the federal government of the United States, and all rules and regulations of any regulatory body or officer having jurisdiction.

13.1.2 Venue for any litigation relating to the Contract is Harris County, Texas.

### 13.2 *SUCCESSORS*

13.2.1 The Contract binds and benefits the Parties and their legal successors and permitted assigns; however, this Paragraph 13.2.1 does not alter the restrictions on assignment and disposal of assets set out in Paragraph 13.3.1. The Contract does not create any personal liability on the part of any officer or agent of the City.

### 13.3 *BUSINESS STRUCTURE AND ASSIGNMENTS*

13.3.1 Contractor may not assign the Contract at law or otherwise, or dispose of all or substantially all of its assets without City Engineer's prior written consent. Nothing in this Section, however, prevents the assignment of accounts receivable or the creation of a security interest as described in §9.406 of the Texas Business & Commerce Code. In the case of such an assignment, Contractor shall immediately furnish the City with proof of the assignment and the name, telephone number, and

address of the assignee and a clear identification of the fees to be paid to the assignee.

13.3.2 Any series, as defined by the TEX. BUS. ORG. CODE ANN., affiliate, subsidiary, or successor to which Contractor assigns or transfers assets shall join in privity and be jointly and severally liable under this Contract.

13.4 *WRITTEN NOTICE*

13.4.1 All notices required or permitted by the Contract must be in writing and must be effected by hand delivery; registered or certified mail, return receipt requested; or facsimile with confirmation copy mailed to receiving Party. Notice is sufficient if made or addressed with proper postage to the address stated in the Agreement for each Party ("Notice Address") or faxed to the facsimile number stated in the Agreement for each Party. The notice is deemed delivered on the earlier of:

- .1 the date the Notice is actually received;
- .2 the third day following deposit in a United States Postal Service post office or receptacle; or
- .3 the date the facsimile is sent unless the facsimile is sent after 5:00 p.m. local time of the recipient and then it is deemed received on the following day.

Any Party may change its Notice Address or facsimile number at any time by giving written notice of the change to the other Party in the manner provided for in this Paragraph at least 15 days prior to the date the change is affected.

13.5 *RIGHTS AND REMEDIES*

13.5.1 Duties and obligations imposed by the Contract and rights and remedies available thereunder are in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

13.5.2 No act or failure to act by the City or Contractor is a waiver of rights or duties afforded them under the Contract, nor is the act or failure to act constitute approval of or acquiescence in a breach of the Contract. No waiver, approval or acquiescence is binding unless in writing and, in the case of the City, signed by City Engineer.

13.6 *TESTS AND INSPECTIONS*

13.6.1 Contractor shall give City Engineer, Construction Manager, and Design Consultant timely notice of the time and place where tests and inspections are to be made. Contractor shall

cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.6.2 The City will employ and pay for services of an independent testing laboratory to perform inspections or acceptance tests required by the Contract except:

- .1 inspections or tests covered by Paragraph 13.6.3;
- .2 those otherwise specifically provided in the Contract; or
- .3 costs incurred in connection with tests or inspections conducted pursuant to Paragraph 12.2.2.

13.6.3 Contractor is responsible for and shall pay all costs in connection with inspection or testing required in connection with City Engineer's acceptance of a Product to be incorporated into the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation into the Work.

13.6.4 Neither observations by the City, Construction Manager, or Design Consultant, nor inspections, tests, or approvals by others, relieves Contractor from Contractor's obligations to perform the Work in accordance with the Contract.

13.7 *INTEREST*

13.7.1 No interest will accrue on late payments by the City except as provided under Chapter 2251 of the Government Code.

13.8 *PARTIES IN INTEREST*

13.8.1 The Contract does not bestow any rights upon any third party, but binds and benefits the Parties only.

13.9 *ENTIRE CONTRACT*

13.9.1 The Contract merges the prior negotiations and understandings of the Parties and embodies the entire agreement of the Parties. No other agreements, assurances, conditions, covenants, express or implied, or other terms of any kind, exist between the Parties regarding the Contract.

13.10 *WRITTEN AMENDMENT*

13.10.1 Changes to the Contract that cannot be effected by Modifications, must be made by written amendment, which will not be effective until approved by City Council.



13.11 *COMPLIANCE WITH LAWS*

13.11.1 Contractor shall comply with the Americans with Disabilities Act of 1990 as amended (ADA) and Texas Architectural Barriers Act and all regulations relating to either statute.

13.11.2 Contractor shall comply with all applicable federal, state, and city laws, rules and regulations.

13.12 *SEVERABILITY*

13.12.1 If any part of the Contract is for any reason found to be unenforceable, all other parts remain enforceable to the extent permitted by law.

**ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT**

14.1 *TERMINATION BY THE CITY FOR CAUSE*

14.1.1 Each of the following acts or omissions of Contractor or occurrences shall constitute an "Event of Default" under the Contract:

- .1 Contractor refuses or fails to supply enough properly skilled workers or proper Products;
- .2 Contractor disregards laws, ordinances, rules, regulations, or orders of a public authority having jurisdiction;
- .3 Contractor is guilty of material breach of any duty or obligation of Contractor under the Contract;
- .4 Contractor has had any other contract with the City terminated for cause at any time subsequent to the effective date of the Contract as set out in the Agreement; or
- .5 Contractor fails to utilize Ultra Low Sulfur Diesel Fuel, as required in Paragraph 3.9.1.1.

14.1.2 If an Event of Default occurs, City Engineer may, at his option and without prejudice to any other rights or remedies which the City may have, deliver a written notice to Contractor and Surety describing the Event of Default and giving the Contractor 10 days to cure the Event of Default. If after the cure period, Contractor has failed or refused to cure the Event of Default, then City Engineer may deliver a second written notice to Contractor giving notice of the termination of the Contract or of the termination of Contractor's performance under the Contract ("Notice of Termination"). If City Engineer issues a Notice of Termination, then City Engineer may, subject to any

prior rights of Surety and any other rights of the City under the Contract or at law:

- .1 request that Surety complete the Work; or
- .2 take possession of the site and all materials, equipment, tools, and construction equipment and machinery on the site owned by Contractor; and
- .3 finish the Work by whatever reasonable method City Engineer may deem expedient.

14.1.3 After Contractor's receipt of a Notice of Termination, and except as otherwise directed in writing by City Engineer, Contractor shall:

- .1 stop the Work on the date and to the extent specified in the Notice of Termination;
- .2 place no further orders or subcontracts for Products or services;
- .3 terminate all orders and subcontracts to the extent that they relate to performance of work terminated;
- .4 assign to the City, in the manner, at the times, and to the extent directed by City Engineer, all rights, title, and interest of Contractor, under the terminated supply orders and subcontracts. The City may settle or pay claims arising out of termination of the orders and subcontracts;
- .5 settle all outstanding liabilities and all claims arising out of the termination of supply orders and subcontracts with approval of City Engineer;
- .6 take action as may be necessary, or as City Engineer may direct, for protection and preservation of property related to the Work that is in possession of Contractor, and in which the City has or may acquire an interest; and
- .7 secure the Work in a safe state before leaving the site, providing any necessary safety measures, shoring, or other devices.

14.1.4 If the City terminates the Contract or terminates Contractor's performance under the Contract for any one or more of the reasons stated in Paragraph 14.1.1, Contractor may not receive any further payment until the Work is complete, subject to Paragraph 14.1.5.

14.1.5 If the unpaid balance of Contract Price exceeds the costs of finishing the Work, including liquidated damages and other amounts due under the Contract, the balance will be paid to Contractor. If the costs of finishing the Work exceed the unpaid balance, Contractor shall, within 10 days of receipt of



written notice setting out the amount of the excess costs, pay the difference to the City. The amount to be paid to Contractor or the City will be certified by City Engineer in writing, and this obligation for payment shall survive termination of the Contract or termination of Contractor's performance under the Contract. Termination of the Contractor for cause shall not relieve the Surety from its obligation to complete the project.

14.2 *TERMINATION BY THE CITY FOR CONVENIENCE*

14.2.1 City Engineer may, without cause and without prejudice to other rights or remedies of the City, give Contractor and Surety a Notice of Termination with a seven days written notice.

14.2.2 After receipt of the Notice of Termination, and except as otherwise approved by City Engineer, Contractor shall conform to requirements of Paragraph 14.1.3.

14.2.3 After receipt of the Notice of Termination, Contractor shall submit to the City its termination Claim, in forms required by City Engineer. The Claim will be submitted to the City promptly, but no later than six months from the effective date of termination, unless one or more extensions are granted by City Engineer in writing. If Contractor fails to submit its termination Claim within the time allowed, in accordance with Paragraph 14.2.4, City Engineer will determine, on the basis of available information, the amount, if any, due to Contractor because of termination, and City Engineer's determination is final and binding on the Parties. The City will then pay to Contractor the amount so determined.

14.2.4 City Engineer will determine, on the basis of information available to City Engineer, the amount due, if any, to Contractor for the termination as follows:

- .1 Contract Price for all work performed in accordance with the Contract up to the date of termination determined in the manner prescribed for monthly payments in Article 9, except no retainage is withheld by the City either for payment determined by percentage of completion or for materials and equipment delivered to the site, in storage or in transit.
- .2 Reasonable termination expenses, including costs for settling and paying Subcontractor and Supplier claims arising out of termination of the Work, reasonable cost of preservation and

protection of the City's property after termination, if required, and the cost of Claim preparation. Termination expenses do not include field or central office overhead, salaries of employees of Contractor, or litigation costs, including attorneys' fees.

No amount is allowed for anticipated profit or central office overhead on uncompleted work, or any cost or lost profit for other business of Contractor alleged to be damaged by the termination.

14.2.5 Contractor shall promptly remove from the site any construction equipment, tools, and temporary facilities, except the temporary facilities which City Engineer may wish to purchase and retain.

14.2.6 Contractor shall cooperate with City Engineer during the transition period.

14.2.7 The City will take possession of the Work and materials delivered to the site, in storage, or in transit, as of date or dates specified in the Notice of Termination, and is responsible for maintenance, utilities, security, and insurance, as stated in Notice of Termination.

14.3 *SUSPENSION BY THE CITY FOR CONVENIENCE*

14.3.1 City Engineer may, without cause, after giving Contractor and Surety 24-hour prior written notice, order Contractor to suspend, delay, or interrupt the Work in whole or in part for a period of time as City Engineer may determine.

14.3.2 An adjustment will be made in Contract Time equivalent to the time of suspension.

14.3.3 Adjustment will be made to Contract Price for increases in the cost of performance of the Work, including profit on increased cost of performance caused by suspension, delay, or interruption of the Work in accordance with Paragraph 7.3. No adjustment will be made to the extent that:

- .1 performance was, or would have been, suspended, delayed, or interrupted by another cause for which Contractor is responsible; or
- .2 adjustment is made or denied under another provision of the Contract.

14.4 *TERMINATION BY CONTRACTOR*

14.4.1 Contractor may terminate the Contract

if the Work is stopped for a period of 30 days through no act or fault of Contractor, directly related to one of these events:

- .1 issuance of an order of a court or other public authority having jurisdiction;
- .2 act of government, such as a declaration of national emergency which makes material unavailable; or
- .3 if repeated suspensions, delays, or interruptions by the City as described in Paragraph 14.3 constitute, in the aggregate, more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less;

No termination will be effective for the above reasons if Contractor delivers written notice to City Engineer describing the reason for termination, giving the proposed termination date, and granting the City a reasonable opportunity to respond and cure any City default before termination is effective.

14.4.2 If the Contract is terminated pursuant to this Paragraph 14.4, Contractor shall comply with the requirements of Paragraphs 14.2.2 through 14.2.7.

END OF DOCUMENT



Document 00800

**SUPPLEMENTARY CONDITIONS**

The following Paragraphs amend and supplement the August 1, 2013 edition of General Conditions. Unaltered portions of General Conditions remain in effect.

The Owner and contract administrator for this project is the Memorial City Redevelopment Authority. References to the City of Houston related to ownership, approvals and contract administration should be understood to mean Memorial City Redevelopment Authority. References to the City Engineer should be understood to mean the Project Manager (Muhammad Ali, P.E. / Lockwood, Andrews & Newnam, Inc.). All City of Houston contract requirements including all applicable City Ordinances will be administered by the Memorial City Redevelopment Authority. All applicable City, State and Federal Safety rules and requirements will still apply. Any administrative or procedural related questions should be directed to the Memorial City Redevelopment Authority or its Program Manager for clarification.

**ARTICLE 1 – GENERAL PROVISION**

1.1           DEFINITIONS: Insert the following paragraph 1.1.9

1.1.9           Construction Manager: Person or firm under contract with the Owner as its authorized representative to oversee and administer construction of the Work, and who may perform the role of Project Manager and Inspector. Project Manager and Project Engineer are used interchangeably to mean the Owner's Construction Manager.

1.4           INTERPRETATION: Insert the following paragraph 1.4.3

1.4.3           Interpretation of Contract Drawings and Specifications – Should conflicts arise between the various Specification sections, or between the Specifications and Drawings, or between the various Drawings, the more stringent requirement shall apply, unless determined otherwise by the Construction Manager. Contractor's failure to identify such conflicts prior to proceeding with the Work shall not relieve the Contractor of complying with this interpretation.

**ARTICLE 3 - THE CONTRACTOR**

3.5           *LABOR: Insert the following Paragraph 3.5.3.1.1*

3.5.3.1.1       If the original contract price is greater than \$1 Million Dollars, the Contractor shall make good faith efforts to comply with the City ordinances regarding Minority Business Enterprises (MBE), Persons with Disabilities Business Enterprises (PDBE) and Small Business Enterprise (SBE) participation goals which are as follows:

.1           the MBE goal is 10 percent,



- .2 the SBE goal is  8  percent, and
- .3 the PDBE goal is 0 percent

3.5.4 Pay or Play: *Delete Paragraph 3.5.4 in its entirety*

#### ARTICLE 4 – ADMINISTRATION OF THE CONTRACT

4.3 CLAIMS AND DISPUTES: Insert the following Paragraph 4.3.3.1:

4.3.3.1 Contractor waives any claim if it fails to submit the claim within 90 days of the date of the occurrence giving rise to the claim (“90 day time limit”). Contractor shall automatically release the City from any claim not submitted before the 90 day time limit when Contractor submits an application for payment after the 90 day time limit.

#### ARTICLE 8 - TIME

8.1 PROGRESS AND COMPLETION: Delete Paragraph 8.1.6. and replace with the following 8.1.6. and 8.1.6.1.

8.1.6 Contractor may perform work 24 hours per day, seven days per week. Contractor shall give 24-hour prior written notice and receive written approval from Project Manager prior to performing work between 7:00 p.m. and 7:00 a.m., on a Sunday, or on a Legal Holiday. During the peak rush hour periods of 6:00 a.m. to 8:00 a.m. and 4:00 p.m. to 6:00 p.m., Contractor shall not perform work outside traffic control limits that impedes additional travel lanes than already permitted in traffic control plan. This restriction includes, but is not limited to, equipment and material deliveries into and out of traffic control limits. Contractor shall comply with City Code of Ordinances, Chapter 30 relating to Noise and Sound Level Regulation.

8.1.6.1 Contractor shall credit Owner for inspection services for overtime work or work performed after 7:00 p.m. and before 7:00 a.m., on Sundays or Legal Holidays. The amount Contractor credits Owner will be \$100.00 per hour per inspector for inspection services. The amount of inspector overtime hours will be determined by the Construction Manager based on the inspector’s daily reports. Contractor’s written request to work between 7:00 p.m. and 7:00 a.m. on Sunday or on a Legal Holiday shall constitute the Contractor’s agreement that the inspector overtime credit will be assessed on a subsequent monthly Pay Estimate without need for a Change Order.

#### ARTICLE 9 - PAYMENTS AND COMPLETION

9.12 *LIQUIDATED DAMAGES: Insert the following Paragraph 9.12.1.1.*



9.12.1.1 The amount of liquidated damages payable by Contractor or Surety for each and every day of delay beyond Contract Time, with no grace period, are \$5,000.00 per day.

9.12.1.2 Contract Milestones:

Contract Milestone dates are calculated based on a Construction commencement date of January 5, 2015.

1. Westview Road at Lumpkin Intersection:
  - a. Complete construction of the Westview Road at Lumpkin Road intersection prior to midnight on April 7, 2015. To receive incentive allowance, contractor must complete work listed in Section 01110, 1.08 (B) 1.
2. Base Bid Improvements:
  - a. Complete construction all BASE BID items prior to midnight on August 23, 2015. To receive incentive allowance, contractor must complete work listed in Section 01110, 1.08 (B) 2.
3. Base Bid and Alternate Bid Improvements
  - a. Complete construction all BASE BID items and ALTERNATE BID items prior to midnight on December 21, 2015. To receive incentive allowance, contractor must complete work listed in Section 01110, 1.08 (B) 3.

9.13 CONTRACTOR BONUS: The Memorial City Redevelopment Authority will pay the Contractor an interim completion bonus according to 9.13.1 below:

9.13.1 A bonus of \$4,000.00 per day for each day earlier than midnight on April 7, 2015 that Contractor achieves substantial completion of Contract Milestone 1 as described above in Section 9.12.1.2.1.a for a maximum of 10 days. Refer to Specification Section 01110 - Summary of Work for specific requirements.

9.13.2 A bonus of \$4,000.00 per day for each day earlier than midnight on August 23, 2015 that Contractor achieves substantial completion of Contract Milestone 2 as described above in Section 9.12.1.2.1.a for a maximum of 10 days. Refer to Specification Section 01110 - Summary of Work for specific requirements.

9.13.3 A bonus of \$4,000.00 per day for each day earlier than midnight on December 21, 2015 that Contractor achieves substantial completion of Contract Milestone 3 as described above in Section 9.12.1.2.1.a for a maximum of 10 days. Refer to Specification Section 01110 - Summary of



Work for specific requirements.

ARTICLE 11 - INSURANCE AND BONDS

11.2.1.2 Contractor shall purchase for the duration of the Contract the insurance set out in Table 2 in addition to the minimum insurance coverage set out in section 11.2.

TABLE 2  
ADDITIONAL REQUIRED COVERAGE  
DEFENSE COSTS EXCLUDED FROM FACE AMOUNT OF POLICY.

Flood Hazard Insurance: Contractor shall apply for flood insurance on all insurable structures built under the Contract. A copy of the completed application must be provided to City Engineer before commencing construction of the Work. Contractor shall obtain flood hazard insurance as soon as possible and submit a copy of the policy to City Engineer.

11.5 *MAINTENANCE BONDS: Insert the following Paragraph 11.5.2.*

11.5.2 One-year Surface Correction Bond: Contractor shall provide, on the City standard form, an additional one year Bond in an amount equal to four percent of the Original Contract Price or cost of repair. Bond shall provide for Contractor's correction, replacement, or restoration of backfill or subsurface and surface work not in accordance with the Contract, within one year from the date the One-year Maintenance Bond has expired.

11.6 Sureties on all bonds issued in connection with this project must have a rating of at least "A, VII" in the current Best's Key Rating Guide or, if the surety company does not have any such rating due to the length of time it has been a surety company, it must be eligible to participate in the Surety Bond Guarantee Program of the Small Business Administration, must be an approved surety company listed in the current United States Department of Treasury Circular 570 and must meet all of the related rules and regulations of the United States Department of Treasury. The agency or agent executing the bonds must have an appointment from the surety company to issue the bonds on its behalf and such appointment must be on file with the State Board of Insurance. If the agency, but not the agent executing the bonds, has an appointment from the surety company, the agent executing the bonds must be an officer or director of the agency. The name, address and toll-free number of the surety company must be listed on or attached to the bonds with the notation that claims are to be submitted to such address. The contract shall not be in effect until the bonds have been provided by Contractor and accepted by the Memorial City Redevelopment Authority.

END OF DOCUMENT



Document 00805

**AFFIRMATIVE ACTION COMPLIANCE PROGRAM**  
(City of Houston Information Requirements  
for the Successful Bidder on  
All Non-federally Funded Construction Contracts)

CONTRACT COMPLIANCE REQUIREMENTS ..... CC-2

**DOCUMENTS THAT MUST BE SIGNED AND RETURNED TO THE CITY OF  
HOUSTON PRIOR TO FINAL EXECUTION OF CONTRACT**

Certification by Bidder Regarding Equal Employment Opportunity ..... CC-5

Total Work Force Composition of the Company, ..... CC-8  
or in lieu thereof, a copy of the latest EEO-1 form  
(This information is required only if the Contractor has a work force of 50  
or more people and the Contract is \$50,000 or more.)

Company's Affirmative Action Compliance Program ..... CC-9

Certificate from Contractor ..... CC-10  
Appointing Officer or Employee to Supervise Payment of Employees

Special Provisions ..... CC-11  
Specific Equal Employment Opportunity Policy

**INFORMATION THAT MUST BE SUPPLIED DURING THE COURSE OF THE WORK**

Certification By Proposed Subcontractor Regarding  
Equal Employment Opportunity ..... CC-30

Certificate from Subcontractor ..... CC-33  
Appointing Officer or Employee to Supervise Payment of Employees

PLEASE COMPLETE PAGES CC-5 THROUGH CC-10 AND MAIL TO:

Memorial City  
Redevelopment Authority  
8955 Katy Freeway, Suite 215  
Houston, Texas 77024  
Attention: Don Huml

The remainder of the reports can be mailed at the appropriate time.

**AFFIRMATIVE ACTION AND CONTRACT COMPLIANCE OFFICE  
CONTRACT COMPLIANCE REQUIREMENTS**

The following are Contract Compliance requirements to be met and documents to be submitted to:

Memorial City  
Redevelopment Authority  
8955 Katy Freeway, Suite 215  
Houston, Texas 77024  
Attention: Don Huml

Under the conditions and terms of all Memorial City Redevelopment Authority construction contract, the prime contractor is responsible for all labor and MWBE compliance, including subcontractor compliance.

**CONTRACT COMPLIANCE FORMS (CC Forms)**

These forms are submitted only once by prime contractors at the beginning of the Project:

CC Forms 5, 6, 7, 8, 9, and 10 by prime contractors.

These forms are submitted only once by subcontractors for each subcontract:

CC Forms 30, 31, 32, and 33 by subcontractors.

**CERTIFIED PAYROLLS**

1. Payrolls are submitted weekly, unless the prime Contractor has been instructed to do otherwise by the Affirmative Action Office. (In some cases, field audits will be conducted instead of weekly payroll submittals). Contractors will be notified by letter when projects are audited by the field audit process. When no work is done after a Contractor has started work, the Contractor is required to submit weekly compliance statement with no work performed. The payrolls must reflect the exact work and classification of the workers, the exact amount that they were paid. Workers must be paid the contracted amount (prevailing wage rates.) The Contractor will be penalized \$60.00 a day for each employee who is underpaid per Texas Government Code 2258-023 for all contracts except Federally Funded Contract.
2. Payrolls must be signed by an authorized person. Only ORIGINAL signatures are acceptable - no copied signatures. Payrolls must clearly indicate whether the worker worked inside or outside the building area.
3. Payrolls must be numbered and clearly marked: the first payroll as No. 1; etc. Payroll for the final week worked on the job should be marked "FINAL".

4. Payrolls must have "Week Ending" dates.  
Contract Compliance Requirements (continued)
5. Payrolls must have employees' names, addresses, social security numbers, and job classifications. The job classifications must be the same as the classifications on the prevailing wage rate schedule.
6. A payroll deduction authorization form must be submitted for each employee for any deductions other than Federal and FICA taxes and court ordered child support.
7. Employees must be paid overtime (time and a half) for all hours worked over 40 hours a week on both federally and Memorial City Redevelopment Authority - funded contracts.
8. The Contractor has the responsibility to comply with all Internal Revenue Service rules and regulations. Contractors who submit certified payrolls with owner operators (truckers) must submit a signed statement from each worker acknowledging the worker's responsibility for payment of Federal Income Tax and FICA.
9. Companies that have computerized payroll systems must copy the back of the certified payroll, WH-Form 347, and submit it with the authorized official's original signature.
10. Apprenticeship certificates, when applicable, must be submitted with payrolls.

Prime Contractor must submit a list of all Subcontractors (both minority and non minority). The list must contain the names, addresses, types of work, amount of contracts and M/WBE/PDBE/SBE status.

## **POSTINGS**

The following posters should be clearly displayed on each job site, or in case of annual service agreements, in the Contractor's office:

1. Prevailing Wage Rate Schedule
2. Equal Employment Opportunity

## **JOB SITE VISITS**

Site visits and field audits will be made by an Affirmative Action Contract Compliance Officer. He/She will make his/her presence known to the office manager, supervisor, or foreman, and will conduct interviews with employees on site.



### **MWBE/PDBE/SBE COMPLIANCE**

1. It is the responsibility of the prime Contractor to determine the ability of all Subcontractors to perform the work.  
Contract Compliance Requirements (continued)
2. Only companies certified by the Affirmative Action Office will be counted toward the participation goal. The City provides a Directory of certified companies for use by contractors in meeting MWBE/PDBE/SBE goals. CREDIT FOR PARTICIPATION WILL BE GIVEN ONLY IN THE SPECIFIC CATEGORY OF CERTIFICATION LISTED IN THE MWBE/PDBE/SBE DIRECTORY. NO SINGLE SUBCONTRACTOR MAY SATISFY ALL GOALS.
3. The percentage goal applies to the value of the contract which includes the value of any amendments or change orders.
4. Only 50% of the MWBE goal can be used toward supplies purchased.
5. A Contractor may be declared in default of its Contract; if it fails to achieve the MWBE/PDBE/SBE goal set out in its Contract, AND fails to meet the city's objective good faith efforts test. A Contractor who fails to make good faith efforts may be declared non-responsible and eliminated from consideration for future city contracts for a reasonable period of time (not to exceed three years).
6. After execution of a contract or receipt of a purchase order, the contractor shall comply with the submitted MWBE/PDBE/SBE plan, unless it has received approval from the Director of Affirmative Action for a deviation there from.
7. The prime Contractor must submit a monthly MWBE/PDBE/SBE participation report to:

Memorial City  
Redevelopment Authority  
8955 Katy Freeway, Suite 215  
Houston, Texas 77024  
Attention: Don Huml

### **PAYMENT AND EVALUATION**

Upon completion of the Project, as part of the contract-awarding department's total clearance process, Affirmative Action must certify to the department that all labor compliance requirements have been met.

The Affirmative Action Director will provide to the administering department a rating of Outstanding, Satisfactory, or Unsatisfactory on the matter of Labor and MWBE/PDBE/SBE Compliance.

Outstanding and Satisfactory are given when all labor compliance and MWBE/PDBE/SBE terms are met timely.

Unsatisfactory is given when the prime Contractor fails to submit labor compliance documents and/or fails to meet or exceed to the MWBE, PDBE and SBE goals.

**CERTIFICATION BY BIDDER REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY**

**GENERAL**

In accordance with Executive Order 11246 (30 F.R. 12319-25), the implementing rules and regulations thereof, and orders of the Secretary of Labor, a certification regarding Equal Opportunity is required of bidders or prospective contractors and their proposed subcontractors prior to the award of contracts or subcontracts.

**CERTIFICATION OF BIDDER**

Bidder's Name \_\_\_\_\_

Address \_\_\_\_\_

IRS Employer Identification Number \_\_\_\_\_

Job Description \_\_\_\_\_

1. Participation in a previous contract or subcontract.
  - a. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.  YES  NO
  - b. Compliance reports were required to be filed in connection with such contract or subcontract.  YES  NO
  - c. Bidder has filed all compliance reports required by Executive Orders 10925, 11114, 11246, or by regulations of the Equal Employment Opportunity Commission issued pursuant to Title VII of the Civil Rights Act of 1964.  YES  NO
  - d. If answer of Item c. is "No", please explain in detail on reverse side of this certification.

2. Dollar amount of bid: \$ \_\_\_\_\_

3. Anticipated performance period in days: \_\_\_\_\_
4. Expected total number of employees to perform the proposed construction: \_\_\_\_\_

Certification of Bidder Regarding Equal Employment Opportunity (continued)

5. Nonsegregated facilities.

a. Notice to prospective federally-assisted construction contractors

- (1) A Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted to the recipient prior to the award of a federally-assisted construction contract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.
- (2) Contractors receiving federally-assisted construction contract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide the forwarding of the following notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity Clause.

The federally-assisted construction Contractor certifies that he/she does not maintain or provide any segregated facilities at any of his/her establishments, and does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The federally-assisted construction Contractor certifies further that he/she will not maintain or provide segregated facilities at any of his/her establishments, and will not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The federally-assisted construction Contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this Contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin because of habit, local custom, or otherwise. The federally-assisted construction Contractor agrees that (except where he/she has obtained identical certifications from proposed Subcontractors for specific time periods) he/she will obtain identical certifications in duplicate from proposed Subcontractors prior to the



award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause, and that he/she will retain the duplicate of such certifications in his/her files. The Subcontractor will include the original in his/her bid package.

Certification of Bidder Regarding Equal Employment Opportunity (continued)

6. Race or ethnic group designation of bidder. Enter race or ethnic group in appropriate box:

\_\_\_\_\_ White                      \_\_\_\_\_ Black                      \_\_\_\_\_ Hispanic  
\_\_\_\_\_ Pacific Islander, Asian                      \_\_\_\_\_ American Indian, Aleut.

REMARKS: \_\_\_\_\_

Certification - The information above is true and complete to the best of my knowledge and belief.

\_\_\_\_\_  
Company Officer (Please Type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

**Total Work Force Composition of the Company**

City of Houston, Affirmative Action Requirements for All Construction Contracts

	WHITE		BLACK		HISPANIC		PACIFIC ISLANDER/ ASIAN		ALASKA NATIVE/ AMER IND.		TOTAL PERSONS		TOTAL MINORITY		TOTAL FEMALE		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
OFFICIALS AND ADMINISTRATORS																	
PROFESSIONALS																	
PARAPROFESSIONALS																	
TECHNICIANS																	
PROTECTIVE SERVICE WORKERS																	
SALES WORKERS																	
OFFICE AND CLERICAL																	
SKILLED CRAFT WORKERS																	
OPERATIVES (SEMI-SKILLED)																	
LABORERS (UNSKILLED)																	
SERVICE / MAINTENANCE WORKERS																	
OTHERS																	
TOTAL																	

This report includes all of the company's permanent work force. For description of job categories, see Pages CC-27 through CC-29.

Check One:  Contractor  Subcontractor

COMPANY: \_\_\_\_\_ DATE: \_\_\_\_\_

**AFFIRMATIVE ACTION COMPLIANCE PROGRAM  
FOR**

\_\_\_\_\_  
Name of Company

The Company's Affirmative Action Compliance Program shall consist of documented good faith efforts to comply with the goals, timetables, and objectives set forth in the following Affirmative Action steps:

- A. City of Houston's Specific Equal Employment Opportunity Policy and Clause as contained in City Council Ordinance No. 78-1538, passed August 9, 1978.
- B. Notice of Requirement for Affirmative Action to ensure Equal Employment Opportunity (Executive Order 11246).
- C. Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246).

Project: \_\_\_\_\_

\_\_\_\_\_  
Company Officer (Please Type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.



**CERTIFICATE FROM CONTRACTOR APPOINTING OFFICER OR EMPLOYEE  
TO SUPERVISE PAYMENT OF EMPLOYEES**

Project Name \_\_\_\_\_ Date \_\_\_\_\_

Location \_\_\_\_\_ Project No. \_\_\_\_\_

(I) (We) hereby certify that (I am) (we are) the prime Contractor for \_\_\_\_\_

\_\_\_\_\_ (specify type of job)  
in connection with construction of the above-mentioned Project, and that (I) (we) have appointed \_\_\_\_\_, whose signature appears below, to supervise the payment of (my) (our) employees beginning \_\_\_\_\_, 20\_\_\_\_; that he/she is in a position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland Act and the Memorial City Redevelopment Authority, which he/she is to execute with (my) (our) full authority and approval until such time as (I) (we) submit to the Memorial City Redevelopment Authority a new certificate appointing some other person for the purposes hereinabove stated.

\_\_\_\_\_ Phone: \_\_\_\_\_  
(Identifying Signature of Appointee)

Attest: \_\_\_\_\_  
(Name of Firm or Corporation)

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

NOTE: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Copeland Act and the Memorial City Redevelopment Authority.

**SPECIAL PROVISIONS  
SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY POLICY**

**1. GENERAL**

- a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity are required by Executive Order 11246, as amended. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for Project activities under this Contract and shall supplement the notice of requirement for affirmative action to ensure equal employment opportunity and standard federal equal employment opportunity construction contract specifications.
- b. The Contractor shall work with the Memorial City Redevelopment Authority and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the Contract.
- c. The prime Contractor and all Subcontractors holding subcontracts of \$10,000 or more shall comply with the following minimum specific requirement activities of equal employment opportunity. The Contractor shall include these requirements in every subcontract of \$10,000 or more with such modification of language as is necessary to make them binding on the Subcontractor.

**2. EQUAL EMPLOYMENT OPPORTUNITY POLICY**

The Contractor shall accept as his/her operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, age, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

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, color, sex, or national origin. 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.

**3. EQUAL EMPLOYMENT OPPORTUNITY OFFICER**

The Contractor shall designate and make known to the Memorial City Redevelopment Authority contracting officers an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who must be capable of effectively administering and promoting an active Contractor

program of equal employment opportunity and who must be assigned adequate authority and responsibilities to do so.

The name of the company's EEO Officer is \_\_\_\_\_.

4. DISSEMINATION OF POLICY

a. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement the Contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions shall be taken as a minimum:

- (1) Periodic meetings of supervisory and personnel office employees shall be conducted before the start of work and then not less often than once every six months, at which time the Contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings shall be conducted by the EEO Officer or other knowledgeable company official.
- (2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, or other knowledgeable company official, covering all major aspects of the Contractor's equal employment opportunity obligations, within 30 days following their reporting for duty with the Contractor.
- (3) The EEO Officer or appropriate company official shall instruct all employees engaged in the direct recruitment of employees for the Project relative to the methods followed by the Contractor in locating and hiring minorities and females.

b. In order to make the Contractor's equal employment opportunity policy known to all employees, prospective employees, and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Contractor shall take the following actions:

- (1) Notices and posters setting forth the Contractor's equal employment opportunity policy shall be placed in areas readily accessible to employees, applicants for employment, and potential employees.



Special Provisions (continued)

- (2) The Contractor's equal employment opportunity policy and the procedures to implement such policy shall be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. RECRUITMENT

- a. When advertising for employees, the Contractor shall include in all advertisements for employees the notation "An Equal Opportunity Employer". All such advertisements will be published in newspapers, or other publications, having a large circulation among minority groups in the area from which the Project work force would normally be derived.
- b. The Contractor shall, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee-referral sources likely to yield qualified minority-group applicants, including, but not limited to, State employment agencies, schools, colleges, minority-group organizations, and female recruitment agencies. To meet this requirement, the Contractor shall, through his/her EEO Officer, identify sources of potential minority and female employees, and establish with such identified sources procedures whereby such group applicants may be referred to the Contractor for employment consideration.  
In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he/she is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with equal employment opportunity Contract provisions. (The U. S. Department of Labor has held that where implementation of such agreements has the effect of discriminating against minorities or women, or obligates the Contractor to do the same, such implementation violates Executive Order 11246 as amended).
- c. The Contractor shall encourage his/her present employees to refer female or minority-group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring such applicants will be discussed with employees.

6. PERSONNEL ACTIONS

- a. Wage, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff and termination, shall be taken without regard to race, color, religion, sex, national origin, or age. The following procedures shall be followed:

Special Provisions (continued)

- (1) The Contractor shall conduct periodic inspections of Project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of Project-site personnel.
- (2) The Contractor shall periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- (3) The Contractor shall periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor shall promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- (4) The Contractor shall promptly investigate all complaints of alleged discrimination made in connection with his/her obligations under this Contract, shall attempt to resolve such complaints, and shall take appropriate corrective action. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the Contractor shall inform every complainant of all avenues of appeal.

7. TRAINING AND PROMOTION

- a. The Contractor shall assist in locating, qualifying, and increasing the skills of minority-group and women employees and applicants for employment.
- b. Consistent with the Contractor's work force requirements and as permissible under Federal and State regulations, the Contractor shall make full use of training programs, i.e., apprenticeship and on-the-job training programs, for the geographical area of Contract performance.
- c. The Contractor shall advise employees and applicants for employment of available training programs and entrance requirements for each.
- d. The Contractor shall periodically review the training and promotion potential of minority-group and women employees and shall encourage eligible employees to apply for such training and promotion.



Special Provisions (continued)

8. UNIONS

If the Contractor relies in whole or in part upon unions as a source of employees, he/she shall use his/her best efforts to obtain the cooperation of such unions to increase minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the Contractor, either directly or through a contractor's association acting as his/her agent, will include the procedures set forth below:

- a. The Contractor shall use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority-group members and women for membership in the unions and increasing the skills of minority-group employees and women so that they may qualify for higher-paying employment.
- b. The Contractor shall use best efforts to incorporate an equal employment opportunity clause into all union agreements to the end that such unions will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, or age.
- c. The Contractor is to obtain information as to the referral practices and policies of the labor union, except that to the extent such information is within the exclusive possession of the labor union, and such labor union refuses to furnish such information to the Contractor, the Contractor shall so certify to the Memorial City Redevelopment Authority and shall set forth what efforts have been made to obtain such information.
- d. In the event the union is unable to provide the Contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Contractor shall, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, age, sex, or national origin, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U. S. Department of Labor has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such Contractor shall immediately notify the Memorial City Redevelopment Authority.



Special Provisions (continued)

9. SUBCONTRACTING

- a. The Contractor shall use his/her best efforts to solicit bids from and to utilize minority-group and female subcontractors or subcontractors with meaningful minority-group and/or female representation among their employees.
- b. The Contractor shall use his/her best efforts to assure Subcontractors' compliance with their equal employment opportunity obligations.

10. RECORDS AND REPORTS

- a. The Contractor shall keep such records as are necessary to determine compliance with the Contractor's equal employment opportunity obligations. The records kept by the Contractor will be designed to indicate:
  - (1) The number of minority and non-minority group members and women employed in each work classification on the Project.
  - (2) The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to contractors who rely in whole or in part on unions as a source of their work force).
  - (3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees.
  - (4) The progress and efforts being made in securing the services of female and minority subcontractors.
- b. All records, including payrolls, must be retained for a period of three years following completion of the Contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Memorial City Redevelopment Authority and/or the appropriate federal agency.

CITY OF HOUSTON, TEXAS

EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

Pursuant to City Council Ordinance No. 78-1538, passed August 9, 1978, all contracts entered into by the City of Houston involving the expenditure of \$10,000 or more, shall incorporate the following Equal Employment Opportunity Clause:

1. The Contractor, Subcontractor, vendor, Supplier, or lessee shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age. The Contractor, Subcontractor, vendor, Supplier, or lessee shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, national origin, or age. Such action will include, but not be limited to, the following: employment; upgrading; demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor, Subcontractor, vendor, Supplier, or lessee agrees to post in conspicuous places available to employees, and applicants for employment, notices to be provided by the City setting forth the provisions of this Equal Employment Opportunity Clause.
2. The Contractor, Subcontractor, vendor, Supplier, or lessee states that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, national origin, or age.
3. The Contractor, Subcontractor, vendor, Supplier, or lessee shall send to each labor union or representatives of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer advising the said labor union or workers' representative of the Contractor's and Subcontractor's commitments under Section 202 of Executive Order No. 11246, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Contractor, Subcontractor, vendor, Supplier, or lessee will comply with all provisions of Executive Order No. 11246 and the rules, regulations, and relevant orders of the Secretary of Labor or other Federal Agency responsible for enforcement of the equal opportunity and affirmative action provisions applicable, and shall likewise furnish all information and reports required by the Mayor and/or Contractor Compliance Officers for purposes of investigation to ascertain and effect compliance with this program.

Equal Employment Opportunity Clause (continued)

5. The Contractor, Subcontractor, vendor, Supplier, or lessee shall furnish all information and reports required by Executive Order No. 11246, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and shall permit access to all books, records, and accounts by the appropriate Memorial City Redevelopment Authority and Federal officials for purposes of investigation to ascertain compliance with such rules, regulations, and orders. Compliance reports filed at such times as directed shall contain information as to the employment practice policies, program, and work force statistics of the Contractor, Subcontractor, vendor, Supplier, or lessee.
6. In the event of a Contractor's, Subcontractor's, vendor's, Supplier's, or lessee's non-compliance with the non-discrimination clause of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part, and the Contractor, Subcontractor, vendor, Supplier, or lessee may be declared ineligible for further City contracts in accordance with procedures provided in Executive Order No. 11246, and such other sanctions may be imposed and remedies invoked as provided in said Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as may otherwise be provided by law.
7. The Contractor shall include the provisions of paragraphs 1 through 8 of this Equal Employment Opportunity Clause in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965 so that such provisions will be binding upon each Subcontractor or vendor. The Contractor shall take such action with respect to any subcontractor or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with litigation with a Subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.
8. The Contractor shall file and shall cause each of his Subcontractors, if any, to file compliance reports with the City in the form and to the extent as may be prescribed by the Affirmative Action and Contract Compliance Office. Compliance reports filed at such times as directed shall contain information as to the practices, policies, programs, employment policies, and employment statistics of the Contractor and each Subcontractor.



NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION  
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY  
(EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

---

Timetables	Goals for Minority Participation for Each Trade	Goals for Female Participation for Each Trade
	26.2% - 27.3%	6.9%

---

Time Interval	Time Interval
January 1, 1992 to December 31, 1994	April 1, 1992 to December 31, 1995

---

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally-assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the Contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract, the Executive Order, and regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

Notice of Requirement for Affirmative Action (continued)

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the Contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the Subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the Contract is to be performed.
4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is The Houston, Texas Standard Metropolitan Statistical Area.

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY  
CONSTRUCTION CONTRACT SPECIFICATIONS  
(EXECUTIVE ORDER 11246)

1. As used in these specifications:
  - a. "Covered area" means the geographical area described in the solicitation from which this Contract resulted;
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
  - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941.
  - d. "Minority" includes:
    - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
    - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
    - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
    - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this Contract resulted.



Standard Federal EEO Construction Contract Specifications (continued)

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U. S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in Paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this Contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minorities or women, shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U. S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Standard Federal EEO Construction Contract Specifications (continued)

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which Contractor's employees are assigned to work. The Contractor, where possible, shall assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources; provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

Standard Federal EEO Construction Contract Specifications (continued)

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions, including specific review of these items with on-site supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare, through appropriate training, etc., for such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.



Standard Federal EEO Construction Contract Specifications (continued)

- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
    - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
- 8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
- 9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).
- 10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
- 11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
- 12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing

Standard Federal EEO Construction Contract Specifications (continued)

regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in Paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.B.
14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee the name, address, telephone number, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily-understandable and retrievable form; however to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

## DESCRIPTION OF JOB CATEGORIES

### Officials, Managers, and Administrators

Occupations requiring administrative personnel who set board policies, exercise overall responsibility for the execution of these policies, or provide specialized consultation on a regional, district, area basis, or direct individual departments or special phases of a firm's operations.

Includes: Officials, executives, middle management, plant managers, department managers, superintendents, salaried foremen who are members of management, purchasing agents, buyers, bureau chiefs, directors, deputy directors, wardens, examiners, sheriffs, police and fire chiefs, and kindred workers.

### Professionals

Occupations which require specialized and theoretical knowledge which is usually acquired through college or experience of such kind and amount as to provide a comparable background.

Includes: Accountants, auditors, airplane pilots and navigators, architects, artists, chemists, designers, dieticians, editors, engineers, lawyers, librarians, mathematicians, natural scientists, registered professional nurses, personnel and labor relations workers, physical scientists, teachers, social workers, doctors, psychologists, economists, systems analysts, employment and vocational rehabilitation counselors, instructors, police and fire captains and lieutenants, and kindred workers.

### Paraprofessionals

Occupations in which workers perform some of the duties of a professional or technician in a supportive role, which usually requires less formal training and/or experience normally required for professional or technical status. Such positions may fall within an identified pattern of a "New Careers" concept.

Includes: Library assistants, medical aides, child support workers, police auxiliary, welfare service aides, recreation assistants, homemakers aides, home health aides, and kindred workers.

### Technicians

Occupations requiring a combination of basic scientific knowledge and manual skill which can be obtained through about two (2) years of post high school education, such as is offered in many technical institutes and junior colleges, or through equivalent on-the-job training.



Description of Job Categories (continued)

Includes: Computer programmers and operators, draftsmen, engineering aides, junior engineers, mathematical aides, licensed practical or vocational nurses, photographers, radio operators, scientific assistants, surveyors, technical illustrators, technicians (medical, dental, electronics, physical sciences), police and fire sergeants, and kindred workers.

Protective Service Workers

Occupations in which workers are entrusted with public safety, security, and protection from destructive forces.

Includes: Police patrol officers, fire fighters, guards, deputy sheriffs, bailiffs, correctional officers, detectives, marshals, harbor patrol officers, and kindred workers.

Sales Workers

Occupations engaging wholly or primarily in direct selling.

Includes: Advertising agents and salespersons, insurance agents and brokers, real estate agents and brokers, stock and bond salespersons, demonstrators, salespersons and sales clerks, grocery clerks, cashiers, and kindred workers.

Office and Clerical

Occupations in which workers are responsible for internal and external communications, recording and retrieval of data and/or information and other paper work required in an office predominantly nonmanual, though some manual work not directly involved with altering or transporting the products is included.

Includes: Bookkeepers, cashiers, collectors (bills and accounts), messengers and office helpers, office machine operators, shipping and receiving clerks, stenographers, typists and secretaries, telegraph and telephone operators, court transcribers, hearing reporters, statistical clerks, dispatchers, license distributors, payroll clerks, and kindred workers.

Skilled Craft Workers

Occupations in which workers perform jobs which require special manual skill through on-the-job training and experience, or through apprenticeship or other formal training programs. These workers exercise considerable independent judgment and usually receive an extensive period of training.

Description of Job Categories (continued)

Includes: The building trades, hourly paid foremen and leadmen who are not members of management, mechanics and repairmen, skilled machining occupations, compositors and typesetters, electricians, engravers, job setters (metal), motion picture projectionists, pattern and model makers, stationary engineers, tailors, heavy equipment operators, carpenters, and kindred workers.

Operatives (semi-skilled)

Workers who operate machine or processing equipment or perform other factory-type duties of intermediate skill level which can be mastered in a few weeks and require only limited training.

Includes: Apprentices (auto mechanics), plumbers, bricklayers, carpenters, electricians, mechanics, building trades, metal workers, machinists, printing trades, operatives, attendants (auto service and parking), blasters, chauffeurs, deliverymen, dressmakers and seamstresses (except factory), dryers, furnacemen, heaters (metal), laundry and dry cleaning operatives, milliners, miners, motormen, oilers, greasers, etc. (except auto), painters (except construction and maintenance), photographic process workers, stationary firemen, truck and tractor drivers, weavers (textile), welders and flame cutters, and kindred workers.

Laborers (unskilled)

Workers in manual occupations which generally require no special training. These workers perform elementary duties that may be learned in a few days and require the application of little or no independent judgment.

Includes: Garage workers, car washers and greasers, gardeners (except farm) and groundskeepers, longshoremen and stevedores, lumbermen, raftsmen, and wood choppers, laborers performing lifting, digging, mixing, loading, and pulling operations, and kindred workers.

Service/Maintenance Workers

Occupations in which workers perform duties which result in or contribute to the comfort, convenience, hygiene or safety for the general public or which contribute to the upkeep and care of buildings, facilities or grounds, or public property. Workers in this group may operate machinery.

Includes: Chauffeurs, laundry and dry cleaning operatives, truck drivers, trash collectors, custodial personnel, gardeners and groundskeepers, construction laborers, attendants (hospital and other institutions), professional and personal service, counter and fountain workers, elevator operators, firemen and fire protection, guards, watchmen and doorkeepers, stewards, porters, waiters, and kindred workers.

**CERTIFICATION BY PROPOSED SUBCONTRACTOR REGARDING  
EQUAL EMPLOYMENT OPPORTUNITY**

\_\_\_\_\_  
Name of Prime Contractor

\_\_\_\_\_  
Address

**GENERAL**

In accordance with Executive Order 11246 (30 F.R. 12319-25), the implementing rules and regulations thereof, and orders of the Secretary of Labor, a certification regarding Equal Opportunity is required of bidders or prospective contractors and their proposed subcontractors prior to the award of contracts or subcontracts.

**SUBCONTRACTOR'S CERTIFICATION**

Subcontractor's Name \_\_\_\_\_

Address \_\_\_\_\_

IRS Employer Identification Number \_\_\_\_\_

Job Description \_\_\_\_\_

1. Participation in a previous contract or subcontract.
  - a. Subcontractor has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.  YES  NO
  - b. Compliance reports were required to be filed in connection with such contract or subcontract.  YES  NO
  - c. Subcontractor has filed all compliance reports required by Executive Orders 10925, 11114, 11246, or by regulations of the Equal Employment Opportunity Commission issued pursuant to Title VII of the Civil Rights Act of 1964.  YES  NO
  - d. If answer of Item c. is "No", please explain in detail on reverse side of this certification.

2. Dollar amount of proposed subcontract: \$ \_\_\_\_\_

3. Anticipated performance period in days: \_\_\_\_\_

4. Expected total number of employees to perform the proposed subcontract: \_\_\_\_\_



Certification of Subcontractor Regarding Equal Employment Opportunity (continued)

5. Nonsegregated facilities.

a. Notice to prospective federally-assisted construction contractors

- (1) A Certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted to the Contractor prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause.
- (2) Contractors receiving subcontract awards exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity clause.

b. Certification of nonsegregated facilities

The federally-assisted construction contractor certified that he/she does not maintain or provide any segregated facilities at any of his/her establishments, and does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The federally-assisted construction Contractor certifies further that he/she will not maintain or provide any segregated facilities at any of his/her establishments, and will not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The federally-assisted construction Contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this Contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants, and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin because of habit, local custom, or otherwise. The federally-assisted construction Contractor agrees that (except where he/she has obtained identical certifications from proposed Subcontractors for specific time periods) he/she will obtain identical certifications in duplicate from proposed Subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause, and that he/she will retain the duplicate of such certifications in his/her files. The Contractor will include the original in his/her Bid Package.

Certification of Subcontractor Regarding Equal Employment Opportunity (continued)

6. Race or ethnic group designation of bidder. Enter race or ethnic group in appropriate box:

\_\_\_\_\_ White                      \_\_\_\_\_ Black                      \_\_\_\_\_ Hispanic  
\_\_\_\_\_ Pacific Islander, Asian                      \_\_\_\_\_ American Indian, Aleut.

REMARKS: \_\_\_\_\_

Certification - The information above is true and complete to the best of my knowledge and belief.

\_\_\_\_\_  
Company Officer (Please Type)

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

**CERTIFICATE FROM SUBCONTRACTOR APPOINTING OFFICER OR EMPLOYEE  
TO SUPERVISE PAYMENT OF EMPLOYEES**

Project Name \_\_\_\_\_ Date \_\_\_\_\_

Location \_\_\_\_\_ Project No. \_\_\_\_\_

(I) (We) hereby certify that (I am) (we are) a Subcontractor for \_\_\_\_\_

\_\_\_\_\_ (specify type of job)  
in connection with construction of the above-mentioned Project, and that (I) (we) have appointed \_\_\_\_\_, whose signature appears below, to supervise the payment of (my) (our) employees beginning \_\_\_\_\_, 20\_\_\_\_; that he/she is in a position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland Act and the Memorial City Redevelopment Authority, which he/she is to execute with (my) (our) full authority and approval until such time as (I) (we) submit to the Memorial City Redevelopment Authority a new certificate appointing some other person for the purposes hereinabove stated.

\_\_\_\_\_ Phone: \_\_\_\_\_  
(Identifying Signature of Appointee)

Attest: \_\_\_\_\_  
(Name of Firm or Corporation)

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

NOTE: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Copeland Act and the Memorial City Redevelopment Authority.

END OF DOCUMENT



Document 00808

**BIDDER REQUIREMENTS FOR  
MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISE (MWBE), PERSONS  
WITH DISABILITIES BUSINESS ENTERPRISE (PDBE) AND SMALL BUSINESS  
ENTERPRISE (SBE) PROGRAM**

**CONSTRUCTION CONTRACTS**

**I. GENERAL**

**A. Memorial City Redevelopment Authority AUTHORITIES**

1. The "Contracting Department" for this Project is Memorial City Redevelopment Authority and the address is that which is specified for the Resident Engineer in Document 00520 – Agreement.
2. Project Manager is specified in Document 00550 – Contract Approval Notification.

**II. REPORTS THAT MUST BE SUBMITTED DURING THE COURSE OF THE CONTRACT:**

**A. MWBE/PDBE/SBE MONTHLY REPORT PROCESS**

1. Mail original of completed MWBE/PDBE/SBE Monthly Utilization Report to the Monitoring Authority.
2. and one copy each to the Project Manager and MWBE/PDBE/SBE Coordinator of the Contracting Department.

**III. MWBE/PDBE/SBE REQUIREMENTS:**

**A. PURPOSE**

To facilitate implementation of City of Houston, Tex. Code of Ordinances Chapter 15, Article V, '15-81 et seq., City of Houston, Tex. Ordinance 95-336 (March 29, 1995), Executive Order No. 1-2 (June 14, 1995) relating to MWBE contract participation and to facilitate implementation of City of Houston, Tex. Code of Ordinances Chapter 15, Article VI, relating to PDBE contract participation and Amended Article IX.

**B. POLICY**

It is the policy of the Memorial City Redevelopment Authority to encourage the full participation of Minority and Women-owned Business Enterprises, Persons with Disabilities Business Enterprises and Small Business Enterprise in all phases of its procurement activities and to afford them a full and fair opportunity to compete for Memorial City Redevelopment Authority contracts at all levels.

**C. POLICY ELEMENTS**

1. The Contractor agrees to ensure that MWBE/PDBE/SBE firms have a full and fair opportunity to participate in the performance of Memorial City Redevelopment Authority contracts. In this regard the Contractor shall take all reasonable Good Faith Efforts to meet the MWBE/PDBE/SBE goals for this Contract.
2. The Contractor and any Subcontractor shall not discriminate on the basis of race, color, religion, national origin, or sex in the performance of Memorial City Redevelopment Authority contracts.
3. Contractor's performance in meeting the MWBE/PDBE/SBE participation goals will be monitored during the construction phase of the Contract by the Monitoring Authority.

**D. PERCENTAGE GOALS**

The MWBE, PDBE and SBE goals for MWBE, PDBE and SBE participation in the Work are specified in Document 00800 – Supplementary Conditions Goals.

**E. CONTRACTOR RESPONSIBILITIES**

**1. Prior to Award:**

Low Bidder shall provide MWBE/PDBE/SBE documents in accordance with the requirements of Document 00495 – Post-bid Procedures.

- a. Contractor shall be bound by the MWBE/PDBE/SBE Participation Plan-Document 0600A (the "Plan") submitted, unless a deviation request is approved from the Director of Affirmative Action and Contract Compliance Division.
- b. All MWBE/PDBE/SBE firms listed in the Plan must be certified prior to bid date. Non-certified firms may obtain priority certification if there are less than three certified firms with the same capability as the non-certified firm.
- c. The Director of Affirmative Action and Contract Compliance Division is authorized to suspend any Contractor who has failed to make Good Faith

Efforts to meet the goals; and to suspend any firm that has failed to make Good Faith Efforts to meet all requirements necessary for participation as an MWBE/PDBE/SBE firm.

- d. Contractor shall execute written contracts with all MWBE/PDBE/SBE Subcontractors and Suppliers; and shall include in all such contracts those provisions provided in Articles 3 and 5 of Document 00700 - General Conditions.
- e. Contractor shall designate an MWBE/PDBE/SBE liaison officer who will administer the Contractor's MWBE/PDBE/SBE program and who shall be responsible for maintenance of records of Good Faith Efforts to subcontract with MWBE/PDBE/SBE Subcontractors and Suppliers.

**2. After Award:**

- a. Contractor shall submit MWBE/PDBE/SBE Monthly Utilization Reports, requested in Article II above.
- b. Contractor, upon approval of the Director of Affirmative Action and Contract Compliance Division, shall make Good Faith Efforts to replace a certified MWBE/PDBE/SBE firm that is displaced, for any reason, with another certified MWBE/PDBE/SBE firm.
- c. Contractor shall conform to the Plan unless the Director of Affirmative Action and Contract Compliance Division approves otherwise. Approval shall not be unreasonably withheld.
- d. Contractor shall submit all disputes with MWBE Subcontractors and Suppliers to binding arbitration as set out in the City's Affirmative Action and Contract Compliance Division, MWBE, PDBE and SBE Procedures dated June 21, 2006.

**F. ELIGIBILITY OF MWBE/PDBE/SBE FIRM**

- 1. To ensure that the MWBE/PDBE/SBE program benefits only those firms that are owned and controlled by a minority person(s), a woman (women), a person(s) with a disability or a small business enterprise, the Affirmative Action and Contract Compliance Division will certify the eligibility of MWBE/PDBE/SBE Subcontractors/Suppliers. Contact the Affirmative Action and Contract Compliance Division Certification Section at (713) 837-9000 for information regarding certification.
- 2. The Affirmative Action and Contract Compliance Division maintains a Certified Minority, Women and Disadvantaged Business Enterprise Directory on the City's website. This Directory also lists federally-designated Disadvantaged Business Enterprises (DBEs), Persons with Disabilities Business Enterprises (PDBEs) and Small Business Enterprises (SBEs).



**NOTE: All MWBE/PDBE/SBE firms, even if certified by another agency, must be certified by the Affirmative Action and Contract Compliance Division in order to qualify for attainment of the MWBE/PDBE/SBE goals.**

**G. DETERMINATION OF MWBE/PDBE/SBE PARTICIPATION**

MWBE/PDBE/SBE participation shall be counted toward meeting the MWBE/PDBE/SBE goals in response to the following:

1. Once a firm is certified as a MWBE/PDBE/SBE, the total dollar value of the subcontract awarded to the MWBE/PDBE/SBE firm is counted toward the MWBE/PDBE/SBE participation goals (See Paragraphs III.G.4 and III.G.5 below). Safety and Participation goals do not count as a single goal concerning MWBE/PDBE/DBE/SBE requirements.
2. When Contractor or Subcontractor is in a joint venture with one or more MWBE/PDBE/SBE firms to satisfy those goals, the Director of Affirmative and Contract Compliance Division shall determine the percent of participation resulting from such joint venture to be counted toward the goals.
3. Contractor may count toward its goals, those MWBE/PDBE/SBE Subcontractors/ Suppliers performing a Commercially Acceptable Function.
  - a. **COMMERCIALLY ACCEPTABLE FUNCTION** means a discrete task or group of tasks, the responsibility for performance of which shall be discharged by the MWBE/PDBE/SBE firm by using its own forces or by actively supervising on-site the execution of the tasks by another entity for whose work the MWBE/PDBE/SBE firm is responsible. Without limiting the generality of the foregoing, a MWBE/PDBE/SBE will not be considered to be performing a commercially acceptable function, if it subcontracts to non-MWBE/PDBE/SBE firms or to other MWBE/PDBE/SBE firms, more than 50 percent of a contract being counted toward the applicable participation goals, unless such subcontracting in excess of 50 percent has been expressly permitted by the Director in a written waiver of this requirement. A waiver shall be granted upon demonstration that the industry standard for the type of work involved is to subcontract over 50 percent of the work.
4. A MWBE/PDBE/SBE firm cannot subcontract more than 50 percent of the work for which it is responsible to perform unless waived by the Director.
5. Contractor may count 100 percent of MWBE/PDBE/SBE Supplier's participation toward its goals and such MWBE/PDBE/SBE Supplier contracts shall not exceed 50 percent of Contract's goals.

## H. CONTRACTOR COMPLIANCE

To ensure compliance with MWBE/PDBE/SBE requirements, the Monitoring Authority will monitor Contractor's efforts regarding MWBE/PDBE/SBE Subcontractors/Suppliers during the performance of this Contract. This may be accomplished through the following: job site visits, reviewing of records and reports, and interviews of randomly selected personnel.

## I. RECORDS AND REPORTS

1. Contractor shall submit an initial report outlining MWBE/PDBE/SBE participation, 40 days after the Notice to Proceed date, and on or before the 15th day of each month thereafter until all MWBE/PDBE/SBE subcontracting or material supply activity is completed. Each report shall cover the preceding month's activity. Use the MWBE/PDBE/SBE management and contract compliance system form to meet this requirement.
2. Contractor shall maintain the following records for review upon request by the Monitoring Authority:
  - a. Copies of executed Subcontractor agreements and purchase orders;
  - b. Documentation of payments and other transactions with MWBE/PDBE/SBE Subcontractors/Suppliers;
  - c. Appropriate explanations of any changes or replacements of MWBE/PDBE/SBE Subcontractors/Suppliers;  
**NOTE: All replacement MWBE/PDBE/SBE Subcontractors/Suppliers must be certified by the Affirmative Action and Contract Compliance Division.**
  - d. Any other records required by the Monitoring Authority.
3. If the goals is not being met, the monthly report shall include a narrative description of the progress being made in MWBE/PDBE/SBE participation. If sufficient MWBE/PDBE/SBE Subcontractors or Suppliers to meet the goals are being utilized, they should be identified by name and the dollar amount paid to date for work performed or materials furnished by each MWBE/PDBE/SBE during the monthly period. Reports are required when no activity has occurred in a monthly period.
4. All such records must be retained for a period of four years following completion of the Work and shall be available at reasonable times and places for inspection by authorized representatives of the Memorial City Redevelopment Authority including the City Controller.

**IV. SANCTIONS:**

**A. SUSPENSION PERIOD AND WAIVER**

Pursuant to Section 15-86 of the Code of Ordinances, the Director of Affirmative Action and Contract Compliance Division is authorized to suspend for a period of up to, but not to exceed, five years, any Contractor who has failed to make Good Faith Efforts. The Director is also authorized to suspend any MWBE/PDBE/SBE who has failed to make Good Faith Efforts from engaging in any Contract affected by Article V, Article VI or Article IX of Chapter 15 of the Code of Ordinances for a period of up to, but not to exceed, five years.

**B. GUIDELINES FOR IMPOSITION OF SANCTIONS**

**1. General:**

- a. No suspension shall be imposed by the Director of Affirmative Action and Contract Compliance Division except upon evidence of specific conduct on the part of a MWBE/PDBE/SBE or Contractor that is inconsistent with or in direct contravention of specific applicable requirements for Good Faith Efforts.
- b. Imposition and enforcement of suspensions shall be consistent with applicable state law.

**2. Severity of Sanctions:**

- a. In determining the length of any suspension, the Director shall consider the following factors:
  - (1) Whether the failure to comply with applicable requirements involved intentional conduct or, alternatively, may be reasonably concluded to have resulted from a misunderstanding on the part of the Contractor or MWBE/PDBE/SBE of the duties imposed on them by Article V, Article VI or IX of Chapter 15 of the Code of Ordinances and these procedures;
  - (2) The number of specific incidences of failure by Contractor or MWBE/PDBE/SBE to comply;
  - (3) Whether the Contractor or MWBE/PDBE/SBE has been previously suspended;
  - (4) Whether the Contractor or MWBE/PDBE/SBE has failed or refused to provide the Director with any information requested by the Director or required to be submitted to the Director pursuant to law or these procedures;
  - (5) Whether the Contractor or MWBE/PDBE/SBE has materially misrepresented any applicable facts in any filing or communication to the Director of Affirmative Action and Contract Compliance Division; and



(6) Whether any subsequent restructuring of the subject business or other action has been undertaken to cure the deficiencies in meeting applicable requirements.

- b. Suspensions may be for any length of time not to exceed five years. Suspensions in excess of one year shall be reserved for cases involving intentional or fraudulent misrepresentation or concealment of material facts, multiple acts in contravention of applicable requirements, cases where the Contractor or MWBE/PDBE/SBE has been previously suspended, or other similarly egregious conduct.

**C. DELEGATION**

A decision to implement a suspension may be taken after notice and an opportunity for a hearing by the Director of Affirmative Action and Contract Compliance Division or by another impartial person designated by the Director of Affirmative Action and Contract Compliance Division for that purpose. The Director of Affirmative Action and Contract Compliance Division or other person conducting the hearing shall not have participated in the actions or investigations giving rise to the suspension hearing.

**D. NOTICE**

1. Prior to the imposition of any suspension, the Director of Affirmative Action and Contract Compliance Division shall deliver written notice to the Contractor or MWBE/PDBE/SBE setting forth the grounds for the proposed suspension and setting a date, time, and place to appear before the hearing officer for a hearing on the matter.
2. Any notice required or permitted to be given hereunder to any Contractor or MWBE/PDBE/SBE may be given either by personal delivery or by certified United States mail, postage prepaid, return receipt requested, addressed to their most recent address as specified in the records of the Affirmative Action and Contract Compliance Division or in the Contract if no address is on file with the Affirmative Action and Contract Compliance Division.

**E. HEARING PROCEDURES**

Proceedings before the Director of Affirmative Action and Contract Compliance Division or other hearing officer shall be conducted informally, provided that each party may be represented by counsel and may present evidence and cross-examine witnesses. The burden shall be upon the Memorial City Redevelopment Authority by a preponderance of evidence. The decision shall be reduced to writing and notice provided to the Contractor or MWBE/PDBE/SBE.

**F. APPEALS**

Appeals authorized pursuant to Section 15-86(b) of the Code of Ordinances shall be conducted by an arbitrator who shall act as the hearing officer. Alternatively, an appeal may be taken to City Council, subject to the appellant's compliance with Rule 12 of the City Council Rules of Procedure. Appeals shall be initiated by filing a written notice of appeal with the Director of Affirmative Action and Contract Compliance Division no later than 15 days following the mailing of notice of the decision of the Director of Affirmative Action and Contract Compliance Division, and the appeal notice shall state whether the appeal is requested to City Council or to an arbitrator. If an arbitration appeal is requested, then the arbitrator shall be selected as provided in Section 9 of these procedures. The arbitrator's or City Council's decision, as applicable, shall be final. The Director of Affirmative Action and Contract Compliance Division shall determine whether to suspend his or her order pending an appeal, taking into account the criteria set forth in Section 6(B)(2) of these procedures.

ATTACHMENT A

## City of Houston

### Affirmative Action and Contract Compliance Division

“Good Faith Efforts” means those efforts required to be made and demonstrated by an apparently successful bidder or propose prior to award of a contract (whether a Goal Oriented Contract or a Regulated Contract) and at the conclusion of performance of the Contract in the event it has been unsuccessful in meeting the contract MWBE goal.

- A. Prior to Award - Good Faith Efforts for non-MWBEs in construction, procurement and professional services shall mean at a minimum the following:
1. Delivery of written notice to the following:
    - a. All local certified MWBEs in the directory for the month prior to the month of the bid or proposal submission date and identified as performing work or services or providing commodities for all potential subcontracting or supply categories in the Contract; and
    - b. All minority and women focused associations identified in the directory for the month prior to the month of the bid or proposal submission date; and
    - c. All news media focused toward minority persons and women identified in the directory for the month prior to the month of the bid or proposal submission date; and
    - d. All MWBEs, which request information on the Contract.
  2. The written Notice shall contain:
    - a. Adequate information about plans, specifications, and relevant terms and conditions of the contract and about the work to be subcontract or the goods to be obtained from subcontractors and suppliers;
    - b. A contact person within the apparent low bidder 's or proposer's office to answer questions;
    - c. Information as to the apparent low bidder's or proposer's bonding requirements, the procedure for obtaining any needed bond, and the name and telephone number of one or more acceptable surety companies to contact;
    - d. The last date for receipt by the bidder or proposer of MWBE bids or price quotations;
  3. Attendance at any special pre-bid meeting called to inform MWBEs of subcontracting or supply opportunities, if set forth in the bidding or proposal documents.
  4. Division of the Contract, as recommended by the department head of the initiating City department and in accordance with normal industry practice, into small, economically feasible segments that could be performed by MWBEs.



Good Faith Efforts  
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5. Providing an explanation for rejection to any MWBE whose bid or price quotation is rejected, unless another MWBE is accepted for the same work, as follows:
    - a. Where price competitiveness is not the reason for rejection, a written rejection notice including the reason for rejection will be sent to the rejected MWBE firm;
    - b. Where price competitiveness is the reason for rejection, a meeting must be held, if rejected, with the price-rejected MWBE to discuss the rejection; and
  6. Providing an explanation for rejection of any MWBE to the Affirmative Action and Contract Compliance Division, unless another MWBE firm is accepted for the same work, including the name of the non-MWBE firm proposed to be awarded the subcontract or supply agreement, and if price competitiveness is the reason for rejection, the MWBE's price quotation and the successful non-MWBE price quotation.
- B. After Award - Good Faith Efforts for MWBEs in construction, procurement and professional services shall mean at a minimum the following:
1. Designate an MWBE liaison officer who will administer the Contractor's MWBE programs and who shall be responsible for maintenance of records of Good Faith Efforts.
  2. MWDBE/PDBE Reporting
    - a. Furnishing prompt MWDBE/PDBE Utilization Reports in a timely and accurate manner through the online Contract Monitoring System or via hard copy.
    - b. Respond to efforts to resolve disputes between prime and subcontractors, and genuinely attempt to resolve these issues.
    - c. Clear online Contract Monitoring System discrepancies monthly.
    - d. Contractor shall designate an MWBE liaison officer who will administer the Contractor's MWBE programs and who shall be responsible for maintenance of records of Good Faith Efforts.

Good Faith Efforts  
Page 3.

3. Deviation Requests - The contractor shall comply with the submitted MWBE plan, unless it has received approval from the Affirmative Action Director. Approval will not be unreasonably withheld. Upon approval, contractor will make a Good Faith Effort to replaced a removed MWBE with another certified firm.
4. Furnishing prompt written response to any written inquiry from the Director of any employee of the Affirmative Action and Contract Compliance Division regarding the MWBE's performance or information germane to the MWBE's certification;
5. Ensuring that at all times during the performance of any contract or subcontract subject to the requirements of Chapter1 of the Code of Ordinance the MWBE firm is engaging in a commercially acceptable function as that term is defined herein; and
6. Ensuring that no application, response to a request for information, or other factual material submitted to the Director or any employee of the Affirmative Action and Contract Compliance Division contains any material misrepresentation; and
7. Furnishing prompt responses to requests from the department administering the Contract, the City Attorney and the City Controller for information, books and record needed to verify compliance.
8. Attend all meetings, mediation and arbitration hearings as requested by the Director or his/her designee

Revised 10/11/2005

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Document 00820

WAGE SCALE FOR ENGINEERING CONSTRUCTION

- 1.01 In accordance with the Prevailing Wage Law on Public Works (Chapter 2258 of the Texas Government Code), the public body awarding the Contract does hereby specify the following to be the general prevailing rates in the locality in which the Work is being performed.
- 1.02 This prevailing wage rate does not prohibit the payment of more than the rates stated.
- 1.03 The wage scale for engineering construction is to be applied to all site work greater than 5 feet from an exterior wall of new building under construction or from an exterior wall of an existing building.
- 1.04 If Contractor believes that an additional classification for a particular craft or type of worker is necessary to perform work under the Contract, it must submit with its bid a request to the Contract Compliance Division of the Mayor's Office Of Business Opportunity ("OBO") to use an additional labor classification not listed in Exhibit "A" and specify the proposed new classification. OBO shall determine whether a proposed classification is already covered in Exhibit "A", and, if it is, specify which classification is appropriate. OBO's decision is conclusive. If OBO decides that a new classification is necessary, it will determine the appropriate prevailing wage rate for any resurveyed, amended, new, or additional craft or type of worker not covered by Exhibit "A". Such determination must be decided in accordance with procedures established by OBO, and in compliance with Chapter 2258 of the Texas Government Code and City of Houston, Texas Ordinance Nos. 85-2070, 2000-1114, 2001-152, 2006-91, 2006-168 and 2009-247 subject to City Council approval.

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CITY OF HOUSTON  
STANDARD DOCUMENT

WAGE SCALE  
FOR ENGINEERING CONSTRUCTION

LABOR CLASSIFICATIONS AND PREVAILING WAGE RATES  
FOR  
ENGINEERING CONSTRUCTION  
2012

CLASSIFICATION	RATE	CLASSIFICATION	RATE
Asphalt Distributor Operator	\$14.06	Milling Machine Operator - Fine Grade	\$13.53
Asphalt Paving Machine Operator	\$14.32	Mixer Operator	\$10.33
Asphalt Raker	\$12.36	Motor Grader Operator- Rough	\$14.23
Asphalt. Shoveler	\$11.68	Motor Grader Operator	\$15.69
Broom or Sweeper Operator	\$12.68	Oiler	\$12.12
Bulldozer Operator	\$11.81	Painter-Structures	\$18.62
Carpenter- Rough	\$12.49	Pavement Marking Machine Operator	\$11.18
Concrete Finisher- Paving	\$11.38	Pile Driverman.	\$14.95
Concrete Finisher- Structures	\$10.80	Pipe Layer	\$12.12
Concrete Paving Curbing Machine Operator	\$11.71	Reinforcing Steel Setter - Paving	\$15.14
Concrete Paving Finishing Machine Operator	\$13.07	Reinforcing Steel Setter - Structure	\$13.87
Concrete Paving Joint Sealer Operator	\$11.00	Roller Operator, Pneumatic - Self-propelled	\$11.57
Concrete Paving. Saw Operator	\$13.99	Roller Operator, Steel Wheel, Flat Wheel/Tamping	\$11.57
Concrete Paving Spreader Operator.	\$10.44	Roller Operator, Steel Wheel, Plant Mix Pavement	\$11.92
Concrete Rubber . . .	\$9.00	Scraper Operator	\$13.47
Crane Clamshell Backhoe Derrick, Dragline, Shovel Operator	\$12.71	Servicer	\$13.97
Crusher and Screening Plant Operator	\$11.29	Sign Installer - PGM	\$8.54
Electrician * 3 Journeyman 2 Apprentice	\$21.79	Slip Form Machine Operator	\$11.07
Flagger	\$10.33	Spreader Box Operator	\$13.58
Form Builder/Setter- Structures	\$10.50	Structural Steel Worker	\$14.39
Form Liner- Paving and Curb	\$11.75	Tractor Operator - Crawler Type	\$13.68
Form Setter- Paving and Curb	\$10.51	Tractor Operator- Pneumatic	\$10.07
Foundation Drill Operator - Crawler Mounted	\$17.43	Transit Mixer Truck Driver	\$11.00
Foundation Drill Operator - Truck Mounted	\$17.43	Truck Driver, Lowboy-float	\$16.03
Front Loader Operator	\$13.32	Truck Driver, Single-Axle - Heavy	\$11.46
Laborer Common	\$11.02	Truck Driver, Single-Axle - Light	\$10.07
Laborer- Utility	\$11.73	Truck Driver, Tandem Axle Semi-Trailer	\$12.24
Manhole Builder	\$9.00	Work Zone Barricade Servicer	\$11.67
Mechanic	\$16.96	Welders - Receive rate prescribed for craft performing operation to which welding is incidental	
* Apprentices- must be in an approved USDOL Program and cannot exceed ratios			

Ordinance No. 2009-247 passed March 25, 2009

00820-2  
03-01-2012

**Engineering Prevailing Wages  
Classification Definitions**

Adoption: March 1, 2012

**Asphalt Distributor Operator**

Drives distributor truck, sets spray bars and operates valves and levers to control distribution of bituminous material for highway surfacing. May oil, grease or otherwise service and make adjustments to equipment as needed. Performs other related duties.

**Asphalt Paving Machine Operator**

Operates paving machine that spreads and levels asphaltic concrete on highway subgrade. Controls movement of machine, raises and lowers screed, regulates width of screed. May, oil, grease, service and make adjustments to equipment as needed. Performs other related duties.

**Asphalt Raker**

Distributes asphaltic materials evenly over road surface by raking and brushing material to correct thickness; directs Laborers when to add or take away material to fill low spots or to reduce high spots. Performs other related duties.

**Asphalt Shoveler**

A general term used on construction work covering many unskilled classifications requiring work of a physical nature. A laborer works with all crews doing everything from pick and shovel work to cleaning up lumber with hammer, shoveling and placing concrete, uses air tools, cleans concrete joints and fills joints with sealing compound from bucket or with hose and nozzle from a central source, applies coating of oil to inside face of forms, may help set and strip forms, unloads and transports reinforcing steel, cures newly poured concrete, helps lower pipe into ditch for pipelayers, builds fences, works with dirt crew keeping construction layout stakes out of the way of dirt moving equipment.

**Broom or Sweeper Operator**

Operates a self-propelled machine to sweep and clean roadway surfaces. May oil grease, service and make adjustments to equipment as needed. Performs other related duties.

**Bulldozer Operator**

Operates a crawler tractor with a bulldozer mounted in front of chassis to level, distribute and push earth or other material. May operate a ripper attachment to break up rock or other hard material. May use a push block on front of tractor to push load scrapers. May oil grease, or otherwise service and make minor repairs to equipment as needed. Performs other related duties.

**Carpenter, Rough**

Works from plans to build, assemble, fit together, align, plum, and set in place forms for molding concrete structures. Forms may be wood, steel, aluminum, fiberglass or any other type of material. Checks form while concrete is placed. May install miscellaneous materials integral to concrete structures. May set precast concrete elements. Prepares for slipforming traffic rail and median barrier. May install permanent metal deck forms. May work with power tools Performs other related duties.

**Concrete Finisher, Paving**

Finishes the exposed surfaces of fresh concrete paving, median barrier and every element of concrete structures to the final grade and contour structures to the final grade and contour with the use of straight edges and steel trowels. Operates bridge deck finishing machine. Finishes concrete curbs and gutters. Finishes exposed surface of concrete after forms have been removed by patching imperfections with fresh concrete, rubbing surface with abrasive stone, and directing others in removing excess or defective concrete with power tools. Performs other related duties.

**Concrete Finisher, Structures**

A worker semi-skilled in concrete finishing who assists Concrete finisher by performing specific or general duties of lesser skill and keeping Concrete Finisher supplied with materials, tools, and supplies; cleaning working area an equipment; and holding materials and tools. Performs other related duties.



**Concrete Paving Curbing Machine Operator**

Operates self - propelled machine(s) which may or may not travel on concrete paving forms, spreading and leveling fresh concrete to grade by use of augers and screeds. May oil, grease or otherwise service and make adjustments to equipment as necessary. Performs other related duties.

**Concrete Paving Finishing Machine Operator**

Operates self - propelled machine(s) which may or may not travel on concrete paving forms, spreading and leveling fresh concrete to grade by use of augers and screeds. May oil, grease or otherwise service and make adjustments to equipment as necessary. Performs other related duties.

**Concrete Paving Joint Sealer Operator**

Cleans and seals joints requiring a hot or cold sealing compound in concrete paving, sidewalks, driveway and approach slabs. May oil, grease or make necessary repairs adjustments to equipment as needed. Performs other related duties.

**Concrete Paving Saw Operator**

Operates a water-cooled power saw with either or an abrasive blade to saw expansion and contraction joints in concrete paving. May also be used to saw asphaltic pavements. May oil grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Concrete Paving Spreader Operator**

Operates self - propelled machine(s) which may or may not travel on concrete paving forms, spreading and leveling fresh concrete to grade by use of augers and screeds. May oil, grease or otherwise service and make adjustments to equipment as necessary. Performs other related duties.

**Concrete Rubber**

Finishes the exposed surface of concrete masonry after the forms have been removed by patching holes and broken corners with fresh concrete, rubbing surface with abrasive stone to remove rough spots, and removing high spots and defective concrete with hand chisel and hammer or pneumatic chisel and powered abrasive stone. Performs other related duties.

**Crane, Clamshell, Backhoe, Derrick, Dragline, Shovel Operator**

A worker who operates a lattice boom type crane can hoist and move materials, raise and lower heavy weights and perform other related operations. May be crawler type or rubber tired. May include placement of rock riprap, clamshell, dragline, pipe and pile driving operations. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Crusher and Screed Plant Operator**

Operates a crusher or screening plant through which rock is run to break it into crushed stone for construction or to control flow of materials not needed. May include minor repairs and may service and make necessary adjustments to equipment as needed. Performs other related duties.

**Electrician \*3 Journeyman 2 Apprentice**

Plans and directs the layout of metal electrical conduit, installs wiring systems, switch-panels, buss bars, works on overhead distribution systems and underground distribution systems. Performs other related duties.

**Flagger**

A worker who directs traffic in or around a construction site. May use signs or devices to direct traffic. May help assemble, position and clean devices or equipment used to direct traffic. Must be able to effectively communicate with the public. May require certain level of training by TXDOT specifications. Performs other related duties.

**Form Builder/Setter, Structures**

Fits together, aligns and sets to grade metal and wooden forms for placement of concrete. Forms may be wood, steel, aluminum, fiberglass or any other type of material. Checks forms while concrete is placed. May install miscellaneous materials integral to concrete structures. May set precast concrete elements. Prepares for slipforming traffic rail and median barrier. May install permanent metal deck forms. May work with power tools. Performs other related duties.

**Form Liner, Paving & Curb**

Fits together, panels align and sets to grade metal and wooden forms for placement of concrete. Works with survey crew to set stringline for panels or moles. Performs other related duties.

**Form Setter, Paving & Curb**

Fits together, align and set to grade metal and wooden forms for placement of concrete paving and curbs. Works with survey crew to set stringline for paving, curb and gutter curb. Performs other related duties.

**Foundation Drill Operator, Crawler Mounted**

Operates a hole-drilling machine that is crawler mounted. May include geotechnical operations such as soils nails, rock nails, tiebacks, anchors and jet grouting. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Foundation Drill Operator, Truck Mounted**

Operates a hole drilling machine that is mounted on the rear of a rubber tired vehicle or truck. May include soils nails, rock nails, tiebacks, anchors and jet grouting. Drive truck from location to location or may have laborer who drives truck. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Front End Loader Operator**

Operates a rubber tired, skid steer or crawler type tractor with an attached scoop type bucket on front end. Machine is used to load materials from stockpiles, excavation, charging batch plants, loading and unloading trucks. May be used with attachments in lieu of the bucket. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Laborer, Common**

A general term used on construction work covering many unskilled classifications requiring work of a physical nature. A laborer works with all crews doing everything from pick and shovel work to cleaning up lumber with hammer, shoveling and placing concrete, uses air tools, cleans concrete joints and fills joints with sealing compound from bucket or with hose and nozzle from a central source, applies coating of oil to inside face of forms, may help set and strip forms, unloads and transports reinforcing steel, cures newly poured concrete, helps lower pipe into ditch for pipelayers, builds fences, works with dirt crew keeping construction layout stakes out of the way of dirt moving equipment.

**Laborer, Utility**

Performs a variety of manual duties, usually working in a utility capacity by working on multiple projects and tasks where demands require workmen with varied experience and ability to work without close direction. Unloads and transports reinforcing steel. May occasionally place and tie reinforcing steel. Directs common laborers in pouring concrete. Erects shoring and bracing. Assists in installation of pipe. Installs, operate and maintains dewatering systems. May assist equipment operators in positioning machines, verifying grades and signaling operators. Directs truck drivers and scraper operators to dumping positions to maintain grades as directed. Uses power tools and air tools. May work as lead man in a labor crew. His performance of a wide variety of construction jobs distinguishes him from a helper assigned to a specific craft. Installs and maintains erosion control. Is more or less a general utility construction worker. May be second step in learning a skill, and may later become a helper in a specific classification. Performs other related duties.

**Manhole Builder**

Constructs a means of permanent access to water and sewer lines for maintenance purposes. This work consists of laying brick or concrete slab at bottom of ditch up to an approximate grade line near the surface of the ground. Brick or block is normally laid to form a nearly circular manhole. Brick or block is laid in by eyesight and is normally to a plumb line. Chipped or culled brick can be used quite often is. No effort may be made to keep mortar off the face of the brick and joints are not pointed. May apply coating of concrete to interior and exterior surface. Performs other related duties.

**Mechanic**

Assembles, set up, adjusts and maintains and repairs all types of construction equipment and trucks. He may perform the duties of a welder in repair of equipment. Performs other related duties.

**Milling Machine Operator, Fine Grade**

Operates a power-driven milling machine that planes material of the to roadbed and discharges the material into a hauling unit or a windrow. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Mixer Operator**

Performs a variety of manual duties, usually working in a utility capacity by working on multiple projects and tasks where demands require workmen with varied experience and ability to work without close direction. Unloads and transports reinforcing steel. May occasionally place and tie reinforcing steel. Directs common laborers in pouring concrete. Erects shoring and bracing. Assists in installation of pipe. Installs, operate and maintains dewatering systems. May assist equipment operators in positioning machines, verifying grades and signaling operators. Directs truck drivers and scraper operators to dumping positions to maintain grades as directed. Uses power tools and air tools. May work as lead man in a labor crew. His performance of a wide variety of construction jobs distinguishes him from a helper assigned to a specific craft. Installs and maintains erosion control. Is more or less a general utility construction worker. May be second step in learning a skill, and may later become a helper in a specific classification. Performs other related duties.

**Motor Grader Operator, Rough**

Operates a motor grader. Equipment is used to grade excavation and embankment and to lay asphalt, base and other materials. May blade haul roads and do other general motor grader work, but does not perform finish grade work to close specification tolerances. This operator may be a learner in the first phase of learning the skills of motor grader work. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Motor Grader Operator**

Operates a motor grader. Equipment is used to grade excavation and embankment and to lay asphalt, base and other materials. May blade haul roads and do other general motor grader work, but does not perform finish grade work to close specification tolerances. This operator may be a learner in the first phase of learning the skills of motor grader work. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Oiler**

A learner or semi-skilled worker who under the direction of the watch engineer May oil and grease or otherwise service all engines and necessary equipment as needed. He may clean and paint engine room as needed. Performs other related duties.

**Painter, Structures**

Paints and stains structural steel and concrete surfaces of bridges, retaining walls, or other structures. Directs cleaning and abrasive blasting of surfaces prior to painting or staining. Performs other related duties.

**Pavement Marking Machine Operator**

Operates machine used in laying paint stripes or markers on all types of paving. Loads machine with appropriate materials and may walk or ride on machine. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Piledriverman**

Sets in place, aligns, plumbs directs driving of timber, concrete, steel, pipe and any other type of piling. Sets, drives and pulls steel, concrete and other types of sheet piling. Rigs pile and leads and bracing. Signals operator. Splices piles before and after driving. Directs pile cutoff. May direct jetting or drilling equipment in connection with installing piles to grade. Performs other related duties.

**Pipelayer**

Installs concrete, clay, steel, ductile iron, plastic, corrugated pipe and any other type of pipe for storm drainage, water lines, gas lines and sanitary sewer lines. Lays underground communication and electrical ducts. May install and set electrical ground boxes, hand holes, manholes, inlets and other structures. Caulks joints, make threaded and flanged connections. Installs valves and other accessories. Performs other related duties.

**Reinforcing Steel Setter, Paving**

Works from plans to lay out and install reinforcing steel within forms or in mats of concrete paving. May direct unloading of material. Determines rigging required to complete work. Gives direction to reinforcing steel worker (helper) or common or utility laborers. May install miscellaneous materials integral to concrete structure or paving. May work with power tools. Performs other related duties.



**Reinforcing Steel Setter, Structure**

Works from plans to lay out and install reinforcing steel within forms or in mats of concrete paving. May direct unloading of material. Determines rigging required to complete work. Gives direction to reinforcing steel worker (helper) or common or utility laborers. May install miscellaneous materials integral to concrete structure or paving. May work with power tools. Performs other related duties.

**Roller Operator, Pneumatic, Self-Propelled**

Operates a self-propelled machine with either steel wheels pneumatic tires, which is used to compact and smooth all bituminous materials. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Roller Operator, Steel Wheel, Flat Wheel/Tamping**

Operates a self-propelled machine with either steel wheels or pneumatic tires which is used to compact earth fills, subgrade, flexible base and all other types of materials except bituminous. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Roller Operator, Steel Wheel, Plant Mix Pavement**

Operates a self-propelled machine with either steel wheels pneumatic tires, which is used to compact and smooth all bituminous materials. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Scraper Operator**

Operates a self-contained wheeled tractor scraper both self loading or assisted by crawler tractors or other scrapers. Used to excavate and transport earth or other materials. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Servicer**

Drives a truck, which carries various fuels, oils, greases and filters. Must have knowledge of and is responsible for the correct oiling and greasing and changing of filters on equipment according to the manufacturers' specifications. Uses compressed air grease guns, wrenches and other tools. May make adjustments to clutches, brakes and other mechanical items. Keeps record of service preventive maintenance records. May have laborer assisting him. May require CDL if driving truck on public highways. Performs other related duties.

**Sign Installer (PGM)**

Sets forms, reinforcing steel, anchor bolts and pours concrete for Sign foundations. Fabricates and erects pipe and angle Frameworks by bolting, welding or other means prior to installation of signs that are normally prefabricated. Works from plans in location and drilling holes for proper location and alignment of signs. May direct hoisting of signs into place. Fastens signs to framework by bolting and other means. Locates and sets lighting brackets. May perform other work associated with signing projects. Supervises sign erector helper. Performs other related duties.

**Slip Form Machine Operator**

Cleans and seals joints requiring a hot or cold sealing compound in concrete paving, sidewalks, driveway and approach slabs. May oil, grease or make necessary repairs adjustments to equipment as needed. Performs other related duties.

**Spreader Box operator**

Operates spreader box by adjusting hopper and strike off blade so that the gravel, stone or other material may be spread to a specific depth on road surface during seal coat and surface treatment operations. May oil, grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Structural Steel Worker**

Works from plans to lay out and install reinforcing steel within forms or in mats of concrete paving. May direct unloading of material. Determines rigging required to complete work. Gives direction to reinforcing steel worker (helper) or common or utility laborers. May install miscellaneous materials integral to concrete structure or paving. May work with power tools. Performs other related duties.

**Tractor operator, Crawler Type**

Operates a crawler tractor with a bulldozer mounted in front of chassis to level, distribute and push earth or other material. May operate a ripper attachment to break up rock or other hard material. May use a push block on front of tractor to push load scrapers. May oil grease, or otherwise service and make minor repairs to equipment as needed. Performs other related duties.

**Tractor Operator, Pneumatic**

Operates a gasoline or diesel powered agricultural tractor that tows compaction rollers, plow, disc, water tanks, scrapers and other similar operations. May use other miscellaneous attachments. May oil. Grease or otherwise service and make necessary adjustments to equipment as needed. Performs other related duties.

**Traveling Mixer Operator**

Drives a gasoline or diesel truck upon which is mounted a concrete mixer. Operates concrete mixer and dumps concrete on the grade, into forms or into concrete pumps or buckets. Cleans mixer drum. May require CDL license for on highway use. May service and make necessary adjustments for proper operation of equipment. Performs other related duties.

**Truck driver, lowboy-Float**

Drives a heavy-duty diesel powered truck to which is attached a trailer upon which heavy equipment is hauled. Driver is often required to operate heavy equipment to load or unload the lowboy. May require CDL license for on highway use. May service and make necessary adjustments for proper operation of equipment. Performs other related duties.

**Truck driver, Single Axle, Heavy**

Drive a light capacity truck for transporting loads of construction material. The truck is of single rear axle type, may have various kinds of beds attached, such as dump, flat bed, tank, etc. May require CDL license for driving on highway. May services and make necessary adjustments for proper operation equipment. Performs other related duties.

**Truck driver, Single Axle-Light**

Drive a light capacity truck for transporting loads of construction material. The truck is of single rear axle type, may have various kinds of beds attached, such as dump, flat bed, tank, etc. May require CDL license for driving on highway. May services and make necessary adjustments for proper operation equipment. Performs other related duties.

**Truck Driver, Tandem Axle, Semi-Trailer**

Drives a diesel-powered tractor pulling a semi trailer hauling materials. Hauls dirt, rock, aggregates or other material. May require CDL license for driving on highway. May service and make necessary adjustments for proper operation of equipment. Performs other related duties.

**Work Zone Barricade Servicer**

Fabricates, erects and maintains temporary traffic control devices, including arrow boards, signs, barricades, channelizing devices, barrels and all message boards. May operates a truck during traffic control operations.

**WELDERS** - Receives rate for craft being performed to which welding is incidental.

Document 00830

TRENCH SAFETY GEOTECHNICAL INFORMATION

1.0 DOCUMENT INCLUDES

- A. Trench Safety Geotechnical Information: Geotechnical information obtained for use in design of the trench safety system is included as an attachment to this document.

2.0 RELATED DOCUMENTS

- A. Section 02260 - Trench Safety Systems.

END OF DOCUMENT





Document 00931

**REQUEST FOR INFORMATION**

- 1. PROJECT No.: N-T17000-0012-3
- 2. RFI No.: \_\_\_\_\_
- 3. PROJECT NAME: Lumpkin Road Reconstruction and Drainage Improvements
- 4. CONTRACTOR: \_\_\_\_\_
- 5. CONTRACT No.: \_\_\_\_\_
- 6. SPECIFICATION Nos.: \_\_\_\_\_
- 7. DRAWING Nos.: \_\_\_\_\_
- 8. RESPONSE CODE:  CRITICAL  ROUTINE
- 9. DATE RESPONSE REQUIRED: \_\_\_\_\_
- 10. INFORMATION REQUIRED:

11. \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONTRACTOR (Signature)

12. RESPONSE:

13. \_\_\_\_\_ DATE \_\_\_\_\_  
PROJECT MANAGER (Signature)

14. **If Contractor believes the response given in Item 12 requires an adjustment in Contract Price or Contract Time, Contractor shall submit a timely proposal so as not to delay Contractor's Work in accordance with General Conditions, Article 7 - Changes in the Work.**

END OF DOCUMENT



Section 01110

**SUMMARY OF WORK**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Summary of the Work including work by City, City furnished products, Work sequence, future Work, Contractor use of Premises, and City occupancy.

**1.02 PROJECT DESCRIPTION**

- A. The project is a combination of Westview detention basin improvements, pavement reconstruction, storm sewers, water lines (large & small diameter), sanitary sewers, and traffic signal improvements along Lumpkin Road from IH-10 westbound frontage road to Northbrook Drive. Portions of Westview Drive will also be replaced to relocate existing 48-inch and 36-inch water lines. The existing 48-inch and 36-inch water lines can only be shut down between January 18, 2015 to April 7, 2015.
- B. The project is comprised of Base Bid Improvements and Alternate Bid Improvements. The Base Bid improvements limits are from IH-10 to approximately 100 feet north of Westview Drive (approximate Station 25+00), including the detention basin improvements. The Alternate Bid improvements limits are from approximate station 25+00 northerly to Northbrook Drive.
- C. Alternate bid improvement limits cannot commence until the process for annexing Lumpkin Road from Westview Drive to Northbrook Drive is completed and prior approval from the City of Houston and Memorial City Redevelopment Authority (MCRA) is given.
- D. The project involves construction of 8-inch thick reinforced concrete pavement, concrete curbs and gutters, driveway reconstruction, various sizes of reinforced concrete storm sewer boxes, six-foot wide sidewalks with ADA compliant wheelchair ramps on both sides of the road, a new METRO bus stop concrete pad and shelter, proposed 12-inch and 8-inch diameter water lines, relocation of existing 36-inch and 48-inch diameter water lines, proposed 18-inch diameter sanitary sewer and manhole replacement, softscape and hardscape landscape amenities, street & pedestrian lighting,

parking lot re-striping, reconstruction of a traffic signal and appurtenances, and improvements to increase the capacity of the Westview detention basin.

### 1.03 DEFINITIONS

- A. Large Diameter Water Lines: Water lines 24-inches in diameter and larger. References to large diameter water lines shall apply to pipe, valves and appurtenances 24-inches and larger.
- B. Small Diameter Water Lines: Water lines 20-inches in diameter and smaller. References to small diameter water lines shall apply to pipe, valves and appurtenances 20-inches and smaller.

### 1.04 WORK COVERED BY CONTRACT DOCUMENTS

#### **PROPOSED BASE BID IMPROVEMENTS:**

The Base Bid improvements limits are from IH-10 to approximately 100 feet north of Westview Drive (approximate Station 25+00), including Westview detention basin improvements. This work will include, but not limited to:

- A. Construction of approximately 12,100 S.Y. of 8-inch, high early strength, reinforced concrete pavement, approximately 370 S.Y. of 10-inch thick reinforced concrete-high early strength pavement per TxDOT standards. Installation of high early strength concrete at each driveway.
- B. Installation of approximately 23,500 S.F. of 6-foot wide concrete sidewalks along both sides of Lumpkin Road with concrete unit pavers, hardscape amenities adjacent to the Houston Community College System campus and softscape landscaping.
- C. Removal of approximately 9,000 S.Y. of asphaltic concrete pavement, 3,800 S.Y. of reinforced concrete pavement, 100 S.Y. of concrete sidewalks, and 1,750 S.Y. of driveways.
- D. Installation of sidewalk surface improvements, including concrete unit pavers, from IH10 to Westview Road. Installation of pedestrian light fixtures along the west side of Lumpkin Road, from IH-10 to Westview Road. Installation of trees along each side of Lumpkin Road, from IH 10 to Westview.
- E. Installation of a student seating area in the HCC campus, including ADA compliant access.



- F. Installation of a temporary traffic signal at intersection of Lumpkin Road and Westview Drive, including removal of existing traffic signal system.
- G. Installation of a new traffic signal at the intersection of Lumpkin Road and Westview Drive, including pedestrian signals and push buttons, new mast arm poles with foundations, conduit, cable and wiring, loop detectors, controller and cabinet assembly.
- H. Installation of approximately 75 linear feet of proposed 12-inch water line, with the proposed connection to the existing 12-inch water line being located within TxDOT's right-of-way; approximately 2,300 linear feet of proposed 8-inch water line, fire hydrants, valves and associated appurtenances. Work includes installation of special water line design across Long Point Fault. Long Point Fault. The area from approximately Sta. 17+18 to Sta. 17+77 has been identified as a geologic fault zone. Refer to Geotechnical Investigation Report by Aviles Engineering Corp – "Geotechnical Investigation Reconstruction of Lumpkin Road Between IH-10 and Westview Drive, Houston, Texas - Report No. G153-10 Final)" for additional information.
  - 1. Limits of payment will be between Sta. 17+18 and Sta. 17+77, between the proposed expansion joints. Payment will be on lump sum basis and includes labor, equipment and materials necessary for complete installation of water line and expansion joints at fault location as shown on Drawings.
  - 2. Extra Unit Price Item for 8-inch Line Stop is included in Document 00410. Line stop may be required if conflict found around Sta. 18+00, near fault zone, where proposed 8-inch water line may be in conflict with existing 8-inch water line. Line Stop will allow for a small section of the existing 8-inch water line to be removed while nearby connections remain in service. If Line Stop deemed necessary, supply justification to Construction Manager and submit product information and implementation plan for approval prior to installation. It is anticipated that one Line Stop will be sufficient to maintain service. Payment will be on a Per Each basis, and will include labor, materials and equipment necessary to install Line Stop for completion of proposed water line.
- I. Removal and replacement of approximately 210 L.F. of 48-inch and 210 L.F. of 36-inch water line along Westview Drive. See Paragraph 1.07 of this Section for more information.

- J. Removal of approximately 700 linear feet of existing 7'x4' and 7'x5' reinforced concrete boxes, 3 junction boxes, and approximately 1,800 linear feet of existing 18-inch, 24-inch, 30-inch, and 36-inch diameter reinforced concrete pipes.
- K. Installation of approximately 3,650 linear feet of 7'x4' up to 10'x6' sized reinforced concrete boxes, with equalizer pipes where applicable, approximately 580 linear feet of 24-inch to 60-inch diameter reinforced concrete sewers, approximately 275 linear feet of 24-inch HDPE, Type "A", Type "B-B", Type "C1" with extension and Type "E" inlets, storm sewer junction boxes, manholes on box storm sewers and Type "C" manholes. Improvements to storm sewer facilities includes removal and replacement of existing inlets, and connections to existing storm sewer lines.
- L. Installation of approximately 140 linear feet of proposed 18-inch sanitary sewer lines, and approximately 60 linear feet of proposed 4-inch pressure rated sanitary sewer lines and 3 manholes at the Lumpkin Road and Westview Road intersection by open cut method.
- M. Removal and replacement of 4-inch sanitary sewer force mains. Temporary bypass will be required at the locations where the force main needs to be removed and replaced for storm box installation.
- N. Installation of proposed Thermoplastic pavement markings and signage.
- O. Improvements to the existing detention basin at the northwest corner of Lumpkin at Westview. This work includes the excavation of approximately 29,700 CY of material from the existing basin, top of bank modifications, installation of approximately 22,320 square feet of modular gravity walls, and 1,600 square yards of concrete maintenance roads and slope paving for access and erosion control. In addition, the existing perimeter fencing will be replaced, and a new maintenance access drive will be located along Westview with a 30-ft sliding gate. Refer to the Geotechnical Report provided as there is a significant amount of poor quality fat clay (CH) soils that must be removed and replaced with cement stabilized sand (or other material as approved by the engineer) below the proposed gravity walls. Typical grass slopes are to be 4:1 slope or flatter, with steeper slopes stabilized with 5" concrete slope paving. All grass areas shall have 8-inches of top soil up to the grade shown on the drawings for the establishment of turf with sodding. Contractor shall be considered responsible for maintenance of the basin for 1-year after substantial completion. The City of Houston will inspect and note

any deficiencies that may need to be corrected prior to acceptance of the basin for maintenance.

1. Submittals for the detention basin shall include:
  - a. Modular Block Wall – (Spec Item 02670) – Wall design and calculations and layout data from vendors. Approval required and Contractor/Fabricator Texas P.E. Seal Required.
  - b. Concrete Paving Layout – Plan that shows proposed locations of joints, spot elevations, and sequence of pour. Approval required prior to placement of formwork.
- P. In addition to the above described work in this project, the Contractor is fully responsible to follow the Storm Water Pollution Plans (included in Construction Documents).
- Q. Storm Sewer Rehabilitation. Where existing box culvert is shown to remain the existing box culverts shall be rehabilitated in-place. A video inspection of these existing box culverts showed evidence of seepage. This work is intended to correct and seal all existing joints showing evidence of groundwater seepage. The proposed work on approximately 200-joints of 7'x4' and 7'x5' RCB shall be in accordance with Spec Item 02540 Storm Sewer Rehabilitation.
- R. Geotechnical Investigation/ESA for Soil Conditions. Bidder(s) must evaluate in its entirety and take into account the soil conditions for the successful implementation of the work as per the Geotechnical Reports.

**PROPOSED ALTERNATE BID IMPROVEMENTS:**

The Alternate Bid improvements limits are from approximate Station 25+00 (approximately 100 feet north of Westview Drive) northerly to Northbrook Drive. This work will include, but not be limited to, the following:

- S. Construction of approximately 5,350 S.Y. of 8-inch, high early strength, reinforced concrete pavement. Installation of high early strength concrete at each driveway.

- T. Construction of approximately 12,000 S.F. of 6-foot wide concrete sidewalks along both sides of Lumpkin Road.
- U. Removal of approximately 5,200 S.Y. of asphaltic concrete pavement, 100 S.Y. of concrete sidewalks, and 1,350 S.Y. of driveways.
- V. Installation of approximately 1,300 linear feet of proposed 8-inch water line, fire hydrants, valves and associated appurtenances.
- W. Removal of approximately 1,100 linear feet of existing 18-inch, 24-inch, 30-inch, and 36-inch diameter reinforced concrete pipes.
- X. Installation of approximately 1,300 linear feet of 4'x4' reinforced concrete boxes, approximately 220 linear feet of 24-inch diameter reinforced concrete pipe, Type "B-B", Type "C1" with extension and Type "E" inlets, storm sewer junction boxes, manholes on box storm sewers and Type "C" manholes. Improvements to storm sewer facilities includes removal and replacement of existing inlets, and connections to existing storm sewer lines.
- Y. Installation of approximately 1,250 linear feet of proposed 18-inch, and approximately 50 linear feet of proposed 8-inch sanitary sewer lines and 7 manholes.
- Z. Installation of proposed Thermoplastic pavement markings and signage.



- 1.05 Coordination with ATT Texas for temporary relocation of existing 4-inch PVC conduits at Westview Road. No separate pay.
- A. Contractor shall hire an approved ATT sub-contractor (see list below) for work associated with temporary relocation of ATT 4-inch conduits in conflict with proposed storm sewer boxes and 48-inch and 36-inch water lines at Westview Drive intersection. No separate pay. See Attachment B of this Section for proposed temporary ATT lines relocation.

Approved ATT Contractors:

1. N.E.C. – Richard Krieger (281-565-7313)
  2. TJT – Beth Kaminski (281-516-7886)
  3. KL Murray – Kevin Murray (281-431-9898)
  4. Lou’s Construction – Robert Garcia (713-939-8771)
  5. MP NexLevel – Steve Duvall (281-477-6662)
  6. RCR Utilities Services – Candelario Clenfuegos (713-228-8202)
  7. Valle Herrmose – Luis Aguirre (713-861-9322)
  8. Alcott Inc. DBA THC – Scott Ellis (281-993-2999)
  9. Mastec North America – Steve Clausen (214-571-2500)
  10. Fischel – Mike Woods (281-227-2873)
- B. Contractor is responsible for coordination efforts to ensure the necessary temporary ATT work is performed during City’s approved shut down period described in Section 1.07 for installation of proposed storm sewers and 48-inch and 36-inch water lines.
- C. Contractor is responsible for associated excavation work, traffic control plans, and temporary and permanent pavement necessary for ATT sub-contractor to complete work. No separate pay.
- 1.06 Contractor to coordinate with CenterPoint Energy for relocation of existing wood poles along Lumpkin Road and relocation of existing gas lines. This is a non-pay item.

1.07 RELOCATION OF LARGE DIAMETER WATER LINES AND APPURTENANCES

A. Refer to Section 02519 – Relocation of Large Diameter Water Lines for additional requirements.

B. Project includes draining of existing 48-inch and 36-inch water lines along Westview Dr. at the intersection of Lumpkin Rd. Based on location of existing valves, draining is required as a component of the overall scope of work for approximately 210 LF of 48-inch and 209 LF of 36-inch water lines. Anticipate existing isolation valves will leak. No separate pay.

1. The 36-inch water line can only be shut down between January 18, 2015 to February 26, 2015. The 48-inch waterline can only be shut down between February 27, 2015 to April 7, 2015.
2. Water drained from water lines is to be discharged directly (piped) into local drainage system.
3. Provide schedule using Primavera P6 Schedule (see Project Documentation for more details) of planned activities related to the 48-inch and 36-inch water line relocation within the first 30 days after NTP.
4. Test cuts on the 36-inch and 48-inch water lines will need to be performed by the City of Houston before water lines can be breached. Provide detailed schedule for work requiring shut down of existing water lines within 30 days of NTP, and coordinate with the City's Drinking Water Operations (DWO) minimum 30 days prior to each scheduled water line shut down to confirm schedule. Anticipate one week for the test cut process for each large diameter water line shut down in the schedule. Refer to Specification Section 01732 for more details.
5. Notify Construction Manager minimum 72 hours prior to draining lines. Implement traffic control, tree protection, and storm water pollution prevention prior to beginning process. Draining not allowed during rainfall or storm events as directed by Construction Manager.

