



**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: 2016-9835

**Applicant:** Reddico Construction Company, Inc.

**Job Location Site:** 102 Renfrow Burford Road, Fesno, TX 77545

**Bond No.** [REDACTED] **Date of Bond:** 11/10/2016 **Amount:** \$2,280,600.00

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 6th day of December, 2016, Upon Motion of Commissioner Meyers, seconded by Commissioner Protal, 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.

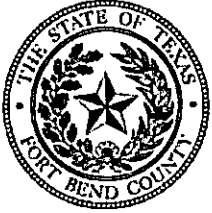
**Signature**  
By: Charles O. Ay  
for County Engineer

By: N/A  
Drainage District Engineer/Manager

Presented to Commissioners Court and approved.

Date Recorded 12-09-16 Comm. Court No. 16A

Clerk of Commissioners Court  
By: Ronda Welles  
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@fortbendcountytexas.gov

- Right of Way Permit
- Commercial Driveway Permit

Permit No: 2016-9835

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: XXXXXXXXXX Amount: \$2,280,600.00
- 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.**

*Charley O. Ay*  
\_\_\_\_\_  
Permit Administrator

*11/29/16*  
\_\_\_\_\_  
Date

**PERFORMANCE BOND COVERING ALL CABLE, CONDUIT AND/OR POLE LINE  
ACTIVITY IN, UNDER, ACROSS OR ALONG FORT BEND COUNTY ROAD**

AUTHORIZED

BOND NO. [REDACTED]

THE STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF FORT BEND §

THAT WE, Reddico Construction Company, Inc. whose address is 10083 Airport Road, Conroe, Texas 77303 Texas, hereinafter called the Principal, And The Guarantee Company of North America USA, a Corporation existing under and by virtue of the laws of the state of Michigan and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at One Towne Square, Suite 1470, Southfield, MI 48076, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is Richard Sauer and Whose address is 350 Glenborough Dr., #138, Houston, TX 77067, 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 Two Million, Two Hundred Eighty\* Dollars (\$2,280,600.00 ) 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.

\*Thousand, Six Hundred and No/100 Dollars

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 10th day of November, 2016.

Reddico Construction Company, Inc.

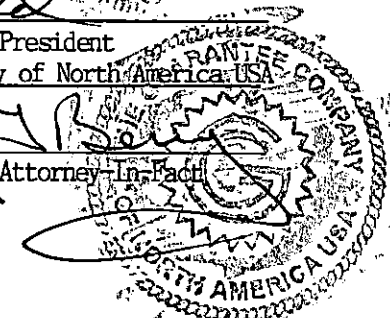
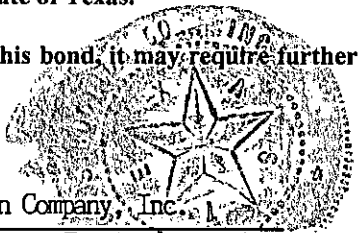
**PRINCIPAL**

BY Ryan Redd, Vice President

The Guarantee Company of North America USA

**SURETY**

BY Nancy T. Berry, Attorney-In-Fact





The Guarantee Company of North America USA  
Southfield, Michigan

**POWER OF ATTORNEY**

**KNOW ALL BY THESE PRESENTS:** That **THE GUARANTEE COMPANY OF NORTH AMERICA USA**, a corporation organized and existing under the laws of the State of Michigan, having its principal office in Southfield, Michigan, does hereby constitute and appoint

Richard D. Bright, Nancy T. Berry, Steven W Berry, Kimberly J. Smith, Marla Gentry  
Guaranty Insurance Services, Inc.

its true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise.

The execution of such instrument(s) in pursuance of these presents, shall be as binding upon **THE GUARANTEE COMPANY OF NORTH AMERICA USA** as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at the principal office.

The Power of Attorney is executed and may be certified so, and may be revoked, pursuant to and by authority of Article IX, Section 9.03 of the By-Laws adopted by the Board of Directors of **THE GUARANTEE COMPANY OF NORTH AMERICA USA** at a meeting held on the 31<sup>st</sup> day of December, 2003. The President, or any Vice President, acting with any Secretary or Assistant Secretary, shall have power and authority:

1. To appoint Attorney(s)-in-fact, and to authorize them to execute on behalf of the Company, and attach the Seal of the Company thereto, bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof; and
2. To revoke, at any time, any such Attorney-in-fact and revoke the authority given, except as provided below
3. In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.
4. In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner – Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

Further, this Power of Attorney is signed and sealed by facsimile pursuant to resolution of the Board of Directors of the Company adopted at a meeting duly called and held on the 6th day of December 2011, of which the following is a true excerpt:

RESOLVED that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any Power of Attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, contracts of indemnity and other writings obligatory in the nature thereof, and such signature and seal when so used shall have the same force and effect as though manually affixed.



IN WITNESS WHEREOF, **THE GUARANTEE COMPANY OF NORTH AMERICA USA** has caused this instrument to be signed and its corporate seal to be affixed by its authorized officer, this 2<sup>nd</sup> day of October, 2015.

**THE GUARANTEE COMPANY OF NORTH AMERICA USA**

STATE OF MICHIGAN  
County of Oakland

Stephen C. Ruschak, President & Chief Operating Officer

Randall Musselman, Secretary

On this 2nd day of October, 2015 before me came the individuals who executed the preceding instrument, to me personally known, and being by me duly sworn, said that each is the herein described and authorized officer of The Guarantee Company of North America USA; that the seal affixed to said instrument is the Corporate Seal of said Company; that the Corporate Seal and each signature were duly affixed by order of the Board of Directors of



Cynthia A. Takai  
Notary Public, State of Michigan  
County of Oakland  
My Commission Expires February 27, 2018  
Acting in Oakland County

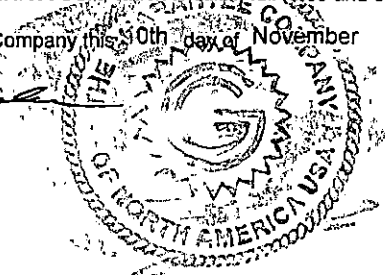
IN WITNESS WHEREOF, I have hereunto set my hand at The Guarantee Company of North America USA offices the day and year above written.

I, Randall Musselman, Secretary of **THE GUARANTEE COMPANY OF NORTH AMERICA USA**, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney executed by **THE GUARANTEE COMPANY OF NORTH AMERICA USA**, which is still in full force and effect.



IN WITNESS WHEREOF, I have thereunto set my hand and attached the seal of said Company this 30th day of November, 2016.

Randall Musselman, Secretary





## TEXAS CONSUMER NOTICE

<p>1. <b>IMPORTANT NOTICE</b> To obtain information or make a complaint:</p> <p>2. You may contact your <b>agent</b> at:</p> <p>3. You may call The Guarantee Company of North America USA's toll-free telephone number for information or to make a complaint at: 1-866-328-0567</p> <p>4. You may also write to The Guarantee Company of North America USA at:</p> <p>One Towne Square, Suite 1470 Southfield, Michigan 48076 Web: <a href="http://www.theguaranteeus.com">www.theguaranteeus.com</a> E-mail: <a href="mailto:Info@theguaranteeus.com">Info@theguaranteeus.com</a> Fax: 248-750-0431</p> <p>5. You may contact the Texas Department of Insurance to obtain information on companies, coverages, rights or complaints at: 1-800-252-3439</p> <p>6. You may write the Texas Department of Insurance: 333 Guadalupe Street P.O. Box 149104 Austin, TX 78701 Fax: (512) 490-1007 Web: <a href="http://www.tdi.texas.gov">http://www.tdi.texas.gov</a> E-mail: <a href="mailto:ConsumerProtection@tdi.texas.gov">ConsumerProtection@tdi.texas.gov</a></p> <p>7. <b>PREMIUM OR CLAIM DISPUTES:</b> Should you have a dispute concerning your premium or about a claim you should contact the (agent) (company) (agent or the company) first. If the dispute is not resolved, you may contact the Texas Department of Insurance.</p> <p>8. <b>ATTACH THIS NOTICE TO YOUR POLICY:</b> This notice is for information only and does not become a part or condition of the attached document.</p>	<p><b>AVISO IMPORTANTE</b> Para obtener informacion o para someter una queja:</p> <p>Puede comunicarse con su <b>agent</b> al</p> <p>Usted puede llamar al numero de telefono gratis de The Guarantee Company of North America USA's para informacion o para someter una queja al: 1-866-328-0567</p> <p>Usted tambien puede escribir a to The Guarantee Company of North America USA;</p> <p>One Towne Square, Suite 1470 Southfield, Michigan 48076 Web: <a href="http://www.theguaranteeus.com">www.theguaranteeus.com</a> E-mail: <a href="mailto:Info@theguaranteeus.com">Info@theguaranteeus.com</a> Fax: 248-750-0431</p> <p>Puede comunicarse con el Departamento de Seguros de Texas para obtener informacion acerca de companias, coberturas, derechos o quejas al: 1-800-252-3439</p> <p>Puede escribir al Departamento de Seguros de Texas: 333 Guadalupe Street P.O. Box 149104 Austin, TX 78701 Fax: (512) 490-1007 Web: <a href="http://www.tdi.texas.gov">http://www.tdi.texas.gov</a> E-mail: <a href="mailto:ConsumerProtection@tdi.texas.gov">ConsumerProtection@tdi.texas.gov</a></p> <p><b>DISPUTAS SOBRE PRIMAS O RECLAMOS:</b> Si tiene una disputa concerniente a su prima o a un reclamo, debe comunicarse con el (agente) (la compania) agente o la compania) primero. Si no se resuelve la disputa, puede entonces comunicarse con el departamento (TDI).</p> <p><b>UNA ESTE AVISO A SU POLIZA:</b> Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del document adj unto.</p>
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**R.O.W.**

<b>STREET NAME</b>	<b>TYPE</b>	<b>PIPE SIZE</b>	<b>PIPE MAT'L</b>	<b>LENGTH</b>
RENFROW BURFORD	SEWER	15", 10", 8"	PVC - 3034	2,580
	WATER	8"	PVC C-900	2,580
BILLY LANE	SEWER	8"	PVC - 3034	1,040
	WATER	8"	PVC C-900	1,040
MARK TERRACE	SEWER	8"	PVC 3034	900
	WATER	8"	PVC C-900	900
DOREEN AVE	SEWER	8"	PVC 3034	570
	WATER	8"	PVC C-900	570
CYPRESS ROAD	SEWER	8"	PVC 3034	970
	WATER	8"	PVC C-900	970
TEAKWOOD	SEWER	8"	PVC 3034	970
	WATER	8"	PVC C-900	970
ROSE LANE	SEWER	8"	PVC 3034	2,070
	WATER	8"; 6"; 4"	PVC C-900	2,070
FIG DRIVE	SEWER	8"	PVC 3034	700
	WATER	6"; 4"	PVC C-900	700
BRYAN AVE	SEWER	15"	PVC 3034	740
	WATER	8"	PVC C-900	740
TULIP	SEWER	8"	PVC 3034	2,000
	WATER	8"	PVC C-900	2,000
IVY LANE	SEWER	8"	PVC 3034	535
	WATER	6"	PVC C-900	535
REDWOOD AVE	SEWER	8"	PVC 3034	500
	WATER	8"	PVC C-900	500
DOGWOOD AVE	SEWER	8"	PVC 3034	1,055
	WATER	8"	PVC C-900	1,055
REDBUD AVE	SEWER	8"	PVC 3034	1,080
	WATER	8"	PVC C-900	1,080
BROADMORE AVE	SEWER	12" ; 8"	PVC 3034	1,440
	WATER	8"	PVC C-900	1,440
COTTONWOOD AVE	SEWER	8"	PVC 3034	1,080
	WATER	8"	PVC C-900	1,080
ALTHEA LANE	SEWER	8"	PVC 3034	380
	WATER	6"	PVC C-900	380
FERN LANE	SEWER	8"	PVC 3034	290
	WATER	6"	PVC C-900	290
VINE LANE	SEWER	8"	;PVC 3034	200
	WATER	4"	PVC C-900	200
MISTLETOE LANE	SEWER	8"	PVC 3034	890
	WATER	8"	PVC C-900	890
DOREEN AVE	SEWER	10"; 8"	PVC 3034	830
	WATER	8"	PVC C-900	830
NORTH TEAGUE ROAD	SEWER	8"	PVC 3034	860
	WATER	8"; 6"; 4"	PVC C-900	860

SOUTH TEAGUE ROAD	SEWER	8"; 6"; 4"	PVC 3034	990
	WATER	8"	PVC C-900	990

45,340

**BORES**

BILLY LN & RENFROW BURFORD	SEWER	8"		35
	WATER	8"		35
MARK TERRACE & RENFROW BURFORD	SEWER	8"		35
	WATER	8"		35
RENFROW BURFORD & ROSE LANE	SEWER	8"		35
	WATER	8"		35
RENFROW BURFORD & BRYAN AVE	SEWER	10"		35
	WATER	8"		35
RENFROW BURFORD & TULIP LANE	SEWER	15"		35
	WATER	8"		35
RENFROW BURFORD & IVY LANE	SEWER	15"		35
	WATER	8"		35
ROSE LANE & FIG DRIVE	SEWER	8"		35
	WATER	6"		35
ROSE LANE & CYPRESS AVE	SEWER	8"		35
	WATER	8"		35
ROSE LANE & TEAKWOOD AVE	SEWER	8"		35
	WATER	8"		35
TULIP LANE & REDWOOD AVE	SEWER	8"		35
	WATER	8"		35
TULIP LANE & DOGWOOD AVE	SEWER	8"		35
	WATER	8"		35
TULIP LANE & REBUD AVE	SEWER	8"		35
	WATER	8"		35
TULIP LANE & BROADMORE AVE	SEWER	8"		35
	WATER	8"		35
TULIP LANE & COTTONWOOD AVE	SEWER	8"		35
	WATER	8"		35
COTTONWOOD AVE & ALTHEA LANE	SEWER	8"		35
	WATER	6"		35
COTTONWOOD AVE & FERN LANE	SEWER	8"		35
	WATER	6"		35
COTTONWOOD AVE & VINE LANE	SEWER	4"		35
	WATER	8"		35
DOREEN AVE & N. TEAGUE ROAD	SEWER	8"		35
	WATER	8"		35
DOREEN AVE & S. TEAGUE ROAD	SEWER	8"		35
	WATER	8"		35

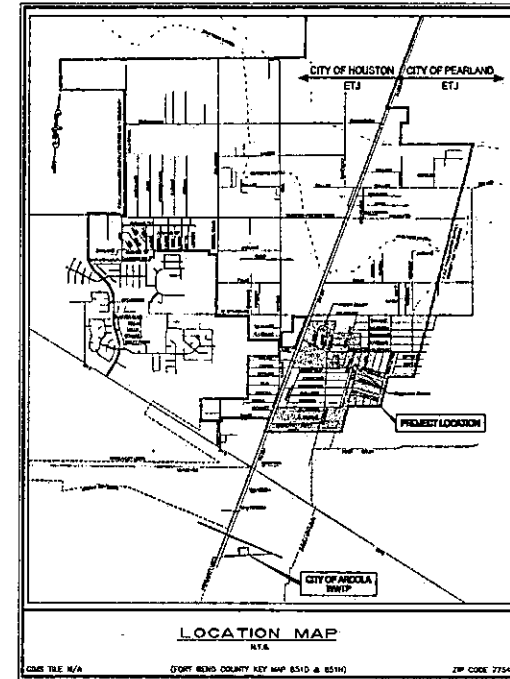
1,330

# FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT No. 1 CONSTRUCTION PLANS FOR MARBILL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**ONE-CALL NOTIFICATION SYSTEM  
CALL BEFORE YOU DIG  
(713) 223-4567 (IN HOUSTON)  
NEW STATEWIDE NUMBER OUTSIDE HOUSTON  
1-800-543-5003**

FEMA MAP INFORMATION:  
THIS PROJECT LIES IN UNSHADED ZONE 2 AREA  
OUTSIDE 100-YEAR FLOODPLAIN PER FEMA, L. 84  
REVISED FEDERAL DEFENSE MANAGEMENT AGENCY  
FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
TEXAS PANEL No. 48070-100-000-000 SEC.  
  
L. OAVO CHAZLER-ESTRADA, P.E., CERTIFY THAT  
THIS PROJECT IS ENTIRELY LOCATED OUTSIDE AREA  
WITH 100-YEAR FLOOD FREQUENCY.

JOB No. WHXH7510



BOUNDARY LINE DIVIDING CITY OF HOUSTON (ETJ) AND CITY OF PEARLAND (ETJ) IS CENTERLINE OF FM 521 NORTH-OF-ETJ. CITY OF HOUSTON (ETJ) AND CITY OF PEARLAND (ETJ) IS TO THE WEST AND EAST OF FM 521 CENTERLINE, RESPECTIVELY.

FORT BEND COUNTY ENGINEER	
ENGINEER:	<i>Richard W. Stolter, P.E.</i> FOR RICHARD W. STOLTER, P.E.
DATE:	12/9/15
THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN ONE (1) YEAR FROM DATE OF APPROVAL.	
APPROVED:	<i>Susan Palka</i> DEVELOPMENT COORDINATOR
DATE:	12/16/15
APPROVED BY:	<i>Susan Palka</i> CITY OF PEARLAND ENGINEERING DEPARTMENT
DATE:	12/16/2015

SHEET No. 1. OF 58 SHEETS

SHEET No.	SHEET DESCRIPTION	SHEET No.	SHEET DESCRIPTION
1	GENERAL DRAWINGS	90	PLAN AND PROFILE DRAWINGS (CONTINUED)
2	COVER SHEET AND VICINITY MAP	91	RENFROW-BURFORD ROAD (FM 521 TO STA 45+00)
3	GENERAL NOTES	92	RENFROW-BURFORD ROAD (STA 45+00 TO STA 120+00)
4	SURVEY CONTROL MAP	93	RENFROW-BURFORD ROAD (STA 120+00 TO STA 127+00)
5	SHEET LAYOUT MAP AND RIPP PLAN	94	RENFROW-BURFORD ROAD (STA 127+00 TO STA 133+00)
6	PLAN AND PROFILE DRAWINGS	95	RENFROW-BURFORD ROAD (STA 133+00 TO STA 138+00)
7	BROADMORE AVENUE (BRYAN AVE TO STA 132+00)	96	BILLY LANE (RENFROW-BURFORD ROAD TO STA 48+00)
8	BROADMORE AVENUE (STA 132+00 TO STA 138+00)	97	SALLY LANE (STA 48+00 TO MARK TERRACE ROAD)
9	BROADMORE AVENUE (STA 138+00 TO MISTLETOE LANE)	98	MARK TERRACE ROAD (RENFROW-BURFORD ROAD TO STA 44+00)
10	MISTLETOE LANE (COTTONWOOD AVE TO STA 21+00)	99	MARK TERRACE ROAD (STA 44+00 TO SALLY LANE)
11	MISTLETOE LANE (STA 21+00 TO REDWOOD AVENUE)	100	ROSE LANE (DOREEN AVENUE TO STA 32+50)
12	TULIP LANE (STA 18+00 TO STA 25+00)	101	ROSE LANE (STA 32+50 TO STA 39+00)
13	TULIP LANE (STA 25+00 TO STA 30+00)	102	ROSE LANE (STA 39+00 TO STA 46+00)
14	TULIP LANE (STA 30+00 TO RENFROW-BURFORD RD)	103	FIG DRIVE (DOREEN AVENUE TO STA 24+00)
15	DOODWOOD AVENUE (TULIP LANE TO STA 137+00)	104	FIG DRIVE (STA 24+00 TO ROSE LANE)
16	DOODWOOD AVENUE (STA 137+00 TO MISTLETOE LANE)	105	DOREEN AVENUE (RENFROW-BURFORD ROAD TO TEANWOOD AVENUE)
17	REDWOOD AVENUE (TULIP LANE TO STA 137+00)	106	TEANWOOD AVENUE (DOREEN AVE TO STA 28+00)
18	REDWOOD AVENUE (STA 137+00 TO MISTLETOE LANE)	107	TEANWOOD AVENUE (STA 28+00 TO STA 133+00)
19	COTTONWOOD AVENUE (TULIP LANE TO STA 134+00)	108	TEANWOOD AVENUE (STA 133+00 TO STA 138+00)
20	COTTONWOOD AVENUE (STA 134+00 TO MISTLETOE LANE)	109	CYPRESS AVENUE (DOREEN AVENUE TO STA 124+00)
21	ALTHEA LANE (STA 18+00 TO COTTONWOOD AVENUE)	110	CYPRESS AVENUE (STA 124+00 TO STA 133+00)
22	PEARL LANE (STA 17+00 TO COTTONWOOD AVENUE)	111	RYAN AVENUE (STA 30+00 TO RENFROW-BURFORD ROAD)
23	YNE LANE (STA 18+00 TO COTTONWOOD AVENUE)	112	MISCELLANEOUS DRAWINGS
24	REDWOOD AVENUE (TULIP LANE TO GARDENIA LANE)	113	STORM WATER POLLUTION PREVENTION DETAILS
25	IVY LANE (REDWOOD AVENUE TO RENFROW-BURFORD ROAD)	114	WATERLINE DETAILS (1 OF 2)
26	DOREEN AVENUE (PORT ROAD TO STA 18+00)	115	WATERLINE DETAILS (2 OF 2)
27	DOREEN AVENUE (STA 18+00 TO VIRGINIA DRIVE)	116	SEWER DETAILS (1 OF 3)
28	NORTH TEAGUE ROAD (STA 108+00 TO STA 14+00)	117	SEWER DETAILS (2 OF 3)
29	NORTH TEAGUE ROAD (STA 14+00 TO STA DOREEN AVENUE)	118	SEWER DETAILS (3 OF 3)
30	SOUTH TEAGUE ROAD (STA 108+00 TO STA 23+00)	119	MISCELLANEOUS DETAILS (1 OF 2)
31	SOUTH TEAGUE ROAD (STA 23+00 TO DOREEN AVENUE)	120	MISCELLANEOUS DETAILS (2 OF 2)
32		121	TRAFFIC CONTROL PLAN

SEPTEMBER, 2015



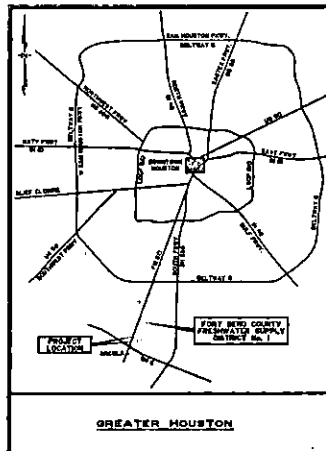
**MAYOR**  
Tom Reid  
**COUNCIL**

Position 1	Tony Carbone
Position 2	Derrick Reed
Position 3	Clay Moore
Position 4, Mayor Pro-Tem	Kath Ordway
Position 5	Greg Hill

**CITY MANAGER**  
Clay Pearson

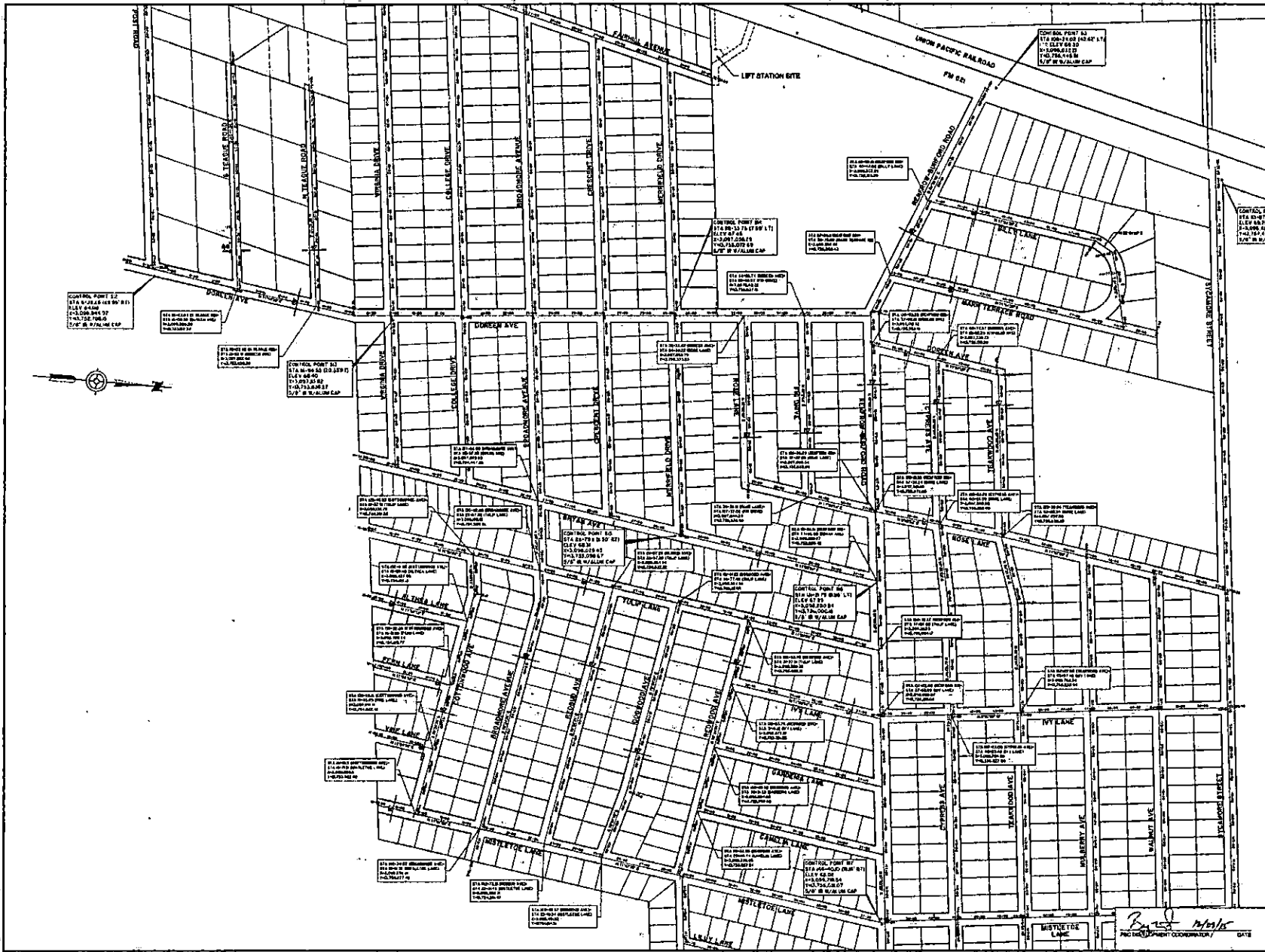
<b>DEPUTY CITY MANAGER</b> Jon Branson	<b>ASST CITY MANAGER</b> Trent Epperson
<b>DIRECTOR OF ENGINEERING</b> Susan Palka, PE	<b>Director of Public Works</b> Eric Wilson

**JACOBS**  
5925 ROGERDALE ROAD  
HOUSTON, TEXAS 77077-3465  
832-351-7224



MARBILL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM





**BENCHMARK:**  
**PROJECT BENCHMARK**  
 HAS BEEN DESIGNATED IN 688  
 ONE FROM THE TOP AND APPROXIMATELY 1.8 FEET  
 EAST OF THE CENTERLINE OF THE CONCRETE CURB  
 OF THE 10' WIDE COLLECTOR DRAINAGE DITCH  
 LOCATED AT THE INTERSECTION OF THE  
 21' WIDE PORTION OF JALAS ROAD EAST APPROXIMATELY  
 85 FEET EAST OF THE CENTERLINE OF THE DRAINAGE  
 DITCH AND 12 FEET SOUTH OF THE CENTERLINE OF  
 DALLAS RD.  
 ELEVATION TO FEET (NAVD 83)  
**FEMA MAP INFORMATION:**  
 THIS PROJECT LIES IN UNSHADED ZONE 1 AREA  
 OUTSIDE 100-YEAR FLOODPLAIN PER FEMA 1. EOR  
 REQUIRES SPECIAL ENGINEERING MANAGEMENT AGENT  
 FLOOD DAMAGE RATE MAP FOR FORT BEND COUNTY  
 TEXAS PANEL No. 180723AL-010-010



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

**NOTICE:**  
 For your safety, you are required to turn on all 11 meters @ home  
 before you do any underground line work to be done. The Vendor must  
 hold you responsible for this.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 I, W. J. Jacobs, Date: 10/15/13  
 Certified Engineering Technician (Professional Engineer)  
 (This Agreement verifies that the lines shown on this map were correctly  
 located for utility verification.) (See Section 107.001 of the  
 Engineering Code for details.)

I, W. J. Jacobs, Date: 10/15/13  
 Certified Engineering Technician (Professional Engineer)  
 (This Agreement verifies that the lines shown on this map were correctly  
 located for utility verification.) (See Section 107.001 of the  
 Engineering Code for details.)

Approved by AT&T Texas Energy Operational Control System ONLY.  
 Only valid for one year.

NO.	DESCRIPTION	DATE	BY

**JACOBS**  
 5655 ROCERDALE ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

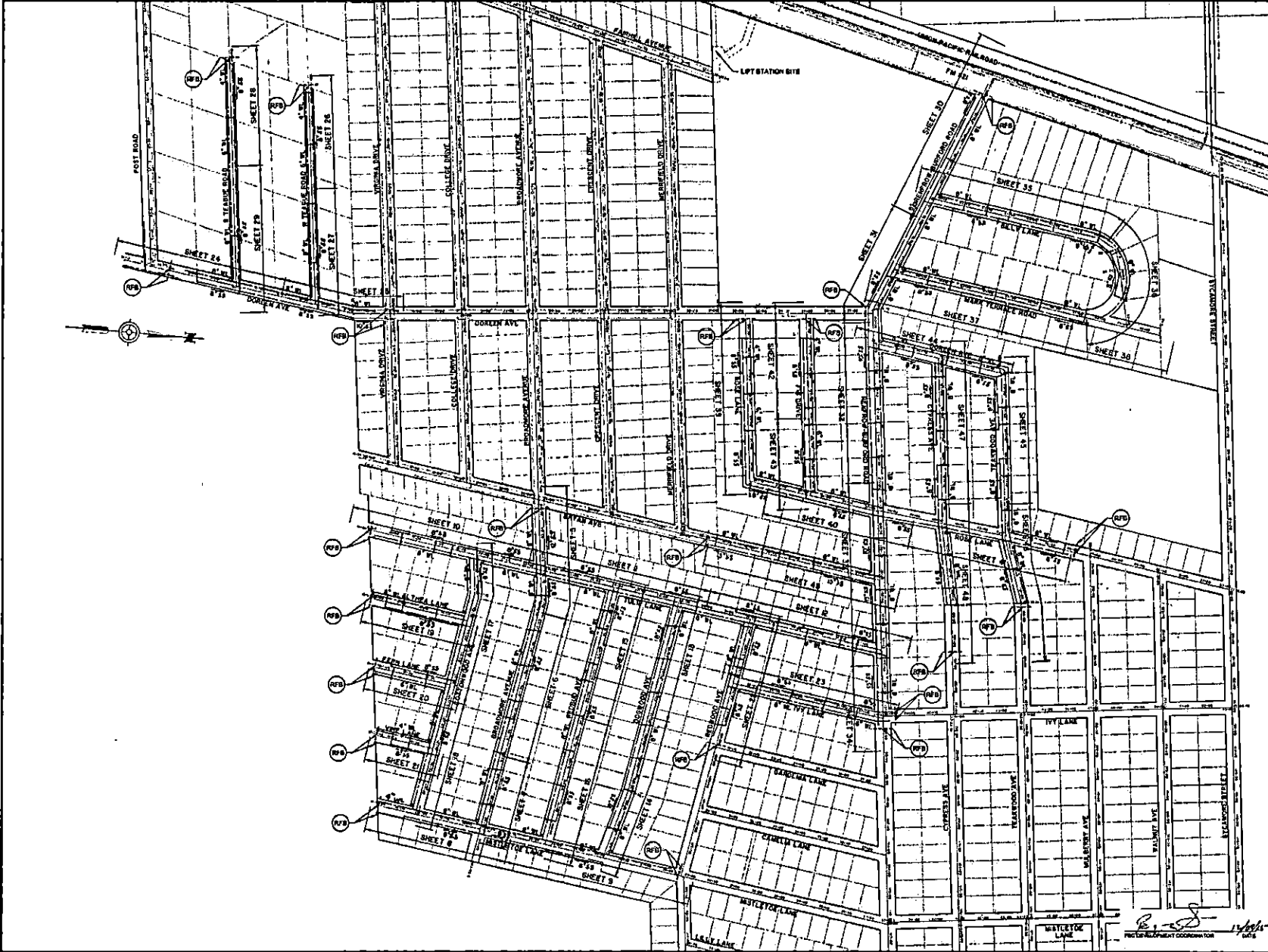
**City of Pearland, Texas**  
 FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARQUEL ESTATES  
 SUBDIVISION / PORTION OF RIDGEWOOD  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

**SURVEY CONTROL MAP**

Project No: W10017610  
 Date: SEPTEMBER, 2013  
 Drawn By: DANA  
 Check By: BCD

Scale: HORIZ: 1" = 200'  
 VERT: 1" = 10'

SHEET  
**3**  
 OF 56



**BENCHMARK:**  
 PROJECT BENCHMARK  
 BENCH DE NOTATED AS 656  
 ONE FOUND IN TOP AND APPROXIMATELY 18 FEET  
 EAST OF WEST END OF SOUTH CORNER (E. W. S. CORNER)  
 OF AN 80' x 100' COLONY UNDER STATE ROUTE 282  
 AT WEST END OF SULLY ROAD AND, APPROXIMATELY  
 281.5 FEET SOUTH OF THE CENTERLINE OF STATE ROUTE  
 282. ELEVATION TO 10 FEET NAVY IS 656.00

**LEGEND:**  
 (FF) FILTER FABRIC FENCE  
 (RFB) REINFORCED FILTER FABRIC BARRIER  
 SEE STORMWATER POLLUTION PREVENTION  
 DETAILS SHEET 50.



TO APPROVE FOR LINES TO BE TURNED OFF OR  
 MOVED, CALL CENTERPOINT ENERGY AT 713-227-2222  
**NOTICE:**  
 For your safety, you are required to call 811 at least 48 hours  
 before you dig to find out what lines are in the ground. This notification  
 will help you determine the location of all lines.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 #1/A Date: \_\_\_\_\_  
 Description: \_\_\_\_\_  
 (This description includes the location of all lines and the location of  
 all lines to be used for the project.) (This location is not to be used for  
 any other purpose.)

#1/B Date: \_\_\_\_\_  
 Description: \_\_\_\_\_  
 (This description includes the location of all lines and the location of  
 all lines to be used for the project.) (This location is not to be used for  
 any other purpose.)

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

NO.	DESCRIPTION	DATE	DWG.	CHK.

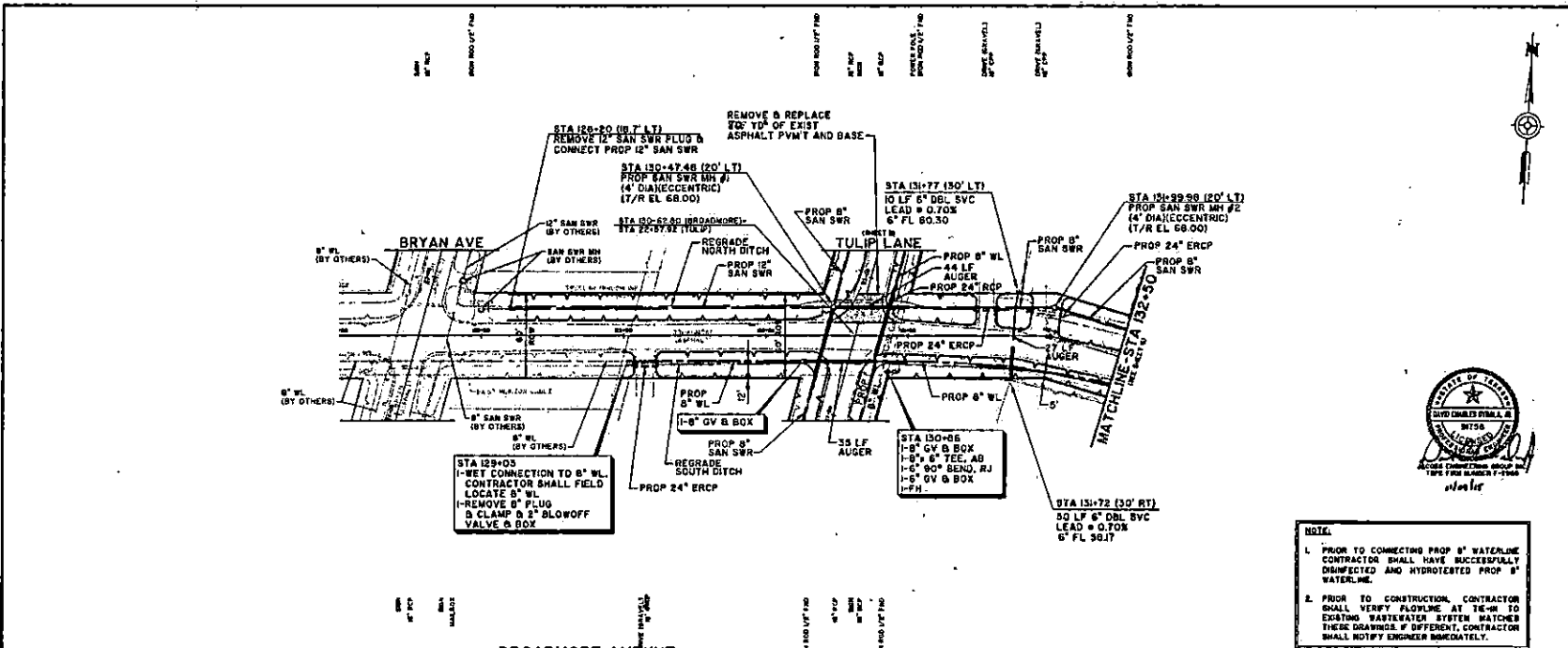
**JACOBS**  
 5815 ROODEVALE ROAD  
 HOUSTON, TX 77072-3405  
 832.331.7230



City of Pearland, Texas  
 FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARSHALL ESTATES  
 SUBDIVISION / PORTION OF RIDGEWOOD  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

**SHEET LAYOUT  
 AND  
 SWPP PLAN**

Project No: W-10-07710 Room: \_\_\_\_\_ SHEET  
 User: SEPTENBER, 2018 \_\_\_\_\_ 4  
 Drawn By: DMM \_\_\_\_\_ HORZ: 1" = 200'  
 Check By: DCD \_\_\_\_\_ VERT: \_\_\_\_\_  
 PROJECT COORDINATOR



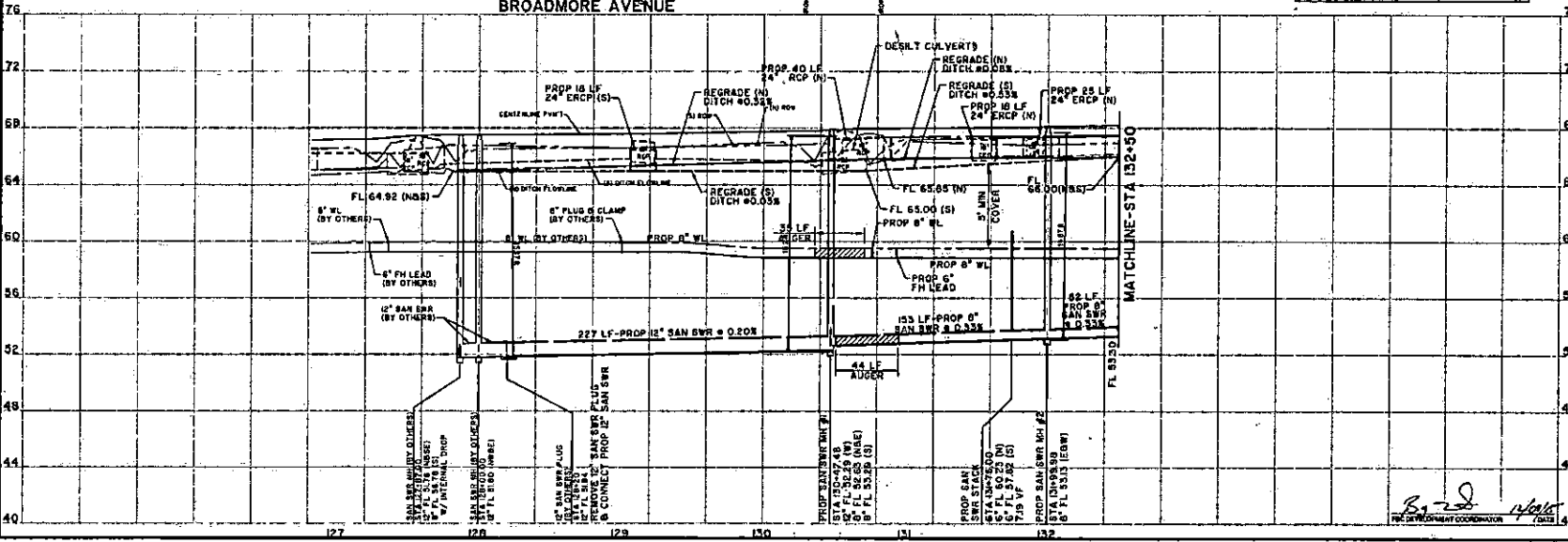
**BENCHMARK:**  
 PROJECT BENCHMARK  
 RODS DESIGNATED M 558  
 DATA FOUND IN TOP AND APPROXIMATELY 40 FEET  
 EAST OF WEST END OF PORTLAND AVENUE, 10.00 FEET  
 AT INTERSECTION OF BROADMORE AVENUE. ELEVATION  
 24.12 FEET TO BENCH MARK. THE BENCH MARK IS  
 24.12 FEET SOUTH OF THE CENTERLINE OF  
 BROADMORE AVENUE AND 12.00 FEET SOUTH OF THE CENTERLINE OF  
 BROADMORE AVENUE.  
 ELEVATION 70 TO FEET 540.00  
**PENA MAP INFORMATION:**  
 THIS PROJECT IS IN UNIMPROVED ZONE II, LINE A  
 OUTSIDE 300-1000 FLOODPLAIN PER APRIL 2, 2012  
 REVISION FEDERAL ELECTRICITY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY  
 TEXAS PANEL NO. 48470C0000000000

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO WORKS AT ALL TIMES.
  - WATERLINE/SEWER LINE CROSSINGS
    - A. ONE FULL SECTION OF WATERLINE CROSSED (INCLUDING HANDRAILS IN USE).
    - B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER SEWER/SEWER TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SEWER OVER WATERLINE. ONE WATERLINE.
    - C. SEWER/SEWER ONE FULL SECTION OF SEWER/SEWER, 120" PER LINE DIAMETER OR ON PVC PIPE CENTRATED AT WATERLINE.
  - ALL SEWER/SEWER AND WATERLINE STREET CROSSINGS INCLUDING LEADS SHALL BE AUGERED AT LEAST 18" BELOW THE BOTTOM EDGE OF PAVEMENT OR FLOORING.
  - PIPE HYDROTESTS TO BE INSTALLED IF OFF ROW LINE UNLESS NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 2 FEET OUTSIDE OF DITCH FLOORLINE.
  - CONTRACTOR SHALL CENTER SEWER/SEWER LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ENGINEER IF ADJUSTMENTS TO LOCATIONS SHOWN ON PLANS ARE REQUIRED TO CENTER AT PROPERTY LINE BASED ON FIELD CONDITIONS.



