



**REVIEW BY FORT BEND COUNTY  
COMMISSIONERS COURT**

**Fort Bend County  
Engineering Department**  
301 Jackson Suite 401  
Richmond, Texas 77469  
281.633.7500  
Permits@fortbendcountytexas.gov

☒ Right of Way Permit  
☐ Commercial Driveway Permit

Permit No: 2018-21923

**Applicant:** Fellers and Clark, LP./Lischka Utilities LLC

**Job Location Site:** 8000 Katy Gaston Road, Sugar Land TX 77494

**Bond No.**                      **Date of Bond:** 7/5/2018 **Amount:** \$50,000.00

The above applicant came to make use of certain Fort Bend County property subject to, "The Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas, of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Chapter 181, Vernon's Texas Statutes and Codes Annotated.

**Notes:**

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
  - a. 48 hours in advance of construction start up, and
  - b. When construction is completed and ready for final inspection, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 24th day of July, 2018, Upon Motion of Commissioner Mayers, seconded by Commissioner Morales, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

**Signature**

Presented to Commissioners Court and approved.

By: Sean Eglinton

Date Recorded 8-1-2018 Comm. Court No. 136

County Engineer

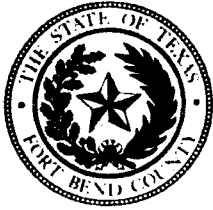
Clerk of Commissioners Court

By: N/A

By: Arinda Willis

Drainage District Engineer/Manager

Deputy



**PERMIT APPLICATION REVIEW FORM FOR  
CABLE, CONDUIT, AND POLE LINE ACTIVITY  
IN FORT BEND COUNTY**

**Fort Bend County  
Engineering Department**  
301 Jackson Suite 401  
Richmond, Texas 77469  
281.633.7500  
Permits@fortbendcountytx.gov

- ☒ Right of Way Permit  
☐ Commercial Driveway Permit

Permit No: 2018-21923

The following "Notice of Proposed Cable, Conduit, and/or Pole Line activity in Fort Bend County" and accompanying attachments have been reviewed and the notice conforms to appropriate regulations set by Commissioner's Court of Fort Bend County, Texas.

**(1) COMPLETE APPLICATION FORM:**

- ☒ a. Name of road, street, and/or drainage ditch affected.  
☒ b. Vicinity map showing course of directions  
☒ c. Plans and specifications

**(2) BOND:**


- ☐ County Attorney, approval when applicable.
- ☐ Perpetual bond currently posted.      Bond No: \_\_\_\_\_ Amount: \_\_\_\_\_
- ☒ Performance bond submitted.      Bond No: [REDACTED] Amount: \$50,000.00
- ☐ Cashier's Check      Check No: \_\_\_\_\_ Amount: \_\_\_\_\_

**(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):**

\_\_\_\_\_  
Drainage District Approval

\_\_\_\_\_  
Date

**We have reviewed this project and agree it meets minimum requirements.**

  
\_\_\_\_\_  
Permit Administrator

7/16/2018

\_\_\_\_\_  
Date



**PERFORMANCE BOND COVERING ALL CABLE, CONDUIT AND/OR POLE LINE  
ACTIVITY IN, UNDER, ACROSS OR ALONG FORT BEND COUNTY ROAD,  
COMMERCIAL DRIVEWAY AND MEDIAN OPENINGS OR MODIFICATIONS  
(AUTHORIZED)**

BOND NO. XXXXXXXXXX

THE STATE OF TEXAS           §  
COUNTY OF FORT BEND       §

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, Fellers & Clark, LP. whose (address, phone) is P.O. Box 853, Bellville, TX 77418 / 281-581-0770 of the laws of the state of Massachusetts and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at (name/address/phone) Allen Knepper / 10713 W. Sam Houston Parkway N., Suite 650, Houston, Texas 77064/ 713-744-1756 whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is Massachusetts and whose address is 175 Berkeley St. Boston, MA 02117, hereinafter called the Surety, and held and firmly bound unto, Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, in the full sum of Fifty Thousand and No/100 Dollars (\$50,000.00 ) current, lawful money of the United States of America, to be paid to said Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, to which payment well and truly to be made and done, we, the undersigned, bind ourselves and each of us, our heirs, executors, administrators, successors, assigns, and legal representatives, jointly and severally, by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the above bounden principal contemplates laying, constructing, maintaining and/or repairing one or more cables, conduits, and/or pole lines in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend, and the State of Texas, under the jurisdiction of the Commissioners' Court of Fort Bend County, Texas, pursuant to the Commissioners' Court order adopted on the 1st day of December, A.D. 1980, recorded in Volume 13, of the Commissioners' Court Minutes of Fort Bend County, Texas, regulating same, which Commissioners' Court order is hereby referred to and made a part hereof for all purposes as though fully set out herein;

AND WHEREAS, the principal desires to provide Fort Bend County with a performance bond covering all such cable, conduit and/or pole line activity, commercial driveway and median openings or modifications;

NOW, THEREFORE, if the above bounden principal shall faithfully perform all its cable, conduit and/or pole line activity (including, but not limited to the laying, construction, maintenance and/or repair of cables, conduits and/or pole lines) in, under, across and/or along roads, streets and highways, commercial driveway and median openings or modifications in the County of Fort Bend and State of Texas, under the jurisdiction of the Commissioners Court of Fort Bend County, Texas, pursuant to and in accordance with minimum requirements and conditions of the above mentioned Commissioners' Court order set forth and specified to be by said principal done and performed, at the time and in the manner therein specified, and shall pay over and make good and reimburse Fort Bend County, all loss and damages which Fort Bend County may sustain by reason of any failure or default on the part of said principal, then this obligation shall be null and void, otherwise to remain in full force and effect.

This bond is payable at the County Courthouse in the County of Fort Bend and State of Texas.

It is understood that at any time Fort Bend County deems itself insecure under this bond, it may require further and/or additional bonds of the principal.

EXECUTED this 5th day of July, 2018.

Fellers & Clark, LP  
PRINCIPAL

BY

Liberty Mutual Insurance Company  
SURETY

BY Michelle Ulery, Attorney in Fact

CCM 7-24-2018 #136  
Fort Bend County Clerk  
Return Admin Serv Coord  
Rmj #2018 21923 RAC

**THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.**

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 8015125

Liberty Mutual Insurance Company  
The Ohio Casualty Insurance Company West American Insurance Company

**POWER OF ATTORNEY**

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, **Michelle Ulery; Kelly J. Brooks; C.A. McClure; Kenneth L. Meyer**

all of the city of CYPRESS, state of TX each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 21st day of February, 2018.



STATE OF PENNSYLVANIA ss  
COUNTY OF MONTGOMERY

On this 21st day of February, 2018, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA  
Notarial Seal  
Teresa Pastella, Notary Public  
Upper Merion Twp., Montgomery County  
My Commission Expires March 28, 2021  
Member, Pennsylvania Association of Notaries

The Ohio Casualty Insurance Company  
Liberty Mutual Insurance Company  
West American Insurance Company

By: David M. Carey  
David M. Carey, Assistant Secretary

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

**ARTICLE IV – OFFICERS** – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

**ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings.** Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

**Certificate of Designation** – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

**Authorization** – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 5th day of July, 2018



By: Renee C. Llewellyn  
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



## TEXAS IMPORTANT NOTICE

To obtain information or make a complaint:

You may call toll-free for information or to make a complaint at  
1-877-751-2640

You may also write to:

2200 Renaissance Blvd., Ste. 400  
King of Prussia, PA 19406-2755

You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at  
1-800-252-3439

You may write the Texas Department of Insurance  
Consumer Protection (111-1A)  
P. O. Box 149091  
Austin, TX 78714-9091  
FAX: (512) 490-1007  
Web: <http://www.tdi.texas.gov>  
E-mail: [ConsumerProtection@tdi.texas.gov](mailto:ConsumerProtection@tdi.texas.gov)

### PREMIUM OR CLAIM DISPUTES:

Should you have a dispute concerning your premium or about a claim you should first contact the agent or call 1-800-843-6446. If the dispute is not resolved, you may contact the Texas Department of Insurance.

### ATTACH THIS NOTICE TO YOUR POLICY:

This notice is for information only and does not become a part or condition of the attached document.

## TEXAS AVISO IMPORTANTE

Para obtener informacion o para someter una queja:

Usted puede llamar al numero de telefono gratis para informacion o para someter una queja al  
1-877-751-2640

Usted tambien puede escribir a:

2200 Renaissance Blvd., Ste. 400  
King of Prussia, PA 19406-2755

Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos o quejas al  
1-800-252-3439

Puede escribir al Departamento de Seguros de Texas Consumer Protection (111-1A)  
P. O. Box 149091  
Austin, TX 78714-9091  
FAX # (512) 490-1007  
Web: <http://www.tdi.texas.gov>  
E-mail: [ConsumerProtection@tdi.texas.gov](mailto:ConsumerProtection@tdi.texas.gov)

### DISPUTAS SOBRE PRIMAS O RECLAMOS:

Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con el agente o primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI)

### UNA ESTE AVISO A SU POLIZA:

Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del documento adjunto.

FILED AND RECORDED  
OFFICIAL PUBLIC RECORDS

*Laura Richard*

Laura Richard, County Clerk

Fort Bend County Texas

August 01, 2018 01:09:29 PM

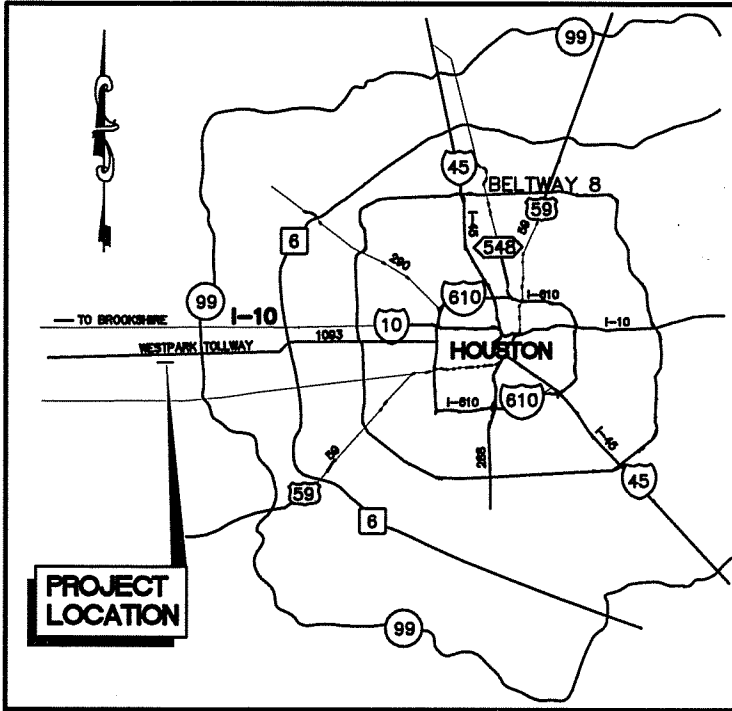


FEE: \$0.00

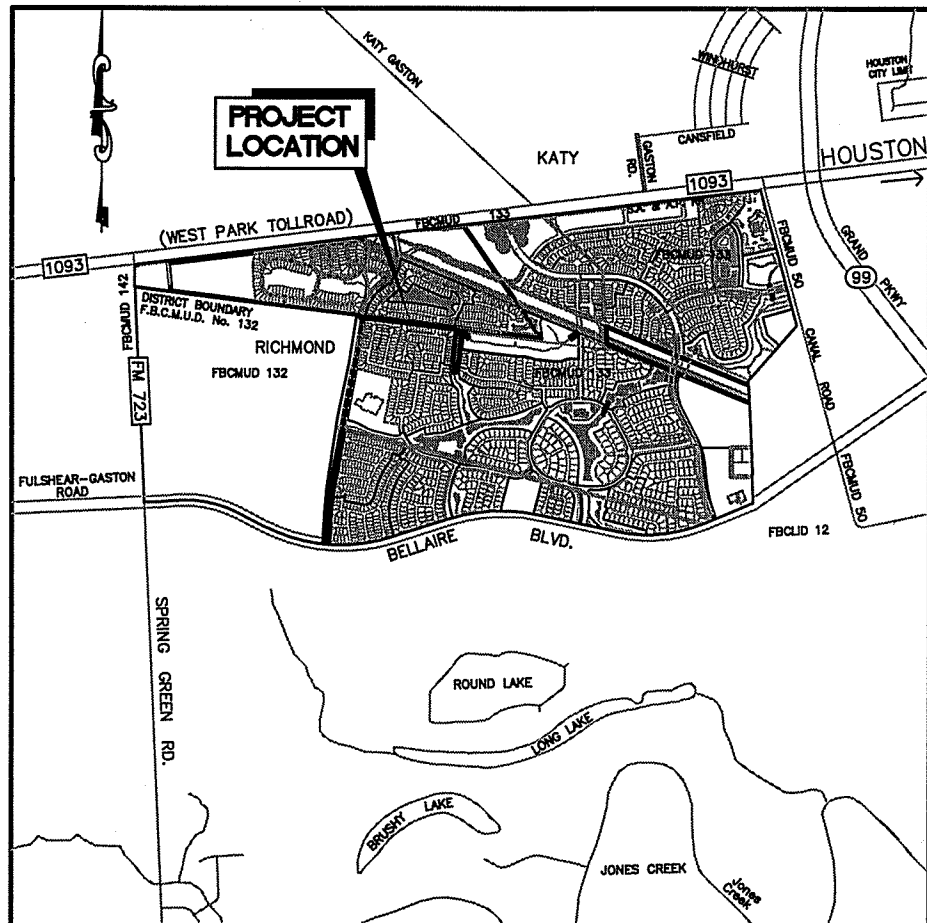
ADS

**2018086650**

FORT BEND COUNTY M.U.D. No. 133  
CONSTRUCTION PLANS FOR PROPOSED  
OFFSITE STORM SEWER AND  
DETENTION BASIN IMPROVEMENTS  
SERVING  
LAKES OF BELLA TERRA WEST DEVELOPMENT  
IN  
FORT BEND COUNTY, TEXAS

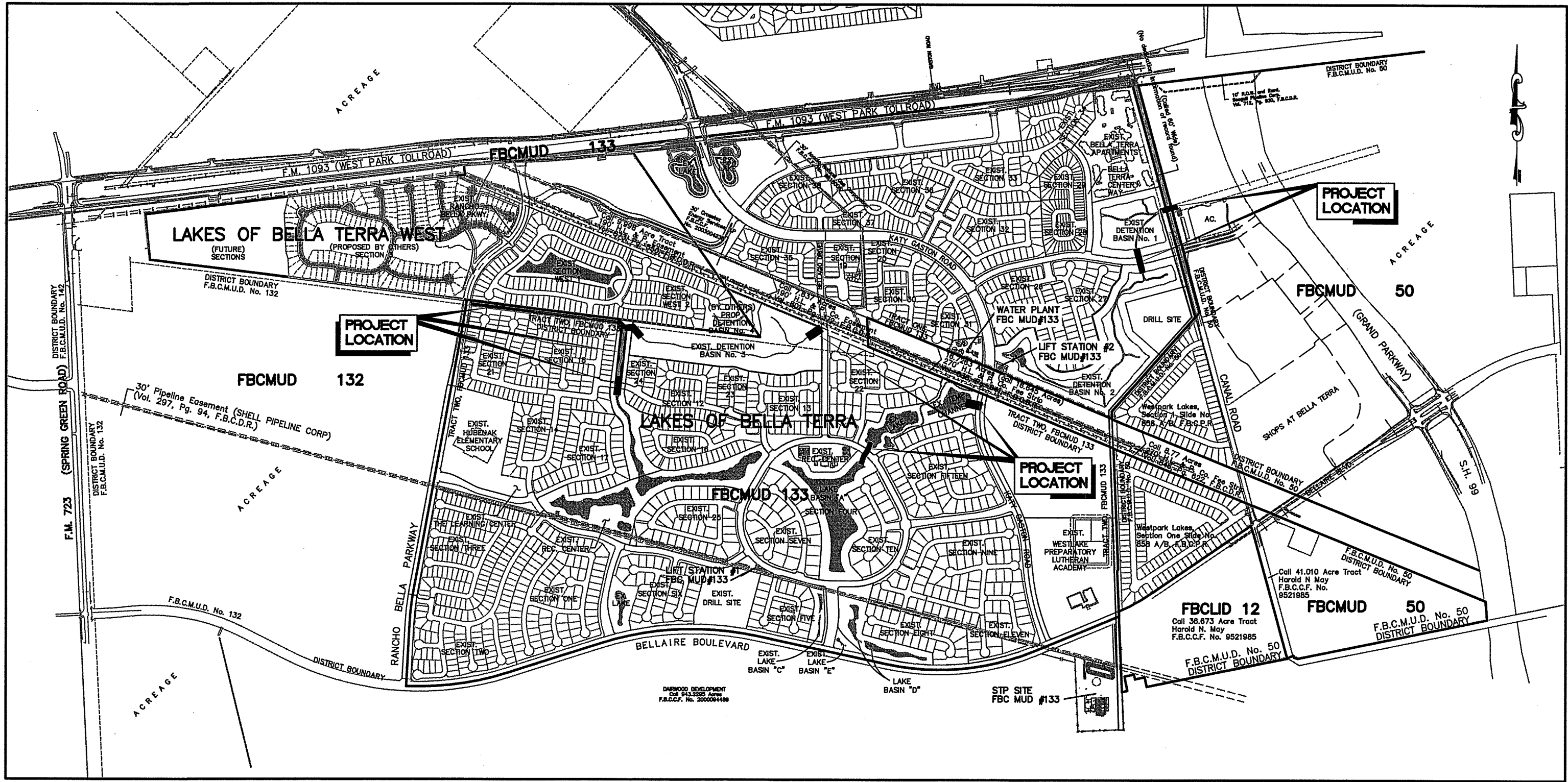


LOCATION MAP



VICINITY MAP

N.T.S.  
HARRIS COUNTY & FORT BEND COUNTY KEY MAP  
PAGES # 524-M & 525-J  
CITY OF HOUSTON GIS MAP  
SHEET# 4354D, 4454C  
ZIP CODE: 77406



DRAWING INDEX

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1.	COVER SHEET
2.	OVERALL LAYOUT PLAN
3.	OVERALL STORM SEWER LAYOUT
4.	OVERALL DRAINAGE AREA MAP
5.	DRAINAGE AREA CALCULATIONS
6.	OVERALL GRADING AND DRAINAGE PLAN
7.	OVERALL STORM WATER POLLUTION PREVENTION PLAN
8.	PLAN AND PROFILE: OFFSITE 48" STORM SEWER—STA. 0+00 TO 10+00
9.	PLAN AND PROFILE: OFFSITE 48" STORM SEWER—STA. 10+00 TO END
10.	PLAN AND PROFILE: INTERCONNECT "O"—STA. 10+00 TO 20+00
11.	PLAN AND PROFILE: 6"x8" BOX CULVERT INTERCONNECT "A"
12.	PLAN AND PROFILE: INTERCONNECT "E"
13.	TRAFFIC CONTROL PLAN
14.	STANDARD CONSTRUCTION NOTES AND MISCELLANEOUS DETAIL
15.	STANDARD STORM SEWER DETAILS SHEET (SHEET 1 OF 4)
16.	STANDARD STORM SEWER DETAILS SHEET (SHEET 2 OF 4)
17.	STANDARD STORM SEWER DETAILS SHEET (SHEET 3 OF 4)
18.	STANDARD STORM SEWER DETAILS SHEET (SHEET 4 OF 4)
19.	RESTRICTOR PLATE DETAIL SHEET
20.	STANDARD STORM WATER POLLUTION PREVENTION DETAILS
21.	STANDARD STORM OUTFALL DETAILS

- NOTES:—
- CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK ON THIS PROJECT. TELEPHONE NO. 832-394-9098.
  - FIRM FLOOD INSURANCE RATE MAP PANEL(110) OF (575) MAP# 48157C0110, FORT BEND COUNTY, TEXAS AND INCORPORATED AREAS, REVISED DATE: APRIL 2, 2014. THE SUBJECT PROPERTIES LIES IN ZONE X (UNSHADED), BFE ELEVATION 94.00'
- I, WILLIAM H. SAOUR, P.E., CERTIFY THAT THIS PROJECT IS ENTIRELY LOCATED OUTSIDE THE AREA WITH 100-YEAR FLOOD FREQUENCY.

ONE CALL NOTIFICATION SYSTEM  
CALL BEFORE YOU DIG!!  
(713) 223-4567 (IN HOUSTON)  
(NEW STATEWIDE NUMBER OUTSIDE HOUSTON)  
1-800-344-8377

OWNER:  
LOB WEST, INC.  
7500 San Felipe St, Ste. 400  
Houston, Texas 77057  
(713) 952-0200

PREPARED BY:  
BENCHMARK ENGINEERING CORPORATION  
Consulting Engineers - Planners - Surveyors  
2401 Fountainview Suite 500  
Houston, Texas 77057 U.S.A.  
(713)266-9930 Fax (713)266-3804  
Texas Board of Professional Engineers  
Registration Number F-6788  
TBPLS Firm Registration Number 10009000

FORT BEND COUNTY ENGINEER  
ENGINEER: *Richard W. Stowels, P.E.*  
for RICHARD W. STOWELS, P.E.  
DATE: 5/17/18  
THESE SIGNATURE ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN (1) YEAR FROM DATE OF APPROVAL.  
APPROVED: *Casandro L. R.*  
for DEVELOPMENT COORDINATOR  
DATE: 5-16-18

"PRIOR TO THE CONSTRUCTION OF THESE FACILITIES WITHIN OR BY THE DISTRICT. THE DISTRICT OR ITS ENGINEER WILL GIVE WRITTEN NOTICE BY REGISTERED OR CERTIFIED MAIL TO THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING, CITY OF HOUSTON, STATING THE DATE SUCH CONSTRUCTION WILL BE COMMENCED."

BENCHMARK ENGINEERING CORPORATION Consulting Engineers-Planners-Surveyors 2401 Fountainview Suite 500 Houston, Texas 77057 U.S.A. (713)266-9930 Fax (713)266-3804 REGISTRATION NUMBER F-6788		STATE OF TEXAS WILLIAM H. SAOUR 116018 LICENSED PROFESSIONAL ENGINEER 2/28/2018 TEXAS BOARD OF PROFESSIONAL ENGINEERS BENCHMARK ENGINEERING CORPORATION REGISTRATION NUMBER F-6788	
SURVEY BY: B.E.C. F.B. NO. N/A			
NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES			
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING			
WATER 4/12/18	TRAFFIC AND TRANSPORTATION		
WASTEWATER 4/12/18	STORM WATER QUALITY		
STORM WATER 4/12/18	FACILITIES		
STREET & BRIDGE			
CITY ENGINEER 4/12/18		FOR CITY OF HOUSTON USE ONLY 60301	
DIRECTOR OF PUBLIC WORKS AND ENGINEERING 4/12/18			
SHEET No: 1 of 21			

CALL AT LEAST 72 HRS. BEFORE CONSTRUCTION,  
CONTRACTOR TO CONTACT MR. CALVIN AHRENS AT  
PHONE: 361-550-4296  
E-MAIL: calvin.ahrens@centerpointenergy.com  
OR MR. JOAQUIN BESERRA AT  
PHONE: 281-750-0774  
E-MAIL: joaquin.beserra@centerpointenergy.com

GRAPHIC SCALE

( IN FEET )  
1 inch = 300 ft.

