

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

5/25/2018 Original sent to Sean Eglinton, Engineering dept.



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

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

- ☒ Right of Way Permit
☐ Commercial Driveway Permit

Permit No: 2018-20696

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

(1) COMPLETE APPLICATION FORM:

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

(2) BOND:

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

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval

Date

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

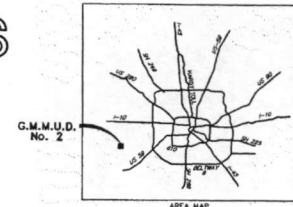
Permit Administrator

5/14/2018

Date

CONSTRUCTION OF WATER, SANITARY & DRAINAGE FACILITIES IN GRAND MISSION ESTATES SECTION 21

FOR
688 DEVELOPMENT, INC
ON BEHALF OF
GRAND MISSION MUNICIPAL
UTILITY DISTRICT NO. 2
FORT BEND COUNTY, TEXAS



NOTES:

These plans were prepared to meet or exceed the specifications and requirements of City of Houston and Fort Bend County as currently amended. Approval by Fort Bend County will be deemed void if construction has not begun within one year of approval date. Construction shall not begin before the plat of this section is filed in the Fort Bend County Map Records. Construction will be monitored under the supervision of a licensed professional engineer of JONES/CARTER, INC. Contractor shall notify the Fort Bend County Engineering Department at least 48 hours prior to commencement of construction at fortbendcountytx.gov.

I, Blair M. Bozarth, a Professional Engineer licensed in the State of Texas do hereby certify that these plans were prepared under my supervision to meet or exceed the specifications and requirements of Fort Bend County, Texas.

Blair M. Bozarth
Blair M. Bozarth, P.E. 4-12-18
Date

Contractor shall notify the City of Houston, Department of Public Works and Engineering, office of the City Engineer, 48 hours before starting work on this project. Telephone No. 832-394-9098

INDEX OF DRAWINGS

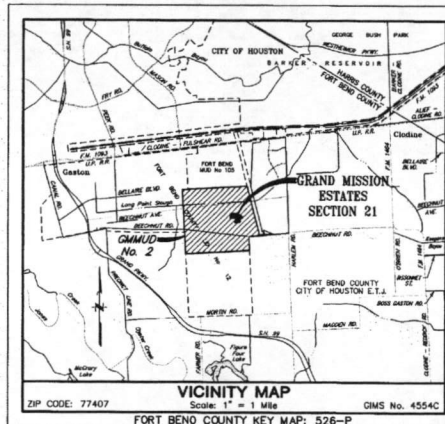
SHEET No.	TITLE
1	COVER SHEET AND INDEX
2	GENERAL CONSTRUCTION LAYOUT - WATER AND SANITARY SEWER
3	GENERAL CONSTRUCTION LAYOUT - PAVING AND DRAINAGE
4	GENERAL CONSTRUCTION LAYOUT - SIGNAGE AND PAVEMENT MARKINGS
5	DRAINAGE TABLES
6	GENERAL NOTES

PLAN & PROFILE

STREET NAME	STATION
7 REMINGTON BLUFF	7+83.77 TO 19+19.42
8 ALBANY OAKS LANE	0+00 TO 1+73.12
9 CROCKETT COVE LANE	1+00 TO 4+00
10 VICTORIA SPRINGS DRIVE	12+21.15 TO 16+59.55
BEECHNUT STREET	58+50 TO 60+50
GLENWICK FALLS COURT	0+00 TO 5+97.48

DETAILS

11	MISCELLANEOUS DETAILS
12	PAVING DETAILS
13	PAVEMENT MARKING DETAILS
14	TRAFFIC CONTROL PLAN
15	GRAVING PLAN
16	STORM WATER POLLUTION PREVENTION PLAN
17	STORM WATER POLLUTION PREVENTION DETAILS
18	TXDOT PED-12A



APRIL 2018

J/C JONES/CARTER
Texas Board of Professional Engineers Registration No. 4-439
2322 W Grand Parkway North, Suite 150, Katy, TX 77459-7821 (832) 913-6800

FORT BEND COUNTY ENGINEER

ENGINEER: *Richard Stagle, P.E.*
for ROBERT W. STOLLER, P.E.
DATE: 5/8/18

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

APPROVED: *Blair M. Bozarth*
FOR DEVELOPMENT COORDINATOR

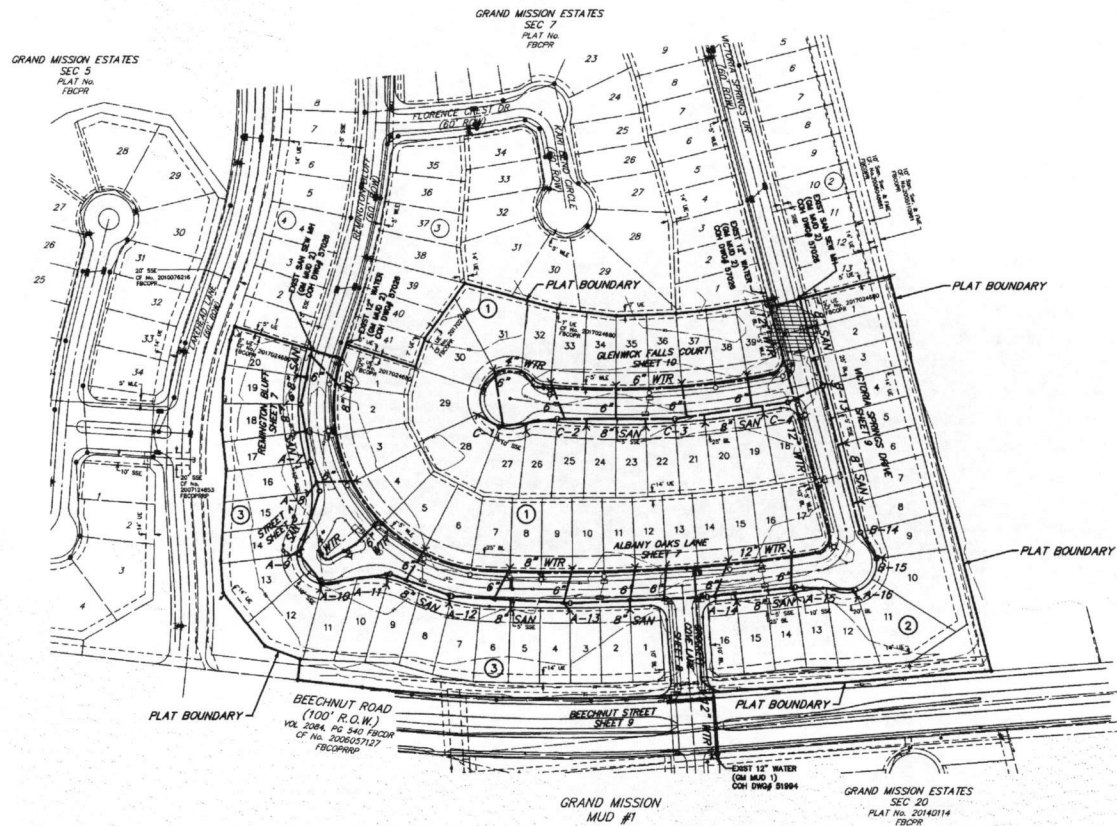
DATE: 5/8/18

TEXAS811 NOTIFICATION SYSTEM
CALL BEFORE YOU DIG!!!
www.texas811.org/
1-800-344-8377

ISSUED FOR
CONSTRUCTION

ILMS No. 18017580
C.O.H. LOG No. 18-0334
CPC 101 REF. No. 2018-0397 C3F

 BLAIR M. BOZARTH 1866 4-12-18	
SURVEYED BY: <i>Blair M. Bozarth</i> FB NO.: NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES	
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
WATER <i>Blair M. Bozarth</i> 4/12/18 WASTEWATER <i>Blair M. Bozarth</i> 4/12/18 STORM <i>Blair M. Bozarth</i> 4/12/18 STREET & BRIDGE <i>Blair M. Bozarth</i> 4/12/18	TRAFFIC & TRANSPORTATION STORM WATER QUALITY FACILITIES
CITY ENGINEER <i>Blair M. Bozarth</i> 4/12/18 DIRECTOR OF PUBLIC WORKS <i>Blair M. Bozarth</i> 4/12/18 SHEET No: 1 OF 18	FOR CITY OF HOUSTON USE ONLY CITY ENGINEER NO. 60296 CITY ENGINEER 4/12/18



100-YEAR FLOOD PLAIN
 ACCORDING TO MAP NO. 4815700140L & 481570030L OF THE
 FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE
 RATE MAPS DATED APRIL 2, 2014, A PORTION OF THE SUBJECT
 TRACT IS LOCATED WITHIN THE SHADDED ZONE "X1" DEFINED AS
 AREAS OF 0.2% ANNUAL CHANCE OF FLOOD. AREAS OF 1%
 ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1
 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE AND
 A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN
 UNSHADDED ZONE "X1" DEFINED AS AREAS DETERMINED TO BE
 OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS FLOOD
 STATEMENT DOES NOT IMPLY THAT THE PROPERTY OR
 STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD
 DAMAGE. ON RARE OCCASIONS FLOODS CAN AND WILL OCCUR
 AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR
 NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE
 LIABILITY ON THE PART OF THE SURVEYOR.

NOTE: THE 100-YEAR FLOOD ELEVATION IS APPROXIMATELY 82.3
 FEET AS PER THE FEMA INSURANCE RATE MAP FOR FORT BEND
 COUNTY, TEXAS COMMUNITY PANEL NO. 481570030L, DATED
 APRIL 2, 2014. THE 100-YR FLOOD PLAIN, ELEVATION 82.3, IS
 CONTAINED IN THE CHANNEL NORTH OF THE DETENTION POND.

BENCH MARK
 ELEVATIONS SHOWN HEREON ARE BASED ON NATIONAL
 GEODETIC SURVEY MONUMENT OBSERVATION H2020 86, P.D.
 NO. 480411 HAVING PUBLISHED INFORMATION AS FOLLOWS:
 LATITUDE 28 43' 58.13317" NORTH
 LONGITUDE 95 50' 45.84841" WEST NAD 83
 ELEVATION 126.8 FEET NAVD 83

T.B.M. B
 BEING A CUT SQUARE, LOCATED ON THE BACK OF CURB ON
 THE NORTH SIDE OF THE WESTBOUND LANE OF BELLARIVE
 BOULEVARD, 1 FOOT FROM THE END OF BACK OF CURB AT
 THE DEAD END.
 ELEVATION = 95.18, NAVD 83.

T.B.M. D
 BEING A CUT SQUARE ON THE BULLNOSE OF THE MEDIAN ON
 BEECHNUT STREET AT THE WEST ENTRANCE TO THE MEDIAN ON
 CROCKETT MIDDLE SCHOOL.
 ELEVATION = 83.70, NAVD 83.

ISSUED FOR
CONSTRUCTION



APPROVED: _____
 DEVELOPMENT COORDINATOR

DATE: _____

EXISTING	PROPOSED	
		WATERLINE w/ GATE VALVE
		FLUSH VALVE w/ GATE VALVE
		PLUG & CLAMP w/ BLOW OFF
		SANITARY SEWER w/ MANHOLE
		SANITARY STACK
		SANITARY LEAD
		STORM SEWER w/ MANHOLE
		STORM SEWER w/ INLET
		SWALE CENTERLINE
		NATURAL GROUND CONTOUR
		UTILITY EASEMENT
		WATERLINE EASEMENT
		SANITARY SEWER EASEMENT
		STORM SEWER EASEMENT
		DRAINAGE EASEMENT
		AERIAL EASEMENT

NO. 1025

For your utility, you are required to have this map and plan on file at least 90 days before you dig.
 If you are not a member of the City of Houston, you must also have this map and plan on file at least 90 days before you dig.

