

**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: 2017-12577

Applicant: Resicom, Inc./Costello, Inc.

Job Location Site: 8125 Homeward Way, Sugar Land, TX, TX 77479

Bond No. 2017-12577 **Date of Bond:** 4/27/2017 **Amount:** \$207,231.00

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 23rd day of May, 2017, Upon Motion of Commissioner Muyres, seconded by Commissioner Morales, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Signature

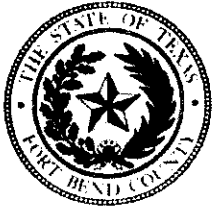
Presented to Commissioners Court and approved.

By: Charles O. Ay
for County Engineer

Date Recorded 5-30-2017 Comm. Court No. 9Q

N/A
By: _____
Drainage District Engineer/Manager

Clerk of Commissioners Court
By: Amelia Walker
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: 2017-12577

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: \$207,231.00
- ☐ 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.

Charles O. Al

Permit Administrator

5/15/17

Date

34

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

AUTHORIZED

BOND NO. [REDACTED]
THE STATE OF TEXAS §
COUNTY OF FORT BEND §
KNOW ALL MEN BY THESE PRESENTS:

THAT WE, Resicom, Inc. whose address is Bellaire, TX 77401, Texas, hereinafter called the Principal, and The Guarantee Co. 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 Ste 1470, Southfield, MI 48076, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought within said State is TX and whose address is 1999 Bryan St, Ste 900 Dallas, TX 75201 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 Hundred Seven Thousand Two Hundred Dollars (\$ 207,231) current, lawful money of the United States of America, to be paid to said Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, to which payment well and truly to be made and done, we, the undersigned, bind ourselves and each of us, our heirs, executors, administrators, successors, assigns, and legal representatives, jointly and severally, by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, the above bounden principal contemplates laying, constructing, maintaining and/or repairing one or more cables, conduits, and/or pole lines in, under, across and/or along roads, streets and highways 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;

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 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.

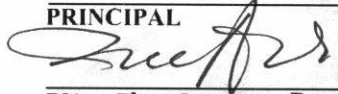
This bond is payable at the County Courthouse in the County of Fort Bend and State of Texas.

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 27th day of April, 2017

Resicom, Inc.

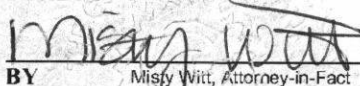
PRINCIPAL



BY Ike Anya - President

The Guarantee Co. Of North America USA

SURETY



BY Misty Witt, Attorney-in-Fact

CCM 5-23-17 #90
Fort Bend County Clerk
Return Admin Serv Coord KAL



4 PGS
BOND

2017058556



The Guarantee Company of North America USA
Southfield, Michigan

POWER OF ATTORNEY

POWER OF ATTORNEY NUMBER (must match bond number on bond):

Fort Bend County Cable Line Performance Bond

Two Hundred Seven Thousand Two Hundred Thirty Dollars and Eighty Five Cents (\$207,230.80)

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

Misty Witt, The Woodlands, TX

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 31st 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 23rd day of February, 2012.

THE GUARANTEE COMPANY OF NORTH AMERICA USA

Stephen C. Ruschak

Randall Musselman

STATE OF MICHIGAN
County of Oakland

Stephen C. Ruschak, Vice President

Randall Musselman, Secretary

On this 23rd day of February, 2012 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.

Cynthia A. Takai

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 27th day of April, 2017

Randall Musselman

Randall Musselman, Secretary



TEXAS CONSUMER NOTICE

1. **IMPORTANT NOTICE**

To obtain information or make a complaint:

2. You may contact your **agent** at:

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

4. You may also write to The Guarantee Company of North America USA at:

One Towne Square, Suite 1470
Southfield, Michigan 48076
Web: www.theguaranteeus.com
E-mail: Info@theguaranteeus.com
Fax: 248-750-0431

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

6. You may write the Texas Department of Insurance:
333 Guadalupe Street
P.O. Box 149104
Austin, TX 78701
Fax: (512) 490-1007
Web: <http://www.tdi.texas.gov>
E-mail: ConsumerProtection@tdi.texas.gov

7. **PREMIUM OR CLAIM DISPUTES:**

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.

8. **ATTACH THIS NOTICE TO YOUR POLICY:**

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

AVISO IMPORTANTE

Para obtener informacion o para someter una queja:

Puede comunicarse con su **agent** al

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

Usted tambien puede escribir a to The Guarantee Company of North America USA;

One Towne Square, Suite 1470
Southfield, Michigan 48076
Web: www.theguaranteeus.com
E-mail: Info@theguaranteeus.com
Fax: 248-750-0431

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

Puede escribir al Departamento de Seguros de Texas:
333 Guadalupe Street
P.O. Box 149104
Austin, TX 78701
Fax: (512) 490-1007
Web: <http://www.tdi.texas.gov>
E-mail: ConsumerProtection@tdi.texas.gov

DISPUTAS SOBRE PRIMAS O RECLAMOS:

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

UNA ESTE AVISO A SU POLIZA: Este aviso es solo para proposito de informacion y no se convierte en parte o condicion del document adj unto.

FILED AND RECORDED
OFFICIAL PUBLIC RECORDS

Laura Richard



Laura Richard, County Clerk
Fort Bend County, Texas

May 30, 2017 03:00:57 PM

FEE: \$0.00 CR1
BOND

2017058556

CONSTRUCTION PLANS FOR SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE FOR NEW TERRITORY LOCATED IN FORT BEND COUNTY LID 7 FORT BEND COUNTY, TEXAS

INDEX OF DRAWINGS

SHEET NO. DESCRIPTION

1. COVER SHEET
2. CONSTRUCTION NOTES

LAYOUT SHEET

3. OVERALL LAYOUT
4. WATER LINE LAYOUT

PLAN AND PROFILE SHEETS

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6. NEW TERRITORY BLVD. - STA. 20+00.00 TO 30+00.00
7. NEW TERRITORY BLVD. - STA. 30+00.00 TO 40+00.00
8. NEW TERRITORY BLVD. - STA. 40+00.00 TO 49+00.00
9. HOMEWARD WAY - STA. 1+00.00 TO 10+00.00
10. HOMEWARD WAY - STA. 10+00.00 TO 20+00.00
11. HOMEWARD WAY - STA. 20+00.00 TO 30+00.00
12. HOMEWARD WAY - STA. 30+00.00 TO 40+00.00
13. HOMEWARD WAY - STA. 40+00.00 TO 50+00.00
14. HOMEWARD WAY - STA. 50+00.00 TO 60+00.00
15. HOMEWARD WAY - STA. 60+00.00 TO 70+00.00
16. HOMEWARD WAY - STA. 70+00.00 TO 75+75.00 AND HEATHERTON
17. BURNBROOK DRIVE
18. COOL WATER DRIVE AND VALSTON BEND DRIVE - STA. 1+00.00 TO 5+00.00
19. VALSTON BEND DRIVE STA. 5+00.00 TO 13+00.00
20. EMMA COVE COURT
21. RE-USED WATER LINE "A"
22. HIDDEN CREST WAY AND MISTY OAK LANE STA. 13+67.75 TO 15+00.00
23. MISTY OAK LANE - STA. 15+00.00 TO 20+00.00 AND TWIN VALLEY DRIVE - STA. 1+00.00 TO 4+00.00
24. TWIN VALLEY DRIVE - STA. 4+00.00 TO 7+00.00 AND ANDERSTONE DRIVE - STA. 1+00.00 TO 6+00.00
25. ANDERSTONE DRIVE - STA. 6+00.00 TO 10+00.00
26. ANDERSTONE DRIVE - STA. 10+00.00 TO 20+00.00 AND CRISFIELD DRIVE - STA. 1+00.00 TO 5+00.00
27. CRISFIELD DRIVE - STA. 5+00.00 TO 10+00.00
28. KENDALL CREEK DRIVE - STA. 1+00.00 TO 10+00.00
29. KENDALL CREEK DRIVE - STA. 10+00.00 TO 16+00.00 AND PEBBLESTONE WALK - STA. 1+00.00 TO 3+00.00
30. PEBBLESTONE WALK - STA. 3+00.00 TO 7+00.00 AND RIVERCOACH LANE - STA. 7+00.00 TO 11+00.00
31. VALSTON BEND DRIVE - STA. 16+00.00 TO 20+00.00 AND GRASSY KNOLLS

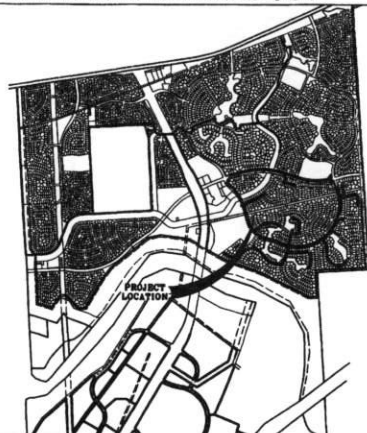
DETAILS AND MISCELLANEOUS SHEETS

32. POLLUTION PREVENTION PLAN
33. POLLUTION PREVENTION DETAILS
34. MISCELLANEOUS DETAILS
35. WORK SOME "GIVE US A BREAK" SIGNS W/BRK-13
36. PEDESTRIAN FACILITIES CURB RAMPS - PED 12A

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37. CONSTRUCTION NOTES I (SL-01)
38. CONSTRUCTION NOTES II (SL-02)
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42. WATER LINE CROSSING DETAILS (SL-16)
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45. EROSION CONTROL DETAILS - I (SL-24)
46. EROSION CONTROL DETAILS - I (SL-25)

MAP REF: FORT BEND COUNTY KEY MAP PG. 607 50. "B" & "C"



VICINITY MAP
SCALE 1"=3/4 MILE

APPROVAL BY THE CITY OF SUGAR LAND WILL BE DEEMED VOID IF CONSTRUCTION HAS NOT BEGUN WITHIN ONE YEAR OF APPROVAL DATE.
CONTRACTOR SHALL NOTIFY THE CITY OF SUGAR LAND AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
NO CONSTRUCTION SHALL BEGIN UNTIL COVER SHEET IS SIGNED.

CITY OF SUGAR LAND
APPROVED: *[Signature]*
DATE: 12/21/16



Engineering and Surveying
9990 Richmond Avenue, Suite 450
North Building
Houston, Texas 77042
(713) 783-7788 (713) 783-3580, Fax
TEXAS PE BOARD FIRM
REGISTRATION No. 280

JOB NO. 1988080-142

DATE: OCTOBER, 2016

FORT BEND COUNTY

ENGINEER: *[Signature]* R. E. PROE
for RICHARD MCSTOLLE, P.E.
DATE: 1/20/17

THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN ONE YEAR FROM DATE OF APPROVAL.

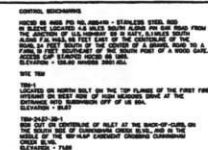
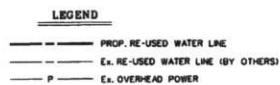
APPROVED: *[Signature]*
DEVELOPMENT COORDINATOR
DATE: 1/19/17



Know what's below.
Call before you dig.

CONTACT NUMBERS

CITY OF SUGAR LAND - ENGINEERING DEPT. 281-275-2788
F.B.C. M.U.D. No. 67 & 111 - OPERATOR - MUNICIPAL OPERATIONS & CONSULTING, INC. 281-367-0551
F.B.C. M.U.D. No. 67 & 111 - ENGINEER - COSTELLO, Inc. 713-783-7788
FORT BEND COUNTY DRAINAGE DISTRICT 281-342-2863



Costello

Engineering and Surveying
9990 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7788 (713) 783-3580, Fax
TBPE FIRM REG. No. 280
TBPLS FIRM REG. No. 100486

NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE

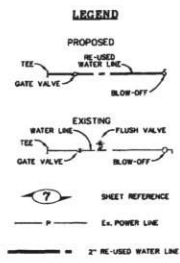
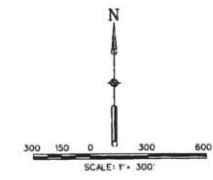
OVERALL LAYOUT



SECRET	3
OF	46
SECRET	
JOB NO. 19992020-142	

Maggi Dool 1/19/17

CONTRACT NO. 1999020-142
 SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE FOR NEW TERRITORY JOB NO. 1999020-142
 DATE: 1/15/17



- NOTES**
1. SEE PLAN AND PROFILE SHEETS FOR GAS MAINS.
 2. THE PROPOSED RE-USED WATER LINE FOR THIS PROJECT WILL BE INSTALLED USING THINWALLED CONSTRUCTION METHODS UNLESS OTHERWISE NOTED OR AS APPROVED BY THE ENGINEER.



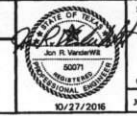
APPROVED: *M. J. [Signature]*
 DATE: 1/15/17

DESIGNED BY: <i>BLM</i>	DRIVEN BY: <i>TRV</i>
DESIGN CHECKED BY: <i>BLM</i>	
CADD CHECKED BY:	
SURVEY CHECKED BY:	
QA/QC BY: <i>DS</i>	DATE: 1/11/17
QA/QC REVISIONS BY: <i>BLM</i>	



Engineering and Surveying
 9990 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 783-7798 (713) 785-3560, Fax
 TBPE FIRM REG. No. 280
 TBPLS FIRM REG. No. 100486

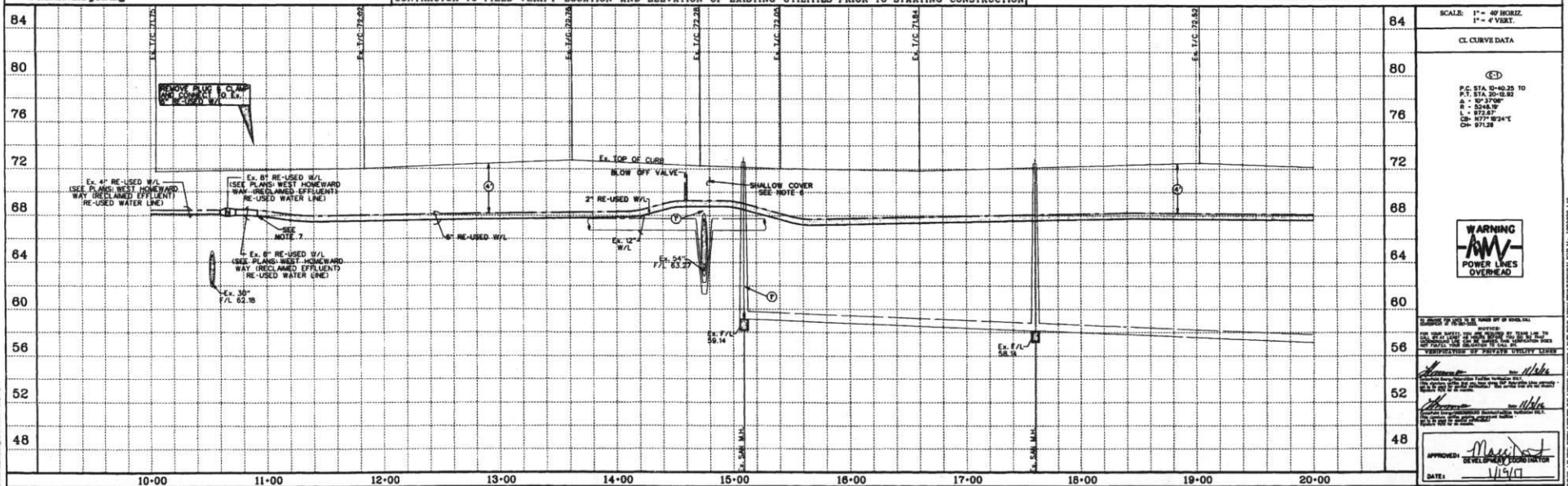
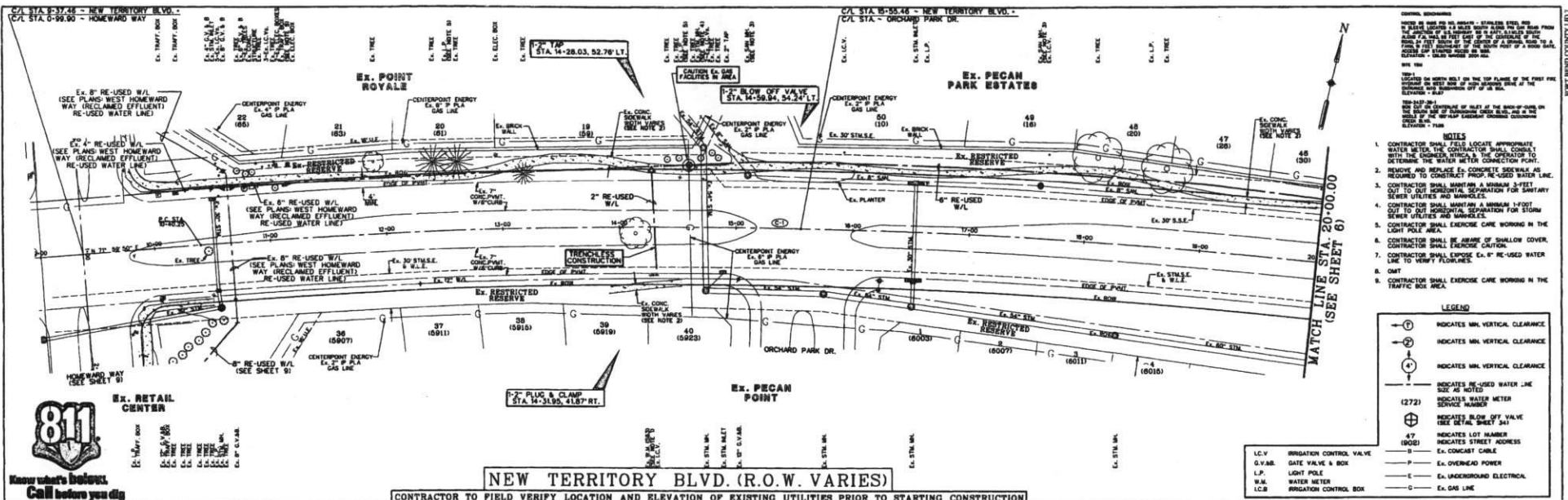
NEW TERRITORY
 SOUTH HOMEWARD WAY
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
WATER LINE LAYOUT



SHEET **4**
 OF **46** SHEETS
 JOB NO. 1999020-142

SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE FOR NEW TERRITORY JOB NO. 1999020-142

SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE FOR NEW TERRITORY JOB NO. 1999020-142



DESIGNED BY: *ELM*
 DRAWN BY: *ELM*
 CHECKED BY: *ELM*
 SURVEY CHECKED BY: *ELM*
 DATE: 1-17-17
 QA/QC REVISIONS BY: *ELM*

Costello

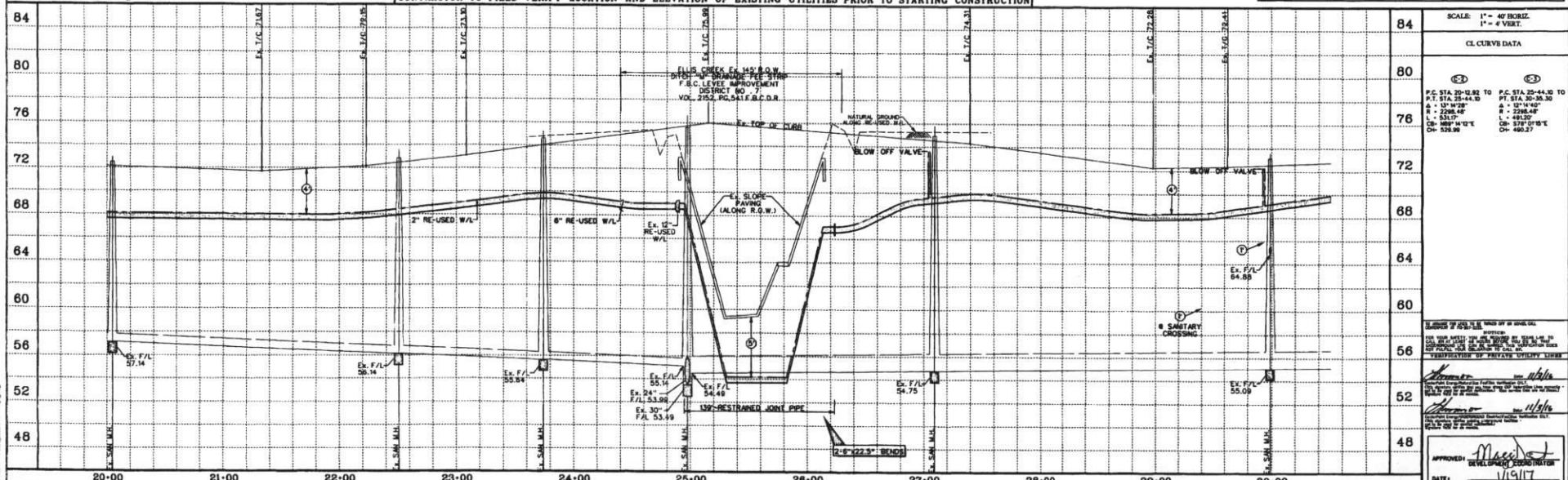
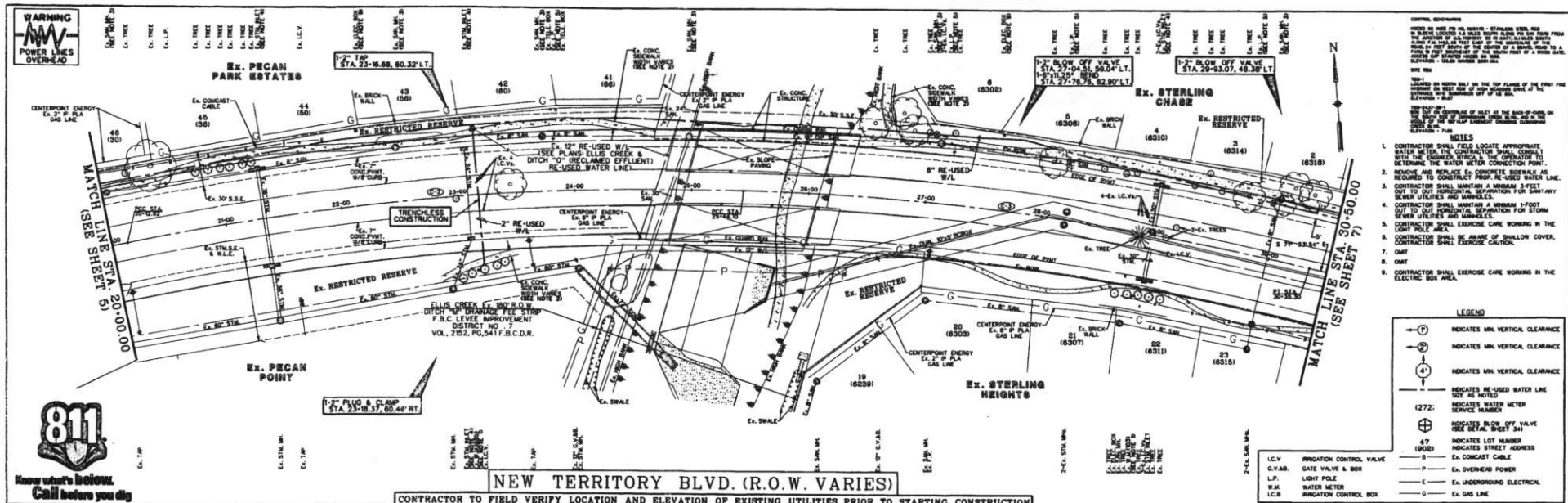
Engineering and Surveying
 9900 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 783-7788 (713) 783-3580, Fax
 TBPE FIRM REG. No. 280
 TBPLS FIRM REG. No. 100486

NEW TERRITORY
 SOUTH HONORWAY WAY
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
 PLAN AND PROFILE
 NEW TERRITORY BLVD.
 STA. 9+00.00 TO STA. 20+00.00

NO. REVISION DATE BY

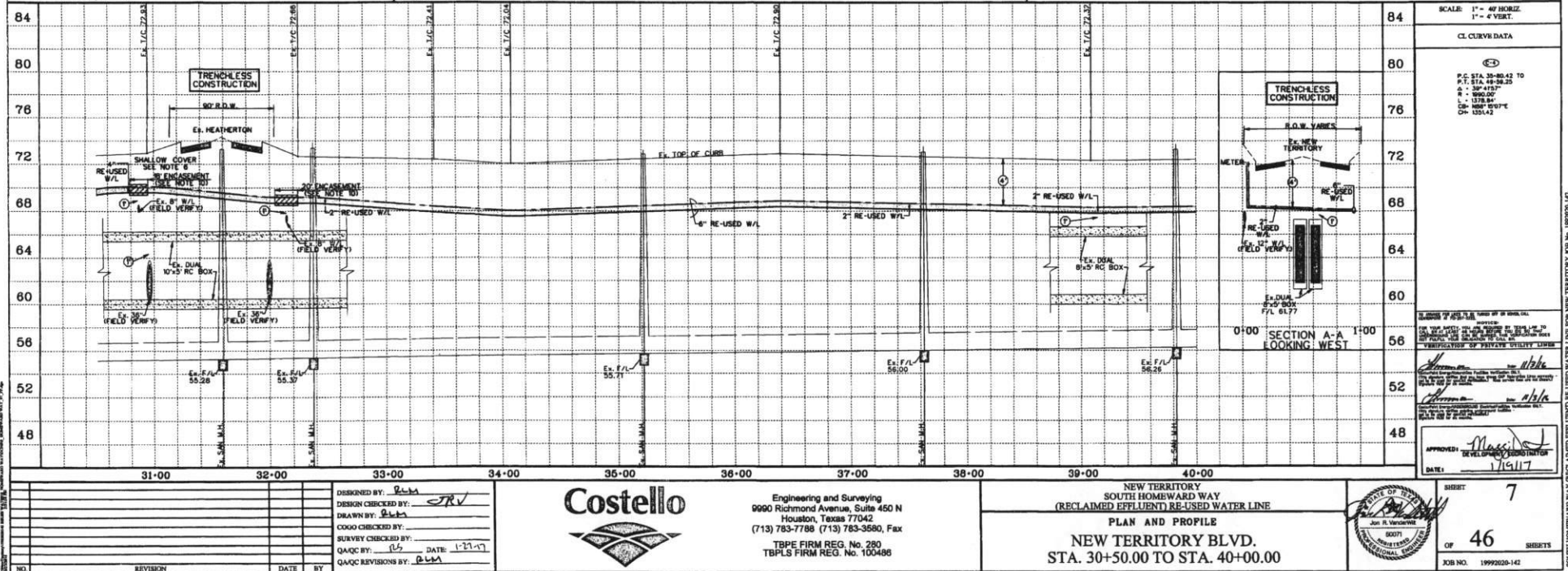
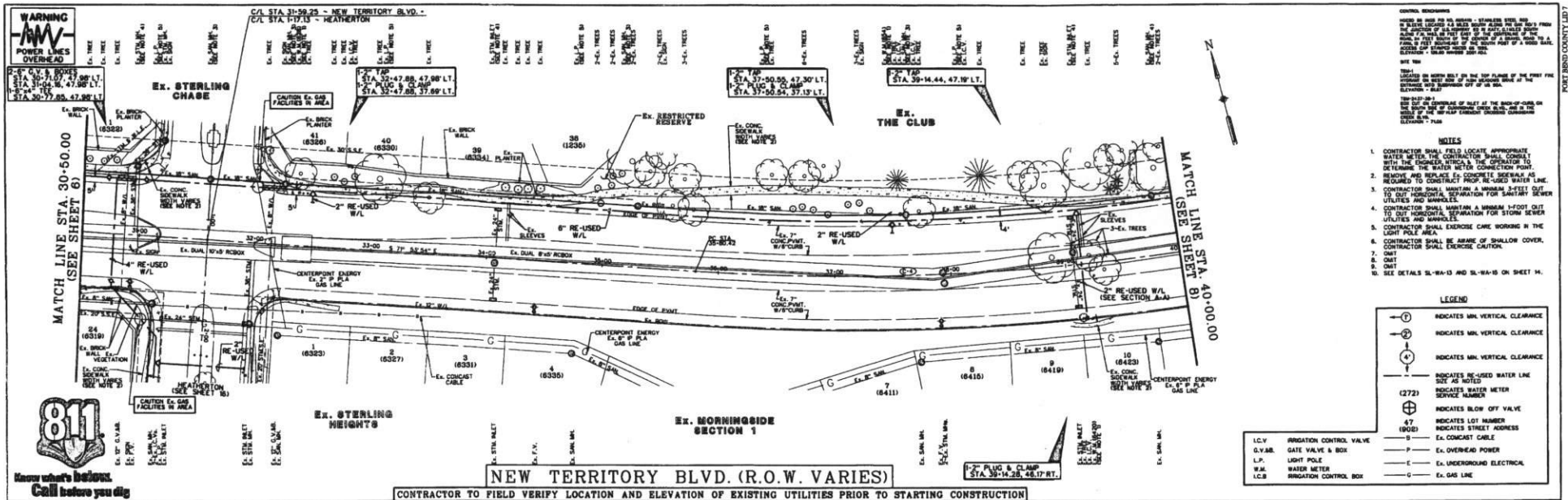
10/27/2016

SHEET 5 OF 46
 JOB NO. 19992020-142



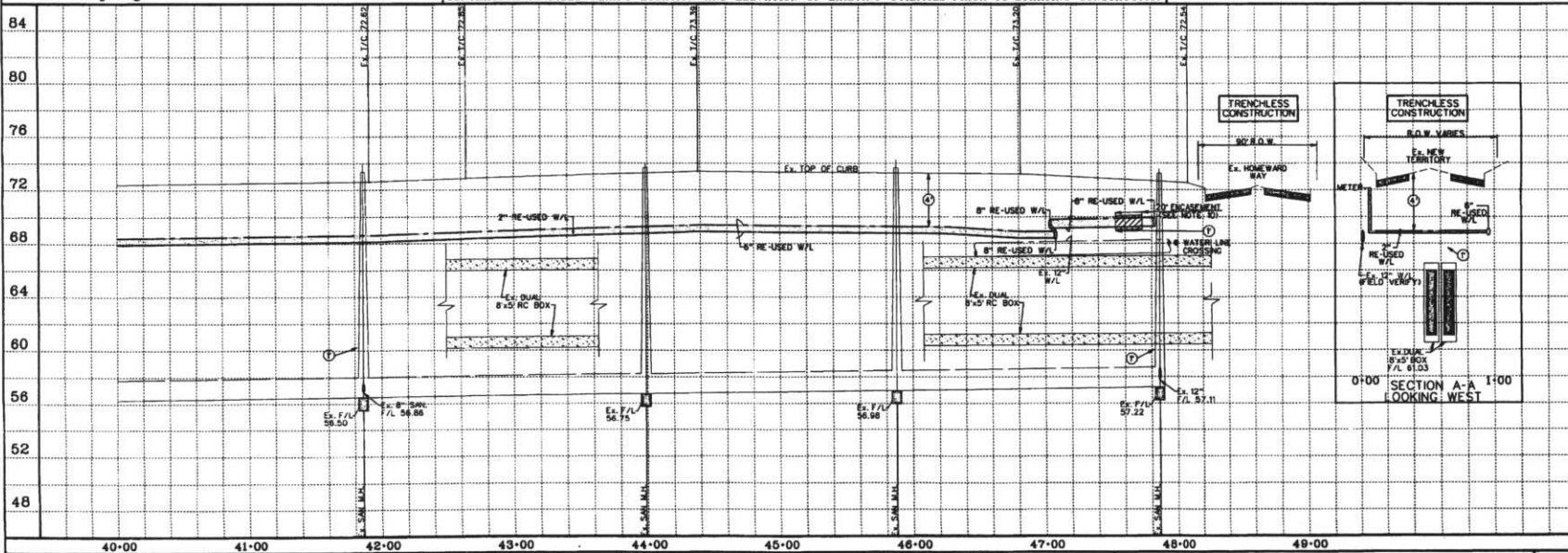
DESIGNED BY: <i>RLM</i> DRAWN BY: <i>RLM</i> CHECKED BY: <i>RLM</i> SURVEY CHECKED BY: <i>RLM</i> DATE: <i>1/17/17</i>		Costello Engineering and Surveying 9990 Richmond Avenue, Suite 450 N Houston, Texas 77042 (713) 763-7788 (713) 783-3680, Fax TBPE FIRM REG. No. 280 TBPLS FIRM REG. No. 100466	NEW TERRITORY SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE PLAN AND PROFILE NEW TERRITORY STA. 20+00.00 TO STA. 30+50.00	SHEET 6 OF 46 SHEETS JOB NO. 19992020-142 10/27/2016
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SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE FOR NEW TERRITORY JOB NO. 19992020-142





**Know what's below.
Call before you dig.**



2nd YAP
STA. 43+44.63, 46.19 L.T.