C. Remove and replace existing 48-inch water line.

1. Existing 48-inch water line is bar-wrapped steel-cylinder pipe.

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2. Protect bell and spigot of the adjacent pipe to remain in place.
  3. Notify Construction Manager minimum 24 hours prior to breaking any mortar or cutting pipe. Perform saw cutting at connection points as shown on Drawings. Existing manhole at Sta. 3+74.50 must be removed to connect to existing pipe.
  4. Weld all joints on new 48-inch steel water line.
  5. Replace ARV manhole at Sta. 3+74.50 and remove and replace existing ARV assembly with new assembly.
  6. Connect to existing 48-inch bar-wrapped steel cylinder pipe with closure pieces as shown on Drawings.
  7. Remove sections of abandoned 48-inch water line.
  8. Lay schedule for existing 48-inch water line is included in Attachment A to this Section. Record Drawings will be made available for review by Construction Manager.
- D. Remove and replace existing 36-inch water line.
1. Existing 36-inch water line is polyurethane-coated steel pipe.
  2. Notify Construction Manager minimum 24 hours prior to cutting pipe.
  3. Remove existing manhole and ARV assembly at Sta. 2+42.
  4. Weld all joints on new 36-inch water line.
  5. Connect to existing 36-inch steel pipe using butt strap closure piece as shown on Drawings.
  6. Install new manhole and ARV assembly at Sta. 2+79.74 as shown on Drawings.
  7. Remove sections of abandoned 36-inch water line.
  8. Lay schedule for 36-inch water line is included in Attachment A to this Section. Record Drawings will be made available for review by Project Manager.

- E. In lieu of hydrostatic testing, perform weld-testing by third-party, independent testing laboratory on all field welds for both 48-inch and 36-inch water lines in accordance with Section 02511 – Water Lines. Submit weld inspection reports to Construction Manager for review.
- F. Upon completion of work, clean pipe interior, install temporary blow-offs for City to perform disinfection, flushing, and testing. Remove blow-offs upon notice of placement in service. This is a no-pay item.

1.08 INCENTIVE ALLOWANCES

- A. Complete entire Work within 465 calendar days from Date of Commencement, as defined in Document 00700 - General Conditions. Failure to meet 465 calendar day completion will result in liquidated damages in accordance with Document 00800 - Supplementary Conditions.

- B. Contract Milestones:

Contract Milestone dates are calculated based on a Construction commencement date of January 5, 2015.

1. Westview Road at Lumpkin Road intersection: Complete work within intersection as described below by April 7, 2015. Contractor is allowed to work 24-hour shifts, 7 days a week to accomplish Contract Milestone work:
  - a. Complete removal of existing junction box and installation of proposed junction boxes #AM44 and #AM42; installation of proposed 7'x5' reinforced concrete box from junction box #AM42 to approximately 60-feet south; installation of proposed 7'x4' reinforced concrete box from junction box #AM42 to approximately 60-feet north. Install permanent reinforced concrete pavement along Westview Drive to east/west limits depicted on Drawings, install permanent reinforced concrete pavement at the Lumpkin Road intersection to proposed end of curb return radii and open roadways to two way traffic along Westview Drive and Lumpkin Road. Temporary connections between existing and proposed drainage systems will be required to maintain drainage.
  - b. Complete removal, relocation, and City acceptance of the existing 48-inch and 36-inch water lines prior to midnight on April 7, 2015. To receive incentive allowance, contractor must complete work



listed in Section 1.07 (A through F), with roadway open to two way traffic along Westview Drive and Lumpkin Road. Permanent through lanes and left turn lanes may be paved using temporary asphaltic concrete with prior approval from Construction Manager.

2. Complete construction of Base Bid only items for Lumpkin Road from IH-10 Frontage Road to North of Westview Road (approximate Sta. 25+00), along with the Westview detention basin improvements prior to midnight on August 23, 2015. To receive incentive allowance, contractor must complete work listed in Section 1.04 – Proposed Base Bid Improvements.
  3. Complete construction of Base Bid and Alternate Bid Items for Lumpkin Road from IH-10 Frontage Road to Northbrook Drive along with the Westview detention basin improvements prior to midnight on December 21, 2015. To receive incentive allowance, contractor must complete work listed in Section 1.04.
- C. Contract time extensions **will not be considered for computation of incentive bonus payment.** Incentive bonus payment will not be considered until approved punch list items are corrected. Contractor must submit written notice at least 72 hours prior to requesting a partial substantial completion inspection for each phase of work.
- D. All traffic control phases are described in detail in Work Sequence Section. Review work in each Milestone Phase to identify work that cannot be completed until work in subsequent phases is completed. Within thirty (30) days after Notice To Proceed, submit in writing proposed deviations to Milestone Phases for review and approval by Construction Manager.

Proposed deviations will be limited to discrete items of work that Contractor proposes to move from one Phase to another Phase, and only those items of work that cannot be completed until work in subsequent phases is completed. Proposed deviations shall not create or cause any impacts to surrounding community. Proposed deviations will not be considered for deleting Work in its entirety, redesign of the work (unless there is no other option), or re-sequencing the Milestone Phases or changes in the Milestone dates.

Proposed deviations request must include the following.

1. Identify scope of work for proposed deviation, including sufficient description, sketches, etc. to define affected portion of work and its limits.
2. Identify current Phase and proposed Phase that work is proposed to be moved.
3. Provide sufficient justification to support proposed deviation.
4. Identify impacts proposed deviation will have, and proposed plan to mitigate those impacts.
5. Original base line construction schedule, and proposed base line construction schedules identifying affected work activity(s) that will change as a result of proposed deviation. Milestone and Final completion dates shall remain unchanged.

Approval of proposed deviations is contingent upon execution of a Change Order. Should a proposed deviation be approved, Contractor shall be responsible for all costs and schedule impacts that might subsequently result from deviation, including but not limited to corrective measures Construction Manager deems necessary to eliminate impacts to surrounding community.

Contractor's failure to identify Work that cannot be completed until work in subsequent phases is completed shall not relieve Contractor from completing work as identified in Milestone Phases.

#### 1.09 WORK SEQUENCE

- A. Data for facilities and utilities shown were taken from plans and record drawings from several accessible sources. Contractor should anticipate possibility that the actual field locations of facilities and utilities may vary from what is shown in the Contract Drawings. Contractor shall make a complete and independent verification of utility locations prior to submittal of subsequent shop drawings.
- B. Due to overall project complexity and numerous active utility interface requirements, Contractor shall submit a sequence of construction for review by Construction Manager. Proposed sequence of construction shall address proposed method and timing of major construction activities. Refer to Section 01326 - Construction Schedule for specific details.

- C. Construct work in Phases during the construction period; coordinate construction schedule and operations with the City of Houston's Interagency group.
- D. Schedule work on 48-inch and 36-inch water lines to complete all related work described in Section 1.07 (A through F) within the dates provided.
- E. The nomenclature of traffic control phases described in the Traffic Control Plans are for information only. Contractor may adjust construction traffic control phases/steps, as necessary to complete the work within each. Coordinate construction schedule and operations with the Construction Manager. Positive drainage must be maintained at all times.
- F. Due to the restricted allowable time to work on the proposed 48-inch and 36-inch water lines, the contractor may commence on activities depicted in Phase 1 of the traffic control plans with the understanding that contractor may have to stop Phase 1 activities, re-open Lumpkin Road to two-way traffic, and move into Phase 3 activities during the approved time frame for the proposed water lines and related work. Contractor to coordinate with Construction Manager.
- G. Due to the driveways' varying grade differences during Phase 1 and Phase 2 construction, contractor must coordinate driveway closures and reconstruction to allow at least one driveway access to all businesses at all times. Contractor to coordinate driveway closures with Construction Manager and property owners prior to implementation. Contractor may need to install temporary asphalt at driveways. No additional pay.
- H. Coordinate construction activity with Construction Manager and confirm right-of-entry and/or temporary construction easement to private property whenever activities extend beyond public right-of-way. Construction activity may be restricted due to right-of-way or right-of-entry granted.

**Phase 1 (Base Bid Work Sequence):**

- a. Install Temporary Traffic Signal at Lumpkin Road and Westview Drive intersection. Contractor to adjust temporary traffic signal to accommodate each step and phase.
- b. Coordinate with TxDOT and obtain all TxDOT permits/approvals prior to commencing any work within TxDOT ROW.

- c. Construct the proposed 8-inch waterline, from IH-10 to approximately Sta. 24+90. Test, disinfect, and transfer services to the proposed line.
- d. Install temporary asphalt pavement along the east side of existing Lumpkin Road. To maintain existing positive drainage, installation of temporary 24-inch RCP will be required in areas where existing open ditch will be filled. Maintain access to all driveways at all times.
- e. Install Phase 1 detour signs, including HCC Campus signs, as depicted in contract drawings.
- f. Initiate Phase 1 Southbound Detour Plan: Restrict all southbound traffic from Westview Drive to IH-10 Frontage Road and transfer northbound traffic onto newly installed temporary asphalt roadway as depicted in contract drawings.
- g. Install the proposed tie-ins to the existing 5'x9' RCB under the westbound IH10 frontage road. Use TXDOT Standard lane closure details. Maintain drainage to existing 36-inch at the west roadside ditch.
- h. Remove and dispose of all existing RCB along Lumpkin Road as depicted in drawings. Maintain temporary positive drainage at all times
- i. Install the proposed dual and single 8'x8' RCB and proposed 10'x6' RCB storm sewers, including inlets, manholes, junction boxes, and tie-ins from IH10 to Westview Road.
- j. Construct pavement, sidewalks, and driveways along the west side of Lumpkin Road from IH-10 to the south side of Westview Drive at Lumpkin Road.
- k. Install hardscape amenities along the west side of Lumpkin Road at the HCC campus.

**2. Phase 2 (Base Bid Work Sequence):**

- a. Install Phase 2 detour signs, including HCC Campus signs, as depicted in contract drawings.
- b. Initiate Phase 2 Northbound Detour Plan: Restrict northbound traffic from IH-10 Frontage Road to Westview Drive and transfer southbound traffic onto newly constructed roadway as depicted in contract drawings.
- c. Construct storm sewer laterals on the east side of Lumpkin Road.



- d. Construct remaining pavement, sidewalks, and driveways along the east side of Lumpkin Road from IH-10 to the south side of Westview Drive at Lumpkin Road.
- e. Perform appropriate site restoration, pavement marking and signing.

**3. Phase 3 (Base Bid Work Sequence):**

- a. Phase 3 traffic control plan is intended to be used for the dewatering and relocation of the existing 48-inch and 36-inch water lines, proposed sanitary sewer installations within the intersection, and pavement restoration. Based on contractor's proposed schedule to complete all Phase 3 work, contractor may pave intersection with temporary asphalt with prior approval from Construction Manager. Once the City's shutdown window has been met, and water lines are back in service, contractor may return at a later date and pave intersection using high-early strength concrete. Refer to Sections 1.07 and 1.08.
- b. Initiate Phase 3 Step 1 of the Traffic Control Plans to perform work in the northwest quadrant of Westview Drive at Lumpkin Road.
- c. Adjust temporary traffic signal to accommodate each step and phase.
- d. Begin 48-inch water line work as described in Section 1.07.
- e. Coordinate with ATT subcontractor to temporarily adjust conduits as needed for proposed storm sewer work.
- f. Install proposed storm sewer system within work zone.
- g. Perform 48-inch water line work within work zone, restore pavement and immediately initiate Phase 3 Step 2 traffic control plan to perform work in the northeast quadrant of the intersection as depicted in traffic control plans.
- h. Complete the 48-inch water line relocation work, proposed sanitary sewer work, along with any removal/installation of associated elements.
- i. Coordinate with City of Houston Interagency Group and DWO for disinfection and restoration of service to 48-inch water line.
- j. Once 48-inch water line has been accepted and restored by DWO, restore pavement and immediately begin 36-inch water line work as described in Section 1.07.

- k. Initiate Phase 3 Step 3 Traffic control and perform work in the southwest quadrant Westview Drive at Lumpkin Road.
- l. Install proposed storm sewer system within work zone.
- m. Perform 36-inch water line work within work zone, restore pavement and immediately initiate Phase 3 Step 4 of traffic control plans to perform work in the southeast quadrant of the intersection.
- n. Complete 36-inch water line relocation work, proposed sanitary sewer work, along with any removal/installation of associated elements.
- o. Coordinate with City of Houston DWO for disinfection and restoration of service to 36-inch water line.
- p. Once 36-inch water line has been accepted and restored by DWO, restore pavement.
- q. Remove temporary traffic signal and install new traffic signal system at Lumpkin Road and Westview Drive intersection as depicted in the drawings.
- r. The above work also includes tree protection and storm water pollution prevention.

**4. Phase 4 (Base Bid Work Sequence)**

- a. Install temporary asphaltic pavement along the east side of Lumpkin Road as depicted in Phase 4 – Step 1 traffic control drawings.
- b. Initiate Phase 4 of the traffic control plans and install Junction boxes #AM38 and #AM38A and RCB Stub outs as depicted in contract drawings.
- c. Restore pavement and initiate Phase 4 – Step 2 traffic control.
- d. Construct proposed sanitary sewer, sidewalks, and pavement as depicted in contract drawings.

**5. Detention Basin (Base Bid Work Sequence)**

Westview Detention Basin: Can be performed simultaneously with any Base Bid Phase.

- a. Detention basin at the northwest corner of Lumpkin Road and Westview Drive shall continue to properly function as designed during the process of excavation.

- b. Junction Box #AM38 and the 36-inch outfall pipe must be installed prior to reconstruction of the Detention Basin to provide positive gravity drainage.
- c. Clear site as necessary, install temporary basin access driveway at Westview Road, reinforced silt fencing, and modify existing site fence as necessary to allow site access for construction workers and maintain security by preventing public access.
- d. Begin excavation in areas under proposed modular blocks gravity walls as recommended in the geotechnical report provided. Access to the site shall be via Westview Road only. All unusable [ROI]soils shall be disposed of and not reused for the Lumpkin Project.
- e. Construction of proposed headwall (TY PW) or alternate modular block wall may occur concurrently with excavation.
- f. Install cement stabilized sand below modular block gravity wall areas to grades shown on plans.
- g. Install geotextile fabric and granular ASTM 57 material, and underdrains as required to begin installation of first layer of modular block wall. Continue to install modular block wall and backfill in layers as per manufacturer recommendations.
- h. Install concrete pilot channels once grades are set along the bottom of the basin and proceed from outfall upstream (i.e. from east to west).
- i. Install concrete pavement and base material areas once final grades are established. Concrete on west side of the basin to be installed after wall "C" and "D" are completed.
- j. Install backslope drains and HDPE piping after initial grading when excavation will be less when possible.
- k. Once top layer of gravity wall is in place, the galvanized metal safety railing may be installed along the perimeter of all walls.
- l. Final grade along top of bank as necessary, and install strip sodding once final grading on pond slopes and topsoil is placed.
- m. Construct proposed driveway and other concrete areas at Westview once major excavation activities have been completed.
- n. Remove and replace perimeter fencing as shown on the plans and install sliding gate at Westview Drive.

- o. Begin turf establishment, as per HCFCD Specification 02921, in areas where final grading is complete. Seeding plan will depend on application date.
- p. Provide irrigation to turf areas for a minimum of 60 days after installation.
- q. Acceptance of turf establishment is based on 75% coverage of Bermuda across the pond site.

Home Depot Detention Basin:

- a. Detention basin located in the Home Depot Parking lot (approximate Sta. 10+00 to Sta. 11+00) shall continue to properly function as designed during construction.
- b. Replace existing chain link fence along proposed right-of-way.
- c. Any disturbed berm or slope areas to be restored to original condition or better.

**6. Phase 5 - Alternate Bid Work**

- a. Initiate Phase 5-Step 1 of the Traffic Control Plan,
- b. Shift traffic to the east. Maintain two lanes, two-way traffic as depicted in contract drawings.
- c. Construct proposed storm sewer along the west side of Lumpkin Road.
- d. Construct pavement and driveways along the west side of Lumpkin Road. Do not construct proposed sidewalk, lighting or curbs until after Phase 5 Step 2. Install temporary asphalt along west side of Lumpkin Road as depicted in the drawings.
- e. Initiate Phase 5-Step 2 of the Traffic Control Plan,
- f. Shift traffic to the west. Maintain two lanes, two-way traffic as depicted in contract drawings.
- g. Construct proposed sanitary sewer along the west side of Lumpkin Road.
- h. Construct pavement, driveways, sidewalks, lighting, and landscaping along the east side of Lumpkin Road.
- i. Once Phase 5 Step 2 is complete, use City of Houston Standard One Lane Closure Detail to install remaining sidewalks, lighting, and curbs along the west side of Lumpkin Road.



- j. Perform appropriate site restoration, pavement marking and signing.

1.10 COORDINATION OF WORK

- A. Refer to Section 01312 – Coordination and Meetings.
- B. Prior to commencement of construction, notify Construction Services Section, Office of the City Engineer (832-394-9100) to ensure all necessary and appropriate permits have been obtained.
- C. Obtain all required permits, including lane closures, excavations and notification of tree removal, sanitary, water line, storm sewer, and street cut. Coordinate inspections with City utility inspectors.
- D. Extreme caution shall be used during construction near Houston Community College (HCC) west of Lumpkin Road. Safety of the students is of paramount importance. All traffic control signs must be installed per traffic control plans and two uniformed police officers must be present at all times. Coordination shall be ongoing with HCC officials:
  - 1. Rose Sarzoza-Peña, M.ED  
HCC-Spring Branch - Campus Manager  
Ph: 713-718-5610 / Fax: 713-718-5428  
rose.pena@hccs.edu
- E. Coordinate with other stakeholders as directed by Construction Manager.
- F. Coordinate Phase 1 and Phase 2 detour activities with stakeholders along the west and east sides of Lumpkin Road prior to any roadway and/or driveway closures.
- G. Contact TxDOT to coordinate any activity within TxDOT right-of-way. Obtain necessary permits in advance of any work within TxDOT right-of-way.
- H. Coordinate activity schedule and extend full cooperation to other contractors who have responsibilities either concurrent with, proceeding or following this Contractor's time along work site. Ensure availability of access, availability of selected portions of this area to others and provide appropriate information for planning purposes to other contractors.

- I. Coordinate the outages of the existing waterline as described in Section 1.08, with City of Houston's Drinking Water Operations. All necessary equipment and material must be onsite prior to shutting down existing waterline. After abandoning the existing water line and transferring services to the proposed water line, contact City of Houston Drinking Water Operations at 832-395-3800 for retrieving the automatic blow off valve assembly.
  
- J. Hours of construction for each phase are reflected on the corresponding traffic control plan sheet.
  - 1. Phase 1 and Phase 2: No lanes shall be closed during the hours of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM Monday through Friday without approval of City Traffic Engineer.
  - 2. For Phase 3 activities (48-inch and 36-inch water line work) described in Section 1.08 contractor may work 24-hour shifts, 7 days a week to accomplish work required in Section 1.08.
  - 3. Comply with provisions of City of Houston Code of Ordinances, No. 04-498 where no work can occur on a Sunday or holiday without prior written approval.
  
- K. Existing overhead power lines cross the project area in several locations. The contractor shall coordinate with CenterPoint Energy during the various construction phases of the project. Existing gas lines are located at various locations throughout the project. The contractor shall perform a critical locate all of these locations to ensure that acceptable clearance is available prior to construction. Contact CenterPoint Energy by calling the Utility Coordinating Committee at (713) 223-4567 or 1-800-669-8344 a minimum of 48 hours prior to construction to have main and/or service lines field located. Contractor is fully responsible for any damages caused by failure to exactly locate and preserve these underground facilities. Contractor is required to restore electrical service to the street lights within 48 hours of disruption.
  
- L. Contact AT&T at 1-800-344-8377 a minimum of 48 hours prior to construction to have main and/or service lines field located. Contractor is fully responsible for any damages caused by failure to exactly locate and preserve these underground facilities. When excavating within eighteen inches (18") of indicated location of AT&T facilities, all excavations must be accomplished using non-mechanized procedures. Contractor shall expose AT&T facilities.

1. Brace and support AT&T facilities when working within close proximity as required. Avoid disturbing or damaging AT&T facilities. No separate pay.

**M. METRO:**

1. Coordinate work around existing METRO bus stops with METRO bus operations (713) 739-4000. Provide minimum of two (2) week notice before construction begins in this area.
2. The Contractor shall contact the following METRO Bus Operations personnel, by email, when construction starts and at least five (5) working days in advance when work is scheduled near a bus stop.

– [zelma.ridley@ridemetro.org](mailto:zelma.ridley@ridemetro.org)

– [carl.taylor@ridemetro.org](mailto:carl.taylor@ridemetro.org)

– [shirley.mitchell@ridemetro.org](mailto:shirley.mitchell@ridemetro.org)

**N. Prior to construction within twenty-five (25) feet of a private pipeline, the One-Call notification system must be used. Place call to all three One-Call centers in the State of Texas:**

- |    |                            |                |
|----|----------------------------|----------------|
| 1. | TESS (Texas) One-Call      | 1-800-344-8377 |
| 2. | Texas One-Call             | 1-800-245-4545 |
| 3. | Texas (Lone Star) One-Call | 1-800-669-8344 |

**O. Contractor to notify NETCO (Mr. Dick Hines: 713-628-2715) 48 hours prior to excavating over or near the NETCO pipeline. The NETCO pipeline is at minimum depth of 30 feet below grade (not field verified). However caution must be exercised when excavating at depths approaching the 30 feet below grade. Vertical clearance of 2 feet from pipeline must be maintained. If the NETCO pipeline is uncovered for any reason, it must be left uncovered until NETCO has inspected it per Railroad Commission of Texas reporting requirements.**

1.11 CONTRACTOR USE OF PREMISES

- A. Comply with procedures for access to site and Contractor's use of rights-of-way as specified in Section 01145 - Use of Premises
- B. Construction Operations: Limited to City of Houston rights-of-way, temporary construction easements, and right on entry, as given by Construction Manager.
- C. Utility Outages and Shutdown: Provide notification to City and private utility companies (when applicable) a minimum of 48 hours, excluding weekends and holidays, in advance of required utility shutdown. Coordinate all work as required.
- D. Work to be done to lines, grades, elevations, and locations as shown on Drawings.
- E. Prevent overstress to any existing work and structures affected by construction operations. Verify the effect of operations in this regard, and provide temporary supports and connections required to assure safety and stability of both proposed and existing work.
- F. Provide bypass pumping for the sanitary sewer replacements in accordance with Specification 01506 – Sewer Bypassing and Dewatering. Additional requirements are as follows. No separate payment.
  - 1. Provide asphalt paving over temporary bypass piping at all driveways within or outside the construction limits. No steel plating allowed across these areas. Contractor to locate existing private utilities prior to excavation and adjust accordingly. No separate payment for utility relocates and asphalt installation used for bypass pumping. Pavement and driveway restoration must be completed prior to commencing next Phase.
  - 2. Concrete pavement that is newly installed under this Contract cannot be removed or disrupted for bypass operations. Contractor to plan accordingly.
  - 3. Comply with City Ordinance noise restrictions on all motorized pumping units.



4. Submit an approved traffic control plan for deviations from defined work zone limits. Contractor is responsible for submitting temporary traffic control plans (signed & sealed by a licensed professional engineer in the State of Texas) for the diversion pumping that extends outside the work zone limits. Temporary traffic control plan must consider proposed traffic control plans provided in the drawings to eliminate conflicts. Submit temporary traffic control plan to Project Engineer for review and approval.
  5. Commence bypass pumping no more than one day prior to cleaning and inspection of the existing sanitary sewer.
  6. Bypass pumping piping route is restricted to City of Houston public rights-of-way.
  7. Odor Control: Employ odor control measures to the maximum extent possible. Any odor complaints that may arise will be the responsibility of the Contractor and shall be promptly resolved within two (2) hours.
  8. Bypass pumping must end before commencing Phase 3.
  9. Submit bypass pump layout to Construction Manager for approval prior to installation. Pumps must meet capacity based on historical data for existing sanitary sewer.
  10. Perform CCTV survey post installation of all new sanitary sewer lines and submit the videos to the City of Houston according to City of Houston guidelines.
- G. Due to required phasing of the reconstruction, localized ponding is possible. Provide temporary drainage to mitigate standing water and other drainage issues. Cost for each is incidental to other work. Submit to Construction Manager for approval.
- H. Provide means to prevent surface water accumulations or flows on or across existing or proposed pavements at all times at no additional cost to Owner. Submit proposed methods to Construction Manager for review to accomplish this requirement during each phase of the construction.

- I. Coordinate activity schedule and extend full cooperation to other contractors who have responsibilities either concurrent with, proceeding or following this Contractor's time along work site. Ensure availability of access, availability of selected portions of this area to others and provide appropriate information for planning purposes to other contractors.
- J. An existing 8-inch asbestos-cement (AC) water line exists in close proximity to the proposed water line along Lumpkin Road. Avoid disturbing existing AC water line and use caution when installing proposed water line. No separate payment for additional work resulting from leaking water line.
- K. Traffic Control:
  - 1. Traffic control plan based on Texas Manual on Uniform Traffic Control Devices (TMUTCD) and sealed by a Registered Professional Engineer is incorporated into Drawings. If traffic control will be implemented without modification to plan provided, submit letter confirming that decision. If traffic control will be modified from what is shown, submit traffic control plan in conformance with TMUTCD and sealed by Registered Professional Engineer.
  - 2. Traffic control plan provided is for installation of the proposed Work. Specific traffic control plan required for other utilities that are part of the Work must be provided by Contractor, sealed by a Registered Professional Engineer and conform to TMUTCD. Submit traffic control plan to Project Manager for approval.
  - 3. Traffic control provided is based on the assumption there is no conflict with traffic control from separate projects within construction limits. Coordinate work to prevent traffic control conflicts or submit revised traffic control plans sealed by Registered Professional Engineer and conform to TMUTCD at no additional cost. Submit traffic control plan to Project Manager for approval.
  - 4. Contractor shall notify impacted property owner a minimum of 2 weeks in advance of closing Lumpkin Road to northbound or southbound traffic. Method of notification must be approved by the Construction Manager. The cost shall be incidental to the traffic control.
  - 5. Coordinate the temporary and permanent signalization of the Lumpkin Road at Westview Drive intersection with TRANSTAR. Retain the

services of a competent Traffic Signal Timing Professional to implement, monitor, and modify alternate timing plans during construction to facilitate safe and efficient traffic movements. Provide maintenance and physical modification to traffic signals as necessary, with approval of Project Manager. Submit Traffic Signal Timing Professional and alternate timing plans to Project Manager for approval. Payment to be included in bid item titled, "Installation and Maintenance for Traffic Control Devices."

6. Temporary traffic poles to be adjusted as directed by Project Manager.
  7. Per City of Houston Standard Specification 02752, longitudinal construction joints are to be placed at interior edges of pavement lanes. To conform to this requirement in TCP and avoid a non-standard longitudinal joint spacing, Contractor may propose alternative pavement construction sequencing. If proposed sequencing requires modifications of traffic control plan then Contractor must submit revised traffic control plans, sealed by a Registered Professional Engineer and conforming to TMUTCD. Revised traffic control plans must be approved by Project Manager and City of Houston Public Works and Engineering Department. The cost shall be incidental to the traffic control.
  8. Contractor must use a minimum two (2) uniformed peace officer at all times. Contractor may be allowed to use additional uniformed police officers as approved or directed by Construction Manager. .
  9. Contractor shall notify all City of Houston Emergency Services prior to implementing traffic control phases.
- L. Maintain local driveway access to properties adjacent to work areas at all times. Contractor shall furnish identifying signs for local businesses located adjacent to the work zone to direct temporary access for vehicular traffic. Provide temporary driveway access to driveways in accordance with Specification Section 01555 - Traffic Control and Regulation and 01145 - Use of Premises. Coordinate with business owners and residents, as required.
- M. Due to the driveways' varying grade differences during Phase 1 and Phase 2 construction, contractor must coordinate driveway reconstruction and maintain at least one driveway access to all businesses at all times. Contractor to

coordinate driveway closures with Construction Manager and property owners prior to implementation.

- N. Implement groundwater control methods and maintain accessibility to driveways and roadways.
- O. Provide video footage-DVD format—of pre-construction and post-construction site conditions as described in Section 01321—Construction Photographs.
- P. Conduct all construction operation under this contract in conformance with the erosion control practices described in Document 01410 “TPDES Requirements” and Document 01570 “Storm Water Pollution Control” and the Storm Water Pollution Prevention Plans included in the construction drawings. Work identified in this project falls under Small Construction Activity with area disturbed to be one or more acres but less than five acres. TPDES requirements applicable to Small Construction Activity will apply.
- Q. A field trailer office is required and shall be provided in accordance with Specification Section 01520. Provide commercial internet service (either cable or DSL) with minimum of 10 Mbps download & upload speed, including associated peripherals, devices and cables for setting up a secure wireless and wired network (2 wired connections min.). Coordinate initial setup and future troubleshooting with internet service provider and Construction Manager. Provide network-ready wireless all-in-one B&W laser printer with document feeder (Brother MFC7840w or approved equal) including appropriate network cables. Provide one extra laser toner cartridge at all times until project close out. Payment for field office is included in the cost of mobilization.

1.12 STREET CUT ORDINANCE

- A. Excavations on or under pavement in the City’s right-of-way must have a permit. Comply with City of Houston, Texas Ordinance No. 2000-1115, an ordinance amending Chapter 40 of the Code of Ordinances, Houston, Texas, relating to excavating in the Public right-of-way.
- B. Comply with the latest edition of street cut New Pavement Repair and Pavement Replacement details.
- C. Quantities are included for street cut pavement repair and replacement in applicable Specification sections for Unit Price contracts.



- D. For detailed information concerning ordinances' latest detail drawings and permits related to compliance with excavation in Public Way and Street Cut, visit City's web site at:

<http://www.publicworks.cityofhouston.gov/traffic/streetcut.htm>

and

<http://www.publicworks.cityofhouston.gov/ecre/docs/details.pdf>

- E. Westview Drive median restoration: restore existing medians along Westview Drive to equal or better condition than existing site conditions prior to the construction. Finish elevations and slopes shall match existing conditions.

#### 1.13 WARRANTY

- A. Comply with warranty requirements in accordance with Document 00700 - General Conditions.

#### 1.14 SANITARY SEWERS

- A. Refer to Specification Sections 02531 – Gravity Sanitary Sewers, 02534 – Sanitary Sewer Service Stubs or Reconnections, and 02558 – Cleaning and Television Inspection.
- B. Where pressure rated sanitary sewers are shown on drawing, provide cast iron, ductile iron, or PVC pipe for proposed sanitary sewers with minimum pressure class 150 psi for pipe and joints in accordance with TAC §217.53.
- C. For relocations of force mains, a bypass is required. Refer to Section 01506 – Diversion Pumping for requirements.
  - 1. The amount of time the force main (lift station) can be out of service is generally limited to two (2) to four (4) hours. All material must be on site prior to the shut down. City of Houston Wastewater Operations must be satisfied that the proposed work can be accomplished in the specified down time or by-pass pump shall be provided. Contact Carlos Alfaro with City of Houston Wastewater Operations at 713-851-5692 and the Interagency Group.

2. The Contractor shall have a "vacuum truck" or pump on hand to remove force main wastewater that drains into the excavation. Wastewater Operations will identify where the wastewater can be discharged.
3. Notify the lift station maintenance supervisor, Richard Bellinger, 832-395-3535, at least 72 hours prior to starting work so he may schedule the shut down and provide an inspector.

D. Clean and pig dry sanitary sewer before removal.

#### 1.15 STORM SEWERS

- A. Adequate drainage shall be maintained at all times during construction and any drainage ditch or structure disturbed during construction shall be restored to the satisfaction of the owning authority. All construction storm runoff shall comply with the Stormwater Management Handbook for construction activities, as prepared by Harris County, HCFCD and the City of Houston in compliance with NPDES requirements.
- B. The contractor is fully responsible for damages to the existing storm sewer facilities as a result of this project. Storm sewers and leads shall be reinforced concrete pipe, C-76, Class III unless otherwise approved by Construction Manager, in accordance with City of Houston standard drawing numbers 02317-03 thru 02317-07 as applicable unless otherwise shown on drawings.

#### 1.16 STORM WATER POLLUTION PREVENTION PLAN

- A. The Storm Water Pollution Prevention Plan for this project is governed by Section 01410 – TPDES Requirements and the layouts provided in the construction drawings. Contractor shall comply with Storm Water Pollution Prevention Plan as detailed in the construction drawings.

#### 1.17 WATER LINES

- A. Drawings show to perform critical locates on existing 8-inch asbestos cement water line along Lumpkin at maximum 200-ft. intervals. Perform critical locate in accordance with Section 02317 – Excavation and Backfill for Utilities. Report findings to Project Manager. If conflict is identified, design modifications may be necessary.

- B. All services are to be transferred between lines with a minimum disruption of service. All existing lines must be maintained in service until service transfer is ready.
- C. Service line installation could be hindered by the cement stabilized sand backfill. Include cost of crossing cement stabilized backfill if encountered during service line installation in the unit price of services.
- D. Contractor shall hand dig within one (1) foot of underground service line (public or private).
- E. For removal of asbestos containing materials, or material that could potentially contain asbestos, comply with applicable provisions of OSHA 29 CFR 1926.1101 – Asbestos.
- F. Only one type of pipe material may be used where material alternates are allowed. Specifications and design criteria have been provided for these types of pipe. Contractor is responsible to ensure type of pipe selected and resulting methods and means complies with requirements and limitations set forth herein and on Drawings including traffic control.
- G. Manufacturer and subcontractor selection are within Contractor's control and will not warrant time extensions due to failure to produce required deliverables within Contract Time. Extension of Contract Time due to non-delivery of Contractor's choice of pipe material, which affects Contractor's schedule will not be allowed. Submit pipe material and other critical submittals in a timely manner to allow sufficient review time by Owner's Representative and to maintain Construction Schedule.

1.18 UTILITY SERVICE LINES

- A. Public utility service lines (water and sanitary sewer) are not shown on the drawings. Contractor shall anticipate that such service lines exist and repair them if damaged during construction. No separate pay will be made for repairs. The cost shall be incidental to the work.

1.19 ADDITIONAL CONDITIONS FOR SUBSTANTIAL COMPLETION

- A. In addition to requirements outlined in Document 00700 – General Conditions, for Contractor to be substantially complete with the Work and call for inspection by Project Manager to confirm, the following conditions must be met or completed in accordance with Contract Documents:

01110-29  
10-20-2014

1. Water, sewer, and sanitary utilities installed and tested in accordance with Standard Specifications. Water lines are properly disinfected and hydrostatically tested. Sanitary sewer and manhole installation completed.
2. Pavement installation completed, including striping, signing and signalization, and all lanes open to traffic.
3. Sidewalks and wheelchair ramps completed.
4. Traffic signals installed and operational.
5. Detention Basin improvements completed including 75% turf establishment throughout basin.
6. Partial substantial completion will be granted for each phase of the Work, in accordance with the General Conditions.

**1.20 TREE PROTECTION REQUIREMENTS**

- A. Comply with tree protection report in Drawings and Specification Sections 01562 - Tree and Plant Protection, 329313 – Trees, Shrubs and Groundcovers. Provide protection to existing trees, landscaping, and irrigation systems. Repair damaged irrigation systems and replace damaged landscaping to original condition or better. Should existing irrigation system not be operable during work, water as required or directed by Construction Manager. No separate payment.
- B. Live trees removed must be replaced with equivalent size in inches or with multiple trees whose cumulative size equates to the size of the tree being replaced as per Construction Manager. Tree replacement includes cost of new tree, installation, watering and warranty as per Specification Section 02915 at no additional cost. Contact City Parks, Urban Forestry division at 832-395-2205 to verify species and location of new trees a minimum of five days prior to planting.

**1.21 EXISTING IRRIGATION SYSTEM**

An underground irrigation system currently exists within the Westview Drive median. Identify, mark, protect and maintain the underground irrigation system. Ensure the associated trees and plantings are watered on



predetermined schedule. Coordinate with the Memorial City Management District (MCMD) to ensure performance of the system.

1.22 DEMOBILIZATION/REMOBLIZATION

An Extra Unit Price Item for Demobilization/Remobilization is included in Document 410B and covers all work associated with the demobilization and mobilization. If demobilization is required due to approved time extensions (in accordance with Document 00700, article 8.2), Contractor will be paid for demobilization/remobilization efforts under the Extra Unit Price Item. Should demobilization be required due to reasons not warranting approved time extensions, Contractor demobilization/remobilization efforts shall be considered incidental to the Work and no extra payment will be made.

Demobilization shall include, but is not limited to the following temporary measures.

- Remove equipment, materials, waste products, temporary facilities, storage boxes, and other resources from site.
- Temporary backfill of excavations. Backfill shall comply with applicable specifications, including type of materials and compaction requirements.
- Reopen roads, curbs, driveways, sidewalks and handicap ramps to the public. Temporary restoration measures shall comply with applicable Federal, State and City regulatory requirements. Temporary restoration shall include but not be limited to temporary asphalt, pavement striping, traffic control signage, and street signage.
- Put back into service public and private utilities, including private irrigation systems.
- Temporarily restore business signage removed during construction.
- Remove temporary traffic control from project site area.
- Temporarily re-grade disturbed areas behind curbs and sidewalks temporarily re-graded to drain properly temporarily restore with sod grass. These areas must be cleaned of debris, swept, scrubbed and washed.
- During demobilization period Contractor shall be responsible for maintenance of temporary measures, at no additional cost.

Maintenance includes, but is not limited to, repair of temporary pavement, and watering of sod grass.

If demobilization is required, a Change Order will be issued to add the necessary calendar days to the Contract for demobilization period. Liquidated damages will be suspended during this demobilization period. At the written direction of Construction Manager, immediately remobilize and resume the Work.

**1.23 INTERPRETATION OF CONFLICTS**

- A. Should conflicts occur in Contract Documents, request interpretation before proceeding with Work by submitting a Request For Information (RFI). Such requests shall first be preceded by a diligent investigation into Contract Documents. Provide evidence of such investigation in requests for interpretation.
- B. Unless otherwise approved by Project Manager, Work shall not continue at locations where a conflict has been encountered.

**1.24 PROJECT DOCUMENTATION**

- A. Contractor is required to use Primavera P6 Schedule, or approved equal, to track progress of work. Primavera P6 Schedule is a project management software tool for planning, tracking, and reporting the construction of projects. In addition to the requirements of Section 01325 - Construction Schedule, Contractor shall also produce a construction schedule that identifies the critical path with a unit of measure by the day. Submit an electronic file in addition to the hard copy requirements to Project Engineer for review and comment. Provide construction schedule updates on a monthly basis or whenever Project Manager requests.

**PART 2 P R O D U C T S – Not Used**

**2.01 PIPE MATERIALS FOR LARGE DIAMETER WATER LINES**

- A. Provide mortar-coated steel pipe for 48-inch water line. Provide steel pipe with dielectric coating for 36-inch water line. Refer to Specification Section 02518 – Steel Pipe for Large Diameter Water Lines for requirements.

**PART 3 E X E C U T I O N – Not Used**

**END OF SECTION**





# **ATTACHMENT A**

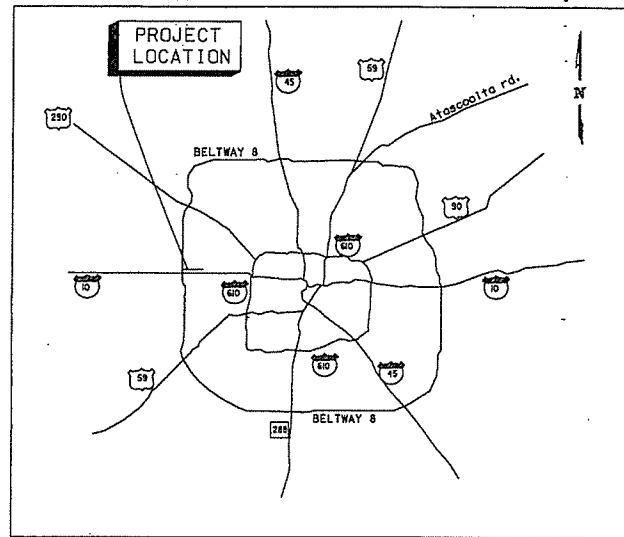
Westview Road - Large Diameter Water Lines As-Built Record  
Drawings

# CITY OF HOUSTON

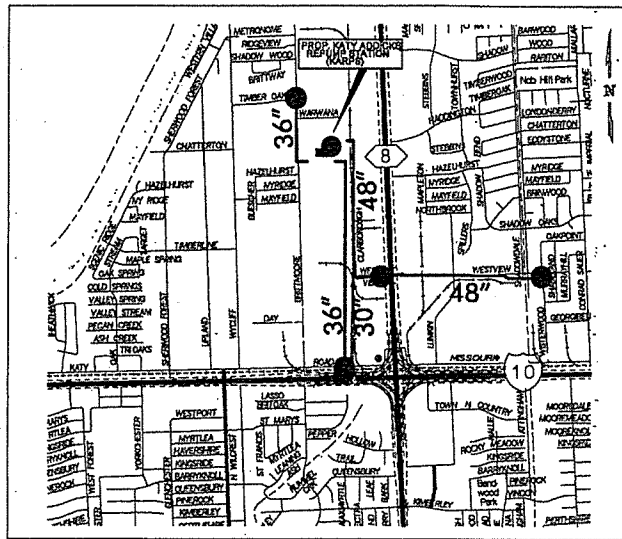
## DEPARTMENT OF PUBLIC WORKS AND ENGINEERING ENGINEERING, CONSTRUCTION AND REAL ESTATE DIVISION

PROPOSED 48" WATER MAIN ALONG WESTVIEW AND R.R. EASEMENT FROM WISTERWOOD TO KATY ADDICKS REPUMP STATION AND PROPOSED 30" AND 36" WATER MAIN ALONG BRITTMOORE AND R.R. EASEMENT FROM TIMBER OAKS TO OLD KATY ROAD.

GFS NO S-0900-47-3 FILE NO. WA10604

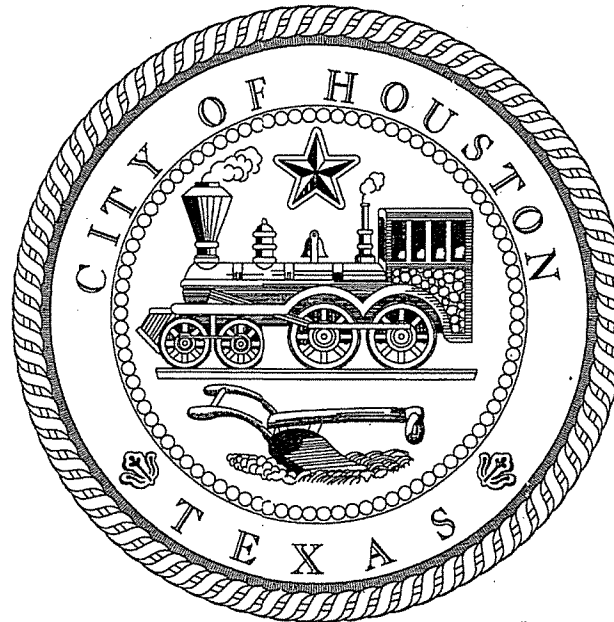


LOCATION MAP  
N.T.S.



VICINITY MAP  
N.T.S.  
KEY MAP 449-Z

CITY OF HOUSTON BLOCK MAP  
STORM SEWER: 186B  
WATER: 39  
SANITARY SEWER: 4958A



MAYOR  
LEE P. BROWN  
CONTROLLER  
SYLVIA R. GARCIA

DISTRICT COUNCIL MEMBERS			COUNCIL MEMBERS AT-LARGE		
BRUCE TATRO DISTRICT A	CAROL M. GALLOWAY DISTRICT B	MARK GOLDBERG DISTRICT C	ANNISE D. PARKER POSITION 1	GORDON QUAN POSITION 2	
ADA EDWARDS DISTRICT D	ADDIE WISEMAN DISTRICT E	MARK A. ELLIS SHELLY DISTRICT F	SEKULA RODRIGUEZ POSITION 3	MICHAEL BERRY POSITION 4	
BERT KELLER DISTRICT G	GABRIEL VASQUEZ DISTRICT H	CAROL ALVARADO DISTRICT I	CARROLL G. ROBINSON POSITION 5		



**Lockwood, Andrews & Nownam, Inc.**  
A SUBSIDIARY OF LEO A DALY

1500 CityWest Blvd  
Houston, Tx 77042

30" & 36" WATER MAIN  
1/10/02



**CENTURY ENGINEERING, INC.**  
C.E.I. JOB NO. 99025-00.0

BELTWAY WEST TO  
KATY REPUMP STATION (48")  
1-22-02



**Binkley & Barfield, Inc.**  
Consulting Engineers

WESTVIEW EAST OF WESTBELT  
ONLY  
01/18/2002

APPROVED  
CITY OF HOUSTON

*Herbert Lum*  
CITY ENGINEER  
HERBERT LUM, P.E.

2-15-02  
DATE

*Mark Bosch*  
DIRECTOR OF PUBLIC WORKS AND ENGINEERING  
MARK BOSCH, P.E.

2-18-02  
DATE

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE: 4958A-186B-CONTRACT 47-01.dwg  
FILE DATE: OPERATIONS-04-00 JBR  
BY: PLEASANT-02-21-02

## INDEX OF DRAWINGS

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**SHEET NO. DESCRIPTION**

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**RECORD DRAWINGS  
DO NOT MODIFY  
3-1-2005  
LOCKWOOD, ANDREWS & NEWMAN, INC.**

RECORD DRAWINGS  
NO. 2005



Approved: \_\_\_\_\_ Date: \_\_\_\_\_  
Quality Control: \_\_\_\_\_ Date: \_\_\_\_\_

**LAN**  
Lockwood, Andrews & Newman, Inc.  
1500 CityWest Blvd  
Houston, TX 77042  
A MEMBER OF LEO A DALY

**SWTP**  
Surface Water Transmission Program  
CONTRACT 47C-1  
**INDEX TO DRAWINGS  
AND LEGEND**

FILE NO. WA10604  
G.F.S. NO. S-0300-47-3  
**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

<p><i>K.C. Morris</i> 1/28/02 WATER PROJECT MANAGER</p> <p><i>Steve</i> 2/8/02 WASTEWATER PROJECT MANAGER</p> <p><i>MR. Rand</i> 2/10/02 STORM WATER PROJECT MANAGER</p> <p><i>Steve</i> 2/15/02 STREET &amp; BRIDGE PROJECT MANAGER</p> <p><i>Maria Baez</i> TRAFFIC AND TRANSPORTATION SPONSOR DEPARTMENT</p> <p><i>Robert</i> 2-15-2002 CITY ENGINEER DATE</p> <p><i>H. H. ...</i> 2/10/02 DIRECTOR OF PUBLIC WORKS AND ENGINEERING DATE</p>	<p>CITY FUNDED PUBLIC WORKS</p> <p>CONSTRUCTION</p> <p>CHIEF ENGINEER</p> <p>DATE</p>
---	---

SUBMITTED: \_\_\_\_\_ DATE: \_\_\_\_\_  
SCALE: NTS  
DATE: 11/2001  
DESIGNED BY: GJH  
DRAWN BY: CTA  
SHEET NO 2 OF 30 SHEETS

### LEGEND

**EXISTING PLAN LEGEND**

- SHRUB OR BUSH
- TREE
- HEDGE
- SAN MANHOLE, STORM MANHOLE
- SWBT MANHOLE
- CLEANOUT
- GAS METER
- GAS VALVE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- POWER POLE, TELEPHONE & ELEC. POLE
- DOWN GUY
- STORM "B" INLET
- STORM "B-B" INLET
- STORM INLET, GRATE
- TRAFFIC SIGNAL, SIGNAL POLE
- IRON ROD/POLE
- WOOD POST, BRICK COLUMN, BRICK PILLAR
- TRAFFIC, METRO, BUSINESS, STOP SIGNS
- SWBT PEDESTAL, HISTORICAL MARKER
- C.O.H. SURVEY MARKER, MONUMENT MARKER
- SOIL BORING LOCATION
- SOIL BORING & PIEZOMETER LOCATION
- MAILBOX
- METAL POST
- LIGHT STANDARD
- ELECTRICAL BOX

- CURB LINE
- ROW LINE
- LOT LINES
- EASEMENT LINE
- EDGE OF ASPHALT
- CULVERT PIPE
- BASELINE
- CHAIN LINK, WOOD FENCE
- GAS LINE OR PIPELINE
- S.W.B.T. LINE
- H.L. & P. CO. CONDUIT
- H.L. & P. CO. OVERHEAD LINES
- PROPERTY LINE (R.O.W.)
- SAN SEWER LINE 24" DIA. & SMALLER
- SAN SEWER LINE 30" DIA. & LARGER
- STM SEWER LINE 24" DIA. & SMALLER
- STM SEWER LINE 30" DIA. & LARGER
- WATER LINE 24" DIA. & SMALLER
- WATER LINE 30" DIA. & LARGER

**EXISTING PROFILE LEGEND**

- CENTER LINE OF RIGHT-OF-WAY
- R.O.W. LINE N & E
- R.O.W. S & W
- DITCH OR CURB LINE N & E
- DITCH OR CURB LINE S & W
- 24" AND SMALLER SAN SEWER LINE
- 30" AND LARGER SAN SEWER LINE
- 24" AND SMALLER STORM SEWER LINE
- 30" AND LARGER STORM SEWER LINE
- ALL WATER LINE
- S.W.B.T. CONDUIT
- GAS LINE

INFORMATION OBTAINED FROM RECORD DRAWINGS. NO FIELD VERIFIED.

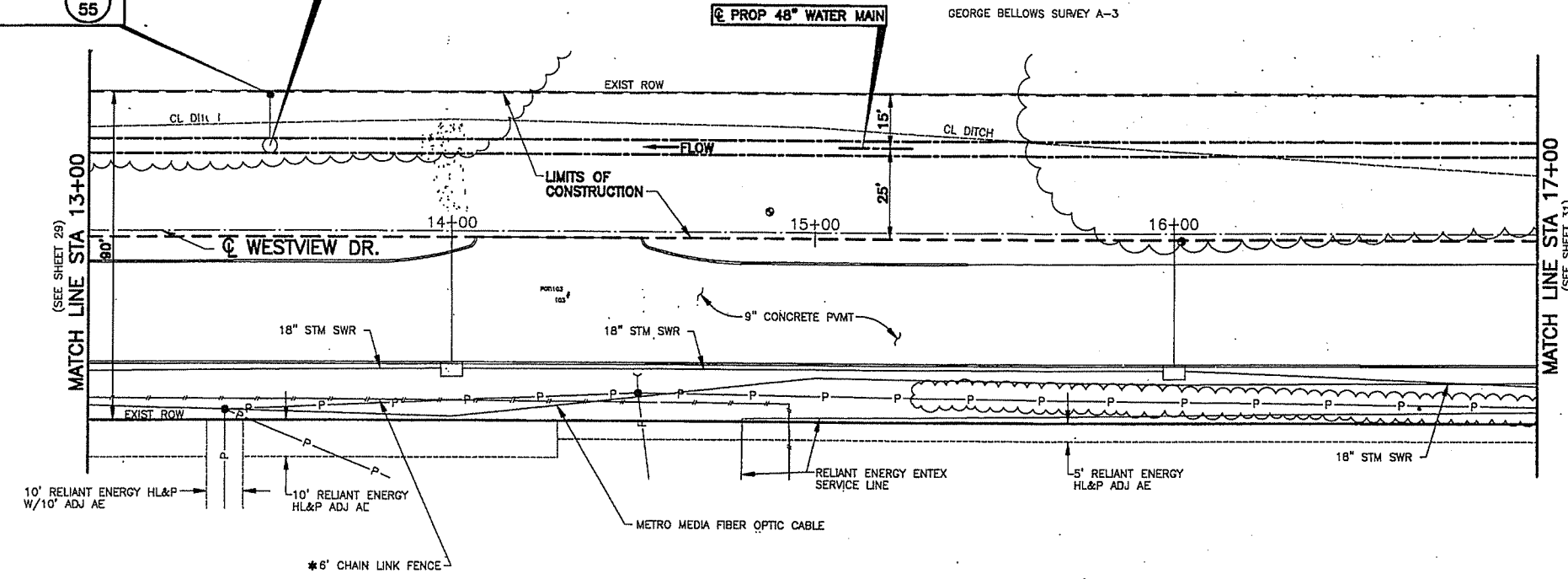
**PROPOSED LEGEND**

- T.S.V. & BOX
- BUTTERFLY VALVE
- STORM "BB" INLET
- ACCESS MANHOLE
- CATHODIC PROTECTION RECTIFIER AND DEEP ANODE
- AIR VENT W/ THREE BOLLARDS
- AIR VENT W/ 1 BOLLARD
- CATHODIC PROTECTION TEST STATION
- WATER LINE 24" & SMALLER
- WATER LINE 30" DIA. & LARGER
- 24" AND SMALLER SAN SEWER LINE
- 30" AND LARGER SAN SEWER LINE
- 24" AND SMALLER STORM SEWER LINE
- 30" AND LARGER STORM SEWER LINE
- WATER LINE 30" DIA. & LARGER IN TUNNEL
- SANITARY SEWER REPLACEMENT

STA 13+50, 38" LT  
2" AIR VENT PIPE  
WITH 1 BOLLARD  
SEE DETAIL (2A)  
55

STA 13+50, 26" LT  
PROP WATER ACCESS MH  
3" A/VR  
SEE DETAIL (5)  
55

TEMPORARY BENCHMARK #7  
TOP OF A SET 3/4-INCH IRON ROD NEAR THE SOUTH ROW LINE OF  
WESTVIEW DRIVE AT THE NORTHEAST BUILDING CORNER OF THE SHIPPING  
& RECEIVING BUILDING, BEING 1-FOOT NORTH OF THE WEST END OF A 8  
FEET HIGH CHAIN LINK FENCE AND BEING ±800 FEET WEST OF  
LUMPKIN ROAD.  
ESTABLISHED ELEV = 89.30 FT UCS+GS DATUM, 1984 ADJUSTMENT



LEGEND  
\* TO BE REMOVED  
\*\* TO BE REMOVED BY OTHERS

NOTE:  
1. REGRADE EXISTING DITCH  
ON NORTH SIDE OF WESTVIEW.

RECORD DRAWINGS  
DO NOT MODIFY  
3-1-2005  
LOCKWOOD, ANDREWS & NEWMAN, INC.

PRIVATE UTILITY LINES SHOWN  
Reliant Energy / ENTEX, INC. 11/7/02  
Southwestern Bell Telephone Co. 11/7/02  
Reliant Energy / Houston Lighting & Power Co. 11/7/02  
Approved Only for Crossing Underground Facilities Unless Noted. Valid At Time of Review Only.

CABLE COMPANY  
01/10/2002  
STATE OF TEXAS  
WILLIAM DAVIS WILKINSON  
85626  
REGISTERED PROFESSIONAL ENGINEER

Binkley & Barfield, Inc.  
Consulting Engineers  
1710 Seacrest Drive Houston, Texas 77068

Approved: [Signature] Date: 1/10/02  
Quality Control: [Signature] Date:

Lockwood, Andrews & Newnam, Inc.  
1500 CityWest Blvd Houston, Tx 77042  
A SUBSIDIARY OF LEO A DALY

Approved: [Signature] Date: 1/10/02  
Job No: 0069-20-828-321

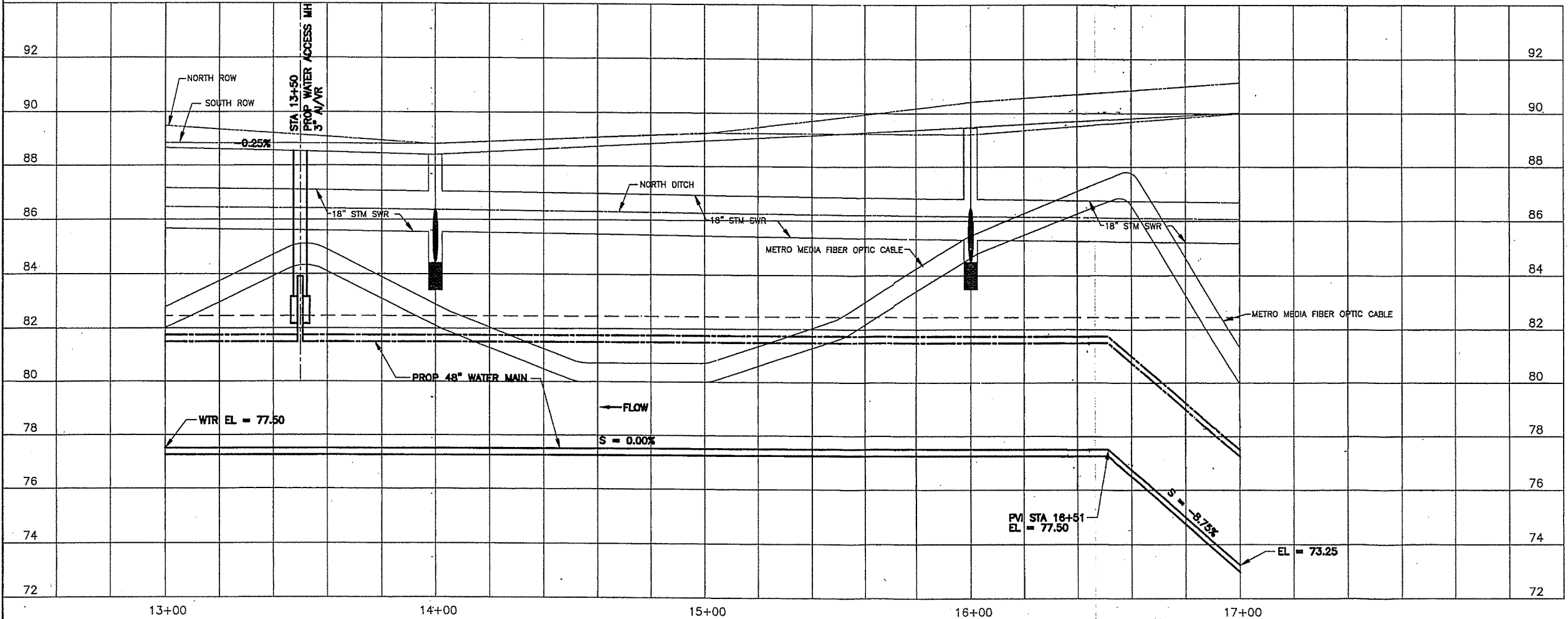
SWTP  
Surface Water Transmission Program  
CONTRACT 47 C-1  
PLAN & PROFILE  
STA. 13+00 TO STA. 17+00  
FILE NO. WA10604  
G.F.S. NO. S-0900-47-3

CITY OF HOUSTON  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

CITY FUNDED PUBLIC WORKS  
WATER PROJECT MANAGER: [Signature] 1/30/02  
WASTEWATER CONSTRUCTION: [Signature] 2/6/02  
STORM WATER CHIEF ENGINEER: [Signature] 2/15/02

2-13-02 OTHER APPROVAL  
TRAFFIC AND TRANSPORTATION SPONSOR DEPARTMENT  
CITY ENGINEER: [Signature] DATE: 2-15-2002  
DIRECTOR OF PUBLIC WORKS AND ENGINEERING: [Signature] DATE: 2/6/02

SUBMITTED: [Signature] DESIGNED BY: [Signature]  
SCALE: 1"=20'H, 1"=2'V DRAWN BY: [Signature]  
DATE: [Signature] SHEET NO 30 OF 80 SHEETS  
SURVEY BY: [Signature] CITY DWG NO: [Signature]



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**LEGEND**

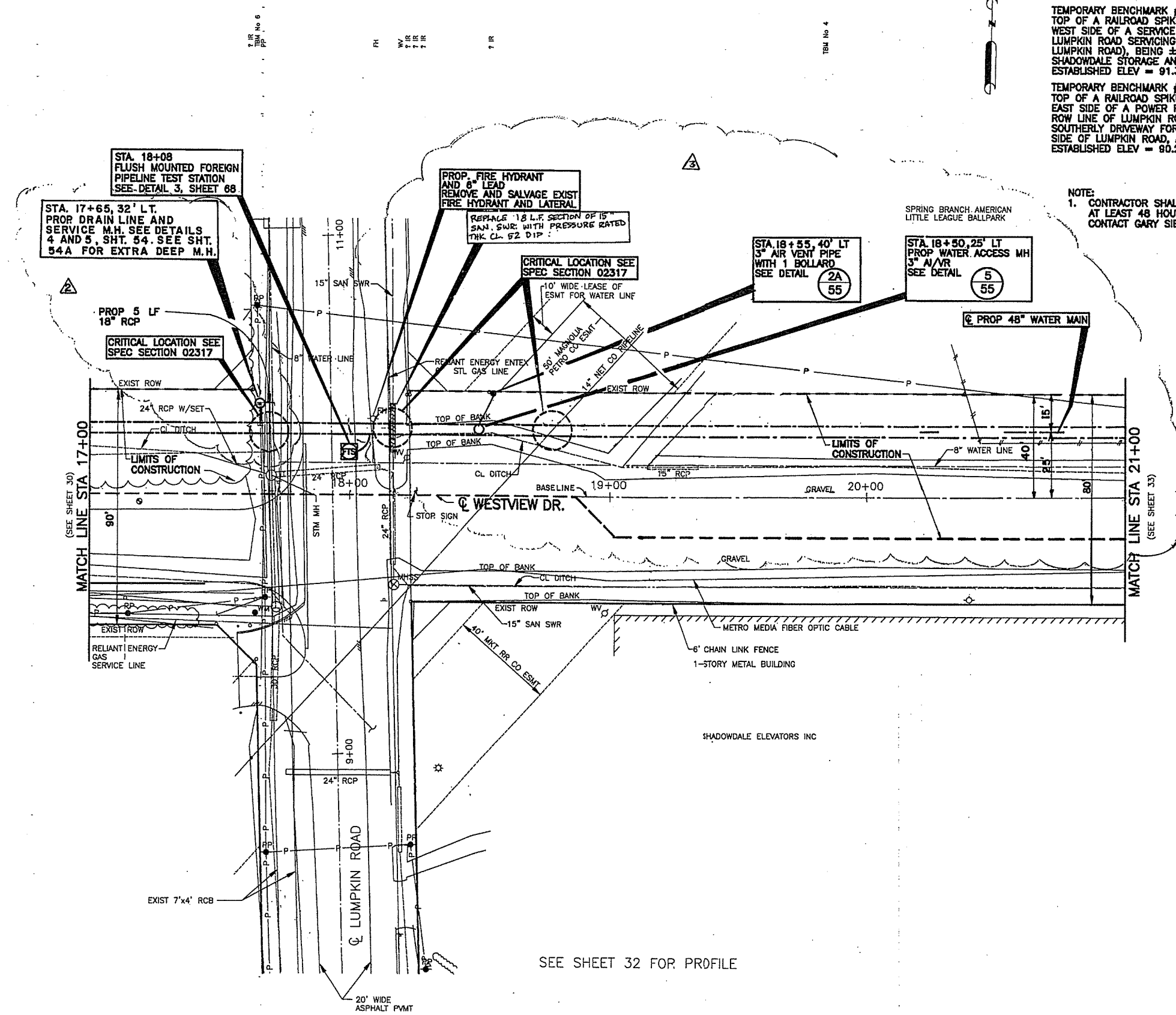
- \* TO BE REMOVED
- \*\* TO BE RELOCATED BY OTHERS

**TEMPORARY BENCHMARK #4**  
TOP OF A SET 1 3/4-INCH SET IRON ROD, BEING ±40 FEET NORTH OF THE CENTERLINE OF WESTVIEW DRIVE ON THE WESTVIEW DRIVE ROW LINE AND BEING 1 FOOT WEST OF THE INTERSECTION OF A BASEBALL FIELD FENCE WITH THE AFOREMENTIONED ROW LINE  
ESTABLISHED ELEV = 89.84 FT UCS+GS DATUM, 1984 ADJUSTMENT

**TEMPORARY BENCHMARK #5**  
TOP OF A RAILROAD SPIKE SET 1.5 FEET ABOVE NATURAL GROUND IN THE WEST SIDE OF A SERVICE POLE SITUATED NEAR THE EAST ROW LINE OF LUMPKIN ROAD SERVICING SHADOWDALE RV & BOAT STORAGE (#1140 LUMPKIN ROAD), BEING ±60 FEET NORTH OF DRIVE ENTRANCE TO SHADOWDALE STORAGE AND BEING ±160 FEET SOUTH OF WESTVIEW  
ESTABLISHED ELEV = 91.39 FT UCS+GS DATUM, 1984 ADJUSTMENT

**TEMPORARY BENCHMARK #8**  
TOP OF A RAILROAD SPIKE SET 1.5 FEET ABOVE NATURAL GROUND IN THE EAST SIDE OF A POWER POLE (#51LN 50 7) SITUATED NEAR THE WEST ROW LINE OF LUMPKIN ROAD, BEING DIRECTLY ACROSS FROM THE SOUTHERLY DRIVEWAY FOR BRILEY (#1230 LUMPKIN ROAD) ON THE EAST SIDE OF LUMPKIN ROAD, AND BEING ±100 FEET NORTH OF WESTVIEW DRIVE.  
ESTABLISHED ELEV = 90.29 FT UCS+GS DATUM, 1984 ADJUSTMENT

**NOTE:**  
1. CONTRACTOR SHALL CONTACT NET CO PIPELINE, L.L.C., AT LEAST 48 HOURS BEFORE CONSTRUCTION BEGINS. CONTACT GARY SIEMER AT 281-893-9882.



SEE SHEET 32 FOR PROFILE

EDP	EDP	APPR.
ADDENDUM NO. 2	REVISION	
3/28/02	9/16/02	DATE
NO.		

PRIVATE UTILITY LINES SHOWN

*Reliant Energy* 11/7/02  
RELIANT ENERGY / ENTEX, INC.  
Valid for One Year Only

*Southwestern Bell* 11/7/02  
SOUTHWESTERN BELL TELEPHONE CO.  
Valid for One Year Only

*Reliant Energy* 11/7/02  
RELIANT ENERGY / HOUSTON LIGHTING & POWER CO.  
Approved Only for Crossing Underground Ductiles  
Unless Noted. Valid At Time of Review Only.

CABLE COMPANY

*3-1-2005*

01/18/2002  
STATE OF TEXAS  
WILLIAM DAVIS WILKINSON  
85626  
REGISTERED PROFESSIONAL ENGINEER

*Binkley & Barfield, Inc.*  
Consulting Engineers  
1710 Seasmist Drive Houston, Texas 77008

Approved: *Len* Date: 1/18/02  
Date: 1/18/02

**Len**  
Lockwood, Andrews & Newnam, Inc.  
1500 CityWest Blvd Houston, Tx 77042  
A SUBSIDIARY OF LEO A DALY

Job No. 0069-20-828-321

**SWTP**  
Surface Water Transmission Program  
CONTRACT 47 C-1  
PLAN  
STA. 17+00 TO STA. 21+00  
FILE NO. WA10804  
G.F.S. NO. S-0900-47-3

CITY OF HOUSTON  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

CITY FUNDED PUBLIC WORKS

*K. C. Harris* 1/30/02  
WATER PROJECT MANAGER

*Alan* 2/8/02  
WASTEWATER CONSTRUCTION

*M. B. ...*  
STORM WATER

*E. D. ...* 2/15/02  
STREET & BRIDGE CHIEF ENGINEER

2-13-02 OTHER APPROVAL

*Miss Bais*  
TRAFFIC AND TRANSPORTATION SPONSOR DEPARTMENT

*...* 2-15-2002  
CITY ENGINEER DATE

*...* 2/15/02  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING DATE

SUBMITTED: SCALE: 1"=20'H, 1"=2'V  
DATE: SHEET NO 31 OF 80 SHEETS  
DESIGNED BY: DRAWN BY:  
SURVEY BY: CITY NWC N/A

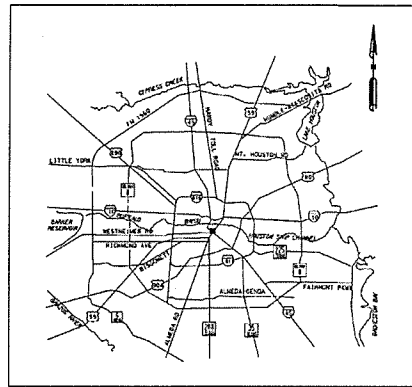


# CITY OF HOUSTON

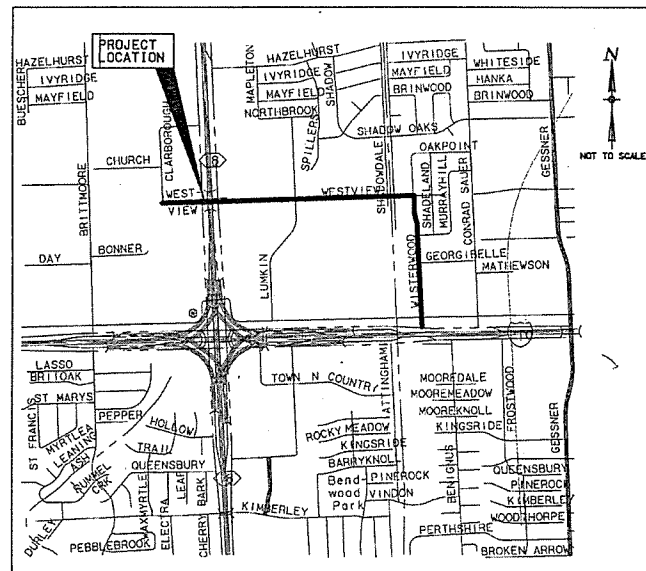
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING  
ENGINEERING, CONSTRUCTION, AND REAL ESTATE DIVISION

## 36-INCH WATER MAIN ALONG WESTVIEW DR. AND WISTERWOOD DR. FROM CLARBOURGH DR. TO OLD KATY ROAD

G.F.S. NO. S-0900-85-3 FILE NO. WA10624-03

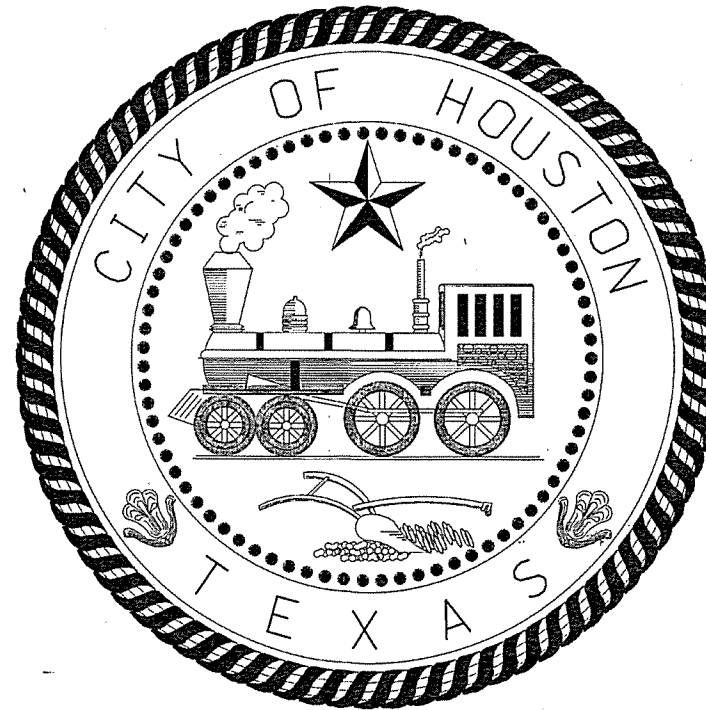


LOCATION MAP



VICINITY MAP

KEY MAP NO 449Y,Z & 489D  
GIMS MAP NO 4958A,B



MAYOR  
LEE P. BROWN

CONTROLLER  
JUDY GRAY JOHNSON

RECORD DRAWINGS  
DO NOT MODIFY  
LOCKWOOD, ANDREWS & NEWMAN, INC.

RECORDED DRAWING REVISIONS  
REFLECT IN-FIELD CONDITIONS AS  
RECORDED BY THE CONTRACTOR.

ORIGINAL DRAWINGS PREPARED  
ON 24" X 36" SHEETS

DISTRICT  
COUNCIL MEMBERS

BRUCE TATRO DISTRICT A	CAROL M. GALLOWAY DISTRICT B	MARK GOLDBERG DISTRICT C
ADA EDWARDS DISTRICT D	ADDIE WISEMAN DISTRICT E	MARK A. ELLIS DISTRICT F
BERT KELLER DISTRICT G	GABRIEL VASQUEZ DISTRICT H	CAROL ALVARADO DISTRICT I

COUNCIL MEMBERS  
AT-LARGE

ANNISE D. PARKER POSITION 1	GORDON QUAN POSITION 2
SHELLEY SEKULA-GIBBS, M.D. POSITION 3	MICHAEL BERRY POSITION 4
CARROLL G. ROBINSON POSITION 5	

 Lockwood, Andrews & Newnam, Inc. A LEAD & ONLY COMPANY 2025 Bracken Drive Houston, TX 77042	 RAFAEL ORTEGA PROFESSIONAL ENGINEER 60293
SURVEYED BY: LANDTECH FB NO. P 5115, P 5115A, P 5115B	
WATER: 11/21/03 WASTEWATER: 11-17-03 STORM WATER: 11-20-03 STREET & BRIDGE: 11-20-03	CONSTRUCTION: 11-17-03 TRAFFIC AND TRANSPORTATION: 11-17-03 SPONSOR DEPARTMENT: 11-12-03 CHIEF ENGINEER: 11-12-03
CITY ENGINEER: 12-08-07 DIRECTOR OF PUBLIC WORKS AND ENGINEERING: 12-08-07	ACCEPTED AND FILED 38697 CITY ENGINEER: 12-08-07

SHEET NO.	DESCRIPTION
1.	COVER SHEET AND VICINITY MAP
2.	INDEX TO DRAWING AND LEGENDS
3.	CONSTRUCTION NOTES
4.	WESTVIEW DR. AND OLD KATY ROAD SHEET LAYOUT CORE BORING PLAN (SHEET 1 OF 1)
5.	WISTERWOOD DR. SHEET LAYOUT - CORE BORING PLAN AND SURVEY BASELINE CONTROL
6.	SURVEY CONTROL MAP
7.	COH MONUMENTATION BENCHMARK DATA
8.	WISTERWOOD DRIVE - TYPICAL SECTION 1 OF 2
9.	WISTERWOOD DRIVE - TYPICAL SECTION 2 OF 2
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12.	WESTVIEW DR. PLAN AND PROFILE STA 7+00 TO 10+00
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14.	WESTVIEW DR. PROFILE STA 10+00 TO 15+00
15.	WESTVIEW DR. PLAN STA 15+00 TO 20+00
16.	WESTVIEW DR. PROFILE STA 15+00 TO 20+00
17.	WESTVIEW DR. PLAN AND PROFILE STA 20+00 TO 25+00
18.	WESTVIEW DR. PLAN STA 25+00 TO 30+00
19.	WESTVIEW DR. PROFILE STA 25+00 TO 30+00
20.	WESTVIEW DR. PLAN AND PROFILE STA 30+00 TO 35+00
21.	WESTVIEW DR. PLAN AND PROFILE STA 35+00 TO 40+00
22.	WESTVIEW DR. PLAN STA 40+00 TO 45+00
23.	WESTVIEW DR. PROFILE STA 40+00 TO 45+00
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25.	WESTVIEW DR. PROFILE STA 45+00 TO 48+00
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28.	WISTERWOOD DRIVE WATER LINE AND SAN. SEWER PLAN AND PROFILE STA 56+00 TO 61+00

SHEET NO.	DESCRIPTION
29.	WISTERWOOD DRIVE WATER LINE AND SAN. SEWER PLAN AND PROFILE STA 61+00 TO 66+00
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33.	WISTERWOOD DRIVE PAVEMENT AND STM SEWER PLAN AND PROFILE STA 56+00 TO 61+00
34.	WISTERWOOD DRIVE PAVEMENT AND STM SEWER PLAN AND PROFILE STA 61+00 TO 66+00
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62.	MISCELLANEOUS CATHODIC PROTECTION DETAILS
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SHEET NO.	DESCRIPTION
79.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 3 STEP "A"
80.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 3 STEP "B"
81.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 3 STEP "C" AND PHASE 4
82.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 5
83.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 6
84.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 7
85.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 8
85A.	WESTVIEW DRIVE TRAFFIC CONTROL PLAN PHASE 8 - STEP "B"
86.	WESTVIEW DRIVE - TRAFFIC CONTROL PLAN PHASE 9
86A.	OLD KATY ROAD TRAFFIC CONTROL 1 OF 3
86B.	OLD KATY ROAD TRAFFIC CONTROL STEP A
86C.	OLD KATY ROAD TRAFFIC CONTROL STEP B
87.	WISTERWOOD DRIVE - PAVEMENT MARKING, SIGNING, AND STREET LIGHTING PLAN
88-90.	ROADWAY CROSS SECTIONS (3 Sheets)
91.	BARRICADE STANDARD
92.	WHEEL CHAIR RAMP DETAILS
93.	NOT USED
94.	STANDARD PAVEMENT MARKING
95.	FAULT LINE CROSSING DETAIL
96.	TREE PROTECTION
97.	TREE LAYOUT - SHEET 1 OF 3
98.	TREE LAYOUT - SHEET 2 OF 3
99.	TREE LAYOUT - SHEET 3 OF 3
100.	TREE PROTECTION SCHEDULE
101A.	WESTVIEW DR @ SHADOWDALE DR. 36" AERIAL WATER LINE CROSSING PLAN AND PROFILE
101B.	WESTVIEW DR. GENERAL AND STRUCTURAL NOTES AND BENT CAP DETAILS
101C.	PRESTRESSED CONCRETE PILING FOR 36" AERIAL WATER LINE CROSSING
102.	SINGLE BOX CULVERTS PRECAST 5'-0" SPAN
103.	SINGLE BOX CULVERTS PRECAST MISCELLANEOUS DETAILS

115  
TOTAL SHEETS IN THIS PROJECT

#### EXISTING PLAN LEGEND

	SHRUB OR BUSH
	TREE
	SAN MANHOLE, STORM MANHOLE
	SBC MANHOLE
	CLEANOUT
	GAS METER
	GAS VALVE
	FIRE HYDRANT
	WATER METER
	WATER VALVE
	POWER POLE, TELEPHONE & ELEC. POLE
	DOWN GUY
	STORM "B" INLET
	STORM "B-B" INLET
	STORM INLET, GRATE
	TRAFFIC SIGNAL, SIGNAL POLE
	IRON ROD/POLE
	WOOD POST, BRICK COLUMN, BRICK PILLAR
	TRAFFIC, METRO, BUSINESS, STOP SIGNS
	SBC PEDESTAL, HISTORICAL MARKER
	C.O.H. SURVEY MARKER, MONUMENT MARKER
	SOIL BORING LOCATION
	SOIL BORING & PIEZOMETER LOCATION
	MAILBOX
	METAL POST
	LIGHT STANDARD
	ELECTRICAL BOX

	HEDGE
	CURB LINE
	ROW LINE
	LOT LINES
	EASEMENT LINE
	EDGE OF ASPHALT
	CULVERT PIPE
	BASELINE
	CHAIN LINK, WOOD FENCE
	GAS LINE OR PIPELINE
	SBC LINE
	H.L. & P. CO. CONDUIT
	H.L. & P. CO. OVERHEAD LINES
	PROPERTY LINE (R.O.W.)
	SAN SEWER LINE 24" DIA. & SMALLER
	SAN SEWER LINE 30" DIA. & LARGER
	STM SEWER LINE 24" DIA. & SMALLER
	STM SEWER LINE 30" DIA. & LARGER
	WATER LINE 24" DIA. & SMALLER
	WATER LINE 30" DIA. & LARGER

#### LEGEND

##### EXISTING PROFILE LEGEND

	CENTER LINE OF RIGHT-OF-WAY
	R.O.W. LINE N & E
	R.O.W. S & W
	DITCH OR CURB LINE N & E
	DITCH OR CURB LINE S & W
	24" AND SMALLER SAN SEWER LINE
	30" AND LARGER SAN SEWER LINE
	24" AND SMALLER STORM SEWER LINE
	30" AND LARGER STORM SEWER LINE
	ALL WATER LINE
	SBC CONDUIT
	GAS LINE

INFORMATION OBTAINED FROM RECORD DRAWINGS. NOT FIELD VERIFIED.

##### PROPOSED LEGEND

	T.S.V. & BOX
	BUTTERFLY VALVE
	STORM "BB" INLET
	ACCESS MANHOLE
	CATHODIC PROTECTION RECTIFIER AND DEEP ANODE
	AIR VENT W/ THREE BOLLARDS
	AIR VENT W/ 1 BOLLARD
	CATHODIC PROTECTION TEST STATION
	WATER LINE 24" & SMALLER
	WATER LINE 30" DIA. & LARGER
	24" AND SMALLER SAN SEWER LINE
	30" AND LARGER SAN SEWER LINE
	24" AND SMALLER STORM SEWER LINE
	30" AND LARGER STORM SEWER LINE
	WATER LINE 30" DIA. & LARGER IN TUNNEL
	SANITARY SEWER REPLACEMENT

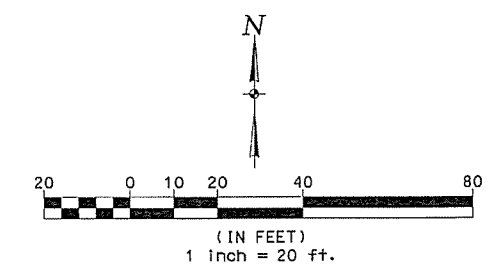
**RECORD DRAWINGS DO NOT MODIFY**  
LOCKWOOD, ANDREWS & NEWNAM, INC.



 Lockwood, Andrews & Newnam, Inc. A LEO A. "BOB" COMPANY 2805 Westpark Drive Houston, TX 77042	 RAFAEL ORTEGA LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS 60293
SURVEYED BY: LANDTECH FB NO. P 5115, P 5115A, P 5115B	
<b>CITY OF HOUSTON</b> DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
CONTRACT 66A-1 INDEX TO DRAWINGS AND LEGENDS	
FILE NO. WA10624-03 G.F.S. NO. S-0900-85-3	 38697 CITY DRAWING NUMBER
DRAWING SCALE CITY OF HOUSTON PM	

L:\CADD\DESIGN\PROJECTS\66A-1\CADD\Drawings\STD-DETAILS\14141-1.dwg - PLOTTED ON: 11/11/2003





DATE	11/11/2003
REVISION	
BY	TSB
CHECKED	
DATE	
BY	
CHECKED	
DATE	

**BENCHMARKS:**  
 CITY OF HOUSTON SURVEY MARKER NO. 4959-0802 LOCATED AT N.W. CORNER OF SHADOWDALE AND CHATTERTON. ELEV. = 94.68 1964 ADJ.  
 TBM 'D' TOP RR SPIKE IN POWER POLE AT STA 23+57.96, 41.55' O/S RT. LOCATED ON SOUTH SIDE OF WESTVIEW APPROX. 350' WEST OF LUMPKIN. ELEV. = 91.14

- NOTE:**
1. CONTRACTOR SHALL CONTACT NET CO. PIPELINE, L.L.C., AT LEAST 48 HOURS BEFORE CONSTRUCTION BEGINS, CONTACT GARY SIEMER AT 281- 893 9682
  2. REGRADE EXISTING DITCH ON NORTH SIDE OF WESTVIEW
  3. REPLACE EXISTING GRAVEL PAV'T OF WESTVIEW FROM STA 27+34 TO STA 30+00 WITH ASPHALT
  4. IF PCCP, BAR-WRAPPED, OR MORTAR-COATED PIPE IS USED, PROVIDE BITUMINOUS COATING. SEE DOCUMENT 01110 - SUMMARY OF WORK FOR REQUIREMENTS.



PRIVATE UTILITY LINES SHOWN

*M. R. T.*  
 CENTERPOINT ENERGY  
 APPROVED ONLY FOR UNDERGROUND CONDUIT FACILITIES  
 UNLESS NOTED.  
 11/11/03

*M. R. T.*  
 CENTERPOINT ENERGY  
 HOUSTON LIGHTING & POWER CO.  
 APPROVED ONLY FOR CROSSING UNDERGROUND DUCTLINES  
 UNLESS NOTED. VALID AT TIME OF REVIEW ONLY.  
 11/11/03

CABLE COMPANY



SURVEYED BY: LANDTECH  
 FB NO. P 5115, P 5115A, P 5115B 11-03

**CITY OF HOUSTON**  
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

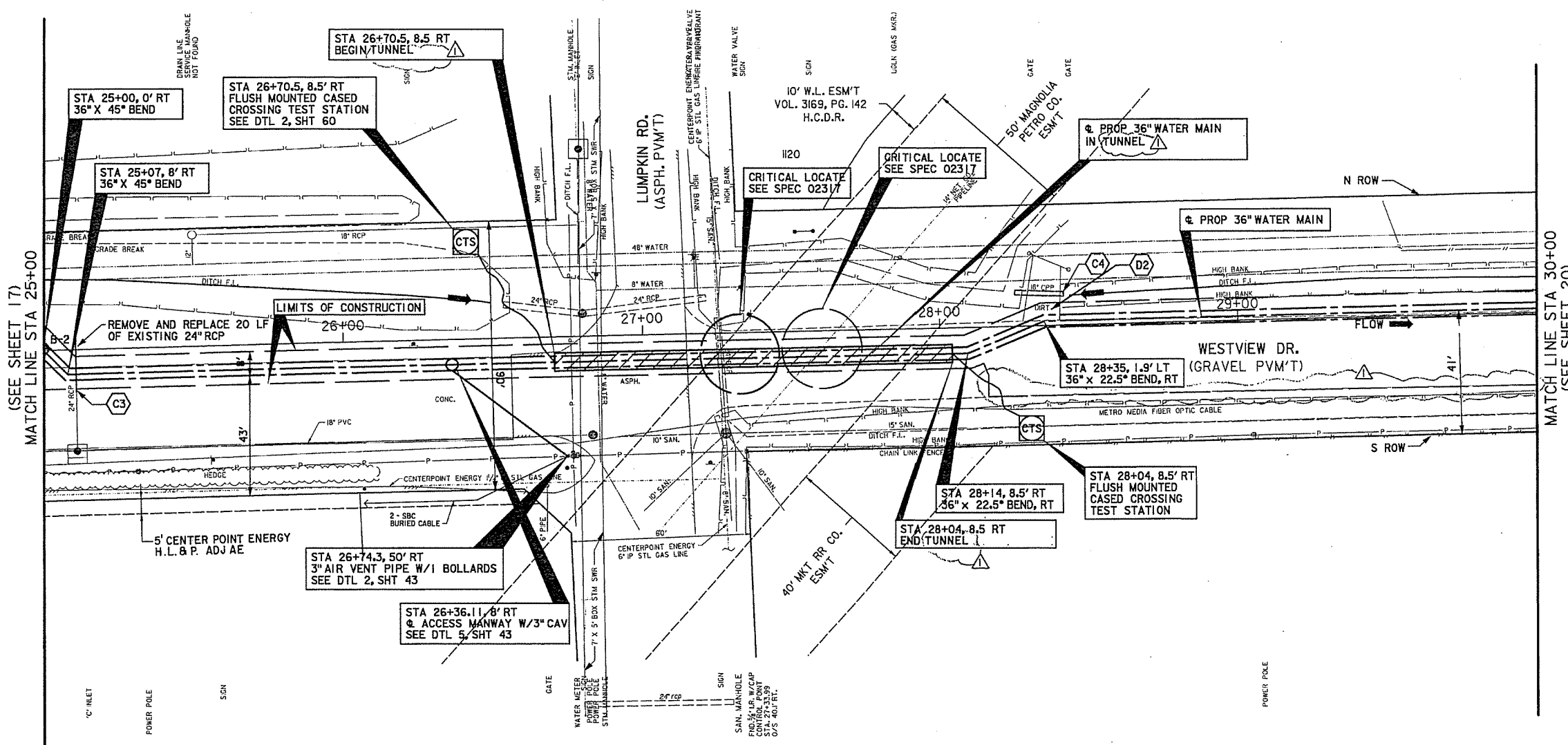
CONTRACT 66A-1  
 WESTVIEW DRIVE  
 PLAN VIEW  
 STA 25+00 TO 30+00

FILE NO. WA10624-03  
 G.F.S. NO. S-0900-85-3  
 DRAWING SCALE  
 VERT. 1"=2' HORIZ. 1"=20'  
 CITY OF HOUSTON PM  
 SONNY DO, P.E.

38697

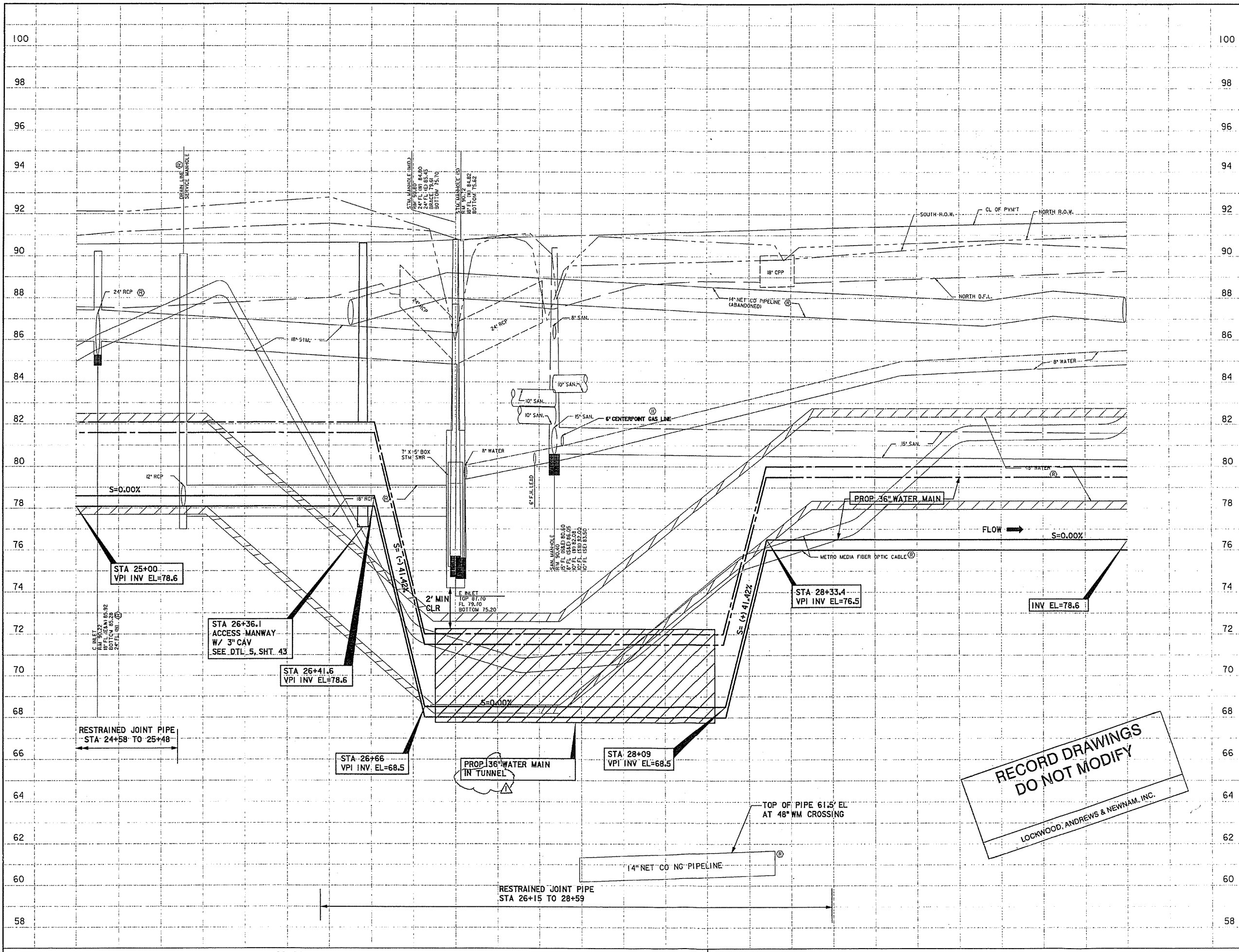
**RECORD DRAWINGS  
 DO NOT MODIFY**

LOCKWOOD, ANDREWS & NEWNAM, INC.



(SEE SHEET 17)  
 MATCH LINE STA 25+00

MATCH LINE STA 30+00  
 (SEE SHEET 20)



**BENCHMARKS:**  
 CITY OF HOUSTON SURVEY MARKER NO. 4959-0802 LOCATED AT N.W. CORNER OF SHADOWDALE AND CHATTERTON. ELEV. = 94.68 1964 ADJ.  
 TBM "D": TOP RR SPIKE IN POWER POLE AT STA 23+57.96, 41.55' O/S RT. LOCATED ON SOUTH SIDE OF WESTVIEW APPROX. 350' WEST OF LUMPKIN. ELEV. = 91.14



**PRIVATE UTILITY LINES SHOWN**  
 M nlt 11/11/03  
 CENTERPOINT ENERGY  
 SBC/VALID FOR ONE YEAR  
 APPROVED ONLY FOR UNDERGROUND CONDUIT FACILITIES  
 UNLESS NOTED.  
 M nlt 11/11/03  
 CENTERPOINT ENERGY  
 HOUSTON LIGHTING & POWER CO.  
 APPROVED ONLY FOR CROSSING UNDERGROUND DUCTLINES  
 UNLESS NOTED. VALID AT TIME OF REVIEW ONLY.  
 Cable Company 11-6-03

**Lockwood, Andrews & Newnam, Inc.**  
 RAFAEL ORTEGA  
 60253  
 SURVEYED BY: LANDTECH  
 FB NO. P 5115, P 5115A, P 5115B

**CITY OF HOUSTON**  
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING  
 CONTRACT 66A-1  
 WESTVIEW DRIVE  
 PROFILE VIEW  
 STA 25+00 TO 30+00

FILE NO. WA10624-03  
 G.F.S. NO. S-0900-85-3  
 DRAWING SCALE  
 VERT. 1"=2' HORIZ. 1"=20'  
 CITY OF HOUSTON PM  
 SCNNY DO, P.E.  
 38697

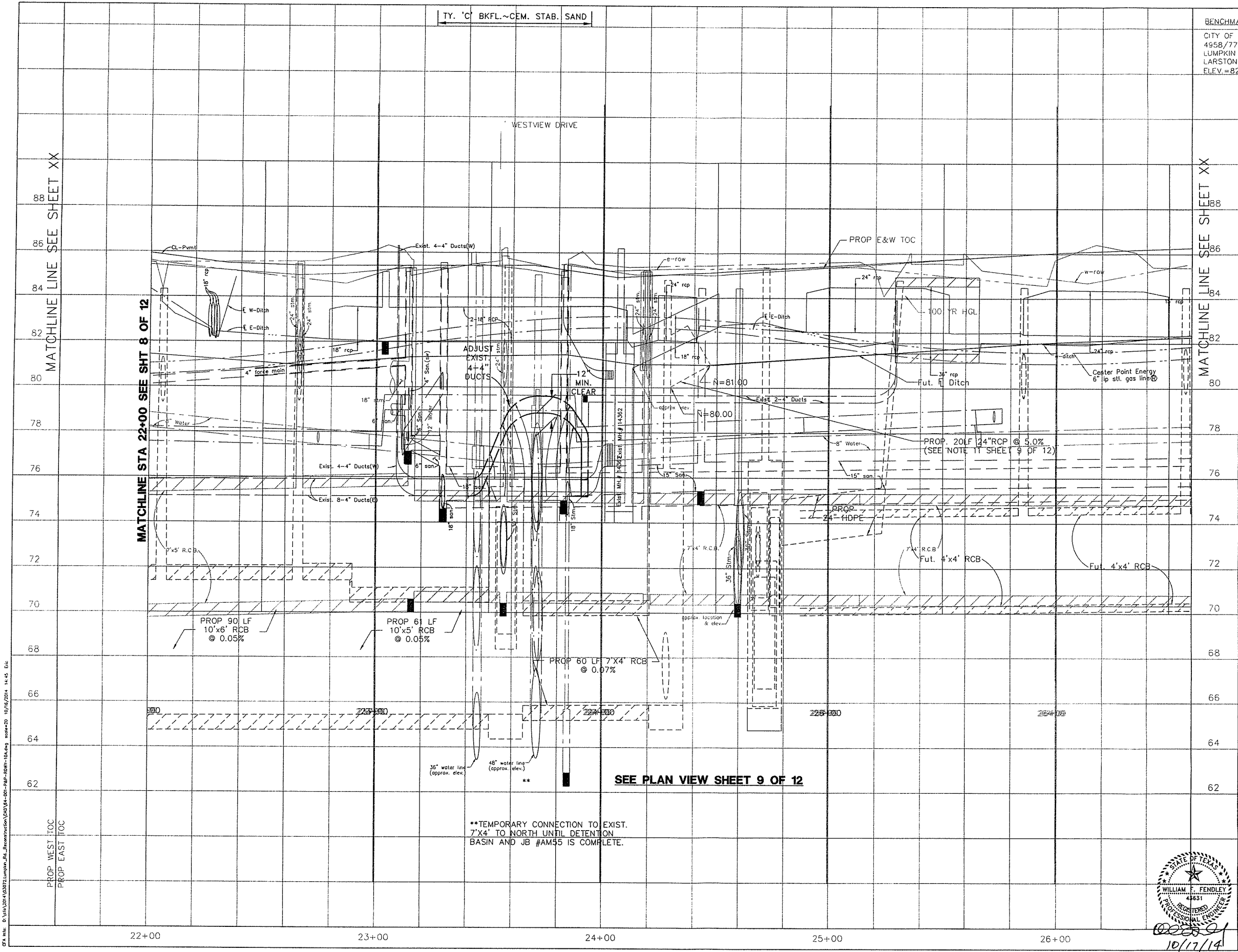
APP. [ ]  
 REVISED [ ]  
 NO. [ ]  
 DATE [ ]  
 PLOTTED ON 11/06/0003  
 I:\PROJECTS\2003\200307\PROD\CONTRACT 66A-1\CAD\AD\DWG\INPS\WESTVIEW.DWG

## **ATTACHMENT B**

Westview Road – ATT Conduit Temporary Relocation Plan

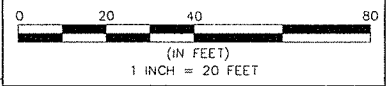






C:\p1\101110271\lumpkin\_01\_PlanView\101110271.dwg user=20 10/17/2014 14:45 E:\

BENCHMARK:  
 CITY OF HOUSTON SURVEY MARKER STAMPED  
 0 LOCATED AT EAST SIDE OF  
 LUMPKIN RD., 110 FEET SOUTHWEST OF  
 LARSTON DR. INTERSECTION IN KEYMAP 449Z  
 ELEV.=82.18 FEET (NAVD 88\GEOID09)

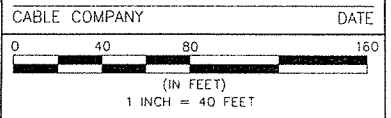


PRIVATE UTILITY LINES SHOWN

CENTERPOINT ENERGY/NATURAL GAS DATE  
 FACILITIES VERIFICATION ONLY  
 (THIS SIGNATURE VERIFIES THAT YOU HAVE SHOWN CNP  
 NATURAL GAS LINES CORRECTLY - NOT TO BE USED FOR  
 CONFLICT VERIFICATION.) (GAS SERVICE LINES ARE NOT  
 SHOWN.) SIGNATURE VALID FOR SIX MONTHS.

AT&T UTILITY LINES SHOWN DATE  
 APPROVED FOR AT&T/SWBT UNDERGROUND CONDUIT  
 FACILITIES ONLY. SIGNATURE VALID FOR ONE YEAR

CENTERPOINT ENERGY/UNDERGROUND DATE  
 ELECTRICAL FACILITIES VERIFICATION ONLY.  
 (THIS SIGNATURE VERIFIES EXISTING UNDERGROUND  
 FACILITIES - NOT TO BE USED FOR CONFLICT  
 VERIFICATION.) SIGNATURE VALID FOR SIX MONTHS.



MEMORIAL CITY  
 REDEVELOPMENT AUTHORITY

**lan** Lockwood, Andrews  
 & Newnam, Inc.  
 A LEO A DALY COMPANY

LUMPKIN ROAD  
 N-T17000-0012-3  
 PROFILE VIEW  
 PVMT & STM SWR IMPROVEMENTS  
 STA 22+00 TO END OF PROJECT  
 SHEET 10 OF 12  
 CITY OF HOUSTON  
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	WASTEWATER	TRAFFIC
ST. & BRIDGE	STORMWATER	SWG
FILE NO.:	FACILITY	
DRAWING SCALE:	CITY Dwg NO	
VERT: 1"=2'	HORIZ: 1"=20'	
SHEET:	71 OF 184	

STATE OF TEXAS  
 WILLIAM F. FENDLEY  
 REGISTERED PROFESSIONAL ENGINEER  
 10/17/14

APP	
REVISIONS	
DATE	
NO.	
SUBSEQUENT	
DATE	
NO.	
DATE	
NO.	
DATE	

Document 00520

**AGREEMENT**

**Project:** Lumpkin Road Reconstruction and Drainage Improvements

**Project Location:** Lumpkin Road (Key Map No. 449Z and 489D)

**Project No:** WBS No. N-T17000-0012-3

**The Owner:** Memorial City Redevelopment Authority, 8955 Katy Freeway, Suite 215, Houston, TX 77024

**Contractor:** \_\_\_\_\_

(Address for Written Notice) \_\_\_\_\_

**Fax Number:** \_\_\_\_\_

**Owner Representative is:** Don Huml - Executive Director

(Address for Written Notice) Memorial City Redevelopment Authority, 8955 Katy Freeway, Suite 215,  
Houston, TX 77024

**Fax Number:** (713)829-5720

**THE MEMORIAL CITY REDEVELOPMENT AUTHORITY AND CONTRACTOR AGREE AS FOLLOWS:**

**ARTICLE 1  
THE WORK OF THE CONTRACT**

1.1 Contractor shall perform the Work in accordance with the Contract.

**ARTICLE 2  
CONTRACT TIME**

2.1 Contractor shall achieve Date of Substantial Completion within 465 days after Date of Commencement of the Work, subject to adjustments of Contract Time as provided in the Contract.

2.2 The Parties recognize that time is of the essence for this Agreement and that the Memorial City Redevelopment Authority will suffer financial loss if the Work is not completed within the Contract Time. Parties also recognize delays, expense, and difficulties involved in proving in a legal or arbitration proceeding actual loss suffered by the Memorial City Redevelopment Authority if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Parties agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay the Memorial City Redevelopment Authority the amount stipulated in Document 00800 – Supplementary Conditions, for each day beyond Contract Time.



**ARTICLE 3  
CONTRACT PRICE**

3.1 Subject to terms of the Contract, the Memorial City Redevelopment Authority will pay Contractor in current funds for Contractor's performance of the Contract, Contract Price of \$ \_\_\_\_\_ which includes Alternates, if any, accepted below.

3.2 The Memorial City Redevelopment Authority accepts Alternates as follows:

Alternate No. \_\_\_\_\_

**ARTICLE 4  
PAYMENTS**

4.1 The Memorial City Redevelopment Authority will make progress payments to Contractor as provided below and in General and Supplementary Conditions of the Contract.

4.2 The Period covered by each progress payment is one calendar month ending on the [ ] 10th, [ ] 20th, or [ ] last day of the month.

4.3 The Memorial City Redevelopment Authority will issue Certificates for Payment and will make progress payments on the basis of such Certificates as provided in Conditions of the Contract.

4.4 Final payment, constituting entire unpaid balance of Contract Price, will be made by the Memorial City Redevelopment Authority to Contractor as provided in General and Supplementary Conditions of the Contract.

**ARTICLE 5  
CONTRACTOR REPRESENTATIONS**

5.1 Contractor represents:

5.1.1 Contractor has examined and carefully studied Contract documents and other related data identified in Bid Documents.

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

5.1.3 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.

5.1.4 Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in Contract documents and (2) reports and drawings of a hazardous environmental condition, if any, at the site which has been identified in Contract documents.

5.1.5 Contractor 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 Contractor, including applying specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract to be employed by Contractor, and safety precautions and programs incident thereto

5.1.6 Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for performance of the Work at Contract Price, within Contract Time, and in accordance with the Contract.

5.1.7 Contractor is aware of general nature of work to be performed by the Memorial City Redevelopment Authority and others at the site that relates to the Work as indicated in Contract documents.

5.1.8 Contractor has correlated information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract.

5.1.9 Contractor has given Resident Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract, and written resolution thereof by Resident Engineer is acceptable to Contractor.

5.1.10 Contract documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

5.1.11 Contractor understands and agrees that the Memorial City Redevelopment Authority and the Design Consultant disclaim any responsibility for the accuracy, true location and extent of the surface and subsurface investigations that have been prepared by others. Contractor further understands and agrees that the Memorial City Redevelopment Authority and the Design Consultant also disclaim any responsibility for interpretation of that data by Bidders, i.e., projecting soil-bearing values rock profiles, soil stability and the presence, level and extent of underground water.

## **ARTICLE 6 MISCELLANEOUS PROVISIONS**

6.1 The Contract may be terminated by either Party as provided in General and Supplementary Conditions of the Contract.

6.2 The Work may be suspended by the Memorial City Redevelopment Authority as provided in Conditions of the Contract.

## **ARTICLE 7 ENUMERATION OF CONTRACT DOCUMENTS**

7.1 The following documents are incorporated into this Agreement:

7.1.1 Document 00700 - General Conditions.

7.1.2 Document 00800 - Supplementary Conditions.

7.1.3 Division 01-General Requirements.

7.1.4 Divisions 02 through 16 of Specifications attached hereto or incorporated by reference in Document 00010 - Table of Contents.



