April 6, 2022

Mr. Walter Reeves
Director of Development Services
City of Angleton
121 S. Velasco
Angleton, TX 77515

Re: On-Going Services
Heritage Park Section 3 Subdivision Final Plat and Construction Plans – 1st Submittal Review
Angleton, Texas
HDR Job No. 10336228

Dear Mr. Reeves:

HDR Engineering, Inc. (HDR) has reviewed the plat for the above referenced subdivision and offers the following comments:

Final Plat

1. Remove the administrative plat certificate and use the Planning & Zoning and City Council certificate that is provided on the plat.
2. Notate the lift station easement from Section 1 & 2 on the plat.
3. Verify the plat note No. 10 shown on the plat and update the plat notes accordingly.
4. Verify the distance of the bearing noted on the plat drawing and in the metes and bounds description (paragraph 3).
5. Verify and show the acreage for the Existing Reserve "A" north of the proposed subdivision. Notate this area separate of the existing 38.00 acres (AISD).
6. Verify if proposed Reserve "A" will require additional notes or requirements for connecting to existing Reserve "A" in Sections 1 & 2.
7. Verify "Owner" to be Property Owner's Association and update Note 12.
8. Use Surveyor's certificate language taken from Angleton LDC Sec. 23-114 A.1
9. Update drainage certificate used to Drainage Easements Maintained by Property Owner's Association.

Construction Plans

General:

1. Provide a copy of the Geotechnical Report to verify pavement and detention pond recommendations are consistent with proposed design.
2. Verification to be provided for existing lift station capacity for this section and to notate any modifications required for pump operation at lift station.

hdrinc.com 4828 Loop Central Drive, Suite 800, Houston, TX 77081-2220
T (713) 622-9264 F (713) 622-9265
Texas Registered Engineering Firm F-754(713) 622-9264

3. Coordination shall be made to verify detention pond capacity of existing sections and to provide any necessary maintenance to allow for proposed Section 3.

Plan & Profile – Heritage Park Drive (Sheet 4)

1. Notate proposed tie-in and to verify manhole condition. Coordination shall be made with Public Works prior to tie-in for any necessary operation of the lift station.
2. Provide 4-ft minimum cover for proposed water line.

Plan & Profile – Elm Street (Sheet 5)

1. Notate portion of sidewalk to be installed by Developer on the plan.
2. Proposed layout for Heritage Park Drive is not per preliminary plat information submitted. Verify design for end of street and verify temporary turnaround requirements with Fire Department for end of Heritage Park Drive.
3. Verify relocation of curb ramps to corners (example shown on plans).
4. Verify placement of mailbox pad to relocate to southeast corner or across Heritage Park Dr.
5. Verify driveway access for Lot 30. Existing tree, proposed curb ramp, and proposed inlet appear to obstruct placement.
6. Verify proposed slope (proposed 0.00%) at intersection and update plans.
7. Provide 4-ft minimum cover for proposed water line.

Plan & Profile – Elm Street (Sheet 6)

1. Provide 4-ft minimum cover for proposed water line.

Utility Layout (Sheet 7)

1. Include fire hydrant near intersection where shown on the review drawings.

Detention Pond Layout and Calculations (Sheet 8)

1. Provide cross sections to verify existing storage within the detention pond.

Lot Grading Plan (Sheet 10)

1. Verify proposed grading outside of property will be allowed by adjacent property owner.

Pavement Marking, Mailboxes, Street Signs, and Roadway Lighting Layout (Sheet 16)

1. Verify where Type III Barricade will be used and update plan.
2. Verify stop bar placement shown. Placement should be perpendicular to street.

Concrete Pavement Construction Details I (SL-21) (Sheet 27)

1. For "SL-ST-02 Single Roadway Section", Geotechnical recommendations and report reference to be noted with this detail to verify minimum standards are met.

Residential Curb Construction Details I (SL-23) (Sheet 29)

1. For "SL-ST-19 Typical Single Roadway Section For Concrete Pavement With 4"x12" Curb", Geotechnical recommendations and report reference to be noted with this detail to verify minimum standards are met.

The proposed plat is incomplete. We are unable to complete the review until the recommended corrections/changes are made and the additional information requested is submitted. HDR recommends that the Heritage Park Section 3 Subdivision Final Plat and Construction Plans be Revised and Resubmitted.

If you have any questions, please feel free to contact us at our office (713)-622-9264.

Sincerely,

HDR Engineering, Inc.

Javier Vasquez, P.E., CFM
Civil Engineer

cc: Files (10336228/10293241)

Attachments

FIELD NOTES FOR 11.00 ACRE TRACT

BEING A TRACT OF LAND CONTAINING 11.00 ACRES (479,160 SQUARE FEET) OF LAND, LOCATED IN THE T.S. LEE SURVEY, ABSTRACT NUMBER (NO.) 318, IN BRAZORIA COUNTY, TEXAS, BEING A PORTION OF TRACT 20 OF THE OLIVER AND BARROWS SUBDIVISION UNDER VOLUME (VOL.) 2, PAGE 97 OF THE BRAZORIA COUNTY PLAT RECORDS (B.C.P.R.), AND A PORTION OF DETENTION RESERVE "A" OF HERITAGE PARK SECTION ONE SUBDIVISION RECORDED UNDER VOL. 24, PAGE 203 OF THE B.C.P.R., BEING OUT OF A CALLED 38.00 ACRE TRACT RECORDED IN THE NAME OF ANGLETON INDEPENDENT SCHOOL DISTRICT UNDER BRAZORIA COUNTY CLERK'S FILE NO. 2009057153 AND A CALLED 4.929 ACRE TRACT RECORDED IN THE NAME OF ANGLETON INDEPENDENT SCHOOL DISTRICT UNDER B.C.C.F. NO. 2009057153; SAID 11.00 ACRES BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS (BEARINGS AND COORDINATES ARE BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, (NAD83) CENTRAL ZONE, PER GPS OBSERVATIONS):

BEGINNING AT A 5/8-INCH IRON ROD WITH CAP STAMPED "COBB FENDLEY" FOUND ON THE WEST LINE OF A CALLED 9.032 ACRE TRACT (140-FOOT DRAINAGE RIGHT-OF-WAY (R.O.W.)) RECORDED UNDER VOL. (86)329, PAGE 340 OF THE BRAZORIA COUNTY DEED RECORDS (B.C.D.R.), AT THE NORTHEAST CORNER OF RESERVE "A" OF HERITAGE PARK SECTION TWO RECORDED UNDER FILE NO. 2017045675 B.C.P.R., FOR THE SOUTHEAST CORNER OF SAID 4.929 ACRE TRACT AND THE HEREIN DESCRIBED TRACT;

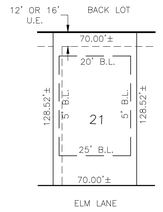
THENCE, WITH THE NORTH LINE OF SAID HERITAGE PARK SECTION TWO, BEING THE SOUTH LINES OF SAID 4.929 AND 38.00 ACRE TRACT, SOUTH 87 DEGREES 08 MINUTES 15 SECONDS WEST, AT A DISTANCE OF 361.55 FEET PASS A 5/8-INCH IRON ROD WITH CAP STAMPED "COBB FENDLEY" AT THE NORTHEAST CORNER OF THE TERMINUS OF HERITAGE PARK DRIVE (60-FEET WIDE PER FILE NO. 2017045675 B.C.P.R.), ON THE WEST LINE OF SAID RESERVE "A", AT A DISTANCE OF 1,354.96 FEET PASS A 5/8-INCH IRON ROD WITH CAP STAMPED "COBB FENDLEY" FOUND AT THE COMMON NORTH CORNER OF LOTS 4 AND 5, BLOCK 1 OF SAID HERITAGE PARK SECTION TWO, CONTINUE IN ALL A DISTANCE OF 1,511.39 FEET TO A 5/8-INCH IRON ROD WITH CAP STAMPED "BAKER & LAWSON" SET ON THE EAST LINE OF A CALLED 40.00 ACRE TRACT RECORDED IN THE NAME OF ANGLETON INDEPENDENT SCHOOL DISTRICT UNDER VOL. 841, PAGE 632 B.C.D.R., AT THE NORTHWEST CORNER OF SAID HERITAGE PARK SECTION TWO, FOR THE SOUTHWEST CORNER OF SAID 38.00 ACRE TRACT AND THE HEREIN DESCRIBED TRACT;

THENCE, WITH THE EAST LINE OF SAID 40.00 ACRE TRACT, BEING THE WEST LINE OF SAID 38.00 ACRE TRACT, NORTH 02 DEGREES 51 MINUTES 13 SECONDS WEST, A DISTANCE OF 317.04 FEET TO A 5/8-INCH IRON ROD WITH CAP STAMPED "BAKER & LAWSON" SET FOR THE NORTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE, THROUGH AND ACROSS SAID 38.00 AND 4.929 ACRE TRACTS, NORTH 87 DEGREES 08 MINUTES 15 SECONDS EAST, A DISTANCE OF 1,511.35 FEET TO A 5/8-INCH IRON ROD WITH CAP STAMPED "BAKER & LAWSON" SET ON THE WEST LINE OF SAID ANGLETON DRAINAGE DISTRICT 9.032 ACRE TRACT, BEING THE EAST LINE OF SAID 4.929 ACRE TRACT, FOR THE NORTHEAST CORNER OF THE HEREIN DESCRIBED TRACT, FROM WHICH A 5/8-INCH IRON ROD WITH CAP STAMPED "BAKER & LAWSON" FOUND AT THE NORTHEAST CORNER OF SAID DETENTION RESERVE "A" BEARS NORTH 02 DEGREES 51 MINUTES 41 SECONDS WEST, A DISTANCE OF 409.38 FEET;

THENCE, WITH THE WEST LINE OF SAID ANGLETON DRAINAGE DISTRICT 9.032 ACRE TRACT, BEING THE EAST LINE OF SAID 4.929 ACRE TRACT, SOUTH 02 DEGREES 51 MINUTES 41 SECONDS EAST, A DISTANCE OF 317.04 FEET TO THE **POINT OF BEGINNING**, CONTAINING 11.00 ACRES OF LAND, MORE OR LESS.

TYPICAL INTERIOR LOT



TYPICAL CORNER LOT

CURVE TABLE					
Curve No.	Length	Radius	Delta	Chord Bearing	Chord Distance
C1	163.43'	300.00'	31°12'49"	S08°01'08"W	161.42'
C3	15.50'	20.00'	44°24'55"	S70°39'17"E	15.12'
C4	234.60'	50.00'	268°49'50"	S02°51'45"E	71.43'
C5	15.50'	20.00'	44°24'55"	S64°55'47"W	15.12'
C6	50.19'	50.00'	57°30'37"	N77°12'08"W	48.11'
C7	41.88'	50.00'	47°59'21"	S50°02'53"W	40.67'
C8	42.74'	50.00'	48°58'29"	S01°33'58"W	41.45'
C9	44.33'	50.00'	50°48'15"	S48°19'24"E	42.90'
C10	55.46'	50.00'	63°33'09"	N74°29'54"E	52.66'
C11	69.76'	40.00'	99°55'48"	N42°53'51"W	61.25'
C12	81.93'	330.00'	14°13'30"	S00°02'42"E	81.72'
C13	179.62'	270.00'	38°06'59"	S10°56'37"W	176.33'
C14	20.16'	300.00'	3°51'00"	N28°04'37"E	20.15'
C15	76.33'	300.00'	14°34'43"	N18°51'45"E	76.13'

PARCEL TABLE	
LOT NO.	AREA S.F.
1	10,984
2	9,446
3	9,446
4	9,446
5	9,446
6	9,446
7	9,446
8	9,446
9	9,446
10	9,446
11	9,446
12	9,380
13	7,895
14	15,249
15	10,714
16	14,340
17	8,896
18	8,996
19	8,996
20	8,996

PARCEL TABLE	
LOT NO.	AREA S.F.
21	8,996
22	8,996
23	8,996
24	8,996
25	8,996
26	8,996
27	8,996
28	8,996
29	8,996
30	8,996

LEGEND

B.C.C.F. = BRAZORIA COUNTY CLERK'S FILE
B.C.D.R. = BRAZORIA COUNTY DEED RECORDS
B.C.P.R. = BRAZORIA COUNTY PLAT RECORDS
B.L. = BUILDING LINE
BM = BENCHMARK
D.&D.E. = DRAINAGE AND DETENTION EASEMENT
FND = FOUND
I.R. = IRON ROD
P.O.B. = POINT OF BEGINNING
R.O.W. = RIGHT-OF-WAY
U.E. = UTILITY EASEMENT
VOL., Pg. = VOLUME, PAGE

SYMBOLS

○ = SET 5/8" I.R. W/CAP "BAKER & LAWSON"
● = FOUND MONUMENT (AS NOTED)
◆ = (TBM) TEMPORARY BENCHMARK

0 30' 60' 120'
SCALE : 1" = 60'

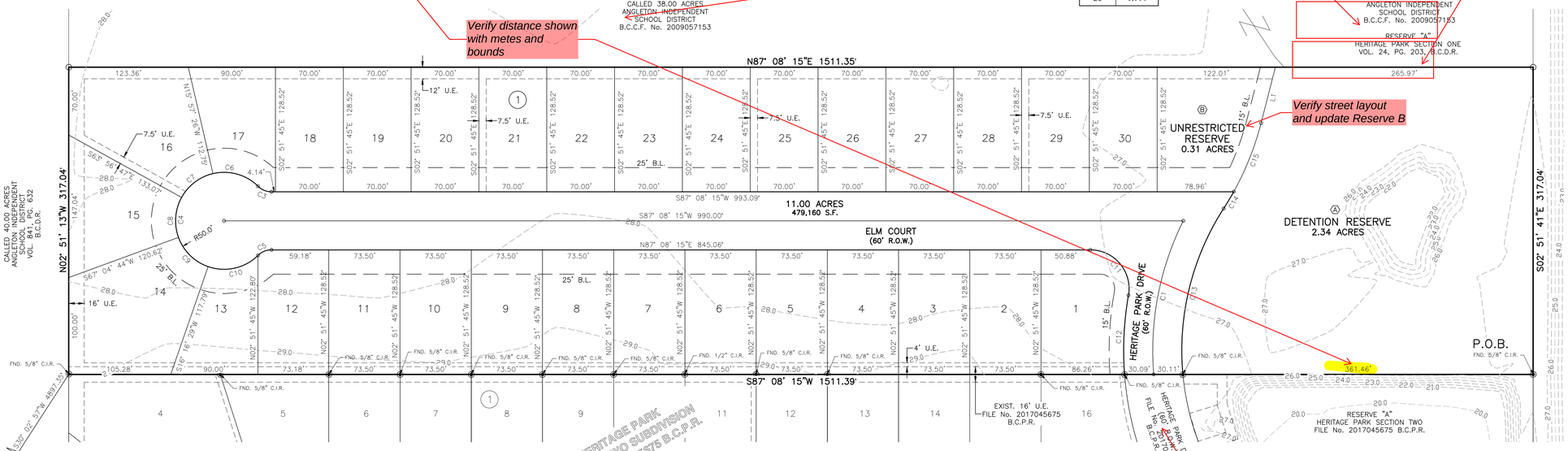
LINE TABLE		
Line No.	Length	Direction
L1	59.68'	N11°34'23"E

RESERVE TABLE			
SYMBOL	DESCRIPTION	RESERVE USE	AREA
Ⓐ	RESTRICTED RESERVE	RESTRICTED TO DETENTION USE	2.34 AC.
Ⓑ	UNRESTRICTED RESERVE	UNRESTRICTED RESERVE	0.31 AC.

Remove if callout is redundant. This area appears to be the portion of Reserve "A" as noted below.

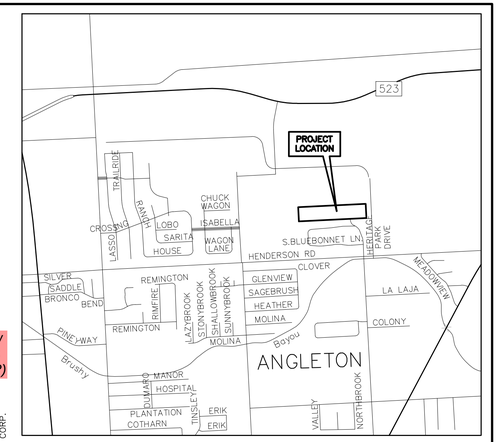
Verify and show acreage for this tract (4.929 Ac?)

Verify distance shown with metes and bounds



Notate lift station easement from Phase 1/2

Use Surveyor's certificate language taken from Angleton LDC Sec. 23-114 A.1



VICINITY MAP
NOT TO SCALE

NOTES:

1. ALL BEARINGS SHOWN HEREON ARE BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, (NAD83) SOUTH CENTRAL ZONE, PER GPS OBSERVATIONS.
2. FLOOD ZONE STATEMENT:
   ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP No. 48039C0435K, REVISED DATE OF DECEMBER 30, 2020, THE SURVEYED PROPERTY LIES WITHIN ZONE "X" (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
3. REFERENCE BENCHMARK:
   NGS MONUMENT R1182 (PID AW1171):A BRASS DISK STAMPED R1182 SET ON CONCRETE CURB OF BRIDGE ON THE NORTH SIDE OF COUNTY ROAD 171, APPROXIMATELY 275 FEET SOUTHWEST OF INTERSECTION WITH CR 428. ELEVATION = 26.31 FEET NGVD29
4. THE POSSIBLE EXISTENCE OF UNDERGROUND FACILITIES OR SUBSURFACE CONDITIONS OTHER THAN THOSE SHOWN MAY AFFECT THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHOWN HEREON.
5. NOTICE: SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF THE UNIFIED DEVELOPMENT CODE OF THE CITY OF ANGLETON AND STATE PLATTING STATUTES AND IS SUBJECT TO FINES AND WITHHOLDING OF UTILITIES AND BUILDING PERMITS.
6. NOTICE: PLAT APPROVAL SHALL NOT BE DEEMED TO OR PRESUMED TO GIVE AUTHORITY TO VIOLATE, NULLIFY, VOID, OR CANCEL ANY PROVISIONS OF LOCAL, STATE, OR FEDERAL LAWS, ORDINANCES, OR CODES.
7. NOTICE: THE APPLICANT IS RESPONSIBLE FOR SECURING ANY FEDERAL PERMITS THAT MAY BE NECESSARY AS THE RESULT OF THE PROPOSED DEVELOPMENT ACTIVITY. THE CITY OF ANGLETON IS NOT RESPONSIBLE FOR DETERMINING THE NEED FOR, OR ENSURING COMPLIANCE WITH ANY FEDERAL PERMIT.
8. NOTICE: APPROVAL OF THIS PLAT DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD OR REGISTERED PUBLIC LAND SURVEYOR IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY THE CITY ENGINEER.
9. NOTICE: ALL RESPONSIBILITY FOR THE ADEQUACY OF THIS PLAT REMAINS WITH THE ENGINEER OR SURVEYOR WHO PREPARED THEM. IN APPROVING THESE PLANS, THE CITY OF ANGLETON MUST RELY ON THE ADEQUACY OF THE WORK OF THE ENGINEER AND/OR SURVEYOR OF RECORD.
10. THE PROPERTY OWNER'S ASSOCIATION WILL BE RESPONSIBLE FOR MAINTENANCE OF THE DETENTION RESERVE, PER LDC SEC. 23-19 RESERVATION. THE 3.389 ACRE DRAINAGE RESERVE WILL BE MAINTAINED BY THE ANGLETON DRAINAGE DISTRICT.
11. ALL REAR BUILDING LINES SHALL BE 20 FEET FROM PROPERTY LINE. SIDE BUILDING LINES SHALL BE 5 FEET FOR INTERIOR SIDE LOTS, 15 FEET FOR CORNER LOTS ADJACENT TO THE RIGHT-OF-WAY, AND 25 FEET FOR KEY CORNER LOTS. THE FRONT OF THE BUILDING LINE SHALL BE 25 FEET.
12. THE OWNER WILL BE RESPONSIBLE FOR MAINTENANCE OF THE 0.31 AC. UNRESTRICTED RESERVE.

Verify: Property Owner's Association?

Verify where location sho

DEDICATION STATEMENT:

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:
THAT Clint Peltier, do hereby adopt this plat designating the hereinabove described property as HERITAGE PARK SECTION 3, a subdivision in the jurisdiction of the City of Angleton, Texas, and does hereby dedicate, in fee simple, to the public use forever, the streets, alleys and public parkland shown thereon. The streets, alleys and parkland are dedicated for street purposes. The easements and public use areas, as shown, are dedicated for the public use forever, for the purposes indicated on this plat. No buildings, fences, trees, shrubs, or other improvements or growths shall be constructed or placed upon, over, or across the easements as shown, except that landscape improvements may be placed in landscape easements, if approved by the City of Angleton. In addition, utility easements may also be used for the mutual use and accommodation of all public utilities desiring to use or using the same unless the easement limits the use to particular utilities, said use by public utilities being subordinate to the public's and City of Angleton's use thereof. The City of Angleton and public utility entities shall have the right to remove and keep removed all or parts of any buildings, fences, trees, shrubs, or other improvements or growths which may in any way endanger or interfere with the construction, maintenance, or efficiency of their respective systems in said easements. The City of Angleton and public utility entities shall at all times have the full right of ingress and egress to or from their respective easements for the purpose of constructing, reconstructing, inspecting, patrolling, maintaining, reading meters, and adding to or removing all or parts of their respective systems without the necessity at any time of procuring permission from anyone.

This plat is hereby adopted by the Owners and approved by the City of Angleton (called "City") subject to the following conditions which shall be binding upon the Owners, their heirs, grantees and successors: The portion of Block 1, as shown on the plat is called "Drainage and Detention Easement." The Drainage and Detention Easement within the limits of this addition, will remain open at all times and will be maintained in a safe and sanitary condition by the owners of the lot or lots that include ownership of the Drainage and Detention Easement. The City will not be responsible for the maintenance and operation of said Easement or for any damages to private property or persons that occur in the Easement, or for the control of erosion. No obstruction to the natural flow of stormwater run-off shall be permitted by construction of any type of building, fence, or any other structure within the Drainage and Detention Easement as herein above defined, unless approved by the City Engineer. Provided, however, it is understood that in the event it becomes necessary for the City to erect or consider erecting any type of drainage structure in order to improve the storm drainage that may be occasioned by the City shall have the right to enter upon the Drainage and Detention Easement at any point, or points, to investigate, survey or to erect, construct and maintain any drainage facility deemed necessary for drainage purposes. Each property owner shall keep the Drainage and Detention Easement clean and free of debris, silt, and any substance which would result in unsanitary conditions or obstruct the flow of water, and the City shall have the right of ingress and egress for the purpose of inspection and supervision of maintenance work by the property owner to alleviate any undesirable conditions which may occur. The natural drainage through the Drainage and Detention Easement is subject to storm water overflow and natural bank erosion to an extent which cannot be definitely determined or controlled and shall not be held liable for any damages of any nature resulting from the occurrence of natural phenomena, or resulting from the failure of any structures, within the Easement.

Easements Maintained by a Homeowner's Association

certificate is for Administrative plats. Remove and use the P&Z/Council Certificate that is provided on the plat

APPROVED this _____ day of _____, 20_____.

_____
City Manager

_____
City Secretary

STATE OF TEXAS §
COUNTY OF BRAZORIA §
This instrument was acknowledged before me on the _____ day of _____, 20_____, by _____, City Secretary, City of Angleton, on behalf of the City.

Notary Public
State of Texas

HERITAGE PARK SECTION TWO SUBDIVISION FILE No. 2017045675 B.C.P.R.

OWNER'S ACKNOWLEDGEMENT:

STATE OF TEXAS §
COUNTY OF BRAZORIA §

The owner of land shown on this plat, in person or through a duly authorized agent, dedicates to the use of the public forever all streets, alleys, parks, watercourses, drains, easements and public places thereon shown for the purpose and consideration therein expressed.

_____
Clint Peltier

_____
Duly Authorized Agent

STATE OF TEXAS §
COUNTY OF BRAZORIA §

Before me, the undersigned, personally appeared Clint Peltier known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same for the purposes and considerations therein expressed and, in the capacity, therein stated. Given under my hand and seal of office this ___ day of _____, _____.

_____
Notary Public
State of Texas

ANGLETON DRAINAGE DISTRICT

ANGLETON DRAINAGE DISTRICT ACCEPTED, THIS THE _____ DAY OF _____, 20_____, THE BOARD OF SUPERVISORS OF THE ANGLETON DRAINAGE DISTRICT DOES NOT WARRANT, REPRESENT OR GUARANTEE:

1. THAT DRAINAGE FACILITIES OUTSIDE THE BOUNDARIES OF THE SUBDIVISION PLAT ARE AVAILABLE TO RECEIVE RUNOFF FROM THE FACILITIES DESCRIBED IN THIS PLAT.
2. THAT DRAINAGE FACILITIES DESCRIBED IN THIS PLAT ARE ADEQUATE FOR RAINFALL IN EXCESS OF ANGLETON DRAINAGE DISTRICT MINIMUM REQUIREMENTS.
3. THAT BUILDING ELEVATION REQUIREMENTS HAVE BEEN DETERMINED BY THE ANGLETON DRAINAGE DISTRICT.
4. THAT THE DISTRICT ASSUMES ANY RESPONSIBILITY FOR CONSTRUCTION, OPERATION OR MAINTENANCE OF SUBDIVISION DRAINAGE FACILITIES.

THE DISTRICT'S REVIEW IS BASED SOLELY ON THE DOCUMENTATION SUBMITTED FOR REVIEW, AND ON THE RELIANCE ON THE REPORT SUBMITTED BY THE TEXAS REGISTERED PROFESSIONAL ENGINEER.

THE DISTRICT'S REVIEW IS NOT INTENDED NOR WILL SERVE AS A SUBSTITUTION OF THE OVERALL RESPONSIBILITY AND/OR DECISION MAKING POWER OF THE PARTY SUBMITTING THE PLAT OR PLAN HEREIN, THEIR OR ITS PRINCIPALS OR AGENTS.

_____ _____
CHAIRMAN MEMBER

_____
MEMBER

PLANNING AND ZONING COMMISSION AND CITY COUNCIL:

APPROVED this _____ day of _____, 20_____, by the Planning and Zoning Commission, City of Angleton, Texas.

_____
BILL GARWOOD, Chairman, Planning and Zoning Commission

_____
FRANCES AGUILAR, City Secretary

APPROVED this _____ day of _____, 20_____, by the City Council, City of Angleton, Texas.

_____
JASON PEREZ, Mayor

_____
FRANCES AGUILAR, City Secretary

STATE OF TEXAS §
COUNTY OF BRAZORIA §

This instrument was acknowledged before me on the _____ day of _____, 20_____, by FRANCES AGUILAR, City Secretary, City of Angleton, on behalf of the City.

_____
Notary Public
State of Texas

I HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND, THAT THIS PLAT CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY AND THAT THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS.

SIGNED: _____
LUTHER J. DAILY DATE
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NO. 6150

STATE OF TEXAS · REGISTERED · LUTHER J. DALY · 6150 · PROFESSIONAL LAND SURVEYOR

KNOW ALL MEN BY THESE PRESENTS:
That I, Miguelangel Sauceda, do hereby certify that proper engineering consideration has been provided in this plat. To the best of my knowledge, this plat conforms to all requirements of the Angleton LDC, except for any variances that were expressly granted by the City Council.

SIGNED: _____
MIGUELANGEL A SAUCEDA DATE
PROFESSIONAL ENGINEER
TEXAS REGISTRATION NO. 121992

STATE OF TEXAS · REGISTERED · MIGUELANGEL A SAUCEDA · 121992 · PROFESSIONAL ENGINEER

OWNER/DEVELOPER:
CLINT PELTIER
435 SPUR 28
DANBURY TEXAS 77534
cpchinvoices@gmail.com

REVISED:

FINAL PLAT

HERITAGE PARK SUBDIVISION SECTION 3
A 11.00 ACRE, 30-LOT, 1 BLOCK, 2 RESERVE SUBDIVISION

BEING A PORTION OF TRACT 20 OF
THE OLIVER AND BARROWS SUBDIVISION
VOL. 2, Pg. 97, B.C.P.R. AND A
PORTION OF DETENTION RESERVE "A" OF
HERITAGE PARK SECTION ONE SUBDIVISION
VOL. 24, PG. 97, B.C.P.R.
LOCATED IN THE T.S. LEE SURVEY, ABSTRACT No. 318
IN BRAZORIA COUNTY, TEXAS

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 Technology Drive, Suite 1530
Angleton, TX 77515
OFFICE: (979) 849-6681
TBPLS No. 10052500
REG. NO. F-825

PROJECT NO.: 15012	SCALE: 1" = 60'	DRAWN BY: BT
DRAWING NO.: 15012 PLAT.DWG	DATE: 03/08/2022	CHECKED BY: LJD

PLANS FOR CONSTRUCTION OF

GRADING, PAVING, AND UTILITIES ON

HERITAGE PARK SECTION 3

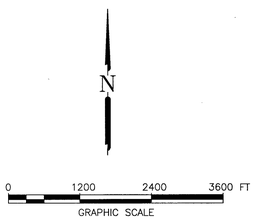
A 11.00 ACRE, 30-LOT SUBDIVISION

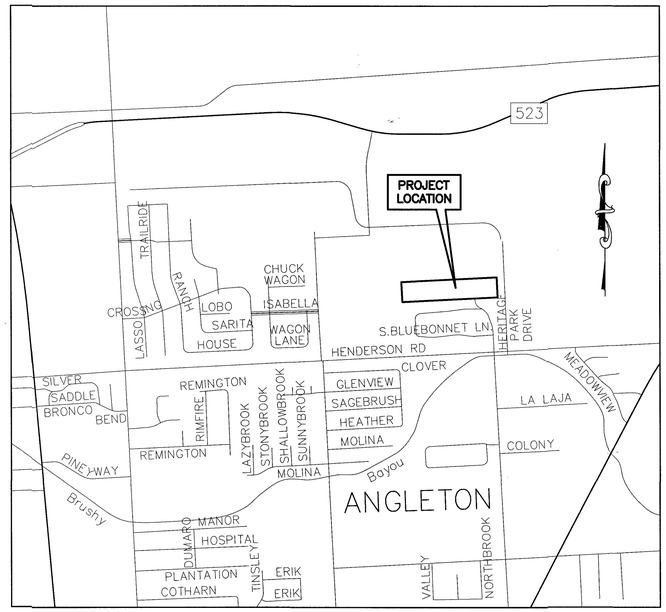
FOR THE

CITY OF ANGLETON

BRAZORIA COUNTY

B&L JOB No. 15012





VICINITY MAP

INDEX OF DRAWINGS

SHEET NO.	SHEET NAME
1	TITLE SHEET
1A	PRELIMINARY PLAT
1B	FINAL PLAT
2	CONSTRUCTION NOTES (1 OF 2)
2A	CONSTRUCTION NOTES (2 OF 2)
3	EXISTING CONDITIONS
4	PLAN & PROFILE - HERITAGE PARK DR. STA 0+00 TO 2+90
5	PLAN & PROFILE - ELM STREET STA 0+00 TO 5+20
6	PLAN & PROFILE - ELM STREET STA 5+20 TO 10+90
7	UTILITY LAYOUT
8	DETENTION POND DESIGN, CROSS SECTIONS
9	DRAINAGE AREA MAP
10	GRADING PLAN
11	TREE PRESERVATION PLAN
12	SWPPP LAYOUT
13	SWPPP NARRATIVE
14	HYDROLOGIC CALCULATIONS
15	WINDSTORM DATA
16	PAVEMENT MARKINGS, MAIL BOXES, STREET SIGNS AND ROADWAY LIGHTING LAYOUT

DETAIL SHEETS

SHEET NO.	SHEET NAME
17	MISCELLANEOUS DETAILS
18	(SL-03) STORM SEWER MANHOLE CONSTRUCTION DETAILS
19	(SL-08) STORM SEWER INLET CONSTRUCTION DETAILS II
20	(SL-09) STORM SEWER INLET CONSTRUCTION DETAILS III
21	(SL-10) STORM SEWER CONSTRUCTION DETAILS
22	(SL-14) SANITARY SEWER CONSTRUCTION DETAILS
23	(SL-15) WATER LINE CONSTRUCTION DETAILS
24	(SL-16) WATER LINE CROSSING DETAILS
25	(SL-19) WATER LINE, SAN. SEW. F.M. BEDDING DETAILS
26	(SL-20) STORM SEW. BEDDING AND BACKFILL DETAILS
27	(SL-21) CONCRETE PAVEMENT CONSTRUCTION DETAILS
28	(SL-22) CONCRETE PAVEMENT CONSTRUCTION DETAILS
29	(SL-23) RESIDENTIAL CURB CONSTRUCTION DETAILS
30	(SL-25) WHEEL CHAIR RAMP & SIDEWALK DETAILS I
31	(SL-26) WHEEL CHAIR RAMP & SIDEWALK DETAILS II
32	(SL-33) GENERAL EROSION CONTROL NOTES
33	(SL-34) EROSION CONTROL DETAILS I
34	(SL-35) EROSION CONTROL DETAILS II

CITY OF ANGLETON

	CITY COUNCIL
MAYOR	MIKEY SVOBODA
JASON PEREZ	CECIL BOOTH
	JOHN WRIGHT
CITY MANAGER	TRAVIS TOWNSEND
CHRIS WHITTAKER	MARK GONGORA

"Release of this application does not constitute a verification of all data, information and calculations supplied by the applicant. The engineer of record is solely responsible for the completeness, accuracy and adequacy of their submittal, whether or not the application is reviewed for Code compliance by the City Engineer."

"All responsibility for the adequacy of these plans remains with the Engineer who prepared them. In approving these plans, the City of Angleton must rely on the adequacy of the work of the Design Engineer."

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

TITLE SHEET

PROJECT NO. 15012

15012-SHEET SET.DWG

GENERAL NOTES:

1. CONTACT THE ENGINEERING INSPECTORS WITH THE CITY'S DEVELOPMENT SERVICES AT (979) 849-4364 PRIOR TO STARTING WORK TO SCHEDULE A PRE-CONSTRUCTION MEETING.
2. CONTRACTOR IS RESPONSIBLE FOR HAVING ALL BURIED UTILITIES IDENTIFIED, PROTECTED, REPLACED AND/OR PROPERLY REPAIRED IF DAMAGED. REPAIRS/REPLACEMENT SHALL BE AT CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL OBTAIN AND MAINTAIN ON SITE ALL APPLICABLE PERMITS AND AN APPROVED COPY OF THE PLANS AND SPECIFICATIONS. NOTIFY THE CITY'S ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
4. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE CITY'S ENGINEERING DEPARTMENT 24 HOURS PRIOR TO WEEKDAY WORK REQUIRING INSPECTION INCLUDING, BUT NOT LIMITED TO, LIMING, PAVING OPERATIONS, CONCRETE PLACEMENT, FORMING AND SET-UP, DENSITIES, PIPE INSTALLATION, AND ANY TESTING BY LABORATORIES. THE ENGINEERING DEPARTMENT MAY BE REACHED AT 979-849-4364 OR BY CONTACTING THE ASSIGNED INSPECTOR
5. ALL SATURDAY WORK SHALL BE REQUESTED, IN WRITING, WITH THE CITY'S ENGINEERING DEPARTMENT AT LEAST 48-HOURS IN ADVANCE. SUNDAY AND HOLIDAY WORK REQUIRES 72 HR. WRITTEN REQUESTS AND MUST BE APPROVED BY THE CITY ENGINEER, REQUIRED INSPECTIONS MAY BE SUBJECT TO INSPECTION FEES. NON-NOTIFICATIONS MAY RESULT IN NON-COMPLIANCE, WORK ORDERED STOPPAGE AND DOUBLE INSPECTION FEES.
6. FULL-TIME RESIDENT INSPECTION BY THE PROJECT ENGINEER'S REPRESENTATIVE SHALL BE PROVIDED AT ALL CRITICAL POINTS OF CONSTRUCTION OR AS DEEMED NECESSARY BY THE CITY OF ANGLETON
7. FOLLOW-UP INSPECTIONS OF ALL PUBLIC INFRASTRUCTURE SHALL BE SCHEDULED WITHIN 60 DAYS OF THE INITIAL INSPECTION. COMPLETE RE-INSPECTION AND A NEW PUNCH LIST MAY BE REQUIRED AFTER THE 60 DAY PERIOD.
8. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE TEXAS COMMISSION OF ENVIRONMENTAL QUALITY RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS, THE CITY OF SUGAR LAND DESIGN MANUAL (ISSUED 2007), AND THE CITY OF SUGAR LAND STANDARD DETAIL SHEETS. THE CITY OF SUGAR LAND DESIGN STANDARDS SHALL BE ACQUIRED (AND USED) FROM THE ENGINEERING DEPARTMENT, THE LATEST REVISIONS AND/OR AMENDMENTS SHALL BE OBSERVED. WHERE CONFLICT MAY ARISE BETWEEN INFORMATION ON APPROVED CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS AND CITY OF SUGAR LAND STANDARDS, THEN THE CITY DESIGN STANDARDS SHALL GOVERN.
9. ALL STATIONS ARE CENTERLINE OF STREET RIGHT-OF-WAY UNLESS OTHERWISE NOTED ON THE PLANS EXCEPT IN SIDE OR BACK LOT EASEMENTS WHERE CENTERLINE IS CENTER OF PIPE. IN EASEMENTS WHERE SANITARY AND STORM SEWER ARE PRESENT PARALLEL, STATIONS SHALL BE BASED ON CENTERLINE OF STORM SEWER PIPING.
10. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. ANY DRAINAGE AREA OR STRUCTURE DISTURBED, DURING CONSTRUCTION, SHALL BE RESTORED TO THE SATISFACTION OF THE CITY OF ANGLETON. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF SUGAR LAND DESIGN STANDARDS. IF NON-COMPLIANCE OCCURS, CONTRACTOR SHALL REMEDY IMMEDIATELY AT HIS OWN EXPENSE.
11. ANY POLLUTION CONTROL DEVICE, SOD, OR SEEDED AREA DAMAGED, DISTURBED, OR REMOVED SHALL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR WATERING ANY SEED OR SOD WHICH HE HAS INSTALLED UNTIL ADEQUATE GROWTH IS ACHIEVED TO PREVENT EROSION.
12. STORM WATER POLLUTION PROTECTION SHALL BE DESIGNED, CONSTRUCTED, MAINTAINED AND SHALL BE IN TOTAL COMPLIANCE WITH THE STORM WATER QUALITY MANUAL OF THE CITY OF ANGLETON.
13. ANY MATERIALS OR WORKMANSHIP NOT MEETING OR EXCEEDING CITY OF SUGAR LAND STANDARDS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
14. THE CONTRACTOR SHALL KEEP THE STREETS, RIGHT-OF-WAY, AND WORK AREA CLEAN OF DIRT, MUD, AND DEBRIS AS NEEDED OR AS REQUIRED BY CITY STAFF.
15. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL REQUIRED TRAFFIC SAFETY CONTROL DEVICES UP TO AND INCLUDING FLAGMEN OR POLICE OFFICERS, IF DEEMED NECESSARY BY THE CITY OF ANGLETON.
16. THE CONTRACTOR SHALL CONTACT THE CITY OR LOCAL MUD AS APPROPRIATE TO OPERATE EXISTING UTILITIES AND PRIOR TO MAKING TIE-INS.
17. ALL BACKFILL WITHIN PUBLIC RIGHTS-OF-WAY OR EASEMENTS SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY (IN 8 INCH LIFTS) AND TESTED FOR ±2% OPTIMUM MOISTURE BY AN APPROVED LAB.
18. IT IS PERMISSIBLE TO USE A BACKHOE FOR TRENCH EXCAVATION IN LIEU OF A TRENCHING MACHINE.
19. THE CONTRACTOR SHALL NEVER UNLOAD ANY TRACK- TYPE VEHICLE OR EQUIPMENT ON ANY EXISTING PAVEMENT OR CROSS OVER ANY EXISTING PAVEMENT OR CURB.
20. ALL FINISH GRADES ARE TO CONFORM TO A MINIMUM SLOPE OF 6" PER 100 FT. POSITIVE DRAINAGE IS DEPICTED BY ARROWS.
21. CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT ALL "POINTS OF CROSSING" TO DETERMINE IF CONFLICTS EXIST BEFORE COMMENCING ANY CONSTRUCTION. NOTIFY THE ENGINEER AT ONCE OF ANY CONFLICT.
22. ALL FINISHED GRADES SHALL VARY UNIFORMLY BETWEEN FINISHED ELEVATIONS.
23. ALL TESTING PROCEDURES SHALL CONFORM TO THE CITY OF SUGAR LAND STANDARDS. THE INITIAL TESTING EXPENSE SHALL BE BORNE BY THE OWNER. IF ANY OF THE TESTS DO NOT MEET THE TESTING STANDARDS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE OR REPLACE SUCH MATERIAL SO THE TESTING STANDARDS CAN BE MET. ADDITIONAL TESTING TO MEET COMPLIANCE SHALL BE AT THE CONTRACTOR'S EXPENSE.
24. CONTRACTOR SHALL PROVIDE SHEETING, SHORING, AND BRACING AS NECESSARY TO PROTECT WORKMEN AND EXISTING UTILITIES DURING ALL PHASES OF CONSTRUCTION AS PER O.S.H.A. REQUIREMENTS.
25. ALL MATERIALS AND WORKMANSHIP NOT GOVERNED BY CITY STANDARDS SHALL CONFORM TO THE LATEST VERSION OF THE TXDOT STANDARD SPECIFICATIONS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND ANY REVISIONS THERETO.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIALS AND EQUIPMENT STORED ON THE JOBSITE IN A SAFE AND WORKMAN-LIKE MANNER (DURING AND AFTER WORKING HOURS), UNTIL JOB COMPLETION.
27. THE LOADING AND UNLOADING OF ALL PIPE, VALVES, HYDRANTS, MANHOLES, AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIAL. THE CONTRACTOR SHALL LOCATE AND PROVIDE THE NECESSARY STORAGE AREAS FOR MATERIAL AND EQUIPMENT.
28. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR FOR EXCAVATION, INSTALLATION, AND COMPLETION OF THE PROJECT AS SHOWN ON THE PLANS AND SPECIAL PROVISIONS TO COMPLY WITH CITY OF SUGAR LAND STANDARDS.
29. NO PRIVATE UTILITIES (I.E., PHONE, CABLE T.V., ELECTRICITY, ETC.) SHALL BE INSTALLED WITHIN 4 FEET BACK OF CURB.
30. PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THE PLANS. THE CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, INCLUDING CURRENT OSHA STANDARDS FOR TRENCH SAFETY SYSTEMS, SEALED BY A LICENSED PROFESSIONAL ENGINEER. APPROPRIATE TRENCH SAFETY PLANS SHALL BE SUBMITTED BY THE CONTRACTOR PRIOR TO EXECUTION OF A CONTRACT FOR HIS WORK.