VERIFICATION OF PRIVATE UTILITY LINES

Date: _____

Signature: _____

Date: _____

Signature: _____

NO DATE REVISIONS APP.

GRAND MISSION MUNICIPAL
 UTILITY DISTRICT NO. 2
 FORT BEND COUNTY, TEXAS

JONES CARTER
 Texas Board of Professional Engineers Registration No. 1-4329
 2322 W. Grand Parkway North, Suite 120, Katy, TX 77449-1621 (832) 512-4000

GRAND MISSION ESTATES SEC 21
 GENERAL CONSTRUCTION LAYOUT

**WATER AND
 SANITARY SEWER**

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

CITY OF HOUSTON
 DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER _____ DATE: _____

SEWER _____ DATE: _____

DATE: 4-12-18

FILE NO. _____

JOB NO. 00208-2017-00

DATE: APRIL 2018

DRN. BY: CHS

DWG. BY: J.C.

SCALE: 1"=100'

SHEET 2 OF 18

FOR CITY OF HOUSTON USE ONLY
 CITY DWG. NO. _____

60296

APR 12 2018

GRAND MISSION ESTATES
SEC 5
PLAT NO.
FBCPR

GRAND MISSION ESTATES
SEC 7
PLAT NO.
FBCPR

GRAND MISSION
MUD #1

GRAND MISSION ESTATES
SEC 20
PLAT NO. 20140114
FBCPR

100-YEAR FLOOD PLAIN

ACCORDING TO MAP NO. 4815701-10L & 4815701-10L OF THE
FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE
RATE MAPS DATED APRIL 2, 2014. A PORTION OF THE SUBJECT
TRACT IS LOCATED WITHIN THE SHADDED ZONE "X" DENOTED AS
AREAS OF 0.2% ANNUAL CHANCE OF FLOOD. AREAS OF 1%
ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1
FOOT OR WITH CHANCE AREAS LESS THAN 1 SQUARE MILE AND
A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN
UNSHADDED ZONE "X" DENOTED AS AREAS DETERMINED TO BE
OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD. THIS FLOOD
STATEMENT DOES NOT IMPLY THAT THE PROPERTY OR
STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD
DAMAGE. ON RARE OCCASIONS FLOODS CAN AND WILL OCCUR
AND FLOOD DEPTHS MAY BE INCREASED BY MAN-MADE OR
NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE
LIABILITY ON THE PART OF THE SURVEYOR.

NOTE: THE 100-YEAR FLOOD ELEVATION IS APPROXIMATELY 82.3
FEET AS PER THE FEMA INSURANCE RATE MAP FOR FORT BEND
COUNTY, TEXAS COMMUNITY PANEL NO. 4815701-10L, DATED
APRIL 2, 2014. THE 100-YR FLOOD PLAIN, ELEVATION 82.3, IS
CONTAINED IN THE CHANNEL NORTH OF THE DETENTION POND.

BENCH MARK

ELEVATIONS SHOWN HEREON ARE BASED ON NATIONAL
ELECTRIC SURVEY MONUMENT DESIGNATION H2030 66, P.D.
NO. 484541 HAVING PUBLISHED INFORMATION AS FOLLOWS:
LATITUDE 29 43' 56.15317" NORTH
LONGITUDE 98 50' 45.8668" WEST HAD 83
ELEVATION 136.6 FEET NAVD 83

ITEM 6

BEING A CUT SQUARE LOCATED ON THE BACK OF CURB ON
THE NORTH SIDE OF THE WESTBOUND LANE OF BELLARIE
BOULEVARD 1 FOOT FROM THE END OF BACK OF CURB AT
THE DEAD END.

ELEVATION = 96.18, NAVD 83.

ITEM 7

BEING A CUT SQUARE ON THE BULLNOSE OF THE MEDIAN ON
BEECHNUT STREET AT THE WEST ENTRANCE TO DAVID
CROCKETT MIDDLE SCHOOL.

ELEVATION = 83.70, NAVD 83.

ISSUED FOR
CONSTRUCTION



APPROVED: _____
DEVELOPMENT COORDINATOR

DATE: _____

LEGEND

EXISTING	PROPOSED	
---	---	WATERLINE w/ GATE VALVE
---	---	FLUSH VALVE w/ GATE VALVE
---	---	PLUG & CLAMP w/ BLOW OFF
---	---	SANITARY SEWER w/ MANHOLE
---	---	SANITARY STACK
---	---	SANITARY LEAD
---	---	STORM SEWER w/ MANHOLE
---	---	STORM SEWER w/ INLET
---	---	SWALE CENTERLINE
---	---	NATURAL GROUND CONTOUR
---	---	UTILITY EASEMENT
---	---	WATERLINE EASEMENT
---	---	SANITARY SEWER EASEMENT
---	---	STORM SEWER EASEMENT
---	---	DRAINAGE EASEMENT
---	---	AERIAL EASEMENT
---	---	INLET
---	---	STORM SEWER
---	---	IV
---	---	EXTREME EVENT SHEET FLOW

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

NO. DATE REVISIONS APPR.

ETV DETENTION PLANS INFORMATION

1) Storm Water Detention Plan
to be provided in Construction of Detention Basin Construction Phase II
(CDM Log No. 08-1436, CDM DWD No. 42935)
(Engineering Firm: Jones & Carter)
Date Signed and Approved By: February 2007

2) Storm Water Drainage Design Report
Report Title: Drainage and Detention Analysis for 840 Acres Development
Date: Engineering Firm: Jones & Carter
Date of Authorization by Fort Bend County: July 5, 2006
Date: December 2006
(Engineering Firm: Jones & Carter)
Date of Authorization by Fort Bend County LD No. 12: January 2007

3) Increased Impervious Cover = 3.881 Acres
Detention Ratio Required = 0.60 Acre-Foot/Acre
Detention Ratio Provided = 0.67 Acre-Foot/Acre

PAVING AND DRAINAGE

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

WATER

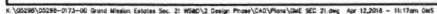
WATER

WATER

WATER

WATER

WATER



GENERAL CONSTRUCTION NOTE

- GENERAL CONSTRUCTION NOTE

WATERLINE CONSTRUCTION NOT

- WATERLINE CONSTRUCTION NOT

SANITARY SEWER CONSTRUCTION NOTE

- SANITARY SEWER CONSTRUCTION NOTE

GENERAL NOTES FOR SIDEWALKS AND DRIVEWAY

- GENERAL NOTES FOR SIDEWALKS AND DRIVEWAY

STORM SEWER CONSTRUCTION NOTES

- STORM SEWER CONSTRUCTION NOTES

PAYING CONSTRUCTION NOTE

- PAYING CONSTRUCTION NOTE

FORT BEND COUNTY GENERAL NOTES

- FORT BEND COUNTY GENERAL NOTES

UTILITY NOTES

CAUTION: OVERHEAD POWER LINE

OVERHEAD LINES MAY EXIST ON THE PROJECT SITE. THESE DRAWINGS AS THE LINES ARE CL

CAUTION: UNDERGROUND ELECTRICAL FACILITIES

CAUTION: UNDERGROUND ELECTRICAL FACILITIES

-FOP EMERGENCIES REGARDING GAS LINE

-FOP EMERGENCIES REGARDING GAS LINE

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



ISSUED FOR
CONSTRUCTION



APPROVED: _____

DATE _____

1. APPROVE THE SALE TO TRANSFER OF THE ABOVE SAID INTERESTS BEING AT \$200,000.00.
 2. The parties, who are entitled to have the sale to sell \$200,000.00, are the parties who are
 3. The parties who are entitled to have the sale to sell \$200,000.00, are the parties who are

VERIFICATION OF PRIVATE UTILITY LINES

Date: _____
 Certified Surveyor/Engineer for Public Utilities (NCE)
 The Signature below is the signature of the Public Utility, to be used for
 The Signature below is the signature of the Public Utility, to be used for
 Signature below for the Public Utility, to be used for the Public Utility, to be used for

Date: _____
 Certified Surveyor/Engineer/Professional Public Utilities (NCE)
 The Signature below is the signature of the Public Utility, to be used for the Public Utility, to be used for
 Signature below for the Public Utility, to be used for the Public Utility, to be used for

NO. DATE _____ REVISIONS _____ APP _____

**GRAND MISSION MUNICIPAL
 UTILITY DISTRICT NO. 2
 FORT BEND COUNTY, TEXAS**

JONES & CARTER

Texas School of Professional Engineering Registration No. 7434

2102 West 60th Avenue Houston, Texas (HOU, TX) 77064-3302 (800) 824-2222

GRAND MISSION ESTATES SEC 21

GENERAL NOTES

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER	TRAFFIC & STREET/BROOK
-------	------------------------

WASTEWATER	STORM WATER QUALITY
------------	---------------------

W.C. Cook-4-12-13	
EX-100	EX-100

STAMP	INITIALS
64-12-8	

FILE NO: _____	FOR CITY OF HOUSTON USE ONLY CITY DNG NO. _____
JOB NO: 05298-0173-00	

DATE: APRIL 2018
CON BY: CASE

SCALE: 1"=100'



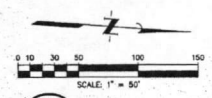
SHEET No. 6 OF 18

WATER LINE-SANITARY SEWER CROSSING
 PLACE ONE 18" FULL SECTION EACH OF RESTRAINED JOINT WATERLINE AND SANITARY SEWER PIPE, CENTERED AT CROSSING. EMBED SANITARY SEWER PIPE WITH CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS ONE FOOT BEYOND THE JOINTS ON EACH END. FOR CROSSINGS WHERE PROPOSED WATERLINE IS UNDER PROPOSED SANITARY SEWER, PROVIDE RESTRAINED JOINT PRESSURE RATED (MIN 150 PSI) SANITARY SEWER. SANITARY SEWER CONSTRUCTION NOTES - (TABLE 7.3 SHOWN IN CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUALS). 24" MIN CLEARANCE. NO SEPARATE PAY.

SANITARY SEWER/WATERLINE CROSSING PROTECTION REQUIREMENT
 CENTER 1-18" PVC SANITARY SEWER RESTRAINED JOINT OVER/UNDER CENTER 1-18" PVC WATERLINE RESTRAINED JOINT. REFER TO PROTECTION REQUIREMENTS CHART FOR WATERLINE AND SANITARY SEWER CROSSINGS PER THE CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUALS. (TABLE 7.3 SHOWN IN THE MOST CURRENT CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUALS). EMBED SANITARY SEWER WITH CEMENT STABILIZED SAND FOR TOTAL LENGTH OF 1 PIPE SEGMENT PLUS 1' ON EACH END, UNLESS SANITARY SEWER COMPLETELY AUGERED WITH BENTONITE/CLAY MIXTURE (NO SEPARATE PAY).

NOTES

1. PROPOSED TOP OF CURB GRADES ARE BASED ON 8" CURBS WHERE 4"x12" CURBS ARE INSTALLED. ACTUAL TOP OF CURBS WILL BE 0.17 FEET BELOW PLAN GRADE. SEE CURB LAYOUT PLAN OR SHEET 4.
2. REFER TO SIGNAGE & PAVEMENT MARKING SHEET 4 FOR SIGN DETAILS, DESCRIPTION & LOCATION.



100-YEAR FLOOD PLAIN
 ACCORDING TO MAP NO. 481520040, & 481520050, OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS DATED APRIL 2, 2014. A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN THE SHADDED ZONE "X", DEFINED AS AREAS OF 0.2% ANNUAL CHANCE OF FLOOD. AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH CHANCE AREAS LESS THAN 1 SQUARE MILE AND A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN UNSHADDED ZONE "X", DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE ON RARE OCCASIONS FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVIVOR.