## BENCHMARKS

BENCHMARK (L806)  
LOCATED 0.5 MI. N. FROM ROSEBURG, 0.25 MI. WEST ALONG THE ATCHISON, TOPEKA  
AND SANTA FE RAILWAY FROM THE STATION AT ROSEBURG, THENCE 4.95 MI. N.  
ALONG FARM ROAD 309, AT CROSSING OF A TRANSMISSION TOWER AND POWER  
LINES, 50 FEET S.W. OF THE ROAD, 65 FEET N.E. OF THE EAST  
LEG OF THE FIRST TRANSMISSION TOWER S.W. OF THE ROAD 40-1/2 FEET S.E. OF THE  
S.E. END OF THE METAL DATE, 2-1/2 FEET N.E. OF A T JUNCTION END POST, 2  
1/2 FEET S.W. OF POWER POLE, 0.8 FOOT SOUTHWEST OF THE FENCE, 1 FOOT S.W. OF  
A WINGED POST, ABOUT LEVEL WITH THE ROAD, AND SET IN THE TOP OF A CONCRETE  
POST PROJECTING 0.3 FEET ABOVE GROUND, NAD 20, 1973 ADJUSTMENT.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DEF.  
113.39' -0.84' -0.84'

T.B.M. #1 8" SPICE VERTICALLY IN ROOT, SOUTH SIDE 424' OAK TREE, 15' WEST OF  
CENTER LINE DIRT ROAD 8177' SOUTHWEST OF C-22.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DEF.  
113.40' -0.84' -0.84'

T.B.M. #2 7" IN ESPLANADE NOSE, GASTON ROAD AT ENTRANCE TO SEVEN MEADOWS  
SUBDIVISION.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DEF.  
113.39' -0.84' -0.84'

T.B.M. #3 RAILROAD SPIKE IN NORTH POLE OF TWO POWER POLES, SOUTH OF DIRT  
ROAD, 45' ON SET OF POLES WEST 1/2 EAST PROPERTY LINE IN HILLTOP, THE STRIP,  
SOUTHEAST OF C-11.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DEF.  
114.40' -0.84' -0.84'

NOTE: PROJECTIONS ARE BASED ON 1973 ADJUSTMENT.

FLOOD NOTE:  
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD  
INSURANCE RATE MAP NO. 48157C0110, FOR FORT BEND COUNTY,  
TEXAS AND INCORPORATED AREAS, REVISED DATE APRIL 2, 2014,  
THE SUBJECT PROPERTIES LIES IN ZONE X (UNSHADED), AREAS DETERMINED  
TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.  
100-YEAR BASE FLOOD ELEVATION ELEVATION 94.00

NOTE 1:  
THE PROPOSED STORM SEWER, INLETS AND MANHOLES ARE PRIVATE NORTH OF  
THE PROPOSED STORM SEWER Siphon AT THE REQUEST OF THE CITY OF  
HOUSTON. THE PRIVATE STORM SEWER LINES ARE TO BE LOCATED WITHIN THE  
PUBLIC ROAD RIGHT OF WAY. THE NEW UNPUBLISHED CITY OF HOUSTON STORM  
SEWER DESIGN CRITERIA, NOT ADOPTED BY THE CITY WILL ALLOW THE CITY TO  
HOWEVER DUE TO THE APPROVED ACCEPTANCE OF EXISTING STORM SEWER  
SEWER DESIGN CRITERIA, THE CITY WILL ALLOW THE CITY WILL ALLOW THE CITY  
PRIVATE STORM SEWER PORTION OF THE STORM SEWER SYSTEMS TO BE OWNED  
AND MAINTAINED BY FORT BEND COUNTY M.U.S. NO. 153.

PRIVATE UTILITY LINES SHOWN  
AT LEAST 48 HOURS BEFORE EXCAVATING IN STREET R.O.W. OR  
EASEMENTS CALL THE LONE STAR NOTIFICATION 713-223-4567.

TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL  
CENTERPOINT ENERGY AT 713-207-2222.

NOTE:  
For your safety, you are required by Texas Law to call 811 at least  
48 hours before you dig  
so that underground line can be marked. This Verification does not  
fulfill your obligation to call 811.

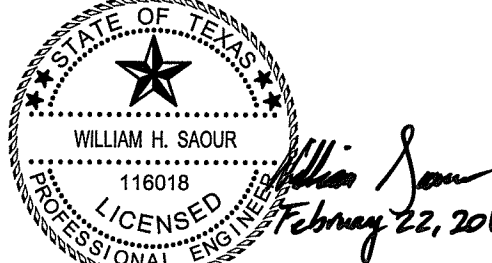
## VERIFICATION OF PRIVATE UTILITY LINES

Approved for AT&T Texas/SWBT underground conduit  
facilities only.  
Signature valid for one year.

CenterPoint Energy/Natural Gas Facilities Verification ONLY.  
(This signature verifies that you have shown GIP Natural Gas lines correctly  
verification.)  
Signature valid for six months.

CenterPoint Energy/UNDERGROUND Electrical Facilities  
Verification ONLY.  
(This signature verifies existing underground facilities-not to be used for conflict  
verification.)  
Signature valid for six months.

SEAL:



TEXAS BOARD OF PROFESSIONAL ENGINEERS  
BENCHMARK ENGINEERING CORPORATION  
REGISTRATION NUMBER F-6788

REV. NO. DESCRIPTION DATE

**BENCHMARK ENGINEERING CORPORATION**  
Consulting Engineers-Planners-Surveyors  
2401 Fountainview Drive, Suite 500  
Houston, Texas 77057 U.S.A.  
(713)266-9930 Fax (713)266-3804

FORT BEND COUNTY M.U.D. NO. 153  
CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND  
DETENTION BASIN IMPROVEMENTS  
SERVING

**LAKE OF BELLA TERRA WEST  
DEVELOPMENT**

IN  
FORT BEND COUNTY, TEXAS  
PROPOSED

## OVERALL LAYOUT PLAN

PLAT NAME:  
CPC 101 FILE NO.:  
I.L.M.S. No. 1801513  
C.O.H. LOG No. 18-0262

AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *[Signature]*  
FBC DEVELOPMENT COORDINATOR  
DATE: 5-16-18

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY  
AFTER DATE OF SIGNATURES

**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 4-18-18 TRAFFIC & TRANSPORTATION  
WASTEWATER 4-18-18 STORM WATER QUALITY  
STORM WATER 4-18-18 FACILITIES  
STREET & BRIDGE

FILE NO. FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE

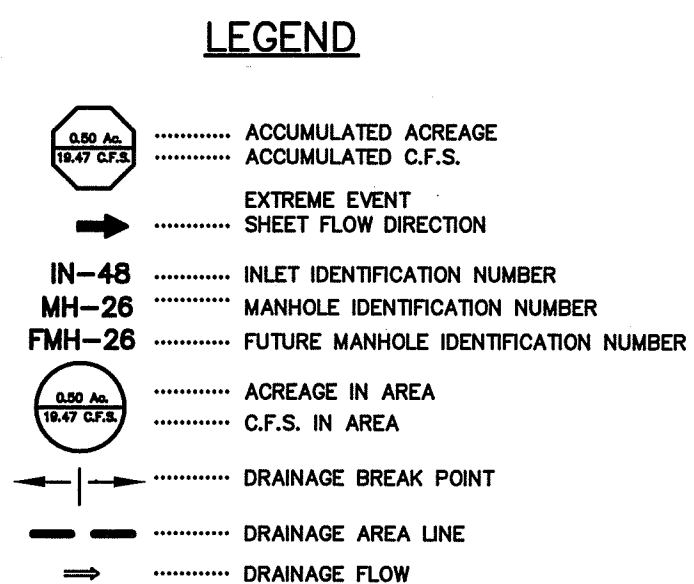
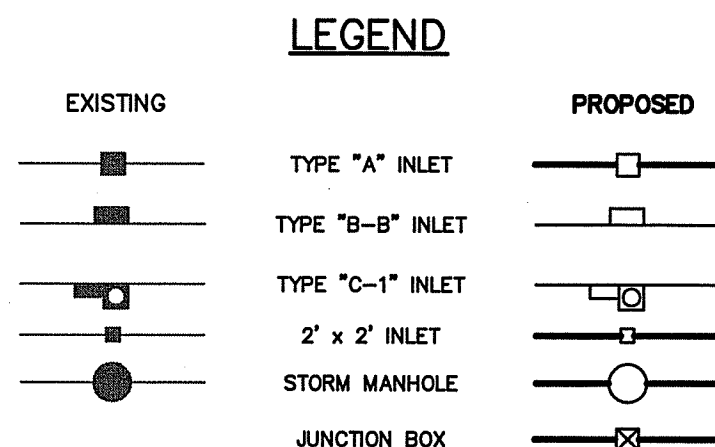
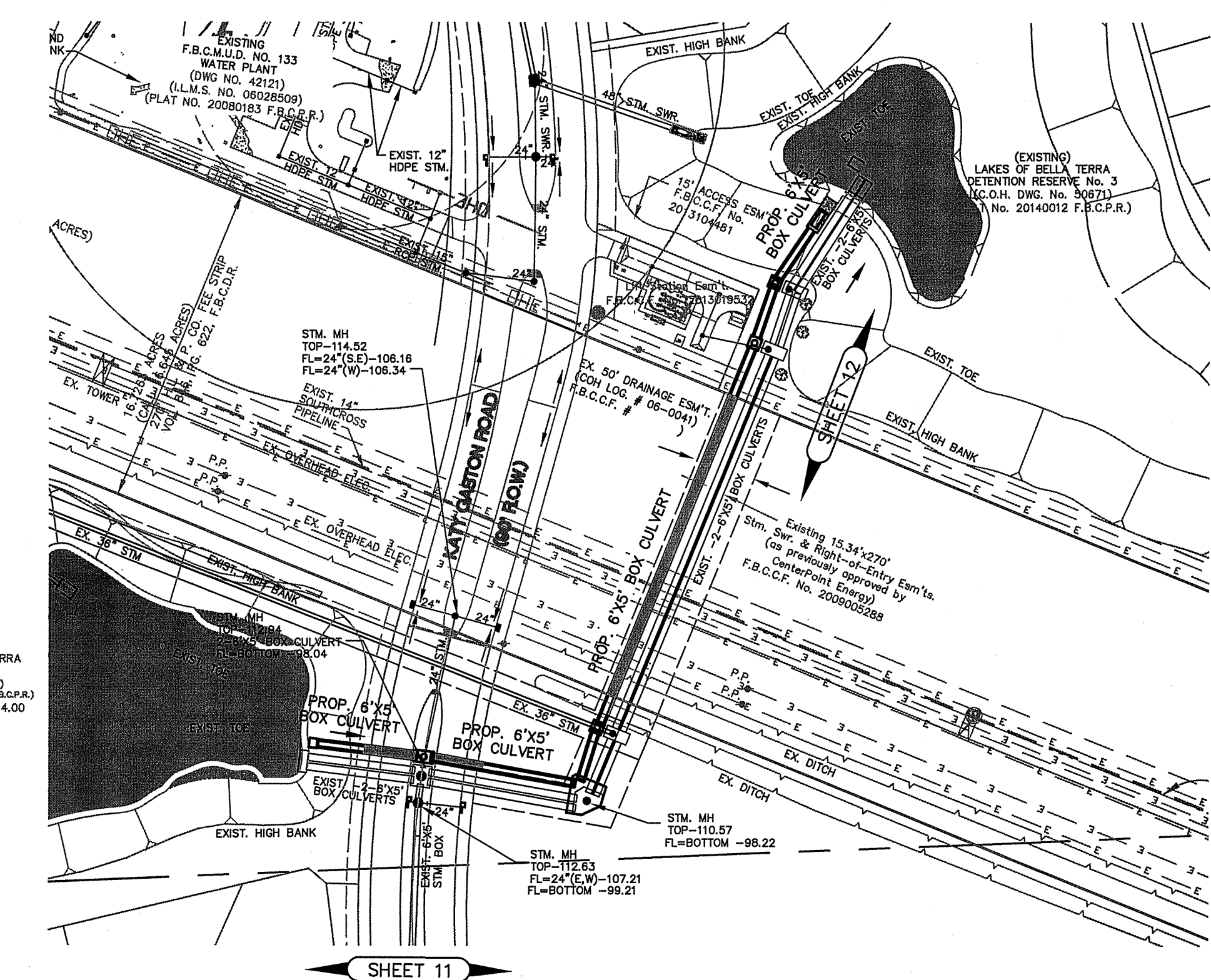
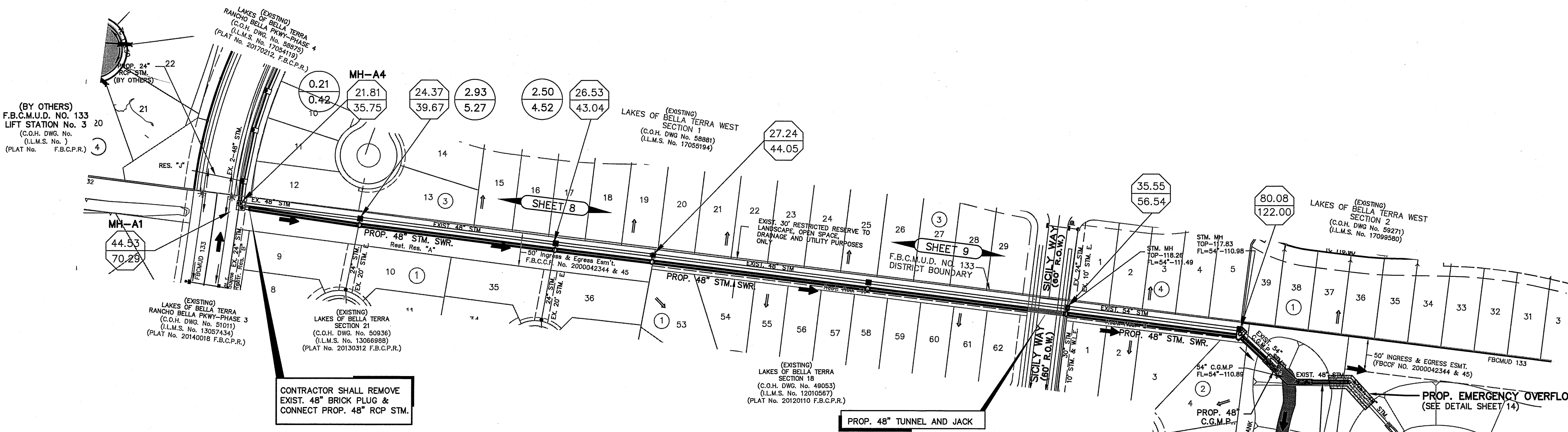
HORIZ : 1" = 300'  
VERT :

SHEET 2 OF 21

FOR CITY OF HOUSTON USE ONLY

80301





FORT BEND COUNTY  
CONSTRUCTION-GENERAL NOTES

1. FORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING.
2. CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 48 HOUR NOTICE TO ANY CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE PAVING AT [Construction@fortbendcountytx.gov](mailto:Construction@fortbendcountytx.gov).
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS WITHIN COUNTY ROAD RIGHT OF WAYS.
4. ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY "RULES, REGULATIONS AND REQUIREMENTS RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS AS CURRENTLY AMENDED."
5. ALL ROAD WIDTHS, CURB RADI AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB.
6. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS.
7. ALL CONCRETE PAVEMENT SHALL BE 5 1/2" SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 60 FEET.
8. ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
9. 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY, ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB.
10. AT ALL INTERSECTION LOCATIONS, TYPE 7 RAMPS SHALL BE PLACED IN ACCORDANCE WITH TxDOT PED-12A STANDARD DETAIL SHEET A.D.A.-HANDICAP RAMPS SHALL BE INSTALLED WITH STREET PAVING AT ALL INTERSECTIONS AND COMPLY WITH CURRENT A.D.A. REGULATIONS.
11. CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMPS, WITH NO CONSTRUCTION JOINT WITHIN 5' OF RAMPS.
12. ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE A.D.A. WHEEL CHAIR RAMPS SERVING.
13. GUIDELINES ARE SET FORTH IN THE TEXAS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AS CURRENTLY AMENDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC. DURING CONSTRUCTION-BOTH DAY AND NIGHT.
14. ALL R1-1 STOP SIGNS SHALL BE 30"x30" WITH DIAMOND GRADE SHEETING PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
15. STREET NAME SIGNAGE SHALL BE ON A 9" HIGH SIGN PLATE FLAT W/REFLECTIVE GREEN BACKGROUND. STREET NAMES SHALL BE UPPER AND LOWERCASE LETTERING WITH UPPER CASE LETTERS OF 6" MINIMUM AND LOWERCASE LETTERS OF 4.5" MINIMUM. THE LETTERS SHALL BE REFLECTIVE WHITE. STREET NAME SIGNS SHALL BE MOUNTED ON STOP SIGN POST.
16. A BLUE DOUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS. THE BUTTON SHALL BE PLACED 12 INCHES OFF OF THE CENTERLINE OF THE STREET ON THE SAME SIDE AS THE HYDRANT.
17. THE PROJECT AND ALL PARTS THEREOF SHALL BE SUBJECT TO INSPECTION FROM TIME TO TIME BY INSPECTORS DESIGNATED BY FORT BEND COUNTY. NO SUCH INSPECTIONS SHALL RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER. NEITHER FAILURE TO INSPECT NOR FAILURE TO DISCOVER OR RECTIFY ANY OF THE WORK OR NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, REQUIREMENTS AND SPECIFICATIONS OF FORT BEND COUNTY OR ANY PROVISION OF THIS PROJECT SHALL BE CONSTRUED TO IMPLY AN ACCEPTANCE OF SUCH WORK OR TO RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER.

NOTE: FORT BEND COUNTY NOTES SUPERSEDE ANY CONFLICTING NOTES.

**BENCHMARKS**

BENCHMARK (L806)  
LOCATED 5.85 M. N. FROM ROSENBERG, 0.25 M. WEST ALONG THE ATCHAFALAYA, TOPEKA AND SANTA FE RAILWAY FROM THE STATION AT ROSENBERG, THENCE 4.95 M. N. ALONG FARM ROAD 336, AT THE CROSSING OF A TRANSMISSION TOWER AND POWER LINES, 50 FEET S.W. OF THE CENTER LINE OF THE ROAD, 65 FEET N.E. OF THE EAST LEG OF THE FIRST TRANSMISSION TOWER S.W. OF THE ROAD 40-1/2 FEET S.E. OF THE S.E. END OF THE METAL RAIL, 2-1/2 FEET N.W. OF A T JUNCTION FENCE POST, 2 1/2 FEET S.W. OF POWER POLE, 0.4 FEET S.W. OF THE FENCE, 1 FOOT S.W. OF A WIRELESS POST, ABOUT LEVEL WITH THE ROAD, AND SET IN THE TOP OF A CONCRETE POST PROJECTIONS 0.3 FEET ABOVE GROUND, 1040 26, 1973 ADJUSTMENT.

1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	ELEV. DIFF.
94.07	94.07	-0.04
T.B.M. #1 8" SPIRE VERTICALLY IN ROOT, SOUTH SIDE 424" OAK TREE, 15' WEST OF CENTER LINE DIRT ROAD 8170' SOUTHWEST OF G-22.	102.15	112.84
102.15	102.15	-0.84
T.B.M. #2 7" IN ESPRANDE NOSE, GASTON ROAD AT ENTRANCE TO SEVEN MEADOWS SUBDIVISION.	113.40	112.84
113.40	112.84	-0.54
T.B.M. #3 RAILROAD SPIRE IN NORTH POLE OF TWIN POWER POLES SOUTH OF DRILL SITE, 25' N. SET OF POLES WEST OF EAST PROPERTY LINE IN HILARY, FEE STRIP, SOUTHEAST OF G-1.	102.15	112.84
102.15	112.84	-0.84
118.40	118.40	-0.84

NOTE: PROJECT ELEVATIONS ARE BASED ON 1973 ADJUSTMENT.

**FLOOD NOTE:**  
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 481570010, FOR FORT BEND COUNTY, TEXAS AND INCORPORATED AREAS, REVISED DATE APRIL 2, 2014, THE SUBJECT PROPERTIES LIES IN ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.  
100-YEAR BASE FLOOD ELEVATION ELEVATION 84.00

**NOTE 1:**  
THE PROPOSED STORM SEWER, INLETS AND MANHOLES ARE PRIVATE NORTH OF THE PROPOSED STORM SEWER SECTION. THE REQUEST OF THE CITY OF HOUSTON, THE PRIVATE STORM SEWER LINES ARE TO BE LOCATED WITHIN THE PUBLIC ROAD RIGHT OF WAY. THE NEW UNBUILT CITY OF HOUSTON STORM SEWER DESIGN CRITERIA DOES NOT ACCEPT STORM SEWER SYPHONS AS PUBLIC HOWEVER DUE TO THE APPROVAL OF EXISTING STORM SEWER SYPHON DESIGN WITHIN THE EXISTING DEVELOPMENT THE CITY WILL ALLOW PRIVATE STORM SEWER PORTION OF THE STORM SEWER SYSTEMS TO BE OWNED AND MAINTAINED BY FORT BEND COUNTY M.U.D. NO. 133.

**PRIVATE UTILITY LINES SHOWN**  
AT LEAST 48 HOURS BEFORE EXCAVATING IN STREET R.O.W. OR EASEMENTS CALL THE LONE STAR NOTIFICATION 713-223-4567.  
TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222.

For your safety, you are required by Texas Law to call 811 at least 48 hours before you dig so that underground lines can be marked. This Verification does not fulfill your obligation to call 811.

**VERIFICATION OF PRIVATE UTILITY LINES**

DATE	DATE
Approved for AT&T Texas/SWB underground conduit facilities only. Signature valid for one year.	
CenterPoint Energy/Natural Gas 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.	
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities-not to be used for conflict verification.) Signature Valid for six months.	