CONCRETE/PAVING NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND AUTHORIZATION REQUIRED BY CITY OF ANGLETON.
2. CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO CONSTRUCTION AND WILL REPAIR OR REPLACE ANY DAMAGE AT CONTRACTOR'S EXPENSE.
3. PAVING CONTRACTOR SHALL PROTECT WATER, SEWER, AND DRAINAGE FACILITIES AND WILL REPLACE ANY DAMAGED FACILITIES AT HIS OWN EXPENSE. ALL MANHOLES AND VALVES WITHIN THE PAVEMENT AREA SHALL BE ADJUSTED TO FINISH GRADE BY THE PAVING CONTRACTOR WITH THE USE OF APPROVED BLOCKOUTS.
4. WHEN THE TOP OF CURB OR BOTTOM OF SIDEWALK SLAB ELEVATION VARIES FROM THE NATURAL GROUND, THE PAVING CONTRACTOR SHALL BACKFILL IN LAYERS NOT EXCEEDING 8-INCHES IN DEPTH. EACH LAYER WILL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY. THE DISTURBED AREA SHALL BE SEEDED, SODDED, FERTILIZED, AND/OR SILT BARRIER FENCED WITHIN 10 WORKING DAYS. THE TYPE OF POLLUTION CONTROL WILL BE DETERMINED BY THE APPROVED PLANS AND/OR THE CITY OF ANGLETON CITY ENGINEER.
5. ALL PAVING SHALL BE IN ACCORDANCE WITH THE CITY OF SUGAR LAND DESIGN STANDARDS, APPROVED PLANS AND SPECIFICATIONS WITH THE LATEST REVISIONS OR AMENDMENTS. IN THE EVENT OF A CONFLICT, THE CITY OF SUGAR LAND DESIGN STANDARDS GOVERNS.
6. PAVING CONTRACTOR SHALL PROVIDE AND MAINTAIN SILT PROTECTION FENCES ON ALL STAGE I CURB INLETS. THE PAVING CONTRACTOR SHALL MAINTAIN ANY OTHER POLLUTION CONTROLS ESTABLISHED, I.E., ADDITIONAL SILT BARRIERS, SANDBAGS, ETC., FOR THE DURATION OF THE PROJECT. ANY DAMAGED OR MISSING DEVICES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
7. EXISTING PAVEMENTS, CURBS, SIDEWALKS, DRIVEWAYS, ETC., DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO THE CITY OF SUGAR LAND STANDARDS AT THE CONTRACTOR'S EXPENSE.
8. CONDITION OF THE WORK AREA (INCLUDING ROADS, RIGHT-OF-WAYS, ETC.) UPON COMPLETION OF THE JOB SHALL BE AS GOOD OR BETTER THAN THE CONDITION PRIOR TO STARTING THE WORK.
9. ALL DRIVEWAYS WILL BE LOCATED TO AVOID EXISTING CURB INLET STRUCTURES.
10. REDWOOD AND KEYWAYS SHALL NOT INTERSECT WITHIN 2 FEET OF AN INLET.
11. AT INITIAL AND FINAL INSPECTIONS THE PAVEMENT WILL BE FLOODED TO CHECK FOR BIRDBATHS AND CRACKS. FLOODING OF STREETS SHALL OCCUR 1 HOUR PRIOR TO INSPECTION.
12. ALL CONCRETE PLACED SHALL BE UNIFORMLY SPRAYED WITH A MEMBRANE CURING COMPOUND AS DESCRIBED IN ITEM 526 IN THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. IMPROPER APPLICATION WILL RESULT IN THE REJECTION OF THE CONCRETE.
13. SIX (6) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 REBAR, 24" C-C EACH WAY IS THE MINIMUM ACCEPTABLE CONSTRUCTION FOR LOCAL STREETS.
14. SEVEN (7) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 REBAR, 18" C-C EACH WAY IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR COLLECTOR STREETS.
15. EIGHT (8) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 18" C-C EACH WAY IS THE MINIMUM ACCEPTABLE FOR ARTERIAL STREETS.
16. WHEN CONCRETE PAVEMENT INTERSECTS THICKER PAVEMENT, THE THICKER PAVEMENT SHALL BE CONSTRUCTED TO THE ENDS OF ALL CURB RETURNS.
17. ALL RETURNS SHALL HAVE A MIN. 25 FT. RADIUS. AT THE FACE OF CURB UNLESS OTHERWISE NOTED.
18. ALL INTERSECTIONS SHALL BE CONSTRUCTED WITH WHEELCHAIR RAMPS IN ACCORDANCE WITH THE TEXAS ACCESSIBILITY STANDARD, THE AMERICAN DISABILITIES ACT, AND THE CITY OF SUGAR LAND STANDARDS (LATEST REVISIONS). (NO BLOCKOUTS).
19. CONCRETE SIDEWALKS SHALL BE CONSTRUCTED WITHIN EACH STREET RIGHT-OF-WAY IN ACCORDANCE WITH CITY OF SUGAR LAND, THE A.D.A., AND THE T.A.S. STANDARDS (LATEST REVISIONS).
20. CRACKS LARGER THAN 1/16-INCH ARE NOT ACCEPTABLE IN NEW PAVEMENT. CRACKS 1/16-INCH OR LESS SHALL BE ADDRESSED ON AN INDIVIDUAL BASIS BY DRILL AND EPOXY INJECTION, SUBJECT TO APPROVAL OR REJECTION.
21. PROPER TESTING AND LAB DOCUMENTATION IS REQUIRED. FAILURE TO MEET THE MINIMUM PAVEMENT REQUIREMENTS WILL RESULT IN THE REJECTION OF SAID PAVEMENT. IMMEDIATE REMOVAL AND REPLACEMENT OF SUBSTANDARD PAVEMENT SECTIONS WILL BE NECESSARY TO SATISFY THESE REQUIREMENTS.
22. 4-CONCRETE CYLINDERS, SLUMP, AND AIR ENTRAINMENT TESTS ARE REQUIRED FOR EACH 100 CUBIC YARDS OF CONCRETE PAVING WITH A MINIMUM OF ONE SET OF 4 PER PLACEMENT. THE CITY OF ANGLETON RESERVES THE RIGHT TO REQUEST ANY ADDITIONAL TESTS AT THE CONTRACTOR'S EXPENSE, IF ANY MATERIAL APPEARS BELOW STANDARDS.
23. NO. 3 REBAR, 18-INCH C-C E.W. IS THE MINIMUM ACCEPTABLE FOR SIDEWALKS. NUMBER 4-REBAR, 24-INCH C-C E.W. IS THE MINIMUM ACCEPTABLE FOR COMMERCIAL APPROACHES, HANDICAP RAMPS, RESIDENTAL APPROACHES AND DRIVEWAYS.
24. COLD WEATHER PRECAUTIONS. CONCRETE PAVEMENT SHALL NOT BE PLACED WHEN THE AMBIENT TEMPERATURE IS 40°F AND FALLING. CONCRETE MAY BE PLACED IF THE AMBIENT TEMPERATURE IS 35° AND RISING. CONTRACTOR SHALL PROVIDE AN APPROVED COVERING MATERIAL (COTTON MATS, POLYETHYLENE SHEETING, ETC.) IN THE EVENT TEMPERATURE SHOULD FALL BELOW 32°F. NO SALT OR OTHER CHEMICALS SHALL BE ADDED TO CONCRETE TO PREVENT FREEZING.
25. HOT WEATHER. NO CONCRETE PAVEMENT MIXTURE SHALL BE PLACED IF THE MIXTURE TEMPERATURE IS ABOVE 95°F. AIR AND WATER REDUCER ARE REQUIRED IF MIXTURE TEMPERATURE REACHES 85°F OR ABOVE.
26. IF NO AIR AND WATER REDUCER HAS BEEN ADDED, NO CONCRETE SHALL BE PLACED IF MORE THAN 60 MINUTES PAST BATCH TIME. IF AIR AND WATER REDUCER HAS BEEN ADDED, NO CONCRETE SHALL BE PLACED IF MORE THAN 90 MINUTES PAST BATCH TIME.
27. STRUCTURE TEMPERATURES AND TIMING FOR CONCRETE PLACEMENT MAY VARY. REFER TO TXDOT STANDARDS ITEM 420 FOR DETAILS.
28. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY AND ALL INTERSECTION CURB RETURN POINTS. MAXIMUM SPACING SHALL BE 200' AND BE SEALED WITH SEALANT CONFORMING TO TXDOT ITEM 360 (& ITEM 438) AND TXDOT DMS-6310, CLASS-2.
29. CONTROL JOINTS SHALL BE PLACED AT 20' C-C.
30. EXPANSION JOINT LAYOUT FOR INTERSECTIONS SHALL BE PROVIDED BY ENGINEER FOR CITY APPROVAL.
31. NO WIRE MESH IS ALLOWED IN ANY CONCRETE WITHIN THE CITY LIMITS OR ETJ.
32. ALL REBAR SHALL BE 100% TIED. OVERLAPS SHALL BE DOUBLE TIED MINIMUM. REINFORCED STEEL BE A MINIMUM 60% COVERAGE.
33. ALL NEW CURB REQUIRES 3,500 P.S.I. @ 28-DAYS. 4 CONCRETE CYLINDERS, SLUMP, AND AIR ENTRAINMENT TESTS ARE REQUIRED FOR EACH 50 CUBIC YARDS OF CONCRETE CURB WITH A MINIMUM OF ONE SET OF 4 PER PLACEMENT.
34. A CITY INSPECTOR MUST BE PRESENT ON ALL PROOF ROLLS, LIME DEPTH CHECKS AND DENSITY TESTS AND MUST BE CONTACTED AT LEAST 24 HOURS PRIOR TO THE TEST.
35. CONCRETE MIX DESIGN MUST BE SENT TO THE CITY FOR APPROVAL A MINIMUM 72 HOURS BEFORE THE FIRST CONCRETE POUR
36. FOR A REGULAR MIX, SLUMP SHALL BE A MAXIMUM OF 5". FOR A MIX WITH A WATER REDUCER, SLUMP SHALL BE A MAXIMUM OF 6".
37. VEHICLES OF ALL TYPES ARE PROHIBITED FROM DRIVING ON NEW PAVEMENTS SEVEN (7) DAYS AFTER THE CONCRETE POUR AND UNTIL THE CONCRETE HAS REACHED A MINIMUM OF 3,000 PSI. PAVEMENT PROTECTION SUCH AS A DIRT LAYER OF AT LEAST 12" IS REQUIRED FOR TRACK EQUIPMENT AT PAVEMENT CROSSINGS.
38. IN LIEU OF MECHANICALLY CONTROLLED VIBRATORS CONTROLLED BY A SLIP-FORM PAVING MACHINE, HAND MANIPULATED MECHANICAL VIBRATORS SHALL BE USED FOR PROPER CONSOLIDATION OF CONCRETE IN ALL PAVEMENT AREAS (ALONG FORMS, AT JOINTS, ETC.)
39. ALL CONCRETE STREETS AND BRIDGE SURFACES SHALL HAVE A "BAKER BROOM" FINISH, WHILE ALL OTHER CONCRETE PLACEMENT SHALL HAVE A MEDIUM BROOM FINISH.
40. ALL PAVEMENT MARKINGS TO BE DONE IN CONFORMANCE WITH THE LATEST VERSION OF TMUTCD AND TXDOT STANDARD SPECIFICATIONS AND ANY REVISIONS THERETO.
41. REFER TO GENERAL NOTES.

CEMENT STABILIZED SAND:

1. ALL STABILIZED SAND SHALL BE A MINIMUM OF 1.5 SK PER CUBIC YARD.
2. CEMENT STABILIZED SAND (C.S.S.) SHALL ACHIEVE A MINIMUM OF 100 PSI WITHIN 48 HOURS.
3. A MINIMUM OF 2 RANDOM SAMPLES SHALL BE TAKEN EACH WEEK. (FOR SMALLER PROJECTS, ONE SAMPLE MAY SUFFICE WITH CITY OF SUGAR LAND APPROVAL.) THE CITY OF ANGLETON RESERVES THE RIGHT TO REQUIRE ADDITIONAL TESTS, AT THE CONTRACTORS EXPENSE IF IT IS DEEMED NECESSARY.
4. ANY C.S.S. NOT MEETING CITY OF SUGAR LAND STANDARDS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
5. BOTH CEMENT CONTENT AND COMPRESSIVE TESTS SHALL BE CONDUCTED ON C.S.S. SAMPLES.
6. ALL C.S.S. SHALL BE COMPACTED IN MAXIMUM OF 8-INCH LIFTS AND REQUIRED TO REACH A MINIMUM DENSITY OF 95%.
7. REFER TO GENERAL NOTES.

BANK SAND:

1. BANK SAND IS DEFINED AS A WELL-GRADED SAND, FREE OF SILT, CLAY, FRIABLE OR SOLUBLE MATERIALS AND ORGANIC MATER, MEETING THE UNIFIED SOILS CLASSIFICATIONS SYSTEM GROUP SYMBOL SW CRITERIA WITH A PLASTICITY INDEX OF LESS THAN 10. NO MORE THAN 12% OF MATERIAL CAN PASS THE No. 200 SIEVE.

LIMING SUBGRADE:

1. LIME SHALL BE A "SLURRY" AS PER TXDOT 260 UNLESS SPECIFICALLY RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY ENGINEER.
2. ALL LIME SLURRIES SHALL BE FURNISHED AT OR ABOVE THE MINIMUM "DRY SOLIDS" CONTENTS AS APPROVED BY THE ENGINEER.
3. SUBGRADES SHALL BE STABILIZED WITH A MINIMUM SIX PERCENT (6%) LIME BY WEIGHT, EIGHT INCHES (8") THICK THE INITIAL MIX TO REDUCE PLASTICITY INDEX (PI) TO 20 OR LESS AS DETERMINED BY THE LIME SERIES. THE FINAL MIX SHALL BE AT SIX INCHES (6") THICK.
4. LIME DRY SOLID CONTENT TESTS SHALL BE CONDUCTED ON SITE, ONCE PER ONE HUNDRED (one hundred) TONS OF MATERIAL DISTRIBUTED, UNLESS OTHERWISE NOTED.
5. THE SUBGRADE SHALL BE SHAPED AND GRADED TO CONFORM TO THE TYPICAL SECTIONS, AS SHOWN ON THE PLANS, PRIOR TO TREATING THE EXISTING MATERIAL.
6. UNLESS APPROVED BY THE CITY ENGINEER, LIME OPERATIONS SHALL NOT BE STARTED WHEN THE AMBIENT AIR TEMPERATURE IS BELOW 40T. AND FALLING. LIMING MAY, WITH APPROVAL, BE STARTED WHEN THE AMBIENT AIR TEMPERATURE IS 35T AND RISING. LIME SHALL NOT BE PLACED WHEN WEATHER CONDITIONS, IN THE ENGINEER'S OPINION, ARE UNSUITABLE.
7. THE SUBGRADE MATERIAL AND SLURRY SHALL BE THOROUGHLY MIXED, BROUGHT TO THE PROPER MOISTURE CONTENT (±2) AND LEFT TO CURE USUALLY 3 DAYS (72 HRS.) MINIMUM AS APPROVED BY THE CITY ENGINEER.
8. AFTER CURING, THE SUBGRADE SHALL BE REMIXED UNTIL PULVERIZATION REQUIREMENTS ARE MET, AS PER TXDOT. TEX-101-E, PART III.

PERCENT MINIMUM PASSING 1-3/4" SIEVE	100
PERCENT MINIMUM PASSING 3/4" SIEVE	85
PERCENT MINIMUM PASSING No. 4 SIEVE	60

9. SIEVE TESTS SHALL BE CONDUCTED EVERY 150 LF ON ALTERNATING LANES OF TRAFFIC OR EVERY 300 LF ON SINGLE LANES AS REQUIRED. AT LEAST ONE TEST SHALL BE CONDUCTED ON EACH ROADWAY OR CUL-DE-SAC.
10. THE MATERIAL SHALL BE AERATED OR MOISTENED TO + OR -2% OPTIMUM PRIOR TO COMPACTION. COMPACTION TO A MINIMUM 95% DENSITY SHALL BEGIN IMMEDIATELY AFTER ALL PULVERIZATION AND MOISTURE REQUIREMENTS ARE MET. THROUGHOUT THIS ENTIRE OPERATION, THE SURFACE SHALL BE SMOOTH AND IN CONFORMITY WITH THE LINES AND GRADES ON THE PLANS.
11. WHEN THE SUBGRADE FAILS TO MEET DENSITY REQUIREMENTS OR SHOULD IT LOSE THE REQUIRED STABILITY, DENSITY OR FINISH, IT SHALL BE REWORKED IN ACCORDANCE WITH TXDOT SUBARTICLE 260.4(7) "REWORKING A SECTION", WHICH MAY REQUIRE AN ADDITIONAL 25% OF THE SPECIFIED LIME AMOUNT.
12. THE TREATED SUBGRADE SHALL BE KEPT MOIST AND PREVENTED FROM DRYING. IN THE EVENT OF A ONE-HALF (1/2) INCH RAINFALL AND/OR IF THE MATERIAL BECOMES DRY AND IS NOT IN COMPLIANCE WITH THE ±2% OPTIMUM MOISTURE, DENSITY AND MOISTURE TESTS SHALL BE RETAKEN.
13. LIME DEPTH DETERMINATIONS WILL BE CONDUCTED AT EACH LOCATION OF DENSITY TESTING, LIME-STABILIZED SUBGRADE SHALL BE A MINIMUM OF 6% AT 8" UNLESS OTHERWISE DIRECTED BY CITY ENGINEER. DENSITY TESTING SHALL BE DONE IMMEDIATELY PRIOR TO PLACEMENT OF REINFORCING STEEL AND SHALL BE COMPACTED TO A MINIMUM OF 95%. LIME DEPTH TESTS SHALL BE CONDUCTED AT EVERY 150 LF OF ROADWAY ON ALTERNATING LANES OR EVERY 300 LF OF SINGLE LANE.AT LEAST ONE TEST SHALL BE CONDUCTED ON EACH ROADWAY AND/OR CUL-DE-SAC.
14. NO SUBGRADE SHALL BE COVERED WITH ANOTHER MATERIAL UNLESS APPROVED BY THE CITY OF ANGLETON AND LIME DEPTH TESTS HAVE BEEN COMPLETED.

STABILIZED CRUSHED CONCRETE:

1. TEST AND ANALYSIS OF AGGREGATE AND BINDER MATERIALS WILL BE PERFORMED IN ACCORDANCE WITH ASTM D 1557 AND ASTM D 4318. CEMENT SHALL BE ASTM C 150 TYPE I.
2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES (1993) AND ITS LATEST REVISIONS AND CITY OF SUGAR LAND STANDARDS.
3. PRIME COAT SHALL BE M.C. 30 OR EPR-1 PRIME.
4. DESIGN MIX FOR MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 200 PSI IN 48 HRS. PROVIDE MINIMUM CEMENT CONTENT OF 2 SK PER TON OF MIX. CEMENT CONTENT MAY BE RAISED AT THE CONTRACTOR'S EXPENSE IF TESTS ON FIELD SAMPLES FALL BELOW 200 PSI.
5. THREE SAMPLES SHALL BE MOLDED EACH DAY FOR EACH 300 TONS OF PRODUCTION. COMPRESSIVE STRENGTH SHALL BE THE AVERAGE OF THREE TESTS FOR EACH PRODUCTION LOT. CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE, ANY MATERIAL BELOW MINIMUM REQUIREMENTS.
6. CONTRACTOR SHALL VERIFY LINES, GRADES, AND COMPACTED SUBGRADING AS READY TO RECEIVE MATERIALS PRIOR TO ITS PLACEMENT.
7. CEMENT STABILIZED BASE MAY NOT BE PLACED IF AMBIENT TEMPERATURE IS 40"F AND FALLING. BASE MATERIAL MAY BE PLACED IF AMBIENT TEMPERATURE IS 35"F AND RISING.
8. MATERIAL MAY NOT BE PLACED IN LIFTS EXCEEDING 6 INCHES IN DEPTH. EACH LIFT SHALL HAVE DENSITIES TAKEN.
9. CEMENT STABILIZED BASE MAY NOT BE STORED FOR LONG PERIODS. DELIVERY OF MATERIAL AND UTILIZATION SHOULD BE TIMED ACCORDINGLY. MAXIMUM TIME ALLOWED 3 HRS. FROM BATCH TIME TO HAVING BEEN INSTALLED.
10. CEMENT STABILIZED BASE SHALL NOT BE INSTALLED IN WET OR SOFT AREAS.
11. COMPACT TO MINIMUM DENSITY OF 95% OF MAXIMUM DRY DENSITY. UNLESS OTHERWISE INDICATED ON DRAWINGS, MOISTURE SHALL BE BETWEEN + OR -2% OPTIMUM AS DETERMINED BY ASTM D 698.
12. AFTER COMPACTING FINAL COURSE, BLADE SURFACE TO FINAL GRADE. ANY IRREGULARITIES, WEAK SPOTS, AREAS OF EXCESSIVE WETNESS, OR SURFACE HAIR LINE CRACKING SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE.
13. A CERTIFIED LAB SHALL BE ON SITE AT ALL TIMES TO TEST AND PROPERLY DOCUMENT THE CONSTRUCTION METHODS AND QUALITY OF MATERIALS.
14. COMPACTION TESTING WILL BE PERFORMED IN ACCORDANCE WITH ASTM D 1556 OR ASTM D 2922 AND ASTM D 3017 AT RANDOMLY SELECTED LOCATIONS AS DIRECTED BY CITY OF ANGLETON CONSTRUCTION INSPECTOR.
15. A MINIMUM OF ONE CORE SHALL BE TAKEN AT RANDOM LOCATIONS PER 300 LF PER LANE OF ROADWAY OR ONE PER 250 SQ. YD., WHICHEVER MAY APPLY AND SHALL BE STAGGERED RELATIVE TO TESTING SITES IN ABUTTING TRAFFIC LANES.
16. CURE FOR A MINIMUM OF 7 DAYS BEFORE ADDING ASPHALT PAVEMENT COURSES.
17. COVER SURFACE WITH CURING MEMBRANES AT THE FOLLOWING RATES: MC-30:.01 GAL. PER SQ. YD., OR EPR-1 PRIME: 0.15 GAL. PER SQ. YD. DO NOT USE CUTBACK ASPHALT APRIL 16 TO SEPTEMBER 15. PROTECT THE MEMBRANE BY ALLOWING MEMBRANE TO FULLY CURE PRIOR TO PERMITTING TRAFFIC TO DRIVE ON IT.
18. UNSTABILIZED CRUSHED CONCRETE MAY NOT BE USED ON PUBLIC STREETS, ROADS, OR RIGHTS-OF-WAY,
19. STABILIZED LIMESTONE BASE MAY BE SUBSTITUTED FOR STABILIZED CRUSHED CONCRETE IF SUBMITTED AND APPROVED BY THE CITY ENGINEER.

STABILIZED CRUSHED CONCRETE:

1. TEST AND ANALYSIS OF AGGREGATE AND BINDER MATERIALS WILL BE PERFORMED IN ACCORDANCE WITH ASTM D 1557 AND ASTM D 4318. CEMENT SHALL BE ASTM C 150 TYPE I.
2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES (1993) AND ITS LATEST REVISIONS AND CITY OF SUGAR LAND STANDARDS.
3. PRIME COAT SHALL BE M.C. 30 OR EPR-1 PRIME.
4. DESIGN MIX FOR MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 200 PSI IN 48 HRS. PROVIDE MINIMUM CEMENT CONTENT OF 2 SK PER TON OF MIX. CEMENT CONTENT MAY BE RAISED AT THE CONTRACTOR'S EXPENSE IF TESTS ON FIELD SAMPLES FALL BELOW 200 PSI.
5. THREE SAMPLES SHALL BE MOLDED EACH DAY FOR EACH 300 TONS OF PRODUCTION. COMPRESSIVE STRENGTH SHALL BE THE AVERAGE OF THREE TESTS FOR EACH PRODUCTION LOT. CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE, ANY MATERIAL BELOW MINIMUM REQUIREMENTS.
6. CONTRACTOR SHALL VERIFY LINES, GRADES, AND COMPACTED SUBGRADING AS READY TO RECEIVE MATERIALS PRIOR TO ITS PLACEMENT.
7. CEMENT STABILIZED BASE MAY NOT BE PLACED IF AMBIENT TEMPERATURE IS 40"F AND FALLING. BASE MATERIAL MAY BE PLACED IF AMBIENT TEMPERATURE IS 35"F AND RISING.
8. MATERIAL MAY NOT BE PLACED IN LIFTS EXCEEDING 6 INCHES IN DEPTH. EACH LIFT SHALL HAVE DENSITIES TAKEN.
9. CEMENT STABILIZED BASE MAY NOT BE STORED FOR LONG PERIODS. DELIVERY OF MATERIAL AND UTILIZATION SHOULD BE TIMED ACCORDINGLY. MAXIMUM TIME ALLOWED 3 HRS. FROM BATCH TIME TO HAVING BEEN INSTALLED.
10. CEMENT STABILIZED BASE SHALL NOT BE INSTALLED IN WET OR SOFT AREAS.
11. COMPACT TO MINIMUM DENSITY OF 95% OF MAXIMUM DRY DENSITY. UNLESS OTHERWISE INDICATED ON DRAWINGS, MOISTURE SHALL BE BETWEEN + OR -2% OPTIMUM AS DETERMINED BY ASTM D 698.
12. AFTER COMPACTING FINAL COURSE, BLADE SURFACE TO FINAL GRADE. ANY IRREGULARITIES, WEAK SPOTS, AREAS OF EXCESSIVE WETNESS, OR SURFACE HAIR LINE CRACKING SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE.
13. A CERTIFIED LAB SHALL BE ON SITE AT ALL TIMES TO TEST AND PROPERLY DOCUMENT THE CONSTRUCTION METHODS AND QUALITY OF MATERIALS.
14. COMPACTION TESTING WILL BE PERFORMED IN ACCORDANCE WITH ASTM D 1556 OR ASTM D 2922 AND ASTM D 3017 AT RANDOMLY SELECTED LOCATIONS AS DIRECTED BY CITY OF ANGLETEON CONSTRUCTION INSPECTOR.
15. A MINIMUM OF ONE CORE SHALL BE TAKEN AT RANDOM LOCATIONS PER 300 LF PER LANE OF ROADWAY OR ONE PER 250 SQ. YD., WHICHEVER MAY APPLY AND SHALL BE STAGGERED RELATIVE TO TESTING SITES IN ABUTTING TRAFFIC LANES.
16. CURE FOR A MINIMUM OF 7 DAYS BEFORE ADDING ASPHALT PAVEMENT COURSES.
17. COVER SURFACE WITH CURING MEMBRANES AT THE FOLLOWING RATES: MC-30:.01 GAL. PER SQ. YD., OR EPR-1 PRIME: 0.15 GAL. PER SQ. YD. DO NOT USE CUTBACK ASPHALT APRIL 16 TO SEPTEMBER 15. PROTECT THE MEMBRANE BY ALLOWING MEMBRANE TO FULLY CURE PRIOR TO PERMITTING TRAFFIC TO DRIVE ON IT.
18. UNSTABILIZED CRUSHED CONCRETE MAY NOT BE USED ON PUBLIC STREETS, ROADS, OR RIGHTS-OF-WAY.
19. STABILIZED LIMESTONE BASE MAY BE SUBSTITUTED FOR STABILIZED CRUSHED CONCRETE IF SUBMITTED AND APPROVED BY THE CITY ENGINEER.

NO.	DATE	DESCRIPTION	APPROVED
		REVISIONS	

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/1/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

CONSTRUCTION NOTES
(1 OF 2)

PROJECT NO. 15012

15012-SHEET SET.DWG

STORM SEWER NOTES:

1. STORM SEWERS SHALL BE DESIGNED AND CONSTRUCTED WITH CITY OF SUGAR LAND STANDARD CONSTRUCTION SPECIFICATIONS AND IN ACCORDANCE WITH CITY OF SUGAR LAND STANDARD DETAILS SHEET AND LATEST REVISIONS.
2. ALL PIPE STORM SEWERS SHALL BE INSTALLED, BEDDED, AND BACKFILLED IN ACCORDANCE WITH CITY OF SUGAR LAND STANDARD DETAIL DRAWINGS.
3. ALL CEMENT STABILIZED SAND (C.S.S.) SHALL BE 1-1/2 SK PER CUBIC YD. AND MEET MINIMUM C.S.S. STANDARDS COMPACTED TO 95%.
4. ALL PROPOSED PIPE STUB-OUTS FROM MANHOLES OR INLETS ARE TO BE PLUGGED WITH 8" BRICK WALLS WITH FULL MORTAR HEAD AND BED JOINTS AND GROUTED WITH A MINIMUM OF 1/2-INCH NON-SHRINK GROUT INSIDE AND OUTSIDE, UNLESS OTHERWISE NOTED.
5. AVOID TO MAXIMUM EXTENT, MANHOLES IN HANDICAP RAMPS.
6. ALL STORM SEWER MANHOLES SHALL BE OF SUGAR LAND TYPE "C" UNLESS OTHERWISE NOTED AND SHALL BE LOCATED A MINIMUM OF THREE (3) FEET BACK OF CURB. IF CONFLICT EXISTS, RACK OVER MANHOLE TO MISS PROPOSED CURB.
7. RIM ELEVATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. UTILITY CONTRACTOR SHALL ADJUST RIM ELEVATIONS TO 0.4 FEET ABOVE THE FINISH GRADE AT EACH LOCATION AFTER CONTRACTOR HAS COMPLETED FINAL GRADING. SLOPED FILL SHALL BE ADDED FOR STORM WATER DRAINAGE AWAY FROM RIM.
8. RIM ELEVATIONS SHALL BE PROPERLY ADJUSTED TO GRADE IN PAVEMENT AND SIDEWALKS. APPROVED BLOCKOUTS SHALL BE USED IN PAVEMENT.
9. ALL STORM SEWER MANHOLE COVERS MUST INCLUDE "STORM SEWER" AND "DUMP NO WASTE", "DRAINS TO WATERWAYS" WITH CITY OF ANGLETON EMBLEM AS DEPICTED IN THE DETAIL SHEETS.
10. MINIMUM STORM SEWER SIZE SHALL BE 24-INCH DIAMETER. ALL STORM SEWER PIPES 24" AND LARGER ARE TO BE REINFORCED CONCRETE PIPE ASTM C-76 CLASS III, INCLUDING INLET LEADS CROSSING UNDER EXISTING OR PROPOSED PAVEMENTS. ALL INLET LEADS SHALL BE 24" R.C.P. OR LARGER. ALL STORM SEWER PIPE SHALL BE RUBBER GASKETED. ALL CMP PIPE SHALL BE IN ACCORDANCE WITH C.O.S.L. APPROVED PRODUCT LIST AND STANDARD DETAILS.
11. CONTRACTOR SHALL VERIFY NATURAL GROUND SHOTS PRIOR TO MANHOLE CONSTRUCTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. DURING THE COURSE OF ANY AND ALL CLEARING, GRUBBING, FILL, GRADING, EXCAVATION OR OTHER CONSTRUCTION, CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE PATHWAYS ARE MAINTAINED AND REMAIN OPEN TO ENSURE POSITIVE DRAINAGE AND THAT SUCH CONVEYANCES ARE NOT IMPEDED OR BLOCKED IN ANY WAY. STORM SEWER INLETS SHALL BE PROTECTED FROM ENTRY OF SILT, TRASH, DEBRIS AND ANY SUBSTANCES DELETERIOUS TO THE STORM SEWER SYSTEM AND/OR WATERWAYS RECEIVING STORM WATER RUNOFF. CONTRACTOR SHALL AT COMPLETION OF WORK, FILL LOW SPOTS AND GRADE ALL RIGHTS-OF-WAY AND UTILITY EASEMENTS AND REGRADE/RESTORE DITCHES AS NECESSARY TO MAINTAIN AND/OR ESTABLISH POSITIVE DRAINAGE.
13. CONTRACTOR TO PROVIDE A MINIMUM OF 6-INCHES CLEARANCE AT UTILITY CROSSINGS AND A MINIMUM OF TWELVE (12) INCHES AT SANITARY SEWER CROSSING.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, MAINTAINING, AND RESTORING ANY BACKSLOPE DRAINAGE SYSTEM DISTURBED AS A RESULT OF HIS WORK.
15. ALL DITCHES SHALL BE RESTORED TO PROPOSED ELEVATIONS TO INSURE PROPER DRAINAGE. ALL OUTFALLS SHALL BE COMPACTED AND ALL DISTURBED AREAS SHALL BE RE-SEEDED OR SODDED WITHIN 10 WORKING DAYS OF EACH OCCURRENCE (NO SEPARATE PAY).
16. THE UTILITY CONTRACTOR SHALL ROUGH CUT ALL ROADSIDE SWALES IN PROPER ALIGNMENT AND SLOPE TO WITHIN 0.2 FT. OF FINISH GRADE. THE PAVING CONTRACTOR, UPON COMPLETION OF PAVING, SHALL COMPLETE FINAL GRADING ALIGNMENT OF SWALES AND RESTORE ALL AREAS WITHIN RIGHT-OF-WAY FOR SEEDING OR SODDING AND FERTILIZATION.
17. ALL STORM SEWERS MUST BE CLEAN/FREE OF DIRT AND DEBRIS AT THE TIME AND INITIAL AND FINAL ACCEPTANCE.
18. REFER TO GENERAL NOTES AND C.S.S. NOTES.

SANITARY SEWER NOTES:

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

WATER DISTRIBUTION NOTES:

1. WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE DESIGNED AND CONSTRUCTED AS PER REQUIREMENTS OF THE CITY OF SUGAR LAND DESIGN STANDARDS AND CORRESPONDING STANDARD CONSTRUCTION DETAILS SHEETS AND AS PER THE REQUIREMENTS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND/OR INFORMATION INCLUDED IN PROJECT SPECIFICATIONS, CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
2. ALL MATERIALS AND PRODUCTS USED IN THE CONSTRUCTION OF WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL COMPLY WITH THE CITY OF SUGAR LAND DESIGN STANDARDS AND THE CURRENT APPROVED PRODUCTS LIST AS MAINTAINED BY THE CITY'S ENGINEERING DEPARTMENT.
3. ALL GATE VALVES INSTALLED BELOW GRADE SHALL BE OF NON-RISING STEM DESIGN.
4. ALL FIRE HYDRANTS SHALL BE PAINTED AND/OR REPAINTED WITH GEO-GLEN 301 BRIGHT SILVER POLYURETHANE ENAMEL MANUFACTURED BY GEO-GLEN ENTERPRISES, INC. SURFACE PREPARATION SHALL INCLUDE REMOVAL OF OIL, GREASE AND MOISTURE, FOLLOWED BY MEDIA BLASTING TO SSPC-SP15-10-63 SPECIFICATIONS (NEAR WHITE METAL) AS PER MANUFACTURER'S RECOMMENDATIONS. PRIME BARE METAL WITH TP-251 EPOXY PRIMER EPOXY PRIMER OR WITH TP-221, TP-231 OR TP-241 UNIVERSAL PRIMER. BOT AND 50% RELATIVE HUMIDITY ARE OPTIMAL CONDITIONS FOR APPLICATION OF PRIMER AND OF PAINT. DO NOT APPLY PRIMER AND/OR PAINT WHEN SURFACE TO BE PAINTED IS LESS THAN 5° ABOVE THE DEW POINT IN ORDER TO PREVENT MOISTURE FROM CONDENSING ON THE SURFACE TO BE PRIMED AND/OR PAINTED. A BLUE TRAFFIC BUTTON SHALL BE INSTALLED ON THE STREET 12" OFF THE CENTER LINE FOR EACH HYDRANT.
5. MINIMUM SEPARATION DISTANCES AS REQUIRED BY TCEQ SECTION 317.13, 290. APPENDIX E MUST BE MAINTAINED BETWEEN POTABLE WATER LINES AND SANITARY SEWERS, FORCE MAINS, LIFT STATIONS AND WASTEWATER TREATMENT PLANTS. INSTALLATION OF FIRE HYDRANTS WITHIN 9' (FT) OF A SANITARY SEWER SYSTEM IS PROHIBITED. REFER TO C.O.S.L. STANDARDS FOR CONSTRUCTION REQUIREMENTS OF OTHER INSTALLATIONS WHERE DISTANCES ARE GREATER THAN 9' (NINE) FT. CANNOT BE MAINTAINED.
6. EACH WATER SERVICE LEAD STUB SHALL BE MARKED WITH A PRESSURE TREATED 4 X 4 TIMBER OR PVC PIPE AT THE TIME OF CONSTRUCTION, BEGINNING AT THE INVERT ELEVATION OF THE STUB AND EXTENDING TWO FEET ABOVE FINISHED GRADE. EACH TIMBER MARKER SHALL BE PAINTED BLUE AND LABELED "POTABLE WATER" WITH PIPE SIZE NOTED.
7. TESTING OF WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE CONDUCTED AS PER REQUIREMENTS OF AWWA C605-94.
8. DISINFECTION OF WATER MAINS, WATER SERVICE LINES AND ASSOCIATED APPURTENANCES SHALL BE CONDUCTED AS PER REQUIREMENTS OF AWWA C651 AND TCEQ. NO CONNECTIONS SHALL BE MADE TO EXISTING WATER LINES UNTIL NEWLY CONSTRUCTED WATER LINES HAVE BEEN THOROUGHLY DISINFECTED, TESTED, FLUSHED, AND SAMPLED AND CONNECTION HAS BEEN AUTHORIZED BY THE CITY ENGINEER.
9. ALL WATER PIPING AND BEDDING SHALL BE INSPECTED BY THE CITY INSPECTOR FOR CONFORMANCE TO DESIGN STANDARDS PRIOR TO BACKFILLING OF PIPING IN TRENCH. CONTRACTOR SHALL NOT COVER PIPING UNTIL SUCH TIME AS INSPECTOR HAS NOTIFIED CONTRACTOR THAT RESULTS OF PIPING INSPECTION ARE SATISFACTORY AND THAT BACKFILLING MAY BE ACCOMPLISHED. ANY PIPING INSTALLED AND/OR BACKFILLED WITHOUT INSPECTOR'S SPECIFIC APPROVAL SHALL BE UNCOVERED AT INSPECTOR'S DIRECTION AND INSPECTED ACCORDINGLY. 24-HOUR NOTICE REQUIRED.
10. ALL MECHANICALLY RESTRAINED FITTINGS MUST BE MEGALUG RESTRAINED JOINTS OR APPROVED EQUAL.
11. THE CITY OF ANGLETON MUST HAVE A COPY OF THE BACTERIOLOGICAL TEST RESULTS AT LEAST 24 HOURS PRIOR TO THE INITIAL INSPECTION. IF NOT, THEN THE INSPECTION WILL BE RESCHEDULED.

CENTERPOINT ENERGY / ENTEX NOTES
CAUTION: UNDERGROUND GAS FACILITIES

LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE NOT USUALLY SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (979) 849-4364 OR 811 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED. * WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (800) 752-8036 OR (713) 659-2111 (7:00 A.M. TO 4:30 P.M.) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.* WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. * WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING. * FOR EMERGENCIES REGARDING GAS LINES CALL (800) 659-2111 OR (713) 659-2111. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES. ACTIVITIES ON OR ACROSS CENTERPOINT ENERGY FEE OR EASEMENT PROPERTY NO APPROVAL TO USE, CROSS OR OCCUPY CENTERPOINT FEE OR EASEMENT PROPERTY IS GIVEN. IF YOU NEED TO USE CENTERPOINT PROPERTY, PLEASE CONTACT OUR SURVEYING & RIGHT OF WAY DIVISION AT (713) 207-5769.

WARNING: OVERHEAD ELECTRICAL FACILITIES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL TEXAS NEW MEXICO ENERGY AT 888-866-7456.

SBC NOTES

THE LOCATIONS OF SOUTHWESTERN BELL TELEPHONE CO. UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.

TEXAS NEW MEXICO POWER NOTES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL TEXAS NEW MEXICO POWER AT (888) 866-7456.