BENCH MARK
 ELEVATIONS SHOWN HEREON ARE BASED ON NATIONAL GEODETIC SURVEY MONUMENT DESIGNATION H0200 66, PHOTO NO. 484541 HAVING PUBLISHED INFORMATION AS FOLLOWS:
 LATITUDE 29 43' 58.1331" NORTH
 LONGITUDE 95 50' 45.8849" WEST NAD 83
 ELEVATION 136.6 FEET NAVD 88

T.B.M. B
 BEING A CUT SQUARE LOCATED ON THE BACK OF CURB ON THE NORTH SIDE OF THE WESTBOUND LANE OF BELLARUE BOULEVARD, 1 FOOT FROM THE END OF BACK OF CURB AT THE DEAD END.

ELEVATION = 96.18, NAVD 88

T.B.M. D
 BEING A CUT SQUARE ON THE BALANCE OF THE MEDIAN ON RECONSTRUCT STREET AT THE WEST ENTRANCE TO DAVID CROCKETT MIDDLE SCHOOL.

ELEVATION = 93.70, NAVD 88

NOTE: THE 100-YEAR FLOOD ELEVATION IS APPROXIMATELY 92.3 FEET AS PER THE FEMA INSURANCE RATE MAP FOR FORT BEND COUNTY, TEXAS COMMUNITY PANEL NO. 481520030, DATED APRIL 2, 2014. THE 100-YR FLOOD PLAIN, ELEVATION 92.3, IS CONTAINED IN THE CHANNEL NORTH OF THE DETENTION POND.

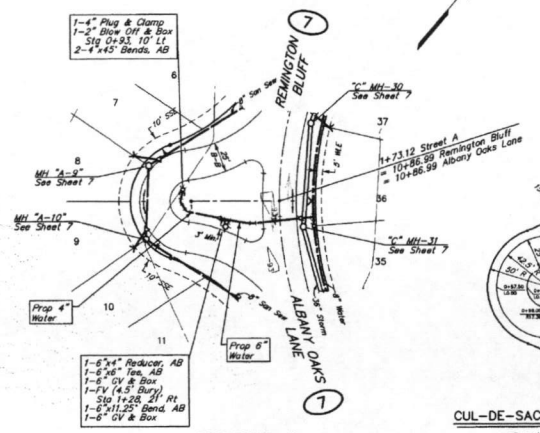
CROSS SLOPE NOTE
 CROSS SLOPE THROUGH CROSS WALK SHALL NOT EXCEED 3.0% IN ANY DIRECTION. ALTERNATELY, WITH ADA REQUIREMENTS, CONTRASTING TO RAISE (BOLD) SLOPE DOES NOT EXCEED 2.0%.

ISSUED FOR CONSTRUCTION

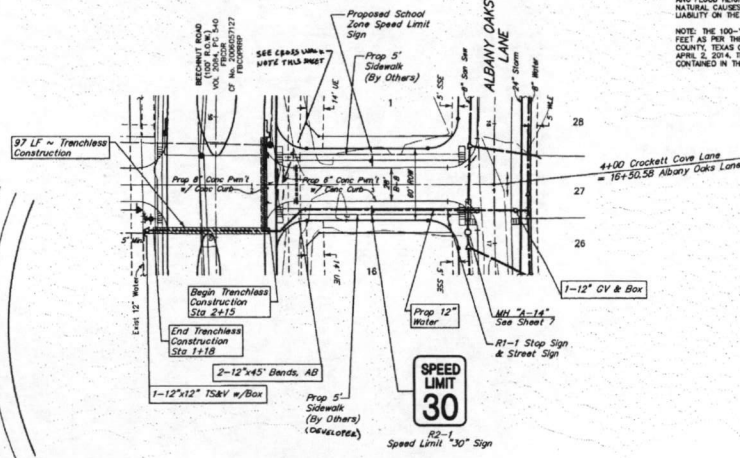
APPROVED: **MAI 08 2018**
 Valid One Year
 from Date

APPROVED: _____
 DATE: _____
 DEVELOPMENT COORDINATOR

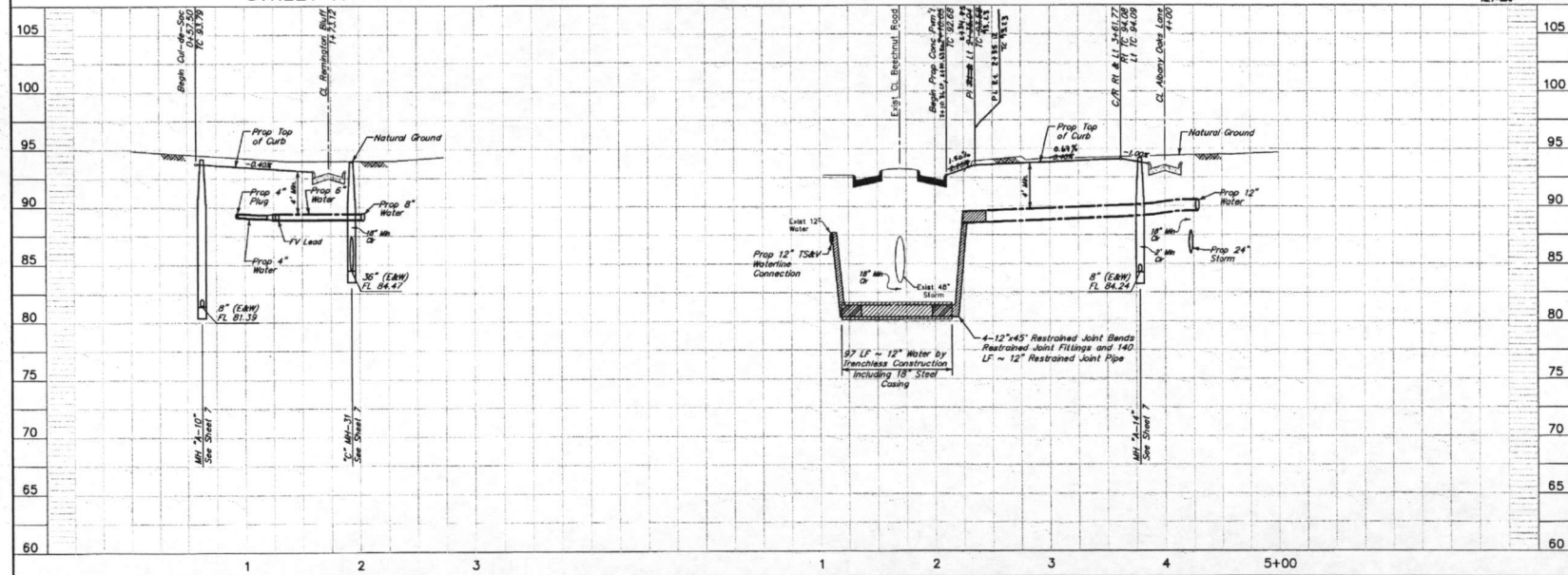
NO. DATE		REVISIONS	APPR.
GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2 FORT BEND COUNTY, TEXAS			
JONES CARTER Texas Board of Professional Engineers Registration No. 1-437 2002 W. Grand Avenue, Suite 100, Fort Worth, TX 76102-1000			
GRAND MISSION ESTATES SEC 21 STREET A 0+00 TO 1+73.12 CROCKETT COVE LANE 1+00 TO 4+00			
NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY AFTER DATE OF SIGNATURES			
CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING			
DATE: 04/12/18 DESIGNED: MEC CHECKED: MEC IN CHARGE: MEC		TITIC & STREET/BRIDGE 100% WATER SHED 100% FLOODS	
FILE NO.: JOB NO.: 65388-0373-00		FOR CITY OF HOUSTON USE ONLY CITY ENG. NO.: DATE: APR 12 2018 FOR BY: CHS ENG. BY: CHS SCALE: 1"=50' H. 1"=5' V.	
SHEET NO. 8 OF 18			



CUL-DE-SAC DETAIL
 1"=50'



CROCKETT COVE LANE
 1"=50'

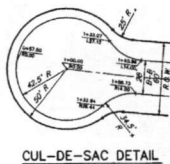


FILL NOTES

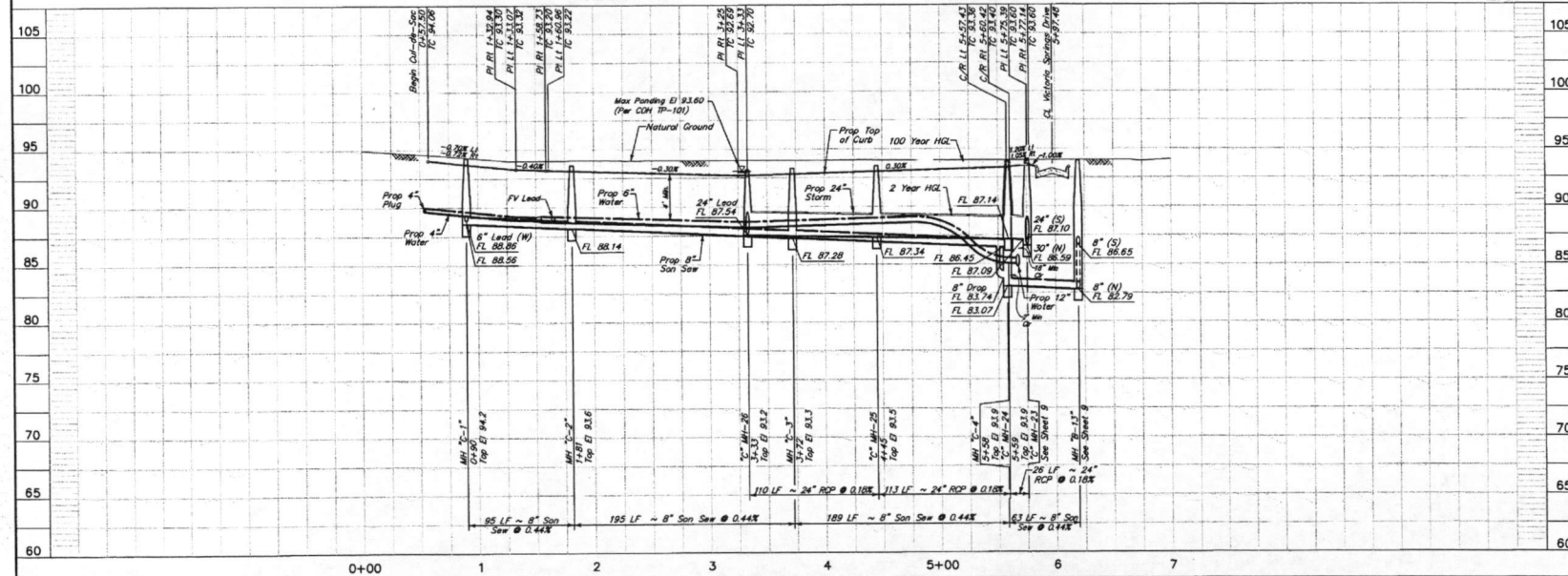
1. DRAINAGE SHALES: ALL EXISTING DRAINAGE SHALES SHALL BE FILLED AS SHOWN WITH MATERIAL FROM EXISTING ADJACENT SPILL BANKS IN MAXIMUM 8" LAYER LIFTS AND COMPACTED TO 95% PROCTOR DENSITY AS PER ADJUSTED TEST METHOD T-99. (-3% TO +5% OPTIMUM MOISTURE CONTENT)
2. DRAINAGE SHALES: ALL EXISTING DRAINAGE SHALES UNDER PROPOSED CONCRETE PAVEMENT SHALL BE CLEANED, MACHED OUT AND SCARIFIED TO A MINIMUM DEPTH OF 6" AND FILLED AS SPECIFIED ABOVE IN FILL NOTE NO. 1.
3. ROADWAY DRAINAGE: STOP 2" OF VEGETATION FROM AREA TO BE FILLED AND RE-COMPACT SOIL TO 95% PROCTOR DENSITY T-99 TO FILL OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIAL AS SPECIFIED IN FILL NOTE NO. 1.