SEAL:

TEXAS BOARD OF PROFESSIONAL ENGINEERS  
BENCHMARK ENGINEERING CORPORATION  
REGISTRATION NUMBER F-6788

REV.	DESCRIPTION	DATE
1		

**BENCHMARK ENGINEERING CORPORATION**  
Consulting Engineers-Planners-Surveyors  
2401 Fountainview Drive, Suite 500  
Houston, Texas 77057 U.S.A.  
(713)286-9900 Fax (713)286-3804

FORT BEND COUNTY M.U.D. NO. 133  
CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND DETENTION BASIN IMPROVEMENTS

**LAKES OF BELLA TERRA WEST DEVELOPMENT**  
IN  
FORT BEND COUNTY, TEXAS  
PROPOSED

**DRAINAGE AREA MAP**

PLAT NAME:  
CPO 101 FILE NO.:  
I.L.M.S. No. 18015113  
C.O.H. LOG NO. 18-0262

AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *[Signature]*  
FBC DEVELOPMENT COORDINATOR

DATE: 5-16-18

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE	DATE
5-16-18	5-16-18

FILE NO.	FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE	HORIZ. 1" = 100'	VERT. NA	SHEET 4 OF 21

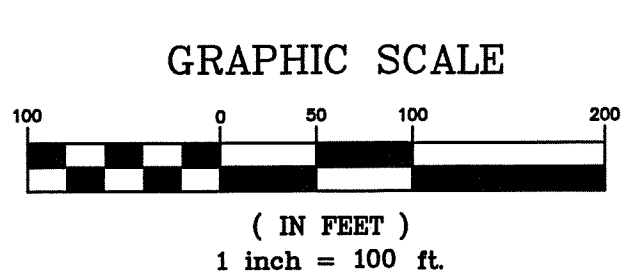
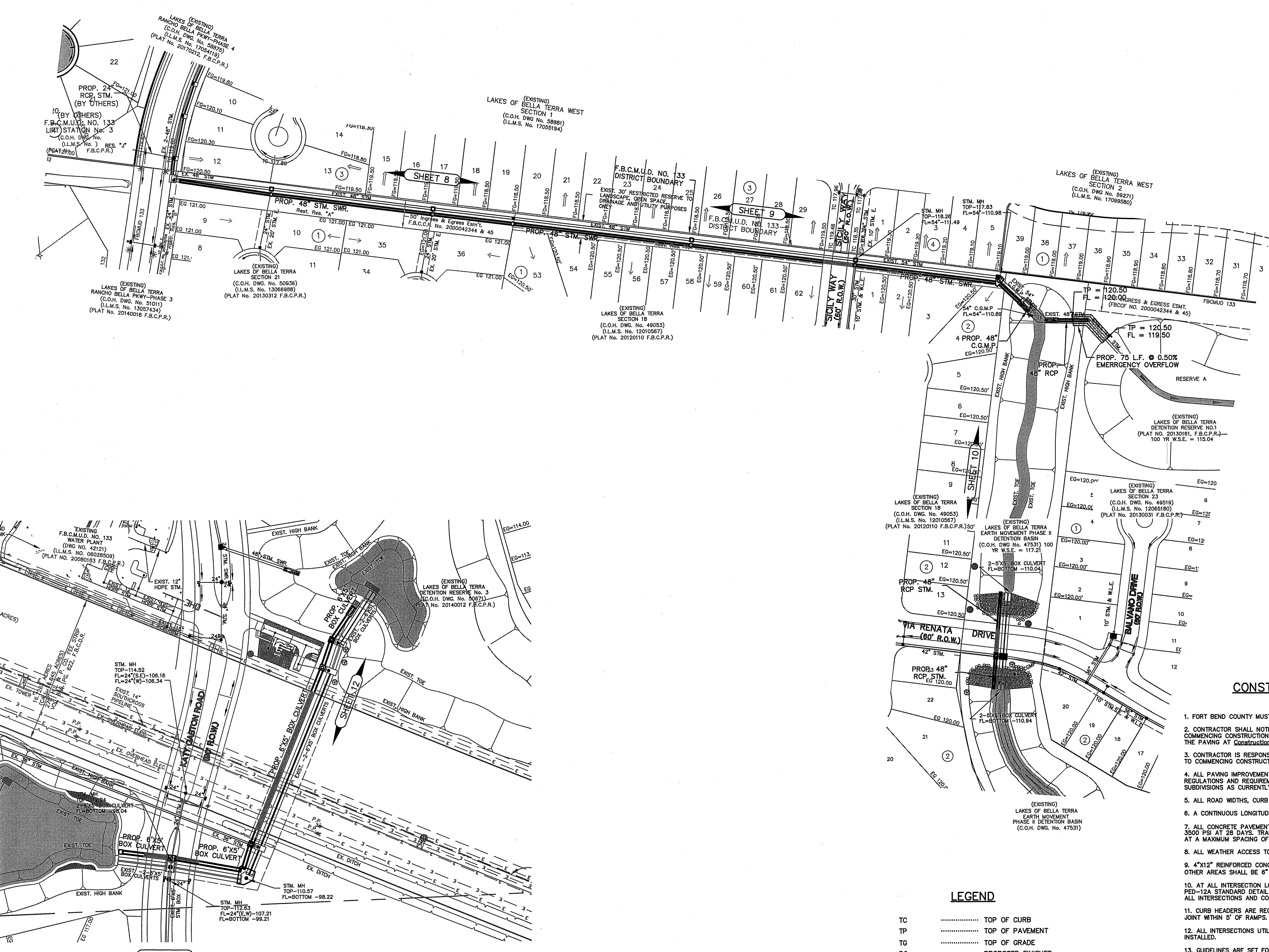
60301

CITY OF HOUSTON

ILMS # 18015113 LOG # 18-0262

B.E.C. PROJECT No.: 04044-78 M02 LAKES OF BELLA TERRA WEST DEVELOPMENT





LEGEND	
TC	..... TOP OF CURB
TP	..... TOP OF PAVEMENT
TG	..... TOP OF GRADE
PG	..... PROPOSED FINISHED GRADE ELEVATION
FL	..... FLOWLINE
→	..... EXTREME EVENT SHEET FLOW DIRECTION
→	..... PROPOSED DRAINAGE FLOW
→	..... EXISTING DRAINAGE FLOW
STM. SWR.	..... STORM SEWER
RCP	..... REINFORCED CONCRETE PIPE
CMP	..... CORRUGATED METAL PIPE
	..... 6 IN. CURB
	..... 4 IN. CURB

### FORT BEND COUNTY CONSTRUCTION-GENERAL NOTES

- FORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 48 HOUR NOTICE TO ANY CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE PAVING AT CONSTRUCTION@bendcountytexas.gov
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS WITHIN COUNTY ROAD RIGHT OF WAYS.
- ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY "RULES, REGULATIONS AND REQUIREMENTS RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS AS CURRENTLY AMENDED.
- ALL ROAD WIDTHS, CURB RADII AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB.
- A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS.
- ALL CONCRETE PAVEMENT SHALL BE 5% SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 60 FEET.
- ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
- 4"x12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY, ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB.
- AT ALL INTERSECTION LOCATIONS, TYPE 7 RAMPS SHALL BE PLACED IN ACCORDANCE WITH TxDOT PED-12A STANDARD DETAIL SHEET A.D.A.-HANDICAP RAMPS SHALL BE INSTALLED WITH STREET PAVING AT ALL INTERSECTIONS AND COMPLY WITH CURRENT A.D.A. REGULATIONS.
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- GUIDELINES ARE SET FORTH IN THE TEXAS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AS CURRENTLY AMENDED, SHALL BE OBSERVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC. DURING CONSTRUCTION-BOTH DAY AND NIGHT.
- ALL R1-1 STOP SIGNS SHALL BE 30"x30" WITH DIAMOND GRADE SHEETING PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- STREET NAME SIGNAGE SHALL BE ON A 9" HIGH SIGN FLAT PLATE W/REFLECTIVE GREEN BACKGROUND. STREET NAMES SHALL BE UPPER AND LOWERCASE LETTERING WITH UPPER CASE LETTERS OF 6" MINIMUM AND LOWERCASE LETTERS OF 4.5" MINIMUM. THE LETTERS SHALL BE REFLECTIVE WHITE. STREET NAME SIGNS SHALL BE MOUNTED ON STOP SIGN POST.
- A BLUE DOUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS. THE BUTTON SHALL BE PLACED 12 INCHES OFF OF THE CENTERLINE OF THE STREET ON THE SAME SIDE AS THE HYDRANT.
- THE PROJECT AND ALL PARTS THEREOF SHALL BE SUBJECT TO INSPECTION FROM TIME TO TIME BY INSPECTORS DESIGNATED BY FORT BEND COUNTY. NO SUCH INSPECTIONS SHALL RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER. NEITHER FAILURE TO INSPECT NOR FAILURE TO DISCOVER OR RECTIFY ANY OF THE WORK AS NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS REQUIREMENTS AND SPECIFICATIONS OF FORT BEND COUNTY OR ANY PROVISION OF THIS PROJECT SHALL BE CONSTRUED TO IMPLY AN ACCEPTANCE OF SUCH WORK OR TO RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER.

NOTE: FORT BEND COUNTY NOTES SUPERSEDE ANY CONFLICTING NOTES.

### BENCHMARKS

BENCHMARK (L200)  
LOCATED 5.65 MI. N. FROM ROSENBERG, 0.25 MI. WEST ALONG THE ATCHISON, TOPEKA AND SANTA FE RAILROAD FROM THE STATION AT ROSENBERG, THENCE 4.95 MI. N. ALONG FARM ROAD 309, AT THE CROSSING OF A TRANSMISSION TOWER AND POWER LINES 50 FEET S.W. OF THE CENTER LINE OF THE ROAD 62 FEET N.E. OF THE EAST LEG OF THE FIRST TRANSMISSION TOWER S.W. OF THE ROAD 40-1/2 FEET S.E. OF THE END OF THE METAL GATE, 2-1/2 FEET N.W. OF A T-JUNCTION POST, 2 1/2 FEET S.W. OF POWER POLE 60 FEET N.W. OF THE FENCE, 1 FOOT S.W. OF A WITNESS POST, ABOUT LEVEL WITH THE ROAD AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.3 FEET ABOVE GROUND, NAD 83, 1973 ADJUSTMENT.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DIFF.  
54.07 54.07 -0.04

T.B.M. # 8" SPIKE VERTICALLY IN ROOT, SOUTH SIDE 424' OAK TREE, 10' WEST OF CENTER LINE DIRT ROAD 4772 SOUTHWEST OF G-22.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DIFF.  
112.47 112.47 -0.04

T.B.M. # 2" X 10" IN EXPLANADE NOSE, GASTON ROAD AT ENTRANCE TO SEVEN MEADOWS SUBDIVISION.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DIFF.  
113.39 112.59 -0.80

T.B.M. # 8 RAILROAD SPIKE IN NORTH POLE OF TWO POWER POLES, SOUTH OF DRILL SITE AT 6TH SET OF POLES WEST OF EAST PROPERTY LINE IN HILLTOP FEE STRIP, SOUTHWEST OF G-21.  
1973 ELEV. ADJUST. 2001 ELEV. ADJUST. ELEV. DIFF.  
115.40 115.40 -0.04

NOTE: PROJECT ELEVATIONS ARE BASED ON 1973 ADJUSTMENT.

### FLOOD NOTE:

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 481570010, FOR FORT BEND COUNTY, TEXAS AND INCORPORATED AREAS, REVISED DATE APRIL 2, 2014, THE SUBJECT PROPERTIES LIES IN ZONE X (UNSHADED). AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.  
100-YEAR BASE FLOOD ELEVATION ELEVATION 94.00

### PRIVATE UTILITY LINES SHOWN

AT LEAST 48 HOURS BEFORE EXCAVATING IN STREET R.O.W. OR EASEMENTS CALL THE LONG STAR NOTIFICATION 713-223-4567.  
TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222.  
NOTE:  
For your safety, you are required by Texas Law to call 811 at least 48 hours before you dig. If you do not call 811, you are responsible for any damage to underground lines that may be marked. This Verification does not fulfill your obligation to call 811.

### VERIFICATION OF PRIVATE UTILITY LINES

DATE	DATE
Approved for AT&T Texas/SWBT underground conduit facilities only. Signature valid for one year.	
CenterPoint Energy/Natural Gas Facilities Verification ONLY. (This signature verifies that you have shown CNP Natural Gas lines correctly verification.) (Gas service lines are not shown.) Signature valid for six months.	
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities-not to be used for conflict verification.) Signature valid for six months.	

SEAL:

TEXAS BOARD OF PROFESSIONAL ENGINEERS  
BENCHMARK ENGINEERING CORPORATION  
REGISTRATION NUMBER F-6788

REV. NO.	DESCRIPTION	DATE
1	BENCHMARK ENGINEERING CORPORATION Consulting Engineers-Planners-Surveyors 2401 Pointatview Drive, Suite 500 Houston, Texas 77057 U.S.A. (713)286-9930 Fax (713)286-3804	

FORT BEND COUNTY M.U.D. No. 133  
CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND DETENTION BASIN IMPROVEMENTS SERVING

### LAKES OF BELLA TERRA WEST DEVELOPMENT

IN  
FORT BEND COUNTY, TEXAS

### PROPOSED OVERALL GRADING AND DRAINAGE PLAN

PLAT NAME:  
CPC 101 FILE NO.:  
I.L.M.S. No. 18015113  
C.O.H. LOG NO. 18-0262

AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED:   
DATE: 5-16-18

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

### CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE	DATE
WATER	TRAFFIC & TRANSPORTATION
WASTEWATER	STORM WATER QUALITY
STORM WATER	FACILITIES
STREET & BRIDGE	

FILE NO.	FOR CITY OF HOUSTON USE ONLY

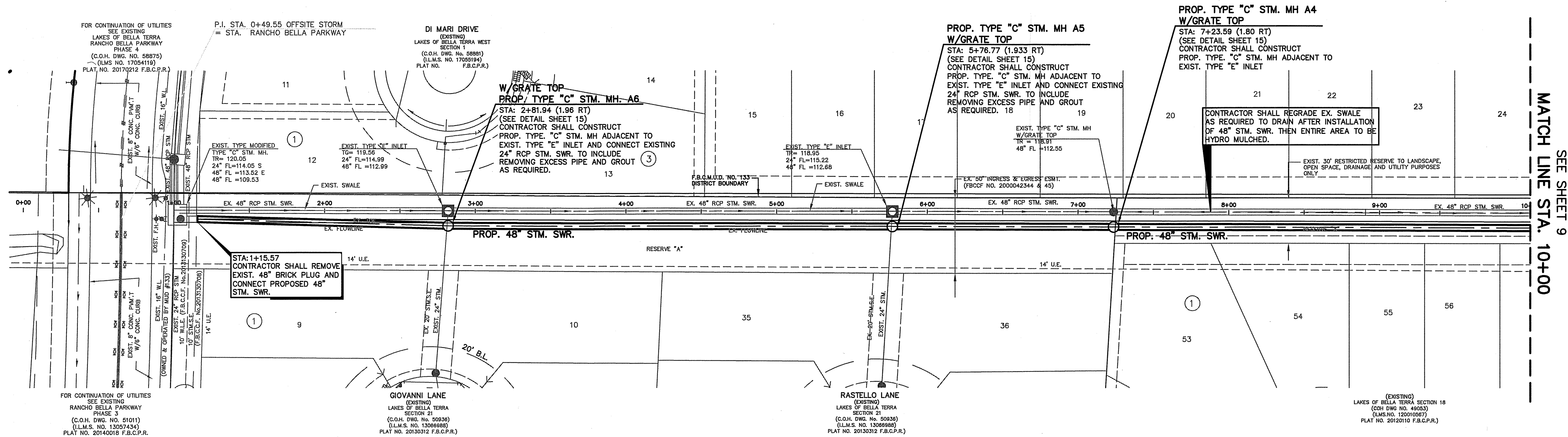
DRAWING SCALE
HORIZ : 1" = 100'
VERT : NA

SHEET No.	OF 21
6	

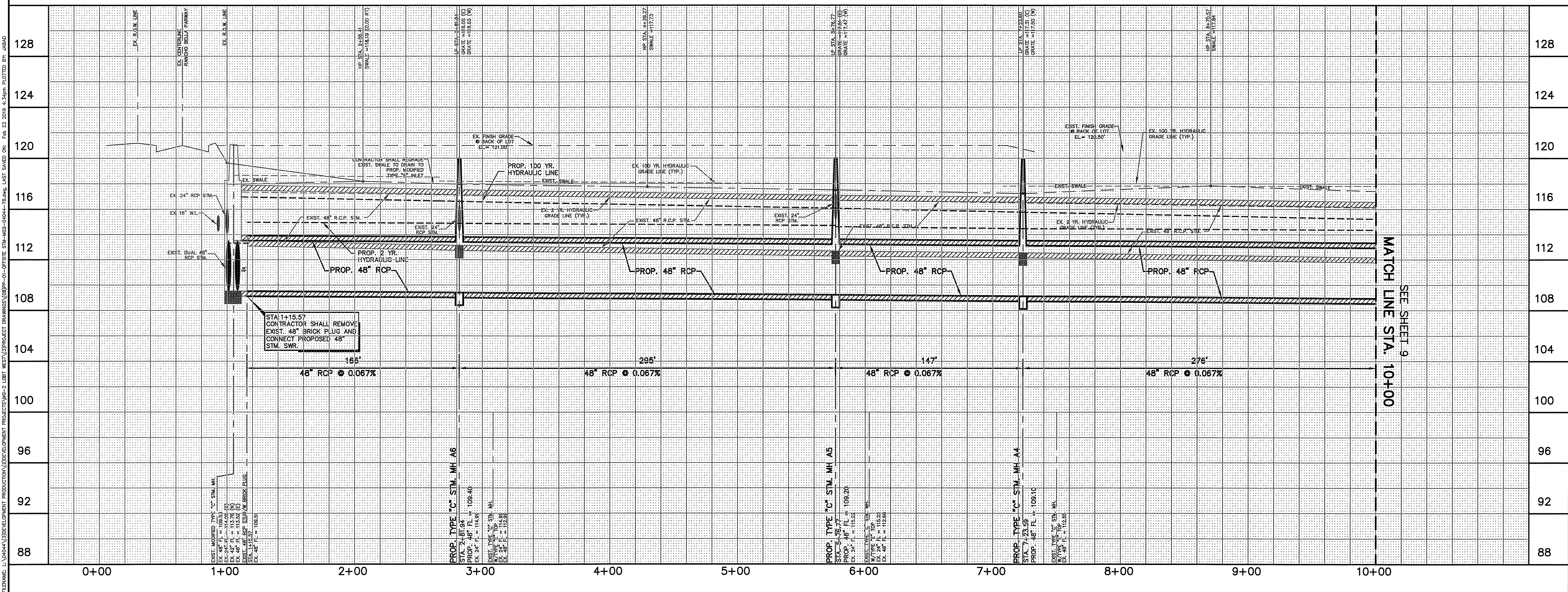
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ILMS # 18015113 LOG # 18-0262 B.E.C. PROJECT No.: 04044-78 MG2 LAKES OF BELLA TERRA WEST DEVELOPMENT