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
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B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

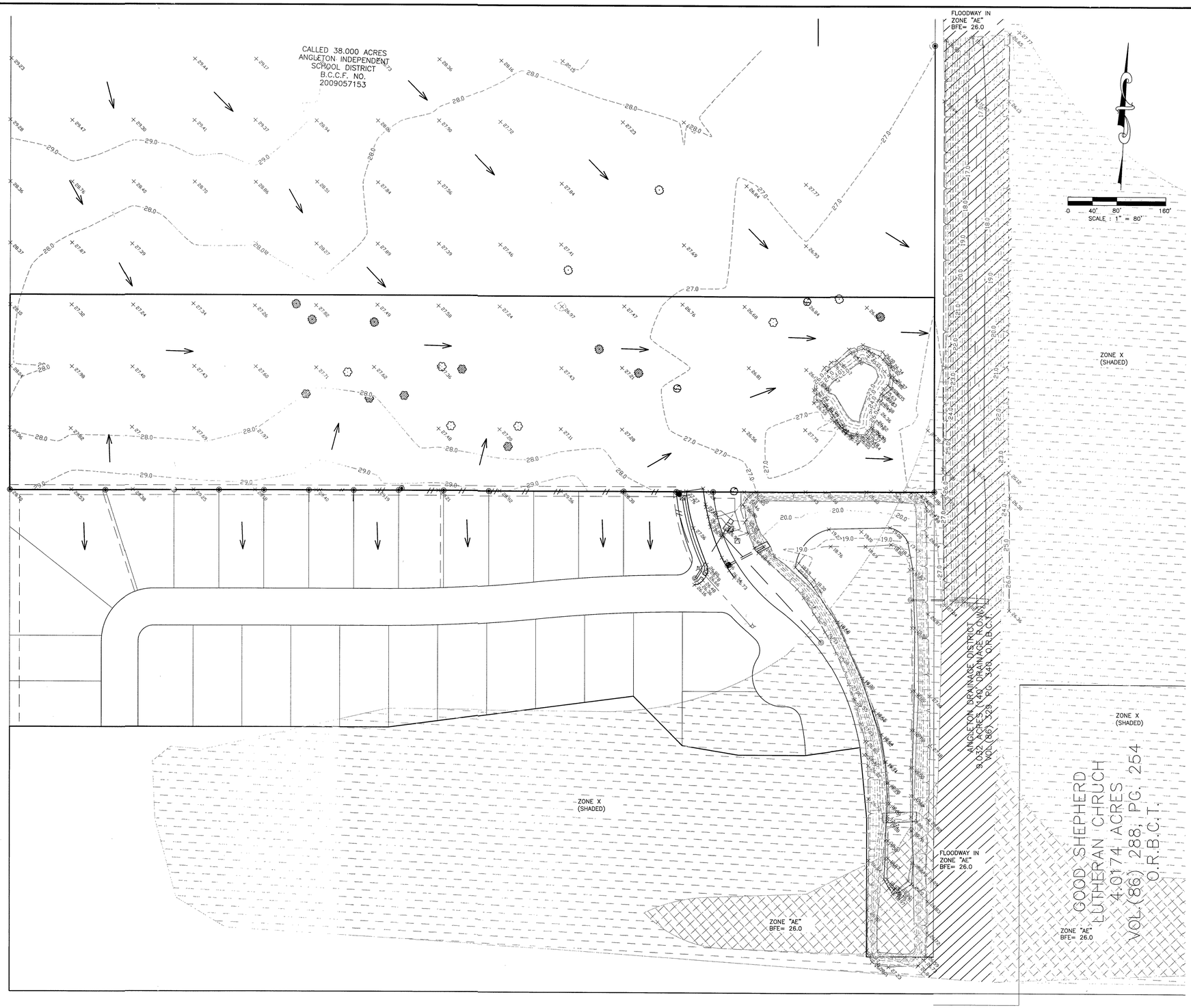
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

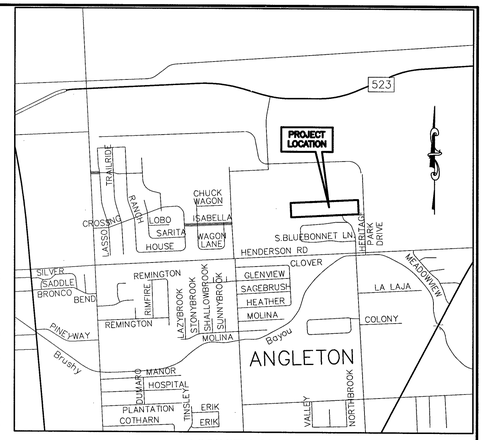
CONSTRUCTION NOTES
(2 OF 2)

PROJECT NO. 15012

2A

15012-SHEET SET.DWG





VICINITY MAP

FLOOD ZONE STATEMENT

ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP No. 48539C0435K EFFECTIVE DECEMBER 30, 2020, THE SITE LIES PARTIALLY IN ZONE "X" (SHADED), AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANGE FLOOD.

PROJECT BENCHMARK:
NGS MONUMENT R1182 (PID AW1171)
A BRASS DISK STAMPED R1182, ON THE NORTH LINE OF CR 171, ON THE CURB OF A BRIDGE, APPROXIMATELY 275 SOUTHWEST OF INTERSECTION WITH CR 428.
ELEVATION = 26.31 FEET NGVD29

SITE BENCHMARK:
HERITAGE PARK TBM–A CHISELED SQUARE ON THE SOUTHWEST CORNER OF CONCRETE FOOTING FOR PIPE SUPPORT ON THE SOUTH SIDE OF HENDERSON ROAD, WEST OF CULVERT, AND 215 FEET EAST OF BUCHTA ROAD. ELEVATION = 26.08 NGVD1929

ALL COORDINATES SHOWN HEREON ARE IN GRID, BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, (NAD83) SOUTH CENTRAL ZONE, PER GPS OBSERVATIONS.

SYMBOLS

- = FND IMPLEMENT AS NOTED
- = SET 5/8" IRON ROD
- = BENCHMARK
- = GAS VALVE
- = GAS METER
- = IRRIGATION CONTROL
- = WATER VALVE
- = WATER METER
- = FIRE HYDRANT
- = GUY WIRE
- = POWER POLE
- = SIGNAL POLE
- = LIGHT POLE
- = LIGHT BOLLARD
- = BOLLARD
- = MONITOR WELL
- = CLEANOUT
- = SIGN
- = TELE PEDESTAL
- = TREE
- = MANHOLE
- = INLET

LEGEND:

- EXISTING OVERFLOW PATH
- X 27.46 EXISTING NATURAL GROUND ELEV.

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

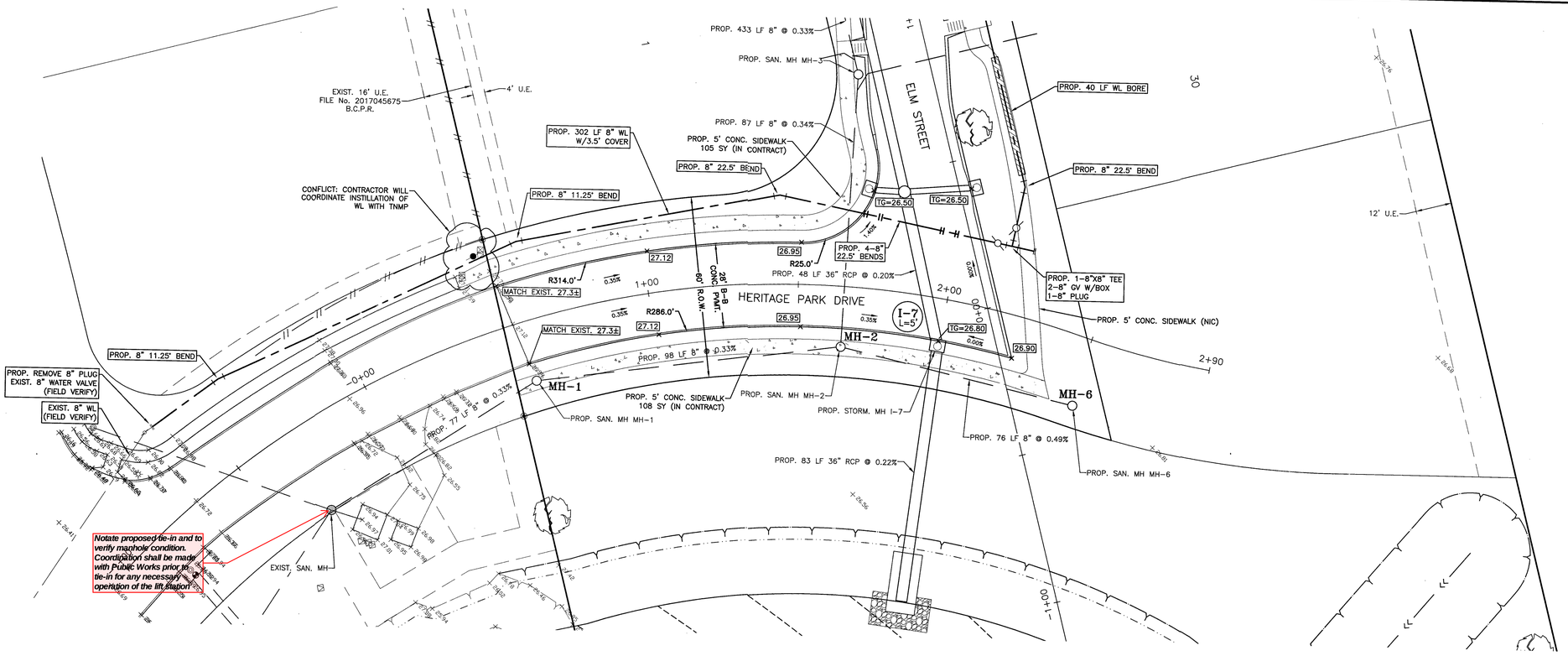
PLAN: 1" = 80'
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

EXISTING CONDITIONS

PROJECT NO. 15012

15012-SHEET SET.DWG



SYMBOLS LEGEND

- WATER METER
- FIRE HYDRANT
- WATER VALVE
- TAPPING SLEEVE AND VALVE
- REDUCER
- STORM SEWER MANHOLE (SMH-1)
- SANITARY SEWER MANHOLE (MH-1)
- TOP BANK
- STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
- SANITARY SEWER LINE (D3034, SDR 26, 160 PR)
- WATERLINE (AWWA C900, CLASS 150, DR18)
- BACK OF CURB ELEVATION (29.10)

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

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DATE

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Date: 3/11/22

OWNER:
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Clint Peltier Custom Homes
979-481-4840

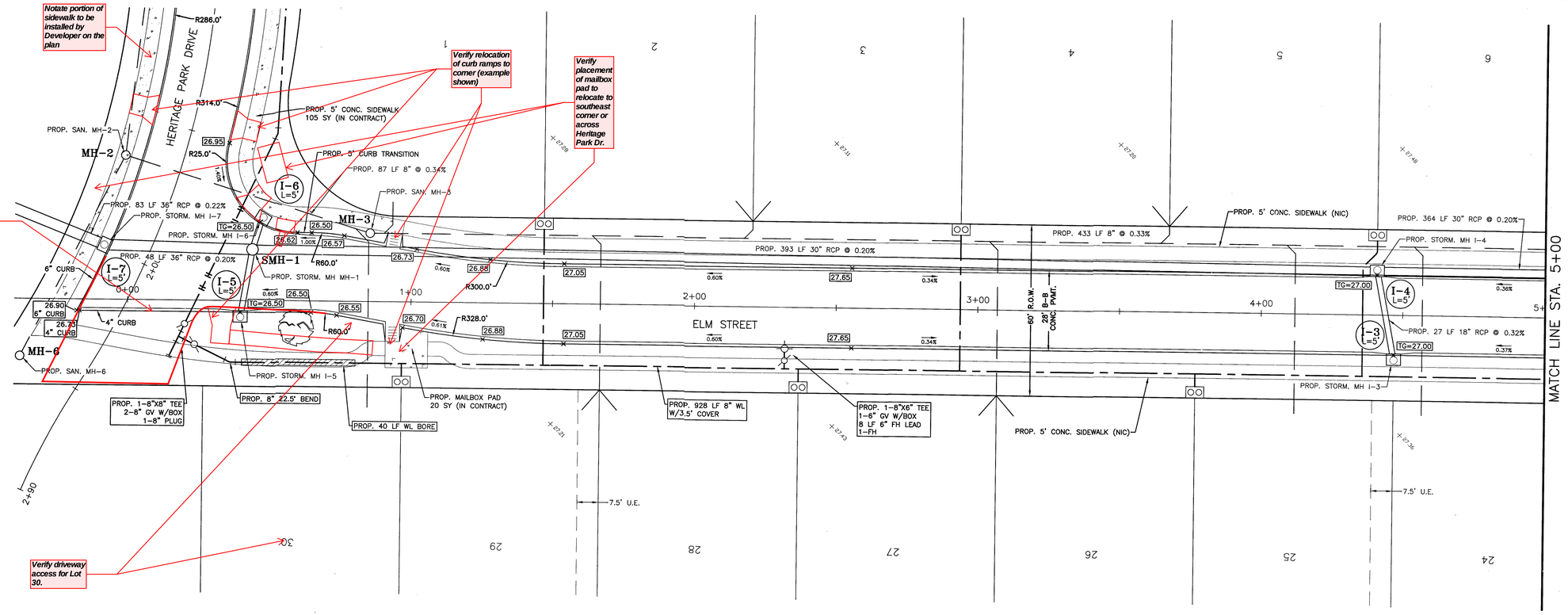
PLAN: 1" = 20'
PROFILE:
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

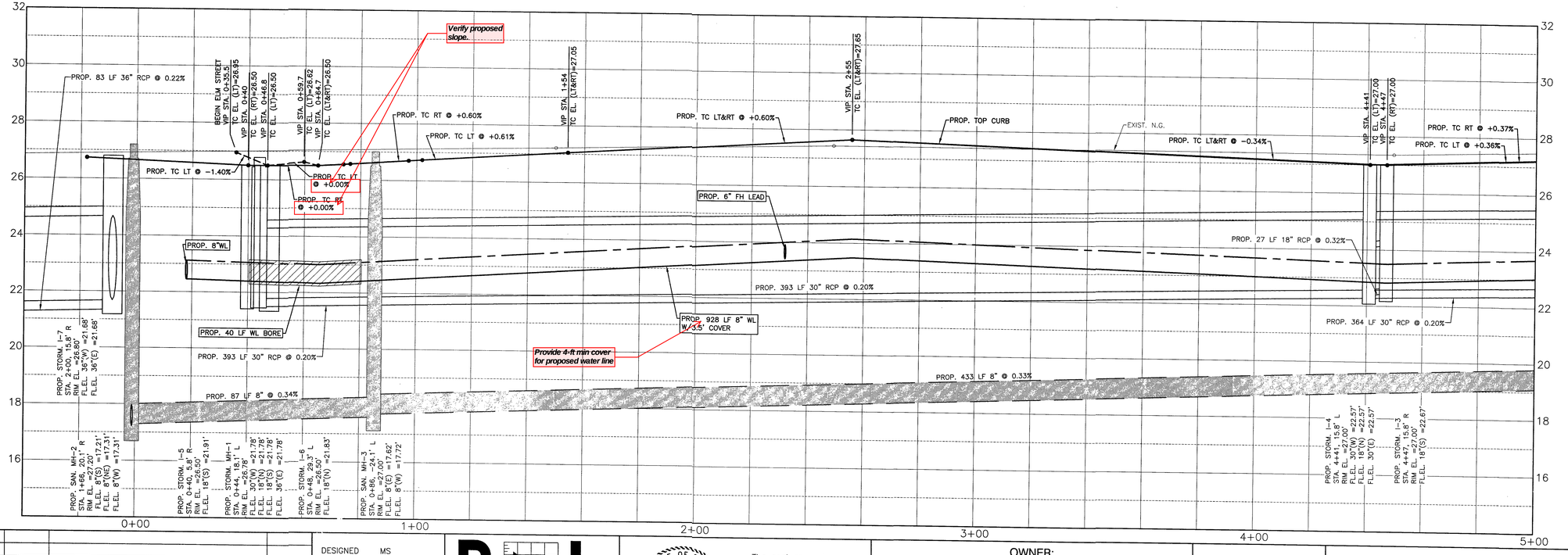
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

PLAN & PROFILE
HERITAGE PARK DRIVE

PROJECT NO. 15012

15012-SHEET SET.DWG





SYMBOLS LEGEND

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- FIRE HYDRANT
- WATER VALVE
- TAPPING SLEEVE AND VALVE
- REDUCER
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- SANITARY SEWER LINE (D3034, SDR 26, 160 PR)
- WATERLINE (AWWA C900, CLASS 150, DR18)
- 29.10 BACK OF CURB ELEVATION

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Clint Peltier Custom Homes
979-481-4840

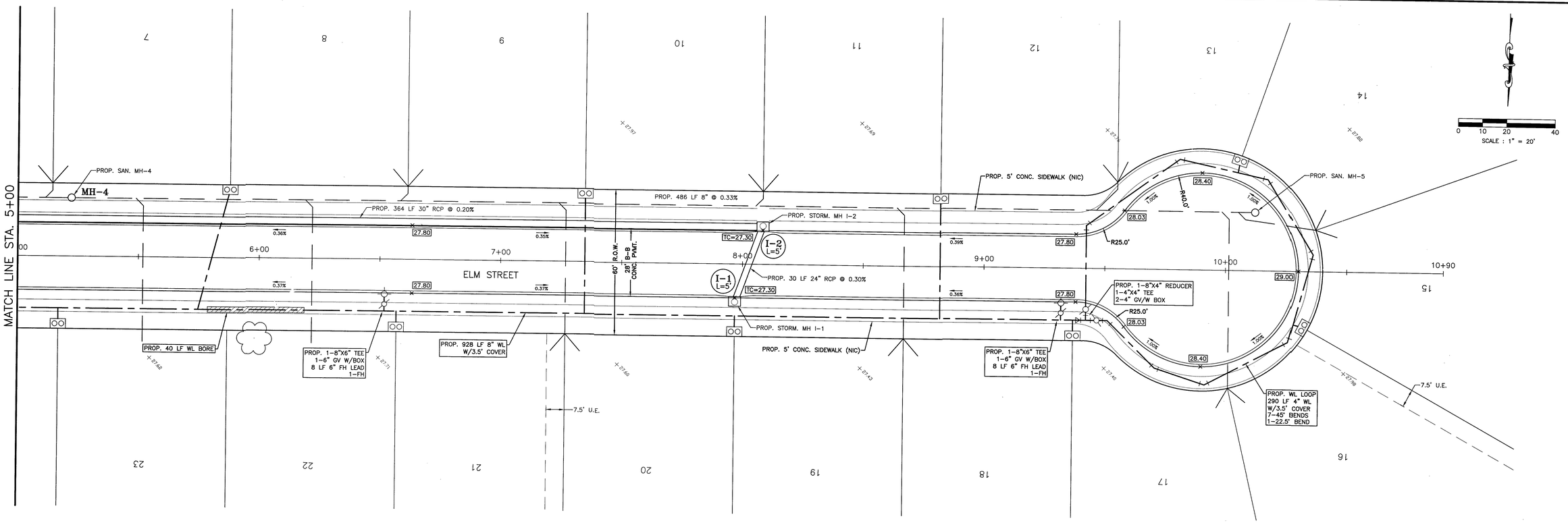
PLAN: 1" = 20'
PROFILE:
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

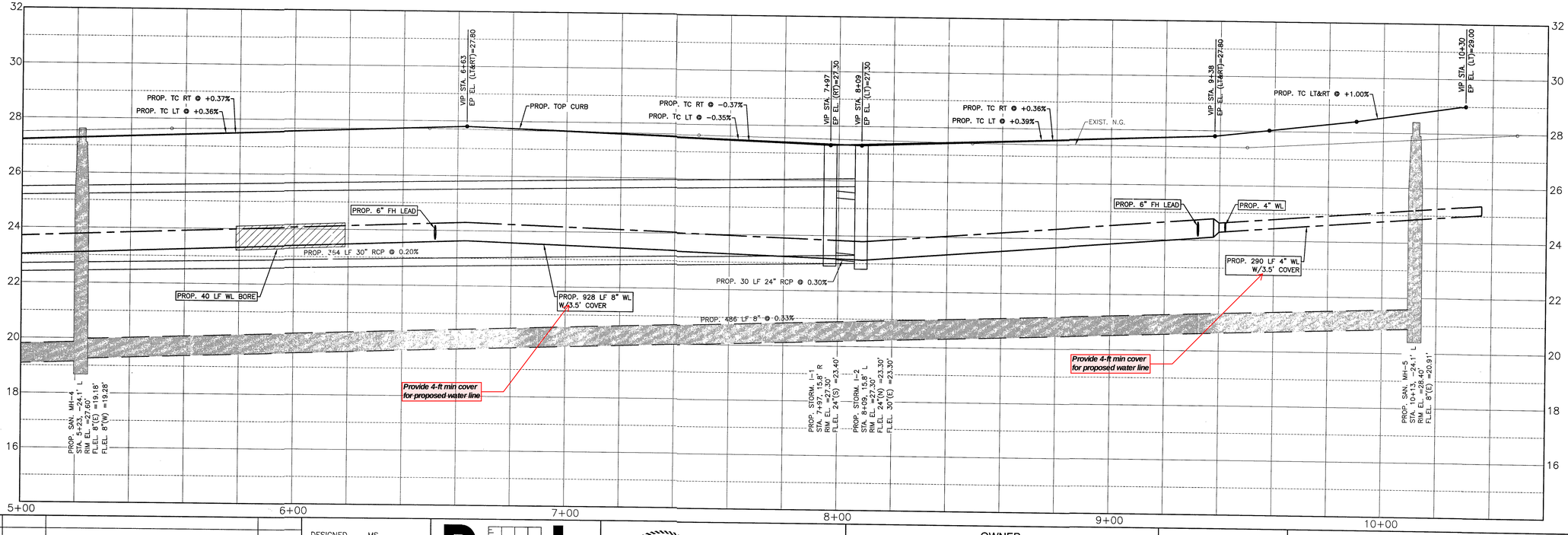
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

PLAN & PROFILE
ELM STREET

PROJECT NO. 15012

15012-SHEET SET.DWG





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- STORM SEWER LINE (REINFORCED CONCRETE PIPE, ASTM C76)
- SANITARY SEWER LINE (D3034, SDR 26, 160 PR)
- WATERLINE (AWWA C900, CLASS 150, DR18)
- 29.10 BACK OF CURB ELEVATION

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Clint Peltier Custom Homes
979-481-4840

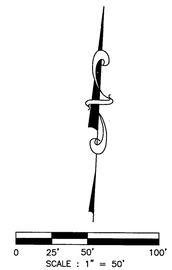
PLAN: 1" = 20'
PROFILE:
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 2'

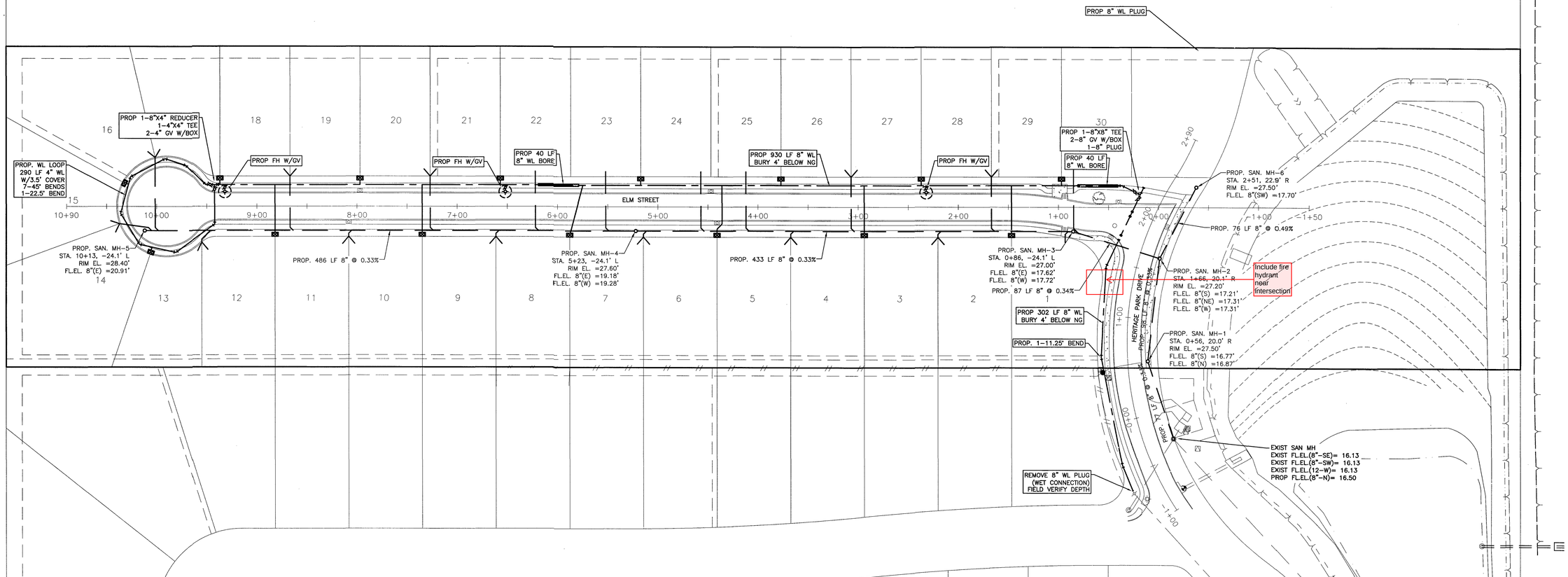
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR GRADING, PAVING, UTILITIES AND DETENTION

PLAN & PROFILE
ELM STREET

PROJECT NO. 15012

15012-SHEET SET.DWG





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Date: 3/11/22

OWNER:

Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN: 1" = 50'

PROFILE:

HORIZONTAL:

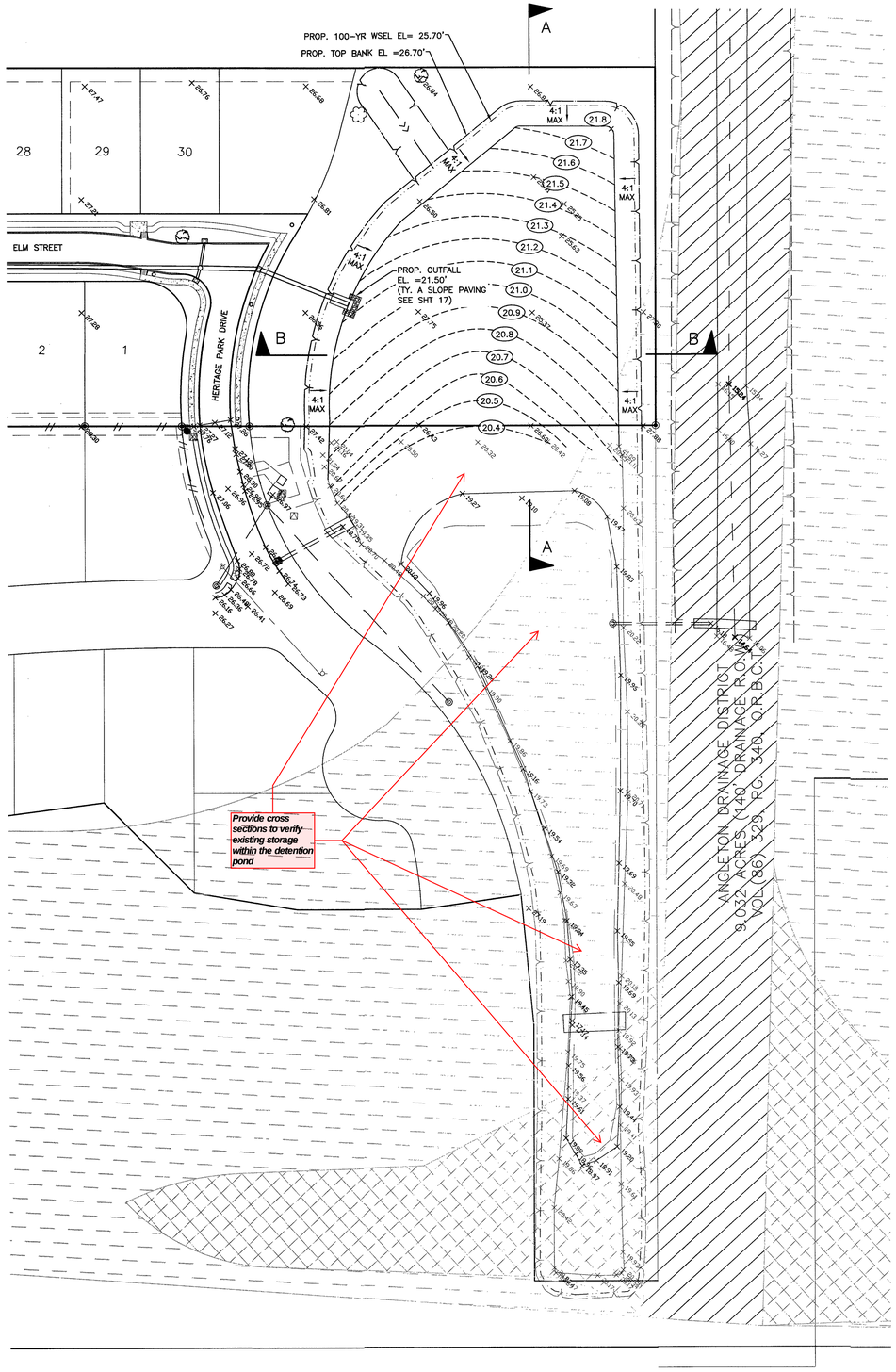
VERTICAL:

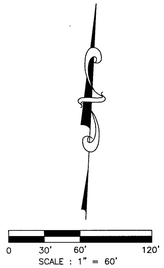
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

UTILITY LAYOUT

PROJECT NO. 15012

15012-SHEET SET.DWG





POND INFORMATION

EXIST POND INFORMATION

AVE TOP BANK EL.= 26.70'
AREA TOP BANK = 115,200 SF
FREEBOARD= 1.0'
100-YR WSEL= 25.70'
AREA @ 100-YR WSEL= 107,400 SF
AVE TOE EL.= 20.20'
AREA TOE= 77,800 SF

DETENTION DEPTH= 5.5'
AVE AREA= 96,500 SF

EXIST DETENTION= 530,750 CF = 12.18 AC-FT

EXPANDED POND INFORMATION

AVE TOP BANK EL.= 26.70'
AREA TOP BANK = 187,500 SF
FREEBOARD= 1.0'
100-YR WSEL= 25.70'
AREA @ 100-YR WSEL= 177,800 SF
AVE TOE EL.= 20.90'
AREA TOE= 137,500 SF

DETENTION DEPTH= 4.8'
AVE AREA= 157,650 SF

TOTAL DETENTION= 756,720 CF = 17.37 AC-FT

DETENTION POND EXPANSION ADDS 5.19 AC-FT OF DETENTION WHICH EXCEEDS THE REQUIRE 4.725 AC-FT FOR SECTION 3

DETENTION CALCULATIONS

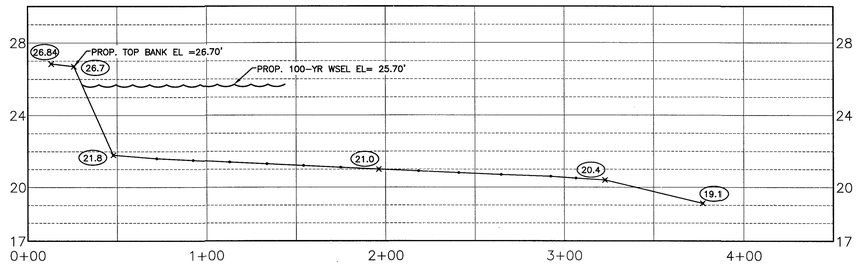
PRE-DEVELOPMENT FLOW RATE CALCULATION (100-YEAR STORM)

TC = 15.0 MIN. + 1510 LF GRASS @ 0.5 FPS 1,400
= 6.583 IN/HR
Q100 = 0.80 CFS/AC x 11.00 ACRES = 8.80 CFS MAXIMUM

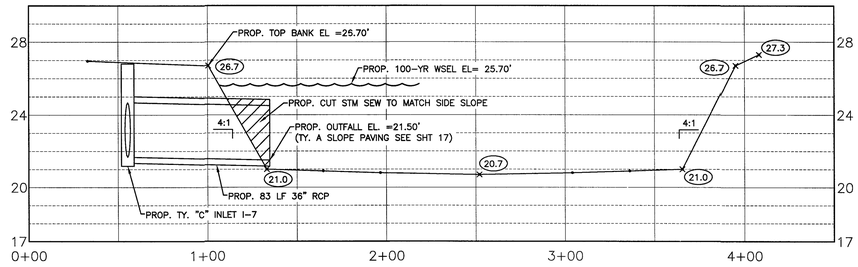
ALLOWABLE OUTFALL RATE IN 0.80 CFS PER ACRE ACCORDING TO BRAZORIA COUNTY MASTER DRAINAGE STUDY (BASTROP BAYOU BB35).

PROPOSED CONDITION (100-YEAR STORM)
Q = CIA x 1.25 PK
A = 11.0 ACRES
C = 0.55
TC = 15 MIN. + 120 LF GRASS @ 0.5 FPS
+ 220 LF GUTTER @ 2.0 FPS
+ 850 LF STM SEW @ 3.0 FPS
+ 310 LF POND @ 2.0 FPS = 28.8 MIN.
I = 6.612 IN/HR
Q = 0.55 x 6.612 x 11.0 x 1.25 = 50.00 CFS

DETENTION = 4.725 AC-FT = 205,821 CF



SECTION A-A
1"= 40' (HORIZ.)
1"= 4' (VERT.)



SECTION B-B
1"= 40' (HORIZ.)
1"= 4' (VERT.)

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
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DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED
PROFESSIONAL ENGINEER

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Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN: 1" = 60'
PROFILE:
HORIZONTAL:
VERTICAL:

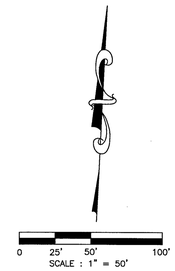
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

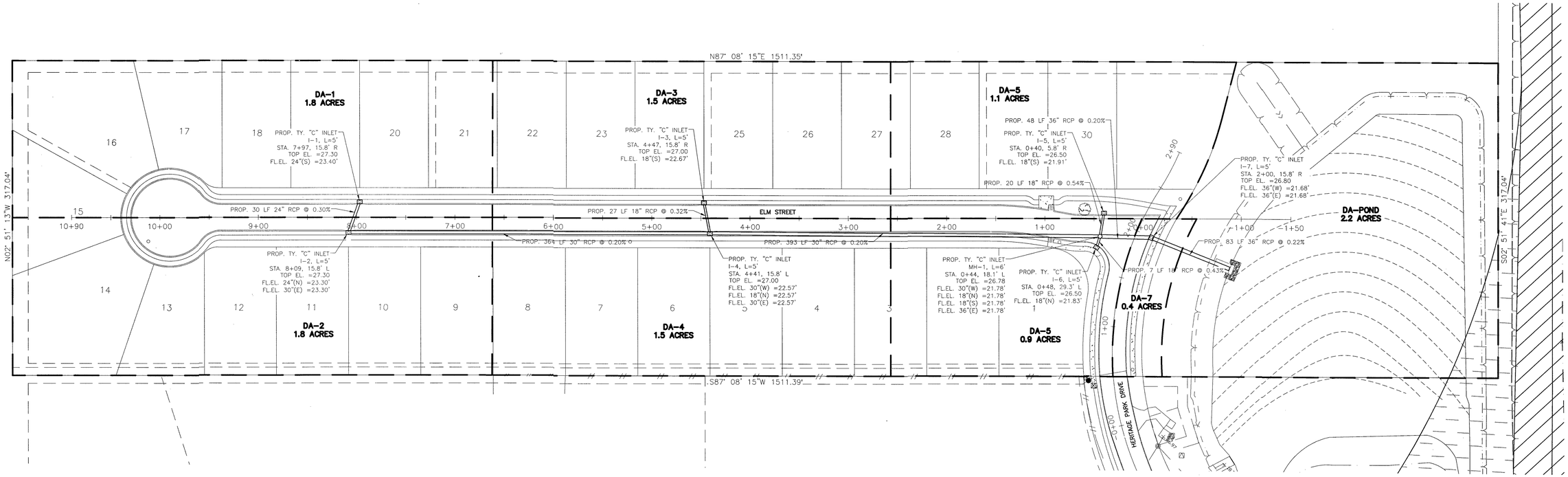
DETENTION POND LAYOUT & CALCULATIONS

PROJECT NO. 15012

8

15012-SHEET SET.DWG





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4005 TECHNOLOGY DRIVE, SUITE 1530
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Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

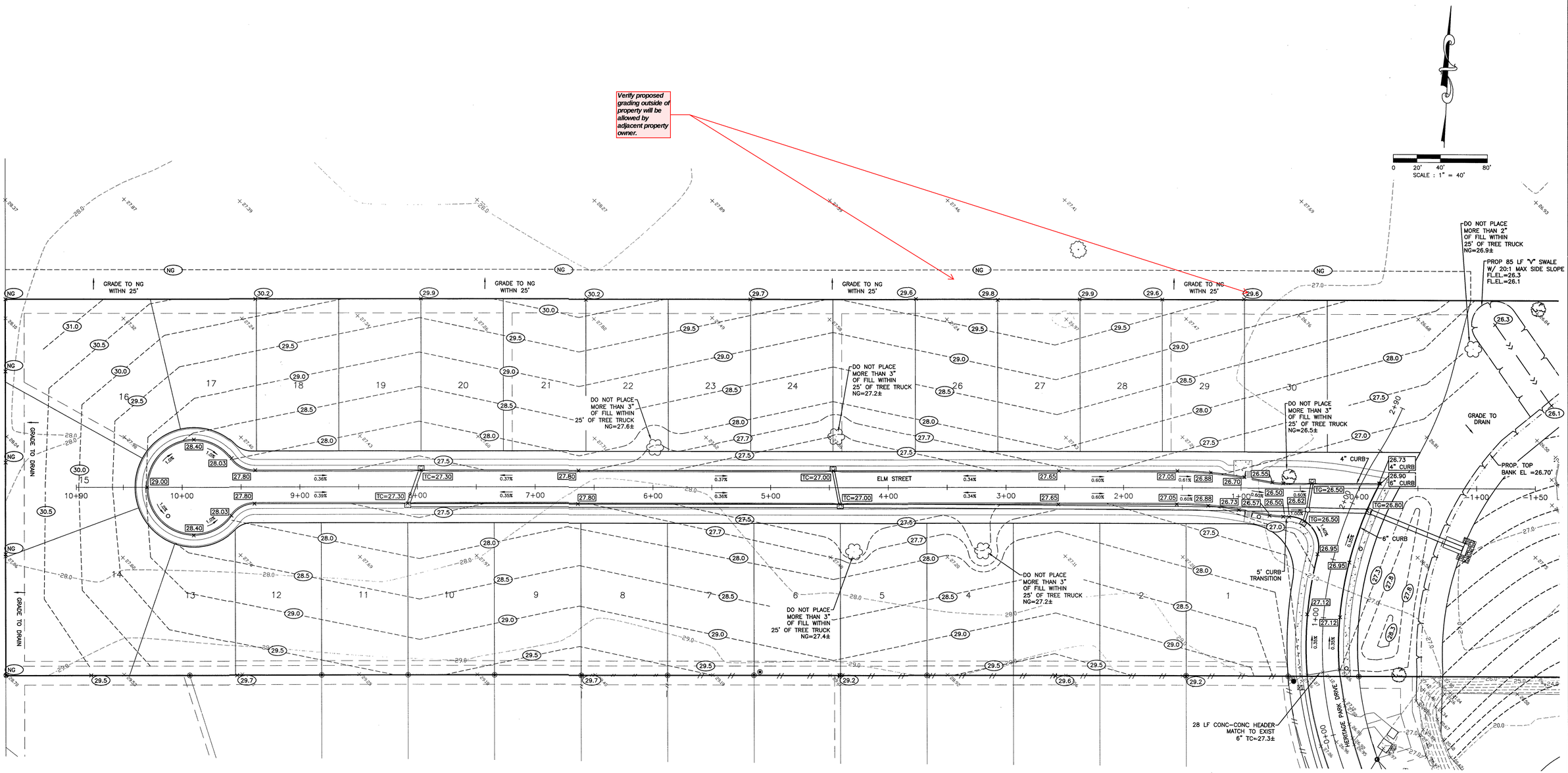
PLAN: 1" = 50'
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

DRAINAGE ANALYSIS
& STORM SEWER LAYOUT

PROJECT NO. 15012

15012-SHEET SET.DWG



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Clint Peltier Custom Homes
979-481-4840

PLAN: 1" = 40'

PROFILE:

HORIZONTAL:

VERTICAL:

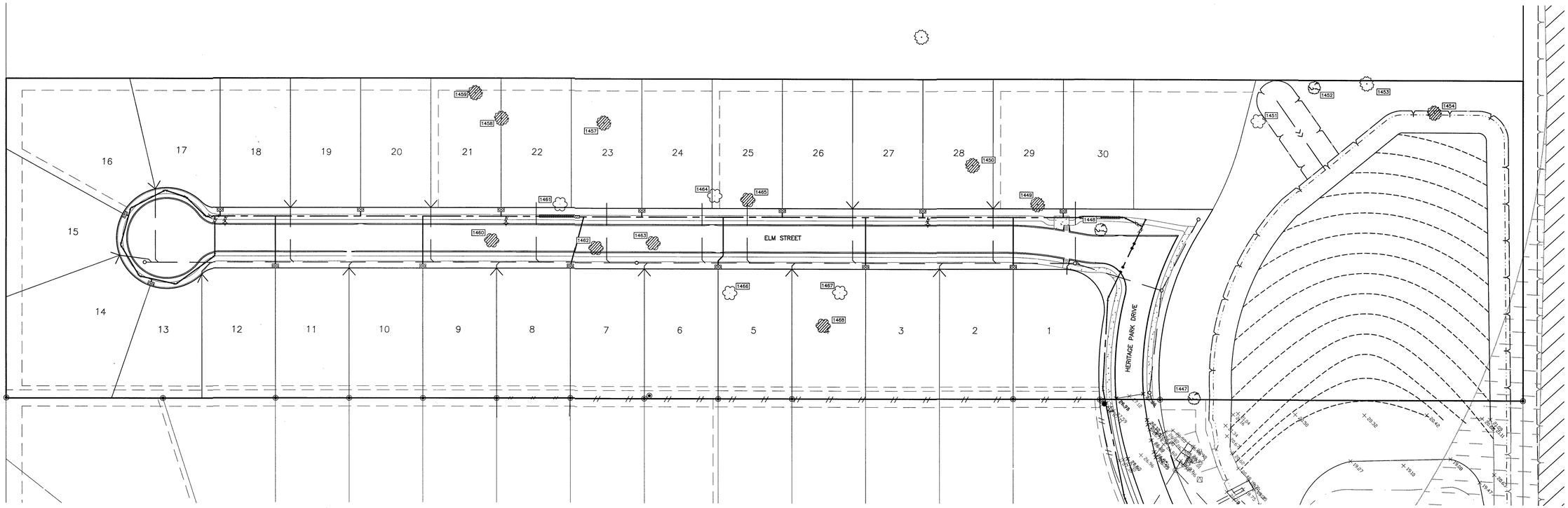
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

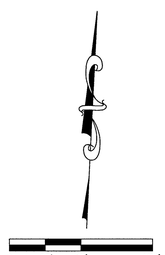
LOT GRADING PLAN

PROJECT NO. 15012

10

15012-SHEET SET.DWG





TOTAL NUMBER OF HERITAGE TREES = 10
TOTAL CALIPER OF HERITAGE TREES = 213 IN

HERITAGE TREES TO BE REMOVED = 5
CALIPER OF REMOVED HERITAGE TREES = 102 IN

HERITAGE & SIGNIFICANT TREES TO BE PRESERVED = 8
CALIPER OF HERITAGE/SIGNIFICANT TREES TO BE PRESERVED = 189 IN

REQUIRED REPLACEMENT CALIPER = (102 – 189) X 3 = 0

PER SECTION 23-60.H.7 OF THE ANGLETON LDC, THE HOMEOWNER WILL PROVIDE TWO TREES PER LOT IN ADDITION TO THE REQUIRED REPLACEMENT CALIPER.

