

REVIEW BY FORT BEND COUNTY COMMISSIONERS COURT

On this 23rd day of August, 2016, Commissioners Court came on to be heard and reviewed the accompanying notice of Reliance Construction Services, L.P.

Job Location Several Streets in New Territory

Date 7/29/2016 Bond No. 929631062, Permit No. 2016-8843 to make use of certain

Fort Bend County property subject to, "A Revised 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 the 3rd day of August, 1987, recorded in Volume _____ of the Minutes of the

Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Article 1436a, Vernon's Texas Civil Statutes. Upon Motion of Commissioner Meyers, seconded by Commissioner Morrison, 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.

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

Mail notices to: Permit Administrator
Fort Bend County Engineering
301 Jackson Street
Richmond, Texas 77469
281-633-7500
3. This permit expires one (1) year from date of permit if construction has not commenced.

By: Charles O. Ay
for County Engineer

Presented to Commissioners Court and approved.

Recorded in Volume
8-23-16 11K
Minutes of Commissioners Court

By: N/A
Drainage District Engineer/Manager

Clerk of Commissioners Court

By: Krista White
Deputy

County of Fort Bend

Engineering Department

301 Jackson Street
Richmond, Texas 77469

Phone: (281) 633-7500

Permit Application Review Form For Cable, Conduit, and Pole Line Activity In Fort Bend County

Permit No. 2016-8843

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:
 - _____ District Attorney, approval when applicable.
 - _____ Perpetual bond currently posted.
 - _____ No: _____
 - _____ Amount: _____
 - Performance bond submitted.
 - _____ No: 929631062
 - _____ Amount: \$172,000.00
 - _____ Cashier's Check
 - _____ No: _____
 - _____ Amount: _____
- _____ (3) Verbal permission given for emergencies, to start construction before approved in Commissioner's Court.

_____ Precinct Engineer Acknowledgment _____ Date

_____ Precinct Commissioner Acknowledgment _____ Date

(4)
_____ Drainage District Approval when applicable

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

_____ *Charles O. A. J.*
Assistant County Engineer

_____ *8/16/16*
Date

Cunningham Creek Blvd. Reclaimed Effluent (Reused) Water Line in New Territory

For Fort Bend County LID No. 7

Sheet No.	Location /Street	From	Moving In Direction	To	Approximate Distance of
5	High Bank of Ellis Creek	700' West of H L & P Power Lines	Going East	H L & P Power lines	700'
6, 7	Hayden Creek Drive	Bay Hill Drive	Going South	Evandale Lane	650'
7	Evandale Lane	Hayden Creek Drive	Going East	1131 Evandale	400'
8	Presley Way	Casey Circle	Going North	Morrison Place	300'
12	Morrison Place	Cunningham Creek Blvd.	Going East	Presley Way	200'
13, 14	High Meadow Drive	Harwood Street	Going North-East	Past North New Meadow	1800'
15, 16	High Plains Drive	High Meadow Drive	Going East	Darby Trails Drive	2000'
17, 18	Sand Hill Drive	Darby Trails Drive	Going East	Williamslanding	1600'
19, 20	H L & P Easement	Bank of Ellis Creek	Going North	Cunningham Creek Blvd.	1600'
20 thru. 25	Cunningham Creek Blvd.	H L & P Easement	Going North & East	High Meadows Drive	4500'
25	Bayhill Drive	Hayden Drive	Going North & West	100' West of Hayden Drive	100'
26	Williams Landing Dr.	Cedaredge Court	Going South	Santa Chase Lane	900'
27	Jaymar Drive	Sand Hill Dr.	Going South & East	200' Past Darby Trails Dr.	700'

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

AUTHORIZED

BOND NO 929631062

THE STATE OF TEXAS

§

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF FORT BEND

§

THAT WE, Reliance Construction Services, L.P. whose address is 4302 Alameda Genoa Road, Houston, TX 77048 Texas, hereinafter called the Principal, And Continental Casualty Company, a Corporation existing under and by virtue of the laws of the state of Illinois and authorized to do an indemnifying business in the state of Texas, and whose principal office is located at One Towne Square, Suite 1075, Southfield, MI 48076-3732, whose officer residing in the State of Texas, authorized to accept service in all suits and actions brought whining said state is John G Sutter and Whose address is CoVerica, 5999 Summerside Dr, Suite 200, Dallas, TX 75252, 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 One Hundred Seventy Two Thousand and No/100 Dollars (\$ 172,000.00) current, lawful money of the United States of America, to be paid to said Robert E. Hebert, County Judge of Fort Bend County, Texas, or his successors in office, to which payment well and truly to be made and done, we, the undersigned, bind ourselves and each of us, our heirs, executors, administrators, successors, assigns, and legal representatives, jointly and severally, by these presents.

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

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

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

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

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

EXECUTED this 29 day of July, 2016.

Reliance Construction Services, L.P.

PRINCIPAL

H. S. Sidhu
BY H. S. SIDHU, PRESIDENT OF H.S. SIDHU LLC

Continental Casualty Company **GENERAL PARTNER**

SURETY

John L Budde
BY John L Budde, Attorney-in-Fact

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company (herein called "the CNA Companies"), are duly organized and existing insurance companies having their principal offices in the City of Chicago, and State of Illinois, and that they do by virtue of the signatures and seals herein affixed hereby make, constitute and appoint

T J Griffin, William A Pirret, Steven K Brandon, John L Budde, Susan L Small, Terence J Griffin, Individually

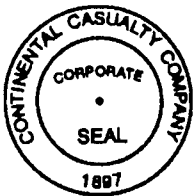
of Farmington Hills, MI, their true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on their behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of their insurance companies and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Boards of Directors of the insurance companies.

In Witness Whereof, the CNA Companies have caused these presents to be signed by their Vice President and their corporate seals to be hereto affixed on this 1st day of July, 2015.



Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Paul T. Bruflat
Paul T. Bruflat Vice President

State of South Dakota, County of Minnehaha, ss:

On this 1st day of July, 2015, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company described in and which executed the above instrument; that he knows the seals of said insurance companies; that the seals affixed to the said instrument are such corporate seals; that they were so affixed pursuant to authority given by the Boards of Directors of said insurance companies and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance companies.



My Commission Expires February 12, 2021

S. Eich
S. Eich Notary Public

CERTIFICATE

I, D. Bult, Assistant Secretary of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance companies printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance companies this 29th day of July, 2016.



Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

D. Bult
D. Bult Assistant Secretary

Authorizing By-Laws and Resolutions

ADOPTED BY THE BOARD OF DIRECTORS OF CONTINENTAL CASUALTY COMPANY:

This Power of Attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the Board of Directors of the Company at a meeting held on May 12, 1995:

"RESOLVED: That any Senior or Group Vice President may authorize an officer to sign specific documents, agreements and instruments on behalf of the Company provided that the name of such authorized officer and a description of the documents, agreements or instruments that such officer may sign will be provided in writing by the Senior or Group Vice President to the Secretary of the Company prior to such execution becoming effective."

This Power of Attorney is signed by Paul T. Bruflat, Vice President, who has been authorized pursuant to the above resolution to execute power of attorneys on behalf of Continental Casualty Company.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 25th day of April, 2012:

"Whereas, the bylaws of the Company or specific resolution of the Board of Directors has authorized various officers (the "Authorized Officers") to execute various policies, bonds, undertakings and other obligatory instruments of like nature; and

Whereas, from time to time, the signature of the Authorized Officers, in addition to being provided in original, hard copy format, may be provided via facsimile or otherwise in an electronic format (collectively, "Electronic Signatures"); Now therefore be it resolved: that the Electronic Signature of any Authorized Officer shall be valid and binding on the Company."

ADOPTED BY THE BOARD OF DIRECTORS OF NATIONAL FIRE INSURANCE COMPANY OF HARTFORD:

This Power of Attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the Board of Directors of the Company by unanimous written consent dated May 10, 1995:

"RESOLVED: That any Senior or Group Vice President may authorize an officer to sign specific documents, agreements and instruments on behalf of the Company provided that the name of such authorized officer and a description of the documents, agreements or instruments that such officer may sign will be provided in writing by the Senior or Group Vice President to the Secretary of the Company prior to such execution becoming effective."

This Power of Attorney is signed by Paul T. Bruflat, Vice President, who has been authorized pursuant to the above resolution to execute power of attorneys on behalf of National fire Insurance Company of Hartford.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 25th day of April, 2012:

"Whereas, the bylaws of the Company or specific resolution of the Board of Directors has authorized various officers (the "Authorized Officers") to execute various policies, bonds, undertakings and other obligatory instruments of like nature; and

Whereas, from time to time, the signature of the Authorized Officers, in addition to being provided in original, hard copy format, may be provided via facsimile or otherwise in an electronic format (collectively, "Electronic Signatures"); Now therefore be it resolved: that the Electronic Signature of any Authorized Officer shall be valid and binding on the Company."

ADOPTED BY THE BOARD OF DIRECTORS OF AMERICAN CASUALTY COMPANY OF READING, PENNSYLVANIA:

This Power of Attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the Board of Directors of the Company by unanimous written consent dated May 10, 1995:

"RESOLVED: That any Senior or Group Vice President may authorize an officer to sign specific documents, agreements and instruments on behalf of the Company provided that the name of such authorized officer and a description of the documents, agreements or instruments that such officer may sign will be provided in writing by the Senior or Group Vice President to the Secretary of the Company prior to such execution becoming effective."

This Power of Attorney is signed by Paul T. Bruflat, Vice President, who has been authorized pursuant to the above resolution to execute power of attorneys on behalf of American Casualty Company of Reading, Pennsylvania.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 25th day of April, 2012:

"Whereas, the bylaws of the Company or specific resolution of the Board of Directors has authorized various officers (the "Authorized Officers") to execute various policies, bonds, undertakings and other obligatory instruments of like nature; and

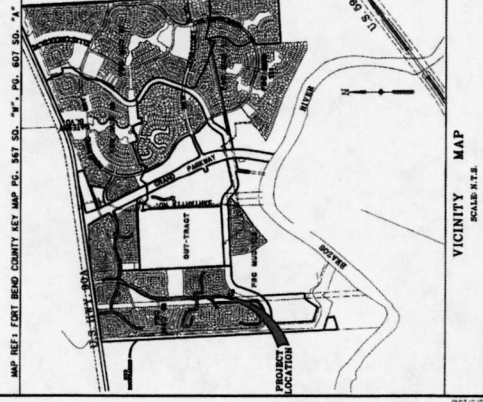
Whereas, from time to time, the signature of the Authorized Officers, in addition to being provided in original, hard copy format, may be provided via facsimile or otherwise in an electronic format (collectively, "Electronic Signatures"); Now therefore be it resolved: that the Electronic Signature of any Authorized Officer shall be valid and binding on the Company."

CONSTRUCTION PLANS FOR CUNNINGHAM CREEK BLVD. (RECLAIMED EFFLUENT) RE-USED WATER LINE

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
3. LAYOUT SHEETS
4. OVERALL LAYOUT
5. RE-USED WATER LINE LAYOUT
6. ELLIS CREEK - STA. 9+00.00 TO 17+00.00
7. HAYDEN CREEK DR. & EVANVILLE LANE - STA. 1+00.00 TO 4+00.00
8. HAYDEN CREEK DR. & EVANVILLE LANE - STA. 4+00.00 TO 8+00.00
9. CASHY CIRCLE - STA. 1+00.00 TO 8+00.00 AND RE-USED WATER LINE "B"
10. HEWLEY COURT AND TYLER BUR
11. AMHERST WAY - 10+00.00 TO 15+00.00 AND MORRISON PLACE
12. HIGH MEADOWS DR. - STA. 3+00.00 TO 11+00.00
13. HIGH MEADOWS DR. - STA. 11+00.00 TO 20+00.00
14. HIGH PLAINS DR. - STA. 20+00.00 TO 28+00.00
15. SANDHILL DR. - STA. 28+00.00 TO 38+00.00
16. SANDHILL DR. - STA. 38+00.00 TO 48+00.00
17. SANDHILL DR. - STA. 48+00.00 TO 14+00.00
18. RE-USED WATER LINE "C" - STA. 1+00.00 TO 4+00.00
19. CUNNINGHAM CREEK BLVD. - STA. 1+00.00 TO 4+00.00
20. CUNNINGHAM CREEK BLVD. - STA. 4+00.00 TO 14+00.00
21. CUNNINGHAM CREEK BLVD. - STA. 14+00.00 TO 24+00.00
22. CUNNINGHAM CREEK BLVD. - STA. 24+00.00 TO 44+00.00
23. RE-USED WATER LINE "D" AND BAYHILL DRIVE
24. HAYMAR DRIVE - STA. 1+00.00 TO 8+00.00
25. DETAILS AND MISCELLANEOUS SHEETS
26. POLLUTION PREVENTION DETAILS
27. POLLUTION PREVENTION DETAILS
28. POLLUTION PREVENTION DETAILS
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41. POLLUTION PREVENTION DETAILS
42. POLLUTION PREVENTION DETAILS
43. POLLUTION PREVENTION DETAILS
44. POLLUTION PREVENTION DETAILS



FORT BEND COUNTY
ENGINEER: *[Signature]*
DATE: 6/24/06

THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT
COMMENCED IN ONE (1) YEAR FROM DATE OF APPROVAL.

APPROVED: *[Signature]*
DATE: 6/25/16

CITY OF SUGAR LAND
APPROVED: *[Signature]*
DATE: 06/02/16



Costello
Engineering and Surveying
9650 Richmond Avenue, Suite 450
Houston, Texas 77042
(713) 783-7788 (713) 783-3500 Fax
REGISTRATION NO. 280
DATE: APRIL 2016
JOB NO. 1492009-148



CITY OF SUGAR LAND - ENGINEERING DEPT
F.A.C. MAIL NO. 68 & 112 - OPERATOR - SE ENVIRONMENTAL
F.A.C. MAIL NO. 68 & 112 - ENGINEER - COSTELLO, INC.
FORT BEND COUNTY DRAINAGE DISTRICT

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY CONSTRUCTION COUNTY OFFICE 48 HOURS BEFORE BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND RELAYERS OF BIDDING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY TARRANT COUNTY CALL (817) AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY ACTIVATION.
- MAINTAIN A MINIMUM OF 4-FOOT CLEARANCE BETWEEN ALL UTILITIES.
- URING CONSTRUCTION TESTING.
- COUNTY ENGINEER CONTRA CITY OF SAUIG LATION DESIGN MANUAL.
- ALL WORK SHALL BE COMPLETED TO THE SATISFACTION OF FORT BEND COUNTY ENGINEER AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND THIS THROUGHOUT.
- THAT THESE PLANS PREPARED BY COSTELLO, INC. DO NOT EXTEND TO OR INCLUDE DESIGN OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS SUBSIDIARIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE SYSTEMS.

REUSED WATER LINE CONSTRUCTION NOTES

- ALL REUSED WATER LINES 2" TO 12" SHALL HAVE A MINIMUM OF 4' OF COVER FROM TOP OF CURB TO TOP OF PIPE AND 2' OF COVER FROM NATURAL GROUND TO TOP OF CURB. ALL REUSED WATER LINES 12" OR GREATER SHALL HAVE A MINIMUM OF 2' COVER FROM NATURAL GROUND IF NO PAVEMENT IS SHOWN TO BE CONSTRUCTED OVER THE WATER MAIN.
- REUSED WATER MAINS SHALL BE MARKED WITH THE WORDS "REUSED WATER MAIN" IN WHITE LETTERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MARKING OF THE WATER MAINS OF RESERVE TESTED AND NOT IN OPERATION.
- ALL REUSED WATER LINES 2" TO 12" SHALL BE PAINTED POLYURETHANE (PUP) OR CONFORMING TO ANMA C-590 OR HIGH DENSITY POLYETHYLENE (HDPE) WITH WHITE HOPE PIPE IS USED. THE CONTRACTOR SHALL USE A PIPE SIZE LARGER THAN INDICATED ON THE PLANS UNLESS OTHERWISE SPECIFIED. SET TABLE BELOW:

PIPE SIZE	MINIMUM COVER
2"	3'
3"	4'
4"	4'
6"	5'
8"	6'
10"	7'
12"	8'
14"	9'
16"	10'
18"	11'
20"	12'

WARNING: OVERHEAD ELECTRICAL LINES

- OVERHEAD ELECTRICAL LINES ARE LOCATED THROUGHOUT THE PROJECT AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL OVERHEAD ELECTRICAL LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL OVERHEAD ELECTRICAL LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL OVERHEAD ELECTRICAL LINES.
- THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING GATE VALVES CONTACT THE REUSED WATER LINES AND POTENTIAL WATER LINES. MAINTAIN A MINIMUM OF 3' CLEARANCE FROM ALL OVERHEAD ELECTRICAL LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL OVERHEAD ELECTRICAL LINES.

CAUTION: UNDERGROUND GAS FACILITIES

- LOCATION OF CENTERLINE ENERGY MARK LINES (DO NOT INCLUDE CENTERLINE ENERGY, INTERMEDIATE PIPELINE, U.C. WHERE APPLICABLE) ARE SHOWN IN AN APPROPRIATE MANNER ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL UNDERGROUND GAS FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL UNDERGROUND GAS FACILITIES.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 669-5522 OR (713) 607-4000. FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES WILL BE CONSIDERED A VIOLATION OF THE STATE AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL UNDERGROUND GAS FACILITIES.

CONSTRUCTION - GENERAL NOTES

- FORT BEND COUNTY MUST BE NOTIFIED TO THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 48 HOURS NOTICE TO ANY CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE PROJECT AT CONSTRUCTION@FORTBENDCOUNTY.TX.GOV.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS WITHIN COUNTY ROAD RIGHT OF WAY.
- FORT BEND COUNTY RULES, REGULATIONS AND REQUIREMENTS RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS AS CURRENTLY APPLICABLE.
- ALL ROAD WIDTHS, CURB RADIUS AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB.
- ALL CURBS.
- ALL CONCRETE PAVEMENT SHALL BE 5.5" SACK CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 60 FEET.
- ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
- 4" X 12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB.
- AT ALL INTERSECTION LOCATIONS, TYPE T RAMP SHALL BE PLACED IN ACCORDANCE WITH TDDOT DESIGN STANDARD DETAIL SHEET A.D.A. - HANDICAP RAMP SHALL BE INSTALLED WITH STREET PAVING AT ALL INTERSECTIONS AND COMPLY WITH CURRENT A.D.A. REGULATIONS.
- CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMP WITH NO CONNECTIONS TO EXISTING RAMP.
- ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE ADA WHEEL CHAIR RAMP INSTALLED.
- DESIGNERS ARE SET FORTH IN THE TEXAS MANUAL ON UTILITY CONSTRUCTION CONTROL SPECIFICATIONS AS CURRENTLY AMENDED. SHALL BE OBSERVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION, BOTH DAY AND NIGHT.
- ALL 18"-11" STOP SIGNS SHALL BE 37X20" WITH DIAMOND GRADE SHEETING PER TEXAS MANUAL ON UTILITY CONSTRUCTION CONTROL SPECIFICATIONS.
- STREET NAME STORAGE SHALL BE ON A 6" HIGH SIGN PLATE. BACK REFLECTIVE GREEN BACKGROUND. STREET NAMES SHALL BE UPPER AND LOWER CASE LETTERING WITH UPPERCASE LETTERS OF 6" MINIMUM AND LOWER CASE LETTERS OF 4.5" MINIMUM. THE LETTERS SHALL BE REFLECTIVE. WHITE STREET NAME SIGNS SHALL BE MOUNTED ON STOP SIGN POST.
- A BLUE DOUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS. THE BUTTON SHALL BE PLACED 12 INCHES OFF OF THE CENTRELINE OF THE STREET ON THE SAME SIDE AS THE HYDRANT.

CONSTRUCTION NOTES

- NEW TERRITORY BLVD. (RECLAIMED EFFLUENT) RE-USED WATER LINE.

CONSTRUCTION NOTES

WARNING - ANY POWER LINES OVERHEAD

Call before you dig!

811

NEW TERRITORY BLVD. (RECLAIMED EFFLUENT) RE-USED WATER LINE.

CONSTRUCTION NOTES

SHEET 2

OF 42 SHEETS

JOB NO. 198800-148

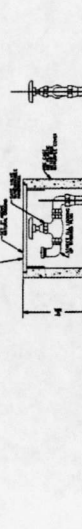
5/4/2019

APPROVED: [Signature]

DATE: 5/4/2019

BY: [Signature]

FOR: [Signature]



2" BLIND OFF VALVE

CONSTRUCTION NOTES

DESIGNED BY: [Signature]

DESIGN CHECKED BY: [Signature]

DRAWN BY: [Signature]

DATE: 5/4/2019

BY: [Signature]

FOR: [Signature]

DATE: 5/4/2019

BY: [Signature]

FOR: [Signature]

DATE: 5/4/2019

BY: [Signature]

FOR: [Signature]

DATE: 5/4/2019

BY: [Signature]

FOR: [Signature]

DATE: 5/4/2019

BY: [Signature]

FOR: [Signature]

DATE: 5/4/2019



Engineering and Surveying
8900 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7788 (713) 783-3560, Fax
TBPE FIRM REG. NO. 280
TPELS FIRM REG. NO. 100486

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Never work below.
Call before you dig.



LEGEND
 --- PROP. RE-USED WATER LINE
 --- PROP. RE-USED WATER LINE (BY OTHERS)
 --- EXISTING RE-USED WATER LINE (BY OTHERS)

DESIGNED BY: S.L.A.
 DESIGN CHECKED BY: J.R.
 DRAWN BY: S.L.A.
 SURVEY CHECKED BY: S.L.A.
 Q.A./C. BY: S.L.A. DATE: 5.14.12
 Q.A./C. REVISIONS BY: S.L.A.