**NOTE:**

- PRIOR TO CONNECTING PROP 8" WATERLINE CONTRACTOR SHALL HAVE SUCCESSFULLY IDENTIFIED AND HYDROTESTED PROP 8" WATERLINE.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY FLOWLINE AT 10" OR TO EXISTING WASTEWATER SYSTEM MATCHES THESE DRAWINGS. IF DIFFERENT, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.



TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 1-507-2222

**NOTICE:**  
 If you find any errors in this drawing, please call the engineer at 817-331-1234. If you find any errors in this drawing, please call the engineer at 817-331-1234. If you find any errors in this drawing, please call the engineer at 817-331-1234.

**VERIFICATION OF PRIVATE UTILITY LINES**

DATE	BY	DESCRIPTION
10/11/13	DAVID D. SMITH	VERIFIED

**STANDARD PROFILE LEGEND**

CENTER LINE OF PROPERTY  
 PROPERTY LINE S & N  
 DITCH ON CURB LINE S & N  
 DITCH ON CURB LINE S & N

**JACOBS**

5205 ROOSEVELT ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

City of Pearland, Texas

FORT BEND COUNTY FRESH-WATER SUPPLY DISTRICT NO. 1 MARBLE ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

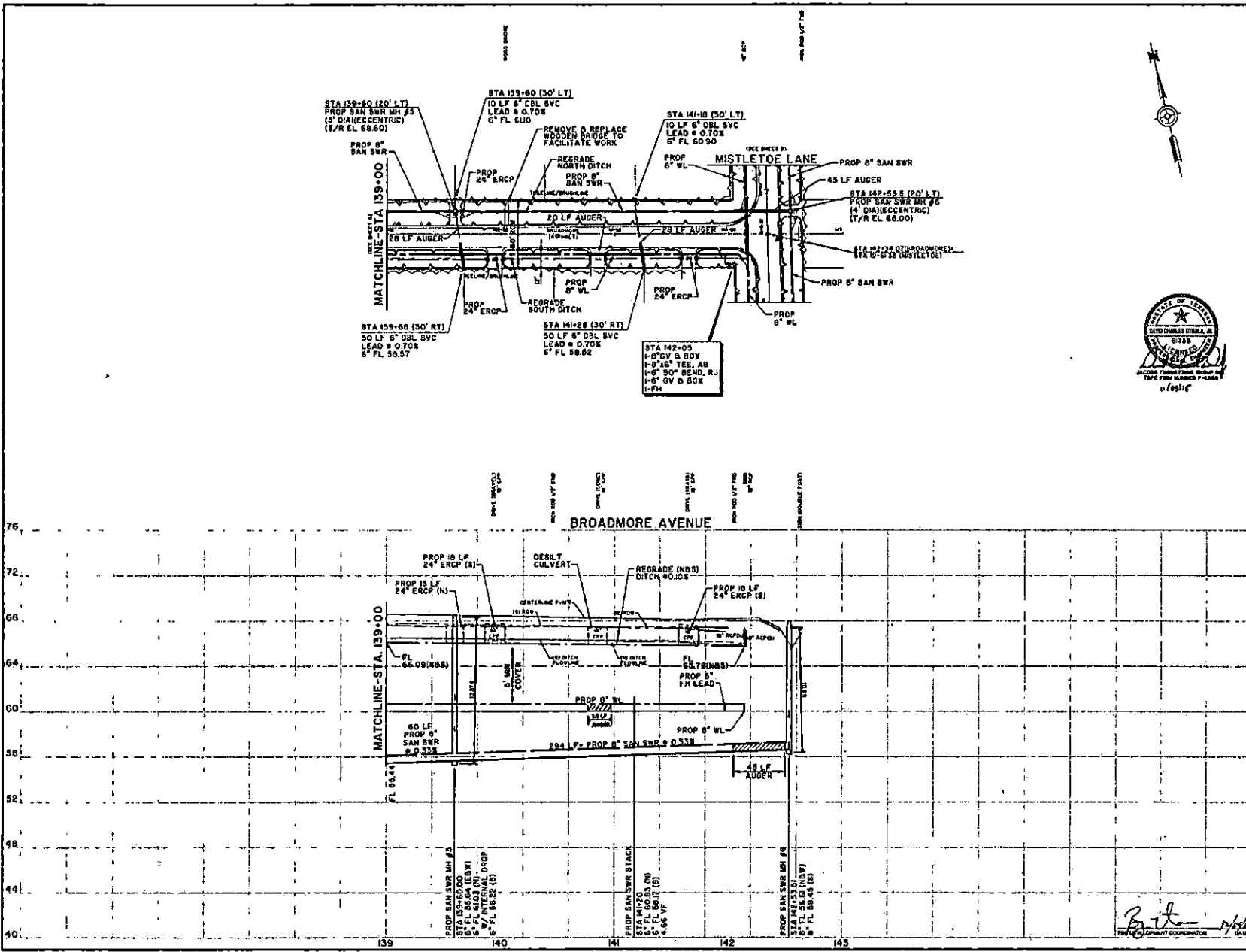
**BROADMORE AVENUE BRYAN AVENUE TO STATION 132+50**

PROJECT: W1007610  
 DATE: SEPTEMBER 2013  
 DRAWN BY: DMH  
 CHECKED BY: DCD

SCALE: HORIZ: 1" = 40'  
 VERT: 1" = 4'

SHEET: 5 OF 68





**BENCHMARK:**  
 PROJECT BENCHMARK  
 MBS ORIGINATED IN 988  
 BENCH MARK IS TOP CORNER APPROXIMATELY 110 FEET  
 EAST OF WEST END OF SOUTH CONCRETE MEDIAN WALL  
 OF I-40 WEST END OF SOUTH CONCRETE MEDIAN WALL  
 AT JUNCTION OF DALLAS ROAD EAST APPROXIMATELY  
 100 FEET EAST OF THE CENTERLINE OF I-40 SOUTH  
 END IS 25 FEET SOUTH OF THE CENTERLINE OF  
 DALLAS RD.  
 ELEVATION 76.10 TO 76.15 (MAY 84)  
**FIELD MAP INFORMATION:**  
 THIS PROJECT LIES IN UNIMPAVED ZONE 1 (AREA  
 OUTSIDE 200-YEAR FLOODPLAIN PCD APRIL 2, 2004  
 REVERED BROADMORE LANE NORTH WINDMILL TRACT  
 FLOOD HAZARD MAP FOR FORT BEND COUNTY  
 (2003 PANEL NO. 4837C&M(LAND 86))

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- INSTALL AND MAINTAIN TEMPORARY BARRIERS AND CLOSINGS
  - ONE FULL SECTION OF BARRIERS CENTERED ON EACH SIDE OF WORK AREA.
  - ONE FOOT MINIMUM CLEARANCE BETWEEN BARRIERS.
  - UTILITIES OF ADJACENT LOTS OVER BARRIERS SHALL BE TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES OF ADJACENT LOTS. EXCEPT WHERE NOTED OTHERWISE.
  - MINIMUM ONE FULL SECTION OF BARRIERS SHALL BE INSTALLED ON EACH SIDE OF WORK AREA AT ALL TIMES.
- ALL SANITARY SERVICE AND WATERLINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE RAN UNLESS AT LEAST 8" FROM EACH SIDE OF EXISTING SIDEWALKS.
- PIPE WYOFFS TO BE INSTALLED 8" OFF ROWLINE UNLESS NOTED OTHERWISE.
- WATERLINE WYS SHALL BE INSTALLED A MINIMUM 2 FEET OUTSIDE OF EXISTING SIDEWALKS.
- CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ENGINEER OF ADJACENT LOTS TO LOCATE THEIR OWN PIPING AND MAKE ADJUSTMENTS AT PROPERTY LINE BEFORE ANY ROAD CONSTRUCTION.



TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-201-2222

**NOTICE:**  
 For your safety, you are advised that lines will not be turned off until you have been notified by the contractor. This notification shall be made by telephone call.

**VERIFICATION OF PRIVATE UTILITY LINES**

City of Pearland  
 Date: 11/14/13

Contractor: [Signature]  
 Date: 11/14/13

Approved by AT&T Texas (877) 454-4545 (Dallas, TX)  
 Signature: [Signature]

**STANDARD PROFILE LEGEND**

Symbol	DESCRIPTION	DATE	OWN
---	CENTER LINE OF PAVT		
---	PROPERTY LINE N E C		
---	PROPERTY LINE S E W		
---	SEAL OF CURB (L&R) N E C		
---	SEAL OF CURB (L&R) S E W		

**JACOBS**  
 5995 HOEDORF ROAD  
 HOUSTON, TX 77072-3496  
 282.331.7230

**City of Pearland, Texas**

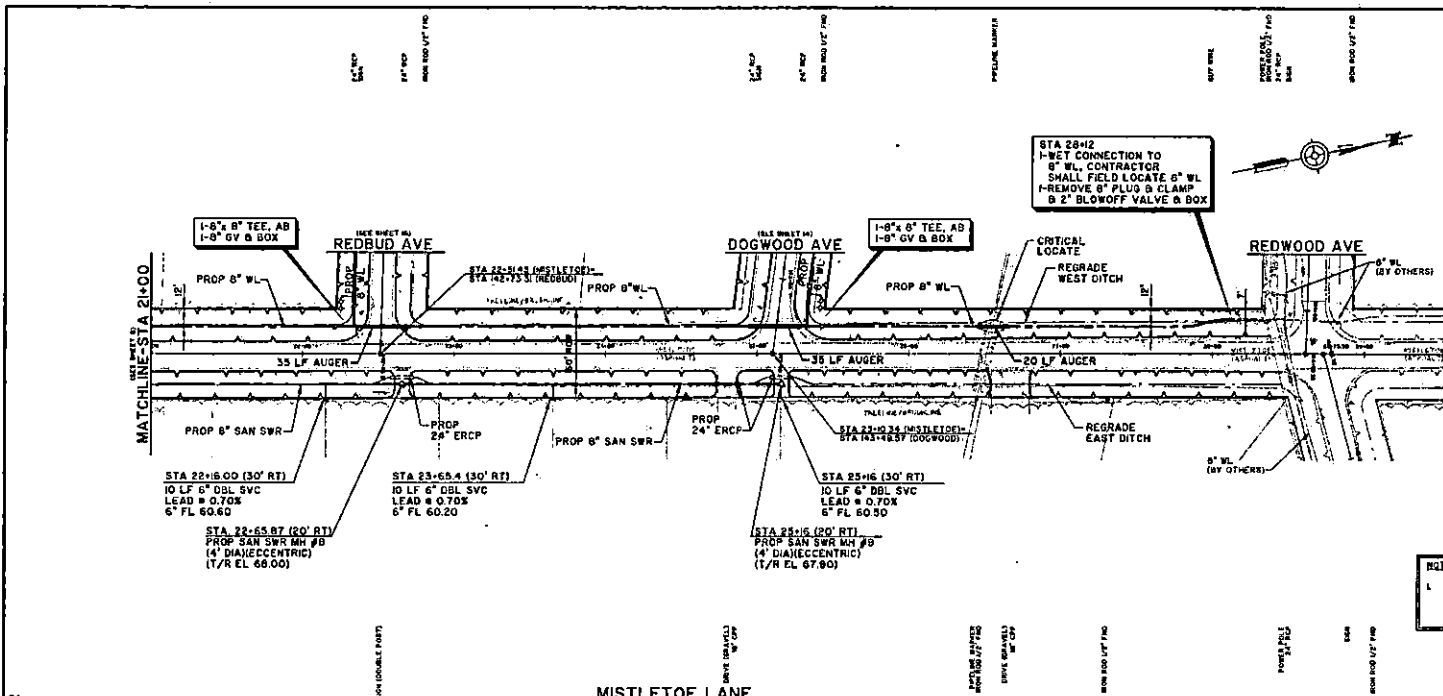
**FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARBLE ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM**

**BROADMORE AVENUE  
 STATION 139+00 TO MISTLETOE LANE**

Project No: BROWTS10 Date: SEPTEMBER 2013  
 Drawn By: DWM Date: 11/14/13  
 Check By: DCO

Sheet 7 of 60





**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATERLINE/UTILITY SERVICE CREATING

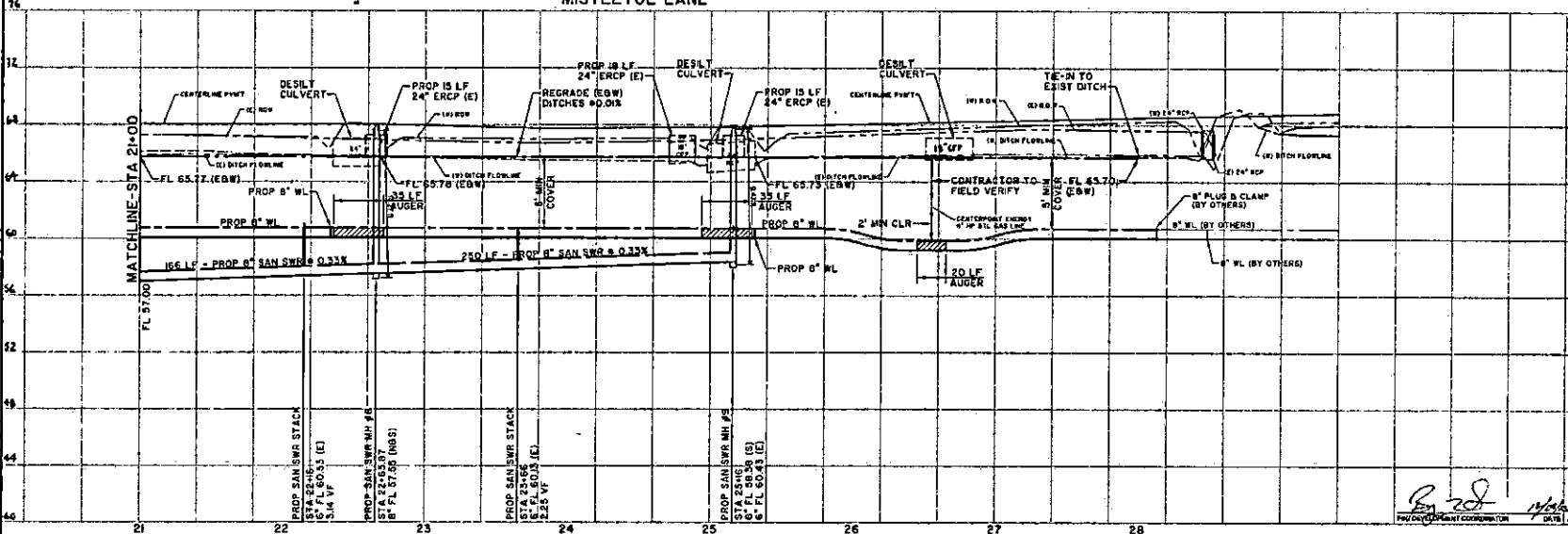
**BENCHMARK:**  
 PROJECT BENCHMARK  
 AREA DESIGNATED M 888  
 20' FOUND IN TOP AND APPROXIMATELY 10 FEET EAST OF WEST END OF PAULI CONCRETE HEADWALL OF AN 18\"/>

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/UTILITY SERVICE CREATING

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

**VERIFICATION OF PRIVATE UTILITY LINES**

Contractor shall verify the location of all existing utility lines (gas, electric, sewer, etc.) prior to construction. This verification shall be done in accordance with the City of Pearland's Utility Line Verification Process. (This process may vary slightly depending on the utility.)



**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVT  
 PROPERTY LINE N S S  
 PROPERTY LINE S S W  
 OTHER OR CURB LINE N S S  
 OTHER OR CURB LINE S S W

**JACOBS**

5995 BOERDALK ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

**PEARLAND**

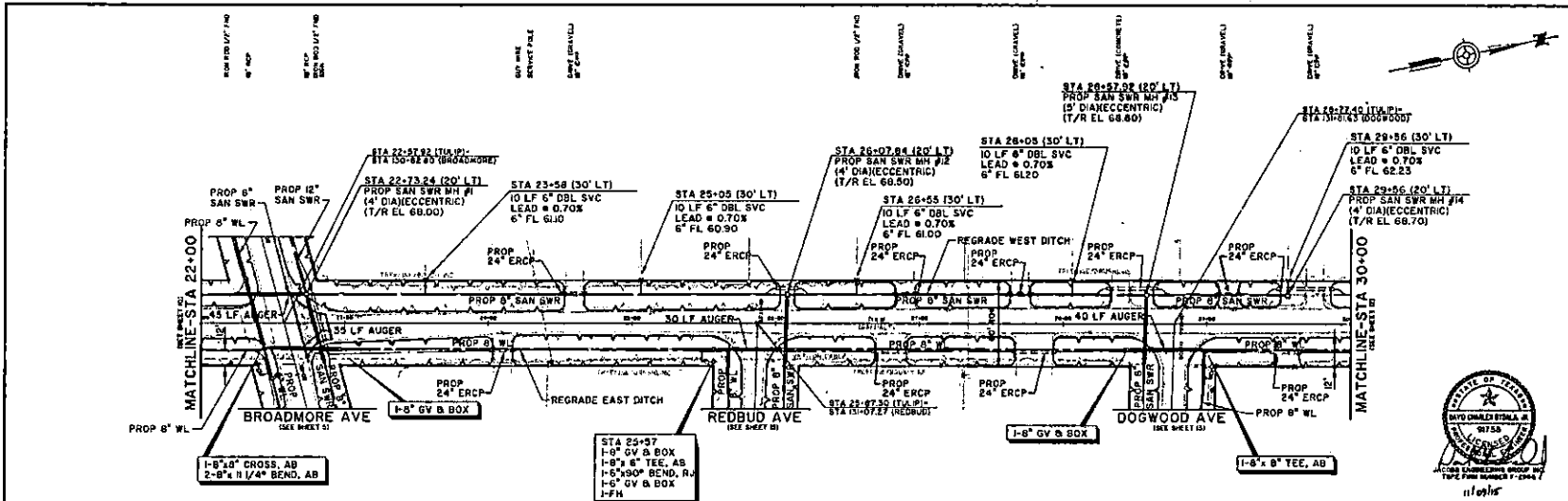
City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGLE ROAD WATER DISTRIBUTION AND WASTE-WATER COLLECTION SYSTEM

**MISTLETOE LANE**  
 STATION 21+00 TO REDWOOD AVENUE

Project No: WY007810 Date: SEPTEMBER 2015  
 Drawn By: DWM Date: 9/15/15  
 Check By: DCD Date: 9/15/15

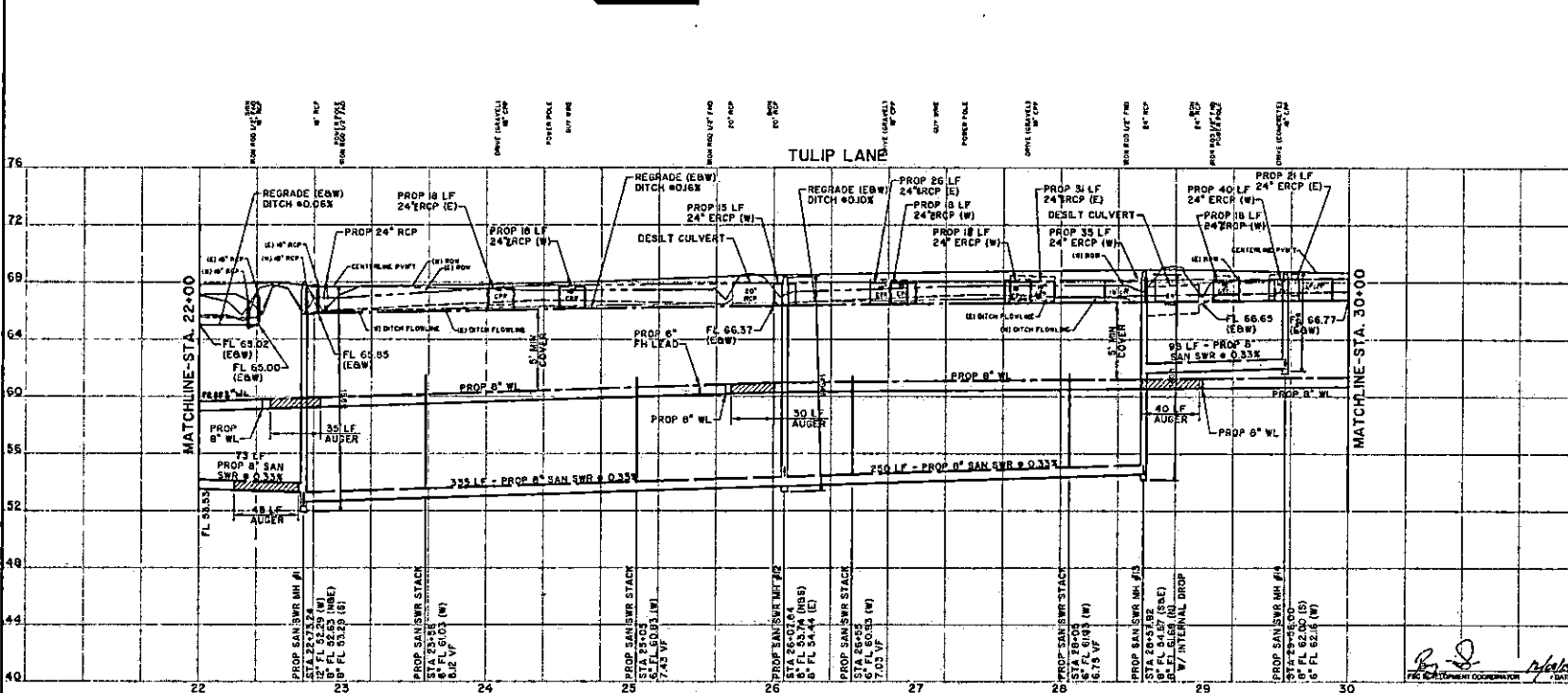




**BENCHMARK:**  
PROJECT BENCHMARKS ARE DESIGNATED AS BSB  
ONE FOUND IN TOP AND APPROXIMATELY 10 FEET  
SOUTH OF THE 60' DBL SVC. BENCH EST. IS LOCATED  
AT JUNCTION OF DALLAS ROAD EAST APPROXIMATELY  
100 FEET SOUTH OF THE CENTERLINE OF  
DALLAS ROAD.  
ELEVATION 86.70 FEET (MVD 08)  
FEMA MAP INFORMATION:  
THIS PROJECT LIES IN UNSHADED ZONE 1 (AREA 1)  
INSIDE 100-YEAR FLOOD PLAIN PER AREA 1, ZONE  
REVISED 1994-1995. FLOOD RISK: MODERATE. FLOOD  
ELEVATION DATE: MAP OF FORT BEND COUNTY,  
TEXAS PANEL NO. 48872306A (REV. 04)

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATER/SEWER UTILITY CROSSING:
  - ONE FULL SECTION OF WATERLINE CENTERED UNDER SANITARY SEWER.
  - ONE FOOT MINIMUM CLEARANCE BETWEEN TWO FULL SECTIONS OF WATERLINE CENTERED UNDER SANITARY SEWER.
  - MINIMUM ONE FULL SECTION OF SANITARY SEWER, NO FULL LINED DUCTILE IRON OR PVC PIPE CENTERED AT WATERLINE.
- ALL SANITARY SEWER AND WASTE LINE STREET CROSSINGS, INCLUDING LANCES, SHALL BE INSTALLED AT LEAST 1 FOOT OUTSIDE OF STREETS.
- PIPE FITTINGS TO BE INSTALLED 2 FEET FROM LINE UNLESS NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 1 FEET OUTSIDE OF STREETS.
- CONTRACTOR SHALL OBTAIN SATELLITE LOCUS AT PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH ENGINEER IF NECESSARY TO LOCATE BROWN ON PLANS AND FIELD TO CENTER OF PROPERTY LINE BASED ON FIELD CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-201-2222

**NOTICE:**  
Professional Engineer, who has prepared this plan and seal, is not to be held responsible for any errors or omissions on this plan or for any damage to property or persons caused by the use of this plan.

**VERIFICATION OF PRIVATE UTILITY LINES**  
Date: 11/16/16  
Checked by: David Estala  
Date: 11/16/16

**STANDARD PROFILE LEGEND**

SYMBOL	DESCRIPTION	DATE	BY
(Symbol)	Center Line of Property		
(Symbol)	Property Line 8' 6" W		
(Symbol)	Property Line 8' 6" E		
(Symbol)	8' 6" W or 8' 6" E		
(Symbol)	8' 6" W or 8' 6" E		

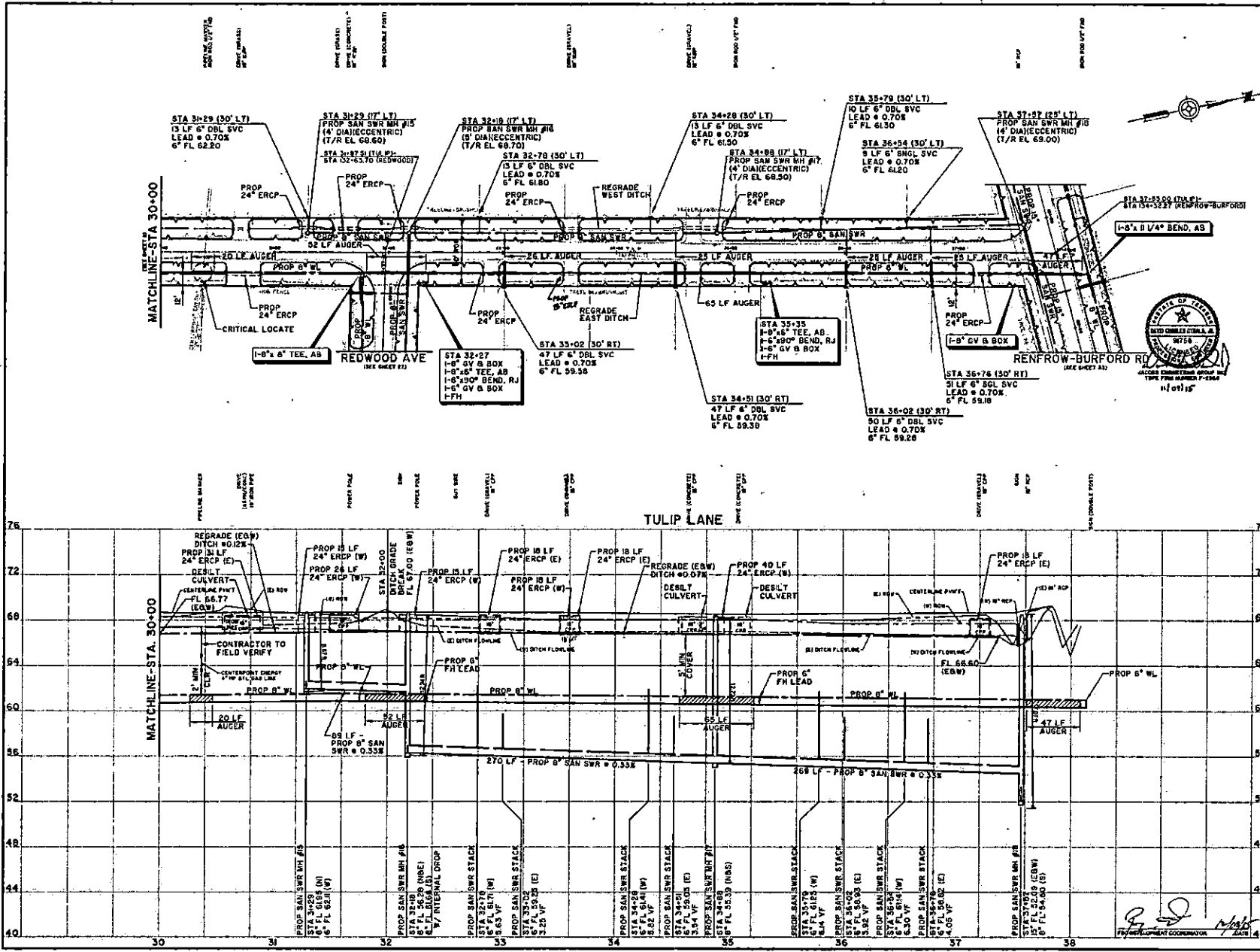
**JACOBS**  
5905 ROGERS ROAD  
HOUSTON, TX 77072-3495  
832.351.7230

**Pearland**  
City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSH ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTE WATER COLLECTION SYSTEM

**TULIP LANE**  
STATION 22+00 TO STATION 30+00

Project No: WPO07510    Date: 02 SEPTEMBER 2015    Sheet: 11 of 68  
Drawn by: DNM    Check by: DCD    Date: 11/16/16



**BENCHMARK:**  
 PROJECT BENCHMARK  
 MGS DESIGNATED AS 688  
 ONE FOOT ON TOP AND APPROXIMATELY 1/8 FEET  
 1/4 IN. OF PILE END OF SOUTH CORNER TO ROADWAY  
 AT JUNCTION OF DALLAS ROAD EAST APPROXIMATELY  
 1/4 MILE EAST OF THE CENTERLINE OF DALLAS  
 ROAD AND 1/4 MILE SOUTH OF THE CENTERLINE OF  
 DALLAS ROAD  
 ELEVATION 74.0 FEET ABOVE MGS  
 FEMA MAP INFORMATION  
 THE PROJECT LIES IN UNIMAGED ZONE 8 (AREA  
 OUTSIDE 800-YEAR FLOODPLAIN PER APRIL 8, 2004  
 REVISION FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PER 480700200A TO 841.

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATERLINE/SEWER LINE CROSSING
  - (+)
  - A. ONE FULL SECTION OF WATERLINE CENTERED OVER SEWER LINE.
  - B. ONE FOOT MINIMUM CLEARANCE BETWEEN WATERLINE AND SEWER LINE. TWO FOOT MINIMUM CLEARANCE BETWEEN WATERLINE AND SEWER LINE. TWO FOOT MINIMUM CLEARANCE BETWEEN WATERLINE AND SEWER LINE.
  - C. MINIMUM ONE FULL SECTION OF SEWER LINE, USE 18" DIA. SCHEDULE 40 OR PVC PIPE CENTERED AT WATERLINE.
- ALL SEWER LINE AND WATERLINE STREET CROSSINGS, INCLUDING LAYOUT, SHALL BE AS SHOWN AT LEAST 5 FEET FROM THE EDGE OF PAVEMENT.
- PIPE EXPOSURE TO BE INSTALLED 2' OFF ROAD LINE, UNLESS NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 2 FEET OUTSIDE OF PROPERTY LINE.
- CONTRACTOR SHALL VERIFY EXISTING SEWER LINES WITH EXISTING RECORDS TO LOCATIONS SHOWN ON PLANS. LINE NOT TO BE LOCATED AT PROPERTY LINE BASED ON FIELD CONDITIONS.

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

**NOTICE:**  
 For your safety, you are advised that this plan is not to be used for any other purpose than that for which it was prepared. The verification of the location and depth of existing utilities is the responsibility of the contractor. The contractor shall verify the location and depth of existing utilities before construction. (See also note on sheet 12 of 12.)

**VERIFICATION OF PRIVATE UTILITY LINES**  
 Verified by: *[Signature]* Date: *11/15/15*  
 Verified by: *[Signature]* Date: *11/15/15*  
 (This signature verifies existing underground facilities - not to be used for other utilities.) (Signature valid for 90 days.)

**STANDARD PROFILE LEGEND**

Symbol	Description
---	CENTER LINE OF RIGHT
---	PROPERTY LINE A & B
---	BY OR ON CURB LINE B & B
---	DITCH OR CURB LINE B & B

**JACOBS**

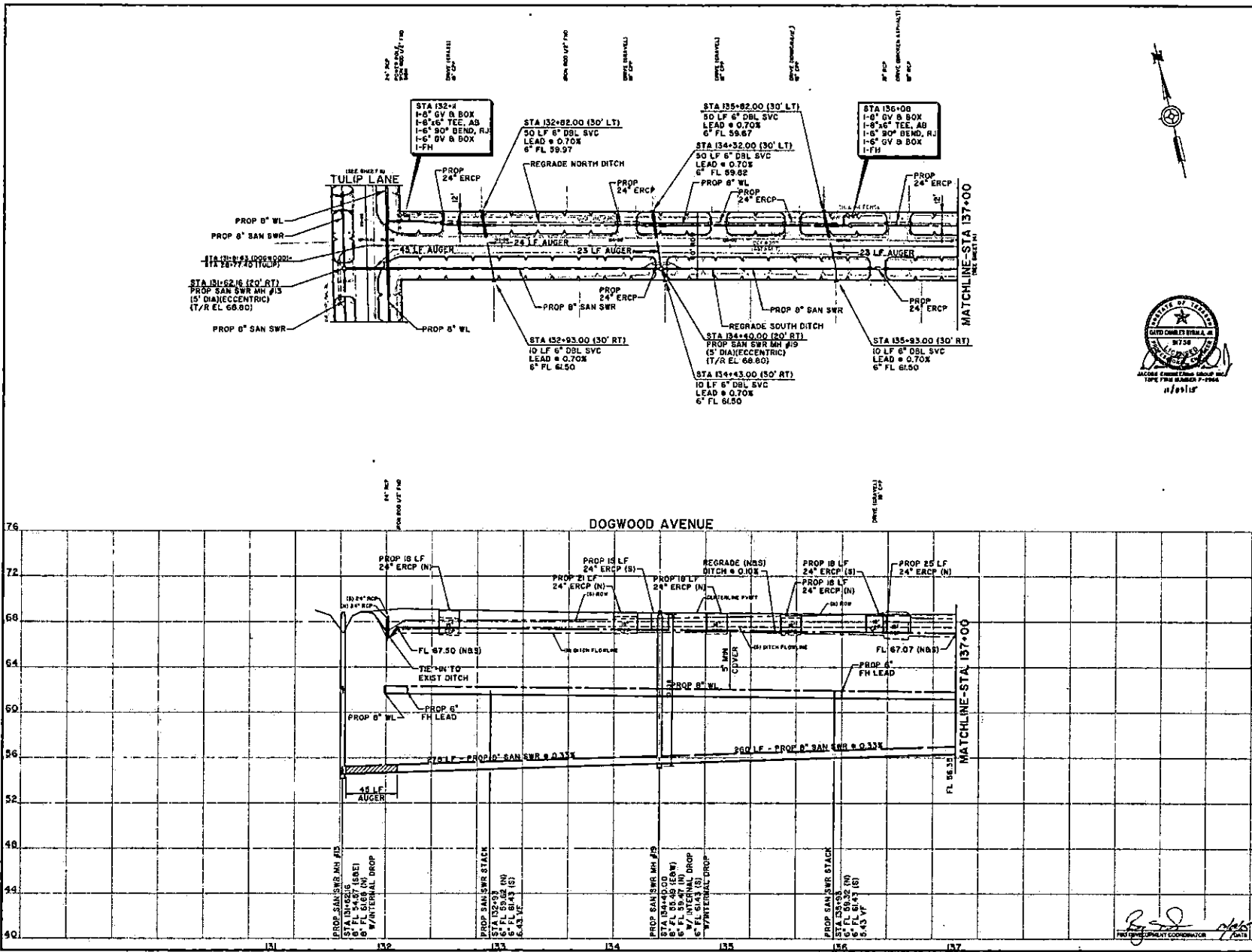
5525 ROGERDALE ROAD  
 HOUSTON, TX 77072-3405  
 832.351.7230

**City of Pearland, Texas**

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**TULIP LANE STATION 30+00 TO RENFROW-BURFORD ROAD**

Project No: W90407010 Date: *11/15/15* SHEET  
 Date: SEPTEMBER, 2015  
 Drawn By: DWM HORIZ: 1" = 40' 12  
 Check By: DCD VERT: 1" = 4' 0" OF 24



**BENCHMARK:**  
 PROJECT BENCHMARK  
 THIS PROJECT BENCHMARK IS APPROXIMATELY 10 FEET EAST OF WEST END OF SOUTH CONCRETE MEDIAN OF INTERSTATE 100-YEAR FLOODPLAIN FOR AREA 1, 2006 REVISED FEDERAL SUBMERGENCE MANAGEMENT AGENCY FLOOD DAMAGE RATE MAP FOR FORT BEND COUNTY, TEXAS PANEL NO. 48070001000000000000  
 ELEVATION 70.10 FEET (NAVD 88)

**FEMA MAP INFORMATION:**  
 THIS PROJECT LIES UNZONED ZONE B LANE 1 INTERMEDIATE 100-YEAR FLOODPLAIN FOR AREA 1, 2006 REVISED FEDERAL SUBMERGENCE MANAGEMENT AGENCY FLOOD DAMAGE RATE MAP FOR FORT BEND COUNTY, TEXAS PANEL NO. 48070001000000000000

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATER/SEWER/UTILITY DEPENDENT CROSSING
  - ONE FULL SECTION OF WATERLINE CENTERED OVER EXISTING WATERLINE.
  - ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER SANITARY SEWER. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SEWER OVER WATERLINE.
  - MINIMUM ONE FULL SECTION OF SANITARY SEWER, 10 FEET MINIMUM CENTER TO CENTER OF WATERLINE.
- ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE AVOIDED AT LEAST 5 FEET FROM THE EDGE OF PAVEMENT.
- PIPE HYDRANTS TO BE INSTALLED 5 FEET FROM LINE UNLESS NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED 10 FEET OUTSIDE OF RIGHT OF WAY.
- CONTRACTOR SHALL CENTER SANITARY SEWER LEADS AT PROPERTY LINES, CONTRACTOR SHALL COORDINATE WITH EXISTING SANITARY SEWER TO LIGHTS ON GROUND ON PLANS AND NOTIFY UTILITIES AT ALL POINTS OF FIELD CONDITIONS.