EX.
THE CLUB

**Ex. MORNINGSIDE
SECTION 1**

1-2" PLUG & CLAMP
STA. 43-44.30, 45.68 RT.

NEW TERRITORY BLVD. (R.O.W. VARIES)

CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION

1-8"x8" TEE
STA. 47+07.83, 43.77' LT.
1-8" C.V. & BOX

EX.
THE CLUB

**EX. STONE
CREEK**

**EX. PRESTON
FOREST**

L.C.V.	IRRIGATION CONTROL VALVE
G.V.&B.	GATE VALVE & BOX
L.P.	LIGHT POLE
W.M.	WATER METER
I.C.B.	IRRIGATION CONTROL BOX

CONTROL BUILDINGS:

HOUSE #1: 3 PM NO. 40410 - STAINLESS STEEL, RED
ALUMINUM LOCATED 4.5 MILES SOUTH ALONG PM ON GRAD FROM
THE ANCHORAGE OF US HIGHWAY 95 TO EAST, STAINLESS STEEL
LOCATED 1.5 MILES EAST (LAST) OF THE CHURCHILL OF THE
ROAD, 3/4 MILE NORTH OF THE CENTER OF A GRADUAL ROAD, 1/4
MILE SOUTH OF THE CENTER OF THE NORTH POINT OF A 5000 AC.
JACKSON GAC STAMPED ROCKS 89 500A.
ELEVATION: 12540 MAPPED 2001.02.1

SITE TEN:

TRP-1
LOCATED ON NORTH SLOPE ON THE TOP FLATNESS OF THE FIRST PM
PROMINENT ON WEST END OF HIGH RAILROAD DRIVE AT THE
EAST END RAILROAD OFF OF US 95A.
ELEVATION: 8467

TRP-2 (ALT 38-1)
RED GAC ON CENTERLINE OF PILE AT THE BACK-OF-CURVE ON
THE SOUTH SIDE OF COLUMBIAN CREEK BLVD, 1/4 MI. N. OF
THE MIDDLE OF THE INFILTRATION CREEKS (CAMPBELL)
CREEK BLVD.
ELEVATION: 7140

NOTES

CONTRACTOR SHALL FIELD LOCATE APPROPRIATE WATER METER. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER, MTRCA, & THE OPERATOR TO DETERMINE THE WATER METER CONNECTION POINT.

REMOVED WATER SHALL BE STORED IN A CONTAINER REQUIRED TO CONSTRUCT PROP. RE-USED WATER LINE.

CONTRACTOR SHALL MAINTAIN A MINIMUM 3-FOOT OBT HORIZONTAL SEPARATION FOR SANITARY SEW UTILITIES AND MANGROVES.

CONTRACTOR SHALL MAINTAIN A MINIMUM 1-FOOT OBT HORIZONTAL SEPARATION FOR STORM SEWER UTILITIES AND MANGROVES.

CONTRACTOR SHALL EXERCISE CARE WORKING IN THE LIGHT POLE AREA.

CONTRACTOR SHALL BE AWARE OF SHALLOW COVER. CONTRACTOR SHALL EXERCISE CAUTION.

OBT
OBT
OBT
OBT

SEE DETAILS SL-WA-13 AND SL-WA-15 ON SHEET 41.

LEGEND	
	INDICATES MIN. VERTICAL CLEARANCE
	INDICATES MIN. VERTICAL CLEARANCE
	INDICATES MIN. VERTICAL CLEARANCE
	INDICATES RE-USED WATER LINE SIZE AS NOTED
(C272)	INDICATES WATER METER SERVICE NAME
	INDICATES BLOW OFF VALVE SEE DETAIL SHEET 341
47 (902)	INDICATES LOT NUMBER INDICATES STREET ADDRESS
B	Ex. CABLE CAST
P	Ex. OVERHEAD POWER
E	Ex. UNDERGROUND ELECTRICAL
G	Ex. GAS LINE

84	SCALE: 1" = 40' HORIZ. 1" = 4' VERT.
	CL CURVE DATA

80	(C-4)
----	-------

76	P.C. STA. 35+00.42 TO PT. STA. 40+50.20 S. - 23° 47' 57" E. - 1090.00' L. - 1378.84' CH= 100' 10 07'E CH= 135.42
72	
68	
64	
60	

58	NOTICE FOR YOUR SAFETY, YOU ARE REQUESTED BY YOUR LAWYER TO SIGN AND RETURN THIS NOTICE TO THE FBI OFFICE IN THE CITY AND COUNTY WHERE YOU RESIDE. IF YOU DO NOT SIGN AND RETURN THIS NOTICE, YOUR INFORMATION WILL BE USED TO VERIFY YOUR INFORMATION TO THE FBI. VERIFICATION OF PRIVATE UTILITY LINES <i>[Signature]</i> Date <i>11/3/60</i>
	52

48

APPROVED: *Margaret*
DEVELOPMENT COORDINATOR

DATE: 1/19/17



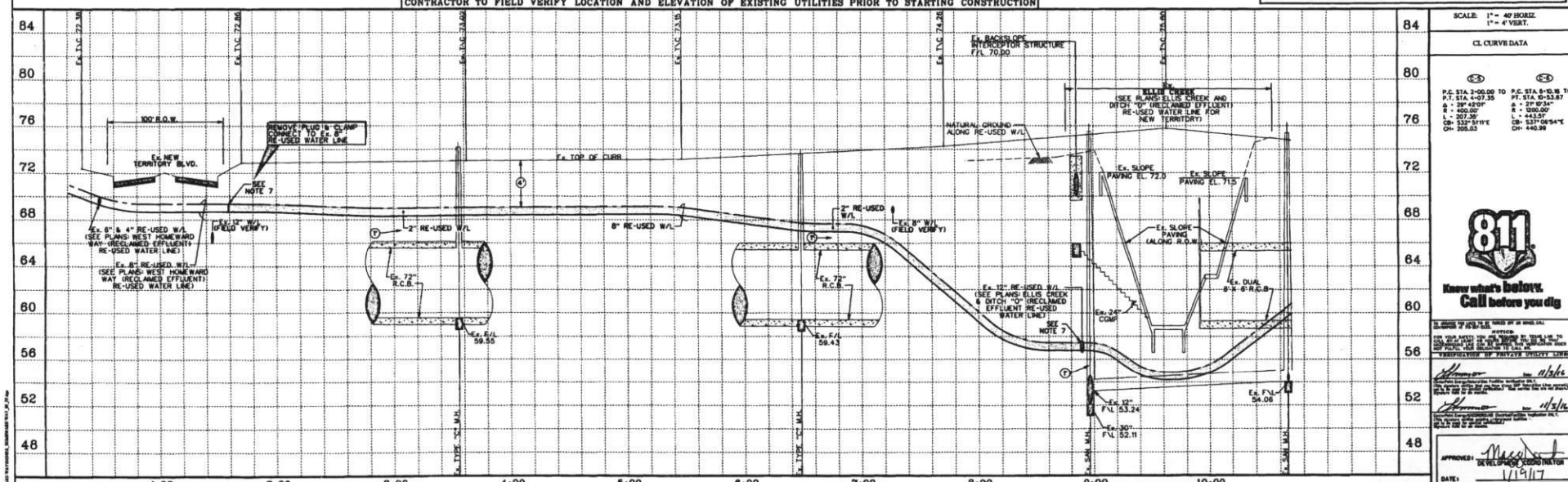
STATE OF FLORIDA
J. M. VANDERKAM
50071
REGISTERED
PROFESSIONAL ENGINEER
11/2/2016

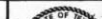
SHEET 8
OF 46 SHEET
JOB NO. 19992020-142

Costello

Engineering and Surveying
9990 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7788 (713) 783-3580, Fax
TBPE FIRM REG. No. 280
TBPLS FIRM REG. No. 100486

NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
NEW TERRITORY BLVD.
STA. 40+00.00 TO STA. 49+00.00

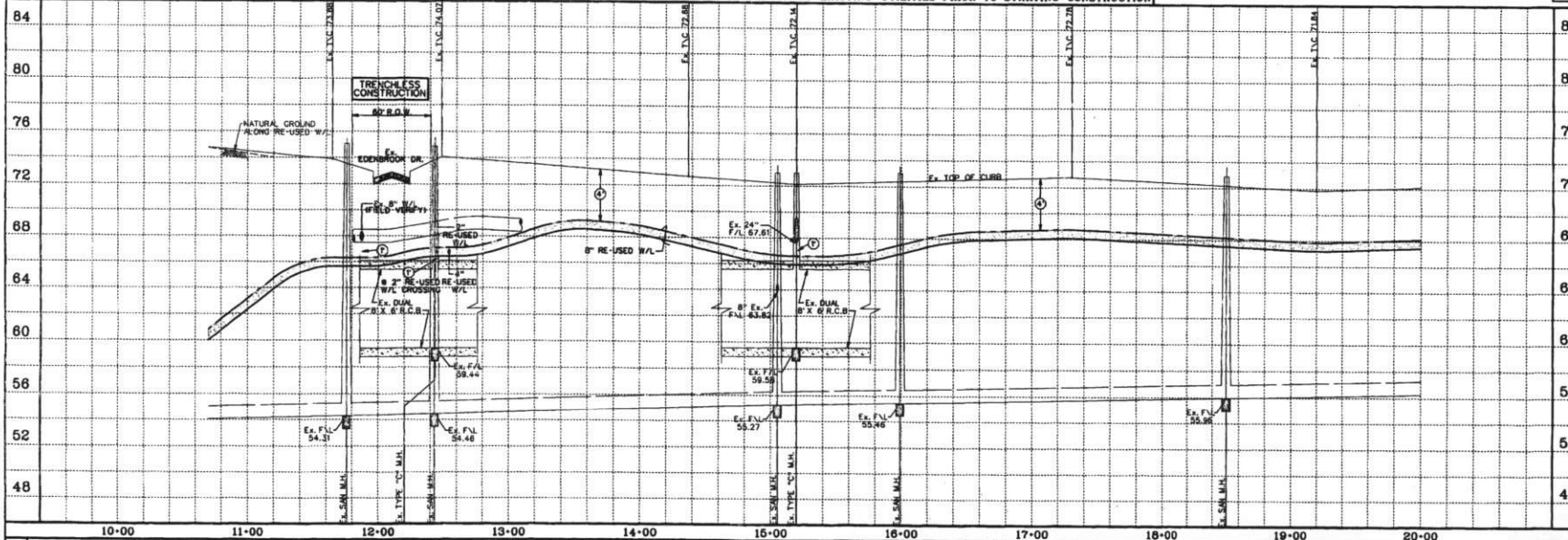


NEW TERRITORY SOUTH HOWEMAY WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE		 Jan R. VonderM 50071 NEW JERSEY REGIONAL DEPT. OF TRANSPORTATION 10000 SOUTH HOWEMAY WAY NEW BRUNSWICK, NJ 08901-1000	SHEET 9
PLAN AND PROFILE HOWEMAY WAY STA. 1+00.00 TO STA. 10+70.00			OF 46 SHEETS



HOMeward WAY (60' R.O.W.)

CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION



						DESIGNED BY: <u>Ben</u>
						DESIGN CHECKED BY: <u>27V</u>
						DRAWN BY: <u>Ben</u>
						COORD CHECKED BY:
						SURVEY CHECKED BY:
						QAQC BY: <u>US</u> DATE: <u>1-27-17</u>
						QAQC REVISIONS BY: <u>Ben</u>
NO.		REVISION		DATE	BY	



NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
HOMEWARD WAY
STA. 10+70.00 TO STA. 20+00.00



UNCLASIFIED

WAS RD NO. 40044N - STAINLESS STEEL ROD
LIES 10 TO 15 FEET SOUTH ALONG AN OLD ROAD FROM
RD NO. 40044N TO RD NO. 40044S. THE ROD IS
APPROX. 10 FEET EAST OF THE CENTERLINE OF THE
ROAD. THE ROD IS 10 FEET SOUTH OF THE CENTER OF A GRAVEL ROAD TO A
ROAD 10 FEET SOUTH OF THE SOUTH END OF A WOOD GATE.
RD NO. 40044S IS 10 FEET
• 100-800000 2000-000

NOTE: THIS

TRM-1
LOCATED ON WESTERN BELL ON THE TOP FLUME OF THE FIRST
HYDRAULIC ON NORTH SIDE OF HIGH SEASONS DRIVE AT THE
OUTWASH INTO SHIMMERON OFF OF US 80A.
ELEVATION = 9647

TRM-427-38-1
BEN CUT ON CENTERLINE OF INLET AT THE BACK-OF-DUNE ON
THE SOUTHERN SIDE OF CLIMMOROUGH CREEK BLVD, AND IN THE
MIDDLE OF THE MAPLEF EASEMENT CROSSING CLIMMOROUGH
CREEK BLVD.
ELEVATION = 9648

NOTES

1. CONTRACTOR SHALL FIELD LOCATE APPROPRIATE WATER METER. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER, INTRICA & THE OPERATOR TO DETERMINE THE WATER METER CONNECTION POINTS AND REQUIRED CONCRETE EMBEDMENT. THE CONTRACTOR IS REQUIRED TO CONSTRUCT PROP. RE-USE WATER LN.
2. CONTRACTOR SHALL MAINTAIN A MINIMUM 3'-FEET DIST. TO OUT HORIZONTAL SEPARATION FOR SANITARY SEW UTILITIES AND MANHOLES.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM 1'-FOOT DIST. TO OUT HORIZONTAL SEPARATION FOR STORM SEWER UTILITIES AND MANHOLES.
4. CONTRACTOR SHALL EXERCISE CARE WORKING IN THE VICINITY OF THE EXISTING WATER METER.

LEGEND

INDICATES MIN. VERTICAL CLEARANCE

INDICATES MIN. VERTICAL CLEARANCE

INDICATES MIN. VERTICAL CLEARANCE

INDICATES RE-USED WATER LINE SIZE AS NOTED

INDICATES WATER METER SERVICE NUMBER

INDICATES BLOW OFF VALVE (SEE DETAIL SHEET 34)

INDICATES LOT NUMBER

INDICATES STREET ADDRESS

Ex. CONCAST CABLE

Ex. OVERHEAD POWER

Ex. UNDERGROUND ELECTRICAL

Ex. GAS LINE

REGISTRATION CONTROL VALVE

GATE VALVE & BOX

LIGHT POLE

WATER METER

FLUSH VALVE

BIRMGHAM CONTROL BOX

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

CL CURVE DATA

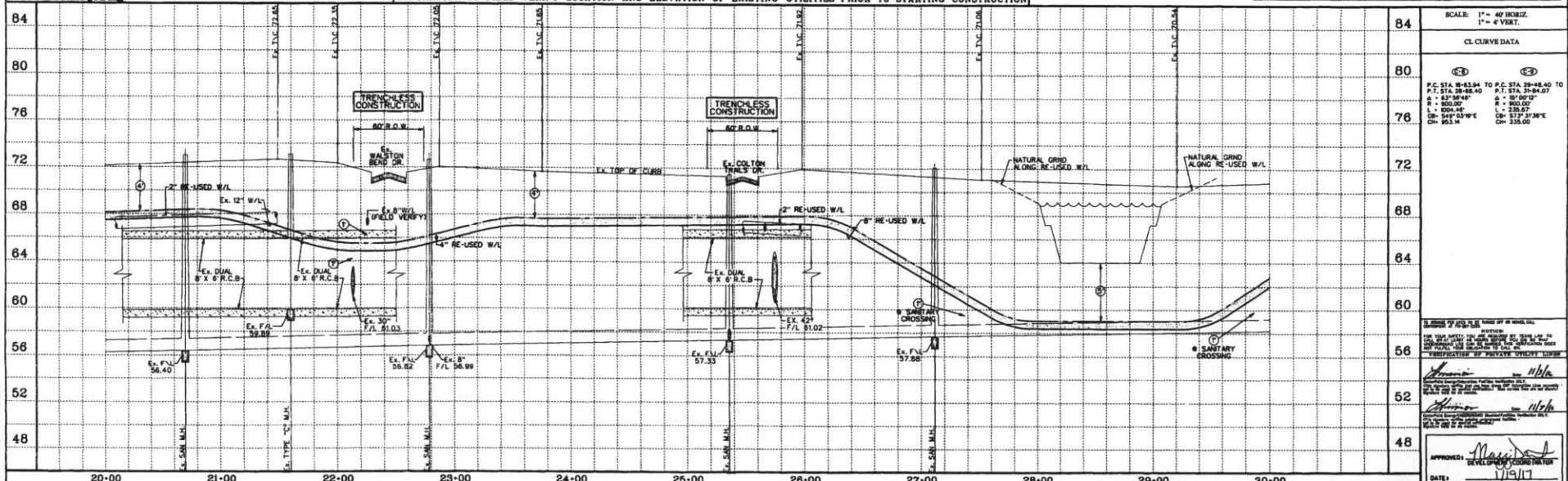
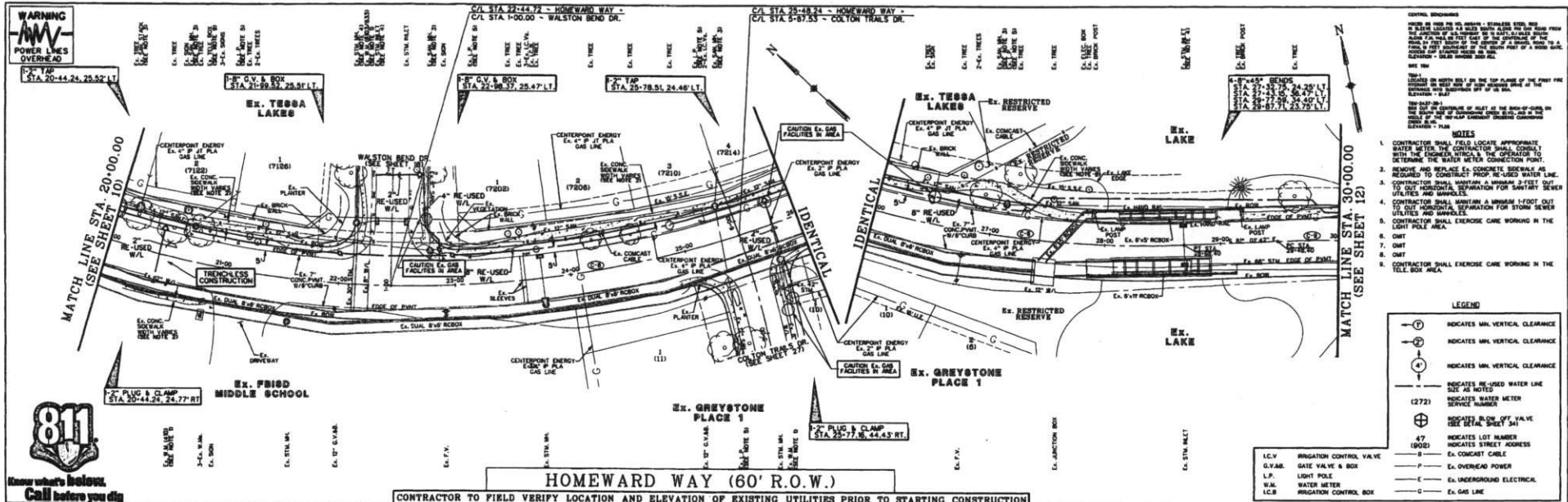
P.C. STA 10+53.67 TO P.T. STA 12+51.48	P.C. STA 28+63.94 P.T. STA 28+68.40
$\Delta = 9^{\circ} 28' 41''$	$\Delta = 83^{\circ} 56' 46''$
R = 1200.00'	R = 900.00'
L = 197.81'	L = 1004.44'
CB= S21° 48' 17" E	CB= S49° 03' 19" E
Ch= 197.59	Ch= 953.34

[illegible]

APPROVED: Mazda
DEVELOPMENT COORDINATION
DATE: 1/19/17

FROM
A
DATE
FOR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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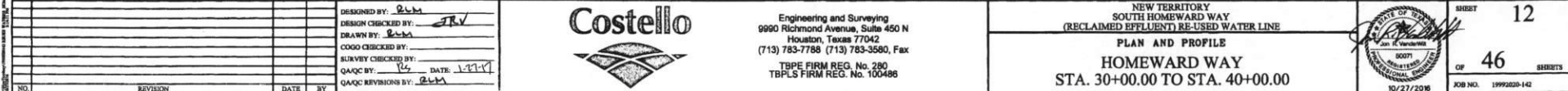


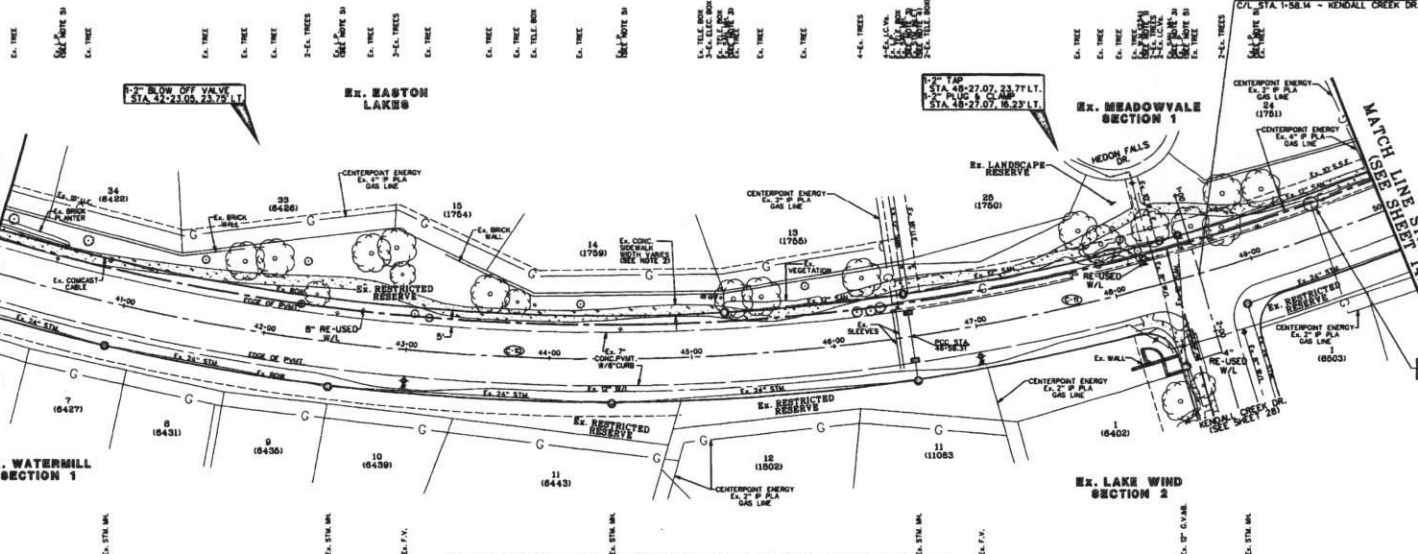
DESIGNED BY: <i>Ben</i>	ENGINEERING AND SURVEYING 9990 Richmond Avenue, Suite 450 N Houston, Texas 77042 (713) 783-7788 (713) 783-3580, Fax	NEW TERRITORY SOUTH HOMEROWAY WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE PLAN AND PROFILE HOMEROWAY WAY STA. 20+00.00 TO STA. 30+00.00	APPROVED: <i>David</i> DATE: 1/19/17
DRAWN BY: <i>Ben</i>	TBPE FIRM REG. No. 280 TBPLS FIRM REG. No. 100486		
CHECKED BY: <i>Ben</i>			
DATE: 1/19/17			
QA/QC REVISIONS BY: <i>Ben</i>			

Costello

11
OF 46 SHEETS

10/27/2016

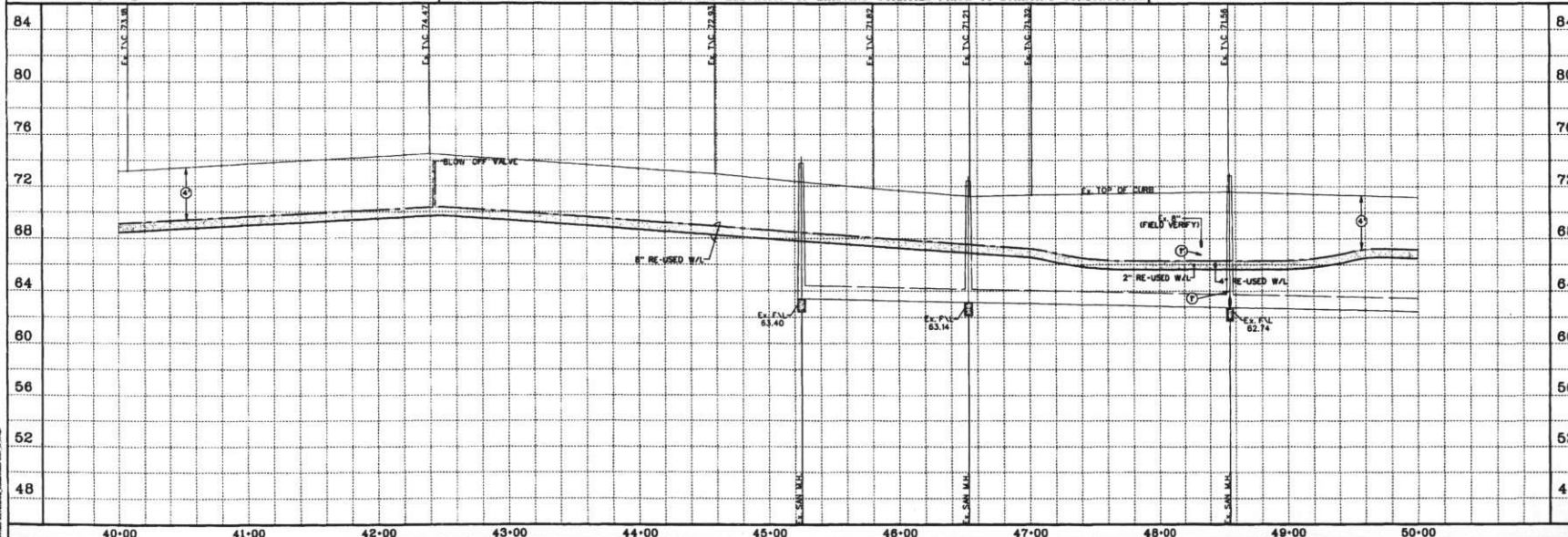




Know what's below.
Call before you dig

HOMeward WAY (60' R.O.W.)

CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION



- NOTES**
- CONTRACTOR SHALL FIELD LOCATE APPROPRIATE WATER UTILITIES PRIOR TO CONSTRUCTION.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM 1-FOOT OUT TO OUT HORIZONTAL SEPARATION FOR STORM SEWER UTILITIES AND MANHOLES.
 - CONTRACTOR SHALL EXERCISE CARE WORKING IN THE LIGHT POLE AREA.
- LEGEND**
- ① INDICATES MIN. VERTICAL CLEARANCE
 - ② INDICATES MIN. VERTICAL CLEARANCE
 - ③ INDICATES MIN. VERTICAL CLEARANCE
 - (272) INDICATES WATER METER SERVICE NUMBER
 - ⊕ INDICATES BLOW OFF VALVE (SEE DETAIL SHEET 34)
 - 47 (0002) INDICATES LOT NUMBER
 - INDICATES STREET ADDRESS
 - EX. OVERHEAD POWER
 - EX. UNDERGROUND ELECTRICAL
 - EX. GAS LINE
 - L.C.V. IRRIGATION CONTROL VALVE
 - G.V.B. GATE VALVE & BOX
 - L.P. LIGHT POLE
 - W.M. WATER METER
 - F.V. FLUSH VALVE
 - L.C.B. IRRIGATION CONTROL BOX

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

CL CURVE DATA

STATION	PC	PT	TA	CB	CH
48+00.00	48+00.00	48+00.00	48+00.00	48+00.00	48+00.00

APPROVED: *[Signature]*
DATE: 1/19/17

REVISIONS

NO.	REVISION	DATE	BY
1	REVISED	1/19/17	ELM

DESIGNED BY: *ELM*
DRAWN BY: *ELM*
CHECKED BY: *ELM*
DATE: 1/19/17

Costello Engineering and Surveying
9990 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7788 (713) 783-3580, Fax
TPE FIRM REG. NO. 280
TBPLS FIRM REG. NO. 100486

NEW TERRITORY
SOUTH HOMeward WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
HOMeward WAY
STA. 40+00.00 TO STA. 50+00.00

APPROVED: *[Signature]*
DATE: 1/19/17

REVISIONS

NO.	REVISION	DATE	BY
1	REVISED	1/19/17	ELM

DESIGNED BY: *ELM*
DRAWN BY: *ELM*
CHECKED BY: *ELM*
DATE: 1/19/17

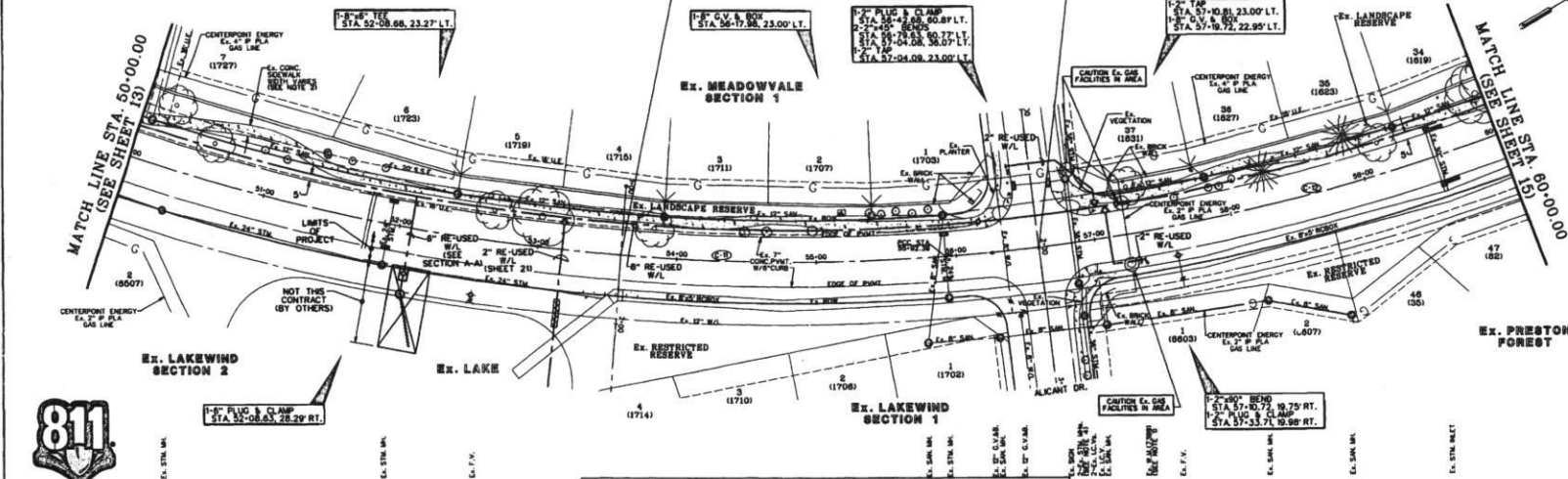
Costello Engineering and Surveying
9990 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7788 (713) 783-3580, Fax
TPE FIRM REG. NO. 280
TBPLS FIRM REG. NO. 100486

NEW TERRITORY
SOUTH HOMeward WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
HOMeward WAY
STA. 40+00.00 TO STA. 50+00.00

APPROVED: *[Signature]*
DATE: 1/19/17



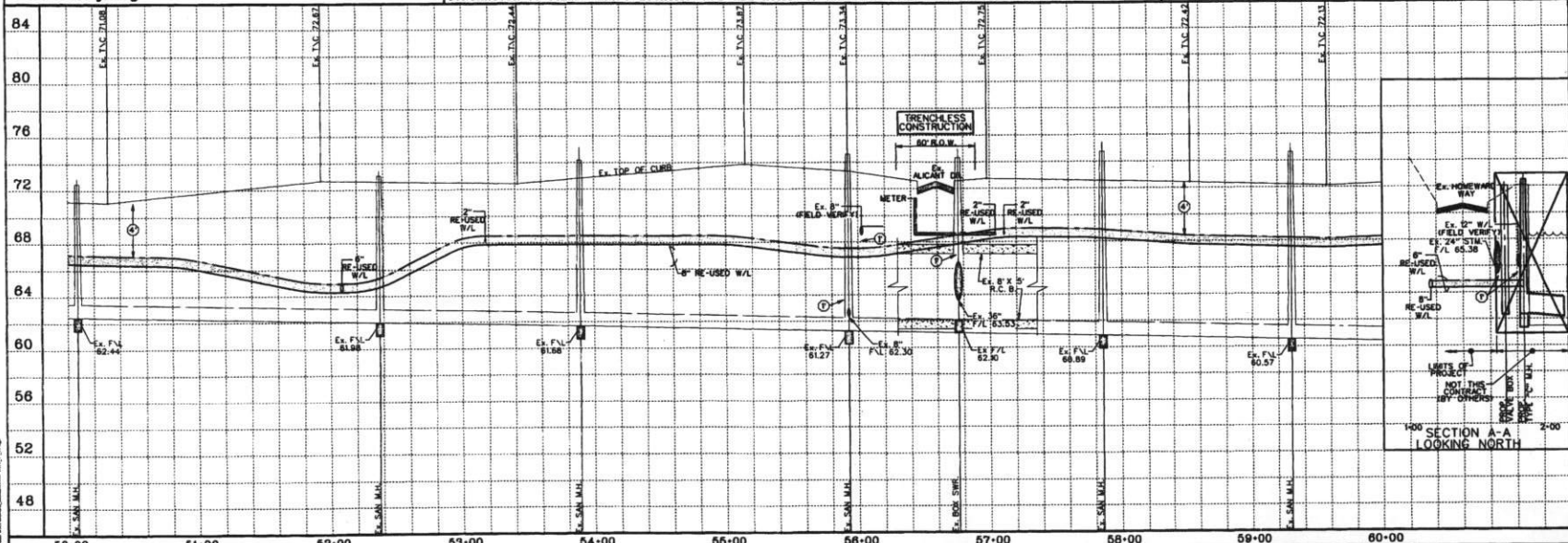
WARNING
POWER LINES
OVERHEAD



Know what's below.
Call before you dig

HOMeward WAY (60' R.O.W.)

CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION

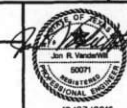


NO.	REVISION	DATE	BY



Engineering and Surveying
9990 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7798 (713) 783-3580, Fax
TPE FIRM REG. No. 280
TBPLS FIRM REG. No. 100486

NEW TERRITORY
SOUTH HOMeward WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
HOMeward WAY
STA. 50+00.00 TO STA. 60+00.00

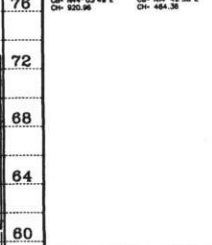


APPROVED: *David A. Venable*
DATE: 1/15/17
SUBMIT 14
OF 46 SHEETS
JOB NO.: 1999205-142

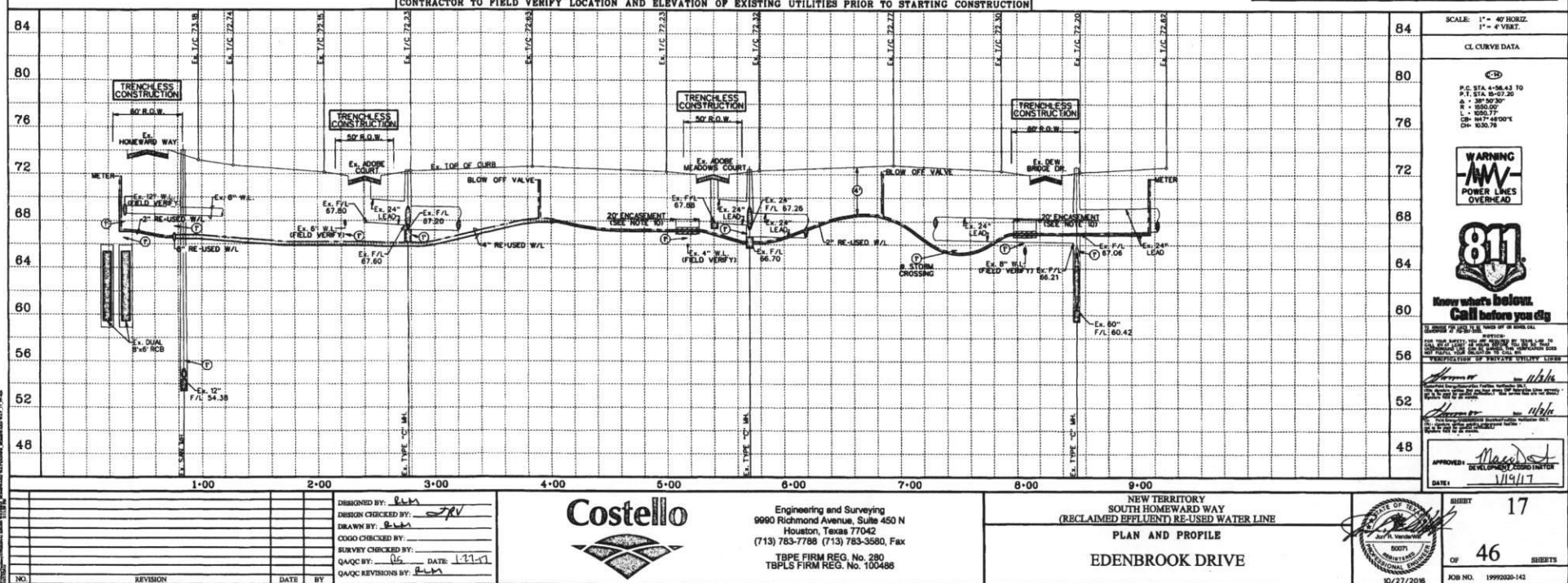
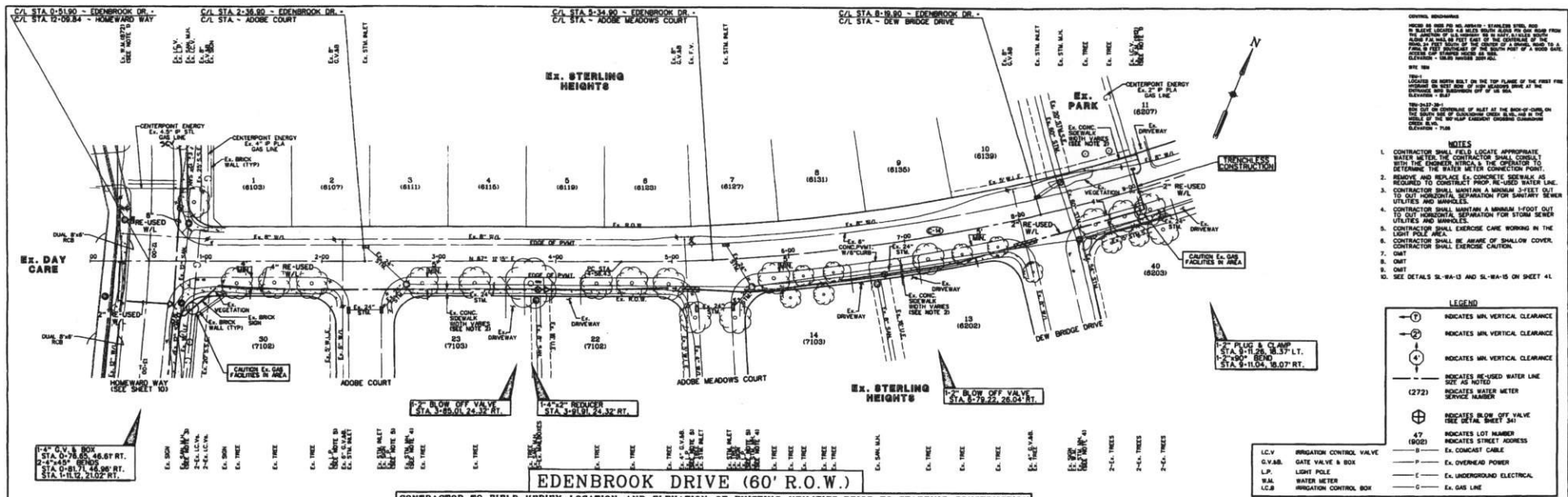
- NOTES**
- CONTRACTOR SHALL FIELD LOCATE APPROPRIATE UTILITIES PRIOR TO STARTING CONSTRUCTION. WATER MAINS, SEWER LINES, AND GAS LINES SHALL BE LOCATED AND MARKED PRIOR TO ANY EXCAVATION. THE WATER MAINS CONNECTION POINT SHALL BE LOCATED AND MARKED PRIOR TO ANY EXCAVATION.
 - REMOVING AND REPLACING EX-CONCRETE SEWER MAINS SHALL BE DONE IN ACCORDANCE WITH THE CITY OF HOUSTON'S STANDARD SPECIFICATIONS FOR SEWER MAINS.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM 3-FOOT OUT-TO-OUT HORIZONTAL SEPARATION FOR STORM SEWER UTILITIES AND UNPOLES.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM 3-FOOT OUT-TO-OUT HORIZONTAL SEPARATION FOR STORM SEWER UTILITIES AND UNPOLES.
 - CONTRACTOR SHALL EXERCISE CARE WORKING IN THE LIGHT POLE AREA.
- LEGEND**
- ① INDICATES MIN. VERTICAL CLEARANCE
 - ② INDICATES MIN. VERTICAL CLEARANCE
 - ③ INDICATES MIN. VERTICAL CLEARANCE
 - (272) INDICATES WATER METER
 - ⊕ INDICATES BULK OFF VALVE
 - 47 INDICATES LOT NUMBER
 - INDICATES STREET ADDRESS
 - EX. COAXIAL CABLE
 - EX. OVERHEAD POWER
 - EX. UNDERGROUND ELECTRICAL
 - EX. GAS LINE
 - L.C.V. IRRIGATION CONTROL VALVE
 - G.V.B. GATE VALVE & BOX
 - L.P. LIGHT POLE
 - W.M. WATER METER
 - F.V. FLUSH VALVE
 - U.C.B. IRRIGATION CONTROL BOX

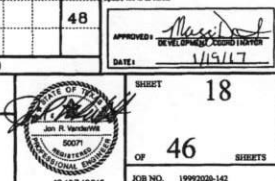
SCALE: 1" = 40' HORIZ.
1" = 4' VERT.

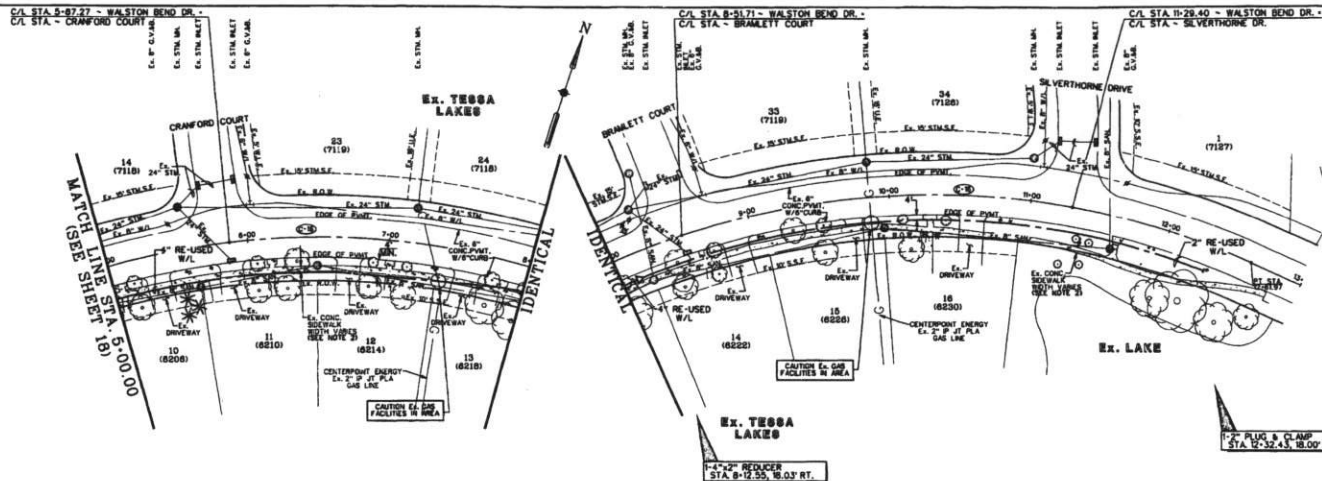
CL. CURVE DATA



APPROVED: *David A. Venable*
DATE: 1/15/17
SUBMIT 14
OF 46 SHEETS
JOB NO.: 1999205-142







CONTRACTOR SHALL FIELD LOCATE APPROPRIATELY WATER METER. THE CONTRACTOR SHALL COORDINATE WITH THE COUNCIL UTILITIES TO DETERMINE THE WATER METER CONNECTION POINT. REPAIR AND REPLACE EX. CONCRETE DRIVEWAY AND REQUIRED TO CONSTRUCT PROP. RE-USED WATER LINE. CONTRACTOR SHALL MAINTAIN A MINIMUM 1-FOOT CUT TO THE HORIZONTAL SEPARATION FOR SANITARY SEWER UTILITIES AND MANHOLES. CONTRACTOR SHALL EXERCISE CARE WORKING IN THE LIGHT POLE AREA.

- LEGEND**
- ① INDICATES MIN. VERTICAL CLEARANCE
 - ② INDICATES MIN. VERTICAL CLEARANCE
 - ③ INDICATES MIN. VERTICAL CLEARANCE
 - RE-USED WATER LINE
 - (272) INDICATES WATER METER SERVICE NUMBER
 - ⊕ INDICATES BLUE OFF VALVE (SEE DETAIL SHEET 34)
 - 47 INDICATES LOT NUMBER
 - (1002) INDICATES STREET ADDRESS
 - EX. OVERHEAD POWER
 - EX. UNDERGROUND ELECTRICAL
 - EX. GAS LINE
 - L.C.V. IRRIGATION CONTROL VALVE
 - G.V.B. GATE VALVE & BOX
 - L.P. LIGHT POLE
 - W.M. WATER METER
 - F.V. FLUSH VALVE
 - L.C.B. IRRIGATION CONTROL BOX

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

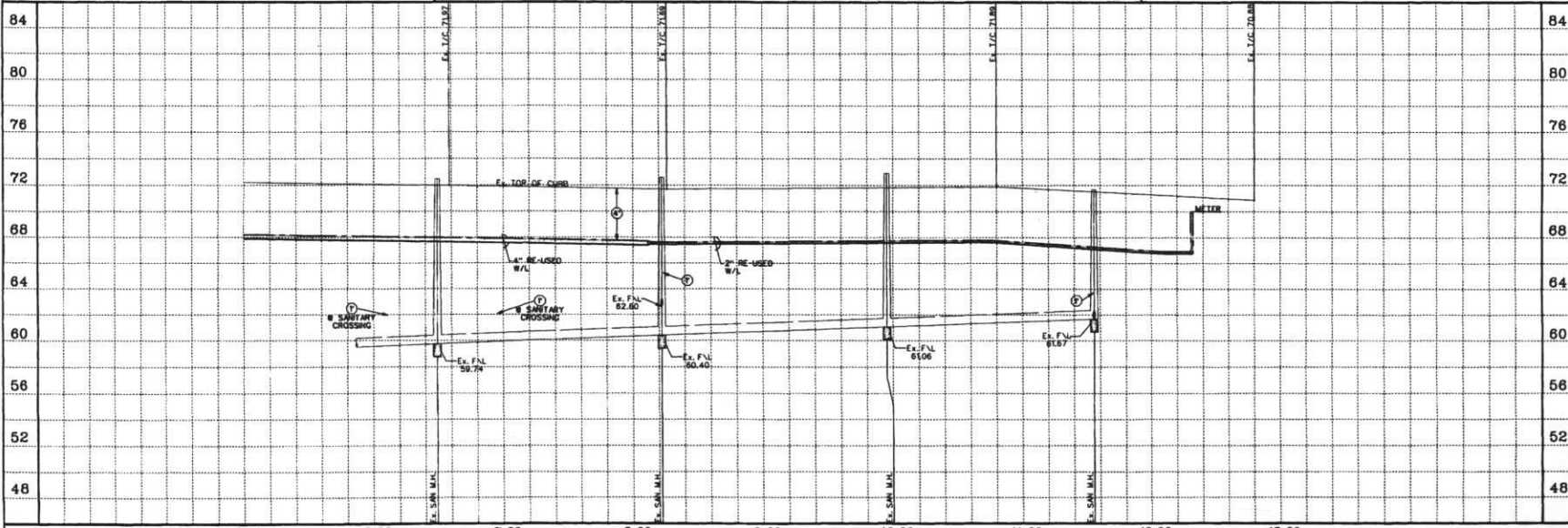
CL. CURVE DATA

P.C. STA. 4+27.81 TO
P.T. STA. 12+61.97
R = 867.52'
Δ = 151.00°
CH. 187° 52' 28"
CH. 758.48

APPROVED: *Michael*
DATE: 11/19/17

SHEET 19
OF 46
JOB NO. 1992020-142

WALSTON BEND DRIVE (60' R.O.W.)
CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION

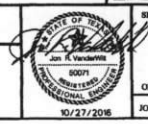


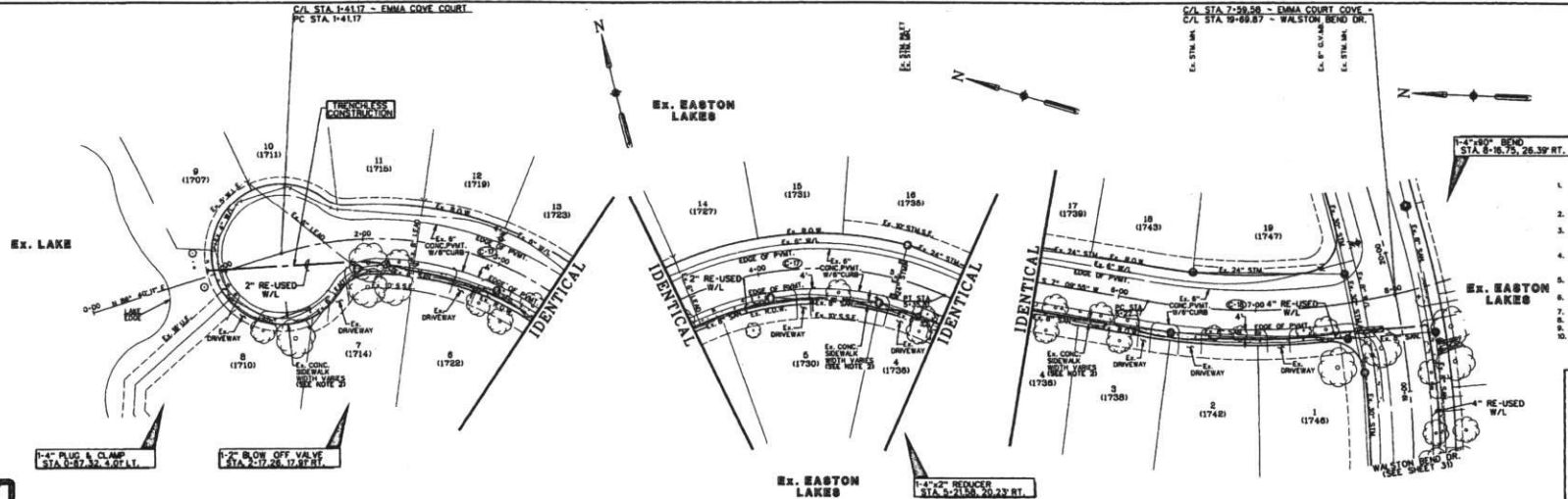
NO.	REVISION	DATE	BY



Engineering and Surveying
9990 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7788 (713) 783-3580, Fax
TSPF FIRM REG. No. 280
TBPLS FIRM REG. No. 100486

NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
WALSTON BEND DRIVE
STA. 5+00.00 TO STA. 13+00.00





NOTES

CONTRACTOR SHALL FIELD LOCATE APPROPRIATE WATER METER, THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER, NITKA & THE OPERATOR TO DETERMINE THE EXISTING CONNECTION POINTS, REMOVE AND REPLACE E.C. CONCRETE SIDEWALK AS SHOWN ON SHEET 41. CONTRACTOR SHALL MAINTAIN A MINIMUM 3-FEET CUT OUT HORIZONTAL SEPARATION FOR SANITARY SEWER UTILITIES AND MANHOLES.

CONTRACTOR SHALL MAINTAIN A MINIMUM 7-FEET CUT OUT HORIZONTAL SEPARATION FOR STORM SEWER UTILITIES AND MANHOLES.

CONTRACTOR SHALL EXERCISE CARE WORKING IN THE VICINITY OF EXISTING UTILITIES.

CONTRACTOR SHALL BE AWARE OF SHALLOW COVER, CONTRACTOR SHALL EXERCISE CAUTION.