APPROVED: [Signature]
 DATE: 5.14.12
 SHEET 3
 OF 42
 JOB NO. 1099000-142
 5/17/2012



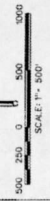
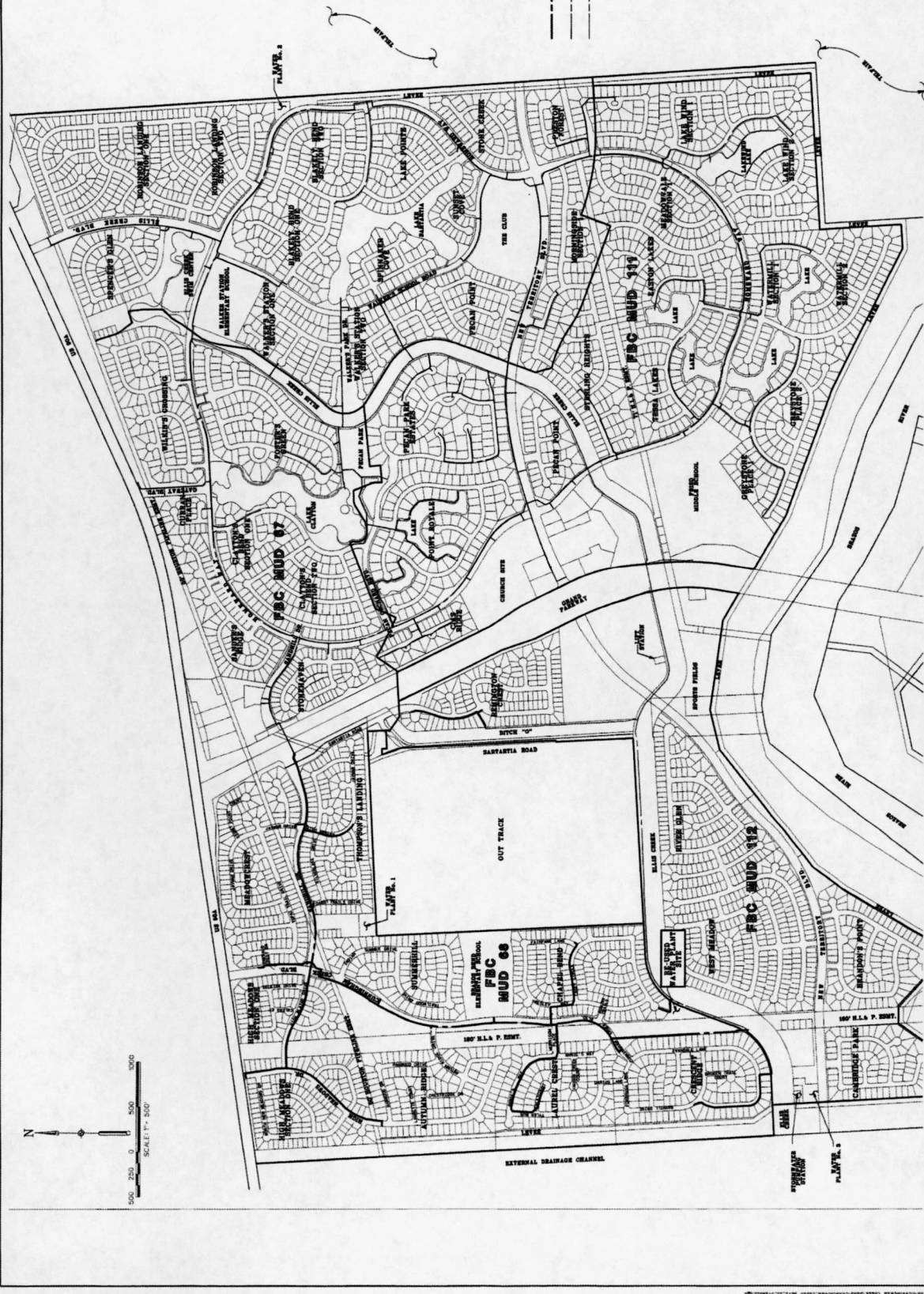
NEW TERREROY CUNNINGHAM CREEK BLVD. (RECLAIMED EFFLUENT RE-USED WATER LINE) OVERALL LAYOUT

Engineering and Surveying
 9980 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 785-7788 (713) 785-3560 Fax
 [BPE FIRM REG. No. 280
 TBP/LS FIRM REG. No. 100466]



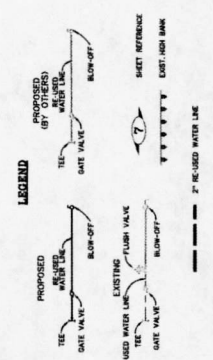
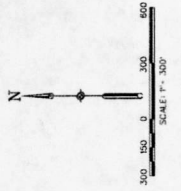
DESIGNED BY: S.L.A.
 DESIGN CHECKED BY: J.R.
 DRAWN BY: S.L.A.
 SURVEY CHECKED BY: S.L.A.
 Q.A./C. BY: S.L.A. DATE: 5.14.12
 Q.A./C. REVISIONS BY: S.L.A.

REV.	REVISION	DATE	BY



PORT BEND COUNTY LTD 7

CUNNINGHAM CREEK RE-CLAIMED EFFLUENT RE-USED WATER LINE FOR NEW TERRITORY JOB NO. 199200-143



NOTES

- SEE PLAN AND PROFILE SHEETS FOR GAS MAINS

WARNING
 MW
 POWER LINES
 OVERHEAD



DESIGNED BY: J.A.V.
 DESIGN CHECKED BY: J.R.V.
 DRAWN BY: J.R.V.
 SURVEY CHECKED BY: J.R.V.
 QA/QC BY: J.R.V.
 DATE: 5/2/2018

APPROVED BY: [Signature]
 DATE: 5/2/2018

SHEET 4
 OF 42
 JOB NO. 199200-143

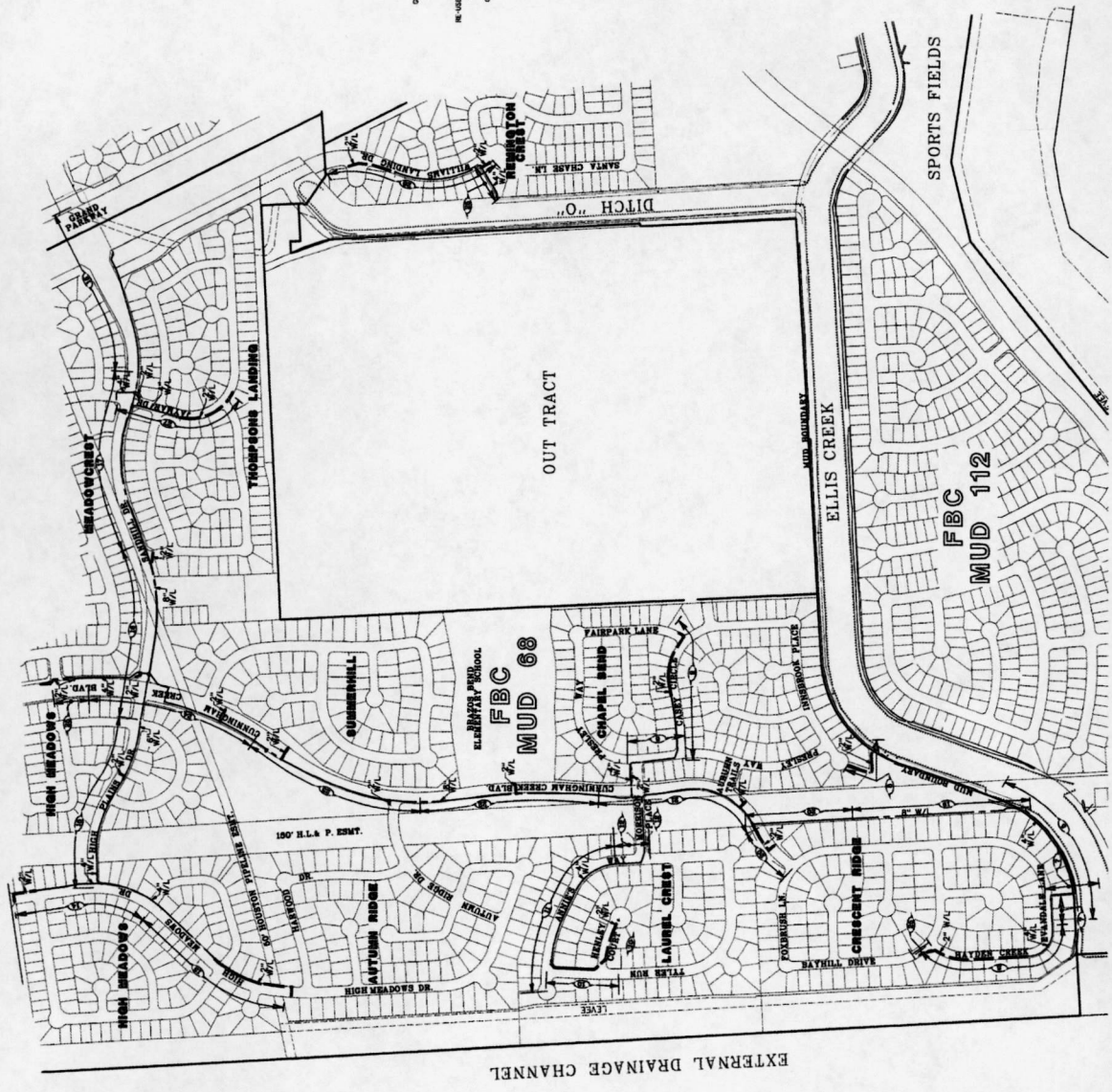
NEW TERRITORY
 CUNNINGHAM CREEK BLVD.
 (RECLAIMED EFFLUENT RE-USED WATER LINE)
 RE-USED WATER LINE LAYOUT

Engineering and Surveying
 5690 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 785-7788 (713) 785-3580, Fax
 TBPES FIRM REG. NO. 280
 TBPES FIRM REG. NO. 100486



DESIGNED BY: J.A.V.
 DESIGN CHECKED BY: J.R.V.
 DRAWN BY: J.R.V.
 SURVEY CHECKED BY: J.R.V.
 QA/QC BY: J.R.V.
 DATE: 5/2/2018

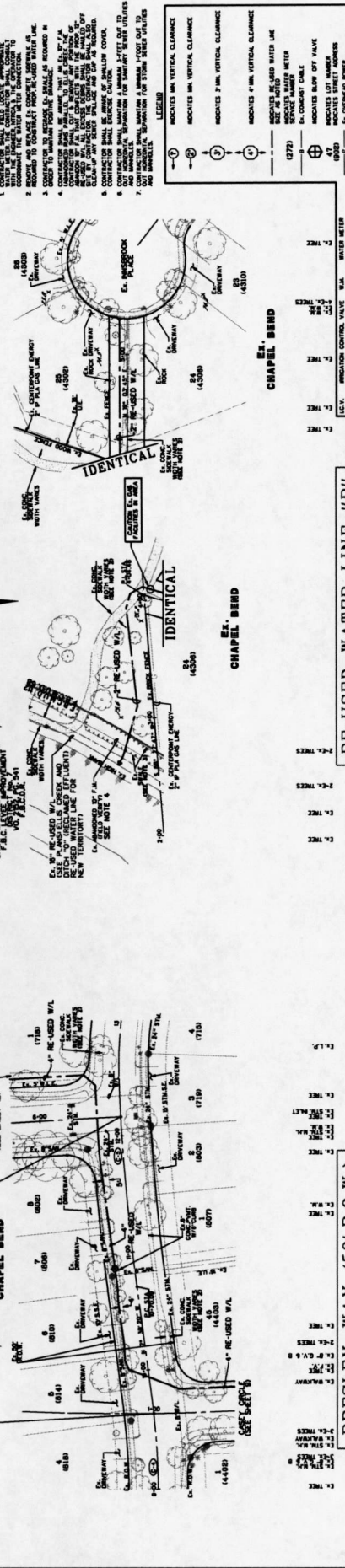
NO.	REVISION	DATE



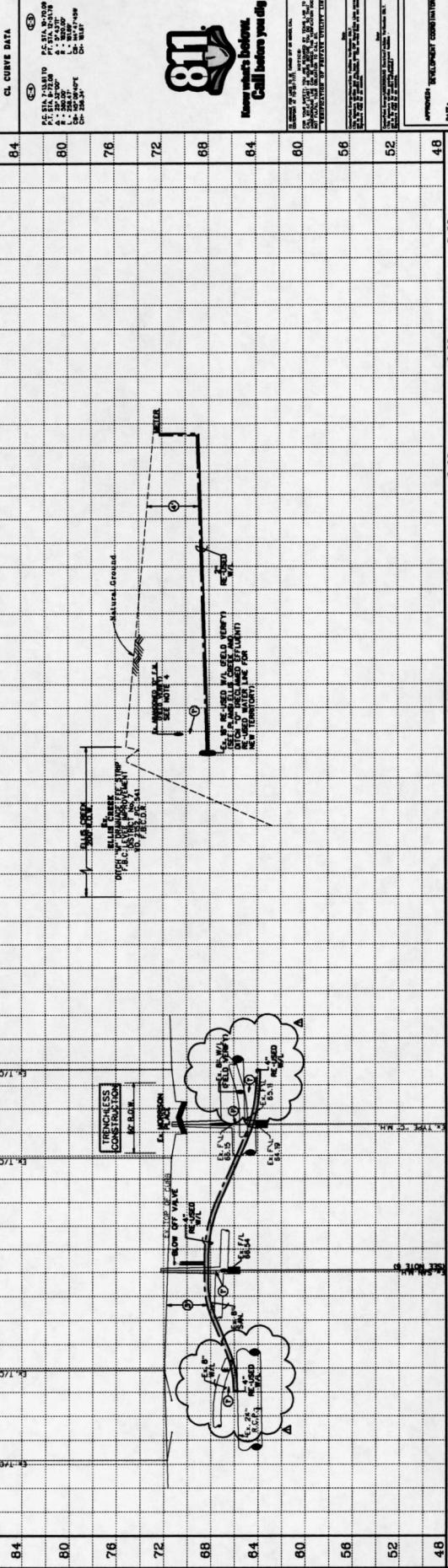
PORT BEND COUNTY LTD 7

CUNNINGHAM CREEK RE-CLAIMED EFFLUENT RE-USED WATER LINE FOR NEW TERRITORY JOB NO. 199200-143

1. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL AFFECTED AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL AFFECTED AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL AFFECTED AGENCIES.



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



84	80	76	72	68	64	60	56	52	48
9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00

Costello
 Engineering and Surveying
 6900 North Loop West, Suite 400 N
 Houston, Texas 77042
 (713) 783-7788 (713) 783-3580, Fax
 (713) 783-7788 (713) 783-3580, Fax
 TBPES FIRM REG. NO. 280
 TBPES FIRM REG. NO. 100486

811
 Know what's below. Call before you dig.

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

CL CURVE DATA

APPROVED: _____
 DATE: _____

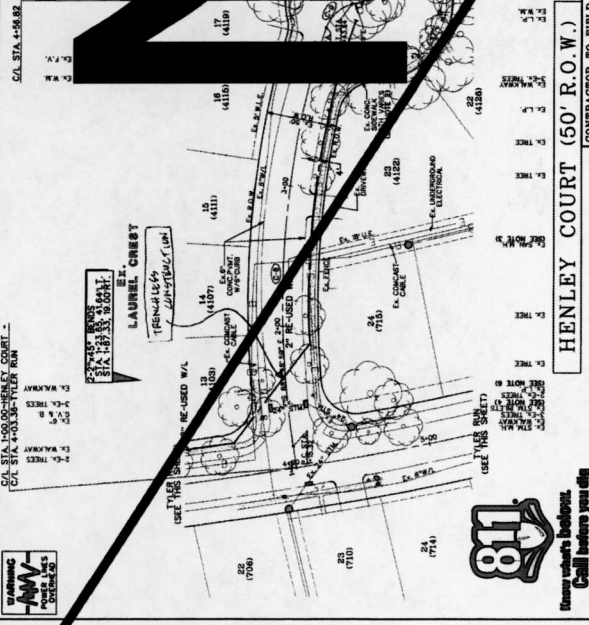
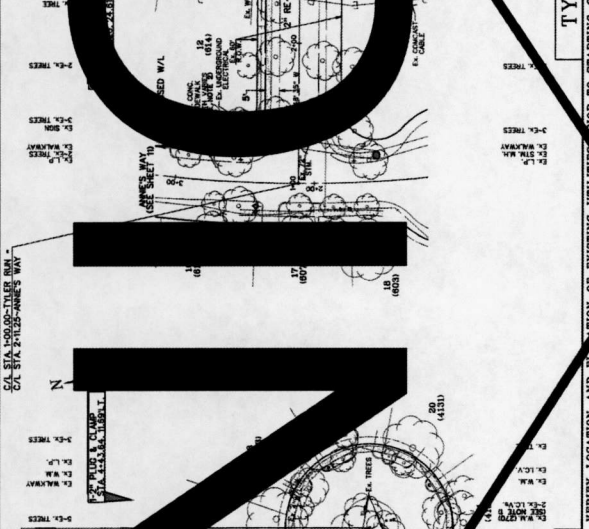
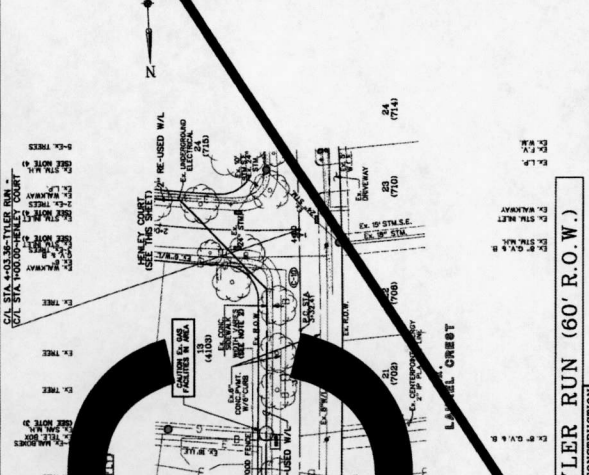
SHEET 8
 OF 42 SHEETS
 JOB NO. 1460800-14E
 7/28/2015

PRESLEY WAY 9+00.00 TO 13+00.00 AND RE-USED WATER LINE "B"

DESIGNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 SURVEY CHECKED BY: _____
 QUOTE BY: _____
 DATE BY: _____

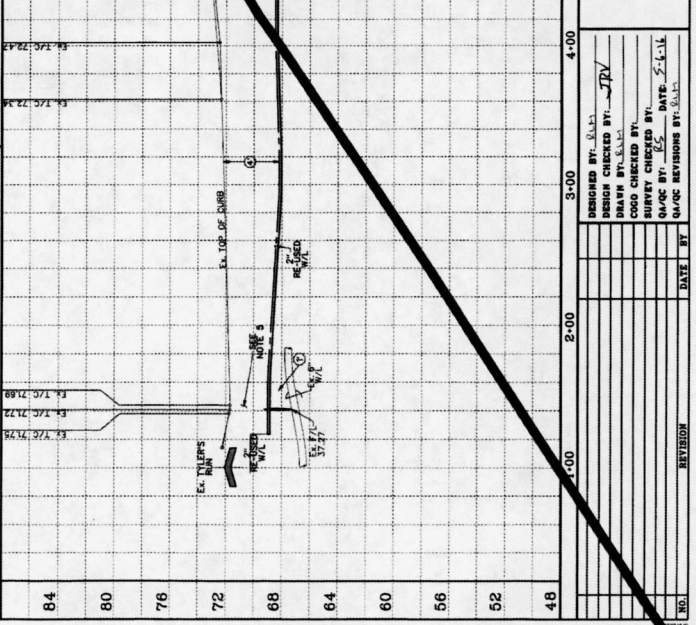
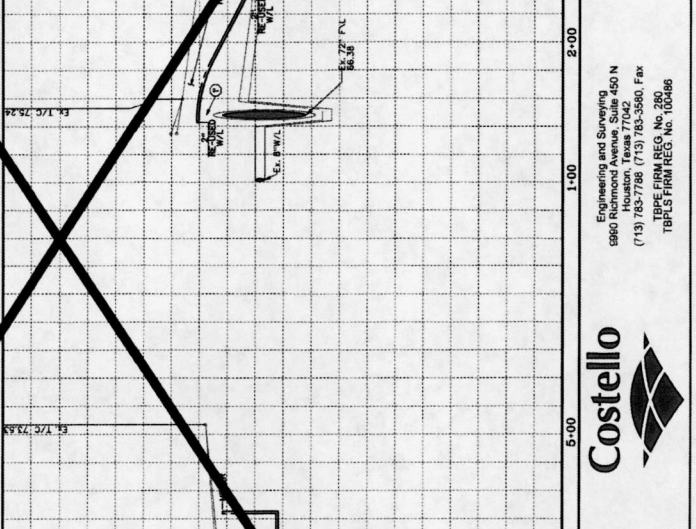
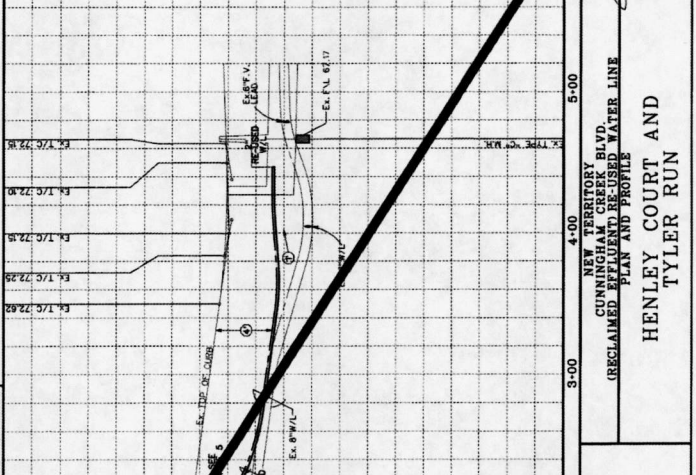
LEGEND

- ⊖ ⊕ INDICATES MIN. VERTICAL CLEARANCE
- ⊖ ⊕ INDICATES MAX. VERTICAL CLEARANCE
- ⊖ ⊕ INDICATES RECLAIMED WATED LINE SEE SET 10110
- (1272) RECLAIMED WATED METER
- ⊖ ⊕ EX. CONDUIT CABLE
- ⊖ ⊕ INDICATES LOT NUMBER
- (1000) EX. FENCE
- ⊖ ⊕ EX. UNDERGROUND ELECTRICAL
- ⊖ ⊕ EX. GAS LINE
- ⊖ ⊕ EX. IRRIGATION CONTROL VALVE
- ⊖ ⊕ EX. VALVE
- ⊖ ⊕ EX. GATE VALVE & BOX
- ⊖ ⊕ EX. WATER METER
- ⊖ ⊕ EX. FLUSH VALVE
- ⊖ ⊕ EX. REGULATOR CONTROL BOX



811
 Know what's below. Call before you dig.

NO.	REVISION	DATE	BY
84			
80			
76			
72			
68			
64			
60			
56			
52			
48			



SCALE 1" = 40' HORIZ.
 1" = 8' VERT.