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

**NOTICE:**  
 For your safety, you are advised to turn off or move any lines that may be in the way of the work. The contractor is not responsible for any damage to existing utilities. The contractor shall be responsible for any damage to existing utilities.

**VERIFICATION OF PRIVATE UTILITY LINES**

DATE: 11/15/18  
 BY: [Signature]

Contractor's Responsibility: The contractor shall verify the location and depth of all private utility lines. The contractor shall be responsible for any damage to existing utilities.

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVT  
 PROPERTY LINE 1/2" S  
 PROPERTY LINE 1/4" S  
 DITCH OR CURB LINE 1/4" S  
 DITCH OR CURB LINE 1/2" S

NO.	DESCRIPTION	DATE	OWN	CHK

**JACOBS**

5995 ROGERS ROAD  
 HOUSTON, TX 77072-3495  
 632.351.7230

**City of Pearland, Texas**

**Fort Bend County Freshwater Supply District No. 1**  
 SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

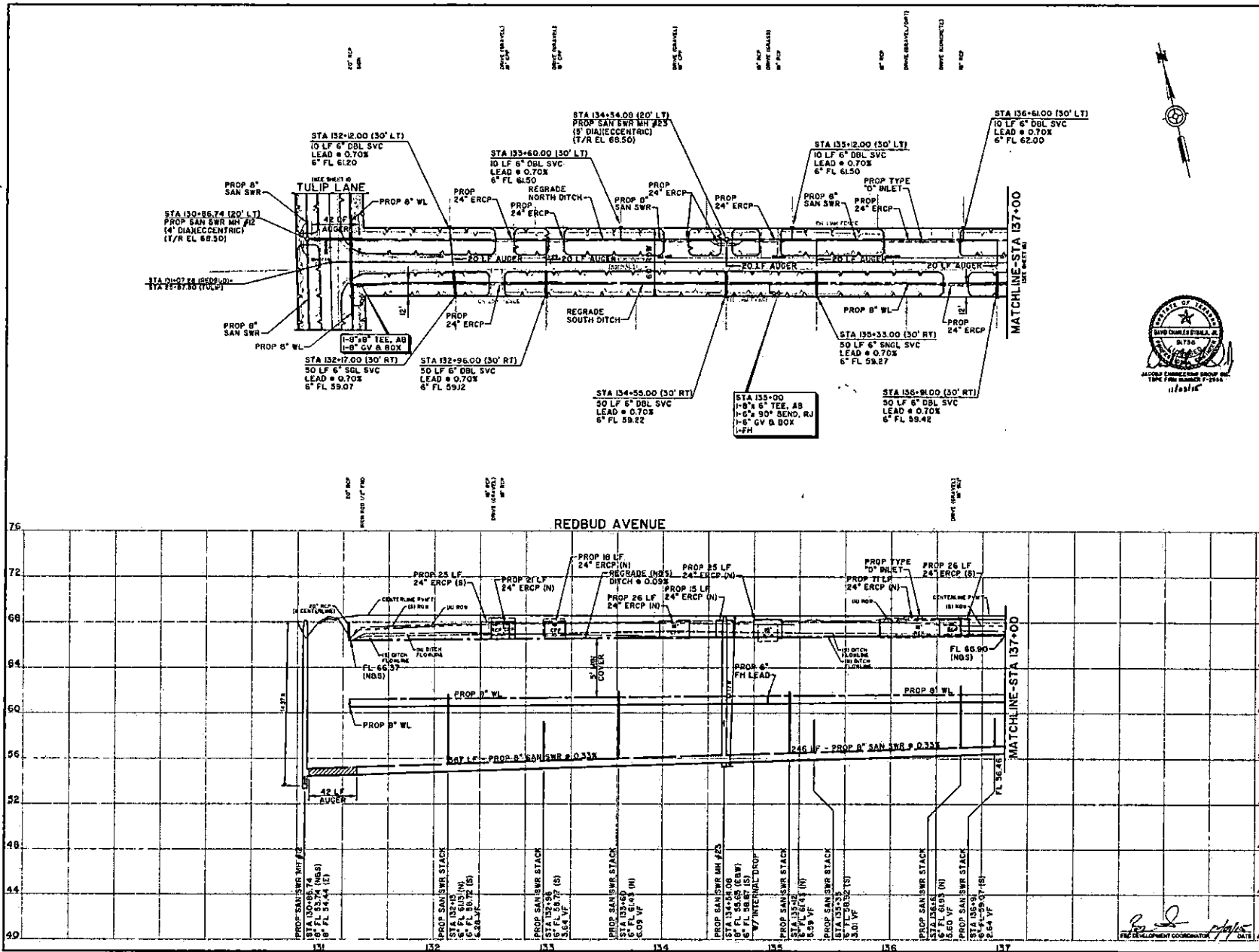
**DOGWOOD AVENUE**  
 TULIP LANE TO STATION 137+00

Project No: WNSH7910  
 Date: SEPTEMBER 2018  
 Draw No: 0186  
 Chg By: DCS

Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'

SHEET 13 OF 28





**BENCHMARK:**  
 PROJECT BENCHMARK  
 BSE DESIGNATED # 648  
 BSE FOUND IN TOP AND APPROXIMATELY 10 FEET  
 EAST OF THE END OF SOUTH CONCRETE DRIVE,  
 AS AN OF THE CALVERT ROAD STATE ROUTE 282,  
 AT AN ELEVATION OF 62.14 FEET ABOVE  
 MEAN SEA LEVEL. THE CENTERLINE OF STATE ROUTE  
 282 AND 15 FEET SOUTH OF THE CENTERLINE OF  
 MILLER RD.  
 ELEVATION TO 10 FEET OVER BSE  
 FEMA MAP INFORMATION:  
 THIS PROJECT LIES IN UNSHARED ZONE 4 (AREA  
 OUTSIDE 100-YEAR FLOOD AND FIRM PANEL 13, 10A,  
 REVEDER FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PANEL NO. 484703ALMAYE 8F)

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATER/SEWERY BENEATH CROSSING  
 (+)  
 A. ONE FULL SECTION OF WATERLINE CENTERED  
 OVER SANITARY SERVICE.  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN  
 UTILITY IF WATERLINE OVER SANITARY SERVICE. TWO  
 FEET MINIMUM CLEARANCE BETWEEN UTILITY IF  
 SANITARY SERVICE OVER WATERLINE.  
 MINIMUM ONE FULL SECTION OF SANITARY SERVICE, TWO  
 FEET MINIMUM CLEARANCE FROM ANY PIPE CENTERED AT  
 WATERLINE.  
 C. ALL SANITARY SERVICE AND WATERLINE STREET CROSSINGS,  
 INCLUDING LEADS, SHALL BE HIDDEN AT LEAST 4 FEET FROM THE  
 END AND BEGIN OF PAVEMENT.  
 D. PIPES SHALL BE INSTALLED 2 FEET FROM LINE, UNLESS  
 NOTED OTHERWISE.  
 E. WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 2 FEET  
 OUTSIDE OF DITCH FLOWLINE.  
 F. CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT  
 PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH  
 ENGINEER IF ADJUSTMENTS TO LOCATIONS OF PIPES AND  
 LEADS ARE NEEDED TO CENTER AT PROPERTY LINES BASED ON FIELD  
 CONDITIONS.



**NOTICE:**  
 TO CHANGE FOR LINES TO BE TURNED OFF OR  
 MOVED, CALL CENTERPOINT ENERGY AT 713-267-2222  
 NOTICE:  
 THE CITY OF PEARLAND, TEXAS, IS NOT RESPONSIBLE FOR THE  
 ACCURACY OF THE INFORMATION PROVIDED IN THIS DRAWING.  
 THE INFORMATION IS PROVIDED FOR YOUR INFORMATION ONLY.  
 YOU SHOULD VERIFY THE INFORMATION WITH THE APPROPRIATE  
 AGENCIES BEFORE USING IT FOR ANY PURPOSE.

**VERIFICATION OF PRIVATE UTILITY LINES**

\_\_\_\_\_  
 Date: 11/16/14

\_\_\_\_\_  
 Date: 11/16/14

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVEMENT  
 PROPERTY LINE 8" x 8"  
 DITCH ON CURB LINE 8" x 8"  
 DITCH ON CURB LINE 6" x 6"

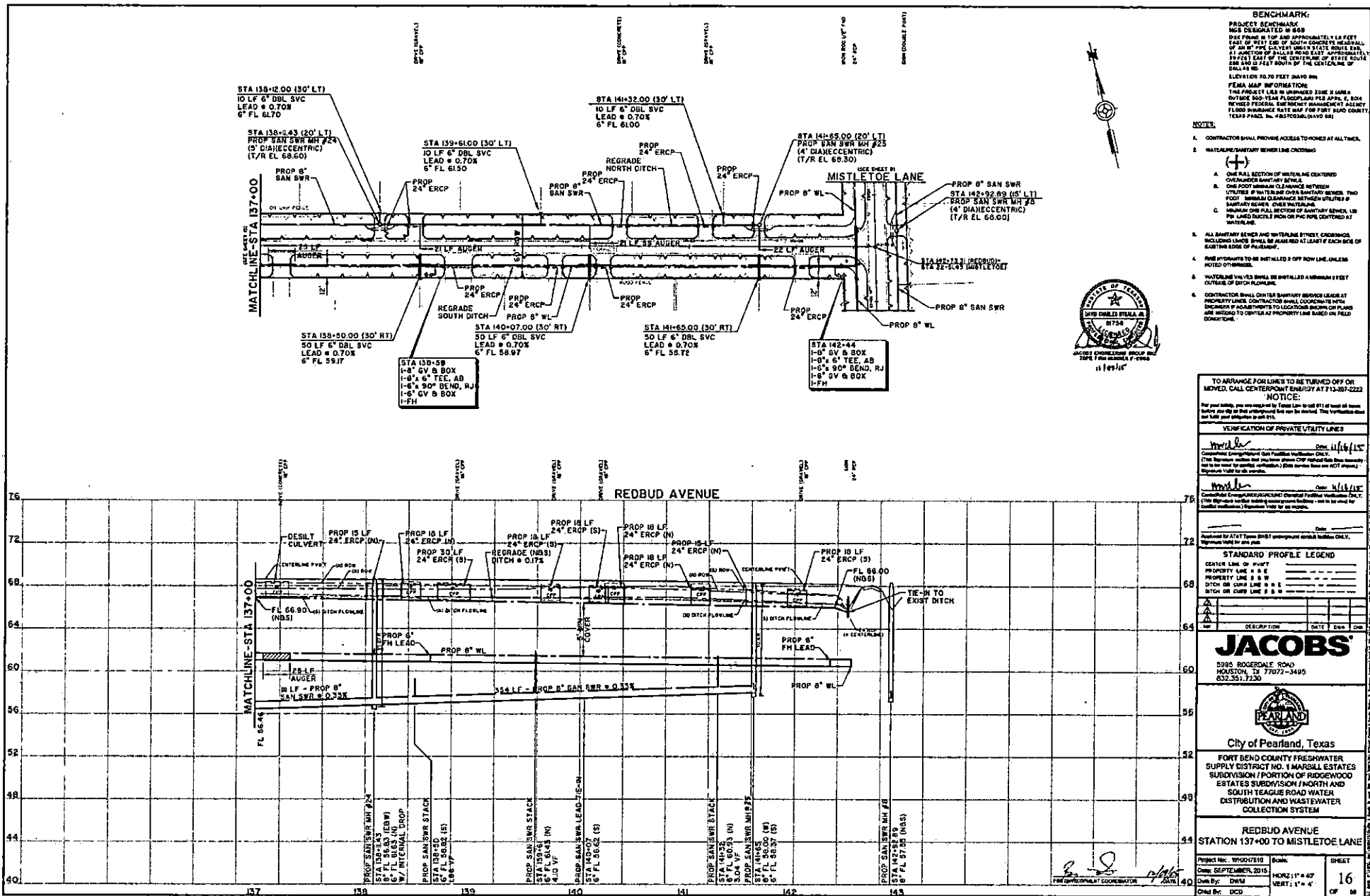
**JACOBS**  
 5095 ROGERSDALE ROAD  
 HOUSTON, TX 77072-3445  
 832.351.7230

**PEARLAND**  
 City of Pearland, Texas  
 FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARBILL ESTATES  
 SUBDIVISION / PORTION OF RIDGECREEK  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

**REDBUD AVENUE  
 TULIP LANE TO AVENUE 137+00**

Project No: W1907031D  
 Date: SEPTEMBER, 2013  
 Drawn By: DWAN  
 Check By: DCD

Sheet No: 15  
 Date: 11/16/14  
 Scale: 1" = 40'  
 Vertical: 1" = 4'



**BENCHMARK:**  
 PROJECT BENCHMARK  
 NGS DESIGNATED # 658  
 PILE FOUND IN TOP SOIL APPROXIMATELY 14 FEET  
 EAST OF WEST END OF SOUTH CONCRETE HEADWALL  
 OF AN OPEN CULVERT UNDER STATE ROUTE 24,  
 AT POINT TOP OF PILE IS TO BE EAST, APPROXIMATELY  
 284.000 IS 7.47 FEET SOUTH OF THE CENTERLINE OF  
 DITCH # 2.  
 ELEVATION 10.70 FEET (NAVD 88)

**FEMA MAP INFORMATION:**  
 THE PROJECT AREA IS UNDEVELOPED ZONE S UNR-1  
 OUTSIDE 500-FOOT FLOODPLAIN PER APP. E. 804  
 REVISED FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PANEL NO. 4832000010A100

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/SEWER LINE CROSSINGS:
    - ONE FULL SECTION OF UTILITY LINE CENTERED OVER EACH EXISTING UTILITY LINE.
    - ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITY LINES IF WATER LINE OVER SEWER LINE. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITY LINES IF SEWER LINE OVER WATER LINE.
    - MINIMUM ONE FULL SECTION OF SANITARY SEWER LINE FOR LINED DUCTILE IRON OR PVC PIPE CENTERED AT WATERLINE.
  - ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS INCLUDING LINDS SHALL BE ALIGNED AT LEAST 6 FEET EACH SIDE OF EACH THE EDGE OF PAVEMENT.
  - PIPE APPROXIMATE TO BE INSTALLED 6\"/>



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

**NOTICE:**  
 For your safety, you are advised to call 911 if you are unsure before you do the work. The verification has been made for this project. The verification has been made for this project. The verification has been made for this project.

**VERIFICATION OF PRIVATE UTILITY LINES**

Worked Date: 11/16/15  
 Worked Date: 11/16/15

Approved by AT&T Texas South West: [Signature]  
 Approved by gas: [Signature]

**STANDARD PROFILE LEGEND**

DESCRIPTION	DATE	BY	CHK
CENTERLINE PVT			
PROPERTY LINE 3\"/>			

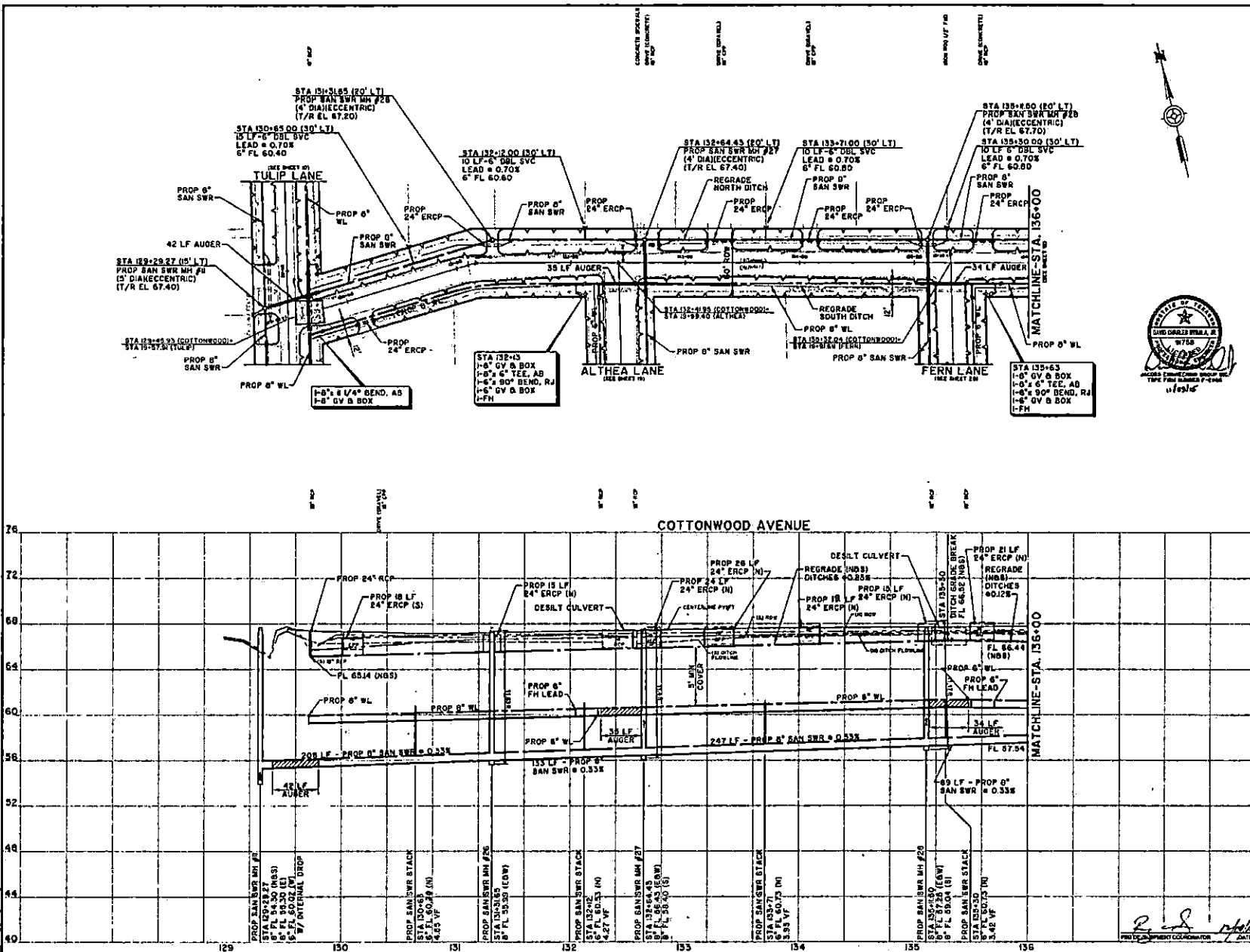
**JACOBS'**  
 5205 ROSEDALE ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

**PEARLAND**  
 City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION (PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM)

**REDBUD AVENUE STATION 137+00 TO MISTLETOE LANE**

Project No: WPO07810 Scale: SHEET  
 Date: SEPTEMBER, 2015 Date: 11' x 47'  
 Drawn By: DWM Date: 16  
 Check By: DCD Date: 16



**BENCHMARK:**  
 PROJECT BENCHMARKS  
 WILL BE LOCATED IN THE  
 USE FORMS IN TOP AND APPROXIMATELY 10 FEET  
 EAST OF WEST END OF NORTH CORNER HEADQUARTERS  
 OF 4001 WEST COTTONWOOD ROAD STA 111+00.11  
 50 FEET EAST OF THE CENTERLINE OF STATE ROUTE  
 1161 AND 10 FEET SOUTH OF THE CENTERLINE OF  
 STATION 136+00.00

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO WORKS AT ALL TIMES.
- INSTALL BENCHMARKS TO BE LOCATED AS SHOWN.
- ALL ALL SECTIONS OF WATERLINE COVERED
  - CONTRACTOR SHALL BE RESPONSIBLE FOR
  - UTILITIES OF WATERLINE COVERED BETWEEN
  - PROVIDE SUFFICIENT CLEARANCE BETWEEN UTILITIES OF
  - PROPERTY LINES. OWNER'S RESPONSIBILITY.
  - CONTRACTOR SHALL PROVIDE SUFFICIENT CLEARANCE
  - FOR ALL UTILITIES OF WATERLINE COVERED AT
  - PROPERTY LINES.
- ALL BENCHMARKS AND WATERLINE POINTS SHALL BE
- LOCATED AS SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR
- INSTALLING BENCHMARKS TO BE LOCATED AS SHOWN. CONTRACTOR
- SHALL BE RESPONSIBLE FOR PROVIDING ACCESS TO WORKS AT ALL
- TIMES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ACCESS TO
- WORKS AT ALL TIMES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ACCESS TO
- WORKS AT ALL TIMES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ACCESS TO
- WORKS AT ALL TIMES.

**TO ADVANCE FOR LINES TO BE TURNED OFF OR**  
**MOVED, CALL CENTERPOINT ENERGY AT 713-207-9222**

**NOTICE**

For your safety, you are notified by Texas Law to call 711 in case of an  
 emergency. If you have a non-emergency, please call the number on the back of this  
 notice for more information. Call 711.

**VERIFICATION OF PRIVATE UTILITY LINES**

Contractor shall verify the location of all private utility lines (gas, electric, water, sewer, etc.)  
 prior to construction. The contractor shall be responsible for the accuracy of the  
 information provided. The contractor shall be responsible for the accuracy of the  
 information provided. The contractor shall be responsible for the accuracy of the  
 information provided.

**STANDARD PROFILE LEGEND**

PROF. LINE	---
PROPERTY LINE	---
STREET CENTERLINE	---
STREET EDGE	---
STREET CURB	---
STREET GROUND	---
STREET GRADE	---
STREET FINISH	---

**JACOBS**

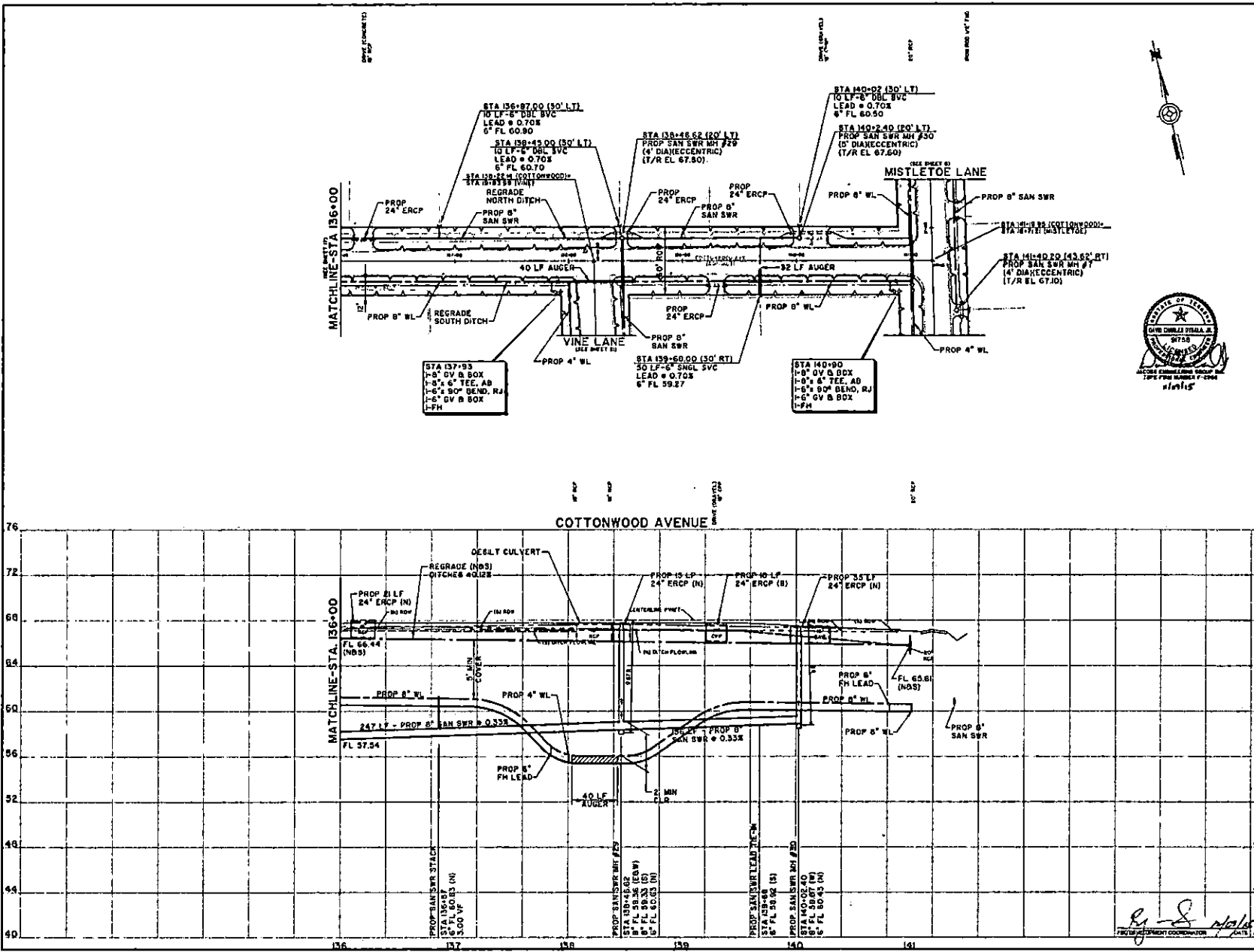
9905 ROGERS ROAD  
 HOUSTON, TX 77072-3405  
 832-351-7230

**PEARLAND**

City of Pearland, Texas  
 FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARRILL ESTATES  
 SUBDIVISION / PORTION OF RIDGEWOOD  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

**COTTONWOOD AVENUE  
 TULIP LANE TO STATION 136+00**

Project No: W19017310 Date: 08/20/2013 SHEET 17 OF 18  
 Date: SEPTEMBER 2013  
 Drawn By: DMS  
 Check By: BCD  
 Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'



**BENCHMARK:**  
 PROJECT BENCHMARK  
 855 DEMONSTRATED # 648  
 100 FEET ON TOP OF APPROXIMATELY 1.5 FEET  
 EAST OF W/11 LINE OF SOUTH CONCRETE SIDEWALK  
 10' OF 4" DIA. CULVERT UNDER COTTONWOOD AVENUE  
 AT JUNCTION OF SHALLS ROAD EAST, APPROXIMATELY  
 10 FEET EAST OF THE CENTERLINE OF STATE ROUTE  
 286 AND 15 FEET SOUTH OF THE CENTERLINE OF  
 SHALLS RD.  
 ELEVATION 70.70 FEET ABOVE SEA  
**FIELD MAP INFORMATION:**  
 THE PROJECT LIES IN UNIMPAVED ZONE I (LAND A)  
 OUTSIDE 200-YEAR FLOODPLAIN PER APPLIC. 2, 2004  
 2005 FEDERAL OMBREARY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY  
 TEXAS PANEL NO. 48510308, 48510309

- NOTES**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - UTILITIES UNIDENTIFIED BY OTHERS SHALL BE IDENTIFIED BY THE CONTRACTOR.
  - ONE FULL SECTION OF WATERLINE CENTERED UNDER EACH UTILITY CROSSING.  
 A. ONE FULL SECTION OF WATERLINE CENTERED UNDER EACH UTILITY CROSSING.  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF FACTORING OVER SANITARY SEWER, TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SEWER OVER WATERLINE.  
 C. MINIMUM ONE FULL SECTION OF SANITARY SEWER, 18" PER LAND DISTANCE FROM PAVEMENT CENTERLINE TO WATERLINE.
  - ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS, INCLUDING LANS, SHALL BE AUGURED AT LEAST 8 FEET FROM THE EDGE OF ANY LINE OF IMPROVEMENT.
  - PIPE INDIATORS TO BE INSTALLED 2' FROM ROW LINE, UNLESS NOTED OTHERWISE.
  - WATERLINE UTILITY SHALL BE INSTALLED A MINIMUM 3 FEET OUTSIDE OF DITCH FLOORLINE.
  - CONTRACTOR SHALL CENTER SANITARY SEWER LINES AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ENGINEER IF SANITARY SEWER LOCATIONS PROPOSED ARE NOT TO CENTER AT PROPERTY LINE BASED ON FIELD CONDITIONS.



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

**NOTICE:**  
 For your safety, you are notified that the lines in this plan are not AT ALL in most all cases before you dig to that underground line or to replace. The notification does not take the place of a utility map.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 I hereby certify that the utility lines shown on this plan were verified by me or a duly authorized representative of my firm on the date indicated below.  
 (This signature certifies that you have checked GPR located lines have actually been used for marked locations. This number does not apply.)  
 Signature: *[Signature]* Date: *[Date]*

**STANDARD PROFILE LEGEND**

---	Center Line of Property
---	Property Line
---	Right of Way Line
---	Other Line

**JACOBS**

5995 ROGERS ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

**City of Pearland, Texas**

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 4 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWATER ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**COTTONWOOD AVENUE**  
 STATION 136+00 TO MISTLETOE LANE

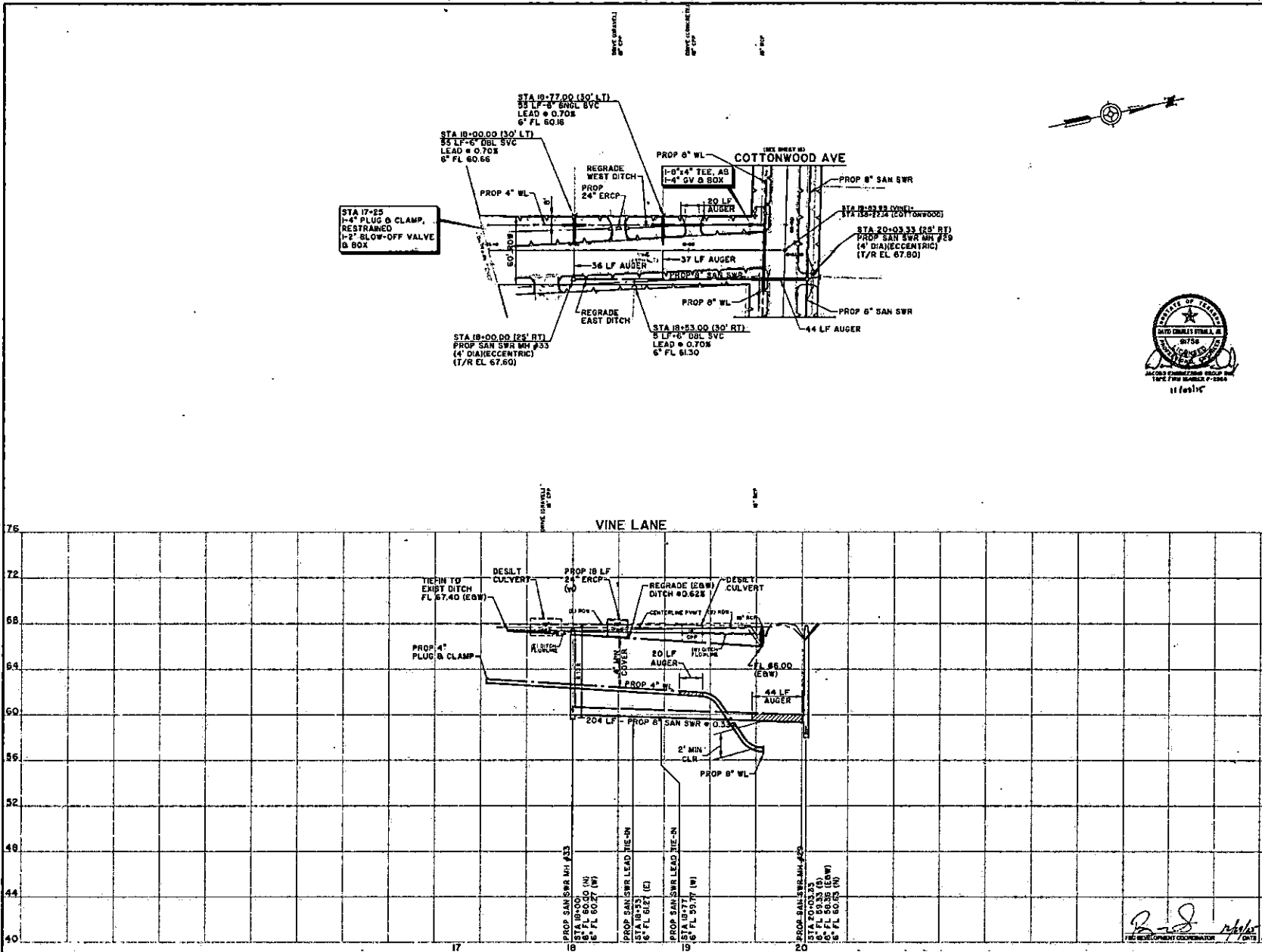
Project No: WPD017010 Date: SEPTEMBER 2013  
 Drawn By: DWA Date: 11/11/13  
 Check By: DCO Date: 11/11/13

Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'

Sheet No: 18 of 20







**BENCHMARK:**  
 PROJECT BENCHMARK:  
 NOS DESIGNATED IN 848  
 FOR FOUND IN TOP AND APPROXIMATELY 10 FEET  
 EAST OF WEST END OF SOUTH CONCRETE HEADWALL  
 OF THE CULVERT UNDER STATE ROUTE 63  
 AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY  
 18 FEET EAST OF THE CENTERLINE OF STATE ROUTE  
 63 AND 15 FEET SOUTH OF THE CENTERLINE OF  
 DALLAS RD  
 ELEVATION TO 70 FEET (DWS 88)  
 FEMA MAP INFORMATION:  
 THIS PROJECT LIES IN UNSHADED ZONE II AREA  
 OUTSIDE 100-YEAR FLOODPLAIN PER APRIL 1, 2004  
 REVISED FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PANEL NO. 4807000000000000

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE SHALL BE MAINTAINED UNDERGROUND  
 (+)  
 A. ONE FULL SECTION OF WATERLINE CENTERED  
 OVER EACH SANITARY SEWER.  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN  
 UTILITIES IF WATERLINE OVER SANITARY SEWER. TWO  
 FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF  
 SANITARY SEWER OVER WATERLINE.  
 C. MINIMUM ONE FULL SECTION OF SANITARY SEWER, 180  
 DEGREE TURN SHALL BE MAINTAINED AT ALL TIMES.  
 ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS  
 INCLUDING LATERALS SHALL BE MAINTAINED AT LEAST 6" FROM EDGE OF  
 CURB AND 18" FROM EDGE OF PAVEMENT.  
 ALL FIRE HYDRANTS TO BE INSTALLED 1' FROM CURB LINE, 18" FROM  
 INTERSECTION.  
 WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 8 FEET  
 OUTSIDE OF CURB LINE.  
 CONTRACTOR SHALL CENTER SANITARY SEWER/VALVE LEANS AT  
 PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH  
 ENGINEER OF SANITARY TO LOCATE EXISTING FIRE LINES  
 AND MAINTAIN CLEARANCE AT PROPERTY LINE BASED ON FIELD  
 CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR  
 MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222  
**NOTICE:**  
 For your safety, you are required to wear your seat belt and all 413 of weight 40 hours  
 before you get on the job. The contractor shall be notified. This notification shall  
 be made prior to the start of work.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 Date: 11/16/18  
 Checked by: [Signature]  
 Date: 11/16/18  
 Checked by: [Signature]

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVT  
 PROPERTY LINE S S E  
 PROPERTY LINE E S E  
 DITCH OR CURB LINE S S E  
 DITCH OR CURB LINE E S E

NO.	DESCRIPTION	DATE	OWN	CON.
1				
2				

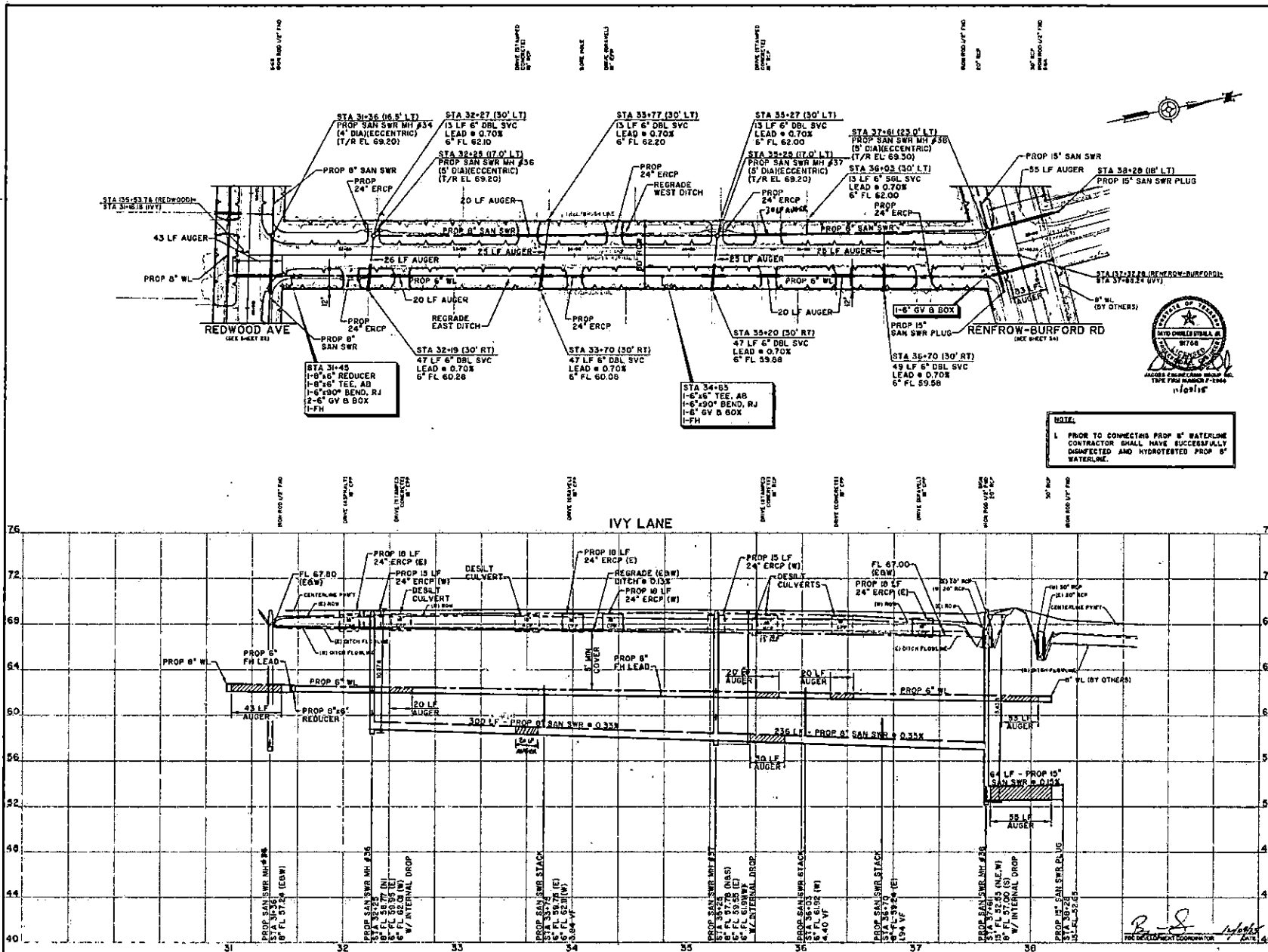
**JACOBS**  
 5655 ROGERS ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

**PEARLAND**  
 City of Pearland, Texas  
 FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARSHALL ESTATES  
 SUBDIVISION / PORTION OF RIDGEWOOD  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

VINE LANE  
 STATION 16+00 TO  
 COTTONWOOD AVENUE

Project No: W0007510 Scale: SHEET  
 Date: SEPTEMBER 2013 HORZ: 1" = 40' 21  
 Drawn By: [Signature] VERT: 1" = 4' CP 68  
 Check By: DCD





**BENCHMARK:**  
 PROJECT BENCHMARK  
 NOS DESIGNATED IN 668  
 100 FEET FROM THE TOP AND APPROXIMATELY 10 FEET  
 EAST OF WEST END OF SOUTH CONCRETE MEDIAN OF  
 I-10. THE CENTERLINE OF THE BENCHMARK IS AT THE  
 INTERSECTION OF THE CENTERLINE OF I-10 AND THE  
 CENTERLINE OF THE CENTERLINE OF THE CENTERLINE OF  
 I-10 AND IS 10 FEET SOUTH OF THE CENTERLINE OF  
 I-10.  
 ELEVATION 78.10 FEET (DAVID 88)  
 FEMA MAP INFORMATION:  
 THIS PROJECT IS IN UNINCORPORATED TOWNSHIPS & LAMAS  
 8500-1000-1000-1000 PER APRIL 2, 2004  
 8500 FEDERAL SURVEYING BUREAU BUREAU  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY  
 12443 PAGES, PLAN NO. 480270000, DATED 08/01/04

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATER/SEWERY SERVICE LINE CROSSING

(+)

- ONE FULL SECTION OF WATERLINE CENTERED OVER SEWERY SERVICE LINE.
- ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES. IF WATERLINE OVER CROSSING, TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SEWERY SERVICE OVER WATERLINE.
- MINIMUM ONE FULL SECTION OF SEWERY SERVICE, 100 FEET MINIMUM OVER THE CENTERLINE OF WATERLINE.