7.1.5 Drawings listed in Document 00015 - List of Drawings and bound separately.

7.1.6 Addenda which apply to the Contract, are as follows:

Addendum No. 1, dated \_\_\_\_\_  
 Addendum No. 2, dated \_\_\_\_\_  
 Addendum No. 3, dated \_\_\_\_\_

7.1.7 Other documents:

<u>Document No.</u>	<u>Title</u>
<input checked="" type="checkbox"/> 00410B	Bid Form – Part B
<input checked="" type="checkbox"/> 00500	Form of Business
<input checked="" type="checkbox"/> 00501	Resolution of Corporation (if a corporation)
<input type="checkbox"/> 00608	Contractor's Certification Regarding Non-Segregated Facilities for Project Funded by AIP Grant
<input checked="" type="checkbox"/> 00610	Performance Bond
<input checked="" type="checkbox"/> 00611	Statutory Payment Bond
<input checked="" type="checkbox"/> 00612	One-year Maintenance Bond
<input checked="" type="checkbox"/> 00613	One-year Surface Correction Bond
<input checked="" type="checkbox"/> 00620	Affidavit of Insurance (with the Certificate of Insurance attached)
<input type="checkbox"/> 00623	Contractor's Act of Assurance (SRF Form ED-103)
<input checked="" type="checkbox"/> 00624	Affidavit of Compliance with Affirmative Action Program
<input type="checkbox"/> 00628	Affidavit of Compliance with Disadvantaged Business Enterprise (DBE) Program for Project Funded By AIP Grant
<input type="checkbox"/> 00630	Agreement to Comply with Pay or Play Program
<input type="checkbox"/> 00631	Pay or Play Program - List of Subcontractors
<input checked="" type="checkbox"/> 00800	Supplementary Conditions for Project CIP or AIP Funded
<input type="checkbox"/> 00801	FAA Supplementary Conditions
<input type="checkbox"/> 00802	SRF Supplementary Conditions
<input checked="" type="checkbox"/> 00805	Affirmative Action Compliance Program
<input type="checkbox"/> 00806	Disadvantaged Business Enterprise (DBE) Program
<input type="checkbox"/> 00807	Bidder/Contractor Requirements For Disadvantaged Business Enterprise (DBE) Program
<input checked="" type="checkbox"/> 00808	Minority and Women-owned Business Enterprise (MWBE) & Persons with Disabilities Business Enterprise (PDBE) Program
<input type="checkbox"/> 00810	Federal Wage Rate - Highway
<input type="checkbox"/> 00811	Federal Wage Rate - Building
<input type="checkbox"/> 00812	Federal Wage Rate - Heavy
<input checked="" type="checkbox"/> 00820	Wage Rate for Engineering Construction
<input type="checkbox"/> 00821	Wage Rate for Building Construction
<input type="checkbox"/> 00830	Trench Safety Geotechnical Information
<input type="checkbox"/> 00840	Pay or Play Program
<input type="checkbox"/> 00912	Rider





**ARTICLE 8  
SIGNATURES**

8.1 This Agreement is executed in four original copies and is effective as of the date of countersignature by Chairman of the Board.

**CONTRACTOR:**

(If Joint Venture)

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

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

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

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

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

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

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

Tax Identification Number: \_\_\_\_\_

**Memorial City Redevelopment Authority,  
HOUSTON, TEXAS**

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

Chair of the Board,  
Memorial City  
Redevelopment Authority

Date Signed:

\_\_\_\_\_

**END OF DOCUMENT**



Section 01145

USE OF PREMISES

1.01 SECTION INCLUDES

- A. General use of the site including properties inside and outside of rights-of-way, work affecting road, ramps, streets and driveways and notification to adjacent occupants.

1.02 RIGHTS-OF-WAY

- A. Confine access, and operations and storage areas to rights-of-way provided by the City as stipulated in Document 00700 - General Conditions; trespassing on abutting lands or other lands in the area is not allowed.
- B. Make arrangements, at no cost to the City, for temporary use of private properties. Contractor and Surety shall indemnify and hold harmless the City against claims or demands arising from such use of properties outside of rights-of-way. Submit a copy of agreements between private property owners and Contractor prior to use of the area. Agreements between private property owners and Contractor shall be notarized or bear the signatures of two witnesses.
- C. Obtain written permission from City of Houston Parks and Recreation Department for storage of materials on esplanades and other areas within rights-of-way under that department's jurisdiction. Submit copies of written permission prior to use of the area.
- D. Restrict total length of distributed materials along the route of construction to 1,000 linear feet unless otherwise approved in writing by City Engineer.

1.03 PROPERTIES OUTSIDE OF RIGHTS-OF-WAY

- A. Do not alter the condition of properties adjacent to and along rights-of-way.
- B. Do not use ways, means, methods, techniques, sequences, or procedures that result in damage to properties or improvements.
- C. Restore damaged properties outside of rights-of-ways at no cost to the city

1.04 USE OF SITE

- A. Obtain approvals from governing authorities prior to impeding or closing public roads and streets. Do not close more than two consecutive intersections at one time.



USE OF PREMISESSTANDARD GENERAL REQUIREMENT

- B. Notify Project Manager and Public Works and Engineering Traffic Management Branch at least five working days prior to closing a street or street crossing. Obtain permits for street closures in advance.
- C. Maintain 10-foot-wide minimum access lanes for emergency vehicles including access to fire hydrants.
- D. Avoid obstructing drainage ditches or inlets. When obstruction is unavoidable due to requirements of the Work, provide grading and temporary drainage structures to maintain unimpeded flow.
- E. Locate and protect private lawn sprinkler systems that may exist within the site. Repair or replace damaged systems to condition existing at start of the Work, or better. Test irrigation system prior to construction.
- F. Conform to daily clean-up requirements of Article 3 of Document 00700 - General Conditions.
- G. Beware of overhead power lines existing in area and in close proximity of the Project. When 10 feet of clearance between energized overhead power line and construction-related activity cannot be maintained, request Center Point Energy (CPE) de-energize or move conflicting overhead power line. Contact CPE representatives at (713) 207-2222. Schedule, coordinate and pay costs associated with de-energizing or moving conflicting overhead power lines. When there is no separate pay item for this effort, include these costs in various items of bid that make such work necessary.

## 1.05 NOTIFICATION TO ADJACENT OCCUPANTS

- A. Notify individual occupants in areas to be effected by the Work of proposed construction and time schedule. Notify not less than 72 hours or more than two weeks prior to work performed within 200 feet of homes or businesses. Follow form and content of sample door hanger provided by Project Manager.
- B. Include in notification nature of the Work, and names and telephone numbers of two company representatives for resident contact available on 24-hour call.
- C. Submit proposed notification to Project Manager for approval. Consider ethnicity of the neighborhood where English is not the dominant language. Provide notice in an understandable language.

## 1.06 PUBLIC, TEMPORARY, AND CONSTRUCTION ROADS AND RAMPS

- A. Construct and maintain temporary detours, ramps, and roads to provide for normal public traffic flow when it is necessary to close public roads or streets.

- B. Provide mats or other means to prevent overloading or damage to existing roadways from tracked equipment, large tandem axle trucks or equipment that will damage the existing roadway surfaces.
- C. Construct and maintain access roads and parking areas as specified in Section 01504 - Temporary Facilities and Controls.

1.07 EXCAVATION IN STREETS AND DRIVEWAYS

- A. Avoid hindering or inconveniencing public travel on streets or intersecting alleys for more than two blocks at any one time, except by permission of City Engineer.
- B. Obtain Traffic Management Branch and City Engineer's approval when nature of the Work requires closure of an entire street. Permits required for street closure are Contractor's responsibility. Avoid unnecessary inconvenience to abutting property owners.
- C. Remove surplus materials and debris and open each block for public use, as work in that block is complete.
- D. Acceptance of any portion of the Work will not be based on return of street to public use.
- E. Avoid obstructing driveways or entrances to private property.
- F. Provide temporary crossings or complete excavation and backfill in one continuous operation to minimize duration of obstruction when excavation is required across drives or entrances.
- G. Provide barricades and signs in accordance with Section VI of the State of Texas Manual on Uniform Traffic Control Devices.

1.08 TRAFFIC CONTROL

- A. Comply with traffic regulation as specified in Section 01555 - Traffic Control and Regulation.

1.09 SURFACE RESTORATION

- A. Restore the site including landscaping to the condition existing before construction, or better.
- B. Repair paved areas per the requirements of Section 02951 - Pavement Repair and restoration.

USE OF PREMISESSTANDARD GENERAL REQUIREMENT

- C. Repair damaged turf areas, level with bank run sand conforming to Section 02317 - Excavation and Backfill for Utilities, or topsoil conforming to Section 02911 - Topsoil, and re-sod in accordance with Section 02922 - Sodding. Water and level newly sodded areas with adjoining turf using appropriate steel wheel rollers for sodding. Do not use spot sodding or sprigging.

## 1.10 LIMITS OF CONSTRUCTION

- A. Confine operations to lands within construction work limits shown on Drawings. Unless otherwise noted on Drawings adhere to the following:
1. Where utility alignment is within esplanade, and construction limits are shown on Drawings to extend to edge of esplanade, keep equipment, materials, stockpiles a minimum of five feet from back of curb.
  2. Where construction limits shown on Drawings extend to property line, keep sidewalks free of equipment, materials, and stockpiles.

## 1.11 EQUIPMENT AND MATERIAL SALVAGE

- A. Upon completion of the Work, carefully remove salvageable equipment and material. Deliver them to City of Houston as directed by Project Manager. Dispose of equipment offsite at no additional cost to the City when Project Manager deems equipment unfit for further use.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01255

CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for processing Change Orders, including:
  - 1. Assignment of a responsible individual for approval and communication of changes in the Work;
  - 2. Documentation of change in Contract Price and Contract Time;
  - 3. Change procedures, using proposals and Modifications;
  - 4. Execution of Change Orders;
  - 5. Correlation of Contractor submittals.

1.02 REFERENCES

- A. Blue Book is defined as the Rental Rate Blue Book for Construction Equipment (a.k.a. Data Quest Blue Book).
- B. Rental Rate is defined as the full-unadjusted base rental rate for the appropriate item of construction equipment.

1.03 RESPONSIBLE INDIVIDUAL

- A. Provide a letter indicating the name and address of the individual authorized to execute Modifications, and who will be responsible for informing others in Contractor's employ and Subcontractors of changes to the Work. Provide this information at the pre-construction meeting.

1.04 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

- A. Maintain detailed records of changes in the Work. Provide full information required for identification and evaluation of proposed changes, and substantiate costs of changes in the Work.
- B. Document each proposal for change in Contract Price or Contract Time with sufficient data to allow evaluation of proposal.



- C. Include the following minimum information on proposals:
1. Quantities of items in original Document 00410 – Bid Form with additions, reductions, deletions, and substitutions.
  2. Quantities and cost of items in original Schedule of Values with additions, reductions, deletions and substitutions.
  3. Provide Unit Prices for new items, with supporting information, for inclusion in Schedule of Unit Price Work.
  4. Justification for changes in Contract Time.
  5. Additional data upon request.
- D. For changes in the Work performed on a time-and-material basis, provide the following additional information:
1. Quantities and description of Products.
  2. Taxes, insurance and Bonds.
  3. Overhead and profit as noted in Document 00700 - General Conditions.
  4. Dates, times and by who work was performed.
  5. Time records and certified copies of applicable payrolls.
  6. Invoices and receipts for Products, rental equipment, and subcontracts, similarly documented.
- E. For changes in the Work performed on a time-and-materials basis, rental equipment is paid as follows:
1. Actual invoice cost for duration of time required to complete extra work without markup for overhead and profit. When extra work comprises only a portion of a rental invoice where equipment would otherwise be on site, compute hourly equipment rate by dividing the actual monthly invoice by 176. One day equals eight hours and one week equals 40 hours.
  2. Do not exceed estimated operating costs given in Blue Book for items of equipment. Overhead and profit will be allowed on the operating cost.

- F. For changes in the Work performed on a time-and-materials basis using Contractor-owned equipment, use Blue Book rates as follows:
  - 1. Contractor-owned equipment will be paid at the Blue Book Rental Rate for the duration of time required to complete extra work without markup for overhead and profit. Utilize lowest cost combination of hourly, daily, weekly or monthly rates. Use 150 percent of Rental Rate for double shifts, one extra shift per day, and 200 percent of Rental Rate for more than two shifts per day. Standby rates shall be 50 percent of the appropriate Rental Rate shown in Blue Book. No other rate adjustments apply.
  - 2. Do not exceed estimated operating costs given in Blue Book. Overhead and profit will be allowed on operating costs. Operating costs will not be allowed for equipment on standby.

1.05 CHANGE PROCEDURES

- A. Changes to Contract Price or Contract Time can only be made by issuance of Document 00941 - Change Order. Issuance of Document 00940 - Work Change Directive will be formalized into a Change Order. Changes will be in accordance with requirements of Document 00700 - General Conditions.
- B. City Engineer will advise of Minor Changes in the Work as authorized by the Document 00700 - General Conditions by issuing Document 00942 – Minor Change.
- C. Request clarification of Drawings, Specifications, Contract documents or other information by using Document 00931- Request for Information. Response by Project Manager to Requests for Information does not authorize Contractor to perform tasks outside scope of the Work. Changes must be authorized as described in this Section.

1.06 PROPOSALS AND CONTRACT MODIFICATIONS

- A. Project Manager may issue Document 00932- Request for Proposal, which includes a detailed description of the proposed change with supplementary or revised Drawings and Specifications. Project Manager may also request a proposal in response to a Request for Information. Prepare and submit the proposal within seven days or as specified in request.
- B. Submit requests for Contract changes to City Engineer describing proposed change and its full effect on the Work, with a statement describing reason for change and effect on Contract Price and Contract Time including full documentation.

- C. Design Consultant may review Change Orders.

**1.07 WORK CHANGE DIRECTIVE**

- A. City Engineer may issue a signed Work Change Directive instructing Contractor to proceed with a change in the Work. Work Change Directive will subsequently be incorporated into a Change Order.
- B. Work Change Directives will describe changes in the Work and designate the method of determining change in Contract Price or Contract Time.
- C. Proceed promptly to execute changes in the Work in accordance with the Work Change Directive.

**1.08 STIPULATED PRICE CHANGE ORDER**

- A. A Stipulated Price Change Order will be based on an accepted proposal.

**1.09 UNIT PRICE CHANGE ORDER**

- A. Where Unit Prices for affected items of the Work are included in Document 00410 – Bid Form, the Change Order will be based on Unit Prices, subject to Articles 7 and 9 of Document 00700 - General Conditions.
- B. Where Unit Prices of the Work are not pre-determined in Document 00410-Bid Form, the Work Change Directive or accepted proposal will specify the Unit Prices to be used.

**1.10 TIME-AND-MATERIAL CHANGE ORDER**

- A. Provide itemized account and supporting data after completion of change, within time limits indicated for claims in Document 00700 - General Conditions.
- B. City Engineer will determine the change allowable in Contract Price and Contract Time as provided in Document 00700 - General Conditions.
- C. Maintain detailed records for work done on time-and-material basis as specified in Paragraph 1.04 above.
- D. Provide full information required for evaluation of changes and substantiate costs for changes in the Work.

1.11 EXECUTION OF CHANGE DOCUMENTATION

- A. City Engineer will issue Change Orders, Work Change Directives, or Minor Change in the Work for signatures of Parties as described in Document 00700 - General Conditions.

1.12 CORRELATION OF CONTRACTOR SUBMITTALS

- A. For Stipulated Price Contracts, promptly revise Schedule of Values and Application for Payment forms to record authorized Change Orders as separate line item.
- B. For Unit Price Contracts, the next monthly estimate of the Work after acceptance of a Change Order will be revised to include new items not previously included with appropriate Unit Prices.
- C. Promptly revise progress schedules to reflect change in Contract Time, and to adjust time for other items of work affected by the change, and resubmit for review.
- D. Promptly enter changes to on-site and record copies of Drawings, Specifications or Contract documents as required in Section 01785 - Project Record Documents.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION





Section 01270

MEASUREMENT AND PAYMENT

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A. Procedures for measurement and payment plus conditions for nonconformance assessment and nonpayment for rejected Products.

1.02 AUTHORITY

- A. Measurement methods delineated in Specification sections are intended to complement criteria of this Section. In event of conflict, requirements of the Specification section shall govern.
- B. Project Manager will take all measurements and compute quantities accordingly.
- C. Assist by providing necessary equipment, workers, and survey personnel.
- D. Measurement and Payment paragraphs are included only in those Specification sections of Division 01 where direct payment will be made. Include costs in the total bid price for those Specification sections in Division 01 that do not contain Measurement and Payment paragraphs,

1.03 UNIT QUANTITIES SPECIFIED

- A. Quantity and measurement estimates stated in the Agreement are for contract purposes only. Quantities and measurements supplied or placed in the Work and verified by Project Manager will determine payment as stated in Article 9 of Document 00700 - General Conditions.
- B. When actual work requires greater or lesser quantities than those quantities indicated in Document 00410 – Bid Form, provide required quantities at Unit Prices contracted, except as otherwise stated in Article 9 of Document 00700 - General Conditions.

1.04 MEASUREMENT OF QUANTITIES

- A. Measurement by Weight: Reinforcing steel, rolled or formed steel or other metal shapes are measured by CRSI or AISC Manual of Steel Construction weights. Welded assemblies are measured by CRSI or AISC Manual of Steel Construction or scale weights.

- B. Measurement by Volume:
  - 1. Stockpiles: Measured by cubic dimension using mean length, width, and height or thickness.
  - 2. Excavation and Embankment Materials: Measured by cubic dimension using average end area method.
- C. Measurement by Area: Measured by square dimension using mean length and width or radius.
- D. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
- E. Stipulated Price Measurement: By unit designated in the Agreement.
- F. Other: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.
- G. Measurement by Each: Measured by each instance or item provided.
- H. Measurement by Lump Sum: Measure includes all associated work.

**1.05 PAYMENT**

- A. Payment includes full compensation for all required supervision, labor, Products, tools, equipment, plant, transportation, services, and incidentals; and erection, application or Installation of an item of the Work; and Contractor's overhead and profit.
- B. Total compensation for required Unit Price work shall be included in Unit Price bid in Document 00410 – Bid Form. Claims for payment as Unit Price work, but not specifically covered in the list of Unit Prices contained in Document 00410 – Bid Form, will not be accepted.
- C. Interim payments for stored materials will be made only for materials to be incorporated under items covered in Unit Prices, unless disallowed in Document 00800 - Supplementary Conditions.
- D. Progress payments will be based on Project Manager's observations and evaluations of quantities incorporated in the Work multiplied by Unit Price.
- E. Final payment for work governed by Unit Prices will be made on the basis of actual measurements and quantities determined by Project Manager multiplied by the Unit Price for work which is incorporated in or made necessary by the Work.

1.06 NONCONFORMANCE ASSESSMENT

- A. Remove and replace work, or portions of the Work, not conforming to the Contract documents.
- B. When not practical to remove and replace work, City Engineer will direct one of the following remedies:
  - 1. Nonconforming work will remain as is, but Unit Price will be adjusted lower at discretion of City Engineer.
  - 2. Nonconforming work will be modified as authorized by City Engineer, and the Unit Price will be adjusted lower at the discretion of City Engineer, when modified work is deemed less suitable than specified.
- C. Specification sections may modify the above remedies or may identify a specific formula or percentage price reduction.
- D. Authority of City Engineer to assess nonconforming work and identify payment adjustment is final.

1.07 NONPAYMENT FOR REJECTED PRODUCTS

- A. Payment will not be made for any of the following:
  - 1. Products wasted or disposed of in an unacceptable manner.
  - 2. Products determined as nonconforming before or after placement.
  - 3. Products not completely unloaded from transporting vehicles.
  - 4. Products placed beyond lines and levels of required work.
  - 5. Products remaining on hand after completion of the Work, unless specified otherwise.
  - 6. Loading, hauling, and disposing of rejected Products.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION





Section 01292

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preparation and submittal of Schedule of Values for Stipulated Price Contracts or for Major Unit Price Work on Unit Price Contracts.

1.02 PREPARATION

- A. For Stipulated Price Contracts, subdivide the Schedule of Values into logical portions of the Work, such as major work items or work in contiguous construction areas. Use Section 01325 - Construction Schedule as a guide to subdivision of work items. Directly correlate Items in the Schedule of Values with tasks in the Construction Schedule. Organize each portion using the Project Manual Table of Contents as an outline for listing value of the Work by Sections. A pro rata share of mobilization, Bonds, and insurance may be listed as separate items for each portion of the Work.
- B. For Unit Price Contracts, items should include a proportional share of Contractor's overhead and profit so that total of all items will equal Contract Price.
- C. For lump sum equipment items, where submittal of operation and maintenance data and testing are required, include separate items for equipment operation and maintenance data where:
  - 1. submittal of maintenance data is valued at five percent of the lump sum amount for each equipment item and
  - 2. submittal for testing and adjusting is valued at five percent of the lump sum amount for each equipment item.

Round off figures for each item listed to the nearest \$100. Set the value of one item, when necessary, to make total of all values equal the Contract Price for Stipulated Price Contracts or the lump sum amount for Unit Price Work.

**SCHEDULE OF VALUES**

CITY OF HOUSTON  
**STANDARD GENERAL REQUIREMENT**

1.03 SUBMITTAL

- A. Submit the Schedule of Values, in accordance with requirements of Section 01330 - Submittal Procedures, at least 10 days prior to processing of the first Certificate for Payment.
- B. Submit the Schedule of Values in an approved electronic spreadsheet file and an 8 1/2-inch by 11-inch print on white bond paper.
- C. Revise Schedule of Values for items affected by Contract Modifications. After City Engineer has reviewed changes, resubmit at least 10 days prior to the next scheduled Certificate for Payment date.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01312

COORDINATION AND MEETINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General coordination including pre-construction meeting, site mobilization conference, and progress meetings.

1.02 COORDINATION OF DOCUMENTS

- A. Coordination is required throughout documents. Refer to Contract documents and coordinate as necessary.

1.03 CONTRACTOR COORDINATION

- A. Coordinate scheduling, submittals, and work of various Specification sections to assure efficient and orderly sequence of Installation of interdependent construction elements.
- B. Coordinate completion and clean up of the Work prior to the Date of Substantial Completion and for portions of the Work designated for City's partial occupancy.
- C. Coordinate access to the site for correction of nonconforming work to minimize disruption of the City's activities where the City is in partial occupancy.

1.04 PRE-CONSTRUCTION MEETING

- A. Project Manager will schedule pre-construction meeting.
- B. Attendance Required: City representatives, Design Consultant, special consultants as required by Project Manager, Contractor, and major Subcontractors and Suppliers.
- C. Agenda:
  - 1. Distribution of Contract documents.
  - 2. Designation of personnel representing the Parties and Design Consultant.

3. Review of insurance.
4. Discussion of formats for Schedule of Values and Construction Schedule.
5. Procedures and processing of Shop Drawings, substitutions, pay estimates or Applications for Payment, Requests for Information, Requests for Proposal, Modifications, and the Contract closeout, other submittals.
6. Scheduling of the Work and coordination with other contractors.
7. Review of Subcontractors and Suppliers.
8. Appropriate agenda items listed for the site mobilization conference, Paragraph 1.05.C, when pre-construction meeting and site mobilization conference are combined.
9. Procedures for testing.
10. Procedures for maintaining record documents.

**1.05 SITE MOBILIZATION CONFERENCE**

- A. When required by Contract documents, Project Manager will schedule a conference at the Project site prior to Contractor mobilization.
- B. Attendance Required: City representatives, Design Consultant, special consultants, Superintendent, and major Subcontractors.
- C. Agenda:
  1. Use of premises by the City and Contractor.
  2. Safety and first aid procedures.
  3. Construction controls provided by the City.
  4. Temporary utilities.
  5. Survey and layout.
  6. Security and housekeeping procedures.
  7. Field office requirements.

1.06 PROGRESS MEETINGS

- A. Hold meetings at Project field office or other location designated by Project Manager. Hold meetings at monthly intervals, or more frequently when directed by Project Manager.
- B. Attendance Required: Superintendent, major Subcontractors and Suppliers, City representatives, Design Consultant and its subconsultants as appropriate for agenda topics for each meeting.
- C. Project Manager will make arrangements for meetings, and for recording minutes.
- D. Project Manager will prepare the agenda and preside at meetings.
- E. Provide required information and be prepared to discuss each agenda item.
- F. Agenda:
  - 1. Review minutes of previous meetings.
  - 2. Review of construction schedule, pay estimates, cash flow curve, payroll and compliance submittals.
  - 3. Field observations, problems, and necessary decisions.
  - 4. Identification of problems that impede planned progress.
  - 5. Review of submittal schedule and status of submittals.
  - 6. Review of RFI and RFP status.
  - 7. Modification status.
  - 8. Review of off-site fabrication and delivery schedules.
  - 9. Maintenance of Construction Schedule.
  - 10. Corrective measures to regain Construction Schedule.
  - 11. Planned progress during the succeeding work period.
  - 12. Coordination of projected progress.
  - 13. Maintenance of quality and work standards.



**COORDINATION AND MEETINGS**

14. Effect of proposed Modifications on Construction Schedule and coordination.
15. Review Project Record Contract Drawings.
16. Other item relating to the Work.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01321

CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Photographic requirements for construction photographs and submittals.

1.02 DEFINITIONS

- A. Pre-construction Photographs: Photographs taken, in sufficient numbers and detail, prior to Date of Commencement of the Work, to show original construction site conditions.
- B. Progress Photographs: Photographs, taken throughout the duration of construction at regular intervals and from fixed vantage points, pre-approved by the City, that document progress of the Work.
- C. Finished Photographs: Photographs, taken by a professional photographer near Date of Substantial Completion and before City Council's acceptance of the Work, that are suitable for framing and for use in brochures or on the Internet

1.03 SUBMITTALS

- A. Refer to Section 01330, Submittal Procedures, for submittal requirements.
- B. Format and Media. Film or digital photography may be used. Submit color photographs, unless otherwise specified.
  - 1. Prints. Submit each Progress or Pre-construction Photograph print in a three-hole plastic pocket or sleeve, bound in a three-ring notebook. Produce prints on photographic-quality paper approved by Project Manager. Minimum size for Pre-construction Photograph prints shall be 3-inches by 5-inches. Progress Photograph prints shall be 8-inches by 10-inches.
  - 2. Film. Use 35mm or larger color film. Submit negatives used to make submitted photographs, in 3-hole 8-1/2 inch by 11-inch plastic sheets with sleeves for negatives.
  - 3. Digital Photography. Use 2.1 megapixel density or greater for photographs. Scanned photographs must equal or exceed 400 dots

per inch when scanned from 8-inch by 10-inch prints. Submit digital photographic files on computer disks. Format disks for MS-DOS (Microsoft Disk Operating System) filing system and in JPEG (Joint Photographic Experts Group) format.

**C. Submittal Quantities and Frequencies.**

1. Pre-construction Photographs:
  - a. For Stipulated Price Contracts, submit two sets of Pre-construction Photographs, if required, prior to first Application for Payment.
  - b. For Unit Price Contracts, submit two sets of Pre-construction Photographs prior to start of construction operations.
  
2. Progress Photographs:
  - a. For Stipulated Price Contracts, submit three sets of Progress Photographs with each Application for Payment at the times established for submittal of Applications for Payment. Monthly Applications for Payment shall be deemed incomplete if not accompanied by the required Progress Photographs. Contractor's failure or election to not submit a monthly Application for Payment shall not affect the requirement for monthly Progress Photographs.
  - b. Progress Photographs are not required for Unit Price Contracts unless otherwise specified.
  
3. Finished Photographs: For Stipulated Price Contracts submit two sets of Finished Photographs, if required, after Date of Substantial Completion and prior to final payment. Each set shall contain one 11-inch by 14-inch matte finish color photographic print from each of the two vantage points pre-approved by the City. Vantage points for Finished Photographs will be approved separately from vantage points approved for Progress Photographs. Finished Photographs are not required for Unit Price Contracts unless otherwise specified.

**D. Labeling.** Place a label on the back of each photographic print, applied so as to not show through on the front. Labels shall contain the following information:

1. Name of Project, address of Project and GFS Number.
2. Name and address of Contractor.
3. Date photograph was taken.
4. Location photo was taken from and short description of photo subject.

5. Name and address of professional photographer who took the photograph, if applicable.
- E. Hand-deliver or transmit prints in standard photographic mailers marked "Photographs - Do Not Bend".
- F. Photographic prints, negatives, photographic files and disks become the property of the City. Do not be publish photographs without written consent by the City.

1.04 QUALITY ASSURANCE

- A. Contractor shall be responsible for the quality of and timely execution and submittal of photographs.
- B. For Finished Photographs, Contractor shall use a professional photographer, with five years minimum professional experience in the Houston area. Contractor shall submit name, address and credentials of professional photographer for Project Manager's review and approval.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 PRE-CONSTRUCTION PHOTOGRAPHS

- A. Prior to commencement of construction operations, photograph the site to include initial construction corridor, detour routes, and staging or storage areas.
  1. For Stipulated Price Contracts, unless specified as a requirement in other Sections, these photographs are optional for Contractor, but are highly recommended for areas bounded by other property owners.
  2. Pre-construction photographs are required for Unit Price Contracts. For line projects with scheduled construction segments, take Pre-construction Photographs prior to commencement of work on each segment.

**B. Prepare Pre-construction Photographs as follows:**

1. Show the following information on a non-reflective chalkboard placed within the picture frame:
  - a. Job number.
  - b. Project Number.
  - c. Date and time photographs were taken (Automatic date/time in negative is acceptable).
  - d. Baseline station, direction of view (i.e. N, S, NW, etc.) and house number or street address and street name.
2. Pre-construction Photographs shall indicate condition of the following:
  - a. Esplanades and boulevards.
  - b. Yards (near side and far side of street).
  - c. House walks and sidewalks.
  - d. Curbs.
  - e. Areas between walks and curbs.
  - f. Particular features (e.g. yard lights, shrubs, fences, trees).
3. Show date photographs were taken on negatives.

**C. Show the location of vantage points and direction of shots on a key plan of the site.****3.02 PROGRESS PHOTOGRAPHS**

- A. Progress Photographs document monthly advancement of the Work. Select vantage points for each shot so as to best show status of construction and progress since last photograph submittal. Select camera stations that will require little or no movement or adjustment over the duration of construction.
- B. Take monthly Progress Photographs at regular intervals to coincide with cutoff dates associated with each Application for Payment.

**3.03 FINISHED PHOTOGRAPHS**

- A. Finished Photographs shall be "staged" and taken by a professional photographer to depict the most flattering images of a finished facility. Two vantage points, from which Finished Photographs will be taken, shall be agreed to in advance by the City. Photographer shall consider lighting, time of day, height of eye, landscaping and placement of vehicles, people and other props in each picture. Filters and post-photography processing may be utilized to achieve a finished product acceptable to the City.



3.04 LOCATION

- A. Vantage points, times and conditions for camera stations and photography for Progress and Finished Photographs shall be mutually agreed upon by the City, Contractor and Photographer. Progress Photograph vantage points may be changed by mutual agreement as the Work progresses, at no additional cost to the City.

END OF SECTION



Section 01326

CONSTRUCTION SCHEDULE (BAR CHART)

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide an initial Construction Schedule as required by this section for the Work. Do not start construction until Project Manager reviews the schedule.

1.02 FORM AND CONTENT OF INITIAL CONSTRUCTION SCHEDULE

A. Bar Chart:

1. Show major construction activities such as pipe laying, by traffic control phases or other approved key areas; tunnel construction, pavement removal, pavement replacement, pressure testing, chlorination, clean up and punch list as separate activities on the schedule.
2. Show week duration for each activity.
3. Show separate activities for each Shop Drawing and Product Data submittal critical to timely completion. Show submittal dates and dates Project Manager needs to provide approved submittals.
4. Provide separate horizontal bar for each activity. List start and finish date for each activity at left side of diagram.
5. Horizontal Time Scale: Identify first work day of each week.
6. Scale and Spacing: Notes must be legible. Allow space for notations and future revisions.
7. Order of Listings: Order bar chart listings by phases or other approved groups of activities that are contiguous. List activities in chronological order within each phase or group.

B. Narrative Description:

1. Submit narrative descriptions of anticipated work sequences as indicated by the sequence of activities presented in the schedule.

2. Discuss any activity that affects the public (such as phases of traffic control), interaction with specific forces of the City (such as valve operation, chlorination and testing) or other associated contractors.

**1.03 PROGRESS REVISIONS**

- A. Submit progress revisions or necessary information to complete and process Payment Applications. When required, re-submittals for rejected revisions must be submitted and reviewed prior to the following month's processing of a Payment Application. The following month's Payment Application will not be processed until the re-submittal is reviewed and required progress revisions are received.
- B. Provide a narrative report to describe:
  1. Major changes in scope.
  2. Revised projections in progress, completion, or changes in activity duration.
  3. Other identifiable changes.
  4. Problem areas, anticipated delays, and the impact on schedule.
  5. Corrective action recommended and its effect.
  6. Effect of changes on schedules or other contractors.
  7. Product delivery lead times.
- C. Include additional data with Bar Chart described in Paragraph 1.03A of this Section:
  1. Show original dates for each activity in the approved initial progress schedule by narrow bar next to a wider bar for the current schedule.
  2. Show date each activity actually started or finished when an event has occurred. Clearly identify actual dates in two right-most columns in left portion of an 11 by 17-inch chart.
  3. Indicate the percentage progress to the date of submittal for each activity.

1.04 SUBMITTALS

- A. Submit the initial progress schedule within 15 days after award of contract. Project Manager will review the schedule and return a reviewed copy within 21 days after receipt.
- B. Cut-off dates for progress revisions may be as early as the 20th of the month to avoid delaying processing of Payment Applications. Use the cut-off date for the first approved revision for further revisions.
- C. When required, re-submit within seven days after return of review copy.
- D. Include connecting lines between bars in the schedule to indicate the sequence that activities will be accomplished. Connecting lines when the activity's start or finish is modified will identify impact of preceding or succeeding activities. Submit a minimum of six copies of the bar chart on 11 by 17-inch opaque reproductions. Project Manager will retain five copies and return the remaining copy.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION





Section 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittal procedures for:

1. Schedule of Values
2. Construction Schedules and Cash Flow Curve (billing forecast).
3. Shop Drawings, Product Data and Samples
4. Operations and Maintenance (O&M) Data
5. Manufacturer's Certificates
6. Construction Photographs
7. Project Record Documents and monthly certification.
8. Video Tapes
9. Design Mixes

1.02 SUBMITTAL PROCEDURES

A. Scheduling and Handling:

1. Submit Shop Drawings, data and Samples for related components as required by Specifications and Project Manager.
2. Schedule submittals well in advance of need for construction Products. Allow time for delivery of Products after submittal approval.
3. Develop submittal schedule that allows sufficient time for initial review, correction, resubmission and final review of all submittals. Allow a minimum of 30 days for initial review. Project Manager will review and return submittals to Contractor as expeditiously as possible but time required for review will vary depending on complexity and quantity of data submitted.

4. Project Manager's review of submittals covers only general conformity to Drawings, Specifications and dimensions that affect layout. Contractor is responsible for quantity determination. No quantities will be verified by Project Manager. Contractor is responsible for errors, omissions or deviations from Contract requirements; review of submittals does not relieve Contractor from the obligation to furnish required items in accordance with Drawings and Specifications.
  5. Submit five copies of documents unless otherwise specified.
  6. Revise and resubmit submittals as required. Identify all changes made since previous submittal.
  7. Assume risk for fabricated Products delivered prior to approval. Do not incorporate Products into the Work, or include payment for Products in periodic progress payments, until approved by Project Manager.
- B. Transmittal Form and Numbering:
1. Transmit each submittal to Project Manager with Transmittal letter which includes:
    - a. Date and submittal number
    - b. Project title and number
    - c. Names of Contractor, Subcontractor, Supplier and manufacturer
    - d. Identification of Product being supplied
    - e. Location of where Product is to be Installed
    - f. Applicable Specification section number
  2. Identify deviations from Contract documents clouding submittal drawings. Itemize and detail on separate 8-1/2 by 11-inch sheets entitled "DEVIATIONS FOR \_\_\_\_\_." When no deviations exist, submit a sheet stating no deviations exist.
  3. Have design deviations signed and sealed by an appropriate design professional, registered in the State of Texas.
  4. Sequentially number transmittal letters beginning with number one. Use original number for resubmittals with an alphabetic suffix (i.e., 2A for the first resubmittal of submittal 2, or 15C for third resubmittal of submittal 15, etc.). Show only one type of work or Product on each submittal. Mixed submittals will not be accepted.

- C. Contractor's Stamp:
1. Apply Contractor's Stamp certifying that the items have been reviewed in detail by Contractor and that they comply with Contract requirements, except as noted by requested variances.
  2. As a minimum, Contractor's Stamp shall include:
    - a. Contractor's name
    - b. Job number
    - c. Submittal number
    - d. Certification statement Contractor has reviewed submittal and it is in compliance with the Contract
    - e. Signature line for Contractor
- D. Submittals will be returned with one of the following Responses:
1. "ACKNOWLEDGE RECEIPT" when no response and resubmittal is required.
  2. "NO EXCEPTION" when sufficient information has supplied to determine that item described is accepted and that no resubmittal is required.
  3. "EXCEPTIONS AS NOTED" when sufficient information has been supplied to determine that item will be acceptable subject to changes, or exceptions, which will be clearly stated. When exceptions require additional changes, the changes must be submitted for approval. Resubmittal is not required when exceptions require no further changes.
  4. "REJECTED-RESUBMIT" when submittal does not contain sufficient information, or when information provided does not meet Contract requirements. Additional data or details requested by Project Manager must be submitted to obtain approval.

1.03 MANUFACTURER'S CERTIFICATES

- A. When required by Specification sections, submit manufacturers' certificate of compliance for review by Project Manager.
- B. Place Contractor's Stamp on front of certification.
- C. Submit supporting reference data, affidavits, and certifications as appropriate.
- D. Product certificates may be recent or from previous test results, but must be acceptable to Project Manager.

**1.04 DESIGN MIXES**

- A. When required by Specification sections, submit design mixes for review.
- B. Place Contractor's Stamp, as specified in this section, on the front of each design mix.
- C. Mark each mix to identify proportions, gradations, and additives for each class and type of mix submitted. Include applicable test results from samples for each mix. Perform tests and certifications within 12 months of the date of the submittal.
- D. Maintain copies of approved mixes at mixing plant.

**1.05 CHANGES TO CONTRACT**

- A. Changes to Contract may be initiated by completing a Request for Information form. Project Manager will provide a response to Contractor by completing the form and returning it to Contractor.
  - 1. If Contractor agrees that the response will result in no increase in cost or time, a Minor Change in the Work will be issued by City Engineer.
  - 2. If Contractor and Project Manager agree that an increase in time or cost is warranted, Project Manager will forward the Request for Proposal for negotiation of a Change Order.

**PART 2 PRODUCTS - Not Used**

**PART 3 EXECUTION - Not Used**

**END OF SECTION**



Section 01340

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Methods, schedules, and processes to be followed for Shop Drawings, Product Data and Sample submittals.

1.02 REQUIREMENT

- A. Submit Shop Drawings, Product Data and Samples as required by Document 00700 - General Conditions and Specification sections, using procedures specified in Section 01330 - Submittal Procedures and the requirements of this Section.
- B. Shop Drawings, Product Data and Samples are not considered Contract documents.

1.03 SHOP DRAWING/SUBMITTAL SCHEDULE

- A. Submit a separate Shop Drawing submittal schedule at same time the Construction Schedule is submitted. List Products for which Shop Drawings and other submittals are required in the order that they appear in Specifications. Include Product Data and Sample submittals in the schedule. Payment Applications or Certificates for Payment will not be processed until Project Manager has approved the Shop Drawing submittal schedule.

1.04 SHOP DRAWINGS

- A. Submit a minimum of seven sets of Shop Drawings and Product Data in a form and quality suitable for microfilming. Review and sign Shop Drawings indicating compliance with the Contract.
- B. Place Contractor's Stamp on each drawing as described in Section 01330 - Submittal Procedures.
- C. Show the following accurately and distinctly:
  - 1. Field and erection dimensions;
  - 2. Arrangement and section views;

3. Relation to adjacent materials or structure, including complete information for making connections between the Work and work under other contracts;
  4. Types of Products and finishes;
  5. Parts list and descriptions;
  6. Assembly drawings of equipment components and accessories showing respective positions and relationships to the complete equipment package;
  7. Identify details by referencing drawing sheet and detail numbers, schedule or room numbers as shown on the Contract drawings, where necessary for clarity.
- D. Scale drawings to provide a true representation of the specific equipment or item Furnished.
- E. Coordinate and submit components, necessary for Project Manager to adequately review submittal, as a complete package. Reproduction of the Drawings for use in Shop Drawings is not allowed.
- F. For major changes to original documents, submit Computer-Aided Design (CAD) drawings on a media acceptable to Project Manager.

**1.05 PRODUCT DATA**

- A. Submit Product Data for review as required in Specifications.
- B. Place Contractor's stamp, on each data item submitted, as described in Section 01330 - Submittal Procedures.
- C. Mark each copy to identify applicable Products, models, and options to be used in the Work. Where required by Specifications, supplement manufacturers' standard data to provide information unique to the Work.
- D. Give manufacturers, trade name, model or catalog designation and applicable reference standard for Products specified only by reference standards.
- E. Pre-approved and Pre-qualified Products.
  1. For "pre-approved", "pre-qualified" and "approved" Products named in the City standard products list, provide an appropriate list designation,

as described in Section 01630 - Product Substitution Procedures,  
within 30 days after Notice to Proceed.

2. For Products proposed as alternates to "approved" products, provide information required to demonstrate that the proposed Products meet the level of quality and performance criteria of the "approved" product.

1.06 SAMPLES

- A. Submit Samples for review as required by Specifications. Have Samples reviewed and signed by a Registered Professional.
- B. Place Contractor's stamp on each Sample or firmly attach a sheet of paper with Contractor's stamp, as described in Section 01330 - Submittal Procedures.
- C. Submit the number of Samples specified in Specifications; Project Manager will retain one.
- D. Reviewed Samples that may be used in the Work are identified in Specifications.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION



Section 01410

TPDES REQUIREMENTS

1.01 SECTION INCLUDES

- A. Documentation to be prepared and signed by Contractor/Operator before conducting construction operations, in accordance with the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit Number TXR 150000 issued February 15, 2008 (the Construction General Permit).
- B. Implementation, maintenance inspection, and termination of storm water pollution prevention control measures including, but not limited to, erosion and sediment controls, storm water management plans, waste collection and disposal, off-site vehicle tracking, and other appropriate practices shown on the Drawings or specified elsewhere in the Contract.
- C. Review of the Storm Water Pollution Prevention Plan (SWP3) implementation in a meeting with Project Manager prior to start of construction.

1.02 DEFINITIONS

- A. Commencement of Construction Activities: The exposure of soil resulting from activities such as clearing, grading, and excavation activities, as well as other construction related activities (e.g., stock piling of fill material, demolition).
- B. Large Construction Activity: Project that:
  - 1. disturbs five acres or more, or
  - 2. disturbs less than five acres but is part of a larger common plan of development that will disturb five acres or more of land.
- C. Small Construction Activity: Project that:
  - 1. disturbs one or more acres but less than five acres, or
  - 2. disturbs less than one acre but is part of a larger common plan of development that will ultimately disturb one or more acres but less than five acres.
- D. TPDES Operator:

**Operator** - The person or persons associated with a large or small construction activity that is either a primary or secondary as defined below:



**Primary Operator** – the person or persons associated with a large or small construction activity that meets either of the following two criteria:

- (a) the persons have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
- (b) the person or persons have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a storm water pollution prevention plan (SWP3) for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

**Secondary Operator** – The person whose operational control is limited to the employment of other operators or to the ability to approve or disapprove changes to plans and specifications. A secondary operator is also defined as a primary operators if there are no other operators if there are no other operators at the construction site.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N

3.01 SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWP3)

- A. Prepare a SWP3 following Part III of the Construction General Permit and the Storm Water Management Handbook for Construction Activities issued under City Ordinance Section 47-695(b). If conflicts exist between the Construction General Permit and the handbook, the more stringent requirements will apply.
- B. Update or revise the SWP3 as needed during the construction following Part III, Section E of the Construction General Permit.
- C. Submit the SWP3 and any updates or revisions to Project Manager for review and address comments prior to commencing, or continuing, construction activities.

3.02 NOTICE OF INTENT For Large Construction Activity

- A. Fill out, sign, and date TCEQ Form 20022 (03/05/2008) Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR 150000), **ATTACHMENT 1** of this Section 01410.
- B. Transmit the signed Contractor's copy of TCEQ Form 20022 (03/05/2008), along with a \$325.00 check, made out to Texas Commission on Environmental Quality, and the completed Payment Submittal Form to Project Manager.

- C. Project Manager will complete a separate TCEQ Form 20022 (03/05/2008) for City's Notice of Intent, and will submit both Notices, along with checks for application fees, to the TCEQ.
- D. Submission of the Notice of Intent form by both the City and Contractor to TCEQ if mailing is required a minimum of seven days before Commencement of Construction Activities.

**3.03 CONSTRUCTION SITE NOTICE FOR SMALL CONSTRUCTION ACTIVITY**

- A. Fill out, sign, and date the Construction Site Notice, Attachment 2 to TPDES General Permit TXR 150000, "Construction Site Notice", **ATTACHMENT 2** of this Section 01410.
- B. Transmit the signed Construction Site Notice to Project Manager at least seven days prior to Commencement of Construction Activity.

**3.04 CERTIFICATION REQUIREMENTS**

- A. Fill out TPDES Operator's Information form, **ATTACHMENT 3** of this Section 01410, including Contractor's name, address, and telephone number, and the names of persons or firms responsible for maintenance and inspection of erosion and sediment control measures. Use multiple copies as required to document full information.
- B. Contractor and Subcontractors shall sign and date the Contractor's / Subcontractor's Certification for TPDES Permitting, **ATTACHMENT 4** of this Section 01410. Include this certification with other Project certification forms.
- C. Submit properly completed certification forms to Project Manager for review before beginning construction operations.
- D. Conduct inspections in accordance with TCEQ requirements. Ensure persons or firms responsible for maintenance and inspection of erosion and sediment control measures read, fill out, sign, and date the Erosion Control Contractor's Certification for Inspection and Maintenance. Use the City of Houston Storm Water Pollution Prevention Plan, Construction Site Inspection Report, **ATTACHMENT 5** of this Section 01410 to record maintenance inspections and repairs.

**3.05 RETENTION OF RECORDS**

- A. Keep a copy of this document and the SWP3 in a readily accessible location at the construction site from Commencement of Construction Activity until submission of the Notice of Termination (NOT) for Storm Water Discharges Associated with Construction Activity under TPDES Construction General Permit (TXR 150000). Contractors with day-to-day operational control over SWP3 implementation shall have a copy of the SWP3 available at a central location, on-site, for the use of all operators and those identified as having responsibilities under the SWP3. Upon submission of the NOT, submit all required forms and a copy of the SWP3 with all revisions to Project Manager.

**3.06 REQUIRED NOTICES**

- A. Post the following notices from effective date of the SWP3 until date of final site stabilization as defined in the Construction General Permit:
1. Post the TPDES permit number for Large Construction Activity, with a signed TCEQ Construction Site Notice for large or Small Construction Activity. Signed copies of the City's and Contractor's NOI must also be posted.
  2. Post notices near the main entrance of the construction site in a prominent place where it is safely and readily available for viewing by General Public, Local, State, and Federal Authorities. Post name and telephone number of Contractor's local contact person, brief project description and location of the SWP3.
    - a. If posting near a main entrance is not feasible due to safety concerns, coordinate posting of notice with Project Manager to conform to requirements of the Construction General Permit.
    - b. If Project is a linear construction project (e.g.: road, utilities, etc.), post notice in a publicly accessible location near active construction. Move notice as necessary.
  3. Post a notice to equipment and vehicles operators, instructing them to stop, check, and clean tires of debris and mud before driving onto traffic lanes. Post at each stabilized construction access area.
  4. Post a notice of waste disposal procedures in a readily visible location on site.

**3.07 ON-SITE WASTE MATERIAL STORAGE**

- A. On-site waste material storage shall be self-contained and shall satisfy appropriate local, state, and federal rules and regulations.

- B. Prepare list of waste material to be stored on-site. Update list as necessary to include up-to-date information. Keep a copy of updated list with the SWP3.
- C. Prepare description of controls to reduce pollutants generated from on-site storage. Include storage practices necessary to minimize exposure of materials to storm water, and spill prevention and response measures consistent with best management practices. Keep a copy of the description with the SWP3.

3.08 NOTICE OF TERMINATION


- A. Submit a NOT, **ATTACHMENT 7** of this Section 01410, to Project Manager within 30 days after:
  - 1. Final stabilization has been achieved on all portions of the site that are the responsibility of the Contractor; or
  - 2. Another operator has assumed control over all areas of the site that have not been stabilized; and
  - 3. All silt fences and other temporary erosion controls have either been removed, scheduled to be removed as defined in the SWP3, or transferred to a new operator if the new operator has sought permit coverage.
- B. Project Manager will complete City's NOT and submit Contractor and City's notices to the TCEQ and MS4 entities.

END OF SECTION

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ATTACHMENT 1

	<p><b>Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000)</b></p> <p>For help completing this application, read the TXR150000 NOI Instructions (TCEQ-20022-Instructions).</p>	<p><b>TCEQ Office Use Only</b> TPDES Permit Number: TXR15 _ _ _ _ _  - NO GIN Number:  _ _ _ _ _ _ _ _ _ _ </p>
<p><b>A. Construction Site Operator</b>    <input type="checkbox"/> New    <input type="checkbox"/> No Change    Customer Reference Number: CN _____</p> <p>Name: _____</p> <p>Mailing Address: _____ City: _____ State: _____ Zip Code: _____</p> <p>Country Mailing Information (if outside USA) Territory: _____ Country Code: _____ Postal Code: _____</p> <p>Phone Number: _____ Extension: _____ Fax Number: _____</p> <p>E-mail Address: _____</p> <p>Type of Operator:    <input type="checkbox"/> Individual    <input type="checkbox"/> Sole Proprietorship - D.B.A.    <input type="checkbox"/> Partnership    <input type="checkbox"/> Corporation    <input type="checkbox"/> Federal Government  <input type="checkbox"/> State Government    <input type="checkbox"/> County Government    <input type="checkbox"/> City Government    <input type="checkbox"/> Other: _____</p> <p>Independent Operator?    <input type="checkbox"/> Yes    <input type="checkbox"/> No    Number of Employees:    <input type="checkbox"/> 0-20    <input type="checkbox"/> 21-100    <input type="checkbox"/> 101-250    <input type="checkbox"/> 251-500    <input type="checkbox"/> 501 or higher</p> <p>Federal Tax ID: _____ State Franchise Tax ID Number: _____ DUNS Number: _____</p>		
<p><b>B. Billing Address</b></p> <p>Name: _____</p> <p>Mailing Address: _____ City: _____ State: _____ Zip Code: _____</p> <p>Country Mailing Information (if outside USA) Territory: _____ Country Code: _____ Postal Code: _____</p>		
<p><b>C. Project / Site Information</b>    <input type="checkbox"/> New    <input type="checkbox"/> No Change    Regulated Entity Reference Number: RN _____</p> <p>Name: _____</p> <p>Mailing Address: _____ City: _____ State: _____ Zip Code: _____</p> <p>Physical Address: _____ City: _____ County: _____ Zip Code: _____</p> <p>Location Access Description: _____</p> <p>Latitude: _____° _____' _____" N    Longitude: _____° _____' _____" W    Degrees (°), Minutes ('), and Seconds (")  Latitude: _____    Longitude: - _____    Decimal Form</p> <p>Standard Industrial Classification (SIC) code: _____ Also, describe the construction activity at this site (do not repeat the SIC code): _____</p> <p>Has a storm water pollution prevention plan been prepared as specified in the general permit (TXR150000)?    <input type="checkbox"/> Yes    <input type="checkbox"/> No</p> <p>Estimated area of land disturbed (to the nearest acre): _____ Is the project / site located on Indian Country Lands?    <input type="checkbox"/> Yes    <input type="checkbox"/> No</p> <p>Does this project / site discharge storm water into a municipal separate storm sewer system (MS4)?    <input type="checkbox"/> Yes    <input type="checkbox"/> No</p> <p>If yes, provide the name of the MS4 operator: _____</p> <p>Provide the name or segment number of the water body that receives storm water from this project / site: _____</p>		
<p><b>D. Contact - If the TCEQ needs additional information regarding this application, who should be contacted?</b></p> <p>Name: _____ Title: _____</p> <p>Phone Number: _____ Extension: _____ Fax Number: _____</p> <p>E-mail Address: _____</p>		
<p><b>E. Payment Information - Check / Money Order Number: _____ Name on Check / Money Order: _____</b></p>		
<p><b>F. Certification</b></p> <p>I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p> <p><b>Construction Site Operator:</b></p> <p>Prefix: _____ First: _____ Middle: _____  Last: _____ Suffix: _____ Title: _____</p> <p>Signature: _____ Date: _____</p> <p>If you have questions on how to fill out this form or about the storm water program, please contact us at (512) 239-4671.  Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at (512) 239-3282.</p> <p style="text-align: center;">The completed NOI must be mailed to the following address. Use the attached document to submit the \$100 application fee. Please note that the NOI and application fee are submitted separately to different addresses.  Texas Commission on Environmental Quality  Storm Water &amp; General Permits Team; MC - 228  P.O. Box 13087  Austin, Texas 78711-3087</p>		
TCEQ-20022 (05/03)	Page 1 of 2	

**ATTACHMENT 1**

**Texas Commission on Environmental Quality  
Payment Submittal Form**

The storm water application fee shall be sent under separate cover to the Texas Commission on Environmental Quality.

This form must be used to submit your Storm Water Application Fee. Please complete the following information, staple your check in the space provided at the bottom of this document, and mail it to:

**BY REGULAR U.S. MAIL**

**BY OVERNIGHT/EXPRESS MAIL**

Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
P.O. Box 13088  
Austin, TX 78711-3088

Texas Commission on Environmental Quality  
Financial Administration Division  
Cashier's Office, MC-214  
12100 Park 35 Circle  
Austin, TX 78753

Fee Code: GPA Storm Water General Permit: TXR150000

Check / Money Order No: \_\_\_\_\_ Amount of Check/Money Order: \_\_\_\_\_

Date of Check or Money Order: \_\_\_\_\_

Name on Check or Money Order: \_\_\_\_\_

Facility / Site Name: \_\_\_\_\_

Facility / Site Physical Address: \_\_\_\_\_

City: \_\_\_\_\_ Zip Code: \_\_\_\_\_

**Staple Check In This Space**

ATTACHMENT 1

Completing the Notice of Intent for Storm Water Discharges  
Associated with Construction Activity  
under the TPDES Construction General Permit (TXR150000)

**A. Construction Site Operator Information**

**Check boxes and Customer Reference Number**

These boxes designate the operator's status as a TCEQ "customer"—in other words, an individual or business that is involved in an activity that we regulate. We assign each customer a number that begins with "CN," followed by nine digits. *This is not a permit number, registration number, or license number.* In the remainder of this section, we will use "this customer" to mean the operator for Part A of the form.

- If this customer has not been assigned a Customer Reference Number or if this number is unknown, check "New" and leave the space for the Customer Reference Number blank.
- If this customer has already been assigned this number, enter the operator's Customer Reference Number and:
  - Check "No Change" if all the remaining customer information is the same as previously reported. However, you must still complete most blanks in this form for this notice of intent to be valid.
  - If this customer's information has changed since the last time it was reported to the TCEQ, check neither box and complete the remainder of this notice of intent.
- **Do not enter a permit number, registration number, or license number in place of the Customer Reference Number.**

**Name**

Enter the legal name of this customer as authorized to do business in Texas. Include any abbreviations (LLC, Inc., etc.).

**Mailing Address**

Enter a central and general mailing address for this customer to receive mail from the TCEQ. For example, if this customer is a large company, this address might be the corporate or regional headquarters. On the other hand, for a smaller business, this address could be the same as the site address.

*If this is a street address, please follow US Postal Service standards.* In brief, these standards require this information in this order:

- the "house" number—for example, the 1401 in 1401 Main St
- if there is a direction before the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- the street name (if a numbered street, do not spell out the number—for example, 8th St, not Sixth St)
- an appropriate abbreviation of the type of street—for example, St, Ave, Blvd, Fwy, Exwy, Hwy, Cr, Ct, Ln
- if there is a direction after the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- if there is a room number, suite number, or company mail code

**City, State, and ZIP Code**

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

**Country Mailing Information**

If this address is *outside* the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non-U.S. Postal Service features here. If this address is *inside* the United States, leave these spaces blank.

**Phone Number and Extension**

This number should correspond to this customer's mailing address given earlier. Enter the area code and phone number here. Leave "Extension" blank if this customer's phone system lacks this feature.

**Fax Number**

This number should correspond to this customer's mailing address given earlier. Enter the area code and fax number here.

**E-mail Address**

As with the mailing address, this should be a general address that is appropriate for e-mail to this customer's central or regional headquarters, if applicable.

*If "No Change" was checked for this customer, you may skip the rest of the fields in this part of the form and continue to the next part of the NOI.*

**Type of Operator**

Check *only one* box.

Check ...	if this customer ...
Individual	is a person and has not established a business to do whatever causes them to be regulated by us.
Sole Proprietorship—D.B.A.	is a business that is owned by only one person and has not been incorporated. This business may: <ul style="list-style-type: none"> <li>• be under the person's name</li> <li>• have its own name ("doing business as" or d.b.a.)</li> <li>• have any number of employees</li> </ul>
Partnership	is a business that is established as a partnership as defined by the Texas Secretary of State's Office
Corporation	meets all of these conditions: <ul style="list-style-type: none"> <li>• is a legally incorporated entity under the laws of any state or country</li> <li>• is recognized as a corporation by the Texas Secretary of State</li> <li>• has proper operating authority to operate in Texas</li> </ul>
Federal, state, county, or city government (as appropriate)	is either an agency of one of these levels of government or the governmental body itself (if a utility district, water district, tribal government, college district, council of governments, or river authority, check "Other" and write in the specific type of government.)
Other	fits none of the above descriptions. Enter a short description of the type of customer in the blank provided.

**Independent Operator?**

Check "No" if this customer is a subsidiary or part of a larger company. Otherwise, check "Yes."

**Number of Employees**

Check one box to show the number of employees for this customer's entire company, at all locations. *This is not necessarily the number of employees at the site named in this NOI.*

**Federal Tax ID**

All businesses, except for some small sole proprietors, should have a federal taxpayer identification number (TIN). Enter this number here. Use no prefixes, dashes, or hyphens. Individuals and sole proprietors do not need to provide a federal tax ID.

**State Franchise Tax ID**

Corporations and limited liability companies that operate in Texas are issued a franchise tax identification number. If this customer is a corporation or limited liability company, enter this number here.

**DUNS Number**

Most businesses have a DUNS (Data Universal Numbering System) number issued by Dun and Bradstreet Corp. If this customer has one, enter it here.

**B. Billing Address**

We will mail the annual fee invoice for this site to the address entered in this section.

**Name**

Enter the legal name of the person or business to which we should mail this site's fee invoice each year.

**Mailing Address**

Enter the specific mailing address to which we should mail this site's fee invoice each year. If this is a street address, please follow the US Postal Service standards as described under "A. Construction Site Operator Information" on page 1 of these instructions.

**City, State, and ZIP Code**

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

**Country Mailing Information**

If this address is *outside* the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non-U.S. Postal

ATTACHMENT 1

Service features here. If this address is *inside* the United States, leave these spaces blank.

**C. Project / Site Information**

**Check boxes and Regulated Entity Reference Number**  
These boxes designate this site's status as a TCEQ "regulated entity"—in other words, a location where an activity that we regulate occurs. We assign each regulated entity a number that begins with "RN," followed by nine digits. *This is not a permit number, registration number, or license number.*

- If this site has not been assigned a Regulated Entity Reference Number or if this number is unknown, check "New" and leave the space for the Regulated Entity Reference Number blank.
- If this site has already been assigned this number, enter the Regulated Entity Reference Number and:
  - Check "No Change" if all the remaining information is the same as previously reported. However, even if there has been no change, you must complete this section at least through "E-mail Address" for this NOI to be valid.
  - If this site's information has changed since the last time it was reported to the TCEQ, check neither box and complete the remainder of this notice of intent.
- **Do not enter a permit number, registration number, or license number in place of the Regulated Entity Reference Number.**

**Name**

Enter the name by which you want this site to be known to the TCEQ.

**Mailing Address**

Enter the specific mailing address for this site. If this is a street address, please follow the US Postal Service standards as described under "A. Construction Site Operator Information" on page 1 of these instructions. If the project / site's mailing address is the same as what is provided in Section A, you may enter "Same as Section A."

**City, State, and ZIP Code**

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

**Physical Address**

Enter the physical address of the site itself. TCEQ staff should be able to use this address to find the site. Please follow the US Postal Service standards as described under "A. Construction Site Operator Information" on page 1 of these instructions. If the project / site does not have a physical address, enter "No Address".

**City, County, and ZIP Code**

Enter the name of the city, the county, and the ZIP Code. (Enter the full ZIP+4 if you know it.) This information must be provided even if you have entered "No Address" in the previous field.

**Location Access Description**

Enter a physical description of the location of the site based on highway intersections and/or permanent landmarks.

**Latitude and Longitude**

Enter the latitude and longitude of the site in *either* degrees, minutes, and seconds *or* decimal form.

For help obtaining the latitude and longitude, go to:

<http://www.tncc.state.tx.us/gis/drgview.html>

**Standard Industrial Classification (SIC) Code and Activity Description**

Provide the SIC code that best describes the construction activity being conducted at the site.

For help with SIC codes, go to:

<http://www.osha.gov/oshstats/sicscr.html>

In addition to the SIC code, you must also provide a description of the construction activity being conducted at the site. This may include such descriptions as: "Apartment Building Construction" or "Shopping Center Construction."

**Storm Water Pollution Prevention Plan**

This plan identifies the areas and activities that could produce contaminated runoff at your site and then tells how you will ensure that this contamination is mitigated. For example, in describing your mitigation measures, your site's plan might identify the devices that collect and filter storm water, tell how those devices are to be maintained, and tell how frequently that maintenance is to be carried out. **You must develop this plan before you complete this NOI.** This plan must be available for a TCEQ investigator to review on request. Specific requirements for the development of the plan

can be found in the *Texas Pollutant Discharge Elimination System Construction General Permit (TXR150000)*.

**Estimated Area of Land Disturbed**

Provide the approximate number of acres that the construction site will disturb. It is appropriate to enter a value less than 5, only if the project is part of a larger common plan that disturbs five or more acres. If the acreage is less than 1, enter 1. "Disturb" means any clearing, grading, excavating, or other similar activities.

**Is the site located on Indian Country Lands?**

Check "Yes" only if the site is on a reservation or other areas designated by the federal government as Indian Country Lands. If not, check "No."

**Destination of Storm Water Discharge**

The storm water from your site eventually reaches a receiving water body such as a local stream or lake, possibly via a drainage ditch. The discharge may initially be into a municipal separate storm sewer system (MS4). Check the appropriate boxes for whether storm water is discharged into an MS4. If you checked "Yes" to "An MS4?", then enter the name of the entity that operates the storm sewer—often a city, town, or utility district, but possibly another form of government.

You must also provide the name of the water body that receives the discharge from the construction site (a local stream or lake). Storm water may be discharged directly to a receiving stream or via a storm sewer system. If known, please include the segment number if the discharge is to a classified water body.

For a map that includes segment numbers, go to:

<http://www.tncc.state.tx.us/water/quality/data/index.html>

**D. Contact**

Give all the relevant information for the person whom TCEQ can contact if there are questions about any of the information on this form—perhaps the same person who completed the form.

**E. Payment Information**

Provide the number and account holder name from the check or money order used to pay the \$100 application fee.

**F. Certification**

The operator must sign and date this statement to validate this NOI. Be sure to enter the full legal name of the person signing the form and the relevant title—for example, "Operator," "Vice-President," or "Partner." Use the "Prefix" blank for such titles as Dr., Mr., or Ms., as desired. Use the "Suffix" blank for such designations as Ph.D., Jr., Sr., III, or J.D., if applicable.

For a corporation, the application shall be signed by a responsible corporate officer. A responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this application, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. regional administrator of the United States Environmental Protection Agency).

**Questions?**

If you have questions about any of the information on this form, contact our Storm Water Program at 512/239-4671 or look for "Storm Water" on our Web site:

[www.tceq.state.tx.us](http://www.tceq.state.tx.us)

ATTACHMENT 2



# CONSTRUCTION SITE NOTICE

FOR THE

Texas Commission on Environmental Quality (TCEQ)  
Storm Water Program

## TPDES GENERAL PERMIT TXR150000

The following information is posted in compliance with **Part II.D.2.** of the TCEQ General Permit Number TXR150000 for discharges of storm water runoff from construction sites. Additional information regarding the TCEQ storm water permit program may be found on the internet at:

[www.tnrcc.state.tx.us/permitting/waterperm/wwperm/tpdestorm](http://www.tnrcc.state.tx.us/permitting/waterperm/wwperm/tpdestorm)

Contact Name and Phone Number:	
Project Description: <small>(Physical address or description of the site's location, estimated start date and projected end date, or date that disturbed soils will be stabilized)</small>	
Location of Storm Water Pollution Prevention Plan :	

For Construction Sites Authorized Under Part II.D.2. (Obtaining Authorization to Discharge) the following certification must be completed:

I \_\_\_\_\_ (Typed or Printed Name Person Completing This Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part II.D.2. of TPDES General Permit TXR150000 and agree to comply with the terms of this permit. A storm water pollution prevention plan has been developed and implemented according to permit requirements. A copy of this signed notice is supplied to the operator of the MS4 if discharges enter an MS4 system. I am aware there are significant penalties for providing false information or for conducting unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

Signature and Title

Date



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ATTACHMENT 3

TPDES OPERATOR'S INFORMATION

Owner's Name and Address:

City of Houston

Mr. \_\_\_\_\_

(City Official)

\_\_\_\_\_  
(Department)

P. O. Box 1562

Houston, Texas 77251-1562

(713) 247-1000

Contractors' Names and Addresses:

General Contractor:

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

Telephone:

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

Site Superintendent:

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

Telephone:

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

Erosion Control and  
Maintenance Inspection:

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

Telephone:

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

Subcontractors' Names and Addresses:

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

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

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

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

**Note: Insert name, address, and telephone number of person or firms**

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ATTACHMENT 4

CONTRACTOR'S / SUBCONTRACTOR'S

CERTIFICATION FOR TPDES PERMITTING

I certify under penalty of law that I understand the terms and conditions of TPDES General Permit No. TXR150000 and the Storm Water Pollution Prevention Plan for the construction site identified as part of this certification.

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

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

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

Company: \_\_\_\_\_

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

Date: \_\_\_\_\_

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

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

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

Company: \_\_\_\_\_

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

Date: \_\_\_\_\_

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

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

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

Company: \_\_\_\_\_

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

Date: \_\_\_\_\_

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ATTACHMENT 5  
EPA NPDES  
Construction  
Inspection Form



The following inspection is being performed in compliance with Part IV.D.4. of the NPDES Region 6 Storm Water Construction General Permit [63 Fed. Reg. 36502] and being retained in accordance with Part V of the Permit. Qualified personnel (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, placement and effectiveness of structural control measures, and locations where vehicles enter or exit the site. Inspections shall be performed at least once every 14 days and within 24 hours of the end of a storm event of 0.5 inches or greater. Where sites have been temporarily stabilized, runoff is unlikely due to winter conditions, or during seasonal arid periods in arid areas (0-10 inches of rainfall annually) and semi-arid areas (10-20 inches annually) such inspections shall be conducted at least once every month. This form is primarily intended for use with construction projects in Texas and New Mexico. Permittees on Indian Country lands in Oklahoma, Louisiana and Arkansas and some oil and gas facilities in Oklahoma may use this form if they are eligible for this permit. Other facilities need to check with their NPDES authority before using this form.

If you do not know your NPDES Permit Number, contact the NOI Processing Center at (301)495-4145. This form was prepared as an example and it is not a required form for use with the permit. Alternative forms may be used if they contain all of the required information as set forth in the permit. This form and additional information regarding the NPDES Region 6 storm water program may be found on the Internet at <http://www.epa.gov/region6/sw>. Any person with a complaint about the operation of this facility in regards to this permit should contact EPA Region 6 at (214)665-7112.

Permit Number(s) covered by this inspection (e.g. owners, developers, general contractor, builders)	
Signature and Certification in accordance with Part VI.G of the permit:	<p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p> <p>Signature _____ Date _____</p>
Date of Inspection	
Inspector Name	
Is there a copy of the permit language with the SWPPP?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is the inspector qualified and are the qualifications documented in the SWPPP?	<input type="checkbox"/> YES <input type="checkbox"/> NO
Is an NPDES storm water construction sign posted at the entrance for all permittees?	<input type="checkbox"/> YES <input type="checkbox"/> NO
<p>You may want to use EPA Region 6 construction checklist to assure components of the SWPPP are complete. This form, the construction sign, and the checklist are available on the Region 6 NPDES Storm Water Forms and Documents web page which may be found on the internet at <a href="http://www.epa.gov/earth1r6/gen/w/formsw.htm">http://www.epa.gov/earth1r6/gen/w/formsw.htm</a> In addition to the checklist, you should provide a narrative (see next page) on the existing Best Management Practices and Structural Controls found during each inspection. Any problems identified in an inspection should be corrected within 7 days. The inspection should cover all components of the SWPPP and all potential pollutants. While eroded soil is the primary pollutant of concern, do not forget to inspect for other pollutant sources such as fuel tanks, paints, solvents, stabilization materials, concrete hardener, batch plants, and construction debris. The inspector will need to update the SWPPP to reflect findings of the inspection. The site map should be updated after an inspection to show controls that have been added or removed, to ensure the site map is kept current in accordance with Part IV.C. of the permit.</p>	

Revision 4, March 1, 2000

ATTACHMENT 5

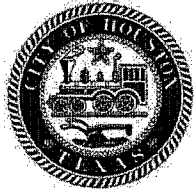
Narrative Findings of the inspection:

Observations should include any findings of Best Management Practices or controls that are not in accordance with the SWPPP. If a control is not in place or failed, observe the reason why. A control removed temporarily for work is not necessarily a violation if properly recorded in the SWPPP. If it has been removed, record why it was removed and, if applicable, when it will be reinstalled. If the control has failed, observe the conditions so a conclusion may be made as to whether the control failed for improper maintenance or improper design. The qualified inspector will know when a failed control is inadequate and should be replaced by an improved control mechanism. Qualified inspectors are to have authority to make changes to the SWPPP to assure compliance. Controls that have not been installed should be given a reason why they are not installed and/or a scheduled date for installation if they are designed for a later phase of construction. After the inspection, the SWPPP and its site map should be updated to reflect current conditions of controls and Best Management Practices at the time of the inspection. This includes removing uninstalled controls from the site map or otherwise denoting on the site map if they are no longer installed if the controls have been removed because they are no longer necessary (e.g. stabilization has been achieved in that area).

Revision 4, March 1, 2000

01410-18  
 02-01-2011

ATTACHMENT 6



# City of Houston

Storm Water Pollution Prevention Plan  
Construction Site Inspection Report

TPDES/EPA Permit Number \_\_\_\_\_

COH Storm Water Quality Permit Number \_\_\_\_\_

DATE \_\_\_\_\_

No exceptions noted.

The following must be corrected prior to continuing work:

Public Notice improperly posted

Initial Construction Site Inspection Report information requires updating

Copy of NOI not on site

Storm water pollution prevention plan not on site

Erosion and sediment controls improperly installed

Erosion and sediment control devices improperly maintained

Fueling or washout areas not properly protected

Portocan or other sanitary facilities not properly protected

Self-inspection and maintenance records incomplete

Sediment from site outside area of construction

Other (see description below)

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Please contact the Storm Water Quality Engineer at  
611 Walker, RA-257, Houston TX 77002  
713-837-7383 fax 713-837-0570

Once the above items have been corrected, call to arrange for reinspection. No further inspections for any construction related activity shall be made until the above items have been corrected.

\_\_\_\_\_  
Inspector's Signature

\_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
Inspector's Name

\_\_\_\_\_  
Contractor's Name

not present

Distribution Stormwater Quality Engineer, Code Enforcement, Inspector, Operator  
(Operator is Contractor)

Form \_\_\_\_\_ (10-01-01)

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ATTACHMENT 7



**Notice of Termination (NOT) for Storm Water Discharges Associated with Construction Activity under the TPDES Construction General Permit (TXR150000)**

For help completing this application, read the TXR150000 NOI Instructions (TCEQ-20023-Instructions).

**TCEQ Office Use Only**

TPDES Permit Number: TXR15|\_|\_|\_|\_| - NO

GIN Number: |\_|\_|\_|\_|\_|

**A. TPDES Permit Number:** TXR15\_\_\_\_\_

**B. Construction Site Operator** Customer Reference Number: CN \_\_\_\_\_  
Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: -- \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Country Mailing Information (if outside USA) Territory: \_\_\_\_\_ Country Code: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Extension: \_\_\_\_\_ Fax Number: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

**C. Project / Site Information** Regulated Entity Reference Number: RN \_\_\_\_\_  
Name: \_\_\_\_\_  
Physical Address: \_\_\_\_\_  
Location Access Description: \_\_\_\_\_  
City: \_\_\_\_\_ County: -- \_\_\_\_\_ Zip Code: \_\_\_\_\_

**D. Contact** - If the TCEQ needs additional information regarding this termination, who should be contacted?  
Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Extension: \_\_\_\_\_ Fax Number: \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

**E. Certification**  
I certify under penalty of law that authorization under the TPDES Construction General Permit (TXR150000) is no longer necessary based on the provisions of the general permit. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity under the general permit TXR150000, and that discharging pollutants in storm water associated with construction activity to waters of the U.S. is unlawful under the Clean Water Act where the discharge is not authorized by a TPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.  
**Construction Site Operator Representative:**  
Prefix: \_\_\_\_\_ First: \_\_\_\_\_ Middle: \_\_\_\_\_  
Last: \_\_\_\_\_ Suffix: \_\_\_\_\_  
Title: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

If you have questions on how to fill out this form or about the storm water program, please contact us at (512) 239-4671. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at (512) 239-3282.

The completed NOT must be mailed to the following address:

**Texas Commission on Environmental Quality  
Storm Water & General Permits Team; MC - 228  
P.O. Box 13087  
Austin, Texas 78711-3087**



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ATTACHMENT 7

Completing the Notice of Termination for Storm Water Discharges  
Associated with Construction Activity  
under the TPDES Construction General Permit (TXR150000)

**Who May File a Notice of Termination (NOT) Form**

Permittees disturbing 5 acres or more (or part of a larger common plan of development or sale disturbing 5 acres or more) who are presently covered under the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit must submit a Notice of Termination (NOT) when final stabilization has been achieved on all portions of the site that is the responsibility of the permittee; or another permitted operator has assumed control over all areas of the site that have not been finally stabilized and all silt fences and other temporary erosion controls have either been removed, scheduled for removal as defined in the SWP3, or transferred to a new operator if the new operator has sought permit coverage. Erosion controls that are designed to remain in place for an indefinite period, such as mulches and fiber mats, are not required to be removed or scheduled for removal.

**Final Stabilization** occurs when either of the following conditions are met:

- (a) All soil disturbing activities at the site have been completed and a uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.
- (b) For individual lots in a residential construction site by either:
  - (1) the homebuilder completing final stabilization as specified in condition (a) above; or
  - (2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization.
- (c) For construction activities on land used for agricultural purposes (e.g. pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to a surface water and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

**A. TPDES Permit Number**

Provide the TPDES permit number assigned to the operator of the construction site.

**B. Construction Site Operator Information**

**Customer Reference Number**

This number designates the operator's status as a TCEQ "customer"—in other words, an individual or business that is involved in an activity that we regulate. We assign each customer a number that begins with "CN," followed by nine digits. **This is not a permit number, registration number, or license number.** In the remainder of this section, we will use "this customer" to mean the operator for Part B of the form.

- If this customer has not been assigned a Customer Reference Number, leave the space for the Customer Reference Number blank.
- If this customer has already been assigned this number, enter the operator's Customer Reference Number.
- **Do not enter a permit number, registration number, or license number in place of the Customer Reference Number.**

**Name**

Enter the legal name of this customer as authorized to do business in Texas. Include any abbreviations (LLC, Inc., etc.).

**Mailing Address**

Enter a central and general mailing address for this customer to receive mail from the TCEQ. For example, if this customer is a large company, this address might be the corporate or regional headquarters. On the other hand, for a smaller business, this address could be the same as the site address.

**If this is a street address, please follow US Postal Service standards.** In brief, these standards require this information in this order:

- the "house" number—for example, the 1401 in 1401 Main St
- if there is a direction before the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- the street name (if a numbered street, do not spell out the number—for example, 6th St, not Sixth St)
- an appropriate abbreviation of the type of street—for example, St, Ave, Blvd, Fwy, Exwy, Hwy, Cr, Ct, Ln
- if there is a direction after the street name, the one- or two-letter abbreviation of that direction (N, S, E, W, NE, SE, SW, or NW)
- if there is a room number, suite number, or company mail code

**City, State, and ZIP Code**

Enter the name of the city, the two-letter USPS abbreviation for the state (for example, TX), and the ZIP Code. (Enter the full ZIP+4 if you know it.)

**ATTACHMENT 7**

**Country Mailing Information**

If this address is *outside* the United States, enter the territory name, country code, and any non-ZIP mailing codes or other non-U.S. Postal Service features here. If this address is *inside* the United States, leave these spaces blank.

**Phone Number and Extension**

This number should correspond to this customer's mailing address given earlier. Enter the area code and phone number here. Leave "Extension" blank if this customer's phone system lacks this feature.

**Fax Number**

This number should correspond to this customer's mailing address given earlier. Enter the area code and fax number here.

**E-mail Address**

As with the mailing address, this should be a general address that is appropriate for e-mail to this customer's central or regional headquarters, if applicable.

**C. Project / Site Information**

**Regulated Entity Reference Number**

This number designates this site's status as a TCEQ "regulated entity"—in other words, a location where an activity that we regulate occurs. We assign each regulated entity a number that begins with "RN," followed by nine digits. *This is not a permit number, registration number, or license number.*

- If this site has not been assigned a Regulated Entity Reference Number, leave the space for the Regulated Entity Reference Number blank.
- If this site has already been assigned this number, enter the Regulated Entity Reference Number.
- **Do not enter a permit number, registration number, or license number in place of the Regulated Entity Reference Number.**

**Name**

Enter the name by which you want this site to be known to the TCEQ.

**Physical Address**

Enter the physical address of the site itself. TCEQ staff should be able to use this address to find the site.

**Location Description**

Enter a physical description of the location of the site based on highway intersections and/or permanent landmarks.

**City, County, and ZIP Code**

Enter the name of the city, the county, and the ZIP Code. (Enter the full ZIP+4 if you know it.)

**D. Contact**

Give all the relevant information for the person whom TCEQ can contact if there are questions about any of the information on this form—perhaps the same person who completed the form.

**E. Certification**

The operator must sign and date this statement to validate this NOI. Be sure to enter the full legal name of the person signing the form and the relevant title—for example, "Operator," "Operator's attorney," or "Senior Site Manager." Use the "Prefix" blank for such titles as Dr., Mr., or Ms., as desired. Use the "Suffix" blank for such designations as Ph.D., Jr., Sr., III, or J.D., if applicable.

For a corporation, the application shall be signed by a responsible corporate officer. A responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this application, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. regional administrator of the United States Environmental Protection Agency).

**Questions?**

If you have questions about any of the information on this form, contact our Storm Water Program at 512/239-4671 or look for "Storm Water" on our Web site:  
[www.tceq.state.tx.us](http://www.tceq.state.tx.us)

Section 01422

REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Section includes general quality assurance as related to Reference Standards and a list of references.

1.02 QUALITY ASSURANCE

- A. For Products or workmanship specified by association, trade, or Federal 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 the date as stated in the General Conditions.
- C. Request clarification from Project Manager before proceeding should specified reference standards conflict with Contract documents.

1.03 SCHEDULE OF REFERENCES

AASHTO American Association of State Highway  
and Transportation Officials  
444 North Capitol Street, N.W.  
Washington, DC 20001

ACI American Concrete Institute  
P.O. Box 9094  
Farmington Hills, MI 48333-9094

AGC Associated General Contractors of America  
333 John Carlyle Street  
Alexandria, VA 22314

AI Asphalt Institute  
Research Park Drive  
P.O. Box 14052  
Lexington, KY 40512

**REFERENCE STANDARDS****CITY OF HOUSTON  
STANDARD GENERAL REQUIREMENT**

AITC	American Institute of Timber Construction 7012 S. Revere Parkway, Suite 140 Englewood, CO 80112
AISC	American Institute of Steel Construction One East Wacker Dr. Chicago, IL 60601
AISI	American Iron and Steel Institute 1101 17 <sup>th</sup> Street NW, Suite 1300 Washington, DC 20036
ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016
ANSI	American National Standards Institute 1819 L Street NW Sixth Floor Washington, D.C. 20036
APA	American Plywood Association Box 11700 Tacoma, WA 98411
API	American Petroleum Institute 1220 L Street, N.W. Washington, DC 20005
AREA	American Railway Engineering and Maintenance-of-Way- Association 8201 Corporate Drive, Suite 1125 Landover, Maryland 20785
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, PA 19428
AWPA	American Wood-Preservers' Association P.O. Box 5690 Granbury, TX 76049
AWS	American Welding Society 550 NW 42 <sup>nd</sup> Avenue Miami, FL 33126



CITY OF HOUSTON  
STANDARD GENERAL REQUIREMENT

REFERENCE STANDARDS

AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235
COH	City of Houston P.O. Box 1562 Houston, TX 77251-1562
CLFMI	Chain Link Fence Manufacturers Institute 9891 Broken Land Parkway, Suite 300 Columbia, MD 21046
CRSI	Concrete Reinforcing Steel Institute 933 Plum Grove Road Schaumburg, IL 60173-4758
EJMA	Expansion Joint Manufacturers Association 25 North Broadway Tarrytown, NY 10591
FS	Federal Standardization Documents General Services Administration Specifications Unit (WFSIS) 7th and D Streets, S.W. Washington, DC 20406
ICEA	Insulated Cable Engineer Association P.O. Box 440 S. Yarmouth, MA 02664
IEEE	Institute of Electrical and Electronics Engineers 445 Hoes Lane P.O. Box 440 Piscataway, NJ 08855-459
ISA	International Society of Arboriculture P.O. Box 3129 Champaign, IL 61826-3129
MIL	Military Specifications General Services Administration Specifications Unit (WFSIS) 7th and D Streets, S.W. Washington, DC 20406

**REFERENCE STANDARDS****CITY OF HOUSTON  
STANDARD GENERAL REQUIREMENT**

NACE	National Association of Corrosion Engineers 1440 South Creek Drive Houston, TX 77084-4906
NEMA	National Electrical Manufacturers' Association 1300 North 17 <sup>th</sup> Street, Suite 1847 Rosslyn, VA 22209
NFPA	National Fire Protection Association 1 Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101
OSHA	Occupational Safety Health Administration U.S. Department of Labor Office of Public Affairs – Room N3647 Washington, DC 20210
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077-1083
PCI	Prestressed Concrete Institute 209 W. Jackson Blvd. Chicago, IL 60606
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021
SSPC	Society for Protective Coatings (Steel Structures Painting Council) 40 24 <sup>th</sup> Street, Sixth Floor Pittsburgh, PA 15222
TAC	Texas Administrative Code Texas Water Resources Conservation Commission P. O. Box 13087 Library MC-196 Austin, TX 78711-3087
TxDOT	Texas Department of Transportation 125 East 11 <sup>th</sup> Street Austin, TX 78701-2483

CITY OF HOUSTON  
STANDARD GENERAL REQUIREMENT

**REFERENCE STANDARDS**

UL	Underwriters' Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062
UNI-BELL	UNI-BELL Pipe Association 2655 Villa Creek Drive, Suite 155 Dallas, TX 75234

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION



Section 01450

CONTRACTOR'S QUALITY CONTROL

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A. Quality assurance and control of Installation and manufacturers' field services and reports.

1.02 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control over Suppliers, manufacturers, Products, services, site conditions and workmanship, to produce work of specified quality at no additional cost to the City.
- B. Comply fully with manufacturers' Installation instructions, including each step in sequence.
- C. Request clarification from Project Manager before proceeding when manufacturers' instructions conflict with the Contract.
- D. Comply with specified standards as minimum requirements for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform the Work by persons qualified to produce a specified level of workmanship.

1.03 REFERENCES

- A. Obtain copies of standards and maintain at job site when required by individual Specification sections.

1.04 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual Specification sections, or as required by Project Manager, provide Product suppliers' or manufacturers' technical representative to observe site conditions, conditions of surfaces and Installation, quality of workmanship, start-up of equipment, operator training, testing, adjusting and balancing of equipment as applicable and to initiate required operation. Conform to minimum time requirements for start-up operations and operator training when provided in Specification sections.



CITY OF HOUSTON

**CONTRACTOR'S QUALITY CONTROL**      **STANDARD GENERAL REQUIREMENT**

- B. At Project Manager's request, submit qualifications of manufacturers' representative to Project Manager 15 days in advance of required representatives' services. Representative is subject to approval by Project Manager.
  
- C. Manufacturer's representatives shall report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to a manufacturer's written instructions. Submit report within 14 days of observation to Project Manager for review.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01452

INSPECTION SERVICES

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A. Inspection services and references

1.02 INSPECTION

- A. City Engineer will appoint an Inspector to represent the City and perform inspections, tests, and other services specified in individual Specification sections.
- B. City Engineer may also appoint, employ, and pay an independent firm to provide additional inspection or construction management services as indicated in Section 01454 - Testing Laboratory Services.
- C. The independent firm will submit reports to Project Manager, indicating observations and results of tests and indicating compliance or noncompliance with Contract requirements.
- D. Contractor shall assist and cooperate with the Inspector; furnish samples of materials, design mix, equipment, tools, and storage.
- E. Contractor shall notify Project Manager 24 hours prior to expected time for operations requiring services.
- F. Contractor shall sign and acknowledge reports for Inspector.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N - Not Used

END OF SECTION



Section 01454

TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Testing laboratory services and Contractor responsibilities related to those services.

1.02 REFERENCES

- A. ASTM C 1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- B. ASTM D 3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials.
- C. ASTM D 3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- D. ASTM E 329 - Standard Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
- E. ISO/TEC Guide 25 - General Requirements for the Competence of Calibration and Testing Laboratories.

1.03 SELECTION AND PAYMENT

- A. The City will select, employ, and pay for services of an independent testing laboratory to perform inspection and testing identified in Part 3 of individual Specification sections.
- B. Contractor shall employ and pay for services of an independent testing laboratory or laboratories to perform inspection and testing identified in Part 2 of individual Specification sections.
- C. Employment of a testing laboratory by the City shall not relieve Contractor of its obligation to perform work in accordance with requirements of Contract documents.

CITY OF HOUSTON

**TESTING LABORATORY SERVICES      STANDARD GENERAL REQUIREMENT**

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- D. The City will deduct a minimum two-hour charge for testing laboratory time from periodic progress payment when operations requiring testing or inspection are canceled without prior notification.
- E. The City will deduct cost of retesting from periodic progress payment whenever failed work is removed, replaced and retested.

**1.04      QUALIFICATION OF LABORATORY**

- A. Meet laboratory requirements of ASTM E 329 and applicable requirements of ASTM C 1077, ASTM D 3666, and ASTM D 3740.
- B. Meet ISO/TEC Guide 17025 conditions for accreditation by the American Association for Laboratory Accreditation (A2LA) in specific fields of testing required in individual Specification sections.
- C. If laboratory subcontracts are part of the testing services, such work will be placed with a laboratory complying with the requirements of this Section.

**1.05      LABORATORY REPORTS**

- A. Testing laboratory shall provide and distribute copies of laboratory reports to the distribution list Project Manager provides at the pre-construction conference.
- B. Keep one copy of each laboratory report distributed or faxed at the site field office for duration of the Work.
- C. Laboratory will fax material supplier, Contractor and Project Manager reports that indicate failing test results by no later than close of business on the working day following test completion and review.

**1.06      LIMITS ON TESTING LABORATORY AUTHORITY**

- A. Laboratory may not release, revoke, alter, or enlarge requirements of the Contract.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume Contractor duties.
- D. Laboratory has no authority to stop the Work.



1.07 CONTRACTOR RESPONSIBILITIES

- A. Provide safe access to the Work and to manufacturer's facilities for Project Manager and for testing laboratory personnel.
- B. Provide testing laboratory with a copy of the Construction Schedule and a copy of each update to Construction Schedule.
- C. Notify Project Manager and testing laboratory during normal working hours of the day previous to expected time for operations requiring inspection and testing services. When Contractor fails to make timely prior notification, do not proceed with the operations requiring inspection and testing services.
- D. Notify Design Consultant 24 hours in advance when Specification requires presence of Design Consultant for sampling or testing.
- E. Request and monitor testing as required to provide timely results and to avoid delays to the Work. Provide samples to laboratory in sufficient time to allow required test to be performed in accordance with specified test methods before intended use of the Product.
- F. Cooperate with laboratory personnel in collecting samples on site. Provide incidental labor and facilities for safe access to the Work to be tested, to obtain and handle samples at site or at source of Products to be tested, and to facilitate tests and inspections including storage and curing of test samples.
- G. Make arrangements with laboratory through Project Manager. Payment for additional testing will be made in accordance with Document 00700 - General Conditions:
  - 1. Re-testing required for failed tests.
  - 2. Re-testing for nonconforming work.
  - 3. Additional sampling and tests requested beyond specified requirements.
  - 4. Insufficient notification of cancellation of tests for work scheduled but not performed.

PART 2 PRODUCTS - Not Used

**PART 3 EXECUTION**

**3.01 CONDUCTING TESTING**

- A Conform to laboratory sampling and testing methods specified in individual Specification sections to the latest issues of ASTM standards, TxDOT methods, or other recognized test standards as approved by Project Manager.
  
- B Requirements of this Section shall also apply to those tests for approval of materials, for mix designs, and for quality control of materials as performed by employed testing laboratories.

**END OF SECTION**

Section 01502

MOBILIZATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Mobilization of construction equipment and facilities onto the site.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Price Contracts. If Contract is Unit Price Contract, measurement for mobilization is on a lump sum basis.
- B. Stipulated Price (Lump Sum) Contract. If Contract is Stipulated Price Contract, payment for Work in this Section is included in total Stipulated Price.
- C. Mobilization payments will be included in monthly payment estimates upon written application by Contractor subject to the following provisions:

- 1. Authorization for payment of 50 percent of that portion of Contract Price designated for mobilization will be made upon receipt and approval by Project Manager of the following items, as applicable:
  - a. Safety Program (Document 00700, Paragraph 10.1.1).
  - b. Site Utilization Plan (Section 01145).
  - c. Schedule of Values (Section 01292), if any.
  - d. Initial Construction Photographs (Section 01321), if needed.
  - e. Preliminary Construction Schedule and Billing Forecast (Section 01325).
  - f. Construction Schedule (Section 01325 or Section 01326, as applicable).
  - g. Submittal Schedule (Section 01330).
  - h. Site specific Storm Water Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) along with storm water application fee (Section 01410), if required.
  - i. Contractor's Quality Control Plan (Section 01450), if required.

- j. Establishment of a Field Office for Project Manager meeting requirements of Section 01520 - Temporary Field Office.
  - k. Traffic Control Plan (Section 01555), if required.
  - l. Plan for Control of Ground and Surface Water (Section 01578), if required.
  - m. Project Signs Submittal (Section 01580).
  - n. Trench Safety Program (Section 02260), if required.
  - o. Dewatering plan, when required.
- 2. Authorization for payment of the balance of that portion of Contract Price designated for mobilization will be made upon completion of the Work amounting to five percent of Original Contract Price. The amount of Contract Price designated for mobilization may not be applied in computing whether or not five percent of the Original Contract Price has been obtained.
  - 3. Mobilization payments will be subject to retainage amounts stipulated in Document 00700 – General Conditions.

PART 2 PRODUCTS -Not Used

PART 3 EXECUTION -Not Used

END OF SECTION

Section 01504

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary facilities and necessary controls for the Project, including utilities, telephone, sanitary facilities, storage sheds and building, safety requirements, first aid equipment, fire protection, security measures, protection of the Work and property, access roads and parking, environmental controls, pest and rodent control and disposal of trash, debris and excavated material.
- B. Facilities and controls specified in this section are considered minimum for the Project. Provide additional facilities and controls for proper execution of the Work and to meet Contractor's responsibilities for protection of persons and property.

1.02 MEASUREMENT AND PAYMENT

A. UNIT PRICES

- 1. No separate payment will be made for any temporary facilities and controls required under this section. Include cost of such work in contract price listed for mobilization.

1.03 CONTRACTOR'S RESPONSIBILITY

- A. Comply with applicable requirements specified in other sections of Specifications.
  - 1. Maintain and operate temporary facilities and systems to assure continuous service.
  - 2. Modify and extend systems as the Work progress requires.
  - 3. Completely remove temporary materials and equipment when no longer required.
  - 4. Restore existing facilities used for temporary services to specified or original condition.

PART 2 PRODUCTS - NOT USED



**PART 3 EXECUTION**

**3.01 TEMPORARY UTILITIES**

**A. Obtaining Temporary Service:**

1. Make arrangements with utility service companies for temporary services.
2. Abide by rules and regulations of the utility service companies or authorities having jurisdiction.
3. Be responsible for utility service costs until Date of Substantial Completion. Included are fuel, power, light, heat, and other utility services necessary for execution, completion, testing, and initial operation of work.

**B. Water:**

1. Provide water required for and in connection with work to be performed and for specified tests of piping, equipment, devices, or for other use as required for proper completion of the Work.
2. Water to be drawn from public fire hydrants. Obtain transit meter from City of Houston, Department of Public Works and Engineering, Taps and Meters Section. Pay required deposit based on rates established by latest ordinance.
3. Provide and maintain an adequate supply of potable water for domestic consumption by Contractor personnel, Project Manager and representatives of the City.

**C. Electricity and lighting:**

1. Provide electric power service required for the Work including required testing, lighting, operation of equipment, and other Contractor use.
2. Electric power service includes temporary power or generators required to maintain plant operations during scheduled shutdowns.
3. Minimum lighting level shall be 10 foot-candles for open areas; 20-foot-candles for stairs and shops. Provide a minimum of one 300-watt lamp for each 200 square feet of work area.

**D. Temporary Heat and Ventilation:**

1. Provide temporary heat necessary for protection or completion of the Work.
  2. Provide temporary heat and ventilation to assure safe working conditions; maintain enclosed areas at a minimum of 50 degrees F.
- E. Telephone:
1. Provide emergency telephone service at Project site for use by Contractor personnel and others performing work or furnishing services at the site.
  2. Provide Houston-Metro lines, allowing unlimited calls, without charge in Greater Houston Metropolitan area with "call waiting" and "call forwarding" options. Provide one telephone answering machine with beeperless remote message retrieval capability.
- F. Sanitary Facilities:
1. Provide and maintain sanitary facilities for persons on the site; comply with regulations of State and local departments of health.
  2. Enforce use of sanitary facilities by construction personnel at site. Enclose sanitary facilities. Pit-type toilets are not permitted. No discharge will be allowed from these facilities. Collect and store sewage and waste so as not to cause nuisance or health problems. Haul sewage and waste off-site and properly dispose in accordance with applicable regulations.
  3. Locate toilets near the Work site and secluded from view insofar as possible. Keep toilets clean and supplied throughout the course of the Work.

3.02 STORAGE SHEDS AND BUILDINGS

- A. Provide adequately ventilated, watertight storage facilities with floor above ground level for Products susceptible to weather damage.
- B. Storage of Products not susceptible to weather damage may be on blocks off the ground.
- C. Store Products in a neat and orderly manner. Place Products to permit easy access for identification, inspection and inventory.
- D. Fill and grade site for temporary structures to provide drainage away from temporary and existing buildings.

**3.03 SAFETY REQUIREMENTS**

- A. Submit a safety program at the pre-construction meeting and follow the program in accordance with Document 00700 – General Conditions. Include documented response to trench safety requirements of Section 02260 - Trench Safety System.
- B. Conduct operations in strict accordance with applicable Federal, State and local safety codes and statutes and with good construction practice. Establish and maintain procedures for safety of all work, personnel and equipment involved in the Work.
- C. Observe and comply with Texas Occupational Safety Act (Art. 5182a, V.C.S.) and with all safety and health standards promulgated by Secretary of Labor under Section 107 of Contract Work Hours and Standards Act, published in 29 CFR Part 1926 and adopted by Secretary of Labor as occupational safety and health standards under Williams-Steiger Occupational Safety and Health Act of 1970, and to other legislation enacted for safety and health of Contractor employees. Safety and health standards apply to Subcontractors and Suppliers as well as to the Contractor.
- D. Observance of and compliance with safety regulations is Contractor's responsibility without reliance or superintendence of or direction by Project Manager. Immediately advise Project Manager of investigation or inspection by Federal Safety and Health inspectors of Contractor's or Subcontractor's work or place of work on site under the Contract, and after investigation or inspection, advise Project Manager of results. Submit one copy of accident reports to Project Manager within 10 days of occurrence.
- E. Protect areas occupied by workmen using the best available devices for detection of lethal and combustible gases. Test devices frequently to assure functional capability. Constantly observe infiltration of liquids into the Work area for visual or odor evidence of contamination, and immediately take appropriate steps to seal off entry of contaminated liquids to the Work area.
- F. Implement safety measures, including but not limited to safety personnel, first-aid equipment, ventilating equipment and other safety equipment specified or detailed on Drawings.
- G. Maintain required coordination with City Police and Fire Departments during entire period covered by the Contract.
- H. Include Project safety analysis in safety plan. Itemize major tasks and potential safety hazards. Plan to eliminate hazards or protect workers and public from each hazard.

3.04 FIRST AID EQUIPMENT

- A. Provide a first aid kit throughout the construction period. List telephone numbers for physicians, hospitals, and ambulance services in each first aid kit.
- B. Have at least one person thoroughly trained in first aid and CPR procedures present on the site when work is in progress. Contractor to conform to protocols and requirements for training and protection against "blood borne pathogens".

3.05 FIRE PROTECTION

- A. Conform to specified fire protection and prevention requirements established by Federal, State, or local governmental agencies and as provided in Safety Program.

3.06 SECURITY MEASURES

- A. Protect the Work, materials, equipment, and property from loss, theft, damage, or vandalism. Protect City property used in performance of the Contract.
- B. If existing fencing or barriers are breached or removed for purposes of construction, provide and maintain temporary security fencing equal to existing.

3.07 PROTECTION OF UTILITIES AND PIPELINES

- A. Prevent damage to existing public utilities during construction. Approximate locations of known utilities are shown on Drawings, but all lines may not be shown. Excavate with caution and repair lines damaged by construction operations.
- B. Use the Utility Coordinating Committee One Call System, telephone number, (713) 223-4567, which must be called 48 hours in advance. The toll free telephone number is 1-800-669-8344, Texas One Call System.
- C. Before excavating, locate underground utilities by appropriate means including the use of metal detection equipment, and probes, or by excavation or surveys. Repair damage caused by investigative work and by failure to locate or to preserve underground utilities.
- D. Give utility owners a minimum five days notice before commencing excavation to allow time to locate utilities and make adjustments or

relocations when they conflict with the Work. Include cost for temporary relocation of water, wastewater, and storm drainage lines, necessary to accommodate construction, in unit prices for utility construction unless otherwise noted. Bypassing of sanitary waste to storm drainage facilities is not allowed.

- E. Prior to excavation near pipelines, request a representative of the pipeline company to meet with Contractor and Project Manager at the site to discuss procedures to be used. Request pipeline company's representative to locate the pipelines in at least three locations: at each side and at centerline of proposed excavation of proposed utility. Also request representative and Project Manager to be present to observe Contractor operations when excavation is conducted within 15 feet of pipeline.
- F. Utility service lines are not shown on the construction document drawings. Contractor should anticipate that such service lines exist and should exercise extreme caution during construction. The utility service lines should be repaired and restored immediately as per the specification, if damaged due to any construction activities. No separate payment will be made for this repair and restoration work. Include payment in unit price for work in appropriate sections.
- G. Prior to abandonment of utility, make appropriate arrangements with City and owner of utility to terminate service, remove meters, transformers, and poles as may be required by site conditions.

**3.08 PROTECTION OF THE WORK AND PROPERTY**

**A. Preventive Actions**

- 1. Take necessary precautions and actions to prevent damage, injury, or loss to the Work or public and private property, including:
  - a. Storage of apparatus, supplies, and Products in an orderly, safe manner to limit interference with progress of the Work or work of other contractors, utility service companies, or the City's operations.
  - b. Suitable storage for Products subject to damage by exposure to weather, theft, breakage, etc.
  - c. Limitation of loading pressures imposed upon portions of the Work.
  - d. Frequent clean up of refuse, scrap materials, and debris from construction operations, necessary to maintain the site in a safe and orderly condition.

- e. Provision of barricades and guard rails to protect pedestrian and traffic around openings, scaffolding, temporary stairs and ramps, excavations, elevated walkways, and other hazardous areas.
  2. Protect public and private property adjacent to the site. Obtain written consent before entering or occupying privately-owned land except on easements provided for construction. Restore property damaged by construction operations to condition equal to or better than that existing before the damage.
- B. Barricades and Warning Systems
1. Where work is performed on or adjacent to roadways, rights-of-ways, or public land, provide barricades, fences, lights, warning signs, danger signals, and other precautionary measures necessary for protection of persons or property and for protection of the Work.
    - a. Erect sufficient barricades to keep vehicles and pedestrians from entering the Work. Paint barricades to be visible at night. From sunset to sunrise, provide at least one light at each barricade.
    - b. Maintain barricades, signs, lights, and provide watchmen until Project Manager approves removal. Whenever work creates encroachment onto public roadways, station flagmen to manage traffic flow in accordance with approved traffic control plan.
    - c. Conform to requirements of section 01555 – Traffic Control and regulation.
- C. PROTECTION OF EXISTING STRUCTURES
1. Underground Facilities
    - a. Known Underground Facilities are shown on the Drawings but all Facilities may not be shown. Explore sufficiently ahead of trenching and excavation work to locate Underground Facilities in order to prevent damage to them and to prevent interruption of utility services. Restore damage to Underground Facilities to original condition at no additional cost to the City.
    - b. If necessary to avoid unanticipated Underground Facilities, Project Manager may make changes in location of the Work.
    - c. If permanent relocation of an Underground Facility is required



and not provided for in the Contract documents, City Engineer will direct Contractor in writing to perform the Work under Modification provisions in Document 00700 - General Conditions.

2. Surface Structures include buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks, guard cables, fencing, and other facilities that are visible above the ground level.
3. Protection of Underground Facilities and Surface Structures:
  - a. Support in place and protect Underground Facilities and Surface Structures located within or adjacent to the limits of the Work from damage. Install supports as required by the owner of the structure. Satisfy Project Manager that the owner of the facility or structure has approved methods and procedures before installing structure supports.
  - b. Avoid moving or changing public utility or private corporation property without prior written consent of a responsible official of the facility or structure. Allow representatives of utilities to enter the construction site for maintenance and repair purposes or to make necessary changes.
  - c. Notify utility and pipeline owners and operators of the nature of construction operations and dates when operations will be performed. When construction operations are required in immediate vicinity of existing structures, pipelines, or utilities, give a minimum of five working days advance notice. Probe and flag location of Underground Facilities prior to commencement of excavation. Keep flags in place until construction operations uncover the facility.
  - d. Assume risk for damages and expenses to Underground Facilities and Surface Structures within or adjacent to the Work.
- D. Employ a structural engineer to ensure protection measures are adequate for the safety and integrity of structures and facilities.
- E. PROTECTION OF INSTALLED PRODUCTS:
  1. Provide protection of Installed Products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to completion of the Work.

2. Control traffic to prevent damage to Products and surfaces.
3. Provide coverings to protect Products from damage. Cover projections, wall corners, jambs, sills, and exposed sides of openings in areas used for traffic and passage of materials in subsequent work.

3.09 ROADS AND PARKING

- A. Prevent interference with traffic and operations of the City on existing roads.
- B. Designate temporary parking areas to accommodate construction and City personnel. When site space is not adequate, provide additional off-site parking. Locate as approved by Project Manager.
- C. Minimize use by construction traffic on existing streets and driveways.
- D. Do not allow heavy vehicles or construction equipment in existing parking areas.

3.10 ENVIRONMENTAL CONTROLS

- A. Use methods, equipment, and temporary construction necessary for control of environmental conditions at the site and adjacent areas.
- B. Comply with statutes, regulations, and ordinances relating to prevention of environmental pollution and preservation of natural resources including National Environmental Policy Act of 1969, PL 91-190, Executive Order 11514.
- C. Minimize impact to the surrounding environment. Do not use construction procedures that cause unnecessary excavation and filling of terrain, indiscriminate destruction of vegetation, air or stream pollution, or harassment or destruction of wildlife.
- D. Limit disturbed areas to boundaries established by the Contract. Do not pollute on-site streams, sewers, wells, or other water sources.
- E. Do not burn rubbish, debris or waste materials.

3.11 POLLUTION CONTROL

- A. Provide methods, means, and facilities necessary to prevent contamination of soil, water or the atmosphere by discharge of Pollutants from construction operations.
- B. Provide equipment and personnel to perform emergency measures to contain spillage, and to remove contaminated soils or liquids. Excavate and dispose of contaminated earth off-site in accordance with laws and regulations, and

replace with suitable compacted fill and topsoil.

- C. Provide systems necessary for control of Pollutants.
  - 1. Prevent toxic concentrations of chemicals.
  - 2. Prevent harmful dispersal of Pollutants into the environment.
- D. Use equipment that conforms to current Federal, State, and local laws and regulations.

**3.12 PEST AND RODENT CONTROL**

- A. Provide rodent and pest control as necessary to prevent infestation of construction or storage areas.
- B. Employ methods and use materials that will not adversely affect conditions at site or on adjoining properties.

**3.13 NOISE CONTROL**

- A. Provide vehicles, equipment, and use construction activities that minimize noise to the greatest degree practicable. Conform to noise levels of Chapter 30 –Noise and Sound Level Regulation, City Code of Ordinances, and latest OSHA standards. Do not permit noise levels to interfere with the Work or create a nuisance to surrounding areas.
- B. Conduct construction operations during daylight hours except as approved by Project Manager.
- C. Select construction equipment that operates with minimum noise and vibration. When directed by Project Manager, correct objectionable noise or vibration produced by operation of equipment at no additional cost to the City. Sound Power Level (PWL) of equipment shall not exceed 85 dbA (re:  $10^{-12}$  watts) measured five feet from the equipment, or at a lower level if prescribed by City Ordinances. Equipment noise requirements are contained in equipment specifications.