CL CURVE DATA

84
 80
 76
 72
 68
 64
 60
 56
 52
 48

DESIGNED BY: JTV
 DESIGN CHECKED BY: JTV
 DRAWN BY: JTV
 CADD CHECKED BY: JTV
 SURVEY CHECKED BY: JTV
 QUOTE REVISIONS BY: JTV

NEW TERRITORY
 CUNNINGHAM CREEK
 RECLAIMED WATED WATER LINE
 PLAN AND PROFILES

HENLEY COURT AND
 TYLER RUN

APPROVED: [Signature]
 REGISTERED PROFESSIONAL ENGINEER

DATE: 11/25/10

SHEET 10

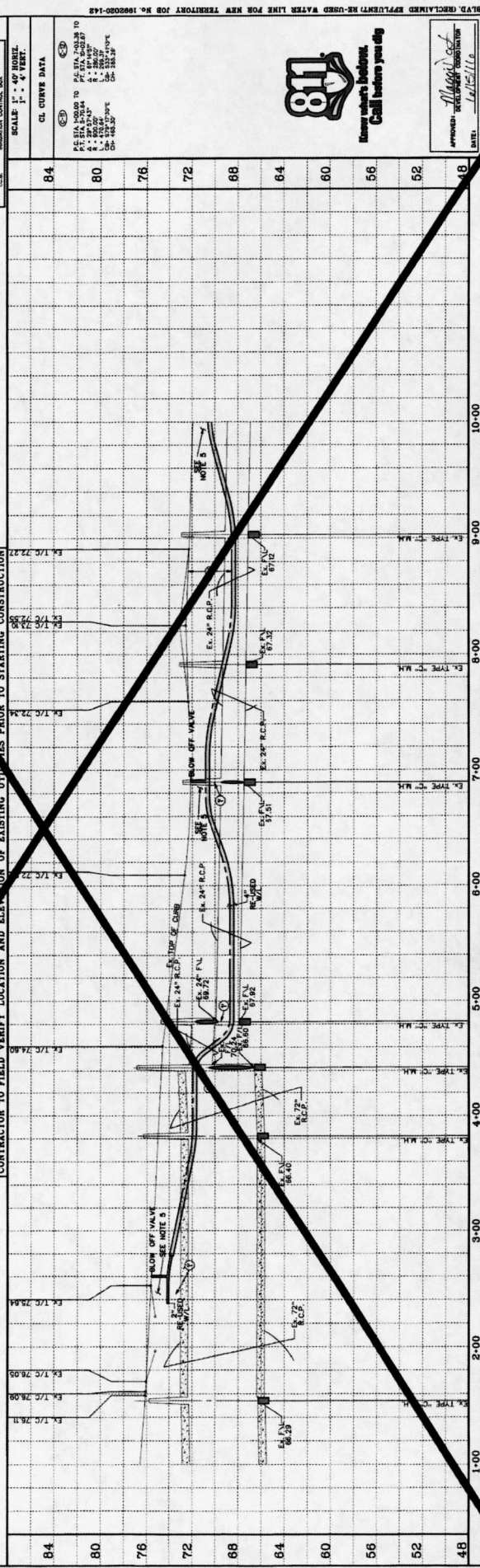
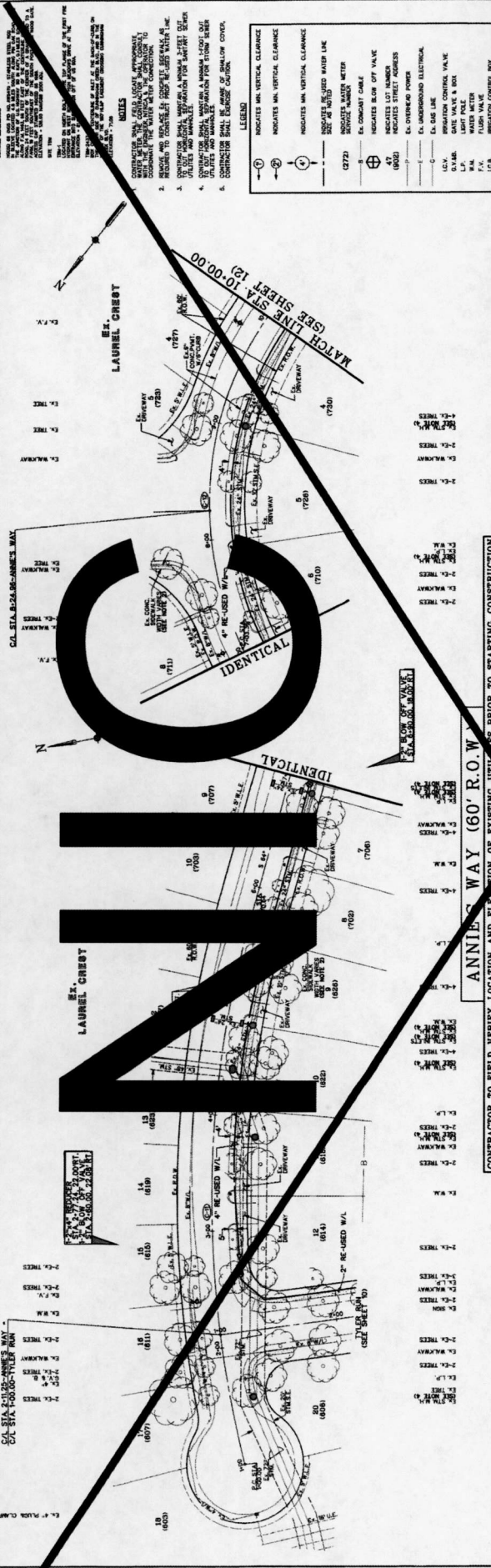
OF 42

JOB NO. 1999000-148

Engineering and Surveying
 5900 N. 450 N
 Houston, Texas 77042
 (713) 763-7786 (713) 763-5560, FAX
 TBPE FIRM REG. NO. 280
 TBPLS FIRM REG. NO. 100486

Costello

FOR MORE INFORMATION CONTACT: [Phone Number]



DESIGNED BY: JTB
DESIGN CHECKED BY: JTB
DRAWN BY: JTB
COORD. CHECKED BY: JTB
SURVEY CHECKED BY: JTB
QA/QC REVISIONS BY: JTB

REVISION

NO.	REVISION	DATE	BY
1			

APPROVED: [Signature]
DATE: 10/15/10

PROJECT: 11
SHEET: 42 OF 42

JOB NO.: 1000000-143

VEHICLE REPOSITORY BLVD. CUNNINGHAM CREEK BLVD. (RECLAIMED EFFLUENT RE-USED WATER LINE) PLAN AND PROFILE ANNIE'S WAY STA. 1+00.00 TO STA. 10+00.00

Costello

Engineering and Surveying
 9650 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 783-7788 (713) 783-3580 Fax
 TBLS FIRM REG. NO. 2380
 TBLS FIRM REG. NO. 100486

Know what's below. Call before you dig.

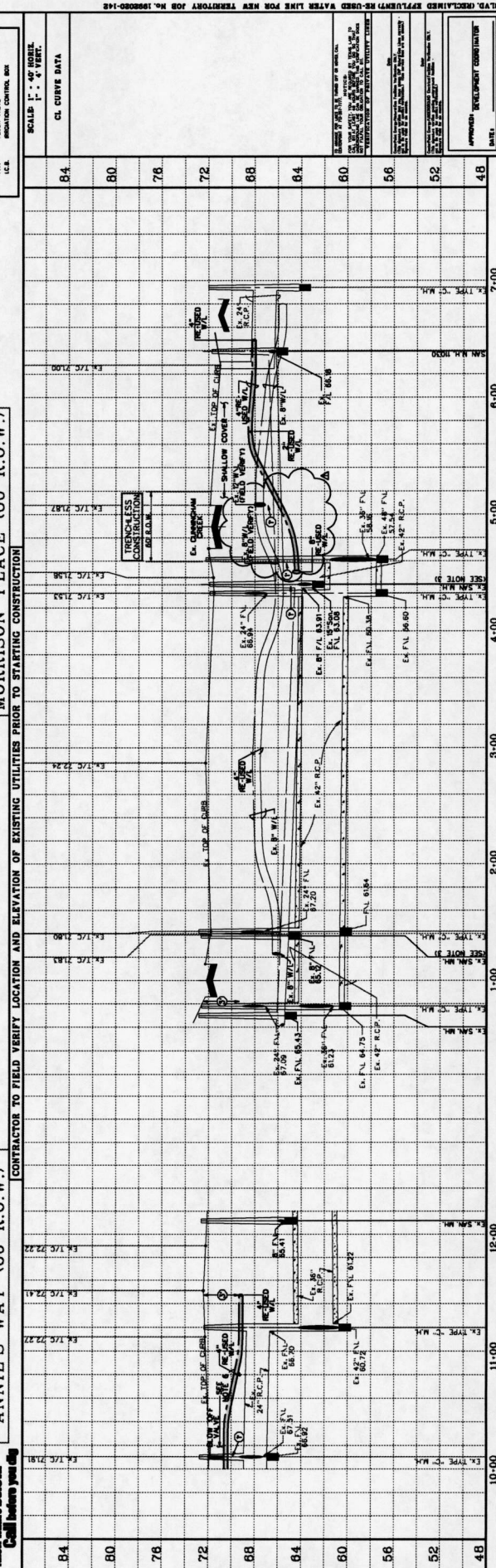
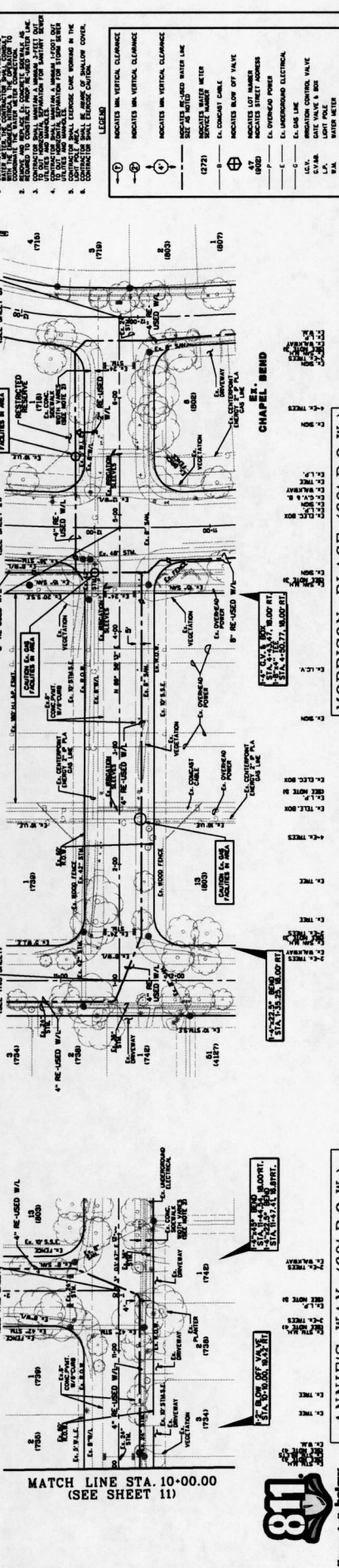
WARNING
AW
 PORT BEND COUNTY LID 7

NOTES:

1. DATE: 12/15/2010
2. DRAWN BY: J. G. ...
3. CHECKED BY: ...
4. ...
5. ...
6. ...
7. ...
8. ...
9. ...
10. ...

LEGEND:

- INDICATES MIN VERTICAL CLEARANCE
- INDICATES MIN VERTICAL CLEARANCE
- INDICATES RE-USED WATER LINE
- SIZE AS NOTED
- EX. CONSTANT CABLE
- EX. OVERHEAD POWER
- EX. UNDERGROUND ELECTRICAL
- EX. GAS LINE
- EX. IRRIGATION CONTROL VALVE
- EX. LIGHT POLE
- EX. WATER METER
- EX. IRRIGATION CONTROL BOX



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

ANNIE'S WAY (60' R.O.W.)

MORRISON PLACE (60' R.O.W.)

CHAPEL BEND

LAUREL CREST

LAUREL CREST

LAUREL CREST

MATCH LINE STA. 10+00.00 (SEE SHEET 11)

811
 Wherever business
 Call before you dig

SCALE: 1" = 40' HORIZ.
 1" = 8' VERT.

CL. CURVE DATA

84
80
76
72
68
64
60
56
52
48

**NEW TERRITORY
 CUNNINGHAM CREEK DIVISION
 (RECLAIMED EXISTING WATER LINE)
 PLAN AND PROFILE
 ANNIE'S WAY
 STA. 10+00.00 TO 12+00.00
 AND MORRISON PLACE**

Costello
 Engineering and Surveying
 9860
 Houston, Texas 77042
 (713) 783-7788 (713) 783-5580, Fax
 TBPES FIRM REG. NO. 280
 TBPES FIRM REG. NO. 100486

DESIGNED BY:
DRAWN CHECKED BY:
CHECKED BY:
DATE:

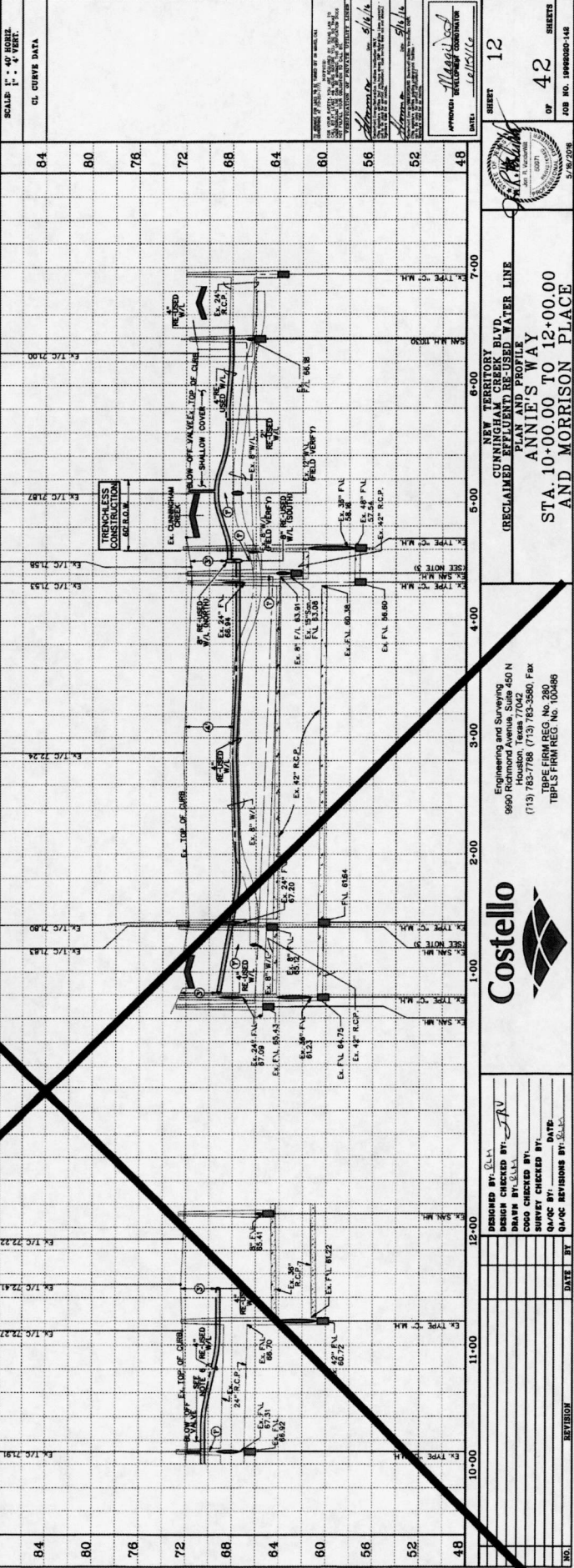
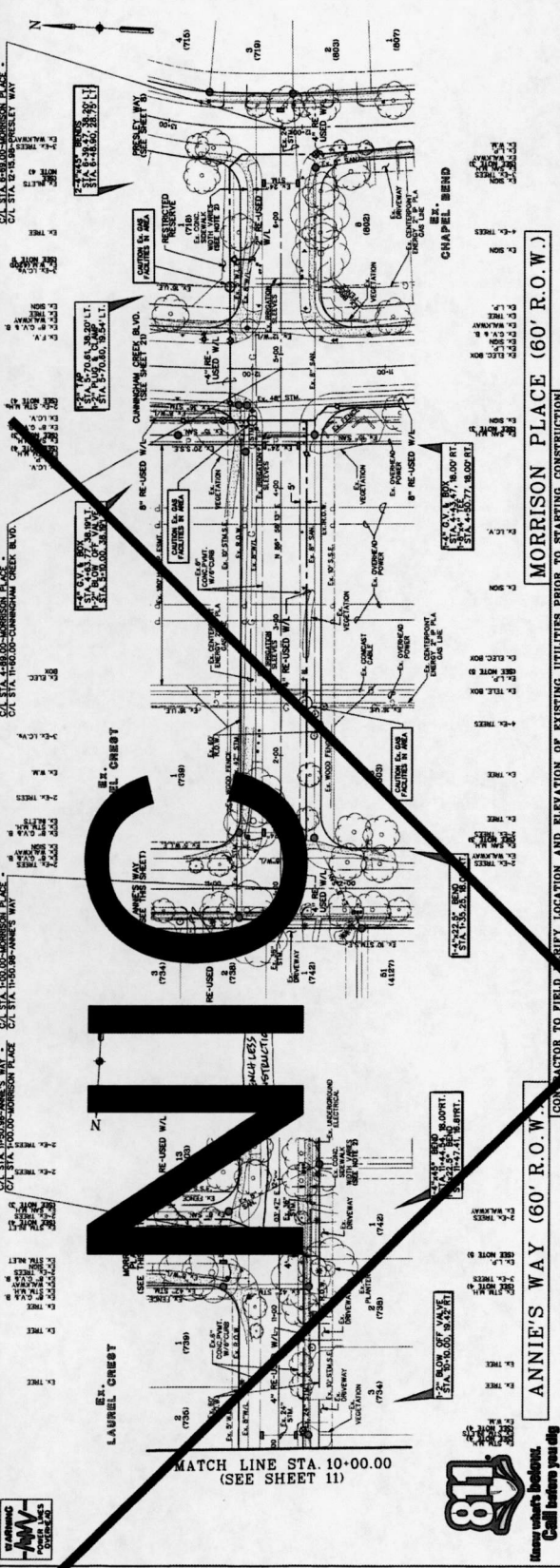
DATE BY

REVISION

APPROVED: DEVELOPMENT COORDINATOR

SHEET 12
OF 42
811
 JOB NO. 1009000-148
 7/28/2008

- NOTES:**
- CONTRACTOR SHALL LOCATE APPROXIMATE CENTERLINE OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 - RE-USED WATER LINE SHALL BE INSTALLED AT A MINIMUM 18" DEPTH.
 - CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 - ALL EXISTING UTILITIES SHALL BE PROTECTED AND MARKED PRIOR TO STARTING CONSTRUCTION.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM 18" CLEARANCE FROM ALL EXISTING UTILITIES.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM 18" CLEARANCE FROM ALL EXISTING UTILITIES.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM 18" CLEARANCE FROM ALL EXISTING UTILITIES.
 - CONTRACTOR SHALL MAINTAIN A MINIMUM 18" CLEARANCE FROM ALL EXISTING UTILITIES.
- LEGEND:**
- ① INDICATES MIN. VERTICAL CLEARANCE
 - ② INDICATES MIN. VERTICAL CLEARANCE
 - ③ INDICATES RECLAIMED WATER LINE SIZE AS NOTED
 - ④ CONSTANT METER
 - ⑤ INDICATES LOT NUMBER
 - ⑥ INDICATES STREET ADDRESS
 - ⑦ UNDERGROUND ELECTRICAL
 - ⑧ GAS LINE
 - ⑨ SANITARY SEWER
 - ⑩ WATER VALVE
 - ⑪ WATER VALVE & BOX
 - ⑫ WATER VALVE
 - ⑬ FLOOR MAIN
 - ⑭ BROADCASTER CONTROL BOX



DESIGNED BY:	DATE:
DRW	

DESIGNED BY:	DATE:
DRW	

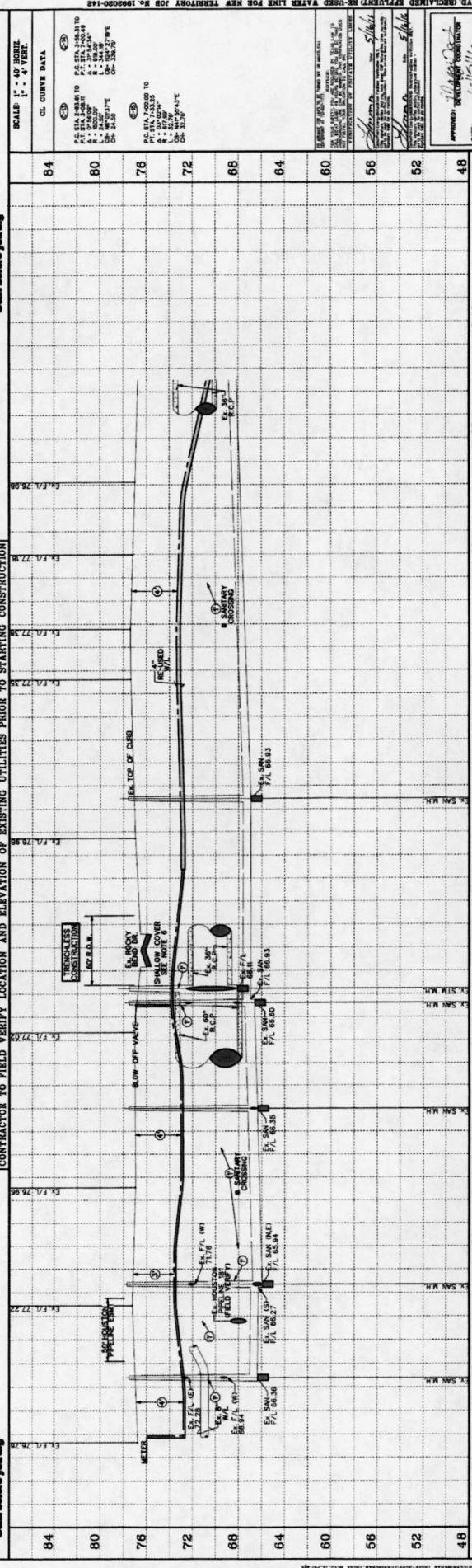
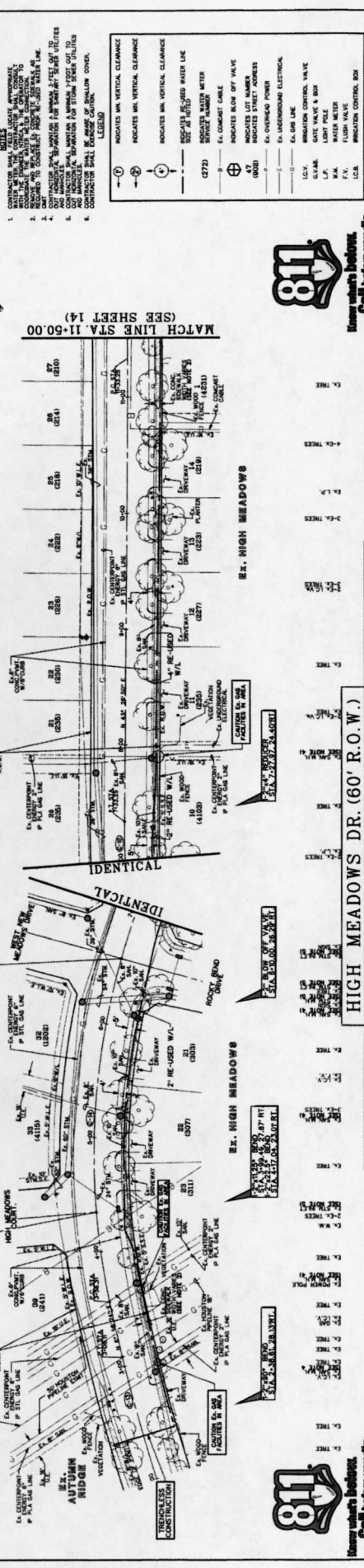
REVISION	DATE	BY

DESIGNED BY: *DRW*
 CHECKED BY: *DRW*
 DATE: *5/14/14*

DATE: *5/14/14*

SHEET 12 OF 42 SHEETS
 JOB NO. 190000-142

PORT BEND COUNTY LID # 1
 CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.
 CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.
 CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.