- ALL SEWERY SERVICE AND WATERLINE STREET CROSSINGS HOLDING LINES SHALL BE AUGERED AT LEAST 4 FEET FROM THE EXISTING SIDE OF ROAD.
- PIPE HYDRANTS TO BE INSTALLED 2 FEET FROM LINE UNLESS NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 1 FEET OUTSIDE OF SIDEWALK.
- CONTRACTOR SHALL LOCATE SEWERY SERVICE LINES AT PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO LOCATE ALL UTILITIES. SEWERY SERVICE LINES ARE TO BE LOCATED AT PROPERTY LINES BASED ON FIELD CONDITIONS.



**NOTE:**  
 1. PRIOR TO CONNECTING PROP 6" WATERLINE CONTRACTOR SHALL HAVE SUCCESSFULLY DISINFECTED AND HYDROTESTED PROP 6" WATERLINE.

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

**NOTICE:**  
 For your safety, you are required to call 811 at least 48 hours before any dig or excavation work is to be done. This notification is not valid until you receive the 811 call.

**VERIFICATION OF PRIVATE UTILITY LINES**

WPA  
 Date: 11/16/11  
 Location: 5905 ROGERS ROAD HOUSTON, TX 77072-3485

WPA  
 Date: 11/16/11  
 Location: 5905 ROGERS ROAD HOUSTON, TX 77072-3485

**STANDARD PROFILE LEGEND**

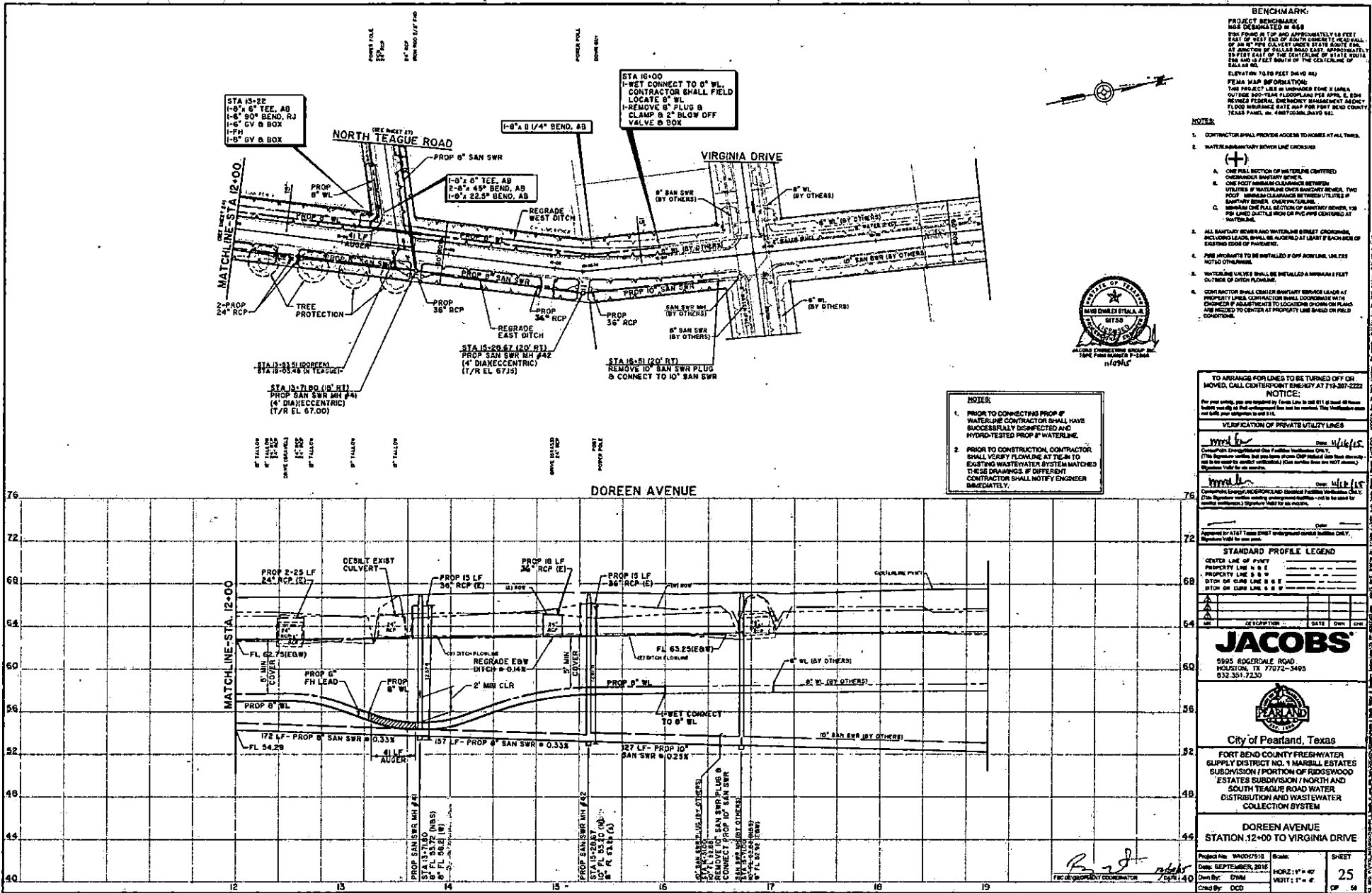
LINE	DESCRIPTION	DATE	BY	CHK
1	CENTER LINE OF PAVT			
2	PROPERTY LINE 6" S			
3	PROPERTY LINE 6" N			
4	OTCH OR CURB LINE 6" S			
5	OTCH OR CURB LINE 6" N			

**JACOBS**  
 5905 ROGERS ROAD  
 HOUSTON, TX 77072-3485  
 832.351.7230

**City of Pearland, Texas**  
 FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM  
 IVY LANE  
 REDWOOD AVE. TO  
 RENFROW-BURFORD ROAD

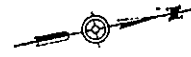
Project No: W0017310 Scale: SHEET  
 Date: SEPTEMBER, 2015 No: 23  
 Drawn By: DWM HORIZ: 1" = 40'  
 Check By: DCD VERT: 1" = 4'  
 OF 28





**BENCHMARK:**  
 PROJECT BENCHMARK  
 WAS DEMONSTRATED IN 488  
 THIS POINT IS TOP AND APPROXIMATELY 15 FEET  
 EAST OF WEST END OF SOUTH COUNTY HEADWALL  
 OF AN 8" PIPE CALLED WEST BAY BOX  
 AT JUNCTION OF DOREEN ROAD EAST, APPROXIMATELY  
 15 FEET EAST OF THE CENTERLINE OF STATE ROUTE  
 101 AND 15 FEET SOUTH OF THE CENTERLINE OF  
 DOREEN RD.  
 ELEVATION TO 6 FEET DAVID M.H.

**PERMITS MAP INFORMATION:**  
 THIS PROJECT IS UNDER FIVE (5) AREA  
 OUTSIDE 300-YEAR FLOODPLAIN PER APRIL 2, 2004  
 REVISION FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY  
 TEXAS PANEL NO. 488705050A.DAVID M.H.



- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOUSES AT ALL TIMES.
  - WATER/SANITARY SERVICE LINE CHECKING:
    - A. ONE FULL SECTION OF MULTILINE CENTERED CIRCULAR SANITARY SERVICE.
    - B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER SANITARY SERVICE. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SERVICE OVER WATERLINE.
    - C. MINIMUM ONE FULL SECTION OF SANITARY SERVICE FOR THE LINED DUCTILE IRON OR PVC LINE CENTERED AT WATERLINE.
  - ALL SANITARY SERVICE AND WATERLINE SERVICE CHECKING, INCLUDING LEAKS, SHALL BE COMPLETED AT LEAST 15 FEET FROM EXISTING EDGE OF PAVEMENT.
  - PIPE INCIDENTS TO BE INSTALLED OFF ROW LINE UNLESS NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 5 FEET OUTSIDE OF OTHER FLOWLINE.
  - CONTRACTOR SHALL CENTER SANITARY SERVICE LEAD AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ENGINEER IF ADJUSTMENTS TO SERVICE SPACING ON PLANS ARE NEEDED TO CENTER AT PROPERTY LINE BASED ON FIELD CONDITIONS.



**NOTES:**

- PRIOR TO CONNECTING PROP. 8" WATERLINE CONTRACTOR SHALL HAVE SUCCESSFULLY INSPECTED AND HYDRO-TESTED PROP. 8" WATERLINE.
- PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY FLOWLINE AT TIE-IN TO EXISTING WASTEWATER SYSTEM MATCHES THESE DRAWINGS. IF DIFFERENT CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

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 use 911 to report all downed power lines. Do not touch or get too close to downed power lines. If you see a downed power line, call 911. Do not touch or get too close to downed power lines. If you see a downed power line, call 911.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 Conducted by: *David M.H.* Date: *10/15/15*  
 (This signature certifies that the utilities indicated on this plan are as shown. It does not certify that the utilities are as shown. It is the responsibility of the contractor to verify the location and depth of all utilities before construction.)

**VERIFICATION OF PUBLIC UTILITY LINES**  
 Conducted by: *David M.H.* Date: *10/15/15*  
 (This signature certifies that the utilities indicated on this plan are as shown. It does not certify that the utilities are as shown. It is the responsibility of the contractor to verify the location and depth of all utilities before construction.)

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVEMENT  
 PROPERTY LINE  
 PROPERTY LINE  
 CENTER OF GRADE LINE  
 CENTER OF GRADE LINE

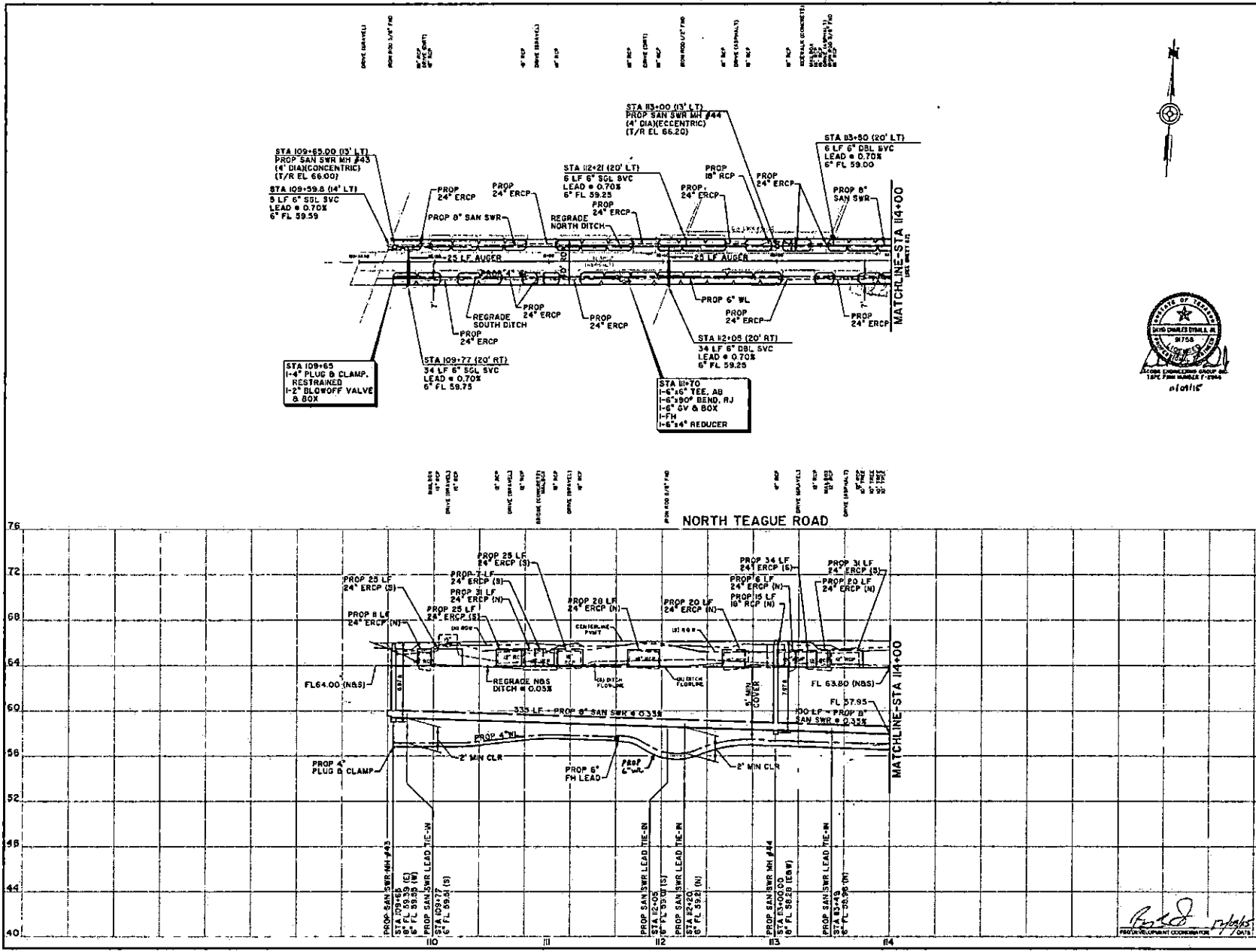
**JACOBS**  
 5905 ROGERDALE ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

**PEARLAND**  
 City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**DOREEN AVENUE STATION 12+00 TO VIRGINIA DRIVE**

Project No. 190207510 Scale: SHEET  
 Date: SEPTEMBER, 2015 HORIZ: 1" = 40' 25  
 Drawn By: D.M.H. VERT: 1" = 4' 0" 48  
 Check By: D.C.D. 49



**BENCHMARK:**  
 PROJECT BENCHMARK NO. 8 DESIGNATED IN 840 FOR FOUND IN TOP AND APPROXIMATELY 1/4 MILE EAST OF 9111 EMB OF SOUTH CONCRETE HEADBALL AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY 187 FEET EAST OF THE CENTERLINE OF 9111 EMB AND 187 FEET SOUTH OF THE CENTERLINE OF DALLAS RD.  
 ELEVATION TO 78 FEET (NAVD 88)  
**FEMA MAP INFORMATION:**  
 THIS PROJECT LIES IN HAZARDOUS ZONE II (AREA OUTSIDE 100-YEAR FLOODPLAIN) PER APRIL 1, 2004 REVISED FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY, TEXAS PANEL No. 49070238NAV0 881

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATERLINE/SEWERY VALVE LINE CROSSINGS  
 (+)  
 A. ONE FULL SECTION OF WATERLINE CENTERED OVER SEWERY SANITARY SEWER.  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER SANITARY SEWER. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SEWER OVER WATERLINE.  
 C. MINIMUM ONE FULL SECTION OF SANITARY SEWER, 18\"/>
- ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS INCLUDING LEADS, SHALL BE HURDED AT LEAST 8\"/>
- PIPE HYDRANTS TO BE INSTALLED 8\"/>
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 2 FEET OUTSIDE OF CURB LINE.
- CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH PROPER AGENCIES FOR UTILITY LOCATIONS. OWNER'S UTILITIES ARE NEGLECTED TO CENTER AT PROPERTY LINE BASED ON FIELD CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTER/POINT ENERGY AT 713-207-2222

**NOTICE:**  
 For your safety, you are required to Turn Off or Call Out at least 48 hours before you dig so that underground lines can be marked. This notification does not include any exceptions to this rule.

**VERIFICATION OF PRIVATE UTILITY LINES**

WV/LC Date 10/18/15  
 Complete On-Site Verification of All Utility Lines (This Signature certifies that you are a professional engineer and you are not to be used for utility verification.) (Clear signature lines are NOT required.)  
 Signature valid for 60 months.

WV/LC Date 10/18/15  
 Complete On-Site Verification of All Utility Lines (This Signature certifies that you are a professional engineer and you are not to be used for utility verification.) (Clear signature lines are NOT required.)  
 Signature valid for 60 months.

**STANDARD PROFILE LEGEND**

Center Line of Point	---
Property Line	---
Right of Way Line	---
Other on Curve Line	---

SYMBOL	DESCRIPTION	DATE	BY	CHK
▲				
▲				
▲				

**JACOBS**

5955 ROGERS ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

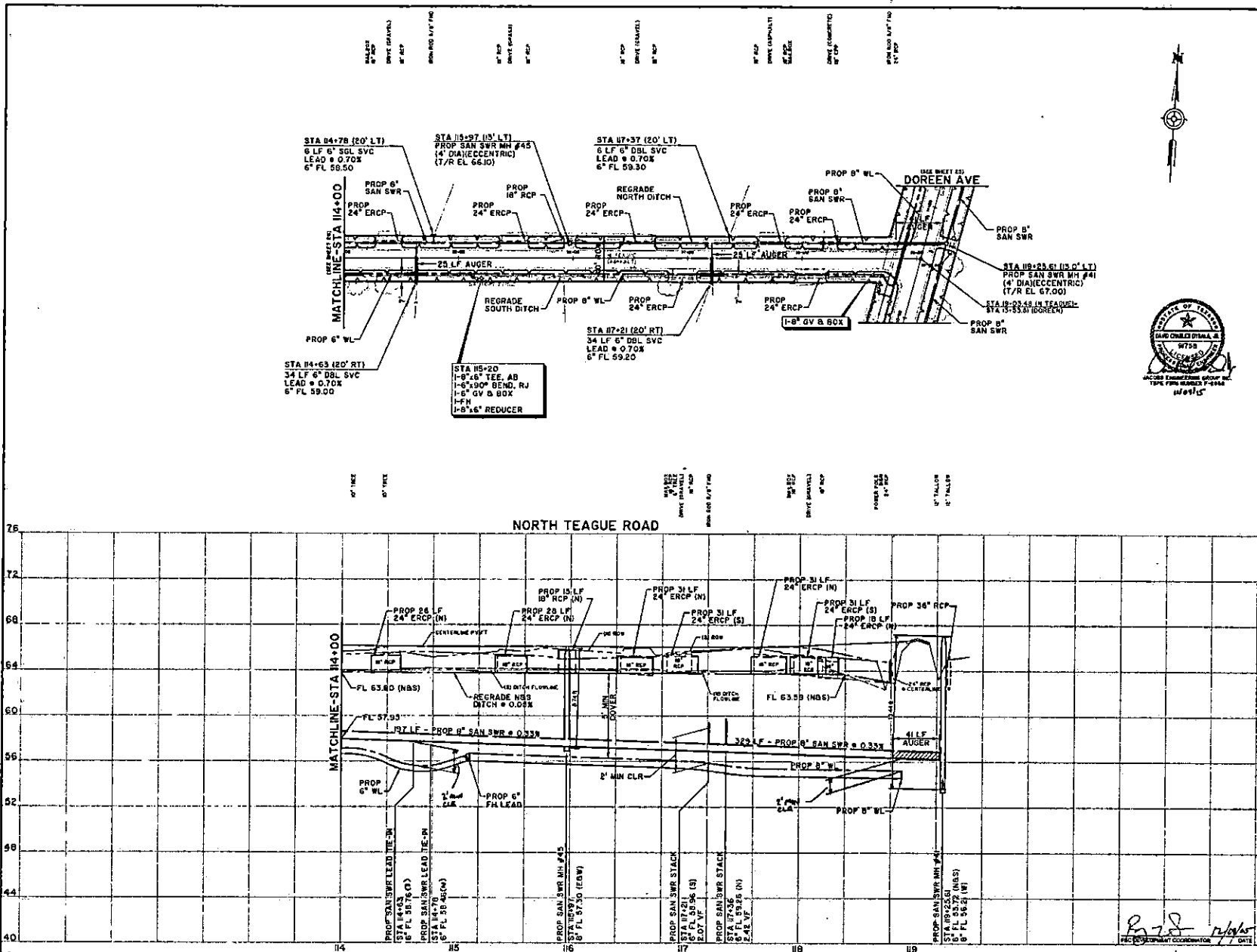
**PEARLAND**

City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 HAZARDOUS ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**NORTH TEAGUE ROAD**  
 STATION 109+00 TO STATION 114+00

Project No: 11152-17510 Scale: SHEET  
 Date: SEPTEMBER, 2015 HORIZ: 1" = 40' 26  
 Drawn By: DWB VERT: 1" = 4'  
 Check By: DCD OF 88



**BENCHMARK:**  
 PROJECT BENCHMARK  
 POINT OF BEGINNING IS SEE  
 ON PLAN TO TOP AND APPROXIMATELY 1/4 FEET  
 EAST OF WEST END OF SOUTH CONCRETE REINFORCEMENT  
 AT JUNCTION OF DALLAS ROAD AND APPROXIMATELY  
 100 FEET SOUTH OF THE CENTERLINE OF STATE ROUTE  
 141.  
 ELEVATION TO FEET GRAVY SEA  
 FEMA MAP INFORMATION:  
 THIS PROJECT LIES IN UNSHADED ZONE 2 AREA.  
 OUTLINE 500-YEAR FLOODPLAIN FOR FEMA 2, 504  
 REVED FEDERAL WATERWAY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PANEL NO. 494702B/D/DAVID M&E

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/SANITARY CROSSING  
 (+)  
 A. ONE FULL SECTION OF WATERLINE CENTERLINE  
 DIVISIONS SHOWN HEREIN.  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN  
 UTILITIES. MAINTAIN OVERHEAD SANITARY SERVICES TWO  
 FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF  
 SANITARY CROSSER OVERS WASTEWATER.  
 C. MINIMUM ONE FULL SECTION OF SANITARY SERVICE, NO  
 PIPE LINED DUCTILE IRON OR PVC PIPE CENTERED AT  
 WATERLINE.  
 3. ALL SANITARY SERVICE AND WASTEWATER STREET CROSSINGS,  
 INCLUDING LEADS, SHALL BE ALIGNED AT LEAST 1/4 FEET EACH SIDE OF  
 EXISTING EDGE OF PAVEMENT UNLESS OTHERWISE NOTED OTHERWISE.  
 4. PIPE INTERCUTS TO BE INSTALLED 2' OFF ROW LINE UNLESS  
 NOTED OTHERWISE.  
 5. WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 5 FEET  
 OUTSIDE OF DITCH FLOWLINE.  
 6. CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT  
 PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH  
 ENGINEER IF ADJUSTMENTS TO LOCATIONS SHOWN ON PLANS  
 ARE NEEDED TO COMPLY AT PROPERTY LINE BASED ON FIELD  
 CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR  
 MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222  
**NOTICE:**  
 For your safety, use the correct safety procedures when working on or near power lines. Do not touch or climb on power lines. Do not touch anything that may be energized. Do not use ladders, tools, or equipment that may contact power lines. Do not work on or near power lines if you are not a trained and qualified worker. Do not work on or near power lines if you are not a trained and qualified worker. Do not work on or near power lines if you are not a trained and qualified worker.

**VERIFICATION OF PRIVATE UTILITY LINES**

Utility	Date
Water	11/16/15
Gas	11/16/15
Electric	11/16/15

**STANDARD PROFILE LEGEND**

Symbol	Description
---	Center Line of Pipe
---	Property Line
---	Ditch or Curb Line
---	Ditch or Curb Line

**JACOBS**  
 8555 ROOSEVELT ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

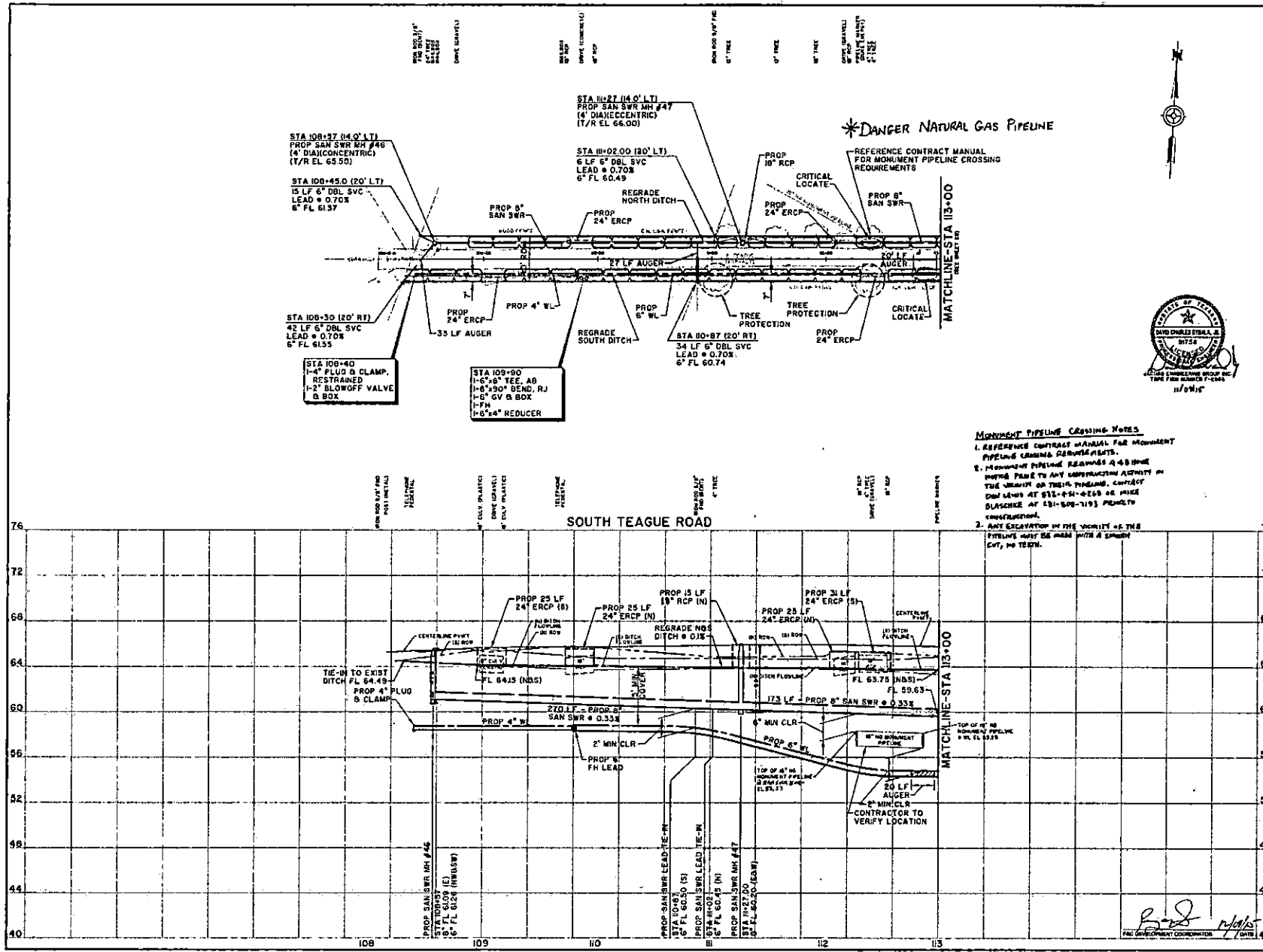
**PEARLAND**  
 City of Pearland, Texas

FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARSHALL ESTATES  
 SUBDIVISION / PORTION OF RIDGEWOOD  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

**NORTH TEAGUE ROAD  
 STATION 114+00 TO DOREEN AVENUE**

Project No: WAC07910  
 Date: SEPTEMBER, 2015  
 Drawn By: DWK  
 Checked By: DCD

Sheet No: 27  
 Date: 11/16/15  
 Vertical: 1" = 4'  
 Horizontal: 1" = 40'



**BENCHMARK:**  
 PROJECT BENCHMARK  
 NOS DESIGNATED M 658  
 NEW FOUND IN TOP AND APPROXIMATELY 1.8 FEET  
 EAST OF WEST END OF SOUTH CONCRETE HEADWALL  
 18' WEST OF 20' WIDE SIDEWALK AND 18' WEST  
 AT JUNCTION OF DALLAS ROAD EAST APPROXIMATELY  
 15 FEET EAST OF THE CENTERLINE OF STATE ROUTE  
 101 AND 12 FEET SOUTH OF THE CENTERLINE OF  
 DALLAS RD.  
 ELEVATION 70.70 FEET (NVD) 881

**FIELD MAP INFORMATION:**  
 THIS PROJECT LIES IN UNIMPAVED ZONE II LANE A  
 OUTSIDE 500'-YEAR FLOODPLAIN PER APRIL 2, 2004  
 REVISED FEDERAL FLOODING MANAGEMENT AGENCY  
 FLOOD DAMAGE RATE MAP FOR FORT BEND COUNTY  
 TEXAS PANEL NO. 49570040A/DVD 081

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/SANITARY SEWER LINE CROSSING
    - A. ONE FULL SECTION OF WATERLINE CENTERED OVER SANITARY SEWER LINE.
    - B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF MULTIPLE OTHER SANITARY SEWER TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SEWER UNDER WATERLINE.
    - C. MINIMUM ONE FULL SECTION OF SANITARY SEWER, OR TWO FULL SECTIONS OVER OR TWO PIPE COUPLERS AT WATERLINE.
  - ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS INCLUDING LEADS SHALL BE INSTALLED AT LEAST 8 FEET SIDE OF EAST SIDE OF PAVEMENT.
  - FIRE HYDRANTS TO BE INSTALLED FROM ROW LINE UNLESS NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 8 FEET CENTER OF OTHER PIPE LINE.
  - CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH SPOUSERS OF ADJACENT PROPERTIES TO LOCATE THEIR OWN LEADS AND REFER TO CENTER OF PROPERTY LINE BASED ON PLUMB CONDITIONS.



**MONUMENT PIPELINE CROSSING NOTES:**

- REFERENCE CONTRACT MANUAL FOR MONUMENT PIPELINE CROSSING REQUIREMENTS.
- IF MONUMENT PIPELINE REQUIRES A 48 INCH MONUMENT TO ANY CONSTRUCTION ACTIVITY IN THE VICINITY OF THESE PIPELINES, CONTACT ONE LEAD AT 912-451-0268 OR PRICE BLASCHKE AT 912-609-1193 PRIOR TO CONSTRUCTION.
- ANY EXCAVATION IN THE VICINITY OF THESE PIPELINES MUST BE MADE WITH A SHARP CUT, NO TRENCH.

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

**NOTICE:**  
 For your safety, you are required by Texas Law to call 911 in case of a sewer backup and you are to be underground line and be marked. The contractor does not have any responsibility for this.

**VERIFICATION OF PRIVATE UTILITY LINES**

*Handwritten signature and date: 10/14/16*

Contractor shall verify the location of all utilities (water, gas, electric, etc.) prior to construction. (This obligation remains that you have shown our Project. Our Project is not to be used for other purposes.) (See notes that are NOT shown.)

*Handwritten signature and date: 10/14/16*

Contractor shall verify the location of all utilities (water, gas, electric, etc.) prior to construction. (This obligation remains that you have shown our Project. Our Project is not to be used for other purposes.) (See notes that are NOT shown.)

Addressed by AT&T Texas 5483 Employment related services ONLY.  
 Signature valid for only one year.

**STANDARD PROFILE LEGEND**

—	CENTER LINE OF PAVT
---	PROPERTY LINE # 1 & 2
---	PROPERTY LINE # 3 & 4
---	OUTLINE OF CURB LINE # 1 & 2
---	DITCH OR CURB LINE # 3 & 4

**JACOBS**

5985 ROCFORD ROAD  
 HOUSTON, TX 77072-3495  
 832.531.7230

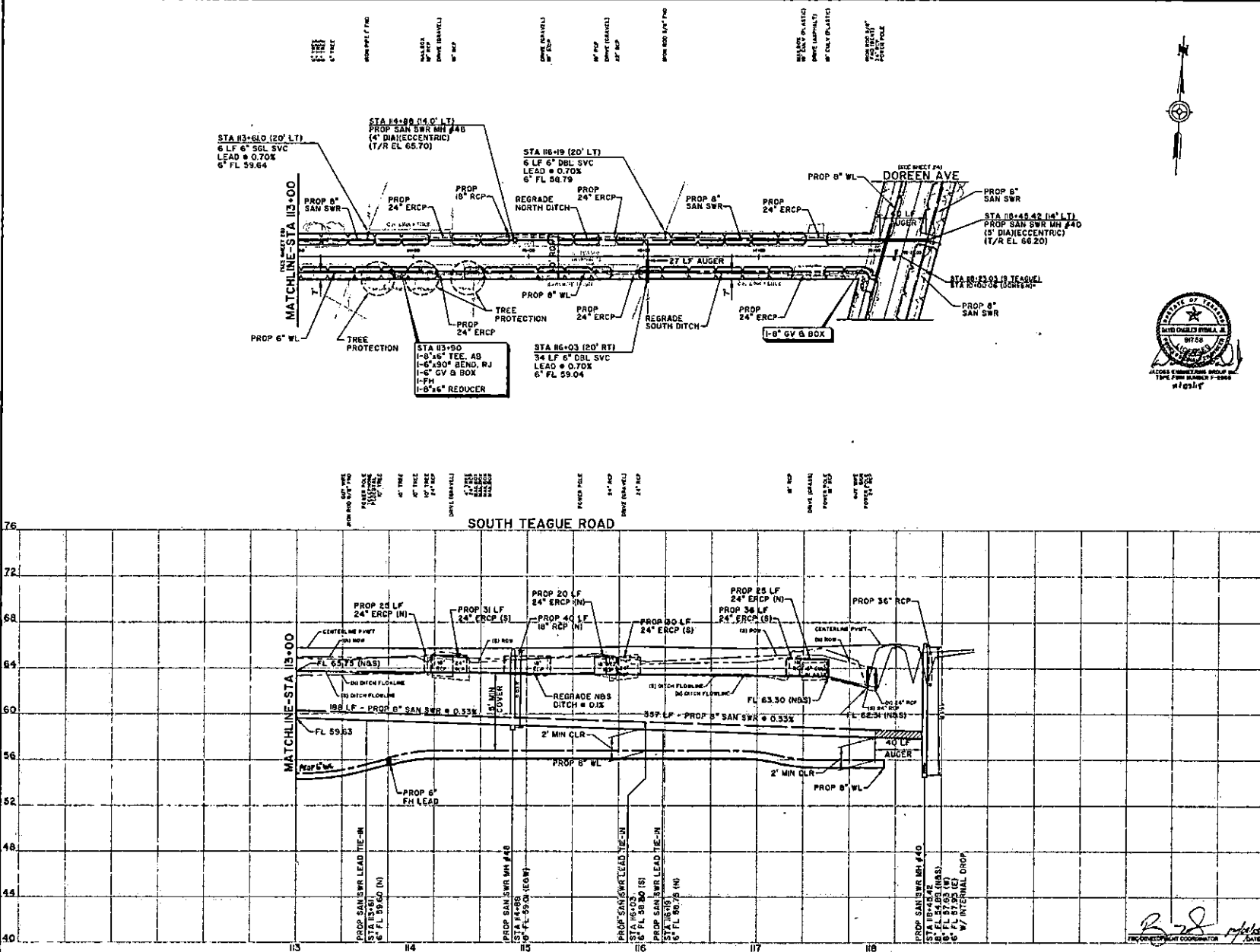
**PEARLAND**

City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**SOUTH TEAGUE ROAD**  
 STATION 108+00 TO STATION 113+00

Project No: WSD17219 Scale: SHEET  
 Date: SEPTEMBER, 2016  
 Drawn By: DWH  
 Check By: DCD  
 Date: 9/28/16  
 Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'  
 28 OF 28



**BENCHMARK:**  
 PROJECT BENCHMARK  
 808 USGRANDS RD # 508  
 EAST OF WEST END OF JONAS CONCRETE HIGHWAY  
 OF AN 18" PIPE COVERED UNDER STATE ROUTE 220,  
 AT INTERSECTION OF DOREEN AVE. APPROXIMATELY  
 100 FEET EAST OF THE CENTERLINE OF STATE ROUTE  
 220 AND 5 FEET SOUTH OF THE CENTERLINE OF  
 STATE ROUTE 220.  
 ELEVATION 103.0 FEET (MVD 88)  
**FEMA MAP INFORMATION:**  
 THIS PROJECT LIES IN UNSHADED ZONE 3 LAND.  
 OUTSIDE 100-YEAR FLOODPLAIN AND FEMA F. 204  
 REVED FEDERAL FLOOD ACT MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY  
 TERTIAL PANEL No. 4807C030L04MVD 88.

