



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

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

- Right of Way Permit
- Commercial Driveway Permit

Permit No: 2017-11220

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

(1) COMPLETE APPLICATION FORM:

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

(2) BOND:

- County Attorney, approval when applicable.
- Perpetual bond currently posted. Bond No: _____ Amount: _____
- Performance bond submitted. Bond No: _____ Amount: _____
- Cashier's Check Check No: [REDACTED] Amount: \$10,000.00

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval

Date

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

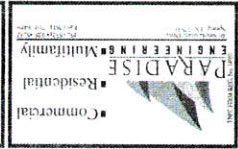
Charles O. Ay

Permit Administrator

7/31/17

Date

REV.	DATE	DESCRIPTION



T K W
DESIGNS
1314 SPRINGER OAK DR
HOUSTON, TEXAS 77058
PH: 281.221.5516



SCALE: AS SHOWN
CHECKED BY: HMT
PROJECT: 3000-1
SHEET NO: D-1.0

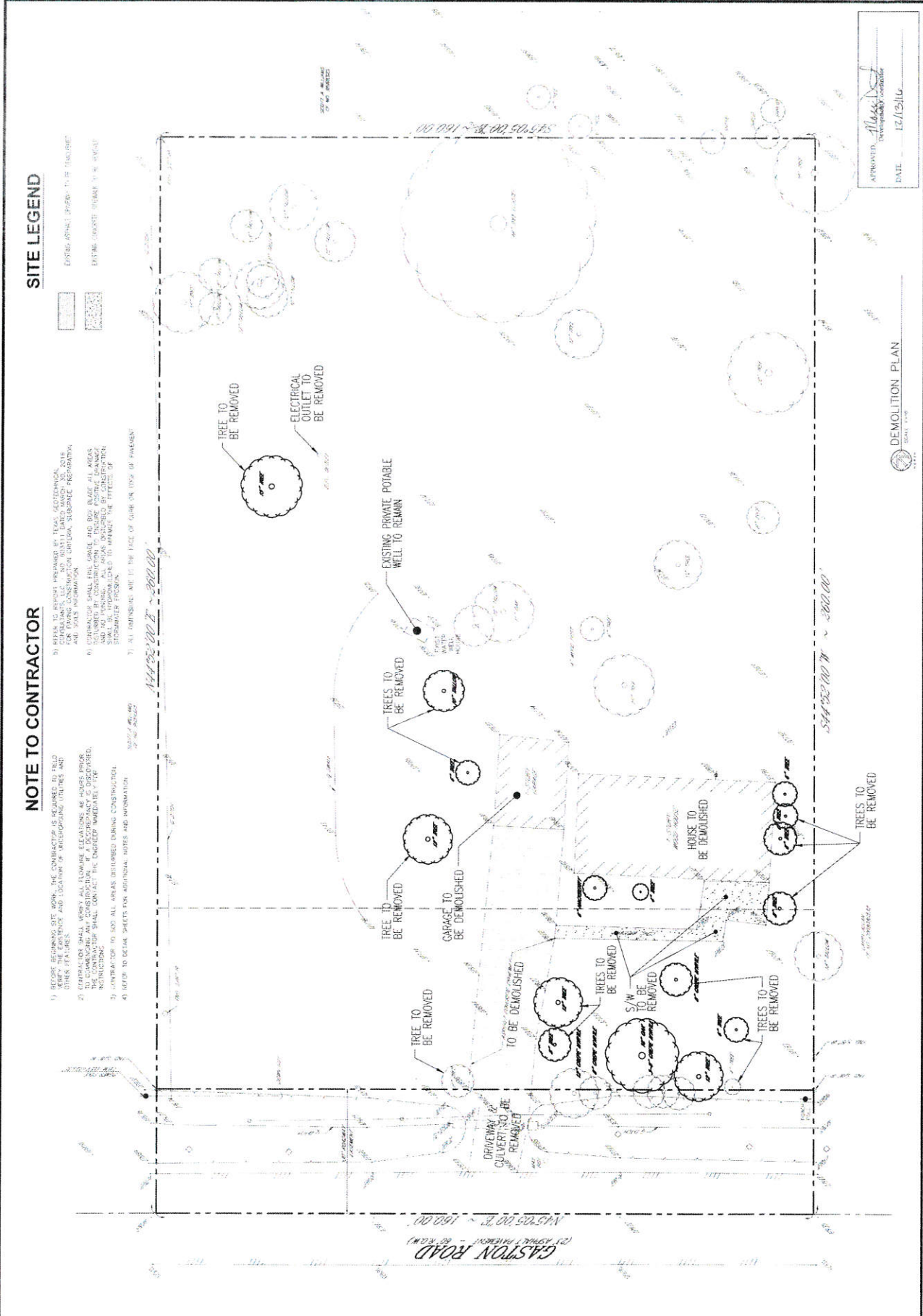
DATE: 09-07-2016

SITE LEGEND

- EXISTING STRUCTURE
- EXISTING TREE