END

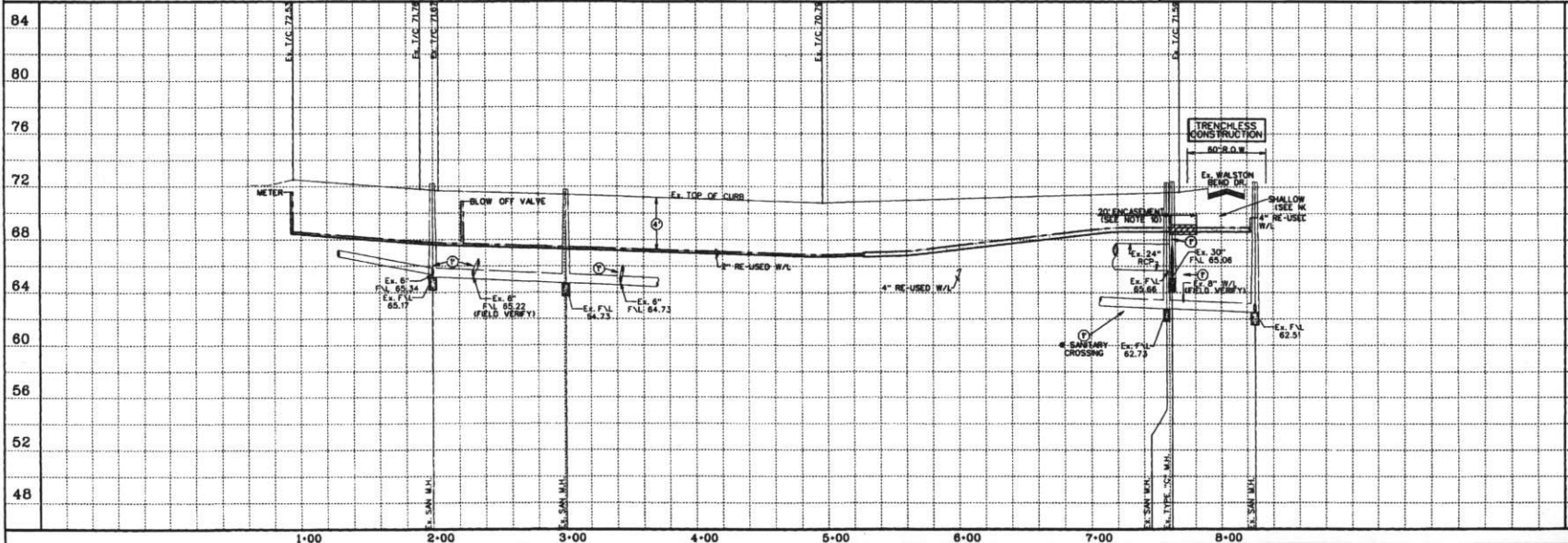
END

SEE DETAILS SL-WA-13 AND SL-WA-15 ON SHEET 41.

LEGEND

	INDICATES MIN. VERTICAL CLEARANCE
	INDICATES MIN. VERTICAL CLEARANCE
	INDICATES MIN. VERTICAL CLEARANCE
	INDICATES RE-USED WATER LINE SIZE AS NOTED
(272)	INDICATES WATER METER SERVICE NUMBER
	INDICATES BLOW OFF VALVE (SEE DETAIL SHEET 34)
47	INDICATES LOT NUMBER
(SHEET)	INDICATES STREET ADDRESS
B	EX. COMCAST CABLE
P	EX. OVERHEAD POWER
E	EX. UNDERGROUND ELECTRICAL
G	EX. GAS LINE

EMMA COVE COURT (50' R.O.W.)

[illegible]

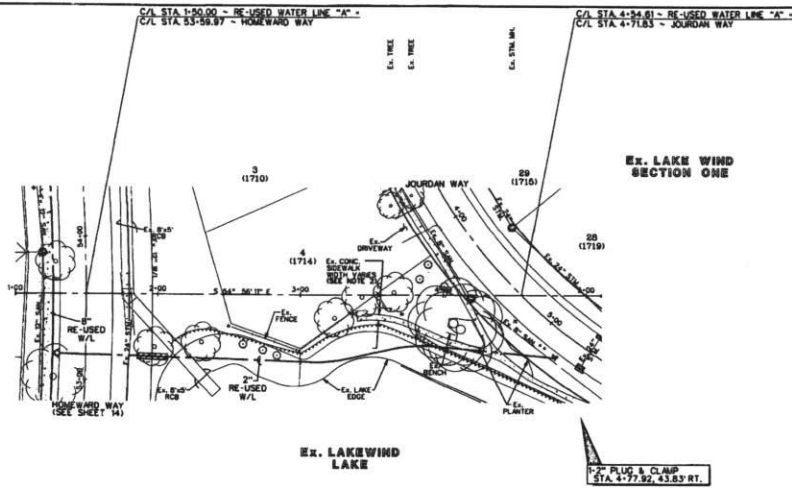
						DESIGNED BY: <u>BLM</u>				
						DRAWN CHECKED BY:			JAV	
						DRAWN BY: <u>BLM</u>				
						COGO CHECKED BY:				
						SURVEY CHECKED BY:				
						QA/QC BY: <u>RG</u>			DATE: <u>1-27-97</u>	
						QA/QC REVISIONS BY: <u>BLM</u>				
No.	REVISION	DATE	BY							

Costello

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TBPLS FIRM REG. No. 100486

NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
EMMA COVE COURT

	SHORT 20
	OF 46 SHEETS
JOB NO. 19992820-142	



NOTES

- CONTRACTOR SHALL FIELD LOCATE APPROPRIATE WATER METER THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER, UTILITY & THE OPERATOR TO DETERMINE THE WATER METER CONNECTION POINT.
- REMOVE AND REPLACE EX. CONCRETE SIDEWALK AS REQUIRED TO CONSTRUCT WATER METER RE-USED WATER LINE.
- CONTRACTOR SHALL MAINTAIN A MINIMUM 3'-FEET CUT TO CUT HORIZONTAL SEPARATION FOR SANITARY SEWER UTILITIES AND MANHOLES.
- CONTRACTOR SHALL MAINTAIN A MINIMUM 1'-FEET CUT TO CUT HORIZONTAL SEPARATION FOR STORM SEWER UTILITIES AND MANHOLES.
- CONTRACTOR SHALL EXERCISE CARE WORKING IN THE LIGHT POLE AREA.
- CONTRACTOR SHALL BE AWARE OF SHALLOW COVER. CONTRACTOR SHALL EXERCISE CAUTION.
- EXIST.
- EXIST.
- SEE DETAILS SL-WA-13 AND SL-WA-15 ON SHEET 41.

- LEGEND
- INDICATES MIN. VERTICAL CLEARANCE
 - INDICATES MIN. VERTICAL CLEARANCE
 - INDICATES MIN. VERTICAL CLEARANCE
 - INDICATES RE-USED WATER LINE SIZE AS NOTED
 - INDICATES WATER METER SERVICE NUMBER
 - INDICATES BLOW OFF VALVE (SEE DETAIL SHEET 34)
 - INDICATES LOT NUMBER
 - INDICATES STREET ADDRESS
 - EX. CONC. CABLE
 - EX. OVERHEAD POWER
 - EX. UNDERGROUND ELECTRICAL
 - EX. GAS LINE

- LEGEND
- L.C.V. IRRIGATION CONTROL VALVE
 - G.V.B. GATE VALVE & BOX
 - L.P. LIGHT POLE
 - W.M. WATER METER
 - L.C.B. IRRIGATION CONTROL BOX

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

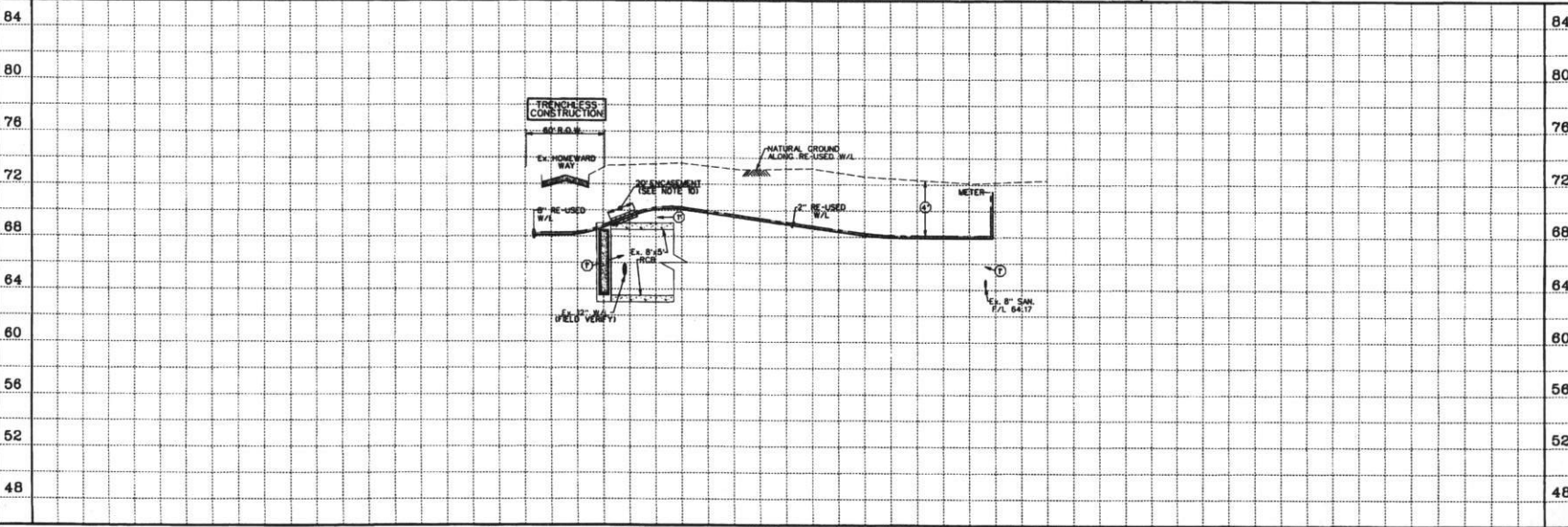
CL CURVE DATA

APPROVED: [Signature]
DATE: 1/15/17

APPROVED: [Signature]
DATE: 1/15/17



RE-USED WATER LINE "A"
CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION



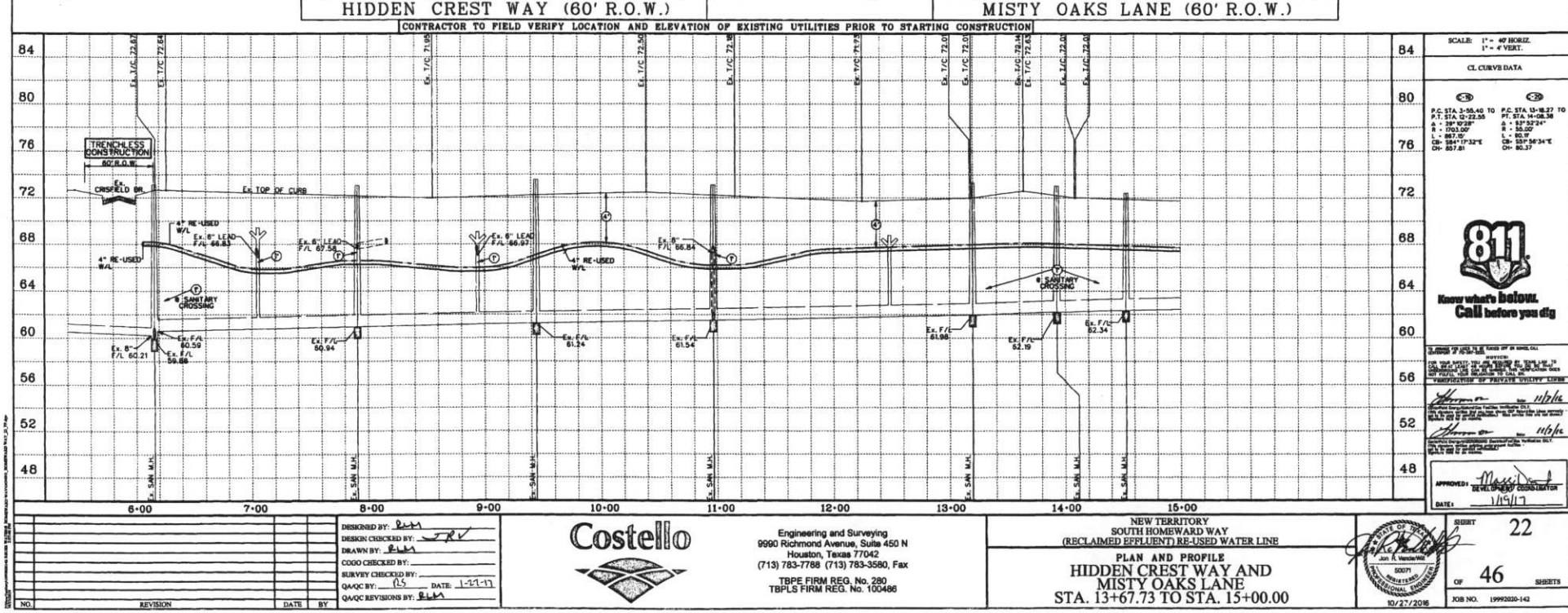
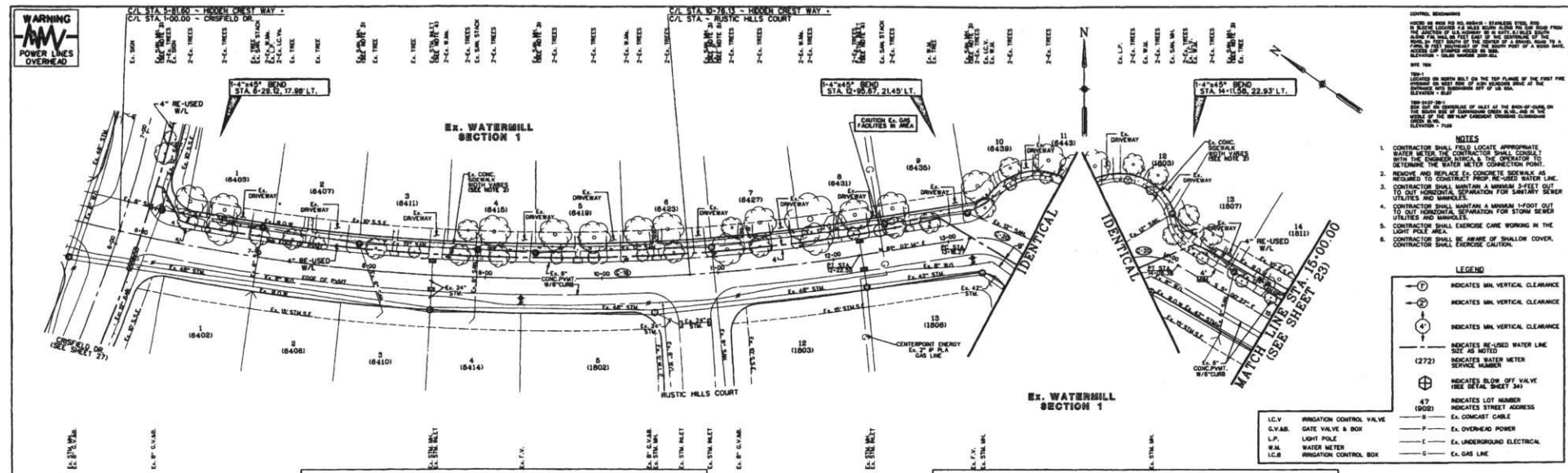
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DRAWN BY: [Signature]	
CHECKED BY: [Signature]	
QA/QC BY: [Signature]	
QA/QC REVISIONS BY: [Signature]	



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NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
RE-USED WATER LINE "A"

46
10/27/2016
JOB NO. 19992020-142



NO.	REVISION	DATE	BY



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TBPLS FIRM REG. No. 100486

NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE

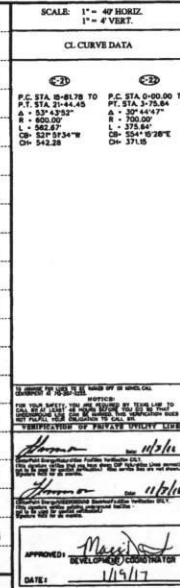
PLAN AND PROFILE
HIDDEN CREST WAY AND
MISTY OAKS LANE
STA. 13+00.00 TO STA. 15+00.00

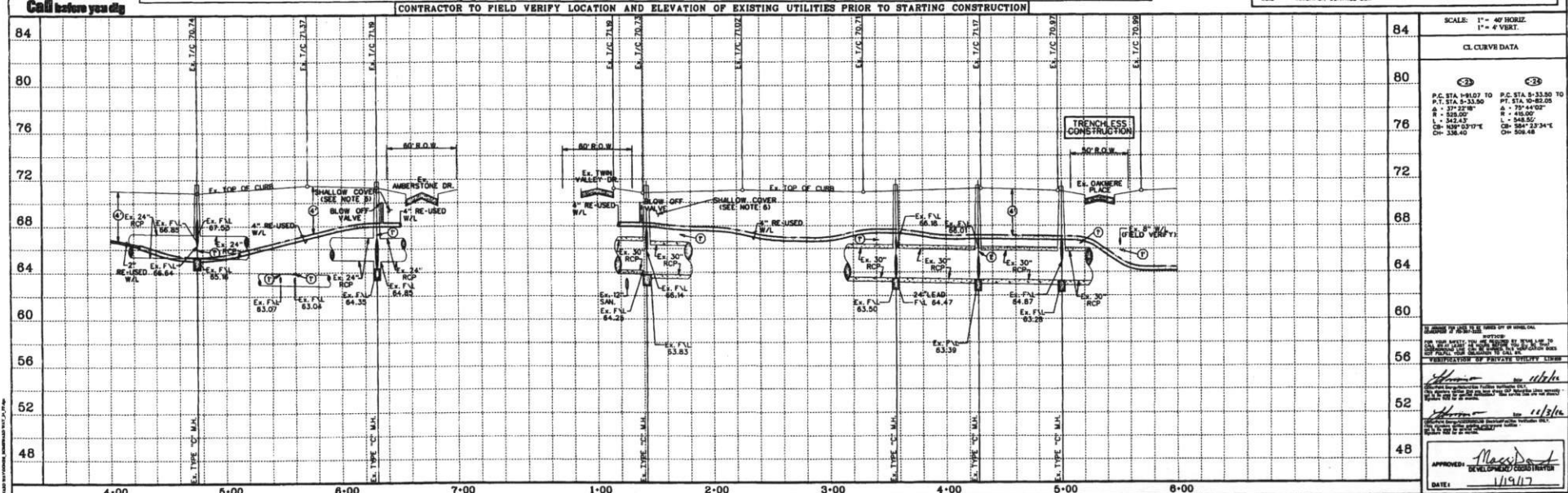
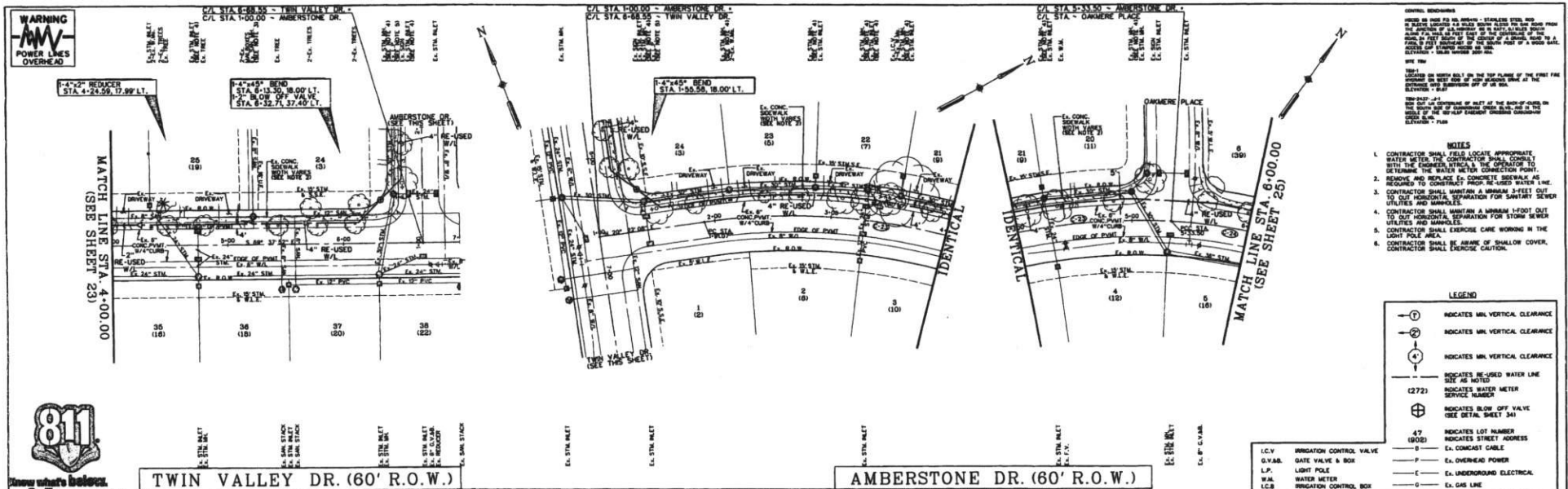
DATE: 1/19/17

REVISION: 22

OF 46 SHEETS

JOB NO. 19992020-142





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NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE

PLAN AND PROFILE
TWIN VALLEY DRIVE
STA. 4+00.00 TO STA. 7+00.00
AND AMBERSTONE DRIVE
STA. 1+00.00 TO STA. 6+00.00

APPROVED: *Massi D. ...*
DEVELOPER/ENGINEER
DATE: 1/19/17

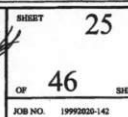
REVISION

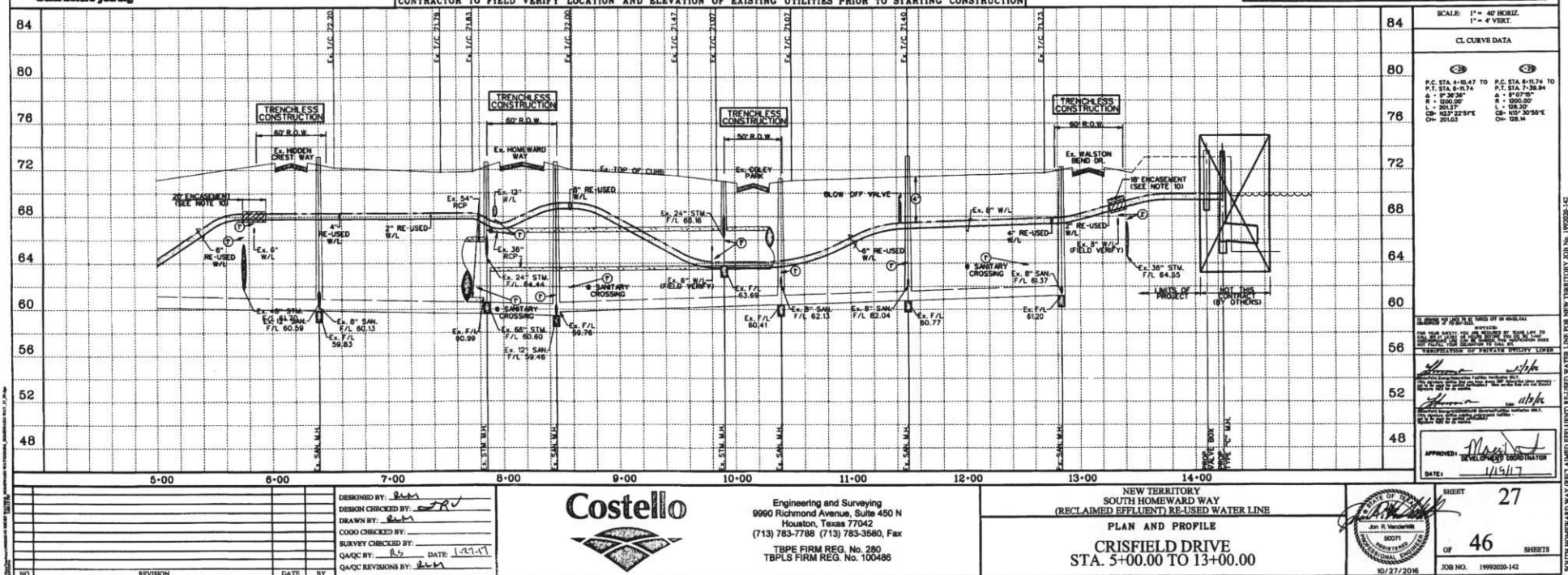
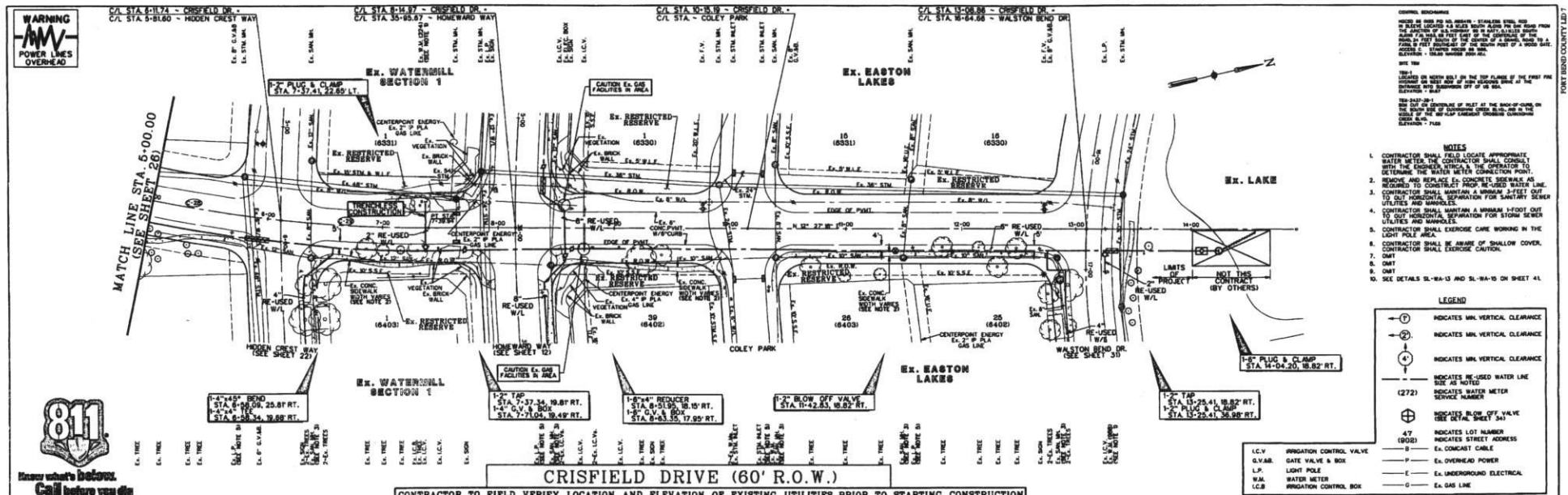
NO.	REVISION	DATE	BY
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2	DESIGN CHECKED BY: <i>CRV</i>		
3	DRAWN BY: <i>ELM</i>		
4	CHECKED BY: <i>ELM</i>		
5	SURVEY CHECKED BY: <i>ELM</i>		
6	QA/QC BY: <i>ELM</i> DATE: 1/9/17		
7	QA/QC REVISIONS BY: <i>ELM</i>		

24

OF **46** SHEETS

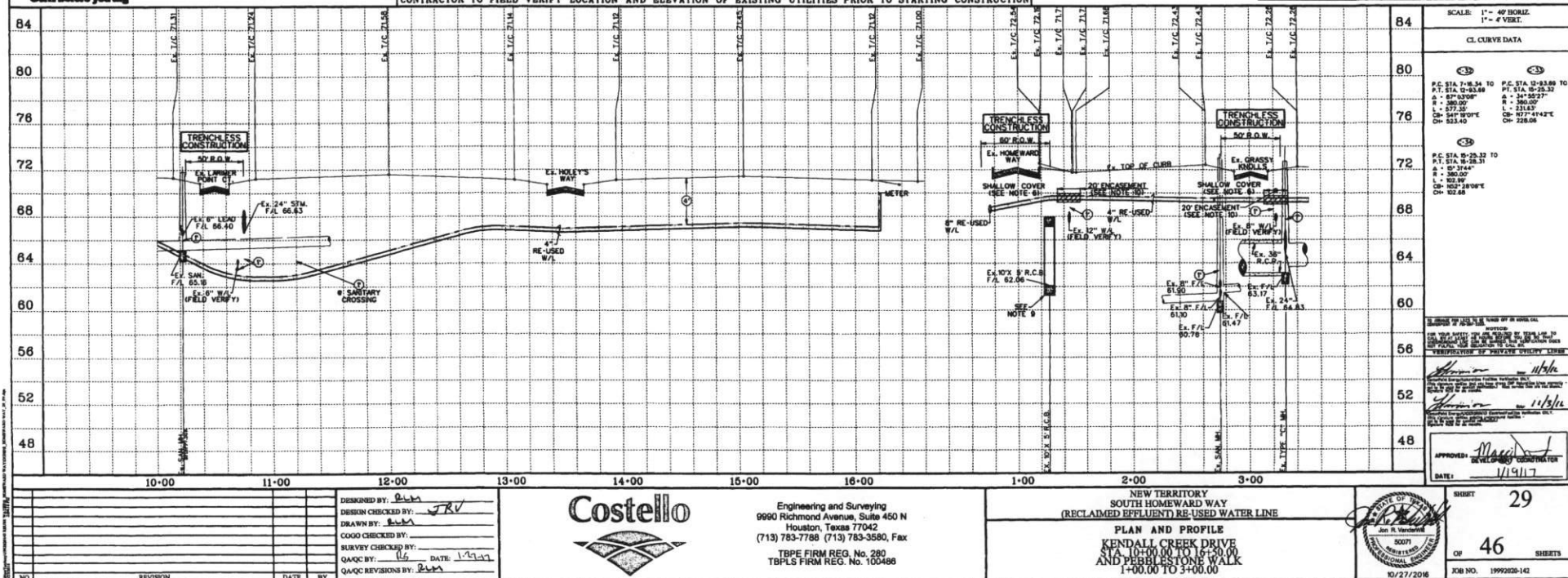
JOB NO. 19992020-142







Know what's below.
Call before you dig.