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATERLINE/SEWER LINE CROSSING

(+)

- ONE FULL SECTION OF WATERLINE CENTERED OVER EXISTING SANITARY MANHOLE.
- ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IN WATERLINE DUCT SANITARY MANHOLE. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY MANHOLE OVER WATERLINE.
- MINIMUM ONE FULL SECTION OF SANITARY MANHOLE USE 18" DIA DUCTILE IRON OR PVC PIPE CENTERED AT WATERLINE.

- ALL SANITARY MANHOLE AND WATERLINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE AUGERED AT LEAST 8" EACH SIDE OF EXISTING EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
- PIPE HYDRANTS TO BE INSTALLED 8" OFF FROM LINE UNLESS NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 8" PILE OUTSIDE OF LOT OR FLOORPLAN.
- CONTRACTOR SHALL OBTAIN SANITARY BUSINESS LEADS AT PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH PROPER AGENCIES FOR ADJUSTMENTS TO LOCATIONS FROM ON PLANS AND HOOKED TO EXISTING AT PROPERTY LINE BASED ON FIELD CONDITIONS.



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

**NOTICE:**  
 For any work you are required to perform, you shall call PE at least 48 hours before you dig so that appropriate dig can be notified. This notification does not take the place of any other dig notices.

**VERIFICATION OF PRIVATE UTILITY LINES**

Contractor shall verify all utility lines shown on these plans. The Engineer is not responsible for the accuracy of utility lines shown on these plans. The Engineer is not responsible for the accuracy of utility lines shown on these plans. The Engineer is not responsible for the accuracy of utility lines shown on these plans.

**STANDARD PROFILE LEGEND**

Center Line of Pipe	---
Property Line S & N	---
Ditch or Curb Line S & N	---
Ditch or Curb Line E & W	---

**JACOBS**

5695 RIDGEWAY ROAD  
 HOUSTON, TX 77072-3495  
 832.351.2220

**PEARLAND**

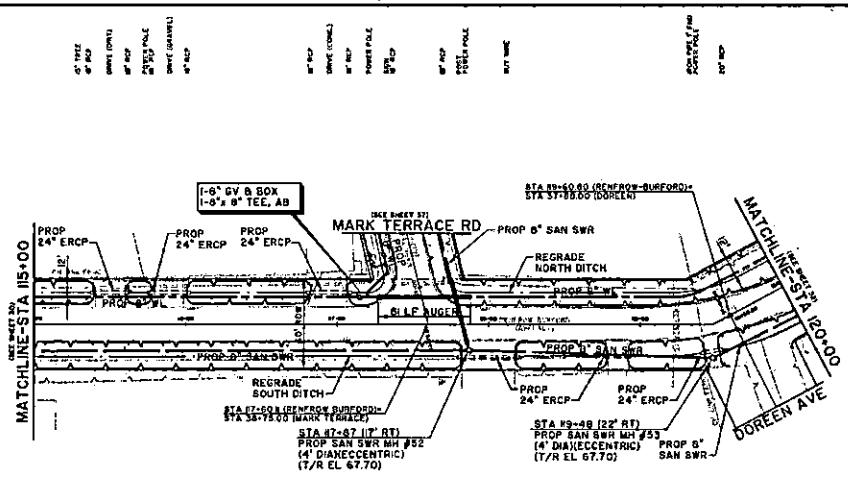
City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 3 MARSH ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**SOUTH TEAGUE ROAD STATION 113+00 TO DOREEN AVENUE**

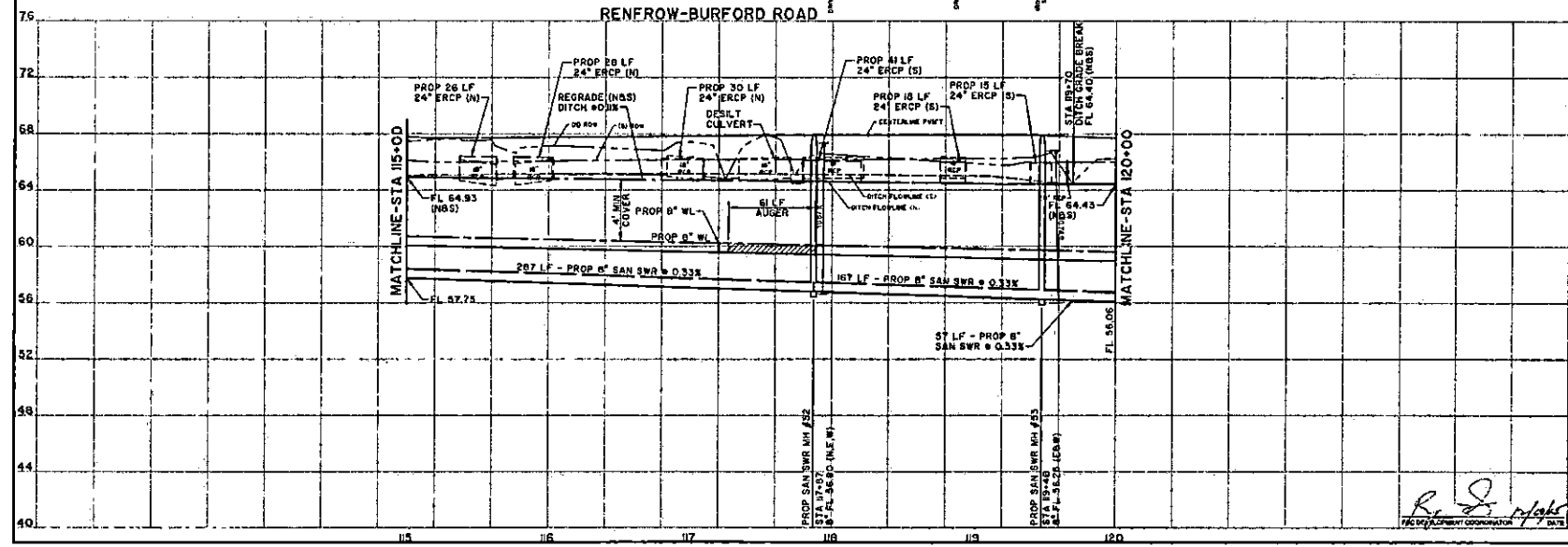
Project No. W0007510	Scale	SHEET
Date: SEPTEMBER 2018	HORIZ: 1" = 40'	29
Drawn By: DWL	VERT: 1" = 4'	OF 30
Check By: DCD		





**BENCHMARK:**  
 PROJECT BENCHMARK:  
 NG8 DISCHARGED IN 688  
 100' TO CENTERLINE OF ROAD APPROXIMATELY 1.5 FEET  
 EAST OF POLE OF 60\"/>

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLAIN SANITARY SEWER LINE CROSSINGS
    - ONE FULL SECTION OF WATERLAIN CENTERED OCCURRENCE SANITARY SEWER.
    - ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER SANITARY SEWER. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SEWER OVER WATERLINE.
    - MINIMUM ONE FULL SECTION OF SANITARY SEWER, USE 18\"/>
  - ALL SANITARY SEWER AND WATERLAIN STREET CROSSINGS, INCLUDING LIDS, SHALL BE ADJUSTED AT LEAST 1\"/>



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

**NOTICE:**  
 For your safety, you are required to turn off or move all lines to be cut or shifted at least 15 business days in advance of the proposed work. The contractor shall be responsible for any lines not turned off or moved in advance of the start of work.

**VERIFICATION OF PRIVATE UTILITY LINES**

DATE: 11/16/15

CONDUCTED BY: [Signature]

CONDUCTED FOR: [Signature]

CONTRACT NO.: [Signature]

PROJECT: [Signature]

PROPERTY: [Signature]

DATE: 11/16/15

CONDUCTED BY: [Signature]

CONDUCTED FOR: [Signature]

CONTRACT NO.: [Signature]

PROJECT: [Signature]

PROPERTY: [Signature]

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVT

PROPERTY LINE 6\"/>

SEWER OR CURB LINE 6\"/>

DITCH OR CURB LINE 6\"/>

SYMBOL	DESCRIPTION	DATE	BY
[Symbol]			
[Symbol]			
[Symbol]			
[Symbol]			

**JACOBS**

5925 RIDGEPOLE ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

City of Pearland, Texas

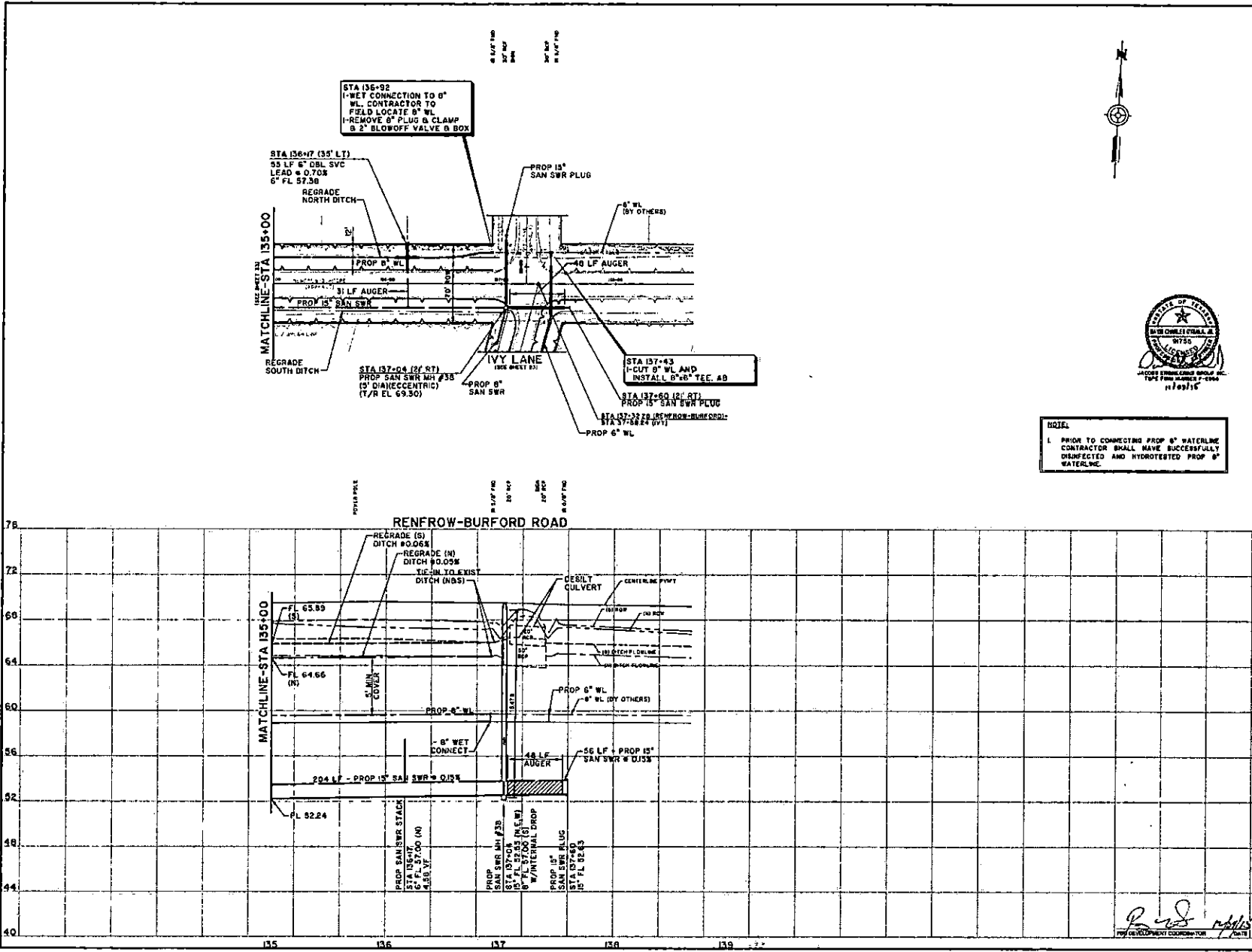
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT AND 18 PARCELS ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

RENROW-BURFORD ROAD  
 STATION 115+00 TO STATION 120+00

Project No: W1400210 Scale: SHEET  
 Date: SEPTEMBER, 2015 HORIZ: 1" = 40' 31  
 Drawn By: DWM VERT: 1" = 4' OF 30  
 Check By: DCD







**BENCHMARK:**  
 PROJECT BENCHMARK: 868 DEDICATED BY 608  
 ONE FOUND IN TOP AND APPROXIMATELY 18 FEET EAST OF WEST END OF SOUTH CONCRETE HEADWALL OF 48\"/>



**NOTE:**  
 1. PRIOR TO CONNECTING PROP 8\"/>

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATER/SEWAGE SANITARY BENEATH CROSSING
    - (+)
    - ONE FULL SECTION OF WATERLINE CENTERED CLEARANCE SANITARY SERVICE.
    - ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF MATCHLINE CROSS SANITARY SERVICE. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SERVICE CROSS MATCHLINE.
    - MINIMUM ONE FULL SECTION OF SANITARY SERVICE, 18\"/>
  - ALL SANITARY SERVICE AND WATERLINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE AVOIDED AT LEAST 5 FEET FROM EXISTING EDGE OF PAVED DRIVEWAY OR SIDEWALK UNLESS OTHERWISE NOTED OTHERWISE.
  - PIPE HYDRANTS TO BE INSTALLED 5 FEET FROM CURB UNLESS OTHERWISE NOTED.
  - WATERLINE VALVES SHALL BE INSTALLED 4 FEET FROM CURB UNLESS OTHERWISE NOTED.
  - CONTRACTOR SHALL LOCATE ALL SANITARY SERVICE LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER TO LOCATE ANY OTHER WORK ON PLANS. WORK SHALL BE COMPLETED AT PROJECTOR'S LINE UNLESS OTHERWISE NOTED.

TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-207-2222  
**NOTICE:**  
 For your safety, you are strongly urged to call 811 at least 48 hours before any dig or test work is to be performed. This Verification form is not valid unless accompanied by 811 call ticket.

**VERIFICATION OF PRIVATE UTILITY LINES**

Contractor/Engineer/Inspector Name: *[Signature]* Date: *11/16/15*  
 City: *[Signature]* Date: *11/16/15*

Contractor/Engineer/Inspector Name: *[Signature]* Date: *11/16/15*  
 City: *[Signature]* Date: *11/16/15*

Approved for CITY: *[Signature]* Date: *11/16/15*  
 Approved for STATE: *[Signature]* Date: *11/16/15*

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVT: \_\_\_\_\_  
 PROPERTY LINE: \_\_\_\_\_  
 DITCH OR CURB LINE: \_\_\_\_\_  
 DITCH OR CURB LINE: \_\_\_\_\_

SYMBOL	DESCRIPTION	DATE	BY	CHK

**JACOBS**  
 5905 ROGERIA ROAD  
 HOUSTON, TX 77072-3485  
 832.351.7230

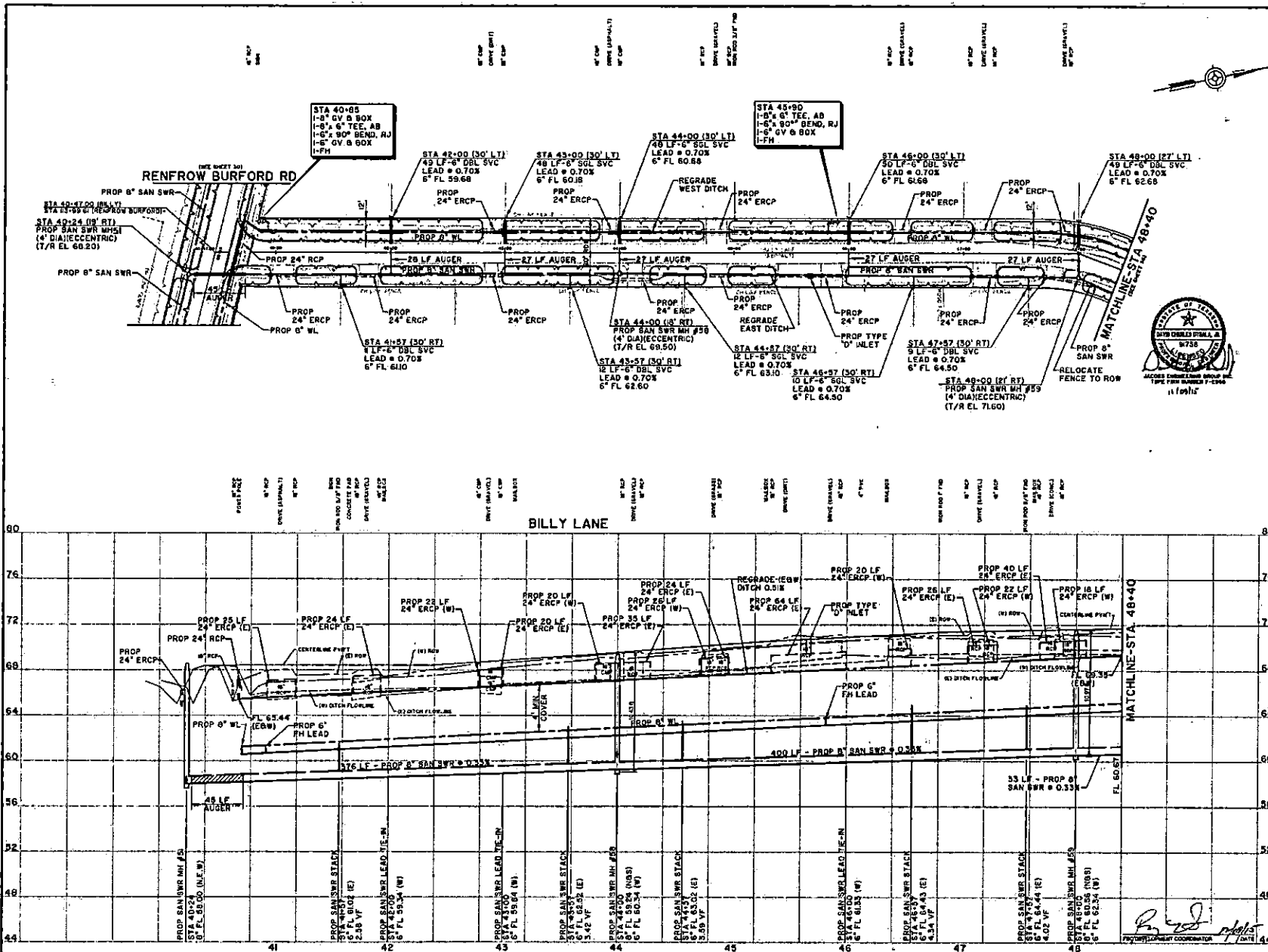
**PEARLAND**  
 City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**RENFROW-BURFORD ROAD STATION 135+00 TO STATION 138+00**

Project No: W00-7910 Date: SEPTEMBER 2015  
 Drawn By: DWH Date: 11/16/15  
 Check By: DCD Date: 11/16/15

Sheet No: 34 of 38



**BENCHMARK:**  
PROJECT BENCHMARKS ARE DESIGNATED AS BBS. ONE FOUND ON TOP AND APPROXIMATELY 100 FEET EAST OF THE SOUTH SIDE OF SOUTH CONCRETE ROAD. THE SURVEY POINT IS LOCATED AT THE INTERSECTION OF SMALLER ROAD (ALL APPROXIMATELY 200 FEET SOUTH OF THE CENTERLINE OF SMALLER ROAD). ELEVATION TO 100 FEET (BAND 80) FEMA MAP INFORMATION: THIS PROJECT LIES IN UNDEVELOPED ZONE II AREA. OUTSIDE 100-YEAR FLOODPLAIN PER APRIL 1, 2004 FEMA FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY TEXAS PANEL NO. 48070200000000.

**NOTES:**  
1. CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.  
2. WATER/SEWER/UTILITY RELOCATION CROSSINGS:  
(+) A. ONE FULL SECTION OF WATER/SEWER/UTILITY CROSSING SHALL BE INSTALLED AT EACH CROSSING. B. ONE FOOT MINIMUM CLEARANCE BETWEEN WATER/SEWER/UTILITY CROSSINGS SHALL BE MAINTAINED. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATER/SEWER/UTILITY CROSSINGS ARE INSTALLED AT THE SAME LOCATION. C. MINIMUM ONE FULL SECTION OF SANITARY SERVICE, 100 PSI LISTED DUCTILE IRON OR PVC PIPE CENTERED AT WATER/SEWER/UTILITY CROSSING.  
3. ALL SANITARY SERVICE AND WATER/SEWER/UTILITY CROSSINGS INCLUDING LEADS SHALL BE INSTALLED AT LEAST 18 INCHES OF EXISTING COVER OF FINISHED SURFACE. THE PROTECTIVE COVER SHALL BE INSTALLED 2 FEET FROM THE LINE, UNLESS NOTED OTHERWISE.  
4. WATER/SEWER/UTILITY CROSSINGS SHALL BE INSTALLED AT MINIMUM 1 FOOT OUTSIDE OF UTILITY CROSSING.  
5. CONTRACTOR SHALL LOCATE SANITARY SERVICE LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ENGINEER IF SANITARY SERVICE LOCATIONS CHANGE OR LEADS ARE REQUIRED TO BE DEEPER AT PROPERTY LINE BASED ON FIELD CONDITIONS.

TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT EMERGENCY AT 713-261-2222.  
**NOTICE:**  
FOR YOUR PROTECTION, YOU ARE ADVISED THAT THESE LINES ARE NOT FULLY TESTED OR INSURED. YOU MAY BE RESPONSIBLE FOR ANY DAMAGE TO THESE LINES OR TO OTHER LINES THAT MAY BE AFFECTED BY THESE LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. (This includes, but is not limited to, gas, electric, water, sewer, and other utilities.) (See Section 105.01 for more information.) (Changes made by the engineer.)

**VERIFICATION OF PRIVATE UTILITY LINES**  
Contractor shall verify the location and depth of all private utility lines. (This includes, but is not limited to, gas, electric, water, sewer, and other utilities.) (See Section 105.01 for more information.) (Changes made by the engineer.)

**STANDARD PROFILE LEGEND**

—	CENTER LINE OF PAVEMENT
- - -	PROPERTY LINE 6" S
- - -	PROPERTY LINE 6" N
- - -	DITCH OR CURB LINE 6" S
- - -	DITCH OR CURB LINE 6" N

**JACOBS**  
5905 RICECREAK ROAD  
HOUSTON, TX 77072-3495  
632.351.7230

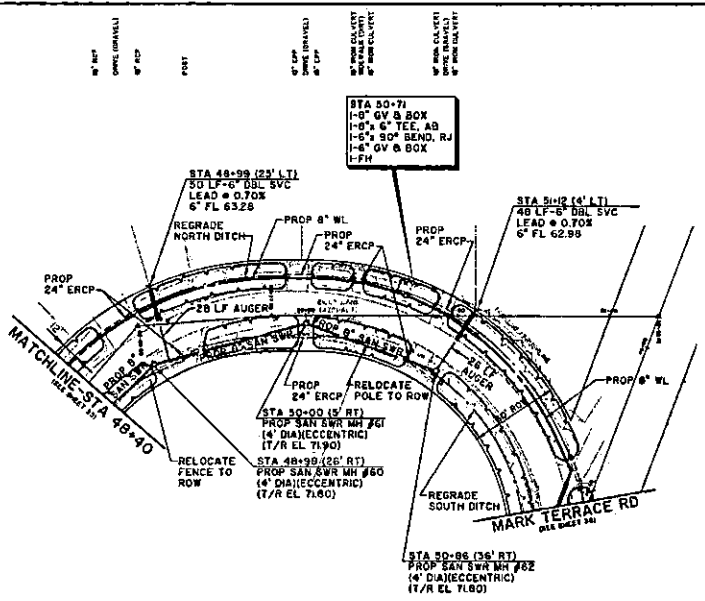
**PEARLAND**  
City of Pearland, Texas

FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM


**BILLY LANE RENFROW-BURFORD ROAD TO STATION 48+40**

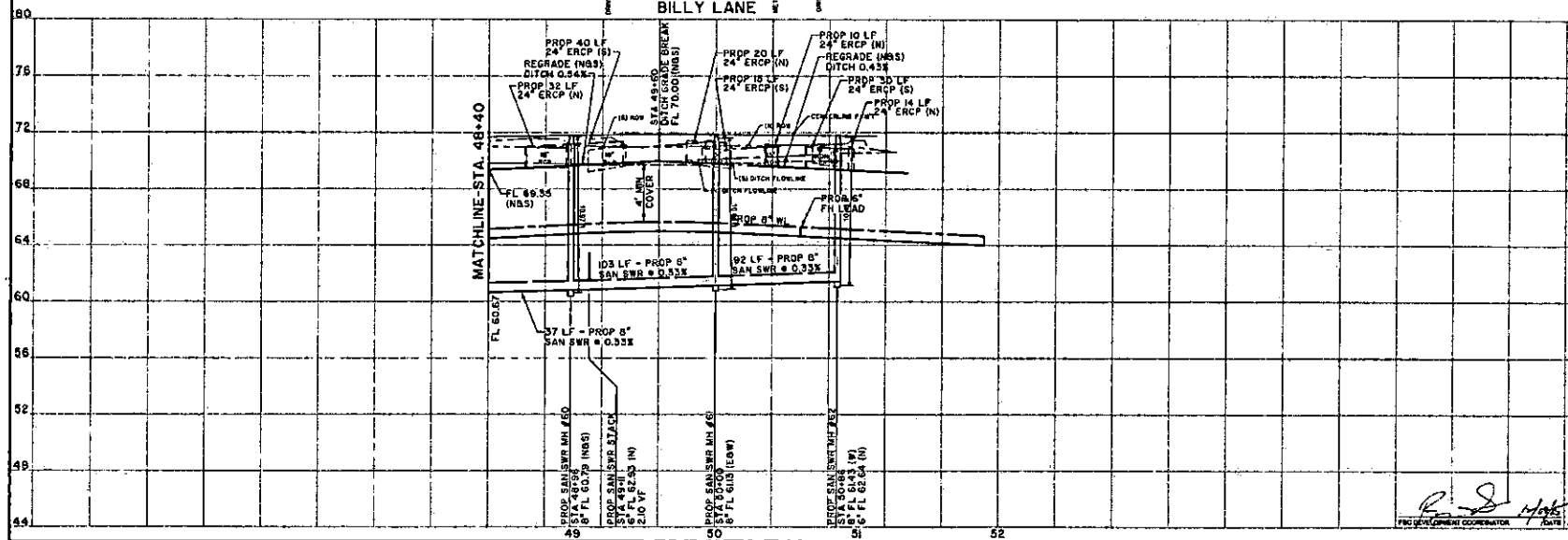
Project No: W1907210  
Date: SEPTEMBER 2018  
Scale: 1" = 40'  
Drawn By: [Signature]  
Checked By: [Signature]

SHEET 35 OF 68



**BENCHMARK:**  
 PROJECT BENCHMARK  
 HGS DESIGNATED AS 898  
 ONE FOOT TO THE TOP AND APPROXIMATELY 1/4 FEET  
 EAST OF THE CORNER OF SOUTH CONCRETE WILCOX AVE  
 AT THE INTERSECTION OF SOUTH CONCRETE WILCOX AVE  
 AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY  
 20 FEET EAST OF THE CORNER OF 811 E. SOUTH  
 EAST END OF PILE SOUTH OF THE CENTERLINE OF  
 DALLAS RD.  
 ELEVATION 78.10 FEET (NAVD 83)  
**FEMA MAP INFORMATION:**  
 THIS PROJECT LIES WITHIN ZONE X (AREA  
 OUTSIDE 100-YEAR FLOODPLAIN PER FEMA, 1.50%  
 BEYOND FEDERAL SUBJECT MANAGEMENT AGENCY  
 FLOOD RESURANCE RATE MAP OF FORT BEND COUNTY,  
 TEXAS PANEL NO. 48470004000000000000

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/UTILITY SERVICE LINE CROSSING:  

    - ONE FULL SECTION OF WATERLINE CENTERED OVER EXISTING UTILITY SERVICE.
    - ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER EXISTING UTILITY. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY OVER EXISTING WATERLINE.
    - MINIMUM ONE FULL SECTION OF SANITARY SEWER, USE THE LINED DUCTILE IRON OR PVC PIPE CONTAINED AT WATERLINE.
  - ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE INSTALLED AT LEAST 1' MINIMUM 1' FEET OUTSIDE OF SIDE WALKWAY.
  - PIPE HYDRANTS TO BE INSTALLED 2' OFF ROW LINE, UNLESS NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED 4' MINIMUM 1' FEET OUTSIDE OF SIDE WALKWAY.
  - CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER TO LOCATE SERVICE LEADS BETWEEN CURB AND PROPERTY LINES. SERVICE LEADS SHALL BE INSTALLED ON FIELD CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 1-817-207-2222

**NOTICE:**  
 For your safety, you are alerted by this notice that you are not to be used for any purpose other than that for which it was designed. The Verification does not include any other utility lines.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 Date: 11/16/15  
 Checked by: [Signature] Date: 11/16/15  
 (This Signature reflects the date of the survey. It does not reflect the date of the construction.)  
 Checked by: [Signature] Date: 11/16/15  
 (This Signature reflects the date of the survey. It does not reflect the date of the construction.)

**STANDARD PROFILE LEGEND**

DESCRIPTION	DATE	CHKD	DATE
PROPERTY LINE N & S			
PROPERTY LINE E & W			
STICH OR CURB LINE N & S			
STICH OR CURB LINE E & W			

**JACOBS**  
 5965 ROGERDALE ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

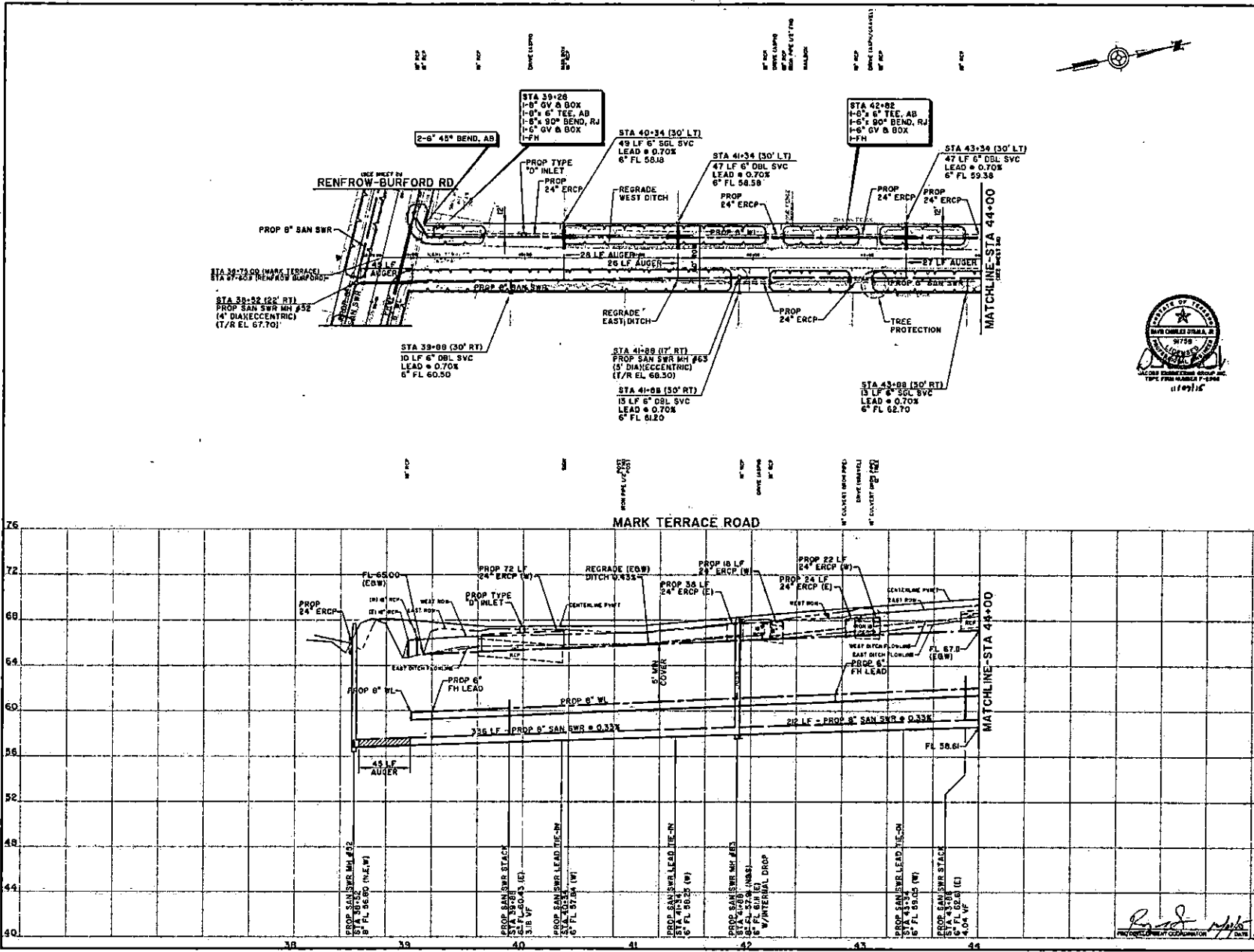
**City of Pearland, Texas**  
 FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSH ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**BILLY LANE STATION 48+40 TO MARK TERRACE ROAD**

Project No: W0007910  
 Date: SEPTEMBER, 2015  
 Drawn By: DWS  
 Check By: DCC

Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'

SHEET 36 OF 59



**BENCHMARK:**  
 POINT DESIGNATED  
 NOS DESIGNATED B 668  
 WAS FOUND IN THE AND APPROXIMATELY 10 FEET  
 EAST OF WEST END OF SOUTH CURBLINE (NAD 83)  
 AT JUNCTION OF FULL CROSS LANE. APPROXIMATE  
 ELEVATION 16.75 FEET (DAVID 44)  
**FEMA MAP INFORMATION:**  
 THIS PROJECT IS IN UNDEVELOPED ZONE 3 (AREA  
 OUTSIDE 100-YEAR FLOODPLAIN) PER FEMA. E. CON-  
 84 FEDERAL FLOOD INSURANCE RATE MAP SHEET  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY  
 TEXAS PANEL NO. 49020C/D/M/P/O 041

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/UTILITY SERVICE LINE CROSSINGS  
 (+)  
 A. ONE FULL SECTION OF WATERLINE CENTERED  
 OVER EACH SANITARY SEWER.  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN  
 UTILITIES IF PARALLEL OVER SANITARY SEWER. TWO  
 FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF  
 SANITARY SEWER OVERSITTING WATERLINE.  
 C. MINIMUM ONE FULL SECTION OF SANITARY SEWER, 150  
 PSI LINED CULVERT HIGH OR PVC PIPE CENTERED AT  
 WATERLINE.  
 D. ALL SANITARY SEWERS AND WATERLINE STREET CROSSINGS,  
 INCLUDING LEADS, SHALL BE ARMORED AT LEAST 8" EACH SIDE OF  
 EXISTING LANE OF TRAVEL.  
 E. FIRE HYDRANTS TO BE INSTALLED 7' FROM LANE, UNLESS  
 NOTED OTHERWISE.  
 F. WATERLINE VALVES SHALL BE INSTALLED MINIMUM 8" FEET  
 OUTSIDE OF DITCH FLOWLINE.  
 G. CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT  
 PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH  
 OWNER IF ADJUSTMENTS TO LOCATIONS SHOWN ON PLANS  
 ARE REQUIRED TO ACQUIRE AT PROPERTY LINE BASED ON PLUMB  
 CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR  
 MOVED, CALL CENTERPOINT ENERGY AT 713-251-2222  
**NOTICE:**  
 For your safety, you are requested to remain clear of all exposed live lines  
 unless you are an authorized employee of the utility company. The violation of  
 this rule may result in injury or death.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 Date: 11/16/16  
 Checked by: [Signature]  
 Company: [Signature]  
 This document certifies that the location of all utility lines shown on this plan were  
 verified by the undersigned professional engineer. (This certifies that the location of  
 utility lines were verified by the undersigned professional engineer.)  
 Date: 11/16/16  
 Checked by: [Signature]  
 Company: [Signature]  
 This document certifies that the location of all utility lines shown on this plan were  
 verified by the undersigned professional engineer. (This certifies that the location of  
 utility lines were verified by the undersigned professional engineer.)  
 Date: 11/16/16  
 Checked by: [Signature]  
 Company: [Signature]

**STANDARD PROFILE LEGEND**

CENTER LINE OF PRIVATE PROPERTY LINE 0 0 0  
 PROPERTY LINE 0 0 0  
 DITCH OR CURB LINE 0 0 0  
 DITCH OR CURB LINE 0 0 0

SYMBOL	DESCRIPTION	DATE	OWN	DNW
FL 65.00 (EQW)	EXISTING WEST SIDE DITCH			
FL 67.0 (EQW)	EXISTING EAST SIDE DITCH			
FL 68.0	EXISTING FINISH FLOOR			
FL 58.61	EXISTING FINISH FLOOR			

**JACOBS**  
 5005 ROSSBORO ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7230

**PEARLAND**  
 City of Pearland, Texas

FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARSHALL ESTATES  
 SUBDIVISION / PORTION OF RIDGECREEK  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

**MARK TERRACE ROAD  
 RENFROW-BURFORD ROAD TO  
 STATION 44+00**

Project No: W900-0218 Scale: SHEET  
 Date: SEPTEMBER, 2015 No. 1 OF 47  
 Drawn By: DWM HORIZ: 1" = 40'  
 Check By: DCG VERT: 1" = 4'  
 37  
 OF 48

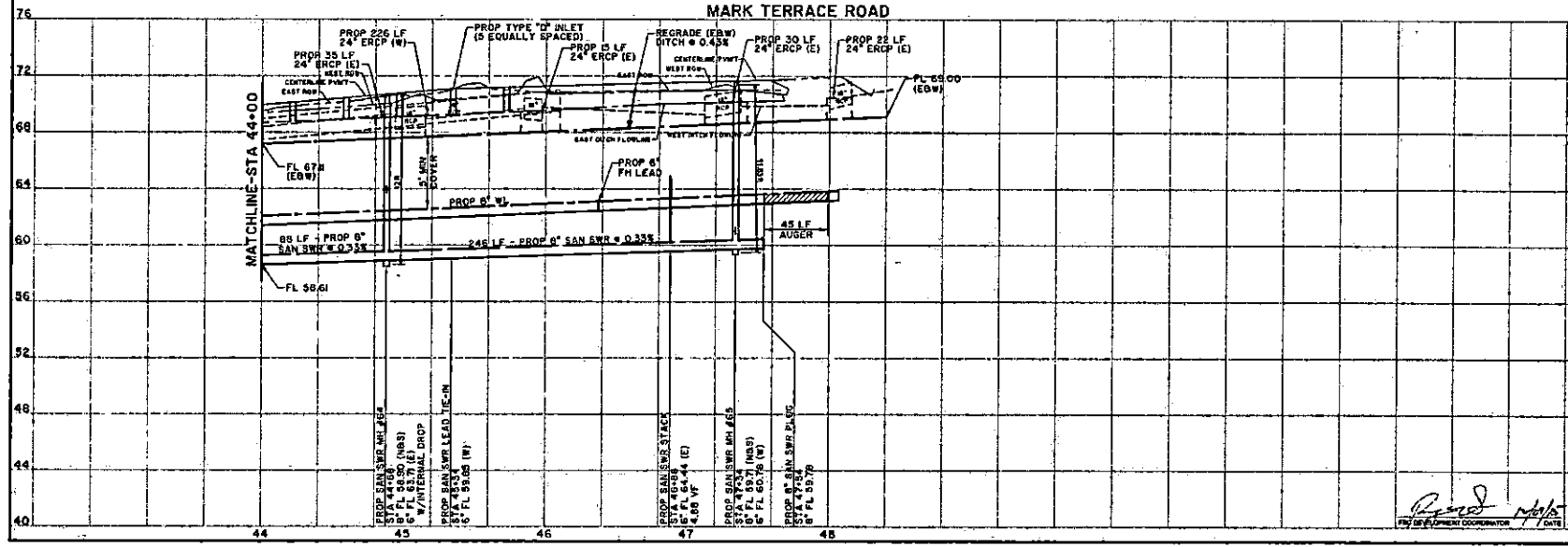
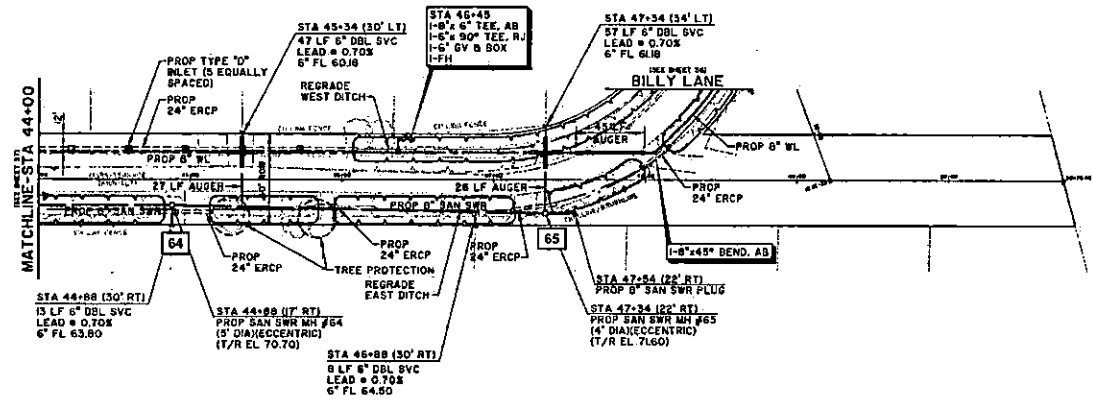
**BENCHMARK:**

PROJECT BENCHMARK  
MOR DEGRADED IN #88  
ONE FOOT TO THE TOP AND APPROXIMATELY 1/4 IN. FEET  
1/4 IN. OF WEST CORNER POINT CENTERLINE. APPROXIMATELY  
AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY  
20 FEET SOUTH OF THE CENTERLINE OF DALLAS RD.  
ELEVATION TO TO FEET (MVD 88)  
FEMA MAP INFORMATION  
THE PROJECT LIES IN UNHAZARDOUS ZONE II AREA  
INTERIOR 500-YEAR FLOODPLAIN AND PER APRIL 1, 2004  
REVISION FEDERAL EMERGENCY MANAGEMENT AGENCY  
FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
TEXAS (FIRM NO. 48042C1000000000)



**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATERLINE/UTILITY REVERSE LINE CROSSINGS
  - (+)
  - A. ONE FULL SECTION OF WATERLINE CENTERED OVERHEAD SANITARY SERVICE.
  - B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER SANITARY SERVICE. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SERVICE OVER WATERLINE.
  - C. MINIMUM ONE FULL SECTION OF SANITARY SERVICE, 1/4 IN. LINE DUCTILE IRON OR PVC PIPE CENTERED AT WATERLINE.
- ALL SANITARY SERVICE AND WATERLINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE INSTALLED AT LEAST 8 FEET FROM THE EXISTING EDGE OF PAVEMENT.
- PIPE HYDRANTS TO BE INSTALLED 6 FT FROM LINE UNLESS NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 3 FEET OUTSIDE OF STORM PAVEMENT.
- CONTRACTOR SHALL LOCATE SANITARY SERVICE LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ENGINEER IF ADJUSTMENTS TO LOCATIONS SHOWN ON PLANS ARE NEEDED TO COMPLY AT PROPERTY LINE BASED ON FIELD CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT 713-201-2322

**NOTICE:**  
For your safety, you are warned to Turn Off and Tag (TOTT) at least 48 hours before we dig for this project. We will be notified. This notification is not valid until you call us at 713-201-2322.