NO REPLACEMENT TREES IS REQUIRED IN THIS TREE PRESERVATION PLAN.

AN ADDITIONAL TWO TREES PER LOT WILL BE PLANTED BY THE HOME BUILDER.

ID NO.	DIAMETER (IN)	SPECIES	TYPE	STATUS
1447	24	ELM	SIGNIFICANT	PRESERVE
1448	30	ELM	SIGNIFICANT	PRESERVE
1449	12	PERSIMMON	INSIGNIFICANT	REMOVE
1450	24	PERSIMMON	INSIGNIFICANT	REMOVE
1451	12	LIVE OAK	HERITAGE	PRESERVE
1452	24	ELM	SIGNIFICANT	PRESERVE
1453	12	COTTONWOOD	INSIGNIFICANT	REMOVE
1454	12	SUGARBERRY	INSIGNIFICANT	REMOVE
1457	20	PERSIMMON	INSIGNIFICANT	REMOVE
1458	20	RED CEDAR	INSIGNIFICANT	REMOVE
1459	20	RED CEDAR	INSIGNIFICANT	REMOVE
1460	24	LIVE OAK	HERITAGE	REMOVE
1461	24	LIVE OAK	HERITAGE	PRESERVE
1462	12	LIVE OAK	HERITAGE	REMOVE
1463	24	LIVE OAK	HERITAGE	REMOVE
1464	24	LIVE OAK	HERITAGE	PRESERVE
1465	24	LIVE OAK	HERITAGE	REMOVE
1466	15	LIVE OAK	HERITAGE	PRESERVE
1467	36	LIVE OAK	HERITAGE	PRESERVE
1468	18	LIVE OAK	HERITAGE	REMOVE

SYMBOLS

- ○ = SET 5/8" I.R. W/CAP "BAKER & LAWSON"
- ◉ = FOUND MONUMENT (AS NOTED)
- ⊕ = (TBM) TEMPORARY BENCHMARK
- —●— = POWER POLE
- ⌂ = MAIL BOX
- Ⓦ = WATER METER
- = LIVE OAK (HERITAGE TREE)
- = PECAN (HERITAGE TREE)
- = ELM (SIGNIFICANT TREE)
- = INSIGNIFICANT TREE

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Clint Peltier Custom Homes
979-481-4840

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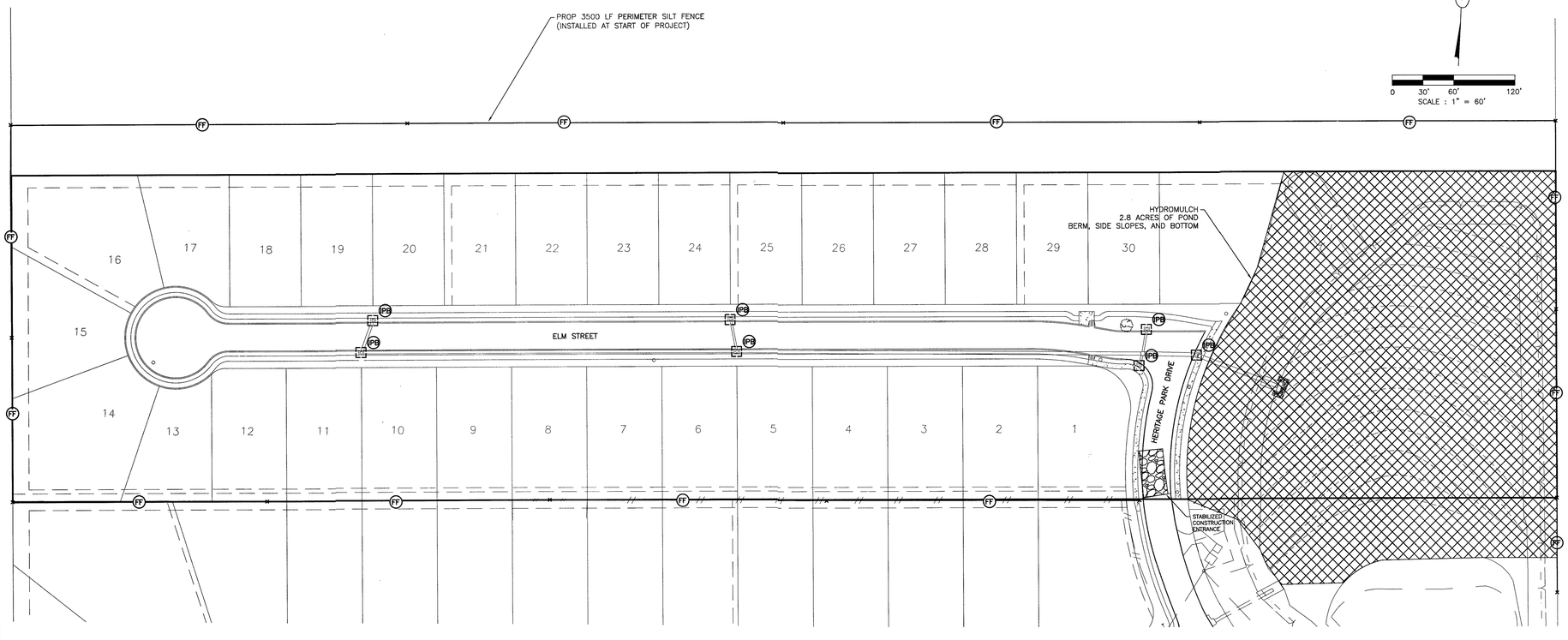
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

TREE PRESERVATION PLAN

PROJECT NO. 15012

15012-SHEET SET.DWG

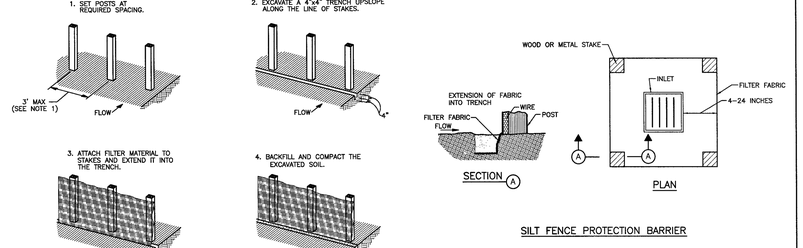


NOTES:

CONTRACTOR WILL DRY SEED APPROXIMATELY 13.0 ACRES OF LAND AT PROJECT COMPLETION

CONTRACTOR WILL INSTALL SILT FENCING BEHIND ALL BACK OF CURB AT PROJECT COMPLETION (2450 LF)

CONTRACTOR WILL INSTALL PRE-CONCRETE AND POST-CONCTRETE INLET PROTECTION BARRIERS ON CURB INLETS



CONSTRUCTION NOTES:

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

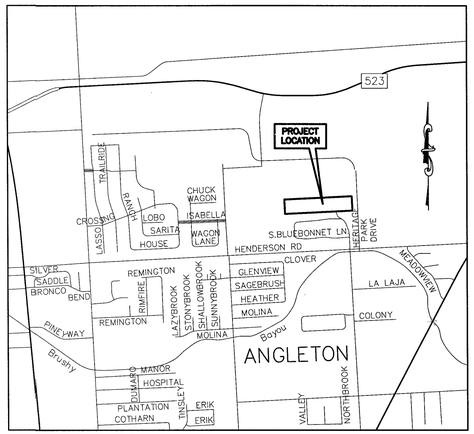
FILTER FABRIC FENCE

SILT FENCE PROTECTION BARRIER

LEGEND

- SILT FENCE AROUND STRUCTURE UNDER CONSTRUCTION
- SILT FENCE ACROSS EXISTING DITCH REINFORCED FILTER BARRIER
- HYDROMULCH SEED

GENERAL LOCATION MAP



VICINITY MAP
N.T.S.

PROJECT/SITE INFORMATION

PROJECT NAME: HERITAGE PARK SECTION 3

PROJECT ADDRESS/LOCATION: 0 HERITAGE PARK DRIVE

CITY: ANGLETON STATE: TX. ZIP CODE: 77515

LATITUDE: 29°11'48.1" LONGITUDE: 95°24'41.3" COUNTY: BRAZORIA

NAME OF RECEIVING WATERS: GULF OF MEXICO

05/01/2022
MONTH/DAY/YEAR
ESTIMATED CONSTRUCTION START DATE

05/01/2023
MONTH/DAY/YEAR
ESTIMATED COMPLETION DATE

ESTIMATE OF AREA TO BE DISTURBED: 13.00 ACRES

ESTIMATE OF LIKELYHOOD OF DISCHARGE:

☐ UNLIKELY ☐ ONCE PER WEEK ☐ CONTINUAL
☒ ONCE PER MONTH ☐ ONCE PER DAY

ARE THERE ANY LISTED ENDANGERED OR THREATENED SPECIES, OR DESIGNATED CRITICAL HABITAT IN THE PROJECT AREA?

☐ YES ☒ NO

ELIGIBILITY WITH REGARD TO PROTECTION OF ENDANGERED SPECIES HAS BEEN SATISFIED THROUGH THE INDICATED SECTION OF PART 1.B.3.e.(2) OF THE PERMIT.

(a) ☒ (b) ☐ (c) ☐ (d) ☐

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN: 1" = 60'
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

SWPPP LAYOUT

PROJECT NO. 15012

15012-SHEET SET.DWG

1. SITE DESCRIPTION

A. NATURE OF THE CONSTRUCTION ACTIVITY:
HERITAGE PARK, SECTION 3 SUBDIVISION ANGLETON, BRAZORIA COUNTY, TEXAS. BEING 11.0 ACRE DEVELOPED AREA WHICH WILL BE A RESIDENTIAL SUBDIVISION OF 30 LOTS (70' WIDE USUALLY). CONSTRUCTION WILL INCLUDE UNDERGROUND UTILITIES, STORM SEWERS, CONCRETE ROADWAYS WITH CURBS AND DETENTION POND EXCAVATION WITH MATERIAL SPREAD FOR LOT GRADING.

B. INTENDED SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:
STREET RIGHT OF WAY AND LOT AREAS WILL BE STRIPPED OF ALL VEGETATIVE MATTER. THIS MATERIAL WILL BE STOCKPILED ADJACENT TO THE WORK TO BE SPREAD ON DEVELOPED LOTS AFTER FINAL GRADING. UTILITY AND STORM SEWER CONSTRUCTION WILL REQUIRE TRENCHING. EXCAVATION FOR ROADWAY SUBGRADE AND DETENTION POND WILL INVOLVE SPREADING EXCAVATED MATERIAL ON ADJACENT LOTS. RAINFALL RUNOFF WILL BE DIRECTED TO THE STREET GUTTERS AND TO THE CONSTRUCTED STORM SEWER SYSTEM. TRUCKS WILL BE USED TO DELIVER MATERIAL TO THE PROJECT INCLUDING LIME, CONCRETE, UTILITY AND STORM SEWER MATERIALS AND OTHER CONSTRUCTION MATERIALS. TRUCKS WILL ALSO BE USED TO HAUL CONSTRUCTION DEBRIS AWAY FROM THE SITE. THESE TRUCKS WILL BE ROUTED ALONG HERITAGE PARK DRIVE FOR INGRESS AND EGRESS. RUTTING DURING WET WEATHER WILL PROVIDE POTENTIAL FOR TRACKING MUD ALONG THE ROUTE.

C. TOTAL PROJECT AREA: 11.00 ACRES

D. TOTAL AREA TO BE DISTURBED: 13.00 ACRES

WEIGHTED RUNOFF COEFFICIENT (BEFORE CONSTRUCTION): 0.30 (AFTER CONSTRUCTION): 0.55

E. REFER TO GENERAL LOCATION MAP AND SITE MAP FOR DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER MAJOR GRADING ACTIVITIES; AREAS OF SOIL DISTURBANCE; AREAS WHICH WILL NOT BE DISTURBED; LOCTIONS OF MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS; LOCATIONS WHERE STABILIZATION PRACTICES ARE EXPECTED TO OCCUR; LOCATION OF OFF-SITE MATERIAL, WASTE, BORROW OR EQUIPMENT STORAGE AREAS; SURFACE WATERS (INCLUDING WETLANDS); AND LOCATIONS WHERE STORM WATER DISCHARGES TO A SURFACE WATER.

F. LOCATION AND DESCRIPTION OF ANY DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY OTHER THAN CONSTRUCTION:

G. NAME OF RECEIVING WATERS:
RUNOFF WILL BE COLLECTED IN THE STORM SEWER SYSTEM AND ROUTED TO THE DETENTION POND. THE POND OUTFALLS INTO RANCHO DITCH WHICHT THEN OUTFALLS TO BRUSHY BAYOU, AND THEN TO THE GULF OF MEXICO.

AREAL EXTENT AND DESCRIPTION OF WETLAND OR SPECIAL AQUATIC SITE AT OR NEAR THE SITE WHICH WILL BE DISTURBED OR WHICH WILL RECEIVE DISCHARGES FROM DISTURBED AREAS OFTHE PROJECT.

NONE

H. REFER TO FEDERAL REGISTER, VOLUME 63, NO.128, MONDAY JULY 6, 1998, PAGES 36497 TO 36515 FOR REQUIREMENTS OF NPDES GENERAL PERMITS FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES IN REGION 6.

I. LISTED ENDANGERED OR THREATENED SPECIES OR CRITICAL HABITAT FOUND IN PROXIMITY TO THE CONSTRUCTION ACTIVITY:

NONE

J. PROPERTY LISTED OR ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER OF HISTORIC PLACES:

NONE

2. CONTROLS

NARRATIVE – SEQUENCE OF CONSTRUCTION ACTIVITIES AND APPROPRIATE CONTROL MEASURES DURING CONSTRUCTION

THE ORDER OF CONSTRUCTION WILL BEGIN WITH STRIPPING OF ALL VEGETATION FROM THE WORK AREA.

1. INSTALL SILT FENCE AROUND THE PERIMETER OF THE AREA TO BE DISTURBED. THE ORDER OF ACTIVITIES WILL BEGIN WITH THE COMPLETE STRIPPING OF ALL AREAS TO RECEIVE FILL MATERIAL. REMOVED VEGETATION TO BE STOCKPILED ADJACENT TO THE WORK TO BE SPREAD AFTER LOT GRADING IS COMPLETE.
2. REGRADE THE EXISTING POND AND SPREAD MATERIALS ON SITE. INSTALL WATER LINES, SANITARY SEWER LINES AND MANHOLES AND STORM SEWER PIPES, INLETS AND MANHOLES. INSTALL INLET PROTECTION BARRIERS AROUND ALL INLETS. FULLY EXCAVATE THE DETENTION POND TO PROVIDE OUTFALL PATH FOR THE STORM SEWER SYSTEM. INSTALL THE RESTRICTIVE OUTLET.
3. ROADWAY EXCAVATION, LIME STABILIZATION AND CONCRETE PAVING WILL FOLLOW UNDERGROUND UTILITY AND STORM SEWER CONSTRUCTION. DURING ROADWAY WORK, THE REMAINDER OF THE DETENTION POND WILL BE EXCAVATED AND MATERIAL SPREAD ON LOTS. INSTALL SILT FENCE IN THE BOTTOM OF THE POND UPSTREAM OF THE RESTRICTIVE OUTFALL CULVERT.
4. AS SOON AS CONCRETE CURBS ARE INSTALLED, INSTALL SILT FENCING BEHIND ALL CURBS.
5. ALL SEEDED AND FERTILIZED AREA TO BE IRRIGATED TO ENSURE GROWTH.

A. EROSION AND SEDIMENT CONTROLS: EROSION AND SEDIMENT CONTROLS SHALL RETAIN SEDIMENT ON SITE TO THE EXTENT PRACTICABLE. CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS (WHERE APPLICABLE) AND GOOD ENGINEERING PRACTICES. OFFSITE SEDIMENT ACCUMULATIONS MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS. SEDIMENT MUST BE REMOVED FROM SEDIMENT TRAPS OR SEDIMENTATION PONDS WHEN CAPACITY HAS BEEN REDUCED BY 50%. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WALL SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.

SOIL STABILIZATION PRACTICES:	OWNER/ DEVELOPER	GENERAL CNTRTR.	BUILDER	OTHER
TEMPORARY SEEDING				
PERMANENT PLANTING, SODDING, OR SEEDING		X		
MULCHING– WHERE INDICATED		X		
SOIL RETENTION BLANKET		X		
VEGETATIVE BUFFER STRIPS				
PRESERVATION OF NATURAL RESOURCES				
OTHER:				

THE FOLLOWING RECORDS SHALL BE MAINTAINED AND ATTACHED TO THIS SWPPP:
DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, DATES WHEN STABILIZATION MEASURES ARE INITIATED.

STRUCTURAL PRACTICES:	OWNER/ DEVELOPER	GENERAL CNTRTR.	BUILDER	OTHER
REINFORCED SILT FENCES		X		
HAY BALES				
ROCK BERMS				
DIVERSION, INTERCEPTOR, OR PERIMETER DIKES				
DIVERSION, INTERCEPTOR, OR PERIMETER SWALES				
DIVERSION DIKE AND SWALE COMBINATIONS				
PIPE SLOPE DRAINS				
ROCK BEDDING AT CONSTRUCTION EXIT		X		
TIMBER MATTING AT CONSTRUCTION EXIT				
SEDIMENT TRAPS				
SEDIMENT BASINS				
STORM INLET PROTECTION		X		
STONE OUTLET STRUCTURES				
OTHER:				

B. STORM WATER MANAGEMENT MEASURES INSTALLED DURING CONSTRUCTION TO CONTROL POLLUTANTS IN STORM WATER DISCHARGES THAT WILL OCCUR AFTER CONSTRUCTION:
CURBS & GUTTERS STORM SEWERS

C. OTHER CONTROLS

NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO WATERS OF THE UNITED STATES, EXCEPT AS AUTHORIZED BY A PERMIT ISSUED UNDER SECTION 404 OF THE CLEAN WATER ACT.

WASTE MATERIALS: ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL CONTAINER. THE CONTAINER SHALL MEET ALL STATE AND CITY SOLID WASTE MANAGEMENT REGULATIONS. THE CONTAINER SHALL BE EMPTIED AS NECESSARY AND THE TRASH HAULED TO AN APPROPRIATE DUMP SITE. NO CONSTRUCTION MATERIALS WILL BE BURIED ON SITE.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINT, CLEANING SOLVENTS, ASPHALT PRODUCTS, PETROLEUM PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION, AND CONCRETE CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, THE SPILL COORDINATOR SHOULD BE CONTACTED IMMEDIATELY.

SANITARY WASTE: PORTABLE SANITARY FACILITIES WILL BE PROVIDED BY THE CONTRACTOR. ALL SANITARY WASTES WILL BE COLLECTED FROM PORTABLE UNITS AND SERVICED BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

OFFSITE VEHICLE TRACKING SHALL BE MINIMIZED BY:
___ HAUL ROADS DAMPENED FOR DUST CONTROL LOADED
_X_ HAUL TRUCKS TO BE COVERED WITH TARPAULIN
_X_ EXCESS DIRT ON ROAD REMOVED DAILY STABILIZED
___ CONSTRUCTION ENTRANCE

OTHER: TRUCKS HAULING VEGETATION AND DEBRIS WILL BE MONITORED AND SHALL BE COVERED WITH TARPAULINS IF REQUIRED TO PREVENT DUST OR OTHER PARTICLES FROM BLOWING OR FALLING FROM TRUCK.

REMARKS: ALL OPERATIONS WILL BE CONDUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNTS OF SEDIMENT THAT MAY ENTER THE RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY, OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS.

3. MAINTENANCE

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IF A REPAIR IS NECESSARY IT SHALL BE DONE AT THE EARLIEST TIME POSSIBLE, BUT NO LATER THAN SEVEN CALENDAR DAYS AFTER THE GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE FROM HEAVY EQUIPMENT. THE AREAS ADJACENT TO DRAINAGE WAYS SHALL HAVE PRIORITY, FOLLOWED BY DEVICES PROTECTING STORM SEWER INLETS. MAINTENANCE SHALL BE PERFORMED BEFORE THE NEXT ANTICIPATED STORM EVENT OR AS SOON AS PRACTICABLE.

4. INSPECTION

AN INSPECTION WILL BE PERFORMED BY THE PERMITEE EVERY FOURTEEN DAYS AS WELL AS AFTER EVERY ONE-HALF INCH OR GREATER RAINFALL EVENT. AN INSPECTION AND RAINFALL REPORT WILL BE MADE AFTER EACH INSPECTION. ANY DEFICIENCIES WILL BE NOTED AND APPROPRIATE CHANGES SHALL BE MADE TO THE SYSTEM TO COMPLY WITH REQUIREMENTS.

5. NON-STORMWATER DISCHARGES

___ FIRE HYDRANT FLUSHING
_X_ BUILDING WASHDOWN WITHOUT DETERGENTS
_X_ PAVEMENT WASHDOWN WITHOUT DETERGENTS
_X_ CONDENSATE
___ UNCONTAMINATED GROUNDWATER
___ UNCONTAMINATED FOUNDATION DRAINS

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PLAN:
PROFILE:
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HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

SWPPP NARRATIVE

PROJECT NO. 15012

15012-SHEET SET.DWG

(1)

Hydrological and Hydraulic Impacts
Heritage Park 3 , Angleton TX
Job # 15012

Brazoria County, Texas

A = 11.0 Acre Development :

Pre Development:

C = 0.1815
TC = 65.3 Minutes, I = 4.408 in/hr
Q = 100 Year Storm = 8.80 cfs

Post Development

C = 0.55
T/C = 28.8 Minutes, I= 6.612 in/hr
Q = 100 Year Storm = 50.00 cfs

Required Detention:

4.725 acre - feet (205,821 c.f.)

Maximum allowable outfall rate is 0.80 cfs/acre
ac according to Bra Co Master Study for
Drainage Areas BB35 & BB36 of Bastrop Bayou

Pre Q100= 0.80 x 11.0 = 8.8 CFS

Miguel Sauceda, P.E. Feb 28, 2022

(2)

Drainage Analysis

Job # 15012 - Heritage Park 3, Angleton TX

Rainfall intensity calculations for Brazoria County

I = intensity (in/hr)
b = coefficient
t = time of concentration
d = coefficient
e = coefficient

subscript
i =1 = 2year storm
i =2 = 5 year storm
i =3 = 10 year strom
i =4 = 25 year storm
i =5 = 50 year storm
i =6 = 100 year storm

$i := 1..6$

$b_i :=$

75.5
82.8
88.1
100.8
107.3
120.2

$e_i :=$

0.807
0.775
0.756
0.753
0.742
0.741

$d_i :=$

14.7
16.9
18.4
19.1
19.8
21.3

$T_0 := 65.3$ ENTER PREDEVELOPMENT TIME OF CONCENTRATION

$I_i := \frac{b_i}{(d_i + T_0)^{e_i}}$ $I_6 = 4.408$ Predevelopment Intensity of interest

$C := 0.1815$ ENTER PREDEVELOPMENT C VALUE

$A := 11.0$ ENTER AREA

(3)

$C_f := 1.00$

$Q := C \cdot C_f \cdot I_6 \cdot A$ Must Insert correct subscript for I to obtain the relevant Q

$Q = 8.8$

$V := (C) \cdot A \cdot 43560 \cdot 1.08$ For these calculations, total volume storage is assumed to equal (C)*A with A converted to square feet multiplied by 13* (1.08*)

$V = 9.392 \times 10^4$

DEVELOPMENT OF RUNOFF HYDROGRAPH
MALCOM'S METHOD AS DESCRIBED IN THE
BRAZORIA COUNTY DRAINAGE CRITERIA
MANUAL

$T := \frac{V}{1.39 \cdot Q}$ $T = 7.679 \times 10^3$ T = Time to peak, presented as a function of volume and peak flow and therefore indirectly related to time of concentration

$t := 0, 1000 .. 84000$

$f(t) := \left(\frac{Q}{2}\right) \cdot \left(1 - \cos\left(\frac{t \cdot \pi}{T}\right)\right)$ f(t) describes rising limb of hydrograph

$g(t) := 4.34 \cdot Q \cdot \exp\left[-1.30 \cdot \left(\frac{t}{T}\right)\right]$ g(t) describes descending limb of hydrograph

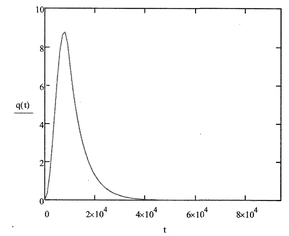
$q(t) := if(t \le 1.25 \cdot T, f(t), g(t))$

(4)

$Volume_{pre} := \int_0^{86400} q(t)\, dt$

$Volume_{pre} = 9.426 \times 10^4$

Predevelopment hydrograph



$T_0 := 28.8$ ENTER POST DEVLOPMENT TIME OF CONCENTRATION

$I_i := \frac{b_i}{(d_i + T_0)^{e_i}}$ $I_6 = 6.612$ Post development I of interest

$C := 0.55$ ENTER POST DEVELOPMENT C FACTOR REVISE Cf AND AREA IF NECESSARY

$C_f := 1.25$

$Q := C \cdot I_6 \cdot A \cdot C_f$

$Q = 50.002$

$V := (C) \cdot A \cdot 43560 \cdot 1.08$

(5)

$V = 2.846 \times 10^5$

$T := \frac{V}{1.39 \cdot Q}$ $T = 4.095 \times 10^3$

$t := 0, 1000 .. 25000$

$f(t) := \left(\frac{Q}{2}\right) \cdot \left(1 - \cos\left(\frac{t \cdot \pi}{T}\right)\right)$

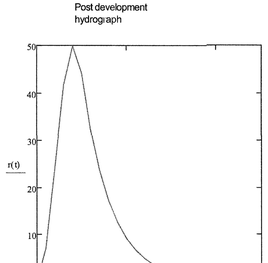
$g(t) := 4.34 \cdot Q \cdot \exp\left[-1.30 \cdot \left(\frac{t}{T}\right)\right]$

$r(t) := if(t \le 1.25 \cdot T, f(t), g(t))$

$Volume_{post} := \int_0^{86400} r(t)\, dt$

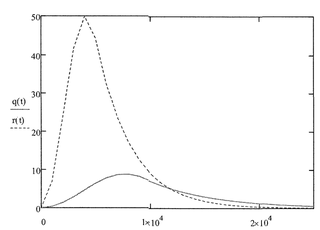
$Volume_{post} = 2.856 \times 10^5$

Post development hydrograph



(6)

Combined pre and post development hydrographs



$v(t) := (r(t) - q(t)) \cdot t$

$v(t) := if(f(t) > 0, f(t), 0)$

THE REQUIRED STORAGE COMPUTED AS THAT PART OF THE POST DEVELOPMENT HYDROGRAPH THAT FALLS ABOVE THE PREDEVELOPMENT HYDROGRAPH

ACRE -FEET

$\frac{\int_0^{86400} v(t)\, dt}{43560} = 4.725$

NO.	DATE	DESCRIPTION	APPROVED

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HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

HYDROLOGIC CALCULATIONS

PROJECT NO. 15012

15012-SHEET SET.DWG

WinStorm (STORM DRAIN DESIGN) Version 3.05, Jan. 25, 2002
Run @ 2/21/2022 12:28:43 PM

PROJECT NAME : Heritage Park 3
JOB NUMBER : 15012
PROJECT DESCRIPTION :
DESIGN FREQUENCY : 5 Years
ANALYSIS FREQUENCY : 100 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 5 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
A-1	0.55	1.80	15.00	15.00	6.64	0.000	6.578
A-2	0.55	1.80	15.00	15.00	6.64	0.000	6.578
A-3	0.55	1.50	15.00	15.00	6.64	0.000	5.481
A-4	0.55	1.50	15.00	15.00	6.64	0.000	5.481
A-5	0.55	1.10	15.00	15.00	6.64	0.000	4.020
A-6	0.55	0.90	15.00	15.00	6.64	0.000	3.289
A-7	0.55	0.40	15.00	15.00	6.64	0.000	1.462

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim. (ft)	Grate Area (sf)	Left-Slope Long (%)	Left-Slope Trans (%)	Right-Slope Long (%)	Right-Slope Trans (%)	Gutter n	Depth DeprW (ft)	Critic Allowed (ft)	Elev. (ft)
A-1	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.30
A-2	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.30
A-3	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.00
A-4	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.00
A-5	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	26.50
A-6	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	26.50
A-7	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	26.80

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded Width Left (ft)	Ponded Width Right (ft)
A-1	Curb	5.00	n/a	n/a	6.578	6.718	0.490	12.20	12.20
A-2	Curb	5.00	n/a	n/a	6.578	6.718	0.490	12.20	12.20
A-3	Curb	5.00	n/a	n/a	5.481	6.261	0.458	11.40	11.40
A-4	Curb	5.00	n/a	n/a	5.481	6.261	0.458	11.40	11.40
A-5	Curb	5.00	n/a	n/a	4.020	6.261	0.372	10.15	10.15
A-6	Curb	5.00	n/a	n/a	3.289	6.261	0.325	9.40	9.40
A-7	Curb	5.00	n/a	n/a	1.462	6.261	0.190	6.95	6.95

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
A-1	Curb	0.550	1.80	15.00	6.64	0.000	0.00	6.578
A-2	Curb	0.550	3.60	15.12	6.62	0.000	0.00	13.104
A-3	Curb	0.550	1.50	15.00	6.64	0.000	0.00	5.481
A-4	Curb	0.550	6.60	16.61	6.31	0.000	0.00	22.921
A-5	Curb	0.550	1.10	15.00	6.64	0.000	0.00	4.020
A-6	Curb	0.550	0.90	15.00	6.64	0.000	0.00	3.289
SMH-1	CircMh	0.550	8.60	18.02	6.06	0.000	0.00	28.647
A-7	Curb	0.550	9.00	18.18	6.03	0.000	0.00	29.837
OUT	Outlt	0.550	9.00	18.18	6.03	0.000	0.00	29.837

Conveyance Configuration Data

Run#	Node I.D. US	Node I.D. DS	Flowline Elev. US (ft)	Flowline Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	A-1	A-2	23.40	23.30	Circ 1	0.00	2.00	30.00	0.33	0.013
2	A-2	A-4	23.30	22.57	Circ 1	0.00	2.50	364.00	0.20	0.013
3	A-3	A-4	22.67	22.57	Circ 1	0.00	1.50	27.00	0.37	0.013
4	A-4	SMH-1	22.57	21.78	Circ 1	0.00	3.00	393.00	0.20	0.013
5	A-5	SMH-1	21.91	21.78	Circ 1	0.00	1.50	20.00	0.65	0.013
6	A-6	SMH-1	21.83	21.78	Circ 1	0.00	1.50	7.00	0.71	0.013
7	SMH-1	A-7	21.78	21.68	Circ 1	0.00	3.00	48.00	0.21	0.013
8	A-7	OUT	21.68	21.50	Circ 1	0.00	3.00	83.00	0.22	0.013

Conveyance Hydraulic Computations. Tailwater = 24.200 (ft)

Run#	Hydraulic Gradeline US Elev (ft)	Hydraulic Gradeline DS Elev (ft)	Fr.Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	25.17	25.16	0.085	1.00	1.86	4.19	2.16	6.58	13.06	0.000
2	25.16	24.83	0.102	1.56	2.26	4.06	2.81	13.10	18.37	0.000
3	24.90	24.83	0.272	1.08	1.50	4.03	3.10	5.48	6.39	0.000
4	24.83	24.42	0.118	1.97	2.64	4.66	3.48	22.92	29.91	0.000
5*	24.44	24.42	0.146	0.73	1.50	4.74	2.27	4.02	8.47	0.000
6*	24.42	24.42	0.098	0.63	1.50	4.64	1.86	3.29	8.88	0.000
7	24.42	24.34	0.184	2.34	2.66	4.84	4.32	28.65	30.45	0.000
8	24.34	24.20	0.200	2.34	2.70	5.04	4.45	29.84	31.07	0.000

OUTPUT FOR ANALYSIS FREQUENCY of: 100 Years

Runoff Computation for Analysis Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
A-1	0.55	1.80	15.00	15.00	10.10	0.000	9.998
A-2	0.55	1.80	15.00	15.00	10.10	0.000	9.998
A-3	0.55	1.50	15.00	15.00	10.10	0.000	8.331
A-4	0.55	1.50	15.00	15.00	10.10	0.000	8.331
A-5	0.55	1.10	15.00	15.00	10.10	0.000	6.110
A-6	0.55	0.90	15.00	15.00	10.10	0.000	4.999
A-7	0.55	0.40	15.00	15.00	10.10	0.000	2.222

Sag Inlets Configuration Data.

Inlet ID	Inlet Type	Length/ Perim. (ft)	Grate Area (sf)	Left-Slope Long (%)	Left-Slope Trans (%)	Right-Slope Long (%)	Right-Slope Trans (%)	Gutter n	Depth DeprW (ft)	Critic Allowed (ft)	Elev. (ft)
A-1	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.30
A-2	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.30
A-3	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.00
A-4	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	27.00
A-5	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	26.50
A-6	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	26.50
A-7	Curb	5.00	n/a	0.50	2.00	0.50	2.00	0.014	1.50	0.50	26.80

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Grate Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded Width Left (ft)	Ponded Width Right (ft)
A-1	Curb	5.00	n/a	n/a	9.998	6.718	0.804	14.25	14.25
A-2	Curb	5.00	n/a	n/a	9.998	6.718	0.804	14.25	14.25
A-3	Curb	5.00	n/a	n/a	8.331	6.718	0.634	13.35	13.35
A-4	Curb	5.00	n/a	n/a	8.331	6.718	0.634	13.35	13.35
A-5	Curb	5.00	n/a	n/a	6.110	6.261	0.492	11.85	11.85
A-6	Curb	5.00	n/a	n/a	4.999	6.261	0.430	11.00	11.00
A-7	Curb	5.00	n/a	n/a	2.222	6.261	0.251	8.10	8.10

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr.Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
A-1	Curb	0.550	1.80	15.00	10.10	0.000	0.00	9.998
A-2	Curb	0.550	3.60	15.11	10.07	0.000	0.00	19.929
A-3	Curb	0.550	1.50	15.00	10.10	0.000	0.00	8.331
A-4	Curb	0.550	6.60	16.56	9.64	0.000	0.00	35.003
A-5	Curb	0.550	1.10	15.00	10.10	0.000	0.00	6.110
A-6	Curb	0.550	0.90	15.00	10.10	0.000	0.00	4.999
SMH-1	CircMh	0.550	8.60	17.89	9.29	0.000	0.00	43.963
A-7	Curb	0.550	9.00	18.02	9.26	0.000	0.00	45.848
OUT	Outlet	0.550	9.00	18.02	9.26	0.000	0.00	45.848

Conveyance Configuration Data

Run#	Node I.D. US	Node I.D. DS	Flowline Elev. US (ft)	Flowline Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	A-1	A-2	23.40	23.30	Circ 1	0.00	2.00	30.00	0.33	0.013
2	A-2	A-4	23.30	22.57	Circ 1	0.00	2.50	364.00	0.20	0.013
3	A-3	A-4	22.67	22.57	Circ 1	0.00	1.50	27.00	0.37	0.013
4	A-4	SMH-1	22.57	21.78	Circ 1	0.00	3.00	393.00	0.20	0.013
5	A-5	SMH-1	21.91	21.78	Circ 1	0.00	1.50	20.00	0.65	0.013
6	A-6	SMH-1	21.83	21.78	Circ 1	0.00	1.50	7.00	0.71	0.013
7	SMH-1	A-7	21.78	21.68	Circ 1	0.00	3.00	48.00	0.21	0.013
8	A-7	OUT	21.68	21.50	Circ 1	0.00	3.00	83.00	0.22	0.013

Conveyance Hydraulic Computations. Tailwater = 24.200 (ft)

Run#	Hydraulic Gradeline US Elev (ft)	Hydraulic Gradeline DS Elev (ft)	Fr.Slope (%)	Depth Unif. (ft)	Depth Actual (ft)	Velocity Unif. (f/s)	Velocity Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	27.10	27.04	0.195	1.31	2.00	4.57	3.18	10.00	13.06	0.000
2	27.04	26.18	0.236	2.34	2.50	4.17	4.06	19.93	18.37	0.000
3	26.35	26.18	0.629	1.50	1.50	4.71	4.71	8.33	6.39	0.000
4	26.18	25.10	0.275	3.00	3.00	4.95	4.95	35.00	29.91	0.000
5*	25.17	25.10	0.338	0.94	1.50	5.22	3.46	6.11	8.47	0.000
6*	25.12	25.10	0.226	0.81	1.50	5.15	2.83	5.00	8.88	0.000
7	25.10	24.89	0.434	3.00	3.00	6.22	6.22	43.96	30.45	0.000
8	24.89	24.50	0.472	3.00	3.00	6.49	6.49	45.85	31.07	0.000

END

* Super critical flow.

NORMAL TERMINATION OF WINSTORM.

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

WINDSTORM DATA
I-1 TO I-7

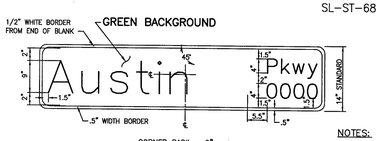
PROJECT NO. 15012

15012-SHEET SET.DWG

GENERAL CONSTRUCTION NOTES:

1. SECURELY ATTACH STREET NAME SIGN TO TRAFFIC SIGNAL SUPPORT WIRES WITH MULTI-LEVELING, WIND DUMPING BRACKETS.
2. SUPPORT WIRES SHOULD NOT BE PROHIBITED FROM INDEPENDENT MOVEMENT.
3. INSTALL ONE STREET NAME SIGN APPROXIMATE 3' FROM POLE ABOVE ON-COMING TRAFFIC ON EACH TRAFFIC SIGNAL SPAN.
4. THE FIRST LETTER OF EACH WORD SHALL BE UPPER CASE, SUBSEQUENT LETTERS SHALL BE LOWER CASE. ALL INDIVIDUAL LETTERS FOR EXAMPLE "F.M." SHALL BE UPPER CASE. STREET SUFFIXES & "NO OUTLET" SHALL BE UPPER CASE.
5. ALL SHEETING SHALL BE "DIAMOND GRADE" OR APPROVED EQUAL.
6. USE ANODIZED BLANKS ONLY.
7. STREET SIGN FONTS SHALL BE HELVETICA BOLD, MEDIUM STYLE
8. MINIMUM SIGN THICKNESS: 9" SIGNS = .080", 14" SIGNS = .1875"

SL-ST-68

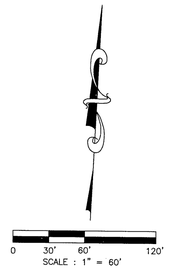


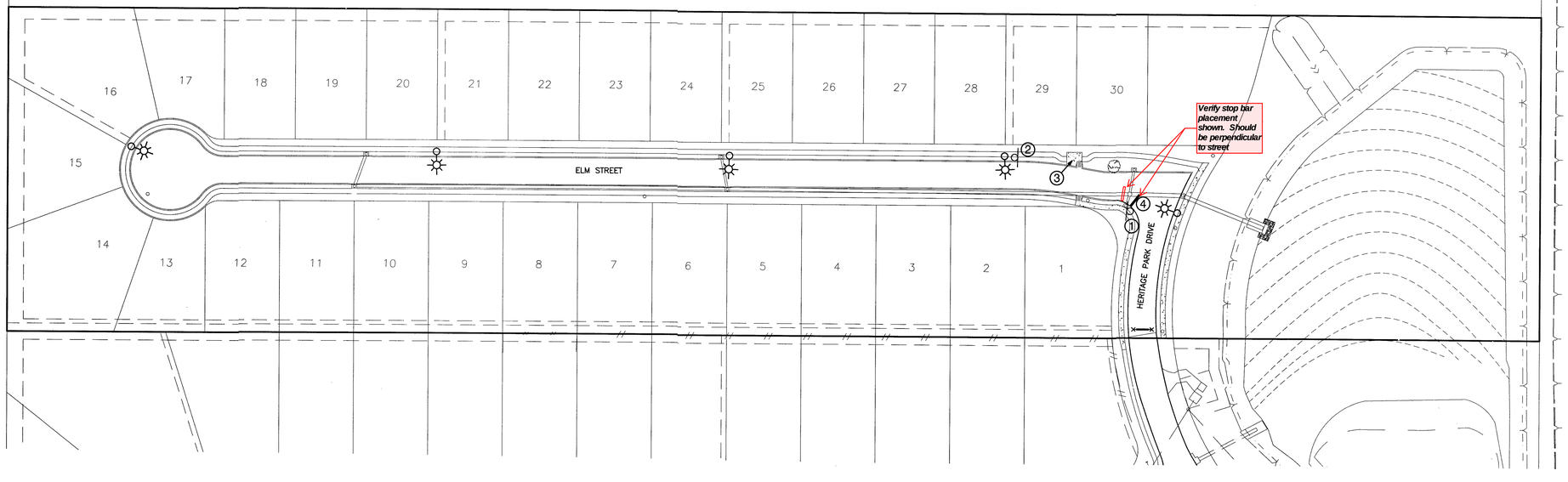
NOTES:

1. HELVETICA BOLD, MEDIUM STYLE; WITH 9" UPPER CASE LETTERS AND 6" LOWER CASE LETTERS.
2. REFER TO C.O.S.S.L. DESIGN STANDARDS FOR MORE INFO.