- TREE TO BE REMOVED
- ELECTRICAL OUTLET TO BE REMOVED

NOTE TO CONTRACTOR

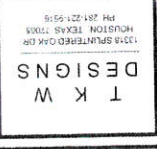
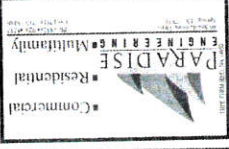
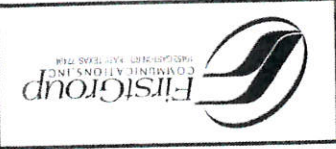
- 1) BEFORE REMOVING SET WORK, THE CONTRACTOR IS REQUIRED TO FIELD "DEEP" THE CONTIGUOUS AND ADJACENT NEIGHBORING UTILITIES AND OTHER FEATURES.
- 2) CONTRACTOR SHALL VERIFY ALL FINISH ELEVATIONS BEFORE PROCEEDING WITH DEMOLITION. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE NOTED.
- 3) CONTRACTOR TO NOTIFY ALL AGENCIES DISTURBED DURING CONSTRUCTION.
- 4) REFER TO DETAIL SHEETS FOR ADDITIONAL NOTES AND INFORMATION.
- 5) REFER TO REPORT PREPARED BY TEXAS GEOTECHNICAL, INC. FOR EXISTING CONSTRUCTION CRITICAL SUBSTANCE PREPARATION AND SOILS INFORMATION.
- 6) CONTRACTOR SHALL FIELD GROUND AND BOD FLUID AT ALL AREAS AND NOTIFY ENGINEER IMMEDIATELY. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER. THE EFFECTS OF DEMOLITION SHALL BE TO AVOID THE EFFECTS OF SUBSURFACE POLLUTION.
- 7) ALL DIMENSIONS ARE TO THE FACE OF CURB OR TOP OF PARAPET.