**VERIFICATION OF PRIVATE UTILITY LINES**  
Date: 11/10/15  
Contractor: [Signature]  
City of Pearland: [Signature]

**STANDARD PROFILE LEGEND**

SYMBOL	DESCRIPTION	DATE	BY	CHK
---	CENTER LINE OF PAVEMENT			
---	PROPERTY LINE 6\"/>			

**JACOBS**  
5905 ROGERDALE ROAD  
HOUSTON, TX 77072-3405  
832.331.7230

**City of Pearland, Texas**

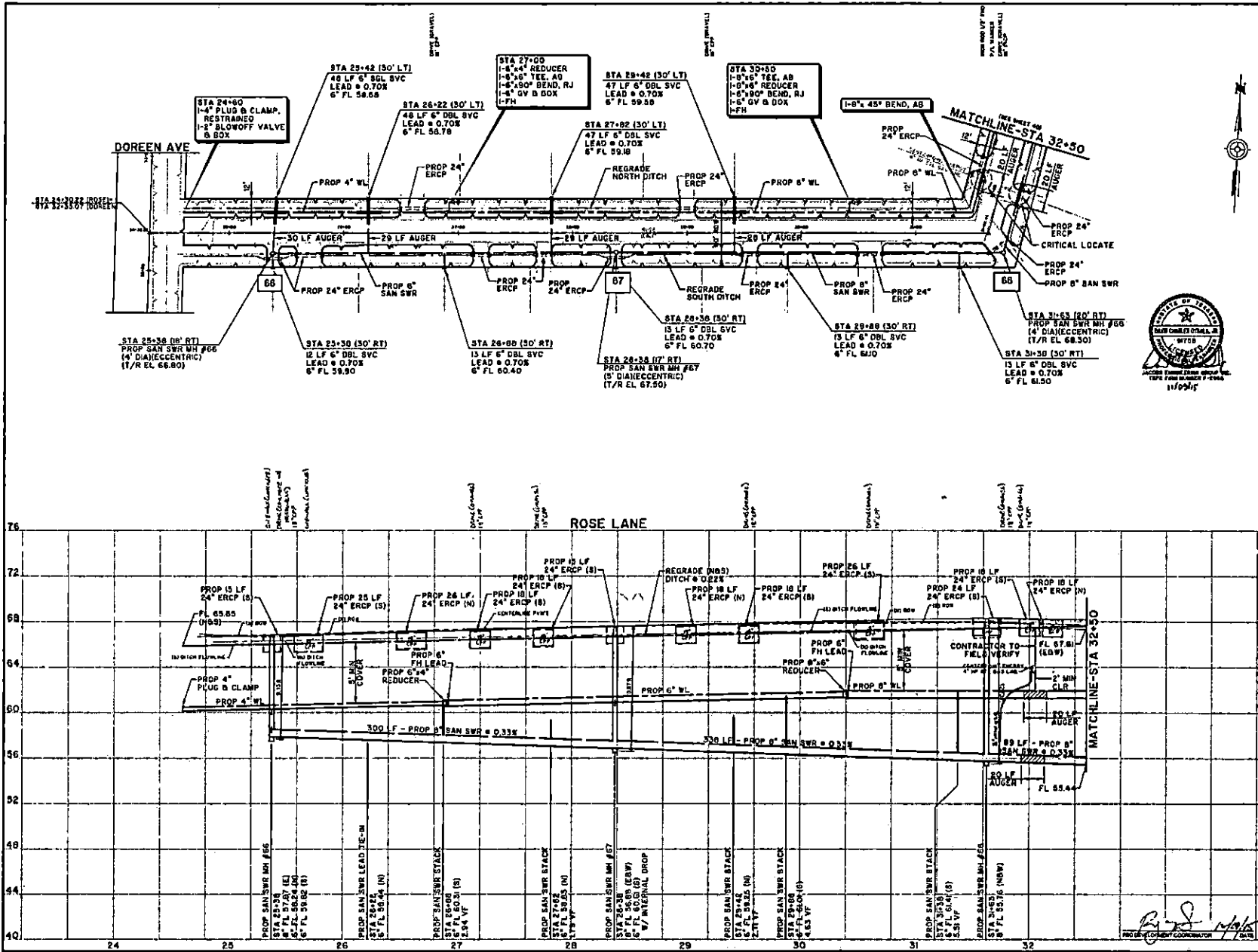
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARBELL ESTATES SUBDIVISION / NORTH AND SOUTHWEST CORNER OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**MARK TERRACE ROAD STATION 44+00 TO BILLY LANE**

Project No: M0017510  
Date: SEPTEMBER 2013  
Drawn By: DWH  
Checked By: DCD

Scale: HORIZ: 1" = 40'  
VERT: 1" = 4'

Sheet No: 38 of 38



**BENCHMARK:**  
 PROJECT BENCHMARK  
 MB 8 DESIGNATED IN 848  
 200 FEET FROM THE CORNER OF PROPOSEDLY 1/2 WEST  
 EAST OF WEST END OF SOUTH CONCRETE IMPROVED  
 AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY  
 33 FEET EAST OF THE CENTERLINE OF DALLAS ROAD  
 ELEVATION 1878.78 FEET (MVD 88)  
 FEMA MAP INFORMATION:  
 THE PROJECT LIES IN UNSHADOWED ZONE 2 (AREA  
 OUTSIDE 100-YEAR FLOODPLAIN) PER FIG. 1, FROM  
 THE 1987 FLOOD INSURANCE RATE ACT. THE  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PANEL NO. 480752000A100 001.

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/UTILITY REPAIRS/REPLACEMENTS  
 (+)  
 A. ONE FULL SECTION OF WATERLINE CENTERED  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN  
 C. MINIMUM ONE FULL SECTION OF SANITARY BETWEEN 100  
 FEET MINIMUM CLEARANCE BETWEEN UTILITIES IF  
 SANITARY BEHIND OTHER UTILITIES.
  - ALL SANITARY BEHIND AND WATERLINE STREET CROSSINGS,  
 REGRADE NORTH DITCH, SHALL BE ALIGNED AT LEAST 8 FEET EACH SIDE OF  
 CENTERLINE OF PAVEMENT.
  - FIVE HYDRANTS TO BE INSTALLED 2' OFF FROM LINE, UNLESS  
 NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 2 FEET  
 OUTSIDE OF DITCH FLOORS.
  - CONTRACTOR SHALL CENTER SANITARY BRANCHES LEAVE AT  
 PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH  
 ENGINEER IF ADJUSTMENTS TO LOCATIONS SHOWN ON PLANS  
 ARE REQUIRED TO AVOID ALL INTERFERENCE BASED ON FIELD  
 CONDITIONS.



TO ARRANGE FOR LINES TO BE TURNED OFF OR  
 MOVED, CALL CENTERPOINT ENERGY AT 713-257-2222

**NOTICE:**  
 For your safety, you are urged to Turn Off Gas at all times if you smell gas. Do not use any open flame or electrical equipment until you have been advised by the gas company. The gas company will be notified by the utility company. Do not use any open flame or electrical equipment until you have been advised by the gas company. Do not use any open flame or electrical equipment until you have been advised by the gas company.

VERIFICATION OF PRIVATE UTILITY LINES  
 Date: 11/14/15  
 Checked by: [Signature]  
 Date: 11/16/15  
 Checked by: [Signature]

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVEMENT  
 PROPERTY LINE (E & W)  
 PROPERTY LINE (S & N)  
 DITCH OR CUB LINE (E & W)  
 DITCH OR CUB LINE (S & N)

**JACOBS**  
 5915 ROCKDALE ROAD  
 HOUSTON, TX 77072-3405  
 832.331.7230

**PEARLAND**  
 City of Pearland, Texas

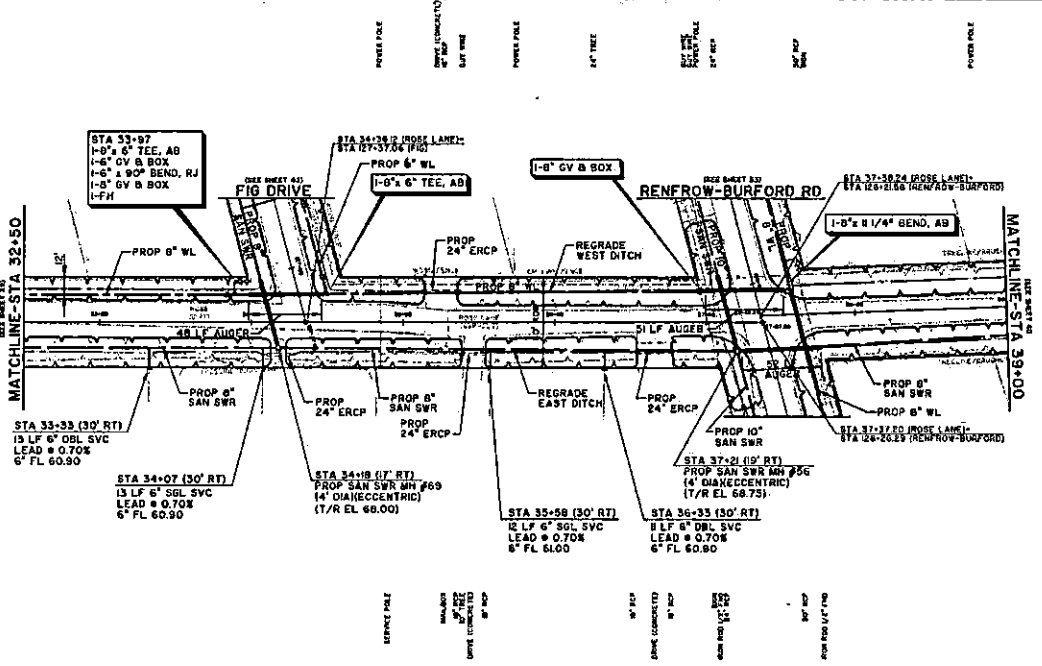
FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARBELL ESTATES  
 SUBDIVISION / PORTION OF RUDENWOOD  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

**ROSE LANE  
 DOREEN AVENUE TO STATION 32+50**

Project No: W0007810 Date: SEPTEMBER 2015  
 Drawn By: DMS  
 Checked By: DCD

Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'

SHEET 39 OF 58

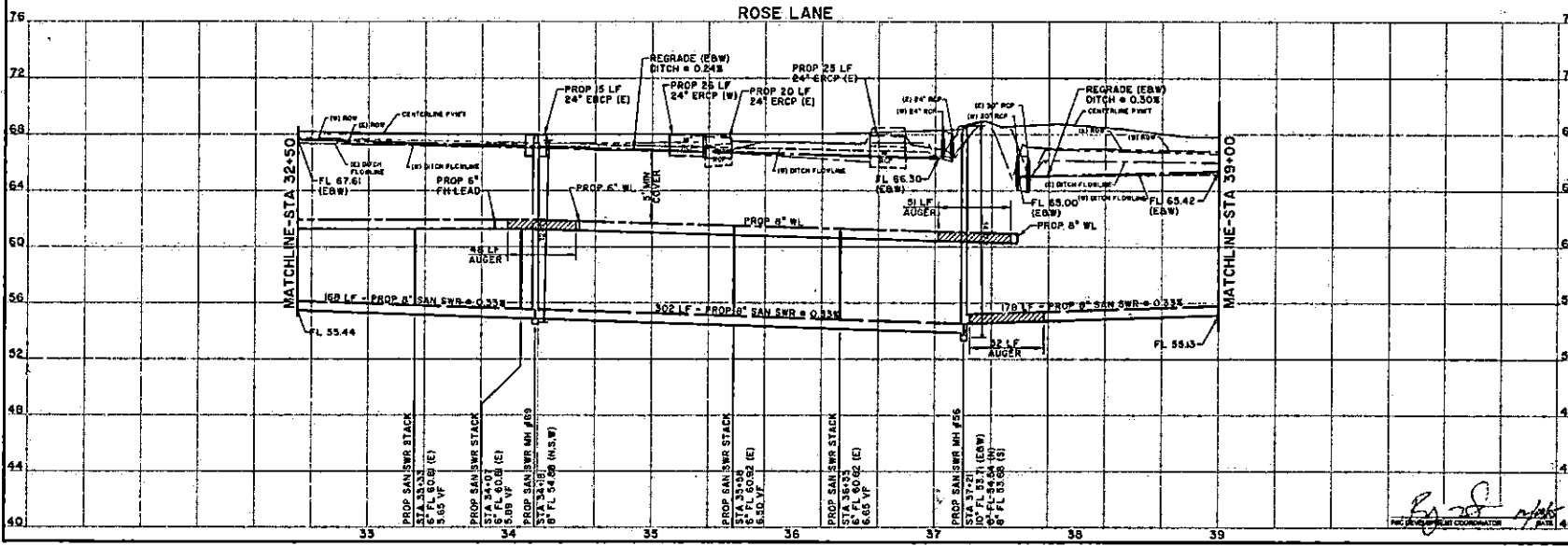


**BENCHMARK:**  
PROJECT BENCHMARK  
N318 DECOMATED IN 848  
BENCH MARK IS TOP AND APPROXIMATELY 100 FEET  
SOUTH OF WEST END OF SOUTH CONCRETE HEADWALL  
AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY  
100 FEET EAST OF THE CENTERLINE OF DALLAS  
ROAD AND 15 FEET SOUTH OF THE CENTERLINE OF  
DALLAS RD.  
ELEVATION TO 100 FEET (DAVE 88)  
FEMA MAP INFORMATION:  
THE PROJECT AREA IS UNSHADED TIME 2 ZONE  
OUTSIDE 100-YEAR FLOODPLAIN PER APRIL 2, 2004  
REVISION FEDERAL EMERGENCY MANAGEMENT AGENCY  
FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
TEXAS PANEL NO. 480702010A-D 881.

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATERLINE SHANTARY GUY WIRE CROSSING  
(+)  
A. ONE FULL SECTION OF WATERLINE CENTERED  
OVER SHANTARY SANITARY SERVICE.  
B. ONE FOOT MINIMUM CLEARANCE BETWEEN  
WATERLINE AND SHANTARY SERVICE. TWO  
FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF  
SHANTARY SERVICE OVER WATERLINE.  
C. MINIMUM ONE FULL SECTION OF SANITARY SERVICE, TWO  
FOOT MINIMUM CLEARANCE FROM PVC PIPES CENTERED AT  
WATERLINE.
- ALL SHANTARY SERVICE AND WATERLINE STREET CROSSINGS,  
INCLUDING LEADS, SHALL BE INSTALLED AT LEAST 8 FEET EACH SIDE OF  
SIDE THE EDGE OF PAVEMENT.
- PIPE HYDRANTS TO BE INSTALLED 5 FEET FROM LINE, UNLESS  
NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 8 FEET  
OUTSIDE OF DITCH FLOORLINE.
- CONTRACTOR SHALL OBTAIN SHANTARY SERVICE LEADS AT  
PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH  
SOURCES OF ADJACENT UTILITIES TO LOCATIONS SHOWN ON PLANS  
AND NEED TO CLARIFY AT PROPERTY LINE BASED ON FIELD  
CONDITIONS.

**STATE OF TEXAS**  
**SEAL OF THE ENGINEER**  
**NO. 123456789**  
**1978**  
**JACOB ENGINEERING GROUP, INC.**  
**7201 FRIEDLAND FRY ROAD**  
**HOUSTON, TEXAS 77055**  
**www.jacobeng.com**



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

**NOTICE:**  
The user agrees, this is required to be used as is and not to be used for any other purpose. The user agrees to hold the provider harmless for any and all damages, including consequential damages, arising out of or from the use of this software, whether or not such damages were foreseeable. The user agrees to indemnify and hold the provider harmless for any and all damages, including consequential damages, arising out of or from the use of this software, whether or not such damages were foreseeable.

**VERIFICATION OF PRIVATE UTILITY LINES**

Contractor shall verify the location and depth of all private utility lines shown on the plan and report the results to the engineer. The contractor shall be responsible for any and all damages, including consequential damages, arising out of or from the use of this software, whether or not such damages were foreseeable.

**STANDARD PROFILE LEGEND**

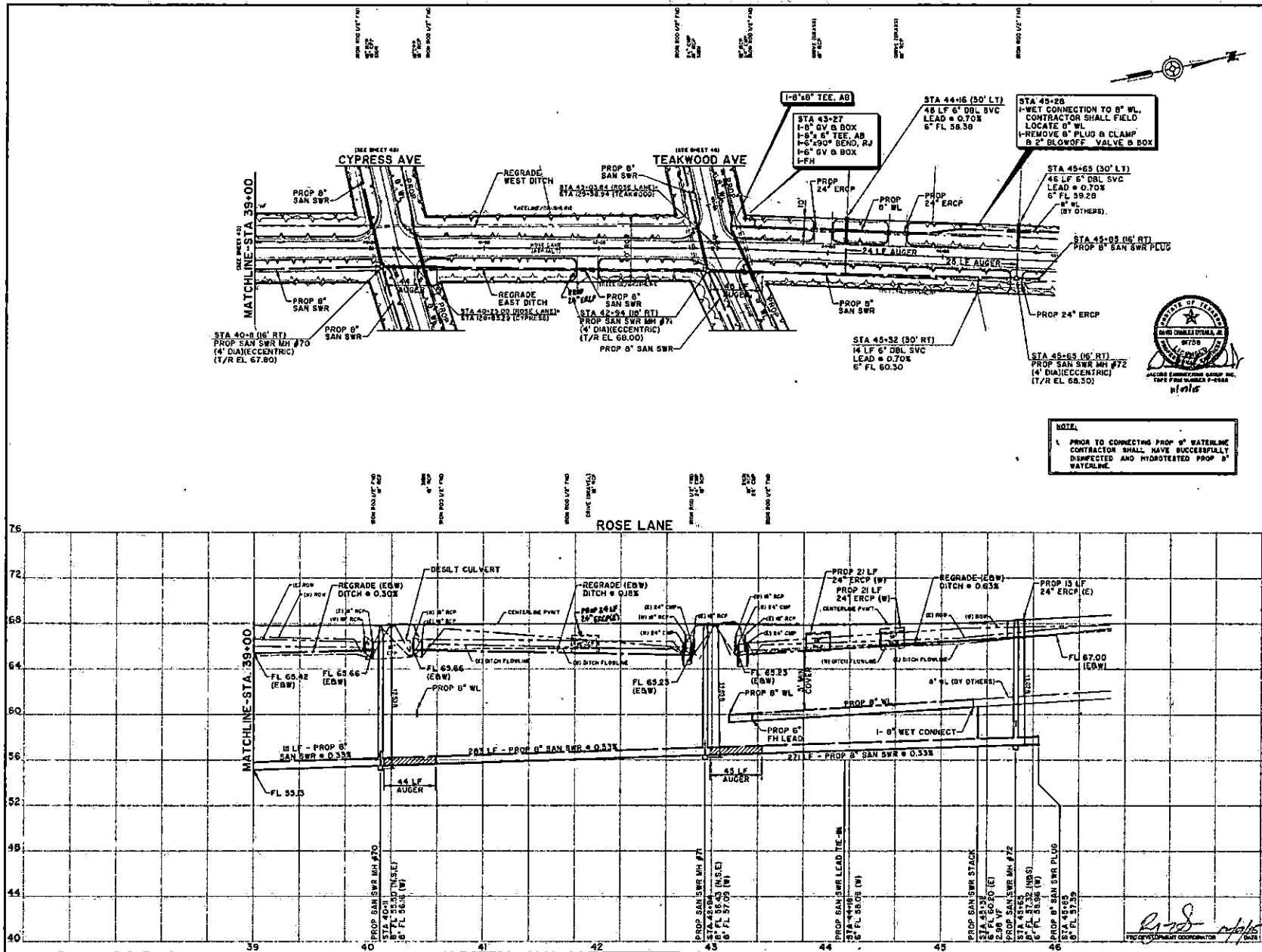
SYMBOL	DESCRIPTION	DATE	DRAWN	CHECKED
(Symbol)	Center Line of Pipe			
(Symbol)	Property Line			
(Symbol)	Ditch or Curb Line			

**JACOBS**  
5205 ROGERS LANE  
HOUSTON, TX 77072-3495  
832.331.7230

**City of Pearland, Texas**  
FORT BEND COUNTY FRESHWATER  
SUPPLY DISTRICT NO. 1 MARBLE ESTATES  
SUBDIVISION / PORTION OF RIDGEWOOD  
ESTATES SUBDIVISION / NORTH AND  
SOUTH TEAGUE ROAD WATER  
DISTRIBUTION AND WASTEWATER  
COLLECTION SYSTEM

**ROSE LANE**  
STATION 32+50 TO STATION 39+00

Project No: W50007810 Date: **SEPTEMBER 2015** SHEET  
Drawn By: **CDM** Check By: **CDM** DATE: **SEPTEMBER 2015** NO. **40**  
Scale: HORIZ: 1" = 40' VERT: 1" = 4'  
CAD By: **DCD** OF 88



**BENCHMARK:**  
 PROJECT BENCHMARK  
 BMS DESIGNATED M 589  
 ONE FOUND IN TOP AND APPROXIMATELY 1/2 FEET EAST OF WEST END OF BRUSH CONCRETE WALKWAY. IT IS APPROXIMATELY 1/2 FEET SOUTH OF THE CENTERLINE OF THE BRUSH CONCRETE WALKWAY. THE BENCHMARK IS APPROXIMATELY 1/2 FEET SOUTH OF THE CENTERLINE OF THE BRUSH CONCRETE WALKWAY. ELEVATION 76.70 FEET (MVD 88).  
 FEMA MAP INFORMATION  
 THE PROJECT AREA IS UNIMPAVED ZONE II LANE. OUTSIDE 100-YEAR FLOODPLAIN PER AREA E 204. FEDERAL FLOOD INSURANCE ACT MANAGEMENT AGENCY FLOOD PROTECTION RATE MAP FOR FORT BEND COUNTY, TEXAS PANEL NO. 48670206L01A10 890.

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/UTILITY LOCATIONS CROSSING  
  
 A. ONE FULL SECTION OF WATERLINE CENTERED OVER EACH SANITARY SERVICE.  
 B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE OVER SANITARY SERVICE. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SERVICE OVER WATERLINE.  
 C. MINIMUM ONE FULL SECTION OF SANITARY SERVICE, 18" FULL LINED DUCTILE IRON OR PVC PIPE CENTERED AT WATERLINE.
  - ALL SANITARY SERVICE AND WATERLINE STREET CROSSINGS, INCLUDING LADS, SHALL BE ALIGNED AT LEAST 1/2 FEET FROM SIDE OF EXISTING SIDE OF PAVEMENT.
  - PIPE HYDRANTS TO BE INSTALLED 7' OFF FROM LINE UNLESS NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 1 FEET OUTSIDE OF DITCH FLOWLINE.
  - CONTRACTOR SHALL CENTER SANITARY BRANCH LEADS AT PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER IF ADJUSTMENTS TO LOCATIONS SHOWN ON DRAWING ARE NECESSARY TO LOCATE AT PROPERTY LINE BASED ON FIELD CONDITIONS.



**NOTE:**  
 1. PRIOR TO CONNECTING PROP B WATERLINE CONTRACTOR SHALL HAVE SUCCESSFULLY DISINFECTED AND HYDROTESTED PROP B WATERLINE.

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

**NOTICE:**  
 For your safety, you are reminded to Turn Off and Lock Out all lines to be moved before you do this work and to use the correct Lock Out Tag Out procedure as set forth in the applicable code.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 Date: 11/16/18  
 This document is for informational purposes only. It is not intended to be used for any other purpose. It is not intended to be used for any other purpose. It is not intended to be used for any other purpose.

**STANDARD PROFILE LEGEND**

Symbol	Description
—	CENTER LINE OF PAVEMENT
---	PROPERTY LINE
---	STATION OF CURVE LINE
---	STATION OF CURVE LINE

**JACOBS**

5905 ROGERDALE ROAD  
 HOUSTON, TX 77072-3495  
 832.351.7236

**PEARLAND**

City of Pearland, Texas

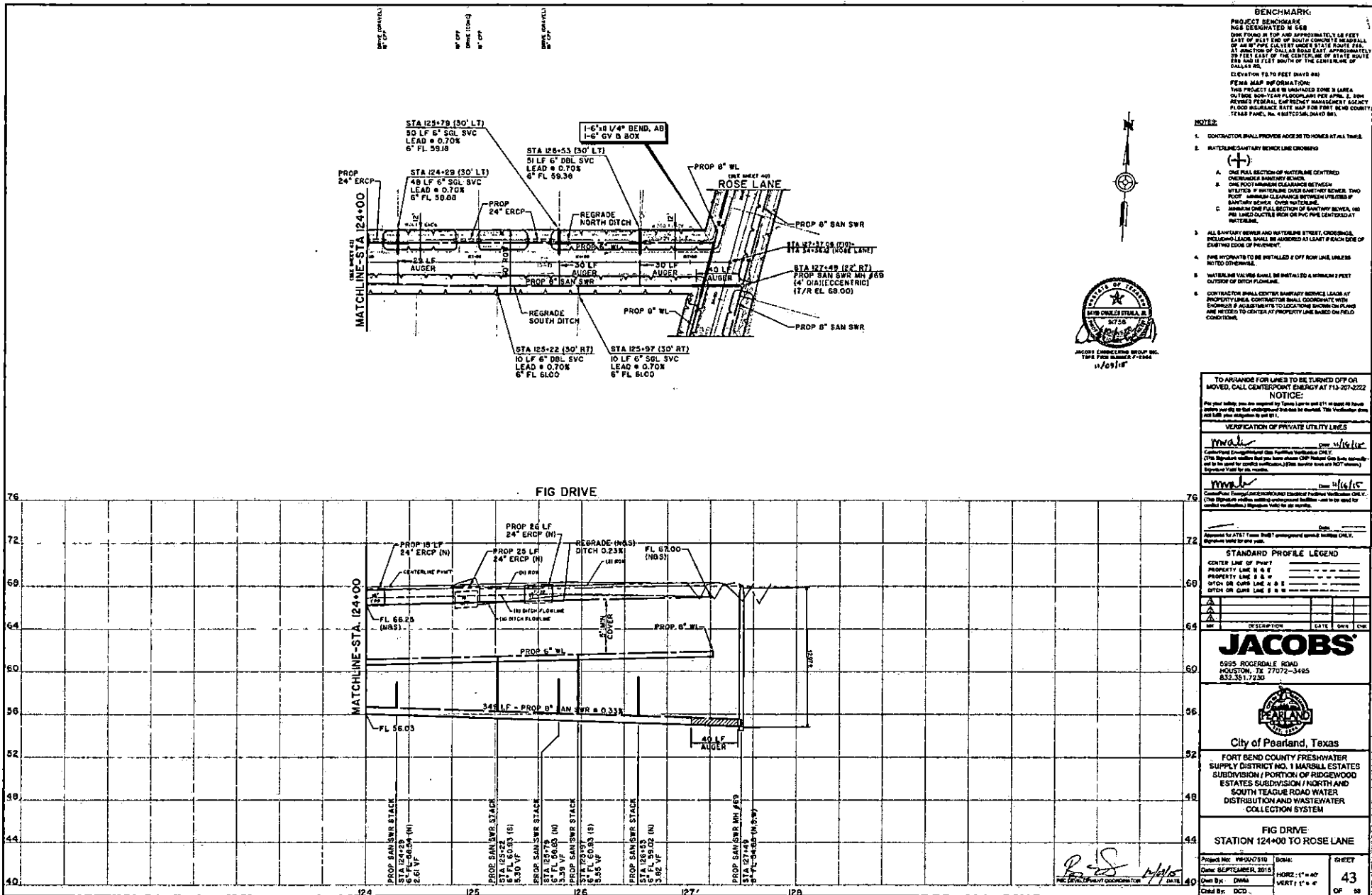
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**ROSE LANE STATION 39+00 TO STATION 46+00**

Project No: W1907910  
 Date: SEPTEMBER, 2018  
 Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'  
 Drawn By: CDR  
 Checked By: CDR

**SHEET 41 OF 58**





**BENCHMARK:**  
 PROJECT BENCHMARK  
 NGD DESIGNATED M 568  
 BENCH POINT IS TOP AND APPROXIMATELY 18 FEET  
 EAST OF W/1 END OF SOUTH CONCRETE WEDGEMALL  
 OF AN 8\"/>

- NOTES:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE/SANITARY SERVICE CROSSINGS
    - A. ONE FULL SECTION OF WATERLINE CENTERED OVERHEADLY SANITARY SERVICE.
    - B. ONE FOOT MINIMUM CLEARANCE BETWEEN WATERLINE/SANITARY SERVICE OVER-SHOOT-BY-RENDER TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF SANITARY SERVICE OVER WATERLINE.
    - C. MINIMUM ONE FULL SECTION OF SANITARY SERVICE, 140 P.S.I. UNLESS OTHERWISE NOTED OTHERWISE.
  - ALL SANITARY SERVICE AND WATERLINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE INSTALLED AT LEAST 1 FEET OUTSIDE OF STICK FULCRUM.
  - LINE WYPOINTS TO BE INSTALLED 2' OFF ROW LINE UNLESS NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED 3 FEET OUTSIDE OF STICK FULCRUM.
  - CONTRACTOR SHALL CENTER SANITARY SERVICE LEADS AT PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH OWNER IF NECESSARY TO LOCATE SERVICE WYPOINCS ARE SET TO CENTER AT PROPERTY LINE BASED ON FIELD CONDITIONS.



TO AVOID 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 to get underground utilities marked. The VeriMarking crew will call you to schedule a dig day.

**VERIFICATION OF PRIVATE UTILITY LINES**

*WMA* (Signature) Date: 11/16/18  
 Certified Ground Penetrating Radar (GPR) Technician ONLY  
 (This Signature certifies that you have shown CPEP Record One Book correctly. Signature Valid for six months.)

*WMA* (Signature) Date: 11/16/18  
 Certified/Classified/Underground Electrical Fielding Technician ONLY.  
 (This Signature certifies that you are qualified to locate buried utilities. Use to be used by other technicians. Signature valid for six months.)

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVT  
 PROPERTY LINE # 0 0  
 PROPERTY LINE # 0 0  
 OTHER OR CURB LINE # 0 0  
 OTHER OR CURB LINE # 0 0

NO.	DESCRIPTION	DATE	CHK.

**JACOBS**  
 5995 ROGERDALE ROAD  
 HOUSTON, TX 77072-3485  
 832.351.7230

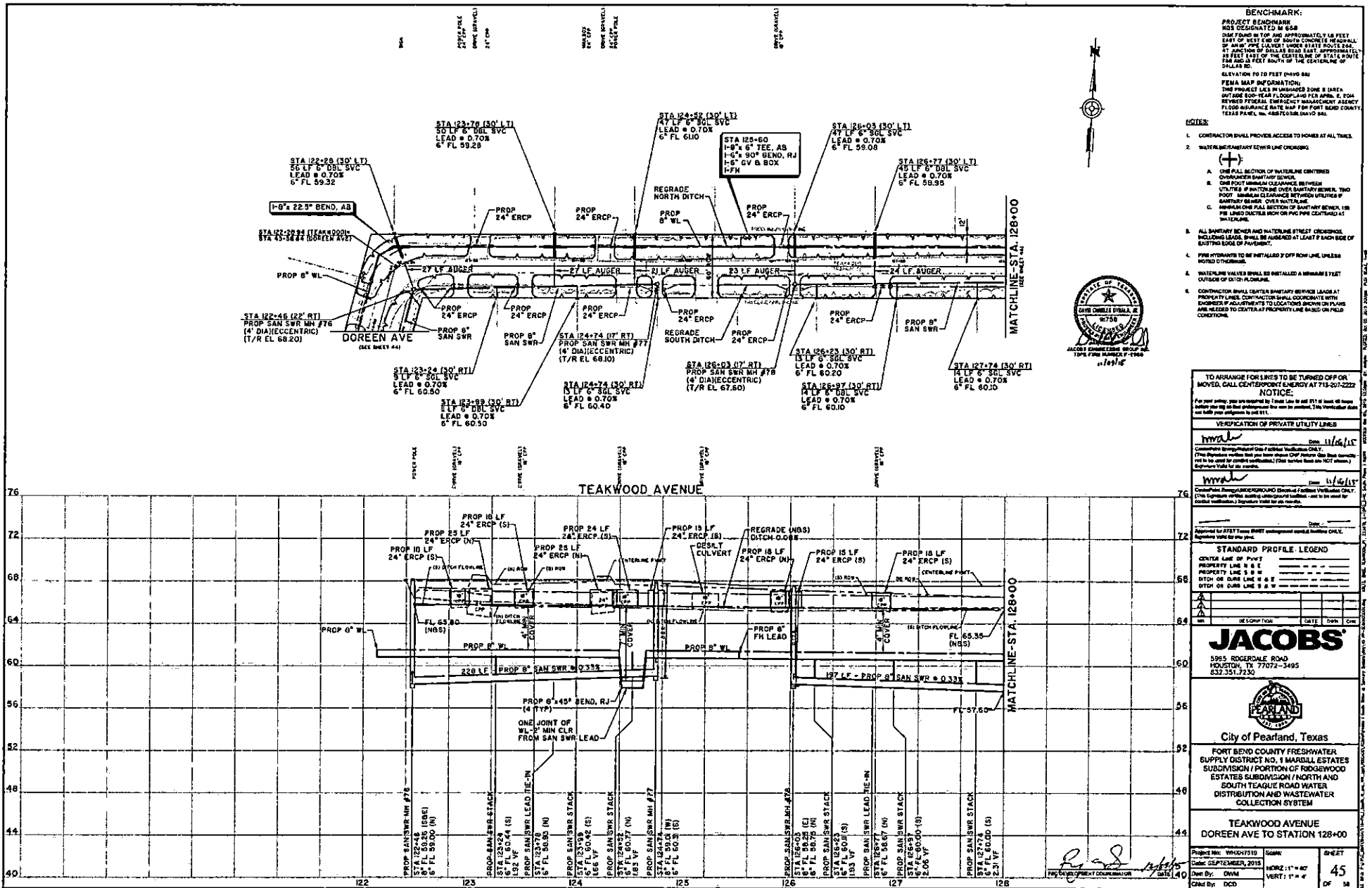
**PEARLAND**  
 City of Pearland, Texas  
 FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**FIG DRIVE STATION 124+00 TO ROSE LANE**

Project No: 18-007910  
 Date: SEPTEMBER, 2018  
 Drawn By: DMS  
 Check By: DCD

Sheet: 43 OF 58  
 Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'





**BENCHMARK:**

PROJECT BENCHMARK  
 NOS DESIGNATED M 658  
 WAS FOUND ON TOP AND APPROXIMATELY 10 FEET  
 EAST OF WEST SIDE OF BRIDGE CONCRETE HEADWALL  
 AT JUNCTION OF DALLAS ROAD EAST APPROXIMATELY  
 100 FEET SOUTH OF THE CENTERLINE OF  
 DALLAS RD.  
 ELEVATION 10 TO FEET (NAVD 88)  
 FEMA MAP INFORMATION:  
 THE PROJECT LIES IN UNDESIGNED ZONE B (AREA  
 OUTSIDE 100-YEAR FLOODPLAIN FOR APRIL 4, 2004  
 BASED FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY  
 TEXAS PANEL NO. 48070304.DAVID 00

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
- WATERLINE/SANITARY SEWER LINE CROSSING:
  - A. ONE FULL SECTION OF WATERLINE CENTERED OVER SANITARY SEWER CROSSING.
  - B. ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF WATERLINE CLEARANCE BETWEEN UTILITIES IS SANITARY SEWER. OTHER NOTATION.
  - C. MINIMUM ONE FULL SECTION OF SANITARY SEWER 18" PIPE LINE DUCTILE IRON ON PVC PIPE CONTAINED AT WATERLINE.
- ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS INCLUDING LEADS SHALL BE ASIGNED AT LEAST 5 FEET EACH SIDE OF EXISTING EDGE OF PAVEMENT.
- PIPE HYDANTS TO BE INSTALLED 2' OFF ROW LINE UNLESS NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 1' FROM OUTSIDE OF DITCH FLOWLINE.
- CONTRACTOR SHALL QUOTE SANITARY SEWER LEADS BY PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH ENGINEER'S ADJUSTMENTS TO LOCATIONS SHOWN ON PLANS AND RECORD TO CENTRAL PROPERTY LINE AND ON FIELD CONDITIONS.