WATER LINE-SANITARY SEWER CROSSING
PLACE ONE 18" FULL SECTION EACH OF RESTRAINED JOINT WATERLINE AND SANITARY SEWER PIPE CENTERED AT CROSSING. LINED SANITARY SEWER PIPE WITH LEADY STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS ONE FOOT BEYOND THE JOINTS ON EACH END. FOR CROSSINGS MADE PROPOSED WATERLINE UNDER PROPOSED SANITARY SEWER, PROVIDE RESTRAINED JOINT PRESSURE RATED (MHI 150 PSI) SANITARY (SEE SANITARY SEWER CONSTRUCTION NOTES - (TABLE 7.3 SHOWN IN CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL), 24" MIN CLEARANCE, NO SEPARATE PAY.

1-4" Plug & Clamp
1-2" Plug Off & Box
Sig 0+54.5' LI
4-4"x4" Bends, AB



GLENWICK FALLS COURT



E Curve Data
 $\Delta = 21^\circ 55' 13''$
 $R = 1330.00'$
 $L = 497.48'$

1-6" CV & Box
2-6"x4" Bends, AB

1-6" CV & Box
2-6"x4" Bends, AB

SANITARY SEWER/WATERLINE CROSSING PROTECTION REQUIREMENT
CENTER 1-18" PVC SANITARY SEWER RESTRAINED JOINT OVER/UNDER
1-18" PVC WATERLINE RESTRAINED JOINT REFER TO PROTECTION REQUIREMENTS CHART FOR WATER AND SANITARY SEWER CROSSINGS PER THE CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL, TABLE 7.3 SHOWN IN THE MOST CURRENT CITY OF HOUSTON INFRASTRUCTURE DESIGN MANUAL. EMBED SANITARY SEWER WITH CEMENT STABILIZED SAND FOR TOTAL LENGTH OF 1 PIPE SEGMENT PLUS 1' ON EACH END, UNLESS SANITARY SEWER COMPLETELY AUGURED WITH BENTONITE/CLAY MIXTURE (NO SEPARATE PAY)

NOTES

1. PROPOSED TOP OF CURB GRADES ARE BASED ON 8" CURBS, WHERE 4"x12" CURBS ARE INSTALLED, ACTUAL TOP OF CURBS WILL BE 0.17 FEET BELOW PLAN GRADE. SEE CURB LAYOUT PLAN ON SHEET 4.
2. REFER TO SLOPING & PAYMENT MARKING SHEET 4 FOR SON DETAIL, DESCRIPTION & LOCATION.

100-YEAR FLOOD PLAIN

ACCORDING TO MAP NO. 48157CH04L & 48157CH03L OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS DATED APRIL 2, 2014, A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN THE SHADDED ZONE "X", DEFINED AS AREAS OF 0.2% ANNUAL CHANCE OF FLOOD, AREA 159.16 AC. ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE AND A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN UNSHADDED ZONE "X", DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE, OR HAVE OCCASIONAL FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

NOTE: THE 100-YEAR FLOOD ELEVATION IS APPROXIMATELY 92.3 FEET AS PER THE FEMA INSURANCE RATE MAP FOR FORT BEND COUNTY, TEXAS COMMUNITY PANEL NO. 48157CH04L, DATED APRIL 2, 2014. THE 100-YEAR FLOOD PLAIN, ELEVATION 92.3, IS CONTAINED IN THE CHANNEL NORTH OF THE DETENTION FORD.

BENCH MARK

ELEVATIONS SHOWN HEREON ARE BASED ON NATIONAL GEODETIC SURVEY MONUMENT DESIGNATION HUGES 66, PG. NO. 48041, HAVING PUBLISHED INFORMATION AS FOLLOWS:
LATITUDE: 29° 43' 58.13317" NORTH
LONGITUDE: 95° 50' 43.96836" WEST NAD 83
ELEVATION: 136.8 FEET NAVD 83

T.B.M. B

BEING A CUT SQUARE LOCATED ON THE BACK OF CURB ON THE NORTH SIDE OF THE WESTERN LAKE OF ILLINOIS BOULEVARD, 1 FOOT FROM THE END OF BACK OF CURB AT THE DEAD END.

T.B.M. D

BEING A CUT SQUARE ON THE BULWARK OF THE MEDIAN ON BUCKHORN STREET AT THE WEST ENTRANCE TO DAVID CROCKETT MIDDLE SCHOOL.

T.B.M. E

BEING A CUT SQUARE ON THE BULWARK OF THE MEDIAN ON BUCKHORN STREET AT THE WEST ENTRANCE TO DAVID CROCKETT MIDDLE SCHOOL.

ISSUED FOR CONSTRUCTION



APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: _____

BY APPROVE FOR USE TO BE SIGNED OFF BY OWNER (SEE DEVELOPMENT SIGNED AT 713-307-0000)

For your safety, you are required to have your own set of plans and to use them as intended. The Engineer shall not be responsible for any errors or omissions on the part of the user.

VERIFICATION OF PRIVATE UTILITY LINES

Date: _____

Date: _____

NO. DATE REVISIONS APP.

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2 FORT BEND COUNTY, TEXAS

J.C. JONES CARTER Texas Board of Professional Engineers Registration No. 1-439 15124 Grand Mission North, Suite 100, Fort Worth, Texas 76104-1000

GRAND MISSION ESTATES SEC 21

GLENWICK FALLS COURT 0+00 TO 1+73.12

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

CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: APRIL 2018

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

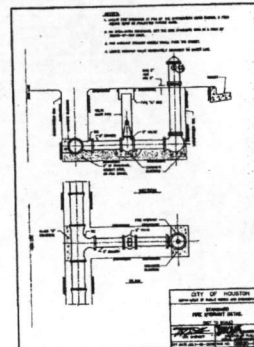
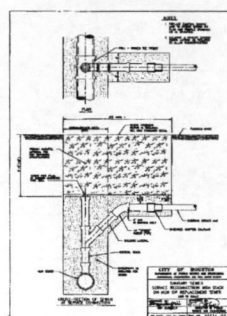
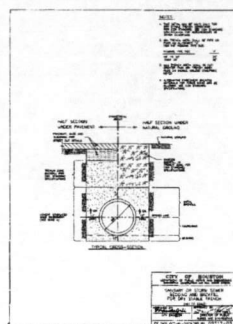
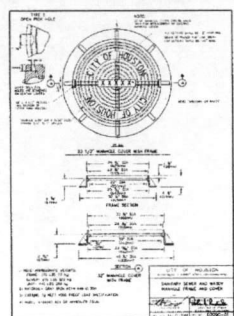
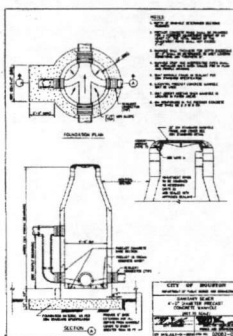
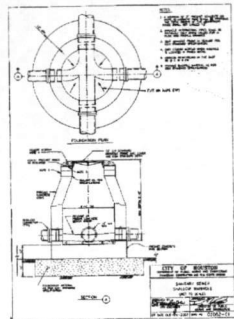
SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.

SCALE: 1"=50' H. 1"=5' V.



ISSUED FOR
CONSTRUCTION



APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: _____

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

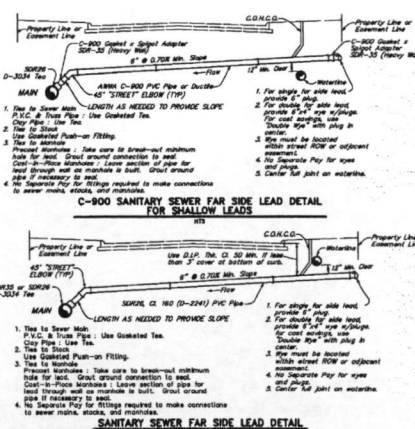
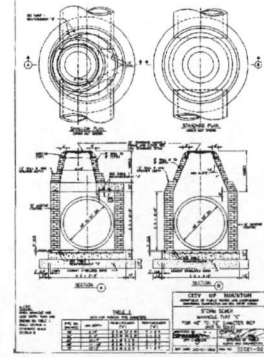
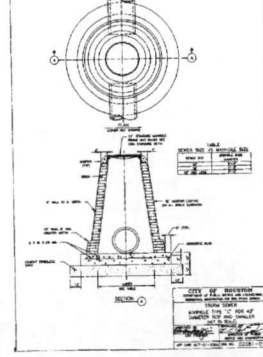
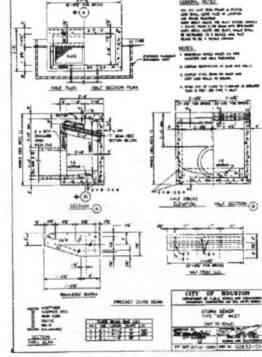
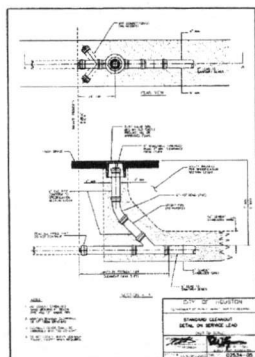
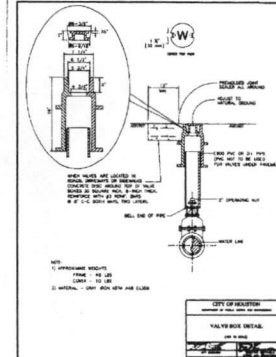
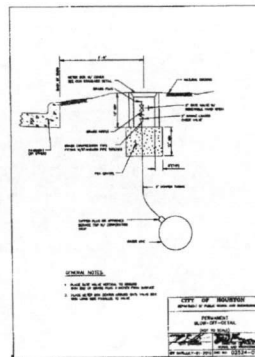
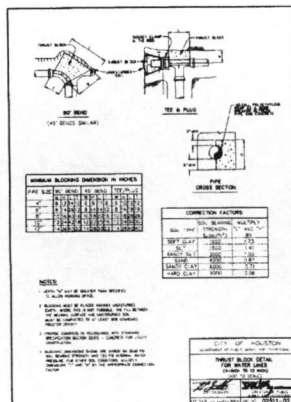
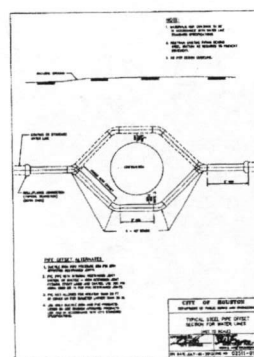
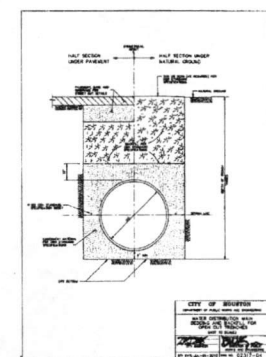
GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS



MISCELLANEOUS
DETAILS

NOTE: CITY SIGNATURES VALID FOR ONE YEAR ONLY

AFTER DATE OF SIGNATURES

CITY OF HOUSTON

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

PORT BEND COUNTY, TEXAS

NO. DATE REVISIONS APPD

GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2

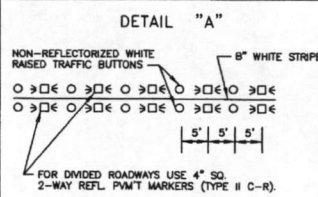
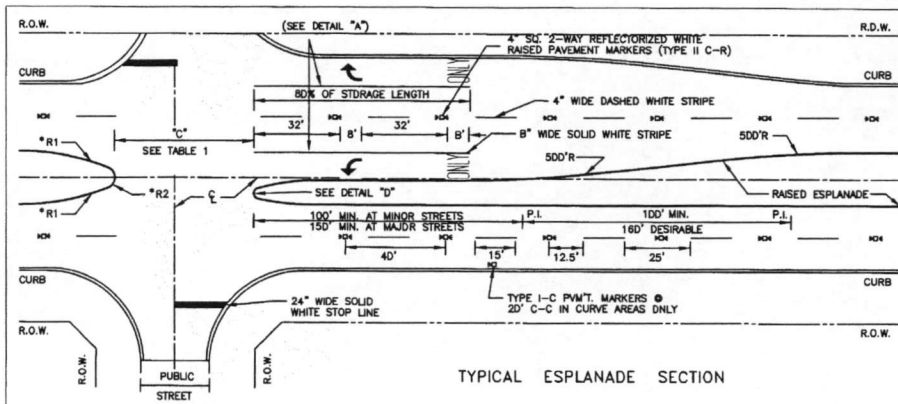


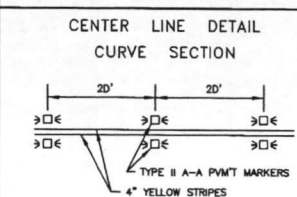
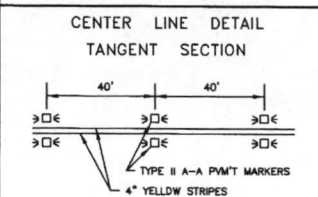
TABLE 1
TYPICAL LENGTH OF ESPLANADE
OPENING "C" FOR PUBLIC STREET

ESPLANADE INTERRUPTION	NO LTB	(1) 1 LTB	(1) 2 LTB
UNDIVIDED STREET < 40'	44'	55' (50')	60'
DIVIDED STREET	D+10'	D+10'	D+10'

RADIUS
DIMENSIONS

ESPLANADE	*R1	*R2
< 8'	N/A	W/2
8'-38'	90'	W/5
> 38'	N/A	15'

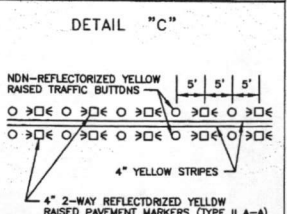
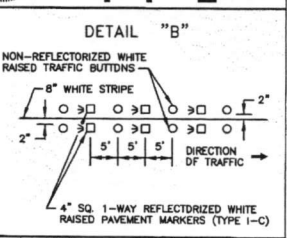
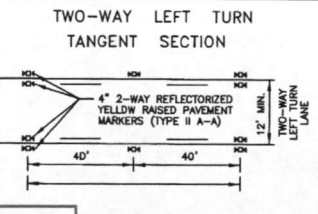
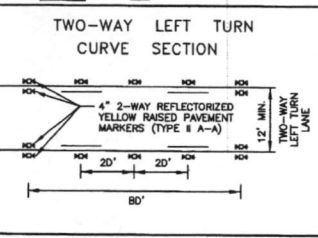
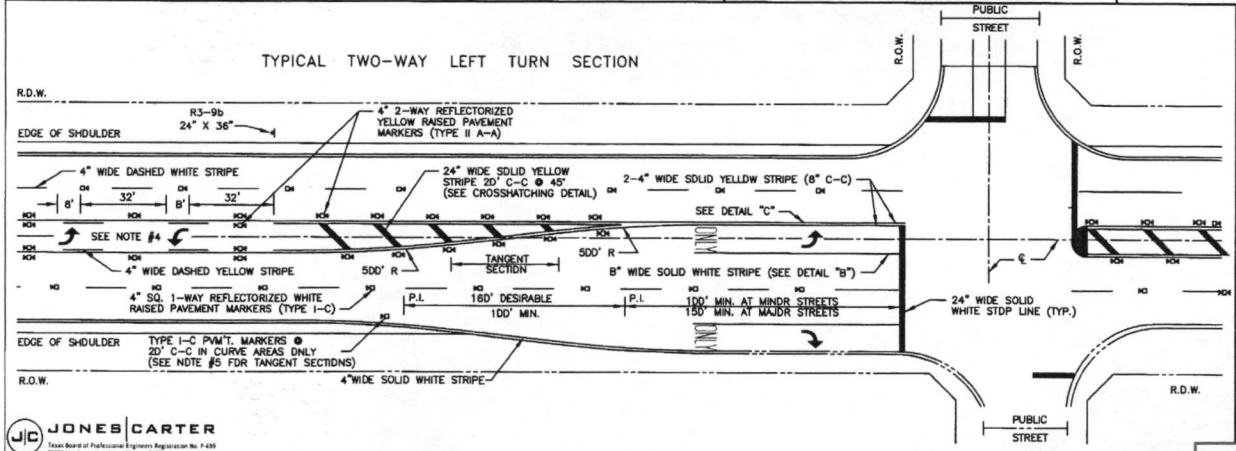
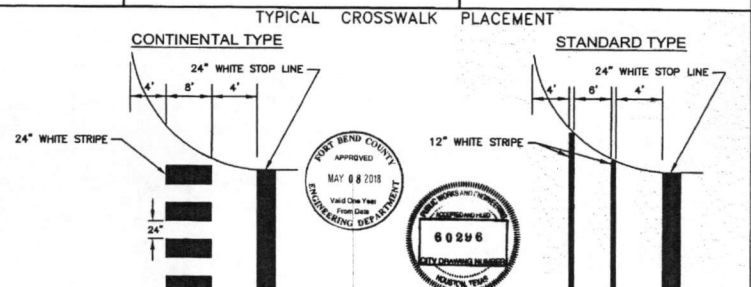
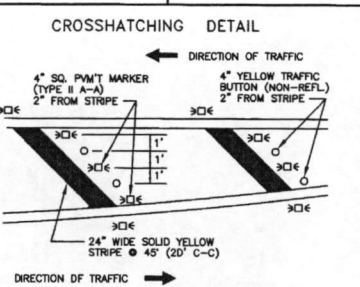
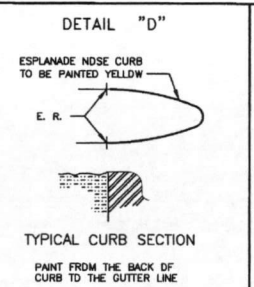
NOTES:
(1) LEFT TURN BAY
(2) DISTANCE FROM
CENTERLINE OF
OPENING TO
ESPLANADE NDS
WITH LEFT TURN
LANE MUST BE 30'



PAVEMENT MARKER LEGEND

SYMBOL	DESCRIPTION
◻	TWO SIDED REFLECTORIZED RAISED PAVEMENT MARKER
◻	ONE SIDED REFLECTORIZED PAVEMENT MARKER
○	NON-REFLECTIVE 4\"/>

- NOTES:
1. ALL STRIPING & MARKERS SHALL CONFORM WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
 2. ALL TRAFFIC BUTTONS AND MARKERS SHALL BE INSTALLED ADJACENT TO STRIPES (APPROX. 2').
 3. LEFT TURN STORAGE BAYS SHALL BE A MIN. OF 100' AT MINOR STREETS AND A MIN. OF 150' AT MAJOR STREETS.
 4. REPEAT ARROWS AT APPROX. 1000' INTERVALS WITHIN TWO-WAY LEFT TURN SECTION.
 5. WITHIN A TANGENT SECTION THE TYPE I-C PAVEMENT MARKERS CAN BE PLACED AT 40' C-C ON ROADWAYS WITHOUT CURB AND GUTTERS.



JONES CARTER

Texas Board of Professional Engineers Registration No. P-439
27330 Northchase Way, Suite 170, Dallas, TX 75244 (800) 831-4000

NO.	REVISION	DATE	BY	CHKD
1	ISSUED FOR CONSTRUCTION	7/28/08	WLS	
2	ADDED EXPLANATION	8/13/08	WLS	
3	ADDED ROAD NAME	8/20/08	WLS	
4	MODIFIED TURN LANE	7/29/09	WLS	