DETAIL OF SIGN FOR MAST ARM TRAFFIC SIGNAL POLES

SL-ST-67





STREET AREA LIGHTING (5 LOCATIONS)

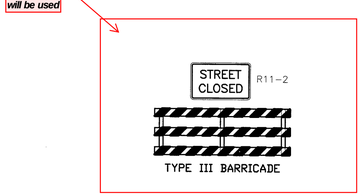
STREET SIGNS

1. STOP - FACING ELM STREET
   ELM STREET / HERITAGE PARK DRIVE
   "NO OUTLET" SIGN FACING HERITAGE PARK DRIVE
2. 30 MPH SPEED LIMIT
3. 3 CBU POST OFFICE MAIL BOXES
4. 24" WIDE THERMOPLASTIC STOP BAR

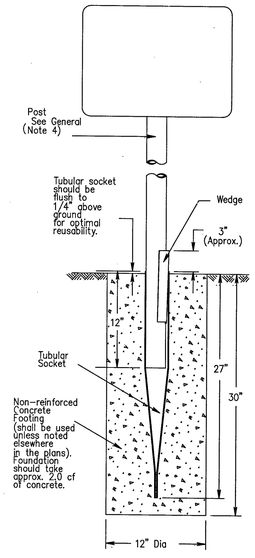
LIGHTING PLAN PROVIDED IS SHOWN AS RECOMMENDED. FINAL LOCATIONS AND QUANTITIES ARE DETERMINED BY TEXAS NEW MEXICO POWER (TNMP).

ALL SIGN PLACARDS WILL BE GREEN WITH WHITE LETTERING

Verify where this will be used



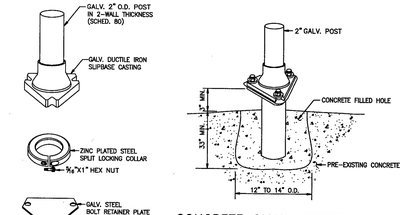
Wedge Anchor System



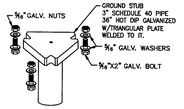
SM RD SGN ASSM TY TWT(X)WA(P)

SL-ST-62

SL-ST-68



CONCRETE SIGN PEDESTAL SL-ST-65
NTS



NOTES:

1.) FILL HOLE TO GROUND LEVEL.
2.) PRESS BASE INTO CENTER OF CONCRETE.
3.) LEVEL BASE 3" ABOVE GROUND.
4.) TIGHTEN (TORQUE) NUTS BETWEEN 60 TO 80 FT/LB MAX.

POZ-LOCK SLIPBASE SYSTEM
NTS

SL-ST-64

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS · MIGUELANGEL A SAUCEDA · 121992 · REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN: 1" = 60'
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

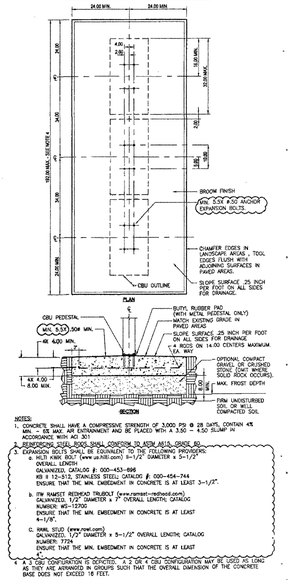
PAVEMENT MARKING, MAIL BOXES, STREET SIGNS, AND ROADWAY LIGHTING LAYOUT

PROJECT NO. 15012

16

15012-SHEET SET.DWG

NOTES TO A/E:



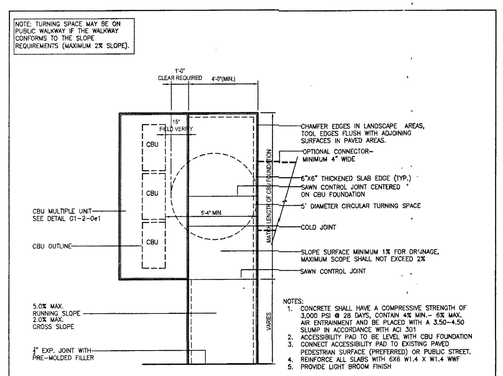
NOTES:
1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS, CONTAIN 4% MIN.– 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3.50 – 4.50 SLUMP IN ACCORDANCE WITH ACI 301.
2. REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60.
3. EXPANSION BOLTS SHALL BE EQUIVALENT TO THE FOLLOWING PROVISIONS:
   a. HILTI KWIK BOLT (www.us.hilti.com) 3-1/2" DIAMETER x 5-1/2" OVERALL LENGTH
      GALVANIZED, CATALOG #: 000-453-896
      KB II 12-312, STAINLESS STEEL, CATALOG #: 000-454-744
      ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 3-1/2".
   b. ITW RAMSET REDHEAD TRUBOLT (www.ramset-redhead.com)
      3-1/2" DIAMETER x 5" OVERALL LENGTH, CATALOG NUMBER: KD-13750
      ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 4-1/4".
   c. RAWL STUD (www.rawl.com)
      GALVANIZED, 1.25" DIAMETER x 5-1/2" OVERALL LENGTH, CATALOG NUMBER: 7724
      ENSURE THAT THE MIN. EMBEDMENT IN CONCRETE IS AT LEAST 4".
4. A 1 CBU CONFIGURATION IS CONCRETE. 2 OR 4 CBU CONFIGURATION MAY BE USED AS LONG AS THEY ARE ARRANGED IN GROUPS SUCH THAT THE OVERALL DIMENSION OF THE CONCRETE BASE DOES NOT EXCEED 18 FEET.

Detail: CLUSTER BOX UNIT (CBU) INSTALLATION – MULTIPLE UNIT	Fac.	Ch.	Sect.	Para.	Detail
CAD File: ./usps/library/details/G1-2-0e1	Scale: 1/2" = 1'-0"	1/2"	1"	USPS SDL Issued: 10/1/2016 Last Revised: 10/27/2016	G1 - 2 - 0 e1

UNITED STATES POSTAL SERVICE — STANDARD DETAIL LIBRARY

NOTES TO A/E:

1. IF THE ACCESSIBLE ROUTE FROM THE CBU(s) CONNECTS WITH A STREET OR OTHER PAVED SURFACE AT A VERTICAL CURB, A CURB RAMP SHOULD BE INSTALLED IN ACCORDANCE WITH RE–4 REQUIREMENTS.



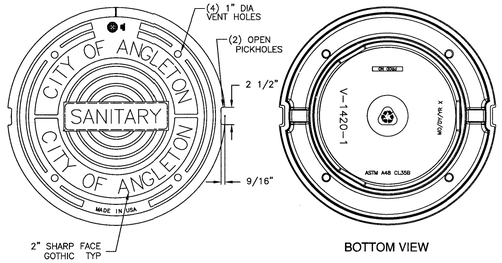
NOTES:
1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS, CONTAIN 4% MIN.– 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3.50–4.50 SLUMP IN ACCORDANCE WITH ACI 301
2. ACCESSIBILITY PAD TO BE LEVEL WITH CBU FOUNDATION
3. CONNECT ACCESSIBILITY PAD TO EXISTING PAVED PEDESTRIAN SURFACE (PREFERRED) OR PUBLIC STREET.
4. REINFORCE ALL SLABS WITH 6X6 W1.4 X W1.4 WWF
5. PROVIDE LIGHT BROOM FINISH

Paved Pedestrian Surface (if available) or Public Street

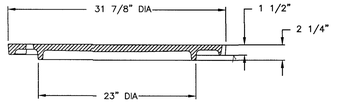
Detail: CLUSTER BOX UNIT (CBU) ACCESS MANUVERING SPACE – MULTIPLE UNIT	Fac.	Ch.	Sect	Para.	Detail
CAD File: ..\usps\library\details\G1-2-0e3.dwg	Scale: 1/4"=1'-0"	1/4"	1"	USPS SDL Issued: 10/1/2016 Last Revised: 7/14/2016	G1 - 2 - 0 e3

UNITED STATES POSTAL SERVICE — STANDARD DETAIL LIBRARY

V1420-1 Cover



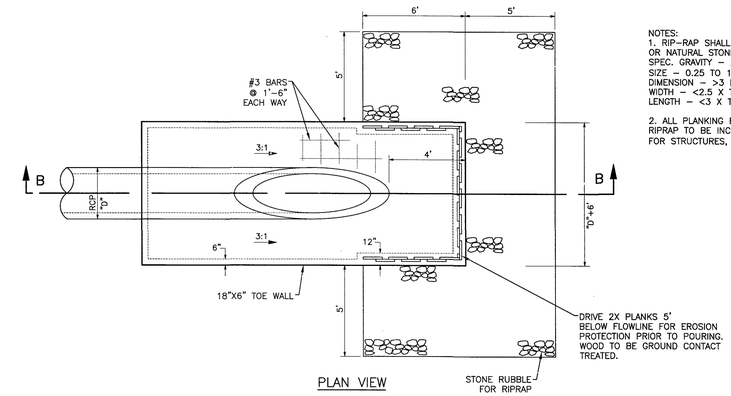
BOTTOM VIEW



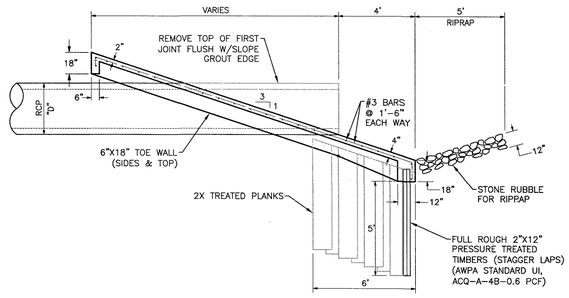
COVER SECTION

1 32" Manhole Cover and Frame
Scale: NTS

NOTES
1. MATERIAL SPECIFICATION SHALL BE ASTM A–48 CLASS 35B.
2. COVER TO BE SOLID, WITHOUT HOLES AND WITH NON–PENETRATION RIM ACCESS RECESSES ONLY.
3. HORIZONTAL BEARING SURFACES TO BE MACHINED AND SEALED AT INSTALLATION WITH WATERPROOF GREASE COATING.
4. LOAD RATING TO BE HEAVY–DUTY.
5. MANHOLE FRAMES AND COVERS SET IN FARM TO MARKET ROADS OR HIGHWAYS SHALL FOLLOW TXDOT SPECIFICATIONS. (UNLESS OTHERWISE NOTED BY ANGLETON)



PLAN VIEW



SECTION B–B

NOTES:
1. RIP–RAP SHALL BE BROKEN CONCRETE OR NATURAL STONE:
   SPEC. GRAVITY – 2.4
   SIZE – 0.25 TO 1.25 CF (40–190#)
   DIMENSION – >3 IN.
   WIDTH – <2.5 X THICKNESS
   LENGTH – <3 X THICKNESS
2. ALL PLANKING FOR CUT–OFF WALLS AND RUBBLE RIPRAP TO BE INCIDENTAL TO THE ITEM–CONCRETE FOR STRUCTURES, CLASS "B" RIPRAP.

TYPE Ⓐ
STANDARD CONCRETE SLOPE PAVING PIPE OUTFALL
NTS

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS — MIGUELANGEL A SAUCEDA — 121992 — REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992
Date: 3/11/22

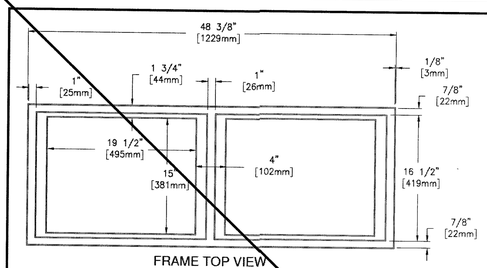
OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

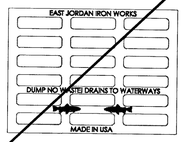
MISCELLANEOUS DETAILS

PROJECT NO. 15012

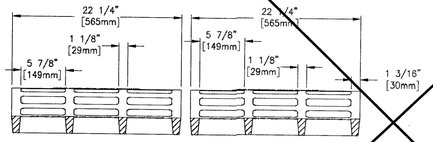


FRAME TOP VIEW

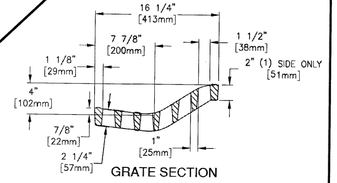
GRATE COVER IS EJIW OR APPROVED EQUAL.



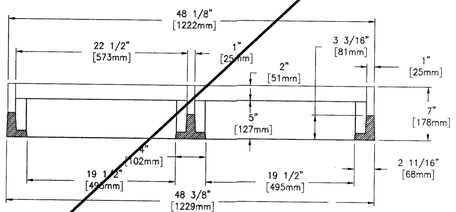
GRATE TOP VIEW



GRATE SECTION GRATE SECTION



GRATE SECTION



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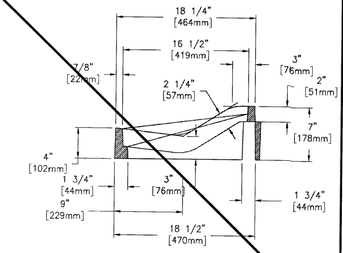
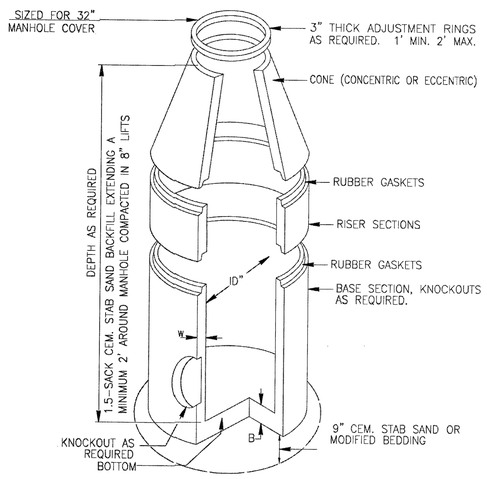


FRAME SECTION

CATCH BASIN ASSEMBLY

N.T.S.

SL-DR-03



DIMENSIONS AND WEIGHTS			
I.D. SIZE (in)	W (in)	B (in)	RISER Wt/Lf (lb)
48	5	6	868
60	6	8	1300
72	7	8	1811
96	9	8	3090

NOTES

1. LIFT INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED WITH APPROVED RUBBER GASKET
3. STRUCTURE TO BE PLACED ON 9" STABILIZED BASE.
4. C.S.S. SHALL BE BROUGHT TO WITHIN 2 FT OF TOP OF MANHOLE.
5. BASE SECTIONS MAY BE ROUND OR RECTANGULAR WITH TRANSITION SLABS AS REQUIRED TO USE 48" RISER SECTIONS.

SPECIFICATIONS:

CONCRETE: CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATES FOR HL93 LOADING.

REINFORCEMENT: STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-478.

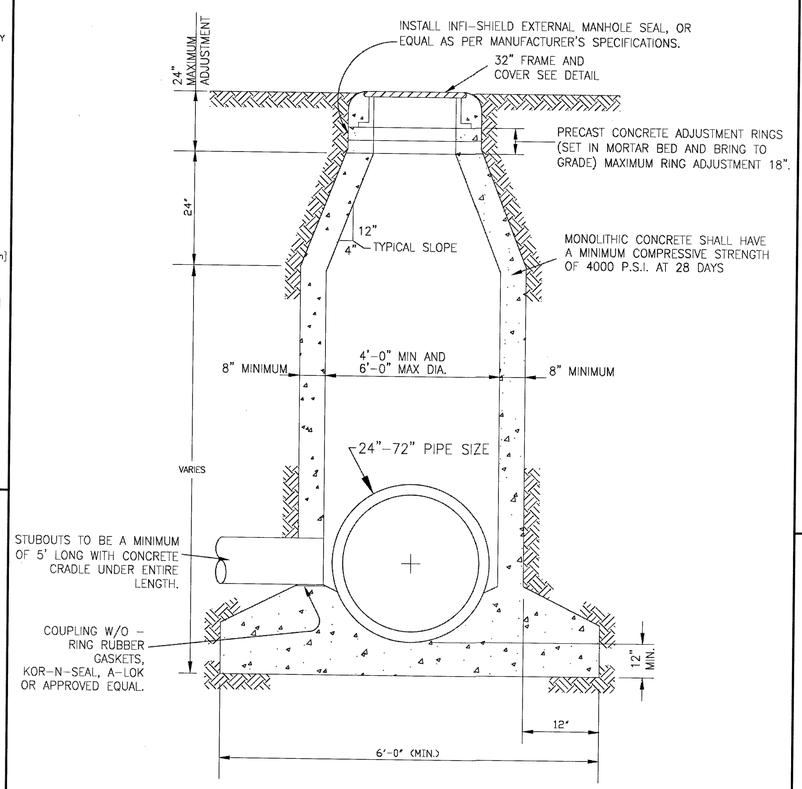
C.I. CASTINGS: CAST IRON FRAMES AND GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 35.

PRECAST CONCRETE MANHOLE

N.T.S.

SL-DR-02

REVISION DATE: OCTOBER 2021



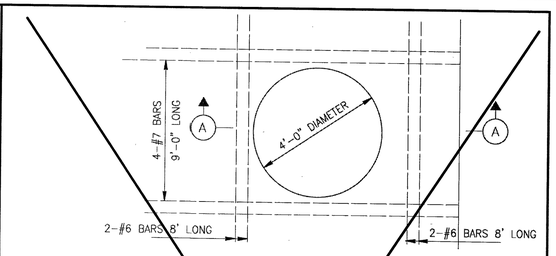
TYPE "C" CAST-IN-PLACE MANHOLE

N.T.S.

NOTES:

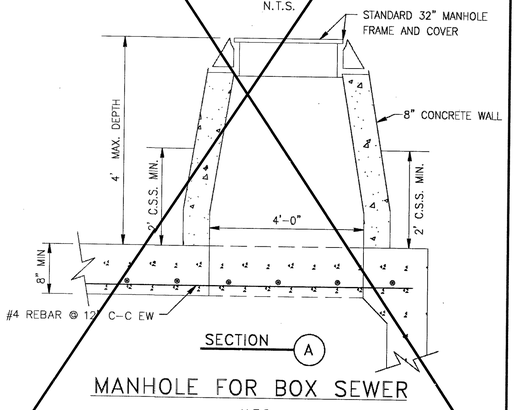
1. CONCRETE SHALL BE A MONOLITHIC POUR.
2. #4 REBAR TO BE PLACED IN BASE AND WALLS @ 12" C-C EW.
3. 1-1/2" C.S.S. BACKFILL TO BE PLACED AROUND MANHOLE COMPACTED IN 8" LIFTS (MAX).

SL-DR-01



STANDARD TYPE "E" INLET MAY BE USED AT TOP OF MANHOLE.

PLAN
N.T.S.



SECTION A

MANHOLE FOR BOX SEWER

N.T.S.

SL-DR-04

GENERAL CONSTRUCTION NOTES:

1. ALL CAST CONCRETE BASES AND WALLS SHALL HAVE # 4 REBAR @ 12" C-C EW
2. CONCRETE SHALL BE 3000 PSI MIN.
3. USE C.S.S. BEDDING AS PER DETAILS 1 1/2 SK, COMPACTED 8" LIFTS (MAX.). TO 95% STANDARD.

REFER TO:

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

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: DATE

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

STORM SEWER MANHOLE CONSTRUCTION DETAILS

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

SL-03

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

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DRAWN
CHECKED
DATE

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4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

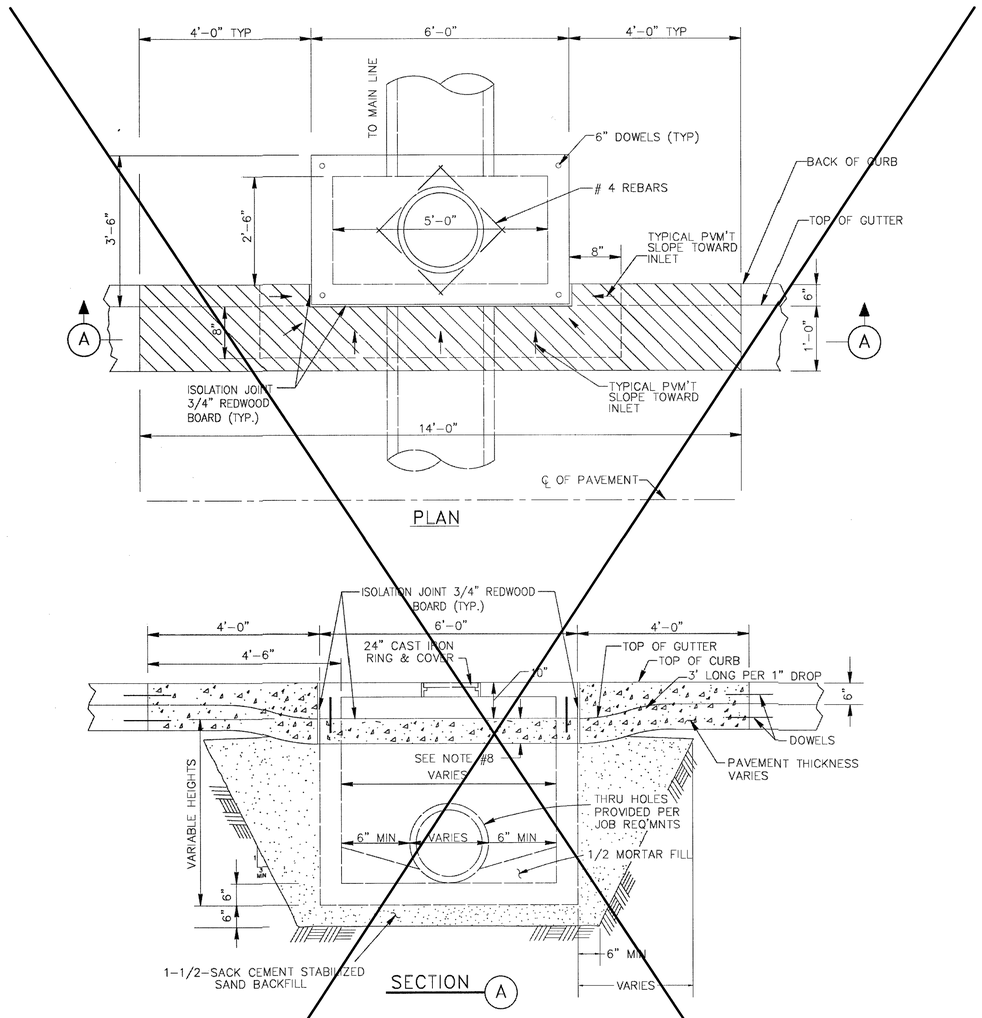
PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

STORM SEWER MANHOLE CONSTRUCTION DETAILS
SL-03

PROJECT NO. 15012

15012 DETAIL SET.DWG



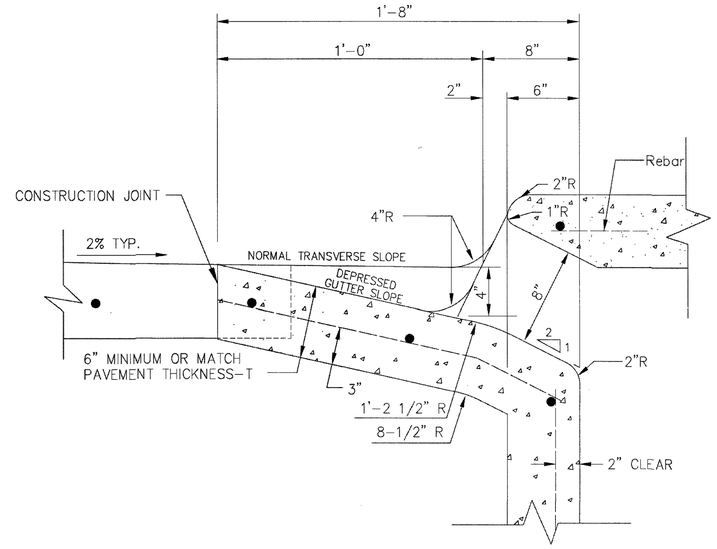
TYPE "H-2" INLET

SL-DR-25

NOTES:

1. INLET WALLS MAY BE EXTENDED USING PRECAST RISER SECTION.
2. INLET TOPS MUST BE SECURED TO THE INLET WALL USING #6 DOWELS DRILLED AND GROUTED A MINIMUM DEPTH OF 5" INTO THE INLET WALL. A PLAN PREPARED BY THE MANUFACTURER MUST BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. THE PLAN SHOULD DETAIL CONNECTIONS AND SEALING OF JOINTS.
3. PRECAST INLET TOPS SHALL NOT UTILIZE MULTIPLE ONE-FOOT SECTIONS TO ACHIEVE GRADE.
4. INLET BACKFILL SHALL BE CEMENT STABILIZED SAND TO THE TOP OF THE INLET FIRST STAGE.
5. GRADE 60 REINFORCEMENT. #4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.
6. PRECAST INLET MUST BE CONSTRUCTED TO SPECIFICATIONS REQUIRED BY APPROVED DRAWINGS. (SEE GENERAL NOTES).
7. TOPS POURED-IN-PLACE REQUIRE #4 REBAR @ 12" C-C EACH WAY, 4,500 PSI CONCRETE MINIMUM AND 3" THICK MINIMUM.
8. PAVEMENT DEPTH AT INLET SHALL BE EQUAL TO OR GREATER THAN REQUIRED PAVEMENT DEPTH.
9. DEPRESS GUTTER TO INLET.
10. ALL SIDES OF ALL INLETS MUST BE COMPACTED.
11. REFER TO GEOTECHNICAL REPORTS FOR RECOMMENDED TRENCH SIDE SLOPES.

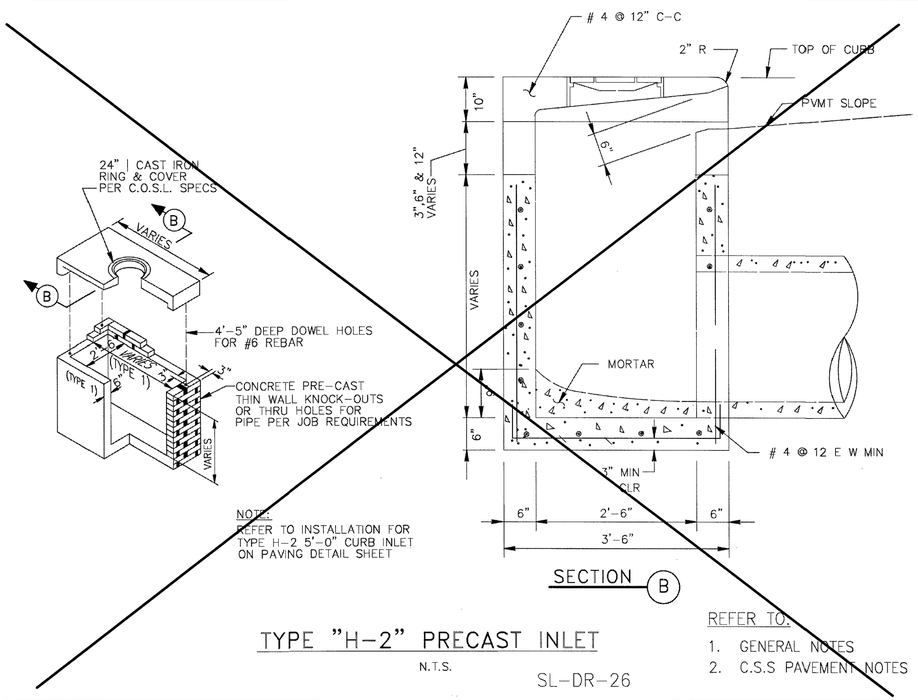
REVISION DATE: OCTOBER 2021



THROAT DETAIL FOR STANDARD INLETS ON CONCRETE STREETS

N.T.S.

SL-DR-40



TYPE "H-2" PRECAST INLET

N.T.S.

SL-DR-26

REFER TO:

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

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

STORM SEWER INLET CONSTRUCTION DETAILS II

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

SL-08

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REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
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979-481-4840

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HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

STORM SEWER INLET CONSTRUCTION DETAILS II
SL-08

PROJECT NO. 15012

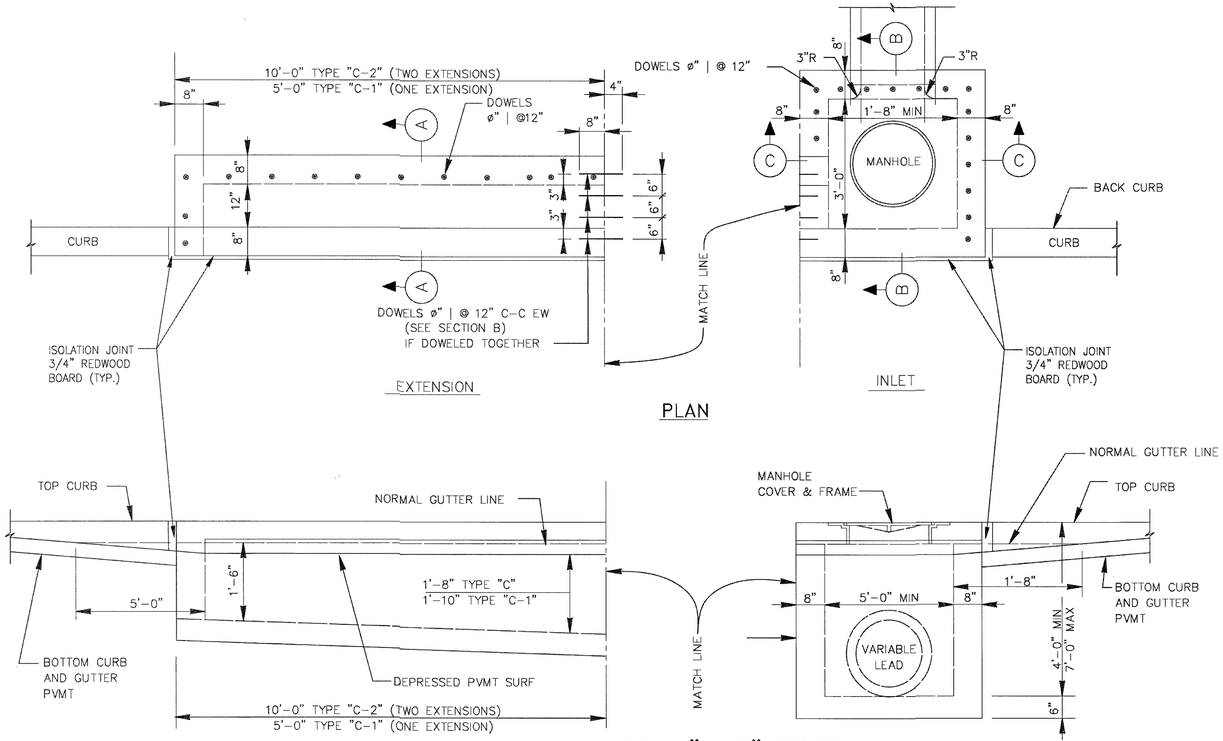
GENERAL NOTES:

TYPE "C" INLET WITH NO EXTENSION
TYPE "C-1" INLET WITH ONE EXTENSION
TYPE "C-2" INLET WITH EXTENSION ON EACH SIDE

EXTENSION 1 | INLET | EXTENSION 2

NOTE: IF MORE THAN ONE EXTENSION IS REQUIRED, THEY SHOULD BE LOCATED AS INDICATED ABOVE.

EXTENSION PLACEMENT
N.T.S.



PLAN

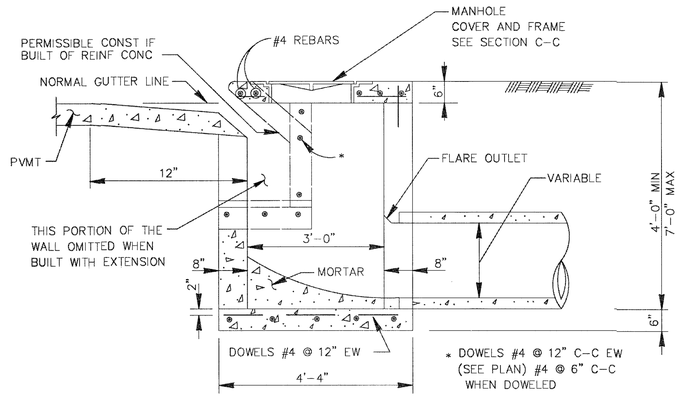
PLAN

TYPE "C-1" INLET SECTION (C)
N.T.S.

SL-DR-27

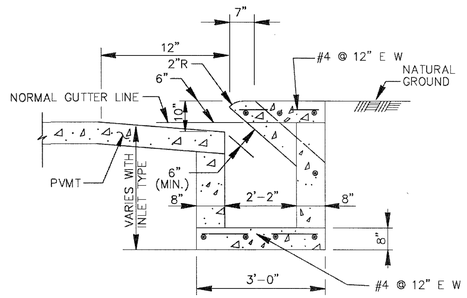
NOTES:

1. FOR TYPE "C-1" INLETS PROVIDE A CENTER 6"X6" COLUMNS IN THE CURB LINE BETWEEN ALL EXTENSIONS.
2. WALLS TO BE 8" IF BUILT WITH REINFORCED CONCRETE. BRICK WALLS ARE NOT ALLOWED.



SECTION (B)

SL-DR-27A



SECTION (A)

TYPE "C" INLET
N.T.S.

SL-DR-28

REFER TO:

1. GENERAL NOTES
2. STORM SEWER NOTES

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

STORM SEWER INLET
CONSTRUCTION DETAILS III

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

SL-09

SHEET OF

REVISION DATE: OCTOBER 2021

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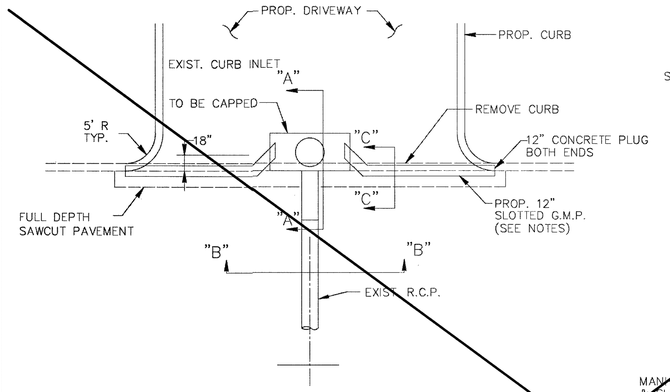
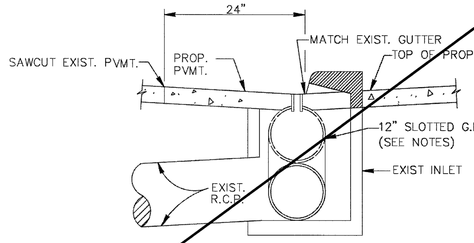
STORM SEWER INLET
CONSTRUCTION DETAILS III
SL-09

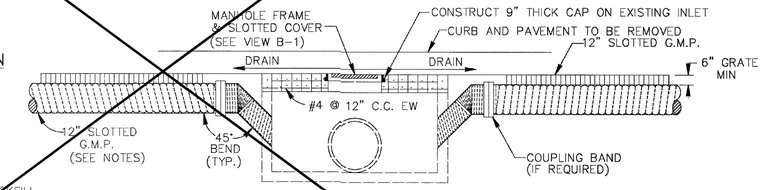
PROJECT NO. 15012



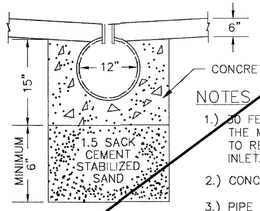
SLOTTED PIPE INSTALLATION
FOR DRIVEWAY CONSTRUCTION



SECTION A–A



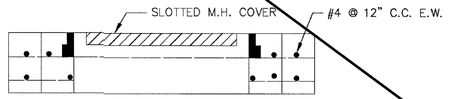
SECTION B–B



SECTION C–C

NOTES

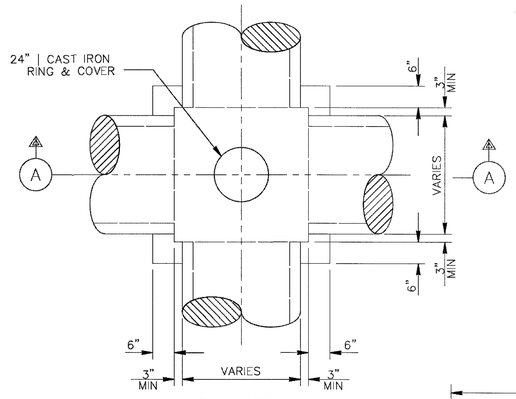
1.) 30 FEET OF SLOT IS THE MINIMUM REQUIREMENT TO REPLACE A TYPE B–B INLET.
2.) CONCRETE MIN. 3000 P.S.I.
3.) PIPE TO BE GALVANIZED TYPE II WITH GALVANIZED SLOT
4.) CONDITIONS MAY VARY. CONTRACTOR TO ROLL FITTING AND ENTER BOX BELOW 9" CAP.
5.) SEE C.S.S. NOTES.



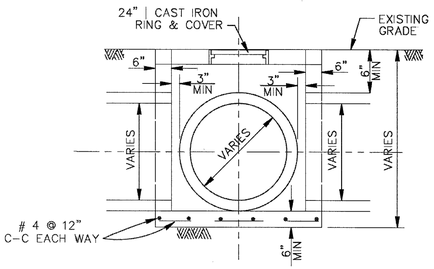
VIEW B–1

SLOTTED DRAIN DETAIL
N.T.S.

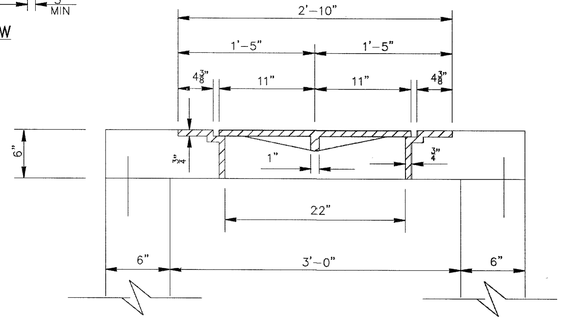
SL–DR–29



PLAN VIEW



SECTION A



FRAME AND COVER SECTION

JUNCTION BOX
N.T.S.

SL–DR–30

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

STORM SEWER CONSTRUCTION DETAILS

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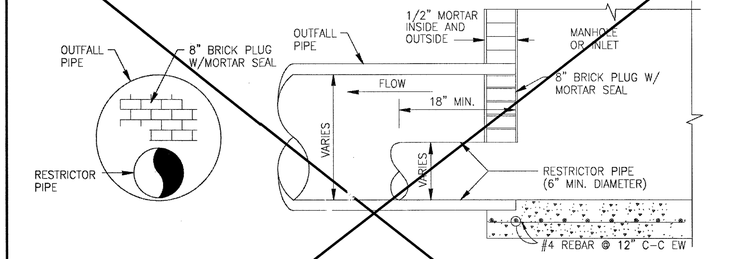
DRAWN BY:
CHECKED BY:
SCALE:

SL–10

SHEET OF



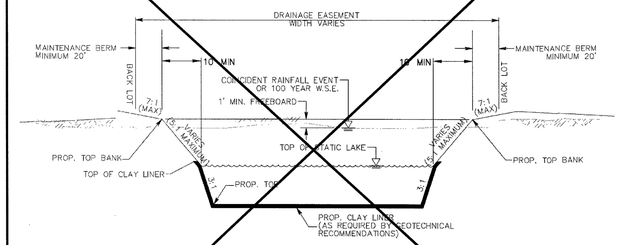
CHOKE OUTFALL RESTRICTOR DETAIL

STORM SEWER CHOKE RESTRICTOR
N.T.S.

SL–DR–31

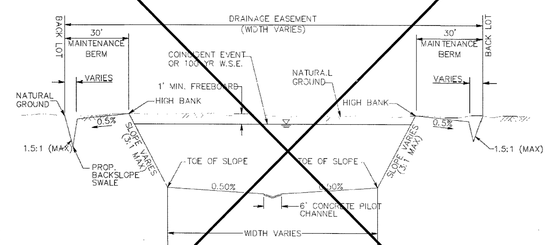
REFER TO:

1. GENERAL NOTES
2. STORM SEWER NOTES



WET DETENTION POND/AMENITY LAKE
N.T.S.

SL–DR–32



DRY DETENTION POND
N.T.S.