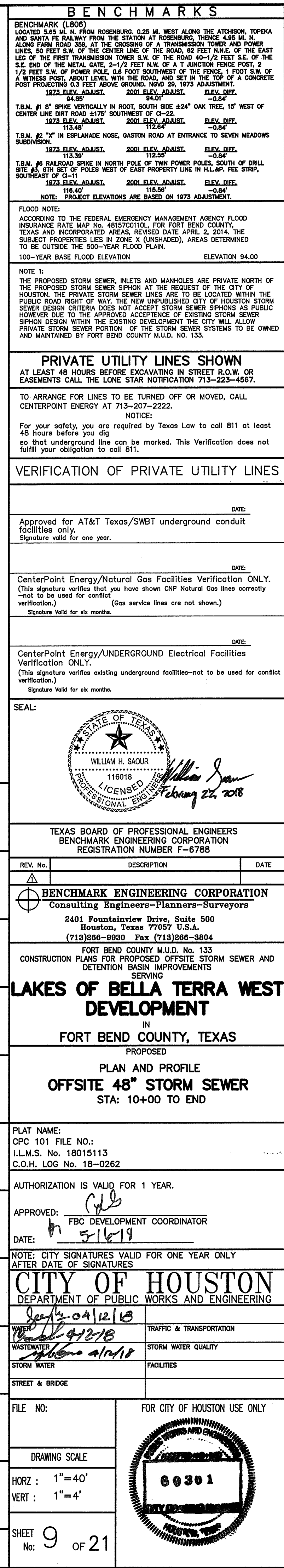




## OFFSITE STORM SEWER

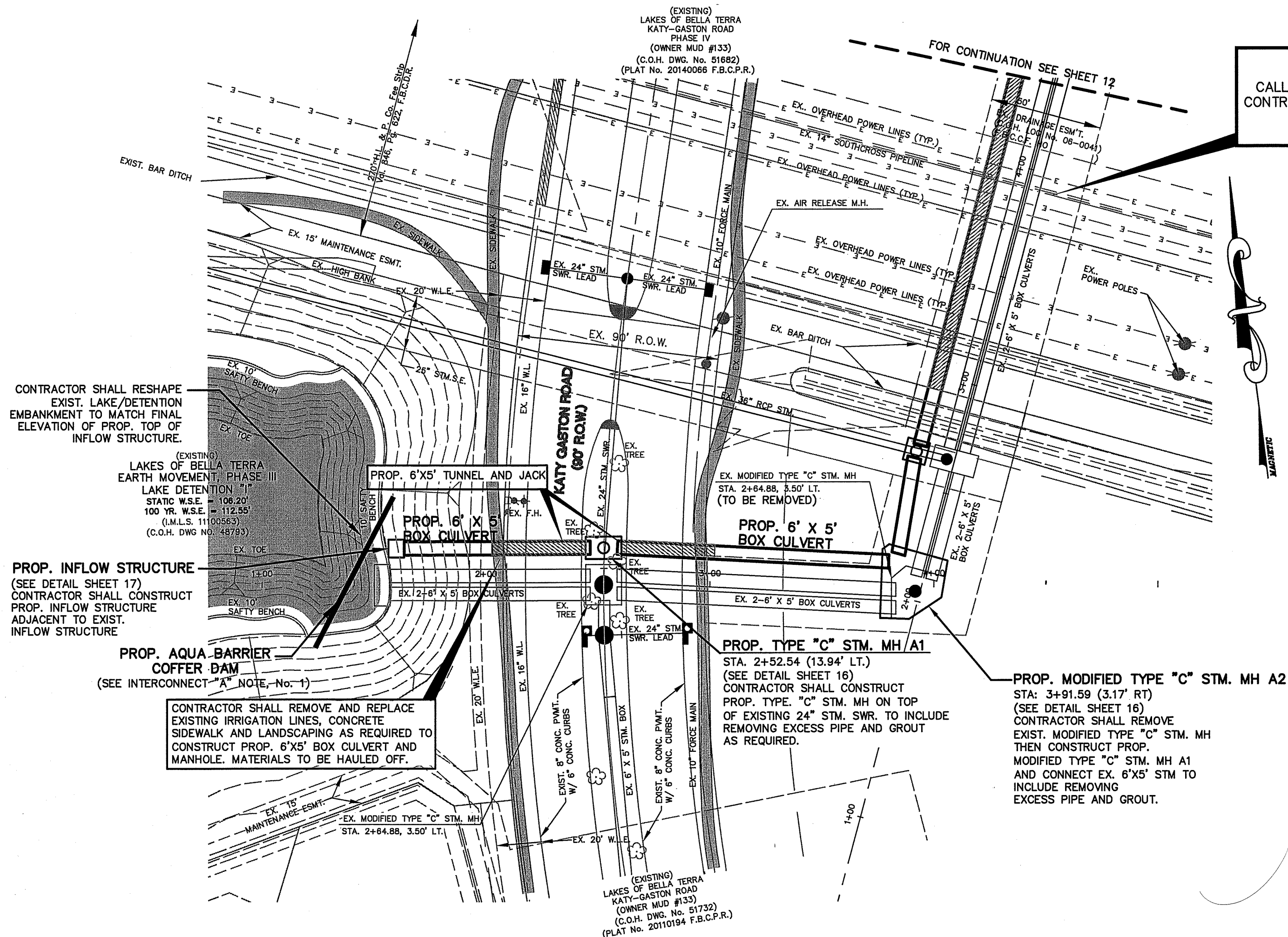


BENCHMARKS		
BENCHMARK (L506) LOCATED 5.85 M. N. FROM ROSENBERG, 0.25 M. WEST ALONG THE ATCHISON, TOPEKA AND SANTA FE RAILWAY FROM THE STATION AT ROSENBERG, THENCE 4.95 M. N. ALONG FARM ROAD 354, AT THE CROSSING OF A TRANSMISSION TOWER AND POWER LINES, 50 FEET S.W. OF THE CENTER LINE OF THE ROAD, 62 FEET N.E. OF THE E.S. OF THE FIRST TRANSMISSION TOWER S.W. OF THE ROAD 40-1/2 FEET S.E. OF THE S.E. END OF THE METAL GATE, 2-1/2 FEET N.W. OF A T JUNCTION FENCE POST, 2 1/2 FEET S.W. OF POWER POLE, 0.5 FOOT SOUTHWEST OF THE FENCE, 1 FOOT S.W. OF A WITNESS POST, ABOUT LEVEL WITH THE ROAD, AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.3 FEET ABOVE GROUND, NOD. 26, 1973 ADJUSTMENT.		
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	
113.48	113.48	
T.B.M. #1 8" SPIKE VERTICALLY IN ROOT, SOUTH SIDE 24" OAK TREE, 15' WEST OF CENTER LINE DIRT ROAD 3179' SOUTHWEST OF G-25		
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	
113.48	113.48	
T.B.M. #2 4" IN ESPRANADE NOSE, GASTON ROAD AT ENTRANCE TO SEVEN MEADOWS SUBDIVISION		
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	
113.39	113.39	
T.B.M. #3 RAILROAD SPIKE IN NORTH POLE OF 7MM POWER POLE SOUTH OF DRILL SITE, 8TH SET OF POLES WEST OF EAST PROPERTY LINE IN H.L.A.P. FEE STRIP, SOUTHWEST OF G-1		
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	
113.40	113.40	
NOTE: PROJECT ELEVATIONS ARE BASED ON 1973 ADJUSTMENT.		
FLOOD NOTE: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 4801070101, FOR FORT BEND COUNTY, TEXAS AND INCORPORATED AREAS, REVISED DATE APRIL 2, 2014, THE SUBJECT PROPERTIES LIES IN ZONE X (UNSHADDED), AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.		
100-YEAR BASE FLOOD ELEVATION	ELEVATION 84.00	
NOTE 1: THE PROPOSED STORM SEWER, INLETS AND MANHOLES ARE PRIVATE NORTH OF THE PROPOSED STORM SEWER SIPPON AT THE REQUEST OF THE CITY OF HOUSTON. THE PRIVATE STORM SEWER LINES ARE TO BE LOCATED WITHIN THE PUBLIC ROAD RIGHT OF WAY. THE NEW UNPUBLISHED CITY OF HOUSTON STORM SEWER DESIGN CRITERIA DOES NOT ACCEPT STORM SEWER SIPPONS AS PUBLIC HOWEVER DUE TO THE APPROVED ACCEPTANCE OF EXISTING STORM SEWER SIPPON DESIGN WITHIN THE EXISTING DEVELOPMENT THE CITY WILL ALLOW PRIVATE STORM SEWER PORTION OF THE STORM SEWER SYSTEMS TO BE OWNED AND MAINTAINED BY FORT BEND COUNTY M.U.D. NO. 133.		
PRIVATE UTILITY LINES SHOWN AT LEAST 48 HOURS BEFORE EXCAVATING IN STREET R.O.W. OR EASEMENTS CALL THE LONE STAR NOTIFICATION 713-223-4567.		
TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222.		
NOTICE: For your safety, you are required by Texas Law to call 811 at least 48 hours before you dig so that underground line can be marked. This Verification does not fulfill your obligation to call 811.		
VERIFICATION OF PRIVATE UTILITY LINES		
Approved for AT&T Texas/SWBt underground conduit facilities only. Signature valid for one year.		
CenterPoint Energy/Natural Gas 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.		
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities-not to be used for conflict verification.) Signature Valid for six months.		
SEAL: 		
TEXAS BOARD OF PROFESSIONAL ENGINEERS BENCHMARK ENGINEERING CORPORATION REGISTRATION NUMBER F-6728		
REV. NO.	DESCRIPTION	DATE
1	BENCHMARK ENGINEERING CORPORATION Consulting Engineers-Planners-Surveyors 2401 Fountainsview Drive, Suite 500 Houston, Texas 77057 U.S.A. (713)266-9930 Fax (713)266-3804	
FORT BEND COUNTY M.U.D. No. 133 CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND DETENTION BASIN IMPROVEMENTS SERVING		
LAKES OF BELLA TERRA WEST DEVELOPMENT IN FORT BEND COUNTY, TEXAS		
PROPOSED PLAN AND PROFILE OFFSITE 48" STORM SEWER STA: 0+00 TO 10+00		
PLAT NAME: CPC 101 FILE NO.: I.L.M.S. No. 18015113 C.O.H. LOG No. 18-0262		
AUTHORIZATION IS VALID FOR 1 YEAR.		
APPROVED: FBC DEVELOPMENT COORDINATOR		
DATE: 5-16-18		
NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES		
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING		
FILE NO.	FOR CITY OF HOUSTON USE ONLY	
DRAWING SCALE		
HORIZ : 1"=40'		
VERT : 1"=4'		
SHEET 8 OF 21		





FILENAME: L:\0404\3\DEVELOPMENT PRODUCTION\2\DEVELOPMENT PROJECTS\MG-2 101 WEST\03PROJECT DRAWINGS\11) PP-04-INTERCONNECT A-MG2-0404-78.dwg, LAST SAVED ON: Mar 7 2018 11:55m PLOTTED BY: LEAST



**14" SOUTH CROSS PIPELINE**  
CALL AT LEAST 72 HRS. BEFORE CONSTRUCTION,  
CONTRACTOR TO CONTACT MR. DEAN CRITENDON AT  
OFFICE: 979-793-5552  
CELL: 361-550-2707

**INTERCONNECT "A" NOTES.**

1. A. CONTRACTOR SHALL INSTALL AQUA BARRIER COFFER DAM AND PUMP OUT EXIST. WATER  
CONSTRUCTION OF PROP. INFLOW STRUCTURE.  
B. CONTRACTOR SHALL RESTORE AREA TO ORIGINAL OR BETTER CONDITION.  
C. CONTRACTOR SHALL REMOVE AQUA BARRIER COFFER DAM AFTER
2. A. CONTRACTOR SHALL LOCATE EXIST. UTILITIES AND IRRIGATION LINES, SIDEWALKS, ETC.  
B. CONTRACTOR SHALL TUNNEL & JACK PROP. 6'x5' BOX CULVERT UNDER EXIST. P.W.M.  
C. CONTRACTOR SHALL CONSTRUCT PROP. MODIFIED STM. M.H.(S). SEE DETAIL SHEET
3. CONTRACTOR SHALL RESTORE EXISTING CLAY LINER WITH TESTING FROM LAB NO EXTRA PAY.

BENCHMARKS			
BENCHMARK (L806) LOCATED 5.65 M. N. FROM ROSENBERG, 0.25 M. WEST ALONG THE ATCHISON, TOPEKA AND SANTA FE RAILWAY FROM THE STATION AT ROSENBERG, THENCE 4.95 M. N. ALONG FARM ROAD 350, AT THE CROSSING OF A TRANSMISSION TOWER AND POWER LINES, 50 FEET S.W. OF THE CENTER LINE OF THE ROAD, 65 FEET N.E. OF THE EAST LEG OF THE FIRST TRANSMISSION TOWER S.W. OF THE ROAD 40-1/2 FEET S.E. OF THE S.E. END OF THE METAL GATE, 2-1/2 FEET N.W. OF A T JUNCTION FENCE POST, 2 1/2 FEET S.W. OF POWER POLE, 0.8 FOOT SOUTHWEST OF THE FENCE, 1 FOOT S.W. OF A WITNESS POST, ABOUT LEVEL WITH THE ROAD, AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.3 FEET ABOVE GROUND, MOND 26, 1973 ADJUSTMENT.			
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	ELEV. DEF.	
84.85	84.87	-0.04	
T.B.M. #1 8" SPIKE VERTICALLY IN ROOT, SOUTH SIDE 424' OAK TREE, 15' WEST OF CENTER LINE DIRT ROAD 5175' SOUTHWEST OF C-22.			
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	ELEV. DEF.	
113.48	113.44	-0.04	
T.B.M. #2 2" IN EMBANKMENT NOSE, GASTON ROAD AT ENTRANCE TO SEVEN MEADOWS SUBDIVISION.			
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	ELEV. DEF.	
113.39	113.35	-0.04	
T.B.M. #3 RAILROAD SPIKE IN NORTH POLE OF TWIN POWER POLES, SOUTH OF DIRT SITE #5, 8TH SET OF POLES WEST OF EAST PROPERTY LINE IN H.L.A.P. FEE STRIP, SOUTHEAST OF C-11			
1973 ELEV. ADJUST.	2001 ELEV. ADJUST.	ELEV. DEF.	
118.47	118.36	-0.04	
NOTE: PROJECT ELEVATIONS ARE BASED ON 1973 ADJUSTMENT.			
FLOOD NOTE: ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP NO. 4810701010, FOR FORT BEND COUNTY, TEXAS AND INCORPORATED AREAS, REVISED DATE APRIL 2, 2014, THE SUBJECT PROPERTIES LIES IN ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN. 100-YEAR BASE FLOOD ELEVATION ELEVATION 94.00			

**PRIVATE UTILITY LINES SHOWN**  
AT LEAST 48 HOURS BEFORE EXCAVATING IN STREET R.O.W. OR EASEMENTS CALL THE LONE STAR NOTIFICATION 713-223-4567.

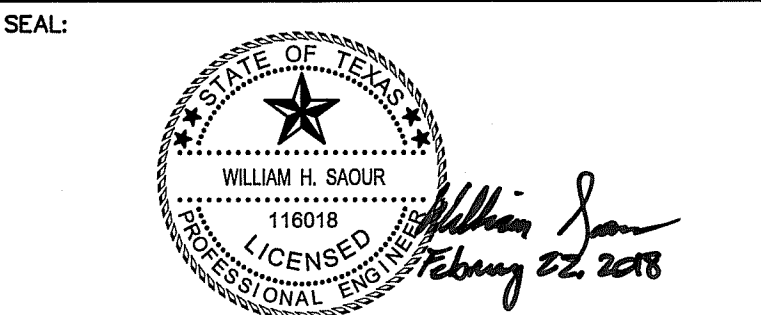
TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222.  
NOTICE:  
For your safety, you are required by Texas Law to call 811 at least 48 hours before you dig so that underground line can be marked. This verification does not fulfill your obligation to call 811.

**VERIFICATION OF PRIVATE UTILITY LINES**

Approved for AT&T Texas/SWBt underground conduit facilities only.  
Signature valid for one year.

CenterPoint Energy/Natural Gas 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.

CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY.  
(This signature verifies existing underground facilities-not to be used for conflict verification.)  
Signature valid for six months.



TEXAS BOARD OF PROFESSIONAL ENGINEERS  
BENCHMARK ENGINEERING CORPORATION  
REGISTRATION NUMBER F-6768

REV. No. DESCRIPTION DATE  
BENCHMARK ENGINEERING CORPORATION  
Consulting Engineers-Planners-Surveyors  
2401 Fountainview Drive, Suite 500  
Houston, Texas 77057 U.S.A.  
(713)266-9930 Fax (713)266-9804

FORT BEND COUNTY M.U.D. No. 133  
CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND DETENTION BASIN IMPROVEMENTS SERVING

**LAKES OF BELLA TERRA WEST DEVELOPMENT**  
IN  
FORT BEND COUNTY, TEXAS

PROPOSED  
**PLAN AND PROFILE  
6'x5' BOX CULVERT  
INTERCONNECTION "A"**

PLAT NAME:  
CPC 101 FILE NO.:  
I.L.M.S. No. 18015113  
C.O.H. LOG No. 18-0262

AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *CPL*  
FBC DEVELOPMENT COORDINATOR  
DATE: *5-16-18*

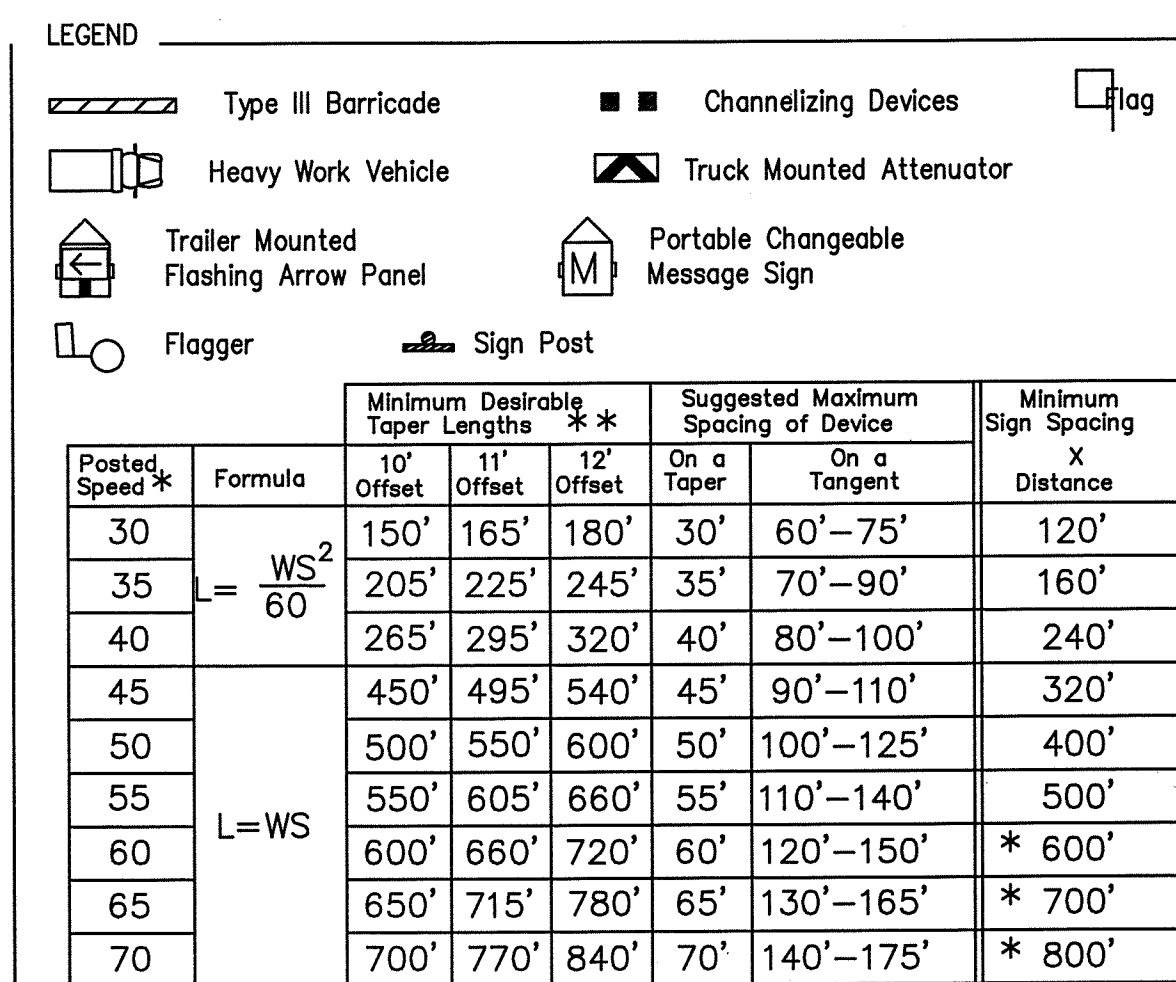
NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY  
AFTER DATE OF SIGNATURES

**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

96	96	96	96
92	92	92	92
88	88	88	88
84	84	84	84

FILE NO:	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE	ACCEPTED AND FILED
HORIZ : 1"=40'	60301
VERT : 1"=4'	CITY DRAWING NUMBER
SHEET No: 11 OF 21	

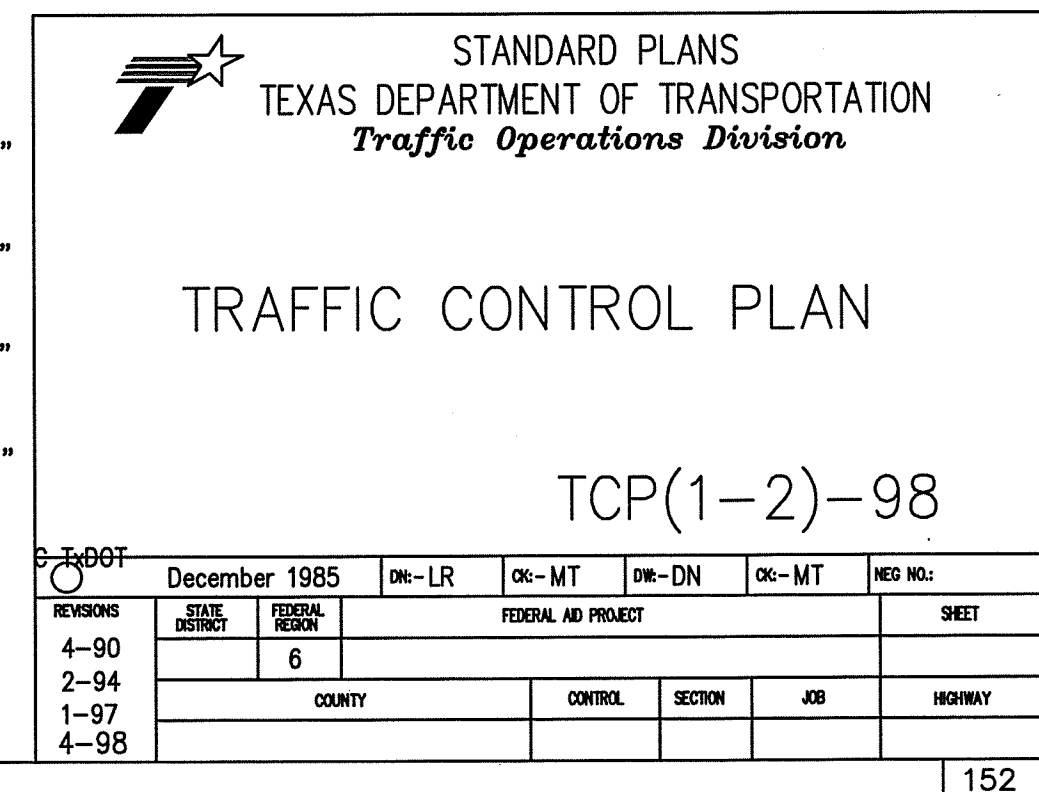


[illegible]

TYPICAL USAGE:				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

Only pre-qualified products shall be used. A list of compliant products and their sources may be obtained by writing or faxing:

Standards Engineer  
Traffic Operations Division – TE  
Texas Department of Transportation  
125 East 11th Street  
Austin, Texas 78701-2483  
Phone (512) 416-3335  
Fax (512) 416-3161  
E-mail TRF-STANDARD@mailgw.dot.state.tx.us