 STATE OF TENNESSEE R. Vance 50071 REGISTERED PROFESSIONAL ENGINEER 10/27/2016	SECRET	29
	OF	46
JOB NO. 19992620-142		



MATCH LINE STA. 3+50.00
(SEE SHEET 29)

EX. LAKE WIND
SECTION 1

EX. LAKE WIND
SECTION 1

7" BLOW OFF VALVE
STA. 5+44.55, 18.00' LT.

7" BLOW OFF VALVE
STA. 7+50.41, 18.00' LT.

EX. LAKE WIND
SECTION 1

EX. LAKE WIND
SECTION 1

7" PLUG & CLAMP
STA. 10+44.55, 18.00' RT.

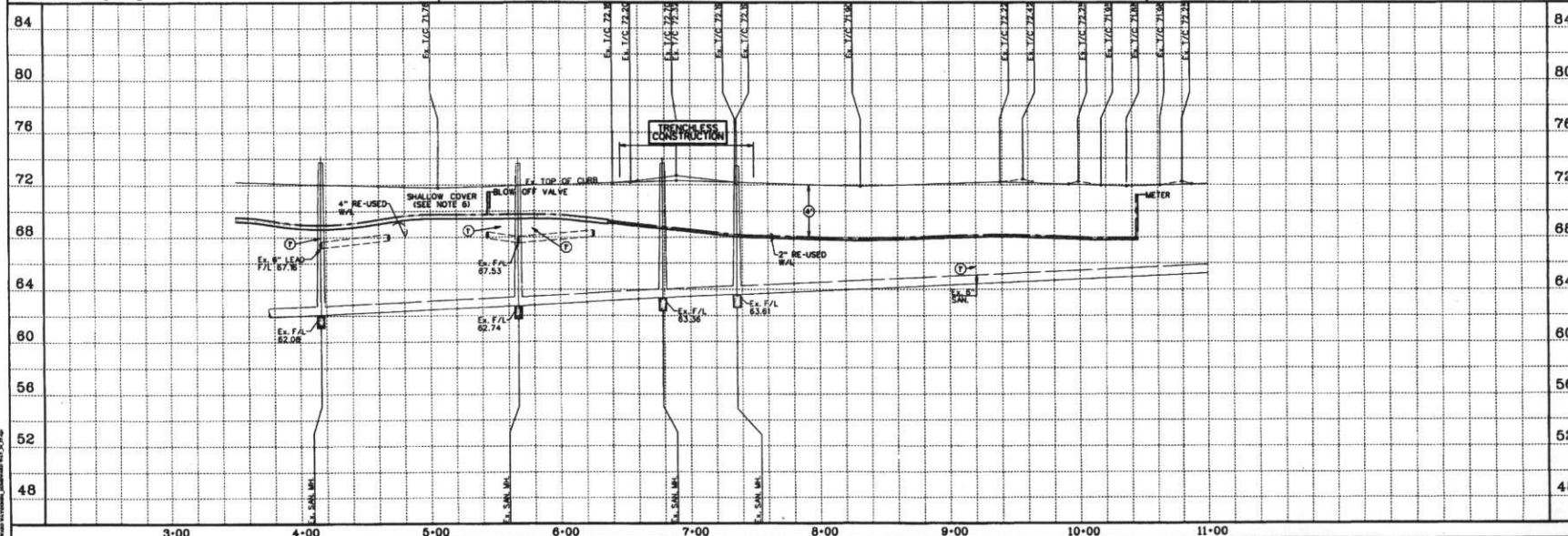


Know what's below.
Call before you dig

PEBBLESTONE WALK (R.O.W. VARIES)

RIVERCOACH LANE (60' R.O.W.)

CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION



- LEGEND
- INDICATES MIN. VERTICAL CLEARANCE
 - INDICATES MIN. VERTICAL CLEARANCE
 - INDICATES MIN. VERTICAL CLEARANCE
 - INDICATES RE-USED WATER LINE
 - INDICATES WATER METER
 - INDICATES BLOW OFF VALVE
 - INDICATES LOT NUMBER
 - INDICATES STREET ADDRESS
 - INDICATES CONCAST CABLE
 - INDICATES OVERHEAD POWER
 - INDICATES UNDERGROUND ELECTRICAL
 - INDICATES GAS LINE
- L.C.V. IRRIGATION CONTROL VALVE
G.V.B. GATE VALVE & BOX
L.P. LIGHT POLE
W.M. WATER METER
L.C.B. IRRIGATION CONTROL BOX

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

CL. CURVE DATA

3	P.C. STA. 3+48.80 TO P.T. STA. 3+54.40 R = 1000.00' Δ = 32.37° CB: 327°13'27"E CH: 33.31'	3	P.C. STA. 8+48.80 TO P.T. STA. 8+54.40 R = 1000.00' Δ = 32.37° CB: 327°13'27"E CH: 33.31'
3	P.C. STA. 9+54.40 TO P.T. STA. 9+54.40 R = 1000.00' Δ = 32.37° CB: 327°13'27"E CH: 33.31'	3	P.C. STA. 10+54.40 TO P.T. STA. 10+54.40 R = 1000.00' Δ = 32.37° CB: 327°13'27"E CH: 33.31'

APPROVED: [Signature]
DATE: 1/19/17

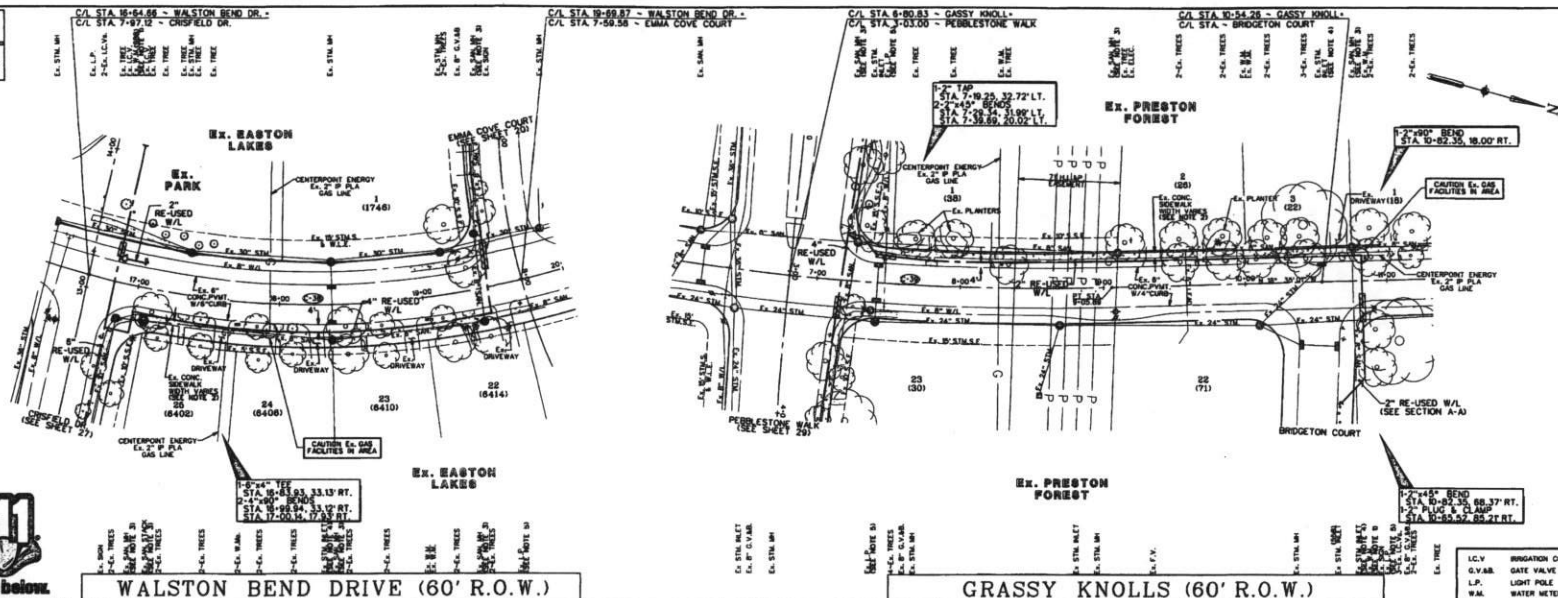
DESIGNED BY: [Signature]	DATE: 1/17/17
DRAWN BY: [Signature]	DATE: 1/17/17
CHECKED BY: [Signature]	DATE: 1/17/17
QA/QC BY: [Signature]	DATE: 1/17/17
QA/QC REVISIONS BY: [Signature]	DATE: 1/17/17



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TBPES FIRM REG. NO. 280
TBPES FIRM REG. NO. 100488

NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
PEBBLESTONE WALK
STA. 3+50.00 TO STA. 7+00.00
AND RIVERCOACH LANE
STA. 7+00.00 TO STA. 11+00.00

SHEET 30
OF 46 SHEETS
JOB NO. 19992020-142



1. CONTRACTOR SHALL FIELD LOCATE APPROPRIATE WATER METER AND SHALL BE RESPONSIBLE FOR CONSULT WITH THE ENGINEER NPLCA & THE OPERATOR TO LOCATE THE WATER METER.
2. REMOVE AND REPLACE 16" CONCRETE DRAINAGE AS REQUIRED TO CONSTRUCT PROP. RE-USED WATER LINE.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM 3-FEET OVERHEAD CLEARANCE SEPARATION FOR SANITARY SEWER UTILITIES AND MANHOLE.
4. CONTRACTOR SHALL MAINTAIN A MINIMUM 1'-0" GUT OVERHEAD CLEARANCE SEPARATION FOR STORM SEWER UTILITIES AND MANHOLE.
5. CONTRACTOR SHALL EXERCISE CARE WORKING IN THE LIGHT POLE AREA.
6. CONTRACTOR SHALL BE AWARE OF SHALLOW COVER. CONTRACTOR SHALL EXERCISE CAUTION.
7. CMT
8. CMT
9. CMT

LEGEND

—(7)— INDICATES MIN. VERTICAL CLEARANCE

—(2)— INDICATES MIN. VERTICAL CLEARANCE

—(4)— INDICATES MIN. VERTICAL CLEARANCE

— INDICATES RE-USED WATER LINE
SIZE AS NOTED

(272) INDICATES WATER METER
SERVICE NUMBER

⊕ INDICATES BLOW OFF VALVE
(SEE DETAIL SHEET 34)

47 INDICATES LOT NUMBER
(1902) INDICATES STREET ADDRESS

— Ex. COMCAST CABLE

— Ex. OVERHEAD POWER

— Ex. UNDERGROUND ELECTRICAL

— Ex. GAS LINE

84	SCALAR: 1" = 40' HORIZ. 1" = 4' VERT.
	CL. CURVE DATA
80	② P.C. STA. 13+05.00 P.T. STA. 13+49.00 Δ = 63°12'26" R = 800.00' L = 561.90' ③ P.C. STA. 9+38.21 T P.T. STA. 9+05.89 Δ = 25°53'43" R = 1703.00' L = 788.66'
76	P.C. STA. 67+045°E CB = 628.80' P.C. STA. 67+045°E CB = 628.80'

72
68
64

[illegible]

48

APPROVED: *M. J. [Signature]*
DEVELOPMENT COORDINATOR

DATE: 1/14/77

SECRET

31

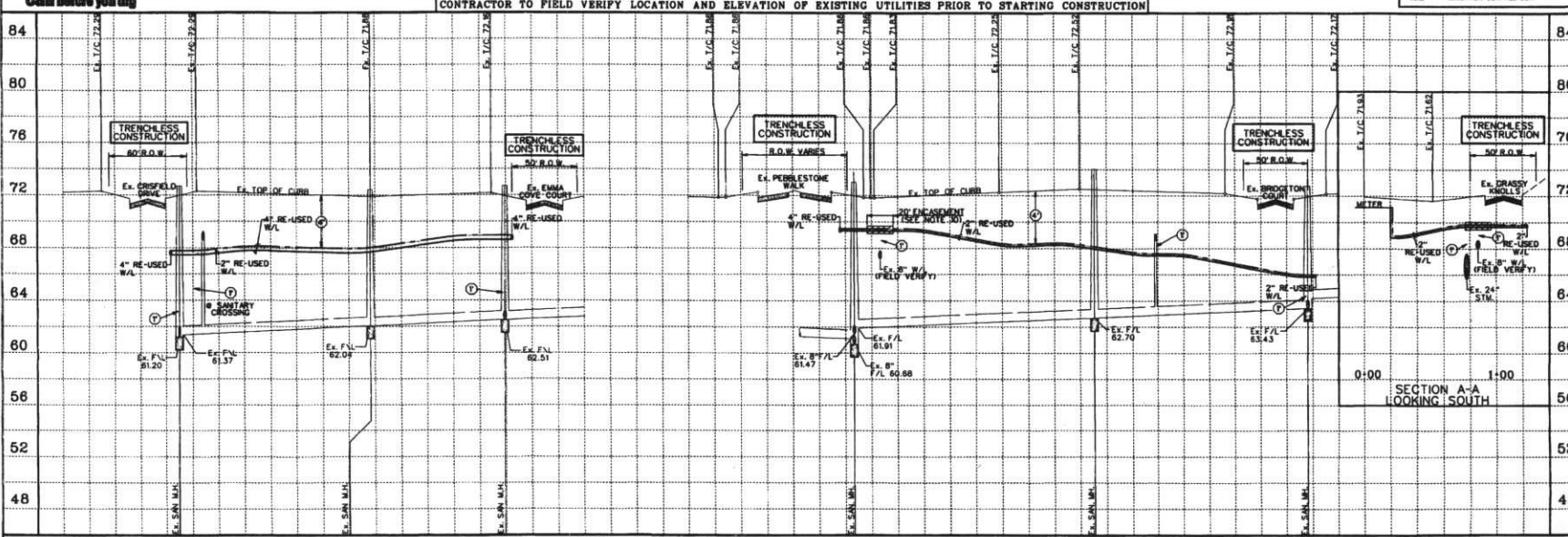
 10/27/2016	OF 46	SHEETS
	JOB NO. 19992020-142	

**Know what's below.
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WALSTON BEND DRIVE (60' R.O.W.)

GRASSY KNOLLS

(60' R.O.W.)

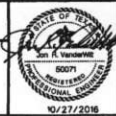


						DESIGNED BY: <u>ELB</u>
						DESIGN CHECKED BY: <u>SRV</u>
						DRAWN BY: <u>ELB</u>
						CODG CHECKED BY:
						SURVEY CHECKED BY:
						QACD BY: <u>PLS</u> DATE: <u>1-27-79</u>
						QACD REVISIONS BY: <u>ELB</u>
NO.	REVISION	DATE	BY			

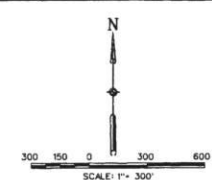


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NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE
PLAN AND PROFILE
WALSTON BEND DR.
STA. 16+50.00 TO STA. 20+00.00
AND GRASSY KNOLLS



SHEET 31
OF 46 SHEETS
JOB NO. 19992020-142



POLLUTION PREVENTION LEGEND

- INLET PROTECTION REQUIRED
- FILTER FABRIC FENCE
- STABILIZED CONSTRUCTION ACCESS

- NOTES:
1. PLACE FILTER FABRIC SILT FENCE +/- 5 FEET AROUND ALL INLETS.
 2. ALL SOIL STOCKPILES OF SIGNIFICANT SIZE SHALL BE ENCOMPASSED BY A SILT FENCE.
 3. ALL PROPOSED SHALES TO BE CONSTRUCTED BY THE CONTRACTOR FOR MAINTAINING SITE DRAINAGE SHALL HAVE SILT FENCES PLACED ACROSS THE ENTIRE SHALE JUST UPSTREAM OF THE OUTFALL LOCATION.
 4. A VEHICLE WASH-DOWN AREA FOR THE PROJECT MAY BE LOCATED BY THE CONTRACTOR. WHEN IN USE BY THE CONTRACTOR, THE CONTRACTOR SHALL PROTECT THE INLET WHERE THE WASH-DOWN WATER IS DIRECTED. THE LOCATION OF THE WASH-DOWN IS AT THE CONTRACTOR'S OPTION.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SWPPP FEATURES INDICATED ON THIS PLAN.
 6. UPON PROJECT COMPLETION, THE ENTIRE DISTURBED AREA NOT PROPOSED FOR IMMEDIATE RECONSTRUCTION SHALL BE RESEED AS PER THE POLLUTION PREVENTION PLAN.
 7. UPON PROJECT COMPLETION AND FINAL STABILIZATION, ALL SILT FENCE SHALL BE REMOVED AND DISPOSED OF.

NO.	REVISION	DATE	BY

DESIGNED BY: *RLM*
 DESIGN CHECKED BY: *SRV*
 DRAWN BY: *RLM*
 CADD CHECKED BY: *RLM*
 SURVEY CHECKED BY: *RLM*
 QA/QC BY: *RLM* DATE: *1/1/11*
 QA/QC REVISIONS BY: *RLM*



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NEW TERRITORY
 SOUTH HOMEWARD WAY
 (RECLAIMED EFFLUENT) RE-USED WATER LINE

POLLUTION PREVENTION PLAN

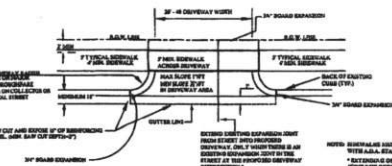
APPROVED: *Mary D. [Signature]*
 DEVELOPMENT ENGINEER
 DATE: *11/15/11*

SHEET **32**
 OF **46** SHEETS
 JOB NO. 19990200-142

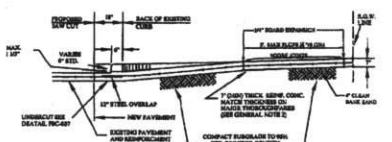
10/27/2010

SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE FOR NEW TERRITORY JOB NO. 19990200-142

A. USE FOR ALL PROPOSED EXISTING CURB REMOVAL FOR DRIVEWAYS (PLAN VIEW NOT TO SCALE)



B. USE FOR ALL PROPOSED DRIVES ON CURBED TYPE STREETS



GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

2. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT 3 BAGS (345 LBS) OF CEMENT PER CUBIC YARD OF CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATIONS) 4" THICK, FINISH PROPOSED SAW CUT TO 3/8" RING.

SIDEWALKS & DRIVEWAYS ON CURB TYPE STREETS COMMERCIAL AREA	DRAWN BY: L. BRIDECKA DATE DRAWN: 2-1-84	REVISED BY: J. NEDAROUS DATE REVISED: 4-7-88
	APPROVED BY: L. HOOD DATE: 2-1-84	DRAWING NO. FBC-025A

FORT BEND COUNTY ENGINEERING DEPARTMENT

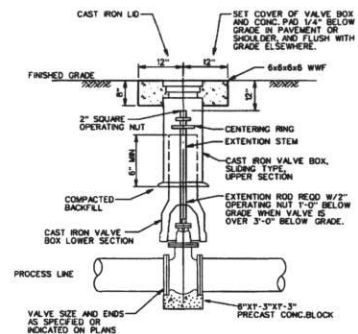
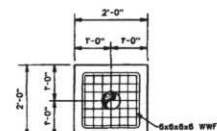
GENERAL NOTES FOR SIDEWALKS AND DRIVEWAYS

1. SAW CUT EXISTING CURB AT EACH END AND KNOCK OUT CURB FROM BEGINNING TO END OF PROPOSED DRIVEWAY.
2. SAW CUT EXISTING PAVEMENT A MINIMUM OF 18" INCHES AWAY FROM BACK OF CURB (GUTTER LINE) AND BREAK OUT TO EXPOSE EXISTING REINFORCING STEEL.
3. COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM PROPOSED SAW CUT AT EXISTING PAVEMENT TO RIGHT-OF-WAY LINE. COMPACT TO 95% OF STANDARD PROCTOR DENSITY (+/- 2% OPT. MOISTURE). THE COUNTY ENGINEER RESERVES THE RIGHT TO REQUIRE LABORATORY TESTS TO BE CONDUCTED.
4. PLACE AND COMPACT 4" CLEAN BANK SAND.
5. MAINTAIN GUTTER LINE WITH FACE OF EXISTING CURB.
6. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE TIED TO EXISTING ROADWAY REINFORCING STEEL WITH A MINIMUM LAP OF 12 INCHES.
7. PROPOSED DRIVEWAY REINFORCING STEEL IS TO BE #4 DEFORMED REINFORCING BARS (ASTM #615) GRADE 60, UNLESS NOTED. SPACED AT 24 INCHES C.C. EACH WAY, WITH 12 INCHES MINIMUM LAP ($6" \times 8"$ OR 8" W/8 AS ALTERNATE) FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE.
8. PROPOSED DRIVEWAY, CURB, GUTTER LINE, AND GRADE SHALL MATCH EXISTING STREET.
9. PROPOSED DRIVEWAY SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 7 INCHES THICK FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE (PROPERTY LINE).
10. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE, CLASS "A" STRUCTURAL (REFER TO SPECIFICATION 03301), 4 INCHES THICK AND 4 FEET MINIMUM WIDTH. SEE DRAWING NO. 245 FOR DETAILS.

CONSTRUCTION NOTES FOR
SIDEWALKS & DRIVEWAYS WITH
CURB TYPE STREETS
COMMERCIAL AREA

DRAWN BY: L BRDECKA DATE DRAWN: 2-1-94	REVISED BY: L BRDECKA DATE REVISED: 3-10-05
APPROVED BY: L HOOD DATE: 2-1-94	DRAWING NO. ERC 025B

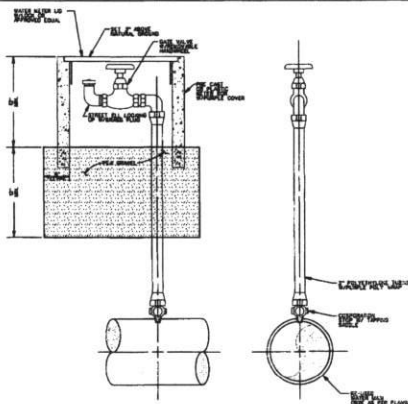
FORT BEND COUNTY ENGINEERING DEPARTMENT



NOTE:

1. ALL BURED VAVLES SHALL HAVE VALVES BOXES AND STEMS EXTENSTIONS AS SHOWN.
2. ALL VALVES TO BE AIRWA STANDARD CLOCKWISE

BURIED GATE VALVE BOX
W/ CONCRETE PAD



NOTES

1. ALL PIPING AND FITTINGS SHOULD BE THE SAME SIZE AS CORPORATION.
2. FOR 2" SLOW-OFF PROVIDE 2" X 80" BEND SLOPING UP AND WELD ADAPTED WITH PLUG.

2" BLOW-OFF VALVE
N.T.S.

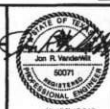
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						DESIGN CHECKED BY: <u>gum</u> <u>SKV</u>
						DRAWN BY: <u>gum</u>
						CODG CHECKED BY:
						SURVEY CHECKED BY:
						QAQC BY: <u>RS</u> DATE: <u>1/27/01</u>
						QAQC REVISIONS BY: <u>gum</u>
NO.	REVISION	DATE	BY			



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NEW TERRITORY
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT) RE-USED WATER LINE

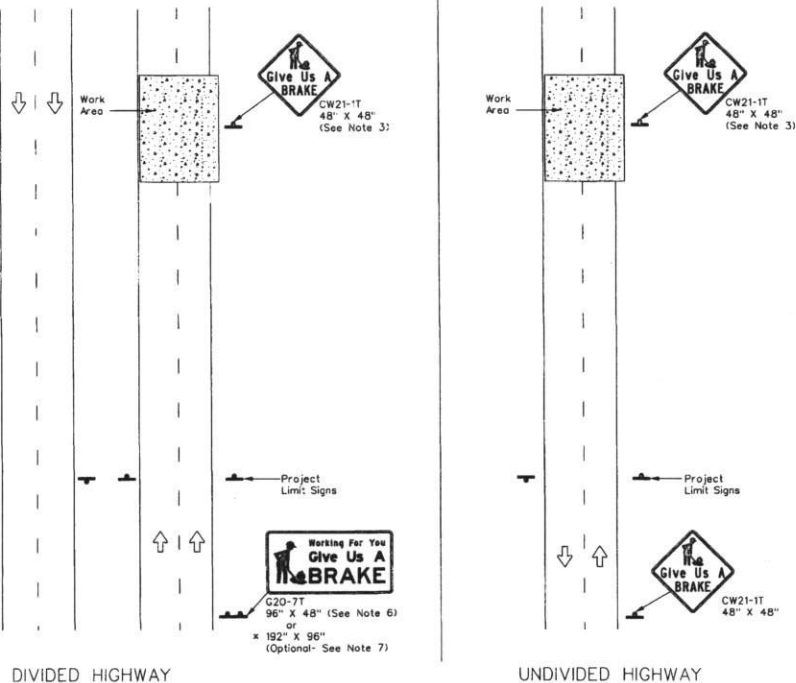
MISCELLANEOUS DETAILS



APPROVED: Musiel
DEVELOPMENT COORDINATION
1/19/17

SHEET 34
OF 46 SHEETS

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SIGNS ARE SHOWN FOR ONE DIRECTION OF TRAVEL

* When the optional larger WORKING FOR YOU GIVE US A BRAKE (G20-7T) 192" x 96" sign is required, the locations shall be noted elsewhere in the plans.