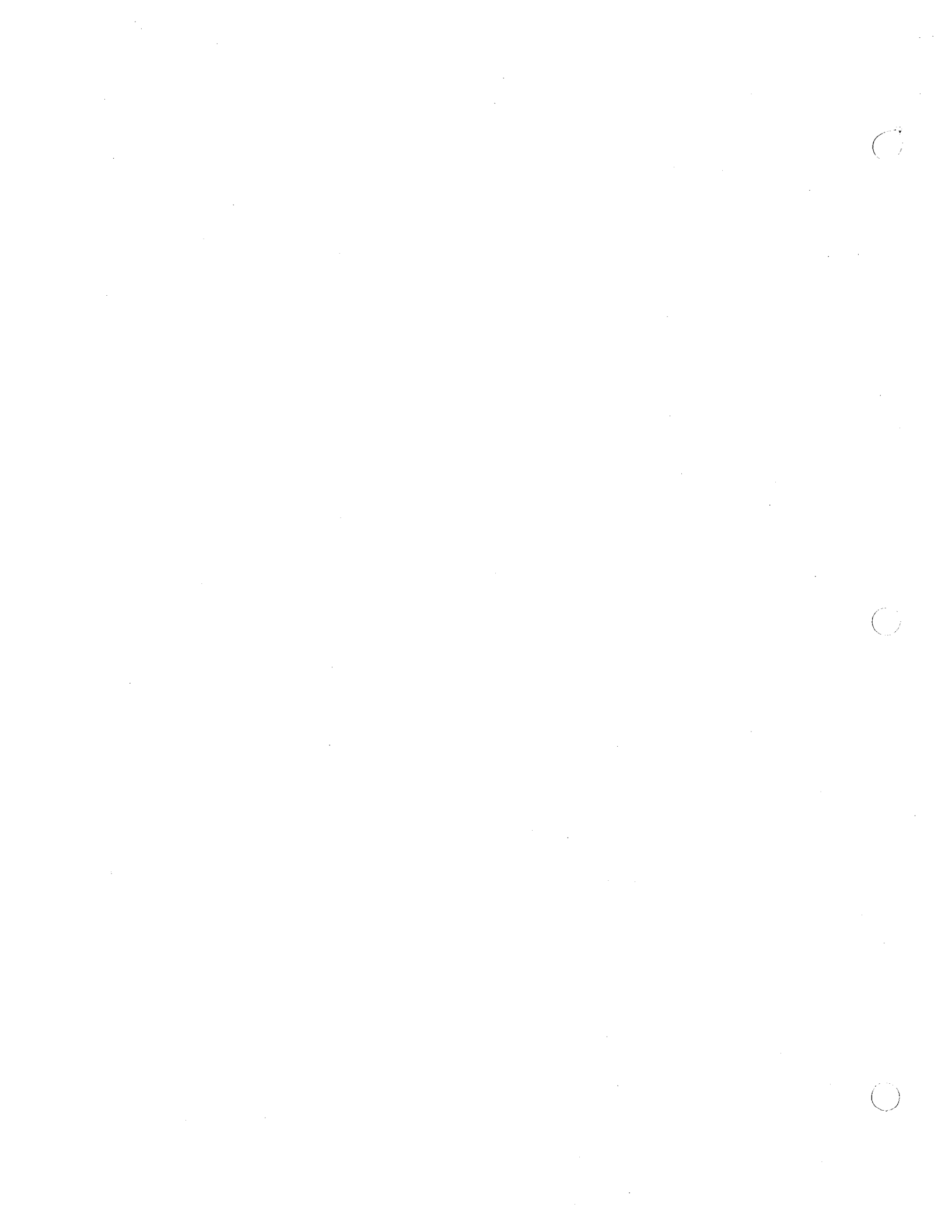
**3.14 DUST CONTROL**

- A. Use water or other methods approved by Project Manager to control amount of dust generated by vehicle and equipment operations.

**3.15 WATER RUNOFF AND EROSION CONTROL**

- A. Comply with requirements of section 01410 – TPDES Requirements.
- B. Conduct fill, grading and ditching operations and provide adequate methods necessary to control surface water, runoff, subsurface water, and water from excavations and structures in order to prevent damage to the Work, the site, or adjoining properties.
  - 1. Plan and execute construction and earthwork by methods that control surface drainage from cuts and fills, and from borrow and waste disposal areas.
  - 2. Minimize area of bare soil exposed at one time.
  - 3. Provide temporary control measures, such as berms, dikes, and drains.
  - 4. Provide, operate, and maintain equipment and facilities of adequate size to control surface water.
  - 5. Construct fill and waste areas by selective placement of materials to eliminate erosion of surface silts or clays that may erode.
  - 6. Direct water away from excavations, pits, tunnels, and other construction areas to prevent erosion, sedimentation or damage.
  - 7. Maintain existing drainage patterns adjacent to the site by constructing temporary earth berms, sedimentation basins, retaining areas, and temporary ground cover.
  - 8. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to the site or adjoining areas, in conformance with environmental requirements.
  - 9. Inspect earthwork periodically to detect any evidence of erosion. Take corrective measures as required to control erosion.

END OF SECTION



Section 01506

**SEWER BYPASSING AND DEWATERING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Temporary bypassing and dewatering of sewers and service laterals.

**1.02 MEASUREMENT AND PAYMENT**

- A. Payment will be on a lump sum basis and includes, but is not limited to labor, materials and equipment to bypass flow around Contractor's work in accordance with the specific needs of the project. Payment also includes restoration of site to original condition or better after completion of bypass pumping operations.
- B. Refer to Section 01270 Measurement and Payment for unit price procedures.

**1.03 DEFINITIONS**

- A. Bypass pumping and/or bypass pumping system includes, but is not limited to, all pumps, piping, valves, and other equipment needed to move the intended flow from one location to another.

**1.04 SUBMITTALS**

- A. Submit Bypass Plan including drawings and complete design data showing methods and equipment for sewer bypassing. Provide the following information:
  - 1. Drawings indicating the scheme and location of temporary sewer plugs and bypass discharge lines. Show the method and location for discharging the bypass lines.
  - 2. Capacities of pumps, prime movers, and standby equipment.
  - 3. Design calculations proving adequacy of the system and selected equipment.
  - 4. Standby power source.
  - 5. Staffing plan.



6. Suction and discharge points with elevations and stationing on the design plans.
  7. Pump performance curves.
  8. Calculations to verify suction lift of pumps will not be exceeded.
  9. Proposed noise control and exhaust control plans for pumping equipment.
  10. Plan for disruption of sewer service laterals or methods and equipment for lateral bypassing.
  11. Bypass piping inspection plan.
  12. Locations of road crossings
- B. Wet Weather Bypass Plan: Modeled flows on the 21-inch sanitary sewer reflect a wet weather peaking factor of more than 10. Prepare a wet weather plan for mitigating the impact of this peaking, and preventing any sewage spills. The plan shall discuss the following, as a minimum:
1. Special equipment and piping for easy dismantling and removal.
  2. Placement of bypass pumps above expected water levels.
  3. Weather monitoring and notification plan, and triggers for initiating action.
- C. Submit qualifications of personnel to be installing and maintaining bypass pumping system. Experience should include at least one previous project requiring sewage flows in excess of 5 mgd.

#### 1.05 JOB CONDITIONS

- A. Modeled flow data for obtained from City of Houston is as follows:
1. 12-inch (MH WD043032 to MH WD043002)
    - a. ADF =0.05 mgd
    - b. Peak Hr ADF (2 times ADF) = 0.1 mgd
    - c. 2-Hr PWWF = 0.8 mgd
  2. 12-inch (MH WD043003 to MH WD043002)
    - a. ADF =0.02 mgd
    - b. Peak Hr ADF (2 times ADF) = 0.04 mgd

- c. 2-Hr PWWF = 0.6 mgd
  - 3. 21-inch (MH WDP06078 to MH WDP06077)
    - a. ADF = 0.35 mgd
    - b. Peak Hr ADF (2 times ADF) = 0.7 mgd
    - c. 2-Hr PWWF = 4.0 mgd
- B. Obtain current flow information at the time of construction. Higher flows may be encountered based on weather and other upstream conditions.
- C. In areas where flows are bypassed, discharge flows as approved by Project Manager. No discharging to ground surface, receiving waters, storm drains, or by any method which results in soil contamination, groundwater contamination, or any potential health hazards.

#### 1.06 SCHEDULING

- A. Cease operation of bypass pumping when approved by Project Manager.
- B. Do not shut down between shifts, on holidays or weekends, or during work stoppages without written permission from Project Manager. Provide an attendant around-the-clock who is solely responsible for maintaining bypass pumping system.

### PART 2 PRODUCTS

#### 2.01 BYPASS PUMPING SYSTEM

- A. Use self-priming type or submersible electric pumps, with a working pressure gauge on the discharge. Pumps shall meet requirements of City of Houston Noise and Sound Level Regulations.
- B. For less than or equal to 2 MGD capacity, maintain on site the following minimum requirements:
  - 1. Sufficient equipment and materials to ensure continuous and successful operation of the bypass and dewatering systems. Continuously monitor complete bypass system, including all piping.
  - 2. A system of pumps and piping operating on site to maintain a minimum 150% capacity of the anticipated maximum flow (as determined by the

Contractor). In addition, provide a standby pump, equal in capacity to the largest pump of the system, piped, plumbed, and ready for operation. Standby pump shall be fueled and operational at all times.

3. Sufficient number of valves, tees, elbows, connections, tools, sewer plugs, piping, hoses, and other parts of system hardware to ensure immediate repair or modification of any part of the system as necessary.
4. For bypass piping lengths greater than 1,000 feet, construct and plumb a minimum of one additional (redundant) pipeline that is equal in diameter to the largest size in use for the bypass setup for immediate operation.

C. For greater than 2 MGD capacity, maintain on site the following minimum requirements:

1. Fused HDPE pipe material with pressure rating of 1.5 times maximum operating pressure.
2. Multiple pipelines to convey 150% of the maximum anticipated flow (as determined by the Contractor). Construct and plumb a minimum of one additional (redundant) pipeline that is equal in diameter to the largest pipe size in use for the bypass setup for immediate operation.
3. Comply with other requirements listed in 2.01 B of this Section.

### **PART 3 EXECUTION**

- A. Sanitary sewer mains shall remain in service at all times throughout the duration of the project. Contractor is responsible for diverting flow away from the limits of construction through the use of bypass pumping or flow diversions with prior written approval from Project Manager.
- B. Disruption to service for businesses and multi-family residences shall be addressed on a case-by-case basis.
- C. Service to laterals from single family homes may be disrupted for a period of no more than 7 hours between 11:00 PM and 6:00 AM. If disruption is

estimated to exceed 7-hour limit, provide alternative means of service without disruption to resident.

- D. Maintain pedestrian and vehicular traffic and comply with ADA regulations.
- E. Arrange all necessary access and temporary construction agreements for the location of the bypass pumping system.
- F. Design the bypass pumping system to normally maintain the wastewater flow below the top of the pipe, without surcharging.
- G. Install complete bypassing system and pressure test to 1.5 times the maximum operating pressure before bypassing any sewage.
- H. Notify Project Manager minimum 48 hours prior to shutting down or bypassing the sanitary sewer.

### 3.02 FIELD QUALITY CONTROL

- A. During bypass pumping operations, do not allow sewage to leak, dump, or spill into or onto areas outside of existing sanitary sewer systems.
- B. In the event of an accidental spill or overflow, immediately stop discharge and take action to clean up and disinfect spill. Promptly notify Project Manager so required reporting can be made to Texas Commission on Environmental Quality (TCEQ) and the Environmental Protection Agency (EPA).
- C. While in operation, inspect entire bypass pumping and piping system for leaks on an hourly basis. Maintain an inspection log including time of inspections, conditions of the piping, and name of the inspector. Provide to Project Manager upon request.

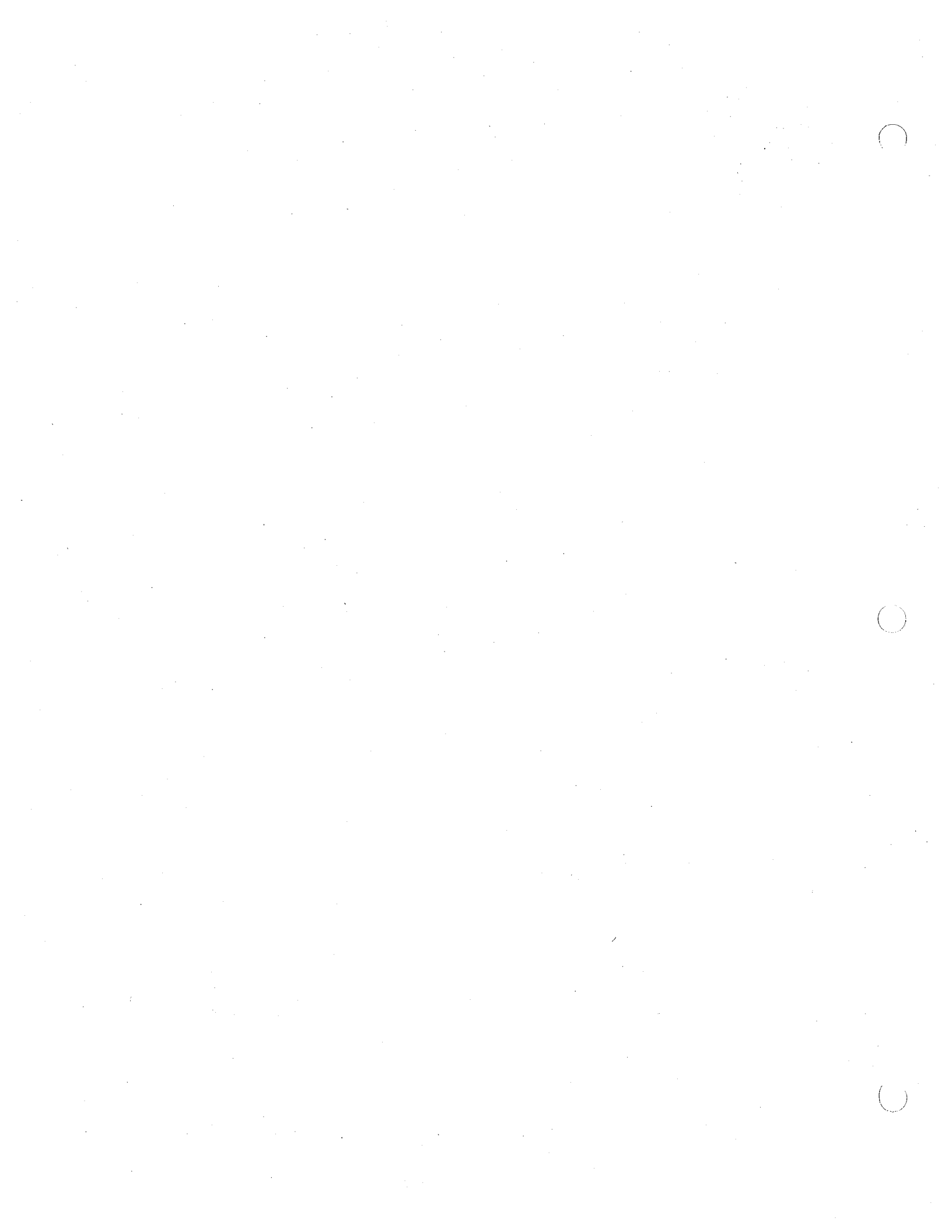
### 3.03 CLEANING

- A. When bypass pumping operations are complete, drain sewage within bypass piping into sanitary sewers prior to disassembly. Clean and disinfect bypass piping before hauling away from site.

### 3.04 DAMAGES

- A. Repair, without additional cost to City, any damage that may result from installation, maintenance, and operation of bypassing system, including mechanical or electrical failures.

END OF SECTION



Section 01520

TEMPORARY FIELD OFFICE

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A Temporary field office building and associated parking area.

1.02 FACILITY DESCRIPTION

- A Temporary field office to be utilized by authorized representatives of the City to coordinate and monitor daily construction activities performed by Contractor.
- B. Field office shall be a non-smoking facility.

PART 2 P R O D U C T S

2.01 FIELD OFFICE

A General:

1. Locate office in vicinity of the Work at a location approved by Project Manager or where indicated on Drawings.
2. Furnish, Install and maintain field office for exclusive use of authorized representatives of the City. Provide sufficient room for Project meetings and Inspector's office.
3. Provide office within 10 days of Date of Commencement of the Work.
4. Construct two all-weather, hard surfaced parking spaces for exclusive use of authorized representatives of the City. Provide all-weather surfaced walk between parking spaces and field office.

B. Minimum Construction:

- 1 Structurally sound foundation and superstructure.

Weather tight with insulated roof, walls and 7-foot ceiling (minimum).



3. Stairs or walkway with handrail and covered entrance platform (minimum 4 feet by 4 feet) with mud scraper at door.
  4. Resilient floor covering.
  5. Screened windows with area equal to approximately 10 percent of floor area sufficient for light, view of the site, and ventilation. Provide each window with operable sash and burglar bars.
  6. Secure exterior doors with dead-bolt cylinder locks and burglar bars.
- C. Minimum Services:
1. Exterior entrance light.
  2. Interior lighting of 75 foot-candles minimum at desktop height
  3. Automatic heating to maintain 65 degrees F in winter.
  4. Automatic cooling to maintain 75 degrees F in summer.
  5. Electric power service.
  6. Three telephone service lines one for voice, one for data, and one for fax, for exclusive use of authorized representatives of the City.
  7. Sanitary facilities in field office with one water closet, one lavatory, and one medicine cabinet for exclusive use of authorized representatives of the City.
- D. Minimum Furnishings:
1. One 5-drawer desk
  2. Two swivel desk chairs with casters.
  3. One plan table.
  4. One drawing plan rack.
  5. One 4-drawer legal file cabinet complete with fifty legal-size hanging folders and two full-sized carriers.
  6. One marker board with cleaner and markers.

7. Two waste baskets.
  8. One 30-inch by 36-inch tack board.
  9. One all-purpose fire extinguisher.
  10. Six protective helmets (hard hats) with ratchet adjustment for exclusive use of authorized representatives of the City.
  11. Conference table and chairs to accommodate 10 persons.
  12. All in one printer, copier, plain paper fax machine.
  13. Telephone instrument separate from fax machine.
- E. Provide adequate space for one set of Contract documents for ready reference.

**PART 3 EXECUTION**

**3.01 MAINTENANCE**

- A. Maintain all-weather surface driveway and parking areas, buildings, walkways, stairs and required furnishings and equipment for duration of the Contract.
- B. Provide janitorial services for duration of the Contract consisting of twice weekly sweeping and mopping floors, trash removal, weekly restroom cleaning, and weekly dusting of furniture and equipment.
- C. Provide soap, paper towels, toilet paper, cleansers and other necessary consumables.
- D. Immediately repair damage, leaks or defective service.

**3.02 PROJECT CLOSEOUT**

- A. Remove temporary field office and signs and restore site as specified in Section 01770 - Closeout Procedures.

END OF SECTION



SECTION 01554

TRAFFIC CONTROL AND STREET SIGNS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Materials, hardware and installation of Traffic Signs.

1.02 SUBMITTALS

A. Contractor shall submit a list of intended suppliers and products to be used for all signs, posts, and associated hardware. City reserves the right to request actual product samples prior to approval.

1.03 MEASUREMENT AND PAYMENT

A. Signs installed or replaced will be measured by the each sign. Signs refurbished will be measured by each sign.

B. Payment for installation of traffic signs will be on the basis of each sign installed.

C. The price is full compensation for furnishing and installing new signs and hardware. Cost of associated posts, footings, and miscellaneous mounting hardware will not be paid for directly but is to be included in the unit price bid for installation of each traffic sign.

D. Non-standard signs installed or replaced will be measured by the square foot of the sign face. Non-standard signs shall not be installed without prior approval from the City.

PART 2 PRODUCTS

2.01 MATERIALS

A. The following ASTM Standards and documents, of the issue in effect on the date of Invitation for Bid, form a part of this specification to the extent herein.

1. ASTM B 209 Specification for Aluminum and Aluminum Alloy Sheet and Plate

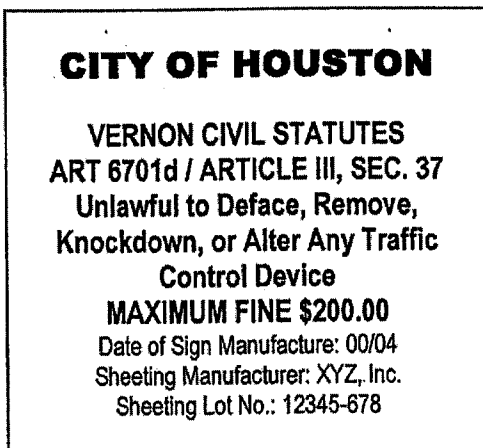
2. ASTM D 523 Standard Method for Test for Specular Gloss

3. ASTM D 4956 Standard Specification for Retroreflective Sheeting for Traffic Control
  4. ASTM E 284 Standard Definition of Terms Relating to Appearance of Materials
  5. ASTM E 308 Computing the Colors of Objects by Using the CIE System
  6. ASTM E 810 Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting
  7. ASTM E 1164 Standard Practice for Obtaining Spectrophotometric Data for Object-Color Evaluation
- B. Substrate (Sign Blanks). This shall be aluminum alloy 5052-H38 and otherwise in conformance with ASTM B-209 and have gold chromate finish. The size, shape and thickness of the sign blanks are as indicated on the standard detail sheet in the plans or as specified by the Engineer.
1. Metal working. The aluminum shall be free of burrs and pits on both sides, including edges and holes, and shall be made ready for applications of the sheeting.
  2. Surface Preparation. The aluminum shall be thoroughly cleaned and degreased with solvent and alkaline emulsions cleaner by immersion, spray, or vapor degreasing and dried prior to application of the gold chromate sheeting coat. The aluminum shall be new and corrosion-free with holes drilled or punched, corners rounded to the radii shown in the standard detail sheet, and all edges smoothed prior to application of sheeting. The heavy or medium chromate coating shall conform in color and corrosion resistance to that imparted by the Alodine 1200F treatment.
  3. Size. The dimensions of substrate applications for regulatory, warning, and guide signs shall be as specified by the Engineer and as shown on the plans.
- C. Sign Face (Background, Legends, Symbols, and Colors). These shall be in accordance with the Standard Highway Sign Designs (SHSD) for Texas and with the Texas Manual of Uniform Traffic Control Devices (TMUTCD).
1. The sign face, made of electronic film and retro-reflective sheeting shall comply with the appearance, specification, and good workmanship designated by the using agency for sign faces constructed of screen processed retro-reflective sheeting of the same type.

2. All sign blanks shall be covered with appropriate retro-reflective sheeting.
  - a. All ground mounted stop signs, warning signs, and other regulatory signs, shall use at a minimum High Intensity Prismatic Reflective Sheeting.
  - b. All overhead signs shall use Diamond Grade Reflective Sheeting.
  - c. All other signs shall use Super Engineer Grade Sheeting
3. Application Methods. The method of application of sheeting, letters, numbers, and symbols shall be precisely as prescribed in writing by the manufacturer.
  - a. Legend Spacing and Layout. Spacing and layout for all traffic control signs shall conform to the SHSD.
  - b. Tolerance for Horizontal Alignment. Letters, numerals, and symbols shall be horizontally aligned to a tolerance of 1/16 inch.
  - c. Tolerance for Vertical Alignment. Letters, numerals, and symbols shall be vertically aligned to a tolerance of 1/16 on each letter in each line.
- D. Sign Posts. Steel post shall conform to the standard specification for hot rolled carbon sheet steel, structural quality, ASTM designation A570, Grade 50. Average minimum yield strength after cold forming is 60,000 psi. The cross section of the post shall be square tube formed steel, carefully rolled to size and shall be welded directly in the corner by high frequency resistance welding or equivalent process and externally scarified to agree with corner radii. Sign posts shall be hot dipped galvanized conforming to ASTM A653, G90.
  1. Installation. The square end of the post shall not be modified or pointed.
    - a. Flange. When sign post installation is required over building basements, bridges and cavities, a galvanized cast iron pipe flange shall be used. The base shall be 8 inches in diameter with six 5/16 inch holes drilled equidistant around the circumference, 5/8 inch from the outer edge. The neck of the flange shall be 3 inches in diameter, drilled and threaded to receive a 2 inch diameter galvanized post.
    - b. Hardware. All ground mounted signs shall be attached to posts using 5/16" nut and bolt assembly, the bolt being 2 1/2" in length. Stainless steel banding material, brackets and clips will be used for signs installed on light standards or mast arms.



- c. Construction. Anchors shall be anchored in a minimum of one cubic foot of class "C" concrete, 28 inches deep, with a 6 inch long,  $\frac{3}{8}$  inch diameter pin inserted through the pre-drilled hole 3 inches from the bottom of the pole. Where the pole installation requires surface mounting, an 8 inch flange with a 2 inch threaded collar shall be used. The pole shall be galvanized, two inches in diameter and threaded to fit the flange. Sign placement and orientation shall be as specified in the construction plans.
- E. Each finished sign shall have the following sticker affixed to the back in a location where it will be visible when the sign is installed:



The sticker shall be Zebra Technologies Z-Ultimate 3000 White or approved equal. Finished product shall be weather and fade resistant for the expected life of the sign.

- F. Warranty. The Contractor shall warrant the materials and workmanship of each sign in accordance with the maximum limits of material warranties extended by manufacturers of raw materials, subject to the conditions they specify. The retro-reflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retro-reflection is less than the minimum specified for that sheeting. When sign failure occurs prior to the minimum years indicated and an inspection demonstrates that the failure is caused by materials warranted to contractor to endure at least that long, the sign will be replaced or repaired free of materials charges. When failure occurs and inspection demonstrates that such failure is due to poor workmanship, the sign will be replaced or repaired at Contractor's expense, including shipping charges.

PART 3 EXECUTION

3.01.1 EQUIPMENT

- A. The contractor shall provide machinery, tools, and equipment necessary for proper execution of the work.

3.01.2 CONSTRUCTION

- A. Construction shall be high quality with no visible defects in the finished product. Fabrication shall be in accordance with these specifications. Street name signs shall always be supplied and installed at each project intersection whether signs previously existed at the location or not.
- B. The removal of existing signs shall be coordinated with the Traffic Operations Section of the Public Works Department (713-803-3054) and arrangements made for a convenient time to deliver City signs and poles. All salvaged traffic signs shall be delivered to the Traffic Operations Center located at 2200 Patterson Street. All deliveries to the Traffic Operations Center requires a minimum notice of two (2) working days prior to returning or delivering any sign and/or sign related material.

3.03 RESPONSIBILITIES

- A. The contractor is responsible for providing and supplying aluminum traffic signs covered with retro-reflective sheeting, applying standard legends (or special legends if shown in the plans) to the covered sign blanks, galvanized steel sign poles, pole anchors, all hardware for installing the signs and poles, and for installing traffic signs, poles and anchors as shown in the plans or call for in the contract documents, complete and ready for field installations.

END OF SECTION



Section 01555

TRAFFIC CONTROL AND REGULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for signs, signals, control devices, traffic barriers, flares, lights and traffic signals; construction parking control, designated haul routes, and bridging of trenches and excavations.
- B. Qualifications and requirements for use of flagmen.

1.02 MEASUREMENT AND PAYMENT

A. Unit Price Contracts.

- 1. Traffic control and regulation. Payment for traffic control and regulation is on a lump sum basis. Include preparation and submittal of traffic control plan if different than shown on Drawings, and provision of traffic control devices, equipment, and personnel necessary to protect the Work and public. Payment will be based on Contractor's Schedule of Values for traffic control and regulation.
- 2. Payment for traffic control will be authorized by Project Manager in three (3) parts. Partial payment will be made according to following schedule:
  - a. Payment of 25 percent of traffic control amount will be authorized when permanent control devices and necessary temporary markings, sufficiently deployed along job site as required to maintain progress of work, are installed at job site and approved. This limiting percentage will be prorated based upon extent of Contractor's setup.
  - b. A payment of 50 percent of traffic control amount will be authorized when pavement replacement commences. This limiting percentage will be prorated based upon linear footage, as measured along centerline axis of water main, of pavement replaced.
  - c. A payment of 25 percent of traffic control amount will be authorized when permanent pavement markings are restored and all unnecessary permanent and temporary control devices removed. This limiting percentage will be prorated based upon the extent of restoration.

3. Flagmen: Measurement is on a lump sum basis for flagmen as required for the project. The amount invoiced shall be determined based on the schedule of value submitted for flagmen.
4. New Portable Concrete Low Profile Traffic Barrier Provided. Payment is on a unit price basis for each linear foot of low profile traffic barrier provided, installed with hardware assemblies and connected together in accordance with the approved traffic control plan.
5. Portable Concrete Low Profile Traffic Barrier picked up from City of Houston Stockpile. Payment is on a unit price basis for each linear foot of low profile traffic barrier picked up from designated stockpile, moved onto the project, set at location and connected together.
6. Portable Concrete Low Profile Traffic Barrier Installed. Payment is on a unit price basis for each linear foot of low profile traffic barrier delivered to the project location, installed with hardware assemblies and connected together in accordance with the approved traffic control plan.
7. Portable Concrete Low Profile Traffic Barrier Moved and Reset. Payment is on a unit price basis for each linear foot of low profile traffic barrier disassembled, moved on the project, reset at the new locations and connected together. Include cost to repair roadway in the unit price.
8. Portable Concrete Low Profile Traffic Barrier Removed. Payment is on a unit price basis for each linear foot of low profile traffic barrier removed from the project, including hardware assemblies, and stockpiling at location listed in Section 01110 – Summary of Work. Include cost to repair roadway in the unit price.
9. Refer to Section 01270 - Measurement and Payment for unit price procedures.

- B. Stipulated Price Contracts. Include payment for work under this section in the total Stipulated Price.

### 1.03 REFERENCES

- A. Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- B. Article 4413 (29bb), commonly referred to as Private Investigators and Private Security Agencies Act, and Article 2.12, Texas Code of Criminal Procedure.

- C. Code of Ordinances, City of Houston, Texas.
  - 1. Chapter 10 Buildings And Neighborhood Protection, Article X Cleanup After Demolition Or Removal Of Structures
  - 2. Chapter 40 Streets and Sidewalks, Article XVII Pedestrian Way Impairments

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Traffic control plan:
  - 1. If using traffic control plan contained in the Contract without modification, submit a letter confirming use of the plan.
  - 2. If using a different traffic control plan, submit the plan for approval. The plan must conform to TMUTCD requirements and be sealed by a Registered Texas Professional Engineer.
- C. Submit copies of approved lane closure permits issued by City Traffic Engineering Branch.
- D. Submit Schedules of Values for traffic control plan and flagmen within 30 days following Notice to Proceed.
- E. Submit records verifying qualifications of Uniformed Peace Officers and Certified Flagmen proposed for use on the Work.
- F. When working in the central business district, submit copies of approved Pedestrian Way permits issued by the City's Traffic Engineering Branch.

1.05 FLAGMEN

- A. Use Uniformed Peace Officers and Certified Flagmen to control movement of vehicular and pedestrian traffic when construction operations encroach on public traffic lanes. Unless otherwise approved by Project Manager, use Uniformed Peace Officer for work along major thoroughfares, schools, churches, hospitals and Work at signalized intersections.
- B. Uniformed Peace Officer: Individual employed full-time as a peace officer who receives separate compensation as a privately employed flagman. Private employment may be an employee-employer relationship or on an individual basis. Flagman may not be in the employ of another peace officer nor be a reserve peace officer.



1. Uniformed Peace Officers may be:
    - a. sheriffs and their deputies;
    - b. constables and deputy constables;
    - c. marshals or police officers of an incorporated city, town or village; or
    - d. as otherwise provided by Article 2.12, Code of Criminal Procedure.
  2. The Uniformed Peace Officer must be a full-time peace officer, must work a minimum average of 32 paid hours per week, and must be paid a rate not less than the prevailing minimum hourly wage rate set by the federal Wage and Hour Act. The individual must be entitled to vacation, holidays, and insurance and retirement benefits.
- C. Certified Flagman: Individual who receives compensation as a flagman and meets the following qualifications:
1. Formally trained and certified in traffic control procedures by the City's E. B. Cape Center.
  2. Speaks English. Ability to speak Spanish is desirable but not required.
  3. Paid for flagman duty at an hourly rate not less than the wage rate set for Rough Carpenter under the City's Wage Scale for Engineering Construction.
- D. Certified Flagmen must wear a distinctive uniform, bright-colored vest, and be equipped with appropriate flagging and communication devices while at the Work site. They must also have in their possession while on duty, a proof of training identification card issued by the appropriate training institute.

## PART 2 PRODUCTS

### 2.01 SIGNS, SIGNALS, AND DEVICES

- A. Comply with TMUTCD requirements.
- B. Traffic cones and drums, flares and lights: Conform to local jurisdictions' requirements.
- C. When working in the Central business district, provide pedestrian pathway

signage approved by the City's Traffic Engineering Branch.

2.02 PORTABLE LOW PROFILE CONCRETE BARRIERS

- A. The low profile concrete barrier is a patented design. Information concerning this barrier may be obtained from Texas Transportation Institute, Texas A&M University System, College Station, Texas 77843-3135, (409) 845-1712.

PART 3 EXECUTION

3.01 PUBLIC ROADS

- A. Submit requests forms for lane closure and sidewalk closure to the City's Traffic Engineering Branch at least three working days prior to need for blocking vehicular lanes or sidewalks. Do not block lanes or sidewalks without approved permits. Obtain application from the City's Traffic Engineering Branch at 611 Walker, 5<sup>th</sup> floor or at the following internet address: <http://www.ci.houston.tx.us/pwe/mrow/laneclosure.htm>.
- B. Follow laws and regulations of governing jurisdictions when using public roads. Pay for and obtain permits from jurisdiction before impeding traffic or closing lanes. Coordinate activities with Project Manager.
- C. Give Project Manager one-week notice before implementing approved traffic control phases. Inform local businesses of impending traffic control activities.
- D. Notified police department, fire department, METRO, and local schools, churches, and businesses in writing a minimum of five business days prior to beginning work.
- E. Maintain 10-foot wide all-weather lanes adjacent to the Work for emergency vehicle use. Keep all-weather lanes free of construction equipment and debris.
- F. Do not to obstruct normal flow of traffic from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. on designated major arterials or as directed by Project Manager.
- G. Maintain local driveway access to residential and commercial properties adjacent to work areas at all times. Use all-weather materials approved by Project Manager to maintain temporary driveway access to commercial and residential driveways.
- H. Keep streets entering and leaving job site free of excavated material, debris, and foreign material resulting from construction operations in compliance with

applicable ordinances.

- I. Remove existing signage and striping that conflict with construction activities or that may cause driver confusion.
- J. Provide safe access for pedestrians along major cross streets.
- K. Alternate closures of cross streets so that two adjacent cross streets are not closed simultaneously.
- L. Do not close more than two consecutive esplanade openings at a time without prior approval from Project Manager.

### 3.02 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and the City's operations.
- B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.
- C. Prevent parking on or adjacent to access roads or in non-designated areas.

### 3.03 FLARES AND LIGHTS

- A. Provide flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

### 3.04 HAUL ROUTS

- A. Utilize haul routes designated by authorities or shown on drawings for construction traffic.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.

### 3.05 TRAFFIC SIGNS AND SIGNALS

- A. Construct necessary traffic control devices for temporary signals required to complete the Work including loop detectors, traffic signal conduits, traffic signal wiring and crosswalk signals. Notify the City's Traffic Engineering Branch a minimum of 60 days in advance of need for control boxes and switchgear. The City will perform necessary service, programming or adjustments, to signal boxes and switchgear if required during construction.

- B. Install and operate traffic control signals to direct and maintain orderly traffic flow in areas under Contractor's control affected by Contractor's operations. Post notices, signs and traffic controls before moving into next phase of traffic control.
- C. Relocate traffic signs and signals as the Work progresses to maintain effective traffic control.
- D. Unless otherwise approved by Project Manager, provide driveway signs with name of business that can be accessed from each crossover. Use two signs for each crossover.
- E. Replace existing traffic control devices in Project area.
- F. Project Manager may direct Contractor to make minor adjustments to traffic control signage to eliminate driver confusion and maintain orderly traffic flow during construction at no additional cost to the City.

3.06 BRIDGING TRENCHES AND EXCAVATIONS

- A. When necessary, construct bridges over trenches and excavation to permit an unobstructed flow of traffic across construction areas and major drives. Use steel plates of sufficient thickness to support H-20 loading and install to operate with minimum noise.
- B. Shore trench or excavation to support bridge and traffic.
- C. Secure bridging against displacement with adjustable cleats, angles, bolts or other devices when:
  - 1. bridging is placed over existing bus routes,
  - 2. more than five percent of daily traffic is comprised of commercial or truck traffic,
  - 3. more than two separate plates are used for bridging, and
  - 4. when bridge is to be used for more than five consecutive days.
- D. Extend steel plates used for bridging a minimum of 1 foot beyond edges of trench or excavation. Use temporary paving materials such as premix to feather edges of plates to minimize wheel impact on secured bridging.

3.07 REMOVAL

- A. Remove equipment and devices when no longer required.

- B. Repair damage caused by installation.
- C. Remove post settings to a depth of 2 feet.

**3.08 TRAFFIC CONTROL, REGULATION AND DIRECTION**

- A. Use Flagmen to control, regulate and direct an even flow and movement of vehicular and pedestrian traffic, for periods of time as may be required to provide for public safety and convenience, where:
  - 1. multi-lane vehicular traffic must be diverted into single lane vehicular traffic,
  - 2. vehicular traffic must change lanes abruptly,
  - 3. construction equipment must enter or cross vehicular traffic lanes and walks,
  - 4. construction equipment may intermittently encroach on vehicular traffic lanes and unprotected walks and crosswalk,
  - 5. traffic regulation is needed due to rerouting of vehicular traffic around the Work site, and
  - 6. where construction activities might affect public safety and convenience.
- B. Use of Flagmen to assist in the regulation of traffic flow and movement does not relieve Contractor of responsibility to take other means necessary to protect the Work and public.

**3.09 INSTALLATION STANDARDS**

- A. Place temporary pavement for single lane closures, in accordance with TMUTCD.
- B. Reinstall temporary and permanent pavement markings as approved by Project Manager. When weather conditions do not allow application according to manufacturer's requirements, alternate markings may be considered. Submit proposed alternate to Project Manager for approval prior to installation. No additional payment will be made for use of alternate markings.

**3.10 MAINTENANCE OF EQUIPMENT AND MATERIAL**

- A. Submit name, address and telephone number of individual designated to be

responsible for maintenance of traffic handling at construction site to Project Manager. Individual must be accessible at all times to immediately correct deficiencies in equipment and materials used to handle traffic including missing, damaged, or obscured signs, drums, barricades, or pavement markings.

- B. Inspect signs, barricades, drums, lamps and temporary pavement markings daily to verify that they are visible, in good working order, and conform with traffic handling plans as approved by Project Manager. Immediately repair, clean, relocate, realign, or replace equipment or materials that are not in compliance.
- C. Keep equipment and materials, signs and pavement markings, clean and free of dust, dirt, grime, oil, mud, or debris.
- D. Obtain approval of Project Manager to reuse damaged or vandalized signs, drums, and barricades.

END OF SECTION





# HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1

## *STREET SIGNAGE PACKAGE*

### BIDDING DOCUMENT AND SPECIFICATIONS

Issued for bid November 2008



HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1  
820 South Gessner, Suite 1530  
Houston, Texas 77024  
(713) 984-8737

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## **III. SPECIFICATIONS**

## **IV. SIGNAGE MESSAGE SCHEDULE**

## **V. LOCATION PLANS**

## **VI. ELEVATIONS AND DETAIL DRAWINGS**

## I. BIDDING AND INSTRUCTIONS

A. Proposal to be entitled for consideration must be prepared in accordance with the following instructions:

Proposals shall be made in triplicate on forms furnished by the **Harris County Municipal Management District # 1 (aka Memorial City Management District)** ("DISTRICT"). The wording of the proposal form shall not be changed, altered or supplemented except in accordance with the instructions. All blank spaces shall be filled in, and any erasure or corrections in the Proposal must be initialed and dated by the official who shall sign. The Proposal must be completed with every cost by Sign Type for Unit Cost Fabrication and Unit Cost Installation noted within the form. No forms other than the attached proposal form will be accepted.

A **MANDATORY** pre-bid conference will be held on December 4, 2008 @ 10:00am local time at the office of the DISTRICT at 820 South Gessner, Suite 280, Houston, Texas 77024. **Each bidder must be represented at this pre-bid conference.** Bids will not be accepted from any bidder who is not represented at the pre-bid conference.

Upon notification, the successful Bidder shall fabricate one Sign Type 1 and pole. It shall be assumed this sample will be representative of the level of quality of workmanship which may be expected for all Sign Types utilizing this material and fabrication method. The sample shall be provided at no expense to the DISTRICT.

Each bid shall be accompanied by a cashier's check (bid bonds are not acceptable), acceptable to and made payable to HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1, in the amount not less than 5 percent of the total amount bid, as a guarantee that the successful bidder will enter into the Contract and execute the required payment and performance bonds on the forms provided within 7 days after the date the CONTRACT DOCUMENTS are received by the CONTRACTOR. Bid securities will be returned to all but the two most qualified, responsible bidders with 5 days after the opening of the bids, and the latter's bid securities will be returned after complete execution of the Contract. The surety companies providing the bid bond must conform to the same requirements for the surety companies providing PERFORMANCE AND PAYMENT BONDS described herein.

Proposal shall be sealed, marked and addressed as follows:

*Bid Document for: Street Signage Package  
Harris County Municipal Management District #1, Houston, Texas.  
Submitted by \_\_\_\_\_*

and shall be delivered to the office of the DISTRICT, 820 South Gessner, Suite 280, Houston, Texas 77024; by 10:00am, local time, Thursday, December 11, 2008.

Proposals must be signed by an authorized and legal official of the company submitting the bid, with the name of the official and his title typed below his signature. Bidders shall be responsible for delivery of the proposal before indicated time. Late proposals will not be considered and will be returned unopened.

### **THE HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1 IS TAX EXEMPT.**

Bids may be withdrawn on written request from the Bidder addressed to the DISTRICT, attn. Mr. Pat Walters, provided the request is received prior to the time and date fixed for submittal of proposals.

The DISTRICT reserves the right to award the Contract in his best interests, to reject any or all proposals. Proposals shall remain in force and effect for a period of not less than ninety (90) days after the opening date. Where applicable, unit prices shall be provided for future adjustments in the quantity of sign types noted. These prices shall be firm and honored by the Signage Contractor for a period of six months after date of Contract.

A Contract will not be awarded to any person, firm or corporation that has failed to perform satisfactorily and faithfully on any previous Contract or order from HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1. If the Contract is to be awarded, it will be awarded to the responsible bidder that, in the DISTRICT'S judgment, will be most advantageous to the DISTRICT and result in the best and most economical completion of the work.

Award of contracts may be in the form of a purchase order or Contract issued by the DISTRICT on the basis of the best bid from the most qualified bidder. The Contract will be a unit-price Contract meaning the project may be accepted in whole or in part and payments for work will be based upon the unit prices provided in the bid proposal and thus becoming the basis for the Contract and all payments. All quantities will be field verified and payments will be approved based upon installed or supplied quantities.

## **B. Bidding Documents**

The Street Signage Package Bid Document and Specifications may be reviewed at the office of the HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1 office at 820 South Gessner, Suite 1530, Houston, Texas 77024 or may be purchased for a non-refundable administrative fee of Forty-Five Dollars (\$45.00) per set.

To review or purchase a set, contact:

Ms. Cathleen Lynch  
KUDELA & WEINHEIMER, LANDSCAPE ARCHITECTS  
7155 Old Katy Road, Suite 270  
Houston, Texas 77024  
(713) 869-6987  
(713) 869-0908 fax  
[clynch@kwtxas.com](mailto:clynch@kwtxas.com)

OR

Mr. Pat Walters  
HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1  
820 South Gessner, Suite 1530  
Houston, Texas 77024  
(713) 984-8737  
[patw@memorialcitydistrict.org](mailto:patw@memorialcitydistrict.org)

All questions concerning discrepancies, omissions, or doubts as to the meaning or intent of the documents and specifications must be submitted in writing by no later than 10:00am, December 11, 2008 to the DISTRICT, attn. Cathleen Lynch. Responses to these written questions will be in the form of an addendum to these documents distributed to all potential bidders. Receipt of addenda to the Bidder must be acknowledged on the Form of Proposal. The specifications have insofar as possible, identified all fasteners, attachments, and appurtenances necessary for completion assembly and installation of all items. Bidders must carefully review specifications and drawings; should additional or other items be required to achieve the indicated successful assembly and installation, advise Kudela & Weinheimer and the DISTRICT in writing of required changes in the specifications.

## **C. Contract Documents**

Following the Award of Contract, the Contract Documents shall consist of the following documents:

- a. Street Signage Package / Bid Document and Specifications, issued for bidding November 2008
  - i. Bidding and Instructions

- II. Proposal Form
- III. Specifications
- IV. Location Plans
- V. Elevations and Detail Drawings
- b. Addenda, if any, issued during the bidding period.
- c. Contract Agreement
- d. Notice-To-Proceed, issued by the District
- e. Contractors certificate of B+ insurance

*Relation of Specifications and Drawings:*

To be equal in authority and priority, should they disagree in themselves, or with each other, prices shall be based on the most expensive combination of quality and quantity of work indicated. The appropriate method of performing the work, in the event of the above mentioned disagreements, shall be determined by the DISTRICT.

**D. Form of Contract Agreement**

The Contract Agreement between DISTRICT and Signing Contractor shall be as determined by the DISTRICT and shall be executed and delivered to the successful Bidder for signature by the DISTRICT after acknowledgment by the Signing Contractor of intent to honor of submitted bid and intent to sign Contract.

**E. DISTRICT'S Representatives**

The DISTRICT will represent itself during the bidding, award and implementation period of this Contract. It may however choose to assign other agents or designated representatives to review the shop drawings and to interpret the Contract Documents, review submittals or inspect the installation. All correspondence, including shop drawings and submittals shall be addressed to:

Ms. Cathleen Lynch  
KUDELA & WEINHEIMER, LANDSCAPE ARCHITECTS  
7155 Old Katy Road, Suite 270  
Houston, Texas 77024  
(713) 869-6987  
(713) 869-0908 fax  
[clynch@kwtexas.com](mailto:clynch@kwtexas.com)

**F. Qualifications of Bidders**

The DISTRICT may make such investigation as he deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish the DISTRICT all such information and data for this purpose as the DISTRICT may request. The DISTRICT reserves the right to reject a bid if the evidence submitted, or investigation of, reveals such Bidder is not properly qualified to carry out the obligations of the Contract Documents. Conditional bids will not be accepted.

**G. Post-Bid Conference**

If requested by the DISTRICT, the bidder shall agree to participate in a Post-Bid Conference with the DISTRICT and its representative at a place designated by them. The purpose of the review would be to provide a means of determining whether the Bidder has a clear understanding as to the intent of the Contract Documents prior to award of the Contract.

**H. Payment**

Progress payments are to be submitted to the DISTRICT for review and approval monthly by the 25<sup>th</sup> calendar day of each month. Payment applications are to be submitted to the



DISTRICT on the AIA G702/ Application and Certification for Payment form unless alternative procedures are to be agreed upon by Contractor and DISTRICT. Until final acceptance, the DISTRICT will retain 10 percent (10%) of the amount due the Contractor. The final payment application will draw for any remaining monies and the retainage. The final application must also be accompanied by a final lien release from the Contractor and any subcontractors or suppliers.

Any request for payment shall be accompanied with a Release of Liens from all subcontractors. Any request for payment for materials stored or purchased offsite must be accompanied by a Certificate of Insurance, which specifically notes that insures the materials at this offsite location. The cost of securing the insurance will be the responsibility of the signing Contractor.

Any "Request for Payments" must be accompanied with updated schedule.

**I. Pre-Installation Conference**

Contractor is to schedule a Pre-Installation conference at project site with the DISTRICT'S representative to review and coordinate the scheduling of installation. The Contractor shall have had all existing utility locations painted and staked prior to this meeting as well as the proposed locations of the items to be installed under this agreement. It is the Contractor's full responsibility to preserve and protect all existing utilities.

**J. Certificates of Insurance**

The DISTRICT will require a Certificate of Insurance from the successful Bidder to indemnify the DISTRICT and its agents or representatives from any damages which may occur as a result of the Signing Contractor and his agent's work. SEE TABLE 1 FOR COVERAGE:  
Insurance:

1. When the Contractor receives a letter-of-intent from the DISTRICT regarding award of the Contract, the Contractor shall furnish to the DISTRICT with 10 days a certificate of insurance indicating that the vendor has coverage in forces throughout the installation period which will protect the vendor, the DISTRICT, and all other persons and organizations providing contracted service to the DISTRICT, from claims under Workman's Compensation Acts, disability benefits, and other similar employee benefit acts. This certificate of insurance shall become part of the Contract Documents. Under no circumstances will a Contract be issued or a notice-to-proceed be issued without the approved certificate of insurance.
2. A similar certificate of insurance will be provided as evidence of protection of the same individuals and organizations from any other claims for damages to property or for personal injury, including death, which may arise from operations under this portion of the Contract, whether such operations be by the vendor or his employees, or by any subcontractor or anyone directly or indirectly employed by either of them.

**TABLE 1  
REQUIRED COVERAGE**

(Coverage)	(Limit of Liability)
.1 Workers' Compensation	Statutory Limits for Workers' Compensation
.2 Employer's Liability	Bodily Injury by Accident \$1,000,000 (each accident) Bodily Injury by Disease \$1,000,000 (policy limit) Bodily Injury by Disease \$1,000,000 (each employee)
.3 Commercial General Liability: Including Contractor's Protective, Broad Form Property Damage, Contractual Liability, Explosion, Underground and Collapse, Bodily Injury, Personal Injury, Products, and Completed Operations (for a period of one year following completion of the Work).	Combined single limit of \$1,000,000 (each occurrence), subject to general aggregate of \$2,000,000; Products and Completed Operations \$1,000,000 aggregate.
.4 Owner's and Contractor's Protective Liability	\$1,000,000 combined single limit each Occurrence/aggregate
.5 Installation Floater	Value of stored material or equipment, listed on Certificates of Payments, but not yet incorporated into the Work
.6 Automobile Liability Insurance: (For automobiles furnished by Contractor in course of his performance under the Contract, including Owned, Non-owned, and Hired Auto coverage)	\$1,000,000 combined single limit each occurrence
.7 Excess Coverage	\$1,000,000 each occurrence/combined aggregate in excess of limits specified for Employer's Liability, Commercial General Liability, and Automobile Liability
Defense costs are excluded from face amount of policy. Aggregate Limits are per 12-month policy period unless otherwise indicated.	

**K. Project Fabrication/ Installation Schedule**

Signing Contractor shall furnish the DISTRICT an updated schedule at Post Bid Conference and at intervals not to exceed thirty days (30) beginning with execution of the signed Contract. Any "Request for Payments" must be accompanied with updated schedule.

**L. Performance and Payment Bond**

At the DISTRICT'S request, the Signing Contractor shall secure a performance and payment bond in the amount of 100% of the Contract amount, from a surety company holding a permit from the State of Texas to act as surety within seven days after the date CONTRACT DOCUMENTS are received by CONTRACTOR. The surety company must have a minimum Best's Key Rating of "B+" or better. The surety company, the agency and agent issuing the PERFORMANCE PAYMENT BONDS must be authorized to issue such bonds in Texas in an amount equal to or greater than the total Contract price and such authorization must be recorded in the files of the State Board of Insurance. These bonds shall remain in effect at least until one year after the date when final payment becomes due.

If the surety company does not have such a rating due to the length of time it has existed, the surety company must be eligible to participate in the surety bond guarantee program of the Small Business Administration and must be an approved surety listed in the current U.S. Department of Treasury Circular 570, and must meet all of the rules and regulations of the Treasury Department with respect to performance and payment bonds for federal jobs, including specifically the rules related to the underwriting limitation. For contracts over \$100,000, the surety must also hold a certificate of authority from the United States Secretary of Treasury to qualify as a surety on obligations permitted or required under federal law, or have obtained reinsurance for any liability in excess of \$100,000 from a reinsurer that is authorized and admitted as a reinsurer in the State of Texas and is the holder of a certificate of authority from the United States Secretary of Treasury to qualify as a surety or reinsurer on obligations permitted or required under federal law. The person executing the PERFORMANCE AND PAYMENT BONDS must be a licensed Texas local recording agent and such licensing must be recorded in the files of the State Board of Insurance. The person executing the PERFORMANCE PAYMENT BONDS must be authorized by the surety company

to execute the PERFORMANCE PAYMENT BONDS on behalf of the company in the amount required for the Contract and such authorization must be recorded in the files of the State Board of Insurance. The Contract shall not be in effect until such bonds have been provided by the CONTRACTOR and accepted by the OWNER.

If at any time a surety on any bond is declared a bankrupt or loses any of its qualifications as stated herein, CONTRACTOR shall within ten days, substitute an acceptable bond (or bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to OWNER. The premiums on such bond shall be paid by CONTRACTOR. No further payments to Contractor shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable replacement bond to OWNER.

**M. Special Provisions**

All permanent signing which is to be fabricated but not be installed under this Contract will be individually wrapped with protective wrapping to prevent tarnishing and damage. These signs are to be delivered to a secure location designated by the DISTRICT. Include with the signing all fasteners, adhesives, and written instructions necessary for the installation of said signage.

Existing signage, reusable posts and hardware removed for replacement under this Contract must be removed and delivered to the City of Houston/ Sign Shop at 2200 Patterson, Houston, Texas 77007 by the Contractor.

**N. Labor Classification and Minimum Wage Scale**

Chapter 2258 of the Texas Government Code provides that any political subdivision of the State of Texas shall ascertain the general prevailing wage rate received by the classes of workers employed on projects similar to this project and shall specify in the call for bids and in the Contract the minimum wage rates which shall be paid for each type of worker. This statute further provides that the CONTRACTOR or subcontractors shall pay, as penalty, to the OWNER Sixty Dollars (\$60.00) for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in the Contract. The OWNER is authorized to withhold from the CONTRACTOR the amount of this penalty from any payment due under the Contract.

The statute likewise requires that the CONTRACTOR and subcontractors keep an accurate record of the names and occupations of all persons employed by them on the construction of the Project and to show the accrual per diem wages paid to each worker. These records are open to the inspection of the OWNER.

The minimum wage rates that apply to this Contract are those currently adopted and utilized by the City of Houston, Texas, for public works projects. CONTRACTOR and subcontractors shall be responsible to obtain such wage rates from the City of Houston, Texas and to pay at least such minimum rates for the classes of workers described in such wage rates.

**O. Taxes, Licenses and Fees**

Certain taxes, licenses, fees and other similar items are part of the cost of the work and it shall be CONTRACTOR'S responsibility to familiarize itself with these costs and to observe and comply with the Laws and Regulations relating to the same. The prices, sums, rates and other charges set forth in the CONTRACTOR'S bid shall cover and include all such costs. OWNER is exempt from Texas sales and use taxes pursuant to Texas Tax Code § 151.309 as a political subdivision of the State of Texas. OWNER shall provide CONTRACTOR, if requested by CONTRACTOR in writing, with a completed Texas Sales and Use Tax Exemption Certification as evidence of the applicability of such exemption and CONTRACTOR shall not collect Texas sales and use taxes from OWNER with respect to this contract. CONTRACTOR and all subcontractors to CONTRACTOR shall issue a Texas Sales and Used Tax Exemption Certification with respect to, and shall not pay Texas sales and use taxes on, all purchases of

the following items that are exempt from Texas sales and use taxes pursuant to Texas Tax Code § 151.311: (i) tangible personal property that will be incorporated into OWNER's realty; (ii) tangible personal property that is necessary and essential for the performance of this contract and is consumed entirely on the job site; and (iii) taxable services for use in the performance of this Contract that are performed at the job site and are either integral to the performance of this Contract or expressly required to be provided by this Contract. In addition, CONTRACTOR and all subcontractors to CONTRACTOR (i) shall not include any provision for Texas sales and use taxes with respect to such exempt items in any bid or Contract amount, and (ii) shall pass on to the OWNER cost savings due to the exempt status of such exempt items. CONTRACTOR'S contracts with all subcontractors to CONTRACTOR shall include the foregoing provision regarding the exemption from Texas Sales and use taxes. CONTRACTOR must pay taxes on items that are not exempt.

**P. Non-Waiver of Rights**

Any failure by the OWNER at any time, or from time to time, to enforce or require the strict keeping and performance of any of the terms or conditions of the CONTRACT DOCUMENTS shall not constitute a waiver of the right to enforce or require the strict keeping of such terms or conditions and shall not affect or impair such terms or conditions in any way or the right of OWNER at any time to avail itself of such remedies as it may have for any subsequent breach or breaches of any such term or condition or of any other term or condition of the CONTRACT DOCUMENTS, including, without limitation, the right to suspend and the right to terminate. Notwithstanding any provision hereof, neither OWNER's receipt of non-compliant bonds or non-compliant insurance certificates nor OWNER's allowance of CONTRACTOR to proceed with the work, shall be construed to relieve CONTRACTOR of its obligation to provide bonds and insurance in favor of OWNER according to the requirements of these CONTRACT DOCUMENTS.

**Q. Right of Set-Off**

For all purposes and at all times, OWNER shall have the right to deduct and withhold the amount of money, if any, that may ever be due from CONTRACTOR to OWNER (pursuant to this Contract or otherwise) from any monies that OWNER owes CONTRACTOR.

## II. PROPOSAL FORM

Page 1 of 5

For: **Street Signage Package**  
**Bidding Document and Specifications**

Submitted without exception to:

**HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1**  
Houston, Texas  
Attn. Pat Walters  
820 South Gessner, Suite 1530  
Houston, Texas 77024

Gentlemen:

I, \_\_\_\_\_ of \_\_\_\_\_, the undersigned, having carefully examined the Bidding Requirements, Contract Forms, Conditions of the Contract Specifications, Drawings, and all other Documents referred to therein, do hereby agree to furnish all labor, materials and services necessary to fabricate and install the signage in accordance with the Contract and which are hereby acknowledged for the following considerations \_\_\_\_\_ dollars. (\$ \_\_\_\_\_)

1. We have received Addendum Number(s) \_\_\_\_\_ through \_\_\_\_\_ and have included their provisions in this Bid.
2. By submitting a Bid, each Bidder agrees to fully and forever waive and release any claim (known or unknown) it has or may have against the OWNER and their respective attorneys, employees, consultants, representatives, and agents arising out of or in connection with the: (i) administration, evaluation, or recommendation (or lack thereof) of any Bid; (ii) waiver of any requirements under the Bid Documents or the CONTRACT DOCUMENTS; (iii) acceptance or rejection of any bids; (iv) award of the Contract; and, (v) provision of references (positive or negative) in connection with any work performed by Bidder, and Bidder's contractors and subcontractors in connection with the Project and the CONTRACT DOCUMENTS, to which Bidder hereby consents and authorizes.
3. By submitting this proposal, the bidder agrees that this proposal may be held by the DISTRICT for a period of not more than 90 days from the receipt of this bid, and that if awarded the Contract for the work, will commence work within 10 days after receipt of Notice To Proceed and comply with the requirements of the Contract Documents.
4. It is understood the DISTRICT reserves the right to reject any and all bids and to waive any informality or irregularity in any bid which, in his judgment, is in his own best interests.
5. The DISTRICT reserves the right to select any or all of the following items in the Proposal Pricing section. The Contract award may be based upon the proposed completion schedule.
6. We agree if awarded the Contract, to complete all work required by the Contract Documents within the specified time limit of said Contract.
7. Submitted by virtue of this proposal are hereby acknowledged by the DISTRICT to be made under the assumption that the successful bidder will not be prevented, on account of strikes or other disruptions affecting sources of supply or affecting normal progress of work, from obtaining the materials necessary to complete the work covered by this proposal.
8. We agree that Bidder or Seller may not assign this agreement or any portion thereof, without the written approval of the DISTRICT.

HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1

Street Signage Package  
Bidding Document and Specifications

## **PROPOSAL FORM (CONTD)**

Page 2 of 5

9. It is understood and agreed to by the undersigned that the opening of the proposals will be public and that the DISTRICT has the unassailable right to accept or reject any or all proposals for any reason without conveying these reasons to any party. It is understood and agreed by the undersigned that the material specified in this Request for Proposal is to be placed in existing areas of the DISTRICT, and that the indicated dates for delivery and installation are based upon a current construction schedule. We agree that any changes in these dates caused by changes in construction schedule beyond the control of the DISTRICT, will not affect the prices which we have proposed.

### **10. UNIT PRICES:**

- a) Material Unit Cost shall include complete sign fabrication, sign hardware, and delivery of specified signage to a location as designated by the DISTRICT.
- b) Installation Costs shall include labor, materials and preparation of sign location site for complete installation of new signage. Installation costs shall also include complete removal of existing signage foundation(s) and the dismantling and protecting of existing sign parts to be returned to the City for their use. Post and foundations to properly disposed of.
- c) Payment for installation of signage is per each item unit installed or supplied as bid. Cost of associated posts, bases, anchoring systems, bolts, epoxies, adhesives, flanges, plates, wedges, sleeves, miscellaneous mounting hardware, concrete, forms, bracing, excavation, spoil disposal, topsoil dressing and other incidentals will not be paid directly but is to be included in the price bid price. All hardware, fasteners, etc. are to be included in the material unit price. Misc. materials, supplies or consumable products used during the installation phase should be included in the installation unit price.

11. Contractor submitting this proposal acknowledges having read and understood all the requirements of these bidding document and specifications. Contractor has familiarized himself with the existing conditions of the site(s).



**PROPOSAL FORM (CONTD)**

Page 3 of 5

Signature and address of Bidder:  
(Signature of an Officer is required)

Seal (if a corporation)

Date: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

By: \_\_\_\_\_ (signed)

\_\_\_\_\_ (printed)

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

*Business Address*

Telephone: \_\_\_\_\_

State of Incorporation: \_\_\_\_\_

If Bidder is a partnership, give full names of all partners.

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**PROPOSAL FORM (CONTD)**  
Page 4 of 5

**Subcontractors**

Company Name	Contact Person/ Phone #	Specific Scope of work
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_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

We propose a maximum 90 calendar days to complete this project.

**PROPOSAL FORM (CONTD)**

Page 5 of 5

Sign Description	Sign Type	QTY.	UNIT COST		EXTENDED TOTALS
			Material Unit Cost	Labor/ Installation	Total Cost
4'-0 Street Sign	S1	116	_____	_____	\$ _____
8'-0 Signal Street Sign	S2	32	_____	_____	\$ _____
Stop Sign		37	_____	_____	\$ _____
Supplemental Sign		37	_____	_____	\$ _____
One Way Sign		15	_____	_____	\$ _____
Poles		44	_____	_____	\$ _____
Extra Poles		4	_____	_____	\$ _____
				Subtotal	\$ _____
				Performance & Payment Bond	\$ _____
				<b>TOTAL (without State Sales Tax)</b>	<b>\$ _____</b>

Hourly Rate for 3 man crew (w/ truck, materials & equipment) \$ \_\_\_\_\_

### **III. SPECIFICATIONS**

#### **Part 1 – General**

##### **1.1 SCOPE**

- A. Work Included:** Perform all work necessary to remove all existing signs and to fabricate, complete and install all new traffic and regulatory signage including supports and mounting hardware, as shown on the drawings or inferable there from and/or as specified herein in accordance with the requirements of the Contract Documents. Work shall include obtaining all necessary permits from applicable agencies.
- B. The Signing Contractor shall be bound by the AIA General Conditions of the Contract for Construction, A 201, or contract provided by the owner.**
- C. Voluntary Alternatives:** The Signing Contractor, at his option, may submit with their completed proposal and on a separate form with the company letterhead, alternative methods of fabrication and installation which, in his opinion, would achieve the same quality of design as shown on the Drawings and Specifications. These alternatives are subject to review and approval by the DISTRICT. These alternatives are not to be included in the base bid quotation. A separate cost breakdown and description shall accompany the bid proposal form if the Contractor elects to submit voluntary alternatives. Proof of alternative's equality to specific product rests with the bidder; supporting information must accompany bid. These alternatives are to be indicated as additive or deductive amounts to the proposal.
- D. Subcontractors:** Within 3 days of notification, the successful bidder shall submit for review and approval the names of all proposed subcontractors or intended suppliers and products to be used for signs, posts, bases, and associated hardware. The approval or disapproval of any Subcontractor will not relieve the Signing Contractor of his responsibility for the performance of the work as called for under the Contract Documents. Approval by DISTRICT of a particular Subcontractor and of submittals shall not relieve Contractor from responsibility of providing work of this Contract in accordance with the Contract Documents.
- E. Changes in Quantities:**
  - 1. The DISTRICT, without invalidating any provisions of the Contract, may, within 150 days of issuance of a purchase order, increase or decrease the quantity of any specified item by a cumulative dollar value not exceeding twenty percent (20%) of the total dollar value of the Contract.
  - 2. When quantities are increased or decreased, the unit prices originally contained within the vendor's proposal will apply to any resulting Contract price adjustments.
  - 3. Any changes in quantities made under this paragraph will be communicated to the vendor by a written amendment to the Contract or notice-to-proceed.
  - 4. The DISTRICT and the vendor will mutually agree upon any changes in the delivery schedule which may be necessary because of changes in quantities.
- F. Payment:**
  - 1. Payment shall be net 45 days unless otherwise negotiated.
  - 2. The DISTRICT reserves the right to refuse payment on an invoice due to damaged item(s), quantity variance, model variance, or any failure to comply with Contract Documents.
- H. Warranty**
  - 1. The Contractor warrants to the DISTRICT that all materials and equipment furnished under the Contract will be new and of good quality; unless otherwise required or permitted by the Contract Documents; that the work will be free from defects not inherent in the quality required or permitted; and that the work will conform with the requirements of the Contract Documents as determined by the DISTRICT.

2. All work under this Contract shall be warranted for one (1) year from date of final acceptance for sound and Contract conforming workmanship. All printed material fabricated and/or installed under this Contract must be warranted for four (4) years from final acceptance against failure including but not limited to fading, peeling or bleeding. Any such material deemed by the DISTRICT to have failed or be failing shall be replaced within sixty (60) days of such notice at no additional cost to the DISTRICT.
3. Work not conforming to these Contract Documents, including substitutions not properly approved and authorized, may be considered defective and must be replaced immediately or as directed by the DISTRICT.
4. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by the DISTRICT, the Contractor shall furnish satisfactory evidence as to the kind and quality of all materials and equipment used.

**I. Maintenance**

1. Within six weeks of award of Contract, Signing Contractor shall provide written instructions for the DISTRICT to follow proper maintenance.
2. Include with the instructions manufacturer's lists of appropriate repair parts, and the name and address of the Vendor's and manufacturer's service representative.

**1.2 STANDARDS**

- A. Provide "Sign" types of the size, material, images and arrangements as shown and specified.
- B. The drawings include, in general, the sign configuration, typography, and sign placement.
- C. If there is a conflict on the drawings between stated dimensions and scaled dimensions, stated dimensions shall take precedence over scaled dimensions. Signing Contractor shall notify Designage in writing of all discrepancies in the documents prior to fabrication of installation.
- D. All materials shall be new stock, free from defects impairing strength, durability and appearance.
- E. All fabrication and installation shall be in accordance with highest standards of the trade. All signs and components shall be complete and free from visual and mechanical defects. (Such as unfilled and unfinished seams.)
- F. No fabrication or installation materials or procedures shall be used that will in any way change the visual quality or in any manner have an adverse effect on existing materials and surfaces.
  1. Contractor acknowledges by submitting a bid, that he has visited and inspected the Project Site and building area in which the work is to be performed.
  2. Contractor acknowledges that he has satisfied himself as to the nature and location of the work, including any obstructions, amount of work, actual levels, the equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work in accordance with requirements of Contract Documents, and for amount of consideration name or otherwise determined.
- G. Code Compliance and Standards: All items supplied under this Contract shall comply with all requirements of applicable codes and standards issued by any appropriate governmental agencies. Electrical components and wiring shall comply with the City of Houston Electrical Code, and shall conform to current standards issued by the National Fire Protection Association. All electrical items shall bear the seal of Underwriters Laboratories, Inc. indicating approval for use in exterior locations.

- H. All damaged signing surfaces and materials incurred shall be restored to original or better condition and appearance or replaced in its entirety by the Signing Contractor. Final approval and acceptance of said repairs will be at the sole discretion of the DISTRICT.
- I. ADA Compliance: Compliance with ADA guidelines have been met to the best of our ability in interpreting this legislation. It shall be the responsibility of the Signage Fabricator to provide Grade 2 Braille messages where noted and to be responsible for the correct translations of each message. It is recommended that the Signage Fabricator engage a certified (by the Library of Congress) Braille interpreter to confirm all messages prior to fabrication.



### 1.3 SUBMITTALS

- A. **Submittal Schedule:** Not later than 21 days from the Contract Date, the Contractor shall provide the specified items noted on the Submittal Schedule included within the specifications.
1. Certify by stamped, signed, and dated notation on each submittal, that submittal has been reviewed by Contractor, conforms to all the requirements of the Contract Documents, and applies directly to this Project.
  2. Verify field measurements, field construction criteria, and catalog number and similar data.
  3. Coordinate each submittal with requirements of work and of Contract Documents.
  4. Contractor's responsibility for errors and omissions in submittals is not relieved by the DISTRICT'S review of submittals.
  5. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by the DISTRICT'S review of submittals, unless the DISTRICT gives written acceptance of specific deviations.
  6. Notify the DISTRICT, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.
  7. No work can be started which requires submittals until return of submittals with designer's stamp and initials or signature indicating review and approval or review and approval with exceptions noted.
- B. **Manufacturer's Data:** Submit to the DISTRICT for information only, two copies of manufacturer's specifications and installation instructions for "signs" to show compliance with Contract Documents. Required samples, drawings, color matched samples and related physical submittals shall be forwarded by the Signing Contractor to the DISTRICT.
- C. **Shop Drawings:**
1. Detailed shop drawings shall be prepared by the Signing Contractor of items called for in accordance with the requirements of the Contract Documents for all signs, hardware and specified submittal graphics including full size sections of typical members, and he shall submit reproducible sepias, one (1) electronic CD of the graphic files and one set of prints thereof as requested to KUDELA & WEINHEIMER for review of copy composition, including letter, line spacing and kerning.
  2. All shop drawings shall be explicit in depicting fabrication joints, fasteners and finish.
  3. Contractor shall submit shop drawings sealed and signed by a professional engineer registered in the State of Texas for approval by Owner for mounting the overhead street name signs to traffic signal strain poles. Minimum design loads shall be 42 pounds per square foot for wind loading and 800 pounds for vertical shear loading.
- D. **DISTRICT Provided Information:**
1. Contractor will be provided electronically the City of Houston database for street names and block numbers for the purpose of identifying the proper block numbers for each street sign based on the actual location of the street sign. **It will be the Contractor's responsibility to submit the block numbers with graphics submittal for review. Under no circumstances does the approval of the submittal relieve the Contractor from fabricating and installing the proper block numbers.**
  2. Contractor will be provided electronically the background artwork for each sign type.
- E. **Samples:** Submit to the DISTRICT in accordance with the requirements of the Contract Documents, two sets of samples of each finish, color and lettering type required, one set which will be returned with appropriate action noted. The DISTRICT'S review of sample shall be for color, texture and graphic image only. Samples shall be of suitable size to accurately render these qualities. Compliance with all other requirements is the exclusive responsibility of the Signing Contractor.
- F. **Future Purchase of Signage:** Signing Contractor shall furnish under separate cover cost information for future purchases (guaranteed up to 6 months from initial purchase) for all sign types in these documents; information shall include costs for items ordered

individually as well as minimum order required to obtain a price break. This information shall be submitted at the time of bidding.

- G. Submittals Required:** Submittals shall be as specified in the "Submittals Schedule". Submittals shall be submitted to the DISTRICT for review only. The acceptance or approval of submittals shall in no way relieve the Contractor of responsibility to provide signage in accordance with the Contract Documents. **ALL SUBMITTALS SHALL BE TRANSMITTED NO LATER THAN THREE WEEKS AFTER EXECUTED CONTRACT DATE.**
- H. Submittal and Fabrication Schedule:** Signing Contractor shall provide a written Submittal and Fabrication Schedule to the DISTRICT within one week after executed Contract Date.
- I. Delivery, Storage and Handling:** Unless otherwise specified, Signing Contractor shall wrap all signs in individual wrapping of the appropriate material to prevent damage and discoloration to the product. Completed signs shall be stored in a secure place determined by the DISTRICT. Property insurance for products stored off premise shall be obtained and maintained by the Signing Contractor. **CONTRACTOR** assumes full responsibility for all materials and installation until final acceptance by the DISTRICT. Payment of installed items or storage of materials by the DISTRICT does not relieve the **CONTRACTOR** of responsibility of the product or products until final acceptance.

## **Part 2 - Products**

### **2.1 FABRICATION: GENERAL**

- A.** Fabricate signs so that all edges and corners of finished letterforms are true, sharp and clean. Letterforms with rounded positive and negative corners, edge buildup, bleeding, nicked, cut or ragged edges, etc. will not be accepted. All surfaces of letterforms shall be without pinholes.
- B.** All applied, painted and sandblasted finish surfaces shall have a smooth even finish and be free of irregularities.
- C.** All letterforms shall be aligned to maintain a baseline parallel to the sign format. Margins shall be maintained as specified by sign type layouts.
- D.** No paints that will fade, discolor or delaminate as a result of ultraviolet light or heat or otherwise fail, shall be used.
- E.** All paints shall be evenly applied and without pinholes, orange peeling, scratches, application marks, and other imperfections. Workmanship in connection with finishes of signage shall conform to the highest standards of the trade.
- F.** Primer coats or other surface pretreatments, where recommended by the manufacturer for paints, shall be included in the work as part of the finished surface work.
- G.** Required adhesives shall be used in accordance with recommendations of the manufacturer of the material specified to be laminated or adhered. No adhesives that will fade, discolor or delaminate as a result of ultraviolet light or heat or otherwise fail shall be used, and shall not change the color of or deteriorate the materials to which they are to be applied. The adhesives shall be of a nonstaining, non-yellowing quality, and all visible joints shall be free from air bubbles and other defects.
- H.** Cut out copy shall be cut from acrylic sheets of specified thickness. All edges of copy shall be perpendicular to copy face, sanded smooth and finished as noted on drawings and schedules.

**I. ADA Compliant Sign Finishes:**

Finishes of ADA compliant components of signs are required to be "eggshell, matte, or other non-glare finish", between 11 and 19 degree glossimeter. Acceptable finishes include:

Eggshell and Matte finish paints and inks,  
Most non-glare acrylic sheet, mylar, or frosted glass,  
Most non-glossy, self-adhesive vinyl film,  
Certain satin or random-brushed finishes on metal.

Unacceptable finishes include:

Gloss or semi-gloss finish paints and inks,  
Polished surface acrylic sheet, mylar, or glass,  
Glossy self-adhesive film,  
Polished or directional brushed finishes on metal.

Sign Fabricators are to have glossimeter tests made of actual samples to determine compliance.

**2.2 MATERIALS**

**A. General:**

1. **Metal Surfaces:** For the fabrication of general metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, roughness, seam marks, and trade names. Unless the surfaces are to be painted, do not use materials having stains and discolorations. Stains and discolorations must not bleed through to finished surface.
2. **Surface Flatness:** For exposed items of work which include plain flat surfaces in width of more than 50 times the metal thickness, provide sheet stock from the mill which has been stretcher leveled to the highest standard of flatness commercially available.

**B. Aluminum:** American Aluminum Alloy 5052 or 6061-T6 or as recommended by aluminum manufacturer for service and finish.

1. Regulatory signs shall be manufactured of 0.080 inch thick sheet aluminum. (stop signs, supplemental signs, one way signs)
2. Ground-mounted street signs and signal-pole mounted street signs shall be manufactured of 0.125 or 1/8 inch thick sheet aluminum. (S-1, S-2)
3. Aluminum shall be of the 3000, 5000 or 6000 series, and have minimum ultimate and yield strength of 3003-H14 alloy. All aluminum alloy utilized in sign blanks furnished shall be produced in accordance with appropriate ASTM production standards.
4. Aluminum sign blanks shall be cut to standard sizes according to specified reference drawings. Blanks shall be cleaned, degreased and chemical conversion coated before sheeting is applied in accordance with sheeting manufacturer's recommendations.

**C. Coatings**

1. **Acrylic Polyurethane Paint:** Provide acrylic polyurethane enamel consisting of ultraviolet inhibitors which are lightfast, weather, abrasion and wear resistant, and complying with applicable State requirements. To be provided by Matthews Paint 800-323-6593; pole color to be #16771 and pole top color to be #46253SP.

**D. Fasteners/ Hardware:**

1. Same base metal and finish as the metal work.
2. For machine screws, comply with FS FFS92, Phillips flathead where exposed unless otherwise shown.

3. All bolts, nuts, washers, brackets, clips, banding material, plates, flanges, sleeves, wedges, and other related hardware shall be finished so as to inhibit corrosion and epoxy painted in specified color prior to installation.
- E. Anchors and Inserts: Either furnish inserts to be set in concrete work, or provide other anchoring devices as required for the installation of metal work. Furnish hot dipped galvanized cast iron, and malleable iron ore inserts. Provide toothed steel expansion bolt devices for drilled in place anchors.
- F. Anchor Bolts: Signing Contractor shall be responsible for the accurate setting and leveling of all anchor bolts.
- G. Steel:
  1. Materials:
    - a. Steel Pipe
      - 1) Steel pipe shall conform to ASTM A53, Type E, F, or G at fabricators option, Grade A, black finish unless otherwise shown as galvanized standard weight, (Schedule 40). Finish shall be high gloss.
      - 2) Sign poles supplied shall be as shown in detailed drawings and shall be galvanized and powder coated in specified color prior to installation.
      - 3) Northwest Pipe POZ-LOC Slip Base shall be supplied with galvanized factory coating.
    - b. Steel sheet for cold forming shall conform to ASTM A 366, or hot-rolled sheet steel of commercial quality, conforming to ASTM A 569, pickled and oiled and free of defects which would impair the work.
    - c. Galvanized steel shall conform to ASTM A 526, commercial quality, G 90 coating.
  2. Finishing:
    - a. Primer Finish: Unless indicated to receive galvanized finish, all steel shall receive primer finish complying with State requirements.
    - b. Baked enamel finish: Provide manufacturer's standard baked enamel finish complying with applicable State requirements.
    - c. Powder coated finish: Provide manufacturer's standard powder coated finish complying with applicable State requirements.
- H. Adhesives:
  1. Foam tape – 3M VHB 1/16" foam tape applied liberally to back of plaque.
  2. Silicone adhesive - Ready to use, high performance adhesive. General Electric GE 1200 sealant, translucent SCS 1201 or accepted substitute, as recommended by manufacturer for bonding condition.
  3. Film tape adhesive - 4 mil (0.1 mm) thick double-faced pressure sensitive film tape, No. 415; 3M Co., St. Paul, Minn. or accepted substitute, as recommended by manufacturer for bonding condition.
  4. Epoxy - Two component thermosetting epoxy adhesive with 100% solid content, complying with State requirements.
  5. Poxy-ment - Acid Alkali resistant epoxy complying with State requirements.
- I. Paint: Preparation, primer and semi-gloss acrylic base finish coats to provide weather resistant finish guaranteed for one (1) year that complies with applicable State requirements against pitting, peeling, or fading. Enamel coating provided for use on surfaces shall have properties of moisture resistance in all weather conditions and shall be guaranteed for minimum one (1) year against pitting, peeling or fading.

**Matthews Acrylic Polyurethane:** An ultraviolet inhibited isocyanate/acrylic system engineered for extreme color and gloss retention.

**Matthew Paint Company**

- J. Vinyl Die-Cut Characters:** Pre-spaced die-cut letters of adhesive film in the following thicknesses, selected from standard colors. Typeface and spacing noted on Drawings.

Cast Vinyl: 2.5 mils thick with 2 year warranty:

Oracal Oraguards 210 Cold Laminate in semi-gloss finish

**K. Sign Sheeting**

1. The sign blanks shall be covered with appropriate sheeting.
2. Super Engineer Grade Sheeting on the face of Guide and Regulatory type signs including but not limited to Parking Restrictions, One Way, ground-mounted Street Name Signs, etc.
3. Hi-Intensity Grade Sheeting on the face of Stop Signs and Warning Signs.
4. Diamond Grade Sheeting on the face of Overhead Street Name Signs.
5. Non-reflective black paint on the back of all signs with visible backsides.
6. Sheeting specifications
  - a. Sheeting material shall be the following ASTM standards:
    - o B-1187 method of salt spray (fog) testing.
    - o B-209 specifications for Aluminum and Aluminum Alloy Sheet and Plate
    - o D-523 standard method for test for specular gloss
    - o E-284 standard definition of terms relating to appearance of materials
    - o E-308 computing the colors of objects by using the CIE system
    - o E-810 standard test method for coefficient of retro reflection of retro reflective sheeting
    - o E-1164 standard practice for obtaining spectrophotometer data for object-color evaluation

**L. Foundations:**

1. Conform to material requirements of City of Houston Standard Specifications Section 02751 – Concrete Paving.
2. POZ LOC Slipbase System foundations installed per manufacturers recommendations unless otherwise specified by engineering plans/ details or by City of Houston standards.

### Part 3 - Execution

#### 3.1 SIGN CONSTRUCTION

- A. All anchorage is to be reviewed and accepted by the DISTRICT. The DISTRICT is to be notified in writing of any conditions detrimental to proper and timely installation of the sign work.
- B. Contractor will be responsible for obtaining any necessary permits required to work outlined under this Contract including but not limited to traffic lane closures, intersection switches, etc. Contractor will also be responsible for any necessary traffic controls required to facilitate the installation of subject signage.
- B. Letters and signs to be structurally designed as required, to resist State required loads and thermal movements without distortions or excessive deflections. Letter and sign fabrication is to be a complete system including all stiffeners, fasteners, welding, sealants, jointing, miscellaneous pieces and material thickness as required to achieve high quality workmanship. Connections, angles, shapes and details shown are suggestive and are to be sized, reinforced and detailed as required. Details not shown and devices, anchors, etc, are to be submitted for review and acceptance by the DISTRICT before fabrication.
- C. Changes in the visual elements are not to be made without the DISTRICT'S review and approval.
- D. Each finished sign shall have the following sticker affixed to the back in a location where it will be visible when the sign is installed and after all surface treatments have been completed:

**VERNON CIVIL STATUTES  
ART 6701d / ARTICLE III, SEC. 37  
Unlawful to Deface, Remove,  
Knockdown, or Alter Any Traffic**

**Control Device**

**MAXIMUM FINE \$200.00**

Date of Sign Manufacture: XX/XX

Sheeting Manufacturer: XYZ, Inc.

Sheeting Lot No.: 12345-678

- The sticker shall be Zebra Technologies Z-Ultimate 3000 White. Finished product shall be weather and fade resistant for the expected life of the sign.
- E. The face and back of the sign blank shall be prepared and finished to accept sheeting materials in accordance with the sheeting material manufacturer's specifications and current industry standards.
  - F. Bolt holes shall be drilled or punched prior to the placement of the sheeting.
  - G. All punched holes shall be punched with a 3/8" by 1/2" oval punch and die. Edges and holes shall be free of ragged edges or sharp projections. Corner radii shall be uniform and appropriate dimension as specified in reference drawings.



### 3.2 INSTALLATION

- A. Inspect all signs for evidence of damage at the site before installation. Damaged signs shall not be installed or assembled until repairs or replacement signs are in acceptable undamaged condition.
- B. Examine the conditions under which the installation is to be performed and notify the DISTRICT in writing of any unsatisfactory conditions. Do not proceed with the work until the unsatisfactory conditions have been corrected or subsequent change of location has been indicated.
- C. Follow all recommendations and instructions for installation as provided herein or by the manufacturer in such a case where instructions are provided. The strictest requirements shall be required. Notify the DISTRICT in writing immediately if in your judgment of such installation, will not provide permanent, rigid installation in the existing conditions.
- D. Install letter and sign units and components at the locations shown or scheduled, securely mounted using concealed fasteners, unless otherwise shown. Attach signs to substrates in accordance with manufacturer's instructions, unless shown otherwise. Provide anchorage and fittings and coordinate location in the field with the DISTRICT.
- E. Install, level and plumb at the indicated height. Cooperate with other trades for installation of sign units to finish surfaces. Repair or replace damaged units as directed by the DISTRICT. Installer will coordinate and field measure indicated location of sign units, where required, with the DISTRICT.
- F. Avoid delays and additional costs for all installation procedures and required scheduling and coordinate with the DISTRICT.
- G. Signing Contractor shall coordinate sign locations with existing mechanical, electrical and plumbing elements and shall notify the DISTRICT in writing of any visual or physical conflicts. SIGNAGE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY AND EASEMENT AUTHORITIES BEFORE INSTALLATION OF ANY SIGN TYPE.
- H. Protect all adjacent surfaces from damage during installation, promptly repair any such damage should it occur.
- I. Following installation, remove all traces of visible tapes, adhesives, wrappings or refuse from the installation.
- J. Signs shall be attached to round pipes using angle iron clips, painted to match sign back. All nuts shall be self-locking. Flat washers are required under all bolt heads and nuts.
- K. Overhead street name signs shall be attached to existing traffic signal arms or cables through mechanical friction devices only. Signal arm mounts to use Astro Sign Brac band Mount or approved equal. Cable mount with bracket per existing District Standards. Drilling, welding, or other modifications to the existing poles shall not be allowed.
- L. The overhead street name sign shall be positioned to provide at least 6" of clear distance between the sign assembly and any span wires, traffic signal conductors, or other traffic signal appurtenances other than the strain pole itself.
- M. Install ground-mounted sign bases as recommended by the manufacturer. Care shall be taken when installing bases to avoid underground utilities, including lawn sprinkler systems.
- N. All signs associated with a particular roadway feature, whether temporary construction signs or permanent signs, shall be installed immediately prior to the beginning of implementation of the roadway feature.

- O.** Signs shall be protected from damage and weathering prior to installation. Damaged signs, to include dents, scratches, gouges, and scrapes, will not be accepted for payment.
- P.** Install concrete foundations in augered or hand-excavated holes true to dimensions shown on the plans or as specified. Fresh concrete shall be placed in the hole in no less than three lifts and consolidated prior to placement of the subsequent lift. Install pole in fresh concrete and brace to ensure a vertical position is held until the concrete cures. Unless otherwise approved, signs shall not be installed on the poles until after the concrete cures at least seven (7) days.

### **3.2 RESPONSIBILITIES**

- A.** The Contractor is responsible for providing and installing traffic signs as indicated in the plans or as directed.
- B.** All installed traffic sign assemblies shall be in new condition at the time of final inspection and determination of substantial completion of the project. Missing or damaged signs will be repaired or replaced by the Contractor at no expense to the Owner.

### **3.3 CLEANING AND PROTECTION**

- A.** At the completion of the installation, clean soiled sign surfaces in accordance with the finish manufacturer's instructions. Protect units from damage until acceptance by the DISTRICT.
- B.** Contractor must fully restore all conditions including existing grade and turf to the original condition prior to the start of work under this Contract.

**Sign Type****Submittal**

S1 &amp; S2

Full size copy layout  
Fabrication drawings/mounting details  
Electrical drawings (if required)

All sign types

Provide 6" x 6" color samples, on material specified, for review and approval by designer

Provide 6" x 6" color samples of all DOT specified colors.

**Typography**

The standard typeface used in this signage program, unless noted on the drawings, is Avenir45BookLight. The font shown here is for reference only, and under no circumstances is it to be used as artwork. Letter, word spacing and line-to-line spacing shall be as shown on the drawings.

## IV STREET SIGN SCHEDULE

Standard Street Signs 'S1'			
Sign No.	North/South Street	East/West Street	Intersection Type
1	Memorial City Way	IH-10	3-Way
2	Memorial City Way	Cayland Drive	3-Way
3	Frostwood Drive	IH-10	3-Way
4	Benignus Road	IH-10	3-Way
5	Attingham Drive	IH-10	3-Way
6	Attingham Drive	Town and Country Way	3-Way
7	Bettina Court	Barryknoll Lane	3-Way
8	Strey Lane	Barryknoll Lane	4-Way
9	Town and Country Lane	Town and Country Way	3-Way
10	Town and Country Blvd.	IH-10	3-Way
11	Lumpkin Road	IH-10	3-Way
13	Wisterwood Drive	IH-10	3-Way
14	Wisterwood Drive	Georgiselle Drive	3-Way
15	Conrad Sauer Road	IH-10	3-Way
16	Conrad Sauer Road	Matheson Lane	3-Way
17	Conrad Sauer Road	Georgiselle Drive	3-Way
18	Witte Road	IH-10	3-Way
19	Bettina Court	Kimberly Lane	3-Way
20	Strey Lane	Kimberly Lane	3-Way
21	Town and Country Lane	IH-10	3-Way
22	Town and Country Lane	Town and Country Way	4-Way
23	Town and Country Blvd.	Town and Country Way	All Way

Bunker Hill			
BH1	Bunker Hill Road	IH-10	4-Way
BH2	Bunker Hill Road	IH-10	4-Way

Gessner			
GS2	Gessner Road	IH-10	4-Way
GS3	Gessner Road	IH-10	4-Way

Frostwood			
FW1	Frostwood Drive	Kingside Lane	4-Way

Beltway 8			
BW1	W Sam Houston Pkwy	Westview Drive	4-Way

Standard Signal Signs 'S2'			
Sign No.	North/South Street	East/West Street	Intersection Type

12	Lumpkin Road	Westview Drive	4-Way
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Bunker Hill			
BH3	Bunker Hill Road	Cayland Drive	3-Way
BH4	Bunker Hill Road	Barryknoll Lane	3-Way
BH5	Bunker Hill Road	Barryknoll Lane	4-Way

Barryknoll			
BK1	Memorial City Way	Barryknoll Lane	3-Way
BK2	Plantation Road	Barryknoll Lane	4-Way

Gessner			
GS1	Not Used	Not Used	4-Way
GS4	Gessner Road	Memorial Hermann/Memorial City Mall	4-Way
GS5	Gessner Road	Memorial Hermann/Memorial City Mall	4-Way
GS6	Gessner Road	Kingside Lane	4-Way
GS7	Gessner Road	Barryknoll Lane	3-Way

# HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1 STREET SIGNAGE PACKAGE

Houston, Tx

**Owner:**

HARRIS COUNTY MUNICIPAL MANAGEMENT DISTRICT #1  
820 South Gessner, Suite 1530  
Houston, Texas 77024  
P (713) 884-8787  
F (713) 884-0432

**Landscape Architects:**

**K&W**  
7155 Old Katy Rd.  
Suite 270  
Houston, Texas 77024  
P (713) 865-8887  
F (713) 865-0808

**KUDELA &  
WEINHEIMER**

ISSUED FOR PRICING 11/27/2008

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L1.06 LAYOUT PLAN	L1.26 LAYOUT PLAN	SK-1 STRUCTURAL
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L1.12 LAYOUT PLAN	L1.32 LAYOUT PLAN	
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L1.15 LAYOUT PLAN	L1.35 LAYOUT PLAN	
L1.16 LAYOUT PLAN	L1.36 LAYOUT PLAN	
L1.17 LAYOUT PLAN	L1.37 LAYOUT PLAN	
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L1.19 LAYOUT PLAN		

Management  
District  
Street Signage  
Package

DATE/ISSUE  
1/17/2008 ISSUE FOR PRICING



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7465 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-989-8987  
WWW.K&WMTXAS.COM

PROJECT NUMBER  
1003103

SCALE



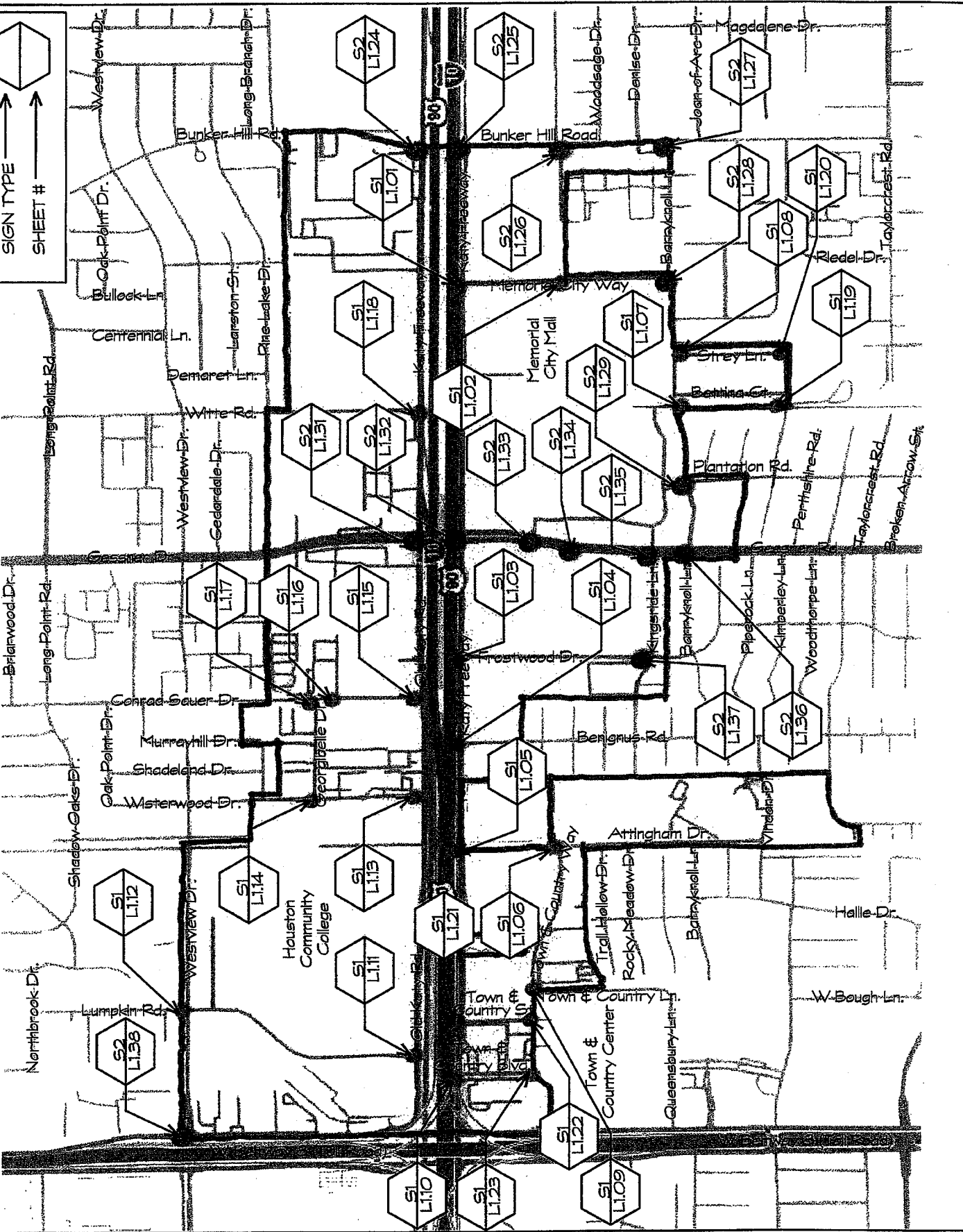
SHEET TITLE  
KEY MAP

SHEET NUMBER  
10.00

**LEGEND**

SIGN TYPE →

SHEET # →





DATE/ISSUE  
11/27/2008 ISSUE FOR PRICING



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-889-9887  
713-889-0908 FAX  
WWW.K&WTEXAS.COM

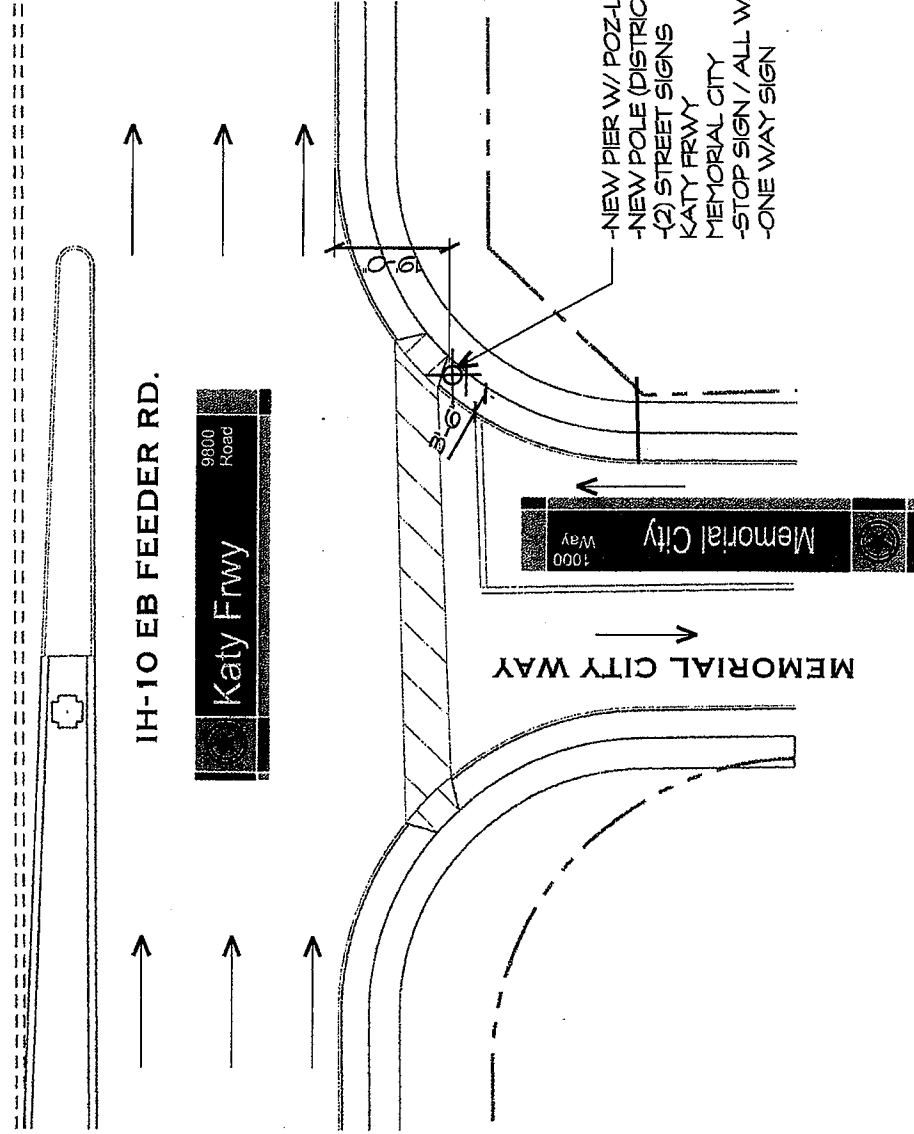
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MSD-708

SCALE  
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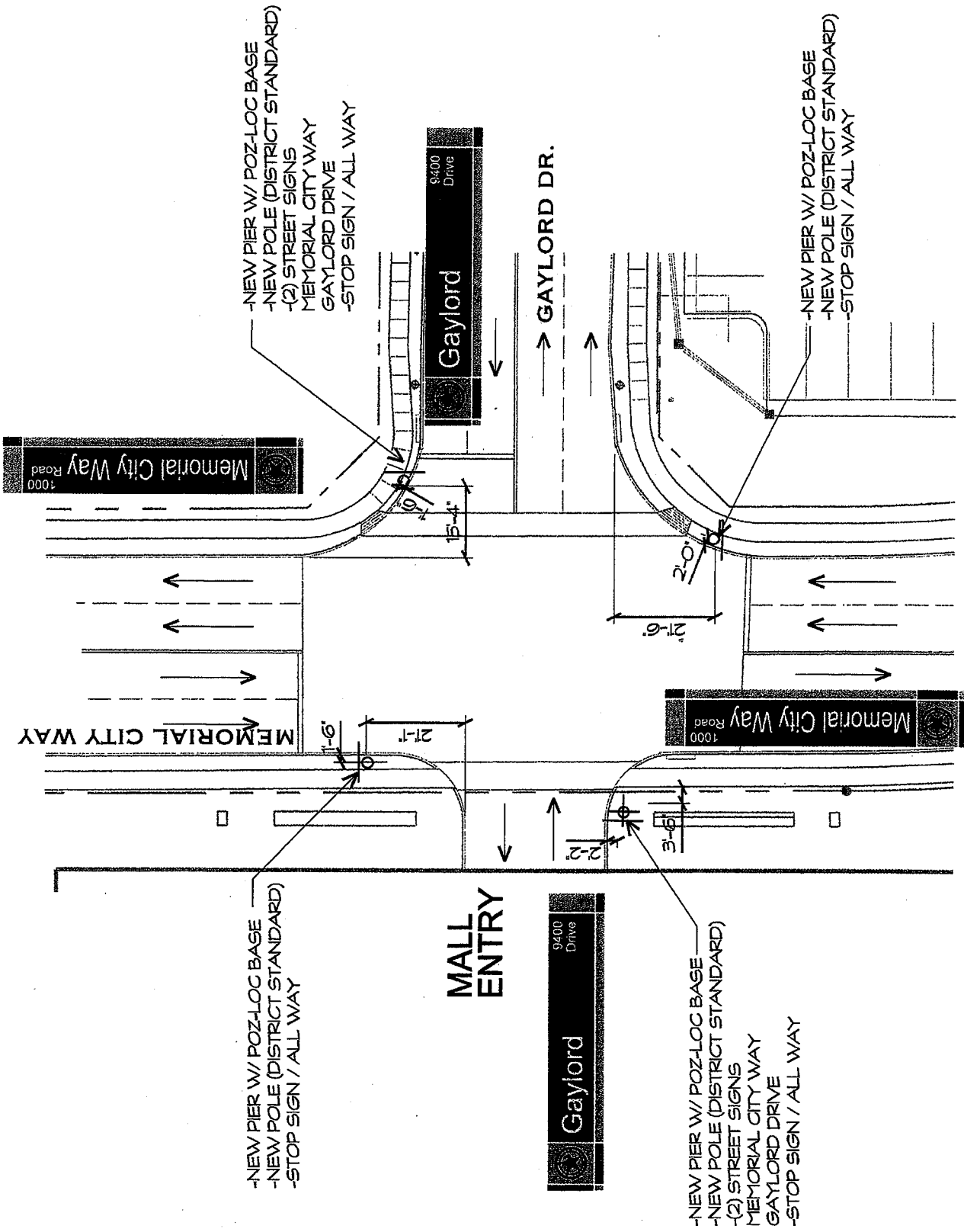
SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-101



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

Sign-1



-NEW PIER W/ POZ-LOC BASE  
-NEW POLE (DISTRICT STANDARD)  
-STOP SIGN / ALL WAY

-NEW PIER W/ POZ-LOC BASE  
-NEW POLE (DISTRICT STANDARD)  
-(2) STREET SIGNS  
MEMORIAL CITY WAY  
GAYLORD DRIVE  
-STOP SIGN / ALL WAY

-NEW PIER W/ POZ-LOC BASE  
-NEW POLE (DISTRICT STANDARD)  
-(2) STREET SIGNS  
MEMORIAL CITY WAY  
GAYLORD DRIVE  
-STOP SIGN / ALL WAY

-NEW PIER W/ POZ-LOC BASE  
-NEW POLE (DISTRICT STANDARD)  
-STOP SIGN / ALL WAY

NOTE:  
REFER TO TEXAS M.U.T.C.D.2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE	
11/07/2006 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7455 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-862-8987  
713-862-9838 FAX  
WWW.K&W.COM

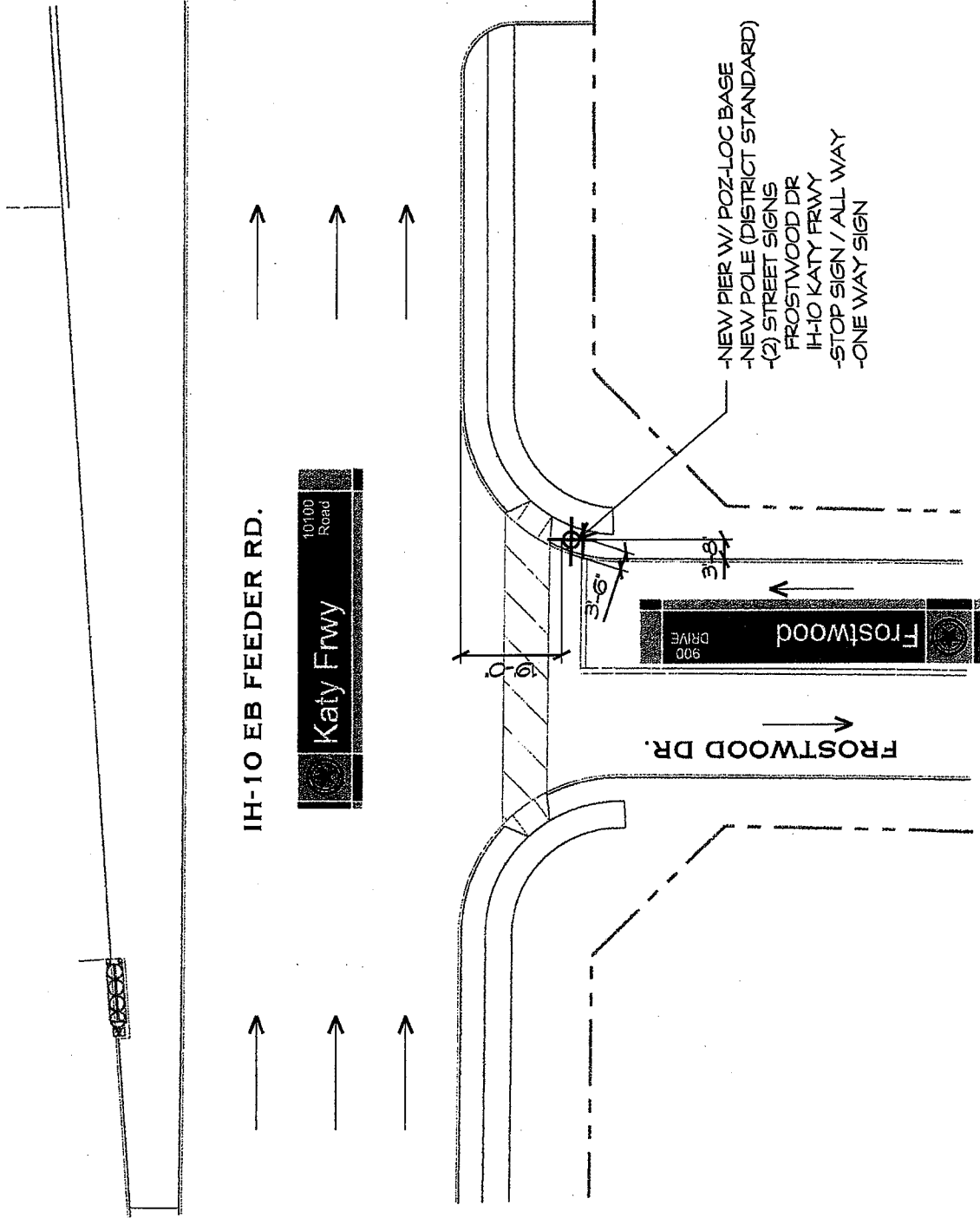
PROJECT NUMBER  
ADDRESS

SCALE  
1" = 30' IF

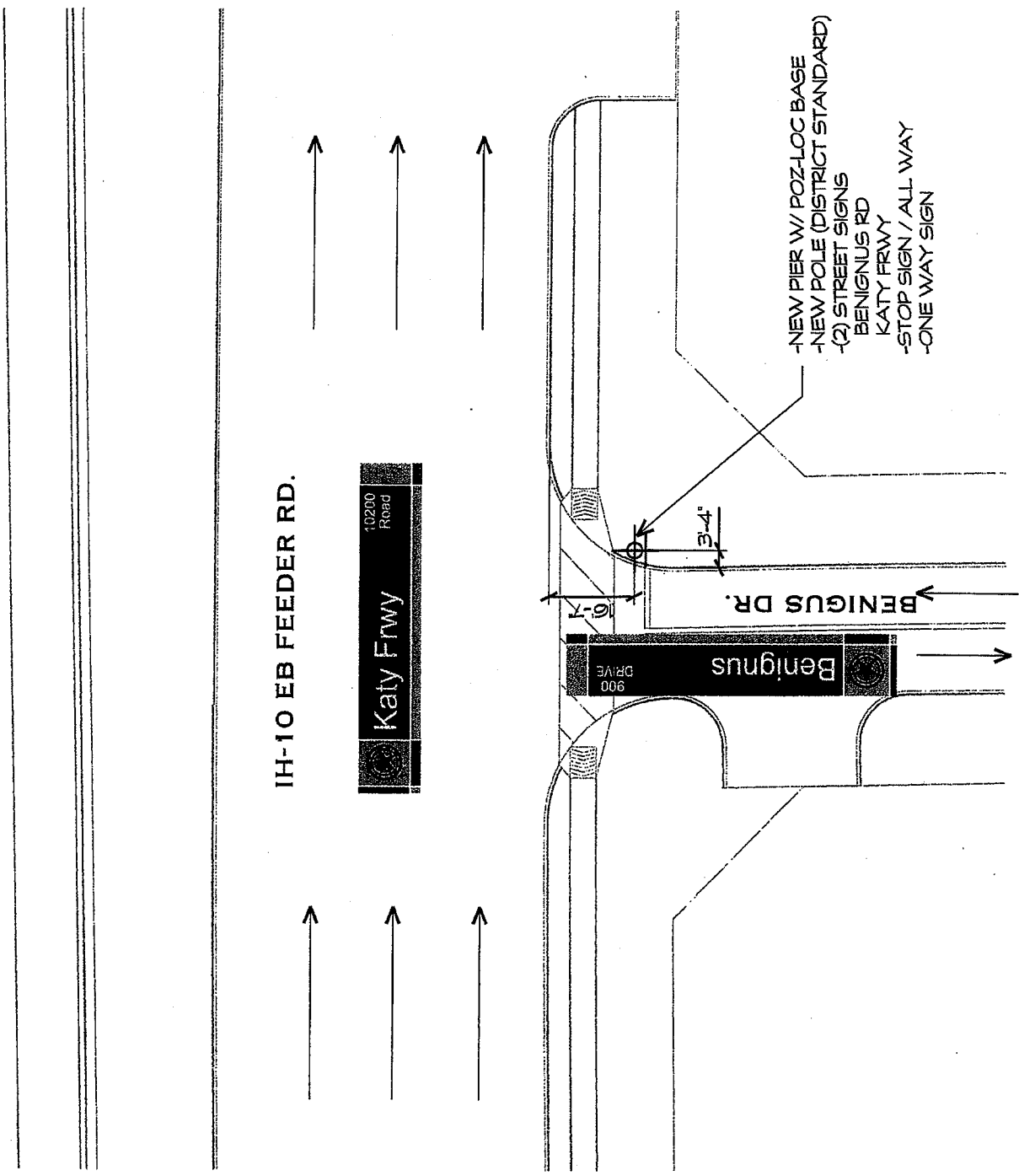


SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.03



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION



- NEW PIER W/ POZ-LOC BASE
- NEW POLE (DISTRICT STANDARD)
- (2) STREET SIGNS  
BENIGNUS RD  
KATY FRWY
- STOP SIGN / ALL WAY
- ONE WAY SIGN

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE	
11/17/2006 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7188 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-889-8887  
713-889-0900 FAX  
WWW.KWTEXAS.COM

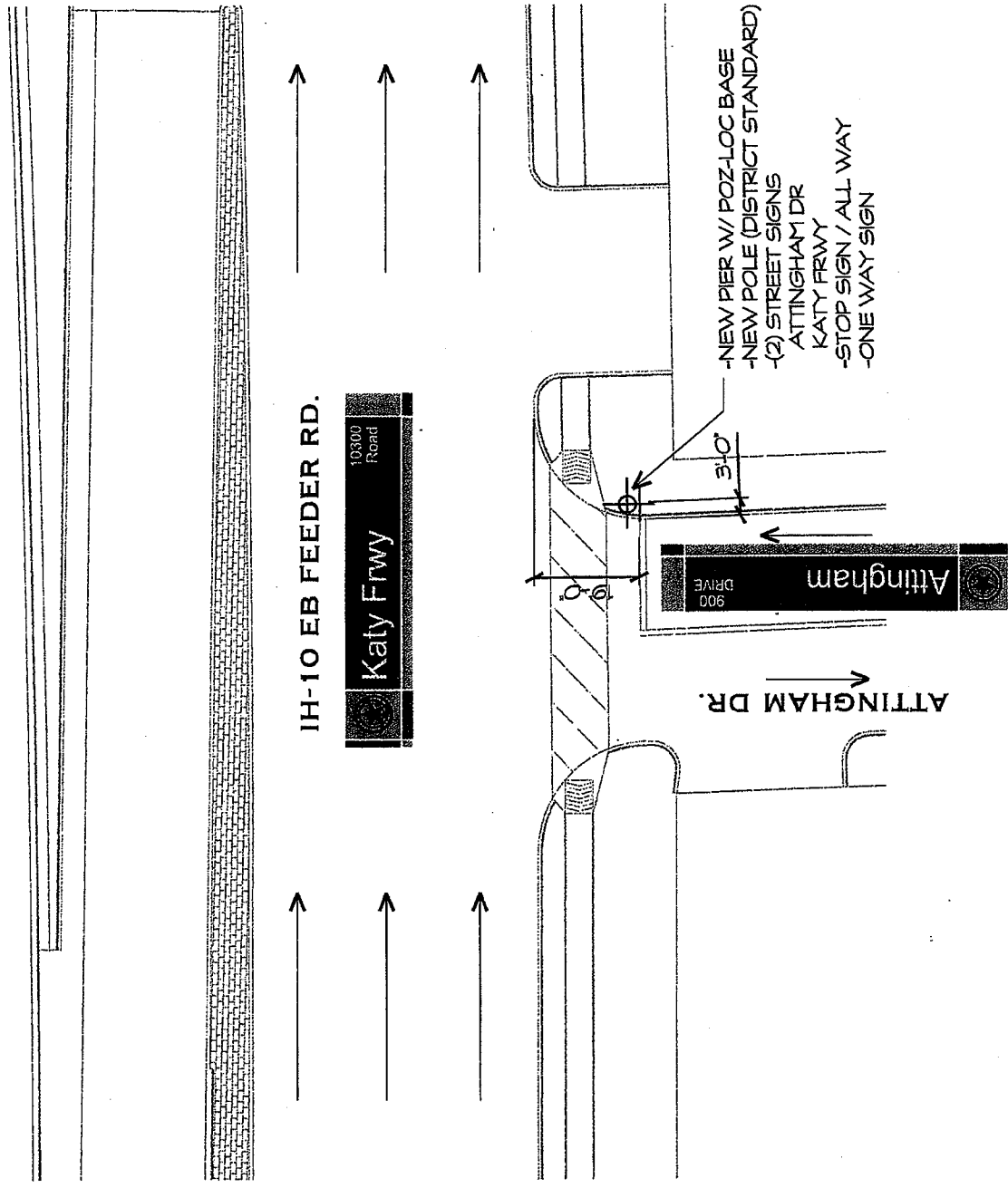
PROJECT NUMBER  
1002708

SCALE  
1" = 30' - 0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.05



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE:	
11/27/2006 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7155 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-985-8887  
713-985-9908 FAX  
WWW.KWTEXAS.COM

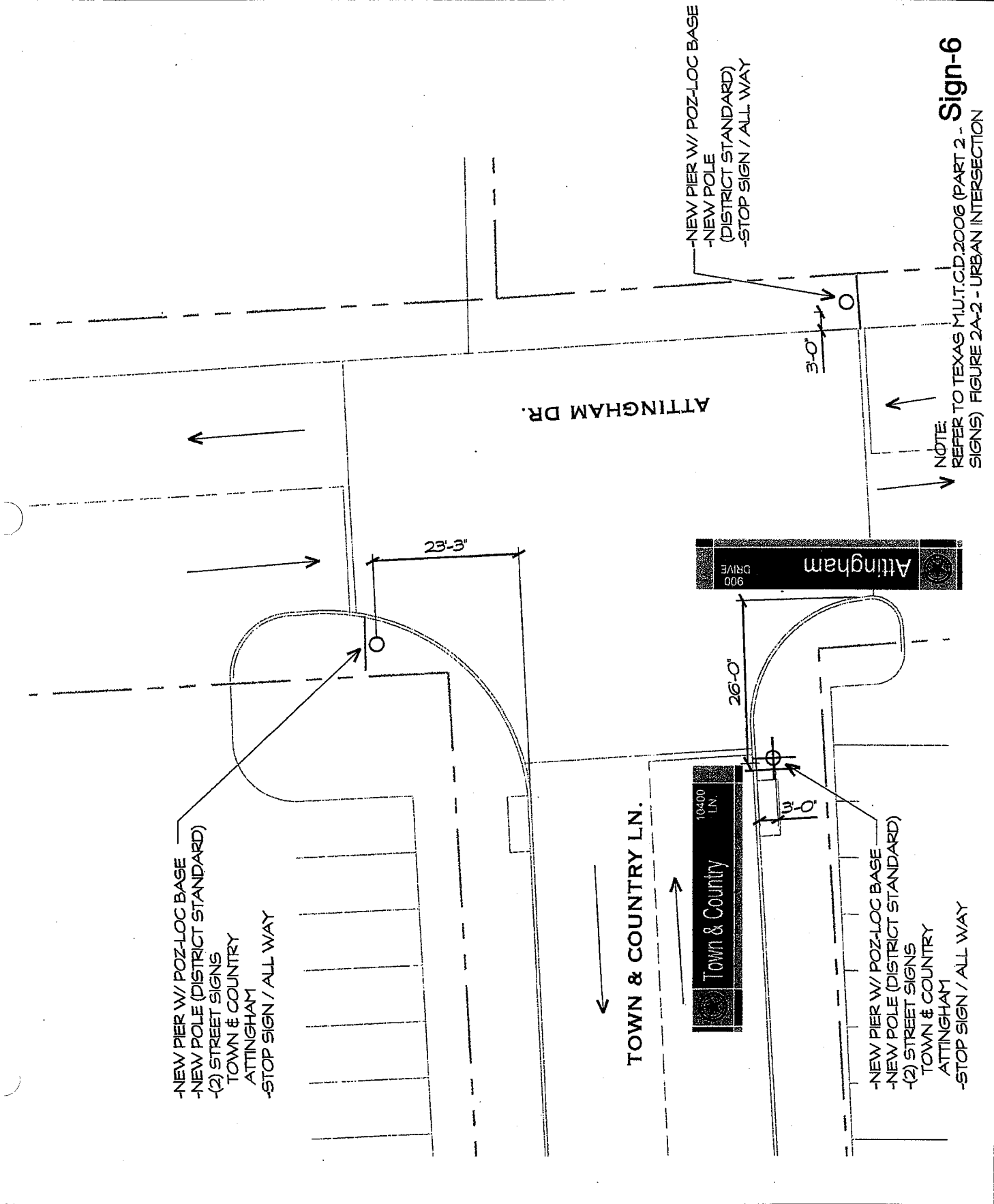
PROJECT NUMBER  
143-218

SCALE  
1" = 30'-0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.06



-NEW PIER W/ POZ-LOC BASE  
-NEW POLE (DISTRICT STANDARD)  
-(2) STREET SIGNS  
TOWN & COUNTRY  
ATTINGHAM  
-STOP SIGN / ALL WAY

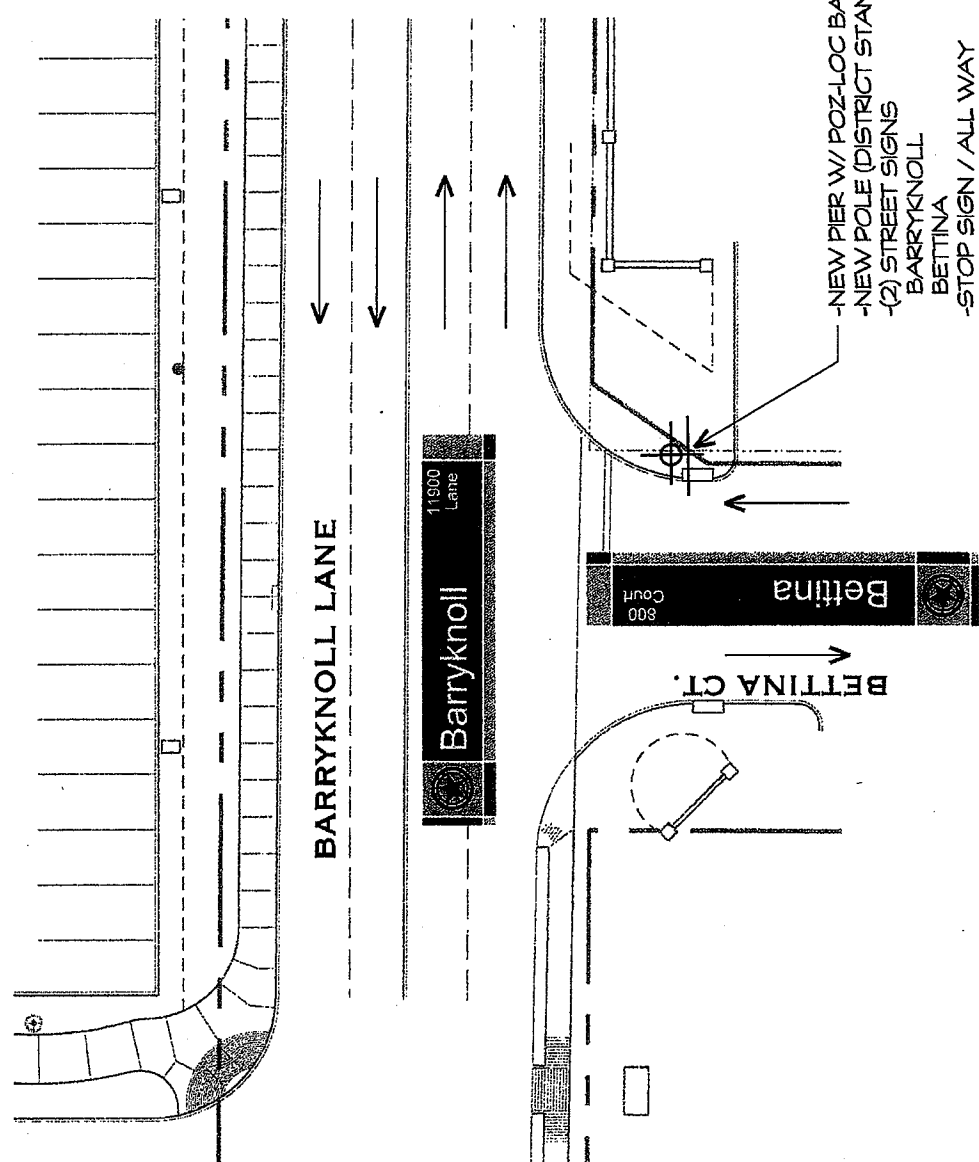
TOWN & COUNTRY LN.