### PRIVATE UTILITY NOTES

- ALL WORK SHALL BE PURSUED IN ACCORDANCE WITH CITY ORDINANCE NO. 40-28. NO WORK SHALL BE DONE ON ROADWAY BETWEEN HOURS OF 7:00 A.M. TO 8:00 A.M. AND 4:00 P.M. TO 8:00 P.M. (MONDAY THROUGH FRIDAY) AND USE UNIFORMED POLICE OFFICERS TO CONTROL TRAFFIC. NO WORK ON RESIDENTIAL STREETS FROM 7:00 P.M. TO 7:00 A.M. SEVEN DAYS A WEEK.
2. CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART VI OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TEXAS MUTCD MOS-1994) AS REVISED DURING CONSTRUCTION.
3. CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE TRAFFIC IN EACH DIRECTION DURING WORKING HOURS AND USE UNIFORMED POLICE OFFICER TO CONTROL TRAFFIC.
4. CONTRACTOR SHALL COVER OPEN EXCAVATIONS WITH ANCHORED STEEL PLATES DURING NON-WORKING HOURS. THERE WILL BE NO EXTRA PAY FOR STEEL PLATES.
5. OFF DUTY UNIFORMED POLICE OFFICER(S) ARE REQUIRED TO DIRECT TRAFFIC TWO WAYS DURING CONSTRUCTION AROUND INTERSECTIONS AND WHEN TRAFFIC BLOCKED TO ONE (1) LANE TRAFFIC.
6. IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAT IS OUTLINED IN THE CONTRACT DRAWINGS, (SHE) SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT A LETTER DURING PRELIMINARY DESIGN REVIEW SECTION FOR APPROVAL. THE WORKING DATES PRIOR TO IMPLEMENTATION.
7. "THOSE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. PLANS WILL BECOME A PART OF THE CONTRACT DRAWINGS AND BE AVAILABLE FOR INSPECTION AT JOB SITE AT ALL TIMES.
- CONTRACTOR MUST SECURE "LANE/SIDEWALK CLOSURE PERMITS" FROM CITY'S TRAFFIC ENGINEER. THE PERMITS SHALL BE OBTAINED PRIOR TO THE BEGINNING OF CONSTRUCTION. THERE MUST BE AT LEAST THREE BUSINESS DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS REQUESTED. THE PERMITS WILL BE RESTRICTED ON THE REQUEST MAY BE DENIED. CALL (713) 837-7280 FOR AN APPLICATION.
8. THE SIGNS AND BARRICADES SHOWN ON THESE DRAWINGS CONSTITUTE MINIMUM REQUIREMENTS AND ARE NOT INTENDED TO COVER SPECIAL CIRCUMSTANCES OR OTHER CONDITIONS THAT MAY ARISE DUE TO THE PROJECT. THE FIELD ENGINEER SHALL BE RESPONSIBLE TO MAINTAIN SUFFICIENT SIGNS AND BARRICADES, ADDITIONAL SIGNS, BARRICADES, AND WARNING DEVICES TO WARN THE PUBLIC AND PROVIDE FOR THE SAFE MOVEMENT OF TRAFFIC WHERE PROJECT REQUIREMENTS ARE NOT FULLY SATISFIED BY THE STANDARDS SHOWN HEREON, THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES SHALL GOVERN.
9. DRUMS SHALL BE PLACED AS SHOWN ON PLANS.
10. INGRESS AND EGRESS SHALL BE PROVIDED FOR THE PROPERTY OWNERS AND BUSINESSES OF THE ADJUTING PROPERTY AND AT THE CROSS STREETS WHICH ARE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
11. ALL NON-PERMANENT PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH CITY OF HOUSTON SPECIAL TEMPORARY, "TEMPORARY AND REMOVABLE PERFORMED PLASTIC PAVEMENT MARKINGS".
12. MINIMUM LANE WIDTH SHALL BE 10' (FEET).
13. ALL EXISTING REGULATORY, WARNING & GUIDE SIGNS SHALL BE MAINTAINED IN PLACE AS NECESSARY DURING THE ENTIRE PERIOD OF CONSTRUCTION BY THE CONTRACTOR. HOWEVER, THE CONTRACTOR SHALL REMOVE ANY EXISTING SIGNS AND STRIPINGS WHICH ARE IN CONFLICT WITH THE CONSTRUCTION SIGNS STRIPING. EXISTING PAVEMENT MARKINGS SHALL BE REMOVED IN AREAS WHERE TRAFFIC IS DIRECTED TO CROSS THEM.
14. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER SUCH THAT TRUCKS AND OTHER VEHICLES DO NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY STREETS, PUBLIC OR PRIVATE.
15. CONTRACTOR SHALL REALIGN AND REDUAL SIGNAL HEADS AS REQUIRED AND DIRECTED BY THE CITY OF HOUSTON. THE CITY ENGINEER DURING ENTIRE CONSTRUCTION ACTIVITY.
16. ALL TEMPORARY SIGNAL TIMING CHANGES DURING CONSTRUCTION PHASES SHALL BE DONE BY THE CITY OF HOUSTON. CONTRACTOR SHALL NOTIFY THE CITY (MR. STEPHEN HA AT 681-3774) AT LEAST 5 WORKING DAYS PRIOR TO EACH CONSTRUCTION PHASE AT THE SIGNALIZED INTERSECTIONS SO THAT THE SIGNAL TIMING CHANGES CAN BE MADE (WHY IF REQUIRED BY THE CITY OF HOUSTON)
17. ALL CONSTRUCTION SIGNS MOUNTED ON TYPE III BARRICADES SHALL BE EQUIPPED WITH A TYPE "A" WARNING LIGHTS (TWO PER STRUCTURE).
18. BARRICADES, SIGNS, CHANNELING DEVICES AND TRAFFIC HANDLING DEVICES, AS SHOWN, SHALL BE ADJUSTED TO FIT FIELD CONDITIONS, AS DIRECTED BY ENGINEER.
19. CONTRACTOR WILL NOT BE REQUIRED TO FURNISH SIGNS AND BARRICADES FOR ENTIRE PROJECT AT ONE TIME. CONTRACTOR SHALL, AS DIRECTED BY THE ENGINEER, FURNISH ENOUGH OF THE VARIOUS SIGNS AND BARRICADES TO COVER THAT PORTION OF THE PROJECT THAT IS ACTUALLY UNDER CONSTRUCTION AS SHOWN ON THE PLANS.
20. CONTRACTOR SHALL INSURE THAT BARRICADES, SIGNS AND TRAFFIC DEVICES ARE MAINTAINED IN A CLEAN AND FUNCTIONAL CONDITION AT ALL TIMES.
21. FOR OPEN-OUT CONSTRUCTION CROSSING A STREET, CONTRACTOR SHALL COMPLETE NO MORE THAN ONE HALF-OF THE STREET AT A TIME. BACKFILL & OPEN TO TRAFFIC BEFORE CONTINUING CONSTRUCTION.
22. ALL INTERSECTIONS SHALL BE CONSTRUCTED WITH WHEELCHAIR RAMPS IN ACCORDANCE WITH THE GOVERNOR'S OFFICE OF TRAFFIC SAFETY MEMORANDUM DATED MAY 6, 1975, (HIGHWAY SAFETY ACT - 1973 SECTION 288). SEE PEDESTRIAN FACILITIES DETAILS SHEETS (PED-05 THROUGH)
- CONTRACTOR TO OBTAIN REQUIRED PERMITS FROM THE CITY OF HOUSTON AND OR PORT BEND COUNTY STANDARDS FOR CONCRETE PAVEMENT, INCLUDING LATEST REVISIONS AND SUPPLEMENTS.
23. GUIDELINES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.
24. FILL UNDER PAVEMENT SHALL BE PLACED IN MAXIMUM C&P LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AT 2X ± OPTIMUM MOISTURE CONTENT.
25. ALL PIPELINE CROSSINGS SHALL BE IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATIONS ADOPTED MAY 12, 1977, AND RECORDED IN VOLUME 95, PAGE 328.
26. ALL INTERSECTIONS SHALL BE CONSTRUCTED WITH WHEELCHAIR RAMPS IN ACCORDANCE WITH THE GOVERNOR'S OFFICE OF TRAFFIC SAFETY MEMORANDUM DATED MAY 6, 1975, (HIGHWAY SAFETY ACT - 1973 SECTION 288). SEE PEDESTRIAN FACILITIES DETAILS SHEETS (PED-05 THROUGH)
- CONTRACTOR TO OBTAIN REQUIRED PERMITS FROM THE CITY OF HOUSTON AND OR PORT BEND COUNTY AT HIS OWN EXPENSE PRIOR TO BEGINNING CONSTRUCTION.
27. NOTIFY FOR SPECIALTY ENGINEERING AND INSPECTIONS, AND BENCHMARK ENGINEERING CORPORATION (713) 266-9930, AND THE DESIGNATED LABORATORY, A MINIMUM OF 24 HOURS PRIOR TO ANY CONCRETE PLACEMENT.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING BARRICADES TO PREVENT TRAFFIC FROM USING NEW PAVEMENT UNTIL PROJECT IS COMPLETED AND ACCEPTED BY PROPER AUTHORITY OR AS AUTHORIZED BY ENGINEER.
28. EXISTING PAVEMENT, CURBS, SIDEWALKS & DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL CONDITION, NO SEPARATE PAY. EXISTING DITCH FLOWLINES SHALL BE REALIGNED AS DIRECTED BY ENGINEER AS PER CITY OF HOUSTON SPECIAL TEMPORARY, "TEMPORARY AND REMOVABLE PERFORMED PLASTIC PAVEMENT MARKINGS".
- CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL HANDICAP RAMPS PER TEXAS DEPARTMENT OF TRANSPORTATION STANDARDS PED-05 (PEDESTRIAN FACILITIES CURB RAMPS SIDEWALKS AND INTERSECTION LAYOUTS AND DETAILS)
- CONTRACTOR IS RESPONSIBLE FOR PLACEMENT AND INSTALLATION OF BLUE ROAD BUTIONS OPPOSITE EACH FIRE HYDRANT 6" OFF CENTERLINE OF PAVEMENT TO SIDE OF FIRE HYDRANT.

### PRIVATE UTILITY NOTES

1. THE CONTRACTOR TO NOTIFY THE "UNDERGROUND UTILITY COORDINATING COMMITTEE" (TEL: 713-223-4587) 48 HOURS BEFORE STARTING WORK IN STREET RIGHT-OF-WAYS OR EASEMENTS.
  2. TRENCH SAFETY SYSTEMS SHALL BE IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS (O.S.H.A.) STANDARDS FOR TRENCH SAFETY THAT WILL BE IN EFFECT DURING THE PERIOD OF CONSTRUCTION OF THIS PROJECT. CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF O.S.H.A. 29 CFR 1926.650 AND THE FEDERAL RULE (29 CFR PART 1926) AS PUBLISHED IN THE FEDERAL REGISTER, VOL. 52, NO. 72, SECTIONS 1626-653, AND DATED SEPTEMBER, APRIL 15, 1987, AND TO CITY OF TEXAS LAND ORDINANCE NO. 87-1457.
- ATT & TEXAS/SWBT FACILITIES
3. THE LOCATION OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THE FACILITIES PRIOR TO COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
  4. THE CONTRACTOR SHALL COMPLY WITH 800-344-8377 A WARNING OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
  5. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.
  6. WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
  7. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR CABLES SHALL BE DETERMINED BY FIELD LOCATIONS. IT IS NOT TO BE MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN CONDUIT IN THE AREA.
  8. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER, MR. ROOSEVELT LEE JR. AT (713) 567-4552 OR E-MAIL HIM AT r7259@att.com. IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATION NEAR THE FACILITIES, PLEASE CALL THE DAMAGE PREVENTION MANAGER.
- CAUTION: UNDERGROUND GAS FACILITIES**
- LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE (I.C. WHERE APPLICABLE) ARE SHOWN ON THE ATTACHED LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR

**CAUTION: UNDERGROUND GAS FACILITIES**  
LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE LLC, WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR

- APPROVED COPIES OF "TRAFFIC CONTROL PLANS" AND LANE/SIDEWALK CLOSURE PERMITS SHALL BE AVAILABLE FOR INSPECTION AT JOB SITE AT ALL TIMES.
- CONTRACTOR MUST SECURE "LANE/SIDEWALK CLOSURE PERMITS" FROM CITY'S TRAFFIC MANAGEMENT AND MAINTENANCE BRANCH BEFORE CLOSING A LANE/SIDEWALK. THE REQUEST SHALL BE MADE AT LEAST THREE BUSINESS DAYS PRIOR TO THE DATE FOR WHICH THE CLOSURE IS SOUGHT. REQUESTS FOR CLOSURES WILL BE RESTRICTED OR THE REQUEST MAY BE DENIED. CALL (713) 637-7202 FOR AN APPLICATION.
- THE SIGNS AND BARRICADES SHOWN ON THESE DRAWINGS CONSTITUTE MINIMUM REQUIREMENTS AND ARE NOT INTENDED TO COVER SPECIAL CIRCUMSTANCES OR OTHER CONDITIONS THAT MAY ARISE DUE TO OBSTACLES, WEATHER, OR OTHER FACTORS. THE CONTRACTOR SHALL MAINTAIN SUFFICIENT ADDITIONAL SIGNS, BARRICADES, AND WARNING DEVICES TO WARN THE PUBLIC AND PROVIDE FOR THE SAFETY OF ALL TRAFFIC, WHERE THE CONTRACTOR IS NOT FULLY SATISFIED BY THE STANDARDS SHOWN HEREON, THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL GOVERN.
- DRUMS SHALL BE PLACED AS SHOWN ON PLANS.
- INGRESS AND EGRESS SHALL BE PROVIDED EID FOR THE PROPERTY OWNERS AND BUSINESSES OF THE ADJACENT PROPERTY AND AT THE CROSS STREETS WHICH ARE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
- ALL NON-PERMANENT PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH CITY OF HOUSTON SPECIAL PROVISION, "TEMPORARY AND REMOVABLE PERFORMED PLASTIC PAVEMENT MARKINGS".
- MINIMUM LANE WIDTH SHALL BE 10' (FEET).
- ALL EXISTING REGULATORY, WARNING & GUIDE SIGNS SHALL BE MAINTAINED IN PLACE AS NECESSARY DURING THE ENTIRE PERIOD OF CONSTRUCTION BY THE CONTRACTOR. HOWEVER, THE CONTRACTOR SHALL REMOVE ANY EXISTING SIGNS AND STRIPINGS WHICH ARE IN CONFLICT WITH THE CONSTRUCTION SIGNS AND STRIPING. EXISTING PAVEMENT MARKINGS SHALL BE REMOVED IN AREAS WHERE TRAFFIC IS DIRECTED TO CROSS THEM.
- THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN A MANNER SUCH THAT TRUCKS AND OTHER VEHICLES DO NOT CREATE A DIRT NUISANCE OR SAFETY HAZARD IN ANY STREETS, PUBLIC OR PRIVATE.
- CONTRACTOR SHALL REASON AND REASONAL SIGN SAFETY HAZARD AS REQUIRED AND DIRECTED BY THE CITY ENGINEER AND THE FIELD ENGINEER DURING ENTIRE CONSTRUCTION ACTIVITY.
- ALL TEMPORARY SIGNAL TIMING CHANGES DURING CONSTRUCTION PHASES SHALL BE DONE BY THE CITY OF HOUSTON. CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON AT LEAST TWO (2) BUSINESS WORKING DAYS PRIOR TO EACH CONSTRUCTION PHASE AT THE SIGNALIZED INTERSECTIONS SO THAT THE SIGNAL TIMING CHANGES CAN BE MADE. (ONLY IF REQUIRED BY THE CITY OF HOUSTON)
- ALL CONSTRUCTION SIGNS MOUNTED ON TYPE III BARRICADES SHALL BE EQUIPPED WITH A TYPE "A" WARNING LIGHTS (TWO PER STRUCTURE).
- BARRICADES, SIGNS, CHANNELING DEVICES AND TRAFFIC HANDLING DEVICES, AS SHOWN, SHALL BE ADJUSTED TO FIT FIELD CONDITIONS, AS DIRECTED BY ENGINEER.
- CONTRACTOR WILL NOT BE REQUIRED TO FURNISH SIGNS AND BARRICADES FOR ENTIRE PROJECT AT ONE TIME. CONTRACTOR SHALL, AS DIRECTED BY THE ENGINEER, FURNISH ENOUGH OF THE VARIOUS SIGNS AND BARRICADES TO COVER THAT PORTION OF THE PROJECT THAT IS ACTUALLY UNDER CONSTRUCTION AS SHOWN ON THE PLANS.
- CONTRACTOR SHALL INSURE THAT BARRICADES, SIGNS AND TRAFFIC DEVICES ARE MAINTAINED IN A CLEAN AND FUNCTIONAL CONDITION AT ALL TIMES.
- THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TACD'S COMMISSION ON ENVIRONMENTAL, QUALITY (TQO) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS SO TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 280 SUBCHAPTER 2B.
- DURING CONFLICTS ARE NOTED WITH LOCAL STANDARDS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. CONFLICTS BETWEEN THE TQO AND PUBLIC WATER SYSTEMS MUST ALWAYS, AT A MINIMUM, MEET THE TQO'S RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS.
- AN APPOINTED ENGINEER SHALL NOTIFY IN WRITING THE LOCAL TQO'S REGIONAL OFFICE WHEN CONSTRUCTION WILL START. PLEASE KEEP IN MIND THAT UPON COMPLETION OF THE WATER WORKS PROJECT, THE ENGINEER OR OWNER SHALL NOTIFY THE COMMISSION'S WATER SUPPLY DIVISION. IN WRITING, TO THE TQO TO REQUEST TO THE TQO THAT THE TQO ADJUDICATE THE WORKS COMPLETED ESSENTIALLY ACCORDING TO THE PLANS AND CHANGE ORDERS ON FILE WITH THE COMMISSION AS REQUIRED BY TAC §280.009(C)(2).
- ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61- AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI, AS REQUIRED 30 TAC §280.04(A)(1).
- PLASTIC PIPE USED IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATION OF 28 OR LESS, AS REQUIRED BY 30 TAC §280.04(A)(2).
- NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY, AS REQUIRED BY 30 TAC §280.04(A)(3).
- WATER TRANSMISSION AND DISTRIBUTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FLOOD LEVEL IN ANY AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE, AS REQUIRED BY 30 TAC §280.04(A)(4).
- FURNISH TO 30 TAC §280.04(A)(5), THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY THE MOST CURRENT AWWA FORMULAS FOR PVC PIPE, CAST IRON AND DUCTILE IRON PIPE, INCLUDING THE FORMULAS IN THE NOTES ON THE PLAN.
- THE HYDROSTATIC LEAKAGE RATE FOR POLYETHYLENE (PE) PIPE AND APPROPRIATIONS SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY FORMULAS IN AMERICA WATER WORKS ASSOCIATION (AWWA) C-900 AS REQUIRED IN 30 TAC §280.04(A)(5).
- THE CONTRACTOR SHALL ENSURE THAT THE FORMULA FOR THIS CALCULATION IS CORRECT AND MOST CURRENT FORMULA IS IN USE;
- WHERE: 
$$Q = \frac{LD \cdot P}{148,000}$$
- $Q$  = THE QUANTITY OF MAKEUP WATER IN GALLON PER HOUR,  
 $L$  = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,  
 $D$  = THE NOMINAL DIAMETER OF THE PIPE IN INCHES,  
 $P$  = THE AVERAGE TEST PRESSURE DURING THE HYDROSTATIC TEST IN POUNDS PER SQUARE INCH (PSI).
- $$L = \frac{SD \cdot P}{148,000}$$
- WHERE:
- $L$  = THE QUANTITY OF MAKEUP WATER IN GALLON PER HOUR,  
 $S$  = THE LENGTH OF THE PIPE SECTION BEING TESTED, IN FEET,  
 $D$  = THE NOMINAL DIAMETER OF THE PIPE IN INCHES.

## NOTE TO DEVELOPERS, ENGINEERS AND CONTRACTORS

1. "BL." INDICATES BUILDING LINE.
2. "U.E." INDICATES UTILITY EASEMENT.
3. "P.U.E." INDICATES PUBLIC UTILITY EASEMENT.
4. "W.L.E." INDICATES WATERLINE EASEMENT.
5. "STM. SWR. ESM.T." INDICATES STORM SEWER EASEMENT.
6. "S.S.E." INDICATES SANITARY SEWER EASEMENT.
7. UNLESS OTHER LESS NOTED, ALL STREETS SHOWN HEREON ARE PRIVATE WITHIN PERMANENT ACCESS EASEMENTS.
8. THAT "A.E.S." (PERMANENT ACCESS EASEMENTS) CONTAIN WITHIN THESE PLAN, ALSO CONTAIN AN OVERLAPPING PUBLIC UTILITY EASEMENT.
9. ALL STREETS IN THIS SUBDIVISION CONTAIN ONE OR MORE PERMANENT ACCESS ESM.T. THAT ARE NOT DEDICATED TO OR ACCEPTED BY THE CITY OF HOUSTON OR ANY OTHER LOCAL GOVERNMENTAL AGENCY AS PUBLIC RIGHT-OF-WAY. THE CITY OF HOUSTON HAS NO OBLIGATION TO MAINTAIN OR OTHERWISE PROVIDE FOR ANY OTHER LOCAL GOVERNMENTAL AGENCY OR ANY PERMANENT ACCESS ESM.T. WITHIN DIVISION, WHICH OBLIGATION SHALL BE THE SOLE RESPONSIBILITY OF THE OWNERS OF PROPERTY IN THIS SUBDIVISION.
10. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING PUBLIC UTILITY LINES, INCLUDING BUT NOT LIMITED TO PAVING, WATER LINES, WASTEWATER COLLECTIONS SYSTEMS AND STORM SEWERS DURING CONSTRUCTION. ALL DAMAGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION SPECIFICATIONS" WITH LATEST ADDENDA AND AMENDMENTS THERE TO WITHIN THE PUBLIC.

PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF HOUSTON AND OR PORT BEND COUNTY STANDARDS FOR CONCRETE PAVEMENT, INCLUDING LATEST REVISIONS AND SUPPLEMENTS. CONTRACTOR SHALL SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.

3. FILL UNDER PAVEMENT SHALL BE PLACED IN MAXIMUM 6" LOOSE LIPS AND COMPACTED TO 95% OF THEORETICAL DENSITY. OFFER OF TREATMENT SHALL BE SUBMITTED BY 11/15/25. (HIGHWAY 401)

4. ALL PIPELINE CROSSINGS SHALL BE IN ACCORDANCE WITH CITY OF HOUSTON SPECIFICATIONS DATED APRIL 12, 1977, AND RECORDED IN VOLUME 95, PAGE 328.

5. ALL INTERSECTIONS SHALL BE CONSTRUCTED WITH WHEELCHAMPS RAMPS IN ACCORDANCE WITH THE CITY OF HOUSTON SPECIFICATIONS DATED APRIL 12, 1977, (HIGHWAY 401) (SAFETY ACT - 1973 SECTION 288). SEE PEDESTRIAN FACILITIES DETAILS SHEETS (PD-05 THROUGH)

6. CONTRACTOR TO OBTAIN REQUIRED PERMITS FROM THE CITY OF HOUSTON AND OR PORT BEND COUNTY AT HIS OWN EXPENSE PRIOR TO BEGINNING CONSTRUCTION.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY BENCHMARK ENGINEERING CORPORATION (713) 266-9030, AND THE DESIGNATED LABORATORY, A MINIMUM OF 24 HOURS PRIOR TO ANY REQUIRED PLACEMENT.

8. CONTRACTOR IS RESPONSIBLE FOR INSTALLING BARRICADES TO PREVENT TRAFFIC FROM USING NEW PAVEMENT UNTIL PROJECT IS COMPLETED AND ACCEPTED BY PROPER AUTHORITY OR AS OTHERWISE DIRECTED BY THE CITY OF HOUSTON.

9. EXISTING PAVEMENT, CURBS, SIDEWALKS & DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL CONDITION, NO SEPARATE PAY. EXISTING SIDEWALKS SHALL BE REPLACED TO ORIGINAL CONDITION UNLESS AS PER CITY OF HOUSTON STANDARDS WITH LATEST ADDENDA AND AMENDMENTS THERETO.

10. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL HANDICAP RAMPS PER TEXAS TRANSPORTATION STANDARDS PD-05 (PEDESTRIAN FACILITIES CURB RAMPS SIDEWALKS AND INTERSECTION LAYOUTS) AND TCEM 2012.01.

11. CONTRACTOR IS RESPONSIBLE FOR PLACEMENT AND INSTALLATION OF BLUE ROAD MARKS OPPOSITE EACH FIRE HYDRANT & 6" OFF CENTERLINE OF PAVEMENT TO SIDE OF FIRE HYDRANT.



GENERAL NOTES:

1. STRUCTURAL CONCRETE FOR CONCRETE CHANNEL SECTIONS AND SLOPE PAVING AND NONSTRUCTURAL CONCRETE FOR SEAL SLAB SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 03310-CONCRETE.
2. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION NO. 03310-CONCRETE.

N.T.S





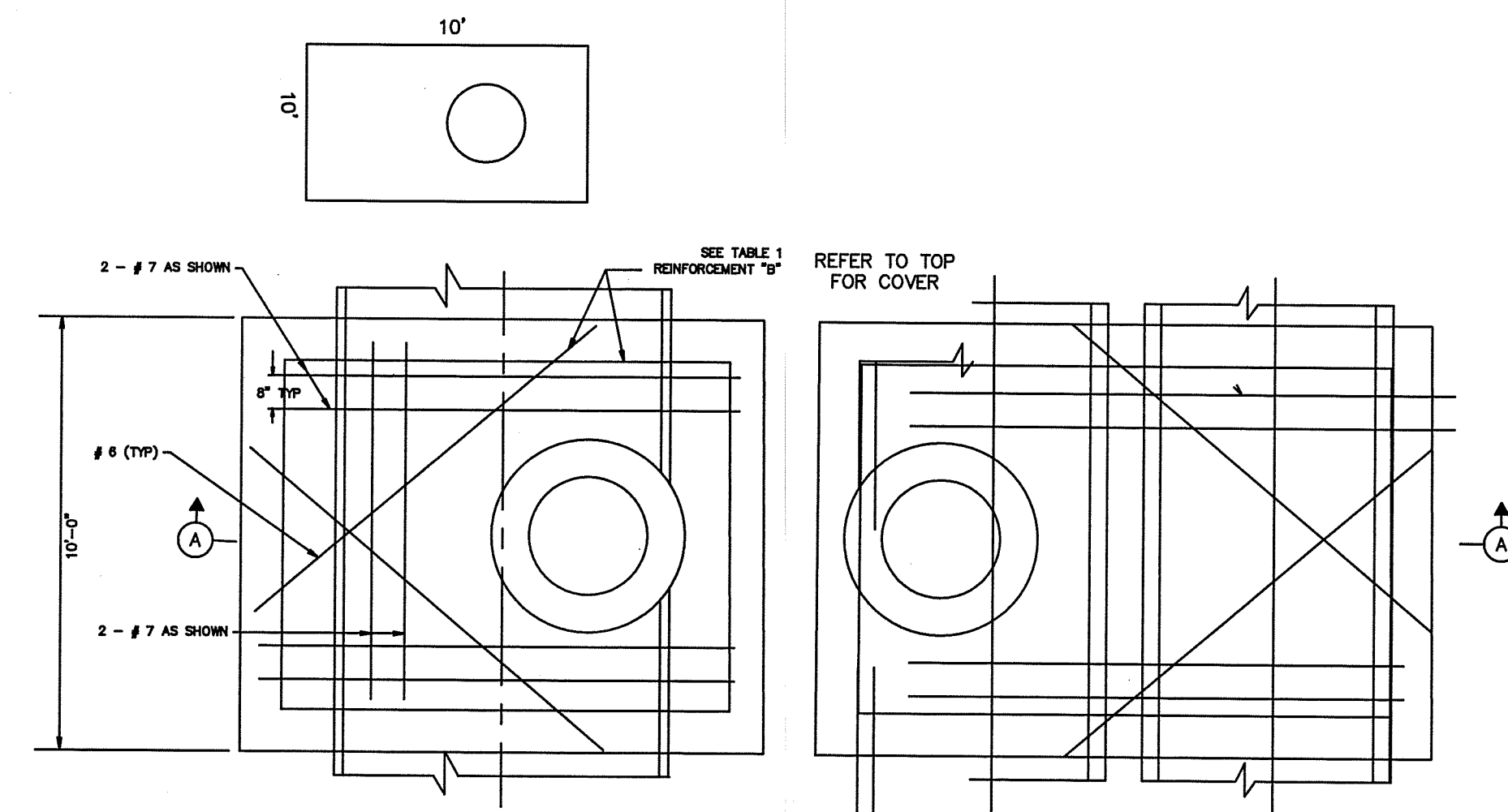
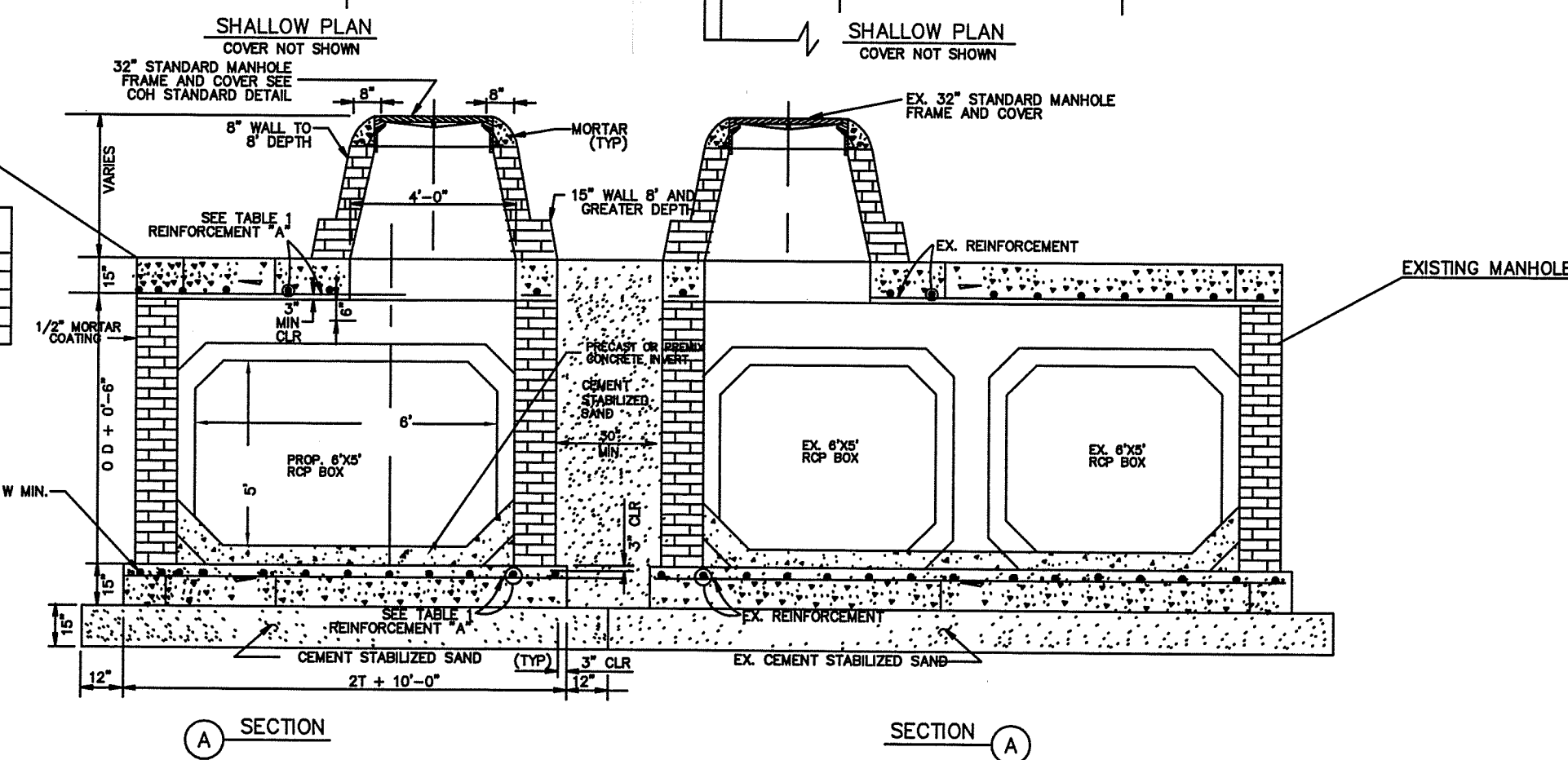


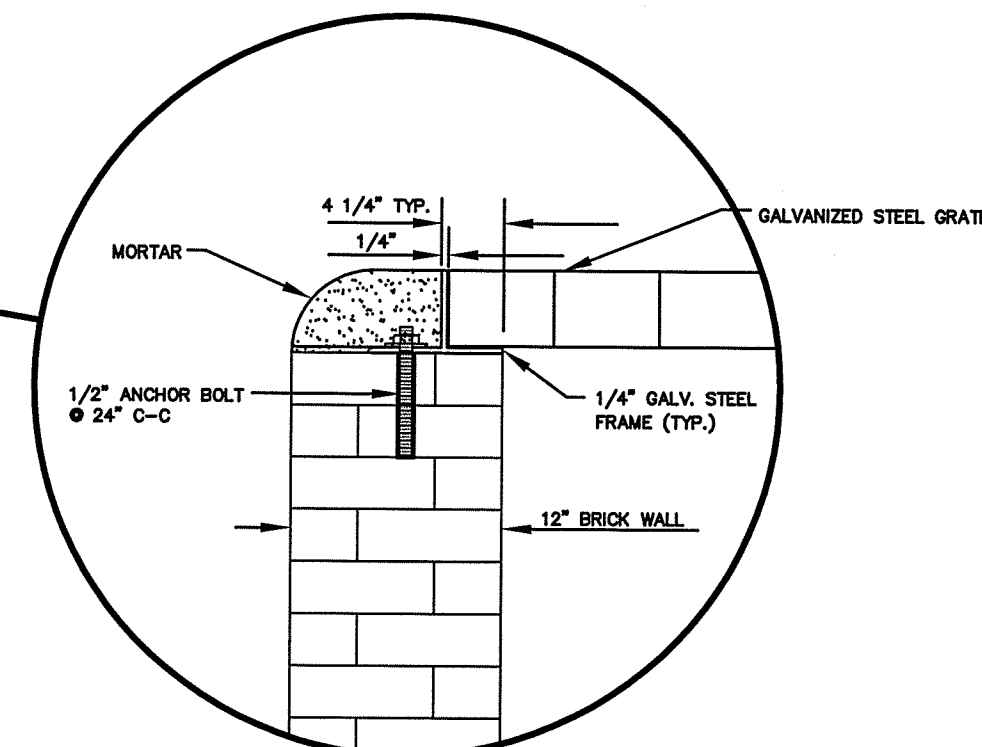
TABLE 1 DATA FOR VARIOUS PIPE DIAMETERS			
REINFORCEMENT ("B")	REINFORCEMENT ("A")	MIN DEPTH	PIPE DIA (INCHES)
2 - # 8	# 5 @ 12 E W	8'-0"	48"
2 - # 6	# 5 @ 10 E W	9'-4"	54"
2 - # 7	# 5 @ 8 E W	10'-7"	60"
2 - # 7	# 5 @ 7 E W	11'-10"	66"
2 - # 7	# 6 @ 8 E W	13'-2"	72"



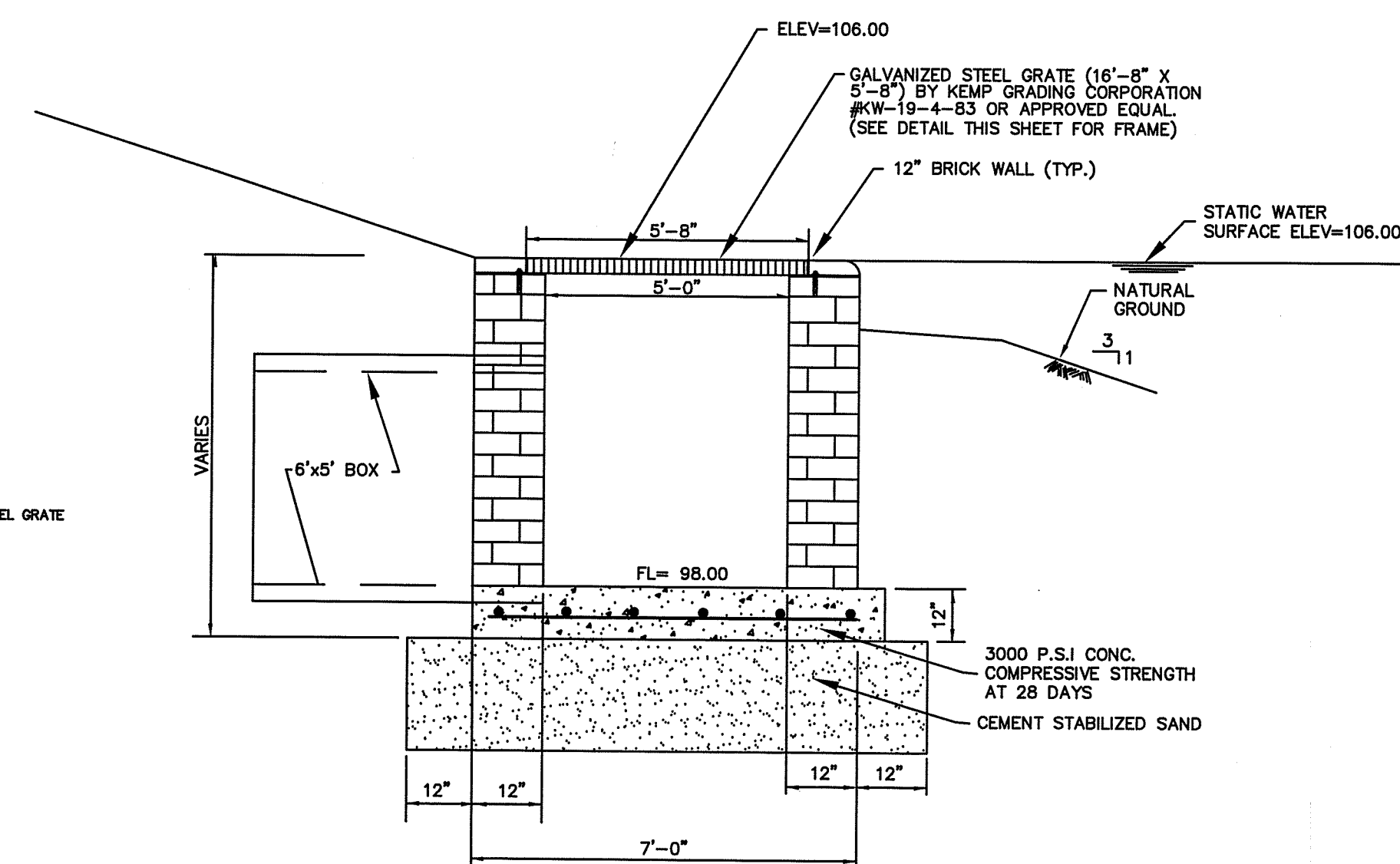
MODIFIED STORM SEWER MANHOLE No. "A5"  
TYPE "C" FOR 6' x 5' BOX CULVERT RCB  
CONSTRUCTED ADJACENT TO EXIST. MODIFIED  
TYPE "C" STORM SEWER MANHOLE

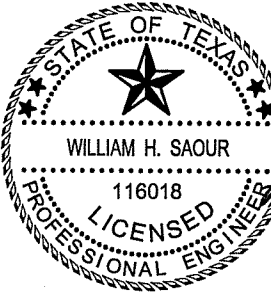




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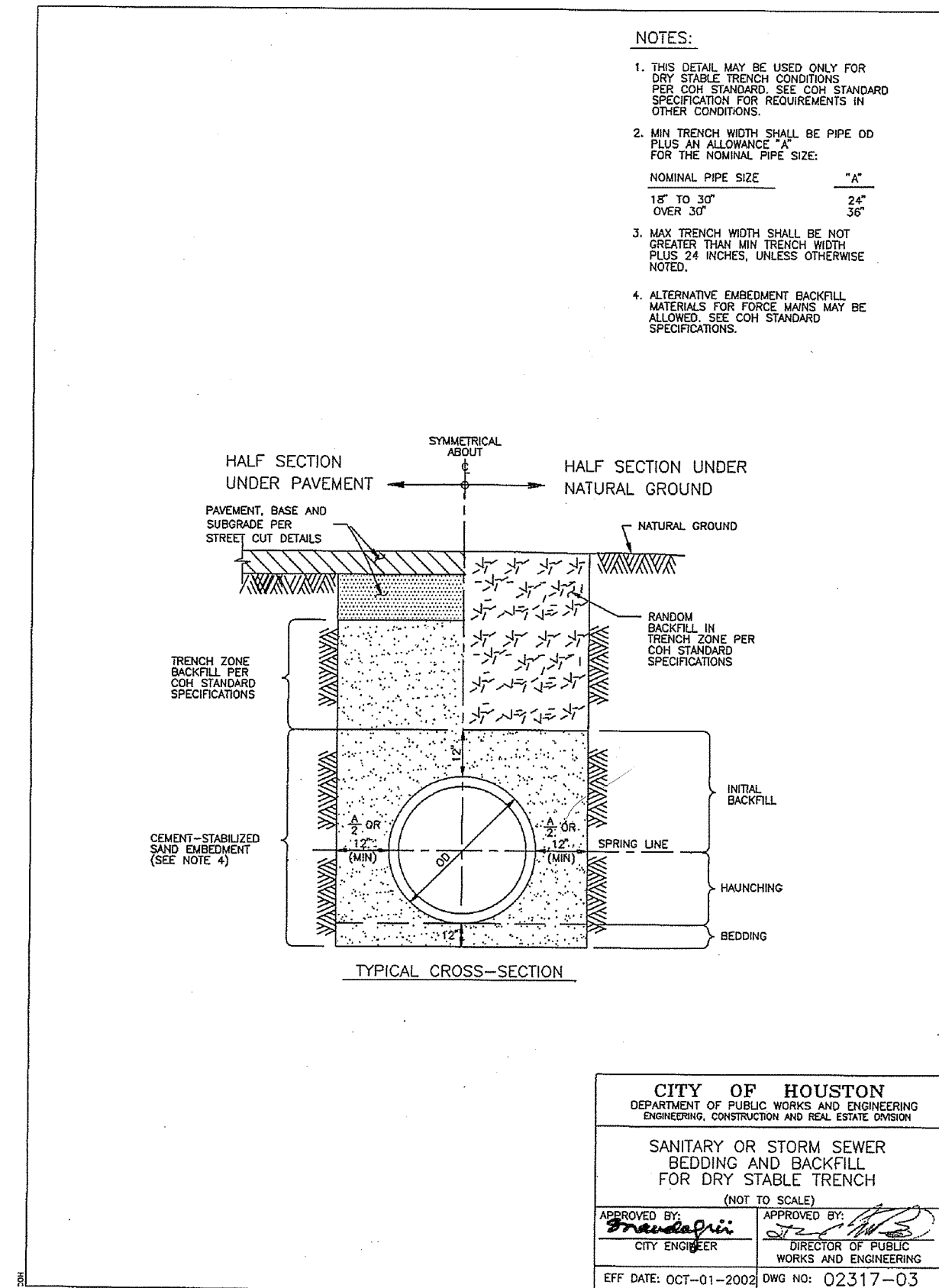
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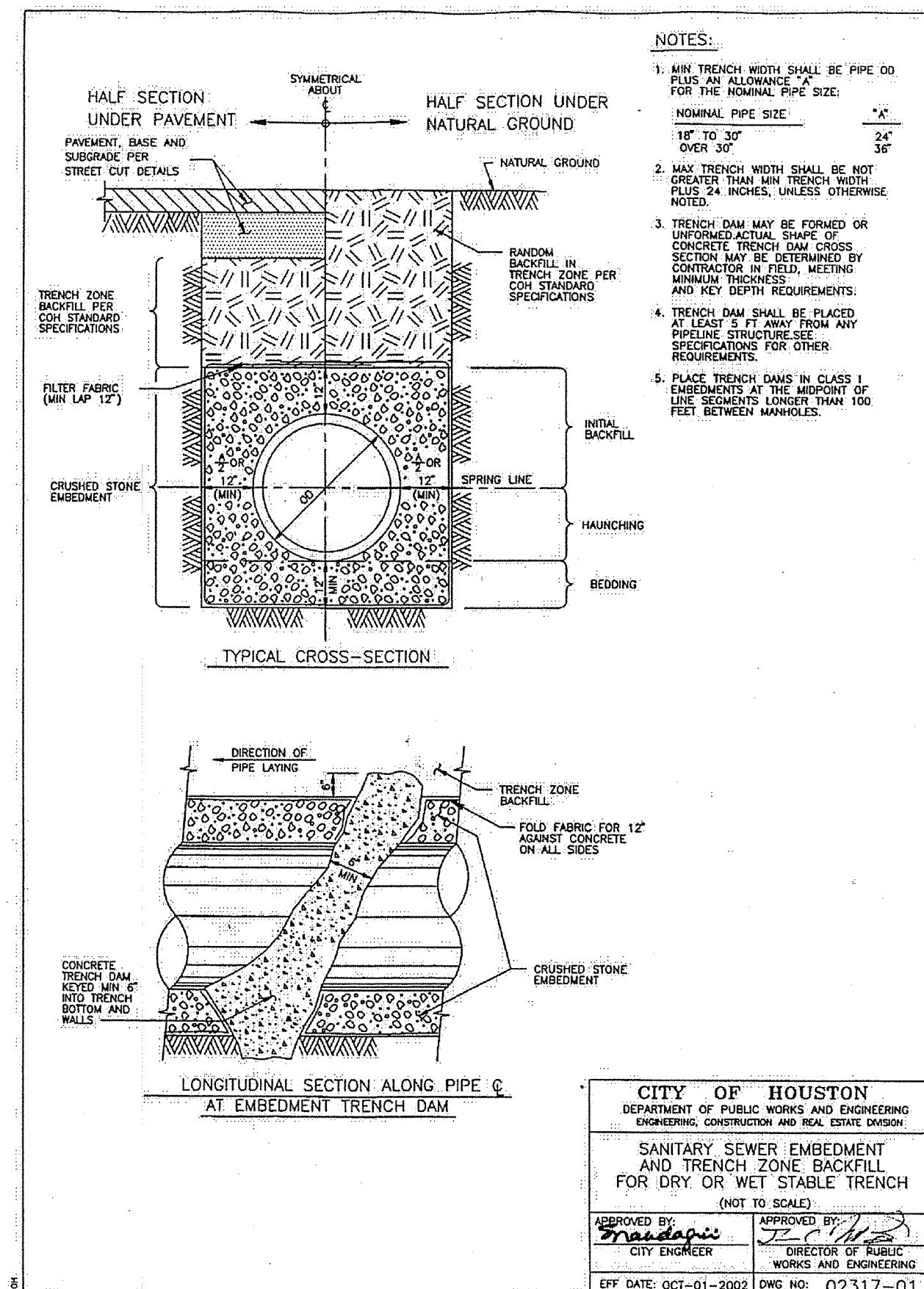
SECTION "A-A"  
N.T.S.