SUMMARY OF LARGE SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN	SIGN DIMENSIONS	REFLECTIVE SHEETING	SQ FT	GALVANIZED STRUCTURAL STEEL		DRILLED SHAFT 24" DIA. (LF)
						Size	(LF)	
Orange	G20-7T		96" X 48"	Type B _{FL} or C _{FL}	32	▲	▲	▲
Orange	G20-7T		192" X 96"	Type B _{FL} or C _{FL}	128	WBx18	16	17

▲ See Note 6 Below

LEGEND

	Sign
	Large Sign
	Traffic Flow

DEPARTMENTAL MATERIAL SPECIFICATIONS

PLYWOOD SIGN BLANKS	DMS-7100
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B _{FL} OR TYPE C _{FL}
BLACK	LEGEND & BORDERS	NON-REFLECTIVE ACRYLIC FILM

GENERAL NOTES

- See BC and SMD sheets for additional sign support details.
- Sign locations shall be approved by the Engineer.
- For projects more than two miles in length, Give Us a BRAKE signs should be repeated halfway through the project. The Give Us a Brake (CW21-1T) may be used for this purpose.
- Work zone speed limits are sometimes used in conjunction with GIVE US A BRAKE signing. See BC(3) for location and spacing of construction speed zone signing when required.
- Give Us a Brake (CW21-1T) signs and supports shall be considered subsidiary to Item 502, "Barriers, Signs and Traffic Handling."
- The 96" X 48" Working For You Give Us A BRAKE (G20-7T) may use a 1/2" or 5/8" plywood substrate or 0.125" aluminum sheeting substrate and may be supported by two 4" x 6" wood posts with drilled holes for breakaway as per BC(5) and will be subsidiary to Item 502.
- The Working For You Give Us A BRAKE (G20-7T) 192" X 96" sign shall be paid for under the following specification items:
Item 636 - Aluminum Signs
Item 647 - Large Roadside Sign Supports and Assemblies
Item 416 - Drilled Shaft Foundations
- All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

Texas Department of Transportation		Traffic Operations Division Standard	
WORK ZONE "GIVE US A BRAKE" SIGNS WZ(BRK)-13			
FILED	WZ(BRK)-13.dgn	DATE	11/18/17
BY	August 1995	DATE	11/18/17
6-96	5-98	7-13	
8-96	3-03		

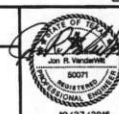
NO.	REVISION	DATE	BY

DESIGNED BY: *[Signature]*
 DESIGN CHECKED BY: *[Signature]*
 DRAWN BY: *[Signature]*
 CADD CHECKED BY: *[Signature]*
 SURVEY CHECKED BY: *[Signature]*
 QA/QC BY: *[Signature]* DATE: 11/17/17
 QA/QC REVISIONS BY: *[Signature]*



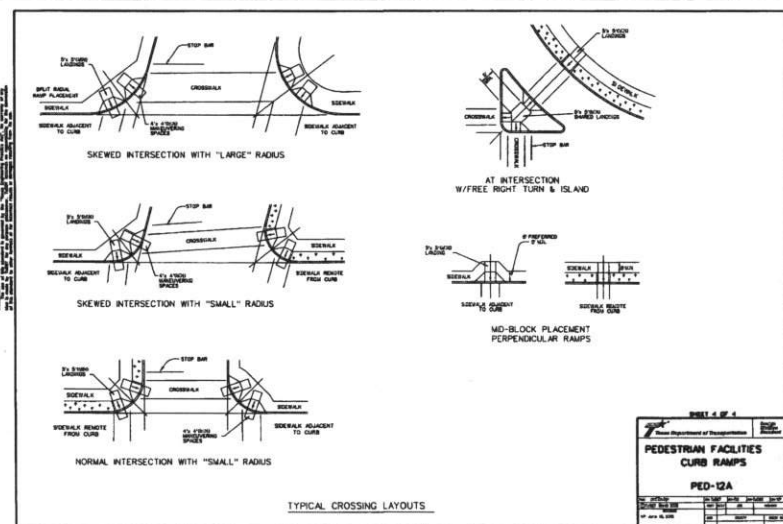
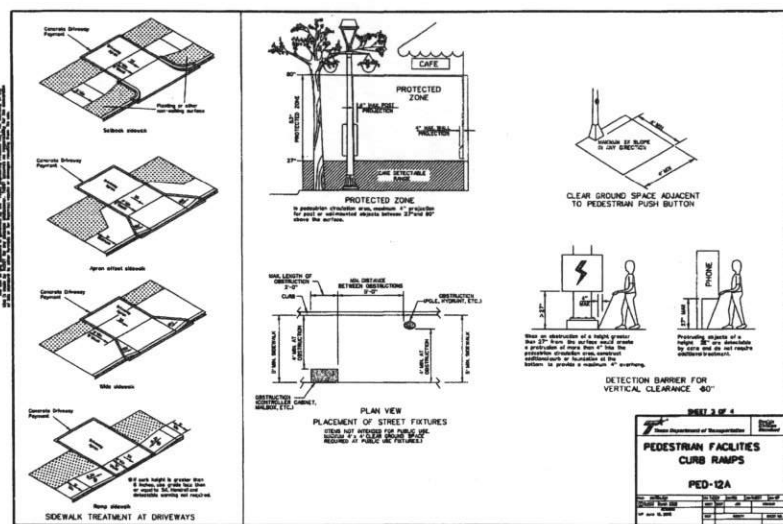
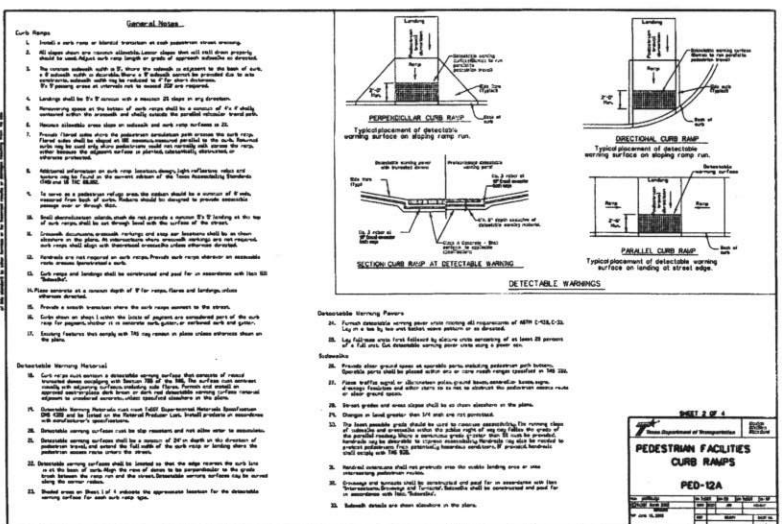
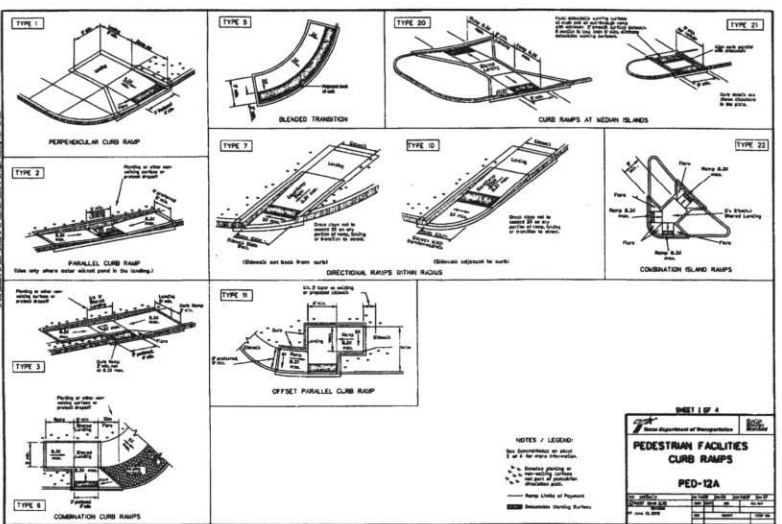
Engineering and Surveying
 9990 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 763-7788 (713) 763-3580, Fax
 TBPE FIRM REG. No. 280
 TBPLS FIRM REG. No. 100486

NEW TERRITORY
 SOUTH HOMEWARD WAY
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
WORK ZONE
"GIVE US A BRAKE"
SIGNS WZ(BRK)-13



APPROVED: *[Signature]*
 DATE: 11/18/17

SHEET 35
 OF 46 SHEETS
 JOB NO. 1999020-142



NO.	REVISION	DATE	BY
1	DESIGNED BY: <i>SAV</i>		
2	DESIGN CHECKED BY: <i>SAV</i>		
3	DRAWN BY: <i>SAV</i>		
4	CHECKED BY: <i>SAV</i>		
5	SURVEY CHECKED BY: <i>SAV</i>		
6	QA/QC BY: <i>SAV</i> DATE: <i>1-27-17</i>		
7	QA/QC REVISIONS BY: <i>SAV</i>		



Engineering and Surveying
 9990 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 783-7788 (713) 783-3580, Fax
 TBPE FIRM REG. No. 280
 TBPLS FIRM REG. No. 100486

NEW TERRITORY
 SOUTH HONOLULU WAY
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
 PEDESTRIAN FACILITIES
 CURB RAMPS PED-12A

APPROVED: *SAV*
 DATE: *1/27/17*

SHEET 36 OF 46 SHEETS

JOB NO. 1999020-02

ASPHALTIC CONCRETE PAVEMENT:

1. ASPHALTIC MATERIAL AND WORKMANSHIP SHALL COMPLY WITH ASTM C 33, ASTM C 131, ASTM C 136, AND TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES (1983) AND ITS LATEST REVISIONS. ASPHALT SHALL BE TYPE D-100 UNLESS SPECIFICALLY NOTED AND APPROVED BY CITY OF SUGAR LAND ENGINEER.
2. CONTRACTOR SHALL VERIFY ELEVATIONS AND GRADES AND THAT BASE COURSE IS READY TO SUPPORT IMPOSED LOADS.
3. APPLY A PRIME COAT AS PER CITY OF SUGAR LAND AND TxDOT STANDARDS. DO NOT APPLY TACK COAT UNTIL PRIME BASE COURSE HAS CURED AND IS APPROVED BY THE CONSTRUCTION INSPECTOR.
4. TACK COAT SHALL COMPLY TO CITY OF SUGAR LAND AND TxDOT STANDARDS.
5. DO NOT USE CUTBACK ASPHALT APRIL 16 THROUGH SEPTEMBER 15.
6. DO NOT PLACE ASPHALT WHEN AMBIENT TEMPERATURE IS BELOW 50°F AND FALLING. MIXTURE MAY BE PLACED WHEN AMBIENT TEMPERATURE IS 40°F AND RISING.
7. ON PUBLIC ROADS, STREETS, AND RIGHT-OF-WAY, ASPHALT SHALL BE PLACED IN MAXIMUM 3-INCH LIFTS. IN THE EVENT MORE THAN ONE LIFT IS REQUIRED, EACH LIFT SHALL BE COMPACTED, TESTED, AND GIVEN ADEQUATE TIME FOR THE PREVIOUS LIFT TO CURE AND DRY BEFORE THE NEXT LIFT IS PLACED. IF COMPLETELY CURED AND DRIED, A TACK COAT WILL BE REQUIRED BETWEEN LIFTS.
8. A CERTIFIED LAB SHALL BE ON SITE AT ALL TIMES TO TEST AND PROPERLY DOCUMENT THE CONSTRUCTION METHODS AND QUALITY OF MATERIALS.
9. ROLLING PATTERNS SHALL BE ESTABLISHED BY THE CONTRACTOR, AS RECOMMENDED BY THE LAB, TO ACHIEVE THE MAXIMUM COMPACTION. THE SELECTED ROLL PATTERN SHALL BE FOLLOWED UNLESS CHANGES IN THE PLACEMENT OR MIXTURE OCCUR, WHICH AFFECT COMPACTION. COMPACTION OF USE SHALL BE ACHIEVED.
10. ASPHALT SHALL NOT BE PLACED ON WET BASE.
11. NO THROUSING ARE ALLOWED.
12. IF THE SURFACE RAVELS (SEPARATES), FLUSHES, RUTS, OR DETERIORATES IN ANY MANNER PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR WILL CORRECT THIS CONDITION AT HIS EXPENSE TO THE SATISFACTION OF THE CITY OF SUGAR LAND ENGINEER.
13. THE CONTRACTOR SHALL PROTECT THE PAVEMENT UNTIL DELIVERED BY THE CITY ENGINEER TO OPEN SUD PAVEMENT TO TRAFFIC.
14. RIDE QUALITY SHALL COMPLY WITH TxDOT ITEM 585, "RIDE QUALITY FOR PAVEMENT SURFACES".
15. SPECIAL NOTE: CONTRACTOR, WHILE MAINTAINING COMPACTION, SHALL USE CAUTION NOT TO "OVER-ROLL" ASPHALT. PAVEMENT STRETCHED OR OVER-ROLLED, WHERE COMPACTION IS BROKEN, SHALL NOT BE ACCEPTED AND SHALL BE REPAIRED OR REPLACED TO THE CITY ENGINEER'S SATISFACTION. AT THE CONTRACTOR'S EXPENSE.
16. CORE SAMPLES SHALL BE TAKEN RANDOMLY AT A MINIMUM OF EVERY 300 LF PER LANE OF ROADWAY OR ONE PER EVERY 250 SQ. YD., WHICHEVER IS APPLICABLE AND SHALL BE STAGGERED RELATIVE TO TESTING SITES IN ADJUTING TRAFFIC LANES.
17. ASPHALTIC CONCRETE PAVEMENT REPAIRS SHALL BE SAW CUT TO FULL ASPHALT DEPTH, REPAIR TO ASPHALT, STABILIZED BASE, FLEXIBLE BASE, ASPHALT BASE, AND OIL AND EMULSION NOTES. ALL DAMAGED BASE AND SUBGRADES SHALL BE REMOVED AND REPLACED TO THE CITY ENGINEER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AREA DAMAGED DURING CONSTRUCTION, INCLUDING AREAS OUTSIDE THE DESIGNATED REPAIR.

STABILIZED CRUSHED CONCRETE:

1. TEST AND ANALYSIS OF AGGREGATE AND BINDER MATERIALS WILL BE PERFORMED IN ACCORDANCE WITH ASTM 1567 AND ASTM 4318. CEMENT SHALL BE ASTM 150 TYPE I.
2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH TxDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES (1983) AND ITS LATEST REVISIONS AND CITY OF SUGAR LAND STANDARDS.
3. PRIME COAT SHALL BE M.C. 30 OR EPR-1 PRIME.
4. DESIGN MIX FOR MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 200 PSI IN 48 HRS. PROVIDE MINIMUM CEMENT CONTENT OF 2 SK PER TON OF MIX. CEMENT CONTENT MAY BE RAISED AT THE CONTRACTOR'S EXPENSE IF TESTS ON FIELD SAMPLES FALL BELOW 200 PSI.
5. THREE SAMPLES SHALL BE MOULDED EACH DAY FOR EACH 300 TONS OF PRODUCTION. COMPRESSIVE STRENGTH SHALL BE THE AVERAGE OF THREE TESTS FOR EACH PRODUCTION LOT. CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE, ANY MATERIAL BELOW MINIMUM REQUIREMENTS.
6. CONTRACTOR SHALL VERIFY LINES, GRADES, AND COMPACTED SUBGRADING AS READY TO RECEIVE MATERIALS PRIOR TO ITS PLACEMENT.
7. CEMENT STABILIZED BASE MAY NOT BE PLACED IF AMBIENT TEMPERATURE IS 40°F AND FALLING. BASE MATERIAL MAY BE PLACED IF AMBIENT TEMPERATURE IS 30°F AND RISING.
8. MATERIAL MAY NOT BE PLACED IN LIFTS EXCEEDING 8 INCHES IN DEPTH. EACH LIFT SHALL HAVE DENSITIES TAKEN.
9. CEMENT STABILIZED BASE MAY NOT BE USED FOR LONG PERIODS. DELIVERY OF MATERIAL AND UTILIZATION SHOULD BE TWO ACCORDINGLY. MAXIMUM TIME ALLOWED 3 HRS. FROM BATCH TIME TO HAVING BEEN INSTALLED.
10. CEMENT STABILIZED BASE SHALL NOT BE INSTALLED IN WET OR SOFT AREAS.
11. COMPACTION TO MINIMUM DENSITY OF 98% OF MAXIMUM DRY DENSITY, UNLESS OTHERWISE INDICATED ON DRAWINGS.
12. MOISTURE SHALL BE BETWEEN + OR - .3% OPTIMUM AS DETERMINED BY ASTM 94.
13. AFTER COMPACTING FINAL COURSE, GRADE SURFACE TO FINAL GRADE. ANY IRREGULARITIES, WEAK SPOTS, AREAS OF EXCESSIVE WEAR, OR SURFACE FINE LINE CRACKING SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE.
14. A CERTIFIED LAB SHALL BE ON SITE AT ALL TIMES TO TEST AND PROPERLY DOCUMENT THE CONSTRUCTION METHODS AND QUALITY OF MATERIALS.
15. COMPACTION TESTING WILL BE PERFORMED IN ACCORDANCE WITH ASTM D 1558 OR ASTM D 2922 AND ASTM D 3017 AT RANDOMLY SELECTED LOCATIONS AS DIRECTED BY CITY OF SUGAR LAND CONSTRUCTION INSPECTOR.
16. A MINIMUM OF ONE CORE SHALL BE TAKEN AT RANDOM LOCATIONS PER 300 LF PER LANE OF ROADWAY OR ONE PER 250 SQ. YD., WHICHEVER IS APPLICABLE AND SHALL BE STAGGERED RELATIVE TO TESTING SITES IN ADJUTING TRAFFIC LANES.
17. CURE FOR A MINIMUM OF 7 DAYS BEFORE ADDING ASPHALT PAVEMENT COURSES.
18. COVER SURFACE WITH CURING MEMBRANE AT THE FOLLOWING RATES: MC-30-0.1 GAL. PER SQ. YD., OR EPR-1 MEMBRANE 15 GAL. PER SQ. YD. DO NOT USE CUTBACK ASPHALT APRIL 16 TO SEPTEMBER 15. PROTECT THE MEMBRANE BY ALLOWING MEMBRANE TO FULLY CURE PRIOR TO PERMITTING TRAFFIC TO DRIVE ON IT.
19. UNSTABILIZED CRUSHED CONCRETE MAY NOT BE USED ON PUBLIC STREETS, ROADS, OR RIGHTS-OF-WAY.
20. STABILIZED LIMESTONE BASE MAY BE SUBSTITUTED FOR STABILIZED CRUSHED CONCRETE IF SUBMITTED AND APPROVED BY THE CITY ENGINEER.

STORM SEWER NOTES:

1. STORM SEWERS SHALL BE DESIGNED AND CONSTRUCTED WITH CITY OF SUGAR LAND'S STANDARD CONSTRUCTION SPECIFICATIONS AND IN ACCORDANCE WITH CITY OF SUGAR LAND STANDARD DETAILS SHEET AND LATEST REVISIONS.
2. ALL PIPE STORM SEWERS SHALL BE INSTALLED, BEDDED, AND BACKFILLED IN ACCORDANCE WITH CITY OF SUGAR LAND STANDARD CONSTRUCTION DETAILS SHEETS AND LATEST REVISIONS.
3. ALL CEMENT STABILIZED SAND (C.S.S.) SHALL BE 1-1/2 SK PER CUBIC YD. AND MEET MINIMUM C.S.S. REQUIREMENTS AS SPECIFIED TO BE.
4. ALL STORM SEWERS UNDER 24" WITHIN TWO (2) FOOT OF PROPOSED OR FUTURE PAVEMENTS SHALL BE BACKFILLED AND COMPACTED WITH 1-1/2 SK C.S.S. TO BOTTOM OF SUBGRADE.
5. ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8" BRICK BALLS WITH FULL MORTAR HEAD AND BED JOINTS AND GROUTED WITH A MINIMUM OF 1/2-INCH NON-SHRINK GROUT INSIDE AND OUTSIDE, UNLESS OTHERWISE NOTED.
6. RISE TO MAXIMUM EXTENT, MANHOLES IN MANHOLE RAMP.
7. ALL STORM SEWER MANHOLES SHALL BE OF SUGAR LAND TYPE "C" UNLESS OTHERWISE NOTED AND SHALL BE LOCATED A MINIMUM OF THREE (3) FEET BACK OF CURB. IF CONFLICT EXISTS, RACK OVER MANHOLE TO MEET PROPOSED CURB.
8. RM ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY. UTILITY CONTRACTOR SHALL ADJUST RM ELEVATIONS TO 0.4 FEET ABOVE THE FINISH GRADE AT EACH LOCATION AFTER CONTRACTOR HAS COMPLETED FINAL GRADING. SLOPED FALL SHALL BE ADDED FOR STORM WATER DRAINAGE AWAY FROM RM.
9. RM ELEVATIONS SHALL BE PROPERLY ADJUSTED TO GRADE IN PAVEMENT AND SIDEWALKS. APPROVED BLOCKOUTS SHALL BE USED IN PAVEMENT.
10. ALL STORM SEWER MANHOLE COVERS MUST INCLUDE "STORM SEWER" AND "NO WASTE", "DRAINS TO WATERWAYS" WITH CITY OF SUGAR LAND EMBLEM AS DEPICTED IN THE DETAIL SHEETS.
11. MINIMUM STORM SEWER SIZE SHALL BE 24-INCH DIAMETER. ALL STORM SEWER PIPES 24" AND LARGER ARE TO BE REINFORCED CONCRETE PIPE (ASTM C-76 CLASS II, INCLUDING INLET LEADS CROSSING UNDER EXISTING OR PROPOSED PAVEMENTS. ALL INLET LEADS SHALL BE 24" R.O.P. OR LARGER. ALL STORM SEWER PIPE LIST AND STANDARD DETAILS.
12. CONTRACTOR SHALL VERIFY NATURAL GROUND SHOTS PRIOR TO MANHOLE CONSTRUCTION.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. DURING THE COURSE OF ANY AND ALL CLEARING, GRUBBING, FILL, GRADING, EXCAVATION OR OTHER CONSTRUCTION, CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE PATHWAYS ARE MAINTAINED AND REMAIN OPEN TO ENSURE POSITIVE DRAINAGE AND THAT SUCH CONVEYANCES ARE NOT IMPEDED OR BLOCKED IN ANY MANNER.
14. ALL STORM SEWER INLETS SHALL BE PROTECTED FROM ENTRY OF SILT, TRASH, DEBRIS AND ANY SUBSTANCES DETERMINED BY THE STORM SEWER SYSTEM AND/OR WATERWAYS RECEIVING STORM WATER RUNOFF. CONTRACTOR SHALL AT COMPLETION OF WORK, FILL LOW SPOTS AND GRADE ALL RIGHTS-OF-WAY AND ADJACENT EASEMENTS WITH REVEGETATION OR AS NECESSARY TO MAINTAIN AND/OR ESTABLISH POSITIVE DRAINAGE.
15. CONTRACTOR TO PROVIDE A MINIMUM OF 8-INCHES CLEARANCE AT UTILITY CROSSINGS AND A MINIMUM OF TWELVE (12) INCHES AT SANITARY SEWER CROSSINGS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACKSLOPE DRAINAGE SYSTEM OF HIS WORK.
17. ALL DITCHES SHALL BE RESTORED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE COMPACTED AREAS SHALL BE RESEDED OR RESEEDING TO WORKING DAYS OF EACH OCCURRENCE (NO SEPARATE PAY).
18. THE UTILITY CONTRACTOR SHALL ROUGH CUT ALL ROADSIDE SHALES IN PROPER ALIGNMENT AND SLOPE TO WITHIN 0.5 FT. OF FINISH GRADE. THE FINISH GRADING CONTRACTOR, UPON COMPLETION OF FINISH GRADING, SHALL RESTORE ALL AREAS WITHIN RIGHT-OF-WAY FOR SEEDING OR SOILING AND FERTILIZING.
19. ALL STORM SEWERS MUST BE CLEAN/FREE OF DIRT AND DEBRIS AT THE TIME OF FINAL AND FINAL ACCEPTANCE.
20. REFER TO GENERAL NOTES AND C.S.S. NOTES.

SANITARY SEWER NOTES:

1. SANITARY SEWERS, FORCE MAINS, MANHOLES, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS SHALL BE DESIGNED AND CONSTRUCTED AS PER THE REQUIREMENTS OF THE CITY OF SUGAR LAND DESIGN STANDARDS AND CORRESPONDING STANDARD CONSTRUCTION DETAILS SHEETS AND AS PER THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY DESIGN CRITERIA FOR SEWAGE SYSTEMS. SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND/OR SPECIFICATIONS, THE CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
2. ALL MATERIALS AND PRODUCTS USED IN THE CONSTRUCTION OF SANITARY SEWERS, FORCE MAINS, MANHOLES, STANDARDS AND THE CURRENT APPROVED PRODUCTS LIST.
3. STACKS SHALL BE BUILT IN ACCORDANCE WITH THE CITY OF SUGAR LAND STANDARD DETAIL DRAWING REQUIREMENTS. EXACT LOCATION OF THE STACK SHALL BE SUPPLIED TO THE CITY ENGINEER OF SUGAR LAND BY THE PROJECT ENGINEER ON SEALED AS-BUILT DRAWINGS AT COMPLETION OF CONSTRUCTION. ALL STACKS SHALL BE INSTALLED WITHIN 36" OF PLUMB RELATIVE TO VERTICAL PLANE AND WILL BE CAPPED AND TERMINATED AT A DEPTH OF 4 FEET BELOW FINISHED GRADE, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
4. EACH SANITARY SEWER SERVICE LEAD STUB, PLUGGED WYE BRANCH OUTLET AND STACK SHALL BE MARKED IN ACCORDANCE WITH THE DETAILS AT THE TIME OF CONSTRUCTION, BEGINNING AT THE INVERT ELEVATION OF THE STUB OR WYE AND AT AN ELEVATION TWO FEET BELOW THE CAPPED TERMINATION POINT OF THE STACK AND EXTENDING TWO FEET ABOVE FINISHED GRADE.
5. SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED AS PER DRAWINGS INCORPORATED IN CITY OF SUGAR LAND STANDARD CONSTRUCTION DETAILS SHEETS. SUCH MANHOLES SHALL BE CONSTRUCTED A MINIMUM OF ONE FOOT FROM BACK OF CURB ON CURB AND GUTTER ROADWAYS AND THREE FEET FROM EDGE OF TRAVELLED ROADWAY ON THOSE THROUGHFARES HAVING NO CURBING. MEASURED FROM OUTSIDE DIAMETER OF MANHOLE. ALL SANITARY SEWER MANHOLES SHALL INCORPORATE INFLOW PROTECTORS. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED. REINFORCEMENT SHALL BE SPECIFICALLY AUTHORIZED BY CITY ENGINEER AND SO DESIGNATED ON APPROVED CONSTRUCTION DRAWINGS. BRICK MANHOLES AND FIRECLAY MANHOLES ARE PROHIBITED. MANHOLES DEEPER THAN EIGHT FEET SHALL EXCEEDING CONES.
6. SANITARY SEWER MANHOLE COVERS SHALL BE MINIMUM OF 32 INCHES IN DIAMETER. ALL SUCH MANHOLE COVERS SHALL HAVE THE CITY OF SUGAR LAND EMBLEM AND THE WORDS "SUGAR LAND" AND "SANITARY SEWER" CAST IN RAISED RELIEF AS DEPICTED IN CITY OF SUGAR LAND STANDARD CONSTRUCTION DETAILS SHEETS.
7. MANHOLE RM ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY. UTILITY CONTRACTORS SHALL ADJUST RM ELEVATIONS TO 0.4 FEET ABOVE FINISHED GRADE AND 0.5 FEET ABOVE NATURAL GROUND WITHIN RIGHT-OF-WAY AND EASEMENTS AT EACH MANHOLE LOCATION AFTER PAVEMENT CONTRACTOR HAS COMPLETED FINAL GRADING. THE AREA ADJACENT TO SANITARY SEWER MANHOLE LOCATIONS SHALL BE GRADED AWAY FROM MANHOLES SO AS TO PREVENT ENTRY OF STORM WATER RUNOFF TO THE SANITARY SEWER SYSTEM.
8. MINIMUM SEPARATION DISTANCES AS REQUIRED BY TCD SECTION 317.13, 390. APPENDIX E MUST BE MAINTAINED BETWEEN POTABLE WATER LINES AND SANITARY SEWERS, FORCE MAINS, MANHOLES, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS. INSTALLATION OF FIRE HYDRANTS WITHIN 6' (7') OF A SANITARY SEWER SYSTEM IS PROHIBITED. REFER TO THE CITY OF SUGAR LAND INFRASTRUCTURE STANDARDS AND CORRESPONDING STANDARD CONSTRUCTION DETAILS SHEETS FOR CONSTRUCTION REQUIREMENTS OF OTHER INSTALLATIONS WHERE SEPARATION DISTANCES OF GREATER THAN NINE FEET CANNOT BE MAINTAINED.
9. TESTING OF SANITARY SEWERS, FORCE MAINS, MANHOLES, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS SHALL BE CONDUCTED AS NOTED IN SANITARY SEWER CHAPTER OF THE CITY OF SUGAR LAND DESIGN STANDARDS AND AS PER THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY DESIGN CRITERIA FOR SEWAGE SYSTEMS.
10. ALL SANITARY SEWER PIPING AND BEDDING SHALL BE INSPECTED BY CITY CONSTRUCTION INSPECTOR FOR CONFORMANCE WITH CITY DESIGN STANDARDS PRIOR TO BACKFILLING OF PIPING IN TRENCH. CONTRACTOR SHALL NOT COVER PIPING UNTIL SUCH TIME AS INSPECTOR HAS NOTIFIED CONTRACTOR THAT RESULTS OF PIPING INSPECTION ARE SATISFACTORY AND THAT BACKFILLING MAY BE ACCOMPLISHED. ANY PIPING INSTALLED AND/OR BACKFILLED WITHOUT INSPECTOR'S SPECIFIC APPROVAL SHALL BE UNCOVERED AT INSPECTOR'S DIRECTION AND INSPECTED ACCORDINGLY. 24-HOUR NOTICE REQUIRED.
11. ALL COMMERCIAL DEVELOPMENTS WITH A FAR SIDE SANITARY SERVICE LEAD ACROSS THE STREET SHALL PROVIDE A SIX (6) INCH RISER AND CLEANOUT ON THE PROPERTY SIDE. PUBLIC MAINTENANCE OF THE FAR SIDE LEAD SHALL END AT THIS RISER.