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

**NOTICE:**  
 For any utility, you are required to locate lines to be cut or moved at least 14 days before any excavation work is performed. This information does not constitute an offer of insurance.

**VERIFICATION OF PRIVATE UTILITY LINES**

11/16/10 Date: 11/16/10  
 Complete Survey/Utility Line Field Verification ONLY.  
 This document certifies that the above information was obtained by the contractor and is to be used for the project indicated. (This document does not constitute an offer of insurance.)  
 Equipment Used for this project:

11/16/10 Date: 11/16/10  
 Complete Survey/Utility Line Field Verification ONLY.  
 This document certifies that the above information was obtained by the contractor and is to be used for the project indicated. (This document does not constitute an offer of insurance.)  
 Equipment Used for this project:

Approved by AT&T Texas Smart Management World Wide Center, Inc. Signature valid for one year.

**STANDARD PROFILE LEGEND**

CENTER LINE OF POOL  
 PROPERTY LINE S & E  
 RITCH OR CURB LINE S & E  
 RITCH OR CURB LINE S & W

**JACOBS**  
 5905 ROGERDALE ROAD  
 HOUSTON, TX 77072-3495  
 832.551.7230

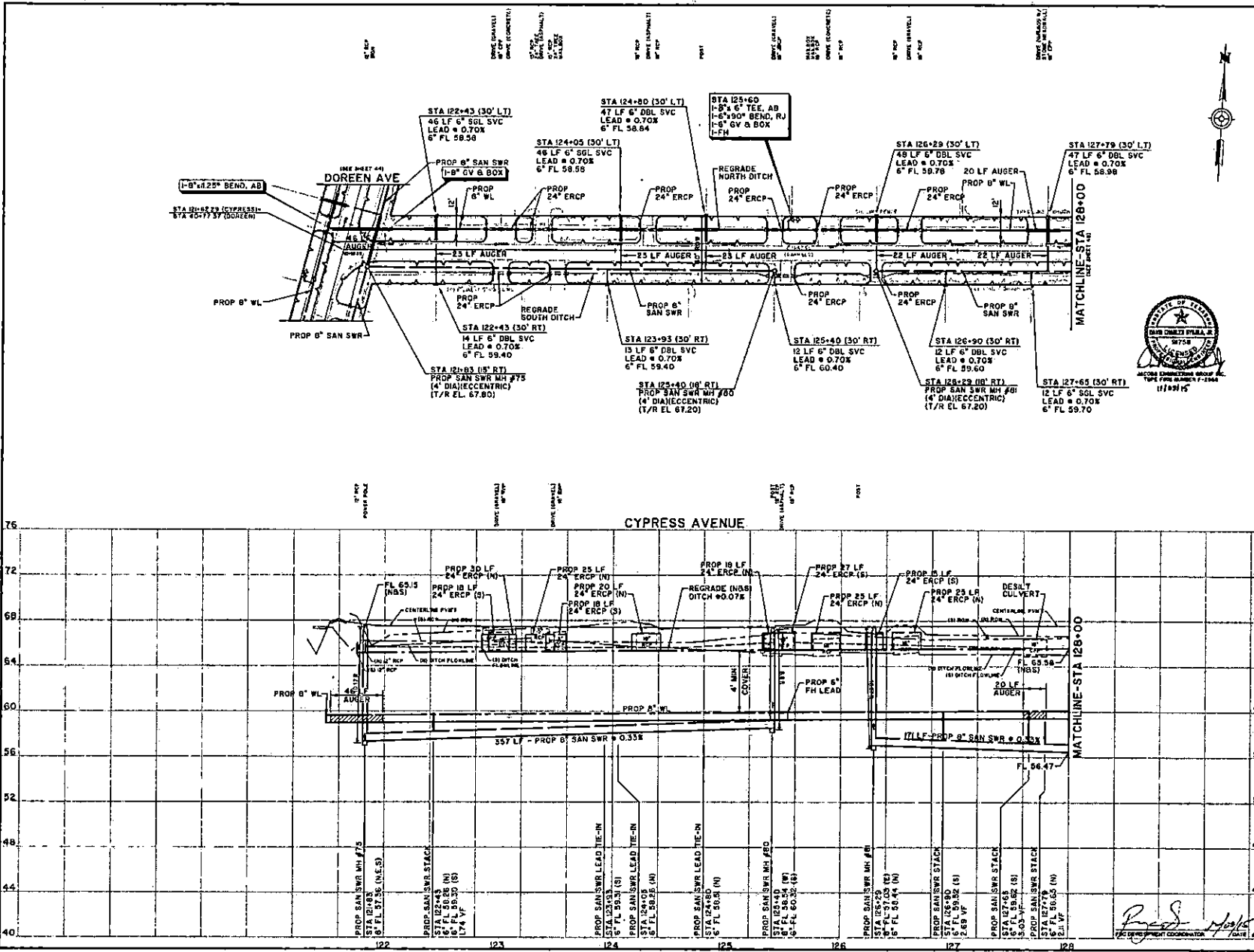


City of Pearland, Texas  
 FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARDELL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**TEAKWOOD AVENUE  
 DOREEN AVE TO STATION 128+00**

Project No: W1047210 Scale: SHEET  
 Date: SEPTEMBER, 2010 NO. 11 OF 47 45  
 Drawn By: DWAI VERT: 1" = 4'  
 Check By: DCD OF 58





**BENCHMARK:**  
 PROJECT BENCHMARK  
 NGS DESIGNATED # 848  
 FOUND IN TOP AND APPROXIMATELY 1.0 FEET  
 EAST OF WEST END OF SOUTH CURBLINE OF  
 AN 8" PIPE EXISTING UNDER STATE ROUTE 242.  
 AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY  
 1.0 FEET EAST OF THE CENTERLINE OF STATE ROUTE  
 242. 1.0 FEET SOUTH OF THE CENTERLINE OF  
 DALLAS ROAD.  
 ELEVATION 10.70 FEET (NAVD 83)  
**FIELD MAP INFORMATION:**  
 THIS PROJECT LIES IN UNIMPAVED ZONE 3 AREA  
 OUTSIDE 300'-FEET FLIGHTS AND IS APPROX. 3.0 FEET  
 BEYOND FEDERAL ENGINEERING MANAGEMENT PRACTICE  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PANEL NO. 48520-DIGLAIVE 881

- NOTE:**
- CONTRACTOR SHALL PROVIDE ACCESS TO HOMES AT ALL TIMES.
  - WATERLINE NEARBY WATER CROSSING
  - ONE FULL SECTION OF WATERLINE COVERED OVER EXISTING SANITARY SEWER.
    - ONE FOOT MINIMUM CLEARANCE BETWEEN UTILITY IN WATERLINE COVER SANITARY SEWER. TWO FOOT MINIMUM CLEARANCE BETWEEN UTILITY IN SANITARY SEWER OVER WATERLINE.
    - MINIMUM ONE FULL SECTION OF SANITARY SEWER, 150 PIPED DUCTILE IRON OR PVC PIPE CENTERED AT WATERLINE.
  - ALL SANITARY SEWER AND WATER LINE STREET CROSSINGS, INCLUDING LEADS, SHALL BE AUGERED AT LEAST 2 FEET SIDE OF EXISTING EDGE OF PAVED SIDEWALK UNLESS NOTED OTHERWISE.
  - PIPE INVERTS TO BE INSTALLED 2" OFF ROW LINE UNLESS NOTED OTHERWISE.
  - WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 4 FEET OUTSIDE OF DITCH FLOWLINE.
  - CONTRACTOR SHALL CENTER SANITARY SEWER LEADS AT PROPERTY LINES. CONTRACTOR SHALL COORDINATE WITH ADDRESS OF ADJACENTS TO LOCATIONS SHOWN ON PLANS AND AS NECESSARY TO CENTER AT PROPERTY LINE BASED ON FIELD CONDITIONS.



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

**NOTICE:**  
 For any utility, you are required to locate it at least 10 feet from the face of the excavation and 10 feet from the edge of the excavation. This location must be marked and your obligation to call 811.

**VERIFICATION OF PRIVATE UTILITY LINES**

Checked by: [Signature] Date: 11/16/13  
 Checked by: [Signature] Date: 11/16/13

Approved by AT&T Texas: [Signature] Date: 11/16/13

Approved by AT&T Texas: [Signature] Date: 11/16/13

**STANDARD PROFILE LEGEND**

CENTER LINE OF PAVT  
 PROPERTY LINE S & W  
 DITCH OR CURB LINE S & W  
 DITCH OR CURB LINE S & W

SYMBOL	DESCRIPTION	DATE	OWN	CHK
▲				
△				
□				
○				

**JACOBS**

3935 ROGERS ROAD  
 HOUSTON, TX 77072-3405  
 832.351.7230

**PEARLAND**

City of Pearland, Texas

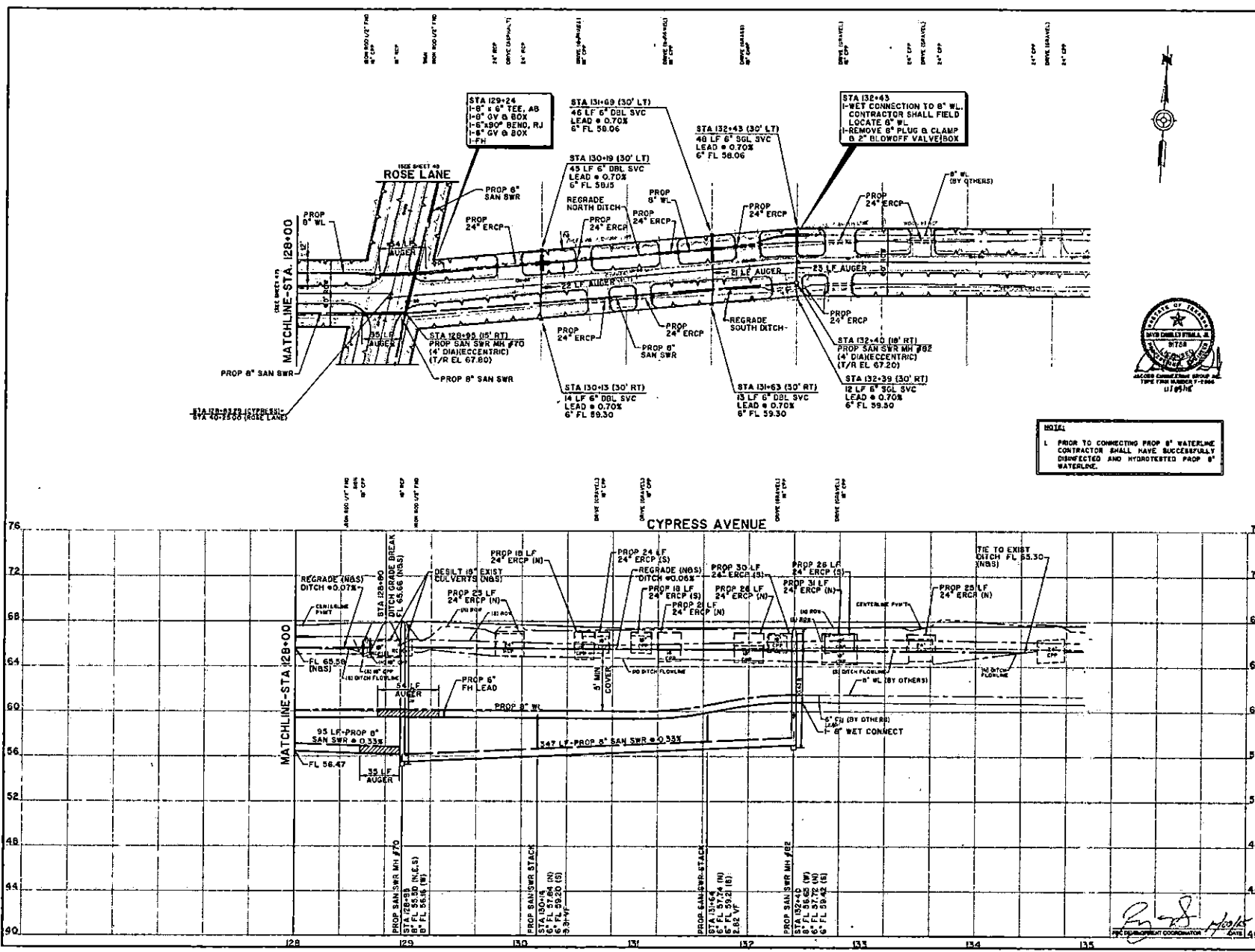
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARBILL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

**CYPRESS AVENUE**  
 DOREEN AVENUE TO STATION 128+00

Project No: W0017510  
 Date: SEPTEMBER, 2013  
 Drawn By: DWH  
 Check By: DCD

Scale: 1" = 40'  
 Vertical: 1" = 4'


SHEET 47 OF 58



**BENCHMARK:**

PROJECT BENCHMARK  
 1655 DESIGNATED IN 888  
 OVER 6' OVER TO TOP AND APPROXIMATELY 10 FEET  
 EAST OF WEST END OF SOUTH CONCRETE HEADWALL  
 AT JUNCTION OF DALLAS ROAD EAST, APPROXIMATELY  
 20 FEET SOUTH OF THE CENTERLINE OF DALLAS  
 ROAD AND 15 FEET SOUTH OF THE CENTERLINE OF  
 DALLAS RD.  
 ELEVATION 78.0 FEET (MAY 88)  
 FEMA MAP INFORMATION:  
 THE PROJECT LIES IN UNDESIGNED ZONE II (AREA  
 OUTSIDE 100-YEAR FLOODPLAIN PER APRIL 22, 2009  
 FEDERAL EMERGENCY MANAGEMENT AGENCY  
 FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY,  
 TEXAS PANEL NO. 4802020100000000)

**NOTES:**

- CONTRACTOR SHALL PROVIDE ACCESS TO HEMER AT ALL TIMES.
- WATERLINE SHOWN AT BENCH LINE CROSSING  

  - ONE FULL SECTION OF WATERLINE CAPTURED  
 DIMENSIONED SANITARY SEWER.
  - ONE FOOT MINIMUM CLEARANCE BETWEEN  
 UTILITIES IF WATERLINE OVER SANITARY SEWER. TWO  
 FOOT MINIMUM CLEARANCE BETWEEN UTILITIES IF  
 SANITARY SEWER OVER WATERLINE.
  - MINIMUM ONE FULL SECTION OF SANITARY SEWER, 100  
 FEET LONG DUCTILE IRON PIPE, SHALL BE MAINTAINED AT  
 WATERLINE.
- ALL SANITARY SEWER AND WATERLINE STREET CROSSINGS  
 HOLDINGS LEADS SHALL BE ALIGNED AT LEAST 8' EACH SIDE OF  
 EXISTING EDGE OF PAVED ROADWAY UNLESS NOTED OTHERWISE.
- PIPE HORIZONTALS TO BE INSTALLED 2'-0" FROM LINE UNLESS  
 NOTED OTHERWISE.
- WATERLINE VALVES SHALL BE INSTALLED A MINIMUM 10 FEET  
 OUTSIDE OF UTILITY FLOORING.
- CONTRACTOR SHALL VERIFY SANITARY SEWER LEADS AT  
 PROPERTY LINE. CONTRACTOR SHALL COORDINATE WITH  
 ENGINEER IF ADJUSTMENTS TO LOCATIONS SHOWN ON PLANS  
 ARE NECESSARY TO COMPLY WITH PROPERTY LINE BASED ON FIELD  
 CONDITIONS.



**NOTICE:**  
 1. PRIOR TO CONNECTING PROP 6" WATERLINE  
 CONTRACTOR SHALL HAVE SUCCESSFULLY  
 DISINFECTED AND HYDROTESTED PROP 6"  
 WATERLINE.

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

**NOTICE:**

For your safety, you are advised that Texas law requires that all work on gas lines be done by a licensed gas fitter. The contractor shall be responsible for obtaining the necessary permits and for the safety of the work. (This signature is not valid unless accompanied by a valid and to be used for public notification.) Signature valid for 90 days.

**VERIFICATION OF PRIVATE UTILITY LINES**  
 Date: 11/16/15  
 Signature: [Signature]

**STANDARD PROFILE LEGEND**  
 CENTER LINE OF PAVT  
 PROPERTY LINE S & E  
 DITCH OR CURB LINE S & E  
 DITCH OR CURB LINE S & W

DESCRIPTION	DATE	DWN	CHK

**JACOBS**  
 5995 ROOSEVELT ROAD  
 HOUSTON, TX 77072-3495  
 832.331.7230

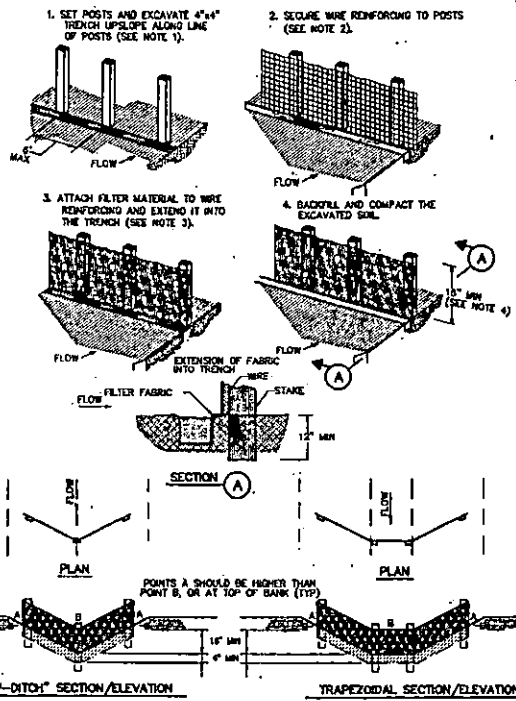


City of Pearland, Texas  
 FORT BEND COUNTY FRESHWATER  
 SUPPLY DISTRICT NO. 1 MARSHALL ESTATES  
 SUBDIVISION / PORTION OF RIDGEWOOD  
 ESTATES SUBDIVISION / NORTH AND  
 SOUTH TEAGUE ROAD WATER  
 DISTRIBUTION AND WASTEWATER  
 COLLECTION SYSTEM

CYPRESS AVENUE  
 STATION 128+00 TO STATION 135+00

Project No: WY007810  
 Date: SEPTEMBER 2015  
 Drawn By: DWM  
 Check By: DCO  
 Scale: HORIZ: 1" = 40'  
 VERT: 1" = 4'  
 SHEET: 48 OF 60



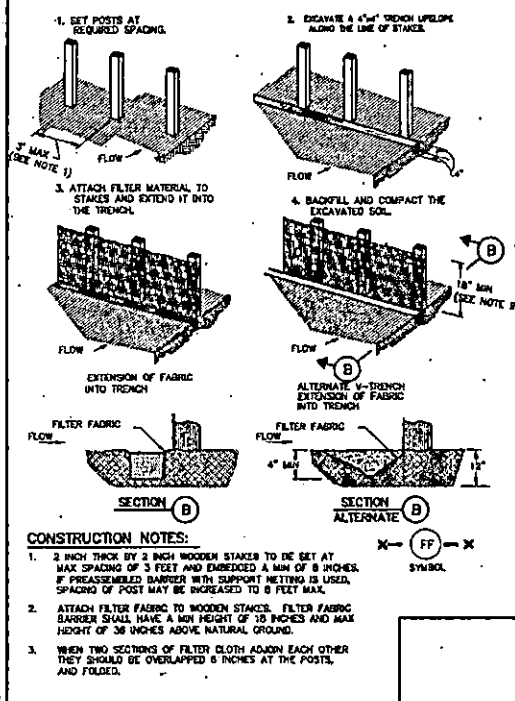


**CONSTRUCTION NOTES:**

1. SET 8 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 8 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND INTERSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.



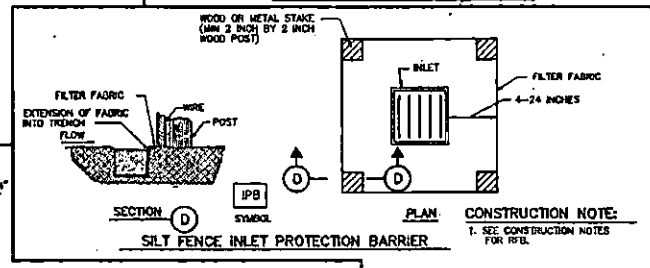
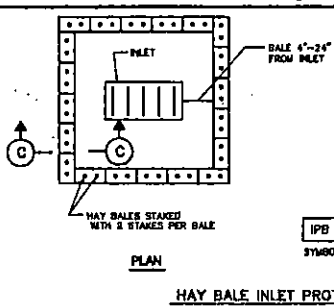
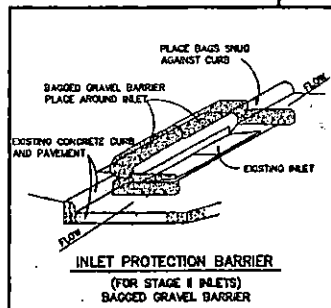
**REINFORCED FILTER FABRIC BARRIER**



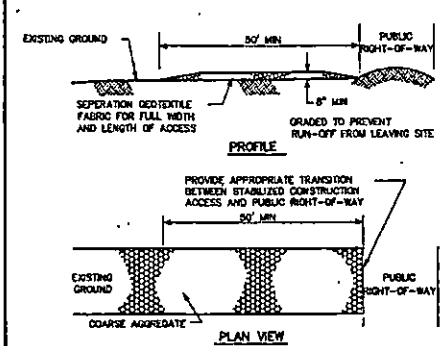
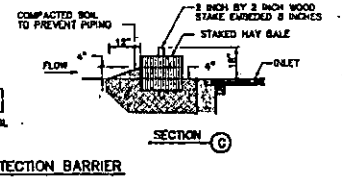
**CONSTRUCTION NOTES:**

1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 6 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.

**FILTER FABRIC BARRIER**



**CONSTRUCTION NOTE:**  
1. SEE CONSTRUCTION NOTES FOR RFB.



**CONSTRUCTION NOTES:**

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.



**STABILIZED CONSTRUCTION ACCESS**



NO.	DESCRIPTION	DATE	CHK.	APP.

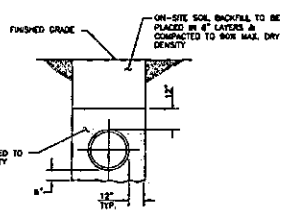
**JACOBS**  
3995 ROCKDALE ROAD  
HOUSTON, TX 77077-3495  
832.331.7230



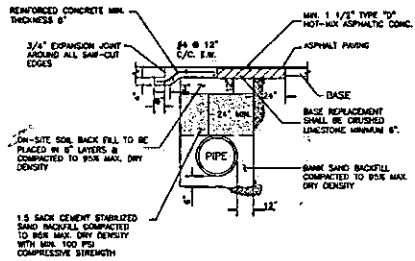
City of Pearland, Texas  
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARBLE ESTATES SUBDIVISION / PORTION OF ROCKWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

STORM WATER POLLUTION PREVENTION DETAILS

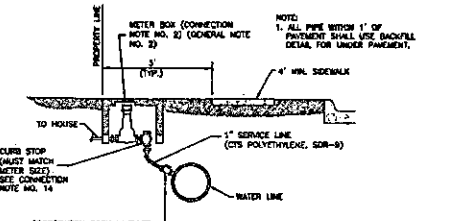
Project No: WY001710	Scale:	SHEET
Date: SEPTEMBER, 2018	Horiz: NONE	50
Drawn By: DWM	Vert: NONE	OF 58
Checked By: DCD		



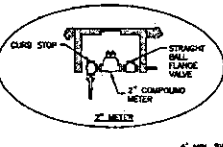
1 TYPICAL TRENCH SECTION GRADED AREA



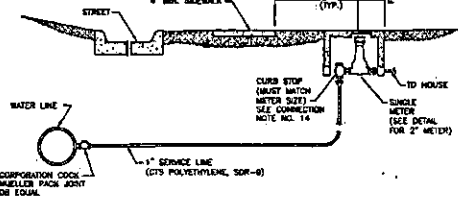
2 TYPICAL TRENCH SECTION IN PAVED AREA



3 WHEN SERVICE METER IS NEAR WATER MAIN



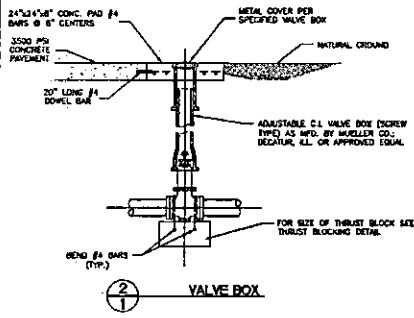
4 WHEN SERVICE CROSS PAVED STREET



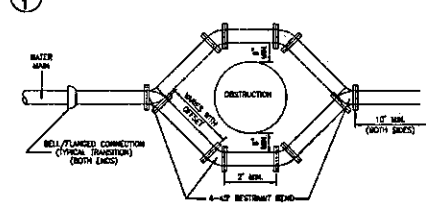
5 SERVICE CONNECTION DETAILS

- NOTES:
1. THE WATER MAIN SHALL HAVE A MINIMUM COVER OF 48" BELOW TOP OF CURB GRADE.
  2. THE WATER SERVICE LINES THAT ARE INSTALLED BEFORE THE COMPLETION OF STREET CONSTRUCTION SHALL BE Laid IN THE SERVICE TRENCH AT THE SAME ELEVATION AS THE WATER MAIN OR A MINIMUM COVER OF 48" BELOW TOP OF CURB GRADE AT THE PROPER LOCATION FOR THE METER BOX. THE METER (CURB) STOP SHALL BE RAISED TO 18" BELOW TOP OF CURB GRADE (SEE DETAIL) EXCEPT DURING TO RAISE THE STOP AT A FUTURE DATE TO 6" BELOW TOP OF CURB GRADE.
  3. LOCATION WIRE SHALL BE PLACED ON ALL MAINS AND SERVICES. (MIN. 20 GA. COPPER).
  4. SINGLE METER SERVICE LINES SHALL BE 1" MIN. I.D. C.T.S. POLYETHYLENE, SDR-8.
  5. CONTRACTOR TO FURNISH AND INSTALL DOUBLE SERVICE METER BOXES AT FINISH GRADE.
  6. FIRE HYDRANT ASSEMBLIES SHALL NORMALLY BE LOCATED THREE FEET BEHIND BACK OF CURB. DETAIL REVISIONS AS NECESSARY TO MAINTAIN CLEARANCE. REQUIRED ASSEMBLY SHALL INCLUDE ONE 1/2" SIZE BY 5/8" INCH I.D. ONE 3/4" INCH GATE VALVE AND BOX. ONE FIRE HYDRANT AND ONE 1/2" INCH I.D. 1/2" INCH GATE VALVE AND BOX.
  7. WATER VALVES ON MAIN LINES SHALL BE LOCATED AS CLOSE AS POSSIBLE TO EXTENDED PROPERTY LINE AND SHALL CONFORM TO ANSA C-300, OPEN ENDORSEMENT, EQUIPPED WITH 2" SQUARE OPERATING NUT.
  8. WATER LINES 18" THROUGH 24" INCH I.D. SHALL CONFORM WITH THE REQUIREMENTS OF ANSA STANDARD C-300 CLASS 150, DR-16 WITH CAST IRON OUTSIDE DIAMETER.
  9. ALL CONCRETE THRUST BLOTTING SHALL BE PLACED TO FORM A SOLID CONNECTION BETWEEN FITTINGS, VALVES, FIRE HYDRANTS AND UNDERGROUND DUCTS. CONCRETE FOR THRUST BLOTTING SHALL HAVE A MINIMUM OF 2500 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS.
  10. DUCTILE IRON PIPING AND FITTINGS SHALL CONFORM TO ANSA C-155 AND END JOINTS OF FITTINGS AND MAIN LINE VALVES SHALL CONFORM TO ANSA C-153 FOR RUBBER GASKETED JOINTS. DUCTILE IRON AND DUCTILE IRON FITTINGS SHALL BE CEMENT LINED OR EPDM COATED.
  11. ALL FIRE HYDRANTS AND VALVE BOXES ARE TO BE ADAPTED TO FRESH GRADE AFTER PAVING IS COMPLETE.
  12. INSTALL CONCRETE BLOCK BENEATH FIRE HYDRANTS BEFORE PLACING CONCRETE THRUST BLOTTING TO INSURE THAT FIRE HYDRANTS ARE INSTALLED LEVEL.
  13. CONTRACTOR SHALL NOTIFY CITY ENGINEER 72 HOURS BEFORE START OF CONSTRUCTION.
  14. RIGHT ANGLE CURB STOPS MADE BY FORM, OR APPROVED EQUAL, SHALL BE USED. (CONCRETE SERVICE LINE BACK-CAST OR EQUIVALENT, DOUBLE SLOTTED, FORD UMSA-3-25W OR EQUIVALENT). ONLY PACK JOINT CURB STOPS ARE PERMITTED.
  15. WATER MAINS ARE NOT PERMITTED TO CROSS 1" IRON WATER SERVICES WITH 1 INCH U-BRANCH ASSEMBLY.
  16. WATER MAINS SHALL HAVE A MINIMUM OF 24 INCH SPACING BETWEEN TAPS ON THE MAIN WATER LINE.

- NOTE:
1. PRESSURE TEST OF ALL WATER LINES SHALL BE AT 125 PSI FOR A DURATION OF 8 HOURS.
  2. ALL WATER METER BOXES SHALL BE MODEL NO. NDS D1200 FOR SINGLE AND NDS D1800 FOR DOUBLE, OR APPROVED EQUAL (BOX NEEDS TO BE COMPATIBLE TO NEPTUNE PRO-HEAD.) LOCKING LIDS WILL NOT BE ACCEPTED.
  3. PROVIDE "UNI-FLANGE" OR APPROVED EQUAL PIPE RESTRAINT AND CASING SYSTEM ON UNDERGROUND PRESSURE PIPE SYSTEMS.
  4. ALL WATER TAPS SHOULD BE PLACED IN LINE WITH PROPERTY CORNER OR PLACED HALF WAY BETWEEN THE FRONT LOT CORNERS, OR AT PC OF CURB RETURN IN MULTI LOT SUBDIVISIONS.
  5. IF LOTS ARE LESS THAN 60' WIDE, TAPS ARE TO BE PLACED AT PROPERTY CORNERS.



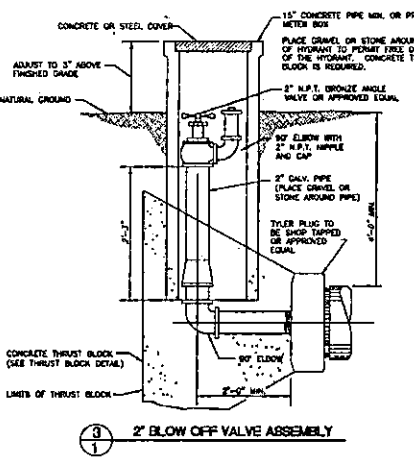
6 VALVE BOX



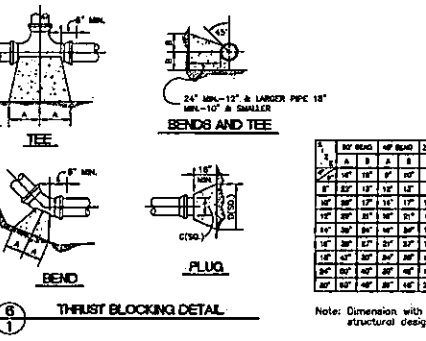
7 OFFSET ASSEMBLY

- FOR A LINE TO PASS OVER AN OBSTRUCTION BARRIER THAT UNDER IT MUST HAVE A MINIMUM COVER AND BE APPROVED BY THE ENGINEERING DEPARTMENT.
- NOTES:
1. PIPE MATERIAL SHALL BE ANSA C300 PVC OR 14, 250 PSI WITH INTERNAL PVC RESTRAINED JOINTS.
  2. OFFSET ASSEMBLY MUST PASS OVER THE OBSTRUCTION AS LONG AS THE MINIMUM CLEARANCE IS MAINTAINED. SPECIFIC APPROVAL FROM THE UTILITY DEPARTMENT MUST BE OBTAINED FOR THE OFFSET TO PASS UNDER THE OBSTRUCTION.
  3. MATERIAL AND CONTACTS SHALL BE IN ACCORDANCE WITH WATER MAIN STANDARD SPECIFICATIONS.
  4. RESTRAIN EXISTING PIPING BEYOND OFFSET SECTION AS REQUIRED TO PREVENT MOVEMENT.
  5. ALL PVC PRODUCTS MUST BE LISTED ON CITY OF PEARLAND'S APPROVED PRODUCTS LIST.

MIN. PIPE WALL THICKNESS	MIN. PIPE WALL THICKNESS
4"	0.250
6"	0.300
8"	0.325
12"	0.400
18"	0.500



8 2" BLOW OFF VALVE ASSEMBLY



9 THRUST BLOCKING DETAIL

Note: Dimension with asterisk (\*) requires structural design.

BY	REV	DATE	DESCRIPTION	BY	DATE	DESCRIPTION
1	1	08/15/11	ISSUE FOR PERMITS			
1	2	08/15/11	REVISED TO ADD 2\"/>			



NO.	DESCRIPTION	DATE	OWN

**JACOBS**  
5905 ROOSEVELT ROAD  
HOUSTON, TX 77072-3405  
832.351.7230

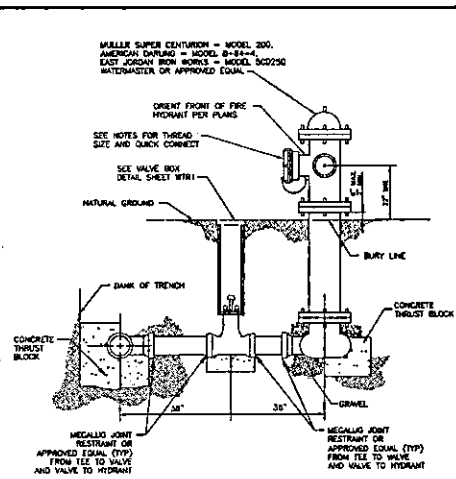
City of Pearland, Texas  
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARBLE ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

WATERLINE DETAILS (1 OF 2)

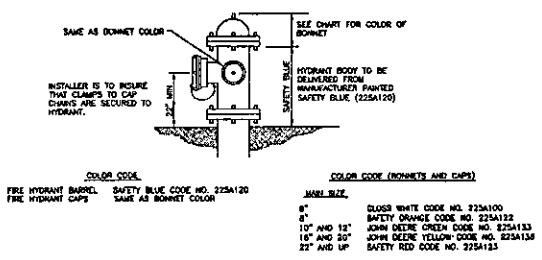
City of Pearland, Texas  
STANDARD DETAILS  
WATER  
SHEET 1 OF 2

Project No: W1047810  
Date: SEPTEMBER, 2013  
Drawn By: DWK  
Checked By: A. Bragdon

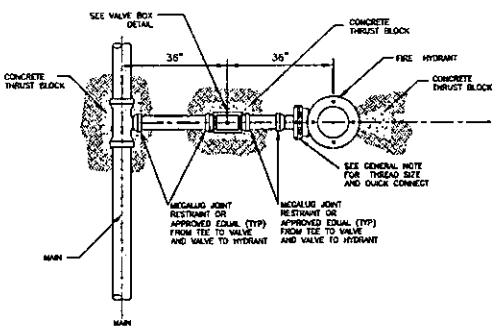
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Date: SEPTEMBER, 2013  
Drawn By: DWK  
Checked By: DCC



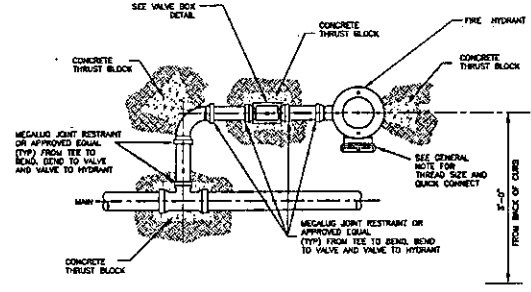
1 FIRE HYDRANT



2 FIRE HYDRANT - COLOR CODE



3 FIRE HYDRANT - PLAN



4 ALTERNATE FIRE HYDRANT - PLAN

- NOTES:
1. PRESSURE TEST OF ALL WATER LINES SHALL BE AT 125 PSI FOR DURATION OF 8 HOURS.
  2. FIRE HYDRANT THREAD SIZE PUMPER CONNECTION 4-492 SIZE-4.492".
  3. PROVIDE "WIG-FLANGE" OR APPROVED EQUAL PIPE RESTRAINT AND CASING SYSTEM ON UNDERGROUND PRESSURE PIPE SYSTEMS.
  4. FIRE HYDRANT ASSEMBLIES SHALL NORMALLY BE LOCATED THREE FEET BELOW GRADE OF CURB EXCEPT WHERE NECESSARY TO MAINTAIN THREE FOOT CLEARANCE. REQUIRED ASSEMBLY SHALL INCLUDE ONE LINE SIZE BY SIX INCH TEE, ONE SIX INCH GATE VALVE AND BOX, ONE FIRE HYDRANT AND SIX INCH LEAD PIPING AND THE BONNET.
  5. ALL CONCRETE THRUST BLOCKING SHALL BE PLACED TO FORM A SOLID CONNECTION BETWEEN FITTINGS, VALVES, AND FIRE HYDRANTS AND UNDISTURBED EARTH. CONCRETE FOR THRUST BLOCKING SHALL HAVE A MINIMUM OF 2000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS.
  6. INSTALL CONCRETE BLOCK BENEATH FIRE HYDRANTS BEFORE PLACING CONCRETE THRUST BLOCKING TO INSURE THAT FIRE HYDRANTS ARE INSTALLED LEVEL.
  7. ALL FIRE HYDRANTS AND VALVE BOXES ARE TO BE ADJUSTED TO FINISH GRADE AFTER PAVING IS COMPLETE.
  8. ALL FIRE HYDRANTS ARE TO BE EQUIPPED WITH HYDRA-STORE QUICK CONNECT HYDRANT BUSHING (1/4" x 3/8" BUSH) WITH DESIRS CAP. MANUFACTURED BY HYDRA-SHIELD, INC. OR APPROVED EQUAL. DESIRS CAP IS TO BE TETHERED WITH A 1/2" STAINLESS STEEL CABLE, UTILIZING THE EYELET ON THE FIRE HYDRANT AND THE DESIRS CAP.
  9. CONTRACTOR SHALL NOTIFY CITY ENGINEER 72 HOURS BEFORE START OF CONSTRUCTION.
  10. ALL FIRE HYDRANT RESTRAINTS TO BE NO FITTING.