APPROVED: *[Signature]*
DATE: 12/13/16

DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

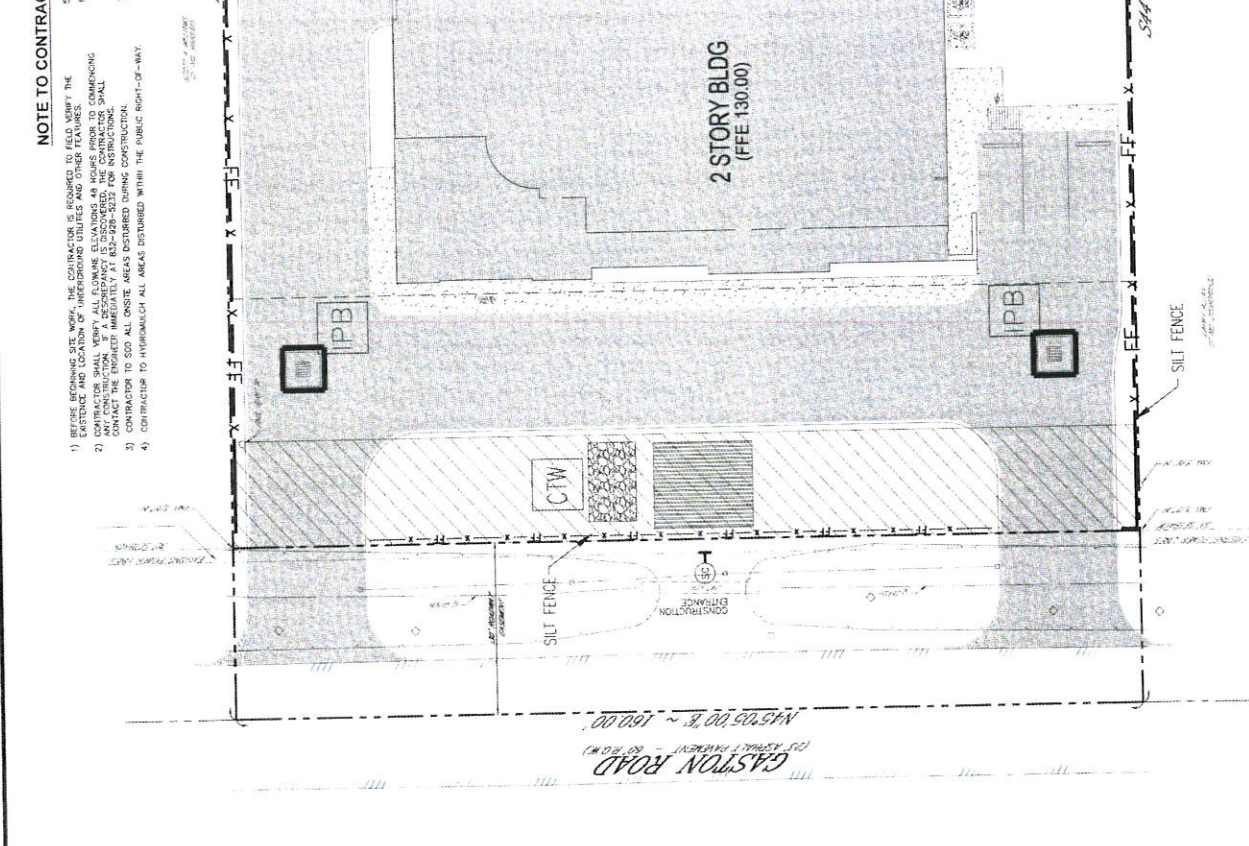
REV.	DATE & DESCRIPTION



SCALE: AS SHOWN
CHECKED BY: HMT
PROJECT: 3000-1
SHEET NO: D-2.0
DATE: 09-07-2016

- LEGEND**
- EXIST. GRADE
 - PROPOSED INLET
 - IRREGULAR AREA DRAINAGE
 - FILTER FABRIC (SILT FENCE)
 - CONCRETE WASHOUT ENTRANCE
 - INLET PROTECTION BARRER

- NOTE TO CONTRACTOR**
- 1) BEFORE BEGINNING SITE WORK, THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND INCLUDES PERIOD TO COMMENCEMENT OF CONSTRUCTION. IF A DISCREPANCY IS DISCOVERED, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY AT 802-498-3333 FOR ASSISTANCE IN CONSTRUCTION.
 - 2) CONTRACTOR TO STOP ALL ON-SITE WORK IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCY TO INTERRUPT ALL AREAS DISTURBED WITHIN THE PUBLIC RIGHT-OF-WAY.
 - 3) REFER TO DETAIL SHEET FOR ADDITIONAL NOTES AND INFORMATION.
 - 4) TO ENSURE PROPER INFILTRATION AND NO FLOODING, ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE HYDROLOGICALLY TO UNIMPAIRED TO UNIMPAIRED BY CONSTRUCTION.
 - 5) A NOTIFICATION OF CONSTRUCTION IN RIGHT-OF-WAY PERMIT WILL BE REQUIRED FOR THE CONSTRUCTION OF ANY INFILTRATION STRUCTURE.
 - 6) ANY INFILTRATION STRUCTURE SHALL BE PERMITTED BY THE PUBLIC RIGHT-OF-WAY.
 - 7) ANY INFILTRATION STRUCTURE SHALL BE PERMITTED BY THE PUBLIC RIGHT-OF-WAY.



NOTE:
SEE SHEET D-3.0 FOR
DETAILS AND LEGEND

APPROVED: *[Signature]*
DATE: 12/15/16

STORM WATER POLLUTION PREVENTION PLAN
SCALE: 1/8" = 1'-0"

DATE: 09-07-2016

PROJECT: 3000-1

SHEET NO: D-2.0

DATE: 09-07-2016



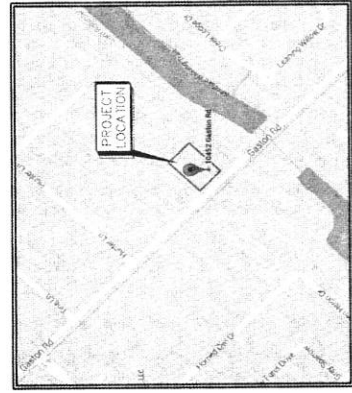
SURVEYING
DOSHI ENGINEERING & SURVEYING COMPANY
CONSULTING ENGINEERS & SURVEYORS
KATY, TEXAS 77494
 OFFICE: (281) 385-8808 FAX: RECONSTRUCTION NO. F-4873