WATER DISTRIBUTION NOTES:

1. WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE DESIGNED AND CONSTRUCTED AS PER REQUIREMENTS OF THE CITY OF SUGAR LAND DESIGN STANDARDS AND CORRESPONDING STANDARD CONSTRUCTION DETAILS SHEETS AND AS PER THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND/OR SPECIFICATIONS, THE CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
2. ALL MATERIALS AND PRODUCTS USED IN THE CONSTRUCTION OF WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL COMPLY WITH THE CITY OF SUGAR LAND DESIGN STANDARDS AND THE CURRENT APPROVED PRODUCTS LIST AS MAINTAINED BY THE CITY'S ENGINEERING DEPARTMENT.
3. ALL GATE VALVES INSTALLED BELOW GRADE SHALL BE OF NON-RESIN DESIGN.
4. ALL THE HYDRANTS SHALL BE PAINTED AND/OR REPAINTED WITH GED-GLEN 301 BRIGT SILVER POLYURETHANE ENAMEL MANUFACTURED BY GED-GLEN ENTERPRISES, INC. SURFACE PREPARATION SHALL INCLUDE REMOVAL OF OIL, GREASE AND MOISTURE, FOLLOWED BY MEDIA BLASTING TO SP-SP15-10-63 SPECIFICATIONS (NEAR WHITE METAL) AS PER MANUFACTURER'S RECOMMENDATIONS. PRIME WHITE METAL WITH TP-281 EPOXY PRIMER EPOXY PRIMER OR WITH TP-221, TP-231 OR TP-241 UNIVERSAL PRIMER. RDT AND DOX RELATIVE HUMIDITY ARE OPTIMAL CONDITIONS FOR APPLICATION OF PRIMER AND OF PAINT. DO NOT APPLY PRIMER AND/OR PAINT WHEN SURFACE TO BE PAINTED IS LESS THAN 5° ABOVE THE DEW POINT IN ORDER TO PREVENT MOISTURE FROM CONDENSING ON THE SURFACE TO BE PAINTED AND/OR PAINTED. A BLUE TRAFFIC BUTTON SHALL BE INSTALLED ON THE STREET 12" OFF THE CENTER LINE FOR EACH HYDRANT. MINIMUM SEPARATION DISTANCES AS REQUIRED BY TCD SECTION 317.13, 390. APPENDIX E MUST BE MAINTAINED BETWEEN POTABLE WATER LINES AND SANITARY SEWERS, FORCE MAINS, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS. INSTALLATION OF FIRE HYDRANTS WITHIN 6' (7') OF A SANITARY SEWER SYSTEM IS PROHIBITED. REFER TO C.O.S.L. STANDARDS FOR CONSTRUCTION REQUIREMENTS OF OTHER INSTALLATIONS WHERE DISTANCES ARE GREATER THAN 6' (NINE) FT. CANNOT BE MAINTAINED.
5. EACH WATER SERVICE LEAD STUB SHALL BE MARKED WITH A PRESSURE TREATED 4 X 4 TIMBER OR PVC PIPE AT THE TIME OF CONSTRUCTION, BEGINNING AT THE INVERT ELEVATION OF THE STUB AND EXTENDING TWO FEET ABOVE FINISHED GRADE. EACH TIMBER MARKER SHALL BE PAINTED BLUE AND LABELED "POTABLE WATER" WITH PIPE SIZE NOTED.
6. TESTING OF WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE CONDUCTED AS PER REQUIREMENTS OF AWWA C600-94.
7. DISINFECTION OF WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE CONDUCTED AS PER REQUIREMENTS OF AWWA C651 AND TCEB. NO CONNECTIONS SHALL BE MADE TO EXISTING WATER LINES UNTIL NEWLY CONSTRUCTED WATER LINES HAVE BEEN THOROUGHLY DISINFECTED, TESTED, FLUSHED, AND SAMPLED AND CONNECTION HAS BEEN AUTHORIZED BY THE CITY ENGINEER.
8. ALL WATER PIPING AND BEDDING SHALL BE INSPECTED BY THE CITY INSPECTOR FOR CONFORMANCE TO DESIGN STANDARDS PRIOR TO BACKFILLING OF PIPING IN TRENCH. CONTRACTOR SHALL NOT COVER PIPING UNTIL SUCH TIME AS INSPECTOR HAS NOTIFIED CONTRACTOR THAT RESULTS OF PIPING INSPECTION ARE SATISFACTORY AND THAT BACKFILLING MAY BE ACCOMPLISHED. ANY PIPING INSTALLED AND/OR BACKFILLED WITHOUT INSPECTOR'S SPECIFIC APPROVAL SHALL BE UNCOVERED AT INSPECTOR'S DIRECTION AND INSPECTED ACCORDINGLY. 24-HOUR NOTICE REQUIRED.
9. ALL MECHANICALLY RESTRAINED FITTINGS MUST BE MECHANICALLY RESTRAINED JOINTS OR APPROVED EQUAL.
10. THE CITY OF SUGAR LAND MUST HAVE A COPY OF THE BACTERIOLOGICAL TEST RESULTS AT LEAST 24 HOURS PRIOR TO THE INITIAL INSPECTION. IF NOT, THEN THE INSPECTION WILL BE RESCHEDULED.

OLD FILE NAME:
PLOT DATE:

NO.	DATE	REVISION



DATE: 10-27-18
BY: J. R. V. L. W.



CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
SOUTH BOWBARD WAY
(RECLAIMED EFLUENT)
RE-USED WATER LINE

GENERAL CONSTRUCTION NOTES II

JOB NO.:
DATE:
DRAWN BY:
CHECKED BY:
SCALE:

SL-02
page 38 of 46

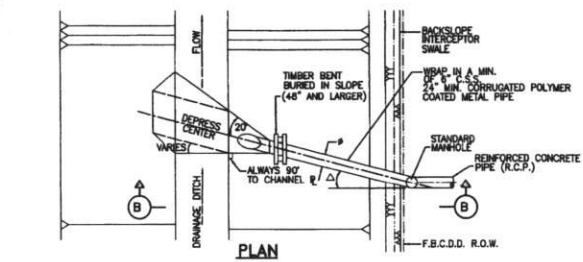
Costello



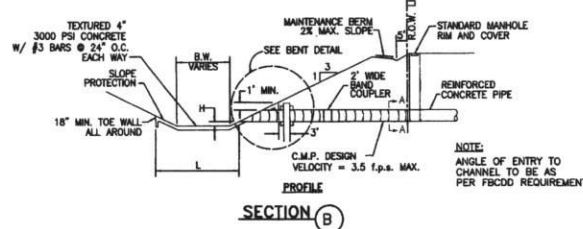
TEXAS FIRM REG. NO. 280
TCEB FIRM REG. NO. 100486

Macedo 10/9/17

PLAN



PLAN



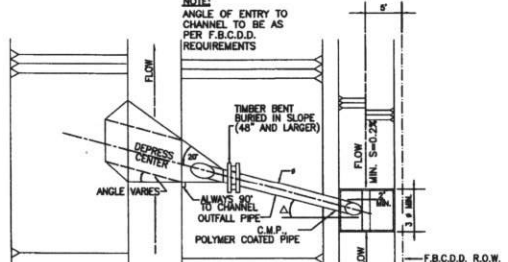
SECTION B

STORM SEWER OUTFALL

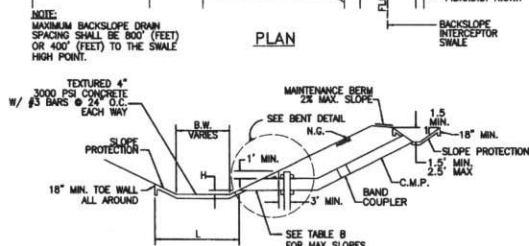
N.T.S.

SL-DR-15

NOTE:
ANGLE OF ENTRY TO
CHANNEL TO BE AS
PER F.B.C.D.D.
REQUIREMENTS



PLAN

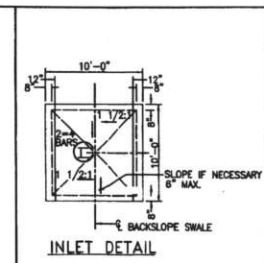


PROFILE

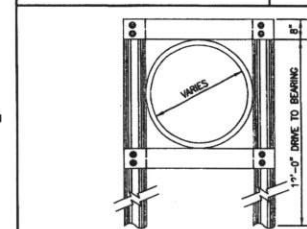
BACKSLOPE INLET & OUTFALL

N.T.S.

SL-DR-16



INLET DETAIL



END VIEW

TABLE A					
SIZE 2 2/3" X 1 1/2" CORRUGATION	PIPE GAUGE	BAND COUPLER GAUGE	SIZE 3'X1' & 5'X1' CORRUGATION	PIPE GAUGE	BAND COUPLER GAUGE
24"	12	16			
30"	12	16			
36"	12	16			
42"	12	16			
48"	12	16	48"	18	18
54"	12	14	54"	18	18
60"	12	14	60"	18	18
66"	10	12	66"	18	18
72"	10	12	72"	18	18
78"	8	10	78"	14	16
84"	8	10	84"	14	16

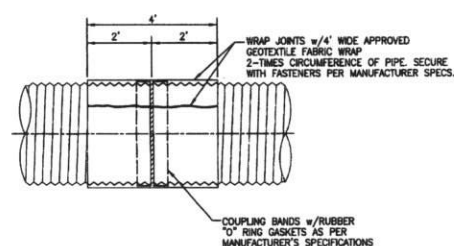
PIPE DIA.	SLOPE	VELOCITY
24"	0.8%	3.25 f.p.s.
36"	0.3%	3.00 f.p.s.
42"	0.2%	2.75 f.p.s.
48"	0.2%	3.00 f.p.s.
54"	0.2%	3.25 f.p.s.

SL-DR-19

CONSTRUCTION NOTES:

L: B.W. ≤ 7'-6" → LENGTH WILL EXTEND ONE-HALF
PIPE # ABOVE & ON
OPPOSITE BANK (MIN. 36")
OR A MINIMUM OF 6-PIPE #
TOWARDS OPPOSITE BANK
OF CHANNEL, WHICH EVER IS
THE LESSER.

Δ: PROP. 24" TO 42" Δ= 15'
PROP. 48" AND LARGER Δ= 30'
H: FOR PIPE SIZES 24" TO 42"
H=3' MAX. AND 1" MIN.
FOR PIPE SIZES 48" AND LARGER
H=1' MAX. AND MIN.



NOTES:

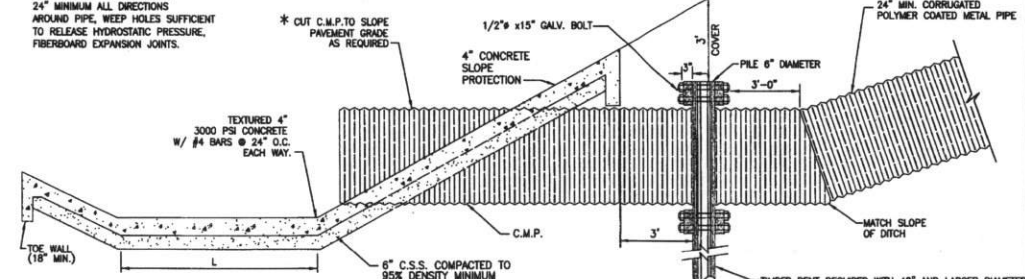
1. ANY PIPE DEFLECTED MORE THAN 2% SHALL BE REJECTED AND REPLACED AT CONTRACTOR'S EXPENSE.
2. INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS INCLUDING ITEMS AS DETAILED IN INSTALLATION MANUAL FOR CORRUGATED STEEL DRAINAGE STRUCTURES.

STORM SEWER JOINT WRAP DETAIL

N.T.S.

SL-DR-17

CONSTRUCTION NOTES:
4" CONCRETE THICKNESS,
18" TOE WALL ON ALL SIDES,
24" MINIMUM ALL DIRECTIONS
AROUND PIPE. WEAP HOLES SUFFICIENT
TO RELEASE HYDROSTATIC PRESSURE,
FIBERBOARD EXPANSION JOINTS.



NOTES:

1. OUTFALL PIPE SHALL BE POLYMER-COATED, CORRUGATED, METAL PIPE. ALUMINUM PIPE OR ALUMINIZED COAT IS NOT ALLOWED.
2. STONE RIP RAP IS NOT ALLOWED.
3. SEE GENERAL, C.S.S. AND CONCRETE NOTES.
4. SEE END VIEW DETAIL (THIS SHEET).
5. ALL CONNECTING BANDS MUST HAVE AN APPROVED RUBBER GASKET.

PROFILE

TIMBER BENT FOR CORRUGATED
METAL PIPE OUTFALL

N.T.S.

SL-DR-18

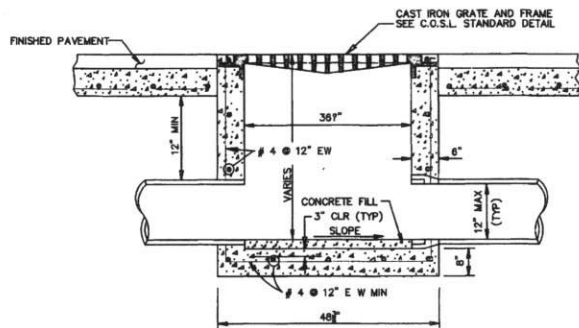
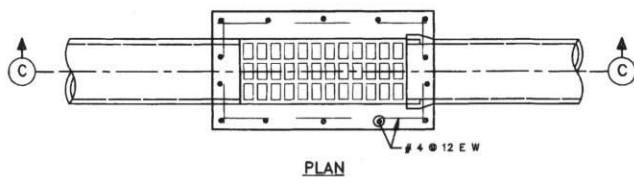


PIPE FIRM REG. No. 280
TIMBER FIRM REG. No. 100468

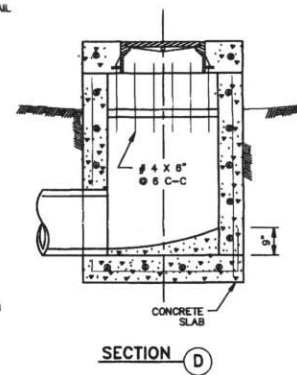
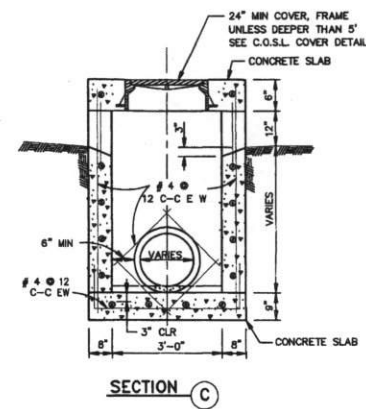
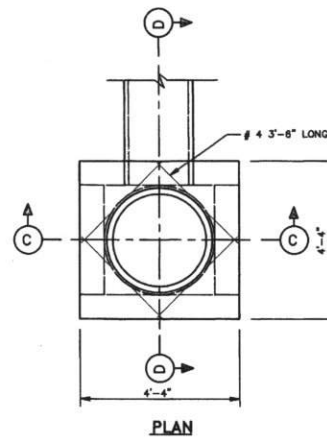
DATE	10-27-18
DESIGNER	C. J. R. V. L. W.
CITY OF SUGAR LAND, TEXAS	ENGINEERING DEPARTMENT
CONSTRUCTION PLANS FOR: SOUTH HOMEWARD WAY (RECLAIMED EFFLUENT) RECLAIMED WATER LINE	
STORM SEWER OUTFALL CONSTRUCTION DETAILS	
JOB NO. DATE DESIGNED BY DRAWN BY CHECKED BY SCALE	SL-06 sheet 39 of 46

Mass: 1/19/17

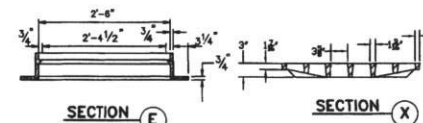
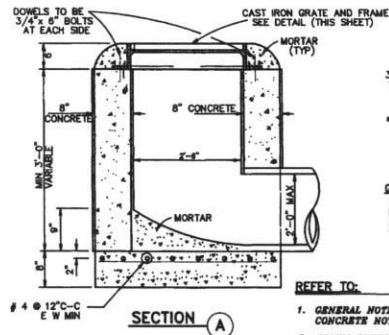
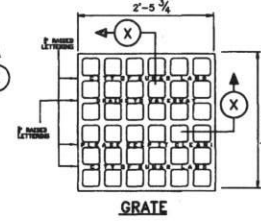
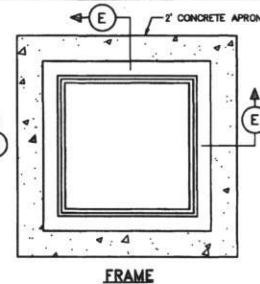
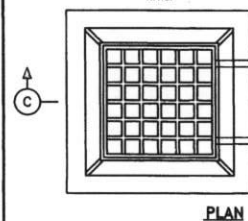
PLAT TIME



SL-DR-24



TYPE "A" INLET



- GENERAL CONSTRUCTION NOTES:
1. CONCRETE CAST WALLS SHALL HAVE #4 REBAR PLACED @ 12" C-C E W.
 2. GRATE LID IS EAST JORDAN IRON WORKS OR APPROVED EQUAL.

REFER TO:

1. GENERAL NOTES, C.S.S. & CONCRETE NOTES.
2. STORM SEWER NOTES

Costello

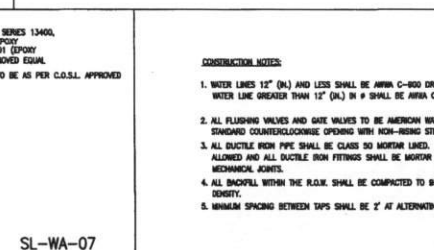
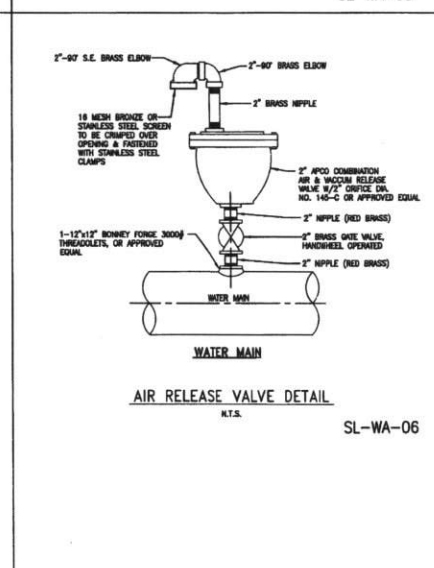
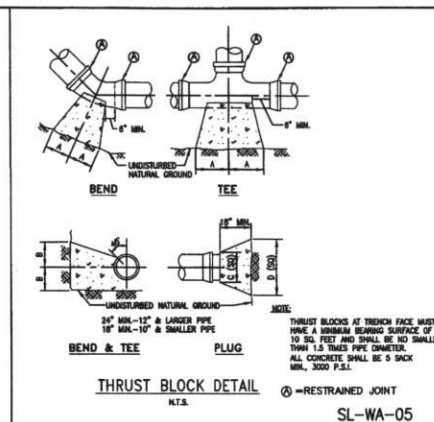
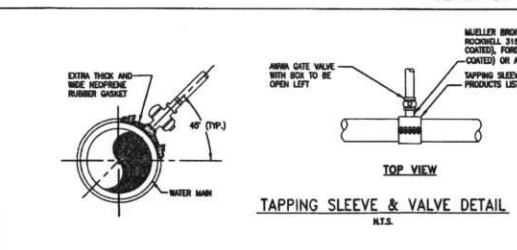
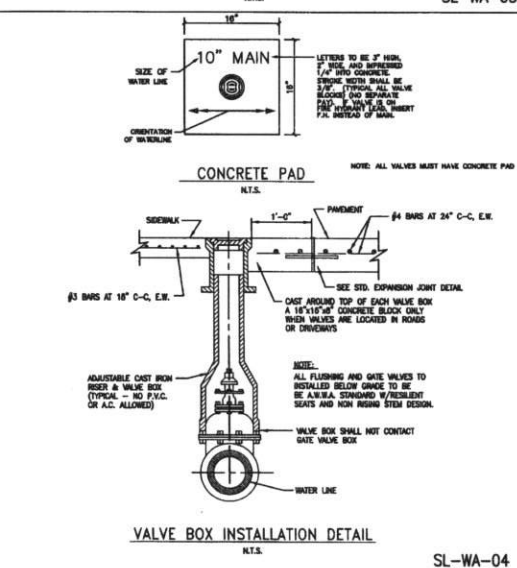
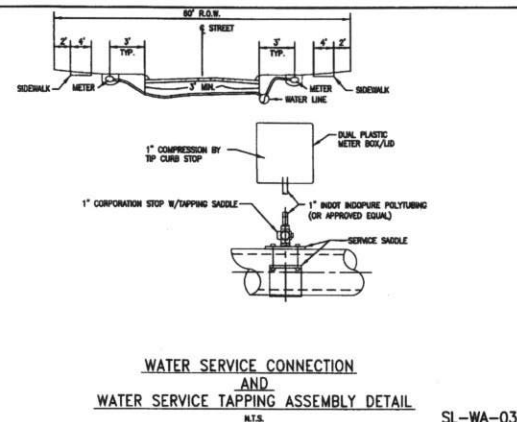
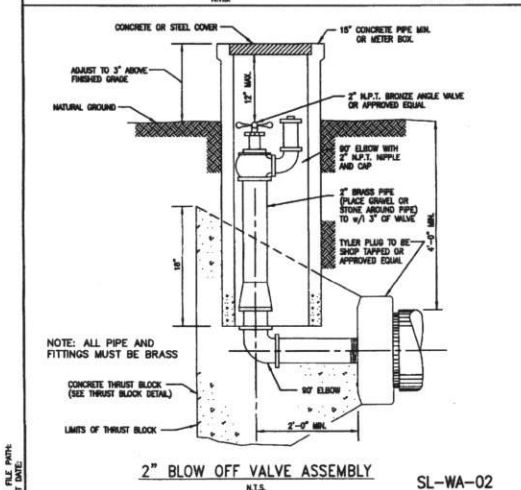
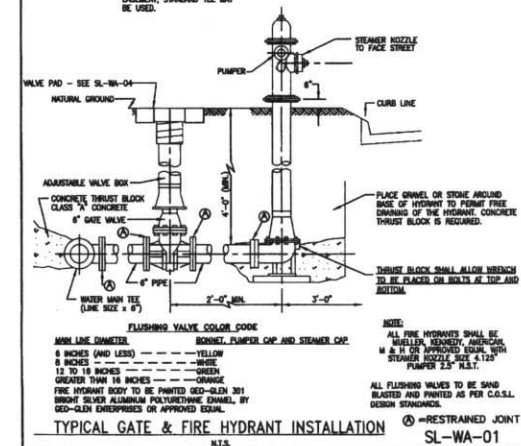
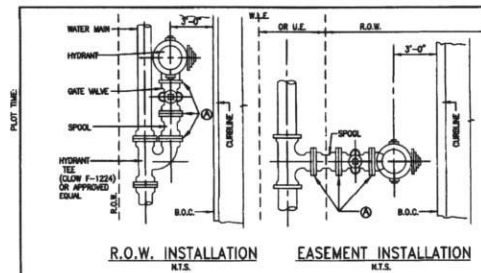
TBPE FIRM REG. No. 280
TBPLS FIRM REG. No. 100488

SL-DR-23

CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT	
CONSTRUCTION PLANS FOR: SOUTH BROADWAY WAY (RECLAIMED EFFLUENT) RECLAIMED WATER LINE	
STORM SEWER INLET CONSTRUCTION DETAILS I	
DATE: 10-27-18 DESIGNED BY: [Signature] CHECKED BY: [Signature] SCALE: AS SHOWN	SL-07 Sheet 40 of 46

CAD FILE PATH:
PLAT DATE

M... 1/19/17



NOTES: POLYETHYLENE WRAP FOR IRON PIPE

- POLYETHYLENE FILM SHALL BE USED AS A WRAP TO PROTECT CAST IRON AND OTHER METALS IN A CORROSION SOIL ENVIRONMENT.
- AN 8 MIL POLYETHYLENE FILM WRAP SHALL BE REQUIRED AROUND ALL METAL PIPE AND APPURTENANCES (EXCEPT FIRE HYDRANTS).
- POLYETHYLENE FILM SHALL BE FURNISHED AND INSTALLED EITHER IN TUBULAR FORM PRIOR TO LOWERING THE PIPE IN TRENCH OR IN SHEET FORM.
- POLYETHYLENE TUBE ENCLOSURE SHALL CONFORM WITH THE MINIMUM REQUIREMENTS OF "POLYETHYLENE ENCLOSURE FOR IRON AND DUCTILE CAST-IRON PIPING FOR BURIED AND OTHER LOCATED APPLICATIONS", CURRENT EDITION, DATED WITHIN A PROJECT SHALL BE TESTED IN ACCORDANCE WITH APPENDIX A OF AWWA/CES 1010 TO ABSOLUTELY DETERMINE THE REQUIREMENTS FOR ENCLOSURE.
- ALL FITTINGS AND PIPE JOINTS WITHIN 10' OF A FITTING SHALL HAVE RESTRAINT JOINTS.

SIZE	90° BEND		45° BEND		22 1/2° BEND		TEES		PLUGS		
	A	B	A	B	A	B	A	B	A	B	
2 1/2"	12"	7"	8"	7"	6"	6"	7"	5"	8"	6"	14"
3"	16"	10"	8"	10"	8"	12"	10"	12"	10"	21"	18"
4"	22"	13"	12"	13"	8"	10"	13"	16"	12"	28"	28"
6"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"	36"
8"	28"	21"	16"	21"	11"	16"	18"	24"	16"	41"	41"
10"	34"	24"	18"	24"	12"	18"	20"	27"	18"	48"	48"
12"	36"	27"	21"	27"	12"	24"	24"	30"	20"	54"	54"
14"	38"	30"	24"	30"	14"	26"	26"	32"	22"	60"	60"
16"	40"	32"	26"	32"	16"	28"	28"	34"	24"	66"	66"
20"	46"	38"	32"	38"	18"	32"	32"	40"	28"	78"	78"
24"	50"	42"	36"	42"	18"	36"	36"	44"	30"	90"	90"
30"	60"	48"	42"	48"	20"	38"	38"	48"	34"	96"	96"

BENDS, TEES & PLUGS FOR PIPE OF VARIOUS SIZES

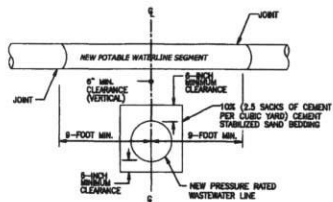
SL-WA-08

Costello
TYPE FIRM REG. NO. 290
TRPLS FIRM REG. NO. 100486

CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT	
CONSTRUCTION PLANS FOR: SOUTH BROAD VALLEY WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE	
WATER LINE CONSTRUCTION DETAILS	
JOB NO. DATE DESIGNED BY CHECKED BY SCALE	SL-15 SHEET 41 OF 46

MassDOT 1/19/17

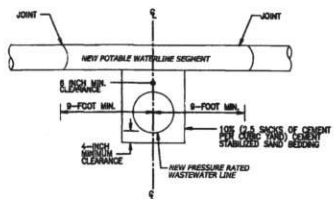
NEW POTABLE WATERLINE CROSSING NEW PRESSURE
RATED WASTEWATER LINE WITH SEGMENT LENGTHS OF
EIGHTEEN (18) FEET OR GREATER, HAVING 6 INCHES OF
VERTICAL CLEARANCE AND 4 FEET OF HORIZONTAL CLEARANCE



- ③ WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN JOINTS OF THE WASTEWATER LINE.
- ④ MINIMUM WASTEWATER PIPE STIFFNESS OF 115 PSI AT 5% DEFLECTION.
- ⑤ EMBED WASTEWATER LINE IN CEMENT STABILIZED SAND TO AT LEAST 12" INCHES BEYOND EACH JOINT OF CROSSED SECTION OF PIPE.

SL-WA-09

NEW POTABLE WATERLINE CROSSING NEW PRESSURE
RATED WASTEWATER LINE



- ③ WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN JOINTS OF THE WASTEWATER LINE.
- ④ MINIMUM WASTEWATER PIPE STIFFNESS OF 115 PSI AT 5% DEFLECTION.
- ⑤ EMBED WASTEWATER LINE IN CEMENT STABILIZED SAND TO AT LEAST 12" INCHES BEYOND EACH JOINT OF CROSSED SECTION OF PIPE.

SL-WA-10

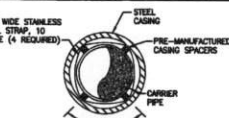
FOR A LINE TO PASS OVER AN OBSTRUCTION RATHER THAN UNDER, IT MUST HAVE ADEQUATE COVER AND BE APPROVED BY THE ENGINEERING DEPARTMENT.

1. PIPE MATERIAL SHALL BE API 5L X60, 60-14, 300 PSI WITH DRILLING, PVC REINFORCED JOINTS.
2. OFFICE AGREEMENT MUST PASS OVER THE OBSTRUCTION AS LONG AS THE REMOVAL CAUSED IS UNUSUAL, SPECIFIC AND ISOLATED. FROM THE UNITED STATES MUST BE GRANTED FOR THE OFFICE TO PASS UNDER THE OBSTRUCTION.
3. MATERIAL AND CONTAINER SHALL BE IN ACCORDANCE WITH UNDER MAIN STANDARD SPECIFICATIONS.
4. EXISTING EXISTING PIPES BEYOND OFFICE SECTION AS REQUIRED TO PREVENT DAMAGE.
5. ALL PIPE PRODUCTS MUST BE LISTED IN CITY OF TAMPA LIST.