811
 Know what's below. Call before you dig.

818
 Know what's below. Call before you dig.

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

HIGH MEADOWS DR. (60' R.O.W.)

SCALE: H - 40 HORIZ.
 V - 4' VERT.

CL. CURVE DATA

APPROVED: [Signature]

DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 SURVEY CHECKED BY: [Signature]
 QUANTITY REVISIONS BY: [Signature]

REVISION

NO. DATE BY

Engineering and Surveying
 9960 West Loop South, Suite 450 N
 Houston, Texas 77042
 (713) 785-7788 (713) 785-3586 Fax
 TBP FIRM REG. NO. 280
 TBP'S FIRM REG. NO. 100488

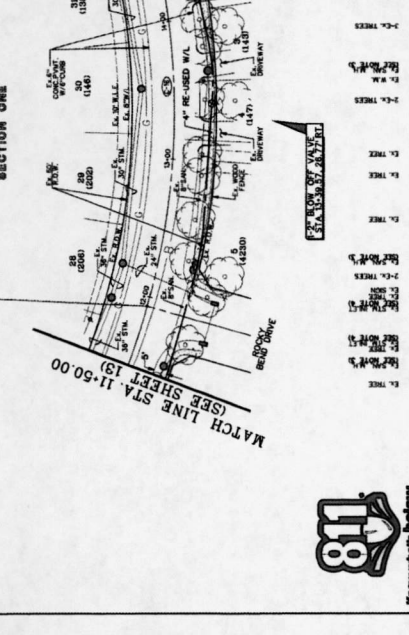
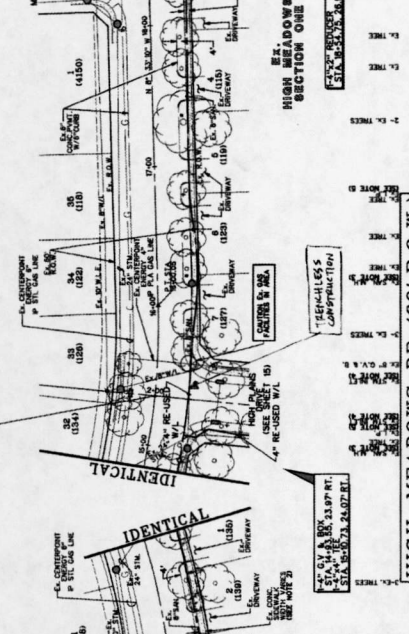
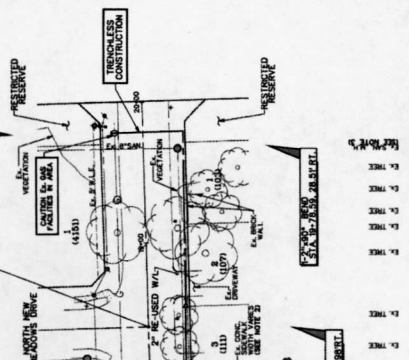
NEW TERRITORY BLVD.
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
 PLAN AND PROFILE

High Meadows Dr.
 STA. 2+00.00 TO 11+50.00

SHEET 13
 OF 42 SHEETS
 JOB NO. 1999000-148
 5/17/2018

Costello

1. WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
2. CONDUIT SHALL BE 3" DIA. HDPE WITH 1/2" THICK WALLS.
3. CONDUIT SHALL BE INSTALLED IN A TRENCH 18" DEEP AND 12" WIDE.
4. CONDUIT SHALL BE PROTECTED BY 4" RE-USED W/AL.
5. CONDUIT SHALL BE INSTALLED IN A TRENCH 18" DEEP AND 12" WIDE.
6. CONDUIT SHALL BE PROTECTED BY 4" RE-USED W/AL.



LEGEND
INDICATES MIN. VERTICAL CLEARANCE
INDICATES MIN. VERTICAL CLEARANCE
INDICATES MIN. VERTICAL CLEARANCE

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

CI CURVE DATA
P.T. STA. 11+50.00
P.C. STA. 11+50.00
TANGENT BEG. STA. 11+50.00

APPROVED: [Signature]
DATE: 11/11/10

DESIGNED BY: E.L.V.
DRAFT BY: E.L.V.
SURVEY CHECKED BY:
Q.A.C. BY: DATE:

NEW TERRITORY
CUNNINGHAM CREEKS BLVD.
(RECLAIMED EASEMENT) WATER LINE
PLAN AND PROFILE

HIGH MEADOWS DR.
STA. 11+50.00 TO STA. 20+00.00

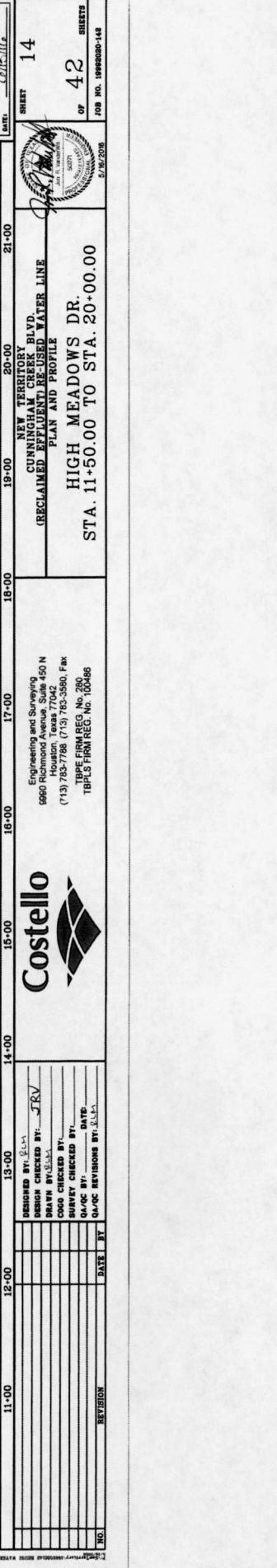
Engineering and Surveying
6660 Richmond Avenue, Suite 150 N
(713) 783-7788 (713) 783-3590 FAX
TBE FIRM REG. NO. 260
TBE FIRM REG. NO. 100486

DESIGNED BY: E.L.V.
DESIGN CHECKED BY: JEV
DRAFT BY: E.L.V.
SURVEY CHECKED BY:
Q.A.C. BY: DATE:

NO. REVISION DATE BY

11-00
12-00
13-00
14-00
15-00
16-00
17-00
18-00
19-00
20-00
21-00

84
80
76
72
68
64
60
56
52
48



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

HIGH MEADOWS DR (60' R.O.W.)

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

HIGH MEADOWS DR (60' R.O.W.)

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

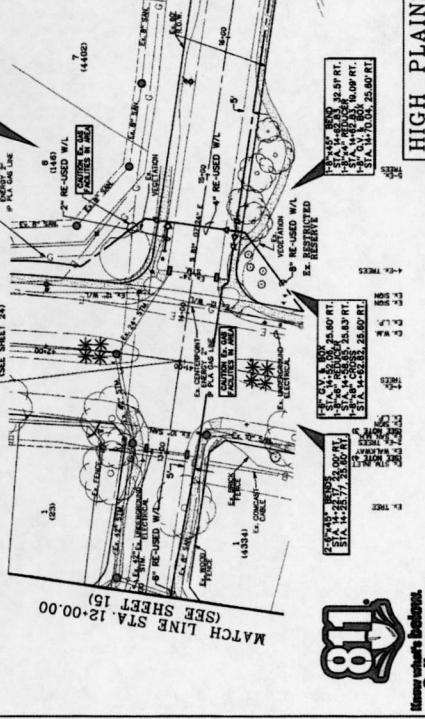
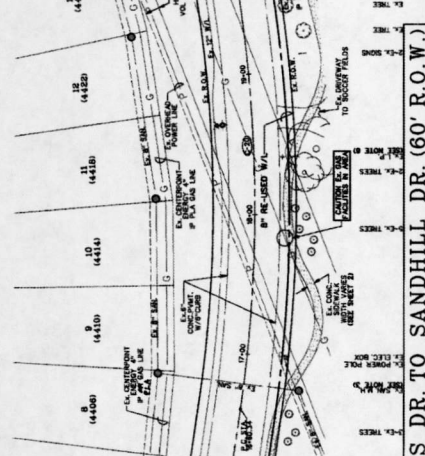
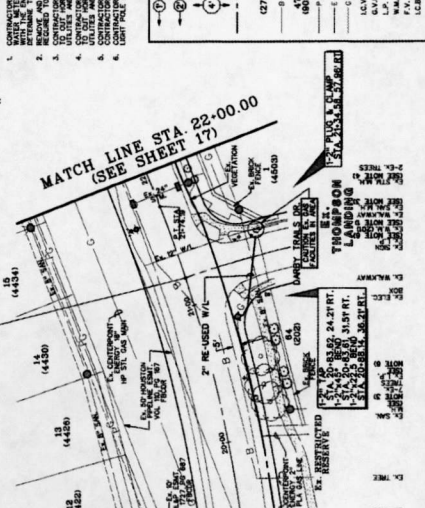
CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION

NOTES

1. WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF HOUSTON WATER MAIN SPECIFICATIONS, LATEST EDITION, AND THE TEXAS WATER MAIN SPECIFICATIONS, LATEST EDITION.
2. ALL WATER MAINS SHALL BE INSTALLED AT A MINIMUM DEPTH OF 48" BELOW FINISHED GRADE.
3. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
4. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
5. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
6. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
7. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
8. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
9. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
10. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.

LEGEND

- ① INDICATES MIN. VERTICAL CLEARANCE
- ② INDICATES MIN. VERTICAL CLEARANCE
- ③ INDICATES MIN. VERTICAL CLEARANCE
- ④ INDICATES MIN. VERTICAL CLEARANCE
- ⑤ INDICATES MIN. VERTICAL CLEARANCE
- ⑥ INDICATES MIN. VERTICAL CLEARANCE
- ⑦ INDICATES MIN. VERTICAL CLEARANCE
- ⑧ INDICATES MIN. VERTICAL CLEARANCE
- ⑨ INDICATES MIN. VERTICAL CLEARANCE
- ⑩ INDICATES MIN. VERTICAL CLEARANCE
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- ⑫ INDICATES MIN. VERTICAL CLEARANCE
- ⑬ INDICATES MIN. VERTICAL CLEARANCE
- ⑭ INDICATES MIN. VERTICAL CLEARANCE
- ⑮ INDICATES MIN. VERTICAL CLEARANCE
- ⑯ INDICATES MIN. VERTICAL CLEARANCE
- ⑰ INDICATES MIN. VERTICAL CLEARANCE
- ⑱ INDICATES MIN. VERTICAL CLEARANCE
- ⑲ INDICATES MIN. VERTICAL CLEARANCE
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- ㉟ INDICATES MIN. VERTICAL CLEARANCE



HIGH PLAINS DR. TO SANDHILL DR. (60' R.O.W.)
 CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION

STATION	DESCRIPTION	DATE	BY
48			
52			
56			
60			
64			
68			
72			
76			
80			
84			

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

CL. CURVE DATA

P.C. STA. 240.34 TO
 P.T. STA. 240.34
 RADIUS 100.00
 CHORD BEARING S 89.27° E
 CHORD DIST. 98.27

APPROVED: *[Signature]*
 DATE: 5/12/2016

PROJECT NEW TERTORY BLVD.
 CUNNINGHAM GREENWAY
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
 PLAN AND PROFILE

SECTION 16
OF 42
SHEETS

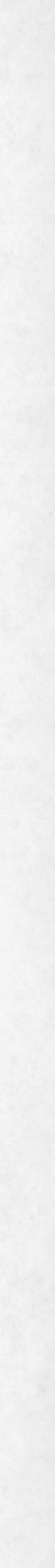
PROJECT NO. 1600000-148

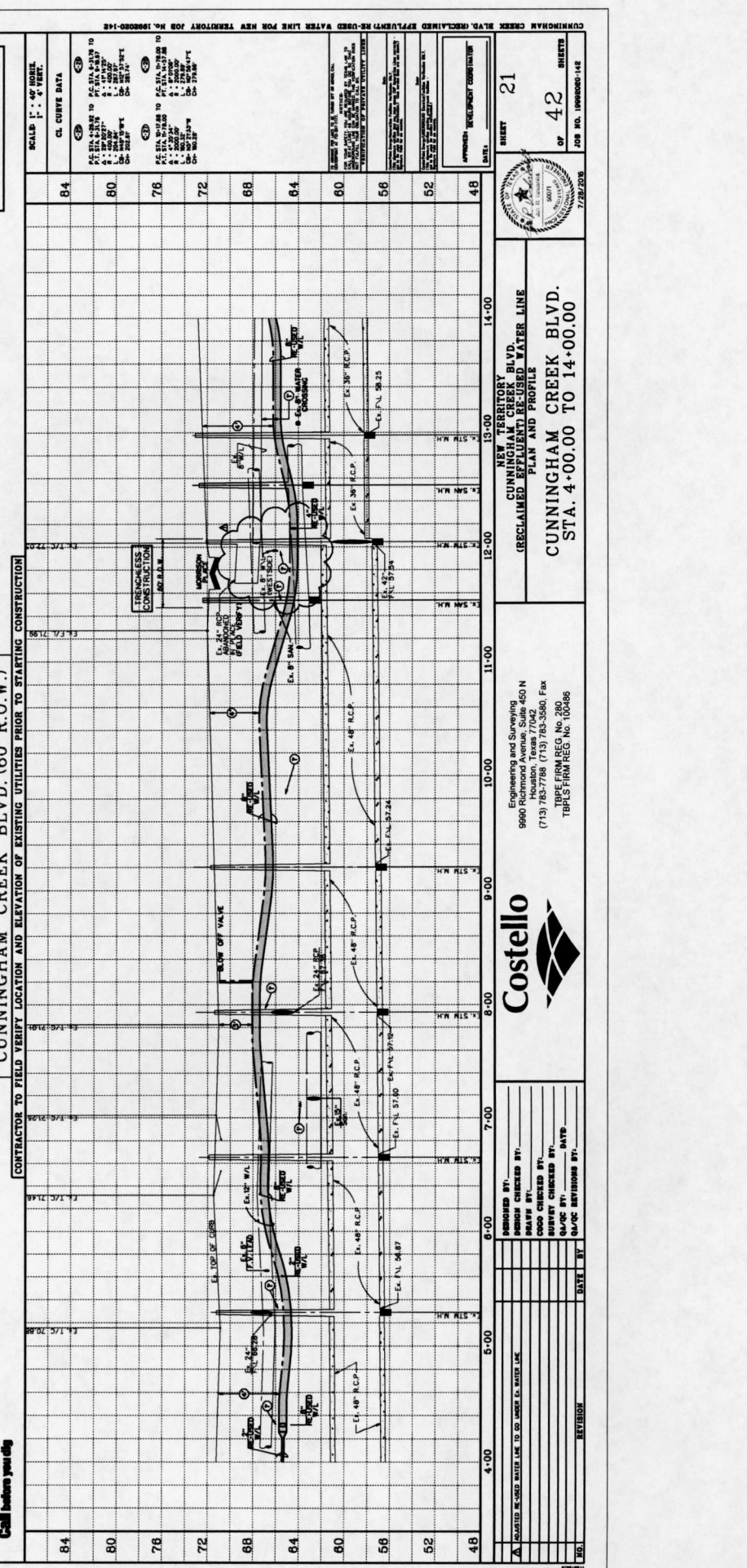
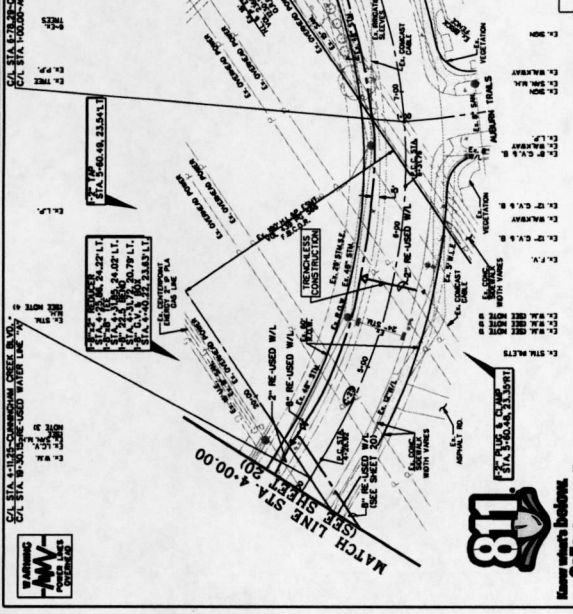
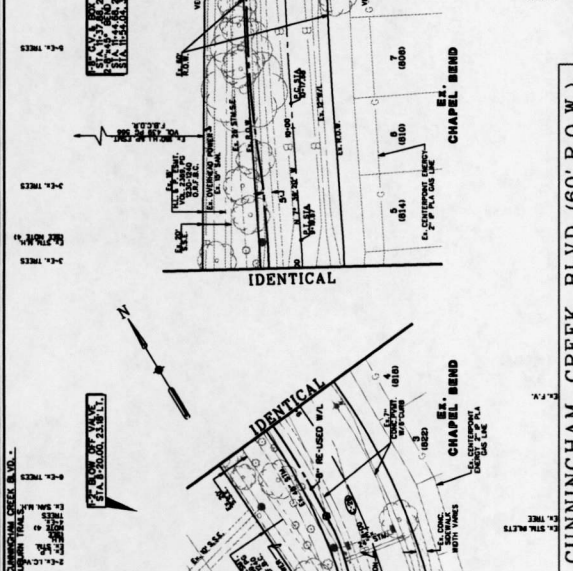
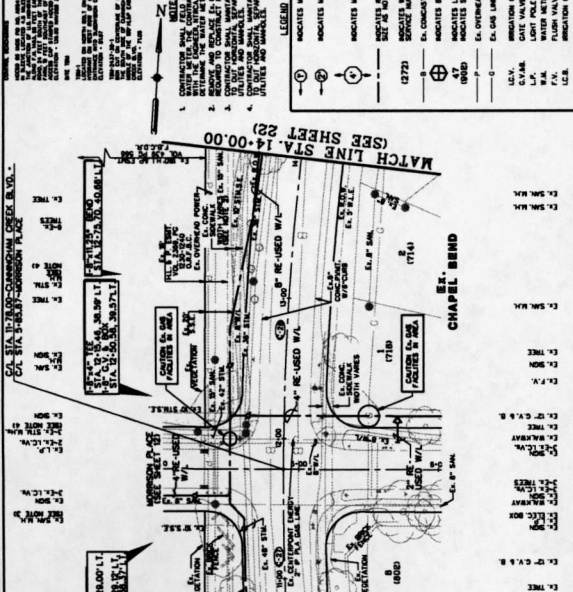
ENGINEERING AND SURVEYING
 9940 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 783-7788 (713) 783-3580 Fax
 TUBE FIRM REG. NO. 280
 TEPUS FIRM REG. NO. 100088

DESIGNED BY: S.A.A.
DESIGN CHECKED BY: J.R.V.
DRAWN BY: S.A.A.
COG CHECKED BY: S.A.A.
DATE: 5/12/2016
DATE: 5/12/2016
DATE: 5/12/2016

REVISION

NO.	REVISION	DATE	BY





STATION	ELEVATION	DESCRIPTION
84	72.0	BLIND OFF VALVE
80	72.0	MANHOLE
76	72.0	MANHOLE
72	72.0	MANHOLE
68	72.0	MANHOLE
64	72.0	MANHOLE
80	72.0	MANHOLE
56	72.0	MANHOLE
52	72.0	MANHOLE
48	72.0	MANHOLE

811
 Know what's below.
 Call before you dig.

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

SCALE: 1" = 40' VERT.

CL CURVE DATA

84	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
80	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
76	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
72	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
68	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
64	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
80	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
56	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
52	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'
48	PC STA 14+20.00 TO 14+20.00 P.C. STATION TO P.C. STATION A. 1.0000' L. 0.0000' E. 0.0000'

APPROX. ELEVATION COORDINATE

NEW TERRITORY CUNNINGHAM CREEK BLVD. (RECLAIMED EFFLUENT) RE-USED WATER LINE PLAN AND PROFILE

CUNNINGHAM CREEK BLVD. STA. 4+00.00 TO 14+00.00

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

FORWARDED BY: [] DATE BY: []
 DESIGN CHECKED BY: []
 DRAWN BY: []
 QUOTE BY: []
 QA/QC REVISIONS BY: []

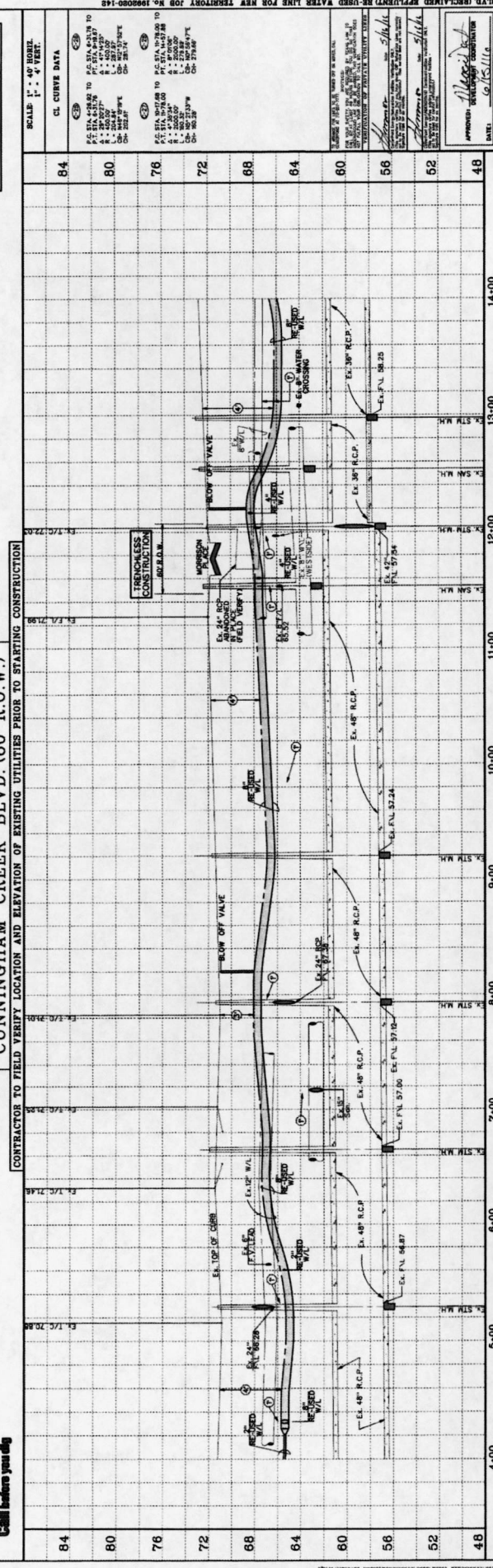
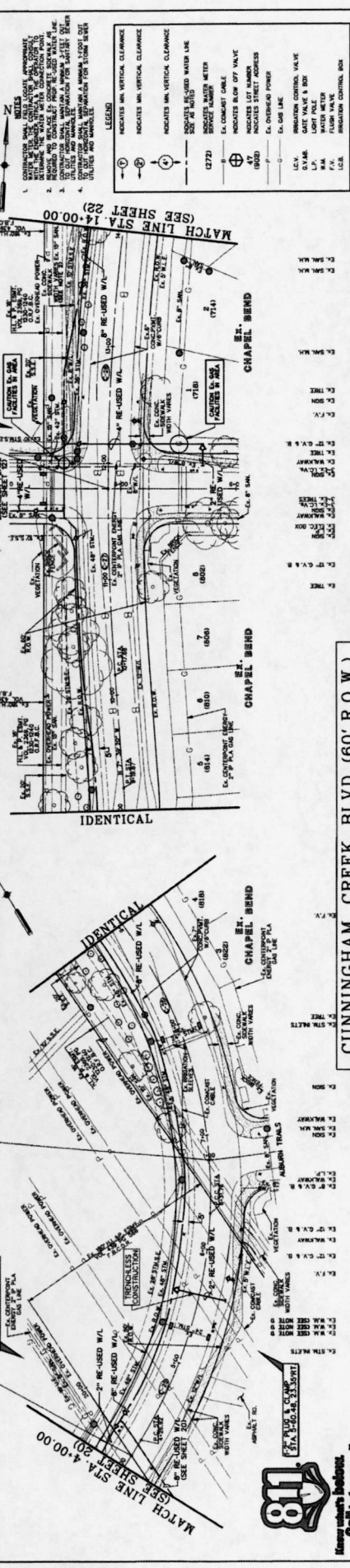
811 logo and contact information.