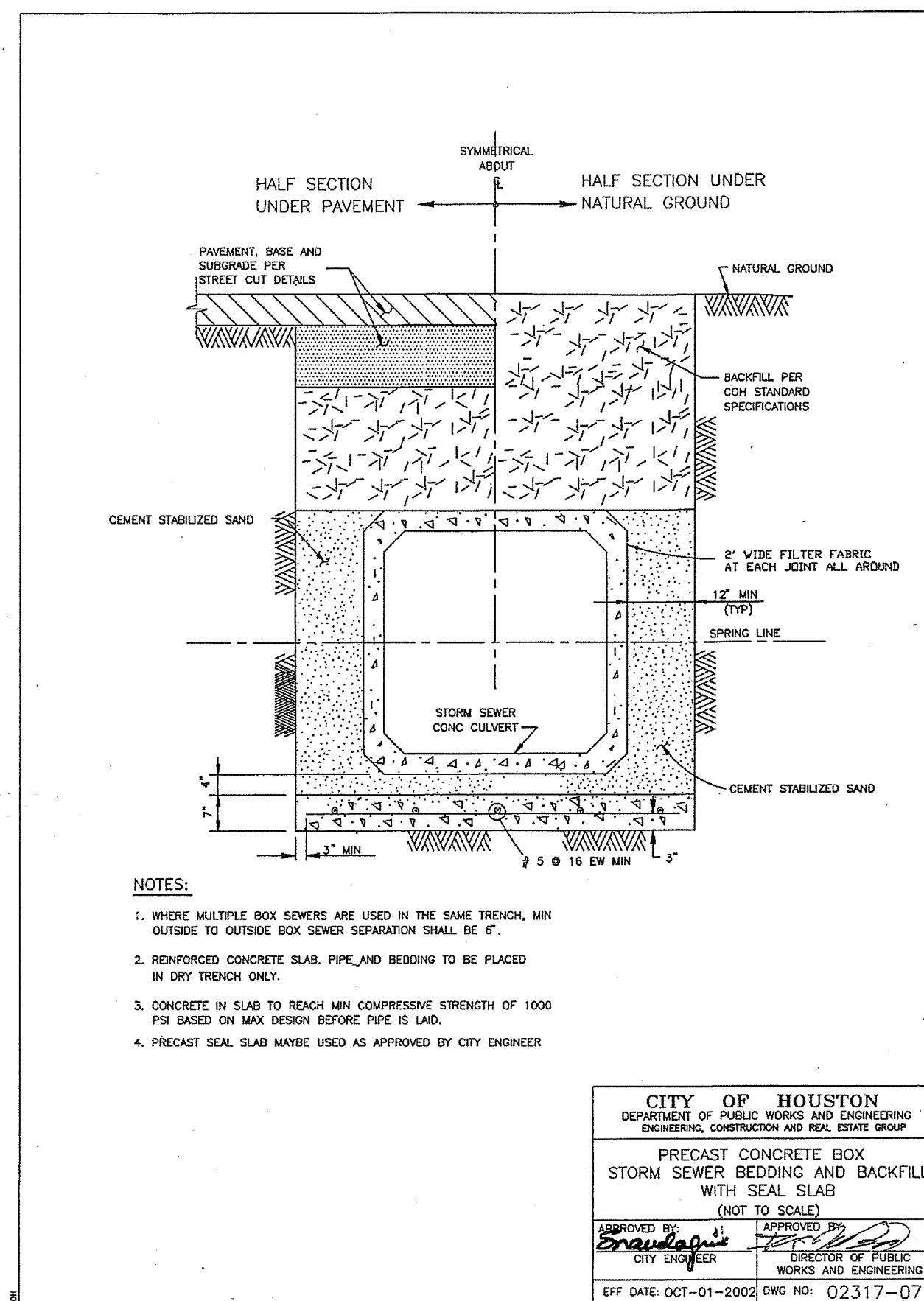
SEAL: <div style="float: right; text-align: right;">  </div>		
TEXAS BOARD OF PROFESSIONAL ENGINEERS BENCHMARK ENGINEERING CORPORATION REGISTRATION NUMBER F-6788		
REV. No.	DESCRIPTION	DATE
	<b>BENCHMARK ENGINEERING CORPORATION</b> Consulting Engineers-Planners-Surveyors 2401 Fountainview Drive, Suite 500 Houston, Texas 77057 U.S.A. (713)266-9930 Fax (713)266-3804	
FORT BEND COUNTY M.U.D. No. 133 CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND DETENTION BASIN IMPROVEMENTS SERVING		
<h1 style="margin: 0;">LAKES OF BELLA TERRA WEST</h1> <h2 style="margin: 0;">DEVELOPMENT</h2> <p style="margin: 0;">IN</p> <h3 style="margin: 0;">FORT BEND COUNTY, TEXAS</h3>		
PROPOSED <h2 style="margin: 0;">STANDARD STORM SEWER</h2> <h2 style="margin: 0;">DETAILS SHEET</h2> <h2 style="margin: 0;">(SHEET 3 OF 4)</h2>		
PLAT NAME: CPC 101 FILE No.: I.L.M.S. No. 18015113 C.O.H. LOG No. 18-0262		
AUTHORIZATION IS VALID FOR 1 YEAR.		
APPROVED:  by FBC DEVELOPMENT COORDINATOR		
DATE: <u>5-16-18</u>		
NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES		
<h1 style="margin: 0;">CITY OF HOUSTON</h1> <h2 style="margin: 0;">DEPARTMENT OF PUBLIC WORKS AND ENGINEERING</h2>		
 CITY ENGINEER <u>4/26/18</u> WATER <u>4/26/18</u> WASTEWATER <u>4/26/18</u> STORM WATER	TRAFFIC & TRANSPORTATION STORM WATER QUALITY FACILITIES	
STREET & BRIDGE	FOR CITY OF HOUSTON USE ONLY	
DRAWING SCALE		
HORIZ : N.T.S.		
VERT : N.T.S.		
SHEET No. 17 OF 21		



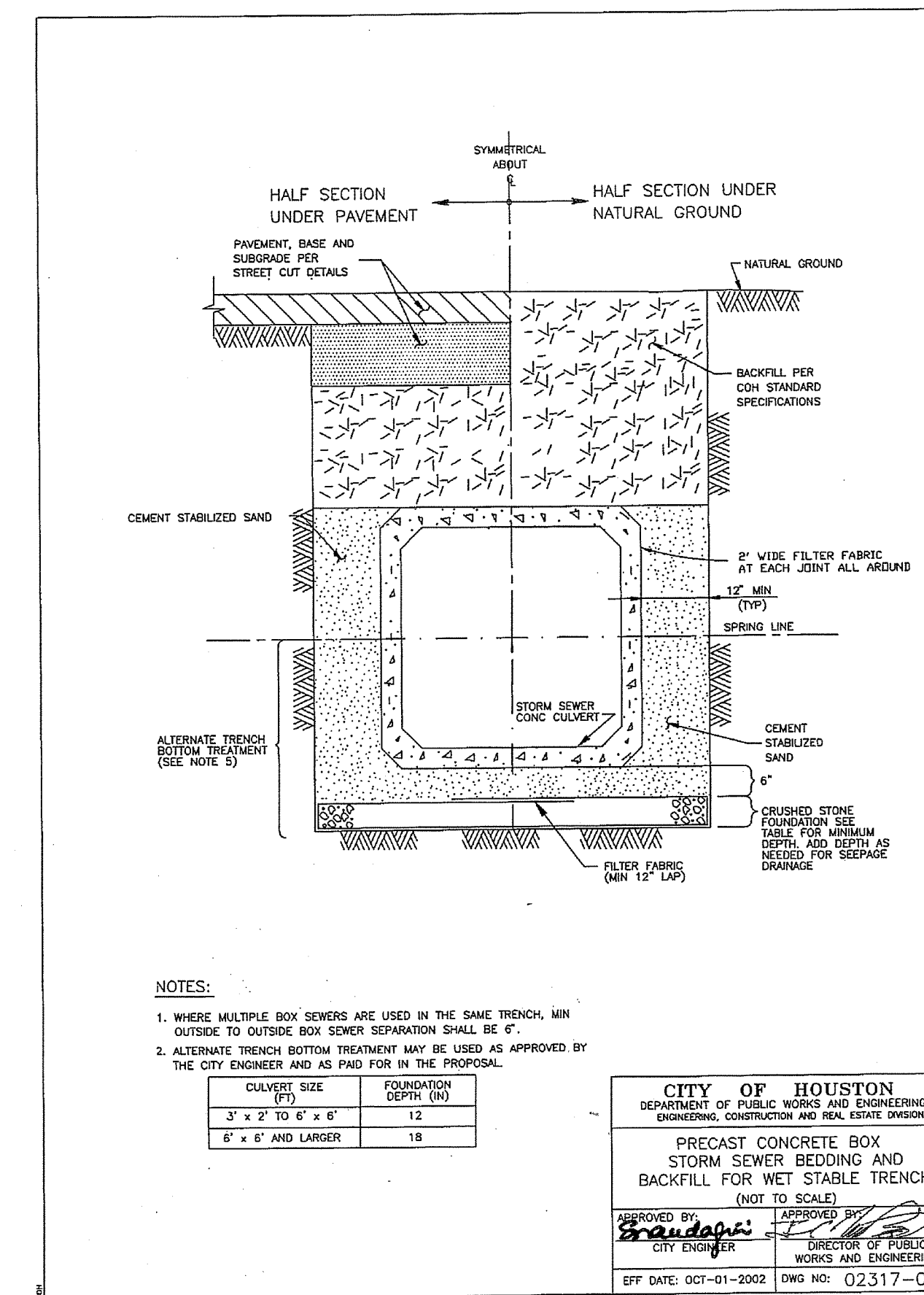
**SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH**  
EFF DATE: OCT-01-2002 DWG NO: 02317-03



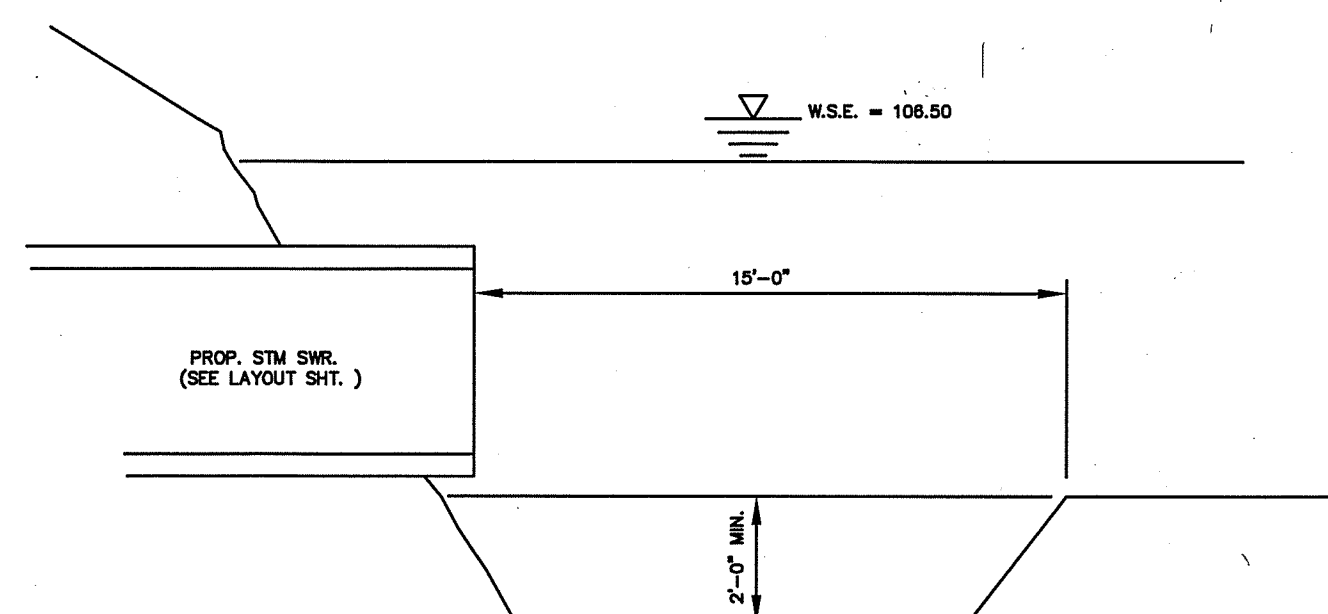
**STORM SEWER EMBEDMENT AND TRENCH ZONE BACKFILL FOR DRY OR WET STABLE TRENCH**  
EFF DATE: OCT-01-02 DWG NO: 02317-01



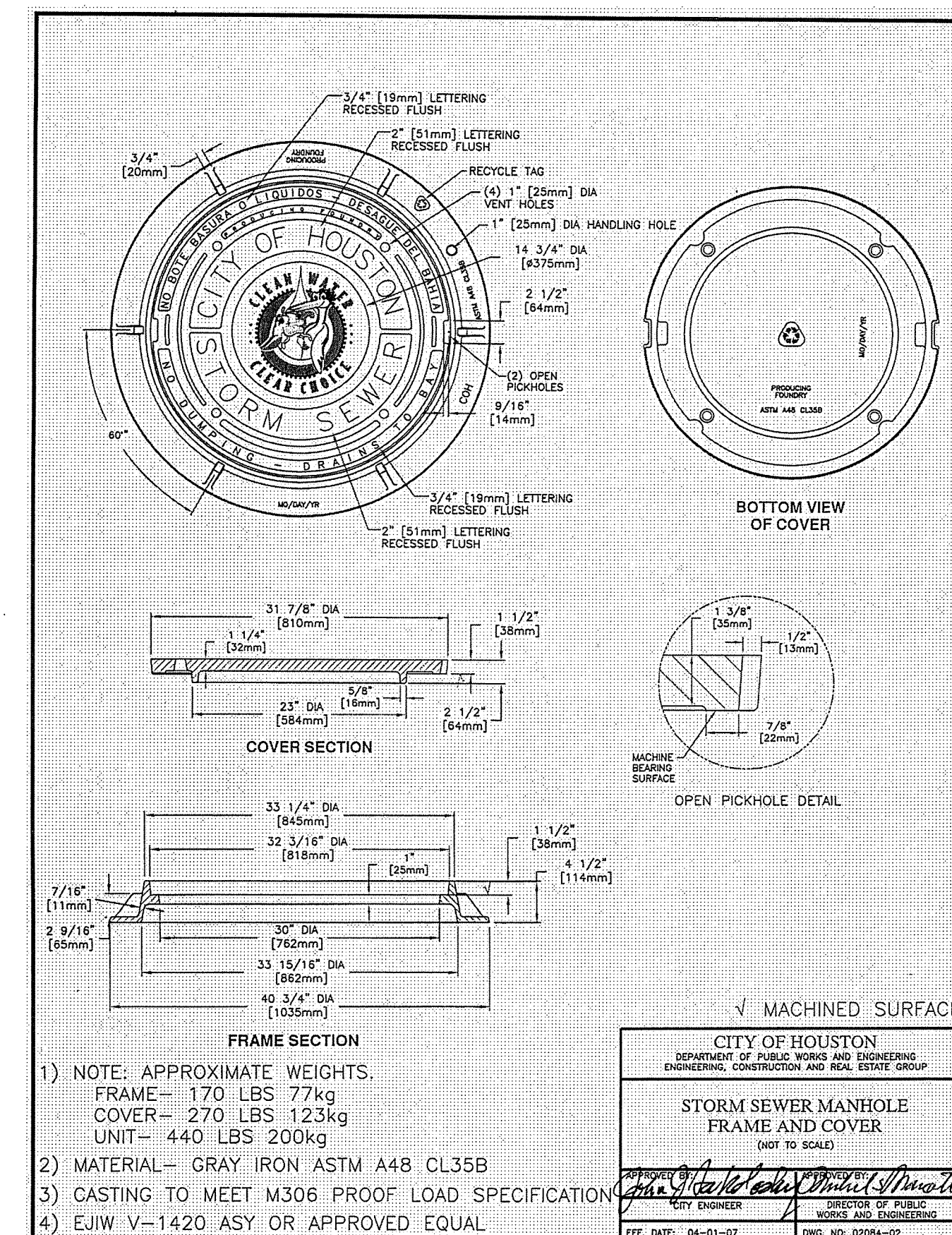
**STORM SEWER BEDDING AND BACKFILL FOR PRECAST CONCRETE BOX WHERE UNSATISFACTORY SOIL CONDITIONS EXIST**  
EFF DATE: OCT-01-02 DWG NO: 2317-07



**PRECAST CONCRETE BOX STORM SEWER BEDDING AND BACKFILL FOR WET STABLE TRENCH**  
EFF DATE: OCT-01-02 DWG NO. 02317-06



**TYPE "B" LAKE OUTFALL SILT PIT DETAIL**



**32" MANHOLE FRAME AND COVER**  
EFF DATE: 04-01-07 DWG NO: 02084-02

SEAL:

**STATE OF TEXAS**  
WILLIAM H. SHOUR  
116018  
LICENSED PROFESSIONAL ENGINEER  
February 22, 2018

**TEXAS BOARD OF PROFESSIONAL ENGINEERS**  
BENCHMARK ENGINEERING CORPORATION  
REGISTRATION NUMBER F-6788

REV. NO.	DESCRIPTION	DATE
1		

**BENCHMARK ENGINEERING CORPORATION**  
Consulting Engineers-Planners-Surveyors  
2401 Fountainview Drive, Suite 500  
Houston, Texas 77057 U.S.A.  
(713) 886-9930 Fax (713) 886-3804

FORT BEND COUNTY M.U.D. No. 133  
CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND DETENTION BASIN IMPROVEMENTS

**LAKE OF BELLA TERRA WEST DEVELOPMENT**  
IN  
FORT BEND COUNTY, TEXAS

PROPOSED  
**STANDARD STORM SEWER DETAILS SHEET (SHEET 4 OF 4)**

PLAT NAME:  
CPC 101 FILE NO.:  
I.L.M.S. No. 18015113  
C.O.H. LOG No. 18-0262

AUTHORIZATION IS VALID FOR 1 YEAR.

APPROVED: *[Signature]* FBC DEVELOPMENT COORDINATOR  
DATE: 5-16-18

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES

**CITY OF HOUSTON**  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE	BY	FOR
04/12/18	<i>[Signature]</i>	TRAFFIC & TRANSPORTATION
4/12/18	<i>[Signature]</i>	STORM WATER QUALITY
4/12/18	<i>[Signature]</i>	FACILITIES

STREET & BRIDGE

FILE NO.