FORT BEND COUNTY
ENGINEERING DEPARTMENT



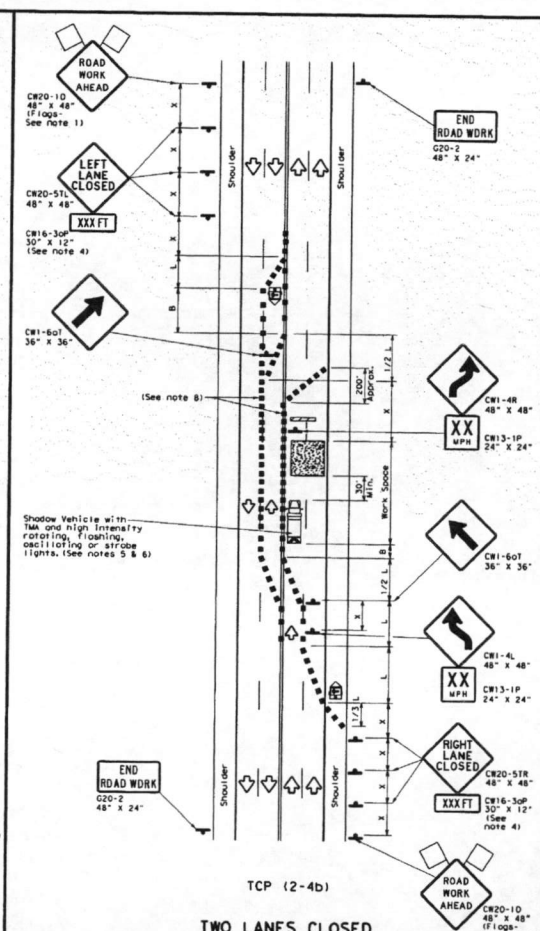
ISSUED FOR
CONSTRUCTION

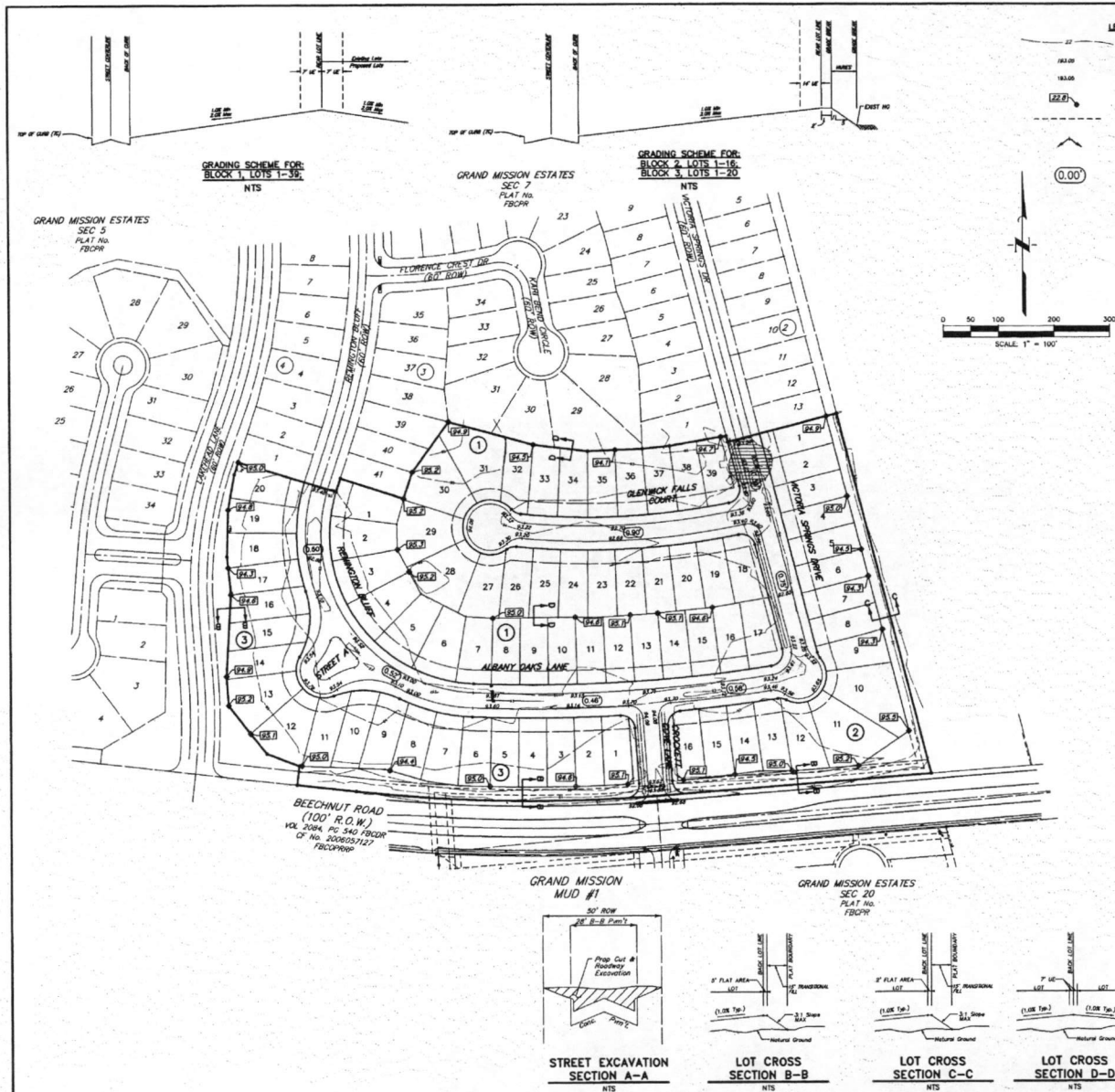


PROJECT DATA

DESIGN BY	WLS	CHECKED BY	WLS
DATE	7/28/08	PROJECT NO.	25298-0173-00
SCALE	AS SHOWN	FILE NAME	ymdell.dwg
DATE	9/99	APPROVED BY	
		DATE	13/17

4/10/2009 05:28:01-0173-00 Grand Mission Estates Sec. 21 908612 Design Phase/CAV/Plan/Line SEC 21.dwg Apr 15/2018 - 11:17am GMS

DATE: _____
FILE: _____



LEGEND

- EXIST GROUND CONTOUR
- PROPOSED TOP OF CURB
- EXISTING TOP OF CURB
- FINISH ELEVATIONS
- GRADE BREAK LINE
- SLOPE OF FINISHED GRADE
- MAX. PONDING ABOVE TOP OF CURB AT INLETS BEFORE SHEET FLOW

100-YEAR FLOOD PLAN
THE 100-YEAR FLOOD ELEVATION IS APPROXIMATELY 82.3 FEET AS PER THE FEMA FLOOD INSURANCE RATE MAP FOR FORT BEND COUNTY, TEXAS COMMUNITY PANEL NO. 4815270301, DATED APRIL 2, 2014. THE 100-YR FLOOD PLAN, ELEVATION 82.3, IS CONTAINED IN THE CHANNEL NORTH OF THE DETENTION POND.

BENCH MARK
ELEVATIONS SHOWN HEREON ARE BASED ON NATIONAL GEODETIC SURVEY MONUMENT DESIGNATION H0220 88, PLO NO. 489411 HAVING PUBLISHED INFORMATION AS FOLLOWS:
LATITUDE 28 42' 58.13317" NORTH
LONGITUDE 95 20' 45.8484" WEST NAD 83
ELEVATION 136.5 FEET NAVD 88

T&M B
BEING A CUT SQUARE LOCATED ON THE BACK OF CURB ON THE NORTH SIDE OF THE WESTBOUND LANE OF BELLARE BOULEVARD, 1 FOOT FROM THE END OF BACK OF CURB AT THE DEAD END.

T&M D
BEING A CUT SQUARE ON THE BULLHOLE OF THE MEDIAN ON BECKHUT STREET AT THE WEST ENTRANCE TO DAVID CROCKETT MIDDLE SCHOOL.

ELEVATION = 96.18, NAVD 88.

ELEVATION = 93.70, NAVD 88.

ISSUED FOR CONSTRUCTION

APPROVED:
MAY 8 2018
FROM DATE
FOR CITY OF HOUSTON

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: _____

NO. DATE REVISIONS APP.

VERIFICATION OF PRIVATE UTILITY LINES

Date: _____

Signature: _____

Date: _____

Signature: _____

NO. DATE REVISIONS APP.

JONES & CARTER
Texas Board of Professional Engineers Registration No. 1-439
2202 West Loop South, Suite 100, Houston, Texas 77027-1000 (713) 621-1000
GRAND MISSION ESTATES SEC 21

GRADING PLAN

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER _____

SEWER _____

STORM _____

OTHER _____

FILE NO. _____

JOB NO. 05298-2123-50

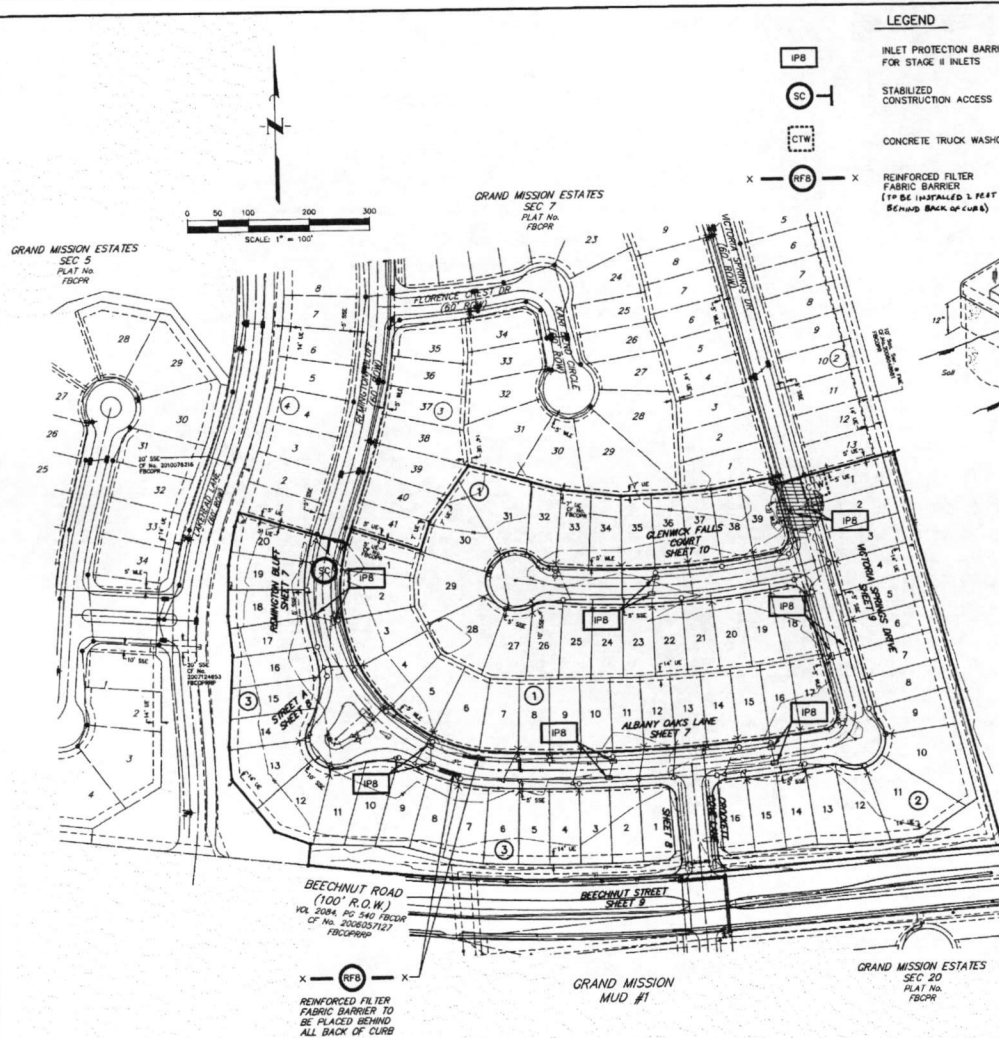
DATE: APRIL 2018

CON. BY: JONES

ENG. BY: JONES

SCALE: 1"=100'

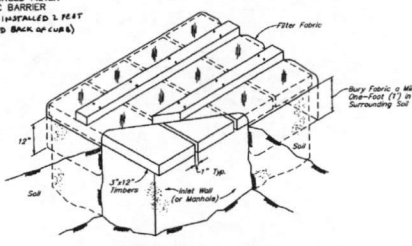
SHEET 15 OF 18



LEGEND

- INLET PROTECTION BARRIERS FOR STAGE II INLETS
- STABILIZED CONSTRUCTION ACCESS
- CONCRETE TRUCK WASHOUT AREA
- REINFORCED FILTER FABRIC BARRIER (TO BE INSTALLED 2 FEET BEHIND BACK OF CURB)

NOTE
CONTRACTOR TO SUBMIT COPIES OF CONSTRUCTION SITE NOTICE (CSN) AND/OR NOTICE OF INTENT (NOI) TO AGENCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES



TYPICAL INLET AND MANHOLE PROTECTION - LOWER STAGE
NTS

100-YEAR FLOOD PLAIN
ACCORDING TO MAP NO. 481370140L & 481370130L OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAPS DATED APRIL 2, 2014, A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN THE SHADDED ZONE "X", DEFINED AS AREAS OF 0.2% ANNUAL CHANCE OF FLOOD. AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT ON WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE AND A PORTION OF THE SUBJECT TRACT IS LOCATED WITHIN THE UNSHADDED ZONE "X", DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE PROPERTY OR STRUCTURES THEREON WILL BE FREE FROM FLOODING OR FLOOD DAMAGE, OR THAT OCCASIONAL FLOODS CAN AND WILL OCCUR AND FLOOD HEIGHTS MAY BE INCREASED BY MAN-MADE OR NATURAL CAUSES. THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE SURVEYOR.

NOTE: THE 100-YEAR FLOOD ELEVATION IS APPROXIMATELY 92.3 FEET AS FOR THE FEMA INSURANCE RATE MAP FOR FORT BEND COUNTY, TEXAS COMMUNITY PANEL NO. 481370130L, DATED APRIL 2, 2014. THE 100-YEAR FLOOD PLAIN ELEVATION 92.3 IS CONTAINED IN THE CHANNEL NORTH OF THE DETENTION POND.

BENCH MARK
ELEVATIONS SHOWN HEREON ARE BASED ON NATIONAL GEODETIC SURVEY MONUMENT STATION HIGGS, H.S. NO. 480411 HAVING PUBLISHED INFORMATION AS FOLLOWS:
LATITUDE 29 43' 58.1337" NORTH
LONGITUDE 95 50' 45.8888" WEST HAD 85
ELEVATION 138.8 FEET NAVD 83

T.B.M. 6
BEING A DIRT SQUARE LOCATED ON THE BACK OF CURB ON THE NORTH SIDE OF THE WESTBOUND LANE OF BELLARE ROAD, 1 FOOT FROM THE END OF BACK OF CURB AT THE DEAD END.

ELEVATION = 96.18, NAVD 83.