-NEW PIER W/ POZ-LOC BASE  
-NEW POLE (DISTRICT STANDARD)  
-(2) STREET SIGNS  
TOWN & COUNTRY  
ATTINGHAM  
-STOP SIGN / ALL WAY

-NEW PIER W/ POZ-LOC BASE  
-NEW POLE (DISTRICT STANDARD)  
-STOP SIGN / ALL WAY

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 - SIGN-6)  
SIGN(S) FIGURE 2A-2 - URBAN INTERSECTION





- NEW PIER W/ POZ-LOC BASE
- NEW POLE (DISTRICT STANDARD)
- (2) STREET SIGNS  
BARRYKNOLL  
BETTINA
- STOP SIGN / ALL WAY
- USE EXISTING POLE LOCATION

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE	
1/17/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN

7155 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-668-6867  
WWW.KWTEXAS.COM

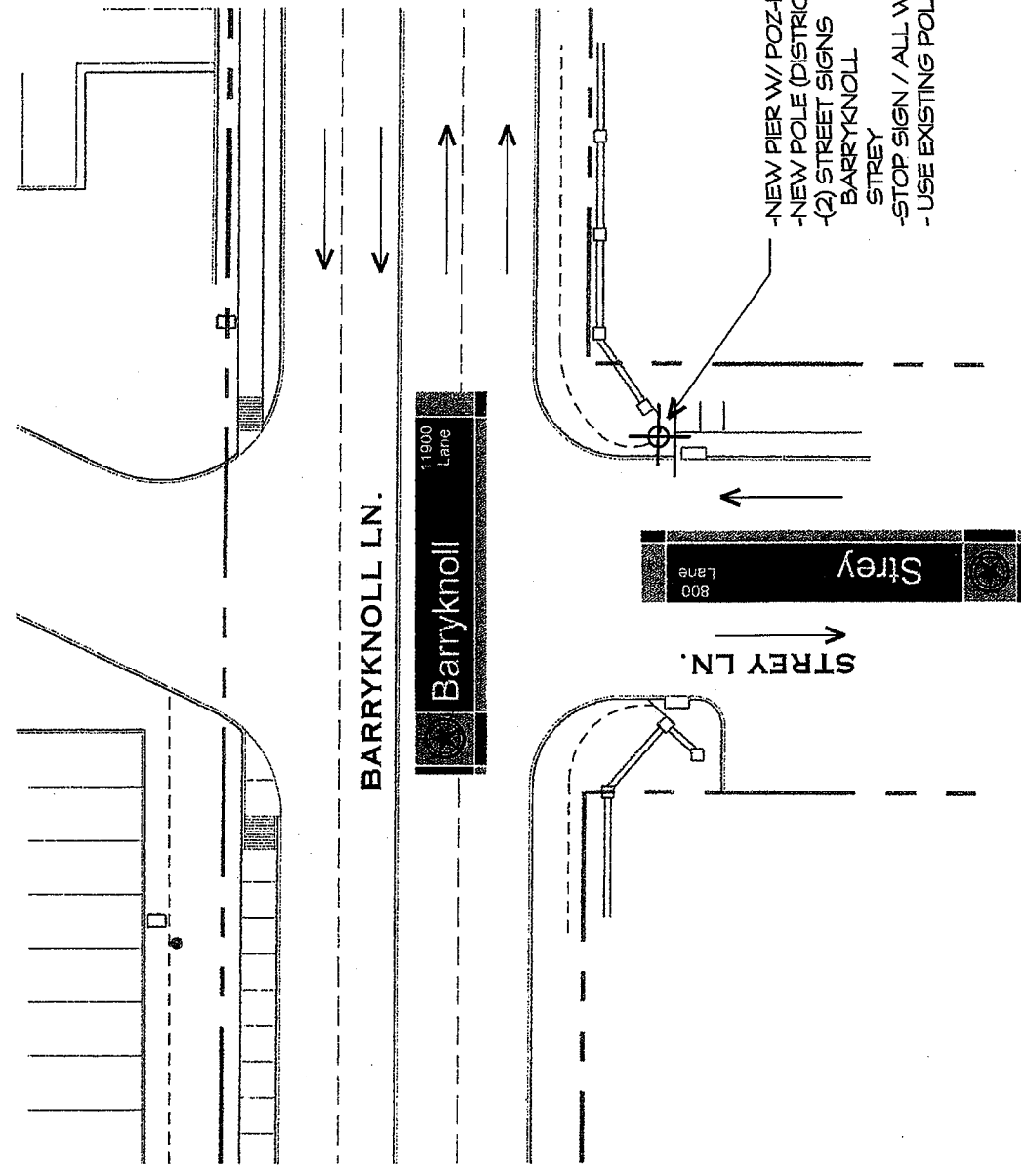
PROJECT NUMBER  
1002100

SCALE  
1"=30'-0"

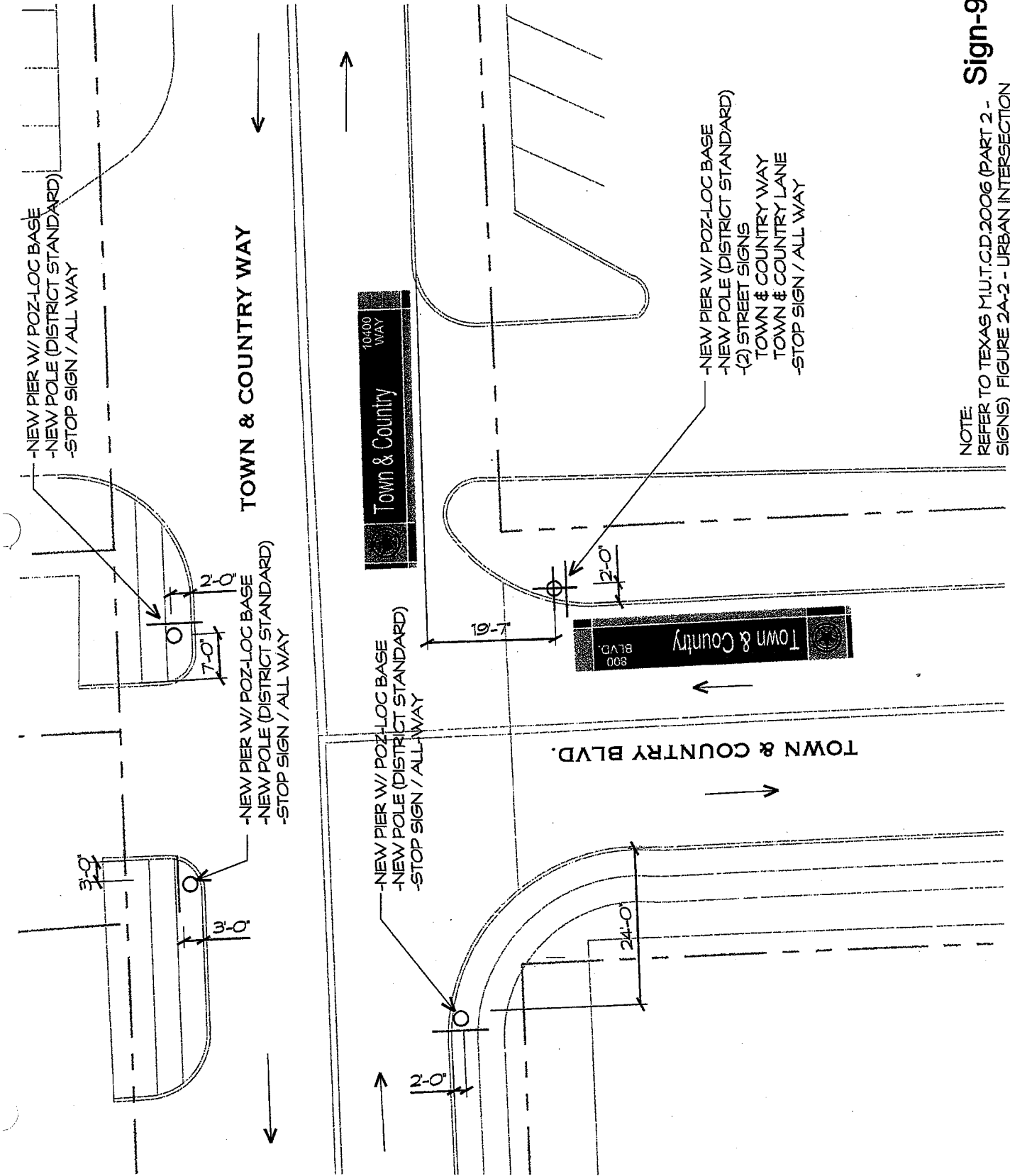


SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.08

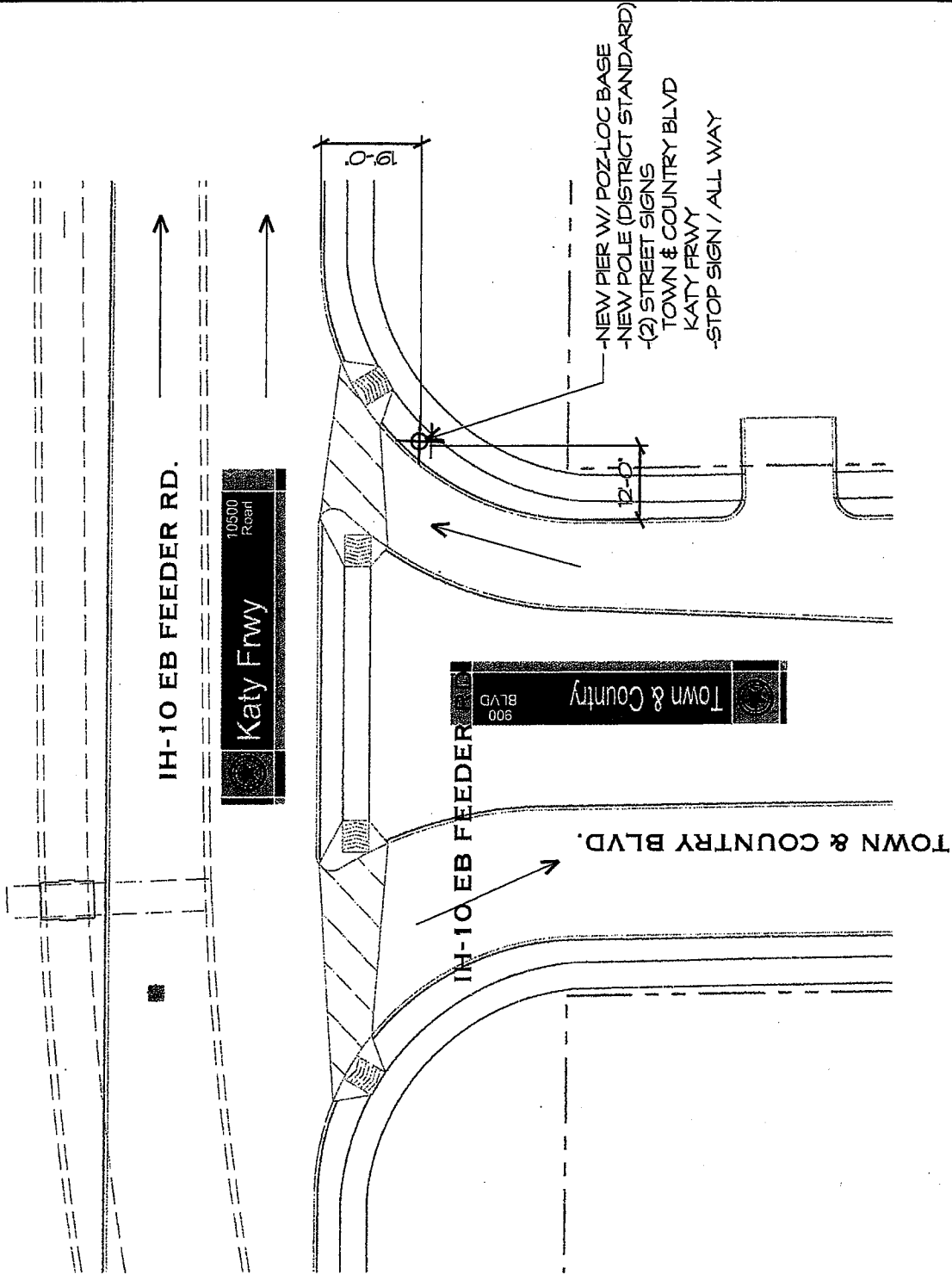


NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION



- NEW PIER W/ POZ-LOC BASE
- NEW POLE (DISTRICT STANDARD)
- (2) STREET SIGNS  
TOWN & COUNTRY WAY  
TOWN & COUNTRY LANE
- STOP SIGN / ALL WAY

**Sign-9**  
NOTE:  
REFER TO TEXAS MUT.C.D.2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION



NOTE:  
REFER TO TEXAS M.U.T.C.D.2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION **Sign-10**

DATE/ISSUE	
11/17/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN

7188 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-989-9887  
 713-989-0868 FAX  
 WWW.KWTEXAS.COM

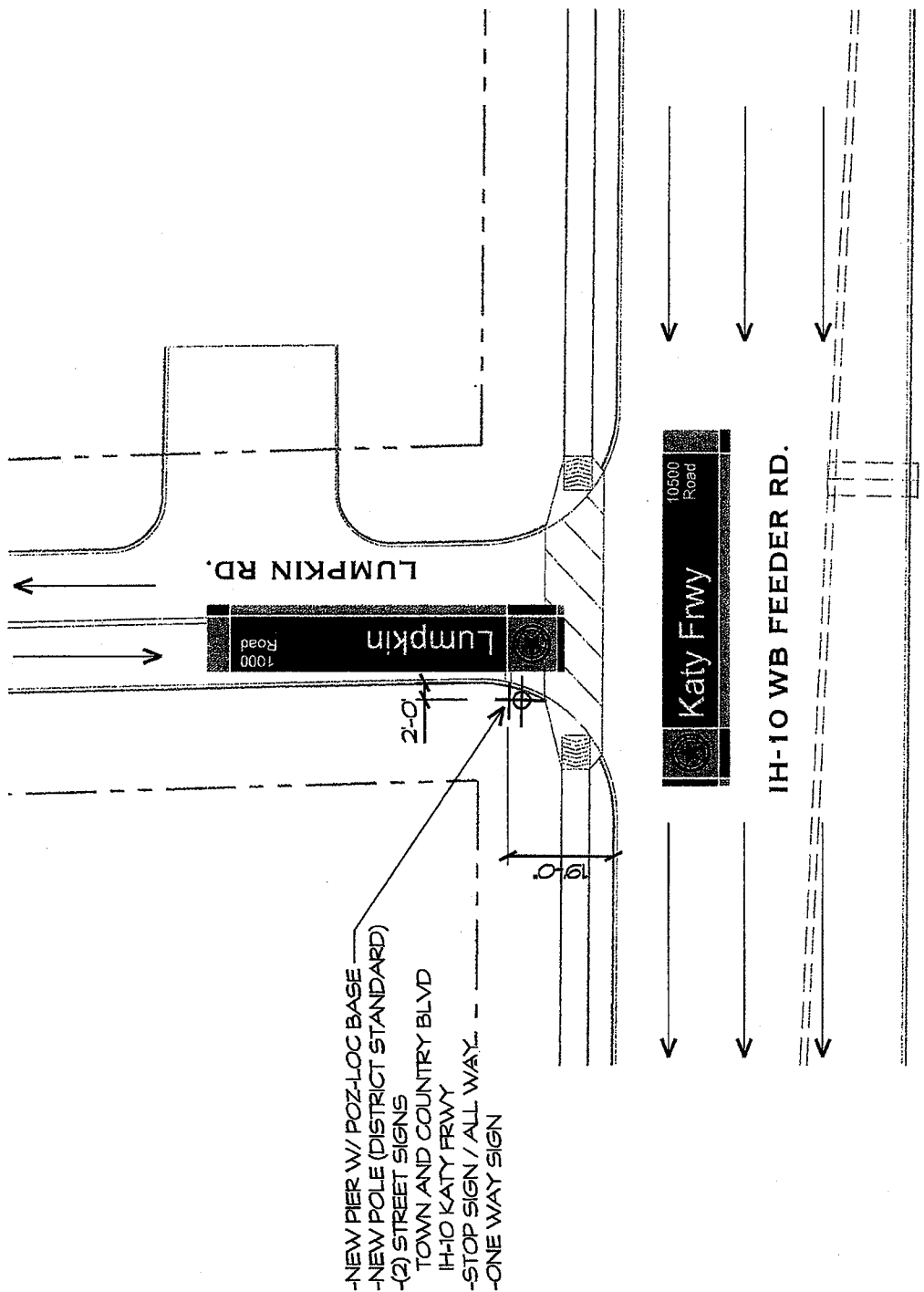
PROJECT NUMBER  
 HCD-703

SCALE  
 1" = 30'-0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 L-11



NOTE:  
 REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
 SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

Sign-11

DATE/ISSUE	
11/27/2006 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN

7185 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-869-8887  
 713-869-0608 FAX  
 WWW.KWTEXAS.COM

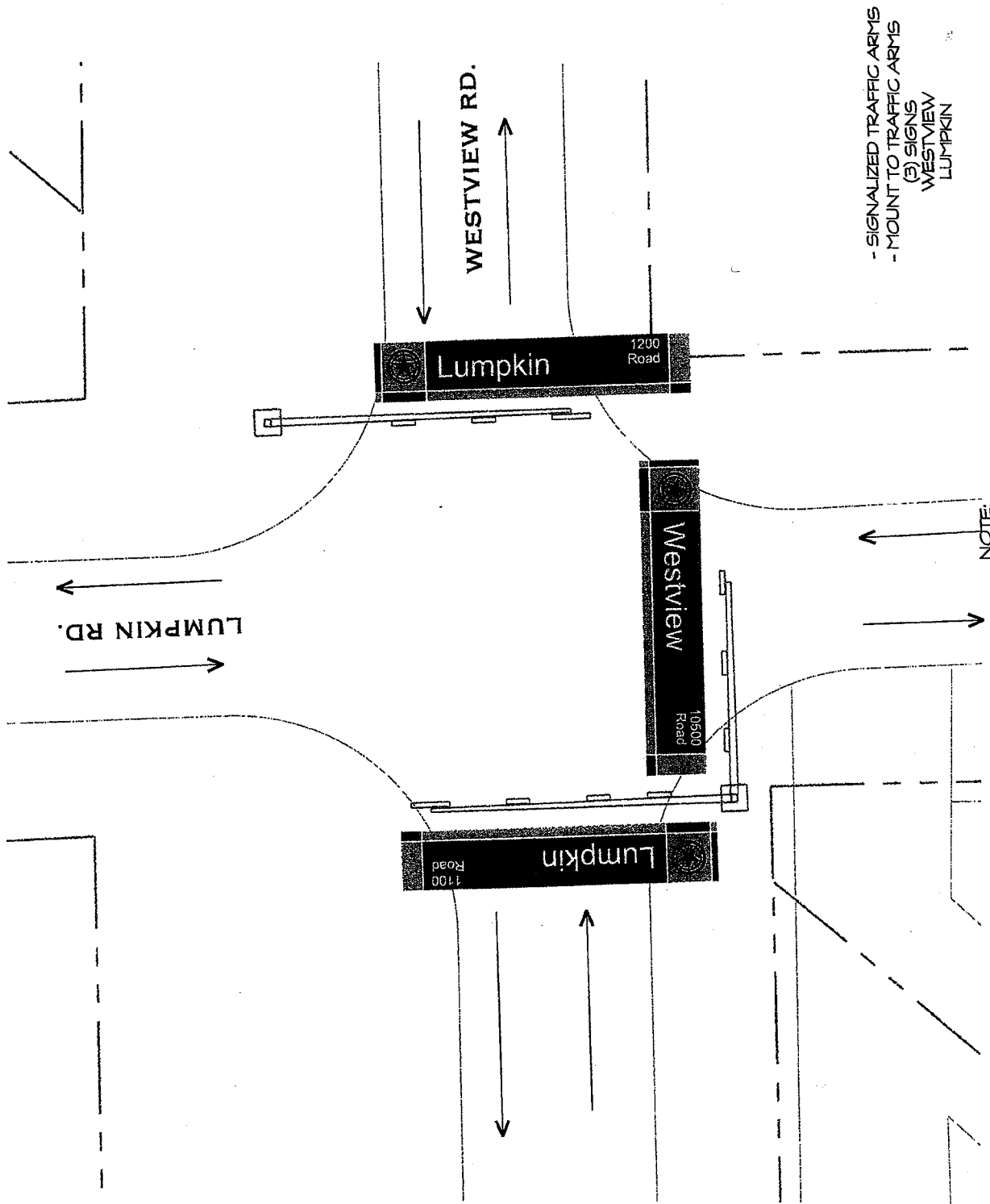
PROJECT NUMBER  
 WCD706

SCALE  
 1" = 20' - 0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 L-1.12



- SIGNALIZED TRAFFIC ARMS  
 - MOUNT TO TRAFFIC ARMS  
 (3) SIGNS  
 WESTVIEW  
 LUMPKIN

NOTE:

REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
 SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

Sign-12



DATE/ISSUE:  
1/07/2006 ISSUE FOR PRICING



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 220  
HOUSTON, TEXAS 77024  
713-869-8867  
713-869-0846 FAX  
WWW.K&WTEXAS.COM

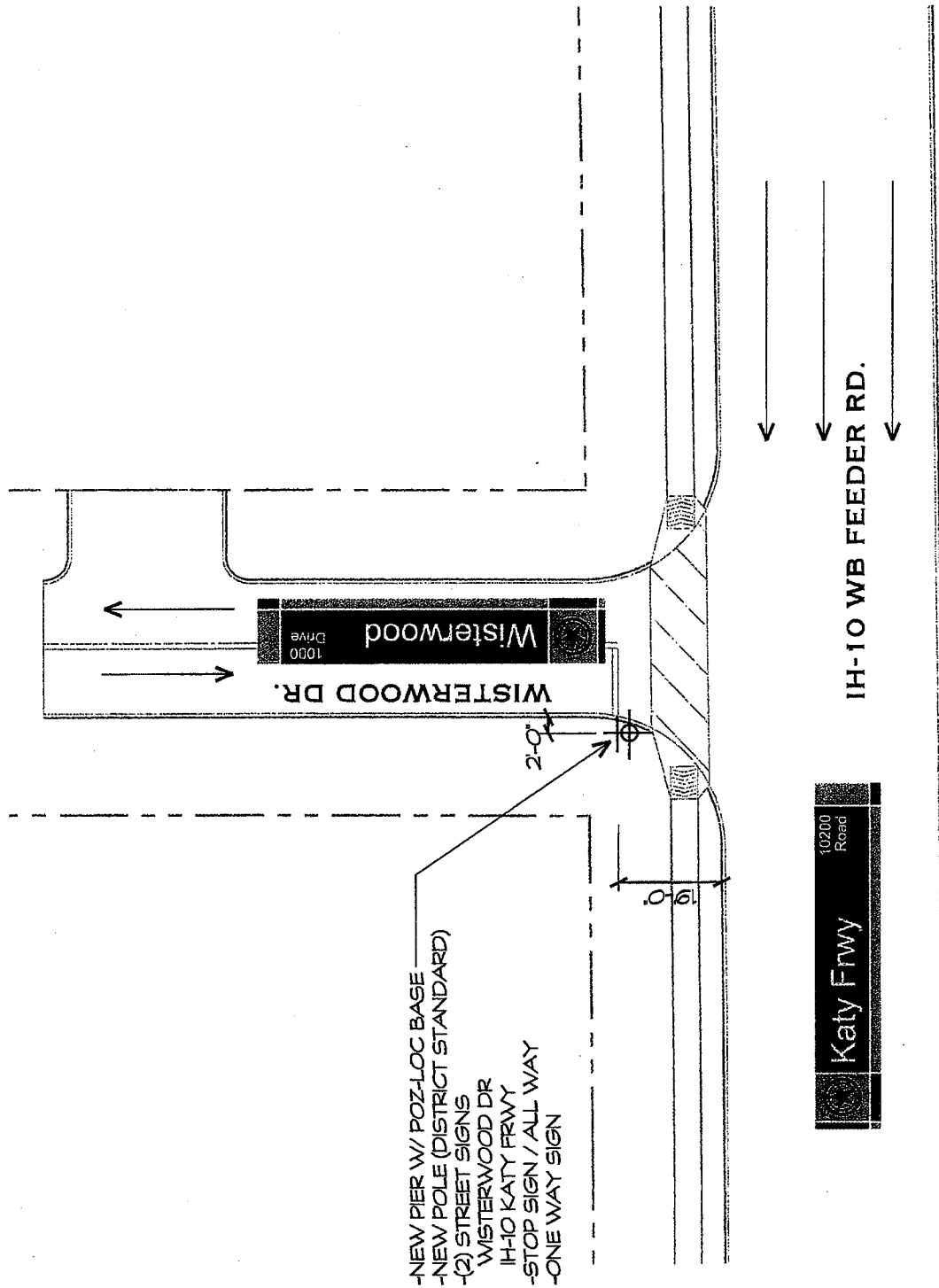
PROJECT NUMBER  
1402103

SCALE:  
1" = 30'-0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.13



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION Sign-13

DATE/ISSUE	
11/27/2009 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-866-8867  
713-866-0903 FAX  
WWW.KWTEXAS.COM

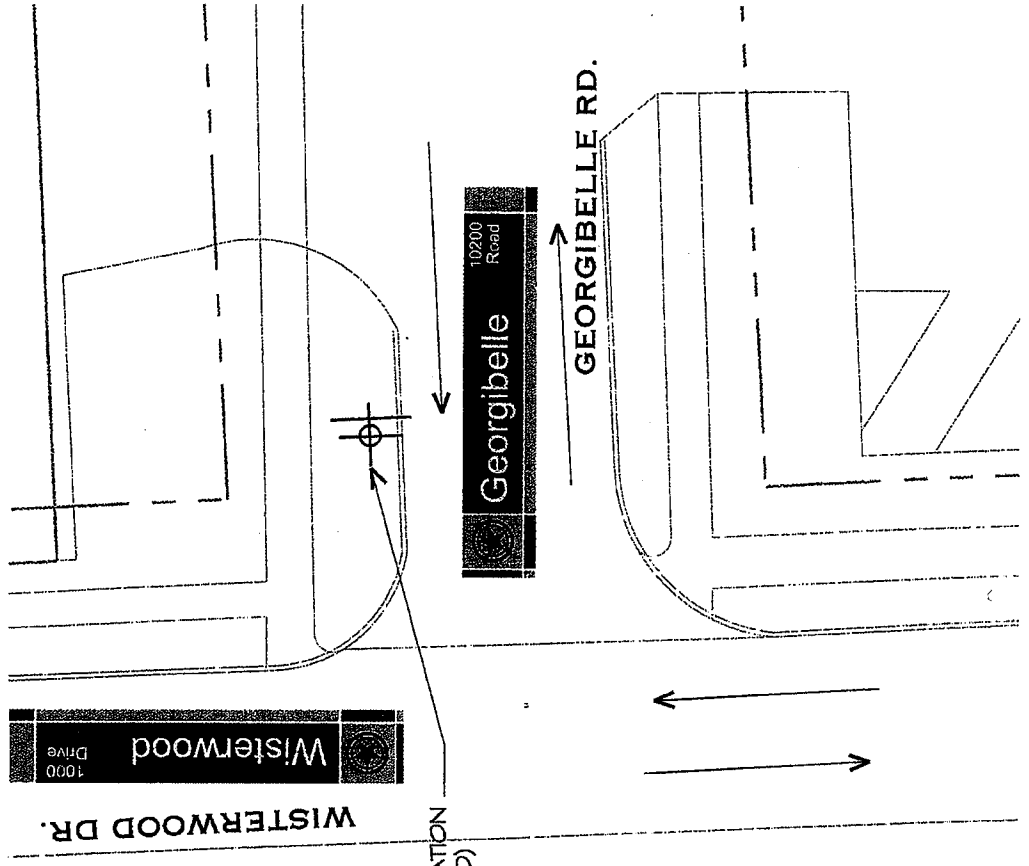
PROJECT NUMBER  
MD078

SCALE  
1" = 20' - 0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.14



- NEW PIER W/ POZ-LOC FOUNDATION
- NEW POLE (DISTRICT STANDARD)
- (2) STREET SIGNS  
WISTERWOOD DR  
GEORGIBELLE
- STOP SIGN / ALL WAY

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

Sign-14

DATE/ISSUE	
11/22/2006 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN

7485 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-869-6987  
 713-869-0069 FAX  
 WWW.KWTEXAS.COM

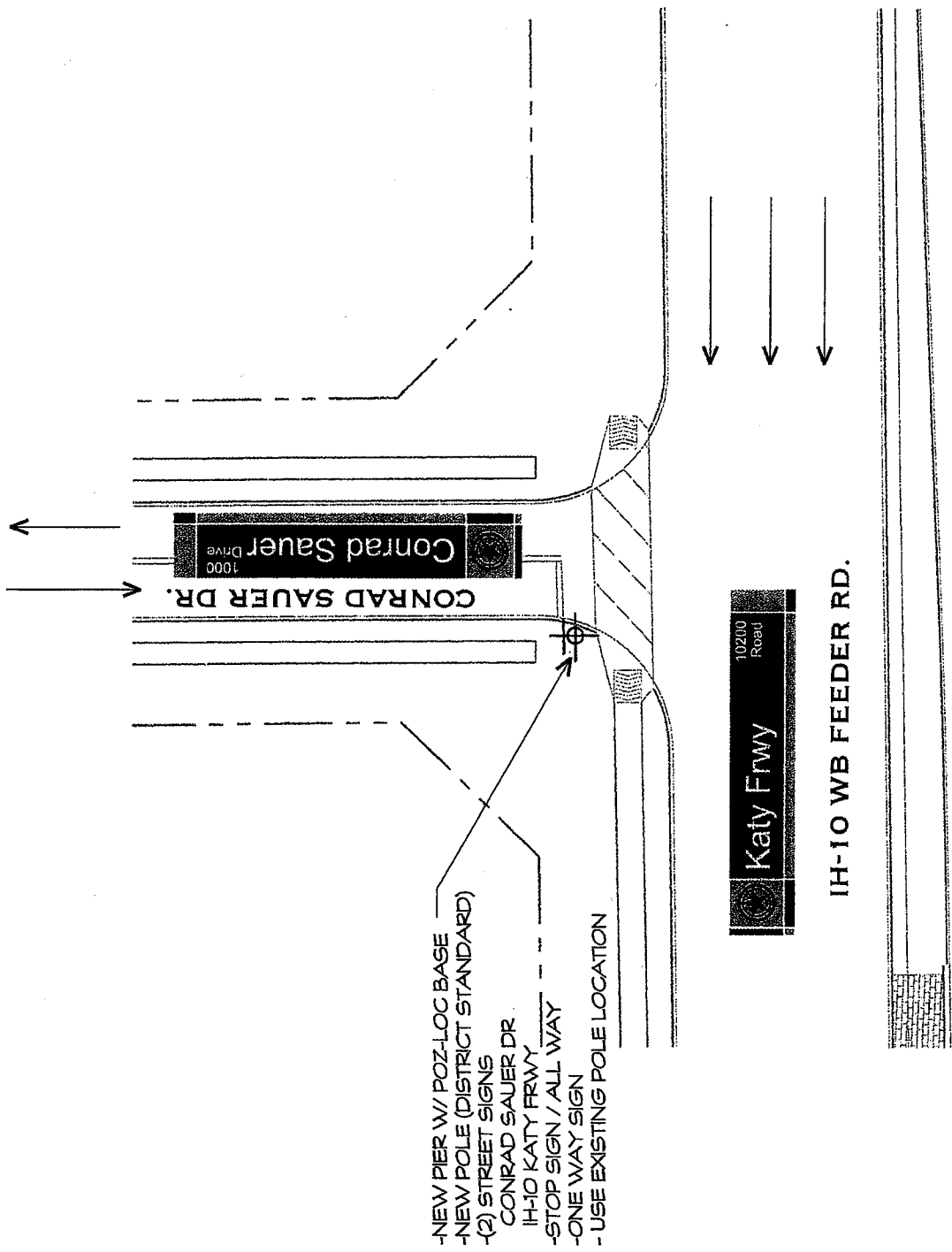
PROJECT NUMBER  
 TMD-703

SCALE  
 1" = 30' - 0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 L-1.15



NOTE:  
 REFER TO TEXAS M.U.T.C.D.2006 (PART 2 -  
 SIGNS) FIGURE 2A-2 - URBAN INTERSECTION  
 Sign-15

DATE/ISSUE	
11/27/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN

7465 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-889-8937  
713-889-0038 FAX  
WWW.WHITES.COM

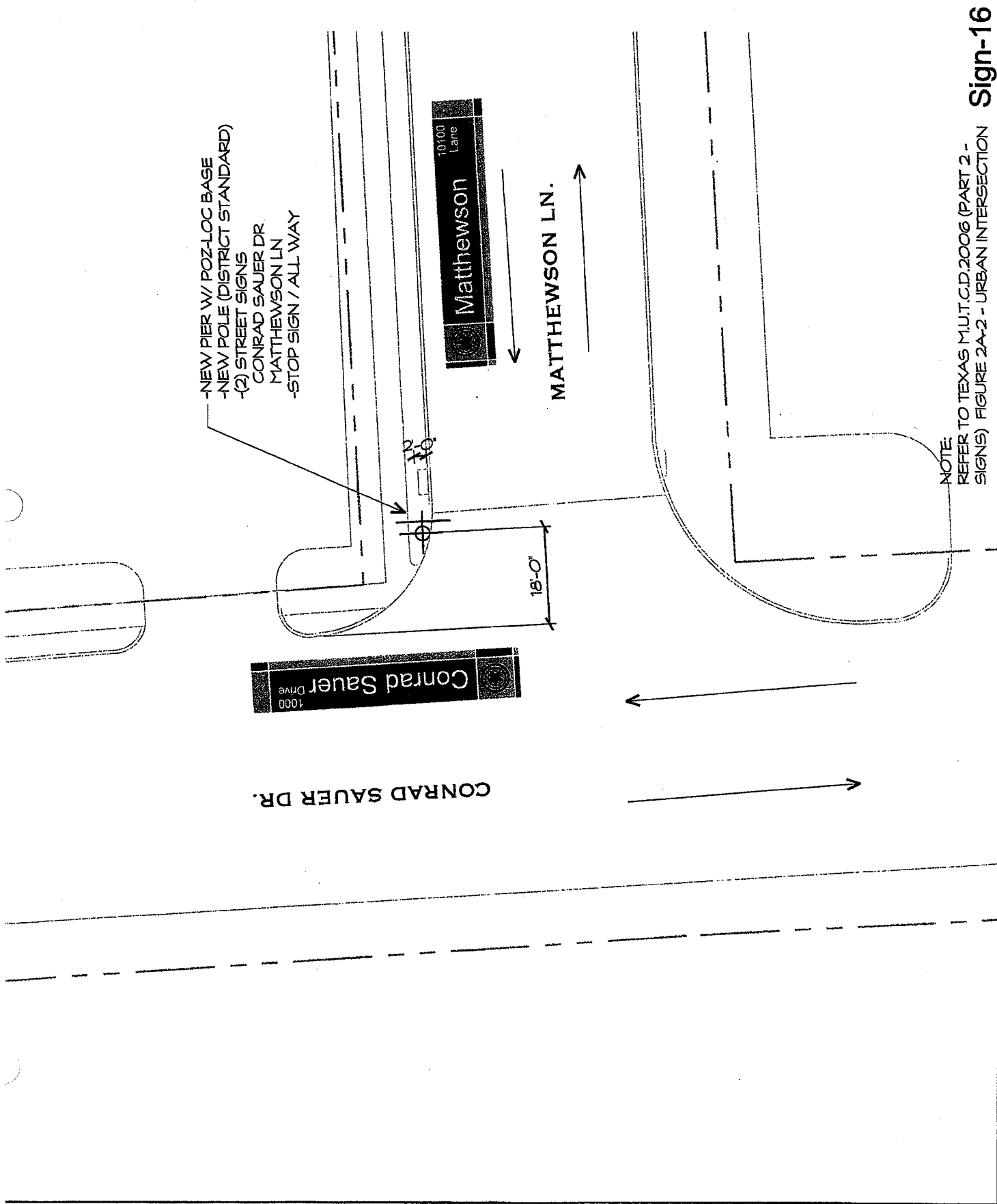
PROJECT NUMBER  
180270

SCALE  
1" = 20' 3"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1,16



- NEW PIER W/ POZ-LOC BASE
- NEW POLE (DISTRICT STANDARD)
- Ø STREET SIGNS  
CONRAD SAUER DR.  
MATTHEWSON LN
- STOP SIGN / ALL WAY

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE	
11/27/2006 ISSUE FOR PRICING	



LANDSCAPE/ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-988-6887  
713-988-0808 FAX  
WWW.RWKT.COM

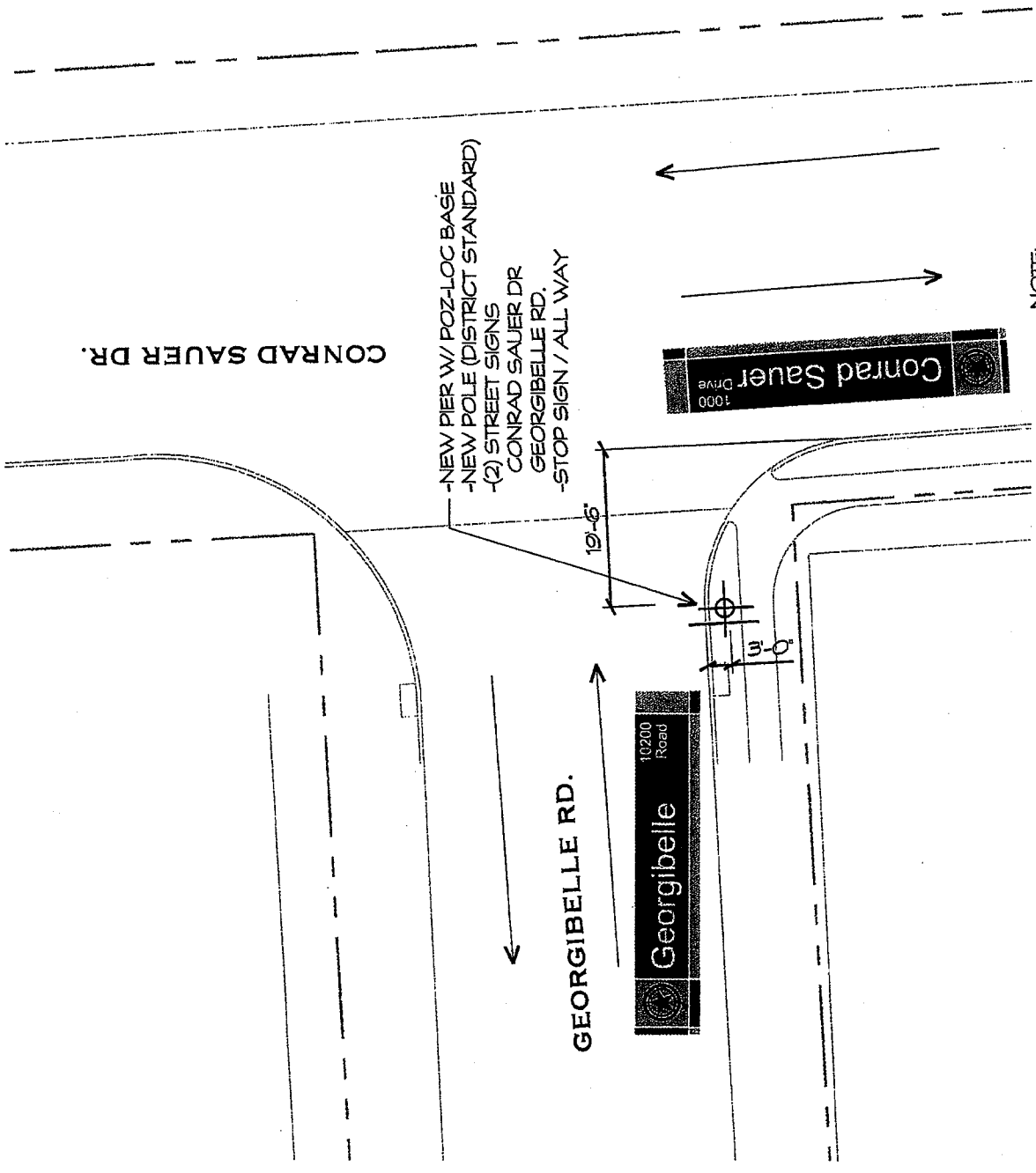
PROJECT NUMBER  
MOD-718

SCALE  
1" = 20' 0"

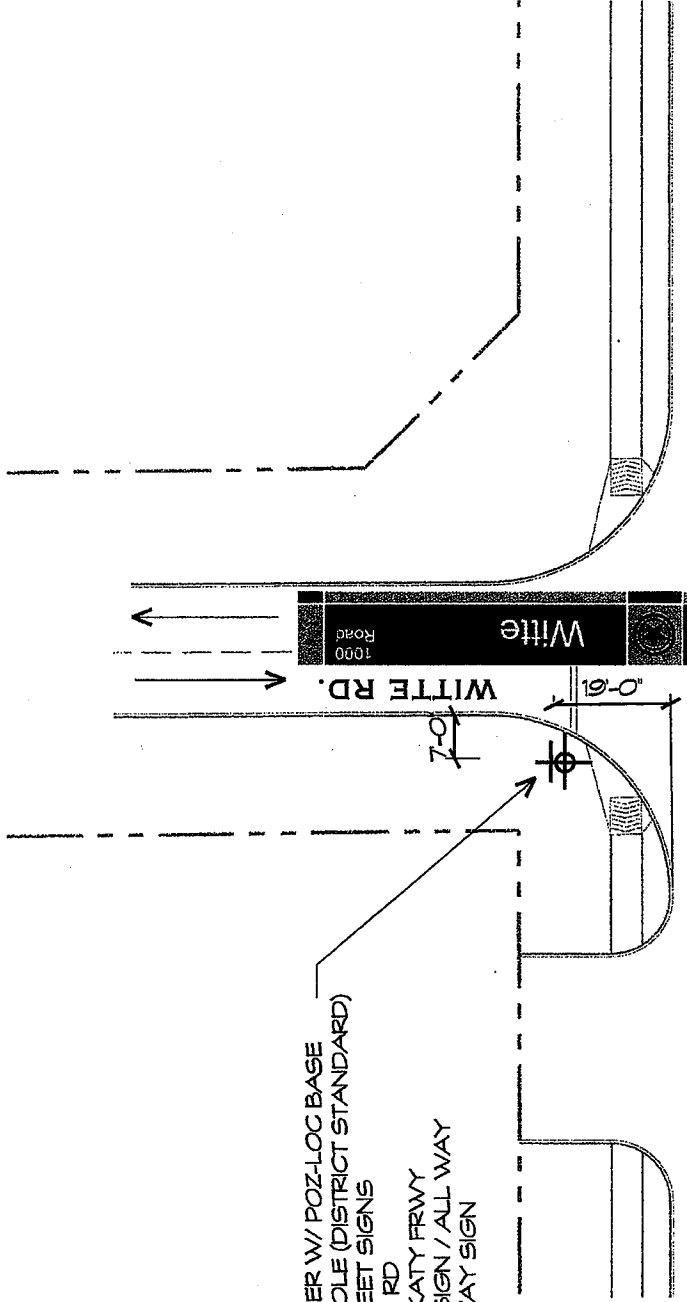


SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.17



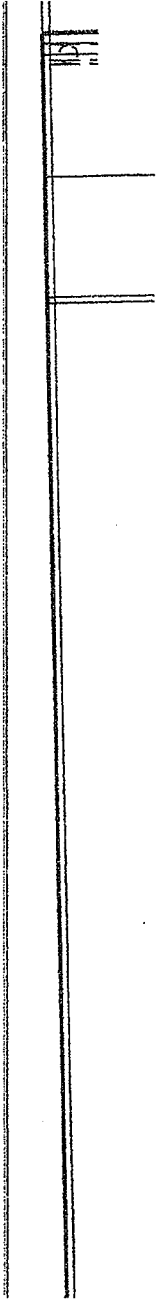
NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION



- NEW PIER W/ POZ-LOC BASE
- NEW POLE (DISTRICT STANDARD)
- (2) STREET SIGNS  
WITTE RD
- 1H-10 KATY FRWY
- STOP SIGN / ALL WAY
- ONE WAY SIGN

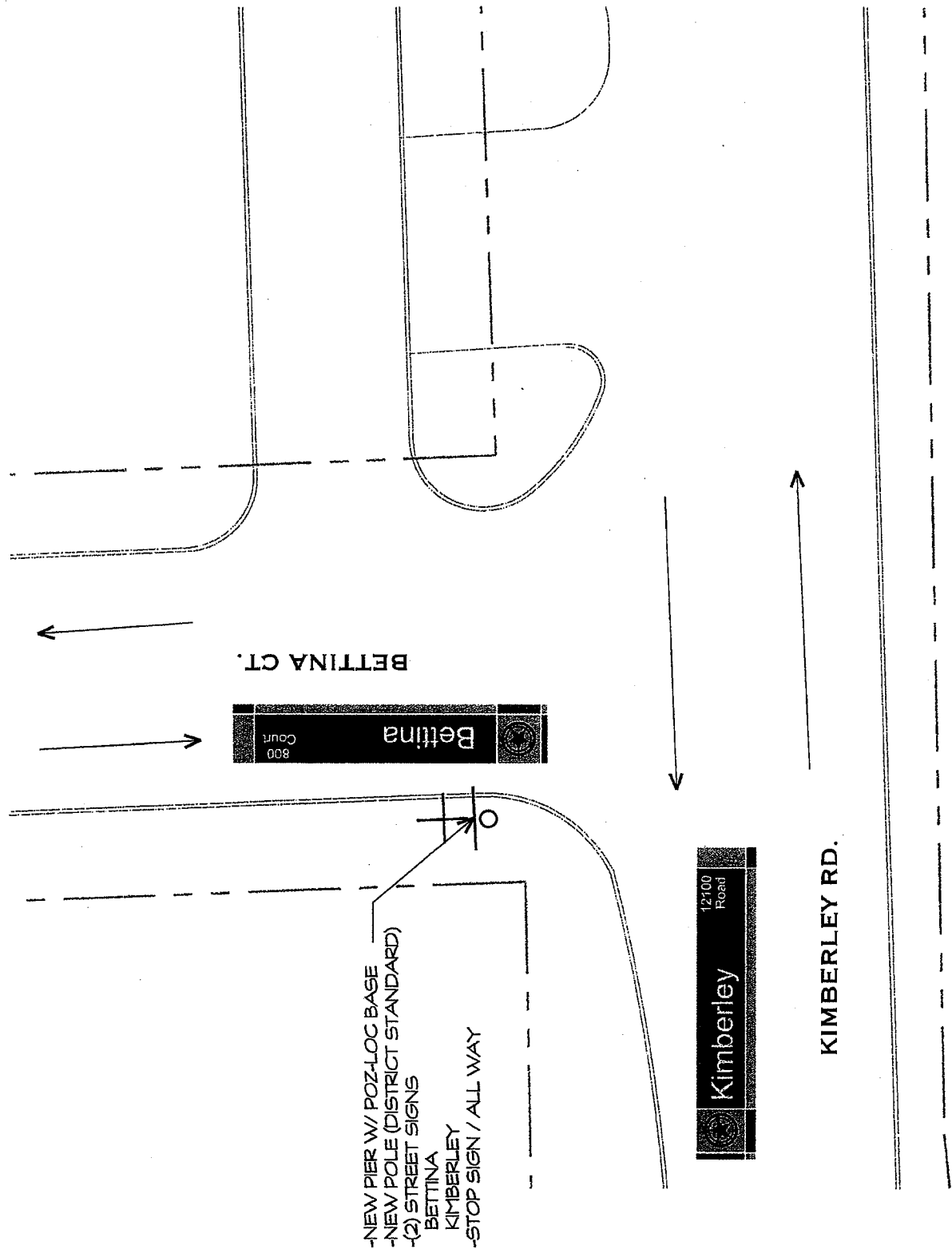


IH-10 WB FEEDER RD.



NOTE:  
REFER TO TEXAS M.U.T.C.D.2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION





NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

Sign-19

DATE/ISSUE
1/22/2008 ISSUES FOR PRICING



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN

7185 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-989-9987  
 713-989-9988 FAX  
 WWW.KWTEXAS.COM

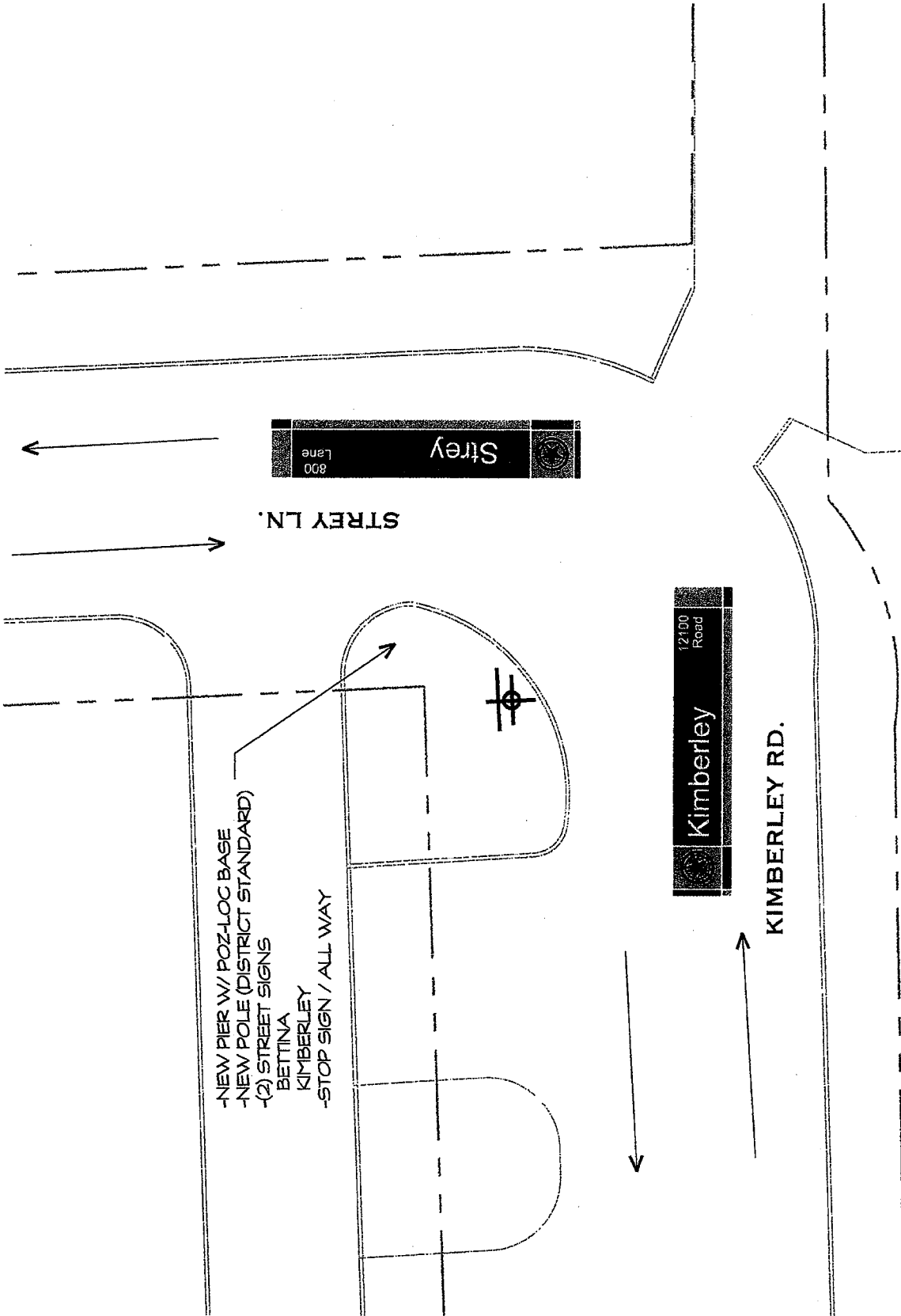
PROJECT NUMBER  
 RD0703

SCALE  
 1" = 20' - 0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 L-1/20



NOTE:  
 REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
 SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

**Sign-20**

DATE/ISSUE	
1/17/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7165 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-869-8897  
713-869-0908 FAX  
WWW.KWTEXAS.COM

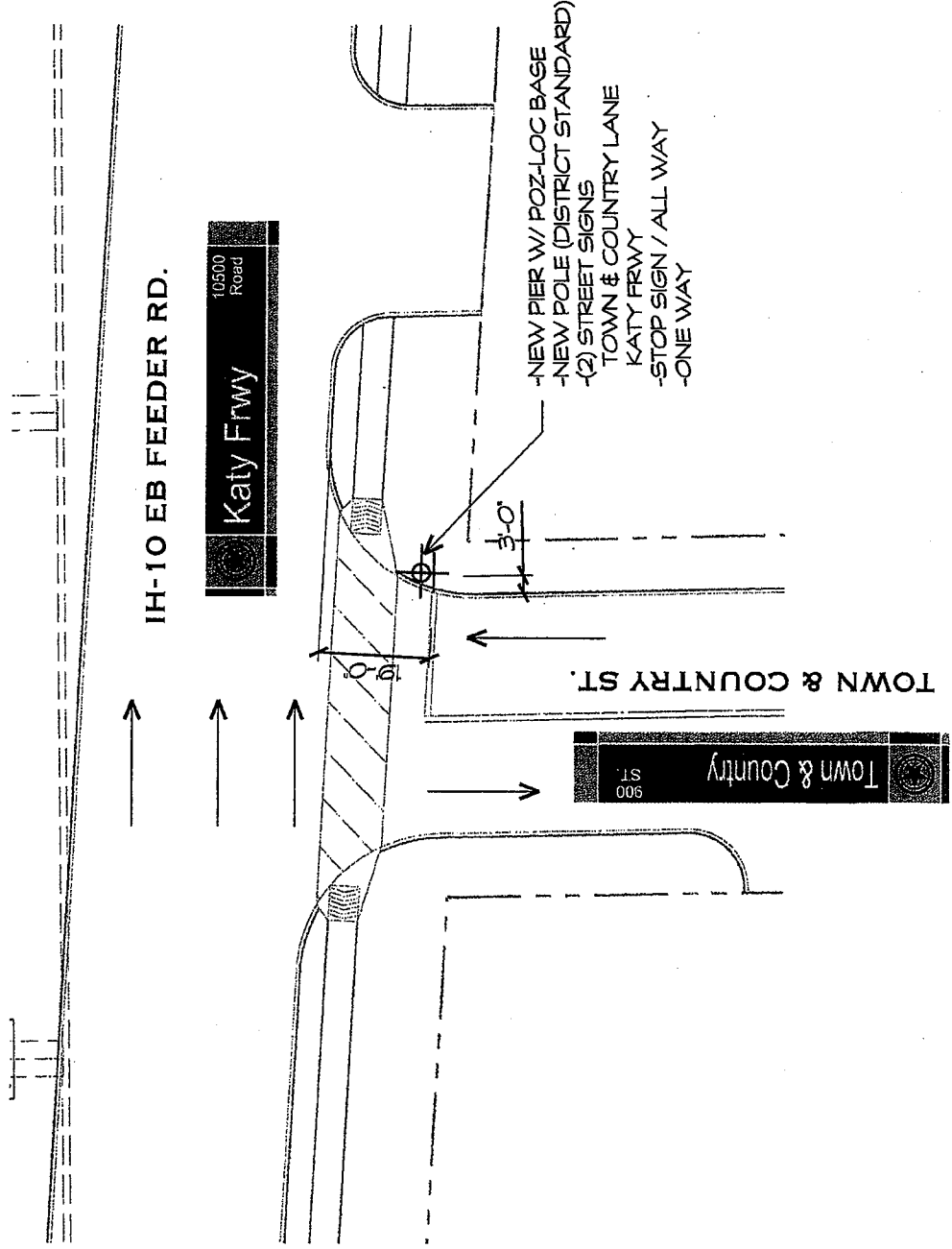
PROJECT NUMBER  
100-708

SCALE  
1" = 87'-0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-121



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE	
11/27/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-869-6887  
713-869-0608 FAX  
WWW.KWTEXAS.COM

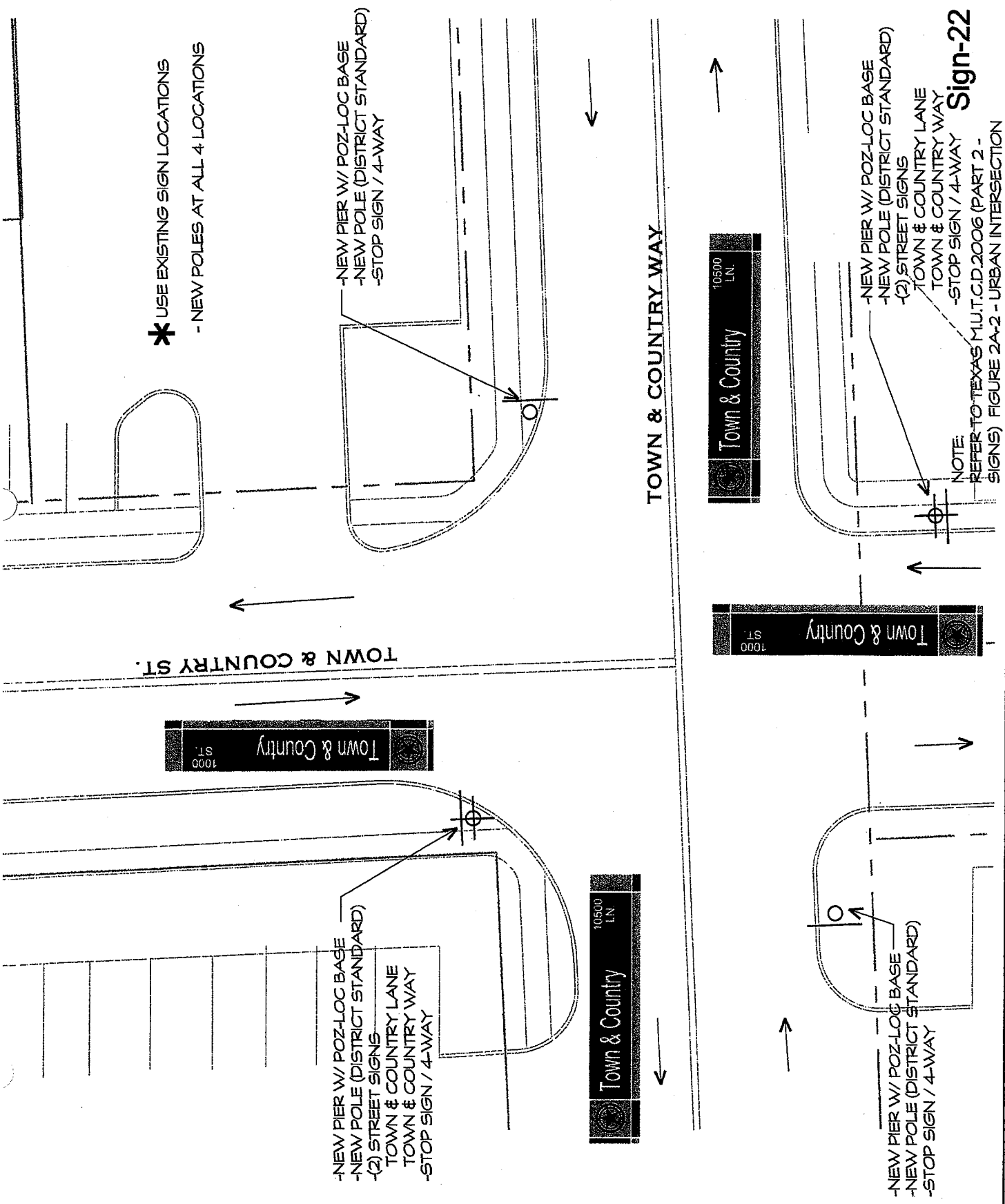
PROJECT NUMBER	
100D-703	

SCALE  
1" = 20' - 0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-12



**\* USE EXISTING SIGN LOCATIONS**  
- NEW POLES AT ALL 4 LOCATIONS

- NEW PIER W/ POZ-LOC BASE  
- NEW POLE (DISTRICT STANDARD)  
- STOP SIGN / 4-WAY

- NEW PIER W/ POZ-LOC BASE  
- NEW POLE (DISTRICT STANDARD)  
- (2) STREET SIGNS  
TOWN & COUNTRY LANE  
TOWN & COUNTRY WAY  
- STOP SIGN / 4-WAY

- NEW PIER W/ POZ-LOC BASE  
- NEW POLE (DISTRICT STANDARD)  
- (2) STREET SIGNS  
TOWN & COUNTRY LANE  
TOWN & COUNTRY WAY  
- STOP SIGN / 4-WAY

**Sign-22**

NOTE:  
REFER TO TEXAS MUT.C.D.2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION



- NEW PIER W/ POZ-LOC BASE  
- NEW POLE (DISTRICT STANDARD)  
- STOP SIGN / 4-WAY

DATE/ISSUE	
1/10/2006 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN

7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-869-6967  
WWW.KWTEXAS.COM

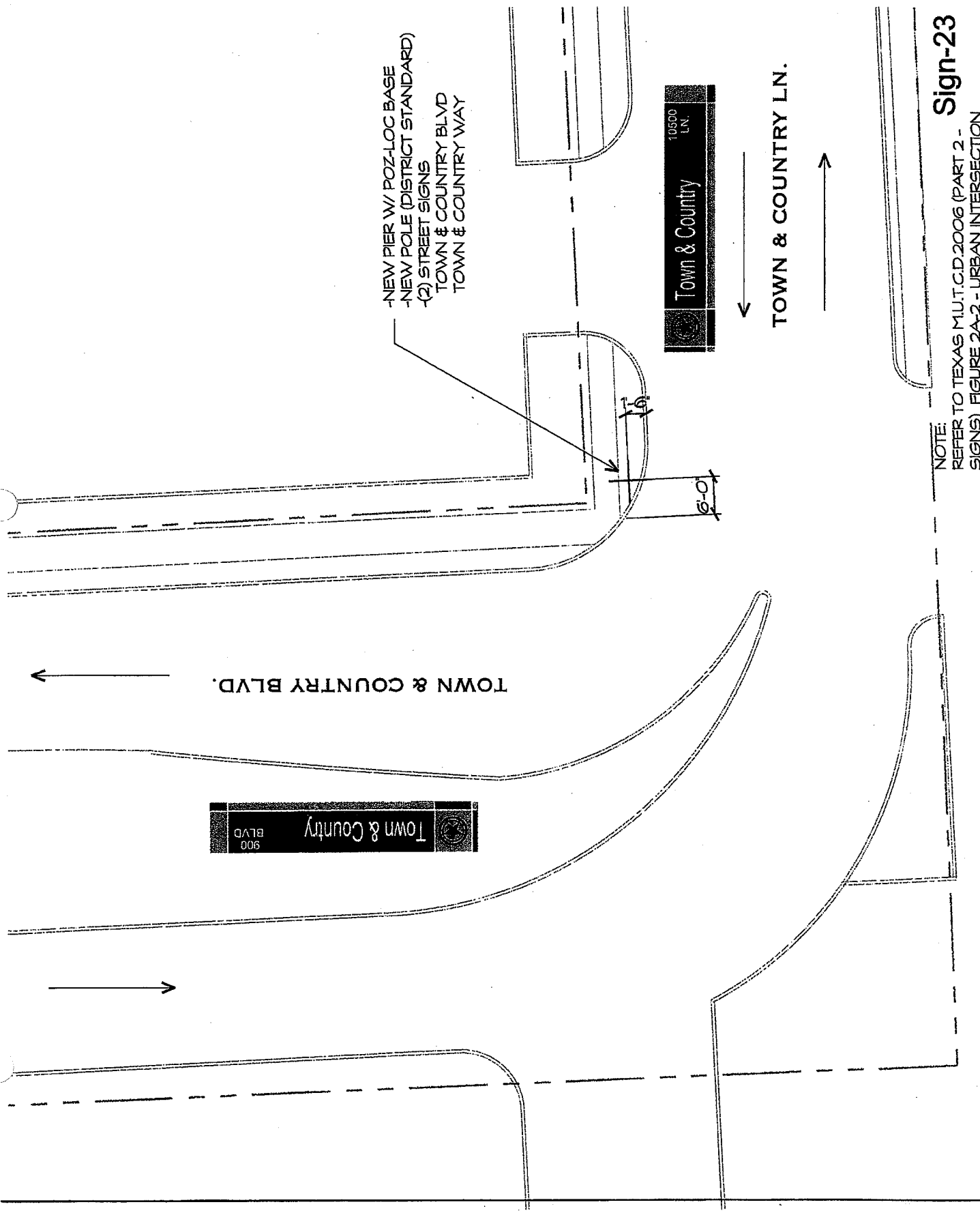
PROJECT NUMBER  
1000108

SCALE  
1" = 20'-0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-123



- NEW PIER W/ POZ-LOC BASE
- NEW POLE (DISTRICT STANDARD)
- (2) STREET SIGNS  
TOWN & COUNTRY BLVD  
TOWN & COUNTRY WAY

NOTE:  
REFER TO TEXAS M.U.T.C.D.2006 (PART 2 - SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

Sign-23

DATE/ISSUE	
HAZ/DOOR ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN  
 7165 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-969-8887  
 713-969-0887 FAX  
 WWW.KWTEXAS.COM

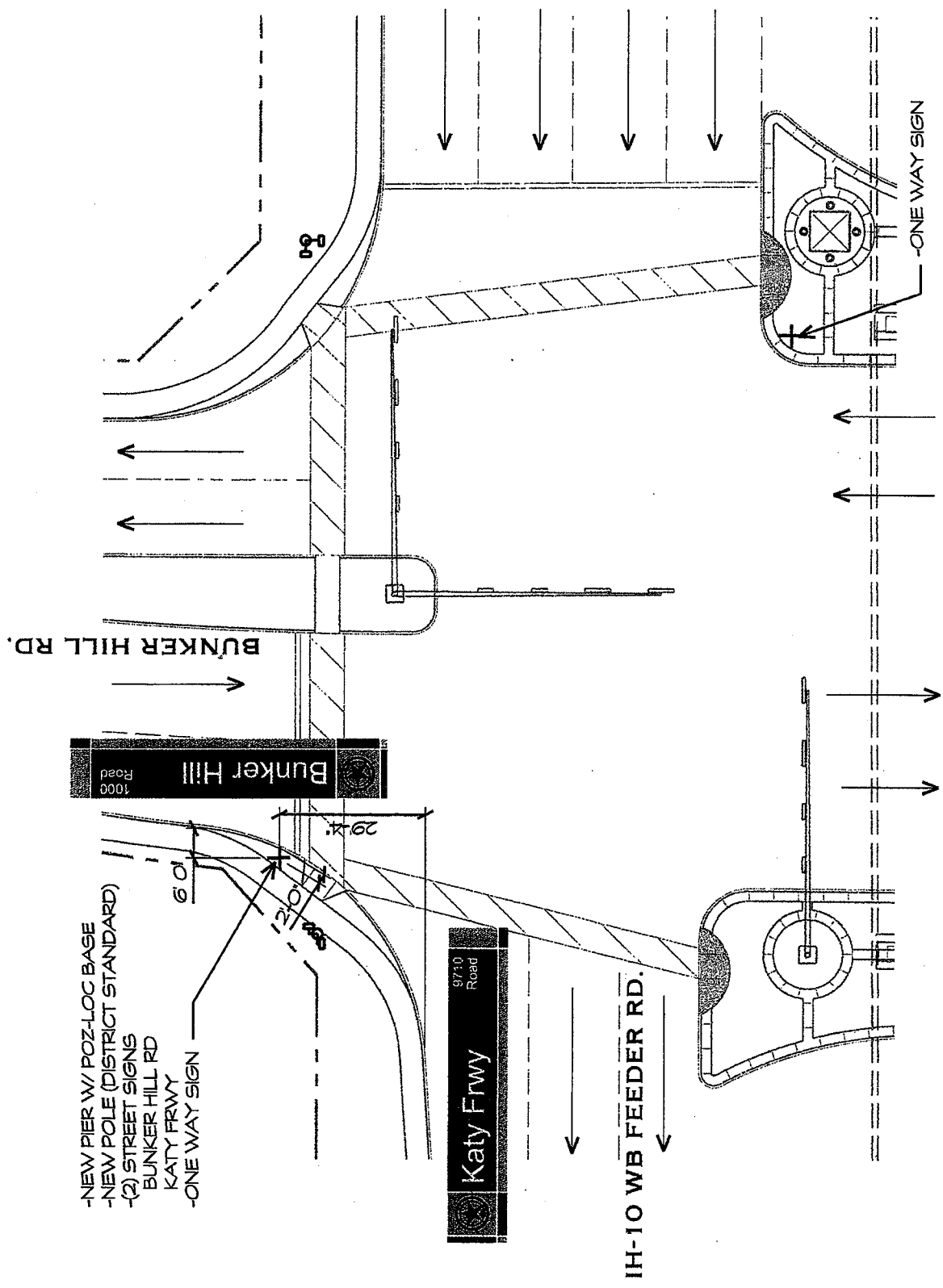
PROJECT NUMBER	
MD-703	

SCALE  
 1" = 30'-0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER	
L-1,24	



NOTE:  
 REFER TO TEXAS M.U.T.C.D.2006 (PART 2 - SIGNS) FIGURE 2A-2 - URBAN INTERSECTION **BH-1**



DATE/ISSUE	
1/27/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTS  
SITE PLANNING  
URBAN DESIGN  
7455 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-589-6987  
713-589-0988 FAX  
WWW.KWTEXAS.COM

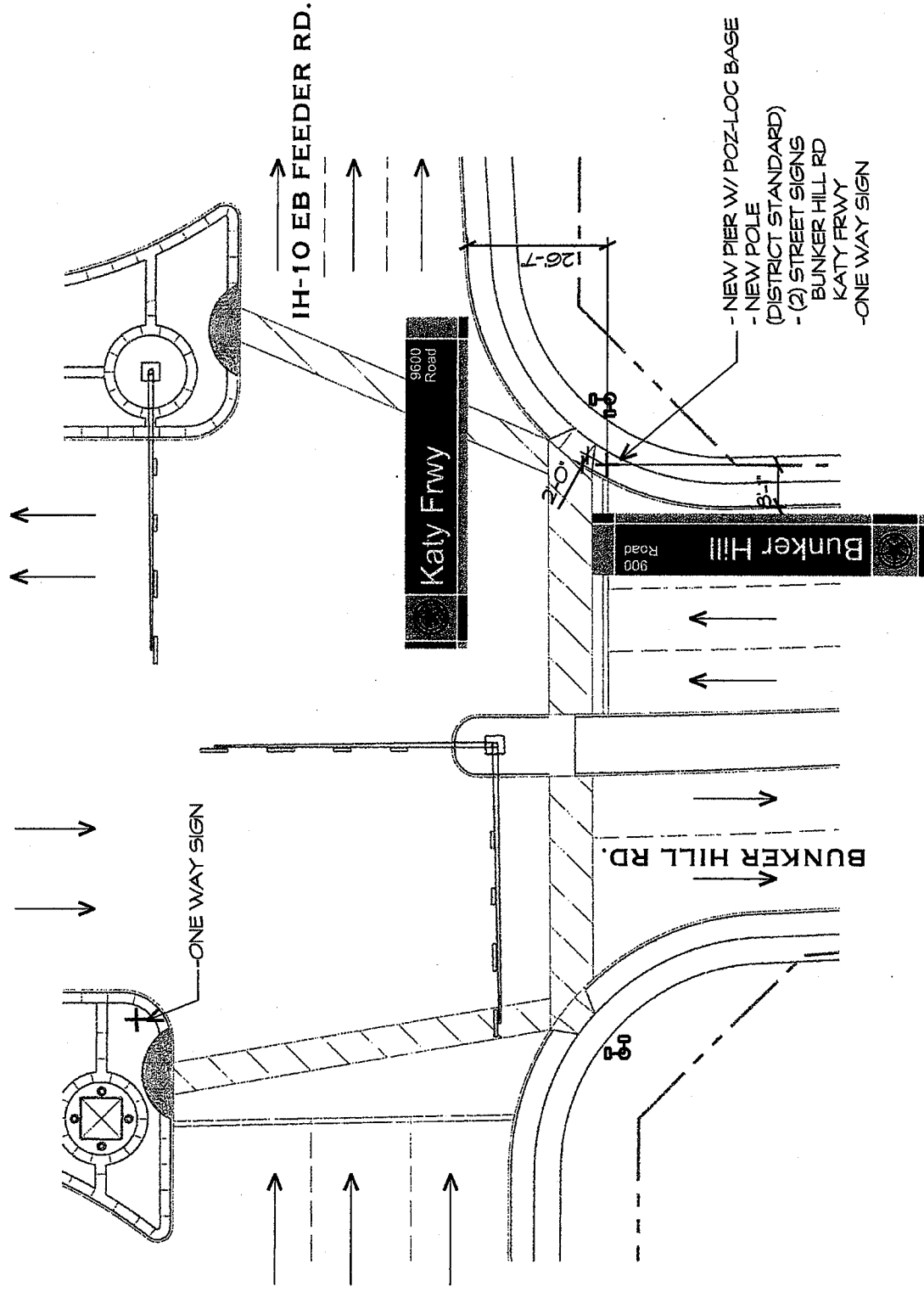
PROJECT NUMBER	
1462-703	

SCALE	
1"=30'-0"	

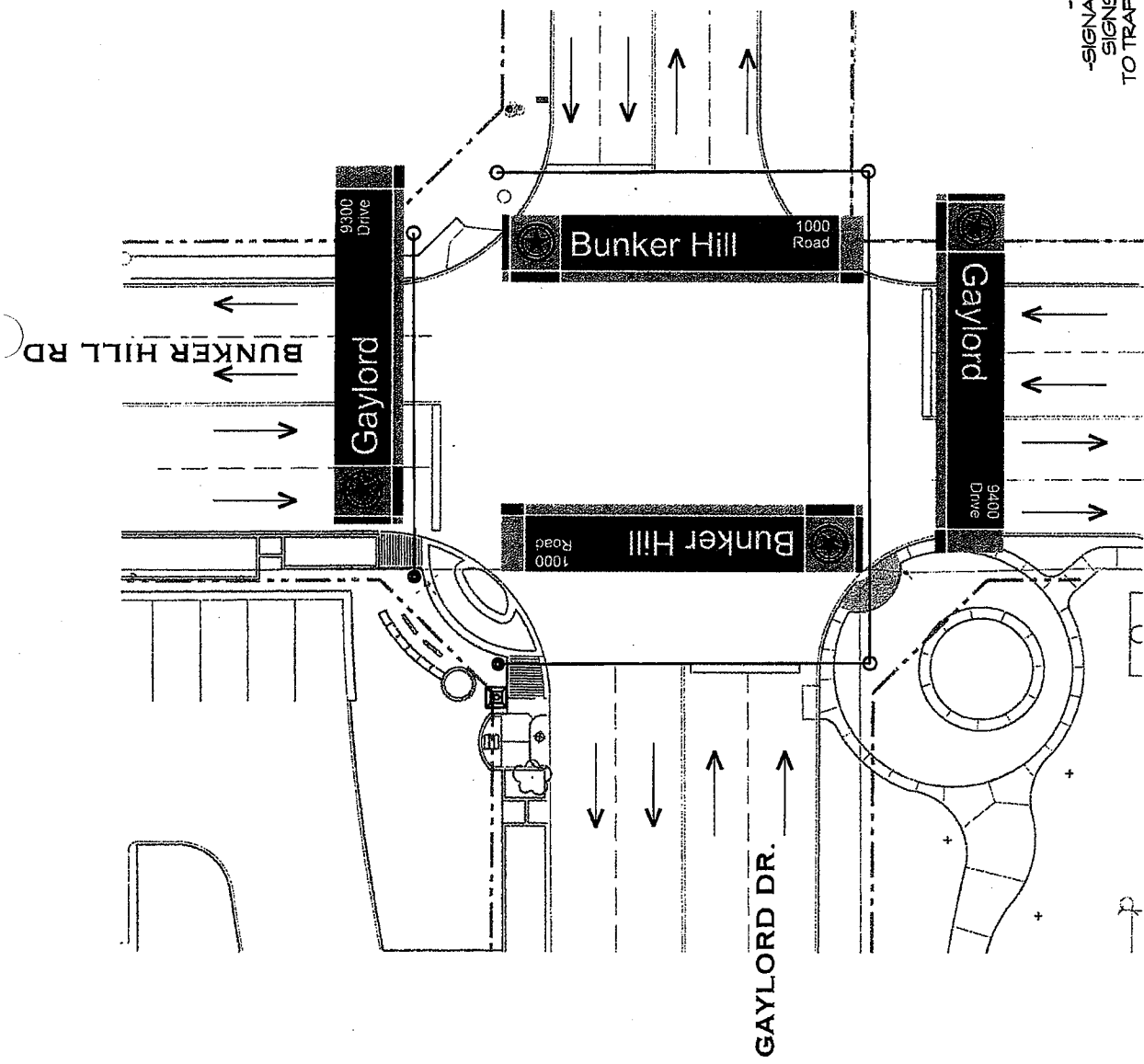


SHEET TITLE	
LAYOUT PLAN	

SHEET NUMBER	
L-1.25	

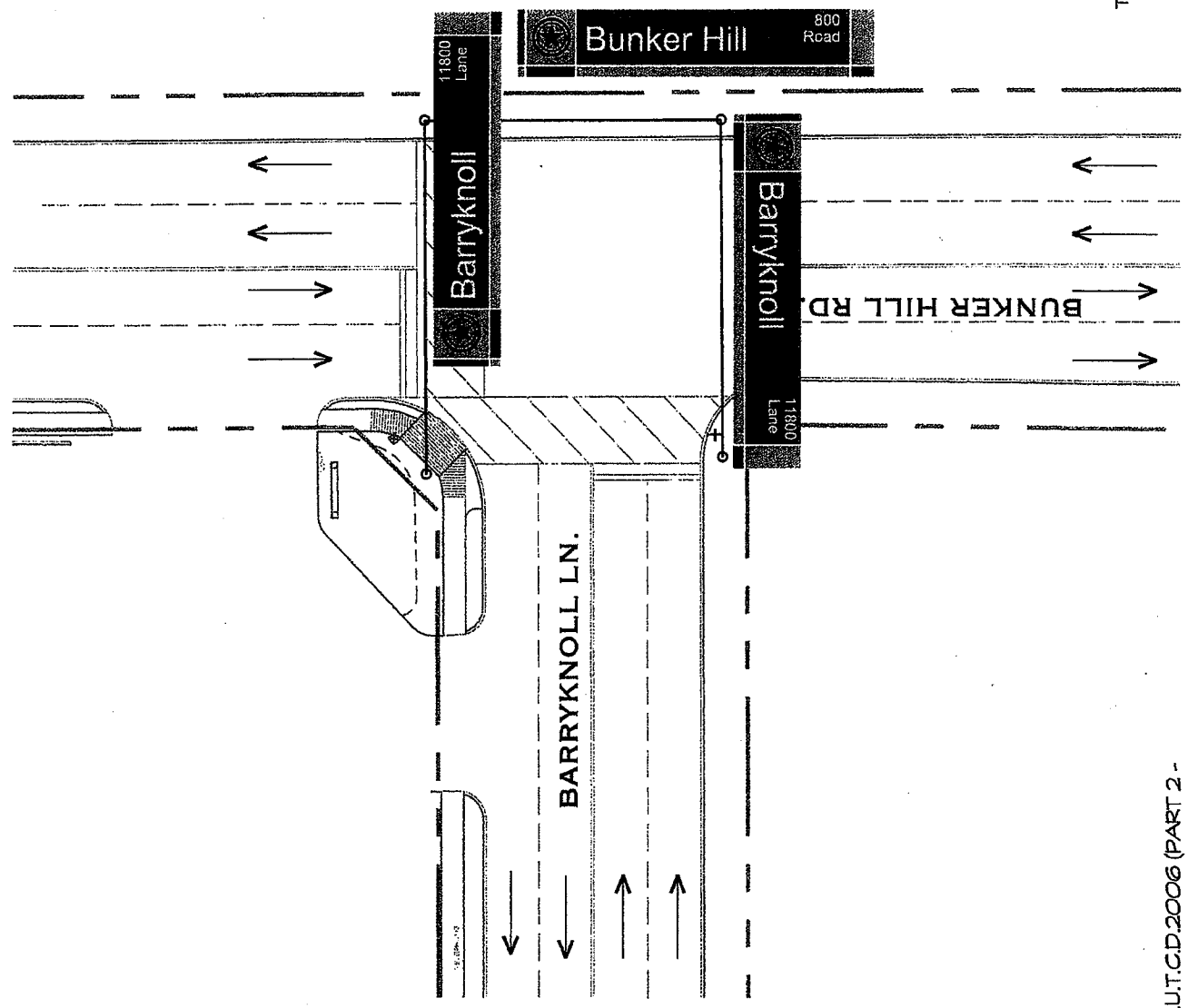


NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION **BH-2**



-(4) STREET SIGNS.  
-SIGNALIZED LIGHTS ON WIRES.  
SIGNS ARE TO BE ATTACHED  
TO TRAFFIC ARMS AT LATER DATE

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION



(3) STREET SIGNS  
- SIGNALIZED LIGHTS ON WIRES,  
SIGNS ARE TO BE ATTACHED  
TO TRAFFIC ARMS AT LATER DATE

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

BH-4

DATE/ISSUE	11/27/2008 (ISSUE FOR PRICING)



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-969-8887  
713-969-0618 FAX  
WWW.KWTEXAS.COM

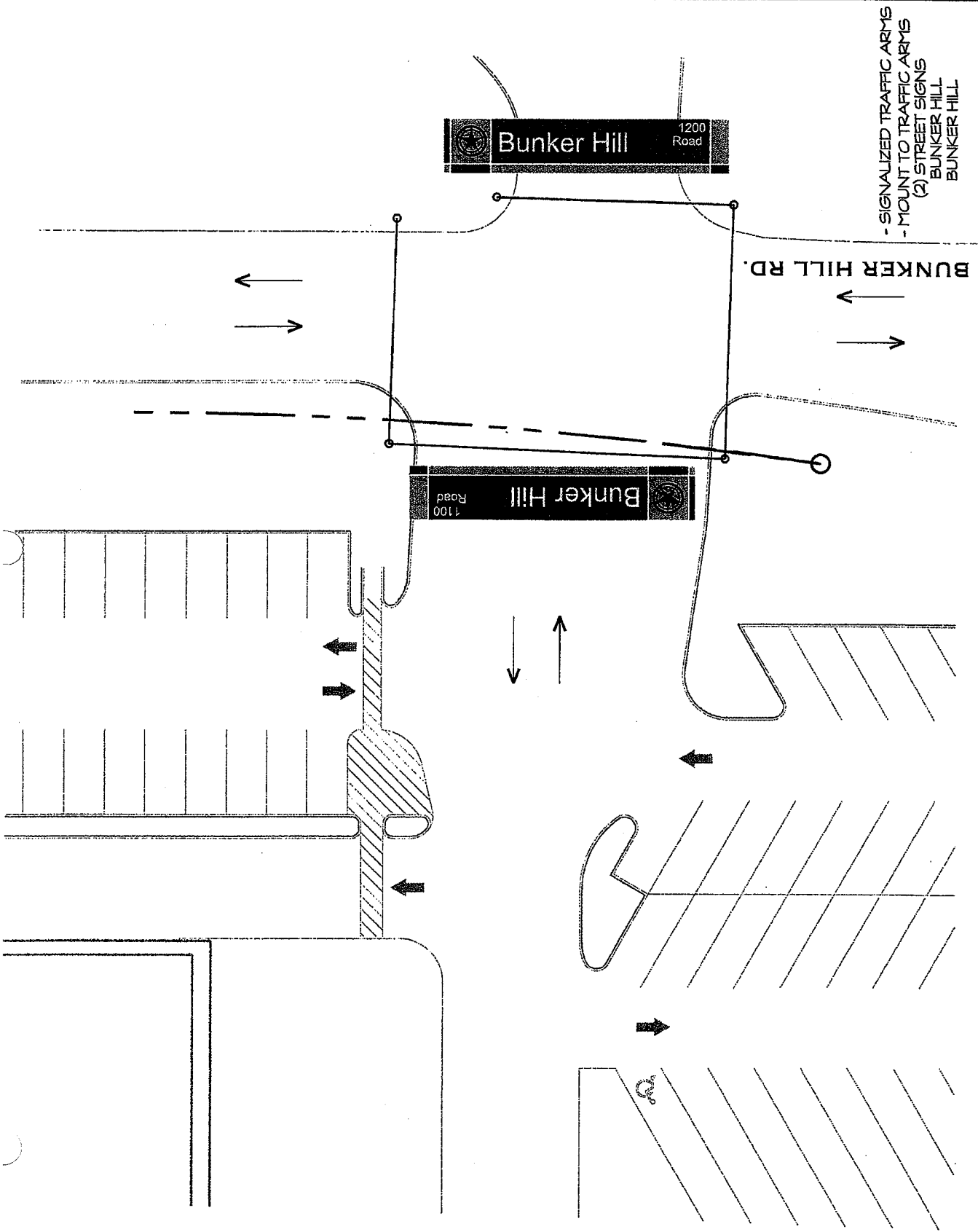
PROJECT NUMBER  
IND-703

SCALE  
1" = 30'-0"



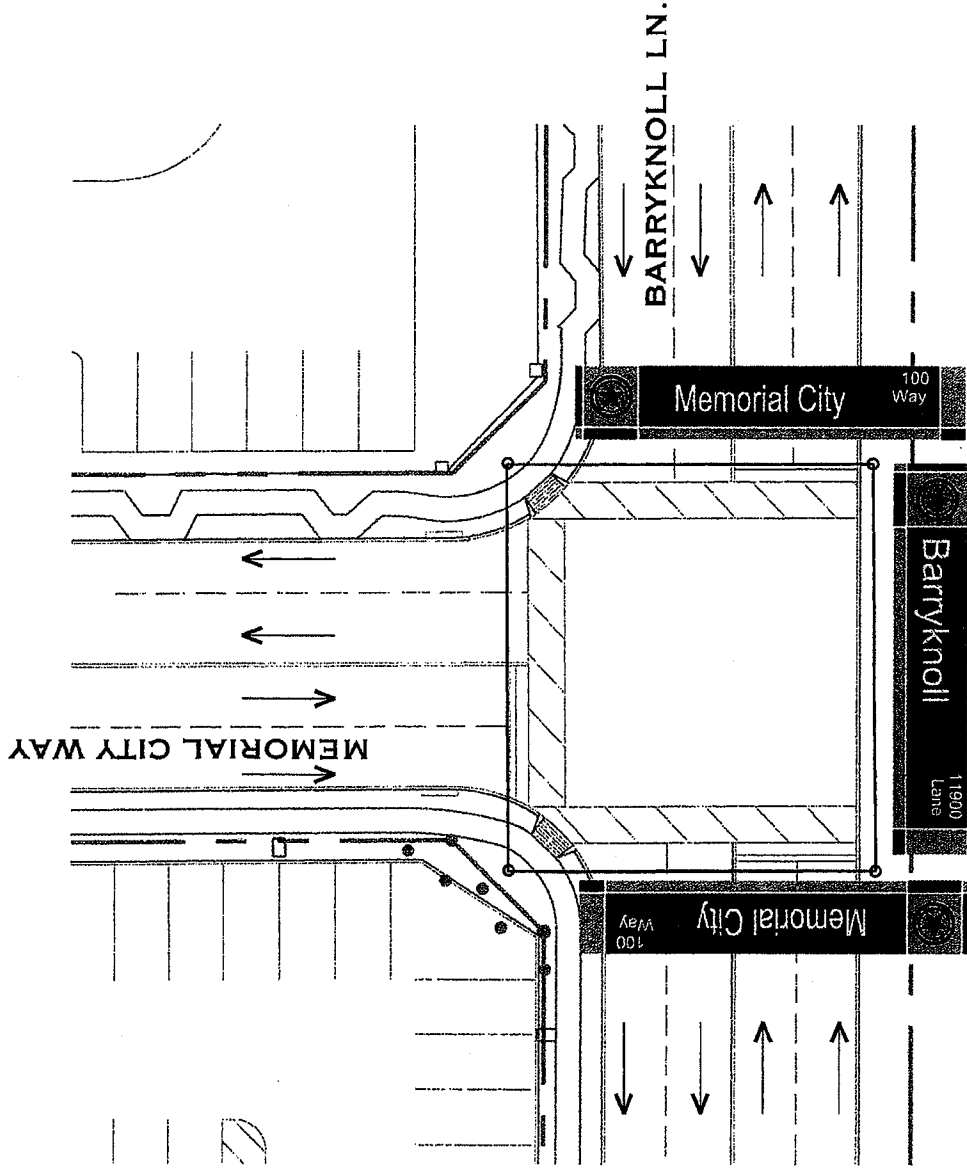
SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.28



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE	11/27/2008 ISSUE FOR PRICING
LANDSCAPE ARCHITECT/UP	
SITE PLANNING	
URBAN DESIGN	
7188 OLD KATY ROAD	
SUITE 270	
HOUSTON, TEXAS 77024	
713-866-6887	
713-866-0903 FAX	
WWW.KWTEXAS.COM	
PROJECT NUMBER	
NO. 0708	
SCALE	1" = 30' - 0"
North	
SHEET TITLE	LAYOUT PLAN
SHEET NUMBER	
SHEET NUMBER	L-1, 29



- (3) STREET SIGNS  
MEMORIAL CITY WAY  
BARRYKNOLL LN.
- SIGNALIZED LIGHTS ON WIRES,  
SIGNS ARE TO BE ATTACHED  
TO TRAFFIC ARMS AT LATER DATE

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE/ISSUE  
1/17/2006 ISSUE FOR PRICING



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-989-8887  
713-989-0881 FAX  
WWW.KWTEXAS.COM