MIN. PIPE WALL THICKNESS	
4"	- 0.250"
6"	- 0.280"
8"	- 0.322"
12"	- 0.375"
AND LARGER	

PVC WATER PIPE OFFSET ASSEMBLY

SL-WA-11



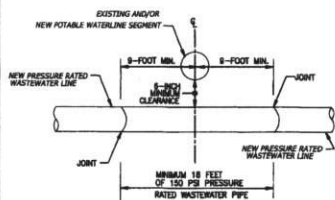
CARRIER PIPE	NOMINAL CASING	MIN. WALL THICKNESS (IN)
6"	12"	0.11
8"	14"	0.15
10"	16"	0.18
12"	18"	0.20

1. CASING SIZE AND THICKNESS SHALL CONFORM TO THE MINIMUM REQUIREMENTS AS SHOWN ON CASING SCHEDULE, OTHER PERMITS AS REQUIRED.
2. MAINTAIN 3" MINIMUM CLEARANCE BETWEEN THE MAXIMUM OUTSIDE DIAMETER OF CARRIER PIPE AND CASING AT ALL LOCATIONS.
3. DIMENSIONS ARE APPROXIMATE ONLY. CONTRACTOR SHALL USE ADEQUATELY SIZED CASING TO ACCOMMODATE THE CARRIER PIPE.

SL-WA-13

ALTERNATIVE A:

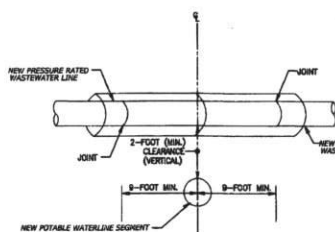
PRESSURE RATED WASTEWATER PIPE



SL-WA-14

ALTERNATIVE B:

EXISTING POTABLE WATERLINE CROSSING EXISTING
PRESSURE RATED WASTEWATER LINE

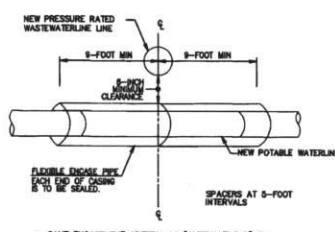


MINIMUM 18' (FEET)
OF 150 PSI PRESSURE
RATED WASTEWATER PIPE

SL-WA-15

ALTERNATIVE C:

ENCASE NEW POTABLE WATERLINE UNDER A
NEW PRESSURE RATED WASTEWATER LINE

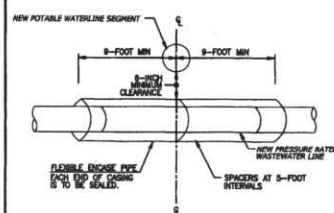


- SAME ENCASMENT CRITERIA AS "ALTERNATIVE B" OR
- NEW WATERLINE (WITHOUT CASING) TO BE CONSTRUCTED OF PVC C-800 (DR-18), DUCTILE IRON WITH MECHANICAL JOINT OR STEEL PIPE WITH WELDED JOINTS.
- BOTH WATERLINE AND WASTEWATER LINE MUST PASS A PRESSURE AND LEAKAGE TEST AS SPECIFIED IN AWWA C600 STANDARDS.

SL-WA-16

ENCASED WASTEWATER LINE

NEW POTABLE WATERLINE CROSSING NEW PRESSURE
RATED WASTEWATER LINE WITH SEGMENT LENGTHS OF
OF LESS THAN EIGHTEEN (18) FEET



- MINIMUM CASING PIPE STIFFNESS OF 115 PSI AT SIX DEFLECTION.
- MINIMUM CASING PIPE DIAMETER $\pm 2 \times$ WASTEWATER LINE DIAMETER.
- THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE (5) FOOT (OR LESS), INTERVALS WITH SPACERS
- EACH END CASING IS TO BE SEALED WITH WATER TIGHT, NON-SHRINK GROUT OR MANUFACTURED WATER TIGHT SEAL.

SL-WA-17

SL-WA-18

Costello



TBPE FIRM REG. No. 280
TBPLS FIRM REG. No. 100488

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Max Del 1/19/17

CAD FILE PATH:
PLOT DATE:



*SEE CONSTRUCTION NOTES

SANITARY FORCE MAIN & WATER LINE
BEDDING AND BACKFILL

SL-BB-01



ZERO LOAD TRANSFER CONCRETE SLAB

SL-BB-04

CONSTRUCTION NOTES

1. CONTRACTOR SHALL CONTACT SUGAR LAND ENGINEERING DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
2. LIMESTONE AND RECYCLED CONCRETE DIMENSIONS SHOWN ARE TYPICAL BUT MAY BE VARIED BY ORDER OF CITY ENGINEER.
3. LIMESTONE OR RECYCLED CONCRETE SHALL BE IN ACCORDANCE WITH TxDOT SPECIFICATION No. 248 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
4. NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS, WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GROUND WATER 1 (FT) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24-HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
5. ALL MATERIALS SHALL BE FROM THE APPROVED PRODUCTS LIST UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER.
6. SANITARY SEWER BEDDING FOR WET SAND CONDITIONS SHALL BE AS PER MODIFIED "A".
7. ALL SAND BEDDING FOR WATER LINES SHALL BE CLEAN, MECHANICALLY COMPACTED BANK SAND.
8. REFER TO: MANHOLE DETAILS, SANITARY, C.S.S., GENERAL, WATER CROSSING, WATER DISTRIBUTION DETAILS AND NOTES.
9. ALL BEDDING WILL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
10. A GEOTECHNICAL REPORT MAY BE REQUIRED TO ANALYZE THE BEARING CAPACITY OF EXISTING SOILS AND MAKE A DETERMINATION IF ADDITIONAL BEDDING AND BACKFILL IS APPROPRIATE.

SL-BB-05



N.T.S.

NOTE: C.S.S. SHALL BE INSTALLED A MIN. 1' ABOVE TOP OF PIPE.

SANITARY SEWER
BEDDING AND BACKFILL

SL-BB-03

REFER TO:

1. GENERAL NOTES
2. C.S.S. NOTES





SEARCH

Jon R. Vandehey DATE 10-27-16
PERSON ENGINEER



CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
SOUTH HOMEWARD WAY
(RECLAIMED EFFLUENT)
RE-USED WATER LINE

**WATER LINE, SANITARY SEWER
FORCE MAIN BEDDING DETAILS**

JOB No.1
DATE:
DESIGNED BY:
DRAWN BY:
CHECKED BY:
SCALE:

SL-19

SHEET 43 of 46

Mass ~~Doc~~ 1/19/17

HYPER-CHLORINATED WATER NOTES

1. HYPER-CHLORINATED WATER SHALL NOT BE DISCHARGED TO THE STORM SEWER OR DRAINAGE SYSTEM UNLESS THE CHLORINE CONCENTRATION IS REDUCED TO A PPM OR LESS BY CHEMICALLY TREATING THE HYPERCHLORINATE OR BY ONSITE RETENTION UNTIL NATURAL ATTENUATION OCCURS.
2. DISCHARGE OF HIGH FLOW FROM INLETS, CHANNELS, OR SURFACE WATERS TO VELOCITY DISSIPATION DEVICES.
3. CHLORINE CAN BURN VEGETATION, SO IT SHOULD NOT BE USED TO WATER VEGETATION THAT IS BEING USED FOR STABILIZATION, VEGETATED FILTERS OR BUFFERS, OR OTHER VEGETATION TO BE PRESERVED.
4. HYPER-CHLORINATED WATER MAY BE DISCHARGED TO AN ONSITE RETENTION AREA UNTIL NATURAL ATTENUATION OCCURS. THE AREA MAY BE A DRY STORMWATER RETENTION BASIN, OR A PORTION OF THE SITE MAY BE GRADED TO FORM A TEMPORARY POND OR BERMED AREA.
5. NATURAL ATTENUATION OF THE CHLORINE MAY BE AIDED BY AERATION. AIR CAN BE ADDED TO THE WATER BY DIRECTING THE DISCHARGE OVER A ROUGH SURFACE BEFORE IT ENTERS THE TEMPORARY RETENTION AREA OR AN AERATION DEVICE CAN BE PLACED IN THE RETENTION AREA.
6. ONSITE DISCHARGE MAY REQUIRE SEVERAL HOURS TO A FEW DAYS BEFORE THE WATER IS SAFE TO DISCHARGE. THE RATE AT WHICH CHLORINE WILL ATTENUATE IS AFFECTED BY SOIL CONDITIONS AND WEATHER CONDITIONS. ATTENUATION WILL OCCUR QUICKEST DURING WARM, SUNNY, AND DRY PERIODS.

SANITARY WASTE NOTES

1. THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE NUMBER OF PORTABLE TOILETS BASED ON THE NUMBER OF EMPLOYEES USING THE TOILETS AND THE HOURS THEY WILL WORK.
2. SANITARY FACILITIES SHALL BE PLACED ON A MINIMUM OF 50 FEET AWAY FROM STORM DRAIN INLETS, CONVEYANCE CHANNELS OR SURFACE WATERS. UNLESS TO MEET THE 50 FEET REQUIREMENT DUE TO SITE CONFIGURATION, PORTABLE TOILETS SHALL BE A MINIMUM OF 20 FEET AWAY FROM STORM DRAIN INLETS, CONVEYANCE CHANNELS OR SURFACE WATER AND SECONDARY CONTAINMENT SHALL BE PROVIDED IN CASE OF SPILLS.
3. THE LOCATION OF THE PORTABLE TOILETS SHALL BE ACCESSIBLE TO MAINTENANCE TRUCKS WITHOUT DAMAGING EROSION AND SEDIMENT CONTROLS OR CAUSING EROSION OR TRACKING PROBLEMS.
4. SANITARY FACILITIES SHALL BE FULLY ENCLOSED AND DESIGNED IN A MANNER THAT MINIMIZES THE EXPOSURE OF SANITARY WASTE TO PRECIPITATION AND STORMWATER RUNOFF.
5. WHEN HIGH WINDS ARE EXPECTED, PORTABLE TOILETS SHALL BE ANCHORED OR OTHERWISE SECURED TO PREVENT THEM FROM BEING BLOWN OVER.
6. THE COMPANY THAT SUPPLIES AND MAINTAINS THE PORTABLE TOILETS SHALL BE NOTIFIED IMMEDIATELY IF A TOILET IS TIPPED OVER OR DAMAGED IN A WAY THAT THE RESULTS IN A DISCHARGE. DISCHARGED SOLID MATTER SHALL BE VACUUMED INTO A SEPTIC TRUCK BY THE COMPANY THAT MAINTAINS THE TOILETS.
7. THE OPERATOR OF THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) SHALL BE NOTIFIED IF A DISCHARGE FROM THE PORTABLE TOILETS ENTERS THE MS4 OR A NATURAL CHANNEL.
8. SANITARY FACILITIES SHALL NOT BE PERMITTED ON PUBLIC SIDEWALKS, STREETS OR INLETS.

DEBRIS AND TRASH NOTES

1. ALL WASTE SOURCES AND STORAGE AREAS SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM INLETS, SWALES, DRAINAGEWAYS, CHANNELS AND OTHER WATERS, IF THE SITE CONFIGURATION PROVIDES SUFFICIENT SPACE TO DO SO. IN NO CASE SHALL MATERIAL AND WASTE SOURCES BE CLOSER THAN 20 FEET FROM INLETS, SWALES, DRAINAGEWAYS, CHANNELS, AND OTHER WATERS.
2. CONSTRUCTION WASTE AND TRASH SHALL BE STORED IN A MANNER THAT MINIMIZES ITS EXPOSURE TO PRECIPITATION AND STORMWATER RUNOFF.
3. WHENEVER POSSIBLE, MINIMIZE PRODUCTION OF DEBRIS AND TRASH.
4. INSTRUCT CONSTRUCTION WORKERS IN PROPER DEBRIS AND TRASH STORAGE AND HANDLING PROCEDURES.
5. SEGREGATE POTENTIALLY HAZARDOUS WASTE FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS.
6. PROHIBIT LITTERING BY WORKERS AND VISITORS.
7. POLICE SITE DAILY FOR LITTER AND DEBRIS.
8. ENFORCE SOLID WASTE HANDLING AND STORAGE PROCEDURES.
9. IF FEASIBLE, RECYCLE CONSTRUCTION AND DEMOLITION DEBRIS SUCH AS WOOD, METAL, AND CONCRETE.
10. TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AT REGULAR INTERVALS THAT ARE SCHEDULED TO EMPTY CONTAINERS WHEN THEY ARE 80 PERCENT FULL OR MORE FREQUENTLY.
11. GENERAL CONSTRUCTION DEBRIS MAY BE HAULED TO A LICENSED CONSTRUCTION DEBRIS LANDFILL.
12. USE WASTE AND RECYCLING HAULERS/FACILITIES APPROVED BY THE LOCAL MUNICIPALITY.
13. CHIPPING OF TREES AND BRUSH FOR USE SUCH AS MULCH IS PREFERRED ALTERNATIVE TO OFFSITE DISPOSAL.
14. NO WASTE, TRASH, OR DEBRIS SHALL BE BURIED, BURNED OR OTHER WISE DISPOSED OF ONSITE.
15. CLEARLY MARK ON ALL DEBRIS AND TRASH CONTAINERS WHICH MATERIALS ARE ACCEPTABLE FOREMAN AND/OR CONSTRUCTION SUPERVISOR SHALL MONITOR ONSITE SOLID WASTE STORAGE AND DISPOSAL PROCEDURES DAILY.

SPILL AND LEAK RESPONSE NOTES

1. RECORDS OF RELEASES THAT EXCEED THE REPORTABLE QUANTITY (RQ) FOR OIL AND HAZARDOUS SUBSTANCES SHOULD BE MAINTAINED IN ACCORDANCE WITH THE FEDERAL AND STATE REGULATIONS.
2. EMERGENCY CONTACT INFORMATION AND SPILL RESPONSE PROCEDURES SHALL BE POSTED IN A READILY AVAILABLE AREA FOR ACCESS BY ALL EMPLOYEES AND SUBCONTRACTORS.
3. SPILL CONTAINMENT KITS SHOULD BE MAINTAINED FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS THAT ARE REGULARLY ONSITE. MATERIALS IN KITS SHOULD BE BASED ON CONTAMINANT GUIDELINES IN THE MATERIALS SAFETY AND DATA SHEETS (MSDS) FOR THE SUBSTANCE MOST FREQUENTLY ONSITE.
4. SPILL KITS ARE INTENDED FOR RESPONSE TO SMALL SPILLS, TYPICALLY LESS THAN 5 GALLONS, OF SUBSTANCES THAT ARE NOT EXTREMELY HAZARDOUS.
5. SIGNIFICANT SPILLS OR OTHER RELEASES WARRANT IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS.
6. SUSPECTED JOB-SITE CONTAMINATION SHOULD BE IMMEDIATELY REPORTED TO REGULATORY AUTHORITIES AND PROTECTIVE ACTIONS TAKEN.
7. THE CONTRACTOR SHOULD BE REQUIRED TO DESIGNATE A SITE SUPERINTENDENT, FOREMAN, SAFETY OFFICER, OR OTHER SENIOR PERSON WHO IS ONSITE DAILY TO BE THE SPILL AND LEAK RESPONSE COORDINATOR (SLRC) AND MUST HAVE KNOWLEDGE OF AND BE TRAINED IN CORRECT SPILL AND LEAK RESPONSE PROCEDURES.

SUBGRADE STABILIZATION NOTES

1. MINIMIZE THE DISCHARGE OF THE CHEMICAL STABILIZERS BY THE CONTRACTOR LIMITING THE AMOUNT OF STABILIZING AGENT ONSITE TO THAT WHICH CAN BE THOROUGHLY MIXED AND COMPACTED BY THE END OF EACH WORKDAY.
2. STABILIZERS SHALL BE APPLIED AT RATES THAT RESULT IN NO RUN OFF.
3. STABILIZATION SHALL NOT OCCUR IMMEDIATELY BEFORE AND DURING RAINFALL EVENTS.
4. NO TRAFFIC OTHER THAN WATER TRUCKS AND MIXING EQUIPMENT SHALL BE ALLOWED TO PASS OVER THE AREA BEING STABILIZED UNTIL AFTER COMPLETION OF MIXING THE CHEMICAL.
5. AREA ADJACENT AND DOWNSTREAM OF STABILIZED AREAS SHALL BE ROUGHENED TO INTERCEPT CHEMICAL RUNOFF AND REDUCE RUNOFF VELOCITY.
6. GEOTEXTILE FABRICS SUCH AS THOSE USED FOR SILT FENCE SHOULD NOT BE USED TO TREAT CHEMICAL RUNOFF, BECAUSE THE CHEMICALS ARE DISSOLVED IN THE WATER AND WON'T BE AFFECTED BY A BARRIER AND THE SUSPENDED SOLIDS ARE SIGNIFICANTLY SMALLER THAN THE APPARENT OPENING SIZE OF THE FABRIC.
7. IF SOIL STABILIZERS ARE STORED ONSITE, THEY SHALL BE CONSIDERED HAZARDOUS MATERIAL AND SHALL BE MANAGED ACCORDING TO THE CRITERIA OF CHEMICAL MANAGEMENT TO CAPTURE ANY ACCIDENTAL LEAK OR CHEMICAL OVERFLOW.
8. THE CONTRACTOR SHALL INSTALL BMP'S TO ALL INLETS AND OPENINGS CONNECTED TO THE STORM SEWER SYSTEMS TO PREVENT LEAK FROM ENTERING THE MS4 SYSTEM.

Costello

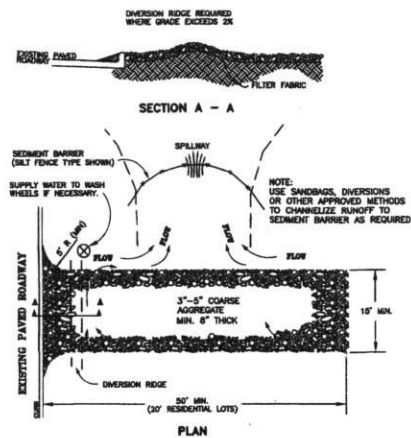


TYPE FIRM REG. NO. 280
TENTATIVE FIRM REG. NO. 100488

 STATE OF TEXAS JOHN R. NICHOLS 52071 COMMISSIONER OF GENERAL ENGINEERING	
 CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT	
CONSTRUCTION PLANS FOR: SOUTH IRVING WARD WAY (RECLAIMED EFFLUENT) RE-USED WATER LINE	
GENERAL EROSION CONTROL NOTES	
JOB NO. DATE DRAWING BY CHECKED BY SCALE	SL-33 sheet 44 of 45

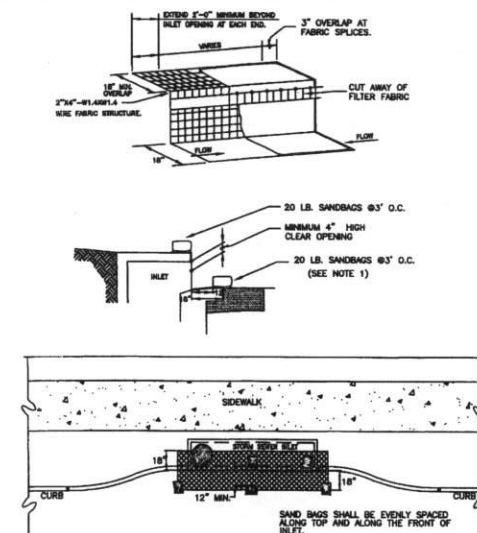
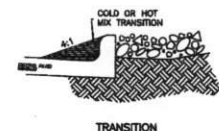
Maggi D. J. 1/19/07

PLAN VIEW



WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MAT MUST BE WASHED DOWN OR REPLACED. PERIODIC RE-GRADING AND TOP DRESSING WITH ADDITIONAL STONE MUST BE DONE TO KEEP THE EFFICIENCY OF THE ENTRANCE FROM DIMINISHING.

TEMPORARY STONE CONSTRUCTION
ENTRANCE/EXIT
N.T.S.



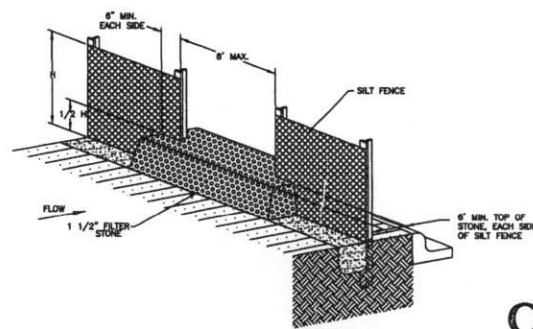
1. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL TO PROVIDE A 4\"/>

INLET OPENING	MINIMUM NUMBER OF SAND BAGS	
	TOP	FRONT
8"	2	3
10"	3	3
18"	3	4
20"	4	4

SILT FENCE GENERAL NOTES

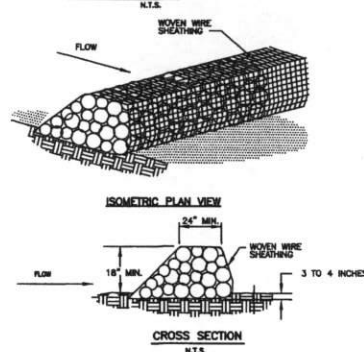
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOP OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SHOVEL OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK OR UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 8 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2\"/>

NOTE: STONE OVERFLOW STRUCTURES OF OTHER OUTLET CONTROL DEVICES SHALL BE INSTALLED AT ALL LOW POINTS ALONG THE FENCE OR EVERY 300 FEET IF THERE IS NO APPARENT LOW POINT



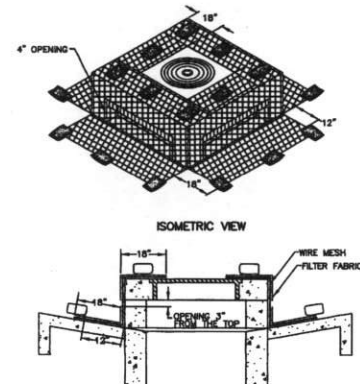
SILT FENCE
STONE OVERFLOW STRUCTURE
N.T.S.

ROCK BERM DETAIL



ROCK BERM GENERAL NOTES

1. USE ONLY OPEN GRADED ROCK 4-8 INCHES IN DIAMETER FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK 3-5 INCHES IN DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING A MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE SIZE OF 20 GAUGE AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
3. THE ROCK BERM SHALL BE INSPECTED EVERY TWO WEEKS OR AFTER EACH 1/2\"/>



FILTER FABRIC WYE INLET PROTECTION
N.T.S.

ONE FILE WITH:
PLAN DATE

ISOMETRIC PLAN VIEW
N.T.S.

Costello

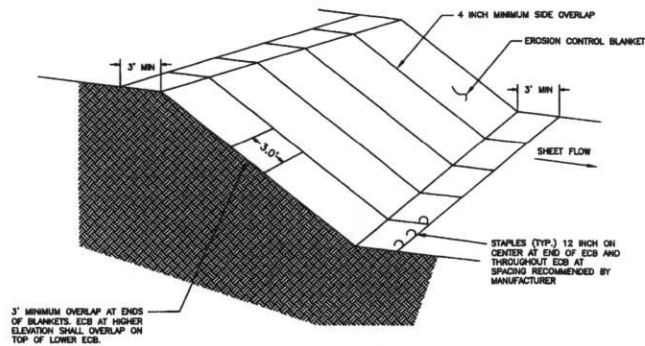


TYPE FIRM REG. No. 280
TDLPS FIRM REG. No. 100486

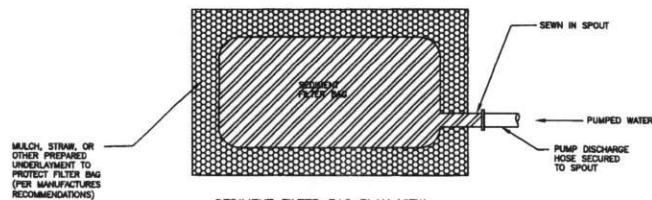
CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT	
CONSTRUCTION PLANS FOR: SOUTH HEMPHAM WAY (DECLARED REPLYLINE) RE-USED WATER LINE	
EROSION CONTROL DETAILS - 1	
SL-34	Sheet 45 of 46

May 1/19/17

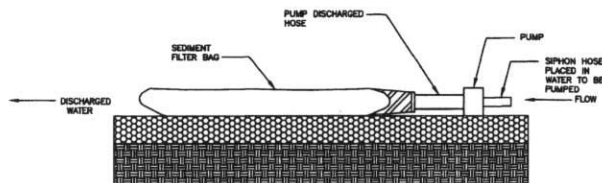
PLOT TIME



EROSION CONTROL BLANKETS
N.T.S.



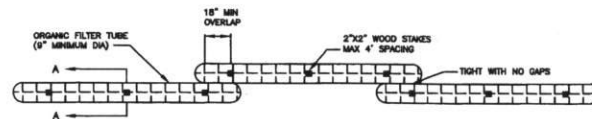
SEDIMENT FILTER BAG PLAN VIEW
N.T.S.



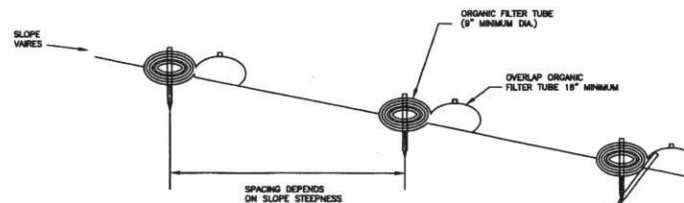
SEDIMENT FILTER BAG PROFILE
N.T.S.

NOTE: A FILTRATION BAG IS NOT REQUIRED IF THE DRAINAGE SYSTEM CAN BE ADEQUATELY PROTECTED

DEWATERING CONTROLS
N.T.S.



ORGANIC FILTER TUBE PERIMETER CONTROL PLAN VIEW
N.T.S.



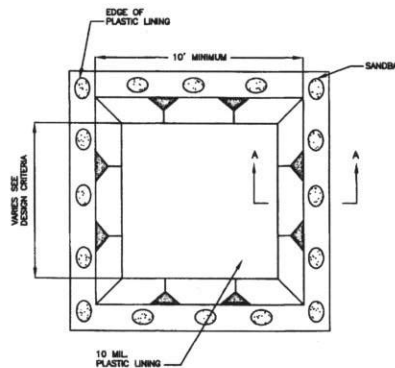
FOR SLOPES OF 2:1 OR STEEPER, A SECOND STAKE AGAINST THE DOWNSLOPE FACE OF THE TUBE MAY BE NEEDED DEPENDING ON SOIL TYPE

ORGANIC FILTER TUBE PERIMETER CONTROL PROFILE
N.T.S.

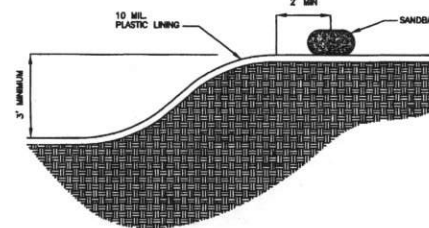
ORGANIC FILTER TUBES NOTES

1. TYPE OF NETTING, FILTER MATERIAL, DIAMETER OF TUBE, AND SPACING OF TUBES SHALL BE SPECIFIED BY THE DESIGNER BASED ON THE FOLLOWING SITE PARAMETERS:
• SIZE OF CONTRIBUTING DRAINAGE AREA
• STEEPNESS OF SLOPE
• GROUND CONDITIONS (SOIL OR PAVEMENT)
2. DESIGNER SHALL SHOW ON THE DRAWINGS THE LOCATIONS WHERE TUBE ARE TO BE TURNED UPSLOPE. UPSLOPE LENGTHS SHALL BE MINIMUM OF 10 FEET.

FILTER TUBE
N.T.S.



CONCRETE WASHOUT PLAN VIEW
N.T.S.



CONCRETE WASHOUT SECTION A-A
N.T.S.

CONCRETE WASHOUT NOTES

1. SANDBAGS MAYBE REPLACED BY A SOIL BERM TO ANCHOR THE PLASTIC BAG

CONCRETE WASHOUT AREA
N.T.S.

NO. 1000	
DATE: 10-27-16	
JOY R. VANDERWIL REGISTERED PROFESSIONAL ENGINEER NO. 10071	
CITY OF SUGAR LAND TEXAS ENGINEERING DEPARTMENT	
CONSTRUCTION PLANS FOR: SOUTH HOMEWARD WAY (DECLARED EFFLUENT) RE-USED WATER LINE	
EROSION CONTROL DETAILS - 2	
JOB No.: DATE: DESIGNED BY: CHECKED BY: SCALE:	SL-35 SHEET 46 OF 46



Massed 11/9/17