T.B.M. 8
BEING A DIRT SQUARE ON THE BALUNGE OF THE MEDIAN ON BEECHNUT STREET AT THE WEST ENTRANCE TO DAVID CROCKETT MIDDLE SCHOOL.

ELEVATION = 93.70, NAVD 83.

ISSUED FOR CONSTRUCTION



APPROVED: _____ DEVELOPMENT COORDINATOR
DATE: _____

INSTALLATION SEQUENCE

- UTILITY CONTRACTOR**
- Install at start of construction.
 - Install for Stage I works.
 - Install along back of curb, and across roadside ditches.
- PAVING CONTRACTOR**
- Markish existing facilities.
 - Broodast Sealing of disturbed areas after final grading.
- UTILITY CONTRACTOR**
- Install behind all back of curb upon completion of paving.
 - Install for Stage I works upon completion of paving.
 - Area within ROW and Adjacent Elements disturbed during Construction of Utilities to be hydro-mulch Seeded upon completion of Utilities.
- Utility and Paving Contractor to follow all protection requirements and complete all forms as listed in bound SMPP.

- MANHOLE/INLET PROTECTION NOTES**
- INLETS AND MANHOLES THAT ARE NOT COMPLETE AND/OR ARE SUBJECT TO CONVEYING STORM WATER FLOWS ARE TO BE PROTECTED TO PREVENT SEGMENT FROM ENTERING THE PROPOSED OR EXISTING STORM WATER SYSTEM.
 - PROTECTION SHALL CONSIST OF ONE LAYER OF 3/4-INCH DAK TIMBERS, ONE (1) INCH APART, COVERED WITH ONE LAYER OF WOVEN POLYPROPYLENE OR POLYESTER FILTER FABRIC (ECON OFF 1000, PHILLIPS SUNG AWESST) OR APPROVED EQUIV.) HELD IN PLACE WITH 1/2" STAPLES. TIMBERS SHALL BE HELD IN PLACE WITH TWO (2) 2x4s NAILING SECURELY TO EACH TIMBER OVER THE FILTER FABRIC. THE FILTER FABRIC SHALL EXTEND BEYOND THE PERIMETER OF THE DAK TIMBERS AS TO ENSURE ONE (1) FOOT OF BURY BETWEEN THE MANHOLE OR INLET AND THE SURROUNDING SOIL AS SHOWN.
 - FILTER FABRIC TO BE CLEANED OR REPLACED WHEN IT CEASES TO FUNCTION PROPERLY OR AS DIRECTED BY THE ENGINEER.
 - CONTRACTOR MAY SUBMIT PLANS FOR ALTERNATE METHODS OF PROTECTION. THESE ALTERNATE METHODS MUST BE APPROVED PRIOR TO USE IN THE FIELD.
 - NO SEPARATE PAYMENT SHALL BE MADE FOR INLET AND MANHOLE PROTECTION. INCLUDE THE COST IN THE UNIT PRICE FOR THE INLETS AND MANHOLES.

EROSION AND SEDIMENTATION CONTROL NOTES

- PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL INSTALL EROSION AND SEDIMENTATION CONTROLS AT LOCATION SHOWN ON PLANS.
- CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL SYSTEMS SPECIFIED HEREIN AT A MINIMUM OF ONCE EVERY CALENDAR DAY.
- CONTRACTOR SHALL MAINTAIN, REPAIR AND/OR REPLACE DAMAGED EROSION AND SEDIMENTATION CONTROL SYSTEMS THROUGHOUT THE DURATION OF THE CONTRACT (NO SEPARATE PAY).
- CONTRACTOR SHALL PROVIDE PROTECTED STORAGE AREAS FOR CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER POTENTIALLY TOXIC MATERIALS.
- CONTRACTOR SHALL LOCATE FUEL, MATERIAL, STORAGE AREAS AWAY FROM STORM WATER CONVEYANCE SYSTEMS. CONTRACTOR SHALL USE BULK FERTILIZING, FERT BALES, OR BARGE AROUND FUEL STORAGE AREAS. (NO SEPARATE PAY).
- CONTRACTOR SHALL ADVISE OWNER IMMEDIATELY, VERBALLY, AND IN WRITING, OF ANY FUEL OR TOXIC MATERIAL SPILLS INTO THE PROJECT/CONSTRUCTION AREA AND THE ACTION TAKEN TO REMEDY THE PROBLEM.
- CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF HIS FUELS, MATERIALS, AND CONTAMINATED OUTFALLING IN A LEGALLY APPROVED MANNER. (NO SEPARATE PAY).
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE ENVIRONMENTAL LAWS.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATELY MAINTAINED SANITARY FACILITIES.
- AT COMPLETION OF THE CONTRACT, OWNER AND/OR OWNER'S REPRESENTATIVE WITH THE CONTRACTOR SHALL EXAMINE EROSION AND SEDIMENTATION CONTROL SYSTEM BEFORE ALLOWING CONTRACTOR OF HIS MAINTENANCE RESPONSIBILITIES.
- IF EROSION AND SEDIMENTATION CONTROL SYSTEM IS EXISTING FROM PRIOR CONTRACTS, OWNER AND/OR OWNER'S REPRESENTATIVE WITH THE CONTRACTOR SHALL EXAMINE THE EXISTING EROSION AND SEDIMENTATION CONTROL SYSTEM FOR DAMAGE. DAMAGE NOTED AT THIS TIME SHALL BE REPAIRED AT OWNER'S EXPENSE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR STREET CLEANING, ON A DAILY BASIS, ALL MUD AND WRT DEPOSITED ON THE EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY.
- IF PAVING CONTRACTOR REMOVES OR PUNCTURES TIMBER GATE TO ESTABLISH DRAINAGE, INLET MUST BE RE SURROUNDED BY FILTER FABRIC FENCE, AS SHOWN IN DETAIL ON THIS SHEET.



GRAND MISSION MUNICIPAL UTILITY DISTRICT NO. 2
FORT BEND COUNTY, TEXAS

J.C. JONES CARTER
Texas Board of Professional Engineers Registration No. 1-433
2022 W. Grand Parkway North, Suite 100, Katy, TX 77449 TEL: 281.933.6140

GRAND MISSION ESTATES SEC 21

STORM WATER POLLUTION PREVENTION PLAN

NOTE: CITY SIGNS THREE (3) FOR ONE YEAR ONLY AFTER DATE OF SIGNATURE

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WEEK: _____ INV# & STREET/BOX#

NOTES: _____ STORM WATER QUANTITY

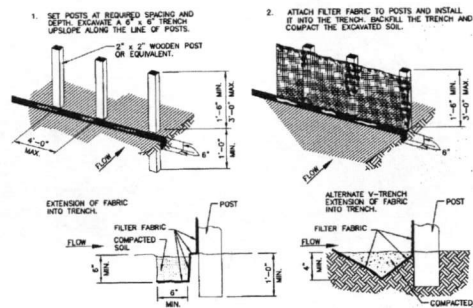
STATION: _____ POLYMER

FILE NO.: _____ FOR CITY OF HOUSTON USE ONLY
JOB NO.: 6258-023-58 CITY ENG. NO.

DATE: APRIL 2019
DOW BY: JMS
SCALE: 1"=100'

60296
CITY ENGINEER
HARTY, TOP

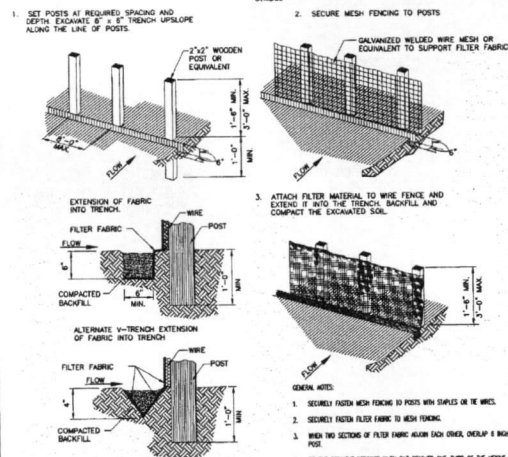
SHEET NO. 16 OF 18



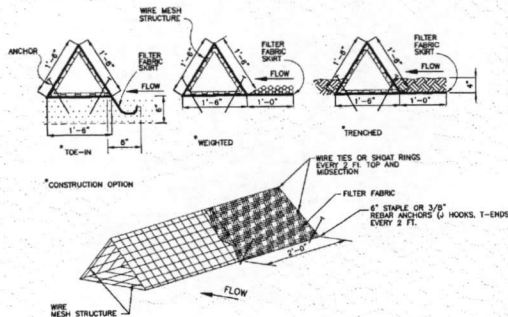
GENERAL NOTES:

1. SET POSTS AT 4-FOOT MAXIMUM SPACING. IF FACTORY PRESTRESSED FENCE WITH SUPPORT METING IS USED, SPACING OF POSTS MAY BE INCREASED TO 8 FEET MAXIMUM.
2. WHEN TWO SECTIONS OF FILTER FABRIC MEET, EACH OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO THE POSTS.
3. REMOVE SEDIMENT DEPOSITS WHEN SALT DEPTH REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE.

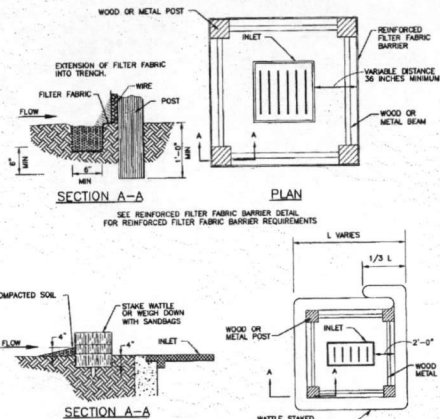
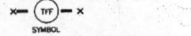
FILTER FABRIC FENCE



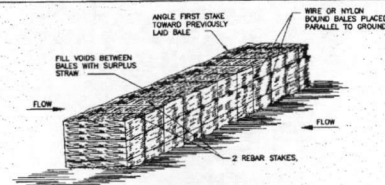
REINFORCED FILTER FABRIC BARRIER



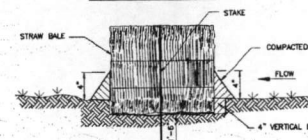
TRIANGULAR FILTER FABRIC FENCE



INLET PROTECTION BARRIERS FOR STAGE I INLETS



STRAW BALE FENCE

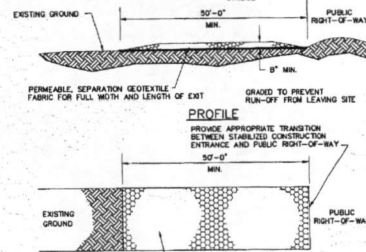


SECTION

GENERAL NOTES:

1. LIMIT USE TO OBSTACLES FOR PURPOSES OF LOW FLOW VELOCITY DRAINAGE FOR EROSION CONTROL. USE STRAW BALES PLACED TO THESE OBSTACLES FROM BALES. DO NOT USE STRAW BALES TO FORM FLOW IN CHANNELS.
2. PLACE BALES IN A ROW WITH ENDS TIGHTLY ADJACENT TO THE ADJACENT BALES. FILL THE VOIDS BETWEEN BALES WITH SURPLUS STRAW. BALES SHALL BE BOUNDING BALES PLACED PARALLEL TO GROUND SURFACE.
3. MAKE EACH BALE AT LEAST 4 INCHES IN THE SOIL.
4. SECURELY ANCHOR BALES IN PLACE BY BEAM STAKES. DRIVE STAKES THROUGH THE BALES AND AT LEAST 10 INCHES INTO THE GROUND. WHILE THE STAKES IN EACH BALE TURNING THE PREVIOUS BALE TO FORM THE BALES TOGETHER.
5. BALE BALES WITH WIRE OR NYLON ROPE TIED ACROSS THE STAKES BALES.
6. REPLACE WITH NEW STAKES WHEN STAKES BECOME WEAR.
7. BALES STAKED INTO THE GROUND ARE A PERMANENT OBSTACLE FOR STORM DRAIN FENCES.