CIVIL ENGINEER

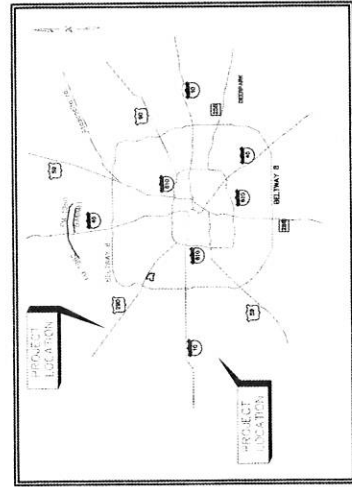
- Commercial
- Residential
- Multifamily

PARADISE ENGINEERING
 178E FIRM REG. NO. 14890
 46 Smokestone Drive, Spring, TX 77831
 PH. (832) • 428 • 4232 FAX (281) • 719 • 8486

- GENERAL NOTES**
1. SHOULD THERE BE DISCREPANCIES BETWEEN THESE DRAWINGS AND APPLICABLE CODES AND ORDINANCES, THE REQUIREMENTS OF THE CODES AND ORDINANCES SHALL PREVAIL.
 2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MANUAL AND SHALL BE IN ACCORDANCE WITH CURRENTLY ACCEPTED PRACTICES FOR SUCH WORK.
 3. THE DESIGN CONTRACTOR IS RESPONSIBLE FOR THE PROVISION OF ALL MATERIALS AND OTHER REVISIONS NECESSARY TO ASSURE A SAFE WORKING ENVIRONMENT.
 4. FOR SPECIFIC NOTES PERTAINING TO THE WORK OF PARTICULAR TRADES, SEE THE APPROPRIATE DRAWINGS FOR SUCH TRADES.



VICINITY MAP
KEY MAP# 484-Q



LOCATION MAP
 FBCAD PROPERTY # 0148-00-116-0000-914
 0149-00-117-0000-914
 0149-00-118-0000-914

DRAWING INDEX

NO.	TITLE
T10	COVER SHEET & DRAWING INDEX
D10	BOUNDARY & TOPOGRAPHICAL SURVEY
C10	CONSTRUCTION
C20	SWEEP & DETAILS
C30	SITE GEOMETRY PLAN
C40	TRAFFIC CONTROL PLAN
C50	SITE GRADING PLAN
C60	SITE DRAINAGE PLAN
C70	DRAINAGE COMPUTATIONS
C80	SITE UTILITY PLAN
C90	CONSTRUCTION NOTES
C100	CONSTRUCTION DETAILS
C110	CONSTRUCTION DETAILS
C120	CONSTRUCTION DETAILS
C130	PRELIMINARY PLAN

FULL-BEND COUNTY ENGINEER
 EXAMINER: *[Signature]*
 DATE: 12/13/16
 I HEREBY CERTIFY THAT THE ABOVE ENGINEER HAS NO COMMUNICATIONS TO BE MADE FROM DATE OF APPROVAL.
 APPROVED: *[Signature]*
 DATE: 12/13/16



REV	DATE	DESCRIPTION



SCALE	AS SHOWN
CHECKED BY:	HMT
PROJECT:	3000-1
SHEET NO.	D-3.0
DATE:	08-07-2015



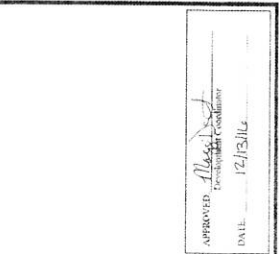
IPB
SYMBOL

INLET PROTECTION BARRIERS FOR STAGE I INLETS



SC
SYMBOL

STABILIZED CONSTRUCTION ACCESS



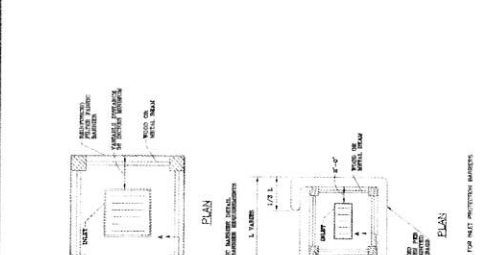
IPB
SYMBOL

INLET PROTECTION BARRIERS FOR STAGE H INLETS

REV	DATE	DESCRIPTION

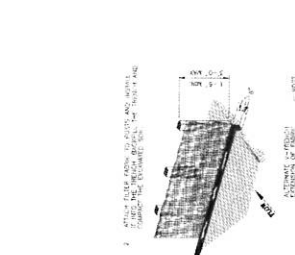


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CHECKED BY:	HMT
PROJECT:	3000-1
SHEET NO.	D-3.0
DATE:	08-07-2015