PORT BEND COUNTY LID

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

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

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



DESIGNED BY: E.A.M.
 DESIGN CHECKED BY: J.T.V.
 DRAWN BY: E.A.M.
 CADD CHECKED BY:
 SURVEY CHECKED BY:
 QA/QC BY: DATE:
 QA/QC REVISIONS BY: DATE:

SHEET 21
 OF 42 SHEETS
 JOB NO. 100466-148

NEW TERRITORY BLVD.
 CUNNINGHAM CREEK BLVD.
 (RECLAIMED FARM AND UTILITY WATER LINE)
 PLAN AND PROFILE

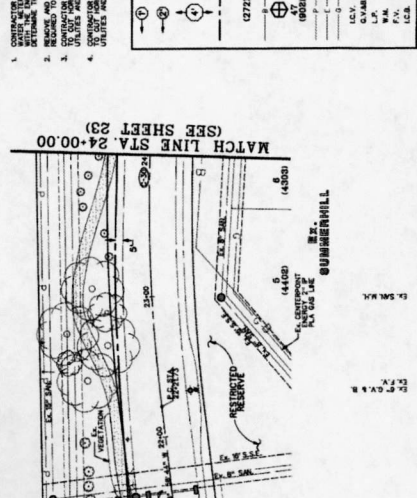
CUNNINGHAM CREEK BLVD.
 STA. 4+00.00 TO 14+00.00

Costello

Engineering and Surveying
 9650 Richmond Avenue, Suite 150 N
 (713) 782-7788 (713) 782-3580 FAX
 TBP&G FIRM REG. No. 280
 TBP&G FIRM REG. No. 100466

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

- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 - REVISIONS AND REVISIONS TO BE MADE BY THE CONTRACTOR SHALL BE MADE BY THE CONTRACTOR.
 - CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 - UTILITIES AND WATER MAINS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO STARTING CONSTRUCTION.



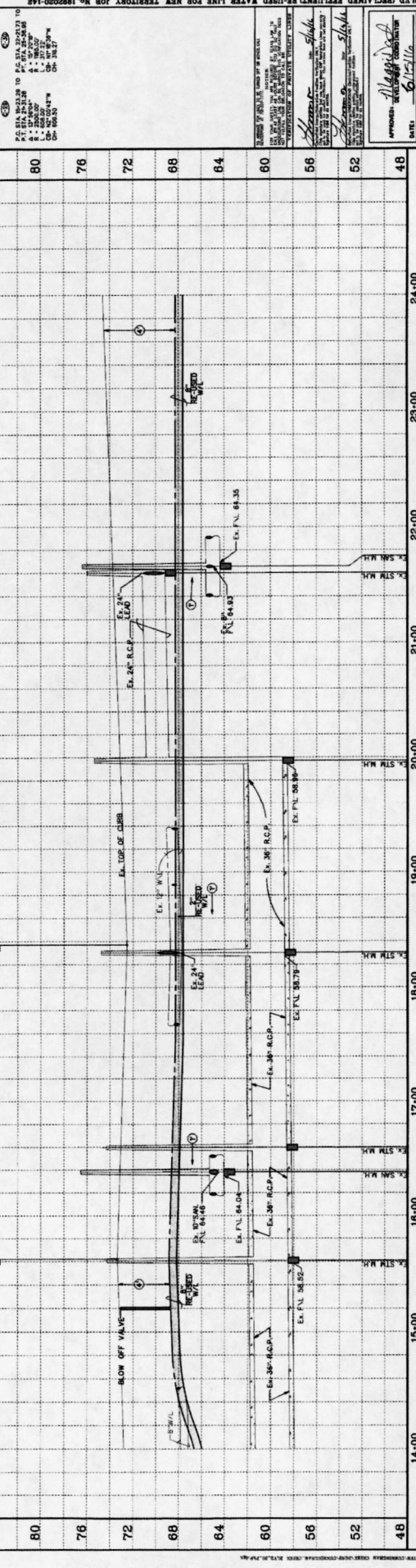
LEGEND:

- ⊖ INDICATES MIN. VERTICAL CLEARANCE
- ⊕ INDICATES MAX. VERTICAL CLEARANCE
- ⊙ INDICATES RE-USED WATER METER
- ⊙ (272) INDICATES WATER METER SERVICE NUMBER
- ⊕ INDICATES CONDUIT CABLE
- ⊖ INDICATES BLOW OFF VALVE
- ⊕ INDICATES STREET ARMOR
- ⊖ INDICATES OVERHEAD POWER
- ⊕ INDICATES OVERHEAD ELECTRICAL
- ⊖ INDICATES REGULATION CONTROL VALVE
- ⊕ G.V.M. GATE VALVE & BOX
- ⊖ W.V. WATER VALVE
- ⊕ F.V. FLASH VALVE
- ⊖ C.C.B. REGULATION CONTROL BOX

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

CI CURVE DATA:

STATION	PI	PC	PT	TS	STATION	PI	PC	PT	TS
84	80	76	72	68	64	60	56	52	48



CUNNINGHAM CREEK BLVD. (60' R.O.W.)

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

DESIGNED BY: E.L.A.
 DESIGN CHECKED BY: J.R.V.
 DRAFT BY: E.L.A.
 CADD CHECKED BY:
 SURVEY CHECKED BY:
 Q.A.C. BY: DATE: Q.A.C. REVISIONS BY: S.A.L.

Engineering and Surveying
 9960 Richmond Avenue, 7042
 (713) 783-7788 (713) 783-3500 FAX
 TBPL'S FIRM REG. NO. 280
 TBPL'S FIRM REG. NO. 100486

Costello

NEW TERRITORY BLVD.
 (RECLAIMED EXISTING RE-USED WATER LINE)
 PLAN AND PROFILE
 CUNNINGHAM CREEK BLVD.
 STA. 14+00.00 TO 24+00.00

APPROVED: [Signature]
 DATE: 6/12/16
 SHEET 22
 OF 42
 JOB NO. 160900D-148

NO.	REVISION	DATE	BY

WARNING
 ANV
 PORT BEND COUNTY LID

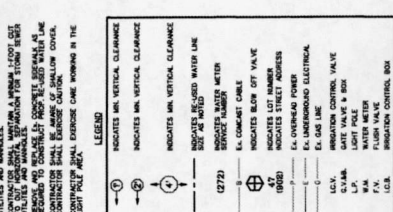
Match Line STA. 14+00.00 (SEE SHEET 21)

Match Line STA. 24+00.00 (SEE SHEET 23)

188
 Make what's better.
 Call before you dig

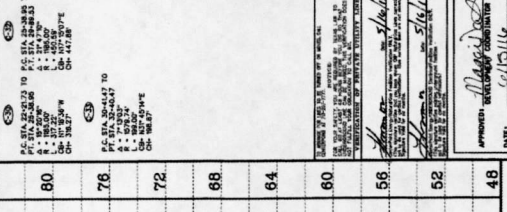
NOTES:
 1. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 2. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 3. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 4. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 5. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
 6. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.

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

CUNNINGHAM CREEK BLVD. (60' R.O.W.)



STATION	DATE	BY	REVISION
24+00			
25+00			
26+00			
27+00			
28+00			
29+00			
30+00			
31+00			
32+00			
33+00			
34+00			

DESIGNED BY: E.L.H.
DESIGN CHECKED BY: J.R.V.
DRAWN BY: L.L.L.
COORD. CHECKED BY: L.L.L.
SURVEY CHECKED BY: L.L.L.
SCALE REVISIONS BY: L.L.L.

Engineers and Surveyors
 9990 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 785-7788 (713) 785-3500 Fax
 TBPE FIRM REG. NO. 280
 TBPLS FIRM REG. NO. 100486



CONUNNINGHAM CREEK BLVD. (RECLAIMED EFFAULT) RE-USED WATER LINE PLAN AND PROFILE
CUNNINGHAM CREEK BLVD.
STA. 24+00.00 TO 34+00.00

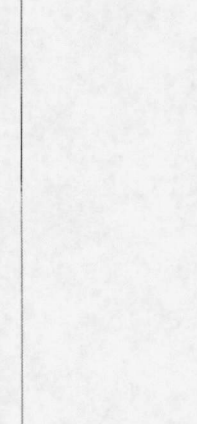
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CL CURVE DATA:
 P.C. STA. 24+20.73 TO P.C. STA. 24+20.73
 P.T. STA. 24+20.73
 P.C. STA. 24+20.73 TO P.C. STA. 24+20.73
 P.T. STA. 24+20.73
 P.C. STA. 24+20.73 TO P.C. STA. 24+20.73
 P.T. STA. 24+20.73

APPROVED: [Signature]
DATE: 5/12/2016
PROJECT NO.: 15000000-148
SHEET: 23
OF: 42
DATE: 5/12/2016

WARNING:
 ANY
 CHANGES
 TO THIS
 DRAWING
 MUST BE
 APPROVED
 BY THE
 DESIGNER

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

CUNNINGHAM CREEK BLVD. (60' R.O.W.)



STATION	DATE	BY	REVISION
24+00			
25+00			
26+00			
27+00			
28+00			
29+00			
30+00			
31+00			
32+00			
33+00			
34+00			

DESIGNED BY: E.L.H.
DESIGN CHECKED BY: J.R.V.
DRAWN BY: L.L.L.
COORD. CHECKED BY: L.L.L.
SURVEY CHECKED BY: L.L.L.
SCALE REVISIONS BY: L.L.L.

Engineers and Surveyors
 9990 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 785-7788 (713) 785-3500 Fax
 TBPE FIRM REG. NO. 280
 TBPLS FIRM REG. NO. 100486

CONUNNINGHAM CREEK BLVD. (RECLAIMED EFFAULT) RE-USED WATER LINE PLAN AND PROFILE
CUNNINGHAM CREEK BLVD.
STA. 24+00.00 TO 34+00.00

SCALE: 1" = 40' HORIZ.
CL CURVE DATA:
 P.C. STA. 24+20.73 TO P.C. STA. 24+20.73
 P.T. STA. 24+20.73
 P.C. STA. 24+20.73 TO P.C. STA. 24+20.73
 P.T. STA. 24+20.73
 P.C. STA. 24+20.73 TO P.C. STA. 24+20.73
 P.T. STA. 24+20.73

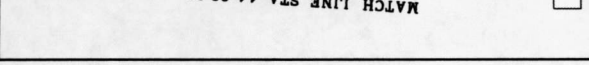
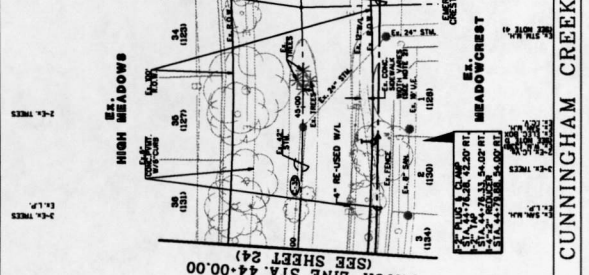
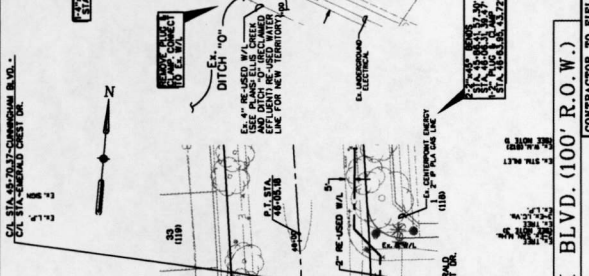
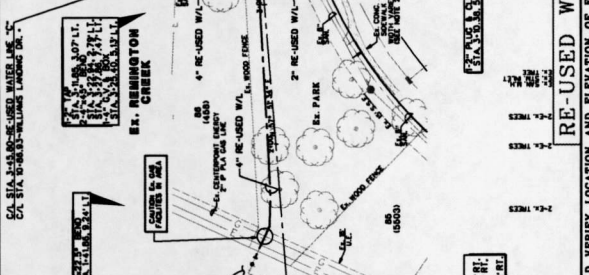
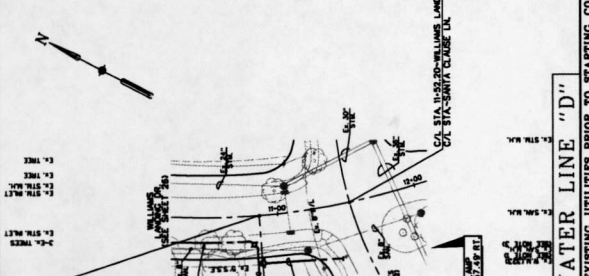
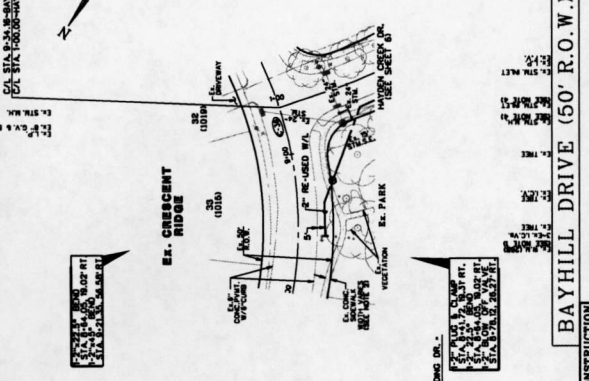
APPROVED: [Signature]
DATE: 5/12/2016
PROJECT NO.: 15000000-148
SHEET: 23
OF: 42
DATE: 5/12/2016

WARNING:
 ANY
 CHANGES
 TO THIS
 DRAWING
 MUST BE
 APPROVED
 BY THE
 DESIGNER

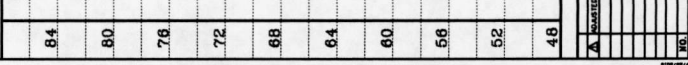
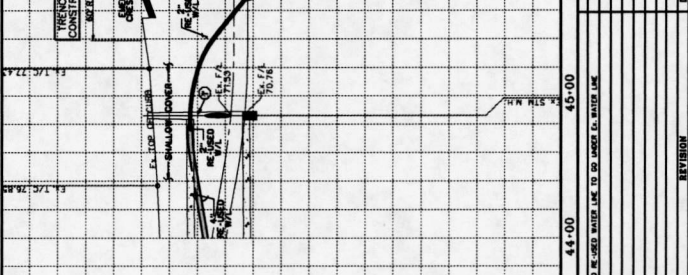
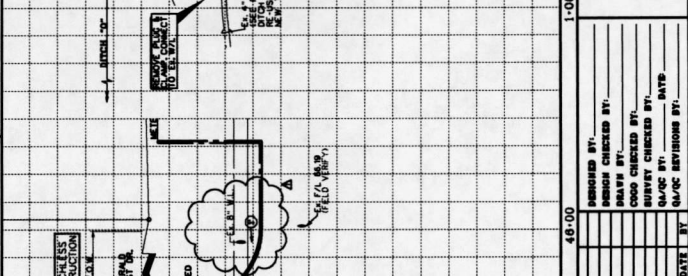
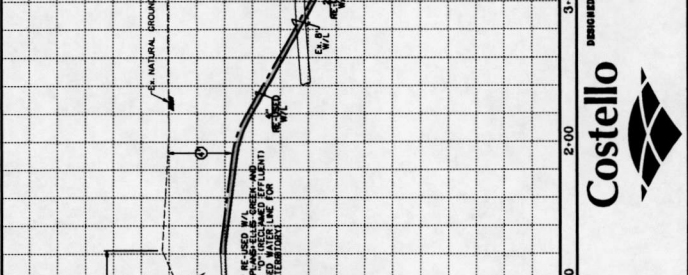
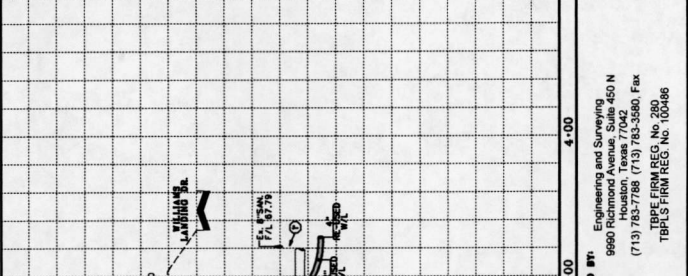
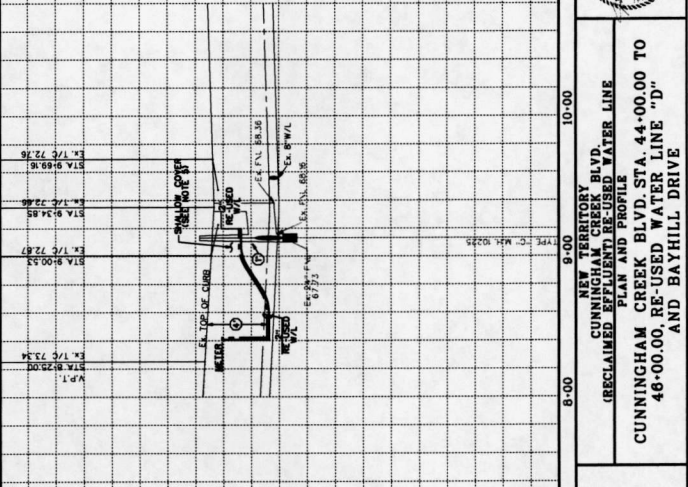
CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION

CUNNINGHAM CREEK BLVD. (60' R.O.W.)

1. OTHER THAN THE CONTRACTOR'S OWN PROPERTY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES OF THE STATE OF TEXAS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES OF THE STATE OF TEXAS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES OF THE STATE OF TEXAS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES OF THE STATE OF TEXAS.



STATION	ELEVATION	REMARKS
84	91.76	STATION 84
80	91.76	STATION 80
76	91.76	STATION 76
72	91.76	STATION 72
68	91.76	STATION 68
64	91.76	STATION 64
60	91.76	STATION 60
56	91.76	STATION 56
52	91.76	STATION 52
48	91.76	STATION 48



STATION	ELEVATION	REMARKS
84	91.76	STATION 84
80	91.76	STATION 80
76	91.76	STATION 76
72	91.76	STATION 72
68	91.76	STATION 68
64	91.76	STATION 64
60	91.76	STATION 60
56	91.76	STATION 56
52	91.76	STATION 52
48	91.76	STATION 48

SCALE: 1" = 40' VERT.