STRAW BALE FENCE



PLAN VIEW

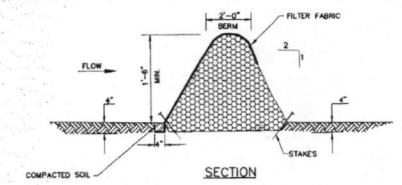
GENERAL NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS ON 50 FEET, MINIMUM 6 INCHES.
2. CONSTRUCTION AND MAINTENANCE CONSTRUCTION COST WITH CONCRETE WHEN ACROSS ITS LENGTH INCLUDING ALL POINTS OF ACCESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, CONSTRUCTION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION COST.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WHEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK TRAILING AREA. PROVIDE OUTLET STABILIZED AREA FOR THE TRUCK TRAILING AREA.
5. PERMANENT PERMANENT TURN DRAGGING WITH AGGREGATE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PAVED WITH MAID.
6. PERMANENTLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. ALTERNATE METHODS OF CONSTRUCTION INCLUDE: -CONCRETE STABILIZED SOIL. -COMPACTED CONCRETE STABILIZED SOIL. -LIMESTONE AGGREGATE, OR OTHER FILL MATERIAL, IN AN APPLICATION OF THICKNESS OF 8 INCHES. -WOOD MESH. ONE OR OTHER WOODWORK (MESH) PLACED OVER TO SOLE AND ACROSS SUPPORT WOODEN BEAMS WHICH ARE PLACED ON TOP OF EXISTING SOIL IN AN APPLICATION THICKNESS OF 8 INCHES. -WOOD MESH. PERMANENTLY WOOD PLACED ACROSS PERMANENTLY SUPPORT BEAMS.

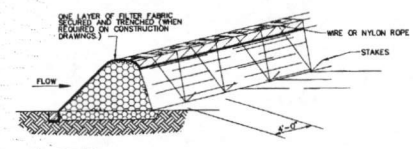
STABILIZED CONSTRUCTION ACCESS



ISSUED FOR CONSTRUCTION



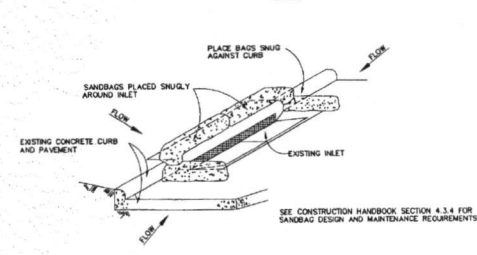
SECTION



GENERAL NOTES:

1. LIMIT USE TO OBSTACLES FOR PURPOSES OF LOW FLOW VELOCITY DRAINAGE FOR EROSION CONTROL. USE BRUSH BALES TO THESE OBSTACLES FROM BALES. DO NOT USE BRUSH BALES TO FORM FLOW IN CHANNELS.
2. PLACE BRUSH BALES AND BRUSHES IN ROWS OF LESS THAN 2 INCHES WITH A 6-INCH OVERLAP. HAVE RECONSTRUCTION OF BRUSH MESH AND SOIL AND BRUSH BALES.
3. MINIMUM HEIGHT OF THE BRUSH BERM IS 18 INCHES, MEASURED FROM THE TOP OF THE EXISTING GROUND AT THE UPSTREAM END OF THE BERM.
4. MAINTAIN BRUSH BALES ALONG CONTOUR LINES. MINIMUM PLACEMENT OF BRUSH BALES IS NOT PERMITTED.
5. MAINTAIN BRUSH BERM AT LEAST 4 INCHES INTO THE SOIL.
6. ANCHOR BRUSH BALES WITH WIRE OR NYLON ROPE ACROSS THE BERM WITH A MINIMUM TENSION OF 50 POUNDS.
7. SECURELY TIE ROPE TO 10-INCH REBAR STAKES DRIVEN INTO THE GROUND ON 4-FOOT CENTERS ON BOTH SIDES OF THE BERM.
8. PERFORM MAINTENANCE AS NEEDED.

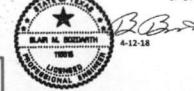
BRUSH BERM



GENERAL NOTES:

1. BALES OR MATS CAN BE USED FOR THIS APPLICATION.
2. PROVIDE MINIMUM OR MAXIMUM GEOTEXTILE FILTER FABRIC FOR BALES.
3. PROVIDE CONCRETE SHIRT AND AGGREGATE FOR FILL MATERIAL FOR BALES. USE ONLY MIXTURES CONSISTING OF CLEAN WASHED, DURABLE MATERIALS FREE FROM ADHERENT COATINGS, SALT, ALKALI, OIL, CLAY, LIME, SHALE, SOFT OR PLASTY MATERIALS, OR ORGANIC AND FIBRILLAR MATERIALS.
4. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARBERS.

INLET PROTECTION BARRIERS FOR STAGE II INLETS

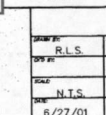
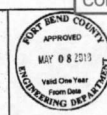


CONSTRUCTION HISTORY:
STORM WATER POLLUTION PREVENTION
DESIGN AND CONSTRUCTION DETAILS
CITY OF HOUSTON, HARRIS COUNTY, TEXAS
WATERSHED FLOOD CONTROL DISTRICT
2001 EDITION

GRAND MISSION ESTATES SEC 21

DATE	BY	REVISION	DATE
6/27/01	N.T.S.	17	17

FORT BEND COUNTY
ENGINEERING DEPARTMENT

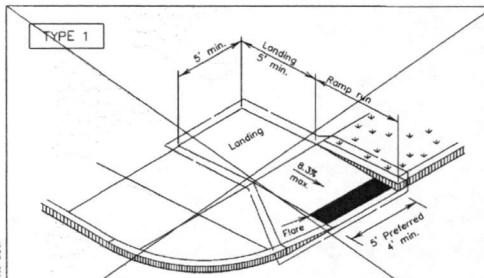


JONES CARTER

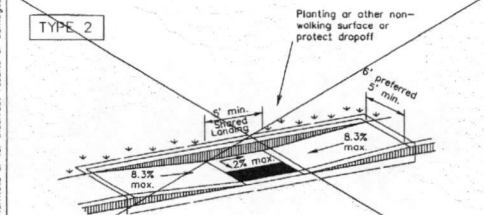
NO.	DESCRIPTION	DATE	NAME
1	DESIGNED: T.M. BROWN	5/27/08	R.L.S.
2	DESIGNED: T.M. BROWN	6/15/08	A.P.

DISCLAIMER: This standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

JONES CARTER
DATE: FILE:

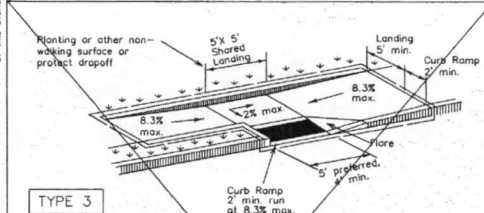


PERPENDICULAR CURB RAMP

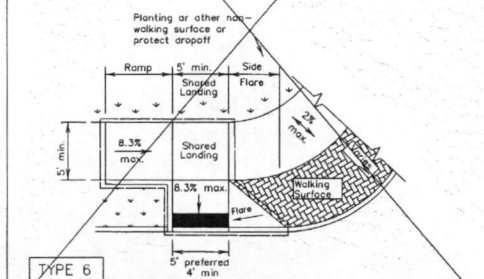


PARALLEL CURB RAMP

(Use only where water will not pond in the landing.)

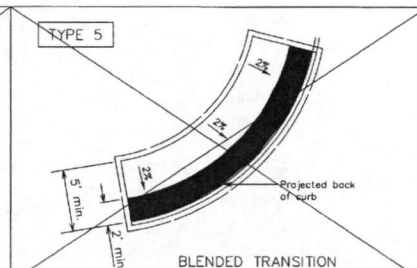


TYPE 3

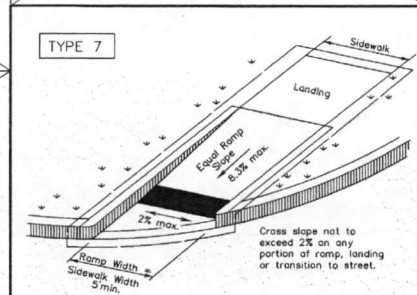


TYPE 6

COMBINATION CURB RAMPS

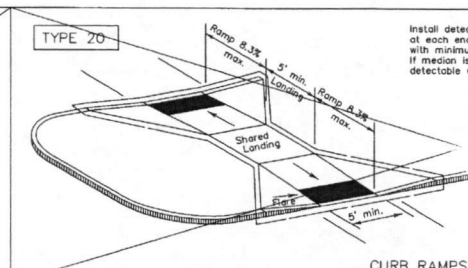


BLENDED TRANSITION

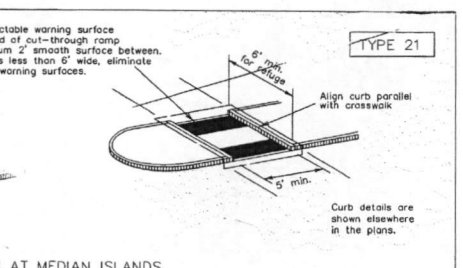


(Sidewalk set back from curb)

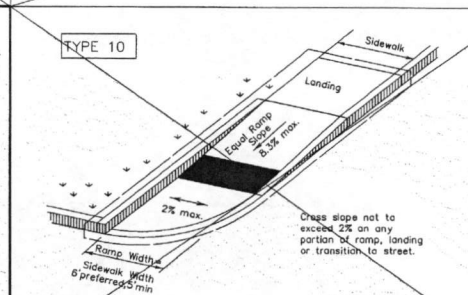
DIRECTIONAL RAMPS WITHIN RADIUS



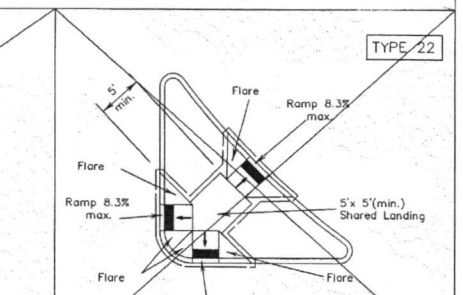
CURB RAMPS AT MEDIAN ISLANDS



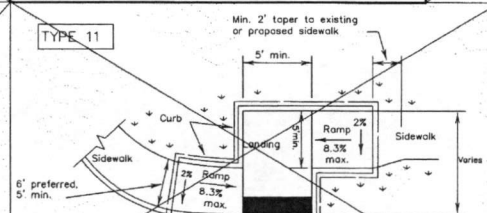
Curb details are shown elsewhere in the plans.



(Sidewalk adjacent to curb)



COMBINATION ISLAND RAMPS



OFFSET PARALLEL CURB RAMP



APPROVED: DATE:

APPROVED: DATE:

APPROVED: DATE:

ISSUED FOR CONSTRUCTION

NOTES / LEGEND:

See General Notes on sheet 2 of 4 for more information.

Denotes planting or non-walking surface not part of pedestrian circulation path.

— Ramp Limits of Payment

■ Detectable Warning Surface

Texas Department of Transportation		Design Division Standard	
PEDESTRIAN FACILITIES CURB RAMPS			
PED-12A			
FILE: ped12a.dgn	DATE: 03/20/2012	BY: PK	CHK: PK
REVISIONS	DATE	BY	CHK
VP June 13, 2012			
COUNTY		SHEET NO.	18 of 18