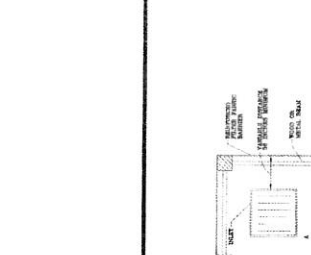
CTW
SYMBOL

CONCRETE TRUCK WASHOUT AREA



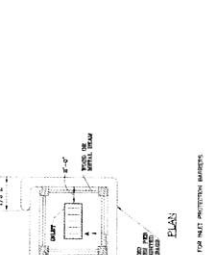
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SYMBOL

FILTER FABRIC FENCE



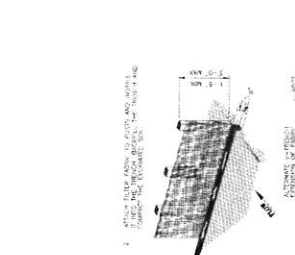
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SYMBOL

STABILIZED CONSTRUCTION ACCESS



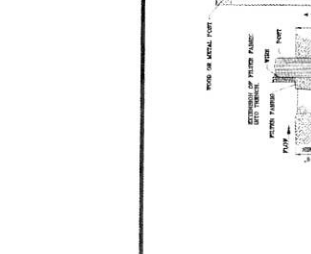
IPB
SYMBOL

INLET PROTECTION BARRIERS FOR STAGE I INLETS



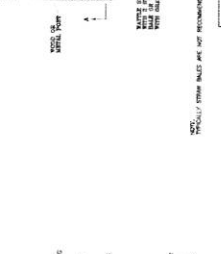
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INLET PROTECTION BARRIERS FOR STAGE H INLETS



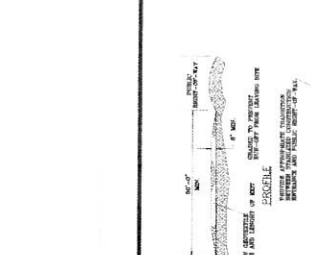
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CONCRETE TRUCK WASHOUT AREA



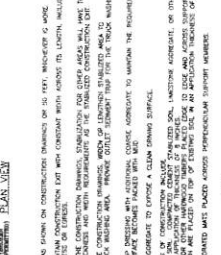
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FILTER FABRIC FENCE



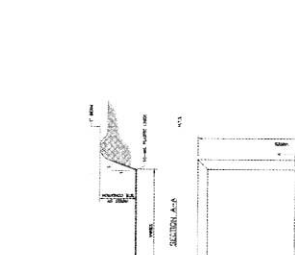
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STABILIZED CONSTRUCTION ACCESS



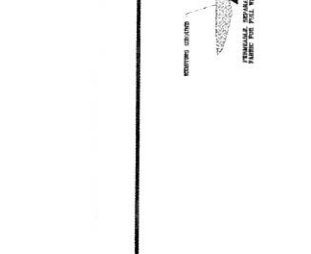
IPB
SYMBOL

INLET PROTECTION BARRIERS FOR STAGE I INLETS



IPB
SYMBOL

INLET PROTECTION BARRIERS FOR STAGE H INLETS



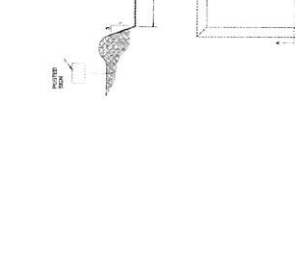
CTW
SYMBOL

CONCRETE TRUCK WASHOUT AREA



FF
SYMBOL

FILTER FABRIC FENCE



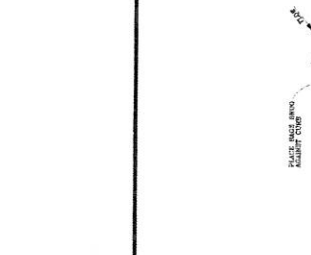
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STABILIZED CONSTRUCTION ACCESS