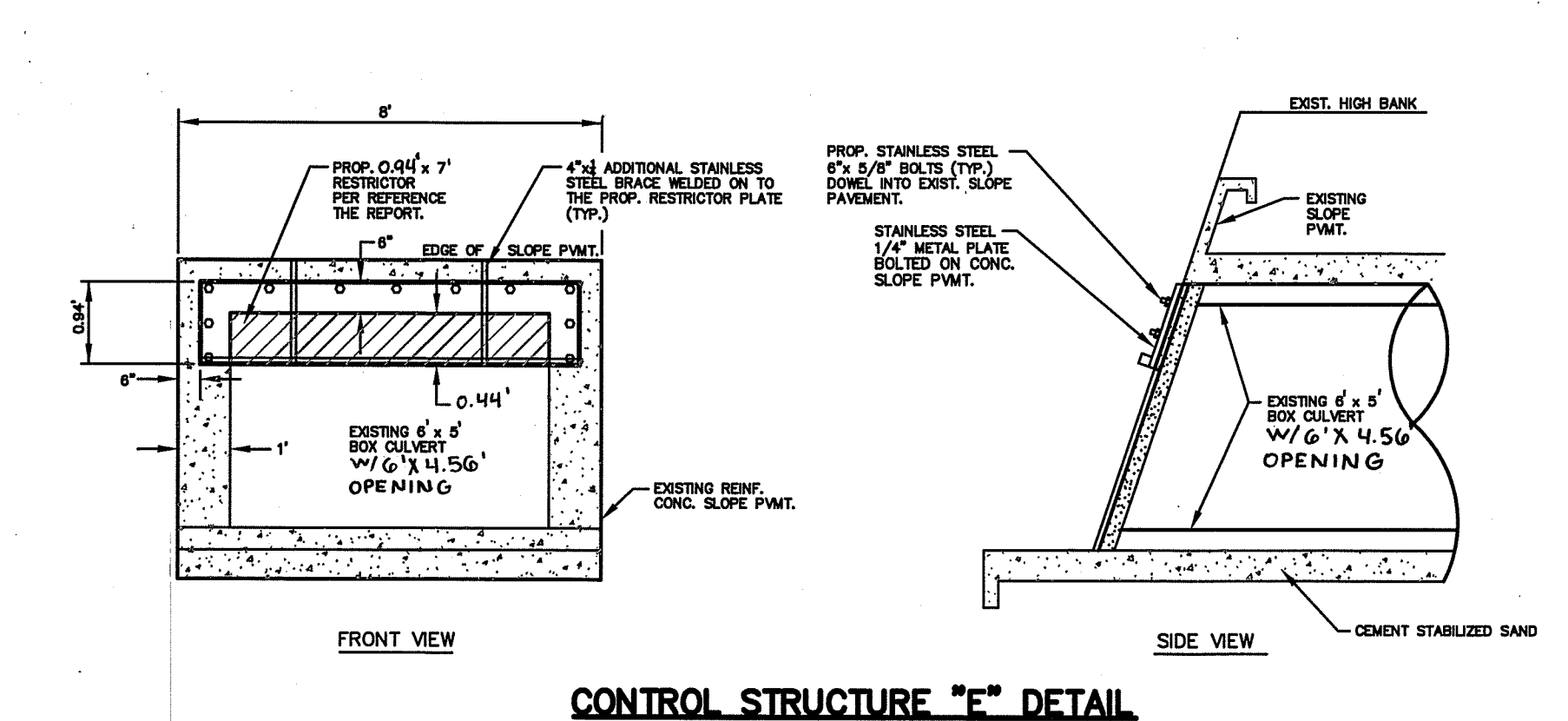
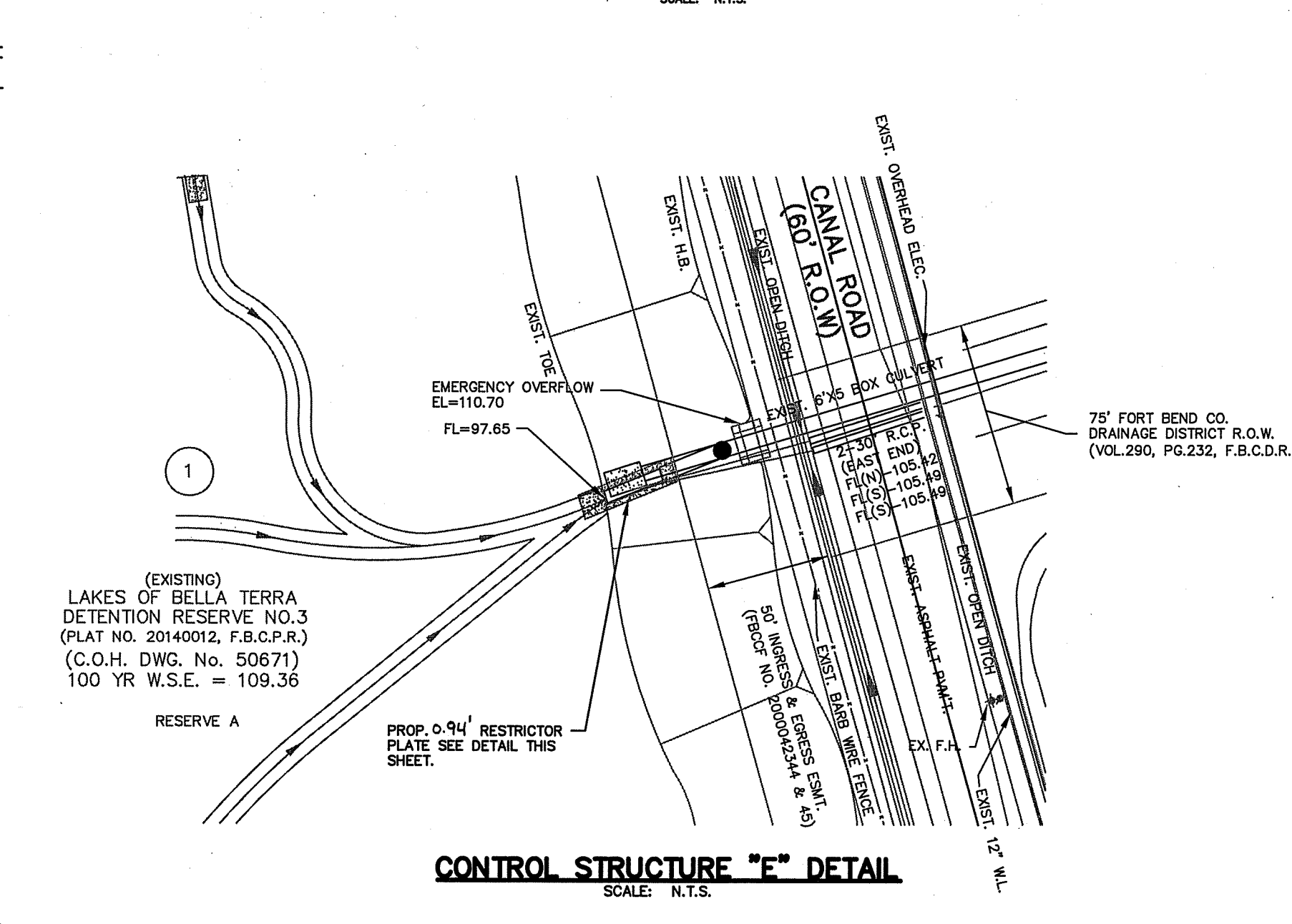
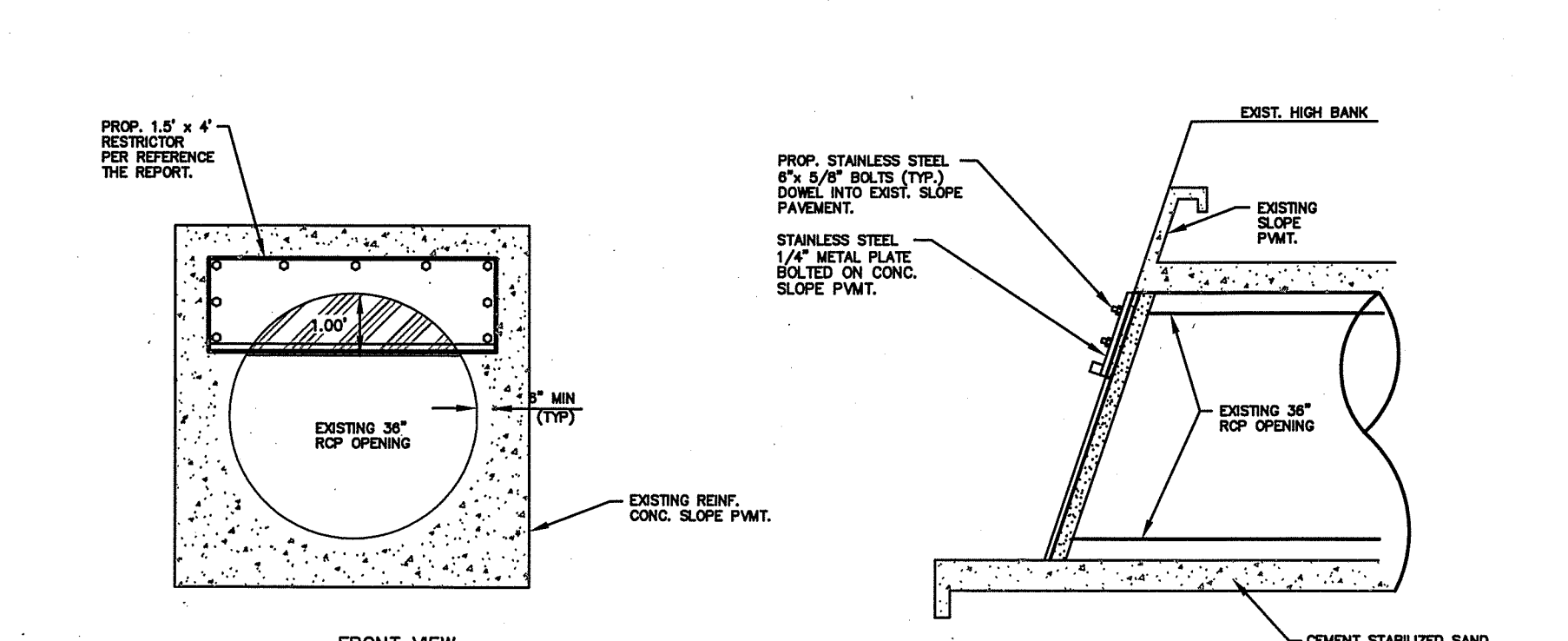
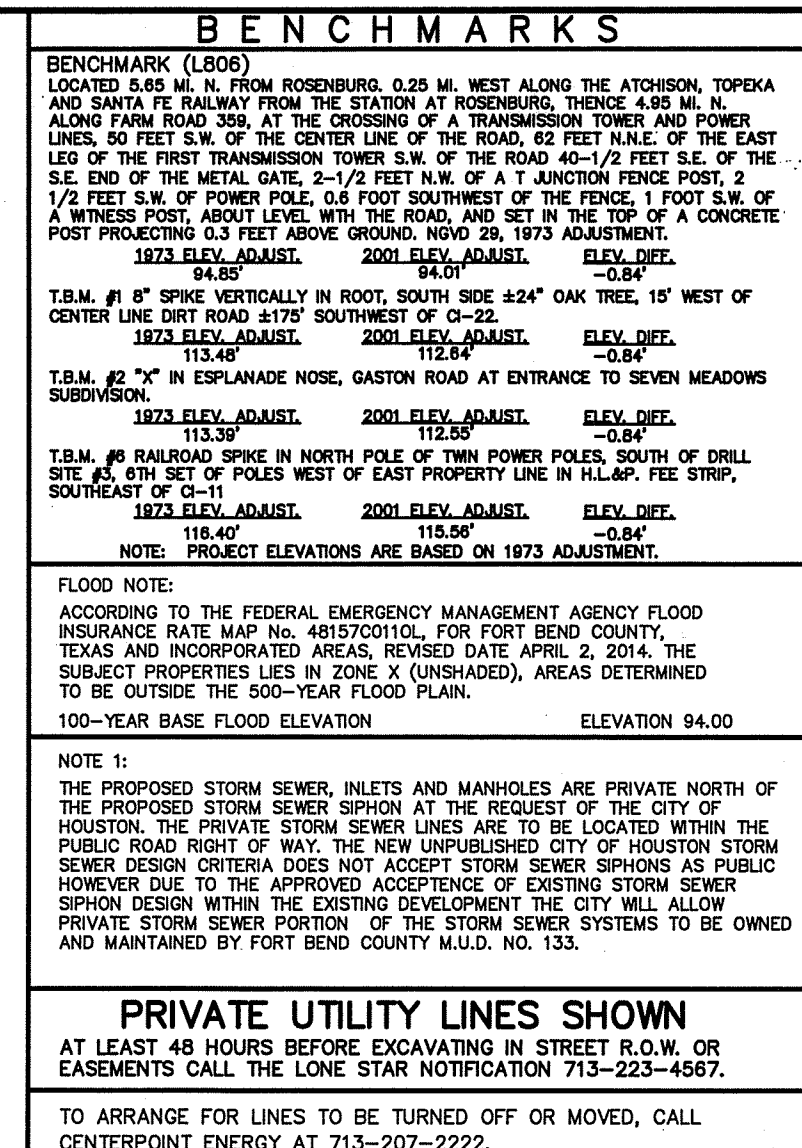
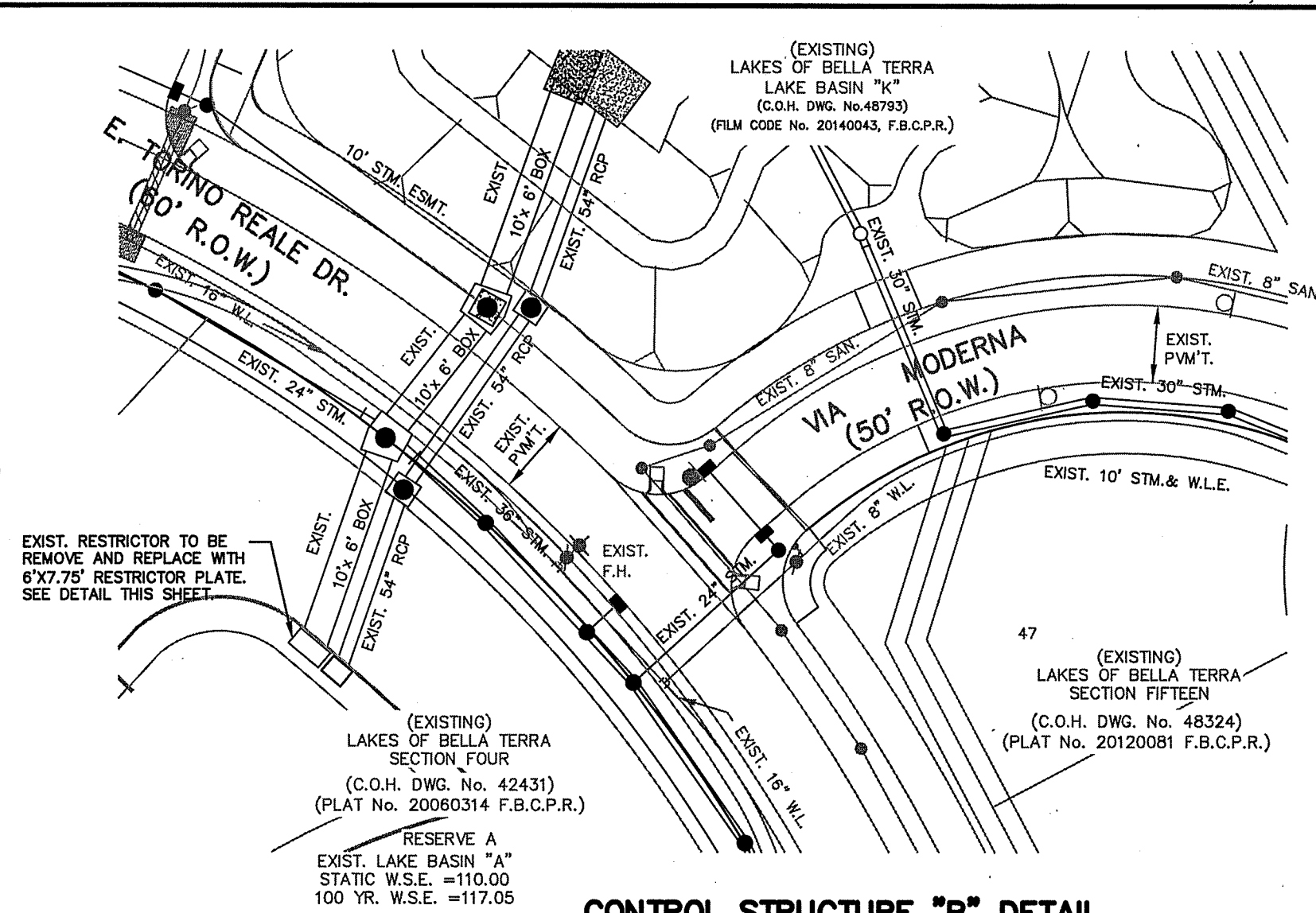
DRAWING SCALE

HORIZ : N.T.S.  
VERT :

SHEET No: 18 OF 21

FOR CITY OF HOUSTON USE ONLY

**60301**  
CITY OF HOUSTON  
RECEIVED



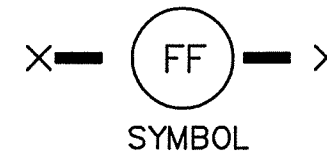
<b>PRIVATE UTILITY LINES SHOWN</b> AT LEAST 48 HOURS BEFORE EXCAVATING IN STREET R.O.W. OR EASEMENTS CALL THE LONG STAR NOTIFICATION 713-223-4367.		
TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222. NOTICE: For your safety, you are required by Texas Law to call 811 at least 48 hours before you dig so that underground line can be marked. This Verification does not fulfill your obligation to call 811.		
<b>VERIFICATION OF PRIVATE UTILITY LINES</b>		
		DATE: _____
Approved for AT&T Texas/SWB/T underground conduit facilities only. Signature Valid for one year.		
		DATE: _____
CenterPoint Energy/Natural Gas Facilities Verification ONLY. (This signature verifies that you have shown CNP Natural Gas lines correctly --not to be under conflict) (Gas service lines are not shown.) Signature Valid for six months.		
		DATE: _____
CenterPoint Energy/UNDERGROUND Electrical Facilities Verification ONLY. (This signature verifies existing underground facilities--not to be used for conflict verification.) Signature Valid for six months.		
<b>SEAL:</b>		
		
<b>TEXAS BOARD OF PROFESSIONAL ENGINEERS BENCHMARK ENGINEERING CORPORATION REGISTRATION NUMBER F-6788</b>		
REV. NO.	DESCRIPTION	DATE
	<b>BENCHMARK ENGINEERING CORPORATION</b> <b>Consulting Engineers-Planners-Surveyors</b> 2401 Fountainview Drive, Suite 500 Houston, Texas 77057 U.S.A. (713)266-9830 Fax (713)266-3804 FORT BEND COUNTY M.U.D. No. 133 CONSTRUCTION PLANS FOR PROPOSED OFFSITE STORM SEWER AND DETENTION BASIN IMPROVEMENTS SERVING <b>LAKES OF BELLA TERRA WEST</b> <b>DEVELOPMENT</b> IN <b>FORT BEND COUNTY, TEXAS</b>	
<b>PROPOSED</b>		
<b>RESTRICTOR PLATE DETAIL SHEET</b>		
PLANT NAME: CPC 101 FILE NO.: I.L.M.S. No. 18015113 C.O.H. LOG No. 1B-0282		
AUTHORIZATION IS VALID FOR 1 YEAR. APPROVED: <u>CPS</u> _____ FBC DEVELOPMENT COORDINATOR DATE: <u>5-16-18</u>		
NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES		
<b>CITY OF HOUSTON</b> DEPARTMENT OF PUBLIC WORKS AND ENGINEERING		
WATER: <u>5/16/18</u> WASTEWATER: <u>5/16/18</u> STORM WATER: <u>5/16/18</u>	TRAFFIC & TRANSPORTATION STORM WATER QUALITY FACILITIES	
STREET & BRIDGE		
FILE NO: _____ FOR CITY OF HOUSTON USE ONLY _____		
DRAWING SCALE		
HORIZ :		
VERT : N.T.S.		
SHEET No. <u>19</u> OF <u>21</u>		



- X — (RFB) — X  
SYMBOL

CONSTRUCTION NOTES:

- ## FILTER FABRIC FENCE



CONSTRUCTION NOTES:

- SC  
SYMBOL

CONSTRUCTION NOTE:  
1. SEE CONSTRUCTION NOTES  
FOR RFB.





1. INSTALL OUTFALLS 48 INCHES OR LARGER, AND STORM SEWER AND TREATMENT PLANT OUTFALLS OF ANY DIAMETER, WITH RIPRAP EROSION DIMENSIONED AS SHOWN IN "TYPICAL STORM SEWER OUTFALL STRUCTURE LAYOUT."
2. STORM SEWER OUTFALL PIPES WITHIN THE HCFOD RIGHT-OF-WAY SHALL BE CMP OR HDPE IN ACCORDANCE WITH SPECIFICATION SECTION 02402-CORRUGATED METAL PIPE OR POLYETHYLENE PIPE (HDPE) IN ACCORDANCE WITH SPECIFICATION SECTION 02505-HIGH DENSITY POLYETHYLENE PIPE, OR APPROVED EQUAL.
3. PROVIDE AND PLACE CEMENT STABILIZED SAND IN ACCORDANCE WITH SPECIFICATION SECTION NO. 02321-CEMENT STABILIZED SAND.
4. TIMBER BENTS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02464-TIMBER BENTS.
5. STORM SEWER OUTFALLS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02316-STRUCTURAL EXCAVATING AND BACKFILLING.
6. CONTRACTOR SHALL INSTALL TEMPORARILY BURIED RIPRAP TO PREVENT EROSION OF THE DISTURBED SOIL.
7. SET FLOWLINE OF OUTFALLS 1 FOOT ABOVE CHANNEL FLOWLINE OR 1 FOOT ABOVE NORMAL WATER SURFACE ELEVATION.
8. SEE CONCRETE CHANNEL LINING DETAIL SHEET FOR CMP OR HDPE OUTFALL DETAILS THROUGH CONCRETE CHANNEL LINING.
9. STRUCTURAL CONCRETE #4 BARS (GRADE 40) 12 INCH O.C. EACH WAY - FOR COLLARS ONLY.



(THIS DETAIL MAY ONLY BE USED IN TEMPORARY CONDITION)



PIPE DIA.	SLOPE	VELOCITY
24"	0.6%	3.25 f.p.s.
36"	0.3%	3.00 f.p.s.
42"	0.2%	2.75 f.p.s.
48"	0.2%	3.00 f.p.s.
54"	0.2%	3.25 f.p.s.

**NOTE:**  
MAXIMUM BACKSLOPE DRAIN SPACING SHALL  
BE 800 FEET OR 400 FEET TO THE SWALE  
HIGH POINT.



NOTE: CONCRETE SLOPE PAVING SHALL  
HAVE A MINIMUM THICKNESS OF 4"  
MINIMUM REINFORCING STEEL SHALL BE  
#3 REBAR AT 18" O.C. OR  
6x6xW4.0xW4.0 WELDED WIRE FABRIC

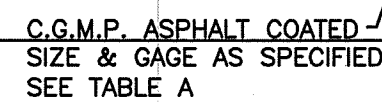
DATE: AUGUST 1986

FIG. 3 - 4



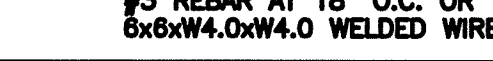
# TIMBER BENT FOR CORRUGATED METAL PIPE OUTFALL

48-INCH AND LARGER



TYPICAL STORM SEWER OUTFALL DETAIL

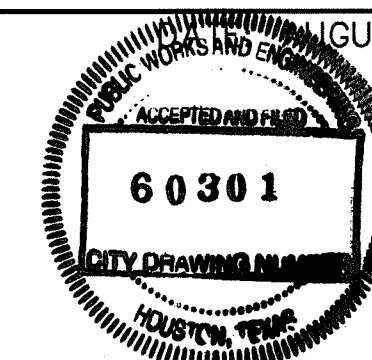
N.T.S. REVISION 1 - 7-13-88  
2 - 5-20-97  
3 - 12-01-10



SIZE 2 2/3" X 1/2" CORRUGATION	PIPE GAGE	BAND COUPLER GAGE	SIZE 3'x1' & 5'x1' CORRUGATION	PIPE GAGE	BAND COUPLER GAGE
24"	16	16	24"		
30"	16	16	30"		
36"	16	16	36"		
42"	14	16	42"		
48"	14	16	48"	16	18
54"	12	14	54"	16	18
60"	12	14	60"	16	18
66"	10	12	66"	16	18
72"	10	12	72"	16	18
78"	8	10	78"	14	16
84"	8	10	84"	14	16

FORT BEND COUNTY, TEXAS

FIG. 3 - 5



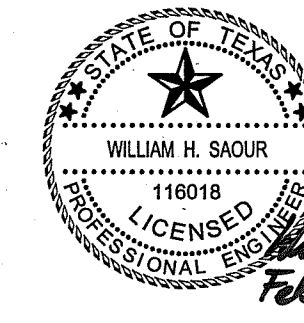
AUTHORIZATION IS VALID FOR 1 YEAR

APPROVED: [Signature]  
FEB. DEVELOPMENT COORDINATOR

DATE: 5-16-78

[illegible]

FORT BEND COUNTY  
ENGINEERING DEPARTMENT



TEXAS BOARD OF PROFESSIONAL ENGINEERS  
BENCHMARK ENGINEERING CORPORATION  
REGISTRATION NUMBER F-6788

February 22, 1912

PROJECT TITLE: LAKE OF BELLA TERRA WEST DEVELOPMENT

DRAWN BY: *BFC* SHEET DESCRIPTION: *STANDARD STORM OUTFALL DETAILS*

JOB NO:  
04044-78

CK'D BY: *BEC*

FILE NAME:	MG2
------------	-----

DEC
SCALE:
NTC

	11/02
FILE NO:	

DATE: 12/2009

	APPROVED BY
--	-------------

SHT NO: 21 / 21