SL–DR–33

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PLANS FOR
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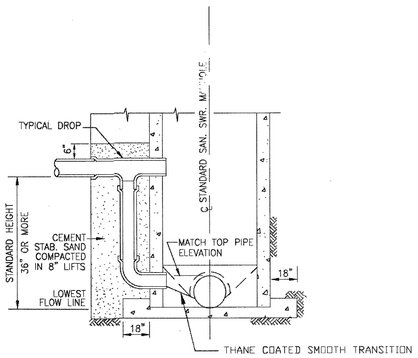
STORM SEWER CONSTRUCTION DETAILS SL–10

PROJECT NO. 15012

21

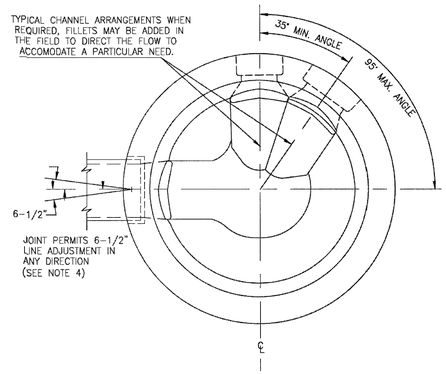
15012 DETAIL SELDWG



STANDARD DROP DETAIL

(SEE C.S.S. NOTES)

SL-SS-05



PIPING CONNECTIONS DETAIL

SL-SS-05A

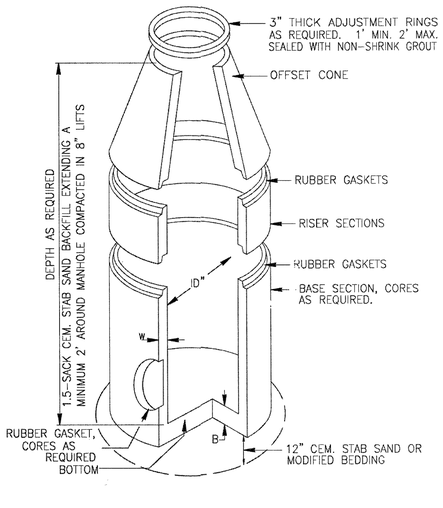
NOTE:

1. INFLUENT AND EXFLUENT PIPING CONNECTIONS TO MANHOLE SHALL BE ALIGNED TO PREVENT REVERSE FLOW.
2. INFLUENT AND EXFLUENT CONNECTIONS ARE LIMITED TO A MAXIMUM 90° INCLUDED ANGLE OF CONVERGENCE.
3. MINIMUM 35° AND MAXIMUM 90° INCLUDED ANGLES MUST BE PROVIDED BETWEEN MULTIPLE INFLUENT CONNECTIONS.
4. ANGLE OF DEFLECTION AT PIPING JOINTS AS PER MANUFACTURE'S RECOMMENDATIONS.

NOTES:

1. CONTRACTOR SHALL CONTACT CITY OF SUGAR LAND ENGINEERING DEPARTMENT AT (281) 275-2780 IF WET SAND OR OTHER UNSTABLE SOIL CONDITIONS, HIGH WATER TABLE AND/OR UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED.
2. SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND INFORMATION INCLUDED IN PROJECT SPECIFICATIONS, CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
3. SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED A MINIMUM OF FOUR FOOT FROM BACK OF CURB ON CURB AND GUTTER ROADWAYS AND THREE FEET FROM EDGE OF TRAVELLED ROADWAY ON THOSE THOROUGHFARES HAVING NO CURBING, MEASURED FROM OUTSIDE DIAMETER OF MANHOLE. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED BENEATH STREET PAVING EXCEPT WHERE SPECIFICALLY AUTHORIZED BY CITY ENGINEER AND SO DESIGNATED ON APPROVED CONSTRUCTION DRAWINGS.
4. ALL SUCH MANHOLE COVERS SHALL HAVE THE CITY OF SUGAR LAND EMBLEM AND THE WORDS "SUGAR LAND" AND "SANITARY SEWER" CAST IN RAISED RELIEF AS DEPICTED IN CITY OF SUGAR LAND STANDARD CONSTRUCTION DETAILS SHEETS. ALL SANITARY SEWER MANHOLES SHALL INCORPORATE INFLOW PROTECTORS.
5. MANHOLE RIM ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY. CONTRACTORS SHALL ADJUST RIM ELEVATIONS TO 0.4 FEET ABOVE FINISHED GRADE WITHIN RIGHTS-OF-WAY AND EASEMENTS AT EACH MANHOLE LOCATION AFTER FINAL GRADING. ADJUSTMENTS TO MANHOLE RIM ELEVATIONS SHALL BE ACCOMPLISHED BY THE USE OF THROAT RINGS ONLY (MAX. OF 24 INCHES PERMITTED). THE AREA ADJACENT TO SANITARY SEWER MANHOLE LOCATIONS SHALL BE GRADED AWAY FROM SUCH MANHOLES SO AS PREVENT ENTRY OF STORM WATER RUNOFF TO THE SANITARY SEWER SYSTEM.
6. DROP CONNECTIONS ARE REQUIRED WHEN INVERT ELEVATION OF SEWER LINE TO BE CONNECTED EXCEEDS 36 INCHES DISTANCE ABOVE INVERT ELEVATION OF MANHOLE BASE. ALL DROP CONNECTIONS SHALL BE CONSTRUCTED OF SAME MATERIALS AS SEWER AND SHALL BE CONSTRUCTED EXTERIOR TO MANHOLE. INSIDE DROP ALLOWED ON MANHOLES 12-FT & DEEPER. PIPE CONNECTIONS TO MANHOLES SHALL BE SO CONSTRUCTED AS TO BE WATERTIGHT AND TO ALIGN UPPER INSIDE PIPE WALL ELEVATIONS OF ALL PIPING CONNECTED TO BASE OF MANHOLE UNIFORMLY, REGARDLESS OF PIPE DIAMETERS. DROP ASSEMBLIES SHALL BE BEDDED IN CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL EXTEND A MINIMUM OF SIX INCHES PAST PIPING LATERALLY FROM BASE OF MANHOLE UPWARD TO A POINT SIX INCHES (MINIMUM) ABOVE THE HORIZONTAL SEWER PIPING WHERE CONNECTED TO THE MANHOLE ABOVE THE VERTICAL DROP.
7. CONNECTIONS TO EXISTING AND/OR NEW SANITARY SEWER MANHOLES CONSTRUCTED OF PRECAST CONCRETE NOT HAVING PRECORED HOLES OF CORRECT DIAMETER, LOCATION AND FIELD CORING ONLY SHALL ACCOMPLISH INVERT ELEVATION. IN NO INSTANCE WILL EITHER MANUAL OR PNEUMATIC CHISELS AND/OR HAMMER DRILLS BE UTILIZED TO BREAK HOLES IN PRECAST CONCRETE MANHOLES, PIPE SEGMENTS OR OTHER PRECAST STRUCTURES SUCH AS LIFT STATIONS.
8. BEDDING AND BACKFILL OF SANITARY SEWER PIPING AND MANHOLES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH CITY OF SUGAR LAND DESIGN STANDARDS. A 1.5-SACK MIX IS REQUIRED FOR ALL CEMENT STABILIZED SAND BEDDING AND SUCH BEDDING SHALL BE INSTALLED IN LIFTS OF EIGHT INCHES MAXIMUM.
9. SOLVENT WELDED JOINTS ARE NOT AN ACCEPTABLE JOINING METHOD FOR SANITARY SEWERS CONSTRUCTED OF PVC PIPING MATERIALS AND LOCATED WITHIN RIGHTS-OF-WAY OR EASEMENTS. RUBBER GASKETED BELL AND SPIGOT SANITARY SEWER JOINTS ARE MANDATORY. BELL (FEMALE) ENDS OF PIPE SHALL BE INSTALLED ON UPSTREAM SIDE WITH SPIGOT (MALE) ENDS ORIENTED DOWNSTREAM.
10. SANITARY SEWER SERVICE LEADS SHALL BE EXTENDED TO RIGHTS-OF-WAY AND/OR EASEMENT LINES AS APPLICABLE AND CAPPED/PLUGGED FOR FUTURE CONNECTIONS. SERVICE LEADS ARE TO BE INSTALLED SO AS TO PASS UNDER POTABLE WATER PIPING AT CROSSINGS WHERE POSSIBLE.
11. EACH SANITARY SEWER SERVICE LEAD STUB, PLUGGED WYE BRANCH OUTLET AND STACK SHALL BE MARKED WITH A PRESSURE TREATED 4 X 4 TIMBER AT THE TIME OF CONSTRUCTION, BEGINNING AT THE INVERT ELEVATION OF THE STUB OR WYE AND AT AN ELEVATION TWO FEET BELOW THE CAPPED TERMINATION POINT OF THE STACK AND EXTENDING TWO FEET ABOVE FINISHED GRADE. EACH TIMBER MARKER SHALL BE PAINTED RED AND LABELED "SANITARY SEWER STUB", "SANITARY SEWER WYE" OR "SANITARY SEWER STACK" AS APPROPRIATE WITH STUB, WYE BRANCH OUTLET OR STACK SIZE NOTED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. DURING THE COURSE OF ANY AND ALL CLEARING, GRUBBING, FILL, GRADING, EXCAVATION OR OTHER CONSTRUCTION, CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE PATHWAYS ARE MAINTAINED AND REMAIN OPEN TO ENSURE POSITIVE DRAINAGE AND THAT SUCH CONVEYANCES ARE NOT IMPEDED OR BLOCKED IN ANY WAY. STORM SEWER INLETS SHALL BE PROTECTED FROM ENTRY OF SILT, TRASH, DEBRIS AND ANY SUBSTANCES DELETERIOUS TO THE STORM SEWER SYSTEM AND/OR WATERWAYS RECEIVING STORM WATER RUNOFF. CONTRACTOR SHALL AT COMPLETION OF WORK, FILL LOW SPOTS AND GRADE ALL RIGHTS-OF-WAY AND UTILITY EASEMENTS AND REGRADE/RESTORE DITCHES AS NECESSARY TO MAINTAIN AND/OR ESTABLISH POSITIVE DRAINAGE.
13. ALL SANITARY SEWER PIPING AND BEDDING SHALL BE INSPECTED BY CITY CONSTRUCTION INSPECTOR FOR CONFORMANCE WITH CITY INFRASTRUCTURE STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY NOTIFY THE CITY OF ALL CONSTRUCTION ACTIVITIES AND TO CONFORM TO CITY OF SUGAR LAND PUBLIC WORKS DEPARTMENT INSPECTION POLICY.
14. C.S.S. 1' ABOVE PIPE AND 6" BELOW PIPE MINIMUM.
15. SEE GENERAL NOTES AND C.S.S. NOTES.
16. CAST IN PLACE MANHOLES ACCEPTED, 4500 PSI CONCRETE.

SL-SS-07



SPECIFICATIONS:

CONCRETE: CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. RATES FOR HL93 LOADING.

REINFORCEMENT: STRUCTURAL REINFORCEMENT CONFORMING TO ASTM-C-478.

C.I. CASTINGS: CAST IRON FRAMES AND LIDS ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48-76 CLASS 35.

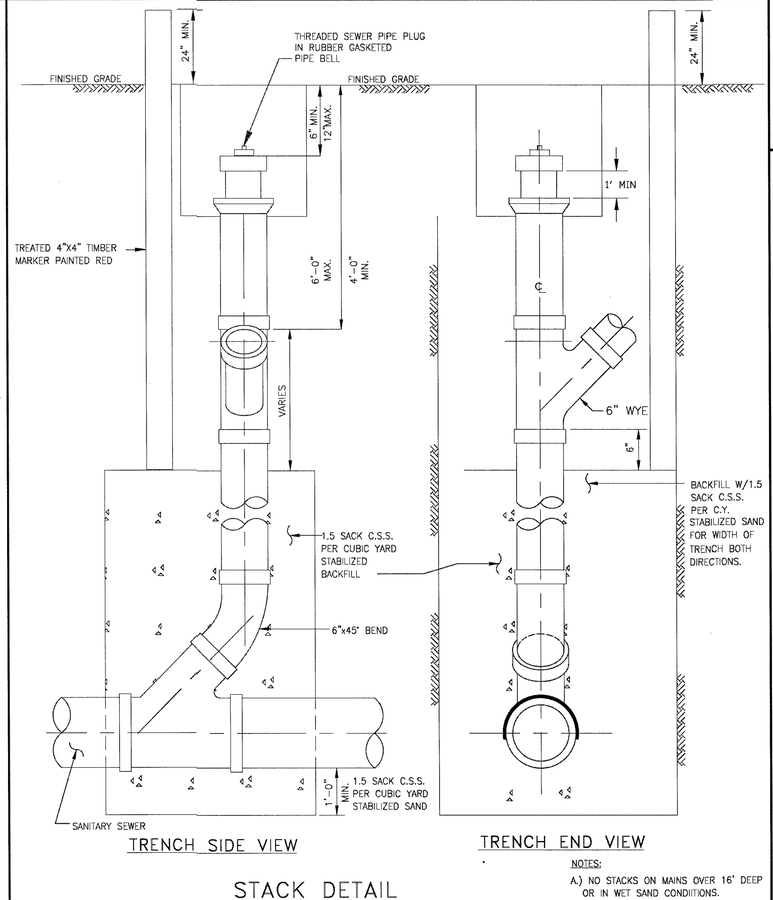
NOTES

1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED WITH APPROVED RUBBER GASKET
3. STRUCTURE TO BE PLACED ON 12" STABILIZED BASE.
4. C.S.S. SHALL BE BROUGHT TO WITHIN 2-FT OF TOP OF MANHOLE.
5. PRE-CAST MANHOLE SHALL BE IN COMPLIANCE APPROVED PRODUCT LIST.
6. THANE COAT SHALL BE IN COMPLANCE WITH APPROVED PRODUCT LIST.
7. INVERTS SHALL COMPLY WITH C.O.S.L., DESIGN MANUAL SPECIFICATIONS.
8. INFLOW PROTECTORS REQUIRED ON ALL SANITARY MANHOLES.
9. REFER TO SANITARY MANHOLE LIDS, C.S.S. NOTES, MODIFIED BEDDING DETAILS AND NOTES.

PRECAST SANITARY MANHOLE

N.T.S.

SL-SS-03



TRENCH SIDE VIEW

TRENCH END VIEW

STACK DETAIL

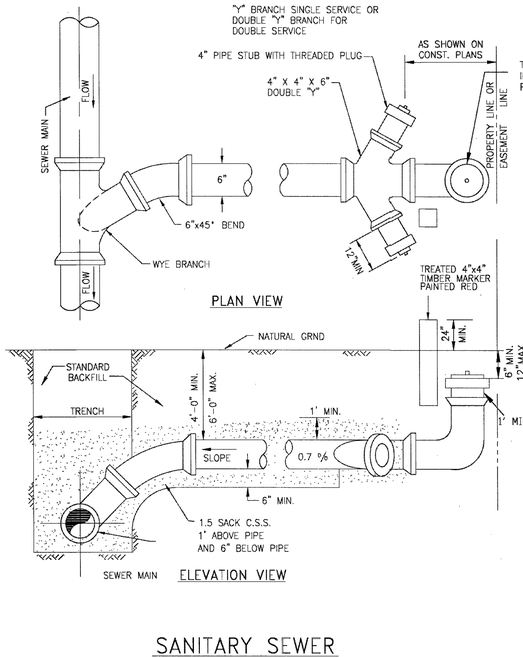
N.T.S.

SL-SS-04

NOTES:

A.) NO STACKS ON MAINS OVER 16' DEEP OR IN WET SAND CONDITIONS.

B.) ALL STACK CONNECTIONS SHALL BE IN-LINE FITTINGS.



SANITARY SEWER SERVICE CONNECTION

N.T.S.

SL-SS-06

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

SANITARY SEWER CONSTRUCTION DETAILS

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

SL-14

SHEET OF

REVISION DATE: OCTOBER 2021

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS · MIGUELANGEL A SAUCEDA · 121992 · REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

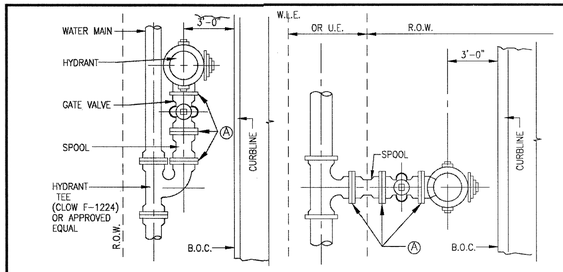
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

SANITARY SEWER CONSTRUCTION DETAILS SL-14

PROJECT NO. 15012

22

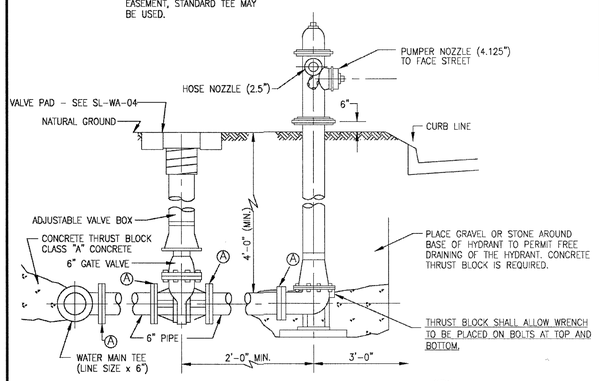
SEWER DETAIL SHT.DWG



R.O.W. INSTALLATION
N.T.S.

EASEMENT INSTALLATION
N.T.S.

NOTE:
WHEN WATER LINE IS LOCATED IN EASEMENT, STANDARD TEE MAY BE USED.



FLUSHING VALVE COLOR CODE

MAIN LINE DIAMETER	BONNET, PUMPER CAP AND STEAMER CAP
6 INCHES (AND LESS)	YELLOW
8 INCHES	WHITE
12 TO 16 INCHES	GREEN
GREATER THAN 16 INCHES	ORANGE

FIRE HYDRANT BODY TO BE PAINTED GEO-GLEN 301 BRIGHT SILVER ALUMINUM POLYURETHANE ENAMEL, BY GEO-GLEN ENTERPRISES OR APPROVED EQUAL.

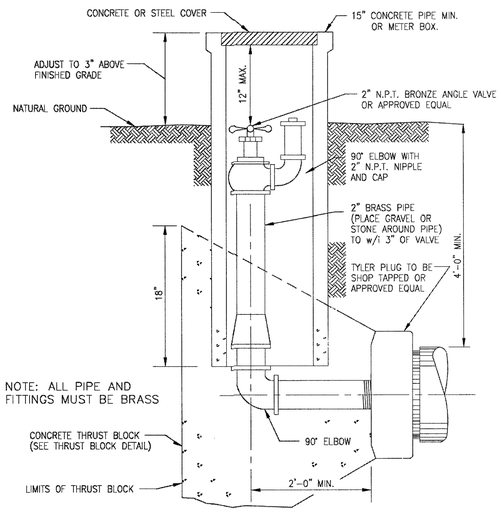
NOTE:
ALL FIRE HYDRANTS SHALL BE MUELLER, KENNEDY, AMERICAN, M & H OR APPROVED EQUAL WITH PUMPER NOZZLE SIZE 4.125" HOSE NOZZLE SIZE 2.5" N.S.T.

ALL FLUSHING VALVES TO BE SAND BLASTED AND PAINTED AS PER C.O.S.L. DESIGN STANDARDS.

Ⓐ =RESTRAINED JOINT

TYPICAL GATE & FIRE HYDRANT INSTALLATION
N.T.S.

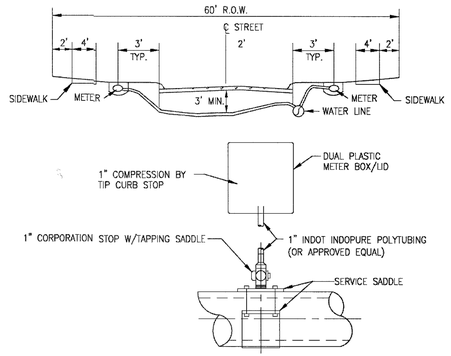
SL-WA-01



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

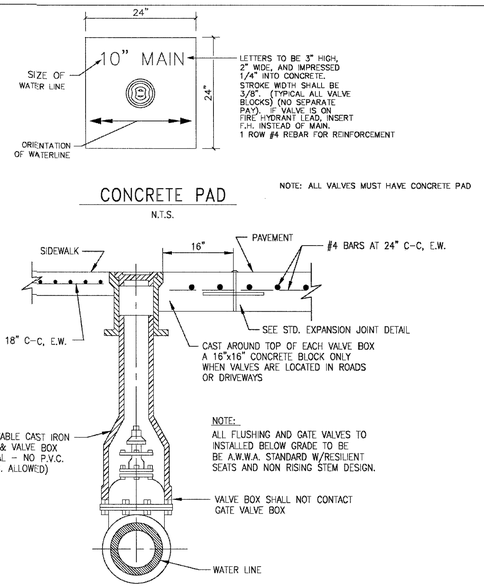
SL-WA-02

REVISION DATE: OCTOBER 2021



WATER SERVICE CONNECTION AND WATER SERVICE TAPPING ASSEMBLY DETAIL
N.T.S.

SL-WA-03



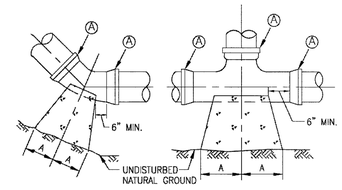
CONCRETE PAD
N.T.S.

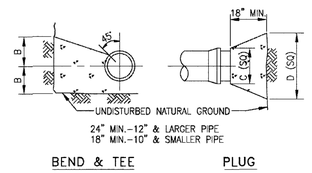
NOTE: ALL VALVES MUST HAVE CONCRETE PAD

NOTE:
ALL FLUSHING AND GATE VALVES TO INSTALLED BELOW GRADE TO BE BE A.W.W.A. STANDARD W/RESILIENT SEATS AND NON RISING STEM DESIGN.

VALVE BOX INSTALLATION DETAIL
N.T.S.

SL-WA-04



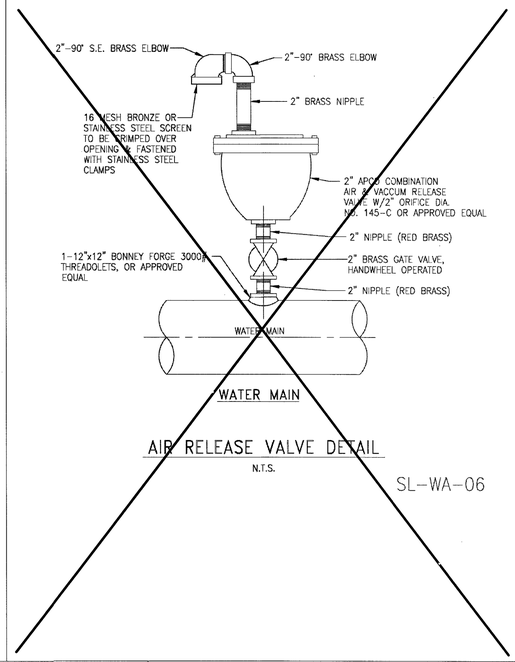


NOTE:
THRUST BLOCKS AT TRENCH FACE MUST HAVE A MINIMUM BEARING SURFACE OF 10 SQ. FEET AND SHALL BE NO SMALLER THAN 1.5 TIMES PIPE DIAMETER. ALL CONCRETE SHALL BE 5 SACK MIN., 3000 P.S.I.

Ⓐ =RESTRAINED JOINT

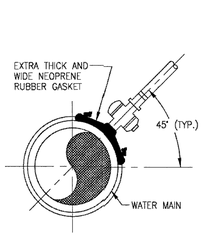
THRUST BLOCK DETAIL
N.T.S.

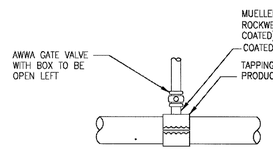
SL-WA-05



AIR RELEASE VALVE DETAIL
N.T.S.

SL-WA-06





TAPPING SLEEVE & VALVE DETAIL
N.T.S.

SL-WA-07

CONSTRUCTION NOTES:

1. WATER LINES 12" (IN.) AND LESS SHALL BE AWWA C-900 DR18 WATER LINE GREATER THAN 12" (IN.) IN ø SHALL BE AWWA C-905 DR 18
2. ALL FLUSHING VALVES AND GATE VALVES TO BE AMERICAN WATER WORKS ASSOC. (AWWA) STANDARD COUNTERCLOCKWISE OPENING WITH NON-RISING STEM DESIGN.
3. ALL DUCTILE IRON PIPE SHALL BE CLASS 50 MORTAR LINED. NO A.C. PIPE WILL BE ALLOWED AND ALL DUCTILE IRON FITTINGS SHALL BE MORTAR LINED PUSHON OR MECHANICAL JOINTS.
4. ALL BACKFILL WITHIN THE R.O.W. SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
5. MINIMUM SPACING BETWEEN TAPS SHALL BE 2' AT ALTERNATING TAP ANGLES.

SL-WA-08

NOTES: POLYETHYLENE WRAP FOR IRON PIPE

NOTE:

1. POLYETHYLENE FILM SHALL BE USED AS A WRAP TO PROTECT CAST IRON AND OTHER METALS IN A CORROSIVE SOIL ENVIRONMENT.
2. AN 8 MIL POLYETHYLENE FILM WRAP SHALL BE REQUIRED AROUND ALL METAL PIPE AND APPURTENANCES (EXCEPT FIRE HYDRANTS).
3. POLYETHYLENE FILM SHALL BE FURNISHED AND INSTALLED EITHER IN TUBULAR FORM PRIOR TO LOWERING THE PIPE IN TRENCH OR IN SHEET FORM.
4. POLYETHYLENE TUBE ENCASEMENT SHALL CONFORM WITH THE MINIMUM REQUIREMENTS OF "POLYETHYLENE ENCASEMENT FOR GRAY AND DUCTILE CAST-IRON PIPING FOR WATER AND OTHER LIQUIDS", ANSI/AWWA C105, CURRENT REVISION. SOILS WITHIN A PROJECT SHALL BE TESTED IN ACCORDANCE WITH APPENDIX A OF ANSI/AWWA C105 TO ADEQUATELY DETERMINE THE REQUIREMENTS FOR ENCASEMENT.
5. ALL FITTINGS AND PIPE JOINTS WITHIN 10' OF A FITTING SHALL HAVE RESTRAINT JOINTS

SIZE	90° BEND		45° BEND		22 1/2° BEND		TEES		PLUGS	
	A	B	A	B	A	B	A	B	A	B
2 1/2"	12"	7"	6"	7"	6"	6"	7"	8"	8"	14"
6"	16"	10"	9"	10"	6"	12"	10"	12"	10"	21"
8"	22"	13"	12"	13"	8"	10"	13"	16"	12"	29"
10"	26"	17"	14"	17"	10"	13"	16"	20"	14"	36"
12"	29"	21"	16"	21"	11"	16"	18"	24"	16"	41"
14"	35"	24"	19"	24"	12"	20"	22"	27"	18"	48"
16"	38"	27"	21"	27"	12"	24"	24"	30"	20"	54"
20"	50"	40"	30"	40"	18"	30"	30"	40"	30"	*78"
24"	50"	40"	30"	40"	18"	30"	30"	40"	30"	*78"
30"	60"	48"	36"	48"	20"	36"	36"	48"	36"	*96"

BENDS, TEES & PLUGS FOR PIPE OF VARIOUS SIZES

SL-WA-08

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

WATER LINE CONSTRUCTION DETAILS

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

SL-15

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

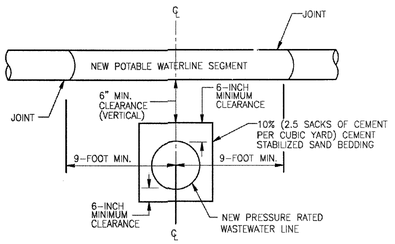
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

WATER LINE CONSTRUCTION DETAILS SL-15

PROJECT NO. 15012

I

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

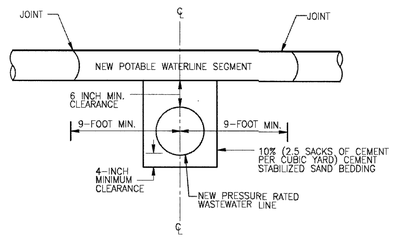


- WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN JOINTS OF THE WASTEWATER LINE.
- MINIMUM WASTEWATER PIPE STIFFNESS OF 115 PSI AT 5% DEFLECTION.
- EMBED WASTEWATER LINE IN CEMENT STABILIZED SAND TO AT LEAST 12" INCHES BEYOND EACH JOINT OF CROSSED SECTION OF PIPE.

SL-WA-10

II

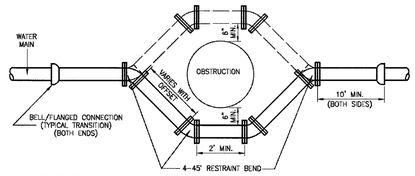
NEW POTABLE WATERLINE CROSSING NEW PRESSURE RATED WASTEWATER LINE



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

SL-WA-11

III



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

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

NOTES:

1. PIPE MATERIAL SHALL BE AWWA C900 PVC, DR-14, 200 PSI WITH INTEGRAL PVC RESTRAINED JOINTS.
2. OFFSET ASSEMBLY MUST PASS OVER THE OBSTRUCTION AS LONG AS THE MINIMUM CLEARANCE IS MAINTAINED. SPECIFIC APPROVAL FROM THE UTILITES DEPARTMENT MUST BE GRANTED FOR THE OFFSET TO PASS UNDER THE OBSTRUCTION.
3. MATERIAL AND COATINGS SHALL BE IN ACCORDANCE WITH WATER MAIN STANDARD SPECIFICATIONS.
4. RESTRAIN EXISTING PIPING BEYOND OFFSET SECTION AS REQUIRED TO PREVENT MOVEMENT.
5. ALL PVC PRODUCTS MUST BE LISTED ON CITY OF SUGAR LAND'S APPROVED PRODUCTS LIST.

PVC WATER PIPE OFFSET ASSEMBLY

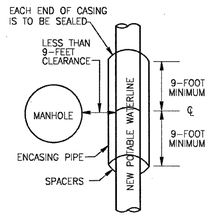
SL-WA-12

GENERAL NOTES:

1. CONTRACTOR SHALL CONTACT CITY OF SUGAR LAND ENGINEERING DEPARTMENT AT (281) 275-2780 IF WET SAND OR OTHER UNSTABLE SOIL CONDITIONS, HIGH WATER TABLE AND/OR UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED.
2. SHOULD A CONFLICT ARISE BETWEEN INFORMATION DEPICTED ON APPROVED CONSTRUCTION DRAWINGS AND INFORMATION INCLUDED IN PROJECT SPECIFICATIONS, CITY OF SUGAR LAND DESIGN STANDARDS SHALL GOVERN.
3. ALL NEW POTABLE WATER LINES AND SANITARY SEWER FORCE MAINS SHALL BE BEDDED IN COMPACTED BANK SAND A MINIMUM OF 6 INCHES BELOW, ABOVE AND TO EITHER SIDE OF SUCH PIPING.
4. ALL NEW SANITARY SEWER GRAVITY DRAIN LINES SHALL BE BEDDED IN CEMENT STABILIZED SAND CONFORMING TO THE REQUIREMENTS FOR EITHER CLASS "A" STANDARD BEDDING OR CLASS "A-A" BEDDING AS APPLICABLE. USE OF MODIFIED "A" OR MODIFIED "A-A" BEDDING FOR SANITARY SEWER INSTALLATIONS WHERE WET SAND CONDITIONS ARE ENCOUNTERED AND SEPARATION DISTANCE TO POTABLE WATER LINES IS LESS THAN 9 FEET REQUIRES APPROVAL BY CITY ENGINEER.
5. CEMENT STABILIZED BEDDING SHALL BE A MINIMUM 1.5 SACK PER CUBIC YARD C.S.S., INSTALLED IN MAXIMUM LIFTS OF 8 INCHES AND MECHANICALLY TAMPED TO 95% PROCTOR.
6. WHERE REQUIRED, SLEEVING (ENCASEMENT) OF POTABLE WATER PIPING AND/OR SANITARY SEWER GRAVITY DRAIN LINES AND FORCE MAINS SHALL BE PROVIDED. SUCH SLEEVING (ENCASEMENT) SHALL BE CONSTRUCTED OF APPROVED PIPING MATERIALS HAVING A MINIMUM PRESSURE RATING OF 150 PSI AND ANNULAR SPACES AT EACH END SHALL BE SEALED WITH A MATERIAL APPROVED FOR SUCH USE.
7. ALL NEW POTABLE WATER LINES SHALL BE SLEEVED (ENCASED) WHERE A MINIMUM OF 9 FEET SEPARATION DISTANCE TO EXISTING OR PROPOSED SANITARY SEWER MANHOLE, LIFT STATION OR WASTEWATER TREATMENT PLANT CANNOT BE MAINTAINED. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CLOSEST PROXIMITY.
8. ALL NEW POTABLE WATER LINES SHALL BE SLEEVED (ENCASED) WHERE LESS THAN 2 FEET VERTICAL OR 4 FEET HORIZONTAL CLEARANCE TO EXISTING OR PROPOSED SANITARY SEWER GRAVITY LINES OR FORCE MAINS CANNOT BE MAINTAINED. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING. WHERE PIPING IS LAID PARALLEL AND MINIMUM SEPARATION DISTANCES CANNOT BE MAINTAINED, SLEEVING SHALL EXTEND AT LEAST 9 FEET PAST THE POINT WHERE MINIMUM SEPARATION DISTANCES ARE ACHIEVED.
9. ALL NEW POTABLE WATEP LINES SHALL BE CONSTRUCTED ABOVE EXISTING OR PROPOSED SANITARY SEWER GRAVITY LINES OR FORCE MAINS WHERE POSSIBLE. WHERE INSTALLATION BENEATH SANITARY SEWER GRAVITY LINES OR FORCE MAINS IS UNAVOIDABLE AT POINTS OF CROSSING, SLEEVING (ENCASEMENT) IS REQUIRED FOR ALL NEW POTABLE WATER LINES CONSTRUCTED OF PVC PIPING MATERIALS, REGARDLESS OF SEPARATION DISTANCE. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING.
10. ALL NEW SANITARY SEWER GRAVITY LINES AND/OR FORCE MAINS CONSTRUCTED OF PVC PIPING MATERIALS SHALL BE SLEEVED (ENCASED) WHERE LESS THAN 2 FEET VERTICAL OR 4 FEET HORIZONTAL CLEARANCE TO EXISTING POTABLE WATER PIPING CANNOT BE MAINTAINED. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CLOSEST PROXIMITY.
11. ALL NEW SANITARY SEWER GRAVITY LINES AND/OR FORCE MAINS SHALL BE CONSTRUCTED BELOW EXISTING POTABLE WATER LINES WHERE POSSIBLE. WHERE INSTALLATION ABOVE POTABLE WATER LINES IS UNAVOIDABLE, SLEEVING (ENCASEMENT) IS REQUIRED FOR ALL SUCH SANITARY SEWER LINES CONSTRUCTED OF PVC PIPING MATERIALS, REGARDLESS OF SEPARATION DISTANCE. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING.
12. WHERE NEW SANITARY SEWER SIZING (24 INCH AND GREATER) PRECLUDES THE USE OF PVC PIPING MATERIALS AND SLEEVING (ENCASEMENT) OF THE SANITARY SEWER WOULD OTHERWISE BE REQUIRED BUT IS IMPRACTICAL, THE EXISTING POTABLE WATER PIPING SHALL EITHER BE OFFSET TO PROVIDE THE REQUIRED MINIMUM CLEARANCES OR SLEEVED (ENCASED) IN LIEU OF SLEEVING (ENCASING) THE SANITARY SEWER LINE. SLEEVING SHALL BE A MINIMUM OF 18 FEET IN LENGTH AND CENTERED ON THE POINT OF CROSSING.
13. IN NO INSTANCE SHALL A FIRE HYDRANT BE INSTALLED WITHIN 9 LINEAR FEET OF A SANITARY SEWER SYSTEM.
14. NOTE: SEPARATION DISTANCES ARE MEASURED FROM THE OUTSIDE DIAMETERS OF EACH PIPE AND FROM THE EXTERIOR SURFACES OF MANHOLES, LIFT STATIONS, WASTEWATER TREATMENT PLANTS AND ASSOCIATED APPURTENANCES.
15. BELL STOPS SHALL BE USED WHEN WATER LINES ARE BORED. BELL STOPS TO BE INSTALLED PER MANUFACTURER SPECIFICATION. ALL BORED WATER LINES SHALL USE EBAA MEGA STOP SERIES 5000 BELL PROTECTION SYSTEM.
16. REFER TO GENERAL SANITARY, WATER AND C.S.S. NOTES.

SL-WA-19

DETAIL OF WATER LINE CROSSING WASTEWATER FACILITIES WHERE SEPARATION IS LESS THAN 9' (NINE FEET)

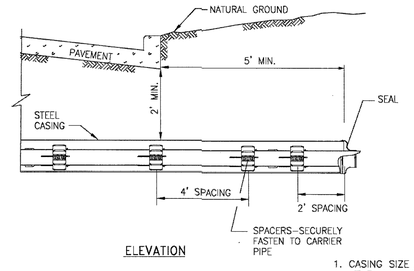


MANHOLE CLEARANCE

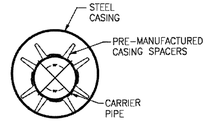
ENCASING PIPE

- 150 PSI PRESSURE CLASS PIPE MINIMUM 18 FEET LONG DIAMETER = 2 X WATERLINE DIAMETER
- SPACE AROUND CARRIER PIPE SHALL BE SUPPORTED AT FIVE (5) FOOT (OR LESS INTERVALS WITH SPACERS)
- CENTERED ON CROSSING
- BOTH ENDS SEALED WITH CEMENT GROUT OR A MANUFACTURED WATER TIGHT STEAL.

SL-WA-13



ELEVATION



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

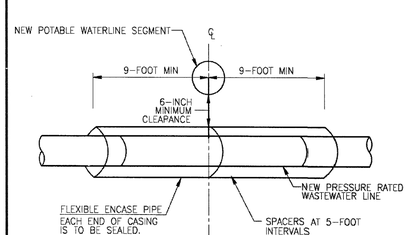
1. CASING SIZE AND THICKNESS SHALL CONFORM TO THE MINIMUM REQUIREMENTS AS SHOWN ON CASING SCHEDULE, OTHER PERMITS AS REQUIRED.
2. MAINTAIN ½" MINIMUM CLEARANCE BETWEEN THE MAXIMUM OUTSIDE DIAMETER OF CARRIER PIPE AND CASING AT ALL LOCATIONS.
3. DIMENSIONS ARE APPROXIMATE ONLY. CONTRACTOR SHALL INSTALL ADEQUATELY SIZED CASING TO ACCOMMODATE THE CARRIER PIPE.
4. RESTRAINED JOINT PIPING IS REQUIRED WHEN USED IN CASING.

SL-WA-14

IV

ENCASED WASTEWATER LINE

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

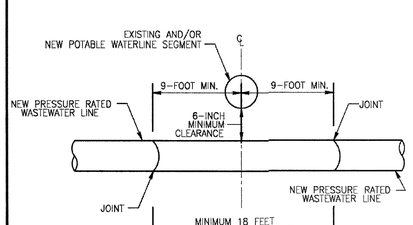


- MINIMUM CASING PIPE STIFFNEESS OF 115 PSI AT 5% DELECTION.
- MINIMUM CASING PIPE DIAMETER = 2 X WASTEWATER LINE DIAMETER.
- THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE (F) FOOT (OR LESS). INTERVALS WITH SPACERS
- EACH END CASING IS TO BE SEALED WITH WATER TIGHT NO-SHRINK GROUT OR MANUFACTURED WATER TIGHT SEAL.

SL-WA-18

ALTERNATIVE A:

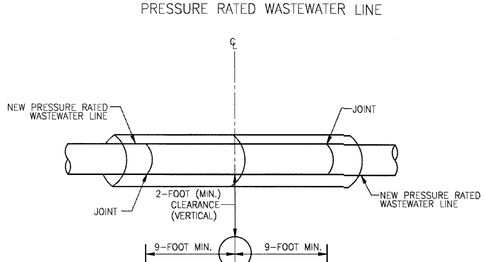
PRESSURE RATED WASTEWATER PIPE



SL-WA-15

ALTERNATIVE B:

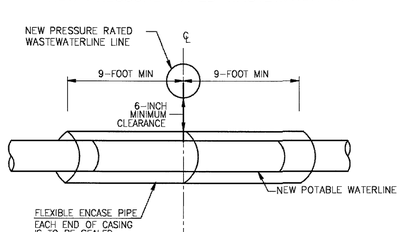
EXISTING POTABLE WATERLINE CROSSING EXISTING PRESSURE RATED WASTEWATER LINE



SL-WA-16

ALTERNATIVE C:

ENCASE NEW POTABLE WATERLINE UNDER A NEW PRESSURE RATED WASTEWATER LINE



- SAME ENCASEMENT CRITERIA AS "ALTERNATIVE B" OR
- NEW WATERLINE (WITHOUT CASING) TO BE CONSTRUCTED OF PVC C-900 (DR-18), DUCTILE IRON WITH MECHANICAL JOINT OR STEEL PIPE WITH WITH WELDED JOINTS.
- BOTH WATERLINE AND WASTEWATER LINE MUST PASS A PRESSURE AND LEAKAGE TEST AS SPECIFIED IN AWWA C600 STANDARDS.