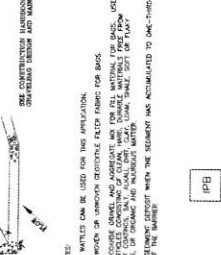
IPB
SYMBOL

INLET PROTECTION BARRIERS FOR STAGE I INLETS



CTW
SYMBOL

CONCRETE TRUCK WASHOUT AREA



FF
SYMBOL

FILTER FABRIC FENCE



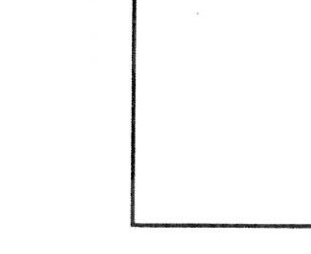
SC
SYMBOL

STABILIZED CONSTRUCTION ACCESS



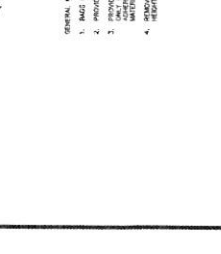
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INLET PROTECTION BARRIERS FOR STAGE I INLETS



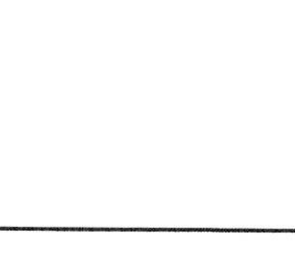
CTW
SYMBOL

CONCRETE TRUCK WASHOUT AREA



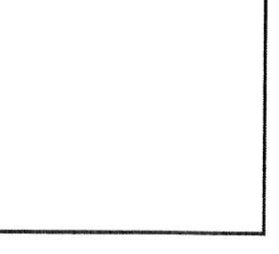
FF
SYMBOL

FILTER FABRIC FENCE



SC
SYMBOL

STABILIZED CONSTRUCTION ACCESS



IPB
SYMBOL

INLET PROTECTION BARRIERS FOR STAGE I INLETS

APPROVED: *David M. Tipton*
 David M. Tipton
 Professional Engineer
 DATE: 12/13/15