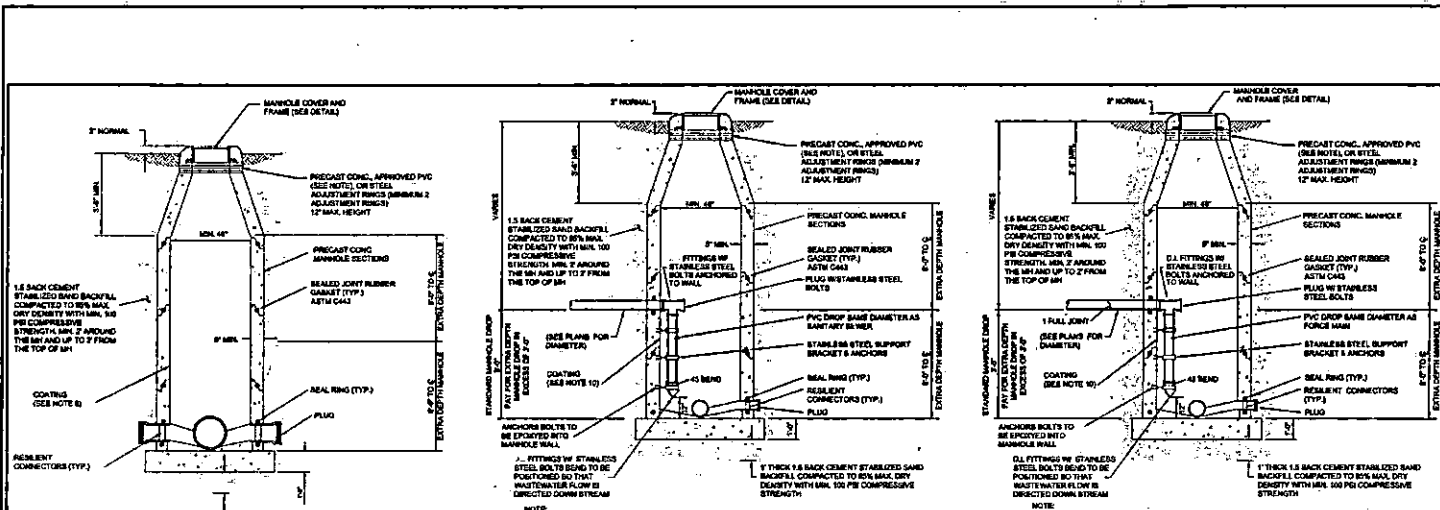


THIS DETAIL SHEET HAS BEEN PREPARED FOR USE ON STANDARD CITY OF PEARLAND PROJECTS. AN ENGINEER HAS INCORPORATED THE DETAILS ON THIS SHEET BECOMING RESPONSIBLE FOR ITS USE IN THE END PRODUCT IN ACCORDANCE WITH RULES 137.30 (a) AND (4) OF THE TEXAS STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS.

City of Pearland, Texas	
STANDARD DETAILS	
WATER	
Job No.:	Sheet:
Date: May 2013	Scale: 1"=NONE
Drawn By:	Checked By: A. Bragenton
Proj. File: ODP-WTR	SHEET 2 OF 2

NO.	DESCRIPTION	DATE	BY	CHK.
<b>JACOBS</b>				
5985 ROGERDALE ROAD HOUSTON, TX 77072-3495 832.331.7232				
<b>PEARLAND</b>				
City of Pearland, Texas				
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHAL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM				
WATERLINE DETAILS (2 OF 2)				

Project No. WPD01510	Scale:	SHEET
Date: SEPTEMBER, 2015	HORZ (NONE)	52
Drawn By: DWM	VERT:	OF 58
Check By: DGD		



- NOTE:
1. ONLY PRE-CAST MANHOLES SHALL BE USED.
  2. NO BRICKS OF ANY KIND WILL BE ALLOWED IN CONSTRUCTION OF MANHOLES.
  3. MANHOLES SHOULD BE PLACED HALF WAY BETWEEN THE FRONT LOT CORNERS IN MULTI LOT SUBDIVISION.
  4. IF LOTS ARE LESS THAN 60' IN WIDTH, MANHOLES ARE TO BE PLACED AT PROPERTY CORNERS.
  5. ALL CEMENT STABILIZED SAND BACKFILL SHALL CONFORM TO SPECIFICATION CEMENT STABILIZED SAND - SECTION 02252.



- NOTE:
1. CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4000 PSI AT 28 DAYS, RATES FOR H-20 LOADING.
  2. PRECAST CONCRETE MANHOLE CONFORMING TO ASTM C474, STRUCTURAL REINFORCEMENT CONFORMING TO ASTM A618.
  3. LIFTING INSERTS REQUIRED.
  4. ALL JOINTS SHALL BE SEALED WITH APPROVED GASKET.
  5. ALL MANHOLES IN PAVED AREAS REQUIRE SPECIAL DESIGN.
  6. H.D.P.E. ADJUSTMENT RINGS AS MANUFACTURED BY LADTECH, INC. OR APPROVED EQUAL WITH MAX HEIGHT OF 12".
  7. HOUSE-ORICE WRAPPED PIPE OPENINGS OR UNWRAPPED PIPE OPENINGS WILL NOT BE ACCEPTED.
  8. FOR WETTER COATING ON THE MANHOLE, SEE SPECIFICATIONS.
  9. ALL MANHOLES IN PAVED AREAS SHALL HAVE BLOCK OUT (SEE DETAIL SHEET).

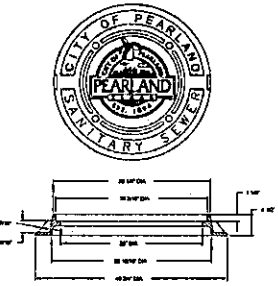
- NOTE:
1. CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4000 PSI AT 28 DAYS, RATES FOR H-20 LOADING.
  2. PRECAST CONCRETE MANHOLE CONFORMING TO ASTM C474, STRUCTURAL REINFORCEMENT CONFORMING TO ASTM A618.
  3. LIFTING INSERTS AS REQUIRED.
  4. ALL JOINTS SHALL BE SEALED WITH APPROVED GASKET.
  5. MANHOLE MUST BE CORDED TO APPROPRIATE OPENING.
  6. WATER TIGHT GASKET MUST BE USED TO SEAL PIPE TO MANHOLE.
  7. ALL PIPE FITTINGS TO BE 1" CORN. RESTRAINT FITTING OR APPROVED EQUAL.
  8. USE STAINLESS STEEL ANCHORS TO ATTACH PIPE SUPPORTS TO WALL.
  9. PIPE SUPPORTS MUST BE STAINLESS STEEL (2" MAX SPACING).
  10. FOR INTERIOR COATING ON THE MANHOLE, SEE SPECIFICATIONS.
  11. ALL MANHOLES IN PAVED AREAS SHALL HAVE BLOCK OUT (SEE MISC. DETAIL SHEET).
  12. A DROP MANHOLE SHALL BE INSTALLED WHEN A SEWER LINE ENTERS A MANHOLE FROM A LOWER ELEVATION ABOVE THE INVERT OF THE MANHOLE.
  13. H.D.P.E. ADJUSTMENT RINGS AS MANUFACTURED BY LADTECH, INC. OR APPROVED EQUAL WITH MAX HEIGHT OF 12".

- NOTE:
1. CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4000 PSI AT 28 DAYS, RATES FOR H-20 LOADING.
  2. PRECAST CONCRETE MANHOLE CONFORMING TO ASTM C474, STRUCTURAL REINFORCEMENT CONFORMING TO ASTM A618.
  3. LIFTING INSERTS AS REQUIRED.
  4. ALL JOINTS SHALL BE SEALED WITH APPROVED GASKET.
  5. MANHOLE MUST BE CORDED TO APPROPRIATE OPENING.
  6. WATER TIGHT GASKET MUST BE USED TO SEAL PIPE TO MANHOLE.
  7. ALL PIPE FITTINGS TO BE 1" CORN. RESTRAINT FITTING OR APPROVED EQUAL.
  8. USE STAINLESS STEEL ANCHORS TO ATTACH PIPE SUPPORTS TO WALL.
  9. PIPE SUPPORTS MUST BE STAINLESS STEEL (2" MAX SPACING).
  10. FOR INTERIOR COATING ON THE MANHOLE, SEE SPECIFICATIONS.
  11. FOR HOUSE FORCE MAIN DROP IF OR LESS, STANDARD IF MANHOLE IS ALLOWED.
  12. HOUSE FORCE MAIN DROP LARGER THAN 1" MUST BE APPROVED BY CITY ENGINEER IF ALLOWED. MANHOLE FRINGE DIMENSIONS SHALL BE USED TO ALLOW 3" CLEARANCE.
  13. ALL MANHOLES IN PAVED AREAS SHALL HAVE BLOCK OUT (SEE MISC. DETAIL SHEET).
  14. A DROP MANHOLE SHALL BE INSTALLED WHEN A SEWER LINE ENTERS A MANHOLE FROM A LOWER ELEVATION ABOVE THE INVERT OF THE MANHOLE.
  15. H.D.P.E. ADJUSTMENT RINGS AS MANUFACTURED BY LADTECH, INC. OR APPROVED EQUAL WITH MAX HEIGHT OF 12".

1 STANDARD PRECAST CONCRETE SANITARY SEWER MANHOLE

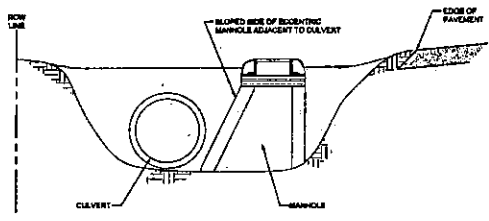
2 STANDARD PRECAST CONCRETE SANITARY SEWER MANHOLE AND INTERNAL DROP

3 STANDARD PRECAST CONCRETE SANITARY SEWER MANHOLE AND INTERNAL DROP FOR FORCE MAIN



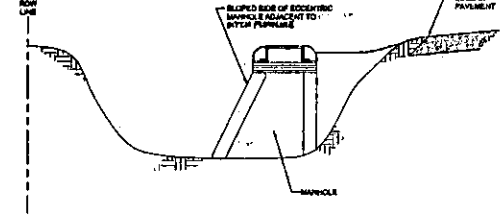
- NOTE:
1. MANHOLE FRAME AND COVER TO BE EAST JEROME IRON WORKS PATENTED OR OTHER APPROVED EQUAL. WHEN SEWER IS LOCATED IN UNPAVED AREAS, CONTRACTOR MAY USE LIGHTNING I AND G, APPROVED BY THE ENGINEER.
  2. STAINLESS STEEL INFLOW PREVENTERS BUILT BY S&L, INC. OR APPROVED EQUAL, SHALL BE USED ON ALL SANITARY SEWER MANHOLES.

4 31-7/8" MANHOLE COVER AND FRAME



- NOTE:
1. WHEN MANHOLE INSTALLED WITH CULVERT, PLACE BLOPED SIDE OF ECCENTRIC MANHOLE ADJACENT TO CULVERT.

5 ECCENTRIC MANHOLE PLACEMENT DETAIL



THIS DETAIL SHEET HAS BEEN PREPARED FOR USE ON STANDARD CITY OF PEARLAND PROJECTS. AN ENGINEER WHO INCORPORATES THE DETAILS ON THIS SHEET BECOMES RESPONSIBLE FOR ITS USE IN THE END PROJECT IN ACCORDANCE WITH RULE 177 OF THE RULES OF THE TEXAS STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS.



City of Pearland, Texas	
STANDARD DETAILS	
SANITARY SEWER	
Job No.	Sheet
Date: May 2013	1
Drawn By: DWN	DATE
Checked By: A. Broughton	DATE

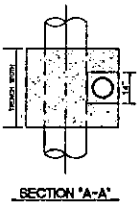
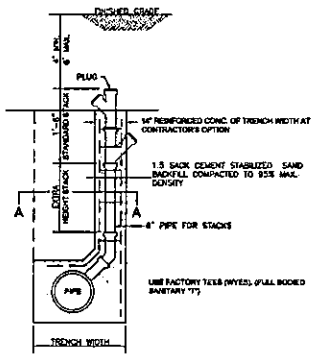
NO.	DESCRIPTION	DATE	DWN	CHK
<b>JACOBS</b>				
5795 ROOSEVELT ROAD HOUSTON, TX 77072-3495 832.331.7230				
City of Pearland, Texas				
FORT BEND COUNTY FRESH WATER SUPPLY DISTRICT NO. 1 MARSHALL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM				
SANITARY SEWER DETAILS (1 OF 3)				
Project No: W1407610	Scale:	SHEET		
Date: SEPTEMBER 2013	WORK:	53		
Drawn By: DWN	VERT:			
Checked By: DCD	DATE			

**SANITARY SEWER SYSTEM CONSTRUCTION NOTES**

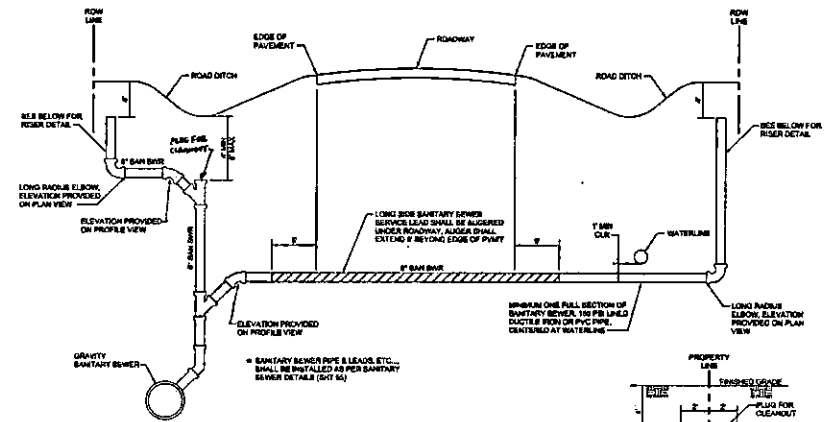
1. FINISHED ELEVATION ON SANITARY SEWER MANHOLE RIMS SHALL BE THREE (3) INCHES ABOVE FINISHED GRADE WITHIN UTILITY EASEMENTS OR STREET RIGHT-OF-WAY. CLEAR FILL SHALL BE MOVED AND SLOPED FROM MANHOLE RIM.
2. CONTRACTOR SHALL MAINTAIN RECORDS OF STUBS, STACKS, AND END OF SERVICE LEAD LOCATIONS WITH 2" P.V.C. PIPE.
3. WATER LINES AND SANITARY SEWER LINES SHALL BE INSTALLED IN SEPARATE TRENCHES.
4. PVC PIPE (POLYVINYL CHLORIDE) SHALL BE IN ACCORDANCE WITH ASTM D2634, SDR 28 GRAVITY.
5. ALL PVC PIPE (ALL TYPES AND SIZES) WALL THICKNESS TO BE USED SHALL HAVE RUBBER GASKET EQUIPPED WELL AND SPOKE JOINTS CONFORMING TO ASTM D-3212. THE GASKET MATERIAL SHALL CONFORM TO ASTM F-477. RUBBER WELDED JOINTS WILL NOT BE APPROVED FOR SERVICE LINES.
6. ALL DUCTILE IRON PIPE SHALL BE 150 PSI WITH EIGHT (8) MIL BLACK VIRGIN POLYETHYLENE WRAP AS SPECIFIED IN AND/OR WITH C106/ASTM.
7. SANITARY SEWER MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF PEARLAND DESIGN STANDARDS. CONTRACTOR TO FURNISH TEE PLUGS AND BRISERS (NO SEPARATE PAY). ALL SEWER LINES TO BE AIR TESTED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
8. MAINTAIN 12-INCH MINIMUM CLEARANCE BETWEEN ALL SANITARY SEWERS AND CONDUITS UNLESS OTHERWISE NOTED.
9. SEWER TRENCHES UNDER OR WITHIN ONE (1) FOOT OF PROPOSED OR EXISTING PAVEMENT TO BE BACKFILLED WITH CEMENT STABILIZED SAND, AS SPECIFIED, TO WITHIN ONE (1) FOOT OF SURFACE. BACKFILL SHALL BE CLASS "A" WHERE CEMENT STABILIZED SAND BACK FILL IS USED FOR SANITARY SEWERS. INCLUDE COST OF BACKFILL IN UNIT PRICE (NO PER LINEAR FOOT OF PIPE).
10. ALL PROPOSED GRAVITY SANITARY SEWER LINES SHALL BE DUCTILE IRON OR SDR 28 GRAVITY PVC PIPE. HIGH-PRESSURE PVC MAY NOT BE SUBSTITUTED FOR D.I.P. OR C-900 (DR 18 ONLY) PVC.
11. BEDDING FOR ALL TYPES OF SANITARY SEWER PIPE SHALL BE CLASS "A" AT ALL DEPTHS (NO SEPARATE PAY).
12. FOR ALL PVC PIPE, USE MANHOLE WATER STOP GASKET AND CLAMP ASSEMBLY AT MANHOLE CONNECTIONS (NO SEPARATE PAY).
13. SANITARY SEWER MANHOLES SHALL BE STANDARD TYPE, UNLESS OTHERWISE NOTED, AND BACKFILLED WITH CEMENT STABILIZED SAND AS SPECIFIED (NO SEPARATE PAY). ALL SANITARY MANHOLES SHALL BE AT LEAST 1 FOOT ABOVE THE 100 YEAR BASE FLOOD ELEVATION. SECTIONS FOR PRECAST MANHOLES SHALL BE JOINED WITH RUBBER GASKET JOINTS. "JUMPS" OR "SADDLES" WILL NOT BE APPROVED.
14. ALL FAN-SIDE LEADS SHALL BE SIX (6) INCHES OR EIGHT (8) INCHES DIAMETER AT ELBOW WITH SLOPE AND SHALL BE PVC OR 28, 150 PSI PRESSURE PIPE CONFORMING TO ASTM D-2241. STEEL AND FAN-SIDE LEADS SHALL BE 2 1/2" TO 3" O.D. WITH THICKNESS CL. 81. WHERE THERE IS LESS THAN THREE (3) FOOT COVER TO TOP OF COVER (NO SEPARATE PAY).
15. LEADS SERVING TWO LOTS SHALL HAVE A SERVICE "WYE" WITH PLUGS (NO SEPARATE PAY). THE "WYE" SHALL BE LOCATED WITHIN THE STREET RIGHT-OF-WAY OR ADJOINING UTILITY EASEMENT.
16. ALL PRECAST CONCRETE MANHOLES SHALL HAVE THE TOP 18 INCHES CONSTRUCTED OF STEEL OR PRECAST P.C. BRICK, SEALED INSIDE AND OUTSIDE.
17. SANITARY SEWER LINE IN PIPE TRENCH UNDER LOT EASEMENT SHALL BE ENCASED WITH CEMENT STABILIZED SAND. (NO SEPARATE PAY).
18. IF WET SAND IS ENCOUNTERED IN THE FIELD, USE SPECIAL BEDDING AS DETERMINED BY THE ENGINEER.
19. USE WHITE PIPE FOR ALL FORCE MAINS.
20. PROVIDE THE LATEST OR APPROVED EQUAL PIPE RESTRAINT AND CASING SYSTEM ON UNDERGROUND PRESSURE PIPE SYSTEMS.

**SPECIAL NOTES: LOCATION OF SANITARY SEWER FACILITIES**

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-BUILT RED LINES AND FLOW LINE ELEVATIONS OF ALL SERVICE CONNECTIONS AND SHALL BE PLACED ON AS-BUILTS PLANS AT THE COMPLETION OF THIS JOB.



1 2 SANITARY SEWER STACK



2 2 SANITARY SEWER SERVICE LEAD DETAIL PROFILE VIEW

**NOTE:**

1. ALL SANITARY SEWER TAPS SHOULD BE PLACED IN LINE WITH PROPERTY CORNER OR PLACED HALF WAY BETWEEN THE FRONT LOT CORNERS, OR AT FC OF CURB RETURN IN MULTI LOT SUBDIVISIONS.
2. IF LOTS ARE LESS THAN 60' IN WIDTH TAPS ARE TO BE PLACED AT PROPERTY CORNERS.



NO.	DESCRIPTION	DATE	BY	CHK
1				
2				

**JACOBS**  
5515 ROCKDALE ROAD  
HOUSTON, TX 77072-3485  
832.351.7230

City of Pearland, Texas  
City of Pearland, Texas

STANDARD DETAILS  
SANITARY SEWER

Project No: WH017215  
Date: SEPTEMBER 2015  
Drawn By: DMS  
Check By: A. Brumpton

Scale: HORIZ. NONE  
VERT. NONE

SHEET 2 OF 3

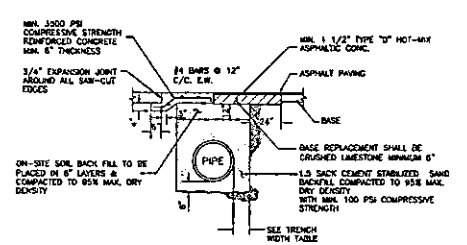
SANITARY SEWER DETAILS (2 OF 3)

THIS DETAIL SHEET HAS BEEN PREPARED FOR USE ON STANDARD CITY OF PEARLAND PROJECTS. AN ENGINEER WHO INCORPORATES THE DETAILS ON THIS SHEET BECOMES RESPONSIBLE FOR ITS USE IN THE END PRODUCT IN ACCORDANCE WITH RULES 121.23 (b) AND (4) OF THE TEXAS STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS.

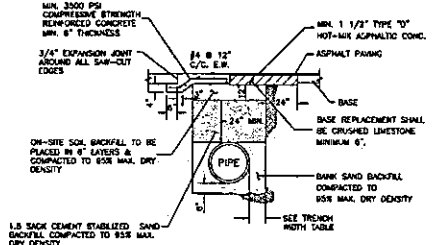


Job No.	Scale	SHEET
Date: May 2003	HORIZ. NONE	2
Drawn By:	VERT. NONE	OF 3
Check By: A. Brumpton		

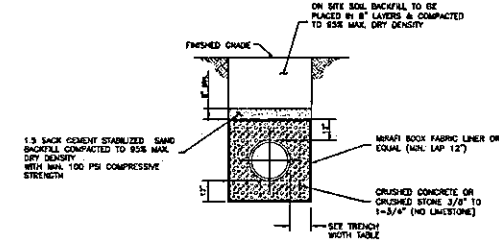
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Date: SEPTEMBER 2015  
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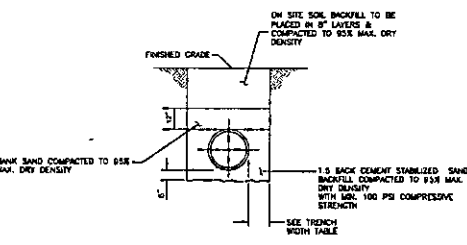
1 TRENCH SECTION FOR GRAVITY SEWER UNDER PAVEMENT



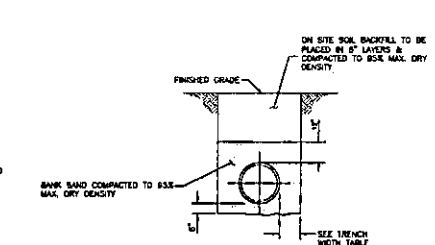
4 BEDDING AND BACKFILL FOR FORCE MAIN UNDER PAVEMENT



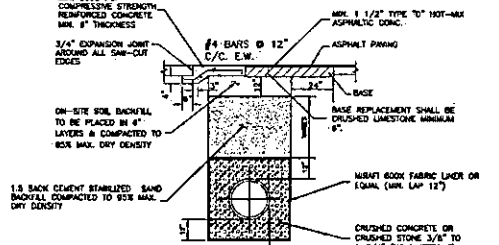
6 BEDDING AND BACKFILL FOR WET SAND GRADED AREA



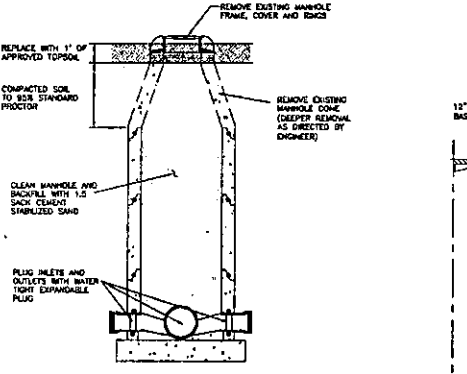
2 AA PIPE BEDDING DETAIL FOR GRAVITY SEWER GRADED AREA



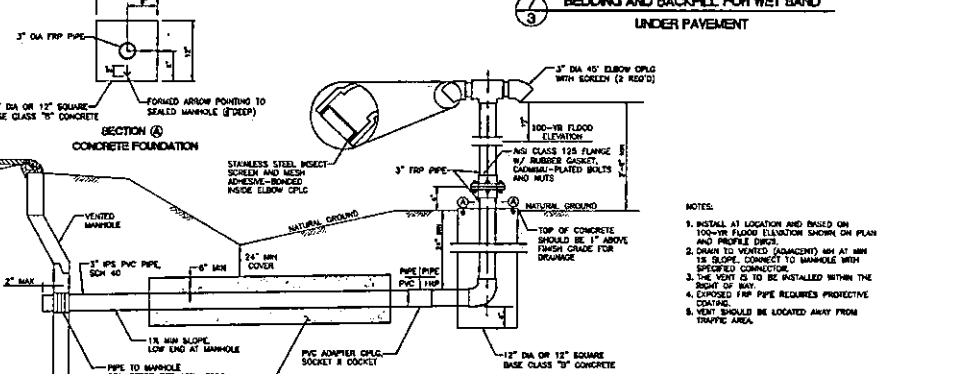
5 BEDDING AND BACKFILL FOR FORCE MAIN GRADED AREA



3 BEDDING AND BACKFILL FOR WET SAND UNDER PAVEMENT



3 SANITARY SEWER MANHOLE ABANDONMENT



8 SANITARY SEWER MANHOLE VENT

NOTE:

1. ALL PVC PIPE SHALL HAVE RUBBER GASKET EQUIPPED BELL AND SPIGOT JOINTS CONFORMING TO ASTM D3212. ELASTOMERIC SEALS SHALL BE A SINGLE DOUBLE-SEALING GASKET SPANNING ONE FULL CORRUGATION WITH THE LEADING EDGE BEING LOWER THAN THE SECOND EDGE TO FACILITATE PROPER JOINING. THE GASKET MATERIAL SHALL CONFORM TO ASTM F477.
2. ALL CEMENT STABILIZED SAND BACKFILL SHALL CONFORM TO SPECIFICATION CEMENT STABILIZED SAND - SECTION 02232.
3. ALL JOINTS IN PRE-CAST CONCRETE PIPE AND BOX SHALL RECEIVE JOINT SEALANT, RAM-NEK, OR APPROVED EQUAL.
4. ALL PIPE WITHIN 1' OF PAVEMENT SHALL USE BACKFILL DETAIL FOR UNDER PAVEMENT.

TRENCH WIDTH TABLE	
NOMINAL PIPE SIZE (INCHES)	MINIMUM TRENCH WIDTH (INCHES)
LESS THAN 18	O.D. + 18
18 TO 30	O.D. + 24
GREATER THAN 30	O.D. + 36



THIS DETAIL SHEET HAS BEEN PREPARED FOR USE ON STANDARD CITY OF PEARLAND PROJECTS. AN ENGINEER HAS INCORPORATED THE DETAILS ON THIS SHEET BECOMING RESPONSIBLE FOR ITS USE ON THE END PRODUCT IN ACCORDANCE WITH RULES 107.81(b) AND 111 OF THE TEXAS STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS.



City of Pearland, Texas  
STANDARD DETAILS  
SANITARY SEWER

Rev. No.	Issue	SHEET
001	001	3
002	002	
003	003	
004	004	
005	005	

Project No. W0007310  
Date: SEPTEMBER 2015  
Drawn By: DWM  
Checked By: A. Graydon

NO.	DESCRIPTION	DATE	CHK.

**JACOBS**  
5935 ROOSEVELT ROAD  
HOUSTON, TX 77072-3495  
832.351.7230

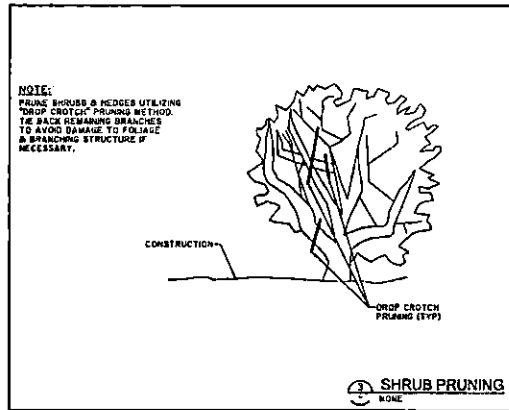
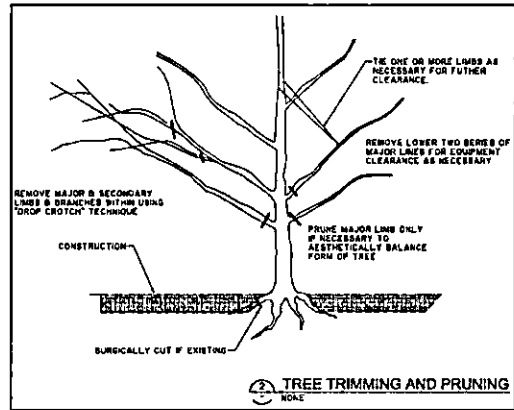
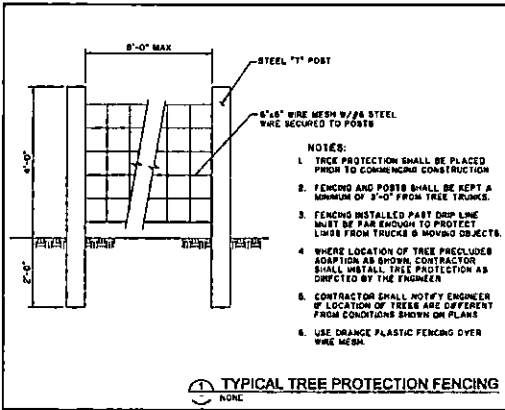


City of Pearland, Texas  
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSH ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM

SANITARY SEWER DETAILS  
(3 OF 3)

Project No. W0007310	Sheet
Date: SEPTEMBER 2015	NO. 55
Drawn By: DWM	VERT:
Checked By: A. Graydon	DATE

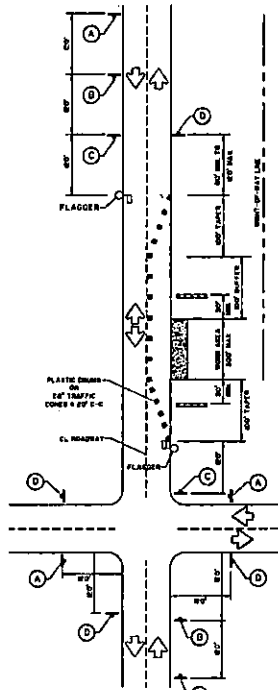




NO.	DESCRIPTION	DATE	CHK
<b>JACOBS</b>			
5915 ROOFDALE ROAD HOUSTON, TX 77072-3493 832.351.7230			
City of Pearland, Texas			
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARBLE ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM			
MISCELLANEOUS DETAILS (2 OF 2)			
Project No:	WH007610	Scale:	SHEET
Date:	SEPTEMBER, 2013	WORK:	57
Drawn By:	DWH	VERIFY:	OF 58
Check By:	DCD		

*P. J. Work*  
PROJECT COORDINATOR

DATE PLOTTED: 09/10/13 10:51 AM; PLOT BY: JACOBUS ENGINEERING GROUP, INC.; PLOT SCALE: 1:1



TYPICAL ONE LANE TWO WAY FLAGGING OPERATION

LECCO

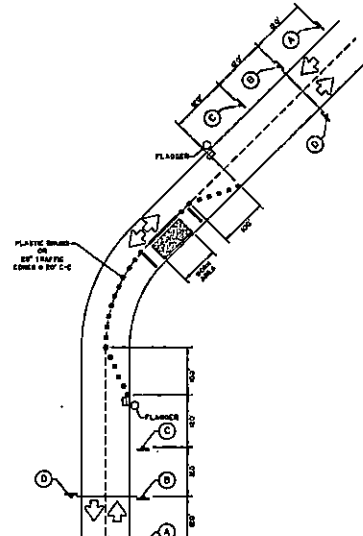
	Type B Barricade		Channeling Device		Flag
	Heavy Work Vehicle		Track Mounted Attenuator		
	Trailer Mounted Flashing Arrow Panel		Portable Changeable Message Sign		
	Flagger		Sign Post		

Flagger Speed @	Forward	Minimum Separation		Suggested Minimum Separation		Minimum Sign Spacing @ Distance	
		1st Stop Line	2nd Stop Line	On + Lane	On + Lane		
30		150'	165'	180'	30'	60'-75'	120'
35	LWS	205'	225'	245'	35'	70'-90'	160'
40	SD	265'	295'	320'	40'	80'-100'	240'
45		450'	495'	540'	45'	90'-110'	320'
60		500'	550'	600'	50'	100'-125'	400'
65	LWS	550'	605'	660'	55'	110'-140'	500'
68		600'	660'	720'	60'	120'-150'	* 600'
70		650'	715'	780'	65'	130'-165'	* 700'

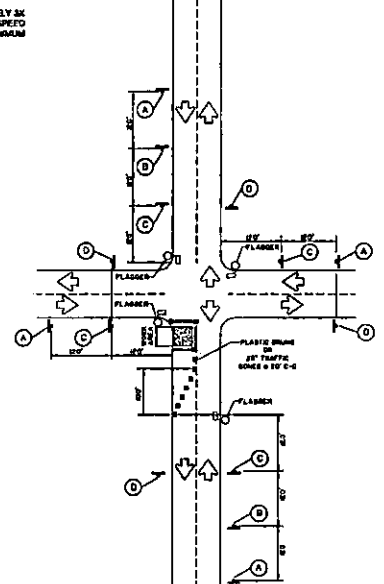
\* Channelized Road Only  
 \* LWS Lane Widths have been included in  
 \* LWS Lane Width of 12' Minimum at 60 MPH, 14' at 70 MPH, 16' at 80 MPH

GENERAL NOTES

- THE CONSTRUCTION TRAFFIC CONTROL SIGNS, DEVICES, AND BARRICADES ON THESE DRAWINGS CONSTITUTE MINIMUM REQUIREMENTS AND ARE NOT INTENDED TO COVER SPECIAL CIRCUMSTANCES OR OTHER CONDITIONS THAT MAY ARISE DUE TO UNFORESEEN FIELD CONDITIONS. THE CONTRACTOR SHALL PLACE AND MAINTAIN DIFFERENT ADDITIONAL SIGNS, BARRICADES, AND WARNING DEVICES TO WARN THE PUBLIC AND PROVIDE FOR THE SAFE MOVEMENT OF TRAFFIC AND THE CONSTRUCTION ZONE SAFETY.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH PART 63 OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUCD), MOST RECENT EDITION WITH REVISIONS, DURING CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE ACCESS TO ALL PROPERTIES ALONG THIS PROJECT AT ALL TIMES DURING CONSTRUCTION UNLESS OTHERWISE AUTHORIZED SPECIFICALLY BY THE ENGINEER.
- ALL EXISTING STOP SIGNS, STREET NAME SIGNS, AND WARNING SIGNS SHALL BE MAINTAINED IN PLACE DURING THE ENTIRE PERIOD OF CONSTRUCTION BY THE CONTRACTOR.
- THE ENGINEER MAY DIRECT THE CONTRACTOR TO FURNISH ADDITIONAL SIGNS, BARRICADES, AND CHANNELIZING DEVICES AS REQUIRED TO MAINTAIN TRAFFIC AND CONSTRUCTION ZONE SAFETY DURING CONSTRUCTION. ANY SUCH ADDITIONAL SIGNS, BARRICADES, ETC., SHALL BE CONSIDERED A PART OF THE LUMP SUM PAY ITEM.
- CONTRACTOR SHALL INSURE THAT ALL BARRICADES, SIGNS, CHANNELIZING DEVICES, WARNING LIGHTS, AND TRAFFIC HANDLING DEVICES ARE MAINTAINED IN A CLEAN FUNCTIONAL CONDITION AT ALL TIMES.
- ALL SIGNS, WARNING DEVICES, AND BARRICADES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ACTS OF VANDALISM OR ACCIDENT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE TEMPORARY AND EXISTING PAVEMENT MARKINGS IN A GOOD VISIBLE CONDITION THROUGHOUT THE LENGTH OF THE PROJECT.
- IF THE CONTRACTOR CHOOSES TO USE A DIFFERENT METHOD OF "TRAFFIC CONTROL PLANS" DURING THE CONSTRUCTION THAN WHAT IS OUTLINED IN THE CONTRACT DRAWINGS, HE SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT AN ALTERNATE SET OF PLANS TO PLAN REVIEW SECTION FOR APPROVAL TEN WORKING DAYS PRIOR TO IMPLEMENTATION.
  - THESE PLANS SHALL BE DRAWN TO SCALE ON REPRODUCIBLE MYLARS AND SEALED BY A LICENSED ENGINEER IN THE STATE OF TEXAS. APPROVED PLANS WILL BECOME A PART OF THE CONTRACT DRAWINGS.
- CONTRACTOR SHALL MAINTAIN TRAFFIC LANE(S) ACCORDING TO TRAFFIC CONTROL PLANS DURING WORKING HOURS.
- CONCRETE TRAFFIC BARRIER (CTB) OR LOW PROFILE CONCRETE TRAFFIC BARRIER (LPCBT) WITH REFLECTORS @ 12" C/C, IF PAVEMENT DROP IS MORE THAN TWELVE INCHES (12").
- UNLESS OTHERWISE STATED IN THE PLANS, FLAGS ATTACHED TO SIGNS ARE REQUIRED.
- ALL TRAFFIC CONTROL DEVICES ILLUSTRATED ARE REQUIRED EXCEPT THOSE DEVOTED WITH THE TRIANGLE SYMBOLS, MAY BE OMITTED WHEN STATED OTHERWISE IN THE PLANS.
- TYPE B BARRICADES ARE REQUIRED ON BOTH SIDES OF WORK AREA AT ALL TIMES WHERE SHOWN.
- STOCKPILED MATERIAL SHOULD BE PLACED A MINIMUM 30' FROM NEAREST TRAVELED WAY.
- ON HIGH SPEED FACILITIES ADVANCE WARNING ZONES SHOULD BE INSTALLED APPROXIMATELY 36' FROM THE WORK AREA OR FROM THE BEGINNING OF A LANE OR SHOULDER TAPER, ON LOW SPEED FACILITIES THE ADVANCE WARNING SIGN SHOULD BE PLACED ON FACILITIES THE "X" MINIMUM DISTANCE.



TYPICAL ONE LANE TWO WAY FOR CURVED ROADS, FLAGGING OPERATION



WORK AREA IN AN INTERSECTION ONE LANE TWO WAY, FLAGGING OPERATION



DESCRIPTION	DATE	CHK	APP
<b>JACOBS</b>			
5905 ROODVILLE ROAD HOUSTON, TX 77072-3485 832.351.7230			
<b>PEARLAND</b>			
City of Pearland, Texas			
FORT BEND COUNTY FRESHWATER SUPPLY DISTRICT NO. 1 MARSHLL ESTATES SUBDIVISION / PORTION OF RIDGEWOOD ESTATES SUBDIVISION / NORTH AND SOUTH TEAGUE ROAD WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEM			
TRAFFIC CONTROL PLAN			
PROJECT NO: W1007310	SCALE:	6/400T	
DATE: SEPTEMBER 2016	HOZ: (NONE)	58	
CHK BY: DWM	VERT:	OF 84	
CHK BY: DCD			

*B. J. [Signature]*  
 PROJECT COORDINATOR 12/1/16  
 7 CATS