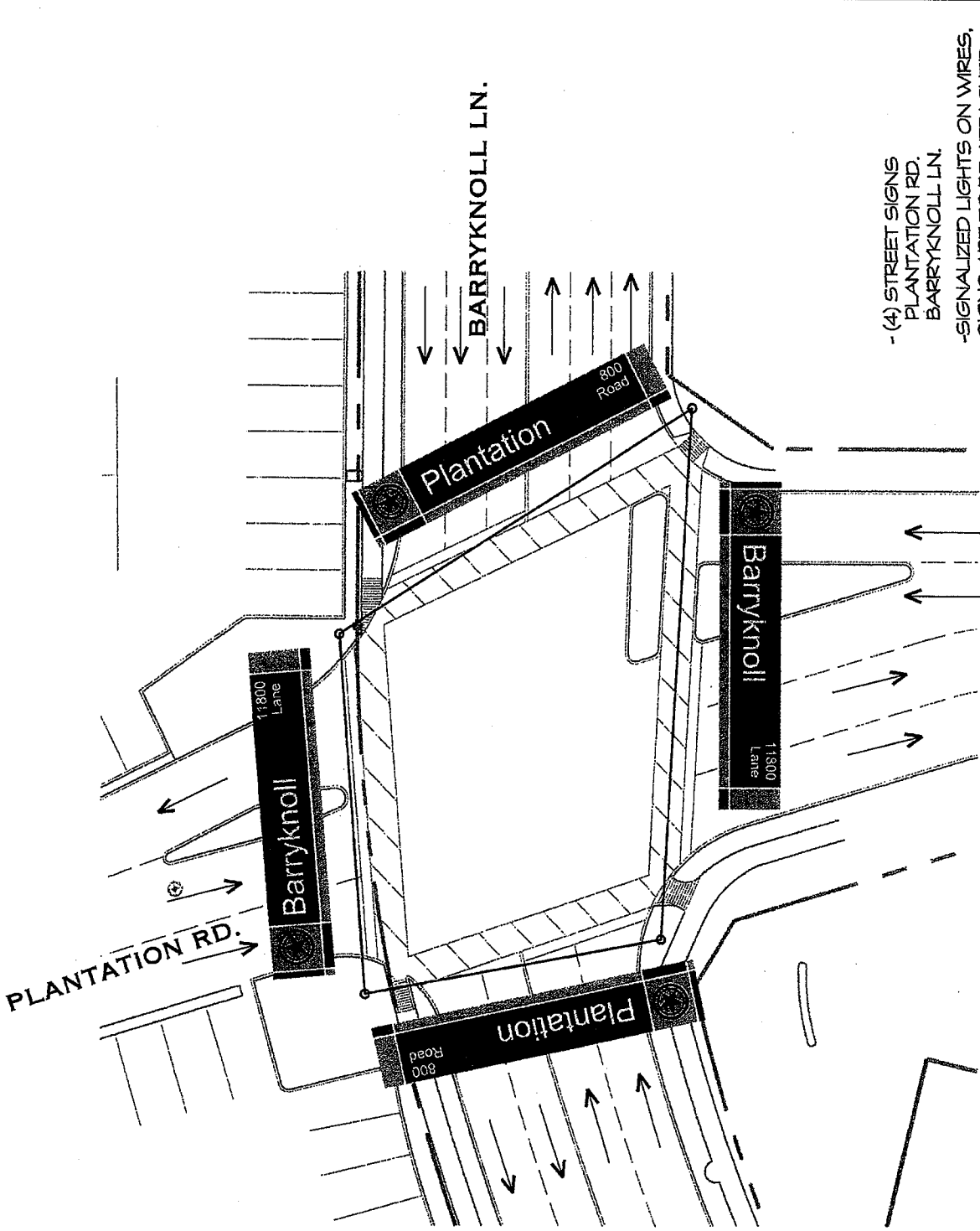
PROJECT NUMBER  
MCD-703

SCALE:  
1" = 30'-0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1-30



- (4) STREET SIGNS  
PLANTATION RD.  
BARRYKNOLL LN.
- SIGNALIZED LIGHTS ON WIRES.  
SIGNS ARE TO BE ATTACHED  
TO TRAFFIC ARMS AT LATER DATE

NOTE:  
REFER TO TEXAS M.U.T.C.D.2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

BK-2

City  
Management  
District  
Street Signage  
Package

DATE/ISSUE  
1/27/2008 ISSUE FOR PROPOS



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN

7165 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-969-6887  
713-969-0989 FAX  
WWW.KWTECHS.COM

PROJECT NUMBER  
TWD3703

SCALE  
1" = 30' - 0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-131

GS-1 NOT USED



DATE/ISSUE	
11/07/08	ISSUE FOR PRICING



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-588-6887  
713-588-0888 FAX  
WWW.KWTEXAS.COM

PROJECT NUMBER  
M02-708

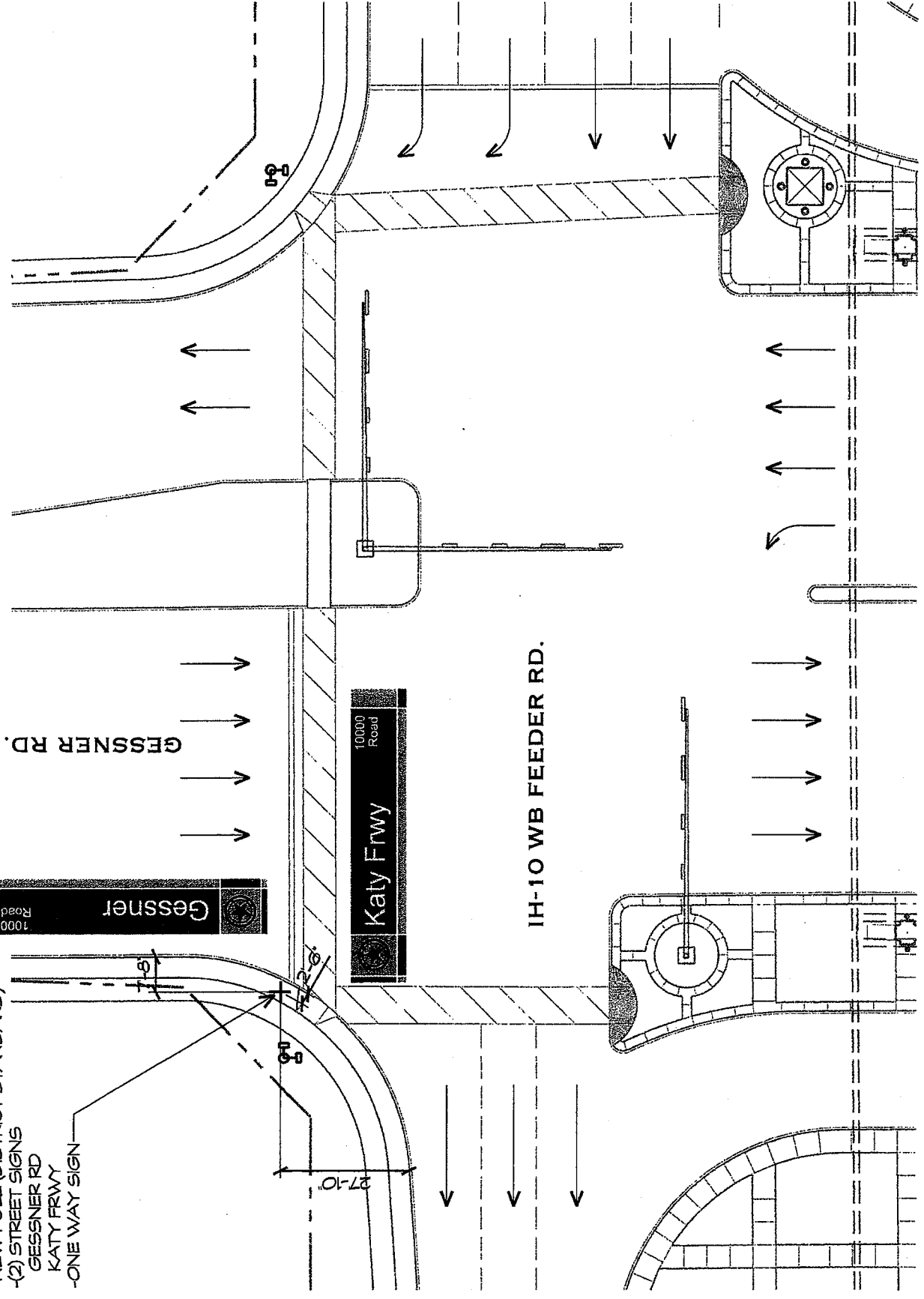
SCALE  
1" = 30' - 0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.32

- NEW PIER W/ POZ LOC BASE
- NEW POLE (DISTRICT STANDARD)
- 2) STREET SIGNS  
GESSNER RD  
KATY FRWY  
-ONE WAY SIGN



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

**GS-2**

DATE/ISSUE  
 1/17/2008 ISSUE FOR PRICING



LANDSCAPE ARCHITECT/UR  
 SITE PLANNING  
 URBAN DESIGN  
 7185 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-869-8887  
 713-869-0908 FAX  
 WWW.K&WTEXAS.COM

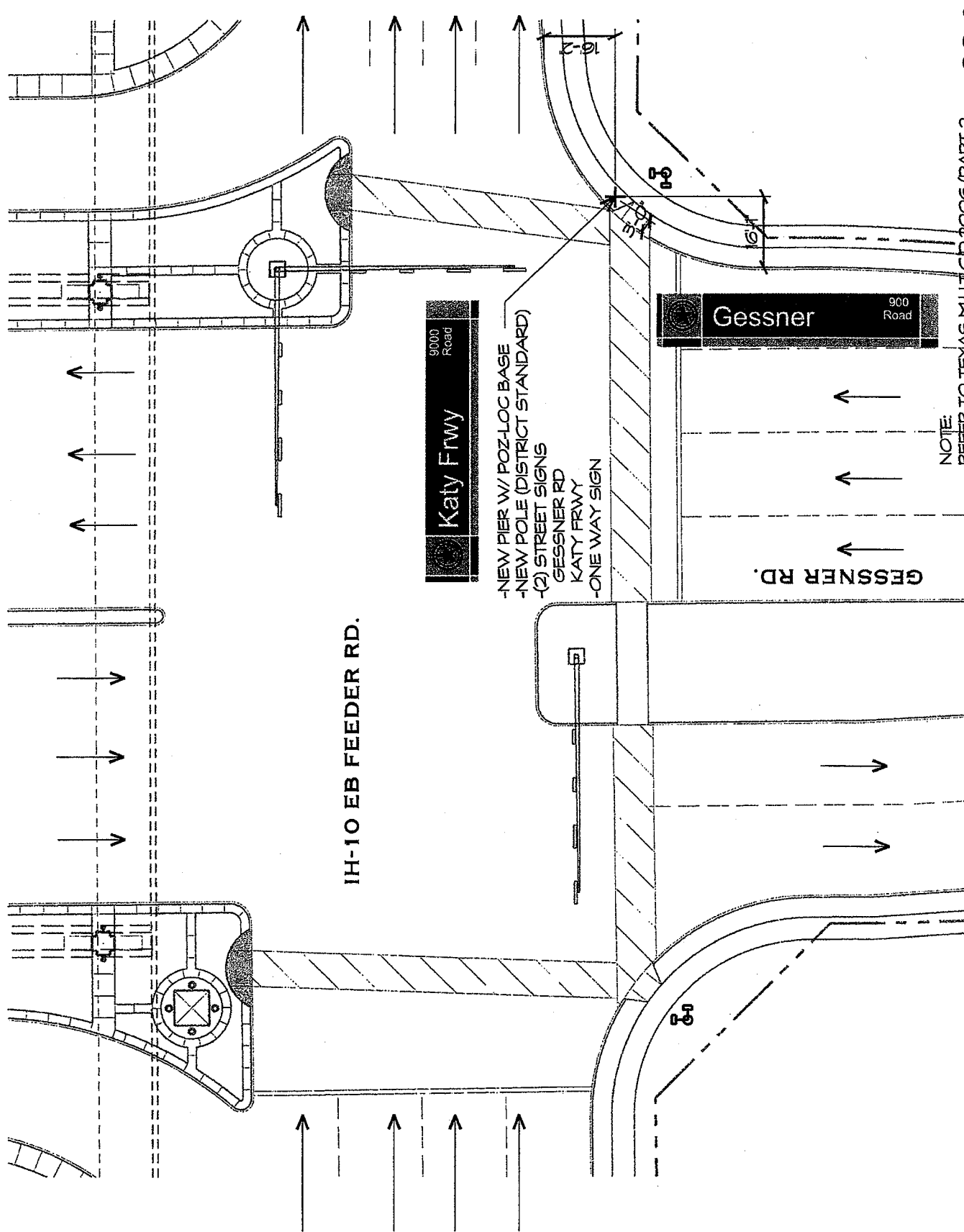
PROJECT NUMBER  
 A000708

SCALE  
 1" = 30' 0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 J-1.33



**NOTE:**  
 REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
 SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

**GS-3**

Management  
District  
Street Signage  
Package

DATE/SUBMIT  
1/12/2008 ISSUE FOR PROPOSAL



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN

7185 OLD MARTY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-868-6987  
713-868-0868 FAX  
WWW.RAWTEXAS.COM

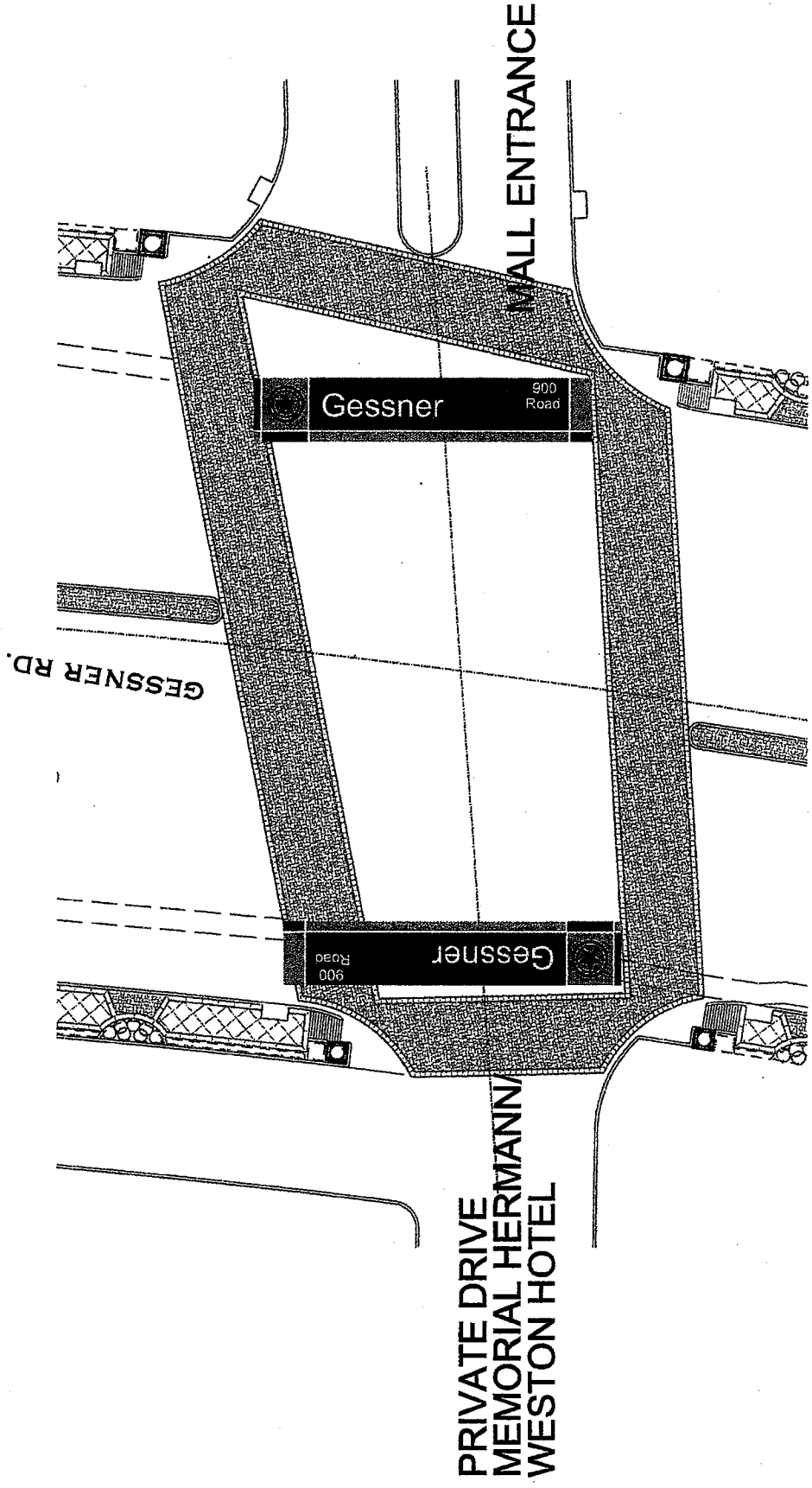
PROJECT NUMBER  
RSD-108

SCALE  
1"=30'-0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-134



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION  
- SIGNALIZED LIGHTS ON WIRES,  
SIGNS ARE TO BE ATTACHED  
TO TRAFFIC ARMS AT LATER DATE **GS-4**

DATE/ISSUE	
11/27/2006 ISSUE FOUR PENDING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7166 OLD KATY ROAD,  
SUITE 270  
HOUSTON, TEXAS 77024  
713-889-8987  
713-889-6608 FAX  
WWW.KWTEXAS.COM

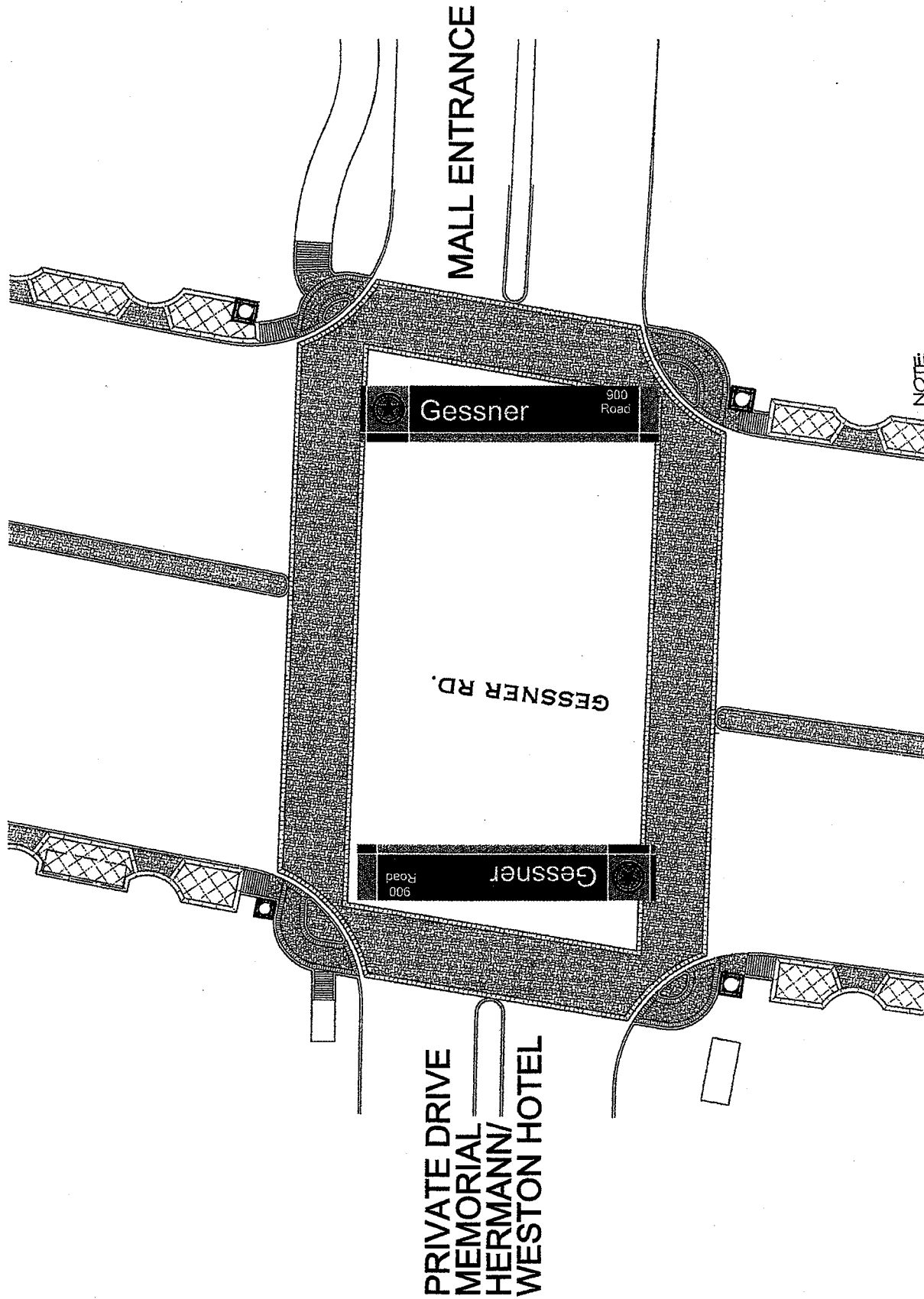
PROJECT NUMBER  
LMD703

SCALE  
1" = 30' - 0"



SHEET TITLE  
LAYOUT PLAN

SHEET NUMBER  
L-1.35



NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION  
-SIGNALIZED LIGHTS ON WIRES. **GS-5**  
SIGNS ARE TO BE ATTACHED  
TO TRAFFIC ARMS AT LATER DATE

DATE/ISSUE	
1/17/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN  
 7165 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-869-6887  
 713-869-0808 FAX  
 WWW.KWDESIGNS.COM

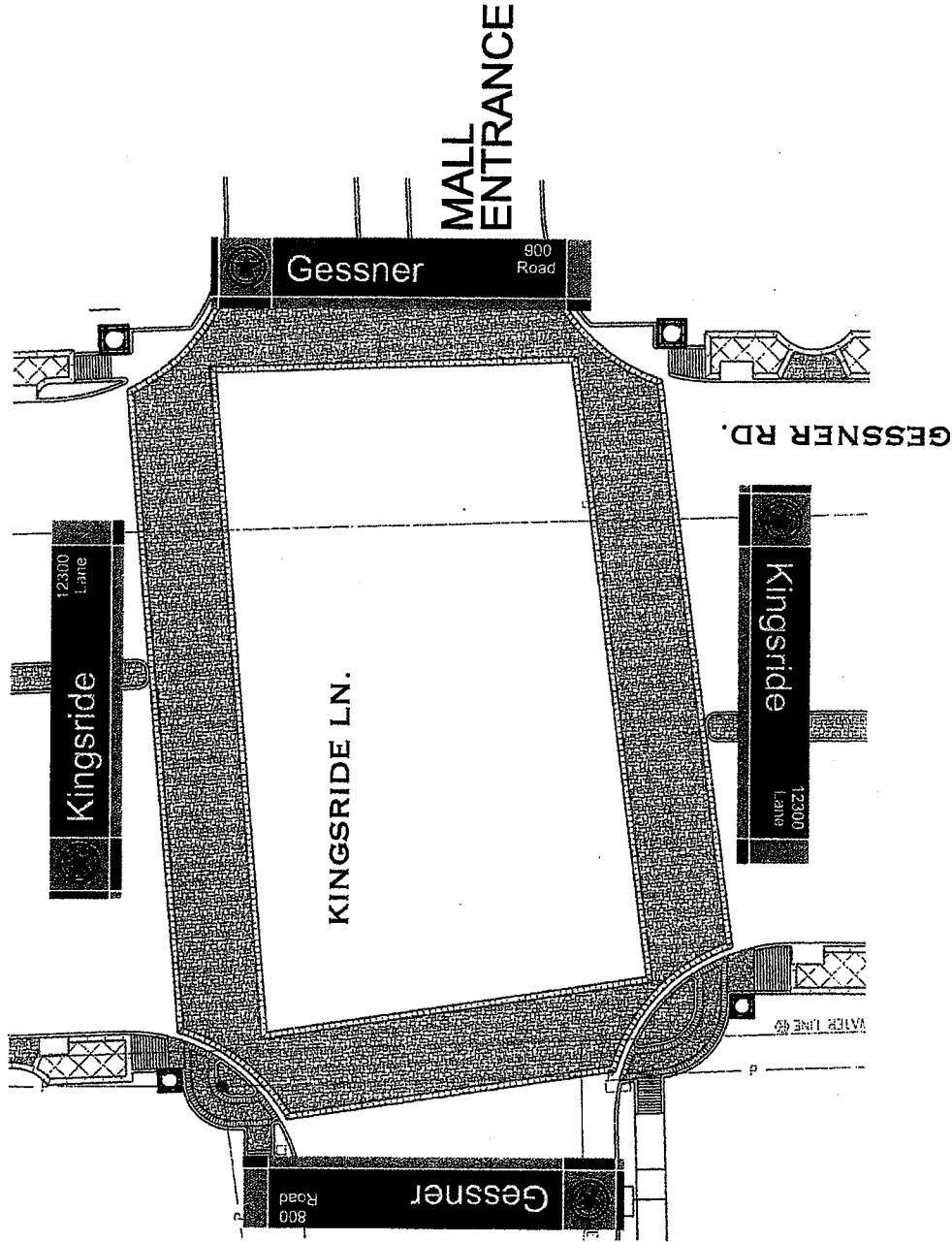
PROJECT NUMBER  
 MCD-703

SCALE  
 1" = 30' - 0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 L-156



NOTE:  
 REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
 SIGNS) FIGURE 2A-2 - URBAN INTERSECTION  
 -SIGNALIZED LIGHTS ON WIRES,  
 SIGNS ARE TO BE ATTACHED  
 TO TRAFFIC ARMS AT LATER DATE **GS-6**

DATED/ISSUE  
 11/27/2008 ISSUE FOR PRICING



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN

7145 OLD KATY ROAD  
 SUITE 270  
 HOUSTON, TEXAS 77024  
 713-869-8987  
 713-869-0988 FAX  
 WWW.KWTEXAS.COM

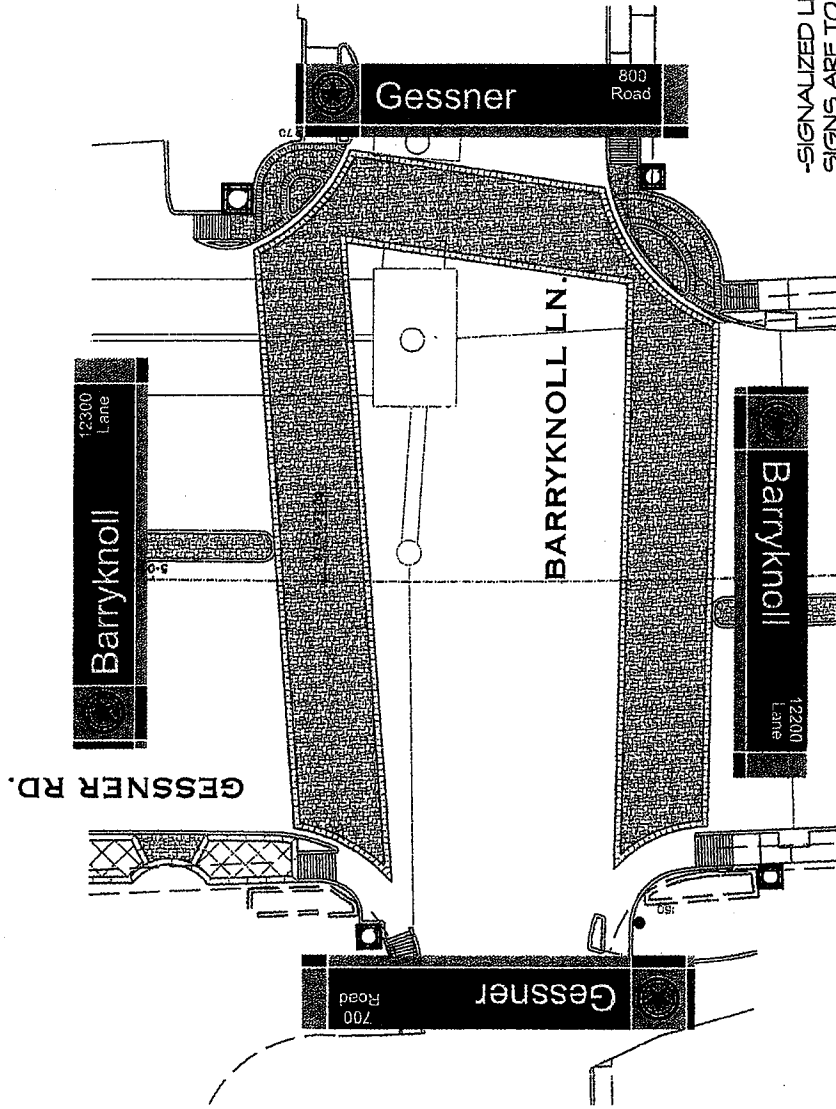
PROJECT NUMBER  
 TMD-703

SCALE  
 1" = 30' - 0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 L-137



-SIGNALIZED LIGHTS ON WIRES,  
 SIGNS ARE TO BE ATTACHED  
 TO TRAFFIC ARMS AT LATER DATE

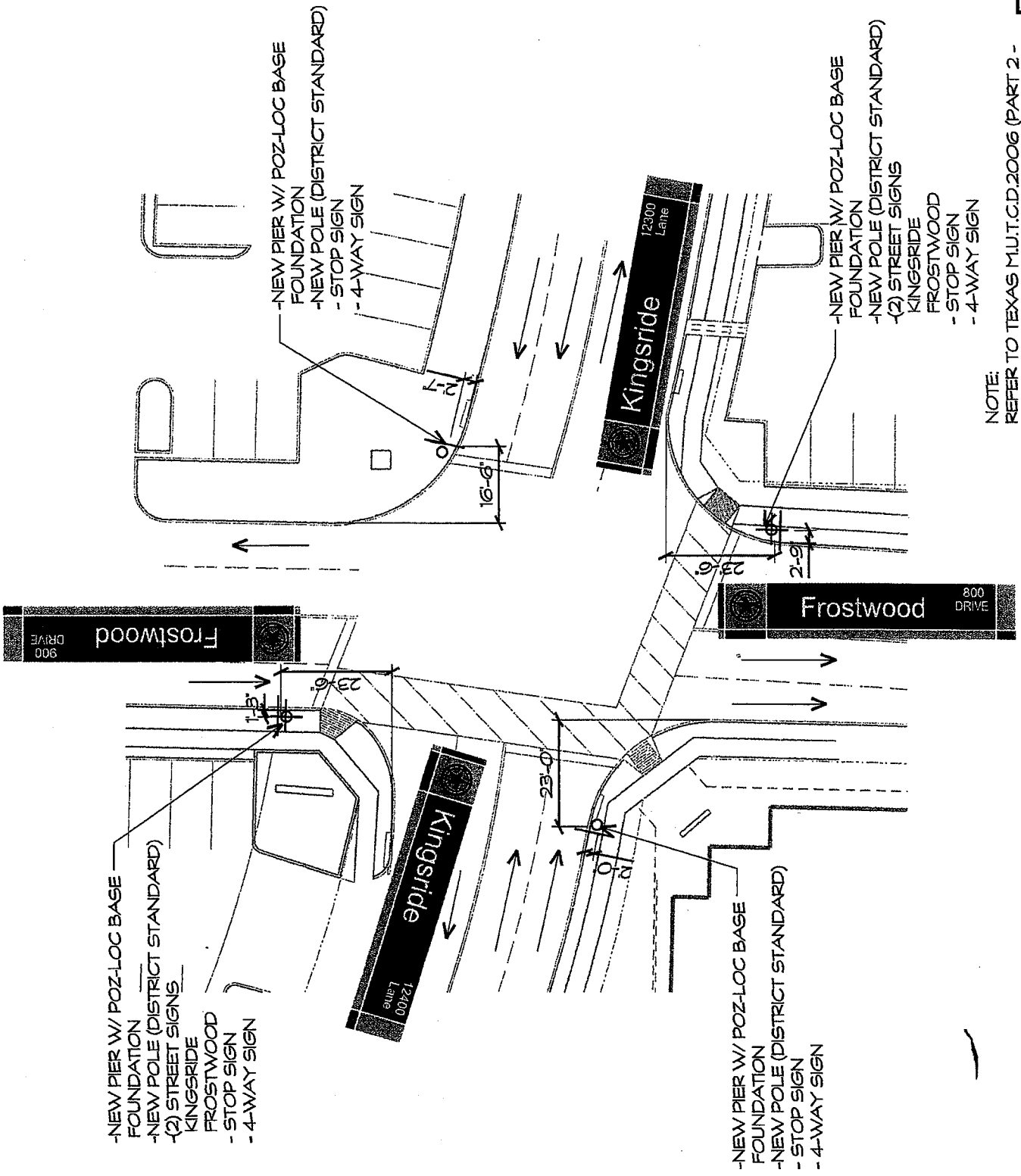
NOTE:  
 REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
 SIGNS) FIGURE 2A-2 - URBAN INTERSECTION

DATE ISSUED:	
PROJECT NUMBER:	
DATE:	
ISSUE:	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7186 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-869-8987  
713-869-0908 FAX  
WWW.KWTEXAS.COM

PROJECT NUMBER:	16C2703
SCALE:	1" = 30'-0"
NORTH:	
SHEET TITLE:	LAYOUT PLAN



-NEW PIER W/ POZ-LOC BASE  
FOUNDATION  
-NEW POLE (DISTRICT STANDARD)  
-STOP SIGN  
-4-WAY SIGN

-NEW PIER W/ POZ-LOC BASE  
FOUNDATION  
-NEW POLE (DISTRICT STANDARD)  
-(2) STREET SIGNS  
KINGSRIDE  
FROSTWOOD  
-STOP SIGN  
-4-WAY SIGN

-NEW PIER W/ POZ-LOC BASE  
FOUNDATION  
-NEW POLE (DISTRICT STANDARD)  
-(2) STREET SIGNS  
KINGSRIDE  
FROSTWOOD  
-STOP SIGN  
-4-WAY SIGN

-NEW PIER W/ POZ-LOC BASE  
FOUNDATION  
-NEW POLE (DISTRICT STANDARD)  
-STOP SIGN  
-4-WAY SIGN

NOTE:  
REFER TO TEXAS M.U.T.C.D. 2006 (PART 2 -  
SIGNS) FIGURE 2A-2 - URBAN INTERSECTION **FW-1**



DATE/ISSUE	
1/17/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 URBAN DESIGN  
 7155 OLD KATY ROAD  
 SUITE 276  
 HOUSTON, TEXAS 77024  
 713-866-8887  
 713-866-0005 FAX  
 WWW.KWTEXAS.COM

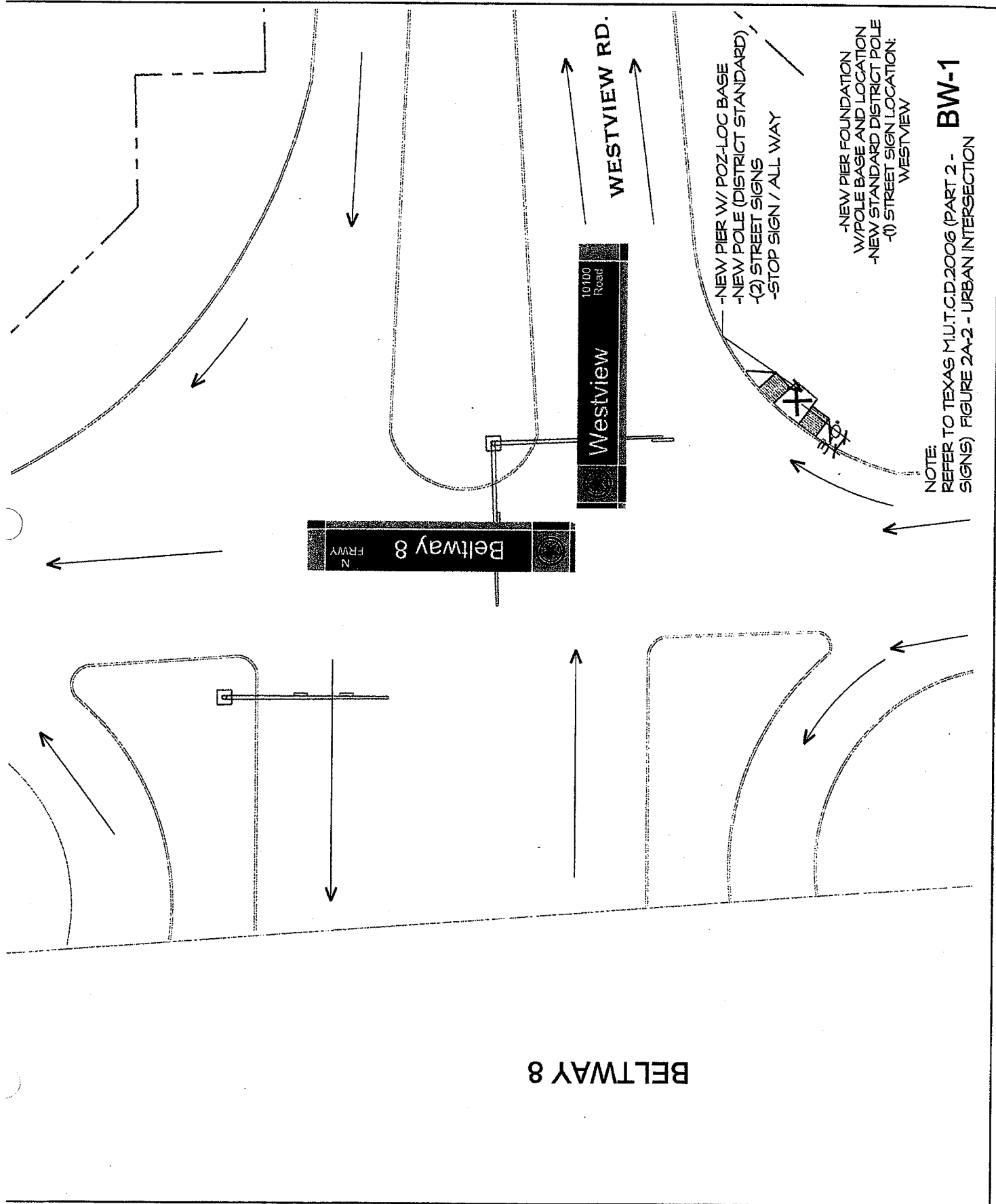
PROJECT NUMBER  
 1037703

SCALE  
 1" = 30'-0"



SHEET TITLE  
 LAYOUT PLAN

SHEET NUMBER  
 L-1-139



BELTWAY 8

**BW-1**

DATE/ISSUE	
11/27/2008 ISSUE FOR PRICING	



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN

7185 OLD NATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
714-988-6887  
714-988-0888 FAX  
WWW.KWTEXAS.COM

PROJECT NUMBER	
NO. 010	

SCALE	as indicated
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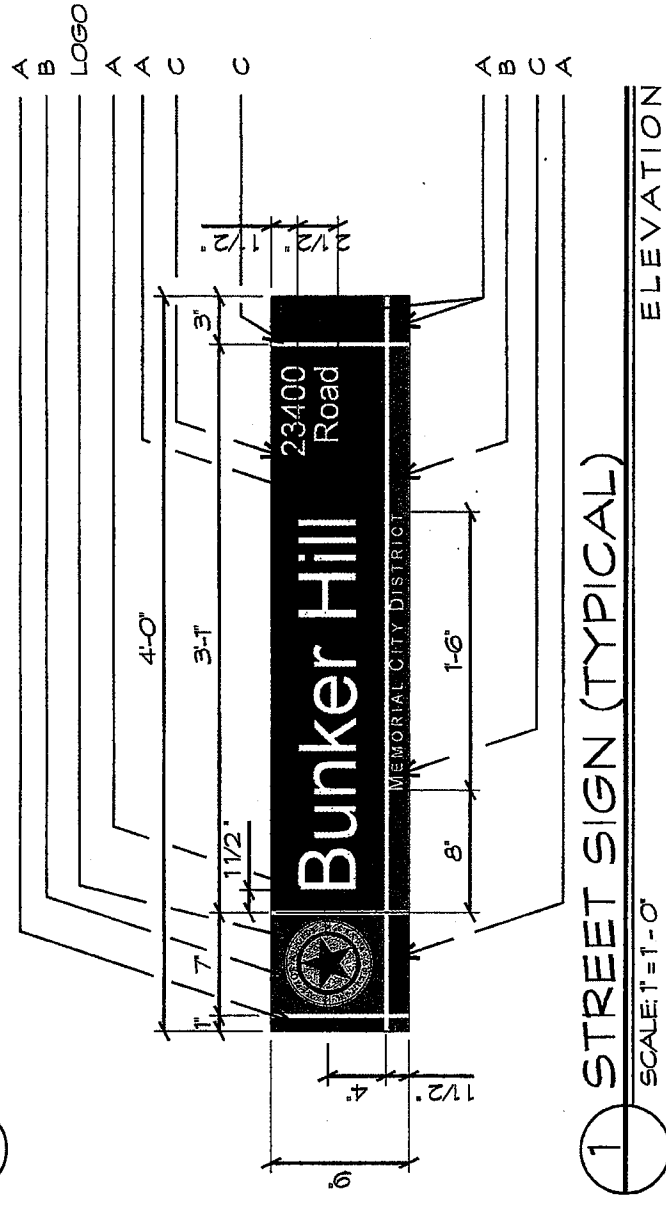
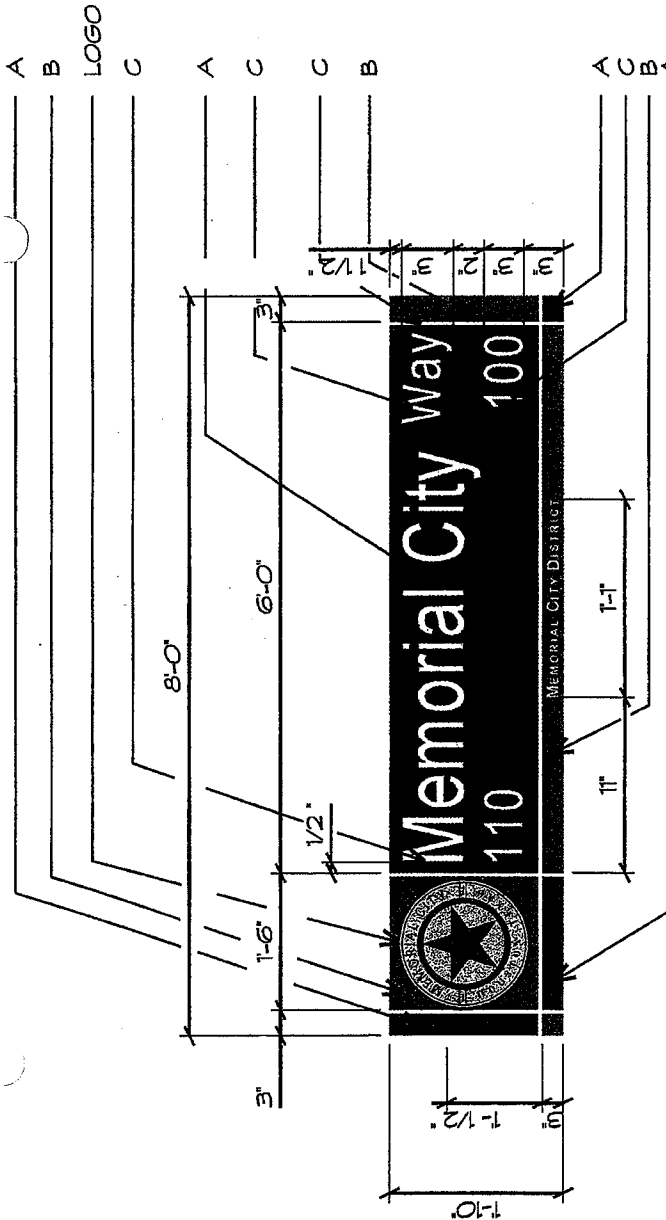
SHEET TITLE	
HARDSCAPE DETAILS	

SHEET NUMBER	L-201
--------------	-------

- OVERHEAD SIGNS TO BE FABRICATED FROM 1/8" ALUMINUM.
- OVERHEAD SIGNS TO BE MOUNTED TO WIRES OR TRAFFIC ARMS. TRAFFIC ARM MOUNTINGS TO USE 1 ASTRO SIGN-BRAC. BY PELCO, PER SIGN. WIRE MOUNTS TO BE INSTALLED PER EXISTING DISTRICT STANDARDS.
- 3M HIGH INTENSITY REFLECTIVE PRISMATIC SHEETING APPLIED AS FIRST LAYER.
- STREET NAMES AND NUMBERS TO BE CUT OUT OF VINYL SHEETING OVERLAYED ONTO REFLECTIVE MATERIAL. REFER TO LAYOUT SHEETS FOR STREET NAMES & BLOCK NUMBERS
- PAINT HEAD OF SCREW SAME COLOR.

- COLOR KEY:
- (A) - 3M SCOTCHAL TRANSLUCENT GRAPHIC FILM, COLOR TO BE PROVIDED
  - (B) - 3M SCOTCHAL TRANSLUCENT GRAPHIC FILM, COLOR TO BE PROVIDED
  - (C) - 3M SCOTCHAL TRANSLUCENT GRAPHIC FILM, COLOR TO BE PROVIDED
  - (D) - LOGO IS A DIGITAL PRINT; FILE TO BE PROVIDED; SEAL WITH UV SEALANT
- TYPESTYLE IS AVENIR 45 BOOK LIGHT; CONDENSE AS NEEDED

- NOTE:
- STREET SIGNS TO BE FABRICATED FROM 1/8" ALUMINUM.
  - STREET SIGNS TO BE MOUNTED TO 2" ROUND POLE. SEE SHEET 1/L2.05 FOR CONNECTION METHOD AND INSTALLATION SPECIFICATIONS.
  - 3M HIGH INTENSITY REFLECTIVE PRISMATIC SHEETING APPLIED AS FIRST LAYER.
  - STREET NAMES AND NUMBERS TO BE CUT OUT OF VINYL SHEETING OVERLAYED ONTO REFLECTIVE MATERIAL. REFER TO LAYOUT SHEETS STREET NAMES & BLOCK NUMBERS



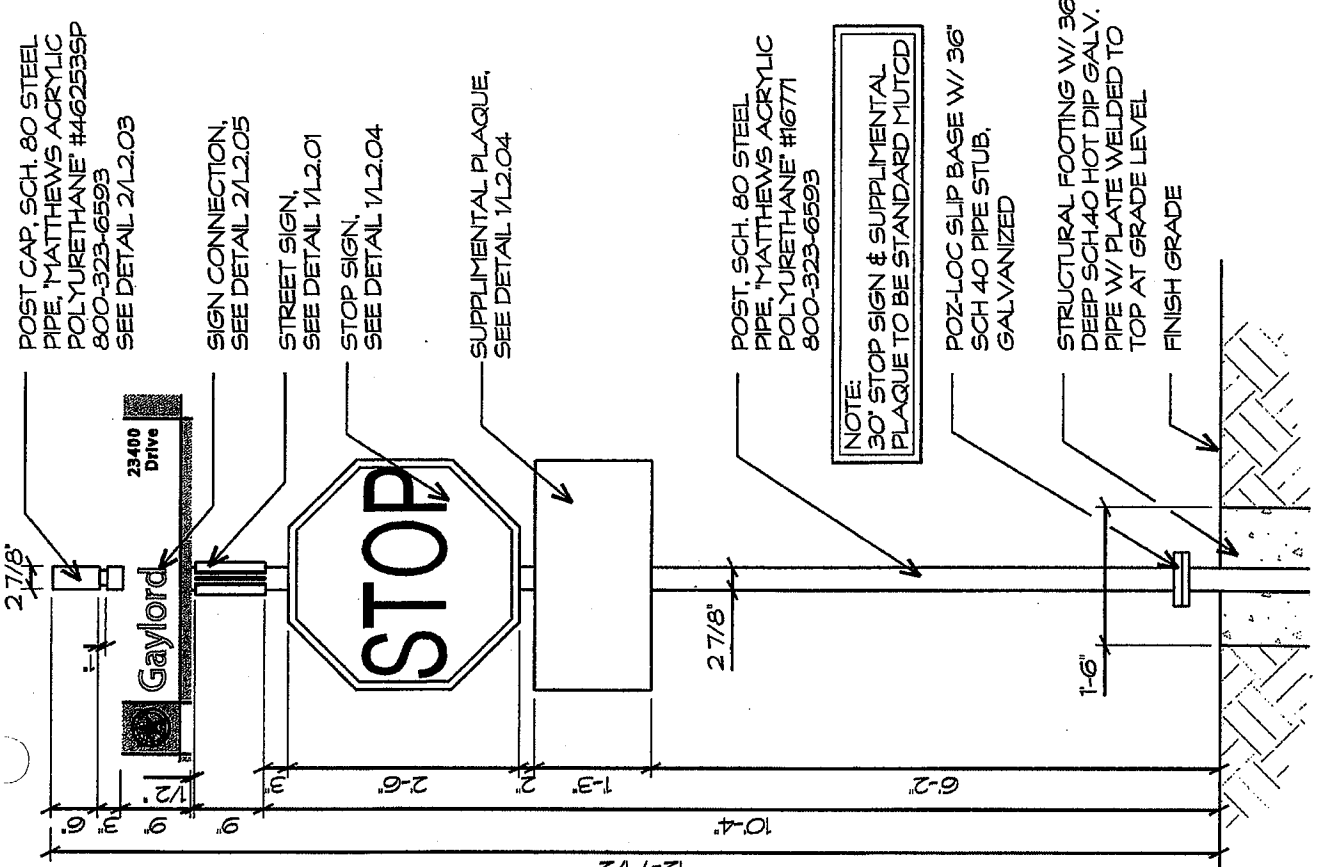
DATE/ISSUE	11/27/08 ISSUE FOR PROPOSING



LANDSCAPE ARCHITECTS  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-988-8887  
713-988-0808 FAX  
WWW.HAVTEXAS.COM

PROJECT NUMBER	
NO. 000	
SCALE	AS INDICATED
SHEET TITLE	HARDSCAPE DETAILS

SHEET NUMBER  
1-2.02



POST CAP, SCH. 80 STEEL PIPE, 'MATTHEWS ACRYLIC POLYURETHANE' #46253SP 800-323-6593 SEE DETAIL 2/1.2.03

SIGN CONNECTION, SEE DETAIL 2/1.2.05

STREET SIGN, SEE DETAIL 1/1.2.01

STOP SIGN, SEE DETAIL 1/1.2.04

SUPPLEMENTAL PLAQUE, SEE DETAIL 1/1.2.04

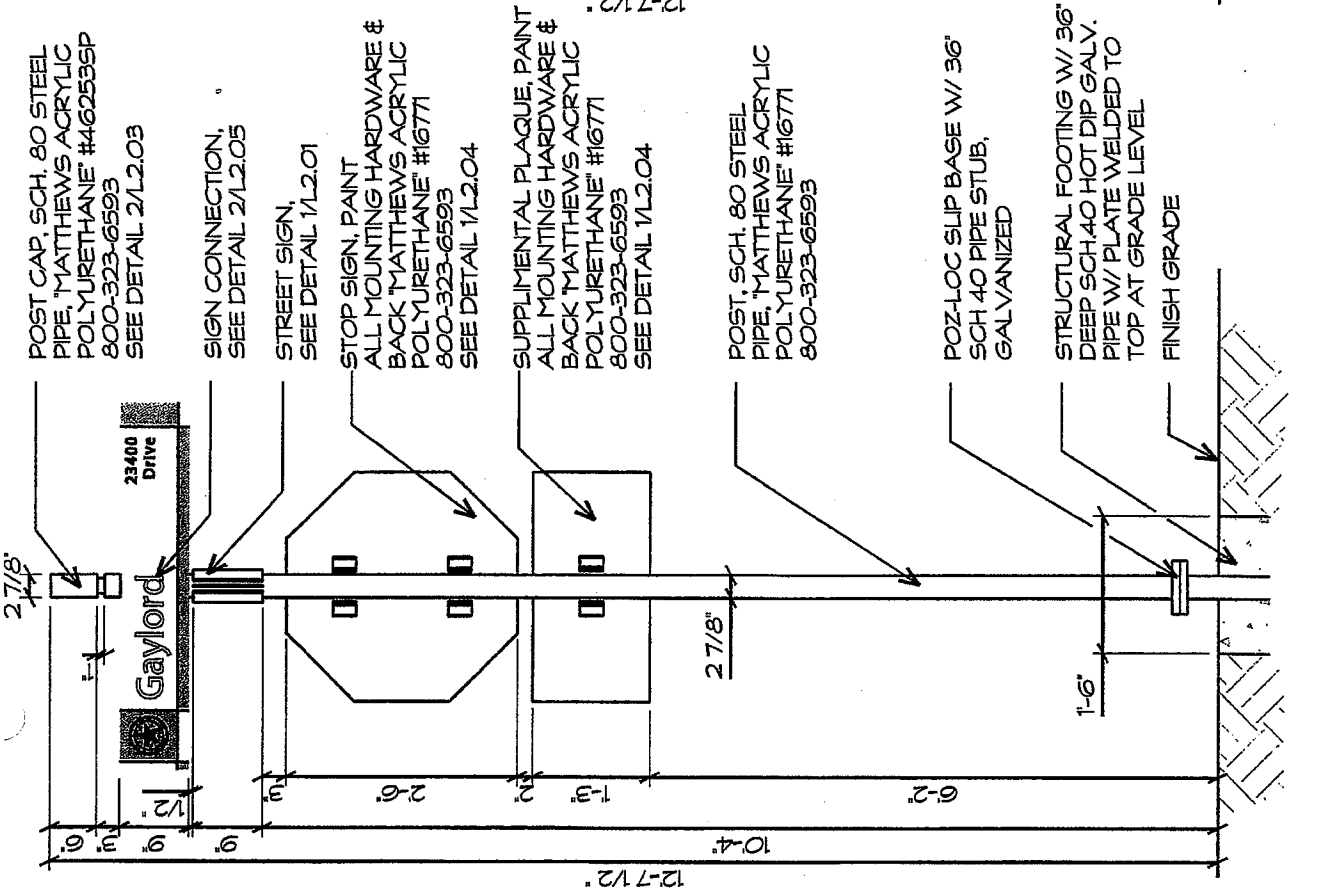
POST, SCH. 80 STEEL PIPE, 'MATTHEWS ACRYLIC POLYURETHANE' #16771 800-323-6593

NOTE:  
30" STOP SIGN & SUPPLEMENTAL PLAQUE TO BE STANDARD MUTOD

POZ-LOC SLIP BASE W/ 36" SCH 40 PIPE STUB, GALVANIZED

STRUCTURAL FOOTING W/ 36" DEEP SCH.40 HOT DIP GALV. PIPE W/ PLATE WELDED TO TOP AT GRADE LEVEL  
FINISH GRADE

1 STREET POLE W/ STOP SIGN  
SCALE: 1/2" = 1'-0"  
FRONT ELEVATION



POST CAP, SCH. 80 STEEL PIPE, 'MATTHEWS ACRYLIC POLYURETHANE' #46253SP 800-323-6593 SEE DETAIL 2/1.2.03

SIGN CONNECTION, SEE DETAIL 2/1.2.05

STREET SIGN, SEE DETAIL 1/1.2.01

STOP SIGN, PAINT ALL MOUNTING HARDWARE & BACK 'MATTHEWS ACRYLIC POLYURETHANE' #16771 800-323-6593 SEE DETAIL 1/1.2.04

SUPPLEMENTAL PLAQUE, PAINT ALL MOUNTING HARDWARE & BACK 'MATTHEWS ACRYLIC POLYURETHANE' #16771 800-323-6593 SEE DETAIL 1/1.2.04

POST, SCH. 80 STEEL PIPE, 'MATTHEWS ACRYLIC POLYURETHANE' #16771 800-323-6593

POZ-LOC SLIP BASE W/ 36" SCH 40 PIPE STUB, GALVANIZED

STRUCTURAL FOOTING W/ 36" DEEP SCH.40 HOT DIP GALV. PIPE W/ PLATE WELDED TO TOP AT GRADE LEVEL  
FINISH GRADE

2 STREET POLE W/ STOP SIGN  
SCALE: 1/2" = 1'-0"  
BACK ELEVATION

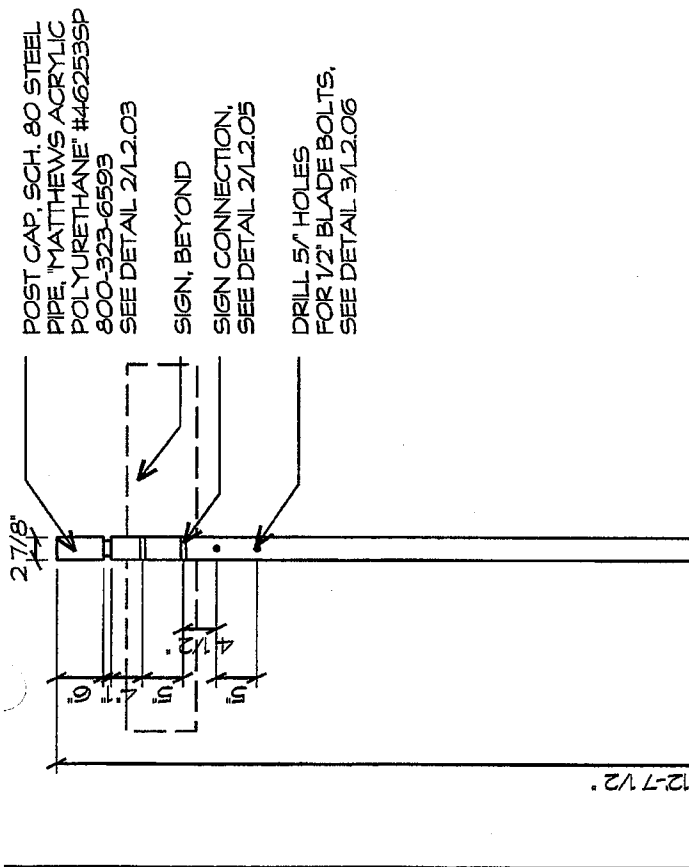
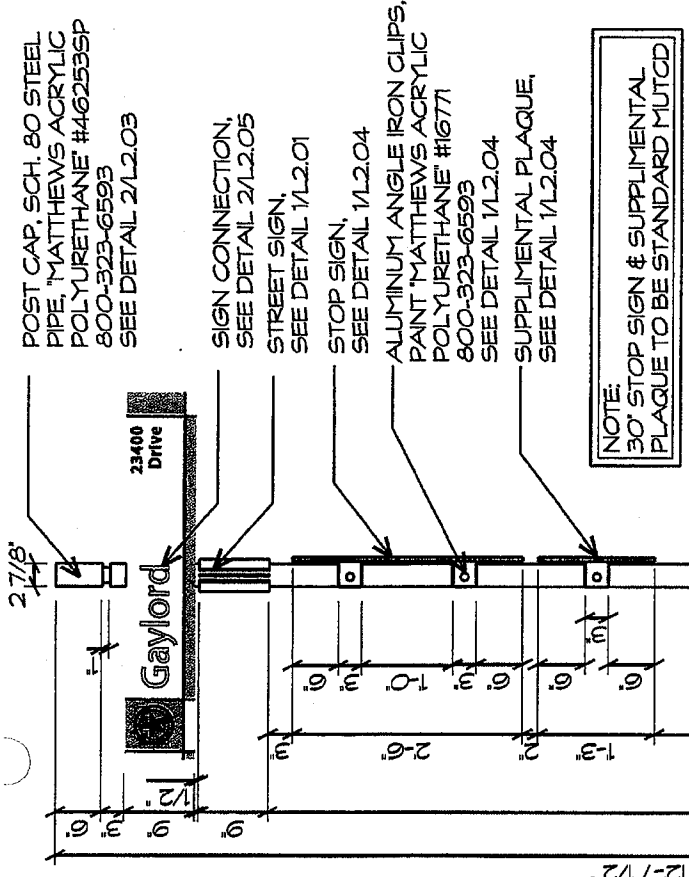
DATE/ISSUE	
11/27/2008 ISSUE FOR PRICING	



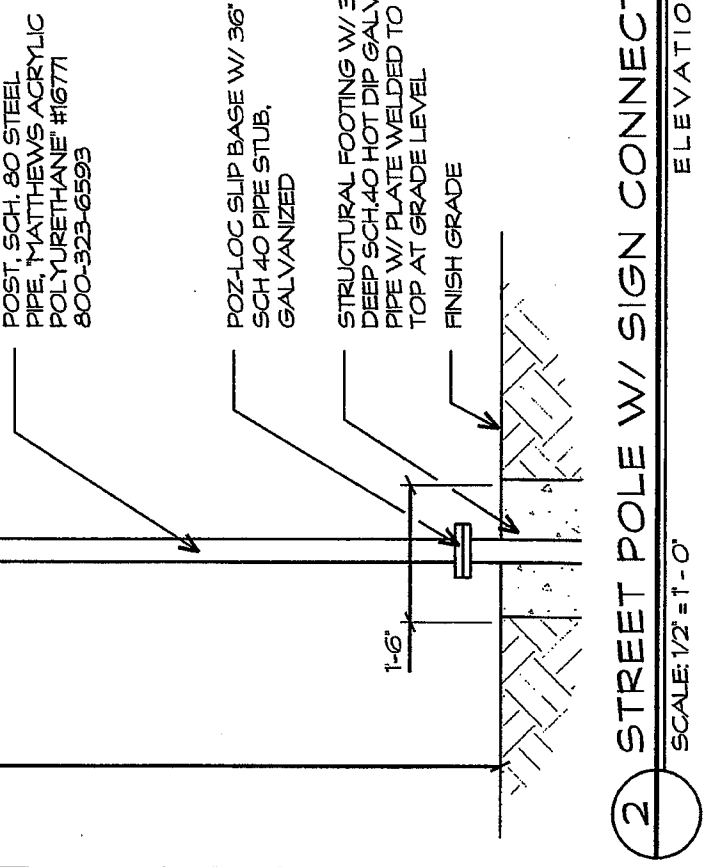
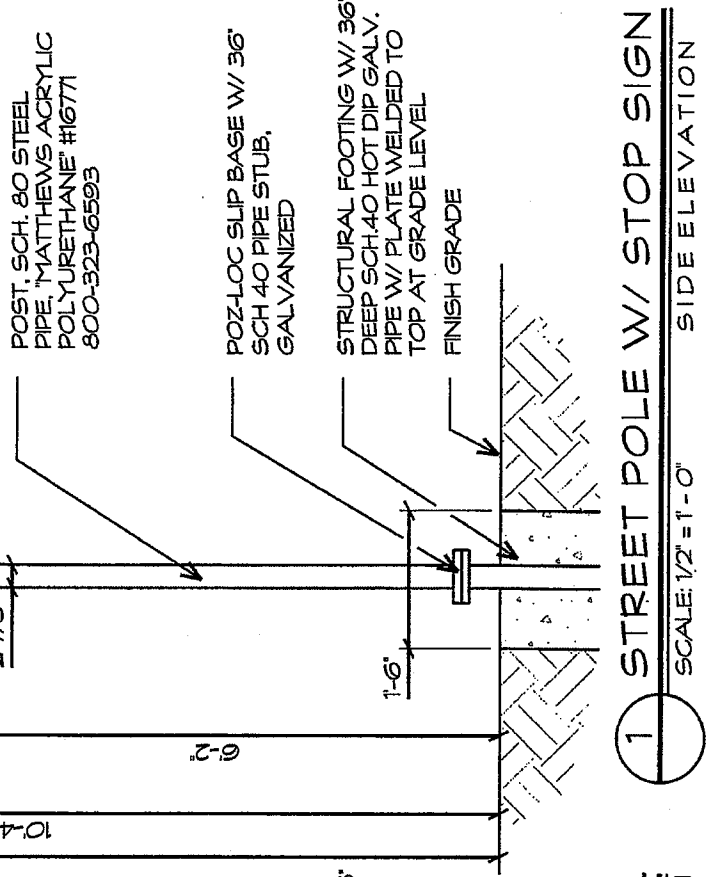
LANDSCAPE ARCHITECTURE  
SITE PLANNING  
URBAN DESIGN  
7165 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-869-8887  
713-869-8018 FAX  
WWW.KWITESAS.COM

PROJECT NUMBER	
100-709	
SCALE	As Indicated
SHEET TITLE	
HARDSCAPE DETAILS	

SHEET NUMBER  
L-2.03



NOTE:  
30' STOP SIGN & SUPPLEMENTAL  
PLAQUE TO BE STANDARD MUTCD



1 STREET POLE W/ STOP SIGN  
SCALE: 1/2" = 1'-0" SIDE ELEVATION

2 STREET POLE W/ SIGN CONNECT.  
SCALE: 1/2" = 1'-0" ELEVATION

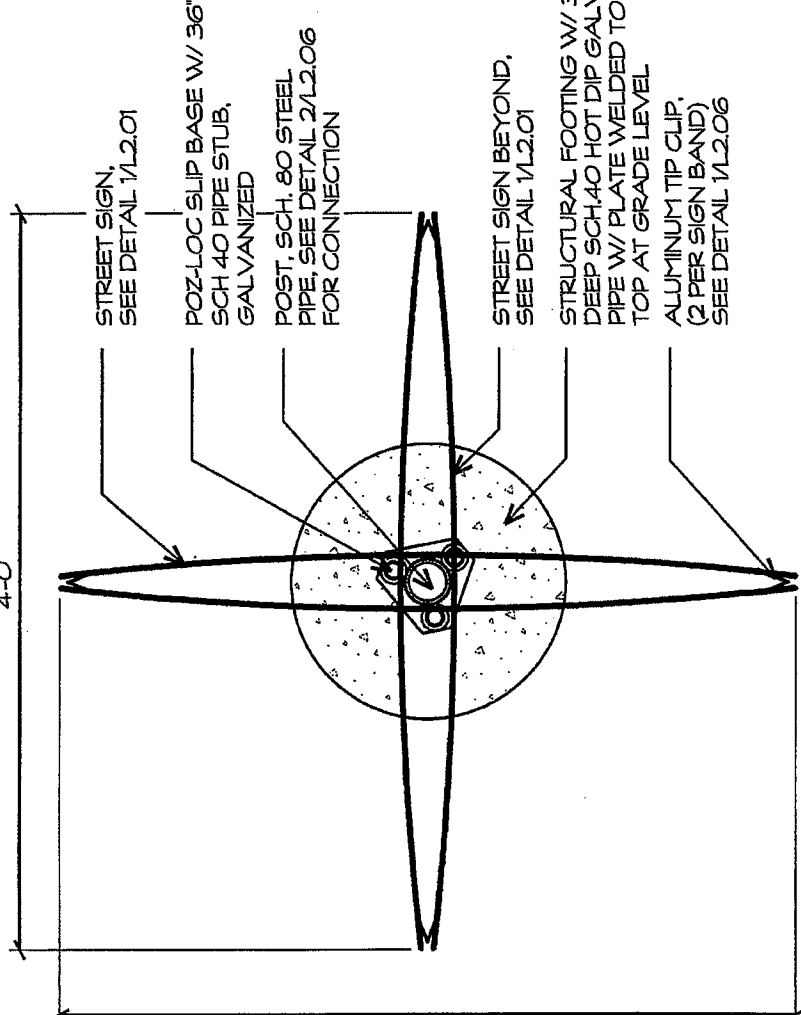
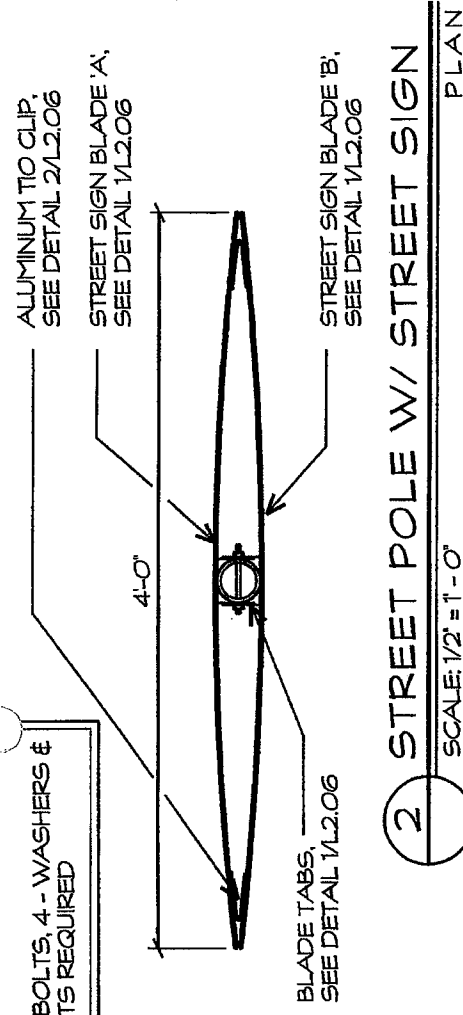


DATE/ISSUE	1/17/2008 ISSUE FOR PRICING



LANDSCAPE ARCHITECTUR  
SITE PLANNING  
URBAN DESIGN  
7185 OLD KATY ROAD  
SUITE 270  
HOUSTON, TEXAS 77024  
713-988-9887  
713-988-0688 FAX  
WWW.KWTEXAS.COM

PROJECT NUMBER	103370
SCALE	as indicated
SHEET TITLE	HANDSCAPE DETAILS
SHEET NUMBER	L-2.05



NOTE:  
2 - 1/2"x4" BOLTS, 4 - WASHERS &  
2 - 1/2" NUTS REQUIRED

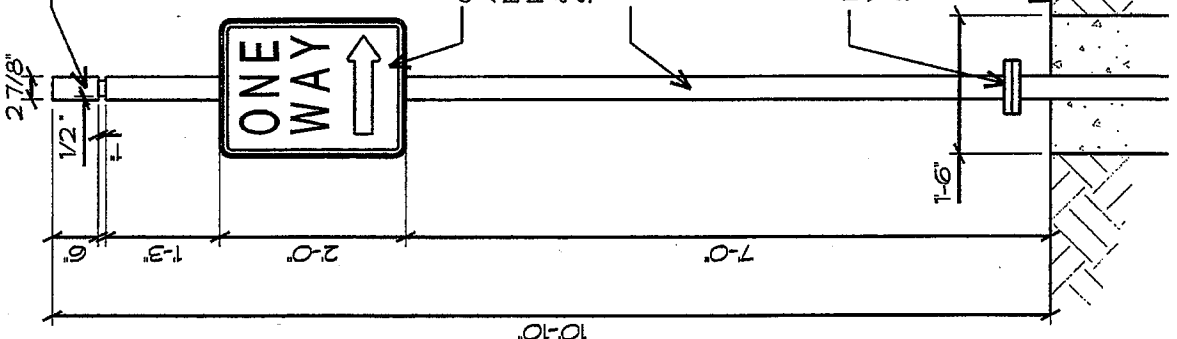
POST CAP, SCH. 80 STEEL  
PIPE, "MATTHEWS ACRYLIC  
POLYURETHANE" #46253SP  
800-323-6593  
SEE DETAIL 2/L2.03

ONE WAY PLAQUE, PAINT  
ALL MOUNTING HARDWARE &  
BACK "MATTHEWS ACRYLIC  
POLYURETHANE" #16771  
800-323-6593  
SEE DETAIL 1/L2.04

POST, SCH. 80 STEEL  
PIPE, "MATTHEWS ACRYLIC  
POLYURETHANE" #16771  
800-323-6593

POZ-LOC SLIP BASE  
W/ 3/6" SCH 40 PIPE  
STUB, GALVANIZED

FINISH GRADE







# GAY & LOUDERMILK ENGINEERS, INC.

4545 BISSONNET  
BELLAIRE, TX 77401  
PHONE: 713 344-8279  
FAX: 713 344-8269

## GENERAL NOTES

THESE GENERAL NOTES SHALL APPLY TO THE STRUCTURAL DRAWINGS, UNLESS OTHERWISE SHOWN OR NOTED.

UNLESS OTHERWISE INDICATED, ALL DETAILS OF DESIGN, WORKMANSHIP, AND MATERIALS SHALL CONFORM TO THE 2003 INTERNATIONAL BUILDING CODE, (I.B.C.), OF THE INTERNATIONAL CODE COUNCIL, INC.

CODES, STANDARDS AND REPORTS: USE LATEST EDITIONS INCLUDING ADDENDA, SUPPLEMENTS, AMENDMENTS, REVISIONS AND ERRATA.

FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PERTAINING TO EXISTING CONSTRUCTION. BEFORE MODIFYING EXISTING FRAMING, PROVIDE TEMPORARY SHORING FOR ALL MEMBERS AFFECTED BY THE MODIFICATION. REMOVE SHORING ONLY AFTER NEW MEMBERS HAVE BEEN SECURED TO NEW OR EXISTING SUPPORTS.

CONSTRUCTION METHODS: THESE DRAWINGS REPRESENT STRUCTURAL COMPONENTS IN THEIR FINAL AND FINISHED STATE. CONSTRUCTION PROCEDURES, METHODS, SAFETY PRECAUTIONS AND MECHANICAL REQUIREMENTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

DETERIORATION: GAY & LOUDERMILK ENGINEERS, INC. WILL BEAR NO RESPONSIBILITY FOR ANY STRUCTURAL MEMBER, CONNECTION, OR FASTENER WHOSE SECTION PROPERTIES ARE DIMINISHED BY RUST, CORROSION, OR OTHER CHEMICAL ATTACK THAT HAS RESULTED FROM INADEQUATE OR IMPROPER MAINTENANCE OR FROM UNINTENDED USE OR OCCUPANCY.

DRAWING REPRODUCTION: THE USE OF REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY THE CONTRACTOR IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF THE ACCURACY OF THE DRAWINGS AND OBLIGATES HIMSELF FOR EXPENSES FOR ERRORS AND OMISSIONS IN THE DRAWINGS.

DO NOT SCALE DRAWINGS.

DESIGN LIVE LOADS:

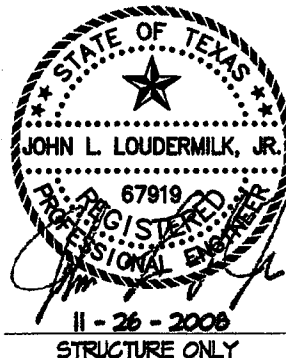
<u>CATEGORY</u>	<u>CONCENTRATED</u>
STREET SIGNAGE	500 POUNDS

WIND LOADS:

DESIGN WIND LOADS ARE BASED ON A BASIC WIND SPEED OF 110 MPH, EXPOSURE B.

## MEMORIAL CITY MANAGEMENT DISTRICT STREET SIGNAGE PROGRAM

HOUSTON, TEXAS



# SHEET SK-1

JOB NUMBER: 2008-307

# GAY & LOUDERMILK ENGINEERS, INC.

4545 BISSONNET  
BELLAIRE, TX 77401  
PHONE: 713 344-8279  
FAX: 713 344-8269

## MATERIALS AND PRODUCTS

REINFORCING BARS: ASTM A615, GRADE 60. NO. 3 BARS FOR STIRRUPS, TIES OR DOWELS MAY BE GRADE 40.

AGGREGATE FOR NORMAL-WEIGHT CONCRETE: CONFORM TO ASTM C33.

PORTLAND CEMENT: CONFORM TO ASTM C150, TYPE I.

CONCRETE ADMIXTURES: CONFORM TO ASTM C494. DO NOT USE ADMIXTURES CONTAINING CALCIUM CHLORIDE OR ANY OTHER SUBSTANCE THAT IS DETRIMENTAL TO REINFORCING STEEL, GALVANIZED STEEL OR EMBEDDED ITEMS.

## CAST-IN-PLACE CONCRETE

CONFORM TO THE AMERICAN CONCRETE INSTITUTE BUILDING CODE, 318-06.

NORMAL-WEIGHT CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH = 3000 PSI.

TEST IN ACCORDANCE WITH ASTM C39.

CONCRETE PROTECTION FOR REINFORCEMENT:

FOOTINGS . . . . . 3 IN.

DETAILING OF REINFORCEMENT: CONFORM TO ACI 315.

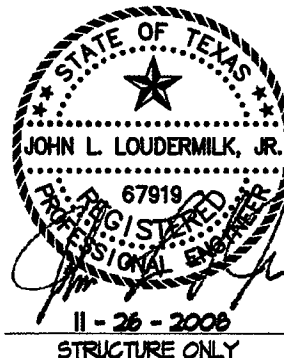
CONTINUOUS REINFORCEMENT: LAP CONTINUOUS REINFORCING STEEL 48 BAR DIAMETERS AT SPLICES, RANDOM LOCATION, EXCEPT AS FOLLOWS: OFFSET TOP BAR SPLICE AND BOTTOM BAR SPLICE 4'-0" (MINIMUM).

PRODUCTION, PLACING, CURING AND PROTECTION: CONFORM TO ACI 301.

READY-MIXED CONCRETE: CONFORM TO ASTM C94.

## MEMORIAL CITY MANAGEMENT DISTRICT STREET SIGNAGE PROGRAM

HOUSTON, TEXAS



# SHEET SK-2

JOB NUMBER: 2008-307

# GAY & LOUDERMILK ENGINEERS, INC.

4545 BISSONNET  
BELLAIRE, TX 77401  
PHONE: 713 349-8279  
FAX: 713 349-8269

## FOUNDATION

SOILS REPORT: RABA-KISTNER CONSULTANTS, INC., PROJECT NUMBER AHA06-036-00, AUGUST 7, 2006 (REVISED).

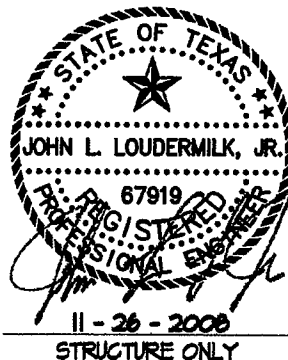
DRILLED FOOTINGS: BOTTOM OF FOOTING ELEVATION OF 8'-0" <sup>vs. 4.6'?</sup> BELOW NATURAL GRADE. USE THIS ELEVATION FOR BID PURPOSES. ACTUAL ELEVATIONS MAY VARY. REMOVE LOOSE SOIL AND DEBRIS FROM EXCAVATION. PLACE CONCRETE AS SOON AS POSSIBLE. DO NOT LEAVE EXCAVATIONS OPEN OVERNIGHT.

ALLOWABLE BEARING PRESSURES: 3700 PSF (TOTAL LOAD)

FOOTING EXCAVATIONS WILL BE OBSERVED BY THE OWNER'S GEOTECHNICAL REPRESENTATIVE, WHO WILL MAINTAIN A LOG FOR EACH FOOTING. THE LOG WILL INDICATE WHETHER THE FOOTINGS CONFORM TO THE STRUCTURAL DRAWINGS.

## MEMORIAL CITY MANAGEMENT DISTRICT STREET SIGNAGE PROGRAM

HOUSTON, TEXAS

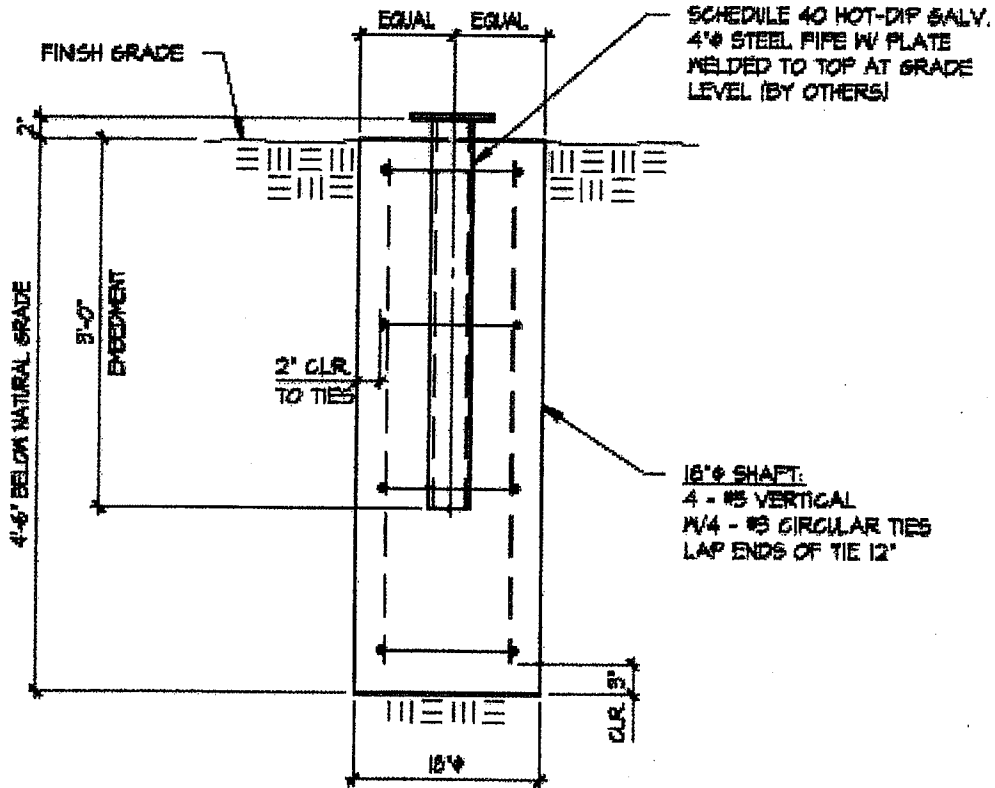


SHEET  
**SK-3**

JOB NUMBER: 2008-307

# GAY & LOUDERMILK ENGINEERS, INC.

4545 BISSONNET  
BELLAIRE, TX 77401  
PHONE: 713 849-8279  
FAX: 713 849-8269



## DRILLED FOOTING DETAIL

NO SCALE

### MEMORIAL CITY MANAGEMENT DISTRICT STREET SIGNAGE PROGRAM

HOUSTON, TEXAS



12-8-2008  
STRUCTURE ONLY

SHEET  
**SK-4**

JOB NUMBER: 2008-307

Section 01562

TREE AND PLANT PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tree and plant protection.
- B. Minimum qualifications of Arborist and Urban Forester.

1.02 MEASUREMENT AND PAYMENT

- A. Payment for Tree Protection, including tree pruning or tree removal, shall be paid as a Lump Sum basis that shall include all items specified in this section unless payment is specified otherwise in this section
- B. Payment for Zero Curb Cutback will be on a per linear foot basis.
- C. Payment for Checker Plate will be on a square foot basis.
- D. Refer to Section 01270-Measurement and Payment for unit price procedures.

1.03 SUBMITTALS

- A. Conform to requirements of Section 01330 – Submittal Procedures.
- B. Submit name and experience of qualified Arborist, proposed for use on the Work, to Project Manager.

1.04 PROJECT CONDITIONS

- A. Preserve and protect existing trees and plants to remain from foliage, branch, trunk, or root damage that could result from construction operations.
- B. Prevent following types of damage:
  - 1. Compaction of root zone by foot or vehicular traffic, or material storage.
  - 2. Trunk damage from equipment operations, material storage, or from nailing or bolting.

3. Trunk and branch damage caused by ropes or guy wires.
4. Root or soil contamination from spilled solvents, gasoline, paint, lime slurry, and other noxious materials.
5. Branch damage due to improper pruning or trimming.
6. Damage from lack of water due to:
  - a. Cutting or altering natural water migration patterns near root zones.
  - b. Failure to provide adequate watering
7. Damage from alteration of soil pH factor caused by depositing lime, concrete, plaster, or other base materials near roots zones.
8. Cutting of roots larger than one inch in diameter.

#### 1.05 DAMAGE ASSESSMENT

- A. When trees other than those designated for removal are destroyed or damaged as result of construction operations, remove and replace with same size, species, and variety up to and including 8 inches in trunk diameter. Trees larger than 8 inches in diameter shall be replaced with an 8 inch diameter tree of the same species and variety and total contract amount will be reduced by an amount determined from the following formula and paid to Tree Fund  $0.7854 \times D^2 \times \$13.25$  where D is diameter in inches of tree or shrub trunk measured 12 inches above grade for that portion of the tree which is greater than 8 inches in diameter. A permit must be applied for and approved by the City of Houston, Urban Forestry Division prior to removal of any tree not scheduled for removal in the tree treatment schedule. Contractor shall contact City of Houston, Urban Forestry, at 832-395-8459 to apply for tree removal permit when needed.

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. Pruning Paint: Black latex, water based paint, free of all petroleum products.
- B. Fertilizer: Fertilizer shall be a root stimulant that contains at a minimum the following ingredients: Ectomycorrhizal Fungi, VA Mycorrhizal (VAM) Fungi, Rhizosphere Bacillus spp., Kelp Meal Humic Acid, and Soluble Yucca.

- C. Tree Protection Fencing: Orange, plastic mesh fencing, 4 feet in height with 6 feet high "t" bar posts installed 10 feet on centers as per drawings.
- D. Plastic Root/Soil Protection: Clear polyethylene sheeting, minimum 6 mil, thickness.

### PART 3 EXECUTION

#### 3.01 PROTECTION OF EXISTING TREES AND SHRUBS

- A. Site preparation work and/or construction work shall not begin in any area where tree preservation measures have not been completed and approved.
- B. Protect exposed roots and root zone areas from contamination from stabilization materials and concrete using polyethylene.
- C. Cover exposed roots within 4 hours to reduce damage caused by desiccation. Roots may be covered with soil, mulch, polyethylene, or wet burlap to help protect them from drying.
- D. Designate limited areas as concrete washout areas. Locate concrete washout areas away from root zones.
- E. Install root pruning trenching where designated in tree treatment schedule and shown on the tree protection drawings. Trees scheduled for root pruning are called out specifically in the treatment schedule. Trench shall be located 2 ft. from the edge of proposed waterline or sanitary sewer for trees called out for root pruning for water or fittings, or sanitary sewer in the treatment schedule, 2 ft. from edge of proposed storm sewer pipe for trees called out for root pruning for storm in the treatment schedule, 30" back of proposed curb for trees called out for root pruning for street, and at edge of sidewalk for trees called out for root pruning for sidewalk. Root pruning shall not be performed where there is not adequate space to be located sufficiently away from tree to prevent damage. All pruning must be evaluated by Contractor's Certified Arborist and reviewed and approved by City Forester before being performed. Trench locations shown on tree preservation plan are drawn to scale and should be located in field as drawn on plan. Exact locations shall be approved in the field by engineer and/or project urban forester prior to installation. Trenching depth shall be a minimum of 2 ft. deep and a maximum of 6 inches wide for water, fittings, sanitary sewer, storm, and street. Trenching depth shall be to the anticipated bottom of sidewalk and base material for sidewalk root pruning, roots lower than sidewalk shall not be pruned. All roots shall be cut by trencher, chainsaw, or handsaw to the specified depth. Roots shall be cut cleanly, and or not ripped, torn, or chopped. Trench shall be backfilled and compacted immediately after trenching. Trench shall be installed prior to any clearing and grubbing, excavation for underground, or any other site work.



- F. Install tree protection fencing around each tree to be preserved as indicated in the tree treatment schedule and on the tree protection plan.
1. Each tree to be preserved shall be protected with a tree protection fence. The fencing shall be continuous between posts, shall be pulled taut prior to securing to posts, and shall be firmly attached to the posts with a minimum of 4 wire ties.
  2. All tree protection fencing shall be installed prior to site work or construction activity. The fence shall be placed in a continuous alignment as shown on the tree protection plan. Fences shown on tree protection plan are drawn to scale and shall be installed as drawn, in the field. In general fences shall be placed 30" back of existing curb or edge of pavement where root pruning or zero curb cutback is not specified, and 6" back of root pruning trench where root pruning is specified and immediately back of curb where zero curb cutback is specified. Exact locations shall be approved by the project urban forester and/or engineer in the field. The Fences shall be placed to protect roots, trunks, and foliage. The contractor shall not remove or relocate tree protection fencing and shall not operate within the limits shown without direct approval of the project urban forester. In areas where the proposed waterline is located in the existing road side ditch and where tree protection fencing can not be installed across the ditch, the fencing shall be installed at the top of outside ditch bank and no bore pits, peep holes, service taps, or any excavation should occur in the area immediately in front of the tree protection fencing for trees called out with "bore" in the Tree Treatment Schedule. The "bore" limits shall be the same as the limits of the tree protection fencing.
  3. Storage of equipment or materials will not be allowed inside a fence. Entryways and access into a protected area shall not be provided unless approved by the project urban forester.
  4. Damage to tree fences occurring during the progress of the work shall be repaired immediately at no additional cost to owner. Workmen shall be clearly instructed to exercise caution in performance of work near trees being preserved.
  5. Tree protection fencing shall be removed by contractor, at no additional costs, upon completion of all construction activity in each work zone area. Tree protection fencing materials used in the first two work zone areas shall be removed and utilized in subsequent work zone areas. Materials and labor shall be paid for each linear foot of fencing installed in first two work areas. All fencing installed in subsequent work zone areas shall be paid for labor only.
- G. Boring/Auguring of water lines or sanitary sewer lines
1. Water line or sanitary sewer line shall be bored/augured/ horizontally drilled under

critical root zones areas of trees designated with auger or bore in the tree treatment schedule. The entire area protected with tree protection fencing shall be bored. No bore pits, come through holes, peep holes, push pits, or long or short side service taps shall be allowed in the areas protected by tree protection fencing. The tree protection plan takes into consideration the limits of augering equipment, there should be room for adequately spaced bore pits, peep holes, come through holes, and push pits. Any changes to the location of the tree protection fencing shall be authorized by the project Urban Forester and City Engineer.

H. Hand digging of Service taps and leads

1. Trees called out for Hand dig short side service tap are located in very close proximity to existing short side water meters. Excavating the service tap with machinery would significantly impact the tree and be in violation of the City of Houston's Street Tree Ordinance. These short side service taps shall be excavated with manual labor to expose any roots 1" in diameter and larger. The first 24" of excavation shall be completed manually to expose the roots. Any root 1" in diameter and larger shall remain undamaged, the roots shall not be cut, nor shall the bark and cambium layer be scraped or damaged. Once the roots are exposed, if there is adequate room to utilize a mini-excavator without damaging the roots, the mini-excavator can be utilized to complete the excavation down to the water line. 1" plywood shall be placed on grade to provide root protection in the area of access of the mini-excavator. If roots 1" diameter or larger are cut or damaged, responsible party will be subject to a citation under the Street Tree Ordinance, and may also be required to incur the cost of tree removal and replacement of damaged tree on an inch for inch basis, if required by City of Houston Urban Forestry Division.
2. Trees called out for Hand dig short side or long side service lead are located in very close proximity to existing water meters. Excavating the service lead with machinery would significantly impact the tree and be in violation of the City of Houston's Street Tree Ordinance. Short side leads shall be excavated with manual labor to expose any roots 1" in diameter and larger from the service tap of the meter. Come out hole and excavation required for long service leads shall be excavated with manual labor to expose roots 1" in diameter and larger, from the come out hole to the meter. In each case, all roots 1" in diameter and larger shall remain undamaged, the roots shall not be cut, nor shall the bark and cambium layer be scraped or damaged. If roots 1" diameter or larger are cut or damaged, responsible party will be subject to a citation under the cost of tree removal and replacement of damaged tree on an inch by inch basis, if required by City of Houston Urban Forestry Division.
3. Trees called out for Hand dig sanitary stub up are located in very close proximity to proposed service lead. Excavating the service lead with machinery would significantly impact the tree and be in violation of the City of Houston's Street Tree

Ordinance. Excavation for sanitary stub up shall be completed with manual labor to expose any roots 1" in diameter and larger. The lead shall be bored from face of curb to stub up hole when called out in the tree treatment schedule. Come out and stub up holes shall be excavated with manual labor to expose roots 1" in diameter and larger. In case, all roots 1" in diameter and larger shall remain undamaged, the roots shall not be cut, nor shall the bark and cambium layer be scraped or damaged. If roots 1" diameter or larger are cut or damaged, responsible party will be subject to a citation under the Street Tree Ordinance, and may be required to incur the cost of tree removal and replacement of damaged tree on an inch by inch basis, if required by City of Houston Urban Forestry Division.

4. Long side service taps shall not be located in an area specified to be bored in the tree treatment schedule. Should it be absolutely necessary to locate a long side service tap in an area specified to be bored, the excavation shall be completed as specified in paragraph 1 of this section-Hand digging short side service taps.
5. All water meters and sanitary service leads called out on P&P drawings and visible in the field have been addressed in the Tree Protection Plan. Should any additional meters or lead be found during construction, or in any new meters or leads installed beneath the canopy of any tree, fenced for tree protection, the excavation shall be completed as specified in paragraph 1 and/or 2 of this section and paid for at the unit cost for each included in contract.

I. Pruning of Trees

1. Trees shall be pruned in accordance with the American National Standard for tree pruning, ANSI A300 (Part 1) – 2001 Pruning Revision of ANSI A300-1995 Tree, Shrub and Other Woody Plant Maintenance – Standard Practices. Pruning shall be completed by professional arborists who has received training in proper pruning techniques.
2. Clearance prune designated trees for public streets, sidewalks, and construction areas. Provide minimum 14 feet and maximum of 18 feet of vertical clearance over proposed water trunk lines. Provide minimum of 14 feet and maximum of 16 feet of vertical clearance over proposed street construction, from 24" back of curb on one side to 24" back of curb on the other side. Provide 20' of vertical clearance over proposed storm sewer up to 38" in size, and 30' of vertical clearance for storm sewer larger than 38" in size. Pruning to be installed prior to any construction activity. Contractor shall notify property owner prior to trimming or pruning any trees with trunks located on private property. Exceptions will be made for trees determined to be arboriculturally significant by City of Houston Urban Forestry. Pruning of trees identified will be completed with approval and supervision of City of Houston Urban Forestry.

3. All cuts should be made sufficiently close to the parent limb or trunk without cutting into the branch collar or leaving a protruding stub, so that closure can readily start under normal conditions. All lateral cuts shall be made to a lateral that is least 1/3 the diameter of the parent limb. Clean cuts shall be made at all times.
4. Trees shall be pruned in a manner that will not destroy or alter the natural shape and character of the tree. Apply black latex paint to all fresh wounds on Oak (*Quercus*) species immediately after each cut is made.
5. Crown cleaning prune designated trees shall include selective removal of dead, diseased, and/or broken limbs.

J. Tree Removal

1. Trees scheduled for removal shall be sawed down and debris hauled from the site the same day. The stump shall be ground to 6" below grade and excess grindings shall be hauled from the site the same day, so that a pile of grindings is not left where the stump was ground. Enough grindings should be left so that an open hole does not remain.
2. Only those trees called out for removal in the Tree Treatment Schedule shall be removed, or otherwise damaged. Should it be determined that any additional trees must be removed, a permit must be applied for and approved from the City of Houston Urban Forestry Division prior to removal. Contractor shall contact Urban Forestry at 832-395-8459.

K. Root Stimulation

1. Deep root stimulate designated trees. Mix fertilizer with wetting agent per label instructions.
2. Stimulate entire root zone area within the dripline of the tree and continue 10 feet beyond the dripline, leaving out areas of anticipated root loss (construction areas).
3. Mixture shall be injected into the top 10 inches of soil under pressure of 150 to 200 psi as soil conditions warrant.
4. Mix in a tank with agitation capability per label instructions. Inject the mixture on a 2.5 ft. square grid at 4 lbs, actual nitrogen per 1,000 sq. ft.

- L. Regularly water trees which have received root damage, to eliminate additional stress caused by lack of moisture. Water during periods without adequate rainfall. For example, should 1.0" of rain not be received within a week period, the trees should be thoroughly watered.

March through September, water once every two weeks. October through February, water every three weeks. Water thoroughly to saturate the entire root zone area.

- M. Chemically treat tree trunks with evidence of borer activity with the appropriate approved insecticide mixed and applied per the manufacturer's product application recommendations. Trees shall be sprayed within 24 hours after observance of borer activity.
- N. Grading and filling around trees.
  - 1. Maintain existing grade within the dripline of trees, unless otherwise indicated.
  - 2. Where existing grade around trees is above new finish grade, under supervision of project urban forester, carefully hand excavate within the dripline to make transition to new finish grade.
  - 3. Where existing grade is below new finish grade, place clean bank sand in a single layer to make the transition to new grade. Do not compact; hand grade to required elevation. Specifically to areas where proposed curb is higher than existing and backfill will be required.
- O. Demolition, Forming and Pouring Sidewalks (Sidewalk on Grade)
  - 1. Demolition of existing sidewalks, located in or adjacent to the limits of tree protection fencing, shall be completed without disturbing, cutting, or otherwise damaging tree roots and soil located beneath them.
  - 2. The new sidewalk shall be formed at or above the elevation of the existing sidewalk, without disturbing, cutting or otherwise damaging tree roots. Every effort has been made to address tree root and sidewalk elevation issues with information available in the field and on plan and profile sheets. The elevation of every tree root was not available, if tree roots are found to be in conflict with proposed sidewalk, project engineer and urban forester shall be consulted as to how to install sidewalks with minimal impacts to adjacent trees.
  - 3. Checkerplate shall be installed in areas called out only if tree root elevations prohibit construction of ADA compliant sloped concrete sidewalks. Checkerplate shall be installed per detail.
- P. Zero curb cutback
  - 1. Disturbance of tree roots or soil behind the existing and/or proposed curb within root zones of trees designated for zero curb cutback shall be prohibited. If the curb can not be removed without disturbing soil or damaging roots back of curb when using

equipment for demolition, the curb shall be broken using a hand held jackhammer and removed by hand.

2. The exposed roots and soil shall be covered immediately after demolition with 6 mil polyethylene in order to avoid desiccation, and contamination by the lime used for road bed stabilization. The polyethylene shall be placed so that it covers the vertical face of soil back of curb and laid back onto the grade 12 inches back of curb. The polyethylene should remain in place, across the entire area specified for zero curb cutback, from the time the existing curb is demolished until the time when the new curb is formed and backfilled. The polyethylene can be pulled up from the vertical face while the road bed is being graded or mixed, to avoid catching the plastic with machinery, but shall be replaced immediately after equipment has completed. The vertical face shall not be exposed for more than 8 hours in any 24 hour period.
3. There shall be no stabilization back of curb in the zero curb cutback areas, or forming with steel forms. The existing grade and roots back of existing curb shall not be disturbed. This may require forming of the new street with wooden forms with stakes inside forms, which may require leaving the forms in place after the street is poured. Should wooden forms be utilized, the wood shall be at minimum a 2x6. The new curb may require hand finishing, as a slip curb machine may not have adequate clearance without disturbing the roots that are to be protected with the zero curb cutback.
4. Roots extending into the street, or on top of the existing curb, in areas to paved shall be cut and removed by hand prior to disturbance or removal with equipment. Roots shall be pruned flush with the proposed back of curb. Roots one inch in diameter and larger shall be cut in a manner to provide a smooth, clean cut surface. Cuts shall be made with the appropriate pruning shears or pruning saws. Roots shall not be chopped or broken.
5. In areas where proposed curb will be may be lower than existing top of curb and tree roots 2" diameter or larger are present, the soil and roots shall not be graded or laid back. The existing elevation shall be maintained and the curb formed to meet elevation or a short elevation difference roots and top of curb maintained.

Q. Demolition, Forming and Pouring of Drive Way Approaches

1. Demolition of existing driveway approaches located beneath the dripline of any tree shall be completed without disturbing, cutting, or otherwise damaging tree roots and soil located beneath them.
2. The new approach shall be formed at or above the elevation of the existing approach where tree roots 2" diameter or larger are present, without disturbing, cutting or

otherwise damaging tree roots. Maximum drive slopes may be needed at bottom of apron to allow forming of drive over tree roots at top of drive. As with sidewalks, the elevation of every tree roots was not available in design. If tree roots are found to be in conflict with proposed approach, project engineer and urban forester shall be consulted as to how to install drive way with minimal impacts to adjacent trees.

R. Replacement Trees for Tree Removals under Ordinance

1. Location, species, and size of replacement trees are indicated on the drawings. Contractor shall layout individual trees at locations shown on drawings. Contractor shall layout individual trees at locations shown on drawings and be responsible for utility locate requirements. In case of conflicts, notify City Engineer and City Urban Forestry before proceeding with work. Trees shall be laid out and locations approved by City Engineer prior to planting.
2. Trees shall meet and be planted according to City of Houston Standard Specification 02915.

S. Arborist and Urban Forester Qualifications

1. Arborist – Employ qualified arborist acceptable to City’s Parks and Recreation Department to complete all tree treatments. Arborist shall be normally engaged in the field and have a minimum of 5 years experience. Qualifications of the selected arborist shall be submitted for review and approval by the project engineer and City of Houston.
2. Urban Forester – An Urban forester shall be hired to monitor and assist with field layout (exact locations of fencing, root pruning, and zero curb cutback) of the tree preservation program during demolition and construction to ensure tree protection procedures and techniques are practiced as specified to address concerns and conditions which occur in the field. At a minimum, the individual responsible for monitoring and field layout of the tree protection shall have a minimum of 5 years of experience as a consultant, and shall not be affiliated with a tree care contractor in the Houston area. Qualifications of the selected urban forester shall be submitted for review and approval by the project engineer and City of Houston Urban Forestry Department.

END OF SECTION



Section 01570

STORM WATER POLLUTION PREVENTION CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Implementation of Storm Water Pollution Prevention Plans (SWP3) described in Section 01410 – TPDES Requirement.
- B. Installation, maintenance and removal, of storm water pollution prevention structures: diversion dikes, interceptor dikes, diversion swales, interceptor swales, down spout extenders, pipe slope drains, paved flumes and level spreaders. Structures are used during construction and prior to final development of the site.
- C. Filter Fabric Barriers:
  - 1. Type 1: Temporary filter fabric barrier for erosion and sediment control in non-channelized flow areas.
  - 2. Type 2: Temporary reinforced filter fabric barrier for erosion and sediment control in channelized flow areas.
- D. Hay Bale Fence.
- E. Drop Inlet Basket
- F. Inlet Sediment Traps
- G. Brush Berm
- H. Sand Bag Barrier
- I. Bagged Gravel Barrier
- J. Sediment Basin
- K. Inlet Protection Barrier

1.02 MEASUREMENT AND PAYMENT

A. UNIT PRICES

- 1. Payment for filter fabric barrier is on a linear foot basis measured between limits of beginning and ending of stakes.

2. Payment for reinforced filter fabric barrier is on a linear foot basis measured between limits of beginning and ending of stakes.
  3. Payment for drop inlet baskets is on a unit price basis for each drop inlet basket.
  4. Payment for storm inlet sediment traps is on a unit price basis for each storm inlet sediment trap.
  5. Payment for storm water pollution prevention structures is on a lump sum basis for the project. Earthen structures with outlet and piping include diversion dikes, interceptor dikes, diversion swales, interceptor swales, and excavated earth-outlet sediment trap, embankment earth-outlet sediment trap, down spout extenders, pipe slope drains, paved flumes, stone outlet sediment trap, and level spreaders.
  6. Payment for hay bale barrier, if included in Document 00410 - Bid Form, is on a linear foot of accepted bale barriers, if not include in cost of storm water pollution prevention structures.
  7. Payment for brush berm, if included in Document 00410 - Bid Form, is on a linear foot of accepted brush berm, if not include in cost of storm water pollution prevention structures.
  8. Payment for sandbag barrier, if included in Document 00410 - Bid Form, is on a linear foot basis measured between limits of beginning and ending of sandbags, if not include in cost of storm water pollution prevention structures.
  9. Payment for bagged gravel barrier, if included in Document 00410 - Bid Form, is on a linear foot basis measured between limits of beginning and ending of bagged gravel barrier, if not include in cost of storm water pollution prevention controls.
  10. Payment for inlet protection barriers, if included in Document 00410 - Bid Form, is on a linear foot basis measured along outside face of inlet protection barrier, if not include in cost of storm water pollution prevention structures.
  11. Refer to Section 01270 - Measurement and Payment for unit price procedures.
- B. Stipulated Price (Lump Sum) Contract. If Contract is Stipulated Price Contract, payment for Work in this Section is included in total Stipulated

1.03 REFERENCE STANDARDS

A. ASTM

1. A 36 – Standard Specification for Carbon Structural Steel.
2. D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600kN-m/m<sup>3</sup>)).
3. D3786 – Standard Test Method for Hydraulic Bursting Strength for knitted Goods and Nonwoven Fabrics.
4. D 4355 - Standard Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus).
5. D 4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
6. D 4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
7. D 4833 - Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
8. D 6382 - Standard Practice for Dynamic Mechanical Analysis and Thermogravimetry of Roofing and Waterproofing Membrane Material.

- B. Storm Water Management Handbook for Construction Activities prepared by City of Houston, Harris County and Harris County Flood Control District.

1.04 SYSTEM DESCRIPTIONS

- A. Filter Fabric Barrier Type 1 and Type 2: Install to allow surface or channel runoff percolation through fabric in sheet-flow manner and to retain and accumulate sediment. Maintain Filter Fabric Barriers to remain in proper position and configuration at all times.
- B. Hay Bale Fence: Install to allow surface runoff percolation through hay in sheet-flow manner and to retain and accumulate sediment. Maintain Hay Bale Fence to remain in proper position and configuration at all times.
- C. Interceptor Dikes and Swales: Construct to direct surface or channel runoff around the project area or runoff from project area into sediment traps.
- D. Drop Inlet Baskets: Install to allow runoff percolation through the basket and to retain and accumulate sediment. Clean accumulation of sediment to prevent clogging and backups.

- E. Sediment Traps: Construct to pool surface runoff from construction area to allow sediment to settle onto the bottom of trap.
- F. Sand Bags: Are used during construction activities in unstabilized minor swales, ditches, or streambeds when the contributing drainage area is no greater than 2 acres. It is also sediment barrier for stage one Inlet.
- G. Bagged Gravel Barrier: Are used during construction activities in unstabilized minor swales, ditches, or streambeds when the contributing drainage area is no greater than 2 acres. It is also sediment barrier for stage two Inlet.
- H. Drop Inlet Insert Basket: Is a temporary barrier placed within a storm drain inlet (Lower Portion of Stage I and Upper Portion of Stage II Inlets) consisting of a filter fabric supported by a metal frame work to prevent sediment and other pollutants from entering convey system.
- I. Brush Berm: Brush Berm is constructed at the perimeter of a distribute site within the developing area.

**1.05 SUBMITTALS**

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit manufacturer's literature for product specifications and installation instructions.
- C. Submit manufacturers catalog sheets and other product data on geotextile or filter fabrics, outlet pipe, perforated riser and connectors.
- D. Submit proposed methods, equipment, materials, and sequence of operations for storm-water pollution prevention structures.
- E. Submit shop drawings for Drop Inlet Baskets.

**PART 2 PRODUCTS**

**2.01 CONCRETE**

- A. Concrete: Class B in accordance with Section 03315 – Concrete for Utility Construction or as shown on the Drawings.

**2.02 AGREGATE MATERIALS**

- A. Use poorly graded cobbles with diameter greater than 3 inches and less than 5 inches.

- B. Provide gravel lining in accordance with Section 2320 – Utility Backfill Materials or as shown on the drawings.
- C. Provide clean cobbles and gravel consisting of crushed concrete or stone. Use clean, hard crushed concrete or stone free from adherent coatings, salt, alkali, dirt, clay, loam, shale, soft or flaky materials, or organic matter.
- D. Sediment Pump Pit Aggregate: Use nominal 2-inch diameter river gravel.

2.03 PIPE

- A. Polyethylene culvert pipe or PVC sewer pipe in accordance with Section 02505- High Density Polyethylene (HDPE) Solid and Profile Wall Pipe and Section 02506 Polyvinyl Chloride Pipe or as shown on the Drawings.
- B. Inlet Pipes: Galvanized steel pipe in accordance with Section 02642 Corrugated Metal Pipe or as shown on the Drawings.
- C. Standpipe for Sediment Pump Pits: Galvanized round culvert pipe or round PVC pipe, minimum of 12-inch and a maximum of 24-inch diameter, perforate at 6 to 12 inch centers around circumference.