SL-WA-17

REVISION DATE: OCTOBER 2021

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

WATER LINE CROSSING DETAILS

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

SL-16

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

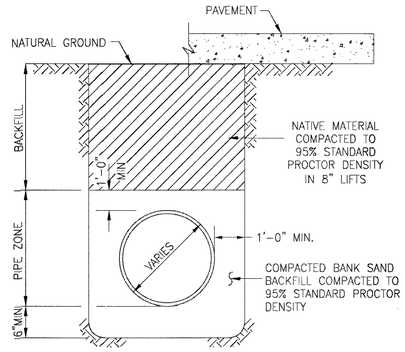
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

WATER LINE CROSSING DETAILS SL-16

PROJECT NO. 15012

24

15012 DETAIL SET.DWG



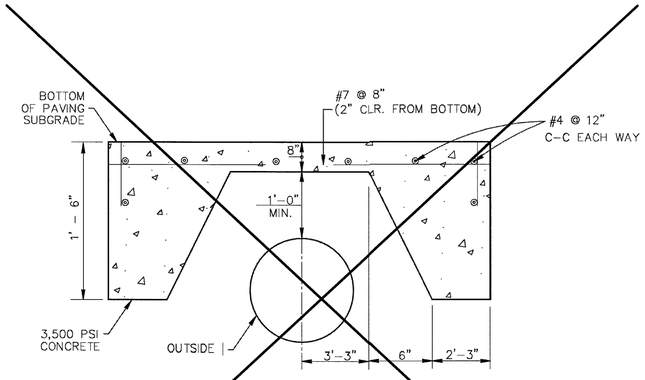
P.V.C. PIPE BEDDING & BACKFILL

N.T.S.

*SEE CONSTRUCTION NOTES

SANITARY FORCE MAIN & WATER LINE BEDDING AND BACKFILL

SL-BB-01



PROTECTIVE SLAB DETAIL

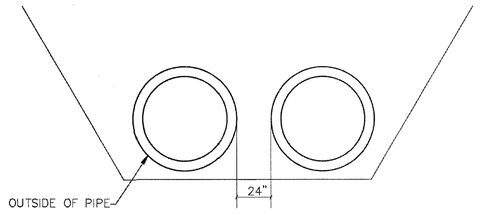
ZERO LOAD TRANSFER CONCRETE SLAB

SL-BB-04

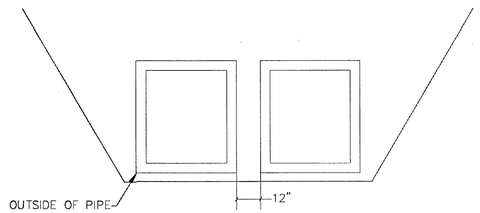
CONSTRUCTION NOTES

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

SL-BB-05

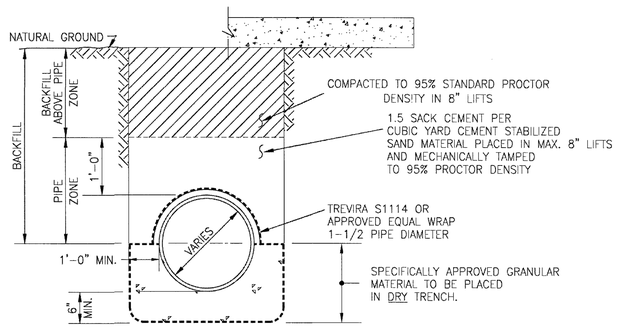


PIPE SEPARATION



RCB SEPARATION

SL-BB-16



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

REFER TO:

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

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

WATER LINE, SANITARY SEWER FORCE MAIN BEDDING DETAILS

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

SL-19

SHEET OF

REVISION DATE: OCTOBER 2021

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

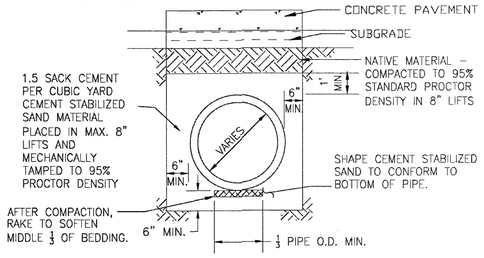
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

WATER LINE, SANITARY SEWER FORCE MAIN BEDDING DETAILS SL-19

PROJECT NO. 15012

25

15012 DETAIL SET.DWG

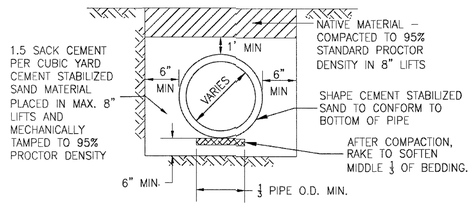


BEDDING DETAIL FOR
CONCRETE CULVERT USED
UNDER ROADWAY PAVEMENT

CLASS "A–A"

N.T.S.

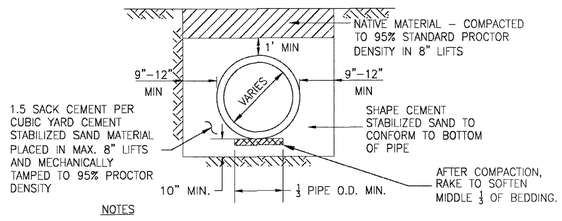
SL–BB–06



BEDDING DETAIL FOR
REINFORCED CONCRETE PIPE
STORM SEWER
36" DIAMETER & SMALLER

N.T.S.

SL–BB–07



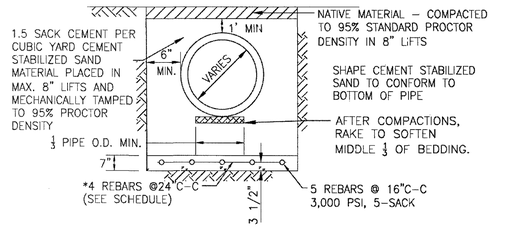
NOTES

1. 1.5–SACK CEMENT PER CUBIC YARD STABILIZED SAND PLACED BEFORE PIPE IS PLACED (10" MINIMUM FOR 42" TO 60", 14" MINIMUM FOR 66" TO 108")

BEDDING DETAIL FOR
REINFORCED CONCRETE PIPE
STORM SEWER
42" TO 108" DIAMETER
WHERE SATISFACTORY SOIL CONDITIONS EXIST

N.T.S.

SL–BB–08



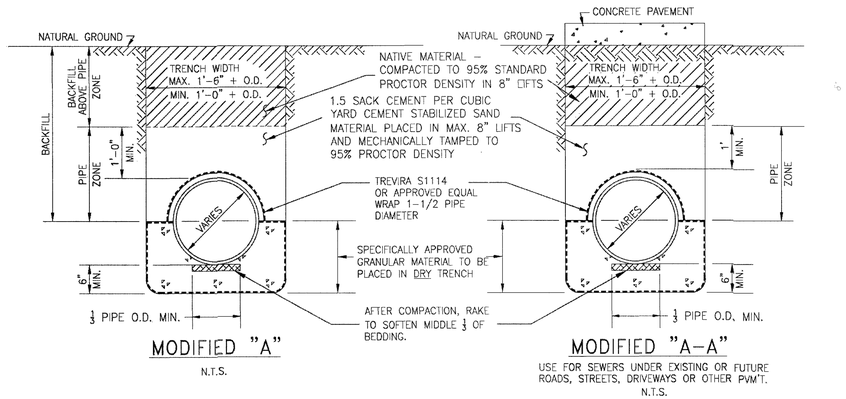
NOTES

1. 1.5–SACK CEMENT PER CUBIC YARD STABILIZED SAND PLACED BEFORE PIPE IS PLACED (8" MINIMUM FOR 42" TO 60", 12" MINIMUM FOR 66" TO 108").

SEAL SLAB
BEDDING DETAIL FOR
STORM SEWER
42" TO 108" DIAMETER
WHERE UNSATISFACTORY SOIL CONDITIONS EXIST

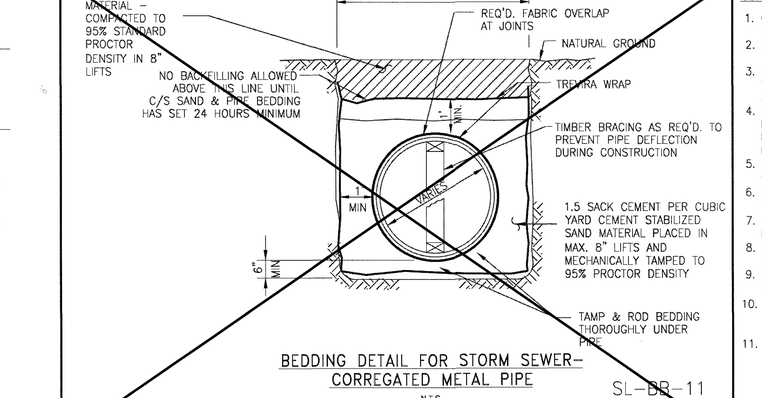
N.T.S.

SL–BB–09



MODIFIED "A"

N.T.S.



MODIFIED "A–A"

USE FOR SEWERS UNDER EXISTING OR FUTURE ROADS, STREETS, DRIVEWAYS OR OTHER PVM'T.

N.T.S.

1. MODOFIED BEDDING TO BE USED IN WET GROUND CONDITIONS FOR NON=COHESIVE MATERIALS WITH A SHEAR STRENGTH LESS THAN 1000 PSI.

SL–BB–10

BEDDING DETAIL FOR STORM SEWER–
CORREGATED METAL PIPE

N.T.S.

SL–BB–11

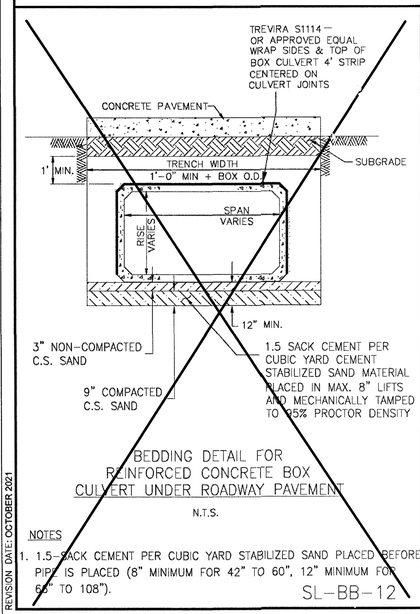
CONSTRUCTION NOTES

1. CONTRACTOR SHALL CONTACT SUGAR LAND ENGINEERING DEPARTMENT IMMEDIATELY IF WET SAND CONDITIONS ARE ENCOUNTERED.
2. SPECIFICALLY APPROVED GRANULAR MATERIAL DIMENSIONS SHOWN ARE TYPICAL BUT MAY BE VARIED BY ORDER OF CITY ENGINEER.
3. SPECIFICALLY APPROVED GRANULAR MATERIAL SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATION No. 247 FLEXIBLE BASE, TYPE A, GRADE 2 AGGREGATE.
4. NO BEDDING SHALL BE INSTALLED IN WET CONDITIONS. WHEN WELL POINTING OR IN WET SAND CONDITIONS, MAINTAIN GROUND WATER 1' (FT.) BELOW BOTTOM OF TRENCH FOR A MINIMUM OF 24–HRS AFTER BEDDING AND BACKFILL IS IN PLACE.
5. R.C.P. AND BOX CULVERTS SHALL BE INSTALLED WITH APPROVED GASKETS ONLY.
6. MANHOLES SHALL BE PROVIDED WHERE MODIFIED "A" OR MODIFIED "A–A" BEDDING IS USED. STACKS ARE NOT ALLOWED.
7. REFER TO: MANHOLE DETAILS, INLETS, OUTFALL AND END TREATMENT DETAILS, C.S.S., GENERAL NOTES, AND STORM NOTES.
8. SPECIFIC DESIGNS MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER FOR MANHOLE ACCESS TO BOX CULVERTS AS REQUIRED.
9. ALL BACKFILL WITHIN THE R.O.W. SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
10. A GEOTECHNICAL REPORT MAY BE REQUIRED TO ANALYZE THE BEARING CAPACITY OF EXISTING SOILS AND MAKE A DETERMINATION IF ADDITIONAL BEDDING AND BACKFILL IS APPROPRIATE.
11. EXCAVATE A HOLE $ BELL HOLES FOR BELL PIPES (NO ADDITIONAL PAYMENT)

TYPICAL SEAL SLAB
BAR SCHEDULE
(OR AS DIRECTED BY ENGINEER)

PIPE SIZE	LGT LAT #4 BARS	NO LONGIT #5 BARS
42"	5'4"	5
48"	6'8"	6
54"	6'8"	6
60"	8'0"	7
66"	8'0"	7
72"	9'4"	8
78"	9'4"	8
84"	9'4"	8
90"	10'8"	9
96"	10'8"	9
102"	12'0"	10
108"	12'0"	10

SL–BB–15



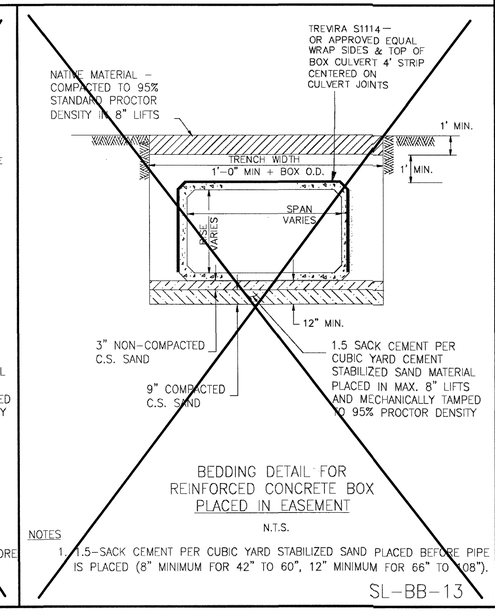
BEDDING DETAIL FOR
REINFORCED CONCRETE BOX
CULVERT UNDER ROADWAY PAVEMENT

N.T.S.

NOTES

1. 1.5–SACK CEMENT PER CUBIC YARD STABILIZED SAND PLACED BEFORE PIPE IS PLACED (8" MINIMUM FOR 42" TO 60", 12" MINIMUM FOR 66" TO 108").

SL–BB–12



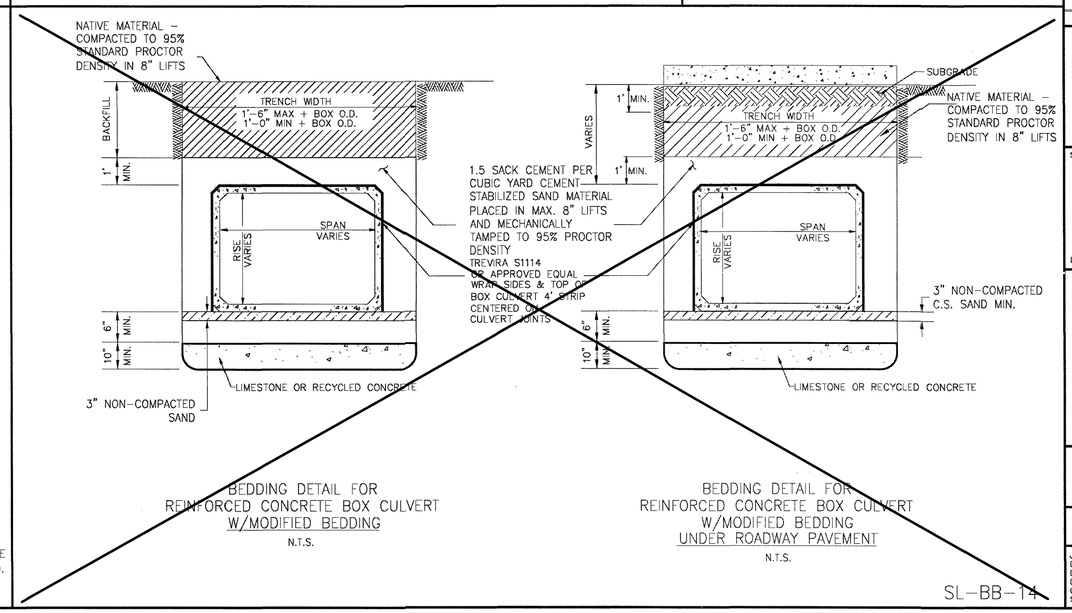
BEDDING DETAIL FOR
REINFORCED CONCRETE BOX
PLACED IN EASEMENT

N.T.S.

NOTES

1. 1.5–SACK CEMENT PER CUBIC YARD STABILIZED SAND PLACED BEFORE PIPE IS PLACED (8" MINIMUM FOR 42" TO 60", 12" MINIMUM FOR 66" TO 108").

SL–BB–13



BEDDING DETAIL FOR
REINFORCED CONCRETE BOX CULVERT
W/MODIFIED BEDDING

N.T.S.

BEDDING DETAIL FOR
REINFORCED CONCRETE BOX CULVERT
W/MODIFIED BEDDING
UNDER ROADWAY PAVEMENT

N.T.S.

SL–BB–14

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: DATE

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR;

STORM SEWER PIPE BEDDING AND BACKFILL DETAILS

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

SL–20

SHEET OF

REVISION DATE: OCTOBER 2021

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
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ANGLETON, TEXAS 77515 (979) 849-6681
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MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

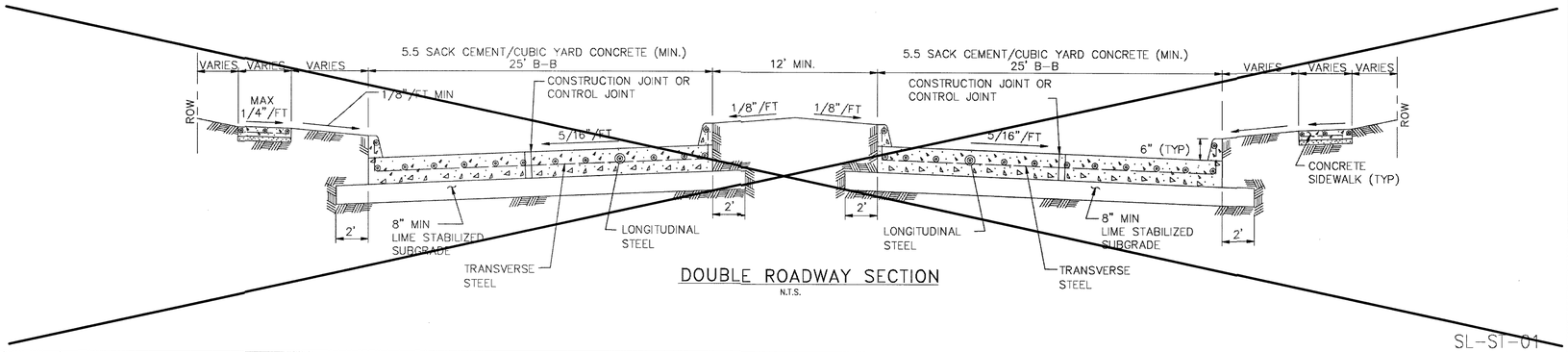
OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

STORM SEWER PIPE
BEDDING AND BACKFILL
DETAILS
SL–20

PROJECT NO. 15012



DOUBLE ROADWAY SECTION

N.T.S.

SL-ST-01

CONSTRUCTION NOTES:

1. 6 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 24 INCHES C-C, E.W. IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR LOCAL STREETS

2. 7 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 18 INCHES C-C, IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR COLLECTOR STREETS

3. EIGHT (8) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 18" C.C. EACH WAY IS THE MINIMUM ACCEPTABLE FOR ARTERIAL STREETS.

4. HARD AGGREGATE IS NOT ALLOWED IN STREET PAVEMENT MIX. ADMIXTURES REQUIRE CITY OF SUGAR LAND PUBLIC WORKS DEPARTMENT APPROVAL.

5. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY AND ALL INTERSECTION CURB RETURN POINTS. MAXIMUM SPACING SHALL BE 200' AND BE SEALED WITH SEALANT CONFORMING TO TXDOT ITEM 360 (& ITEM 438) AND TXDOT DMS-6310, CLASS-2.

6. TRANSVERSE CONTROL JOINTS ARE REQUIRED AT MAXIMUM SPACING OF 20'-0" C-C, AND VERTICAL CURB JOINTS TO BE SEALED WITH SPECIAL JOINT SEALANT ASTM-D-1190-74 OR AASHTO-M173-60 FOR PAVEMENT 8" THICK AND GREATER. (ELASTONETRIC TYPE HOT POURED)

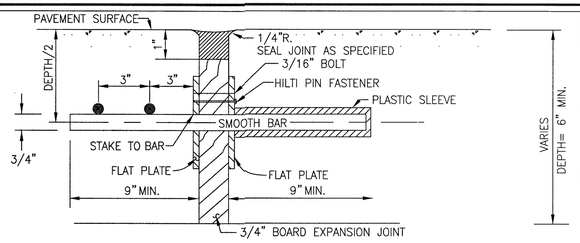
7. PAVEMENT FINISH SHALL BE BAKER BROOM FINISH. CURING COMPOUND REQUIRED ON ALL CONCRETE.

8. STORM WATER POLLUTION PROTECTION SHALL BE DESIGNED, CONSTRUCTED, MAINTAINED AND SHALL BE IN TOTAL COMPLIANCE WITH THE STORM QUALITY MANUAL OF THE CITY OF SUGAR LAND. CITY ENGINEER'S APPROVAL.

9. REFER TO GENERAL, C.S.S., AND PAVEMENT NOTES.

10. FOR PAVEMENT WIDTH OF 20-FT AND WIDER, ADD A LONGITUDINAL CONTROL JOINT.

SL-ST-12



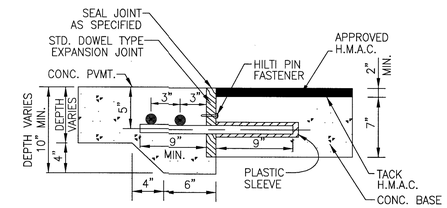
NOTE: USE #3 BARS TO HOLD DOWEL LEVEL.

STEEL TO MEET ASTM STD. SPEC. FOR CONC. REBAR UNIT TO BE 24" C.-C., AND 10" MIN.

DOWEL TYPE EXPANSION JOINT

N.T.S.

SL-ST-03



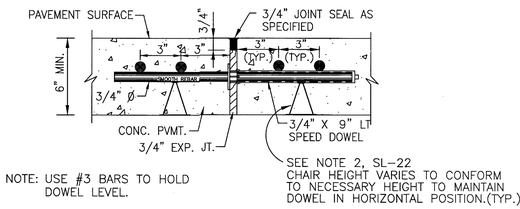
NOTE: USE #3 BARS TO HOLD DOWEL LEVEL.

DOWEL TYPE EXPANSION JOINT

N.T.S.

(CONC. PAVING TO CONC. BASE)

SL-ST-06



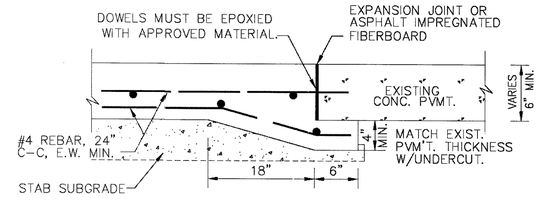
NOTE: USE #3 BARS TO HOLD DOWEL LEVEL.

SEE NOTE 2, SL-22 CHAIR HEIGHT VARIES TO CONFORM TO NECESSARY HEIGHT TO MAINTAIN DOWEL IN HORIZONTAL POSITION.(TYP.)

SPEED DOWEL EXPANSION JOINT

N.T.S.

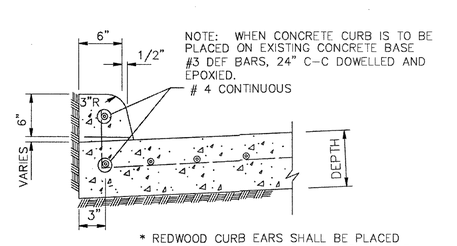
SL-ST-08



UNDERCUT DETAIL WITH HEADER

N.T.S.

SL-ST-09



* REDWOOD CURB EARS SHALL BE PLACED AT ALL TRANSVERSE JOINTS IN PAVEMENT.

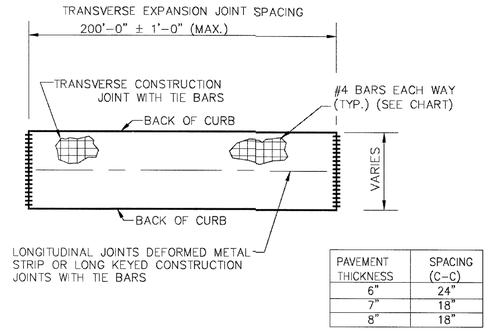
CONCRETE CURB

N.T.S.

CONSTRUCTION NOTE:

ALL NEW CURB REQUIRES 3,000 P.S.I. @ 28-DAYS.

SL-ST-04

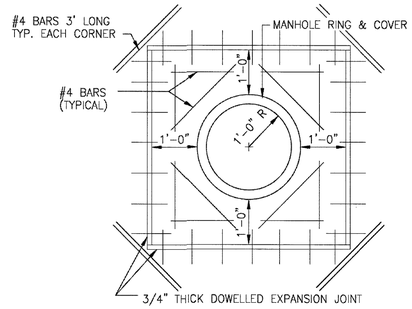


PAVEMENT THICKNESS	SPACING (C-C)
6"	24"
7"	18"
8"	18"

PAVING PANEL

N.T.S.

SL-ST-05

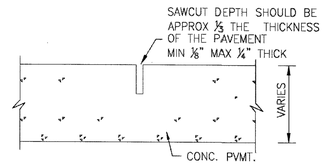


MANHOLE BLOCKOUT

N.T.S.

(STORM & SANITARY) IN PAVEMENT

SL-ST-10



CONTROL JOINT

N.T.S.

SL-ST-11

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: DATE

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

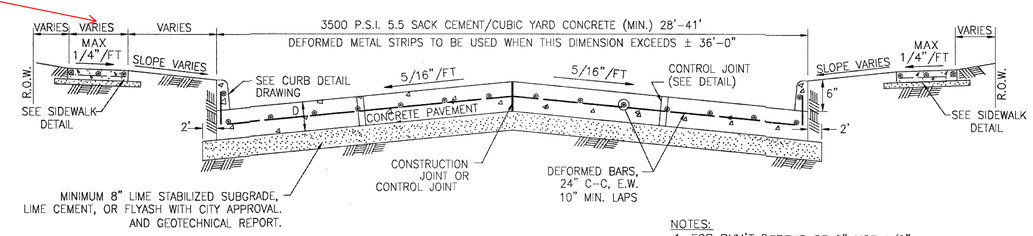
CONCRETE PAVEMENT CONSTRUCTION DETAILS I

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

SL-21

SHEET OF

Geotechnical recommendations and report reference to be noted with this detail to verify minimum standards are met



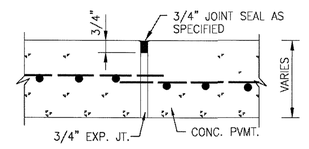
SINGLE ROADWAY SECTION

N.T.S.

SL-ST-02

NOTES:

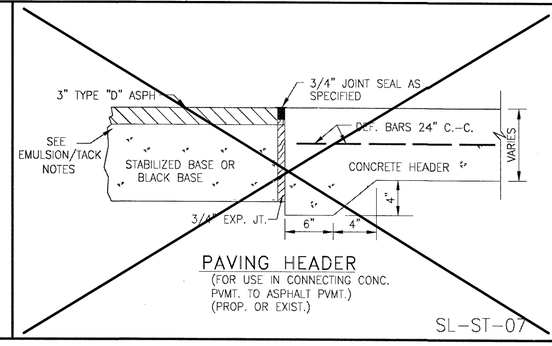
1. FOR PVM'T DEPTHS OF 6" USE 1/2" DEFORMED BARS, 24" C-C, 10" LAPS. ALL REINFORCING STEEL SHALL CONFORM TO GRADE 60, A.S.T.M. NO. A615. LAP SPLICES TO BE A MINIMUM OF 10 INCHES. STAGGER SPLICES IN ADJACENT BARS.



CONSTRUCTION JOINT SEAL

N.T.S.

SL-ST-12



PAVING HEADER

(FOR USE IN CONNECTING CONC. PVMT. TO ASPHALT PVMT.) (PROP. OR EXIST.)

SL-ST-07

REVISION DATE: OCTOBER 2021

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

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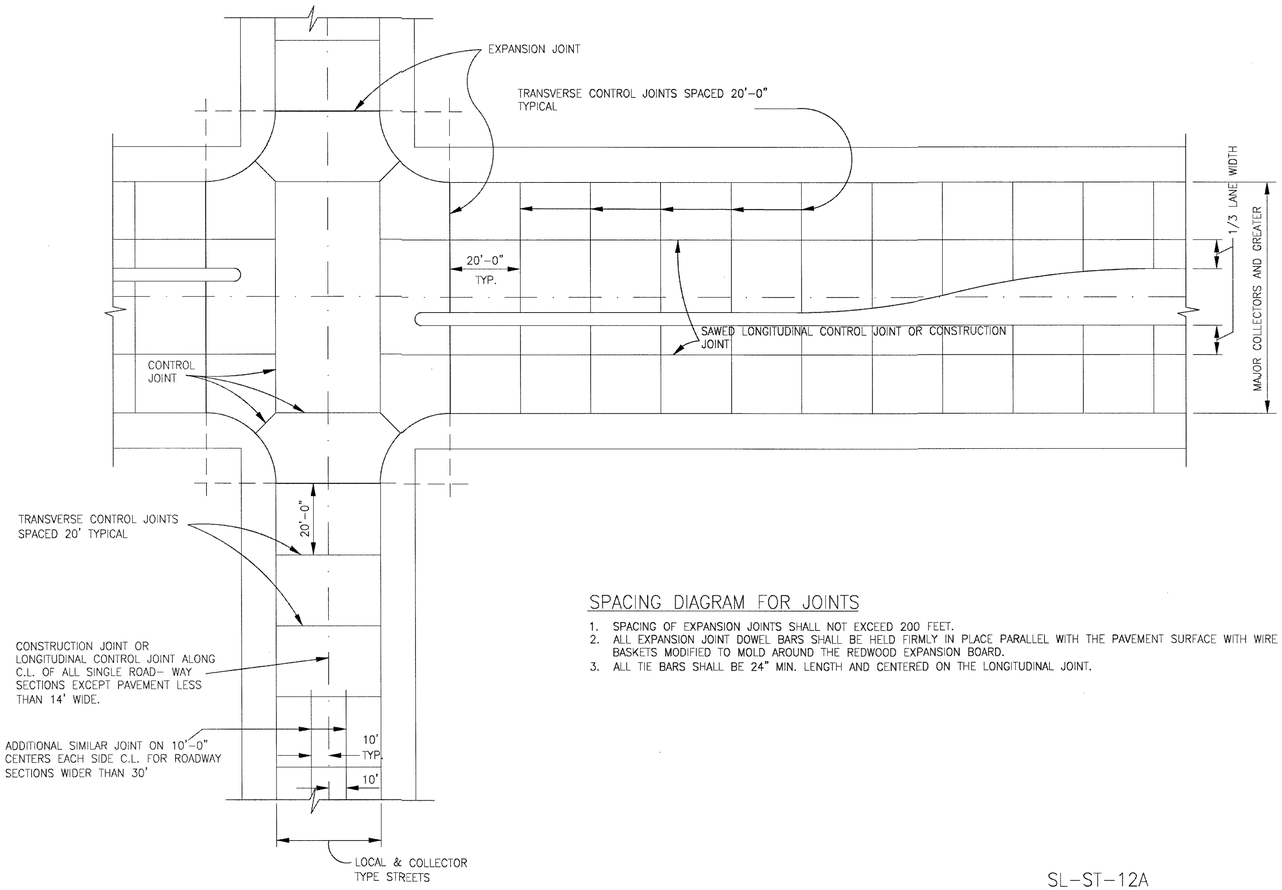
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

CONCRETE PAVEMENT CONSTRUCTION DETAILS I
SL-21

PROJECT NO. 15012



SPACING DIAGRAM FOR JOINTS

1. SPACING OF EXPANSION JOINTS SHALL NOT EXCEED 200 FEET.
2. ALL EXPANSION JOINT DOWEL BARS SHALL BE HELD FIRMLY IN PLACE PARALLEL WITH THE PAVEMENT SURFACE WITH WIRE BASKETS MODIFIED TO MOLD AROUND THE REDWOOD EXPANSION BOARD.
3. ALL TIE BARS SHALL BE 24" MIN. LENGTH AND CENTERED ON THE LONGITUDINAL JOINT.

SL-ST-12A

REVISION DATE: OCTOBER 2021

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

CONCRETE PAVEMENT CONSTRUCTION DETAILS II

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

SL-22

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
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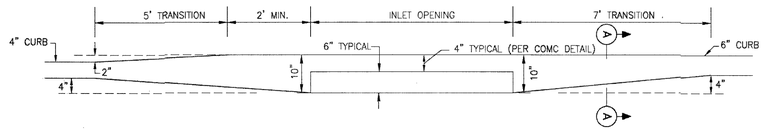
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

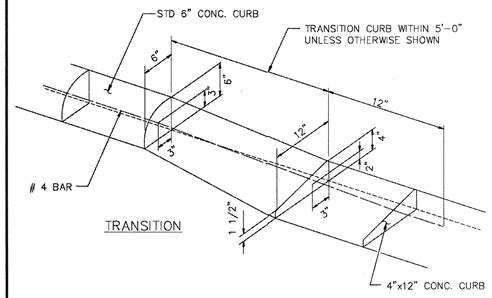
CONCRETE PAVEMENT CONSTRUCTION DETAILS II
SL-22

PROJECT NO. 15012



TYPICAL CURB TRANSITION FOR INLET INSTALLATION

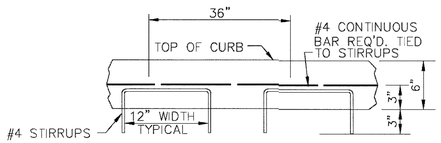
SL-ST-13



TYPICAL CURB TRANSITION

N.T.S.

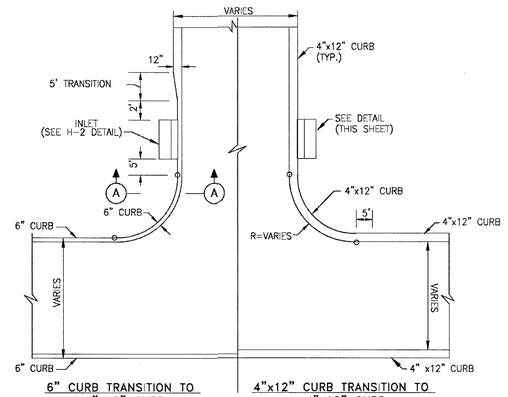
SL-ST-15



TYPICAL CONCRETE CURB REINFORCING

N.T.S.

SL-ST-16



TYPICAL 4"X12" CURB W/INLET TRANSITION FOR CURB RETURNS

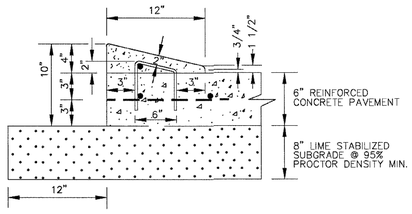
N.T.S.

SL-ST-14

CONSTRUCTION NOTES:

1. 6 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 24 INCHES C-C, E.W. IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR RESIDENTIAL STREETS.
2. 7 INCH, 5.5 SACK CEMENT PER CUBIC YARD CONCRETE, 3500 PSI REINFORCED CONCRETE WITH #4 BARS 24 INCHES C-C, IS THE MINIMUM ACCEPTABLE PAVEMENT CONSTRUCTION FOR COLLECTOR STREETS
3. EIGHT (8) INCH, 5.5 SK, 3500 PSI @ 28 DAYS, REINFORCED WITH #4 18" C.C. EACH WAY IS THE MINIMUM ACCEPTABLE FOR ARTERIAL STREETS.
4. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY AND ALL INTERSECTION CURB RETURN POINTS MAXIMUM SPACING SHALL BE 200' AND BE SEALED CONFORMING TO TXDOT ITEM 360 (& ITEM 438) AND TXDOT DMS-6310, CLASS-2.
5. TRANSVERSE CONTROL JOINTS ARE REQUIRED AT MAXIMUM SPACING OF 20'-0" C-C, AND VERTICAL CURB JOINTS TO BE SEALED WITH SPECIAL JOINT SEALANT ASTM-D-1190-74 OR AASHTO-M173-60 FOR PAVEMENT 8" THICK AND GREATER. (ELASTONETRIC TYPE HOT POURED)
6. PAVEMENT FINISH SHALL BE BAKER BROOM FINISH. CURING COMPOUND ON ALL CONCRETE.
7. STORM WATER POLLUTION PROTECTION SHALL BE DESIGNED, CONSTRUCTED, MAINTAINED AND SHALL BE IN TOTAL COMPLIANCE WITH THE STORM WATER QUALITY MANUAL OF THE CITY OF SUGAR LAND.
8. UNSTABLE SUBGRADE SHALL BE EXCAVATED AND REPLACED WITH CEMENT STABILIZED SAND.
9. USE 1"x2" REDWOOD STAKES FOR HEADERS.
10. EDGE ALL SIDES WITH EDGING TOOL.
11. DOWEL SHALL BE 3/4" DIAMETER, WITH MINIMUM 8" PENETRATION (BOTH SIDES).
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF SUGAR LAND OF ANY BIRDBATH PROBLEMS PRIOR TO CONSTRUCTION OF DRIVEWAY.
13. REFER TO GENERAL, C.S.S., AND PAVEMENT NOTES.
14. 1.0 LBS. OF APPROVED POLYPROPYLENE FIBER MESH PER C/Y IN 4"X12" CURBS REQUIRED.

SL-ST-20



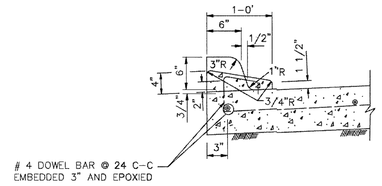
4"x12" MOUNTABLE CONCRETE CURB

N.T.S.

NOTES:

1.) 1.0 LBS. OF APPROVED NON-METALLIC FIBER MESH PER C/Y IN 4"X12" CURBS.
2.) #3 RE-BAR STIRRUPS TO BE PLACED AT INTERVALS OF 2' (FT) C-C.
3.) #4 RE-BAR LONGITUDINAL SHALL BE TIED TO EACH STIRRUP
4.) MOUNTABLE CURB ONLY ALLOWED ON ≤ 41' (FT), UNDIVIDED, RESIDENTIAL ROADWAYS WITHIN SUBDIVISIONS.

SL-ST-17



4-INCH x 12-INCH TRANSITION CURB

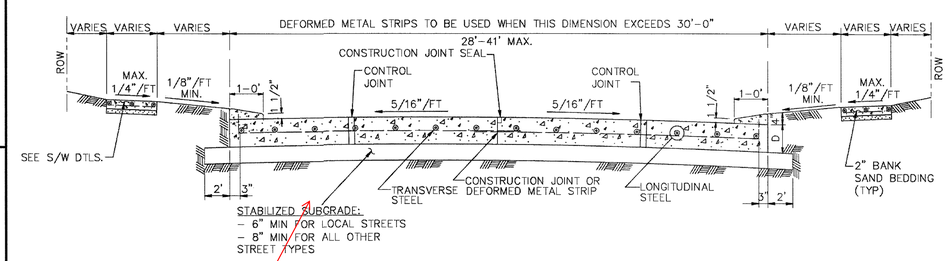
N.T.S.

SL-ST-18

4"x12" MOUNTABLE CONCRETE CURB AND TRANSITION CURB NOTES:

1. 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6-INCH CONCRETE CURB OR 4-INCH x 12-INCH CONCRETE CURB AS NOTED ON PLANS.
2. ALL 4-INCH x 12-INCH CONCRETE CURBS TO BE POURED SEPARATE FROM PROPOSED CONCRETE PAVEMENT.
3. TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH x 12-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 5 FEET (TYP.), UNLESS OTHERWISE SHOWN. REINFORCING STEEL AS SHOWN IN "4-INCH x 12-INCH TRANSITION CURB" DETAIL IS TO BE INSTALLED.

SL-ST-20



Geotechnical recommendations and report reference to be noted with this detail to verify minimum standards are met

TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH 4"X12" CURB

* SEE 4" x 12" MOUNTABLE CURB DETAIL (THIS SHEET)

N.T.S.

SL-ST-19

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

RESIDENTIAL CURB CONSTRUCTION DETAILS

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

SL-23

SHEET OF

REVISION DATE: OCTOBER 2021

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
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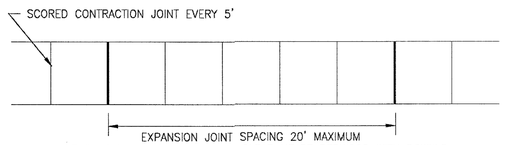
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

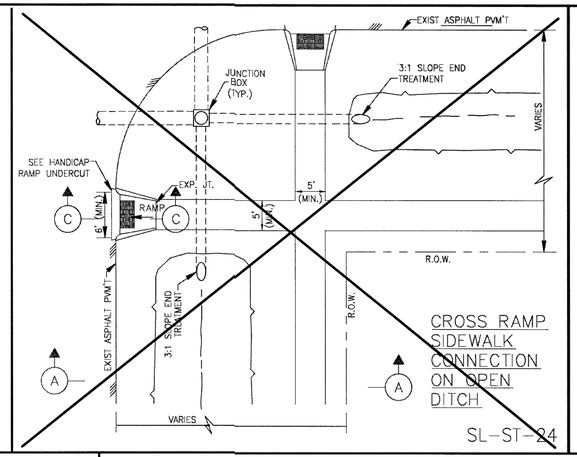
RESIDENTIAL CURB CONSTRUCTION DETAILS
SL-23

PROJECT NO. 15012



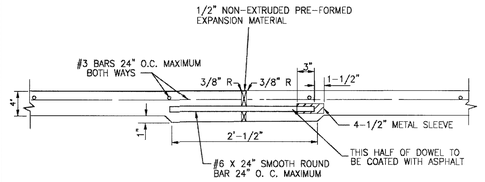
SIDEWALK JOINT DETAILS
N.T.S.