CL. CURVE DATA

APPROXIMATE RECLAIMED COUNTRYSIDE

PROJECT NO. 148

DATE: 7/26/2018

SHEET 25 OF 42

FOR NO. 148000-148

NEW TRENCH FOR CUNNINGHAM CREEK BLVD. (RECLAIMED EFFLUENT) RE-USED WATER LINE PLAN AND PROFILE

CUNNINGHAM CREEK BLVD. STA. 44+00.00 TO 46+00.00, RE-USED WATER LINE "D" AND BAYHILL DRIVE

DESIGNED BY: Costello

ENGINEERING AND SURVEYING

9900 Richmond Avenue, Suite 450 N

Houston, Texas 77042

(713) 783-7788 (713) 783-3580, Fax

TXPE FIRM REG. NO. 280

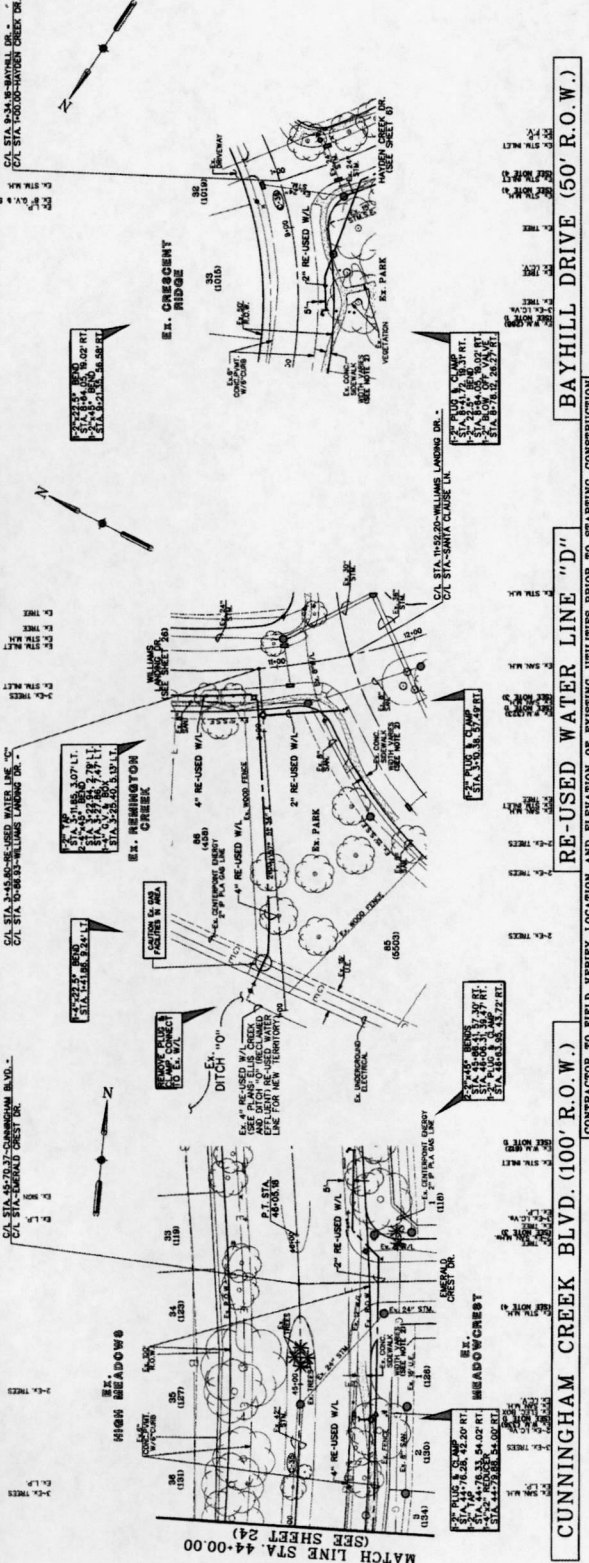
TBPLUS FIRM REG. NO. 100486

NO.	REVISION	DATE	BY

NO.	REVISION	DATE	BY

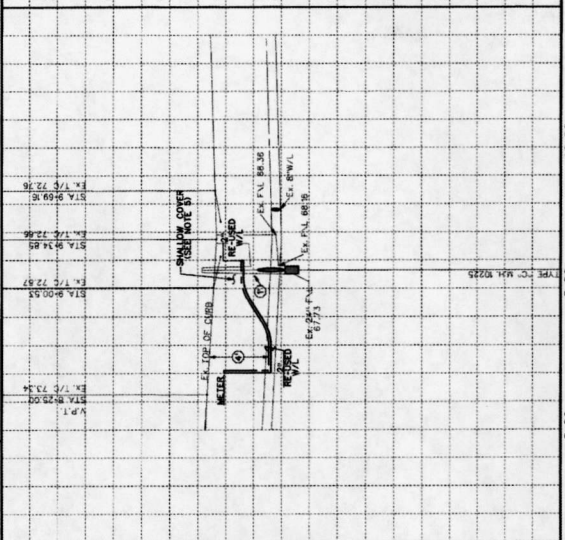
NO.	REVISION	DATE	BY

PORT BEND COUNTY LTD 1



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

84	80	76	72	68	64	60	56	52	48
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SCALE 1" = 40' HORIZ.
1" = 4' VERT.

CI CURVE DATA

84	80	76	72	68	64	60	56	52	48
----	----	----	----	----	----	----	----	----	----

DESIGNED BY: **Costello**
 ENGINEERING AND SURVEYING
 9900 RICHMOND AVE., SUITE 450 N
 HOUSTON, TEXAS 77042
 (713) 783-7788 (713) 783-3580, FAX
 (713) 783-7788 (713) 783-3580, FAX
 TBPES FIRM REG. NO. 280
 TBPES FIRM REG. NO. 100-686

DESIGNED BY: **Costello**
 ENGINEERING AND SURVEYING
 9900 RICHMOND AVE., SUITE 450 N
 HOUSTON, TEXAS 77042
 (713) 783-7788 (713) 783-3580, FAX
 (713) 783-7788 (713) 783-3580, FAX
 TBPES FIRM REG. NO. 280
 TBPES FIRM REG. NO. 100-686

DESIGNED BY: **Costello**
 ENGINEERING AND SURVEYING
 9900 RICHMOND AVE., SUITE 450 N
 HOUSTON, TEXAS 77042
 (713) 783-7788 (713) 783-3580, FAX
 (713) 783-7788 (713) 783-3580, FAX
 TBPES FIRM REG. NO. 280
 TBPES FIRM REG. NO. 100-686

NO.	REVISION	DATE	BY

DATE: 11/11/11
 BY: JLV

DATE: 11/11/11
 BY: JLV

NEW TERRITORY BLVD.
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
 PLAN AND PROFILE
 CUNNINGHAM CREEK BLVD STA. 44+00.00 TO
 46+00.00, RE-USED WATER LINE "D"
 AND BAYHILL DRIVE

NEW TERRITORY BLVD.
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
 PLAN AND PROFILE
 CUNNINGHAM CREEK BLVD STA. 44+00.00 TO
 46+00.00, RE-USED WATER LINE "D"
 AND BAYHILL DRIVE

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 PLAN AND PROFILE
 CUNNINGHAM CREEK BLVD STA. 44+00.00 TO
 46+00.00, RE-USED WATER LINE "D"
 AND BAYHILL DRIVE

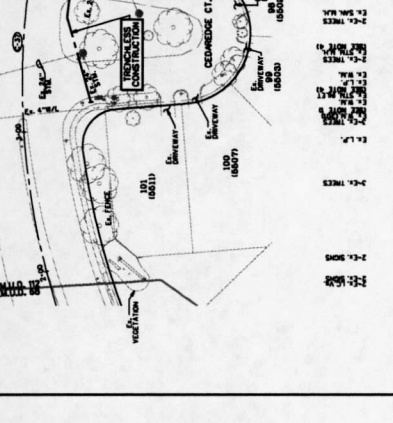
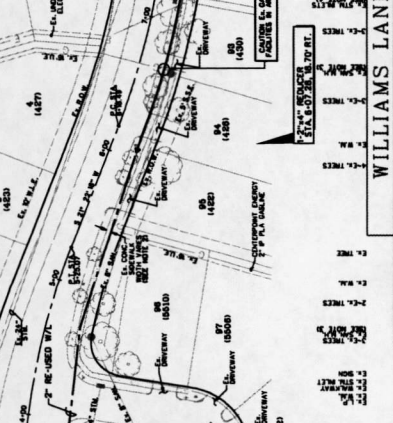
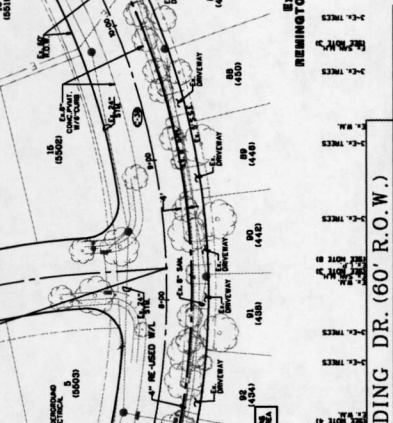
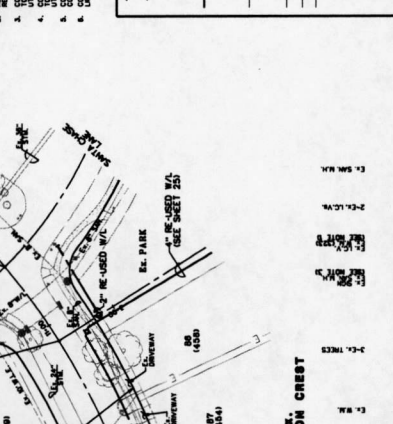
NEW TERRITORY BLVD.
 (RECLAIMED EFFLUENT) RE-USED WATER LINE
 PLAN AND PROFILE
 CUNNINGHAM CREEK BLVD STA. 44+00.00 TO
 46+00.00, RE-USED WATER LINE "D"
 AND BAYHILL DRIVE

NOTES

- CONTRACTOR SHALL VERIFY APPROXIMATE EXISTING WATER MAIN DEPTH AND LOCATION. DETERMINE THE WATER MAIN CONNECTION POINT. RECORD TO COMPLETION OF THE RE-USED WATER LINE.
- CONTRACTOR SHALL VERIFY APPROXIMATE EXISTING WATER MAIN DEPTH AND LOCATION. DETERMINE THE WATER MAIN CONNECTION POINT. RECORD TO COMPLETION OF THE RE-USED WATER LINE.
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LEGEND

- INDICATES 8" VERTICAL CLEARANCE
- INDICATES 16" VERTICAL CLEARANCE
- INDICATES 24" VERTICAL CLEARANCE
- INDICATES RE-USED WATER LINE SIZE AS NOTED
- INDICATES WATER METER
- INDICATES CONDUIT
- INDICATES LOT NUMBER
- INDICATES STREET ADDRESS
- OVERHEAD POWER
- UNDERGROUND ELECTRICAL
- IRREGULAR CONTROL VALVE
- DATE VALVE 3 BOX
- LIGHT POLE
- FLUSH VALVE
- IRREGULAR CONTROL BOX



811
Know what's below.
Call before you dig.

SCALE: 1" = 40' HORIZONTAL
1" = 4' VERTICAL

CL CURVE DATA

84	80	76	72	68	64	60	56	52	48
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CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION

WILLIAMS LANDING DR. (60' R.O.W.)

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

REVISIONS:

NO.	DATE	BY	REVISION
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NEW TERRITORY BLVD. (RECLAIMED EFFLUENT) RE-USED WATER LINE

PLAN AND PROFILE

WILLIAMS LANDING DR. STA. 2+00.00 TO 12-00.00

Engineering and Surveying
9860 Riverchase Blvd., Suite 400 N
Houston, Texas 77042
(713) 783-7888 (713) 783-3580, Fax
TBE FIRM REG. NO. 280
TBE FIRM REG. NO. 100486

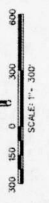
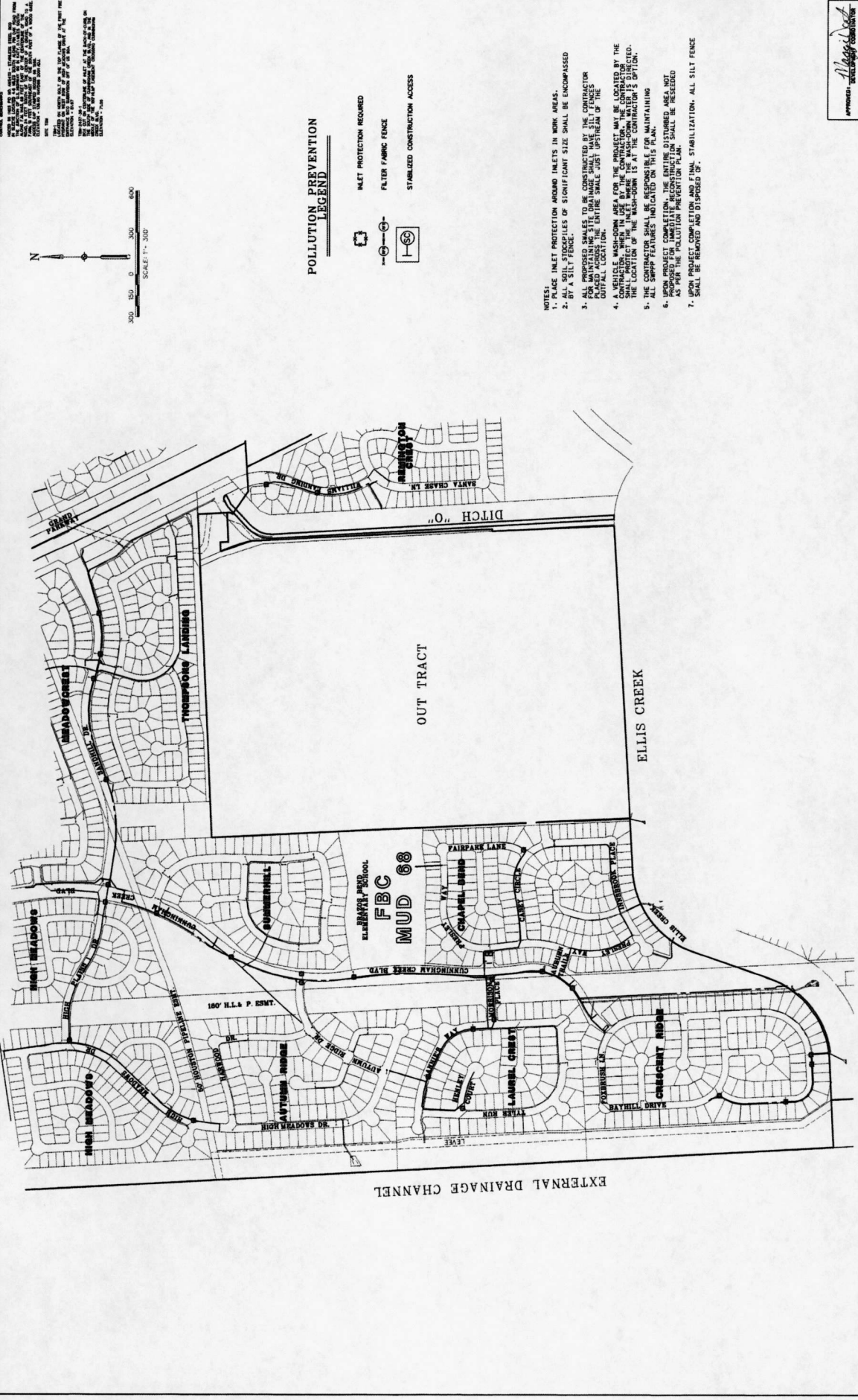
Costello

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
DATE: _____

APPROVED: _____
DATE: _____

7/28/2018


SHEET 26 OF 42 SHEETS
JOB NO. 100000-14E



POLLUTION PREVENTION LEGEND

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

- NOTES:**
1. INLET PROTECTION AROUND INLETS IN WORK AREAS.
 2. ALL SOIL STOCKPILES OF SIGNIFICANT SIZE SHALL BE ENCLOSURED BY A SILT FENCE.
 3. ALL PROPOSED SHALES TO BE CONSTRUCTED BY THE CONTRACTOR SHALL BE PLACED AT THE ENTIRE SHALE JUST UPSTREAM OF THE OUTFALL LOCATION.
 4. CONTRACTOR SHALL MAINTAIN A BUFFER AREA FOR THE PROJECT. THE BUFFER AREA SHALL BE MAINTAINED BY THE CONTRACTOR. THE LOCATION OF THE BUFFER AREA IS AT THE CONTRACTOR'S OPTION. ALL SWPP FEATURES INDICATED ON THIS PLAN.
 5. UPON PROJECT COMPLETION, THE ENTIRE DISTURBED AREA, NOT INCLUDING THE BUFFER AREA, SHALL BE REVEGETATED AS PER THE POLLUTION PREVENTION PLAN.
 6. UPON PROJECT COMPLETION AND FINAL STABILIZATION, ALL SILT FENCE SHALL BE REMOVED AND DISPOSED OF.

APPROVED: 
 DATE: 5/17/2018
 SHEET 28
 OF 42
 JOB NO. 1998000-148

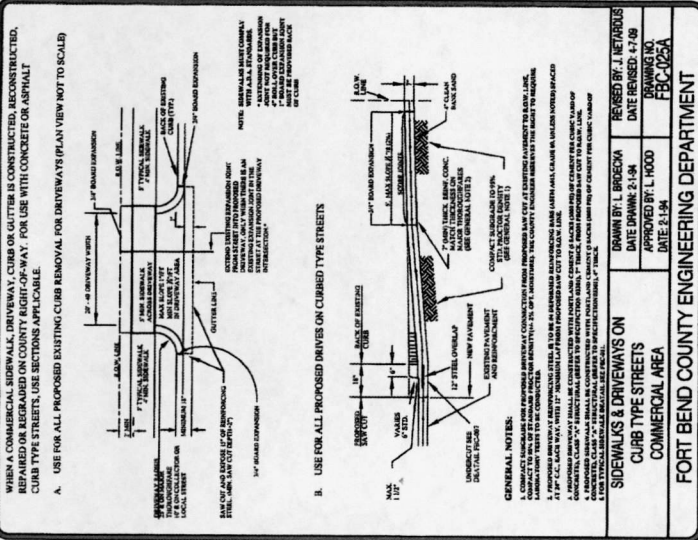
NEW TERRITORY
 CUNNINGHAM CREEK BLVD
 (RECLAIMED EFFLUENT RE-USED WATER LINE)
POLLUTION PREVENTION PLAN

Engineering and Surveying
 9900 Rice Blvd., Suite 400 N
 Houston, Texas 77042
 (713) 783-7788 (713) 783-5580, Fax
 TBPE FIRM REG. No. 280
 TBPLS FIRM REG. No. 100486



NO.	REVISION	DATE	BY

DESIGNED BY: S.L.L.
 DESIGN CHECKED BY: J.T.V.
 DRAWN BY: S.L.L.
 CADD CHECKED BY: S.L.L.
 CHECKED BY: S.L.L.
 DATE: 5-17-18
 04/05 REVISIONS BY: S.L.L.



- 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" AWAY FROM BACK OF CURB (GUTTER LINE) AND BREAK OUT TO EXPOSE EXISTING REINFORCING STEEL.
 3. COMPACT SUBGRADE FOR PROPOSED DRIVEWAY CONNECTION FROM EXISTING PAVEMENT TO RIGHT-OF-WAY LINE. (SEE SECTION C-10.01 FOR DETAILS OF DRIVEWAY CONNECTION TO EXISTING PAVEMENT). 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 STEEL (UNLESS NOTED OTHERWISE). UNLESS NOTED OTHERWISE, ALL REINFORCING STEEL SHALL BE SPACED AT 24 INCHES C-C. EACH WAY WITH 18" MINIMUM LAP. (SEE SECTION C-10.01 FOR DETAILS OF DRIVEWAY CONNECTION TO EXISTING PAVEMENT). (PROPERTY 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) OR PORTLAND CEMENT CONCRETE (CLASS "B" STRUCTURAL) WITH A MINIMUM FINISH SPECIFICATION (C301), 7 INCHES THICK, FROM PROPOSED SAW CUT TO RIGHT-OF-WAY LINE.
 10. PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITH PORTLAND CEMENT CONCRETE (CLASS "A" STRUCTURAL) OR PORTLAND CEMENT CONCRETE (CLASS "B" STRUCTURAL) WITH A MINIMUM FINISH SPECIFICATION (C301), 4 INCHES THICK AND 3 FEET MINIMUM WIDE. (SEE SECTION C-10.01 FOR DETAILS OF DRIVEWAY CONNECTION TO EXISTING PAVEMENT). (PROPERTY LINE).

CONSTRUCTION NOTES FOR SIDEWALKS & DRIVEWAYS WITH CURB TYPE STREETS COMMERCIAL AREA	DRAWN BY: L. BROECKA DATE DRAWN: 2-1-94	REVISED BY: L. BROECKA DATE REVISED: 3-10-05
	APPROVED BY: L. HOOD DATE: 2-1-94	DRAWING NO. FBC-025B

DESIGNED BY: S.A.S.	DATE: 2-1-94
DRAWN BY: S.A.S.	DATE: 2-1-94
CHECKED BY: S.A.S.	DATE: 2-1-94
SHIRVEY CHECKED BY: S.A.S.	DATE: 5-2-11
QA/QC BY: S.A.S.	DATE: 5-2-11
QA/QC REVISIONS BY: S.A.S.	DATE: 5-2-11



Engineering and Surveying
9990 Richmond Avenue, Suite 450 N
Houston, Texas 77042
(713) 783-7788 (713) 783-3568 Fax
TBS FIRM REG. No. 200
TBS FIRM REG. No. 10098

MISCELLANEOUS DETAILS

NEW TERRITORY
CUNNINGHAM CREEK BLVD.
(RECLAIMED EFFLUENT RE-USED WATER LINE)

30
SHEET
42
OF
SHEETS
JOB NO. 1009000-148
DATE: 5/15/11
Massi-Dest
APPROVED: *W. L. HOOD*
DATE: 5/15/11

SUMMARY OF LARGE SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN	SIGN DIMENSIONS	REFLECTIVE SHEETING	SQ FT	GALVANIZED STRUCTURAL STEEL (L.F.)		DRILLED SHIRT 24" DIA. (L.F.)
						Size	②	
Orange	G20-71		96" x 48"	Type B ₁ or C ₁	32	▲	▲	▲
Orange	G20-71		192" x 96"	Type B ₁ or C ₁	128	WBX18	16	12

▲ See Note 6 Below

LEGEND

	Sign
	Large Sign
	Traffic Flow

DEPARTMENTAL MATERIAL SPECIFICATIONS

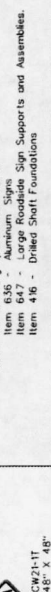
PLYWOOD SIGN BLANKS	DMS-7100
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-6100

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B ₁ OR TYPE C ₁
BLACK	LEGEND & BORDERS	NON-REFLECTIVE ACRYLIC FILM

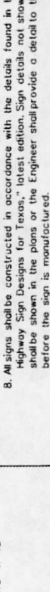
GENERAL NOTES

1. See BC and SMD sheets for additional sign support details.
2. Sign locations shall be approved by the Engineer.
3. 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 (CW21-11) may be used for this purpose.
4. Work zone speed limits are sometimes used in conjunction with GIVE US A BRAKE signing. See BC(13) for location and spacing of construction speed zone signing when required.
5. Give Us A Brake (CW21-11) signs and supports shall be considered subsidiary to Item 502, "Traffic Signs and Traffic Lighting."
6. The 96" x 48" Working For You Give Us A BRAKE (G20-71) may use a 1/2" or 5/8" plywood substrate or 0.25" aluminum sheeting substrate and may be supported by two 1/2" diameter steel rods for temporary use per BC(13) and wall be subsidiary to Item 502.
7. The Working For You Give Us A BRAKE (G20-71) 192" x 96" sign shall be paid for under the following specifications: Item 636 - Large Roadside Sign Supports and Assemblies. Item 647 - Large Roadside Sign Supports and Assemblies. Item 416 - Drilled Shaft Foundations
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Details 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.

UNDIVIDED HIGHWAY



DIVIDED HIGHWAY



SIGNS ARE SHOWN FOR ONE DIRECTION OF TRAVEL

When the optional larger WORKING FOR YOU GIVE US A BRAKE (G20-71) 192" x 96" sign is used, the locations shall be noted elsewhere in the plans.



WORK ZONE
"GIVE US A BRAKE"
SIGNS
WZ(BRK)-13

DATE: 5/15/08	BY: [Signature]
DATE: 5/15/08	BY: [Signature]
DATE: 5/15/08	BY: [Signature]
DATE: 5/15/08	BY: [Signature]

REVISION

NO.	REVISION	DATE	BY

DESIGN CHECKED BY: [Signature]

DATE: 5/15/08

DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 5/15/08

Costello

Engineering and Surveying
 9960 Richmond Avenue, Suite 450 N
 Houston, Texas 77042
 (713) 783-7788 (713) 783-3890, Fax
 (713) 783-7788 (713) 783-3890, Fax
 TDP'S FIRM REG. NO. 280
 TDP'S FIRM REG. NO. 100406

CUNNINGHAM CREEK BLVD.