2.04 GEOTEXTILE FILTER FABRIC

- A. Woven or nonwoven geotextile filter fabric made of either polypropylene, polyethylene, ethylene, or polyamide material, in continuous rolls of longest practical length.
- B. Grab Strength: 100 psi in any principal direction (ASTM D-4632), Mullen burst strength >200 psi (ASTM D-3786), and equivalent opening size between 50 and 140.
- C. Furnish ultraviolet inhibitors and stabilizers for minimum 6 months of expected usable construction life at temperature range of 0 degrees F to 120 degrees F.
- D. Mirafi, Inc., Synthetic Industries, or equivalent

2.05 BARRIER

- A. Wire Barrier: Woven galvanized steel wire, 14 gauge by 6-inch square mesh spacing, minimum 24 inch roll or sheet width of longest practical length.
- B. Barrier Stakes: Nominal 2 by 2 inch moisture-resistant treated wood or steel posts (min. of 1.25 lbs. per linear foot and Brinell Hardness greater than 140) with safety caps on top; length as required for minimum 8 inch bury and full

height of filter fabric.

**2.06 SANDBAGS**

- A. Provide woven material made of polypropylene, polyethylene, or polyamide material.
1. Minimum unit weight of four ounces per square yard.
  2. Minimum grab strength of 100 lbs in any principal direction (ASTM D4632)
  3. Mullen burst strength exceeding 300 lbs (ASTM D4833).
  4. Ultraviolet stability exceeding 70 percent. After 500 hours of exposure (ASTM 4355).
  5. Size: Length:18 to 24 inches. Width: 12 to 18 inches. Thickness: 6 to 8 inches. Weight: Approximately 40 to 50 pounds not to exceed 75 pounds.

**2.07 Bagged gravel Barrier**

1. Minimum unit weight of four ounces per square yard.
2. Minimum grab strength of 100 lbs in any principal direction (ASTM D4632)
3. Mullen burst strength exceeding 300 lbs (ASTM D4833).
4. Ultraviolet stability exceeding 70 percent. After 500 hours of exposure (ASTM 4355).
5. Size: Length:18 to 24 inches. Width: 12 to 18 inches. Thickness: 6 to 8 inches. Weight: Approximately 40 to 50 pounds not to exceed 75 pounds.

**2.08 DROP INLET BASKET**

- A. Provide steel frame members in accordance with ASTM A36.
- B. Construct top frame of basket with two short sides of 2 inch by 2 inch and single long side of 1 inch by 1 inch, 1/8 inch angle iron. Construct basket hangers of 2 inch by 1/4 inch iron bars. Construct bottom frame of 1 inch by 1/4 inch iron bar or 1/4 inch plate with center 3 inches removed. Use minimum 1/4 inch diameter iron rods or equivalent for sides of inlet basket.

Weld minimum of 14 rods in place between top frame/basket hanger and bottom frame. Exact dimensions for top frame and insert basket will be determined based on dimensions of type of inlet being protected.

2.09 HAY BALE

- A. Hay: Standard-baled agricultural hay bound by wire, nylon, or polypropylene rope. Do not use jute or cotton binding.
- B. Hay Bale Stakes (applicable where bales are on soil): No. 3 (3/8 diameter) reinforcing bars, deformed or smooth at Contractor's option, length as required for minimum 18 inch bury and full height bales.

PART 3 EXECUTION

3.01 PREPARATION, INSTALLATION AND MAINTENANCE

- A. Provide erosion and sediment control structures at locations shown on the Drawings.
- B. Do not clear, grub or rough cut until erosion and sediment control systems are in place unless approved by Project Manger to allow installation of erosion and sediment control systems, soil testing and surveying.
- C. Maintain existing erosion and sediment control systems located within project site until acceptance of Project or until directed by Project Manger to remove and discard existing system.
- D. Regularly inspect and repair or replace damaged components of erosion and sediment control structures. Unless otherwise directed, maintain erosion and sediment control structure until project area stabilization is accepted. . Redress and replace granular fill at outlets as needed to replenish depleted granular fill. Remove erosion and sediment control structures promptly when directed by Project Manger. Dispose of materials in accordance with Section 01576 - Waste Material Disposal.
- E. Remove and dispose sediment deposits at the designated spoil site for the Project. If a project spoil site is not designated on Drawings, dispose of sediment off site at approved location in accordance with Section 01576 - Waste Material Disposal.
- F. Unless otherwise shown on the Drawings, compact embankments, excavations, and trenches in accordance with Section 02315 Roadway



Excavation or Section 2317 Excavation and Backfill for Utilities.

- G. Prohibit equipment and vehicles from maneuvering on areas outside of dedicated right of way and easements for construction. Immediately repair damage caused by construction traffic to erosion and sediment control structures.
- H. Protect existing trees and plants in accordance with Section 1562 – Tree and Plant Protection.

**3.02 SEDIMENT TRAPS**

- A. Install sediment traps so that surface runoff shall percolate through system in sheet flow fashion and allow retention and accumulation of sediment.
- B. Inspect sediment traps after each rainfall, daily during periods of prolonged rainfall, and at a minimum once each week. Repair or replace damaged sections immediately.
- C. Use fill material for embankment in accordance with Section 02320 – Utility Backfill Materials.
- D. Excavation length and height shall be as specified on Drawings. Use side slopes of 2:1 or flatter.
- E. Stone outlet sediment traps:
  - 1. Maintain minimum of 6 inches between top of core material and top of stone outlet, minimum of 4 inches between bottom of core material and existing ground and minimum of 1 foot between top of stone outlet and top of embankment.
  - 2. Embed cobbles minimum of 4 inches into existing ground for stone outlet. Core shall be minimum of 1 foot in height and in width and wrapped in triple layer of geotextile filter fabric.
- F. Sediment Basin with Pipe Outlet Construction Methods: Install outlet pipe and riser as shown on the Drawings.
- G. Remove sediment deposits when design basin volume is reduced by one-third or sediment level is one foot below principal spillway crest, whichever is less.

**3.03 FILTER FABRIC BARRIER CONSTRUCTION METHODS**

- A. Fence Type 1: Filter Fabric: Barrier

1. Install stakes 3 feet on center maximum and firmly embed minimum 8 inches in soil. If filter fabric is factory preassembled with support netting, then maximum support spacing is 8 feet. Install wood stakes at a slight angle toward the source of anticipated runoff.
  2. Trench in the toe of the fence lines so the downward face of the trenches is flat and perpendicular to direction of flow. V-trench configuration as shown on Drawings may also be used.
  3. Lay fabric along edges of trenches in longest practical continuous runs to minimize joints. Make joints only at a support post. Splice with minimum 6-inch overlap and seal securely.
  4. Staple filter fabric to stakes at maximum 3 inches on center. Extend fabric minimum 18 inches and maximum 36 inches above natural ground.
  5. Backfill and compact trench.
- B. Barrier Type 2: Reinforced Filter Fabric Barrier
1. Layout barrier same as for Type 1.
  2. Install stakes at 6 feet on center maximum and at each joint in wire fence, firmly embedded 1-foot minimum, and inclined it as for Type 1.
  3. Tie wire fence to stakes with wire at 6 inches on center maximum. Overlap joints minimum one bay of mesh.
  4. Install trench same as for Type 1.
  5. Fasten filter fabric wire fence with tie wires at 3 inches on center maximum.
  6. Layout fabric same as for Type 1. Fasten to wire fence with wire ties at 3 inches on center maximum and, if applicable, to stakes above top of wire fence it as for Type 1.
  7. Backfill and compact trench.
  8. Attach filter fabric to wooden fence stakes spaced a maximum of 6 feet apart or steel fence stakes spaced a maximum of 8 feet apart and embedded a minimum of 12 inches. Install stakes at a slight angle toward source of anticipated runoff.
  9. Trench in toe of filter fabric barrier with spade or mechanical trencher so that downward face of trench is flat and perpendicular to direction of flow. A V-trench configuration may also be used. Lay filter fabric along edges of trench. Backfill and compact trench upon completion of Construction.

10. Filter fabric fence shall have a minimum height of 18 inches and a maximum height of 36 inches above natural ground.
11. Cut length of fence to minimize use of joints. When joints are necessary, splice fabric together only at support post with minimum 6 inch overlap and seal securely.
12. When used in swales, ditches or diversions, elevation of barrier at top of filter fabric at flow line location in channel shall be lower than bottom elevation of filter fabric at ends of barrier or top of bank, whichever is less, in order to keep storm water discharge in channel from overtopping bank.

**C. Triangular Filter Fabric Barrier Construction Methods**

1. Attach filter fabric to wire fencing, 18 inches on each side. Provide a fabric cover and skirt with continuous wrapping of fabric. Skirt should form continuous extension of fabric on upstream side of fence.
2. Secure triangular fabric filter barrier in place using one of the following methods:
  - a. Toe-in skirt 6 inches with mechanically compacted material;
  - b. Weight down skirt with continuous layer of 3-inch to 5-inch graded rock; or
  - c. Trench-in entire structure 4 inches.
3. Anchor triangular fabric filter barrier structure and skirt securely in place using 6-inch wire staples on 2-foot centers on both edges and on skirt, or staked using 18-inch by 3/8-inch diameter re-bar with tee ends.
4. Lap fabric filter material by 6 inches to cover segment joints. Fasten joints with galvanized shoat rings.

**3.04 DIKE AND SWALE**

- A. Unless otherwise indicated, maintain minimum dike height of 18 inches, measured from cleared ground at up slope toe to top of dike. Maintain side slopes of 2:1 or flatter.
- B. Dike and Swale Stabilization: When shown on the Drawings, place gravel lining 3 inches thick and compacted into the soil or 6 inches thick if truck crossing is expected. Extend gravel lining across bottom and up both sides of swale minimum height of 8 inches vertically, above bottom. Gravel lining on dike side shall extend up the up slope side of dike a minimum height of 8 inches, measured vertically from interface of existing or graded ground and up slope toe of dike, as shown on Drawings.

- C. Divert flow from dikes and swales to sediment basins, stabilized outlets, or sediment trapping devices of types and at locations shown on Drawings. Grade dikes and swales as shown on Drawings, or, if not specified, provide positive drainage with maximum grade of 1 percent to outlet or basin.
- D. Clear in accordance with Section 2233 – Clearing and Grubbing Compact embankments in accordance with Section 2315 – Roadway Excavation.
- E. Carry out excavation for swale construction so that erosion and water pollution is minimal. Minimum depth shall be 1 foot and bottom width shall be 4 feet, with level swale bottom. Excavation slopes shall be 2:1 or flatter. Clear, grub and strip excavation area of vegetation and root material.

3.05 DOWN SPOUT EXTENDER

- A. Down spout extender shall have slope of approximately 1 percent. Use pipe diameter of 4 inches or as shown on the Drawings. Place pipe in accordance with Section 2317 - Bedding and Backfill for Utilities.

3.06 PIPE SLOPE DRAIN

- A. Compact soil around and under drain entrance section to top of embankment in lifts appropriately sized for method of compaction utilized.
- B. Inlet pipe shall have slope of 1 percent or greater. Use pipe diameter as shown on the Drawings.
- C. Top of embankment over inlet pipe and embankments directing water to pipe shall be at least 1 foot higher at all points than top of inlet pipe.
- D. Pipe shall be secured with hold-down grommets spaced 10 feet on centers.
- E. Place riprap apron with a depth equal to pipe diameter with 2:1 side slopes.

3.07 PAVED FLUME

- A. Compact soil around and under the entrance section to top of the embankment in lifts appropriately sized for method of compaction utilized.
- B. Construct subgrade to required elevations. Remove and replace soft sections and unsuitable material. Compact subgrade thoroughly and shape to a smooth, uniform surface.
- C. Construct permanent paved flumes in accordance with Drawings.

- D. Remove sediment from riprap apron when sediment has accumulated to depth of one foot.

**3.08 LEVEL SPREADER**

- A. Construct level spreader on undisturbed soil and not on fill. Ensure that spreader lip is level for uniform spreading of storm runoff.
- B. Maintain at required depth, grade, and cross section as specified on Drawings. Remove sediment deposits as well as projections or other irregularities which will impede normal flow.

**3.09 INLET PROTECTION BARRIER**

- A. Place sandbags for Stage I, Bagged gravel for Stage II and filter fabric barriers at locations shown on the SWP3. Maintain to allow minimal inlet in flow restrictions / blockage during storm event.

**3.10 DROP INLET BASKET CONSTRUCTION METHODS**

- A. Fit inlet insert basket into inlet without gaps around insert at locations shown on the SWP3.
- B. Support for inlet insert basket shall consist of fabricated metal as shown on Drawings.
- C. Push down and form filter fabric to shape of basket. Use sheet of fabric large enough to be supported by basket frame when holding sediment and extend at least 6 inches past frame. Place inlet grates over basket/frame to serve as fabric anchor.
- D. Remove sediment deposit after each storm event and whenever accumulation exceeds 1-inch depth during weekly inspections.

**3.11 HAY BALE FENCE CONSTRUCTION METHODS**

- A. Place bales in row with ends tightly abutting adjacent bales. Place bales with bindings parallel to ground surface.
- B. Embed bale in soil a minimum of 4 inches.
- C. Securely anchor bales in place with Hay Bale Stakes driven through bales a minimum of 18-inches into ground. Angle first stake in each bale toward previously laid bale to force bales together.
- D. Fill gaps between bales with straw to prevent water from channeling between bales. Wedge carefully in order not to separate bales.

- E. Replace with new hay bale fence every two months or as required by Project Manager.

### 3.12 BRUSH BERM CONSTRUCTION METHODS

- A. Construct brush berm along contour lines by hand placing method. Do not use machine placement of brush berm.
- B. Use woody brush and branches having diameter less than 2-inches with 6-inches overlap. Avoid incorporation of annual weeds and soil into brush berm.
- C. Use minimum height of 18-inches measured from top of existing ground at upslope toe to top of berm. Top width shall be 24 inches minimum and side slopes shall be 2:1 or flatter.
- D. Embed brush berm into soil a minimum of 4-inches and anchor using wire, nylon or polypropylene rope across berm with a minimum tension of 50 pounds. Tie rope securely to 18-inch x 3/8-inch diameter rebar stakes driven into ground on 4-foot centers on both sides of berm.

### 3.13 STREET AND SIDEWALK CLEANING

- A. Keep areas clean of construction debris and mud carried by construction vehicles and equipment. If necessary, install stabilized construction exits at construction, staging, storage, and disposal areas, following Section 01575-Stabilized Construction Exit.
- B. In lieu of or in addition to stabilized construction exits, shovel or sweep pavements as required to keep areas clean. Do not waterhose or sweep debris and mud off street into adjacent areas, except, hose sidewalks during off-peak hours, after sweeping.

### 3.14 WASTE COLLECTION AREAS

- A. Prevent water runoff from passing through waste collection areas, and prevent water runoff from waste collection areas migrating outside collection areas.

### 3.15 EQUIPMENT MAINTENANCE AND REPAIR

- A. Confine maintenance and repair of construction machinery and equipment to areas specifically designated for that purpose, so fuels, lubricants, solvents, and other potential pollutants are not washed directly into receiving streams or storm water conveyance systems. Provide these areas with adequate waste disposal receptacles for liquid and solid waste. Clean and inspect maintenance areas daily.

- B. Where designated equipment maintenance areas are not feasible, take precautions during each individual repair or maintenance operation to prevent potential pollutants from washing into streams or conveyance systems. Provide temporary waste disposal receptacles.

**3.16 VEHICLE/ EQUIPMENT WASHING AREAS**

- A. Install wash area (stabilized with coarse aggregate) adjacent to stabilized construction access, as required to prevent mud and dirt run-off. Release wash water into drainage swales or inlets protected by erosion and sediment controls. Build wash areas following Section 01575- Stabilized Construction access. Install gravel or rock base beneath wash areas.
- B. Wash vehicles only at designated wash areas. Do not wash vehicles such as concrete delivery trucks or dump trucks and other construction equipment at locations where runoff flows directly into waterways or storm water conveyance systems.
- C. Locate wash areas to spread out and evaporate or infiltrate wash water directly into ground, or collect runoff in temporary holding or seepage basins.

**3.17 WATER RUNOFF AND EROSION CONTROL**

- A. Control surface water, runoff, subsurface water, and water from excavations and structures to prevent damage to the Work, the site, or adjoining properties. Follow environment requirements.
- B. Control fill, grading and ditching to direct water away from excavations, pits, tunnels, and other construction areas, and to direct drainage to proper runoff courses to prevent erosion, sedimentation or damage.
- C. Provide, operate, and maintain equipment and facilities of adequate size to control surface water.
- D. Retain existing drainage patterns external to the site by constructing temporary earth berms, sedimentation basins, retaining areas, and temporary ground cover as required to control conditions.
- E. Plan and execute construction and earth work to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
  - 1. Hold area of bare soil exposed at one time to a minimum.
  - 2. Provide temporary controls such as berms, dikes, and drains.
- F. Construct fill and waste areas by selective placement to eliminate surface silts or clays which will erode.



- G. Inspect earthwork periodically to detect start of erosion. Immediately apply corrective measures as required to control erosion.
- H. Dispose of sediments offsite, not in or adjacent to waterways or floodplains, nor allow sediments to flush into streams or drainage ways. Assume responsibility for offsite disposal location.
- I. Unless otherwise indicated, compact embankments, excavations, and trenches by mechanically blading, tamping, and rolling soil in maximum of 8-inch layers. Provide compaction density at minimum 90 percent Standard Proctor ASTM D-698-78 density. Make at least one test per 500 cubic yards of embankment.
- J. Prohibit equipment and vehicles from maneuver on areas outside of dedicated rights-of-way and easements for construction. Immediately repair damage to erosion and sedimentation control systems caused by construction traffic.
- K. Do not damage existing trees intended to remain.

3.18 REMOVAL OF CONTROLS

- A. Remove erosion and sediment controls when the site is finally stabilized or as directed by Project Manager.
- B. Dispose of sediments and waste products following Section 01505-Temporary Facilities.

END OF SECTION



Section 01575

STABILIZED CONSTRUCTION ACCESS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Installation and removal of erosion and sediment control for stabilized construction access used during construction and prior to final development of site, as shown in City of Houston Standard Construction details, DWG No. 01571-01.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Price Contracts. If Contract is Unit Price Contract, payment for work in this Section will be based on the following:
  - 1. Stabilized construction roads, parking areas, access and wash areas: per square yard of aggregate/recycled concrete without reinforcing placed in 8-inch layers. No separate payment will be made for street cleaning necessary to meet TPDES requirements. Include cost of work for street cleaning under related Specification section.
- B. Stipulated Price (Lump Sum) Contracts. If the Contract is a Stipulated Price Contract, include payment for work under this Section in the total Stipulated Price.

1.03 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit manufacturer's catalog sheets and other Product Data on geotextile fabric.
- C. Submit sieve analysis of aggregates conforming to requirements of this Specification.

1.04 REFERENCES

- A. ASTM D 4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
- B. Storm Water Quality Management Handbook For Construction Activities prepared by the City of Houston, Harris County and Harris County Flood Control District.

**PART 2 PRODUCTS****2.01 GEOTEXTILE FABRIC**

- A. Provide woven or non-woven geotextile fabric made of polypropylene, polyethylene, ethylene, or polyamide material.
- B. Geotextile fabric: Minimum grab strength of 200 lbs in any principal direction (ASTM D-4632) and equivalent opening size between 50 and 140.
- C. Geotextile and threads: Resistant to chemical attack, mildew, and rot and contain ultraviolet ray inhibitors and stabilizers to provide minimum of six months of expected usable life at temperature range of 0 to 120 degrees F.
- D. Representative Manufacturers: Mirafi, Inc. or equal.

**2.02 COARSE AGGREGATES**

- A. Coarse aggregate: Crushed stone, gravel, crushed blast furnace slag, or combination of these materials. Aggregate shall be composed of clean, hard, durable materials free from adherent coatings of, salt, alkali, dirt, clay, loam, shale, soft or flaky materials, or organic and injurious matter.
- B. Coarse aggregates to consist of open graded rock 2" to 8" in size.

**PART 3 EXECUTION****3.01 PREPARATION AND INSTALLATION**

- A. Provide stabilized construction roads and access at construction, staging, parking, storage, and disposal areas to keep street clean of mud carried by construction vehicles and equipment. Construct erosion and sediment controls in accordance with Drawings and Specification requirements.
- B. Do not clear grub or rough cut until erosion and sediment control systems are in place, unless approved by Project Manager to allow soil testing and surveying.
- C. Maintain existing construction site erosion and sediment control systems until acceptance of the Work or until removal of existing systems is approved by Project Manager.
- D. Regularly inspect, repair or replace components of stabilized construction access. Unless otherwise directed, maintain stabilized construction roads and

access until the City accepts the Work. Remove stabilized construction roads and access promptly when directed by Project Manager. Discard removed materials off-site.

- E. Remove and dispose of sediment deposits at designated spoil site for Project. If a spoil site is not designated on Drawings, dispose of sediment off-site at a location not in or adjacent to stream or flood plain. Assume responsibility for off-site disposal.
- F. Spread compacted and stabilized sediment evenly throughout site. Do not allow sediment to flush into streams or drainage ways. Dispose of contaminated sediment in accordance with existing federal, state, and local rules and regulations.
- G. Prohibit equipment and vehicles from maneuvering on areas outside of dedicated rights-of-way and easements for construction. Immediately repair damage to erosion and sediment control systems caused by construction traffic.
- H. Conduct construction operations in conformance with erosion control requirements of Specification 01570 – Storm Water Pollution Control.

### 3.02 CONSTRUCTION MAINTENANCE

- A. Provide stabilized access roads, subdivision roads, parking areas, and other on-site vehicle transportation routes where shown on Drawings.
- B. Provide stabilized construction access and vehicle washing areas, when approved by Project Manager, of sizes and at locations shown on Drawings or as specified in this Section.
- C. Clean tires to remove sediment on vehicles leaving construction areas prior to entering public right-of-ways. Construct wash areas needed to remove sediment. Release wash water into drainage swales or inlets protected by erosion and sediment control measures.
- D. Details for stabilized construction access are shown on Drawings. Construct other stabilized areas to same requirements. Maintain minimum roadway widths of 14 feet for one-way traffic and 20 feet for two-way traffic and of sufficient width to allow ingress and egress. Place geotextile fabric as a permeable separator to prevent mixing of coarse aggregate with underlying soil. Limit exposure of geotextile fabric to elements between laydown and cover to a maximum 14 days to minimize potential damage.
- E. Grade roads and parking areas to provide sufficient drainage away from stabilized areas. Use sandbags, gravel, boards, or similar materials to prevent sediment from entering public right-of-ways, waterways or

- storm water conveyance systems.
- F. Inspect and maintain stabilized areas daily. Provide periodic top dressing with additional coarse aggregates to maintain required depth. Repair and clean out damaged control systems used to trap sediment. Immediately remove spilled, dropped, washed, or tracked sediment from public right-of-ways.
  - G. Maintain lengths of stabilized areas as shown on Drawings or a minimum of 50 feet. Maintain a minimum thickness of 8 inches. Maintain minimum widths at all points of ingress or egress.
  - H. Stabilize other areas with the same thickness, and width of coarse aggregate required for stabilized construction access, except where shown otherwise on Drawings.
  - I. Stabilized areas may be widened or lengthened to accommodate truck washing areas when authorized by Project Manager.
  - J. Clean street daily before end of workday. When excess sediments have tracked onto streets, Project Manager may direct Contractor to clean street as often as necessary. Remove and legally dispose of sediments.
  - K. Use other erosion and sediment control measures to prevent sediment runoff during rain periods and non-working hours and when storm discharges are expected.

END OF SECTION

Section 01576

WASTE MATERIAL DISPOSAL

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A. Disposal of waste material and salvageable material.

1.02 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit copy of approved "Development Permit", as defined in Chapter 19 of Flood Plain Ordinance (City Ordinance Number 81-914 and Number 85-1705), prior to disposal of excess material in areas designated as being in "100-year Flood Hazard Area" within the City. Contact the City of Houston Flood Plain Manager, 3300 Main Street, at (713) 525-7605 for flood plain information.
- C. Obtain and submit disposal permits for proposed disposal sites, if required by local ordinances.
- D. Submit copy of written permission from property owner, with description of property, prior to disposal of excess material adjacent to Project. Submit written and signed release from property owner upon completion of disposal work.
- E. Describe waste materials expected to be stored on-site and a description of controls to reduce Pollutants from these materials, including storage practices to minimize exposure of materials to storm water; and spill prevention and response measures in the Project's Storm Water Pollution Prevention Plan (SWPPP). Refer to Section 01410 – TPDES Requirements.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N

3.01 SALVAGEABLE MATERIAL

- A. Excavated Material: When indicated on Drawings, load, haul, and deposit excavated material at location or locations shown on Drawings outside limits of Project.



- B. Base, Surface, and Bedding Material: Load shell, gravel, bituminous, or other base and surfacing material designated for salvage into City trucks.
- C. Pipe Culvert: Load culverts designated for salvage into City trucks.
- D. Other Salvageable Materials: Conform to requirements of individual Specification Sections.
- E. Coordinate loading of salvageable material on City trucks with Project Manager.

**3.02 EXCESS MATERIAL**

- A. Remove and legally dispose of vegetation, rubble, broken concrete, debris, asphaltic concrete pavement, excess soil, and other materials not designated for salvage from job site.
- B. Excess soil may be deposited on private property adjacent to Project when written permission is obtained from property owner. See Paragraph 1.02 D above.
- C. Verify flood plain status of any proposed disposal site. Do not dispose of excavated materials in area designated as within 100-year Flood Hazard Area unless "Development Permit" has been obtained. Remove excess material placed in "100-year Flood Hazard Area" within the City, without "Development Permit", at no additional cost to the City.
- D. Remove waste materials from site daily, in order to maintain site in neat and orderly condition.

END OF SECTION

Section 01578

CONTROL OF GROUND AND SURFACE WATER

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Dewatering, depressurizing, draining, and maintaining trenches, shaft excavations, structural excavations and foundation beds in stable condition, and controlling ground water conditions for tunnel excavations.
- B. Protecting work against surface runoff and rising floodwaters.
- C. Trapping suspended sediment in the discharge from the surface and ground water control systems.

1.02 MEASUREMENT AND PAYMENT

A. UNIT PRICES

- 1. When noted, dewatering of trench or excavation during course of project shall be measured per linear foot and paid for at contract unit prices for dewatering, when directed to perform such work by Project Manager. Dewatering must be fully detailed in submittal and submittal must be approved prior to performing dewatering work before payment will be made for dewatering. No payment will be made for work unless directed to perform work by Project Manager.
- 2. Presence of a pump on project does not constitute dewatering for payment under bid item "Ground Water Control for Open Cut Construction."
- 3. Dewatering required during course of project to lower water table for other utility installation less than 24 inches in diameter, construction of structures, removal of standing water, surface drainage seepage, or to protect against rising waters or floods shall be considered incidental to Work unless otherwise noted.
- 4. No separate payment will be made for groundwater control associated with augering, tunnels or casing. Include cost in unit price for augering.
- 5. Refer to Section 01270 - Measurement and Payment for unit price procedures.

- B. Stipulated Price (Lump Sum) Contract. If the Contract is a Stipulated Price Contract, include payment for work under this section in the total Stipulated

Price.

**1.03 REFERENCES**

- A. ASTM D 698 - Standard Test Methods for Laboratory Compaction of Soils Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600kN-m/m<sup>3</sup>))
- B. Federal Regulations, 29 CFR Part 1926, Standards-Excavation, Occupational Safety and Health Administration (OSHA)
- C. Storm Water Management Handbook for Construction Activities prepared by City of Houston, Harris County and Harris County Flood Control District.

**1.04 DEFINITIONS**

- A. Ground water control system: system used to dewater and depressurize water-bearing soil layers.
  - 1. Dewatering: lowering the water table and intercepting seepage that would otherwise emerge from slopes or bottoms of excavations, or into tunnels and shafts; and disposing of removed water. Intent of dewatering is to increase stability of tunnel excavations and excavated slopes, prevent dislocation of material from slopes or bottoms of excavations, reduce lateral loads on sheeting and bracing, improve excavating and hauling characteristics of excavated material, prevent failure or heaving of bottom of excavations, and to provide suitable conditions for placement of backfill materials and construction of structures and other installations.
  - 2. Depressurization: includes reduction in piezometric pressure within strata not controlled by dewatering alone, necessary to prevent failure or heaving of excavation bottom or instability of tunnel excavations.
- B. Excavation drainage: includes keeping excavations free of surface and seepage water.
- C. Surface drainage: includes use of temporary drainage ditches and dikes and installation of temporary culverts and sump pumps with discharge lines necessary to protect Work from any source of surface water.
- D. Monitoring facilities for ground water control system: includes piezometers, monitoring wells and flow meters for observing and recording flow rates.

**1.05 PERFORMANCE REQUIREMENTS**

- A. Conduct subsurface investigations to identify groundwater conditions and to

provide parameters for design, installation, and operation of groundwater control systems. Submit proposed method and spacing of readings for review prior to obtaining water level readings.

- B. Design ground water control system, compatible with requirements of Federal Regulations 29 CFR Part 1926 and Section 02260 - Trench Safety Systems, to produce following results:
  - 1. Effectively reduce hydrostatic pressure affecting:
    - a. Excavations
    - b. Tunnel excavation, face stability or seepage into tunnels
  - 2. Develop substantially dry and stable subgrade for subsequent construction operations
  - 3. Preclude damage to adjacent properties, buildings, structures, utilities, installed facilities and other work
  - 4. Prevent loss of fines, seepage, boils, quick condition, or softening of foundation strata
  - 5. Maintain stability of sides and bottom of excavations
- C. Provide ground water control systems that include single-stage or multiple-stage well point systems, eductor and ejector-type systems, deep wells, or combinations of these equipment types.
- D. Provide drainage of seepage water and surface water, as well as water from other sources entering excavation. Excavation drainage may include placement of drainage materials, crushed stone and filter fabric, together with sump pumping.
- E. Provide ditches, berms, pumps and other methods necessary to divert and drain surface water from excavation and other work areas.
- F. Locate ground water control and drainage systems so as not to interfere with utilities, construction operations, adjacent properties, or adjacent water wells.
- G. Assume sole responsibility for ground water control systems and for any loss or damage resulting from partial or complete failure of protective measures and settlement or resultant damage caused by ground water control operations. Modify ground water control systems or operations if they cause or threaten to cause damage to new construction, existing site improvements, adjacent property, adjacent water wells, or potentially contaminated areas. Repair damage caused by ground water control systems or resulting from

failure of system to protect property as required.

- H. Install an adequate number of piezometers installed at proper locations and depths, necessary to provide meaningful observations of conditions affecting excavation, adjacent structures and water wells.
- I. Install environmental monitoring wells at proper locations and depths necessary to provide adequate observations of hydrostatic conditions and possible contaminant transport from contamination sources into work area or ground water control system.

**1.06 SUBMITTALS**

- A. Conform to requirements of Section 01330 - Submittals Procedures.
- B. Submit Ground Water and Surface Water Control Plan for review by Project Manager prior to start of excavation work. Include the following:
  - 1. Results of subsurface investigations and description of extent and characteristics of water bearing layers subject to ground water control
  - 2. Names of equipment Suppliers and installation Subcontractors
  - 3. Description of proposed ground water control systems indicating arrangement, location, depth and capacities of system components, installation details and criteria and operation and maintenance procedures
  - 4. Description of proposed monitoring facilities indicating depths and locations of piezometers and monitoring wells, monitoring installation details and criteria, type of equipment and instrumentation with pertinent data and characteristics
  - 5. Description of proposed filters including types, sizes, capacities and manufacturer's application recommendations
  - 6. Design calculations demonstrating adequacy of proposed systems for intended applications. Define potential area of influence of ground water control operation near contaminated areas.
  - 7. Operating requirements, including piezometric control elevations for dewatering and depressurization
  - 8. Excavation drainage methods including typical drainage layers, sump pump application and other means

9. Surface water control and drainage installations
  10. Proposed methods and locations for disposing of removed water
- C. Submit following records upon completion of initial installation:
1. Installation and development reports for well points, eductors, and deep wells
  2. Installation reports and baseline readings for piezometers and monitoring wells
  3. Baseline analytical test data of water from monitoring wells
  4. Initial flow rates
- D. Submit the following records weekly during control of ground and surface water operations:
1. Records of flow rates and piezometric elevations obtained during monitoring of dewatering and depressurization. Refer to Paragraph 3.02, Requirements for Eductor, Well Points, or Deep Wells.
  2. Maintenance records for ground water control installations, piezometers and monitoring wells

## 1.07 ENVIRONMENTAL REQUIREMENTS

- A. Comply with requirements of agencies having jurisdiction.
- B. Comply with Texas Commission on Environmental Quality regulations and Texas Water Well Drillers Association for development, drilling, and abandonment of wells used in dewatering system.
- C. Obtain necessary permits from agencies with jurisdiction over use of groundwater and matters affecting well installation, water discharge, and use of existing storm drains and natural water sources. Since review and permitting process may be lengthy, take early action to obtain required approvals.
- D. Monitor ground water discharge for contamination while performing pumping in vicinity of potentially contaminated sites.

## PART 2 PRODUCTS

### 2.01 EQUIPMENT AND MATERIALS

- A. Select equipment and materials necessary to achieve desired results for dewatering. Selected equipment and materials are subject to review by Project Manager through submittals required in Paragraph 1.06, Submittals.
- B. Use experienced contractors, regularly engaged in ground water control system design, installation, and operation, to furnish and install and operate educators, well points, or deep wells, when needed
- C. Maintain equipment in good repair and operating condition.
- D. Keep sufficient standby equipment and materials available to ensure continuous operation, where required.
- E. Portable Sediment Tank System: Standard 55-gallon steel or plastic drums, free of hazardous material contamination.
  - 1. Shop or field fabricate tanks in series with main inlet pipe, inter-tank pipes and discharge pipes, using quantities sufficient to collect sediments from discharge water.

### **PART 3 EXECUTION**

#### **3.01 GROUND WATER CONTROL**

- A. Perform necessary subsurface investigation to identify water bearing layers, piezometric pressures and soil parameters for design and installation of ground water control systems. Perform pump tests, if necessary to determine draw down characteristics. Present results in the Ground Water and Surface Water Control Plan. submittal
- B. Provide labor, material, equipment, techniques and methods to lower, control and handle ground water in manner compatible with construction methods and site conditions. Monitor effectiveness of installed system and its effect on adjacent property.
- C. Install, operate, and maintain ground water control systems in accordance with the Ground Water and Surface Water Control Plan. Notify Project Manager in writing of changes made to accommodate field conditions and changes to Work. Provide revised drawings and calculations with notification.
- D. Provide continuous system operation, including nights, weekends, and holidays. Arrange appropriate backup if electrical power is primary energy source for dewatering system.
- E. Monitor operations to verify systems lower ground water piezometric levels at rate required to maintain dry excavation resulting in stable subgrade for



subsequent construction operations.

- F. Depressurize zones where hydrostatic pressures in confined water bearing layers exist below excavations to eliminate risk of uplift or other instability of excavation or installed works. Define allowable piezometric elevations in the Ground Water and Surface Water Control Plan.
- G. Removal of ground water control installations.
  - 1. Remove pumping system components and piping when ground water control is no longer required.
  - 2. Remove piezometers, including piezometers installed during design phase investigations and left for Contractor's use, upon completion of testing, as required in accordance with Part 3 of applicable specification.
  - 3. Remove monitoring wells when directed by Project Manager.
  - 4. Grout abandoned well and piezometer holes. Fill piping that is not removed with cement-bentonite grout or cement-sand grout.
- H. During backfilling, maintain water level a minimum of 5 feet below prevailing level of backfill. Do not allow the water level to cause uplift pressures in excess of 80 percent of downward pressure produced by weight of structure or backfill in place. Do not allow water levels to rise into cement-stabilized sand until at least 48 hour after placement.
- I. Provide uniform pipe diameter for each pipe drain run constructed for dewatering. Remove pipe drains when no longer required. If pipe removal is impractical, grout connections at 50-foot intervals and fill pipe with cement-bentonite grout or cement-sand grout after removal from service.
- J. The extent of ground water control for structures with permanent perforated underground drainage systems may be reduced, for units designed to withstand hydrostatic uplift pressure. Provide a means to drain affected portions of underground systems, including standby equipment. Maintain drainage systems during construction operations.
- K. Remove systems upon completion of construction or when dewatering and control of surface or ground water is no longer required.
- L. Compact backfill to not less than 95 percent of maximum dry density in accordance with ASTM D 698.
- M. Foundation Slab: Maintain saturation line at least 3 feet below lowest elevations where concrete is to be placed. Drain foundations in areas where

concrete is to be placed before placing reinforcing steel. Keep free from water for 3 days after concrete is placed.

**3.02 REQUIREMENTS FOR EDUCTOR, WELL POINTS, OR DEEP WELLS**

- A. For aboveground piping in ground water control system, include a 12-inch minimum length of clear, transparent piping between each eductor well or well point and discharge header to allow visual monitoring of discharge from each installation.
- B. Install sufficient piezometers or monitoring wells to show that trench or shaft excavations in water bearing materials are pre-drained prior to excavation. Provide separate piezometers for monitoring of dewatering and for monitoring of depressurization. Install piezometers and monitoring wells for tunneling as appropriate for selected method of work.
- C. Install piezometers or monitoring wells at least one week in advance of the start of associated excavation.
- D. Dewatering may be omitted for portions of under drains or other excavations, where auger borings and piezometers or monitoring wells show that soil is pre-drained by existing systems and that ground water control plan criteria are satisfied.
- E. Replace installations that produce noticeable amounts of sediments after development.
- F. Provide additional ground water control installations, or change method of control if, ground water control plan does not provide satisfactory results based on performance criteria defined by plan and by specifications. Submit revised plan according to Paragraph 1.06B.

**3.03 SEDIMENT TRAPS**

- A. Install sediment tank as shown on approved plan.
- B. Inspect daily and clean out tank when one-third of sediment tank is filled with sediment.

**3.04 SEDIMENT SUMP PIT**

- A. Install sediment sump pits as shown on approved plan.
- B. Construct standpipe by perforating 12 inch to 24-inch diameter corrugated metal or PVC pipe.

- C. Extend standpipe 12 inches to 18 inches above lip of pit.
- D. Convey discharge of water pumped from standpipe to sediment trapping device.
- E. Fill sites of sump pits, compact to density of surrounding soil and stabilize surface when construction is complete.

3.05 EXCAVATION DRAINAGE

- A. Use excavation drainage methods if well-drained conditions can be achieved. Excavation drainage may consist of layers of crushed stone and filter fabric, and sump pumping, in combination with sufficient ground water control wells to maintain stable excavation and backfill conditions.

3.06 MAINTENANCE AND OBSERVATION

- A. Conduct daily maintenance and observation of piezometers or monitoring wells while ground water control installations or excavation drainage is operating at the site, or water is seeping into tunnels, and maintain systems in good operating condition.
- B. Replace damaged and destroyed piezometers or monitoring wells with new piezometers or wells as necessary to meet observation schedules.
- C. Cut off piezometers or monitoring wells in excavation areas where piping is exposed, only as necessary to perform observation as excavation proceeds. Continue to maintain and make specified observations
- D. Remove and grout piezometers inside or outside of excavation area when ground water control operations are complete. Remove and grout monitoring wells when directed by Project Manager.

3.07 MONITORING AND RECORDING

- A. Monitor and record average flow rate of operation for each deep well, or for each wellpoint or eductor header used in dewatering system. Also, monitor and record water level and ground water recovery. Record observations daily until steady conditions are achieved and twice weekly thereafter.
- B. Observe and record elevation of water level daily as long as ground water control system is in operation, and weekly thereafter until Work is completed or piezometers or wells are removed, except when Project Manager determines more frequent monitoring and recording are required. Comply with Project Manager's direction for increased monitoring and recording and

take measures necessary to ensure effective dewatering for intended purpose.

**3.08 SURFACE WATER CONTROL**

- A. Intercept surface water and divert it away from excavations through use of dikes, ditches, curb walls, pipes, sumps or other approved means. Requirement includes temporary works required to protect adjoining properties from surface drainage caused by construction operations.
- B. Divert surface water and seepage water into sumps and pump it into drainage channels or storm drains, when approved by agencies having jurisdiction. Provide settling basins when required by agencies.

**END OF SECTION**

Section 01580

PROJECT IDENTIFICATION SIGNS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project identification sign description.
- B. Project sign installation.
- C. Maintenance and removal of Project sign.

1.02 SYSTEM DESCRIPTION

- A. Sign Construction: Construct signs of new materials in accordance with Standard Detail provided at the Pre-construction Conference.
- B. Appearance: Maintain signs to present a clean and neat look throughout contract duration.
- C. Sign Manufacturer: Experienced professional sign company.
- D. Sign Placement: At locations shown in Drawings unless otherwise specified by Project Manager at pre-construction meeting.
  - 1. Provide one sign at each end of a linear Project involving paving, overlay, sewer line, storm drainage, or water main construction located in rights-of-ways.
  - 2. Provide one sign for site or building construction Contracts
  - 3. Provide one sign at each site for Contracts with multiple sites.
  - 4. Sign Relocation: As work progresses, relocate signs if directed by Project Manager in writing. Include cost for one relocation of post-mounted signs in Contract Price. Subsequent relocations, if directed by Project Manager in writing, will be subject to Change Order.
- E. Skid-mounted signs: Use for projects with noncontiguous locations where work progresses from one location to another. Design skid structure to withstand a 60 mile-per-hour wind load to the face or back of sign using stakes, straps, or ballast. Contractor shall be responsible for security of signs at each site.

**PROJECT IDENTIFICATION SIGNS****STANDARD GENERAL REQUIREMENT**

## 1.03 SUBMITTALS

- A. Submit Shop Drawings under provisions of Section 01330 - Submittal procedures.
- B. Show content, layout, lettering style, lettering size, and colors. Make sign and lettering to scale, clearly indicating condensed lettering, if used.

## PART 2 PRODUCTS

## 2.01 SIGN MATERIALS

- A. Structure and Framing: Use new sign materials.
  - 1. Sign Posts: 4-inch by 4-inch pressure treated wood posts, 9 feet long for skid mounting and 12 feet long minimum for in-ground mounting.
  - 2. Skid Bracing: 2-inch by 4-inch wood framing material.
  - 3. Skid Members: 2-inch by 6-inch wood framing material.
  - 4. Fasteners:
    - a. Galvanized steel.
    - b. Attach sign to posts with 1/2-inch by 5-1/2 inch button head carriage bolts and secure with nuts and flat head washers.
    - c. Cover button heads with white reflective film or paint to match sign background.
    - d. Use metal brackets and braces and 3/4-inch wood screws to attach sign header.
- B. Sign and Sign Header: 3/4-inch thick marine plywood. Use 4-foot by 8-foot sheet for the sign and a single piece for the header to minimize joints. Do not piece wood sheets to fabricate sign face.
- C. Paint and Primers: White industrial grade, fast-drying, oil-based paint with gloss finish for structural and framing members, sign, and sign header material surfaces. Paint all sign surfaces prior to adding adhesive applications.
- D. Colors:
  - 1. Sign Background: Reflective white 3M Scotchlite Engineer Grade, Pressure Sensitive Sheeting (White), or approved equal.

CITY OF HOUSTON

STANDARD GENERAL REQUIREMENT

PROJECT IDENTIFICATION SIGNS

2. Border: For red border around area, which designates project name and project amount, use reflective red 3M Scotchlite Engineer Grade, Pressure Sensitive Sheeting (Red), or approved equal.
3. Sign Film: 3M Scotchcal Pressure Sensitive Films, or approved equal for legends, symbols, lettering, and artwork. Match colors to 3M Scotchcal Pressure Sensitive Films.
  - a. Lettering Below Seal: Black
  - b. Lettering Above Project Name: Vivid Blue
  - c. Lettering on Blue Background: White
  - d. Background Behind Project Name: Vivid Blue

E. City Seal: Project Manager will provide City seals to Contractor, as needed.

2.02 SIGN LAYOUT

A. Lettering:

1. Style, Size, and Spacing: Helvetica Regular lettering.
2. Condensed Style: Text may be condensed if needed to maintain sign composition.

B. Composition:

1. Lines with Standard Text
  - a. Top line shall read "BUILDING TOGETHER FOR THE FUTURE".
  - b. Use lower left below City Seal to list names and titles for Mayor, Controller and Council Members. Place as shown on Drawings with indicated size and spacing.
  - c. Center telephone number of the Customer Response Center, "311", near the bottom of the area with the blue background.
2. Lines with Variable Text. Use blue background space for Project name and dollar amount.
  - a. Project Manager will provide Project name and dollar amount of Project for preparation of sign. Center name on one or two lines, and dollar amount immediately below Project name, in area with blue background. Use condensed lettering if necessary.



**PROJECT IDENTIFICATION SIGNS**      **STANDARD GENERAL REQUIREMENT**

## 2.03      LAYOUT AND COMPOSITION FOR HEADER

- A.      City of Houston Seal:
1.      A space of approximately 24 inches in diameter is provided for the City seal, the top 6 inches of which extends above the sign on the sign header.
  2.      Construct sign header of same material as sign face. Cut material to match curve of the City seal.
  3.      Project Manager will provide the seal to be affixed to the sign by sign maker.

## PART 3    EXECUTION

## 3.01      INSTALLATION

- A.      Install Project identification signs within seven days after Date of Commencement of the Work.
- B.      Erect signs at locations shown in Drawings unless otherwise designated by Project Manager at pre-construction meeting. Position sign so it is fully visible and readable to general public.
- C.      Erect sign level and plumb.
- D.      If mounted on posts, sink posts 3 to 4 feet below grade and stabilize posts to minimize lateral motion. Leave a minimum of 8 feet of post above existing grade for mounting of sign.
- E.      Erect sign so that top edge of sign is at a nominal 8 feet above existing grade.

## 3.02      MAINTENANCE AND REMOVAL

- A.      Keep signs and supports clean. Repair deterioration and damage.
- B.      Remove signs, framing, supports, and foundations to a depth of at least 2 feet upon completion of Project. Restore area to a condition equal to or better than before construction.

CITY OF HOUSTON  
**STANDARD GENERAL REQUIREMENT PROJECT IDENTIFICATION SIGNS**

PROJECT No.: (FILE NO: )	CONTRACT No.:	REVIEWED BY:
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<b>*INSTRUCTIONS TO SIGN MAKER</b> (LIST COMPANY NAME):	
<b>QTY.</b>	<b>ACTION ITEMS:</b>
	Make new sign(s)
	Follow City standards attached
	Provide submittal (drawing) to the City for project sign showing content, layout, lettering style, lettering size, and colors
<b>VARIABLE TEXT</b>	
Line 1	Project Name:
Line 2	Project Amount (rounded to nearest \$1000):
<b>ATTACHMENTS INCLUDED</b>	
<b>QTY.</b>	<b>SEALS / LOGOS</b>
	City of Houston - 24" diameter
	<b>STANDARDS</b>
	Standard Specification Section 01580 - Project Identification Signs
	Standard Detail 01580-03 Construction Sign

*(Instructions on reverse.)*

**PROJECT IDENTIFICATION SIGNS                      STANDARD GENERAL REQUIREMENT****INSTRUCTIONS**

Contractor produces this form. Contractor shall insert the information and provide the form to the sign maker with Contractor's purchase order.

List PROJECT No., (FILE No.), CONTRACT No., and name of City's Project Manager REVIEWED BY.

**INSTRUCTIONS TO SIGN MAKER:**

- Give COMPANY NAME of sign maker.
- Indicate QUANTITY of new signs to be made.
- Direction for sign maker to follow City Standards in making signs.
- Require submittals from sign maker, who provides Shop Drawing of Project sign showing content, layout, lettering style, lettering size, and colors.

**VARIABLE TEXT:**

- Give PROJECT NAME. Write it out in all caps and suggest line break. Lines are required.
- Give Project amount to be listed on sign. Round off to nearest \$1000.

**ATTACHMENTS INCLUDED:**

- **Seals**

City provides the quantity of City seals required one for each Project sign.

- **Standards**

Contractor provides set of Standards to sign maker, including (Specification Section 01580 - Project Identification Signs, and Standard Detail No. 01580-03 - Construction Sign.

Section 01581

EXCAVATION IN PUBLIC WAY PERMIT SIGNS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project sign installation.
- B. Maintenance and removal of Project sign.

1.02 SYSTEM DESCRIPTION

- A. Sign Construction: Construct signs of new materials.
- B. Appearance: Maintain signs to present a clean and neat look throughout the Contract duration.
- C. Sign Placement: Place signs at each street entrance to street cut excavation.

1.03 SUBMITTALS

- A. Submit Shop Drawings under provisions of Section 01330 - Submittal Procedures.
- B. Show content, layout, lettering style, lettering size and colors. Make sign and lettering to scale, clearly indicating condensed lettering, if used.

PART 2 PRODUCTS

2.01 SIGN LAYOUT

- A. Conform to Texas Manual on Uniform Traffic Control Devices. Minimum size: 36 inches by 36 inches.
- B. Lettering: Uppercase Helvetica Regular lettering.
- C. Composition: Include on sign copy of street cut permit, title "City of Houston", contracting department's name, address, and emergency telephone number and Contractor's name. Project Manager will provide department name, address, and emergency telephone number for preparation of sign.

**PART 3 EXECUTION**

**3.01 INSTALLATION**

- A. Install Project signs before commencement of pavement excavation in Public Way.
- B. Position sign so it is fully visible and readable to general public.
- C. Erect sign level and plumb.
- D. Erect sign so that top edge of sign is at a nominal 8 feet above existing grade.

**3.02 MAINTENANCE AND REMOVAL**

- A. Keep signs and supports clean. Repair deterioration and damage.
- B. Remove signs, framing, supports and foundations to depth of at least 2 feet upon completion of the Work. Restore area to condition equal to or better than before construction.

**END OF SECTION**

Section 01610

**BASIC PRODUCT REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Requirements for transportation, delivery, handling, and storage of Products.

**1.02 PRODUCTS**

- A. Products: Defined in Document 00700 – General Conditions. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components designated for reuse.
- B. For material and equipment specifically indicated or specified to be reused in the work:
  - 1. Use special care in removal, handling, storage and reinstallation, to assure proper function in completed work.
  - 2. Arrange for transportation, storage and handling of products which require off-site storage, restoration or renovation. Include cost in unit price for related items.
- C. When contract documents require that installation of work comply with manufacturer's printed Instructions, obtain and distribute copies of such instructions to parties involved in installation, including two copies to Project Manager. Maintain one set of complete instructions at job site during installation until completion.
- D. Provide Products from the fewest number of manufacturers as practical, in order to simplify spare parts inventory and to allow for maximum interchangeability of components. For multiple components of the same size, type or application, use the same make and model of component throughout the Work.

**1.03 TRANSPORTATION**

- A. Make arrangements for transportation, delivery, and handling of Products required for timely completion of the Work.
- B. Transport and handle Products in accordance with manufacturer's instructions.
- C. Consign and address shipping documents to proper party giving name of the Project and its complete street address. Shipments shall be delivered to

Contractor.

1.04 DELIVERY

- A. Arrange deliveries of Products to accommodate short-term site completion schedules and in ample time to facilitate inspection prior to Installation. Avoid deliveries that cause lengthy storage or overburden of limit storage space.
- B. Coordinate deliveries to avoid conflict with the Work and conditions at the site and to accommodate the following:
  - 1. Work of other contractors or the City.
  - 2. Limitations of storage space.
  - 3. Availability of equipment and personnel for handling Products.
  - 4. The City's use of premises.
- C. Have Products delivered to the site in manufacturer's original, unopened, labeled containers.
- D. Immediately upon delivery, inspect shipment to assure:
  - 1. Product complies with requirements of the Contract.
  - 2. Quantities are correct.
  - 3. Containers and packages are intact; labels are legible.
  - 4. Products are properly protected and undamaged.

1.05 PRODUCT HANDLING

- A. Coordinate off-loading of Products delivered to the site. If necessary during construction, move and relocate stored Products at no additional cost to the City.
- B. Provide equipment and personnel necessary to handle Products, including those provided by the City, by methods to prevent damage to Products or packaging.
- C. Provide additional protection during handling as necessary to prevent breaking, scraping, marring, or otherwise damaging Products or surrounding areas.
- D. Handle Products by methods to prevent over-bending or overstressing.



- E. Lift heavy components only at designated lifting points.
- F. Handle Products in accordance with manufacturer's recommendations.
- G. Do not drop, roll, or skid Products off delivery vehicles. Hand-carry or use Suitable materials handling equipment.

1.06 STORAGEE OF PRODUCTS

- A. Store and protect Products in accordance with manufacturer's recommendations and requirements of these Specifications.
- B. Make necessary provisions for safe storage of Products. Place Products so as to prevent damage to any part of the Work or existing facilities and to maintain free access at all times to all parts of the Work and to utility service company installations in the vicinity of the Work. Keep Products neatly and compactly stored in locations that will cause minimum inconvenience to other contractors, public travel, adjoining owners, tenants, and occupants. Arrange storage in a manner so as to provide easy access for inspection.
- C. Restrict storage to areas available on the site for storage of Products as shown on Drawings or approved by Project Manager.
- D. Provide off-site storage and protection when on-site storage is not adequate. Provide addresses of, and access to, off-site storage locations for inspection by Project Manager.
- E. Do not use lawns, grass plots, or other private property for storage purposes without written permission of owner or other person in possession or control of premises.
- F. Protect stored Products against loss or damage.
- G. Store in manufacturers' unopened containers.
- H. Neatly, safely, and compactly stack Products delivered and stored along the line of the Work to avoid inconvenience and damage to property owners and general public, and maintain at least 3 feet clearance around fire hydrants. Keep public, private driveways and street crossings open.
- I. Repair or replace damaged lawns, sidewalks, streets or other improvements to satisfaction of Project Manager. Total length that Products may be distributed along route of construction at one time is 1000 linear feet, unless otherwise approved in writing by Project Manager.

PART 2 P R O D U C T S - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

Section 01630

PRODUCT SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Options for making Product or process selections.
- B. Procedures for proposing equivalent Products or processes, including pre-approved, pre-qualified, and approved Products or processes.

1.02 DEFINITIONS

- A. Product: As defined in Document 00700 – General Conditions. Product does not include machinery and equipment used for production, fabrication, conveying, and erection of the Work. Products may also include existing materials or components designated for reuse.
- B. Process: Any proprietary system or method for installing system components resulting in an integral, functioning part of the Work. For this Section, the word Products includes Processes.

1.03 SELECTION OPTIONS

- A. Pre-approved Products: Construction products of certain manufacturers or Suppliers designated in Specifications as "pre-approved." The City maintains a list of pre-approved products. Pre-approved Products for this Project are designated as pre-approved in Specifications. Products of other manufacturers or suppliers are not acceptable for this Project and will not be considered under the submittal process for approving alternate products.
- B. Pre-qualified Products: Construction products of certain manufacturers or Suppliers designated in Specifications as "pre-qualified." Pre-qualified Products for this Project are designated as pre-qualified in Specifications. Products of other manufacturers or suppliers are not acceptable for this Project and will not be considered under the submittal process for approving alternate products.
- C. Approved Products: Construction products of certain manufacturers or Suppliers designated in Specifications followed by words "or approved equal." Approval of alternate products not listed in Specifications may be obtained through provisions for product options and substitutions in Document 00700 - General Conditions, and by following submittal procedures specified in

**PRODUCT SUBSTITUTION  
PROCEDURES**

**CITY OF HOUSTON  
STANDARD GENERAL REQUIREMENT**

Section 01330- Submittal Procedures. The procedure for approval of alternate products is not applicable to pre-approved or pre-qualified products.

- D. **Product Compatibility:** To the maximum extent possible, provide Products that are of the same type or function from a single manufacturer, make, or source. Where more than one choice is available, select Product that is compatible with other Products already selected, specified, or in use by the City.

**1.04 CONTRACTOR'S RESPONSIBILITY**

- A. Responsibility related to Product options and substitutions is defined in Document 00700 - General Conditions.
- B. Furnish information Project Manager deems necessary to judge equivalency of alternate Product.
- C. Pay for laboratory testing, as well as any other review or examination costs, needed to establish equivalency between products in order to obtain information upon which Project Manager can base a decision.
- D. If Project Manager determines alternate product is not equal to that named in Specifications, Furnish one of the specified Products.

**1.05 CITY REVIEW**

- A. Use alternate Products only when approved in writing by Project Manager. Project Manager's determination regarding acceptance of proposed alternate Product is final.
- B. Alternate Products shall be accepted if Products are judged by Project Manager to be equivalent to specified Product or to offer substantial benefit to the City.
- C. The City retains the right to accept any Product deemed advantageous to the City, and similarly, to reject any product deemed not beneficial to City.

**1.06 SUBSTITUTION PROCEDURE**

- A. Collect and assemble technical information applicable to the proposed Product to aid in determining equivalency as related to the approved Product specified.
- B. Submit a written request for a construction Product to be considered as an alternate Product.

- C. Submit Product information after the effective date of the Contract and within the time period allowed for substitution submittals given in Document 00700 - General Conditions. After the submittal period has expired, requests for alternate Products shall be considered only when specified Product becomes unavailable because of conditions beyond Contractor's control.
- D. Submit five copies of each request for alternate Product approval. Include the following information:
1. Complete data substantiating compliance of proposed substitution with the Contract.
  2. For Products:
    - a. Product identification, including manufacturer's name and address.
    - b. Manufacturer's literature with Product description, performance and test data, and reference standards.
    - c. Samples, as applicable.
    - d. Name and address of similar projects on which Product was used and date of installation. Include names of Owner, design consultant, and installing contractor.
  3. For construction methods:
    - a. Detailed description of proposed method.
    - b. Drawings illustrating methods.
  4. Itemized comparison of proposed substitution with Product or method specified.
  5. Data relating to changes in Construction Schedule.
  6. Relation to separate contracts, if any.
  7. Accurate cost data on proposed substitution in comparison with Product or method specified.
  8. Other information requested by Project Manager.
- E. Approved alternate Products will be subject to the same review process as the specified Product would have been for Shop Drawings, Product Data, and Samples.

PART 2 PRODUCTS - Not Used

**PRODUCT SUBSTITUTION  
PROCEDURES**

**CITY OF HOUSTON  
STANDARD GENERAL REQUIREMENT**

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PART 3 EXECUTION - Not Used

END OF SECTION

Section 01725

FIELD SURVEYING

PART 1 GENERAL

1.01 QUALITY CONTROL

- A. Conform to State of Texas laws for surveys requiring licensed surveyors. Employ a surveyor acceptable to Project Manager if required by the Contract.

1.02 MEASUREMENT AND PAYMENT

A. UNIT PRICES

- 1. No separate payment will be made for field surveying. Include cost in unit price for related items.

1.03 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit name, address, and telephone number of Surveyor to Project Manager before starting survey work.
- C. Submit documentation verifying accuracy of survey work on request.
- D. Submit certificate signed by Surveyor, that elevations and locations of the Work are in conformance with the Contract.

1.04 PROJECT RECORD DOCUMENTS

- A. Maintain a complete and accurate log of control and survey work as it progresses.
- B. Prepare a certified survey setting forth dimensions, locations, angles, and elevations of construction and site work upon completion of foundation walls and major site improvements.
- C. Submit record documents under provisions of Section 01785 - Project Record Documents.

1.05 EXAMINATION

- A. Verify locations of survey control points prior to starting the Work.



- B. Notify Project Manager immediately if any discrepancies are discovered.

#### 1.06 SURVEY REFERENCE POINTS

- A. The City will establish survey control datum as provided in Document 00700 - General Conditions and as indicated on Drawings. Inform Project Manager in Advance of time horizontal and vertical control points will be established so

verification deemed necessary by Project Manager may be done with minimum inconvenience to the City or Contractor.

- B. Locate and protect survey control points prior to starting site work; preserve permanent reference points during construction.
- C. Notify Project Manager a minimum of 48 hours before relocation of reference points is needed due to changes in grades or other reasons.
- D. Promptly report loss or destruction of reference points to Project Manager.
- E. Reimburse the City for cost of reestablishment of permanent reference points disturbed by construction operations.

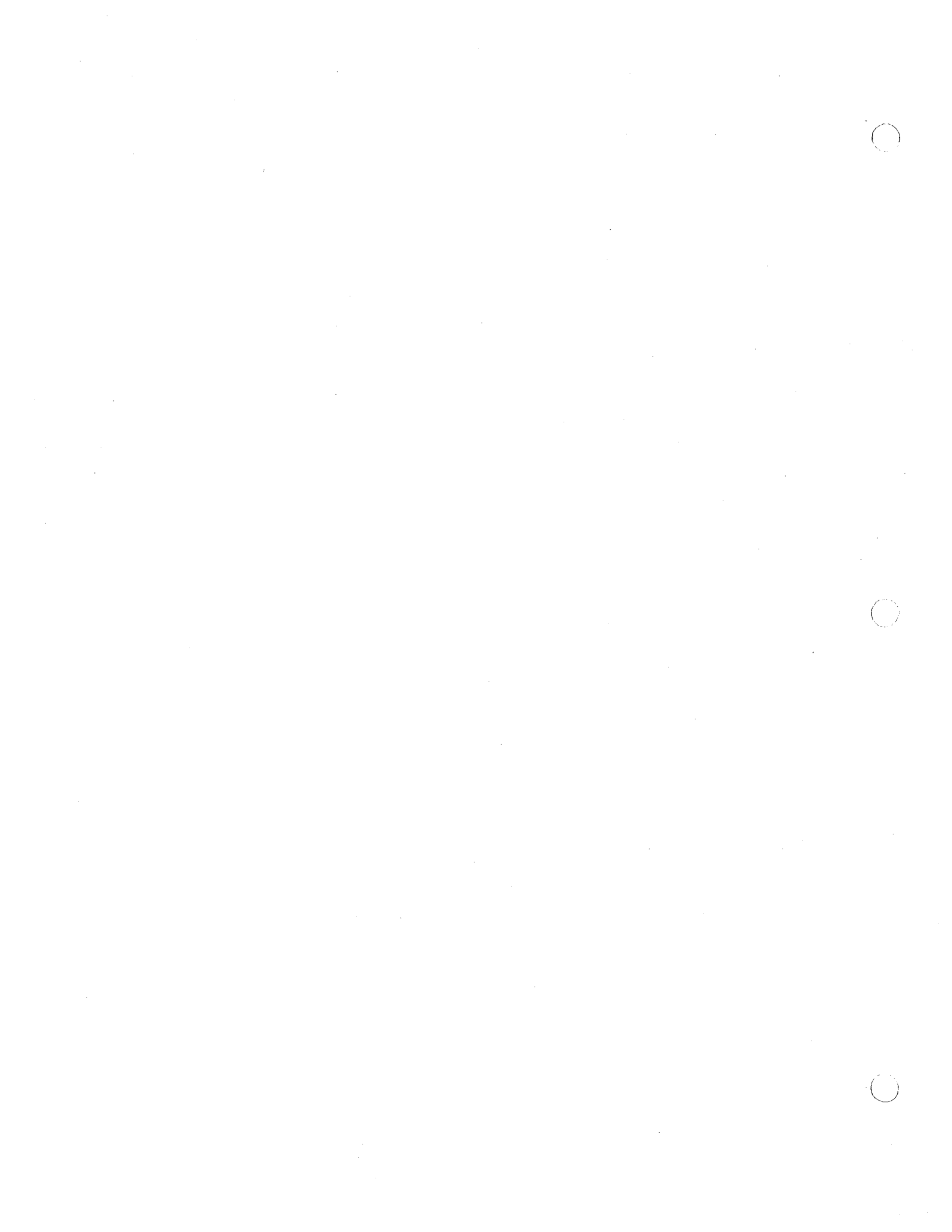
#### 1.07 SURVEY REQUIREMENTS

- A. Utilize recognized engineering survey practices.
- B. Establish a minimum of two permanent benchmarks on site, referenced to established control points. Record horizontal and vertical location data on Project record documents.
- C. Establish elevations, lines and levels to provide quantities required for measurement and payment and for appropriate controls for the Work. Locate and lay out the following with appropriate instruments:
  1. Site improvements including grading, fill and topsoil placement, utilities, and footings and slabs
  2. Grid or axis for structures
  3. Building foundation, column locations, and ground floor elevations
- D. Periodically verify layouts.

#### PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION



Section 01731

**CUTTING AND PATCHING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Cutting, patching and fitting of the Work or work under construction. Coordinating Installation or connection of the Work to existing facilities, or uncovering work for access, inspection or testing and related submittals.

**1.02 MEASUREMENT AND PAYMENT**

**A. UNIT PRICES**

- 1. No separate payment will be made for cutting and patching. Include cost in unit price for related items.

**1.03 CUTTING AND PATCHING**

- A. Perform activities to avoid interference with facility operations and work of others in accordance with Document 00700 - General Conditions of Contract.
- B. Execute cutting and patching, including excavation, backfill and fitting to:
  - 1. Remove and replace defective work or work not conforming to Drawings and Specifications;
  - 2. Take samples of installed work as required for testing;
  - 3. Remove construction required to provide for specified alterations or additions to existing work;
  - 4. Uncover work to allow inspection or reinspection by Project Manager or regulatory agencies having jurisdiction;
  - 5. Connect uninstalled work to completed work in proper sequence;
  - 6. Remove or relocate existing utilities and pipes that obstruct work;
  - 7. Make connections or alterations to existing or new facilities;
  - 8. Provide openings, channels, chases and flues and cut, patch, and finish; if required; or

9. Provide protection for other portions of the Work.
- C. Restore existing work to a condition equal to or better than that which existed Prior to cutting and patching, and to standards required by Specifications.
- D. Support, anchor, attach, match, trim and seal materials to work of others. Unless otherwise specified, Furnish and Install sleeves, inserts, and hangers required for execution of the Work.
- E. Provide shoring, bracing and support necessary to maintain structural integrity and to protect adjacent work from damage during cutting and patching. Request written approval from Project Manager, before cutting structural members such as beams, anchors, lintels, or other supports. Follow approved submittals, as applicable.
- F. Match new materials to existing materials by bonding, lapping, mechanically tying, anchoring or other effective means in order to prevent cracks and to minimize evidence of patching. Conceal effects of demolition and patching by blending new construction to existing surfaces. Avoid obvious breaks, joints or changes of surface appearance unless shown on Drawings or authorized by Project Manager.

1.04 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit a written request to Project Manager for consent to proceed, before conducting cutting operations that might affect structural integrity, design function, City operations, or work of another contractor.
- C. Include the following in submittal:
  1. Identification of Project
  2. Description of affected work
  3. Necessity for cutting
  4. Effect on other work and on structural integrity
  5. Describe the proposed work including:
    - a. Scope of cutting and patching
    - b. Contractor, Subcontractor or Supplier who will execute the work
    - c. Proposed Products
    - d. Extent of refinishing
    - e. Schedule of operations

6. Alternatives to cutting and patching
- D. When work conditions or schedules dictate the need for change of materials or methods, submit a written recommendation to Project Manager that includes:
  1. conditions necessitating the change;
  2. recommendations for alternative materials or methods; and
  3. submittals required for proposed substitutions
- E. Notify Project Manager in writing when work will be uncovered for observation. Do not begin cutting or patching operations until authorized by Project Manager.

1.05 CONNECTIONS TO EXISTING FACILITIES

- A. Perform construction operations necessary to complete connections and tie-ins to existing facilities. Keep existing facilities in continuous operation unless otherwise permitted in the Specifications or approved in writing by Project Manager.
- B. Coordinate interruption of service requiring connection to existing facilities with Project Manager. Do not bypass wastewater or sludge to waterways. Provide temporary pumping facilities to handle wastewater if necessary. Use temporary bulkheads to minimize disruption. Provide temporary power and piping to facilitate construction where necessary.
- C. Submit a detailed schedule of proposed connections, including shut-downs and tie-ins. Include proposed time and date as well as anticipated duration of work. Coordinate the connection schedule with the construction schedule.
  1. Submit specific times and dates to Project Manager at least 48 hours in advance of proposed work.
- D. Procedures and Operations:
  1. Operate existing pumps, valves and gates in required sequence under supervision of Project Manager. Do not operate valves, gates or other items of equipment without Project Manager's knowledge.
  2. If possible, test equipment under operating conditions before making final tie-ins to connect equipment to existing facility.
  3. Coordinate work and schedules. Notify Project Manger at least 48 Hours before shutdowns or bypasses are required.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

END OF SECTION



Section 01732

PROCEDURE FOR WATER VALVE ASSISTANCE

PART 1 G E N E R A L

1.01 SECTION INCLUDES

- A. Operation of valves. City of Houston employees will operate existing valves. Contractor's employees may operate new valves included in the Project prior to acceptance by the City.

1.02 PROCEDURE

- A. Perform activities listed in Exhibit A attached to this Section.

1.03 SUBMITTALS

- A. Submit request for work order planning meetings in accordance with Exhibit A. Include information listed in Step 1 of Exhibit A, attached to this Section.

1.04 CANCELLATION

- A. Contractor, Project Manager, or Public Utilities Division may cancel a scheduled valve assistance appointment at no extra cost or payment to Contractor. Contractor shall notify City's appointed Project Inspector ("Inspector") 24 hours in advance of cancellation. Inspector shall notify Central Operation Service (COS) immediately upon receipt of cancellation notice. Cancellation may be caused by bad weather, preparation work taking longer than anticipated, or unforeseen delays by one or more of the three parties.

PART 2 P R O D U C T S - Not Used

PART 3 E X E C U T I O N - Not Used

END OF SECTION

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**EXHIBIT A**

**PROCEDURE FOR VALVE ASSISTANCE**

The following procedure will be used by Utility Maintenance Branch personnel when completing a service request from individual Contractors, through Inspector, for operation of existing water valves.

**ROUTINE VALVE ASSISTANCE REQUEST (NON-EMERGENCY JOBS):**

- Step 1.** a. When notified by Contractor, Inspector will schedule a work order planning meeting by calling Central Operation Service (COS) at (713) 295-5521 and providing information shown below. The work order planning meeting shall be conducted a minimum of three days after the request; excluding weekends, holidays, inclement weather days, and the day of the call.

Location of Work (Street Intersection)	Project #
Project Description	Contractor (Company Name)
Job Superintendent's Name	Superintendent's Office #/Mobile #/Pager #
Contractor's Emergency Information	Name and Phone #/Mobile #/Pager #
Inspector/Senior Inspector	Name, Phone #/Mobile #/Pager #
Date & Time assistance is requested	

- b. COS will create a work order for each wet connection, cut and plug, etc. that will be designated as a "Code 40" (Private Contractor).
- c. COS will give Inspector the work order number. This work order number must be used as a reference in all communications regarding this request for Valve Assistance.
- d. Valve personnel must have the work order number on their route sheet. When valve personnel arrive at the job site for the Work Order Planning Meeting between Inspector, Contractor, and Utility Maintenance valve personnel, they will verify the street intersection and work order number with the Inspector before beginning Work Order Planning Meeting.
- e. During Work Order Planning Meeting, the work to be performed will be outlined and the actual date work will be performed will be mutually determined by Inspector, Contractor and City's Utility Maintenance Division valve personnel, based upon relevant factors such as preparatory work needed, customer requirements, etc.
- f. Valve personnel will perform work specifically outlined in the work order requested. Also, Utility Maintenance Branch valve personnel will only operate existing water valves. Inspector must contact COS and request a new work order for additional work.

- g. Valve personnel will contact the dispatcher and advise when the job is complete. Valve personnel will list all appropriate information on the Crew Activity Report.
- Step 2.** Should valve personnel not be able to keep an appointment to provide valve assistance, Utility Maintenance Branch will provide notification to appropriate Inspector by phone at least 24 hours prior, with that fact and rescheduling information, if available.
- Step 3.** Inspector will notify COS if valve personnel have not arrived at the site within 30 minutes of scheduled appointment. If Contractor is not ready when valve operator arrives to provide valve assistance, the City shall charge Contractor \$50.00 per hour, starting 15 minutes after the scheduled appointment time, minimum one hour charge.
- Step 4.** Contractor will not be due delay claims or downtime if Utility Maintenance Branch has notified Inspector that they will not be able to provide valve assistance as scheduled.
- Step 5.** Test installed new valves in the presence of Inspector before substantial completion inspection is scheduled. Place new valves in open position on or before the Date of Substantial Completion.
- Step 6.** Project Manager will notify, in writing, Utility Maintenance Branch two months before the warranty expires to report any problems they have with new water lines. Project Manager will notify Contractor about these problems.

**EMERGENCY REQUEST FOR VALVE ASSISTANCE PROCEDURE:**

**Step 1.** When notified by Contractor, Inspector will request emergency Valve Assistance due to a broken line/service, etc. by calling COS at (713) 295-5521 and providing the following information:

Location of Work (Street Intersection)	Project #
Project Description	Superintendent's Office #/Mobile #/Pager #
Contractor (Company Name)	Name and Phone #/Mobile #/Pager #
Job Superintendent's Name	Name, Phone #/Mobile #/Pager #
Contractor's Emergency Information	
Inspector/Senior Inspector	
Date & Time assistance is requested	

**Step 2.** COS will create an emergency work order number and describe the work to be performed.

**Step 3.** COS will give Inspector the emergency work order number. Reference work order number in all communications regarding request for Valve Assistance.

**Step 4.** COS will contact designated valve personnel and assign emergency work order. Dispatcher will follow standard COS procedures if this situation occurs after normal working hours.

**Step 5.** Valve personnel must have the emergency work order number on the route sheet. When valve personnel arrive at the job site for emergency work, they will verify the street intersection and emergency work order number with Inspector prior to beginning work requested for operating existing water valves. Valve personnel will coordinate verification of street intersection and work order number with Inspector prior to performing work.



Section 01740

SITE RESTORATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Restoration of site affected by the Work in public or private property, including pavement, esplanades, sidewalks, driveways, fences, lawns and landscaping.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices.

1. Payment for restoration of Project site disturbed by utility construction operations is on a linear foot basis. Measurement will be as provided for corresponding utility in each Specification section. No separate payment made for branch pipe, valves and, other associated work for utilities. Measurement for restoration with multiple utilities within the same right-of-way will be on a linear foot basis for only one utility.
2. No separate payment made for facility or roadway projects. Include cost in the surface improvements associated with the facility or roadway construction.
3. Payment includes required site restoration within the right-of-way or easement regardless of size or type of pipe, method of construction, paved or unpaved areas or thickness and width of pavement.
4. No separate payment made for site restoration for service connections under this Section. Include cost in appropriate utility section.
5. Refer to Section 01270 – Measurement and Payment for Unit Price procedures.

- B. Stipulated Price (Lump Sum) Contracts. If Contract is Stipulated Price Contract, include payment for work under this section in total Stipulated Price.

1.03 DEFINITIONS

- A. Phase: Locations identified on the plans and listed in Section 1110 – Summary of Work under Work Sequence.



- B. Site Restoration: Replacement or reconstruction of Site Improvements located in rights-of-way, easements, public property, and private property affected or altered by the Work.
- C. Site Improvement: Includes pavement, curbs and gutters, esplanades, sidewalks, driveways, fences, lawns, irrigation systems, landscaping, and other improvements in existence at the Project site before commencement of construction operations.

**1.04 SUBMITTALS**

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Schedule of testing, service connections, abandonment, backfill, and site restoration.
- C. Sample of notices to residents outlining their responsibility for maintenance of site improvements adjacent to the Project that are not disturbed by construction operations

**1.05 SCHEDULING**

- A. Schedule testing, service connections, abandonment, backfill and site restoration immediately following completion of pipe laying work or paving within each block or line segment.
- B. Phased Construction:
  - 1. Commencement of subsequent Phase will follow scheduling of site restoration of prior Phase. Limit work to a maximum of two Phases of the project.
- C. Construction of Projects with no Phases listed in Section 01110- Summary of Work:
  - 1. Complete site restoration prior to disturbing over 50% of total project linear feet or 2,000 linear feet, whichever is greater, of right-of-way or easement.
  - 2. Limit work to a maximum of 50% of total project linear feet or 2,000 linear feet, whichever is greater, of right-of-way and easement. Commence work in additional right-of-way or easement after completion of site restoration.

**PART 2 PRODUCTS**

**2.01 MATERIALS**

- A. Pavement, Sidewalks and Driveways: Materials specified in Section 02951 - Pavement Repair and Resurfacing.
- B. Seeding and Sodding: Sod specified in Section 02922 - Sodding and Seed specified in Section 02921 - Hydromulch Seeding.
- C. Trees, Shrubs and Plantings: Conform to requirements of Section 01562 – Tree and Plant Protection.

**PART 3 EXECUTION**

**3.01 Preparatory Work**

- A. Provide cleanup and restoration crews to work closely behind pipe laying and roadway construction crews, and where necessary, during testing, service restoration, abandonment, backfill and surface restoration.
- B. Water Lines: Unless otherwise approved by Project Manager, comply with the following:
  - 1. Once Project Manager approves work within a Phase, immediately begin preparatory work for disinfection effort.
  - 2. No later than three days after completing disinfection preparatory work, submit to City appropriate request for disinfection.
  - 3. If City fails to perform initial disinfection of lines in accordance with Section 2514 - Disinfection of Water Lines, within seven days from submission of appropriate request, and if approved by Project Manager, pipe laying operations may continue beyond approved limits until the City responds.
  - 4. Immediately after transfer of services, begin abandonment of old water lines and site restoration.
- C. Wastewater Lines:
  - 1. Once Project Manager approves work within a Line Segment, immediately begin preparatory work for testing effort.

2. No later than three days after completing preparatory work for testing, initiate testing work.
3. Immediately after transfer of service connections, begin abandonment of old wastewater lines, and site restoration.

**D. Street Construction and Paving Projects**

1. Once Project Manager approves work within a Line Segment or block, immediately begin preparatory work for testing effort.
2. No later than three days after completing preparatory work for testing, initiate testing work.
3. Immediately after testing begin site restoration.

**E. Street Construction and Paving Projects**

1. Once Project Manager approves work within a block, immediately begin preparatory work for sidewalk construction, sodding and hydromulching and tree planting.
2. No later than seven days after completing preparatory work, initiate construction.

**3.02 CLEANING**

- A. Remove debris and trash to maintain a clean and orderly site in accordance with requirements of General Conditions and Section 01576 - Waste Material Disposal.

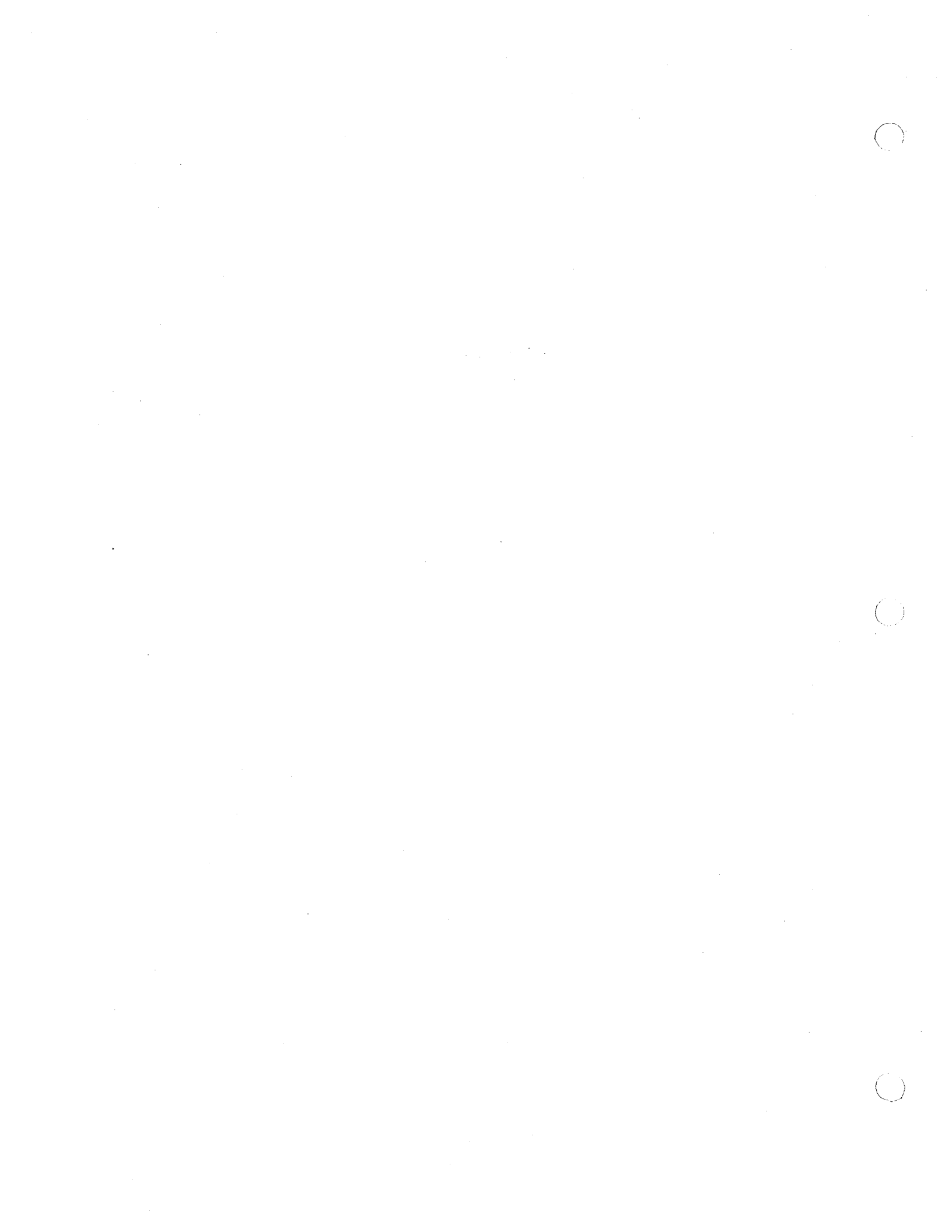
**3.03 LANDSCAPING AND FENCES**

**A. Seeding and Sodding.**

1. Remove construction debris and level area with bank sand so that new grass surface matches level of existing grass and maintains pre-construction drainage patterns. Level and fill minor ruts or depressions caused by construction operations with bank sand, where grass is still viable.
2. Restore previously existing turfed areas with sod and fertilize in accordance with Section 02922 - Sodding. Sod to match existing turf.

3. Restore unpaved areas not requiring sodding with hydromulch seeding conforming to Section 02921 - Hydromulch Seeding.
- B. Trees, Shrubbery and Plants.
1. Remove and replant trees, shrubs, and plants in accordance with requirements of Section 01562 – Tree and Plant Protection.
- C. Fence Replacement.
1. Replace removed or damaged fencing to equal or better condition than existed prior to construction, including concrete footings and mow strips. Provide new wood posts, top and bottom railing and panels. Metal fencing material, not damaged by the Work, may be reused.
  2. Remove and dispose of damaged or substandard material.
- 3.04 MAINTENANCE
- A. Maintain shrubs, plantings, sodded areas and seeded areas.
- B. Replace shrubs, plantings and seeded or sodded areas that fail to become established.
- C. Refer to Section 01562 - Tree and Plant Protection, Section 02921 - Hydromulch Seeding and Section 02922 - Sodding for maintenance requirements.

END OF SECTION



Section 01755

**STARTING SYSTEMS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Starting systems.
- B. Demonstration and instructions.
- C. Testing, adjusting and balancing.

**PART 2 PRODUCTS - Not Used**

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Project Manager seven days prior to startup of each item.
- C. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other damage-causing conditions.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision in accordance with manufacturer's instructions.
- G. When specified in individual Specification sections, require manufacturer to provide an authorized representative to be present at the site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

- H. Submit written report indicating that equipment or system has been properly installed and is functioning correctly.

**3.02 DEMONSTRATION AND INSTRUCTIONS**

- A. Demonstrate operation and maintenance of Products to Project Manager two weeks prior to Date of Substantial Completion.
- B. Utilize O&M Manuals as the basis for instruction. Review contents of manual with Project Manager in detail to explain aspects of operation and maintenance.
- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at the equipment location.
- D. Prepare and insert additional data in O&M Manuals when the need for additional data becomes apparent during instruction.
- E. At a minimum, Contractor will demonstrate the following:
  - 1. Products and procedures to be used in maintaining various surfaces, e.g., counter tops, toilet partitions, tile floors and carpeting;
  - 2. procedures to set and maintain landscape irrigation system;
  - 3. procedures to set and maintain security and fire alarm systems; and
  - 4. procedures to set and maintain HVAC systems.

**3.03 TESTING, ADJUSTING AND BALANCING**

- A. Contractor shall appoint, employ and pay for the services of an independent firm to perform testing, adjusting and balancing.
- B. Submit reports by the independent firm to Project Manager describing observations and results of tests and signifying compliance or non-compliance with specified requirements and requirements of the Contract.

END OF SECTION



Section 01770

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures to establish Date of Substantial Completion.
- B. Closeout procedures for final submittals, O&M data, warranties, spare parts and maintenance materials.
- C. Texas Department of Licensing and Regulation (TDLR) inspection for Texas Accessibility Standards (TAS) compliance.

1.02 SUBSTANTIAL COMPLETION

- A. Comply with Document 00700 - General Conditions regarding Date of Substantial Completion when Contractor considers the Work, or portion thereof designated by Project Manager, to be substantially complete.
- B. Insure the following items have been completed when included in the Work, prior to presenting a list of items to be inspected by Project Manager for issuance of a Certificate of Substantial Completion:
  - 1. cutting, plugging, and abandoning of water, wastewater, and storm sewer lines, as required by Contract documents for each item;
  - 2. construction of, and repairs to, pavement, driveways, sidewalks, and curbs and gutters;
  - 3. sodding and hydromulch seeding, unless waived by Project Manager in writing;
  - 4. general clean up including pavement markings, transfer of services, successful testing and landscape;
  - 5. additional requirements contained in Section 01110 - Summary of Work.
- C. Assist Project Manager with inspection of Contractor's list of items and complete or correct the items, including items added by Project Manager, within specified time period.

- D. Should Project Manager's inspection show failure of Contractor to comply with requirements to obtain Date of Substantial Completion, including those items in Paragraph 1.02 B. of this section, Contractor shall complete or correct the items, before requesting another inspection by Project Manager.

**1.03 CLOSEOUT PROCEDURES**

- A. Comply with Document 00700 - General Conditions regarding final completion and final payment when the Work is complete and ready for Project Manager's final inspection.
- B. Provide Project Record Documents in accordance with Section 01785 - Project Record Documents.
- C. Complete or correct items on punch list, with no new items added. Address new items during warranty period.
- D. The City will occupy portions of the Work as specified in other sections.

**1.04 FINAL CLEANING**

- A. Execute final cleaning prior to final inspection.
- B. For facilities, clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to sanitary condition.
- D. Clean or replace filters of operating equipment.
- E. Clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Clean site; sweep paved areas, and rake clean landscaped surfaces.
- G. Remove waste and surplus materials, rubbish, and temporary construction facilities from site following final test of utilities and completion of the Work.

**1.05 ADJUSTING**

- A. Adjust operating equipment to ensure smooth and unhindered operation. Value of this testing and adjusting is five percent of Lump Sum Price in the Schedule of Values for item being tested.

1.06 OPERATION AND MAINTENANCE DATA

- A. Submit O&M data as noted in Section 01330 - Submittal Procedures.
- B. Five percent of lump sum amount of each piece of equipment as indicated in Schedule of Unit Price Work or Schedule of Values will be paid after the required O&M data submittals are received and approved by Project Manager.

1.07 WARRANTIES

- A. Provide one original of each warranty from Subcontractors, Suppliers, and manufacturers.
- B. Provide Table of Contents and assemble warranties in a 3-ring/D binder with durable plastic cover.
- C. Submit warranties prior to final progress payment.
- D. Warranties shall commence in accordance with the requirements in Document 00700 - General Conditions.

1.08 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide Products, spare parts, maintenance and extra materials in quantities specified in individual Specification sections.
- B. Deliver to a location within the City limits as directed by Project Manager. Applicable items must be delivered prior to issuance of a final Certificate for Payment.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION



Section 01782

OPERATIONS AND MAINTENANCE DATA

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittal requirements for equipment and facility Operations and Maintenance (O&M) Manuals

1.02 MEASUREMENT AND PAYMENT

- A. Measurement for equipment O&M Manuals is on a lump sum basis equal to five percent of the individual equipment value contained in Schedule of Unit Prices or Schedule of Values. The lump sum amount may be included in the first Progress Payment following approval of the O&M Manuals by Project Manager.

1.03 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures. Submit a list of O&M Manuals and parts manuals for equipment to be incorporated into the Work.
- B. Submit documents with 8-1/2 x 11-inch text pages, bound in 3-ring/D binders with durable plastic covers.
- C. Print "OPERATION AND MAINTENANCE INSTRUCTIONS", Project name, and subject matter of binder on covers when multiple binders are required.
- D. Subdivide contents with permanent page dividers, logically organized according to the Table of Contents, with tab titling clearly printed under reinforced laminated plastic tabs.
- E. O&M Manual contents: Prepare a Table of Contents for each volume, with each Product or system description identified.
  - 1. Part 1 - Directory: Listing of names, addresses, and telephone numbers of Design Consultant, Contractor, Subcontractors, and major equipment Suppliers.

2. Part 2 - O&M instructions arranged by system. For each category, identify names, addresses, and telephone numbers of Subcontractors and Suppliers and include the following:
  - a. Significant design criteria.
  - b. List of equipment.
  - c. Parts list for each component.
  - d. Operating instructions.
  - e. Maintenance instructions for equipment and systems.
  - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.
  
3. Part 3 - Project documents and certificates including:
  - a. Shop Drawings and relevant data.
  - b. Air and water balance reports.
  - c. Certificates.
  - d. Photocopies of warranties.

F. Submit two copies of O&M Manuals and parts manuals, for review, within one month prior to placing the equipment or facility in service.

G. Submit one copy of completed volumes in final form 10 days prior to final inspection. One copy with Project Manager comments will be returned after final inspection. Revise content of documents based on Project Manager's comments prior to final submittal.

H. Revise and resubmit three final volumes within 10 days after final inspection.

#### 1.04 EQUIPMENT O&M DATA

A. Furnish O&M Manuals, prepared by manufacturers for all equipment. Manuals must contain, as a minimum, the following:

1. Equipment functions, normal operating characteristics, and limiting conditions.
2. Assembly, Installation, alignment, adjustment, and checking instructions.
3. Operating instructions for start-up, normal operation, regulation and control, normal shutdown, and emergency shutdown.
4. Detailed drawings showing the location of each maintainable part and lubrication point with detailed instructions on disassembly and reassembly of the equipment.

5. Troubleshooting guide.
  6. Spare parts list, predicted life of parts subject to wear, lists of spare parts recommended to be on hand for both initial start-up and for normal operating inventory, and local or nearest source of spare parts availability.
  7. Outline, cross-section, and assembly drawings with engineering data and wiring diagrams.
  8. Test data and performance curves.
- B. Furnish parts manuals for all equipment, prepared by the equipment manufacturer, which contain, as a minimum, the following:
1. Detailed drawings giving the location of each maintainable part.
  2. Spare parts list with predicted life of parts subject to wear, lists of spare parts recommended on hand for both initial start-up and for normal operating inventory, and local or nearest source of spare parts availability.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION





Section 01785

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Maintenance and submittal of record documents and Samples.

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Maintain one record copy of documents at the site in accordance with Document 00700 - General Conditions.
- B. Store record documents and Samples in field office, if a field office is required by the Contract, or in a secure location. Provide files, racks, and secure storage for record documents and Samples.
- C. Label each document "PROJECT RECORD" in neat, large, printed letters.
- D. Maintain record documents in a clean, dry, and legible condition. Do not use record documents for construction purposes. Do not use permit drawings to record Modifications to the Work.
- E. Keep record documents and Samples available for inspection by Project Manager.
- F. Bring record documents to progress review meetings for viewing by Project Manager and, if applicable, Design Consultant.

1.03 RECORDING

- A. Record information legibly with red ink pen on a set of blueline opaque drawings, concurrently with construction progress. Maintain an instrument on site at all times for measuring elevations accurately. Do not conceal work until required information is recorded
- B. Contract Drawings and Shop Drawings: Mark each item to record completed Modifications, or when minor deviations exist, the actual construction including:
  - 1. Measured depths of elements of foundation in relation to finish first floor datum.
  - 2. Measured horizontal locations and elevations of Underground Facilities and appurtenances, referenced to permanent surface improvements.

3. Elevations of Underground Facilities referenced to City of Houston benchmark utilized for the Work.
  4. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  5. Dimensions and details of field changes
  6. Changes made by Modifications.
  7. Details not on original Drawings.
  8. References to related Shop Drawings and Modifications.
- C. Survey all joints of water mains at the time of construction. Record on Drawings, water main invert elevation, elevation top of manway, and centerline horizontal location relative to baseline.
- D. For large diameter water mains, mark specifications and addenda to record:
1. Manufacturer, trade name, catalog number and Supplier of each Product actually Installed.
  2. Changes made by Modification or field order.
  3. Other matters not originally specified.
- E. Annotate Shop Drawings to record changes made after review.
- 1.04 SUBMITTALS
- A. At closeout of the Contract, deliver Project record documents to Project Manager.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 02112

TREE PRUNING, FERTILIZING AND PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION OF THE WORK

A. Work Included:

Crown pruning  
Root pruning  
Protecting of existing trees (Refer also to the drawings).  
Protecting of existing utilities.  
Protection fencing and planking  
Pruning of existing trees  
Fertilizing existing trees  
Barricading existing trees  
Borer Protection.

1.02 UNIT PRICES

A. Measurement for tree pruning, feeding and protection is as follows:

Protection fencing	LF
Protection planking	EA
Pruning, Fertilizing, Borer prevention, & Aeration	EA

B. Refer to Section 01270 – Measurement and Payment for unit price procedures.

1.03 GENERAL PROVISIONS

- A. Trees and areas scheduled for work under this contract shall be identified in the field and indicated on plans and specifications where practical. Where this is not practical, work shall be directed in field by Owner's Representative.
- B. Provision for access to the site for heavy equipment will be as directed by Owner's Representative. Equipment shall use prescribed temporary roadways and shall not be allowed in areas other than designated construction areas and designated roadways. Open grass areas which are altered or disturbed by equipment during the work shall be returned to pre-existing conditions at no additional cost to Owner.
- C. Contractor shall protect root areas and crowns of trees from damage from construction operations and construction equipment. The Contractor shall repair such damage at no costs to Owner. Provide fences or other barricade where necessary for such protection.



- D. Contractor shall modify exhaust pipes on construction equipment as needed to ensure that tree crowns are not damaged from exhaust heat from vertical exhaust pipes on top of construction equipment.
- E. Equipment shall not contact tree trunks, limbs or foliage.
- F. Contractor shall be responsible for providing all tree work/repair to any damage to existing trees during the contract period. Damage to any existing trees shall be reported immediately to the Owner's Representative. Contractor shall submit to Owner's Representative a written program of corrective pruning and tree care to repair damage with name of qualified forester or arboriculturist for Owner's approval.

#### 1.04 REFERENCE STANDARDS

American National Standard for Tree Care Operations Ansi-A-300 Tree shrub and other woody plant maintenance-standard practices, 1995.

#### 1.05 SUBMITTALS

Furnish required copies of manufacturers literature, samples, certifications, or laboratory analytical data for the following items:

1. Tree paint (manufacturer's literature)
2. Urban forester or Arborist. (Resume with education, experience and credentials)
3. Soil separator (manufacturer's literature and sample). For vapor barrier 10 mil visquene
4. Gravel (one cubic foot)
5. Mulch: Decomposed hardwood mulch: submit 1 cubic foot sample.
6. Fertilizer: submit product data.

#### PART 2 - PRODUCTS

- 2.01 TRENCHING MACHINE: Shall be small non-riding track type trencher equal to Case 300.
- 2.02 SHARP SAND: ASTM C-33 for fine aggregate.
- 2.03 TREE PROTECTION FENCE POSTS: 7' long metal t-posts.
- 2.04 PRUNING TOOLS: Shall be of good quality and working condition, sharp, and of the approved type for arboricultural work.
- 2.05 WOOD FOR TREE PROTECTION PLANKING: Shall be construction grade Southern Yellow Pine.
  - A. Wood for planking: two (2") x four (4")
- 2.06 FENCING: shall be orange plastic fencing 4' tall.



- 2.07 INSECTICIDE: Shall be Ortho "Lindane Borer and Leaf Miner Spray" by Ortho Consumer Products Division, Chevron Chemical Company, San Francisco, California 94119 or approved equal.
- 2.08 FERTILIZER: Mycor Tree Injectable as manufactured by Plant Health Care or approved equal.
- 2.09 WATER: Suitable for irrigation.

### PART 3 - EXECUTION

#### 3.01 WORKMANSHIP:

- A. Work shall be performed by personnel trained and experienced in this work and shall be done under the direction of a qualified forester or arborist on Contractor's staff. Owner shall review and approve Contractor's program for repair to damaged trees prior to the work being done.
- B. Work shall be performed in conformance with recognized horticultural and arboricultural practices. Where job requirements require deviation from normal practice, obtain approval.

#### 3.02 LIMB PRUNING: ANSI-A-300 1995

#### 3.03 MAINTENANCE PRUNING: Maintenance pruning is to maintain or improve tree health and structure and shall consist of the following: limited to branches measuring one (1") inch and larger. Maintenance pruning is to be performed on all trees noted to receive tree armoring as indicated on the drawings.

- A. Crown cleaning: Crown cleaning shall consist of the removal of the following items: dead, dying, diseased, weak branches from a tree's crown. Remove waterspouts from trucks and major limbs clearing up to a maximum distance of only six (6) feet to eight (8) feet from main trunk.
- B. Crown thinning: Crown thinning shall consist of the selective removal of branches to increase light penetration, air movement, and reduce weight.
- C. Crown raising: Crown raising shall consist of the removal of the lower branches of a tree in order to provide clearance. Clearance to be determined by Owner's representative.
- D. All trees designated to remain and to be protected shall be pruned per ANSI-A-300 1995 standards.
  - 1. All cuts shall be made as close as possible to the trunk or parent limb, without cutting into the branch collar or leaving a protruding stub. Bark at the edge of all pruning cuts should remain firmly attached.





2. All branches too large to support with one hand shall be pre-cut to avoid splitting or tearing of the bark. Where necessary, ropes or other equipment should be used to lower large branches or stubs into the ground.
3. Trimming shall not alter the natural appearance or result in leaving a hole in the canopy.
4. Paint wounds on Oak trees with approved paint.
5. Old injuries are to be inspected. Those not closing properly and where the callus growth is not already completely established should be bark traced if the bark appears loose or damaged. Such tracing shall not penetrate xylem (sapwood), and margins shall be kept rounded.
6. Equipment that will damage the bark and cambium layer should not be used on or in the tree. For example, the use of climbing spurs (hooks, irons) is not an acceptable work practice for pruning operations on live trees. Sharp tools shall be used so that clean cuts will be made at all times.
7. All cut limbs shall be removed from the crown upon completion of the pruning.
8. Trees susceptible to serious infectious diseases should not be pruned at the time of year during which the pathogens causing the diseases or the insect vectors are most active. Similarly, if pruning wounds may attract harmful insects, pruning should be timed so as to avoid insect infestation.
9. Remove the weaker or less desirable of crossed or rubbing branches. Such removal, if possible, should not leave large open spaces in the general outline of the tree.
10. Where practical, all visible girdling roots shall be treated as follow: (1) Cut root at either end; or (2) Sever root in center with a chisel and allow growing tree to push root away; (3) Remove section of root.
11. The presence of any disease condition, fungus fruit bodies, decayed trunk or branches, split crotches or branches, cracks, or other structural weaknesses shall be reported in writing to a supervisor and/or the owner, and corrective measures recommended.

3.04 ROOT PRUNING: (in areas where roots cannot be preserved by hand digging)

- A. Root prune at edge of proposed excavation of roadway or lime stabilization only in areas where roots cannot be preserved.
- C. Root pruning by trenching shall be as required; twenty-four (24") inches deep and six (6") inches wide, or ten inches (10") below limits of proposed excavation, lime stabilization or soil disturbance, whichever is less.



- D. Trenching shall be performed by the approved trencher cutting any and all roots completely and cleanly. Tearing, shredding or pulling of the roots shall not be permitted. After trenching with machine, re-cut roots with pruning shears or saw to leave a smooth cut surface.
- E. Install 10 mil visquene in root prune trench to create non-leach barrier between soil stabilizer material and root zone.
- F. Fill trench to existing finished grade in a manner that will not allow soils to settle.
- G. Cover exposed roots within 24 hours using bank sand topsoil or mulch to prevent desiccation.

### 3.05 FENCES AND BARRICADES:

- A. Fences and/or barricades shall be installed prior to the commencement of any site preparation work (cleaning, grubbing or grading) placed where shown on the drawings or as herein described. Tree fencing shall be maintained throughout the construction project in order to prevent the following:
  - 1. Soil compaction in the root zone area resulting from vehicular traffic or storage of equipment and/or equipment and/or materials.
  - 2. Root zone disturbances due to grade changes (greater than 3" inches cut or fill), and /or trenching not reviewed or authorized by the Owner's representative.
  - 3. Wounds to exposed roots, trunks, or limbs by mechanical equipment.
  - 4. Other activities detrimental to trees such as : chemical storage, cement truck wash-out and fires.
- B. In general, fences and barricades are intended to alert those working on the project that equipment and machinery are not to be stored or operated in the root zone. Where not shown, the fences shall be placed at the drip line. The exact location of fences shall be marked on site by Contractor and approved by Owner's Representative prior to construction of barricades.
- C. Posts shall be installed eight (8") feet O.C. maximum, one and one half (1 1/2') feet deep. Fence material pulled taut and secured with galvanized wire.

### 3.06 TREE PLANKING:

- A. Where exceptions result in temporary fence being closer than four feet to a tree trunk, protect trunk with strapped-on wood planking to a vertical height of 8 feet (or to the limits of the lower branches).



- B. Place two x fours with sides touching completely around the circumference of the tree. Secure at three points; top, middle and bottom with galvanized wire; twisted taut and stapled to wood planking.

3.07 TREE PROTECTION:

- A. All trees to be preserved on the property shall be protected against damage during construction operations by fencing as shown; subject to the approval of the Owner's Representative. The tree protection shall be installed prior to commencement of any site preparation work (clearing, grubbing or grading) and maintained in repair for the duration of the construction work unless otherwise directed. No material shall be stored or construction operation shall be carried on within a distance as shown of any tree to be saved or within the tree protection fencing. Tree protection shall remain until all work is completed.
  - 1. Place 6" of mulch to completely cover the area underneath the drip line of the trees in areas where foot traffic cannot be avoided.
  - 2. Trees shall be watered once a week during periods of hot dry weather as directed by Owner's representative to thoroughly saturate soil.
  - 3. All grading within protected root zone areas shall be by hand or small equipment to prevent root damage resulting from soil compaction and rutting. Prior to grading relocate protective fencing to two feet behind grade change area.
- B. Any damage done to existing tree crowns or root systems shall be repaired immediately by an approved tree surgeon at the Owner's direction. Roots exposed and/or damaged during demolition and/or grading operations shall be cut off cleanly inside the exposed or damaged area, the cut surfaces painted with an approved tree paint, and the topsoil and mulch placed over the exposed root area immediately. The Owner shall have his representative present on the site to observe these operations.

3.08 CONSTRUCTION EQUIPMENT:

- A. Contractor shall modify construction equipment as necessary to ensure that exhaust systems do not burn or scorch tree crowns or branches. Vertical exhaust pipes shall be turned 90 degrees.
- B. Height of equipment and equipment operation heights shall be carefully monitored to ensure no damage to tree crowns or branching.

3.09 BORER PROTECTION: Immediately after tree protection is complete, apply specified insecticide at the rate prescribed by the manufacturer's instructions.

3.10 APPLICATION OF TREE FERTILIZER: Mycor Tree injectable mixed and applied per product label instruction. Fertilizer shall be added to tank and mixed on site. Owner's representative shall be notified 24 hours prior to applying fertilizer.



3.11 ADDITIONAL PROVISIONS:

- A. No trash or warming fires shall be placed within twenty five (25') feet of the tree canopy.
- B. No pedestrian traffic shall occur within the drip line of any tree without proper protection measures in place.
- C. No soil shall be spread, under any tree within the drip line, unless otherwise designated or approved by owner's representative.
- D. Hand dig to preserve roots measuring one inch (1") in diameter and larger, roots shall not be scuffed or damaged otherwise.

END OF SECTION





Section 02214

LANDSCAPE ROUGH GRADE

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes
  - 1. Excavation.
  - 2. Excavation and removal of unacceptable soil.
  - 3. Fill and backfill.
  - 4. Compaction.
  - 5. Rough grading.
- B. Related Sections
  - 1. Finish Grading - Section 02215
  - 2. Sprinkler Irrigation Systems - Section 02810
  - 3. Lawns and Grasses - Section 02930
  - 4. Planting - Section 02950

1.02 MEASUREMENT AND PAYMENT

- A. Rough Grading is incidental to the following specification sections:
  - 1. 02751 – Concrete Curbs and Pavement

1.03 REGULATIONS, STANDARDS AND DEFINITIONS

- A. All work shall comply with the rules and regulations all local and state agencies having jurisdiction. Nothing contained herein shall be construed as permitting work that is contrary to such rules, regulations, and codes.
- B. All work in public property shall conform to applicable rules and regulations of the State Highway Department, the Department of Public Safety and the City of Houston, Texas.
- C. Rough grading is defined as grading to the final grade of subgrade which shall be as follows:
  - 1. Solid Sod – 3” below finished grade.
  - 2. Hydromulch grass seed – 2 ½” below finish grade.

1.04 PROTECTION

- A. Furnish, place, and maintain all supports, shoring, and sheet piling which may be required for the sides of the excavation or for protection of adjacent existing improvements. The adequacy of such systems shall be the complete responsibility of the Contractor and shall comply with all OSHA regulations.



- B. Maintain all benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed.

## PART 2 - PRODUCTS

### 2.01 FILLS

- A. General: All fill material shall be approved by the Owner's representative. Excavated materials from the site may be used if approved. Imported fill, where required, shall be a non-expansive and predominantly granular soil or soil-rock mixture which is free from organic matter, and deleterious substances, and which does not contain materials over 6" in greatest dimension. Material having a dimension greater than 4" shall not be used in the upper 6" of fill. Fill used in backfill and rough grading operations shall have a plasticity index ranging from 8 to 20.
- B. Backfill Material Requirements: Retaining Walls: Backfill material for use behind retaining walls shall be a granular material consisting of sand, broken rock, or a mixture of sand and gravel containing no sizes larger than 2 1/2" and not more than 15% passing the #200 sieve. Backfill shall have a plasticity index ranging from 5 to 10.

## PART 3 - EXECUTION

### 3.01 EXISTING CONDITIONS

- A. Contractor shall be deemed to have inspected the site and satisfied himself as to actual grades and levels and the true conditions under which the work is to be performed.