SL-ST-23



CROSS RAMP SIDEWALK CONNECTION ON OPEN DITCH

SL-ST-24



EXPANSION JOINT DETAIL

SL-ST-26

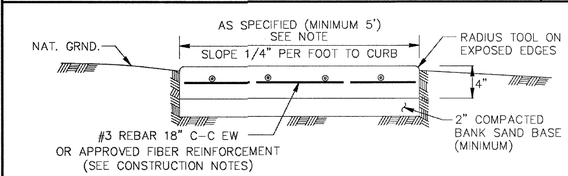
NOTES:

1. EXISTING CURB AND GUTTER TO BE SAW CUT, REMOVED AND REPLACED. DOWEL STEEL FOR MINIMUM REINFORCING OVERLAP OF 10 INCHES (10") DOWELS SHALL BE EIGHTEEN INCHES (18") LONG AND EPOXIED A MINIMUM OF (8") EIGHT INCHES INTO EXISTING PAVEMNENT.
2. IF SIDEWALKS ARE NEITHER EXISTING NOR PROPOSED WHERE WHEELCHAIR RAMP ACCESS IS REQUIRED, CONCRETE SIDEWALKS SURFACE 4 1/2" THICK SHALL BE INSTALLED TO PROVIDE ACCESS TO THE PEDESTRIAN PUSH BUTTONS.
3. DETECTABLE WARNINGS REQUIRED BY T.A.S. SECTIONS 4.1 AND 4.7 SHALL COMPLY WITH T.A.S. SECTION 4.29
4. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACE SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE.
5. DETECTABLE WARNING SURFACE SHALL COVER THE ENTIRE WIDTH AND DEPTH OF RAMP.
6. DETECTABLE WARNINGS SHALL BE INSTALLED WITH PAVERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
7. CONCRETE PAVER UNITS SHALL MEET ALL REQUIREMENTS OF ASTM C-935, C-33, AND SHALL BE PLACED IN A TWO BY TWO UNIT BASKET WEAVE PATTERN, UNLESS SHOWN OTHERWISE IN THE PLANS.
8. CONCRETE PAVER UNITS SHALL HAVE A TRUNCATED DOME TOP SURFACE FOR DETECTABLE WARNING TO PEDESTRIANS. DOMES SHALL BE ALIGNED IN THE DIRECTION OF PEDESTRIAN TRAVEL.
9. CONCRETE PAVER UNIT COLOR FOR THE RAMP SHALL BE A CONTRASTING COLOR THAT PROVIDES A LIGHT REFLECTIVE THAT SIGNIFICANTLY CONTRASTS WITH THE ADJACENT SURFACES. ADJACENT SURFACES INCLUDE SIDE FLARES.
10. CONCRETE PAVER UNITS SHALL BE SAW CUT ONLY, AND ANY CUT UNIT SHALL NOT BE LESS THAN 25% OF A FULL UNIT.

CONSTRUCTION NOTES:

1. THE MAXIMUM WIDTH BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 20'-0"
2. EXPANSION JOINT IS TO BE 1/2" THICK CLEAR HEART REDWOOD WITH DOWELS.
3. SCORED CONTRACTION JOINTS SHALL BE EVERY 5' OR EQUAL TO WIDTH OF SIDEWALK.
4. ALL EARTHEN AREAS ARE TO BE SODDED UNLESS SHOWN OTHERWISE ON DRAWINGS.
5. 4 INCH, 5 SACK CEMENT PER CUBIC YARD CONCRETE, 3000 PSI. REINFORCED CONCRETE WITH #3 BARS, 18 INCHES C-C, FOR SIDEWALKS, #4 BARS 18' C-C FOR WHEEL CHAIR RAMPS IS THE MINIMUM ACCEPTED. MINIMUM 3 LONGITUDINAL BARS. FIBER REINFORCING SIDEWALKS-STEEL AND POLYPROPYLENE BLENDED FIBER REINFORCEMENT SYSTEM SUCH AS NOVOMESH e3 AS MANUFACTURED BY S.I. CONCRETE SYSTEMS (OR PRE-APPROVED EQUAL) MAY BE USED AS AN ALTERNATE TO CONVENTIONAL REBAR REINFORCING AT A DOSAGE RATE OF 24 LBS. PER CUBIC YARD OF CONCRETE.
6. USE RADIUS TOOL ON ALL EXPOSED EDGES.
7. TOP OF THE SIDEWALK ELEVATION TO BE TOP OF CURB.
8. MEMBRANE CURING COMPOUND IS REQUIRED AS DESCRIBED IN ITEM 526 IN THE TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
9. REFER TO GENERAL NOTES AND CONCRETE/PAVING NOTES.
10. SIDEWALK EXPANSION JOINTS SHALL CONFORM TO STREET EXPANSION JOINT STANDARDS.

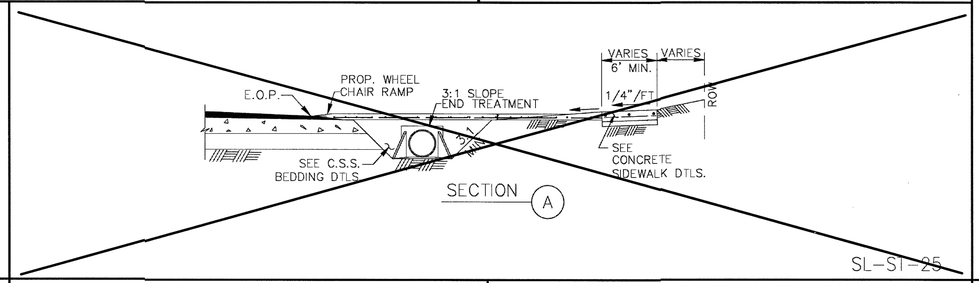
SL-ST-34



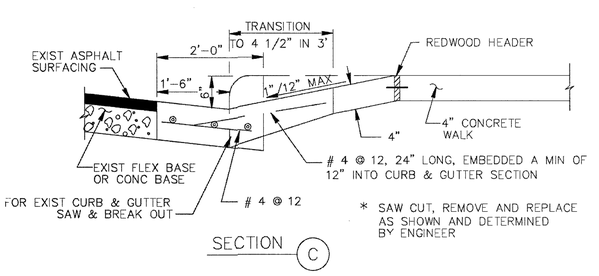
CONCRETE SIDEWALK

NOTE:
BANK SAND IS DEFINED AS A WELL-GRADED SAND, FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS AND ORGANIC MATTER, MEETING THE UNIFIED SOILS CLASSIFICATION SYSTEM GROUP SYMBOL SW CRITERIA W/ A PLASTICITY INDEX OF ≤ 10, AND NO MORE THAN 12% OF MATERIAL CAN PASS THE No. 200 SIEVE.

SL-ST-29

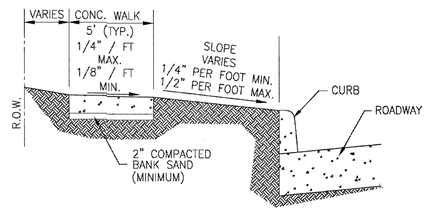


SL-ST-25



HANDICAP RAMP CURB & GUTTER*

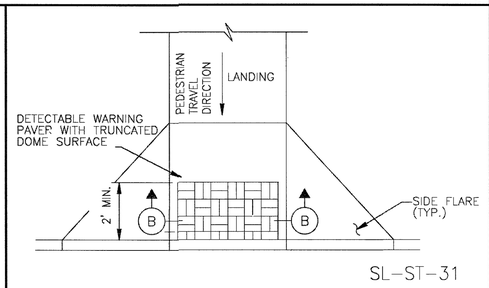
SL-ST-25



NOTE:
SEE SIDEWALK, CONC/PAVING, AND GENERAL NOTES

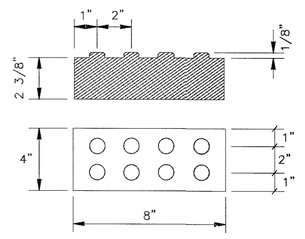
TYPICAL SINGLE ROADWAY SIDEWALK

SL-ST-28



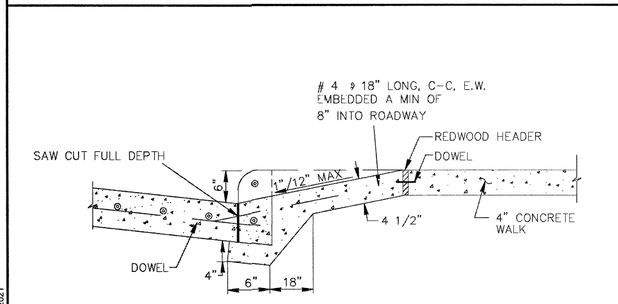
TRUNCATED DOME PATTERN CURB RAMP

SL-ST-31



CONCRETE PAVER WITH TRUNCATED DOME SURFACE

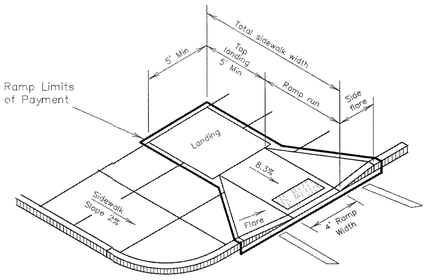
SL-ST-32



HANDICAP RAMP UNDERCUT

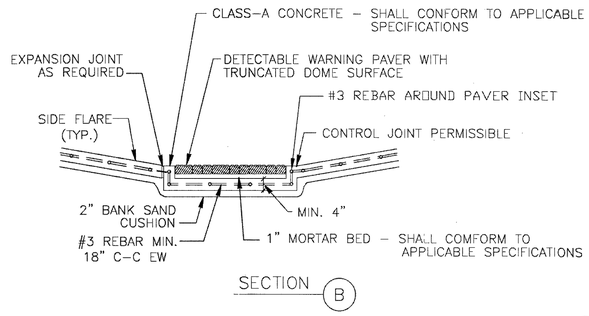
SL-ST-27

1. STANDARD FLARED SINGLE RAMPS ARE ALLOWED AT LOCAL/LOCAL STREET CROSSINGS



WHEELCHAIR RAMP SIDEWALK CONNECTION

SL-ST-30



SL-ST-33

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

WHEELCHAIR RAMP & SIDEWALK DETAILS I

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

SL-25
SHEET OF

REVISION DATE: OCTOBER 2021

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992
Date: 3/11/22

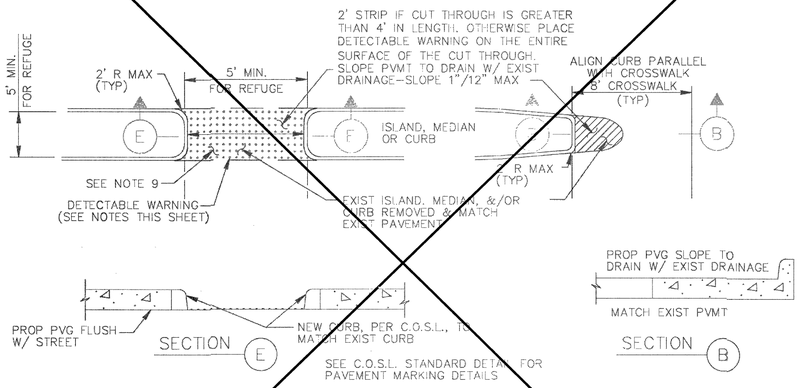
OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

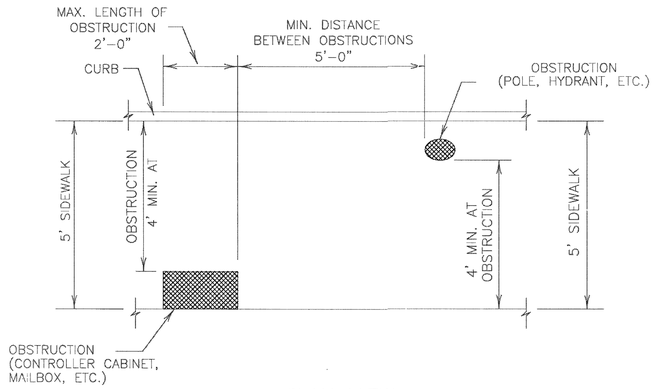
WHEELCHAIR RAMP & SIDEWALK DETAILS I
SL-25

PROJECT NO. 15012



FOR ISLAND, MEDIAN, OR CURB MODIFICATIONS FOR CROSSWALKS

SL-ST-35



PLAN VIEW

PLACEMENT OF STREET FIXTURES

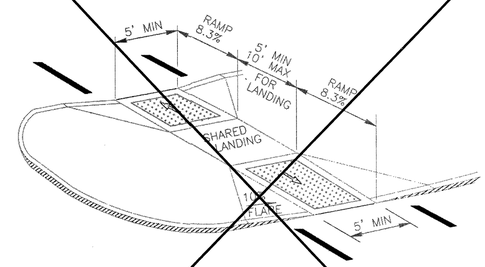
(ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' x 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.)

SL-ST-36

NOTES:

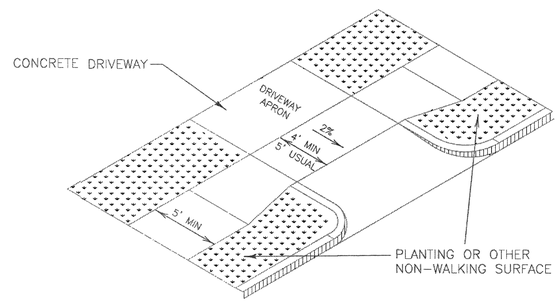
1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS MAY BE ADJUSTED AS DIRECTED
2. THE MINIMUM SIDEWALK WIDTH IS 5' (FEET). THE LANDING SHALL BE 5' x 5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS 2%. USUAL SIDEWALK CROSS SLOPE EQUALS 1.5%. CHANGES IN LEVEL GREATER THAN 1/4" (IN.) ARE NOT PERMITTED.
3. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 5' x 5' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
4. ANY PART OF THE ACCESSIBLE ROUTE WITH A SLOPE GREATER THAN 1:20 (5%) SHALL BE CONSIDERED A RAMP. IF A RAMP HAS A RISE GREATER THAN 6" (IN.) OR A HORIZONTAL PROJECTION GREATER THAN 72 INCHES, THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES, WITH THE FOLLOWING EXCEPTIONS:
   A.) HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. CURB RAMPS SHALL BE PROVIDED WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
   B.) THE LEAST POSSIBLE GRADE SHOULD BE USED TO MAXIMIZE ACCESSIBILITY. WHERE STRUCTURALLY IMPRACTICAL TO ACHIEVE TEXAS ACCESSIBILITY STANDARDS (TAS) COMPLIANCE, THE RUNNING SLOPE OF SIDEWALKS AND CROSSWALKS, WITHIN THE PUBLIC R.O.W., MAY FOLLOW THE GRADE OF THE PARALLEL ROADWAY WITHOUT INVOKING TEXAS ACCESSIBILITY STANDARDS (TAS) VARIANCES FOR LANDINGS OR HANDRAILS. WHERE A CONTINUOUS GRADE GREATER THAN 5% MUST BE PROVIDED, HANDRAILS MAY BE DESIRABLE ON ONE OR BOTH SIDES OF THE SIDEWALK TO IMPROVE ACCESSIBILITY. HANDRAILS MAY ALSO BE NEEDED TO PROTECT PEDESTRIANS FROM POTENTIALLY HAZARDOUS CONDITIONS.
5. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED. ALL CONCRETE SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
6. RAMP TEXTURES MUST CONSIST OF TRUNCATED DOME SURFACES, IN ACCORDANCE WITH ADA AND TEXAS DEPARTMENT OF LICENSING AND REGULATIONS (TDLR), TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. TEXTURES ALSO SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED.
7. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).
8. RAISED MEDIANS SEPARATE OPPOSING DIRECTIONS OF TRAFFIC AND PROVIDE A REFUGE AREA FOR PEDESTRIANS UNABLE TO CROSS THE ENTIRE ROADWAY IN THE ALLOTTED SIGNAL PHASE. TO SERVE AS A REFUGE AREA, THE MEDIAN SHALL BE A MINIMUM OF 5' (FT.) WIDE. MEDIANS SHOULD BE DESIGNED TO PROVIDE ACCESSIBLE PASSAGE OVER OR THROUGH THEM.
9. SMALL CHANNELIZATION ISLANDS, WHICH CAN NOT PROVIDE A MINIMUM 5' x 5' LANDING AT THE TOP OF RAMPS, SHALL BE CUT THROUGH LEVEL WITH THE SURFACE OF THE STREET.
10. CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER.
11. EXISTING FEATURES THAT COMPLY WITH T.A.S. MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
12. TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SHALL BE PLACED SO NOT TO OBSTRUCT THE ACCESSIBLE ROUTE.

SL-ST-40



CURB RAMPS AT MEDIAN ISLANDS

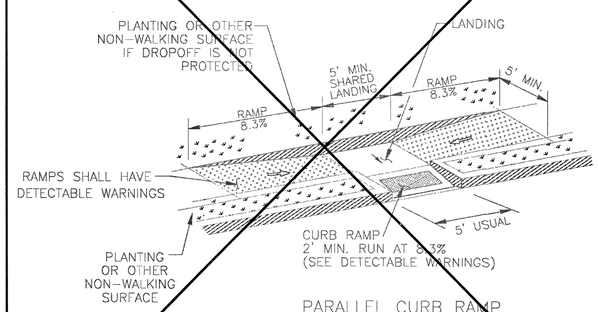
SL-ST-37



SETBACK SIDEWALK

SIDEWALK TREATMENT AT DRIVEWAYS

SL-ST-38



PARALLEL CURB RAMP

SL-ST-39

REVISION DATE: OCTOBER 2021

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

WHEELCHAIR RAMP & SIDEWALK DETAILS II

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

SL-26

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED MS
DRAWN
CHECKED
DATE

B&L
BAKER & LAWSON, INC.
ENGINEERS • PLANNERS • SURVEYORS
4005 TECHNOLOGY DRIVE, SUITE 1530
ANGLETON, TEXAS 77515 (979) 849-6681
REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/11/22

OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

WHEELCHAIR RAMP & SIDEWALK DETAILS II
SL-26

PROJECT NO. 15012

HYPER-CHLORINATED WATER NOTES

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

SANITARY WASTE NOTES

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

DEBRIS AND TRASH NOTES

1. ALL WASTE SOURCES AND STORAGE AREAS SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS AND OTHER WATERS. IF THE SITE CONFIGURATION PROVIDES SUFFICIENT SPACE TO DO SO, IN NO CASE SHALL MATERIAL AND WASTE SOURCES BE CLOSER THAN 20 FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS, AND OTHER WATERS.
2. CONSTRUCTION WASTE AND TRASH SHALL BE STORED IN A MANNER THAT MINIMIZES ITS EXPOSURE TO PRECIPITATION AND STORMWATER RUNOFF.
3. WHENEVER POSSIBLE, MINIMIZE PRODUCTION OF DEBRIS AND TRASH.
4. INSTRUCT CONSTRUCTION WORKERS IN PROPER DEBRIS AND TRASH STORAGE AND HANDLING PROCEDURES.
5. SEGREGATE POTENTIAL HAZARDOUS WASTE FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS.
6. PROHIBIT LITTERING BY WORKERS AND VISITORS.
7. POLICE SITE DAILY FOR LITTER AND DEBRIS.
8. ENFORCE SOLID WASTE HANDLING AND STORAGE PROCEDURES.
9. IF FEASIBLE, RECYCLE CONSTRUCTION AND DEMOLITION DEBRIS SUCH AS WOOD, METAL, AND CONCRETE.
10. TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE AT REGULAR INTERVALS THAT ARE SCHEDULED TO EMPTY CONTAINERS WHEN THEY ARE 90 PERCENT FULL OR MORE FREQUENTLY.
11. GENERAL CONSTRUCTION DEBRIS MAY BE HAULED TO A LICENSED CONSTRUCTION DEBRIS LANDFILL.
12. USE WASTE AND RECYCLING HAULERS/FACILITIES APPROVED BY THE LOCAL MUNICIPALITY.
13. CHIPPING OF TREES AND BRUSH FOR USE SUCH AS MULCH IS PREFERRED ALTERNATIVE TO OFFSITE DISPOSAL.
14. NO WASTE, TRASH, OR DEBRIS SHALL BE BURIED, BURNED OR OTHER WISE DISPOSED OF ONSITE.
15. CLEARLY MARK ON ALL DEBRIS AND TRASH CONTAINERS WHICH MATERIALS ARE ACCEPTABLE. FOREMAN AND/OR CONSTRUCTION SUPERVISOR SHALL MONITOR ONSITE SOLID WASTE STORAGE AND DISPOSAL PROCEDURES DAILY.

CONCRETE SAWCUTTING WASTE NOTES

1. DURING SAWCUTTING OPERATIONS, THE SLURRY AND CUTTINGS SHALL BE CONTINUOUSLY VACUUMED OR OTHERWISE RECOVERED AND NOT BE ALLOWED TO DISCHARGE FROM THE SITE.
2. IF THE PAVEMENT TO BE CUT IS NEAR A STORM DRAIN INLET, THE INLET SHALL BE BLOCKED BY SANDBAGS OR EQUIVALENT TEMPORARY MEASURES TO PREVENT THE SLURRY FROM ENTERING THE INLET. REMOVE THE SANDBAGS IMMEDIATELY AFTER COMPLETING SAWCUTTING OPERATIONS, SO THEY DO NOT CAUSE DRAINAGE PROBLEMS DURING STORM EVENTS.
3. SLURRY AND CUTTINGS SHALL NOT BE ALLOWED TO REMAIN ON THE PAVEMENT TO DRY OUT
4. DEVELOP PRE-DETERMINED, SAFE SLURRY DISPOSAL AREAS.
5. COLLECTED SLURRY AND CUTTINGS SHOULD BE IMMEDIATELY HAULED FROM THE SITE FOR DISPOSAL AT A WASTE FACILITY. IF THIS IS NOT POSSIBLE, THE SLURRY AND CUTTINGS SHALL BE DISCHARGED INTO ONSITE CONTAINMENT.
6. THE ONSITE CONTAINMENT MAY BE EXCAVATED OR BERMED PIT LINED WITH PLASTIC MINIMUM OF 10 MILLIMETERS THICK. IF THE PROJECT INCLUDES PLACEMENT OF NEW CONCRETE, SLURRY FROM SAWCUTTING MAY BE DISPOSED OF IN FACILITIES DESIGNATED FOR THE WASHOUT OF CONCRETE TRUCKS INSTEAD CONSTRUCTING A SEPARATE CONTAINMENT.
7. THE CONTAINMENT SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS, AND OTHER WATERS, IF THE SITE CONFIGURATION PROVIDES SUFFICIENT SPACE TO DO SO. IN NO CASE SHALL THE COLLECTION AREA BE CLOSER THAN 20 FEET FROM INLETS, SWALES, DRAINAGE WAYS, CHANNELS AND OTHER WATERS.
8. SEVERAL, PORTABLE, PRE-FABRICATED, CONCRETE WASHOUT, COLLECTION BASINS ARE COMMERCIALLY AVAILABLE AND ARE AN ACCEPTABLE ALTERNATIVE TO AN ONSITE CONTAINMENT PIT.
9. REMOVE WASTER CONCRETE WHEN THE CONTAINMENT IS HALF FULL. ALWAYS MAINTAIN A MINIMUM OF ONE FOOT FREEBOARD.
10. ONSITE EVAPORATION OF SLURRY WATER AND RECYCLING OF THE CONCRETE WASTE IS THE PREFERRED DISPOSAL METHOD. WHEN THIS IS NOT FEASIBLE, DISCHARGE FROM THE COLLECTION AREA SHALL ONLY BE ALLOWED IF A PASSIVE TREATMENT SYSTEM IS USED TO REMOVE THE FINES. MECHANICAL MIXING IS REQUIRED IN THE COLLECTION AREA. THE pH MUST BE TESTED, AND DISCHARGED IS ALLOWED IN IF THE pH DOES NOT EXCEED 8.0. THE pH MAY BE LOWERED BY ADDING SULFURIC ACID TO THE SLURRY WATER.
11. CARE SHALL BE EXERCISED WHEN TREATING THE SLURRY WATER FOR DISCHARGE. MONITORING MUST BE IMPLEMENTED TO VERIFY THAT DISCHARGES FROM THE COLLECTION AREA DO NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
12. GEOTEXTILE FABRICS SUCH AS THOSE USED FOR SILT FENCE SHOULD NOT BE USED TO CONTROL SAWCUTTING WASTE, SINCE THE GRAIN SIZE IS SIGNIFICANTLY SMALLER THAN THE APPARENT OPENING SIZE OF THE FABRIC.

SPILL AND LEAK RESPONSE NOTES

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

SUBGRADE STABILIZATION NOTES

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

SANDBLASTING WASTE NOTES

1. THE CONTRACTOR SHOULD BE REQUIRED TO DESIGNATE THE SITE SUPERINTENDENT, FOREMAN, OR OTHER PERSON WHO IS RESPONSIBLE FOR SANDBLASTING TO ALSO BE RESPONSIBLE FOR SANDBLASTING WASTE MANAGEMENT.
2. PROHIBIT THE DISCHARGE OF SANDBLASTING WASTE.
3. USE ONLY INERT, NON-DEGRADABLE SANDBLAST MEDIA.
4. USE APPROPRIATE EQUIPMENT FOR THE JOB; DO NOT OVER-BLAST.
5. WHENEVER POSSIBLE, BLAST IN A DOWNWARD DIRECTION.
6. CEASE BLASTING ACTIVITIES IN HIGH WINDS OR IF WIND DIRECTION COULD TRANSPORT GRIT TO DRAINAGE FACILITIES.
7. INSTALL DUST SHIELDING AROUND SANDBLASTING AREAS.
8. COLLECT AND DISPOSE OF ALL SPENT SANDBLAST GRIT, USE DUST CONTAINMENT FABRICS AND DUST COLLECTION HOPPERS AND BARRELS.
9. NON-HAZARDOUS SANDBLAST GRIT MAY BE DISPOSED IN PERMITTED CONSTRUCTION DEBRIS LANDFILLS OR PERMITTED SANITARY LANDFILLS.
10. IF SANDBLAST MEDIA CANNOT BE FULLY CONTAINED, CONSTRUCT SEDIMENT TRAPS DOWNSTREAM FROM BLASTING AREA WHERE APPROPRIATE.
11. USE SAND FENCING WHERE APPROPRIATE IN AREAS WHERE BLAST MEDIA CANNOT BE FULLY CONTAINED.
12. IF NECESSARY, INSTALL MISTING EQUIPMENT TO REMOVE SANDBLAST GRIT FROM THE AIR PREVENT RUNOFF FROM MISTING OPERATIONS FROM ENTERING DRAINAGE SYSTEMS.
13. USE VACUUM GRIT COLLECTION SYSTEMS WHERE POSSIBLE.
14. KEEP RECORDS OF SANDBLASTING MATERIALS, PROCEDURES, AND WEATHER CONDITIONS ON A DAILY BASIS.
15. TAKE ALL REASONABLE PRECAUTIONS TO ENSURE THAT SANDBLASTING GRIT IS CONTAINED AND KEPT AWAY FROM DRAINAGE STRUCTURES.
16. SAND BLASTING MEDIA SHOULD ALWAYS BE STORED UNDER COVER AWAY FROM DRAINAGE STRUCTURES.
17. ENSURE THAT STORED MEDIA OR GRIT IS NOT SUBJECTED TO TRANSPORT BY WIND.
18. ENSURE THAT ALL SANDBLASTING EQUIPMENT AND STORAGE CONTAINERS COMPLY WITH CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS.
19. CAPTURE AND TREAT RUNOFF, WHICH COMES INTO CONTACT WITH SANDBLASTING MATERIALS OR WASTE.

REVISION DATE: OCTOBER 2021

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

GENERAL EROSION CONTROL NOTES

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

SL-33

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

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DESIGNED MS
DRAWN
CHECKED
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ENGINEERS • PLANNERS • SURVEYORS
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REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

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Date: 3/11/22

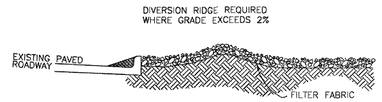
OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

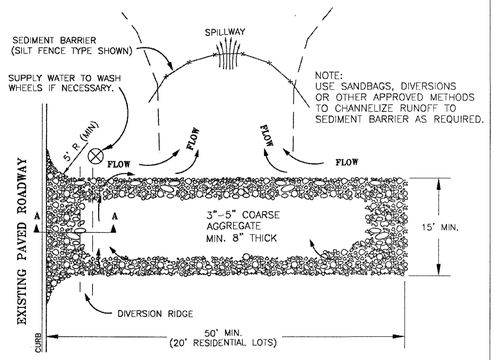
HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES
AND DETENTION

GENERAL EROSION CONTROL NOTES
SL-33

PROJECT NO. 15012

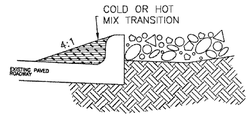


SECTION A – A



PLAN

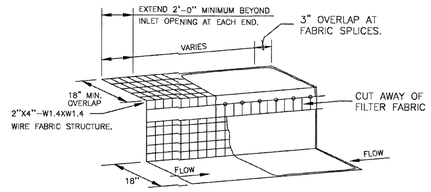
WHEN SEDIMENT HAS SUBSTANTIALLY CLOGGED THE VOID AREA BETWEEN THE ROCKS, THE AGGREGATE MAT MUST BE WASHED DOWN OR REPLACED. PERIODIC RE-GRADING AND TOP DRESSING WITH ADDITIONAL STONE MUST BE DONE TO KEEP THE EFFICIENCY OF THE ENTRANCE FROM DIMINISHING.

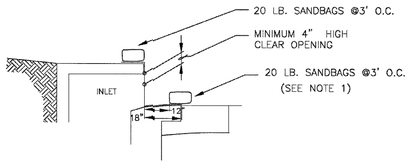


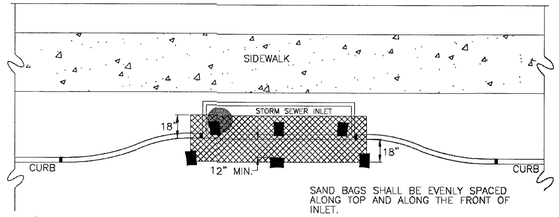
TRANSITION

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

SL-ER-01







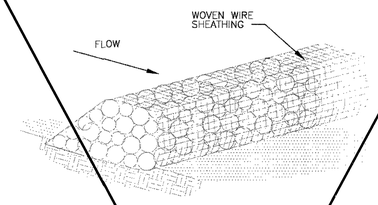
CURB INLET PROTECTION DETAIL
N.T.S.

NOTES:

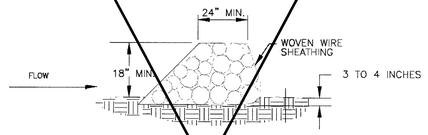
1. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL TO PROVIDE A 4" MINIMUM CLEAR OPENING. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION
2. INSPECTION SHALL BE MADE BY CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
3. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTION IF THE STORMWATER BEGINS TO OVERTOP THE CURB.
4. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF THE SEDIMENT IS STABILIZED.

INLET OPENING	MINIMUM NUMBER OF SAND BAGS	
	TOP	FRONT
5'	2	3
10'	3	3
15'	3	4
20'	4	4

SL-ER-02



ISOMETRIC PLAN VIEW



CROSS SECTION
N.T.S.

ROCK BERM DETAIL
N.T.S.

ROCK BERM GENERAL NOTES

1. USE ONLY OPEN GRADED ROCK 4-8 INCHES IN DIAMETER FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK 2-5 INCHES IN DIAMETER FOR OTHER CONDITIONS.

2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING A MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE SIZE OF 20 GAUGE AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.

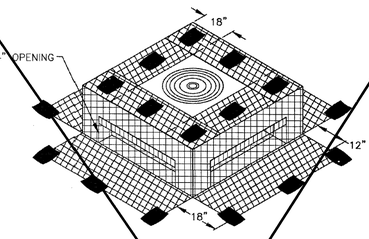
3. THE ROCK BERM SHALL BE INSPECTED EVERY TWO WEEKS OR AFTER EACH 1/2" RAIN EVENT AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.

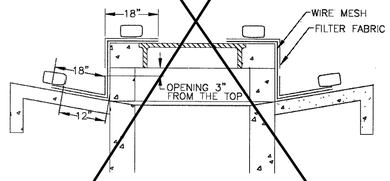
5. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

6. ROCK BERM SHOULD BE USED AS CHECK DAMS FOR CONCENTRATED FLOW AND ARE NOT INTENDED FOR USE IN PERIMETER PROTECTION.

SL-ER-03



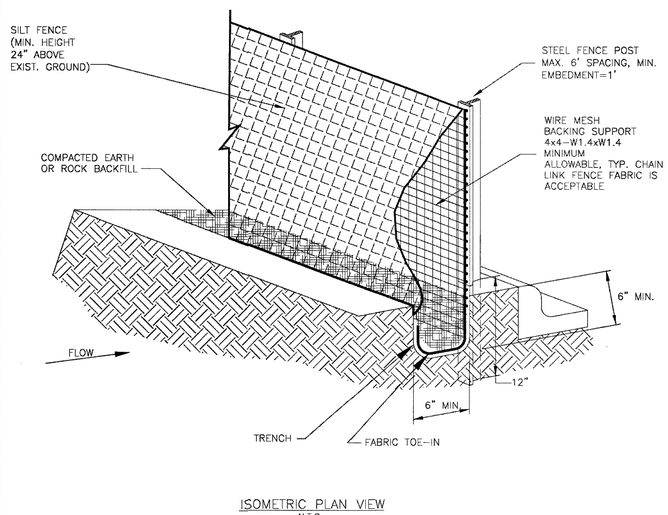
ISOMETRIC VIEW



SECTION

FILTER FABRIC WYE INLET PROTECTION
N.T.S.

SL-ER-04



ISOMETRIC PLAN VIEW
N.T.S.

SILT FENCE GENERAL NOTES

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

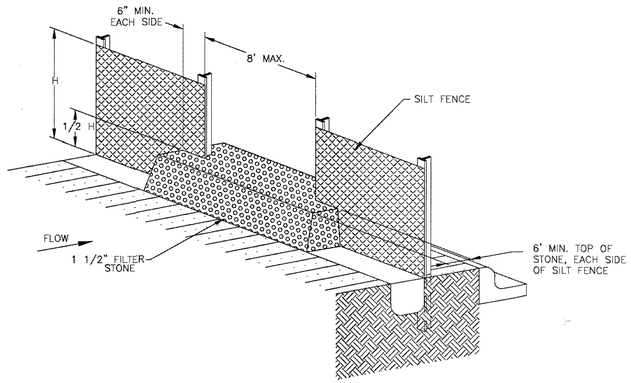
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

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



SILT FENCE
STONE OVERFLOW STRUCTURE
N.T.S.

SL-ER-05

REVISION DATE: OCTOBER 2021

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

EROSION CONTROL DETAILS I

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

SL-34

SHEET OF

NO.	DATE	DESCRIPTION	APPROVED

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DRAWN
CHECKED
DATE

BAKER & LAWSON, INC.
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REG. NO. F-825

STATE OF TEXAS
MIGUELANGEL A SAUCEDA
121992
REGISTERED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Miguel Sauceda P.E. 121992

Date: 3/14/22

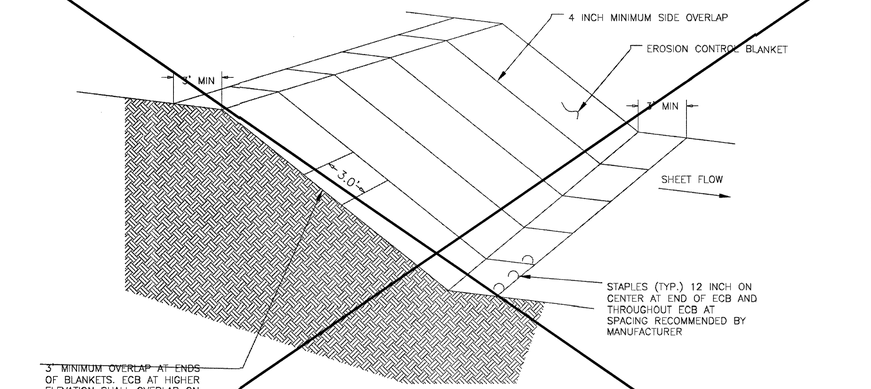
OWNER:
Clint Peltier
Clint Peltier Custom Homes
979-481-4840

PLAN:
PROFILE:
HORIZONTAL:
VERTICAL:

HERITAGE PARK SECTION 3
ANGLETON, TEXAS
PLANS FOR
GRADING, PAVING, UTILITIES AND DETENTION

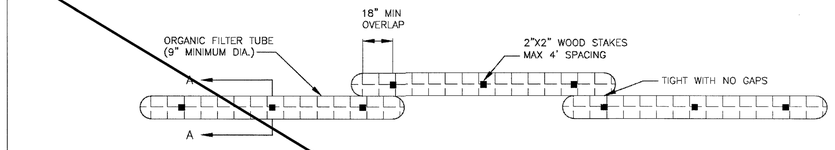
EROSION CONTROL DETAILS I
SL-34

PROJECT NO. 15012

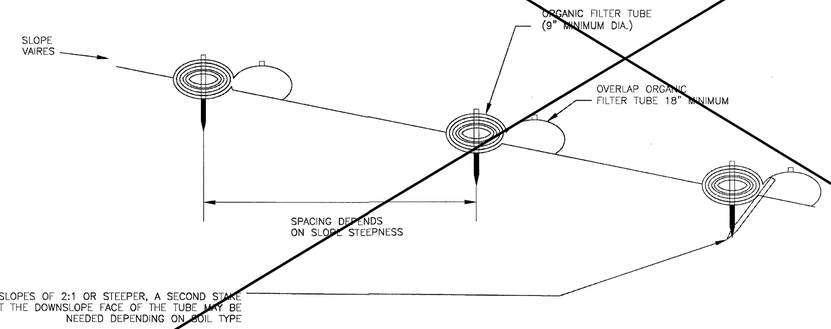


EROSION CONTROL BLANKETS
N.T.S.

SL-ER-06



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



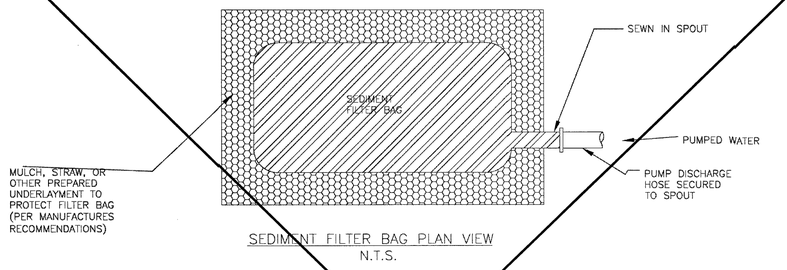
ORGANIC FILTER TUBE PERIMETER CONTROL PROFILE
N.T.S.

ORGANIC FILTER TUBES NOTES

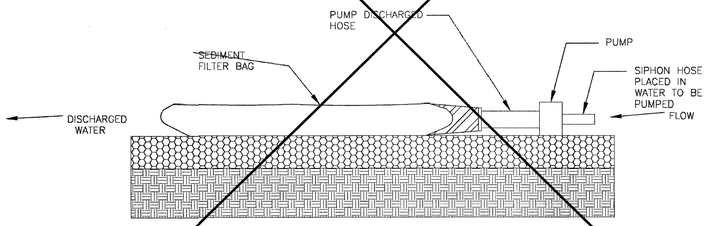
1. TYPE OF NETTING, FILTER MATERIAL, DIAMETER OF TUBE, AND SPACING OF TUBES SHALL BE SPECIFIED BY THE DESIGNER BASED ON THE FOLLOWING SITE PARAMETERS:
   - SIZE OF CONTRIBUTING DRAINAGE AREA
   - STEEPNESS OF SLOPE
   - GROUND CONDITIONS (SOIL OR PAVEMENT)
2. DESIGNER SHALL SHOW ON THE DRAWINGS THE LOCATIONS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

FILTER TUBE
N.T.S.

SL-ER-08



SEDIMENT FILTER BAG PLAN VIEW
N.T.S.



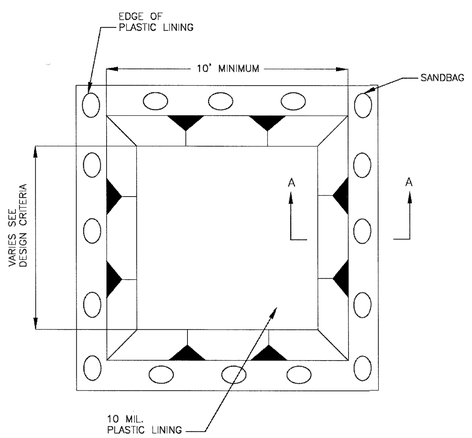
SEDIMENT FILTER BAG PROFILE
N.T.S.

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

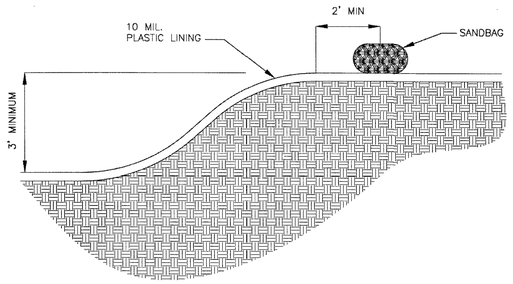
DEWATERING CONTROLS
N.T.S.

SL-ER-07

REVISION DATE: OCTOBER 2021



CONCRETE WASHOUT PLAN VIEW
N.T.S.



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

CONCRETE WASHOUT NOTES

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

CONCRETE WASHOUT AREA
N.T.S.

SL-ER-09

No.	DATE	REVISION

SEAL:

DESIGN ENGINEER: _____ DATE _____

CITY OF SUGAR LAND, TEXAS
ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR:

EROSION CONTROL DETAILS II

JOB No.:	SL-35
DATE:	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SCALE:	SHEET OF

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EROSION CONTROL DETAILS II
SL-35

PROJECT NO. 15012