(RECLAIMED EFFLUENT) RE-USED WATER LINE
 "GIVE US A BRAKE"
 SIGNS

31

OF 42 SHEETS

JOB NO. 189000-145

5/27/2008

DISCLAIMER:

The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TDP for any damages or liabilities, TDP assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

APPENDIX

APPENDIX A: [Signature]

GENERAL NOTES:

- 1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND AUTHORIZATION REQUIRED BY CITY OF SUGAR LAND... 2. CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO CONSTRUCTION... 3. CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE ORDINANCES AND ALL APPROVED COPIES OF THE PLANS AND SPECIFICATIONS...

CONCRETE/PAVING NOTES:

- 1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND AUTHORIZATION REQUIRED BY CITY OF SUGAR LAND... 2. CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO CONSTRUCTION... 3. CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE ORDINANCES AND ALL APPROVED COPIES OF THE PLANS AND SPECIFICATIONS...

CEMENT STABILIZED SAND:

- 1. ALL STABILIZED SAND SHALL BE A MINIMUM OF 1.5 PER CENT CURC VWD... 2. CURC STABILIZED SAND (C.S.S.) SHALL ACHIEVE A MINIMUM OF 100 PSI WITHIN 48 HOURS... 3. A MINIMUM OF 3 RANDOM SAMPLES SHALL BE TAKEN EACH WEEK...

HOT MIX ASPHALTIC BASE COURSE:

- 1. NO HOT MIX ASPHALTIC BASE MAY BE INSTALLED UNTIL THE SUBGRADE HAS BEEN STABILIZED... 2. ALL ASPHALTIC MATERIALS SHALL BE APPROVED BY THE CITY OF SUGAR LAND... 3. WITH TOOTH STANDARDS FOR CONSTRUCTION OF HOVRWATS, STREETS, AND BROOCS... 4. HOT MIX ASPHALTIC MATERIALS SHALL BE AT TEMPERATURES BETWEEN 200F AND 220F...

BANK SAND:

- 1. BANK SAND IS DEFINED AS A WELL-GRADED SAND, FREE OF SILT, CLAY, FRAGILE OR SOLUBLE MATERIALS AND ORGANIC MATTER... 2. BANK SAND SHALL BE OBTAINED FROM A SOURCE THAT IS NOT LESS THAN 100 YARDS FROM ANY BODY OF WATER...

ASPHALT - OILS AND EMULSIONS:

- 1. CONTRACTOR SHALL VERIFY LAYS AND GRADES AND THAT CONTACTED BASE IS READY TO SUPPORT LAYS... 2. ASPHALT SHALL BE OBTAINED FROM A SOURCE THAT IS NOT LESS THAN 100 YARDS FROM ANY BODY OF WATER... 3. ASPHALT SHALL BE STORED IN A DRY AND THOROUGHLY CLEAN OF LOOSE MATERIAL, PUDRA TO PROPER DISTRIBUTION...

LIMING SUBGRADE:

- 1. LIME SHALL BE A "SUNDRY" AS PER TOOTH AND UNLESS SPECIFICALLY RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY ENGINEER... 2. UNLESS OTHERWISE SPECIFIED, THE LIME SHALL BE A TYPE S, 100 PERCENT HYDRATED LIME...

SL-01
Sheet 33 of 42



CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT
CONSTRUCTION PLANS FOR:
CUNNINGHAM CREEK (RD)
(BEHIND WATER LINE)

GENERAL CONSTRUCTION NOTES 1
DATE: 5-2-2016
DESIGNER: [Signature]

THREE HIGHWAY NO. 200
THIRTY-FIVE HIGHWAY NO. 100406

Costello

Maggie Reed 6/15/16

ASPHALTIC CONCRETE PAVEMENT:

- 1. ASPHALTIC CONCRETE AND SUBGRADE SHALL CONFORM WITH ASTM C 136, WITH C 154, AND THAT...
2. ASPHALT SHALL BE TYPE D-10 UNLESS SPECIFICALLY NOTED AND APPROVED BY THE CITY OF SUGAR LAND ENGINEERS...
3. APPLY A PRIME COAT OF ASPHALT EMULSION TO THE SUBGRADE AND THAT THE COURSE IS READY TO SUPPORT UNPAVED LANE...
4. BASE COURSE AND CURB AND IS APPROVED BY THE CONSTRUCTION INSPECTOR...
5. DO NOT PLACE ASPHALT WHEN AMBIENT TEMPERATURE IS BELOW 50° AND FALLING...
6. ON PUBLIC ROADS, STREETS, AND DRIVEWAYS, ASPHALT SHALL BE PLACED IN MINIMUM 6-INCH LIFTS...
7. CURB MORE THAN ONE LIFT IS REQUIRED...
8. A CEMENTED LIFT SHALL BE ON SITE AT ALL TIMES...
9. MAINTAIN PATTERNS SHALL BE ESTABLISHED BY THE CONTRACTOR...
10. MAINTAIN COMPACTED, THE SELECTED FILL PATTERN SHALL BE MAINTAINED...
11. ASPHALT SHALL NOT BE PLACED ON WET BARS...
12. NO 'WINDROWS' ARE ALLOWED...
13. THE CONTRACTOR SHALL CORRECT THE CONDITION AT HIS EXPENSE...
14. SPEC. QUALITY SHALL PROTECT THE PAVEMENT UNTIL DIRECTED BY THE CITY ENGINEER...
15. IDEAL QUOTE SHALL COMPLY WITH TROTT BOND, THIS QUALITY FOR PAVEMENT SURFACES...
16. CORE SAMPLES SHALL BE TAKEN RANDOMLY...
17. ASPHALTIC CONCRETE PAVEMENT REPAIRS SHALL BE SAW CUT TO FULL ASPHALT DEPTH...
18. STABILIZED BASE, FLEXIBLE BASE, ASPHALT BASE, AND OIL AND DALLION NOTES...
19. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AREA DAMAGED DURING CONSTRUCTION...

STABILIZED CRUSHED CONCRETE:

- 1. TEST AND ANALYSE OF AGGREGATE AND BINDER MATERIALS WILL BE PERFORMED IN ACCORDANCE WITH ASTM 1507 AND...
2. ALL MATERIALS AND SUBGRADE SHALL COMPLY WITH TEST STANDARD SPECIFICATIONS FOR CONSTRUCTION OF...
3. ASPHALT SHALL BE TYPE D-10 UNLESS SPECIFICALLY NOTED AND APPROVED BY THE CITY OF SUGAR LAND ENGINEERS...
4. APPLY A PRIME COAT OF ASPHALT EMULSION TO THE SUBGRADE...
5. THE AVERAGE OF THREE TESTS FOR EACH PRODUCTION LOT...
6. PLACEMENT...
7. CEMENT STABILIZED BASE MAY NOT BE PLACED IF AMBIENT TEMPERATURE IS 40° AND FALLING...
8. MATERIAL MAY NOT BE PLACED IN LIFTS EXCEEDING 6 INCHES IN DEPTH...
9. CEMENT STABILIZED BASE SHALL NOT BE STORED FOR LONG PERIODS...
10. COMPACT TO UNIFORM DENSITY OF 98% UNLESS OTHERWISE INDICATED ON DRAWINGS...
11. AFTER COMPACTING FINAL COURSE, BLACK SURFACE TO FINAL GRADE...
12. EXCESSIVE WEATHER, OR SURFACE HAIR LINE CRACKING SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S...
13. CEMENTED LIFT SHALL BE ON SITE AT ALL TIMES TO TEST AND PROPERLY DOCUMENT THE CONSTRUCTION METHODS AND...
14. QUALITY OF MATERIALS...
15. MANUALLY SELECTED LOCATIONS AS INDICATED ON DRAWINGS...
16. A MINIMUM OF ONE CORE SHALL BE TAKEN AT RANDOM LOCATIONS PER 300 LF PER LANE OF ROADWAY OR ONE PER...
17. COVER SURFACE WITH CURB MEMBRANE AT THE FOLLOWING RATES: AC-30(1) 0.4 PER SQ. YD., OR EPR-1...
18. ALLOWING ADEQUATE TIME FOR CURE OF CURB MEMBRANE...
19. UNSTABILIZED CRUSHED CONCRETE MAY NOT BE USED ON PUBLIC STREETS, ROADS, OR RIGHTS-OF-WAY...
20. THE CITY ENGINEER.

STORM SEWER NOTES:

- 1. STORM SEWERS SHALL BE DESIGNED AND CONSTRUCTED WITH CITY OF SUGAR LAND STANDARD CONSTRUCTION...
2. ALL CITY STANDARD SEWERS SHALL BE INSTALLED, BEDDED, AND BACKFILLED IN ACCORDANCE WITH CITY OF...
3. ALL CITY STANDARD SEWERS (C.S.S.) SHALL BE 1-1/2 IN PER CIRC. TO AND MEET MINIMUM C.S.S. OF...
4. ALL STORM SEWERS UNDER AND WITHIN TWO (2) FEET OF SURFACE OR FUTURE PARADEWAYS SHALL BE...
5. BACKFILLED AND COMPACTED WITH 1-1/2 IN C.S.S. TO BOTTOM OF SURFACE...
6. WITH FULL MOISTURE AND BED JOINTS AND BEDDED WITH A MINIMUM OF 1/2-INCH NON-SHRINK GROUT...
7. TO AVOID WORKMAN INJURY, MANHOLES IN MANHOLE PANS...
8. ALL STORM SEWER MANHOLES SHALL BE OF SUGAR LAND TYPE 'C' UNLESS OTHERWISE NOTED AND SHALL BE...
9. PROVIDED WITH 18" DIA. TOP COVERS AND 18" DIA. SIDE COVERS...
10. ELEVATIONS TO 0.4 FEET ABOVE THE FINISH GRADE AT EACH LOCATION...
11. BACKFILL SHALL BE COMPACTED TO 95% RELATIVE HUMIDITY...
12. ALL STORM SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
13. ALL STORM SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
14. ALL STORM SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
15. ALL STORM SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
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19. ALL STORM SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
20. ALL STORM SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...

SANITARY SEWER NOTES:

- 1. SANITARY SEWERS, FORCE MAINS, MANHOLES, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS SHALL BE...
2. DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SUGAR LAND STANDARD CONSTRUCTION...
3. ALL MATERIALS AND SUBGRADE SHALL COMPLY WITH TEST STANDARD SPECIFICATIONS FOR CONSTRUCTION OF...
4. ALL SANITARY SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
5. ALL SANITARY SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
6. ALL SANITARY SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
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19. ALL SANITARY SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
20. ALL SANITARY SEWERS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...

WATER DISTRIBUTION NOTES:

- 1. WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE DESIGNED AND...
2. DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SUGAR LAND STANDARD CONSTRUCTION...
3. ALL MATERIALS AND SUBGRADE SHALL COMPLY WITH TEST STANDARD SPECIFICATIONS FOR CONSTRUCTION OF...
4. ALL WATER MAINS SHALL BE 12" DIA. UNLESS OTHERWISE NOTED...
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Table with 3 columns: NO., DATE, and NAME. Contains a signature and date.

CITY OF SUGAR LAND, TEXAS ENGINEERING DEPARTMENT. Includes logo and project information.

Costello logo and contact information: THEPEFORM REG. NO. 289, TPLS FROM REG. NO. 10086.

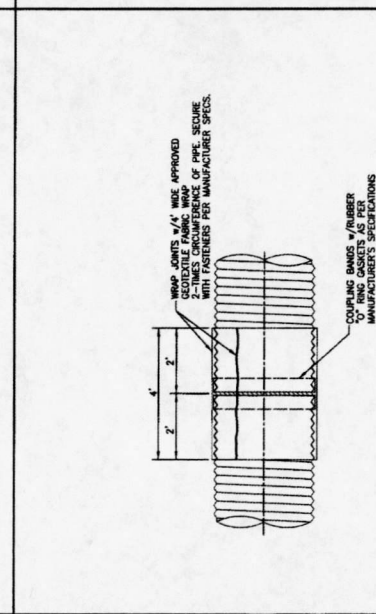
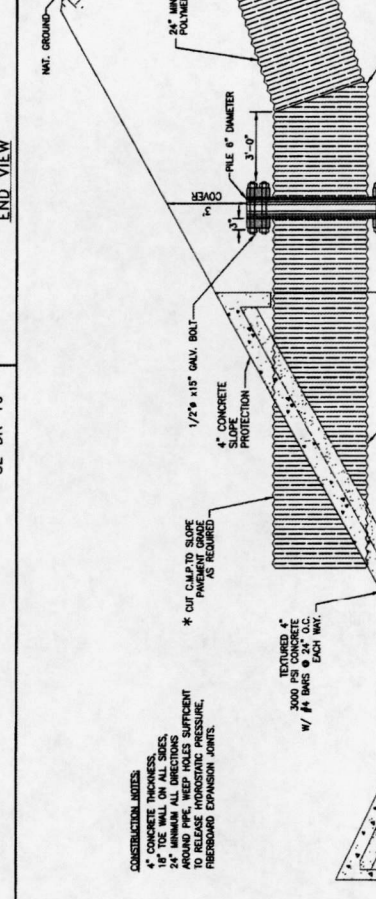
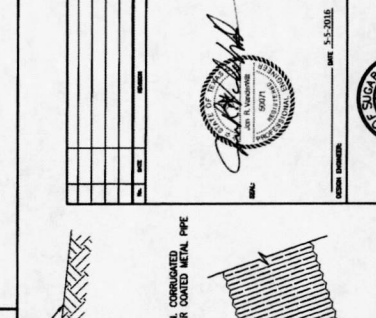
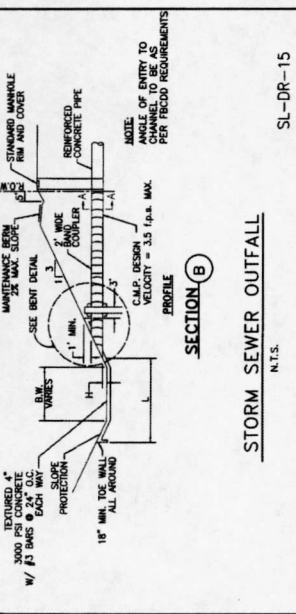
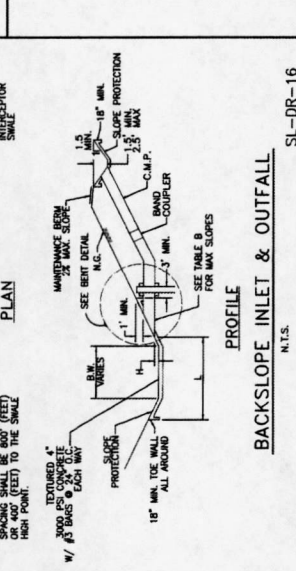
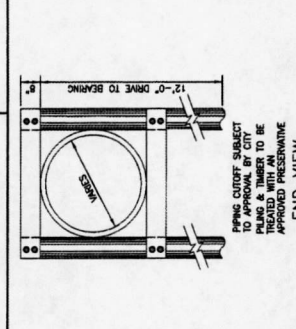
SL-02 4/15/16

TABLE A

PIPE SIZE	PIPE GAUGE	PIPE CORRUGATION	PIPE GAUGE	PIPE CORRUGATION	BAND GAUGE	BAND CORRUGATION
24"	12	16	12	16	18	18
30"	12	16	12	16	18	18
36"	12	16	12	16	18	18
42"	12	16	12	16	18	18
48"	12	16	12	16	18	18
54"	12	16	12	16	18	18
60"	12	16	12	16	18	18
66"	12	16	12	16	18	18
72"	12	16	12	16	18	18
78"	12	16	12	16	18	18
84"	12	16	12	16	18	18

TABLE B

PIPE DIA.	SLOPE	VELOCITY
24"	0.06	3.20 f.p.s.
30"	0.06	3.00 f.p.s.
36"	0.06	2.80 f.p.s.
42"	0.06	2.75 f.p.s.
48"	0.06	2.70 f.p.s.
54"	0.06	2.65 f.p.s.
60"	0.06	2.60 f.p.s.
66"	0.06	2.55 f.p.s.
72"	0.06	2.50 f.p.s.
78"	0.06	2.45 f.p.s.
84"	0.06	2.40 f.p.s.



CONSTRUCTION NOTES

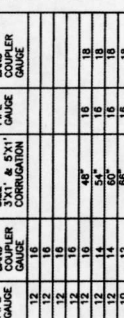
1. ANY PIPE DEFLECTED MORE THAN 2% SHALL BE REJECTED AND REMOVED AT CONTRACTOR'S EXPENSE.
2. INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS INCLUDING ITEMS AS DETAILED IN INSTALLATION MANUAL FOR CORRUGATED STEEL DRAINAGE STRUCTURES.

CONSTRUCTION NOTES

1. CONCRETE THICKNESS: 4" MINIMUM ALL DIRECTIONS
2. 24" MINIMUM POLYMER COATED METAL PIPE
3. 24" MINIMUM POLYMER COATED METAL PIPE
4. MINIMUM ALL DIRECTIONS
5. AROUND PIPE, WEEP HOLES SUFFICIENT TO RELIEVE HYDROSTATIC PRESSURE, FORWARD DOWNSTREAM JOINTS.

CONSTRUCTION NOTES

1. METAL PIPE SHALL BE POLYMER COATED, CORRUGATED.
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.



CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS DATE: (RECALCULATED BY DATE)
DESIGNED WATERLINE

STORM SEWER OUTFALL CONSTRUCTION DETAILS

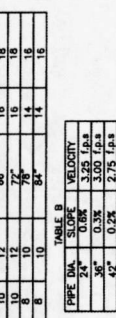
Scale: 3/8" = 1'-0"

SL-DR-19

STORM SEWER OUTFALL METAL PIPE OUTFALL

N.T.S.

SL-DR-18



Costello

ENGINEERING

11500 FARM ROAD, SUITE 200
HOUSTON, TEXAS 77036

STORM SEWER OUTFALL METAL PIPE OUTFALL

N.T.S.

SL-DR-17

CONSTRUCTION PLANS DATE: 5-12-2010

DESIGNED WATERLINE

STORM SEWER OUTFALL CONSTRUCTION DETAILS

Scale: 3/8" = 1'-0"

SL-06

CONSTRUCTION PLANS DATE: 5-12-2010

DESIGNED WATERLINE

STORM SEWER OUTFALL CONSTRUCTION DETAILS

Scale: 3/8" = 1'-0"

SL-06

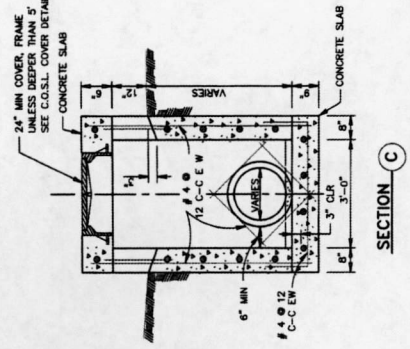
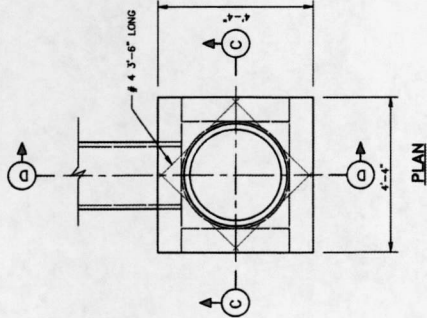
CONSTRUCTION PLANS DATE: 5-12-2010

DESIGNED WATERLINE

STORM SEWER OUTFALL CONSTRUCTION DETAILS

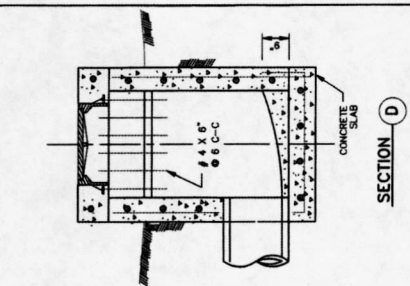
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SL-06



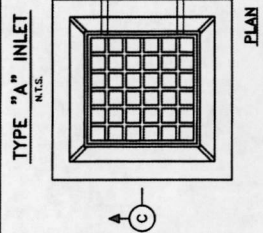
SECTION C

TYPE "E" INLET
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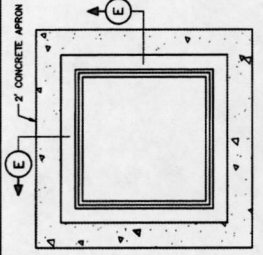


SECTION D

SL-DR-22

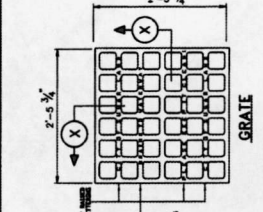


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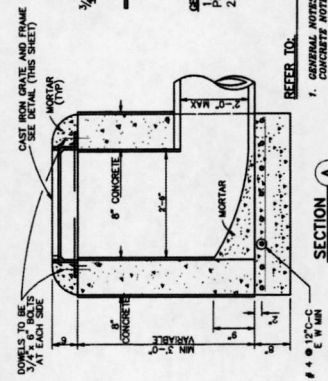


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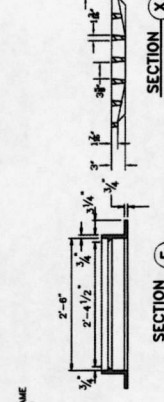
TYPE "E" INLET
N.T.S.



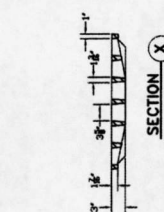
SECTION X



SECTION A



SECTION E



SECTION X

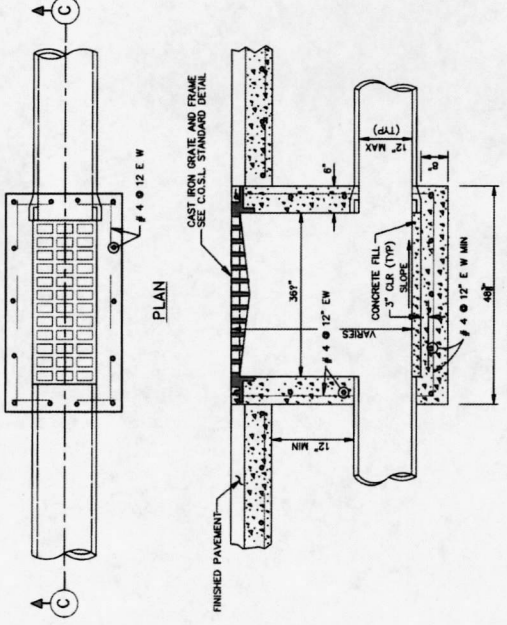
GENERAL CONSTRUCTION NOTES:
1. CONCRETE CAST WALLS SHALL HAVE #4 REBAR PLACED @ 12" C-C EW.
2. GRATE LID IS EAST JORDAN IRON WORKS OR APPROVED EQUAL.