### 3.02 EXCAVATION

- A. Make excavations to dimensions and elevations indicated on Drawings. Owner will not pay for excavations carried below indicated grades without written authorization. Where unauthorized excavations are made below indicated elevations under slabs, restore to proper elevations as specified for compacted backfilling; and if under footings, increase wall or footing depth as directed. Concrete may be poured against vertical excavated surfaces provided the material will stand without caving, and provided that minimum reinforcing steel clearances indicated on Drawings are maintained, and suitable provisions are taken to prevent raveling of top edges. Excavated width of concrete section to be poured shall be as shown on Drawings. Excavation for formed concrete shall be sufficient width to allow for convenient construction and removal of forms. Excavation for below grade walls shall be sufficient to allow for application of waterproofing and drainage materials as specified and shown.
- B. Where subgrade soils which are expansive in nature occur beneath foundations and on-grade slabs, they shall be maintained in a moist condition and not allowed to dry out and crack prior to covering with subsequent construction. Where necessary, such soils shall be slowly and uniformly moistened as required to close any shrinkage cracks and to minimize expansion of soil subsequent to construction.



- C. Where planting areas are indicated on Drawings, such areas shall be excavated to allow for the placing of topsoil and/or planting medium, to the depths herein before specified and as required.
- D. All material to be excavated shall be non-classified and shall include earth fills, gravel, and other materials encountered in excavating and grading operations. The Contract Price is understood to cover the removal of all materials to the depth and extent indicated on the Drawings or specified herein.
- E. Excess excavated material and material determined unsuitable for use as fills or topsoil shall be legally disposed of off the site.
- F. Where unmarked utility lines or other underground obstructions or piping may be uncovered within the work area, notify the Owner or the agencies or service utility companies having jurisdiction thereof, and take necessary measures to prevent interruption of service (if live). Should such lines or services be damaged, broken, or interrupted through the Contractor's own negligence, those services shall be repaired immediately and restored by him at his own expense. Abandoned lines, meters and boxes, obstructions or piping, shall be removed, plugged, or capped in accordance with the requirements and approval of the agencies affected. Coordinate all such work with applicable mechanical or electrical trade having responsibility. Remove all abandoned utility lines, pipes, conduits, etc., to a point 5' outside new building lines or at property lines if closer. Indicate all of the above encounters on the "Record Drawings".

3.03 DEWATERING

- A. Maintain all excavated areas free from water throughout progress of the work. All surface or subsurface seepage encountered shall be run to temporary sumps located where required or directed. From the sumps, water shall be pumped out and legally disposed of in a manner that will keep the entire site reasonably dry and in an accessible and workable condition at all times.

3.04 PLACEMENT OF FILLS

- A. The placement of fills shall be done under the supervision of the Owner representative.
- B. All areas to receive fills shall be scarified to a depth of 6" and moisture conditioned as required to obtain the required compaction. Where slopes exceed 1 vertical to 4 horizontal, subgrade shall be plowed, stepped, or benched in such a manner that fills will bond with base material.
- C. Fill material shall be spread in uniform lifts of not more than 8" in uncompacted thickness. Prior to commencing compaction, fills shall be brought to water content that will permit proper compaction by either aerating the material if it is too wet, or spraying the material with water if it is too dry. Thoroughly mix each lift before compaction to assure uniform distribution of water content. Bring all fills to suitable elevations above grade to provide for anticipated settlement and shrinkage thereof.



- D. Fill shall not be dropped on structure. Do not place backfill around, against, or upon any concrete or masonry structure until structure has attained sufficient strength to withstand the loads imposed.

3.05 **COMPACTION**

- A. Where fill is required and no immediate or future construction is planned (such as planting areas), compact each layer of fill and scarify subgrade to not less than 85% maximum density.
- B. Perform all compaction using compacting rollers, pneumatic or vibratory compactors, or other equipment and methods approved by Owner.

3.06 **ROUGH GRADING**

- A. All areas covered by the project, including excavated and filled areas and adjacent transition areas, shall be uniformly graded so that subgrade surfaces are at the elevations noted. The subgrade surface shall be below finished grade as specified herein.
- B. It will be the responsibility of the Contractor to grade in either cut or fill within a permissible tolerance of 0.10 feet to obtain the necessary subgrade. The tolerance will be allowed on subgrades or foundation bottom grades prepared for paving and site structures.
- C. Uniformly smooth grading for all areas including excavated and filled sections and adjacent transition areas shall be accomplished. The subgrade surface shall be reasonably smooth, compacted and free from irregular surface changes.
- D. The Contractor shall raise or lower all rims of existing utility structures where there is a grade change and construct them flush with the new finished grade.
- E. Ditches and swales shall be finished to permit proper surface drainage.

3.07 **TESTING**

- A. All excavation, filling, and compaction shall be performed under the direct supervision and control of the Soils Engineer. Cost of testing and inspection will be paid for by the Owner except that fees for additional testing made necessary by inadequate compaction, replacement of unacceptable material, or other work not complying with the Drawings and Specifications, will be deducted from the Contract price. Schedule operations to permit sufficient time for the Owner to take the necessary samples and perform necessary laboratory work.





- B. Where fill, backfill, or in-place materials are required to be compacted to a specified density, the maximum density for control shall be determined by using ASTM D1557 or AASHTO T180 method. The results of these tests shall be the basis upon which satisfactory completion of work will be judged. Any area or portion thereof that does not meet minimum density requirements shall be reworked and recompacted until it meets the project density requirements.

END OF SECTION



Section 02215

FINISH GRADING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes

1. Machinery restrictions.
2. Excavation, filling and backfilling of on site material.
3. Subgrade preparation.
4. Finished grading.
5. Drainage.

B. Related Sections

1. Sprinkler Irrigation Systems - Section 02810
2. Lawns and Grasses - Section 02930
3. Planting - Section 02950

1.02 MEASUREMENT AND PAYMENT

A. Finish grading is incidental to the following specification sections:

1. 02930 – Lawns and Grasses
2. 02950 – Planting

1.03 GENERAL PROVISIONS

- A. Finished grading shall be defined as placing and grading of soil that will be required to bring the grade to the required grades for lawns, shrub and groundcover beds.
- B. Where practicable and as directed, the use of heavy machinery shall be kept to a minimum.
- C. Refer to Section 02950 for finish grading of shrub and groundcover beds.



PART 2 PRODUCTS

2.01 FILL

- A. General Qualifications: Fill shall be a clean, dry soil of a loamy character, well drained and well graded from on site sources. Fill material shall contain no oils, alkalies, acids, rubbish or other deleterious materials.

2.02 TOPSOIL

- A. Topsoil material that may be used shall conform to the requirements included within this Section and shall be imported.

- B. General Qualifications for Topsoil:

“Imported” topsoil shall be considered as material conforming to the following minimum criteria:

1. Natural, friable, loamy soil, typical of local topsoil which produces heavy vegetative growth, free from subsoil, weeds, sods, stiff clay, stones larger than 1", toxic substances, debris, or other substances which may be harmful to plant growth.
2. Acidity/Alkalinity: pH 6.0 to pH 7.5.
3. Contractor shall submit soil samples to a soil testing laboratory for analysis and submit test results to the Owner's representative for approval.

- C. Grading Analysis: 2" sieve, 100% minimum passing. Number 4 sieve, 90% minimum passing. Number 10 sieve, 80% minimum passing.

1. Sand, Silt, and Clay Content (from ASSHTO M146):

- a. Sand 20 to 75 percent
- b. Silt 10 to 60 percent
- c. Clay 5 to 30 percent

2. All topsoil shall be free from all herbicides and insecticides which might adversely affect subsequent growth of turf or plantings or which might otherwise contain materials toxic to humans.

- D. Non-Conforming Material: The Contractor shall not be permitted to use on-site material that does not conform to the above minimum criteria. At the discretion of the Owner's representative, such material can either be amended to meet the minimum requirements or shall be removed from the site.



- E. It shall be the Contractor's responsibility to verify that the existing topsoil conforms to these specifications. Topsoil determined to be non-conforming subsequent to the award of a contract shall not be means for extra compensation unless otherwise provided for herein.

2.03 SAND

- A. Shall be Bank Sand. Sample shall be submitted for approval. Sand shall be used for minor finish grade corrections and shall not be permitted for grading purposes if the depth exceeds 1/2" to achieve the finished grade.

PART 3 EXECUTION

3.01 WORKMANSHIP

- A. Work shall be performed by personnel trained and experienced in this work and shall be done under the direction of a superintendent on Contractor's staff.

3.02 PREPARATION OF SUBGRADE

- A. The subgrade soil when at optimum soil moisture ( non plastic state or not dry enough to raise dust) shall be loosened to a depth of 4" by disking or tilling and then graded to remove all ridges and depressions so that it will be everywhere parallel to the proposed finished grade. All stones over 1 1/2" in any dimensions, sticks, rubbish and other extraneous matter shall be removed during this operation. If soil clumps over 2" in diameter remain, then make additional passes with a harrow or other approved equipment until clumps are reduced below the 2" size. No heavy objects except rollers shall be moved over planting and lawn areas after the soil has been prepared.

- B. The grade shall be free from hollows or other inequalities, stones, sticks and other extraneous matter.

3.03 FINISH GRADING

- A. This Contractor shall be responsible for minor adjustments to the finished subgrade if such treatment is required in the opinion of the Owner's representative.
- B. The Contractor may use machinery acceptable to the Owner's representative to complete most of the work to re-establishing finished grade.
- C. Spread 4" of topsoil over entire area receiving solid sod.
- D. Hand-rake the surface, removing all clods and undesirable material greater than 1" from ground surface. Fill all low spots and cut irregularities to the acceptance of the Owner's representative. Roll the entire surface evenly with a 200 pound water ballast roller or other means acceptable.





- E. During the finished grading operations, all swales and additional swales that may be required to drain areas shall be finished. In general, all grade adjustments shall be made so there are no areas that will have standing water.
- F. To prevent excessive weed growth in the lawn areas, the Contractor should be prepared to immediately install the sod or seeding upon the completed and acceptable finished grade.
- G. Prior to installation of grass or groundcovers, contact Landscape Architect to inspect and approve finish grade.

END OF SECTION



Section 02519

RELOCATION OF LARGE DIAMETER WATER LINES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Removal and replacement of existing pipe and appurtenances.

1.02 MEASUREMENT AND PAYMENT

- A. Payment for water line interconnection is on a unit price basis for each interconnection identified on Drawings. Payment includes pipe dewatering, cutting existing pipe, removing existing pipe, welding on new pipe according to Drawings, and repairing internal mortar linings and external joint coatings as required in Section 02511 – Water Lines.
- B. Weld Existing Joint: Payment is on a unit price basis for each existing joint, and includes effort to clean loose or damaged grout, remove rust and scale, brush clean steel surfaces, weld joint, and apply new grout in accordance with Section 02511 – Water Lines. Joint grout for new joints installed under this project are considered incidental to the work.
- C. Install new 48-inch Mortar Coated Steel Water Line: Payment is on a linear foot basis and includes the following:
  - 1. Installation of pipe and appurtenances by open cut methods, all depths; including welding in accordance with Specification Sections 02511 and 02518.
  - 2. Payment includes labor, materials and equipment necessary to excavate and install the pipe, connect to the existing pipe (may require an adapter or built up end) and or adjacent new pipe, and backfill.
- D. Install new 36-inch Dielectric Coated Steel Water Line: Payment is on a linear foot basis and includes the following:
  - 1. Installation of pipe and appurtenances by open cut methods, all depths; including welding in accordance with Specification Sections 02511 and 02518.
  - 2. Payment includes labor, materials, and equipment necessary to excavate and install the pipe, connect to the existing pipe with butt strap closure piece, and backfill.
- E. No separate payment will be made for removal or abandonment of existing water lines. Include cost in related unit price work.

- F. Refer to Section 01270 - Measurement and Payment for unit price procedures.
- G. Stipulated Price (Lump Sum): If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.03 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Conform to submittal requirements of applicable Sections referenced herein.

PART 2 PRODUCTS

2.01 PIPE MATERIALS

- A. Install pipe materials which conform to Section 02518 - Steel Pipe and Fittings for Large Diameter Water Lines.
- B. Conform to American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standard 61 and have certified by an organization accredited by ANSI.

PART 3 EXECUTION

3.01 PREPARATION

- A. Conform to applicable installation specifications and details for types of pipe used.
- B. Employ workmen who are skilled and experienced in laying pipe of type and joint configuration being furnished.

3.02 GENERAL REQUIREMENTS

- A. Excavation around existing pipe:
  - 1. When excavating around an existing large diameter water line, follow requirements described in Specification Section 02317 – Excavation and Backfill for Utilities.
  - 2. Provide field surveyed (horizontal and vertical elevations) "as-builts" existing underground utilities encountered and all new work installed.
- B. Removal of existing pipe:
  - 1. Where directed to remove existing pipe sections cut around the circumference of the existing pipe, whether with saw, torch, or other means.

2. **For Bar-Wrapped Steel Cylinder Pipe, no partial pipe sections may be removed. Completely remove an entire section of pipe between existing joints. Remove pipe section without damaging adjacent pipe joints. Contractor shall be responsible for repairing damage caused by their work to existing pipe not intended for removal.**
  - a. **All “cuts” must be made on pipe sections intended to be removed. The entire bell or spigot on pipe sections to remain in place should not be disturbed.**
3. **Only one pipe section may be cut at a particular location, unless approved by Engineer, regardless of how many are removed. Once the first section is cut and removed, the adjacent pipe sections to be removed (if any) shall be pulled from their joints intact.**

4. All new pipe to be installed in accordance with Specification Section 02511 – Water Lines.

C. Pipeline Dewatering (Draining) and Cleaning:

1. Contractor is to utilize adequate size and number of pumps needed to remove water in a timely manner.
2. Provide continuous pumping as needed due to leaking valves that may be required to keep water line dewatered.
3. Avoid surface runoff or groundwater from entering water line.
4. Contractor shall schedule the dewatering of each phased segment of pipe for condition assessment as early as possible within the waterline shutdown period and shall provide a minimum of four (4) business days (excluding holidays) prior written notice of when the phased segment will be dewatered.

3.03 ABANDONMENT OF EXISTING WATER LINES

- A. Remove sections of existing pipe which conflict with proposed work. Use flowable fill to grout portions of abandoned water line that will remain in place. Conform to requirements of Section 02222 – Abandonment of Sewers.

3.04 DISINFECTION OF WATER LINES

- A. Following the assessment and all repairs, remove construction debris or foreign material and thoroughly broom clean and flush piping systems. Provide equipment and labor for cleaning. City will inspect water line for cleanliness prior to reinstalling access manway flanges and filling.

- B. Contractor to provide support during filling, disinfection and flushing by providing reasonable labor, blow-off piping at all new manway flanges, and traffic control where needed.
- C. Conform to requirements of Section 02514 - Disinfection of Water Lines.

3.05 FIELD HYDROSTATIC TESTS

- A. No hydrostatic test shall be performed on new or existing pipe. All field welds must be tested in accordance with Section 02511, and results must be submitted to and accepted by Project Manager.

END OF SECTION

Section 02670

MODULAR BLOCK WALL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Work includes furnishing and installing concrete retaining wall units to the lines and grades designated on the construction drawings and as specified herein.

1.02 MEASUREMENT AND PAYMENT

- A. Payment for modular gravity wall block is on a unit price basis per square foot of wall face. Payment includes all material required to install the modular block gravity wall as shown on the construction drawings including and not limited to the delivery of concrete modular blocks of various sizes as required, installation of the blocks to the lines and grades as shown on the drawings, the installation of block outs for pipe penetration areas, geotextile fabric, wrapped perforated 4" PVC pipe, and ASTM 57 granular material for drainage behind the wall as per the drawings and recommended by the manufacturer.
- B. Other work includes over-excavation of undesirable material that is paid in accordance with 02120, 02315 Excavation and Off-Site Disposal, and replacement material under wall Cement Stabilized Sand as per 02321.

1.03 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Signed and sealed wall layouts and design calculations are required for approval prior to construction. All labor and effort to prepare submittal documents and work required to meet approval requirements shall be considered incidental to the base bid for Modular Block Wall.

1.04 REFERENCE STANDARDS

- A. ASTM C94 – Ready Mixed Concrete
- B. ASTM C1372 – Segmental Retaining Wall Units
- C. ASTM D 448 – Standard Classification for Sizes of Aggregate for Road and Bridge Construction

1.05 DELIVERY, STORAGE AND HANDLING

- A. Contractor shall check the materials upon delivery to assure proper material has been received.

- B. Contractor shall prevent excessive mud, wet cement and like materials from coming in contact with the SRW units.
- C. Contractor shall protect the materials from damage. Damaged material shall not be incorporated in the project.

**PART 2 PRODUCTS**

**2.01 WALL UNITS**

- A. Wall units shall be Redi-Rock<sup>®</sup> or equal as produced by a licensed manufacturer.
- B. Wall units shall be made with Ready-Mixed concrete in accordance with ASTM C94, latest revision, and per the following chart:

Climate	Air Content	28 Day Compressive Strength, psi	Slump*
Negligible	1½%-4½%	4000	5" ±1 ½"
Moderate	3%-6%	4000	5" ±1 ½"
Severe	4½%-7½%	4000	5" ±1 ½"

\*Higher slumps are allowed if achieved by use of appropriate admixtures.

Notwithstanding anything stated above, all material used in the wall units must meet applicable ASTM and local requirements for exterior concrete.

- C. Exterior block dimensions shall be uniform and consistent. Maximum dimensional deviations shall be 1% excluding the architectural surface. Maximum width (face to back) deviation including the architectural surface shall be 1.0 inch.
- D. Exposed face shall be finished as specified. Other surfaces to be smooth form type. Dime-size bug holes on the block face may be patched and/or shake-on color stain can be used to blend into the remainder of the block face.

**2.02 LEVELING PAD AND FREE DRAINING BACKFILL**

- A. Leveling pad shall be crushed stone. See detail sheet defining Leveling Pad options for drain placement in the bottom of the foundation leveling pad.
- B. Free Draining Backfill material shall be washed stone and shall be placed to a minimum of 1' width behind the back of the wall and shall extend vertically from the Leveling Pad to an elevation 4" below the top of wall.
- C. Backfill material shall be approved by the geotechnical engineer. Site excavated soils may be used if approved unless otherwise specified in the drawings. Unsuitable soils with a PL>6, organic soils and frost susceptible soils shall not be used within a 1 to 1 influence area.



- D. Non-woven geotextile cloth shall be placed between the Free Draining Backfill and retained soil if required.
- E. Where additional fill is needed, Contractor shall submit sample and specifications to the Engineer for approval.

### 2.03 DRAINAGE

- E. Internal and external drainage shall be evaluated by the Professional Engineer who is responsible for the final wall design.

## PART 3 EXECUTION

### 3.01 EXCAVATION

- A. Contractor shall excavate to the lines and grades shown on the construction drawings.

### 3.02 FOUNDATION SOIL PREPARATION

- A. Native foundation soil shall be compacted to 95% of standard proctor or 90% of modified proctor prior to placement of the Leveling Pad material.
- B. In-situ foundation soil shall be examined by the Engineer to ensure that the actual foundation soil strength meets or exceeds assumed design strength. Soil not meeting the required strength shall be removed and replaced with acceptable, compacted material.

### 3.03 LEVELING PAD PLACEMENT

- A. Leveling Pad shall be placed as shown on the construction drawings.
- B. Leveling Pad shall be placed on undisturbed native soils or suitable replacement fills.
- C. Leveling Pad shall be compacted to 95% of standard proctor or 90% of modified proctor to ensure a level, hard surface on which to place the first course blocks. Pad shall be constructed to the proper elevation to ensure the final elevation shown on the plans.
- D. Leveling Pad shall have a 6 inch minimum depth for walls under 8 feet in height and a 12 inch minimum depth for walls over 8 feet. Pad dimensions shall extend beyond the blocks in all directions to a distance at least equal to the depth of the pad or as designed by Engineer.
- E. For steps and pavers, a minimum of 1" - 1 ½" of free draining sand shall be screeded smooth to act as a placement bed for the steps or pavers.

3.04 UNIT INSTALLATION

- A. The first course of wall units shall be placed on the prepared Leveling Pad with the aesthetic surface facing out and the front edges tight together. All units shall be checked for level and alignment as they are placed.
- B. Ensure that units are in full contact with Leveling Pad. Proper care shall be taken to develop straight lines and smooth curves on base course as per wall layout.
- C. The backfill in front and back of entire base row shall be placed and compacted to firmly lock them in place. Check all units again for level and alignment. All excess material shall be swept from top of units.
- D. Install next course of wall units on top of base row. Position blocks to be offset from seams of blocks below. Blocks shall be placed fully forward so knob and groove are engaged. Check each block for proper alignment and level. Install backfill to 12 inch width behind block with Free Draining Backfill minimum or as shown on plans. Spread backfill in uniform lifts not exceeding 9 inches. Employ methods using lightweight compaction equipment that will not disrupt the stability or batter of the wall. Hand-operated plate compaction equipment shall be used around the block and within 3 feet of the wall to achieve consolidation. Compact backfill to 95% of standard proctor (ASTM D 698, AASHTO T-99) density within 2% of its optimum moisture content.
- E. Install each subsequent course in like manner. Repeat procedure to the extent of wall height.
- F. Allowable construction tolerance at the wall face is 2 degrees vertically and 1 inch in 10 feet horizontally.
- G. All walls shall be installed in accordance with local building codes and requirements.

END OF SECTION

Section 02751

CONCRETE CURBS AND PAVEMENT

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes
1. Concrete Walkways
  2. Curbs and special finishes.
  3. Colored Concrete curb ramps.

1.02 UNIT PRICES

- A. Measurement for concrete curbs and pavement is as follows:

Concrete Curb	LF
Colored Concrete Ramps	EA
Concrete Walkways	SF
Temporary Concrete Sidewalks	SF

- B. Refer to Section 01270 – Measurement and Payment for unit price procedures.

1.03 REFERENCES

- A. American Concrete Institute (ACI)

1. 211.1-77 Recommended Practice for Selecting Proportions for Normal Weight Concrete.
2. 214-77 Recommended Practice for Evaluation of Compressive Test Results of Field Concrete
3. 305-73 Recommended Practice for Hot Weather Concreting.
4. 306-66 Recommended Practice for Cold Weather Concreting.
5. 347-68 Recommended Practice for Concrete Formwork.

- B American Society for Testing and Materials (ASTM)

1. A-82-76 Cold Drawn Steel Wire for Concrete Reinforcement.
2. A185-73 Welded Steel Wire Fabric for Concrete Reinforcement.
3. A615-78 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
4. C33-78 Concrete Aggregates.
5. C94-78 Ready Mixed Concrete.
6. C150-78a Portland Cement.

7. C260-77 Air Entraining Admixtures.
8. C330-77 Lightweight Aggregates for Structural Concrete.
9. C494-79 Chemical Admixtures for Concrete.
10. D1751-73 Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and resilient Bitumens Type).

#### 1.04 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed pavement work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
  1. Manufacturer must be certified according to the National Ready Mix Concrete Association's Plant Certification Program.
- C. Testing Laboratory Services
  1. Perform all required tests and coordinate all efforts with the designated testing laboratory.
  2. Cooperate with testing laboratories to permit proper testing and inspection procedures.
- D. Source Limitations:
  1. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from one source.

#### 1.05 SUBMITTALS

- A. Forms: Submit Data with complete illustrations and/or descriptions for the following:
  1. Inserts, anchors, sleeves and other embedded items.
  2. Expansion joint fillers.
- B. Cast-In-Place Concrete:
  1. Mix Designs:
  2. If mix designs are based upon field experience with materials to be used, submit substantiating data at time of submitting mix designs. If suitable field performance data cannot be provided, submit laboratory confirmatory test results upon each

proposed mix design. Use only mix designs accepted in writing by Owner's representative.

3. Product Data: Submit to Owner's representative for each mix design:
  - a. Certified mill reports on cements.
  - b. Certified sieve analysis on aggregates.
  - c. Cement manufacturer's name and brand name.
  - d. Manufacturer's name and brand names of materials listed as products of more than one approved manufacturer.
4. Truck Delivery Tickets: Include on each ticket:
  - a. Certification required by ASTM C94.
  - b. Type and brand name of cement.
  - c. Amount of cement, in pounds.
  - d. Total amount of water, in gallons.
  - e. Maximum size aggregate.

C. Color Hardeners: Submit manufacturers literature and color samples.

D. Samples: Approved samples shall be the standards for finishes in concrete work.

1. Flatwork: Provide a full scale mock up of a radial curb ramp complete with curbs, detectable warning, specified concrete color, adjacent sidewalk paving complete as indicated on detail 4/L4.02 until approved by Landscape Architect. Samples shall include expansion and control joints. (Mock-up must be located on site where it must remain until the project is completed. This mock-up will not be considered part of the completed work and therefore may not be constructed in the location of a proposed ramp/walk.)

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. Store new and reusable form lumber and form plywood under heavy waterproof coverings or where well protected from inclement weather.
- B. Stack oiled form plywood on sticking to permit proper ventilation between uses.
- C. Handle and store metal forms in such manner as to prevent damage by denting, warping, twisting and rusting.
- D. Deliver reinforcing to site in easily handled bundles with identification tags securely wired into place. Store reinforcing to prevent damage and protect from corrosion and deformation.

#### 1.07 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

#### 1.08 GENERAL REQUIREMENTS

- A. All concrete work shall be true to line and grade as indicated on the drawings. The Contractor shall be responsible for proper drainage, without birdbaths, on all concrete paving surfaces. Any discrepancies or omissions on drawings, or conditions on the site, which prevent this Contractor from providing proper drainage shall be brought to the attention of the Owner's representative in writing for correction or relief before work proceeds.
- B. Surface Tolerance: Finished paving surfaces shall not vary more than 1/4" inch measured with a 10' metal straight edge, except at grade changes. No birdbaths or other surface irregularities will be permitted. Correct irregularities as directed.

#### 1.09 ENVIRONMENTAL CONDITIONS

- A. Observe provisions of ACI-305 when ambient temperature is 90 degrees F. and greater.
- B. Observe provisions of ACI-306 when ambient temperature is 40 degrees F. and less.

#### PART 2 - PRODUCTS

##### 2.01 PORTLAND CEMENT

- A. Shall conform to current requirements of ASTM Designation C150, Type I or II cement.
- B. Fly ash will not be accepted as a cement substitute.

##### 2.02 COARSE AGGREGATE

- A. ASTM C - 33 ; 3/4" - 1 1/2" limestone.

##### 2.03 FINE AGGREGATE

- A. ASTM C - 33 Sand

##### 2.05 WATER

- A. Provide clean, potable, concrete mixing water free from injurious amounts of salts, oils, acids, alkalis, organic materials or other deleterious matter.

##### 2.06 AIR ENTRAINMENT

- A. Air-entraining admixture shall conform to ASTM C260.

##### 2.07 WATER REDUCING AGENTS, RETARDERS, ACCELERATORS

- A. ASTM C494: Water reducing, normal setting admixture: Type A. Water reducing, retarding admixture: Type D.

##### 2.08 REINFORCING

- A. Reinforcing Bars: ASTM A615, Grade 60, deformed billet-steel, clean and free from rust, scale, or coating that will reduce bond.

- B. Welded Wire Fabric: ASTM A185. Tags designating wire size and spacing shall be left on each roll until ready for use.
- C. Cold Drawn Steel Wire: ASTM A82.
- D. Bar Chairs: 16 gauge galvanized steel wire, with 3" x 3" base, or solid plastic of proper sizes and design to properly support and position reinforcing steel.

2.09 METAL DOWELS

- A. ASTM A36.

2.10 EXPANSION JOINT MATERIALS

- A. Premolded Joint Filler: To be "Sonoflex-F", a closed cell plastic joint filler, as manufactured by Sonneborn-Contech, Building Products Division, Contech, Incorporated, or approved equal.
- B. Joint Sealant: To be "Sonolastic Sealant Two-Part" as manufactured by Sonneborn-Contech, Building Products Division, Contech, Incorporated, or approved equal. Color shall match adjacent concrete work.
- C. ½" Redwood or wolmanized pine: Preformed with dowels as provided by Sheplers, Houston Texas or approved equal.
- D. Metal Screed Key joints: As indicated on the drawings as provided by Sheplers, Houston, Texas.

2.11 CURING MEMBRANE

- A. Submit a manufacturer of a spray on curing membrane to be used on all exposed concrete surfaces for approval. Conform to ASTM 309.
- B. Select a fugitive color for above.
- C. In lieu of above, Submit a plan for slow curing all concrete for approval by the Owner's representative.

2.12 COLOR ADDITIVES

- A. Color additives shall be as manufactured by L. M. Scofield Company (800) 800 9000.
  - 1. Products shall be:
    - a. Shake on cplor hardeners
  - 2. Colors shall be: A-21 Deep Charcoal

2.13 WOOD FORMS

- A. Form Lumber: Number 2 Southern pine or Number 2 Douglas Fir-Larch, surfaced four sides; true and straight members free from cupping, warping, loose knots, excessive checking and other structural defects.
- B. Moldings and Chamfer Strips: "C-Select" or "Finish" Southern pine, straight, sound, and free of knots and other defects.

- C. Used form materials may be reused provided that they are thoroughly cleaned and acceptable finishes can be produced.

#### 2.14 METAL FORMS

- A. Heavy gauge steel of sufficient strength to prevent undue deflection, properly braced. Use only materials with smooth and regular contact surfaces, free from dents and irregularities that affect regularity and finish surface of concrete.

### PART 3 - EXECUTION

#### 3.01 DESIGN OF MIXES AND PROPORTIONING

- A. Proportioning and mixing of cement, aggregate, admixture and water to attain required plasticity and strength shall be in accordance with ACI-304.
- B. Concrete Mixture: Concrete mixtures shall be designed by an approved commercial testing laboratory at no expense to the Owner, using approved materials furnished by the Contractor to obtain a minimum compressive strength of 3,000 pounds per square inch at 28 days of age and an air content by volume of 6% plus or minus 1.0 percent. The slump of the concrete shall be not more than 4".

#### 3.02 SETTING FORMWORK

- A. Forms shall be constructed accurately to dimensions, plumb and true to line and grade. Forms shall be substantial, mortar tight and braced, and tied so as to maintain position and shape during placing of reinforcing and concrete. Wavy surfaces and bulged walls or slab surfaces resulting from settlement or springing of formwork will not be acceptable.
- B. Do not re-use forms for exposed concrete surfaces. Coat all wood forms with form oil or release agent before pouring. Release agent shall be required on form surfaces where concrete is exposed to view in finished work.
- C. Forms shall be constructed and assembled in such a manner that construction joints shall occur at approved locations.
- D. Care shall be taken in all details of forming, setting, reinforcing, mixing and placing all concrete exposed in finish work to obtain smooth, even surfaces of dense concrete, and clean sharp inside and outside corners, except where tooled corners are indicated. Use of form oil will be required to prevent concrete from bonding to form.
- E. Forms shall be carefully observed and checked for alignment and level as the work proceeds. All needed adjustment or additional bracing shall be done promptly.
- F. Forms shall remain in place long enough to allow concrete to set properly and the Contractor shall assume all responsibility for removing same.

#### 3.03 PLACING REINFORCEMENT

- A. Place all reinforcement as shown on drawings. Place accurately and securely fasten and support reinforcement to prevent displacement before or during pouring. Support bars and/or wire mesh with suitable reinforcing chairs.



- B. Do not heat bars for bending or straightening. Do not tack weld bars.
- C. Clean, bend and place reinforcement in accordance with current requirements of the ACI Manual of Concrete Practice.
- D. Reinforcement Splices:
  - 1. Welded wire fabric - one mesh minimum.
  - 2. Reinforcing bars - 24 bar diameter minimum, except as otherwise noted.

### 3.04 PLACING CONCRETE

- A. Concrete shall be deposited so as to require as little rehandling as practicable. All placing equipment shall be clean and free from hardened concrete.
- B. Placing shall be continuous between transverse joints or in individual sections of the work. Spade concrete thoroughly along forms and expansion joints, and work carefully into corners and around reinforcement. Tamp and screed to a dense mass.
- C. Convey concrete from mixer to place of final deposit in one continuous operation and until entire unit being placed is complete. Maintain plasticity of concrete to flow readily into formwork and embed reinforcement without segregation of aggregates.
- D. Use chutes of uniform shape and slope controlling concrete fall to not more than 3'.
- E. Place no partially hardened, contaminated or retamped concrete.

### 3.05 FINISHES

- A. Medium broom Finish: Shall be obtained by drawing a medium bristled broom across a floated finish. Direction of brooming to be perpendicular to direction of walk or as otherwise shown on drawings.
- B. Steel Trowel Edge on Broom Finished Concrete: Shall be obtained by drawing a medium bristled broom across a floated finish. Direction of brooming to be perpendicular to direction of walk or as otherwise shown on drawings. Upon completion of brooming a steel trowel of the specified width shall be used to produce a steel trowel finish that creates a distinct edge to separate the trowel edge band from the broom finish field.

### 3.06 JOINTS (Reference Drawings for Locations of each type joint.)

- A. Score Joints: Score joints shall be formed in the fresh concrete using a jointer to cut the groove so that a smooth uniform impression is obtained. All joints shall be struck before and after brooming/troweling. Contractor to fabricate special score joint tools as shown on plans.
- B. Expansion Joints and Edging: Expansion joints shall be formed provided at the location and intervals as shown on the plans, and at all locations where concrete paving abuts buildings, curbs, or other structures. Approved joint material shall be placed with top edge 1/2" below the paved surface, and shall be securely held in place to prevent movement. Joint and other edges shall be formed in the fresh concrete using an edging tool to provide a smooth uniform impression. All edges shall be struck before and after brooming. After the curing period, expansion joints shall be carefully cleaned and filled

with approved joint compound to 1/4" below paved surface in such a manner as to avoid spilling on paved surfaces or overflow from joint.

3.07 CURING AND PROTECTION AND PATCHING

- A. Protect concrete against frost, rapid drying and damage by rain and keep moist for at least 7 days after placing. Protect during this period by wet burlap, canvas covering (ASTM 171) or liquid curing compound. Curing by the use of saturated burlap. Sprinkler or membrane where approved shall commence immediately upon completion of finishing. Secure Owner's approval of proposed method. During this period, maintain concrete above 70 degrees F. for at least 3 days or above 50 degrees F. for at least 5 days. Concrete from which forms are removed within 7 days after pouring shall be sprayed during the curing period as frequently as drying conditions may require. Concrete covering shall be a type that will not stain or discolor finished concrete surfaces. Cure concrete in accordance with requirements of the current ACI Manual of Concrete Practice. Apply a spray on curing compound in accordance with manufacturer's recommendation and as specified herein where allowed.
- B. Protect all concrete work against injury and defacement to walls and steps during subsequent construction operations, and until acceptance by the Owner.
- C. PATCHING
  - 1. The use of "pavecrete" or other surfacing material will not be permitted.
  - 2. Minor chips (2" X 2") or less which occasionally occur as a result of related construction activities may be patched using approved material.
  - 3. The color and finish of all patches must exactly duplicate the surrounding pavement.
  - 4. Remove any stains or spills on finished concrete work immediately.
  - 5. Upon completion of the work clean all areas.

END OF SECTION

SECTION 02780

UNIT PAVERS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 UNIT PRICES

- A. Measurement for unit pavers is as follows:

Concrete Unit Pavers	SF
Truncated Dome Concrete Paver Detectable Warning	SF

- B. Refer to Section 01270 – Measurement and Payment for unit price procedures.

1.03 SUMMARY

- A. This Section includes concrete pavers set on concrete base with sand setting bed.

1.04 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product data for the following:
  - 1. Concrete pavers.
- C. Mock ups for the following:
  - 1. Provide a 4' x 4' mock up of each type of paver with the appropriate joints and setting bed.
- D. Samples for initial selection in the form of manufacturer's color charts consisting of actual units or sections of units showing the full range of colors, textures, and patterns available for each type of unit paver indicated.
  - 1. Include similar samples of material for joints and accessories involving color selection.
- E. Samples for verification in full-size units of each type of unit paver indicated; in sets for each color, texture, and pattern specified, showing the full range of variations expected in these characteristics.
  - 1. Provide samples indicating full range of colors to be expected in the completed Work.

2. Include samples of exposed edge restraints.
- F. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

#### 1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed unit paver installations similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
- B. Single-Source Responsibility: Obtain each color, type, and variety of unit pavers, joint materials, and setting materials from a single source with resources to provide products and materials of consistent quality in appearance and physical properties without delaying the Work.
- C. Mockup: Prior to installing unit pavers, construct mockups for each form and pattern of unit pavers required to verify selections made under sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final unit of Work, including same base construction, special features for expansion joints, and contiguous work as indicated.
  1. Locate mockups on-site in the location and of the size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect one week in advance of the dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain Architect's acceptance of mockups before start of final unit of Work.
  5. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
    - a. When directed, demolish and remove mockups from Project site.
    - b. Accepted mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect unit pavers and aggregate during storage and construction against soilage or contamination from earth and other materials.
  1. Wrap pavers in plastic or use other packaging materials that will prevent rust marks from steel strapping.

1.07 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following or an approved equal:
  - 1. Concrete Pavers:
    - a. Pavestone, 30001 Katy-Brookshire Road, Katy, TX 77494, Phone (281) 391-7283.

2.02 AGGREGATE SETTING-BED MATERIALS

- A. Geotextile: Nonwoven geotextile manufactured from polyester or polypropylene fibers, with a permeability rating 10 times greater than that of soil on which paving is founded and an AOS (apparent opening size) small enough to prevent passage of fines from leveling course into graded aggregate of base course below.
- B. Sand for Leveling Course: Fine, sharp, nonplastic aggregate complying with ASTM C 33.
- C. Sand for Joints: Fine, sharp, masonry sand with 100 percent passing the No. 16 sieve and no more than 10 percent passing the No. 200 sieve.
- D. Joint Sand Admixture Stabilizer: Non-toxic organic binder as manufactured by SandLock, 800-241-9153. Use highest recommended rate as provided by the manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of unit pavers. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Vacuum clean concrete substrates to remove dirt, dust, debris, and loose particles.

3.03 INSTALLATION, GENERAL

- A. Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be visible or cause staining in finished work.
- B. Mix pavers from several pallets or cubes as they are placed to produce uniform blend of colors and textures.
- B. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
- C. Joint Pattern: As indicated.
- D. Tolerances: Do not exceed 1/32-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.
- E. Tolerances: Do not exceed 1/16-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 24 inches and 1/4 inch in 10 feet from level, or indicated slope, for finished surface of paving.
- F. Provide edge restraints as indicated. Install edge restraints prior to placing unit pavers.
  - 1. Install edge restraints as indicated on the drawings

3.05 REPAIR, CLEANING, AND PROTECTION

- A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment to eliminate evidence of replacement.
- B. Provide final protection and maintain conditions in a manner acceptable to Installer that ensures that unit paver work is without damage or deterioration at the time of Substantial Completion.

END OF SECTION

SECTION 02870  
SITE AND STREET FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes:
  - 1. Benches
  - 2. Litter Receptacles

1.3 UNIT PRICES

- A. Measurement for site furnishings are as follows:
  - 1. Trash Receptacles EA
  - 2. Benches EA
  - 3. Bicycle Racks EA
  - 4. Bus Shelter EA
- B. Refer to Section 01270 – Measurement and Payment for unit price procedures.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's current printed specifications and catalogue cutsheets

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Show not less than five (5) years successful and continuous experience in work of the type(s) shown on the Drawings.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packaging and Labeling: Furnish materials in manufacturer's unopened, original packaging, bearing original labels showing quantity, description and name of manufacturer. Verify that all materials and components are adequately padded and securely bound in such a manner that no damage occurs to the product during delivery and unloading at the site.

- B. Storage: Damaged materials will be rejected. Remove damaged materials from the job site immediately, and pay cost of replacement. Determination of damage shall be the sole authority of the Owner.
- C. Handling: Lift materials using lifting inserts provided by manufacturer.
- D. Painted Finishes: Provide non-scratching, non-staining, firmly-bound covering for all shop-painted finishes until installed and accepted.
- E. Wood and Precast Concrete: Protect from all stains.

1.7 SEQUENCING AND SCHEDULING

- F. Acceptance: Do not install site and street furnishings prior to acceptance by Owner's representative of area to receive such materials.
- G. Coordination: Coordinate with the work of other sections to insure the following sequence of construction.
  - 1. Set anchors or sleeves in place for all site furnishings per manufacturer's directions and pour footings prior to installation of adjacent paving.

1.8 WARRANTY

- H. Provide the manufactures standard written warranty

1.10 MAINTENANCE

- I. Maintenance Service:
  - 1. General: Immediately remove all stains to materials or surrounding site improvements. Do not use cleaning solvents harmful to site materials. Do not permit cleaning agents to contaminate planted areas.

PART 2 - PRODUCTS

2.1 BENCHES

- A. Where and as indicated on the drawings. As manufactured by Landscape Forms. Contact Cathy Comeaux 1-800-430-6206 ext. 1316

2.2 LITTER RECEPTACLES

- A. Where and as indicated on the drawings. As manufactured by Landscape Forms. Contact Cathy Comeaux 1-800-430-6206 ext. 1316



2.3 BICYCLE RACKS

- A. Where and as indicated on the drawings. As manufactured by Landscape Forms. Contact Cathy Comeaux 1-800-430-6206 ext. 1316

2.4 BUS SHELTER

- A. Where and as indicated on the drawings. As fabricated, supplied and installed by NEC Signage + Architectural Products. Contact Hank Hink.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Locations: Verify that all site and street furnishings can be installed at locations as shown on Drawings.
- B. Conditions: Verify that no defects or errors exist in the work of other sections which would lead to defective installation or latent defects in workmanship and function of items in this section.

3.2 PREPARATION

- A. Concrete Pads and Footings:
  - 1. Layout: Accurately lay out all pads and footings as called for in the Drawings.
  - 2. Installation: Refer to details indicated on the drawings.

3.3 INSTALLATION

- A. Provide quantities at locations designated in the field.
- B. Install items in accordance with the manufacturers specifications.

3.4 PROTECTION

- A. Furnishings: Maintain until acceptance by Owner's representative. Replace all missing accessories at no cost to Owner.
- B. Wrappings: Do not remove protective wrappings from furnishings until instructed by Owner's representative.

END OF SECTION

Section 02950

PLANTING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes

1. Excavation of plant pits and beds.
2. Furnish and install plant materials and related items.
3. Finish grading of planted areas.
4. Transplanting existing trees on site to new locations.
5. Warranty and replacements.

B. Related Sections

1. Finish Grading - Section 02215
2. Sprinkler Irrigation - Section 02810
3. Lawns and Grasses - Section 02930
4. Landscape Maintenance - Section 02970

1.02 UNIT PRICES

A. Measurement for Planting is as follows:

Trees	EA	
Groundcovers including bed prep and mulch		LS
Shrubs including bed prep and mulch		LS
Seasonal Color including bed prep and mulch		LS
Steel Edging	LF	

B. Refer to Section 01270 – Measurement and Payment for unit price procedures.

1.03 QUALITY ASSURANCE

A. Reference Standards

1. "American Standard for Nursery Stock", 1980 Edition, American National Standards Institute, Incorporated, (A.N.S.I. Z60-1-1980).
2. "Standardized Plant Names", 1942 Edition, American Joint Committee on Horticultural Nomenclature.

B. Source - Quality Control:

1. Plants shall be subject to inspection and approval by Owner's representative at place of growth and upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the Work. Submit written request for inspection of plant material at place of growth to Owner's representative. Written request shall state the place of growth and quantity of plants to be inspected. Owner's representative reserves right to refuse inspection at this time if, in his judgment, a sufficient quantity of plants are not available for inspection.
2. Trees shall be approved and tagged at place of growth by Owner's representative. For distant material, preliminarily submit 4" x 6" photographs for pre-inspection review. Photographs shall show at least two individual plants and overall views of the nursery. The name and location of the nursery source shall be included with photos. In addition, the total quantity of plants available to select from shall be included.
3. All plants inspected at the nursery by the Owner's representative shall be tagged with serialized self-locking tags. Trees delivered to the site without these tags or with broken tags shall be sufficient reason for rejection.
4. Substitutions of plant materials will not be permitted unless authorized in writing by Owner's representative. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract Price. Such proof shall be substantiated and submitted in writing to Owner's representative at least 30 days prior to start of Work under this Section. These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made in order to supply specified materials.

C. Inspections:

1. Make written request for inspection after planting operations have been completed. Such inspection is for the purpose of establishing the Maintenance Period.

- D. 2. Submit written requests for inspections to the Owner's representative at least 7 days prior to anticipated inspection date.

1.04 SUBMITTALS

- A. Furnish required copies of manufacturer's literature, samples, certifications, or laboratory analytical data for the following items:

1. Trees (growers information and photographs of each)
2. Shrubs, groundcovers and vines (suppliers information and sample of each)
3. Mulch (manufacturer's literature and sample)
4. Steel Edging (manufacturer's literature and sample)

5. Tree staking materials – posts, hose, and guying materials (manufacturers information and samples of each)

1.05 DELIVERY, STORAGE AND HANDLING

- A. Submit a plan for transporting plant material to the site to the Owner's representative for approval. Such a plan should include:
  1. Date of pick-up at nursery or place of storage.
  2. Type of vehicle used for shipping.
  3. Method of protecting trees during transit.
  4. Dates in transit.
  5. Date of delivery to site.
  6. Projected date of installation.
  7. Means of storage, watering and shading used between delivery and planting.
- B. The Contractor shall follow these precautions:
  1. During hot weather and when practical, transport plant materials between sunset and sunrise if transported in an open trailer or non-refrigerated box.
  2. Dug material should be maintained and watered as required at the nursery to guarantee their vitality and health until shipping.
  3. Protect all trunks, stems, branches and root balls during tree tying, wrapping and loading operations from damage.
  4. Load balls or containers onto transport vehicle and secure in a manner that protects the structural integrity of the root balls.
  5. The Contractor shall be solely responsible for the safe transportation of plants to the site and their condition upon arrival. Trees damaged, dehydrated or abused during transit and storage will be rejected.
  6. Plant materials should not be stored on concrete or left exposed to the sun.
  7. Protect the balls and water regularly until planting. If trees are left in storage over the weekend or holiday provide a means of periodically watering and inspecting root ball protection.
- C. The Owner's representative may inspect any phase of this operation and may reject any plant material improperly handled during any phase of this operation.
- D. Nothing in this Section shall be interpreted as relieving the Contractor of the responsibility of providing healthy, viable plants, nor shall it have any affect upon the terms of the warranty specified herein.

1.06 MAINTENANCE BY THE CONTRACTOR: (refer to sections 02970)

1.07 FINAL ACCEPTANCE

- A. Work under this Section will be accepted by Owner's representative upon satisfactory completion of all work, including maintenance, but exclusive of replacement of plant materials under the Warranty Period. Upon Final Acceptance, the Owner will assume responsibility for maintenance of the Work.

1.08 WARRANTY PERIOD AND REPLACEMENTS

- A. Warrant that all plants installed under this Contract will be healthy and in flourishing condition of active growth one year from date of Final Acceptance.
- B. Replace, without cost to Owner, and as soon as weather conditions permit, all dead plants and all plants not in vigorous, thriving condition, as determined by the Owner during and at the end of Warranty Period. Plants shall be free of dead or dying branches and branch tips, and shall bear foliage of a normal density, size and color. Replacements shall closely match adjacent specimens of the same species and shall be subject to all requirements of this specification.

1.09 PROTECTION OF EXISTING PLANTS TO REMAIN

- A. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of any existing plant to remain except as actually required for construction in those areas.
- B. Provide barricades, fences or other barriers as necessary at the drip line to protect existing plants to remain from damage during construction.
- C. Notify Owner's representative in any case where Contractor feels grading or other construction called for by Contract Documents may damage existing plants to remain.
- D. If existing plants to remain are damaged during construction, Contractor shall replace such plants of the same species and size as those damaged at no cost to Owner. Determination of extent of damage and value of damaged plant shall rest solely with Owner's representative.

## PART 2 PRODUCTS

2.01 PLANTS

- A. Plants shall be nursery grown in accordance with good horticultural practices under climatic conditions similar to those of project for at least two years unless specifically otherwise authorized by Owner's representative in writing. Unless specifically noted otherwise, all plants shall be exceptionally heavy, symmetrical, tightly knit, so trained or favored in development and appearance as to be superior in form, number of branches, compactness and symmetry.

- B. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs, or larvae, and shall have healthy, well developed root systems. They shall be free from physical damage or adverse conditions that would prevent thriving growth.
- C. Plants shall be true to species and variety and shall conform to measurements specified except that plants larger than specified may be used if approved by Owner's representative. Use of such plants shall not increase Contract price. If larger plants are approved, the ball of earth or container size shall be increased as specified under "Applicable Standards" and subject to the approval of the Owner's representative.
- D. Plants shall be measured when branches are in their normal position. Height and spread dimensions specified refer to main body of plant and not branch tip to tip. Caliper measurement shall be taken at a point on the trunk 6" above natural ground line for trees up to 4" in caliper and at a point 12" above the natural ground line for trees over 4" in caliper. If a range of size is given, no plant shall be less than the minimum size and not less than 40% of the plants shall be as large as the maximum size specified. The measurements specified are the minimum size acceptable and are the measurements after pruning, where pruning is required. Plants that meet the measurements specified, but do not possess a normal balance between height and spread shall be rejected.
- E. Container stock, when specified, shall have grown in the containers in which delivered for at least 6 months, but not over two years. Samples must prove no rootbound conditions exist. No container plants that have cracked or broken balls of earth when taken from container shall be planted except upon special approval by Owner's representative. Container stock shall not be pruned before delivery. Field grown plants recently transplanted into containers will not be accepted.
- F. Trees which have damaged or crooked leaders, or multiple leaders, unless specified, will be rejected. Trees with abrasions of the bark, sunscalds, disfiguring knots, or fresh cuts of limbs over 3/4" which have not completely calloused, will be rejected.
- G. Balled and Burlapped trees, when accepted, shall have a root ball size of ten times the caliper.
- H. Nursery grown B&B material shall be pruned and thinned at the place of growth immediately prior to digging as required for packaging and safe moving. Method of pruning shall be as approved in the field by the Owner's representative. Do not remove self-locking tags during this pruning prior to delivery to site.
- I. Field collected or plantation grown stock shall conform to the applicable standards under reference standards.

## 2.02 COMMERCIAL FERTILIZERS

- A. Trees, shrubs, groundcover and perennial fertilizer:
  - 1. MicroLife organic fertilizer as supplied by San Jacinto Environmental Supplies, Houston, Texas, or approved equal. Apply at the manufacturers maximum recommended rate for each plant.

2.03 STAKING MATERIALS

- A. Contractor shall use staking materials necessary to meet requirements of specifications, subject to approval:
  - 1. Tree Stakes: 8' long steel T-post weighing 1.33 pounds per foot.
  - 2. Paint for Stakes: Pittsburgh Paint No. 515-5 Stonehenge Greige.
  - 3. Guys: 12 gauge annealed single strand wire.
  - 4. Hose: ¾" reinforced rubber garden hose colored black.

2.04 WATER

- A. Furnished by Contractor. Meter as required.

2.05 PRE-EMERGENT AND POST-EMERGENT WEED CONTROL

- A. Pre-emergent
  - 1. Corn gluten - as available at San Jacinto Environmental Supplies, Houston, Texas or approved organic equal.
  - 2. Barricade, Ronstar or XL or approved equal.
- B. Post-emergent
  - 1. Round-up Pro or Finale or approved equal.

2.06 MULCH

- A. Shredded hardwood; shall be the product of standard stripping of bark from hardwood trees for timber or pulp manufacturing. Bark shall be shredded in a manner where large pieces are at a minimum. The mulch shall be free of debris.

2.07 INSECTICIDE

- A. Shall be 'Astro Insecticide' as manufactured by FMC Corporation, Agricultural Products Group, 1735 Market Street, Philadelphia, PA 19103 (800-321-1362) or approved equal.

2.08 ORGANIC SOIL AMENDMENT

- A. Compost; made from recycled natural materials screened to 1" minus particle size on the Solvita compost maturity test. Compost must score a value of 5 or higher and be composted a minimum of 6 months with a pH value of 6.0 – 8.0. Supplied by Nature's Way Resources, Inc., Conroe, Texas or approved equal. See Section 02920 for chemical and biological components.

2.09 WATERING/INSPECTION TUBES: ADS N-12 drainage pipe, four (4") inch, perforated and black. Available at Advanced Drainage Systems, Inc., Ennis, Texas.

2.10 PLANTING BACK FILL MIX:

- A. 2 parts - existing topsoil
- 2 parts - decomposed pine bark mulch
- 1 part - sharp sand
- 1/2 part - composted horse manure

2.11 STEEL EDGING

- A. Shall be equal to that manufactured by the J. D. Russell Company. The sizes shall be 3/16" X 4". Color shall be black. Submit sample for approval or approved equal.

PART 3 EXECUTION

3.01 LAYOUT OF PLANTING AREAS

- A. Layout plants in locations shown on drawings. Use wire stakes color-coded for each specie of plant material. Stake location of each tree and major shrub and outline of shrub and groundcover beds.
- B. Owner's representative will check location of plants in the field and shall adjust to exact position before planting begins.

3.02 EXCAVATION TO SUBGRADE FOR PLANTING AREAS AND VERIFICATION OF FINISHED GRADE:

- A. Excavate all planting areas (pits and beds) to required depth as hereinafter specified and stockpile enough material to prepare planting mix for all plants. Remove excess material from site.
- B. Subsoil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that clods will not break readily. Water shall be applied, if necessary, to bring soil to an optimum moisture content for tilling and planting.
- C. Excavate container grown tree, shrub and vine pits to the following dimensions:

Excavation for	Width	Depth
Cont. Grown Trees	Cont. + 24 in.	as detailed
Cont. Shrubs	Cont. + 12 in.	Cont. + 6 in.

- D. Excavate container grown shrub and groundcover beds to the following dimensions:

Excavation for	Width	Depth
Shrubs	Entire Bed	Cont. + 4"; not to be less than
Groundcover	Entire Bed	Cont. + 4"; not to be less than 8"



- E. Rip or cultivate sub-grade in pits and beds to a depth of three (3") inches.

3.03 DRAINAGE, DETRIMENTAL SOILS AND OBSTRUCTIONS

- A. Notify the Owner's representative in writing of all soil or drainage conditions Contractor considers detrimental to growth of plant material.
- B. If rock, hardpan, underground construction work, tree roots or other obstructions are encountered in the excavation of plant pits and beds, alternate locations may be selected by Owner's representative. Where locations cannot be changed, submit cost required to remove the obstructions to a depth of not less than 6" below the required pit or bed depth. Proceed with work after approval.

3.04 PREPARING PLANT MATERIALS FOR PLANTING

- A. Containerized stock shall be removed carefully from containers. Do not use spade to cut containers. Do not lift or handle container plants by tops, stems, or trunks at any time.
- B. Do not bind or handle any plant with wire or rope at any time so as to damage bark or break branches. Lift and handle plants only from bottom of ball.

3.05 INSTALLATION OF PIT PLANTED MATERIALS

- A. Excavate plant pit through jute mesh, or directly into amended soil, as required by individual areas. Scarify the walls and bottom of all plant pits immediately prior to the placement of the plant. Dig pit as close to rootball size as possible and plant the top of the shrub and groundcover rootballs even with the finish grade. To secure the plant in the pit, backfill voids with parent material. For perennials, backfill with specified mix in 2.11.
- B. For boxed material, break vertical bands and remove top and bottom of container. Carefully lower plant into pit with backhoe or approved method and adjust elevation. Cut horizontal bands and remove sides. Prune away girdled roots and tease root hair masses. Carefully fill pit and compact by watering in to support root ball.
- C. Place plants carefully in the prepared planting pit. Do not disturb root ball or untie twine or roping until backfill settlement is complete and tree is staked, if applicable. Fill voids in plant pit with parent material and water in to compact backfill.
- D. Smooth planted areas to conform to specified grades after full settlement has occurred. Contractor shall bear final responsibility for proper surface drainage of planted areas. Any discrepancy in the drawings or specifications, obstructions on the site, or prior work done by another party, which Contractor feels precludes establishing proper drainage, shall be brought to the attention of the Owner's representative in writing.
- F. Form saucer with 3" high berm around trees 12" wider than ball diameter.
- G. Water all plants immediately again after planting.

- H. Apply pre-emergent weed control material in areas to receive mulch.
- I. Spread mulch in required areas to the compacted depth of 2".

3.06 INSTALLATION OF BED PLANTED MATERIALS:

- A. Install steel edging where shown. Anchor with steel stakes spaced not more than three (3') feet OC or as often as necessary to have smooth radius or straight tangent. Drive stake to one (1") inch below top of edging.
- B. Fill all shrub and groundcover beds with plant bed mix to finished grade (compacted) plus two (2") inches.
- C. Excavate in planting mix for individual plant and install as required. Set plant plumb and brace rigidly in position until planting soil mix has been tamped solidly around the ball and roots.
- D. When plant pits have been backfilled approximately two-thirds (2/3) full, fertilizer per manufacturer's recommendations at the maximum rate.
- E. Water thoroughly, saturating root ball, before installing remainder of the planting soil to top of pit, eliminating all air pockets. Top of root ball shall be two (2") inches above finished grade.
- F. Smooth planting areas to conform to specified grades after full settlement has occurred. Contractor shall bear final responsibility for proper surface drainage of planted areas.
- G. Water all plants immediately again after planting.
- H. Apply pre-emergent weed control material over entire area to receive mulch.
- I. Mulch all shrub and groundcover beds with shredded bark to two (2") inches thick.

3.07 SURFACE DRAINAGE OF PLANTING AREAS

- A. Contractor shall bear final responsibility for proper surface drainage of planted areas. Any discrepancy in the drawings or specifications, obstructions on the site, or prior work done by another party which Contractor feels precludes establishing proper drainage, shall be brought to the attention of Owner's representative in writing for correction or relief of said responsibility.

3.08 PRUNING

- A. Prune containerized plants only at time of planting and according to standard horticultural practice to preserve the natural character of the plant. Prune by removing entangled branching and by removing crotches. Avoid removing branch tips wherever possible. Pruning shall be done under supervision of the Owner's representative.

- B. Remove all dead wood, suckers, and broken or badly bruised branches. Use only clean, sharp tools.
- C. Prune B&B material in addition to place of growth as may be directed by Owner's representative by removing a percentage of interior branching proportional to the root loss during digging (up to 1/3).

3.09 STAKING

- A. Staking of trees is to be used by the Contractor, who will be responsible for material remaining plumb and straight for all given conditions through the guarantee period. Tree support shall be done as outlined on the following tables.

- B. Stake all trees in accordance with the following table:

Tree	Stakes	Stake Size
45 Gal. and smaller	2	7 ft T-Post
65 Gal. and B&B 3" & larger	3	8 ft T-Post

- C. Locate first stake on prevailing windward side of tree and as close to the main trunk as is practical, avoiding root injury. Stakes shall be driven at least 18" into firm ground.
- D. Tie tree to stake using approved tree tie. Tie shall be located midway within tree crown or at a location approximately 2/3 of the overall height of the tree. Locate tie just above major side branch in order to deter slippage of tie.
- E. Locate second stake opposite first. Secure with one tie opposite upper tie at first stake.
- F. Auxiliary stem stakes shipped with trees shall be secured as above after shipping.
- G. Paint all stakes except auxiliary stake with specified paint.

3.10 CLEAN UP

- A. Clean up all areas as required for complete and acceptable inspection.

3.11 INSPECTIONS

- A. Make written request for inspection after planting operations are completed.
- B. Submit requests for inspections to the Owner at least 2 days prior to anticipated inspection date.

END OF SECTION

Section 02970

LANDSCAPE MAINTENANCE FOR TWO (2) YEARS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes

1. Watering trees and grass.
2. Monitoring adjustment and minor repair of the landscape irrigation system.
3. Mowing, edging and trimming of lawn areas.
4. Monitoring, fertilizing, weeding, and cultivating of lawn areas.
5. Pruning and trimming of plant material.
6. Weed, cultivating and cleaning of planting beds.
7. Application of fertilizers, insecticides, and herbicides.
8. General site clean up; removal of trash and products of maintenance.
9. Replacement of trees, groundcovers, and sod.
10. Extra services as needed.

B. Related Sections

1. Lawns and Grasses - Section 02930
2. Planting - Section 02950
3. Sprinkler Irrigation Systems – Section 02810

1.02 UNIT PRICES

A. Measurement for landscape maintenance is as follows:

Landscape Maintenance	MO
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B. Refer to Section 01270 – Measurement and Payment for unit price procedures.

1.03 EXTRA SERVICES

- A. All services not covered under this contract shall be considered "extra services" and will be charged for separately according to the nature of the item of work. The consent and authorization of the Owner or their authorized representative must be obtained prior to the performance or installation of such "extra services" items and prior to purchase of any chargeable materials.
- B. Plant replacements as a result of flood damage.

1.04 MAINTENANCE REQUIREMENTS

- A. Begin maintenance after each plant and lawn portion is installed.
- B. Maintenance period shall begin upon inspection and approval at Substantial Completion by phase and shall be for two (2) years.
- C. Sprinkler Irrigation System: Maintenance of the sprinkler irrigation system shall consist of monitoring and adjustment of the duration and frequency of the watering schedule, adjustment of heads for coverage and elevation, repair of leaks in both mains and lateral lines and all other work required to establish a complete working sprinkler irrigation system.
- D. Trees, Shrubs, Groundcovers and Vines: Maintenance of new planting shall consist of watering, cultivating, weeding, mulching, re-staking, tightening and repairing of guys, resetting plants to proper grades or upright position, restoration of the planting saucer, and furnishing and applying such sprays and invigorants as are necessary to keep the plantings free of insects and disease and in thriving condition.
- E. Lawns: Maintenance of new lawns shall consist of mowing, edging, raking, watering, weeding, fertilizing, and repair of all erosion reseeding, resodding, necessary to establish a uniform stand of the specified grasses.

1.05 PROTECTION

- A. Protect planting areas and lawns at all times against damage of all kinds for duration of maintenance period. Maintenance includes temporary protection fences, barriers and signs as required for protection. If any plants become damaged or injured, because sufficient protection was not provided, treat or replace as directed by Owner at no additional cost to Owner.

1.06 NEGLECT AND VANDALISM

- A. Turf, shrubs, trees or plants that are damaged or killed due to contractors operations, negligence or chemicals shall be replaced at no expense to the Owner. If plant damage or death is caused by conditions beyond the contractor's control, replacement shall be at the Owner's expense.

- B. Sprinklers or structures that are damaged due to the contractor's operations must be replaced by the contractor promptly. Likewise, damage to the irrigation system by others shall be corrected immediately by the contractor, at the Owner's expense.
- C. All man made water damage, resulting from contractor's neglect shall be corrected at the contractor's expense.
- D. All damage to or thefts of landscaping and irrigation installations not caused or allowed by the contractor shall be corrected by the contractor at the Owner's expense upon receipt of written authorization to proceed.

1.07 EMERGENCIES

- A. Answer emergency or complaint calls regarding conditions in landscaped areas regarding fallen trees or branches or shrubs or trees that obstruct the trail or other pavement within 1 hour and correct the problem or place warning signs and advise the Owner of the need for major work to be performed within 4 hours of the initial contact.
- B. Answer emergency calls regarding the landscape irrigation system failure or need of repair.

1.08 FINAL ACCEPTANCE

- A. Work under this Section will be accepted by Owner's representative upon satisfactory completion of all work, including maintenance, but exclusive of the required guaranteed sprinkler irrigation obligations, replacement of plant materials and lawns under the Warranty Period. Upon Final Acceptance, the Owner will assume responsibility for maintenance of the work.

1.09 WARRANTIES AND REPLACEMENTS

- A. Refer to Sections 02810, 02930 and 02950.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Materials required for installed items shall match those already in use.
- B. Samples of all materials not specified under other Sections of these Specifications shall be submitted for review by Owner's representative prior to use.

PART 3 EXECUTION

3.01 REQUIRED EQUIPMENT

- A. Provide the necessary maintenance equipment to keep the property maintained as described herein.

3.02 WATERING

A. It shall be the responsibility of the Contractor to assure that the correct watering of plant materials is being accomplished through the following irrigation services:

1. Regular deep watering to all new trees until there are definite signs that the trees have established themselves and new growth is apparent. Deep watering shall be accomplished with hoses and water truck equipment.
2. Frequent watering to the lawn areas to insure against drying. This may be accomplished as above, by hand watering or portable sprinklers.

3.03 LANDSCAPE IRRIGATION SYSTEM

A. Monitor and program the automatic controlling devices to provide optimum moisture levels in all planted areas.

1. Irrigation cycles shall be set to take place prior to sunrise (usually 4:00 - 5:00 am) unless otherwise instructed by the Owner, except during visits of grounds maintenance personnel; during such visits the irrigation system may be operated as desired by those personnel.
2. If there is more than one irrigation controller, do not program to water during the same time period as over-draft of water meters will result. Set controllers so that one finishes watering cycle before next starts watering cycle. During periods of high rainfall, set controllers to "dry mode" until irrigation is needed. Do not switch controller to "off", as this will stop time clock.
3. Complete sprinkler system servicing shall be performed as required to maintain sprinklers in correct operating condition, including all required labor. Operation of sprinklers shall be monitored on a bi-monthly basis to assure proper cover and operation.
4. Adjust sprinklers to avoid damage to windows and buildings. Make repairs and alterations to the sprinkling system and water lines. All sprinklers repairs such as cleaning of heads or breaks caused by the Contractor shall be the Contractor's responsibility.
5. Perform minor additions, subtractions and/or adjustments to irrigation equipment (i.e., addition of spray head or riser extension) as may be required to order to conform to the irrigation requirements herein specified. Such additions, subtractions and/or realignments to irrigation system equipment shall not materially reduce the extent or value of the irrigation system equipment, and shall be accomplished after securing approval of the Owner.
6. Supplemental irrigation beyond that which can be provided by the irrigation system shall be provided by the grounds maintenance firm as required in order to assure optimum moisture levels.

3.04 MAINTENANCE OF TURF AREAS

A. Mowing lawn/grass areas shall be accomplished with sharp, properly adjusted mowers of the correct size for the various areas.

- B. Mowing frequency shall be as per the Landscape Maintenance Program. Blade heights shall be set according to the following schedule.
  - 2 Inches Initial Mowing
  - 2 Inches January - December
- C. In the event of a prolonged rainy period and a surge of leaf growth is anticipated, the mower height may be re-adjusted to prevent "scalping" or skinning of lawn on preceding cuts.
- D. Lawn shall be edged evenly at all walks, headers and other structures as per Landscape Maintenance Program.
- E. Until the establishment of the turf, the Contractor will be responsible for replacing soils that have eroded onto the paved areas. Residual soils on paving will be removed and if not mingled with objectionable materials, may be re-used in eroded areas.
- F. Immediately upon observing any lawn grass spreading into shrub or groundcover areas, the Contractor shall initiate a program of mechanical removal and maintain this program throughout the maintenance period.
- G. Any lawn grass appearing in paved areas shall receive an application of soil sterilant according to manufacturer's direction. The sterilant shall be approved and will not be detrimental structurally to paved areas.
- H. Special effort shall be given to the control of fire ants infesting the site. After control is accomplished, the ant mounds shall be lowered and tamped to the existing grade.
- I. Removal of debris from the site unrelated to horticultural maintenance (paper, bottles, cans, "Pirate" signs, etc.) shall be the responsibility of the maintenance Contractor and limited to areas designated. Frequency as per Landscape Maintenance Program.

### 3.05 MAINTENANCE OF TREES, SHRUBS, AND GROUNDCOVERS

- A. Contractor shall adjust and tighten as required all tree staking and guying. Removal as directed by Owner's Representative.
- B. Contractor shall deep water all new trees until there are definite signs the trees have established themselves and are pushing out new growth.
- C. Watering basins shall be removed by Contractor after the trees have established themselves or as directed by Owner's representative. Basins are normally removed one year from time of planting.
- D. Contractor shall be continuously alert for signs of insect presence or damage or the presence or damage from plant fungi. Upon locating such evidence, the Contractor shall report it to the Owner's representative and take action as directed.



**PART 4 MAINTENANCE FREQUENCY SCHEDULE**

**4.01 MOWING, EDGING, TRIMMING, LITTER CLEAN UP, AND WATERING MONITORING**

Month	Minimum Number of Visits per Month
January	4
February	4
March	4
April	4
May	4
June	4
July	4
August	4
September	4
October	4
November	4
December	4

**4.02 TOPDRESS FERTILIZER**

A. Thirty (30) days after seeding and/or sodding.

**4.03 MULCHING, WEEDING, WEED CONTROL AND GUYING ADJUSTMENT**

A. As required at each visit.

**4.04 RESODDING**

A. As required upon notice.

**4.05 TREE AND PLANT REPLACEMENT**

A. As required at each visit.

**4.06 TRASH AND DEBRIS REMOVAL**

A. Collect all trash and debris at each visit and dispose of off site.

**END OF SECTION**

## 360.1 to 360.2

### ITEM 360 CONCRETE PAVEMENT

**360.1. Description.** Construct hydraulic cement concrete pavement with or without curbs on the concrete pavement.

#### **360.2. Materials.**

**A. Hydraulic Cement Concrete.** Provide hydraulic cement concrete in accordance with Item 421, "Hydraulic Cement Concrete," except that strength over-design is not required. Provide Class P concrete designed to meet a minimum average flexural strength of 570 psi or a minimum average compressive strength of 3,500 psi at 7 days or a minimum average flexural strength of 680 psi or a minimum average compressive strength of 4,400 psi at 28 days. Test in accordance with Tex-448-A or Tex-418-A.

When shown on the plans or allowed, provide Class HES concrete for very early opening of small pavement areas or leave-outs to traffic. Design Class HES to meet the requirements of Class P and a minimum average flexural strength of 400 psi or a minimum average compressive strength of 2,600 psi in 24 hr., unless other early strength and time requirements are shown on the plans or allowed. No strength over-design is required. Type III cement is allowed for Class HES concrete.

Use Class A or P concrete for curbs that are placed separately from the pavement. Provide concrete that is workable and cohesive, possesses satisfactory finishing qualities, and conforms to the mix design and mix design slump.

**B. Reinforcing Steel.** Provide Grade 60 deformed steel for bar reinforcement in accordance with Item 440, "Reinforcing Steel." Provide approved positioning and supporting devices (baskets and chairs) capable of securing and holding the reinforcing steel in proper position before and during paving. Provide corrosion protection when shown on the plans.

**1. Dowels.** Provide smooth, straight dowels of the size shown on the plans, free of burrs, and conforming to the requirements of Item 440, "Reinforcing Steel." Coat dowels with a thin film of grease or other approved de-bonding material. Provide dowel caps on the lubricated end of each dowel bar used in an expansion joint. Provide dowel caps filled with a soft compressible material with enough range of movement to allow complete closure of the expansion joint.

2. **Tie Bars.** Provide straight deformed steel tie bars. Provide either multiple-piece tie bars or single-piece tie bars as shown on the plans. Provide multiple-piece tie bars composed of 2 pieces of deformed reinforcing steel with a coupling capable of developing a minimum tensile strength of 125% of the design yield strength of the deformed steel when tensile-tested in the assembled configuration. Provide a minimum length of 33 diameters of the deformed steel in each piece. Use multiple-piece tie bars from the list of "Prequalified Multiple Piece Tie Bar Producers" maintained by the Construction Division, or submit samples for testing in accordance with Tex-711-I.
- C. **Curing Materials.** Provide Type 2 membrane curing compound conforming to DMS-4650, "Hydraulic Cement Concrete Curing Materials and Evaporation Retardants." Provide SS-1 emulsified asphalt conforming to Item 300, "Asphalts, Oils, and Emulsions," for concrete pavement to be overlaid with asphalt concrete under this Contract unless otherwise shown on the plans or approved. Provide materials for other methods of curing conforming to the requirements of Item 420, "Concrete Structures."
- D. **Epoxy.** Provide Type III epoxy in accordance with DMS-6100, "Epoxyes and Adhesives," for installing all drilled-in reinforcing steel.
- E. **Evaporation Retardant.** Provide evaporation retardant conforming to DMS-4650, "Hydraulic Cement Concrete Curing Materials and Evaporation Retardants."
- F. **Joint Sealants and Fillers.** Provide Class 5 or Class 8 joint-sealant materials and fillers unless otherwise shown on the plans or approved and other sealant materials of the size, shape, and type shown on the plans in accordance with DMS-6310, "Joint Sealants and Fillers."

**360.3. Equipment.** Furnish and maintain all equipment in good working condition. Use measuring, mixing, and delivery equipment conforming to the requirements of Item 421, "Hydraulic Cement Concrete." Obtain approval for other equipment used.

- A. **Placing, Consolidating, and Finishing Equipment.** Provide approved self-propelled paving equipment that uniformly distributes the concrete with minimal segregation and provides a smooth machine-finished consolidated concrete pavement conforming to plan line and grade. Provide an approved automatic grade control system on slip-forming equipment. Provide approved mechanically operated finishing floats

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capable of producing a uniformly smooth pavement surface. Provide equipment capable of providing a fine, light water fog mist.

Provide mechanically operated vibratory equipment capable of adequately consolidating the concrete. Provide immersion vibrators on the paving equipment at sufficiently close intervals to provide uniform vibration and consolidation of the concrete over the entire width and depth of the pavement and in accordance with the manufacturer's recommendations. Provide immersion vibrator units that operate at a frequency in air of at least 8,000 cycles per minute. Provide enough hand-operated immersion vibrators for timely and proper consolidation of the concrete along forms, at joints and in areas not covered by other vibratory equipment. Surface vibrators may be used to supplement equipment-mounted immersion vibrators. Provide tachometers to verify the proper operation of all vibrators.

For small or irregular areas or when approved, the paving equipment described in this Section is not required.

#### **B. Forming Equipment.**

1. **Pavement Forms.** Provide metal side forms of sufficient cross-section, strength, and rigidity to support the paving equipment and resist the impact and vibration of the operation without visible springing or settlement. Use forms that are free from detrimental kinks, bends, or warps that could affect ride quality or alignment. Provide flexible or curved metal or wood forms for curves of 100-ft. radius or less.
2. **Curb Forms.** Provide curb forms for separately placed curbs that are not slipformed that conform to the requirements of Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."

**C. Reinforcing Steel Inserting Equipment.** Provide inserting equipment that accurately inserts and positions reinforcing steel in the plastic concrete parallel to the profile grade and horizontal alignment in accordance to plan details.

#### **D. Texturing Equipment.**

1. **Carpet Drag.** Provide a carpet drag mounted on a work bridge or a moveable support system. Provide a single piece of carpet of sufficient transverse length to span the full width of the pavement being placed and adjustable so that a sufficient longitudinal length of carpet is in contact with the concrete being placed to produce the desired texture. Obtain approval to vary the length and width of the carpet to accommodate specific applications. Use an artificial

grass-type carpet having a molded polyethylene pile face with a blade length of 5/8 in. to 1 in., a minimum weight of 70 oz. per square yard, and a strong, durable, rot-resistant backing material bonded to the facing.

2. **Tining Equipment.** Provide a self-propelled transverse metal tine device equipped with 4-in. to 6-in. steel tines and with cross-section approximately 1/32 in. thick by 1/12 in. wide, spaced at 1 in., center-to-center. Hand-operated tining equipment that produces an equivalent texture may be used only on small or irregularly shaped areas or, when permitted, in emergencies due to equipment breakdown.
- E. **Curing Equipment.** Provide a self-propelled machine for applying membrane curing compound using mechanically pressurized spraying equipment with atomizing nozzles. Provide equipment and controls that maintain the required uniform rate of application over the entire paving area. Provide curing equipment that is independent of all other equipment when production rates are such that the first application of membrane curing compound cannot be accomplished immediately after texturing and after free moisture has disappeared. Hand-operated pressurized spraying equipment with atomizing nozzles may only be used on small or irregular areas or, when permitted, in emergencies due to equipment breakdown.
- F. **Sawing Equipment.** Provide power-driven concrete saws to saw the joints shown on the plans. Provide standby power-driven concrete saws during concrete sawing operations. Provide adequate illumination for nighttime sawing.
- G. **Grinding Equipment.** When required, provide self-propelled powered grinding equipment that is specifically designed to smooth and texture concrete pavement using circular diamond blades. Provide equipment with automatic grade control capable of grinding at least a 3-ft. width longitudinally in each pass without damaging the concrete.
- H. **Testing Equipment.** Provide testing equipment regardless of job-control testing responsibilities in accordance with Item 421, "Hydraulic Cement Concrete," unless otherwise shown in the plans or specified.
- I. **Coring Equipment.** When required, provide coring equipment capable of extracting cores in accordance with the requirements of Tex-424-A.
- J. **Miscellaneous Equipment.** Furnish both 10-ft. and 15-ft. steel or magnesium long-handled standard straightedges. Furnish enough work bridges, long enough to span the pavement, for finishing and inspection

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operations. Furnish date stencils to impress pavement placement dates into the fresh concrete, with numerals approximately 2 in. high by 1 in. wide by 1/4 in. deep.

**360.4. Construction.** Obtain approval for adjustments to plan grade-line to maintain thickness over minor subgrade or base high spots while maintaining clearances and drainage. Maintain subgrade or base in a smooth, clean, compacted condition in conformity with the required section and established grade until the pavement concrete is placed. Keep subgrade or base damp with water sufficiently in advance of placing pavement concrete. Adequately light the active work areas for all nighttime operations. Provide and maintain tools and materials to perform testing.

- A. Paving and Quality Control Plan.** Submit a paving and quality control plan for approval before beginning pavement construction operations. Include details of all operations in the concrete paving process, including longitudinal construction joint layout, sequencing, curing, lighting, early opening, leave-outs, sawing, inspection, testing, construction methods, other details and description of all equipment. List certified personnel performing the testing. Submit revisions to the paving and quality control plan for approval.
- B. Job-Control Testing.** Unless otherwise shown on the plans, perform all fresh and hardened concrete job-control testing at the specified frequency. Provide job-control testing personnel meeting the requirements of Item 421, "Hydraulic Cement Concrete." Provide and maintain testing equipment, including strength testing equipment at a location acceptable to the Engineer. Use of a commercial laboratory is acceptable. Maintain all testing equipment calibrated in accordance with pertinent test methods. Make strength-testing equipment available to the Engineer for verification testing.

Provide the Engineer the opportunity to witness all tests. The Engineer may require a retest if not given the opportunity to witness. Furnish a copy of all test results to the Engineer daily. Check the first few concrete loads for slump, air, and temperature on start-up production days to check for concrete conformance and consistency. Sample and prepare strength test specimens (2 specimens per test) on the first day of production and for each 3,000 sq. yd. or fraction thereof of concrete pavement thereafter. Prepare at least 1 set of strength-test specimens for each production day. Perform slump, air, and temperature tests each time strength specimens are made. Monitor concrete temperature to ensure that concrete is consistently within the temperature requirements. The Engineer will direct random job-control sampling

and testing. Immediately investigate and take corrective action as approved if any Contractor test result, including tests performed for verification purposes, does not meet specification requirements.

When job-control testing by the Contractor is waived by the plans, the Engineer will perform the testing; however, this does not waive the Contractor's responsibility for providing materials and work in accordance with this Item.

1. **Job-Control Strength.** Unless otherwise shown on the plans or permitted by the Engineer, use 7-day job-control concrete strength testing in accordance with Tex-448-A or Tex-418-A.

For 7-day job-control by flexural strength, use a flexural strength of 520 psi or a lower job-control strength value proven to meet a 28-day flexural strength of 680 psi as correlated in accordance with Tex-427-A. For 7-day job-control by compressive strength, use a compressive strength of 3,200 psi or a lower job-control strength value proven to meet a 28-day compressive strength of 4,400 psi as correlated in accordance with Tex-427-A.

Job control of concrete strength may be correlated to an age other than 7 days in accordance with Tex-427-A when approved. Job-control strength of Class HES concrete is based on the required strength and time.

When a job-control concrete strength test value is more than 10% below the required job-control strength or when 3 consecutive job-control strength values fall below the required job-control strength, investigate the strength test procedures, the quality of materials, the concrete production operations, and other possible problem areas to determine the cause. Take necessary action to correct the problem, including redesign of the concrete mix if needed. The Engineer may suspend concrete paving if the Contractor is unable to identify, document, and correct the cause of low strength test values in a timely manner. If any job-control strength is more than 15% below the required job-control strength, the Engineer will evaluate the structural adequacy of the pavements. When directed, remove and replace pavements found to be structurally inadequate at no additional cost.

2. **Split-Sample Verification Testing.** Perform split-sample verification testing with the Engineer on random samples taken and split by the Engineer at a rate of at least 1 for every 10 job-control samples. The Engineer will evaluate the results of split-sample verification testing. Immediately investigate and take

corrective action as approved when results of split-sample verification testing differ more than the allowable differences shown in Table 1, or when the average of 10 job-control strength results and the Engineer's split-sample strength result differ by more than 10%.

**Table 1**  
**Verification Testing Limits**

Test Method	Allowable Differences
Temperature, Tex-422-A	2°F
Slump, Tex-415-A	1 in.
Air content, Tex-414-A or Tex-416-A	1%
Flexural strength, Tex-448-A	19%
Compressive strength, Tex-418-A	10%

- C. Reinforcing Steel and Joint Assemblies.** Accurately place and secure in position all reinforcing steel as shown on the plans. Place dowels at mid-depth of the pavement slab, parallel to the surface. Place dowels for transverse contraction joints parallel to the pavement edge. Tolerances for location and alignment of dowels will be shown on the plans. Stagger the longitudinal reinforcement splices to avoid having more than 1/3 of the splices within a 2-ft. longitudinal length of each lane of the pavement. Use multiple-piece tie bars or drill and epoxy grout tie bars at longitudinal construction joints. Verify that tie bars that are drilled and epoxied into concrete at longitudinal construction joints develop a pullout resistance equal to a minimum of 3/4 of the yield strength of the steel after 7 days. Test 15 bars using ASTM E 488, except that alternate approved equipment may be used. All 15 tested bars must meet the required pullout strength. If any of the test results do not meet the required minimum pullout strength, perform corrective measures to provide equivalent pullout resistance. Repair damage from testing. Acceptable corrective measures include but are not limited to installation of additional or longer tie bars.
- 1. Manual Placement.** Secure reinforcing bars at alternate intersections with wire ties or locking support chairs. Tie all splices with wire.
  - 2. Mechanical Placement.** If mechanical placement of reinforcement results in steel misalignment or improper location, poor concrete consolidation, or other inadequacies, complete the work using manual methods.
- D. Joints.** Install joints as shown on the plans. Joint sealants are not required on concrete pavement that is to be overlaid with asphaltic



materials. Clean and seal joints in accordance with Item 438, "Cleaning and Sealing Joints and Cracks (Rigid Pavement and Bridge Decks)." Repair excessive spalling of the joint saw groove using an approved method before installing the sealant. Seal all joints before opening the pavement to all traffic. When placing of concrete is stopped, install a rigid transverse bulkhead, accurately notched for the reinforcing steel and shaped accurately to the cross-section of the pavement.

1. **Placing Reinforcement at Joints.** Where the plans require an assembly of parts at pavement joints, complete and place the assembly at the required location and elevation with all parts rigidly secured in the required position. Accurately notch joint materials for the reinforcing steel.
2. **Transverse Construction Joints.**
  - a. **Continuously Reinforced Concrete Pavement (CRCP).** Install additional longitudinal reinforcement through the bulkhead when shown on the plans. Protect the reinforcing steel immediately beyond the construction joint from damage, vibration, and impact.
  - b. **Concrete Pavement Contraction Design (CPCD).** When the placing of concrete is intentionally stopped, install and rigidly secure a complete joint assembly and bulkhead in the planned transverse contraction joint location. When the placing of concrete is unintentionally stopped, install a transverse construction joint either at a planned transverse contraction joint location or mid-slab between planned transverse contraction joints. For mid-slab construction joints, install tie bars of the size and spacing used in the longitudinal joints.
  - c. **Curb Joints.** Provide joints in the curb of the same type and location as the adjacent pavement. Use expansion joint material of the same thickness, type, and quality required for the pavement and of the section shown for the curb. Extend expansion joints through the curb. Construct curb joints at all transverse pavement joints. For non-monolithic curbs, place reinforcing steel into the plastic concrete pavement as shown on the plans unless otherwise approved. Form or saw the weakened plane joint across the full width of concrete pavement and through the monolithic curbs. Construct curb joints in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."

- E. Placing and Removing Forms.** Use clean and oiled forms. Secure forms on a base or firm subgrade that is accurately graded and that provides stable support without deflection and movement by form riding equipment. Pin every form at least at the middle and near each end. Tightly join and key form sections together to prevent relative displacement.

Set side forms far enough in advance of concrete placement to permit inspection. Check conformity of the grade, alignment, and stability of forms immediately before placing concrete, and make all necessary corrections. Use a straightedge or other approved method to test the top of forms to ensure that the ride quality requirements for the completed pavement will be met. Stop paving operations if forms settle or deflect more than 1/8 in. under finishing operations. Reset forms to line and grade, and refinish the concrete surface to correct grade.

Avoid damage to the edge of the pavement when removing forms. Repair damage resulting from form removal and honeycombed areas with a mortar mix within 24 hr. after form removal unless otherwise approved. Clean joint face and repair honeycombed or damaged areas within 24 hr. after a bulkhead for a transverse construction joint has been removed unless otherwise approved. When forms are removed before 72 hr. after concrete placement, promptly apply membrane curing compound to the edge of the concrete pavement.

Forms that are not the same depth as the pavement but are within 2 in. of that depth are permitted if the subbase is trenched or the full width and length of the form base is supported with a firm material to produce the required pavement thickness. Promptly repair the form trench after use. Use flexible or curved wood or metal forms for curves of 100-ft. radius or less.

- F. Concrete Delivery.** Clean delivery equipment as necessary to prevent accumulation of old concrete before loading fresh concrete. Use agitated delivery equipment for concrete designed to have a slump of more than 5 in. Segregated concrete is subject to rejection. Place agitated concrete within 60 min. after batching. Place non-agitated concrete within 45 min. after batching. In hot weather or under conditions causing quick setting of the concrete, times may be reduced by the Engineer. Time limitations may be extended if the Contractor can demonstrate that the concrete can be properly placed, consolidated, and finished without the use of additional water.
- G. Concrete Placement.** Do not allow the pavement edge to deviate from the established paving line by more than 1/2 in. at any point. Place the

concrete as near as possible to its final location, and minimize segregation and rehandling. Where hand spreading is necessary, distribute concrete using shovels. Do not use rakes or vibrators to distribute concrete.

1. **Pavement.** Consolidate all concrete by approved mechanical vibrators operated on the front of the paving equipment. Use immersion-type vibrators that simultaneously consolidate the full width of the placement when machine finishing. Keep vibrators from dislodging reinforcement. Use hand-operated vibrators to consolidate concrete in areas not accessible to the machine-mounted vibrators. Do not operate machine-mounted vibrators while the paving equipment is stationary. Vibrator operations are subject to review.
2. **Date Imprinting.** Imprint dates in the fresh concrete indicating the date of the concrete placement. Make impressions approximately 1 ft. from the outside longitudinal construction joint or edge of pavement and approximately 1 ft. from the transverse construction joint at the beginning of the placement day. Orient the impressions to be read from the outside shoulder in the direction of final traffic. Impress date in DD-MM-YY format. Imprinting of the Contractor name or logo in similar size characters to the date is allowed.
3. **Curbs.** Where curbs are placed separately, conform to the requirements of Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
4. **Temperature Restrictions.** Place concrete that is between 40°F and 95°F when measured in accordance with Tex-422-A at the time of discharge, except that concrete may be used if it was already in transit when the temperature was found to exceed the allowable maximum. Take immediate corrective action or cease concrete production when the concrete temperature exceeds 95°F.

Do not place concrete when the ambient temperature in the shade is below 40°F and falling unless approved. Concrete may be placed when the ambient temperature in the shade is above 35°F and rising or above 40°F. When temperatures warrant protection against freezing, protect the pavement with an approved insulating material capable of protecting the concrete for the specified curing period. Submit for approval proposed measures to protect the concrete from anticipated freezing weather for the first 72 hr. after placement. Repair or replace all concrete damaged by freezing.

**H. Spreading and Finishing.** Finish all concrete pavement with approved self-propelled equipment. Use power-driven spreaders, power-driven vibrators, power-driven strike-off, and screed, or approved alternate equipment. Use the transverse finishing equipment to compact and strike off the concrete to the required section and grade without surface voids. Use float equipment for final finishing. Use concrete with a consistency that allows completion of all finishing operations without addition of water to the surface. Use the minimal amount of water fog mist necessary to maintain a moist surface. Reduce fogging if float or straightedge operations result in excess slurry.

1. **Finished Surface.** Perform sufficient checks with long-handled 10-ft. and 15-ft. straightedges on the plastic concrete to ensure that the final surface is within the tolerances specified in Surface Test A in Item 585, "Ride Quality for Pavement Surfaces." Check with the straightedge parallel to the centerline.
2. **Maintenance of Surface Moisture.** Prevent surface drying of the pavement before application of the curing system. Accomplish this by fog applications of evaporation retardant on the pavement surface. Apply evaporation retardant at the rate recommended by the manufacturer. Reapply the evaporation retardant as needed to maintain the concrete surface in a moist condition until curing system is applied. Do not use evaporation retardant as a finishing aid. Failure to take acceptable precautions to prevent surface drying of the pavement will be cause for shut down of pavement operations.
3. **Surface Texturing.** Perform surface texturing using a combination of a carpet drag and metal tining. Complete final texturing before the concrete has attained its initial set. Draw the carpet drag longitudinally along the pavement surface with the carpet contact surface area adjusted to provide a satisfactory coarsely textured surface.

A metal-tine texture finish is required unless otherwise shown on the plans. Provide the metal-tine finish immediately after the concrete surface has set enough for consistent tining. Operate the metal-tine device to obtain grooves spaced at 1 in., approximately 3/16 in. deep, with a minimum depth of 1/8 in., and approximately 1/12 in. wide. Do not overlap a previously tined area. Use manual methods for achieving similar results on ramps and other irregular sections of pavements. Repair damage to the edge of the slab and

joints immediately after texturing. Do not tine pavement that will be overlaid.

4. **Small or Irregular Placements.** Where machine placements and finishing of concrete pavement are not practical, use hand equipment and procedures that produce a consolidated and finished pavement section to the line and grade.
  5. **Emergency Procedures.** Use hand-operated equipment for applying texture, evaporation retardant, and cure in the event of equipment breakdown.
- I. **Curing.** Keep the concrete pavement surface from drying by water fogging until the curing material has been applied. Maintain and promptly repair damage to curing materials on exposed surfaces of concrete pavement continuously for at least 3 curing days. A curing day is defined as a 24-hr. period when either the temperature taken in the shade away from artificial heat is above 50°F for at least 19 hr. or when the surface temperature of the concrete is maintained above 40°F for 24 hr. Curing begins when the concrete curing system has been applied. Stop concrete paving if curing compound is not being applied promptly and maintained adequately. Other methods of curing in accordance with Item 420, "Concrete Structures," may be used when specified or approved.
1. **Membrane Curing.** After texturing and immediately after the free surface moisture has disappeared, spray the concrete surface uniformly with 2 coats of membrane curing compound at an individual application rate of not more than 180 sq. ft. per gallon. Apply the first coat within 10 min. after completing texturing operations. Apply the second coat within 30 min. after completing texturing operations.  
  
Before and during application, maintain curing compounds in a uniformly agitated condition, free of settlement. Do not thin or dilute the curing compound.  
  
Where the coating shows discontinuities or other defects or if rain falls on the newly coated surface before the film has dried enough to resist damage, apply additional compound at the same rate of coverage to correct the damage. Ensure that the curing compound coats the sides of the tining grooves.
  2. **Asphalt Curing.** When an asphaltic concrete overlay is required, apply a uniform coating of asphalt curing at a rate of 90 to 180 sq. ft. per gallon as required. Apply curing immediately after texturing

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and just after the free moisture (sheen) has disappeared. Obtain approval to add water to the emulsion to improve spray distribution. Maintain the asphalt application rate when using diluted emulsions. Maintain the emulsion in a mixed condition during application.

3. **Curing Class HES Concrete.** For all Class HES concrete pavement, provide membrane curing in accordance with Section 360.4.I.1, "Membrane Curing," followed promptly by water curing until opening strength is achieved but not less than 24 hr.
- J. **Sawing Joints.** Saw joints to the depth shown on the plans as soon as sawing can be accomplished without damage to the pavement regardless of time of day or weather conditions. Some minor raveling of the saw cut is acceptable. Use a chalk line, string line, sawing template, or other approved method to provide a true joint alignment. Provide enough saws to match the paving production rate to ensure sawing completion at the earliest possible time to avoid uncontrolled cracking. Reduce paving production if necessary to ensure timely sawing of joints. Promptly restore membrane cure damaged within the first 72 hr. of curing.
- K. **Protection of Pavement and Opening to Traffic.** Testing for early opening is the responsibility of the Contractor regardless of job-control testing responsibilities unless otherwise shown in the plans or directed. Testing result interpretation for opening to traffic is subject to the approval of the Engineer.
  1. **Protection of Pavement.** Erect and maintain barricades and other standard and approved devices that will exclude all vehicles and equipment from the newly placed pavement for the periods specified. Before opening to traffic, protect the pavement from damage due to crossings using approved methods. Where a detour is not readily available or economically feasible, an occasional crossing of the roadway with overweight equipment may be permitted for relocating equipment only but not for hauling material. When an occasional crossing of overweight equipment is permitted, temporary matting or other approved methods may be required.

Maintain an adequate supply of sheeting or other material to cover and protect fresh concrete surface from weather damage. Apply as needed to protect the pavement surface from weather.

2. **Opening Pavement to All Traffic.** Pavement that is 7 days old may be opened to all traffic. Before opening to traffic, clean pavement, place stable material against the pavement edges, seal joints, and perform all other traffic safety related work.
3. **Opening Pavement to Construction Equipment.** Unless otherwise shown on the plans, concrete pavement may be opened early to concrete paving equipment and related delivery equipment after the concrete is at least 48 hr. old and opening strength has been demonstrated in accordance with Section 360.4.K.4, "Early Opening to All Traffic," before curing is complete. Keep delivery equipment at least 2 ft. from the edge of the concrete pavement. Keep tracks of the paving equipment at least 1 ft. from the pavement edge. Protect textured surfaces from the paving equipment. Restore damaged membrane curing as soon as possible. Repair pavement damaged by paving or delivery equipment before opening to all traffic.
4. **Early Opening to All Traffic.** Concrete pavement may be opened after curing is complete and the concrete has attained a flexural strength of 450 psi or a compressive strength of 2,800 psi, except that pavement using Class HES concrete may be opened after 24 hr. if the specified strength is achieved.
  - a. **Strength Testing.** Test concrete specimens cured under the same conditions as the portion of the pavement involved.
  - b. **Maturity Method.** Unless otherwise shown on the plans, the maturity method, Tex-426-A, may be used to estimate concrete strength for early opening pavement to traffic. Install at least 2 maturity thermocouples for each day's placement in areas where the maturity method will be used for early opening. Thermocouples, when used, will be installed near the days final placement for areas being evaluated for early opening. Use test specimens to verify the strength-maturity relationship in accordance with Tex-426-A, starting with the first day's placement corresponding to the early opening pavement section.

After the first day, verify the strength-maturity relationship at least every 10 days of production. Establish a new strength-maturity relationship when the strength specimens deviate more than 10% from the maturity-estimated strengths. Suspend use of the maturity method for opening pavements to traffic when the strength-maturity relationship deviates by

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more than 10% until a new strength–maturity relationship is established.

When the maturity method is used intermittently or for only specific areas, the frequency of verification will be as determined by the Engineer.

5. **Emergency Opening to Traffic.** Under emergency conditions, when the pavement is at least 72 hr. old, open the pavement to traffic when directed in writing. Remove all obstructing materials, place stable material against the pavement edges, and perform other work involved in providing for the safety of traffic as required for emergency opening.
- L. **Pavement Thickness.** The Engineer will check the thickness in accordance with Tex-423-A unless other methods are shown on the plans. The Engineer will perform 1 thickness test consisting of 1 reading at approximately the center of each lane every 500 ft. or fraction thereof. Core where directed in accordance with Tex-424-A to verify deficiencies of more than 0.2 in. from plan thickness and to determine the limits of deficiencies of more than 0.75 in. from plan thickness. Fill core holes using a concrete mixture and method approved by the Engineer.
  1. **Thickness Deficiencies Greater than 0.2 in.** When any depth test measured in accordance with Tex-423-A is deficient by more than 0.2 in. from the plan thickness, take one 4-in. diameter core at that location to verify the measurement.

If the core is deficient by more than 0.2 in. but not by more than 0.75 in. from the plan thickness, take 2 additional cores from the unit (as defined in Section 360.4.L.3, "Pavement Units for Payment Adjustment") at intervals of at least 150 ft. and at locations selected by the Engineer, and determine the thickness of the unit for payment purposes by averaging the length of the 3 cores. In calculations of the average thickness of this unit of pavement, measurements in excess of the specified thickness by more than 0.2 in. will be considered as the specified thickness plus 0.2 in.
  2. **Thickness Deficiencies Greater than 0.75 in.** If a core is deficient by more than 0.75 in., take additional cores at 10 ft. intervals in each direction parallel to the centerline to determine the boundary of the deficient area. The Engineer will evaluate any area of pavement found deficient in thickness by more than 0.75 in. but not more than 1 in. As directed, remove and replace the deficient



areas without additional compensation or retain deficient areas without compensation. Remove and replace any area of pavement found deficient in thickness by more than 1 in. without additional compensation.

- 3. Pavement Units for Payment Adjustment.** Limits for applying a payment adjustment for deficient pavement thickness from 0.20 in. to not more than 0.75 in. are 500 ft. of pavement in each lane. Lane width will be as shown on typical sections and pavement design standards.

For greater than 0.75 in. deficient thickness, the limits for applying zero payment or requiring removal will be defined by coring or equivalent nondestructive means as determined by the Engineer. The remaining portion of the unit determined to be less than 0.75 in. deficient will be subject to the payment adjustment based on the average core thickness at each end of the 10 ft. interval investigation as determined by the Engineer.

Shoulders will be measured for thickness unless otherwise shown on the plans. Shoulders 6 ft. wide or wider will be considered as lanes. Shoulders less than 6 ft. wide will be considered part of the adjacent lane.

Limits for applying payment adjustment for deficient pavement thickness for ramps, widenings, acceleration and deceleration lanes, and other miscellaneous areas are 500 ft. in length. Areas less than 500 ft. in length will be individually evaluated for payment adjustment based on the plan area.

- M. Ride Quality.** Unless otherwise shown on the plans, measure ride quality in accordance with Item 585, "Ride Quality for Pavement Surfaces."

**360.5. Measurement.** This Item will be measured as follows:

- A. Concrete Pavement.** Concrete pavement will be measured by the square yard of surface area in place. The surface area includes the portion of the pavement slab extending beneath the curb.
- B. Curb.** Curb on concrete pavement will be measured by the foot in place.

**360.6. Payment.** These prices are full compensation for materials, equipment, labor, tools, and incidentals.

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- A. Concrete Pavement.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the adjusted unit price bid for "Concrete Pavement" of the type and depth specified as adjusted in accordance with Section 360.6.B, "Deficient Thickness Adjustment."
- B. Deficient Thickness Adjustment.** Where the average thickness of pavement is deficient in thickness by more than 0.2 in. but not more than 0.75 in., payment will be made using the adjustment factor as specified in Table 2 applied to the bid price for the deficient area for each unit as defined under Section 360.4.L.3, "Pavement Units for Payment Adjustment."

**Table 2**  
**Deficient Thickness Price Adjustment Factor**

Deficiency in Thickness Determined by Cores (in.)	Proportional Part of Contract Price Allowed (adjustment factor)
Not deficient	1.00
Over 0.00 through 0.20	1.00
Over 0.20 through 0.30	0.80
Over 0.30 through 0.40	0.72
Over 0.40 through 0.50	0.68
Over 0.50 through 0.75	0.57

- C. Curb.** Work performed and furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Curb" of the type specified.

## ITEM 361

### FULL-DEPTH REPAIR OF CONCRETE PAVEMENT

**361.1. Description.** Repair concrete pavement to full depth.

**361.2. Materials.** Provide materials that meet the pertinent requirements of the following:

- Item 360, "Concrete Pavement"
  - Item 421, "Hydraulic Cement Concrete"
  - Item 440, "Reinforcing Steel"
  - DMS 6100, "Epoxies and Adhesives."
- A. Hydraulic Cement Concrete for Pavement.** If the time frame designated for opening to traffic is less than 72 hr. after concrete placement, provide Class HES concrete designed to attain a minimum average flexural strength of 255 psi or a minimum average compressive

strength of 1,800 psi within the designated time frame. Otherwise provide Class P concrete conforming to Item 360, "Concrete Pavement." Type III cement is permitted for Class HES concrete.

- B. Base Material.** Unless otherwise shown on the plans or permitted, furnish pavement concrete for replacement base material when required. The Engineer may waive quality control tests for base material.
- C. Asphalt Concrete.** Furnish asphalt concrete material for overlay and asphalt shoulder repair in accordance with Item 340, "Dense-Graded Hot-Mix Asphalt (Method)," as shown on the plans. The Engineer may waive quality control tests for this material.

**361.3. Construction.** Repair areas identified by the Engineer. Make repair areas rectangular, at least 6 ft. long and at least 1/2 a full lane in width unless otherwise shown on the plans. Unless otherwise shown on the plans, accept ownership of all removed material, and dispose of it in accordance with federal, state, and local regulations. Saw-cut and remove existing asphalt concrete overlay over the repair area and at least 6 in. outside each end of the repair area. Saw-cut full depth through the concrete around the perimeter of the repair area before removal. Do not spall or fracture concrete adjacent to the repair area. Schedule work so that concrete placement follows full-depth saw cutting by no more than 7 days unless otherwise shown on the plans or approved.

Remove or repair loose or damaged base material, and replace or repair it with approved base material to the original top of base grade. Place a polyethylene sheet at least 4 mils thick as a bond breaker at the interface of the base and new pavement. Allow concrete used as base material to attain sufficient strength to prevent displacement when placing pavement concrete.

Use only drilling operations that do not damage the surrounding operations. Place new deformed reinforcing steel bars of the same size and spacing as the bars removed or as shown on the plans. Lap all reinforcing steel splices in accordance with Item 440, "Reinforcing Steel." Place dowel bars and tiebars as shown on the plans. Epoxy-grout all tiebars for at least a 12-in. embedment into existing concrete. Completely fill the tiebar hole with Type III, Class A or Class C epoxy before inserting the tiebar into the hole. Provide grout retention disks for all tiebar holes. Provide and place approved supports to firmly hold the new reinforcing steel, tiebars, and dowel bars in place. Demonstrate, through simulated job conditions, that the bond strength of the epoxy-grouted tiebars meets a pullout strength of at

## 361.4 to 368.2

least 3/4 of the yield strength of the tiebar when tested in accordance with ASTM E 488 within 18 hr. after grouting. Increase embedment depth and retest when necessary to meet testing requirements. Perform tiebar testing before starting repair work.

Mix, place, cure, and test concrete to the requirements of Item 360, "Concrete Pavement," and Item 421, "Hydraulic Cement Concrete." Broom-finish the concrete surface unless otherwise shown on the plans. Match the grade and alignment of existing concrete pavement. After concrete strength requirements have been met, replace any asphalt overlay and shoulder material removed with new asphalt concrete material in accordance with Item 340, "Dense-Graded Hot-Mix Asphalt (Method)."

For repair areas to be opened to traffic before 72 hr., use curing mats to maintain a minimum concrete surface temperature of 70°F when air temperature is less than 70°F. Cure repaired area for at least 72 hr. or until overlaid with asphalt concrete, if required, or until the area is opened to traffic. Saw and seal contraction joints in the repair area in accordance with Item 360, "Concrete Pavement." Remove repair area debris from the right of way each day.

**361.4. Measurement.** This Item will be measured by the square yard of concrete surface area repaired. No measurement will be made for areas damaged because of Contractor negligence.

**361.5. Payment.** The work performed and the materials furnished in accordance with this Item and measured as specified under "Measurement" will be paid for at the unit price bid for "Full-Depth Repair" of the type and depth specified. This price is full compensation for removal, stockpiling, and disposal of waste material and for equipment, materials, labor, tools, and incidentals. Asphalt concrete, base material, and curbing will not be paid for directly but will be considered subsidiary to this Item.

## ITEM 368

### CONCRETE PAVEMENT TERMINALS

**368.1. Description.** Construct terminals for concrete pavement.

**368.2. Materials.** Furnish materials conforming to the following:

- Item 360, "Concrete Pavement"
- Item 421, "Hydraulic Cement Concrete"
- Item 440, "Reinforcing Steel"
- Item 442, "Metal for Structures."

Use ASTM A 36 steel for wide-flange structural steel. Shop-fabricate wide-flange beams in accordance with the plans. Unless otherwise shown on the plans, wide-flange beams are not required to be welded or spliced at longitudinal construction joints.

**368.3. Construction.** Construct concrete pavement terminals in accordance with the plans.

- A. Excavation, Backfilling, and Base Preparation.** Excavate and backfill in accordance with Item 400, "Excavation and Backfill for Structures," and the plans. Avoid over-excavation. Restore subgrade and base layers damaged by excavation. Construct subgrade, base, and pavement layers in accordance with the plans.
- B. Reinforcement and Structural Steel.** Secure reinforcement in position before concrete placement in accordance with Item 440, "Reinforcing Steel," and the plans. Accurately secure wide-flange beams in position in accordance with the plans and with sufficient supports to safely maintain alignment during concrete placement and finishing.
- C. Concrete Placement and Finishing.** Use Class P hydraulic cement concrete. Place hydraulic concrete pavement in accordance with Item 360, "Concrete Pavement." Place bridge approach slabs in accordance with Item 420, "Concrete Structures."
- D. Opening to Traffic.** Open concrete pavement terminal to traffic in conformance with Item 360, "Concrete Pavement."

**368.4. Measurement.** This Item will be measured by the foot of concrete pavement terminal complete in place. Measurement will be made perpendicular to the direction of the flow of traffic.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2, "Plans Quantity Measurement." Additional measurement or calculations will be made if adjustments of quantities are required.

**368.5. Payment.** The work performed and the materials furnished in accordance with this Item and measured as specified under "Measurement" will be paid for at the unit price bid for "Wide Flange Pavement Terminals" or "Anchor Lugs Pavement Terminals."

This price is full compensation for excavation, disposal of waste material, backfilling, hydraulic cement concrete (sleeper slab) underneath the concrete pavement, joint material, reinforcing steel, wide-flange beams, equipment, materials, labor, tools, and incidentals.

### **368.5 to 368.5**

Subgrade treatment, asphalt concrete, base material, and curbing required by the plans will be measured and paid for in accordance with pertinent Items. Concrete pavement constructed as part of the concrete pavement terminal will be paid for under Item 360, "Concrete Pavement." Bridge approach slabs, including support slabs, will be paid for under Item 420, "Concrete Structures."