SL-DR-23

TYPE FIRM REG. NO. 290
TOPICS FIRM REG. NO. 10066

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



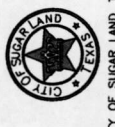
SECTION C

TYPE "D" INLET

SL-DR-24



DATE PREPARED: _____ DATE: 5.2.2010



CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
RECLAIMED EFFLUENT
RE-USED WATER LINES

STORM SEWER INLET
CONSTRUCTION DETAILS I

SL-07
SHEET 36 OF 42

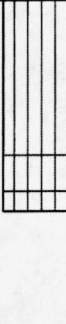
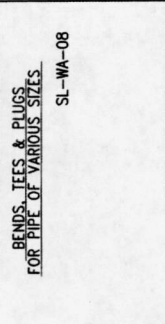
Maggie

NOTES:
POLYETHYLENE WRAP FOR IRON PIPE

- NOTE:**
- POLYETHYLENE FILM SHALL BE USED AS A MEANS TO PROTECT CAST IRON AND OTHER METALS IN A CORROSION SOIL ENVIRONMENT.
 - AND APPROPRIATELY (ELECTRICALLY) ISOLATED FROM ALL METAL PIPE.
 - POLYETHYLENE FILM SHALL BE FURNISHED AND INSTALLED UNDER THE SUPERVISION OF THE ENGINEER.
 - CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PROTECTIVE WRAP AND SHALL BE PROTECTED AGAINST DAMAGE FROM THE ELEMENTS OF NATURE.
 - CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PROTECTIVE WRAP AND SHALL BE PROTECTED AGAINST DAMAGE FROM THE ELEMENTS OF NATURE.
 - ALL FITTINGS AND PIPE JOINTS WITHIN 10' OF A FITTING SHALL HAVE RESTRAINT JOINTS.

SIZE OF BEND (1/2" DIA)	YES	NO	YES	NO
1/2"				
3/4"				
1"				
1 1/4"				
1 1/2"				
1 3/4"				
2"				
2 1/4"				
2 1/2"				
2 3/4"				
3"				
3 1/4"				
3 1/2"				
3 3/4"				
4"				
4 1/4"				
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4 3/4"				
5"				
5 1/4"				
5 1/2"				
5 3/4"				
6"				
6 1/4"				
6 1/2"				
6 3/4"				
7"				
7 1/4"				
7 1/2"				
7 3/4"				
8"				
8 1/4"				
8 1/2"				
8 3/4"				
9"				
9 1/4"				
9 1/2"				
9 3/4"				
10"				

BENDS, TEES & PLUGS FOR PIPE OF VARIOUS SIZES
SL-WA-08



CONSTRUCTIONAL NOTES:

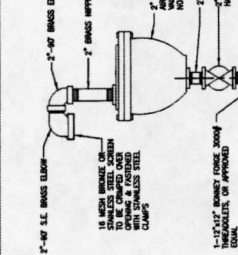
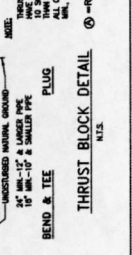
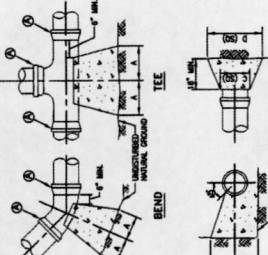
- WATER MAINS 12" (N.A.) AND LARGER SHALL BE APPROX. 4" DIA. WITH A MINIMUM OF 12" (N.A.) IN A SHALL BE APPROX. 4" DIA. OR 10"
- ALL FITTINGS AND GATE VALVES TO BE APPROX. 4" DIA. (N.A.)
- ALL EXPOSED IRON PIPE SHALL BE CLASS 50 AUSTENITIC. NO A.C. PIPE WILL BE ALLOWED AND ALL EXPOSED IRON FITTINGS SHALL BE ANGLE LINED POSITION OR BENCH MARK JOINTS.
- CONCRETE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- MINIMUM SPACING BETWEEN TAPS SHALL BE 7' AT ALTERNATING TOP AND BOTTOM.

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
CITY WATER MAINS
(REPLACEMENT PROJECT)

WATER LINE
CONSTRUCTION DETAILS

SL-15
REVISED 7/10/16

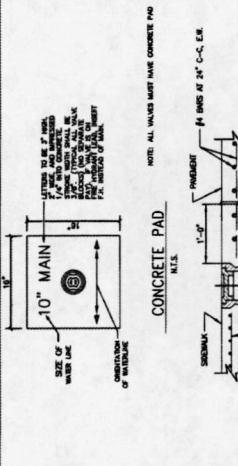
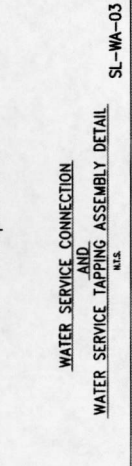
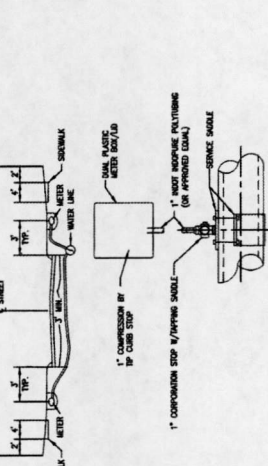


CONSTRUCTIONAL NOTES:

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- MINIMUM SPACING BETWEEN TAPS SHALL BE 7' AT ALTERNATING TOP AND BOTTOM.

Costello

TEXAS INSTRUMENTS, INC.



CONSTRUCTIONAL NOTES:

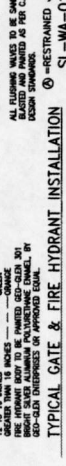
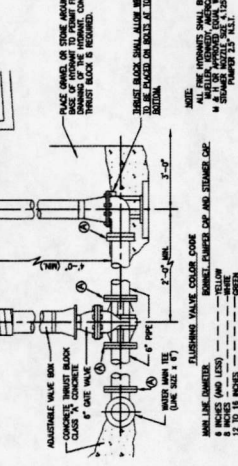
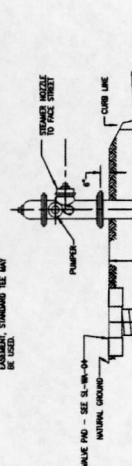
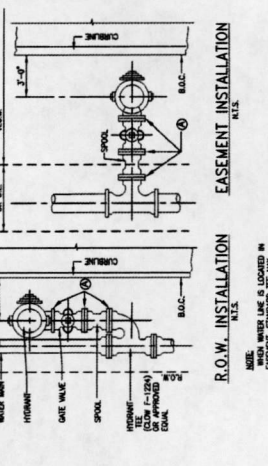
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CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
CITY WATER MAINS
(REPLACEMENT PROJECT)

WATER LINE
CONSTRUCTION DETAILS

SL-15
REVISED 7/10/16



CONSTRUCTIONAL NOTES:

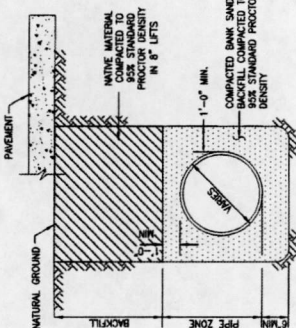
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CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
CITY WATER MAINS
(REPLACEMENT PROJECT)

WATER LINE
CONSTRUCTION DETAILS

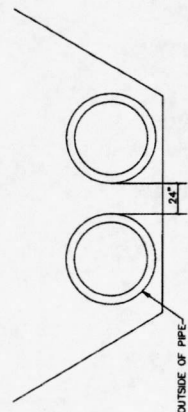
SL-15
REVISED 7/10/16



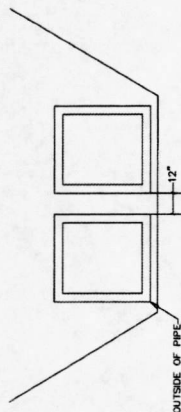
P.V.C. PIPE BEDDING & BACKFILL
N.T.S.
*SEE CONSTRUCTION NOTES

**SANITARY FORCE MAIN & WATER LINE
BEDDING AND BACKFILL**

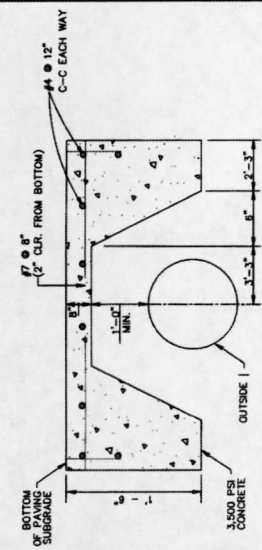
SL-BB-01



PIPE SEPARATION

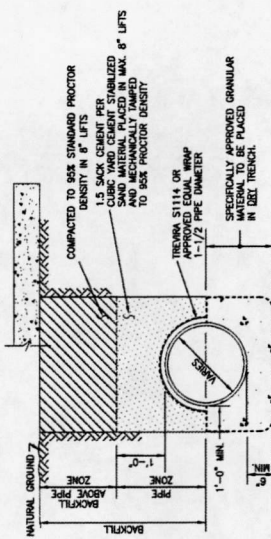


RCB SEPARATION



**PROTECTIVE SLAB DETAIL
ZERO LOAD TRANSFER CONCRETE SLAB**

SL-BB-04



MODIFIED "A"
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

- CONSTRUCTION NOTES**
- CONTRACTOR SHALL CONTACT SUGAR LAND ENGINEERING DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
 - LIMESTONE AND RECYCLED CONCRETE DIMENSIONS SHOWN ARE TYPICAL, BUT MAY BE VARIED BY ORDER OF CITY ENGINEER.
 - LIMESTONE OR RECYCLED CONCRETE SHALL BE IN ACCORDANCE WITH TYPICAL SPECIFICATION NO. 248 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
 - NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS, WHEN WELL, WET SAND, OR OTHER UNDESIRABLE CONDITIONS ARE PRESENT BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24-HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
 - ALL MATERIALS SHALL BE FROM THE APPROVED PRODUCTS LIST UNLESS SPECIFICALLY APPROVED BY THE CITY ENGINEER.
 - SANITARY SEWER BEDDING FOR WET SAND CONDITIONS SHALL BE AS PER MODIFIED "A".
 - ALL SAND BEDDING FOR WATER LINES SHALL BE CLEAN, MECHANICALLY COMPACTED BANK SAND.
 - REFER TO: MANHOLE DETAILS, SANITARY, C.S.S., GENERAL, WATER CROSSING, WATER DISTRIBUTION DETAILS AND NOTES.
 - ALL BEDDING WILL BE COMPACTED TO 85% STANDARD PROCTOR DENSITY.
 - 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



THIS DRAWING REG. NO. 290
TRUSTED PROFESSIONAL ENGINEER
NO. 05898

NO.	DATE	REVISION



PROJECT NUMBER: **HW-25301L**



CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
CAMPBELL CREEK RETO-
FITMENT (SAND FILTER)
BEHIND WATER LINE

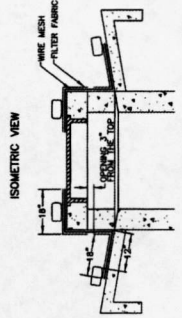
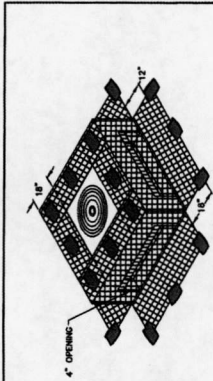
**WATER LINE, SANITARY SEWER
FORCE MAIN BEDDING DETAILS**

JOB NO.:
DATE: 01/11/11
DRAWN BY:
CHECKED BY:
SCALE: 3/8" = 1'-0"

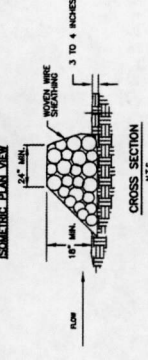
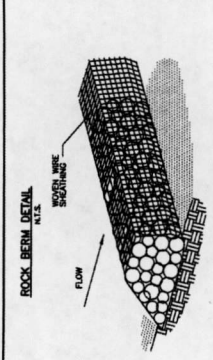
SL-19
PAGE 30 OF 42

Maggie D. Ustillo

REFER TO:
1. GENERAL NOTES
2. C.S.S. NOTES

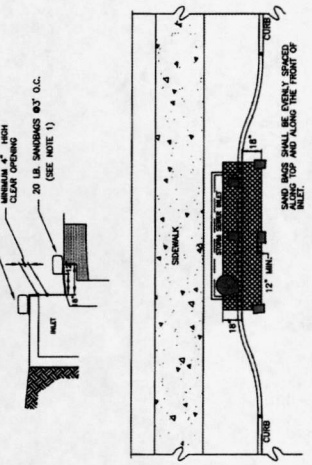
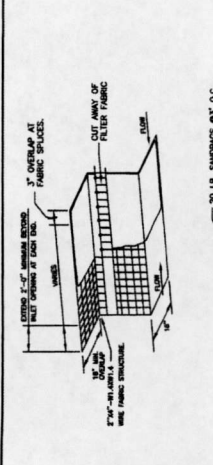


SECTION
FILTER FABRIC WYE INLET PROTECTION
N.T.S.



ROCK BERM GENERAL NOTES

- USE ONLY OPEN GRADED ROCK 4-8 INCHES IN DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK 3-5 INCHES IN DIAMETER FOR OTHER CONDITIONS.
- THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE MESH 1/2" X 1/2" TO 1/4" X 1/4" WITH A MINIMUM WIRE SIZE OF 30 GAUGE AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
- THE ROCK BERM SHALL BE INSPECTED EVERY TWO WEEKS OR AFTER EACH 1/2" RAIN EVENT AND SHALL BE REPAIRED IMMEDIATELY. INSPECTION SHALL BE CONDUCTED AS SOON AS PRACTICABLE AFTER EACH WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
- WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS GREATER, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.
- WHEN THE BERM IS COMPLETELY STABILIZED, THE BERM AND MESH SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.
- ROCK BERM SHOULD BE USED AS CHECK DAMS FOR CONCENTRATED FLOW AND ARE NOT INTENDED FOR USE IN PERIMETER PROTECTION.

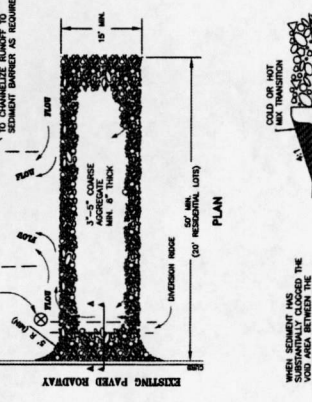
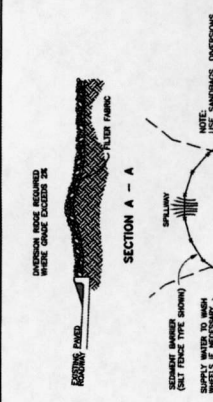


CURB INLET PROTECTION DETAIL

SECTION OF FILTER FABRIC SHALL BE SHOWN ON THE DETAIL TO BE SECURED TO CURB WITH CLIPS OR 1000 WIRDS AT THE LOCATION. THE FABRIC SHALL BE REMOVED WHEN DEPTH REACHES 2".

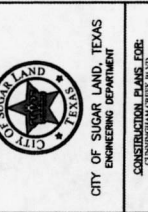
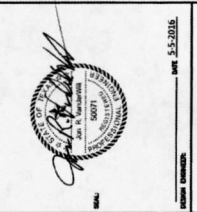
SMALL DRAINAGE MANHOLE INSPECTION SHALL BE CONDUCTED IMMEDIATELY AFTER EACH WASHOUT TO OVERTOP THE CURB.

INSPECTION SHALL BE REMOVED AS SOON AS THE SOURCE OF THE SEDIMENT IS STABILIZED.



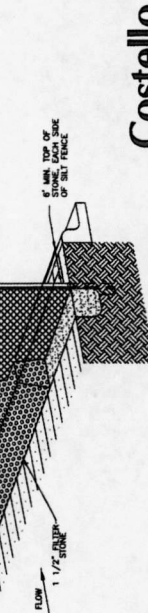
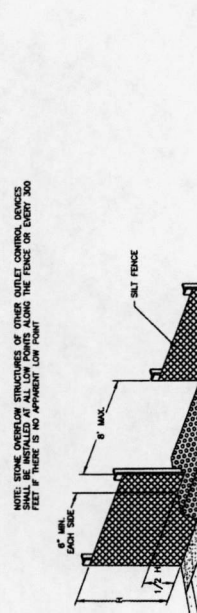
TEMPORARY STONE CONSTRUCTION ENTRANCE LIMIT

WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE ENTRANCE, THE AGGREGATE MAT SHALL BE REMOVED AND REPLACED PERIODICALLY. THE MAT SHALL BE REPLACED WITH AN ADDITIONAL MAT WHEN NECESSARY. THE MAT SHALL BE REMOVED AS SOON AS THE ENTRANCE TO THE TRENCH IS UNBLOCKED.



SALT FENCE GENERAL NOTES

- STEEL POSTS WHICH SUPPORT THE SALT FENCE SHALL BE INSTALLED ON A CONCRETE FOUNDATION. THE FOUNDATION SHALL BE A MINIMUM OF ONE FOOT DEEP AND SHALL BE BUILT TO A MINIMUM OF 12" WIDE.
- THE TOP OF THE SALT FENCE SHALL BE TRIMMED WITH A SERRATED OR MECHANICAL TRIMMER, TO THE EXPOSED FACE OF THE TRENCH. THE TRIMMER SHALL BE USED TO TRIM THE SALT FENCE TO THE CORRECT HEIGHT AND TO PREVENT FLOW FROM SEEPING UNDER FENCE.
- THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 8 INCHES WIDE. THE TRENCH SHALL BE BUILT TO BE 1/2" TO 1" BELOW THE GROUND AND SHALL BE BACKFILLED WITH COMPACTED MATERIAL.
- SALT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOODEN WIRDS. WIRDS IN TURN IS ATTACHED TO THE STEEL FENCE POSTS WITH WIRE. WIRDS SHALL BE SECURED TO THE STEEL FENCE ENDS OF FABRIC MEET.
- INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- AS WITH ALL BERM STRUCTURES, THE SITE IS COMPLETELY STABILIZED BEFORE THE BERM IS REMOVED.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE REMOVED AS SOON AS PRACTICABLE IN SUCH A MANNER AS TO NOT CONTRIBUTE TO AN ADDITIONAL SITUATION.

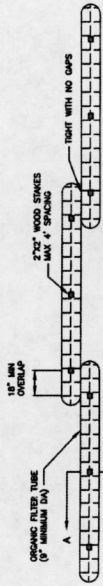


STONE OVERFLOW STRUCTURE

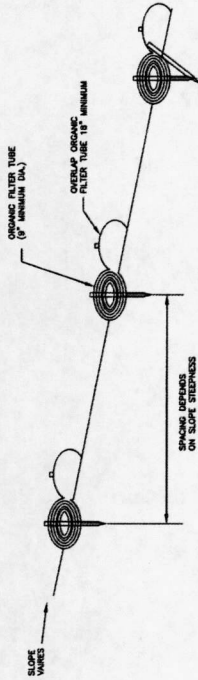
NOTE: STONE OVERFLOW STRUCTURES OF OTHER OUTLET CONTROL DEVICES SHALL BE CONSTRUCTED TO THE SAME STANDARDS AS THIS STRUCTURE. THE FEET OF FABRIC IS TO BE APPROXIMATELY LOW POINT.

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:
 - TYPE OF CONTRIBUTING DRAINAGE AREA
 - TYPE OF UNDERLYING SOIL
 - GROUND CONDITIONS (SOIL OR PAVEMENT)
2. DESIGNER SHALL SHOW ON THE DRAWINGS THE LOCATIONS WHERE TUBES ARE TO BE TURNED UP/SLOPE. UP/SLOPE LENGTHS SHALL BE MINIMUM OF 10 FEET.



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



ORGANIC FILTER TUBE PERIMETER CONTROL PROFILE
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.

FILTER TUBE
N.T.S.

NO.	DATE	DESCRIPTION

DATE: 5.5.2016

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
CUNNINGHAM CREEK BELT
RE-ASSEMBLY

EROSION CONTROL DETAILS - 2

SL-35
SHEET 42 OF 42



CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:
CUNNINGHAM CREEK BELT
RE-ASSEMBLY

EROSION CONTROL DETAILS - 2

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SHEET 42 OF 42

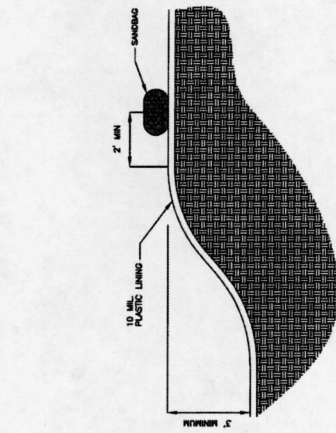
Magnus 6/10/16



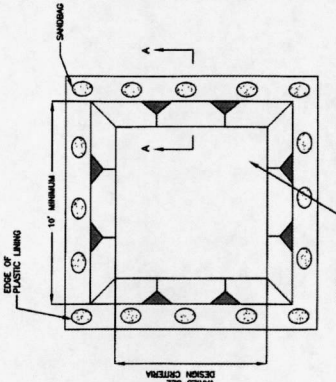
COSTELLO

CONCRETE WASHOUT NOTES

1. SANDBAGS MAY BE REPLACED BY A SOIL BOW TO ANCHOR THE PLASTIC BAG

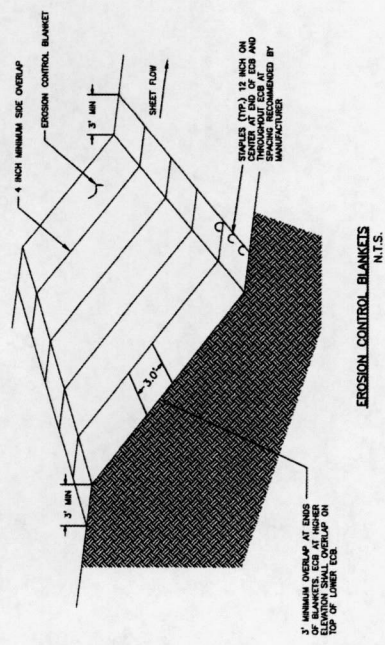


CONCRETE WASHOUT SECTION A-A
N.T.S.

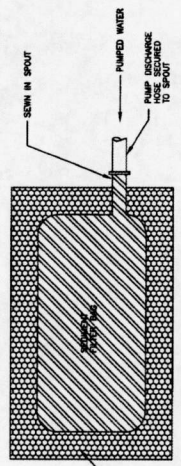


CONCRETE WASHOUT PLAN VIEW
N.T.S.

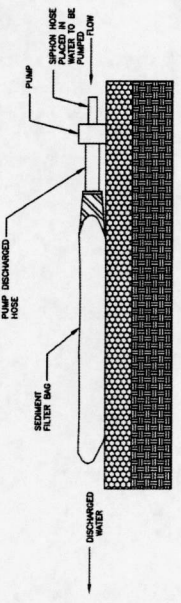
CONCRETE WASHOUT AREA
N.T.S.



EROSION CONTROL BLANKETS
N.T.S.



SEDIMENT FILTER BAG PLAN VIEW
N.T.S.



SEDIMENT FILTER BAG PROFILE
N.T.S.

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

DEWATERING CONTROLS
N.T.S.