SMPPP DETAILS

REV.	DATE & DESCRIPTION

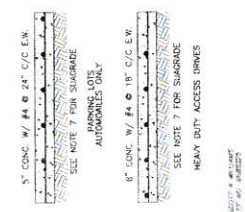


SCALE	AS SHOWN
CHECKED BY	HMT
PROJECT	3000-1
SHEET NO	C-1.0
DATE	08-07-2016

SITE LEGEND

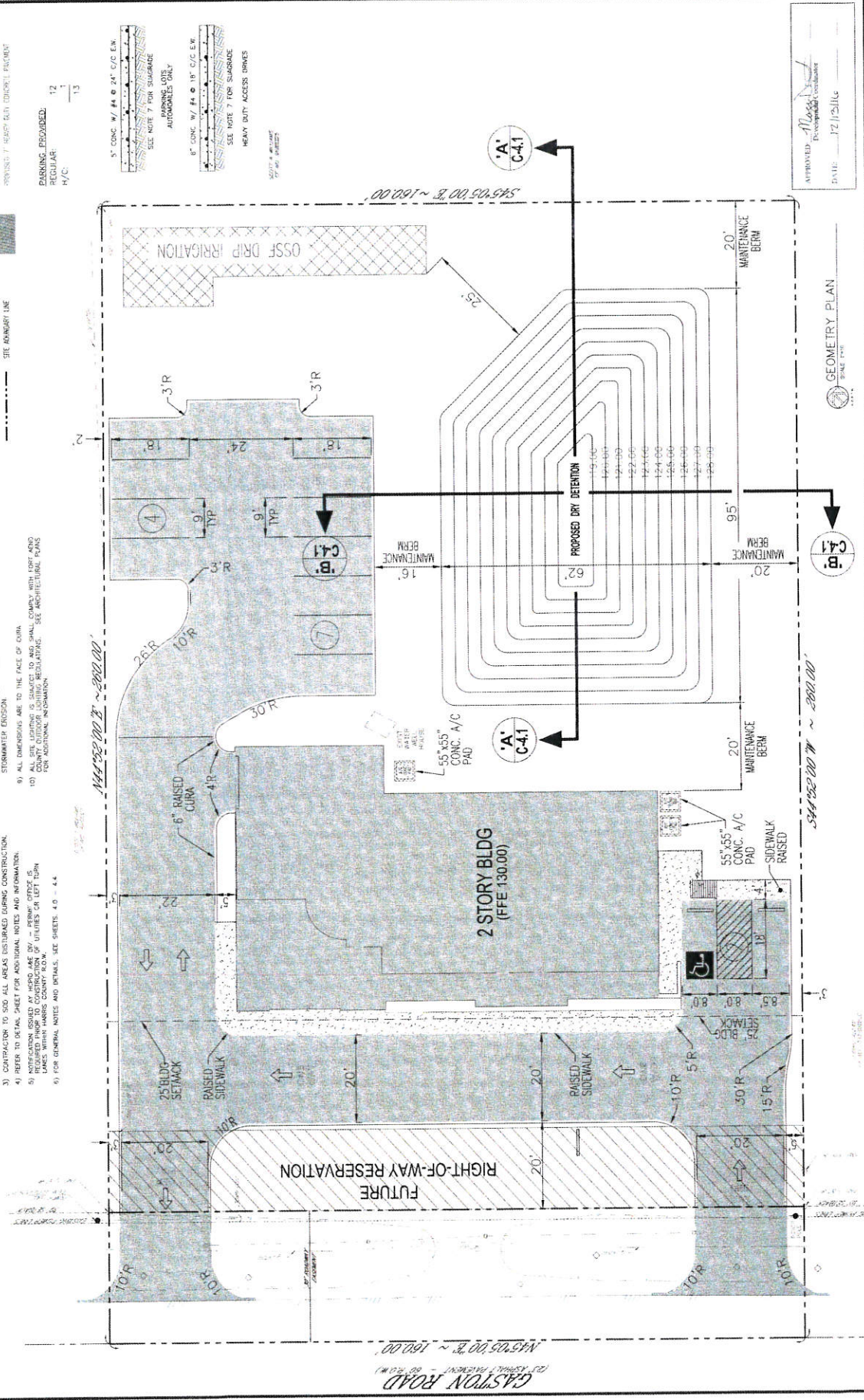
- PROPOSED 5' CONCRETE WALL (W/ 0.5" REIN)
- PROPOSED 5' CONCRETE WALL (W/ 0.5" REBAR)
- PROPOSED 5' READY FORM CONCRETE PAVEMENT

PARKING ENCLOSED:
REGULAR
H/C: 12
13



NOTE TO CONTRACTOR

- 1) BEFORE BEGINNING SITE WORK, THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER FEATURES.
- 2) CONTRACTOR SHALL VERIFY ALL ELEVATION ELEVATIONS AND DIMENSIONS. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR INSTRUCTIONS.
- 3) CONTRACTOR TO SUD ALL AREAS DISTURBED DURING CONSTRUCTION.
- 4) REFER TO DETAIL SHEET FOR ADDITIONAL NOTES AND INFORMATION.
- 5) NOTIFICATION SHOULD ADVISE COUNTY OF UTILITIES ON LEFT SIDE LINES WITH HARRIS COUNTY R.O.W.
- 6) FOR GENERAL NOTES AND DETAILS, SEE SHEET 4.0 - 4.4
- 7) REFER TO REPORT PREPARED BY TEXAS GEOTECHNICAL CONSULTANTS, LLC - NO. 083111 DATED MARCH 30, 2016 FOR ALL DETAILS, FOUNDATIONS, SHORING, BRIDGE PREPARATION AND SOILS INFORMATION.
- 8) CONTRACTOR SHALL FINE GRADE AND ADA MAKE ALL AREAS DISTURBED AT CONSTRUCTION TO ENHANCE SOIL CONSTRUCTION SHALL BE INFORMED TO MINIMIZE THE EFFECTS OF STORMWATER DRAINAGE.
- 9) ALL DIMENSIONS ARE TO THE FACE OF CURB.
- 10) ALL SITE LIGHTING IS SUBJECT TO MEET SHALL COMPLY WITH LDP AND FOR ADDITIONAL INFORMATION, SEE ARCHITECTURAL PLAN.



APPROVED: *Moss*
Development Coordinator
DATE: 12/12/16

GEOMETRY PLAN
DATE: 12/12/16

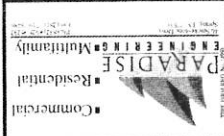
GASTON ROAD
R25 RIGHWAY PARKWAY - 80' R.O.W.
N45°05'00"W ~ 180.00'

N44°52'00"E ~ 200.00'

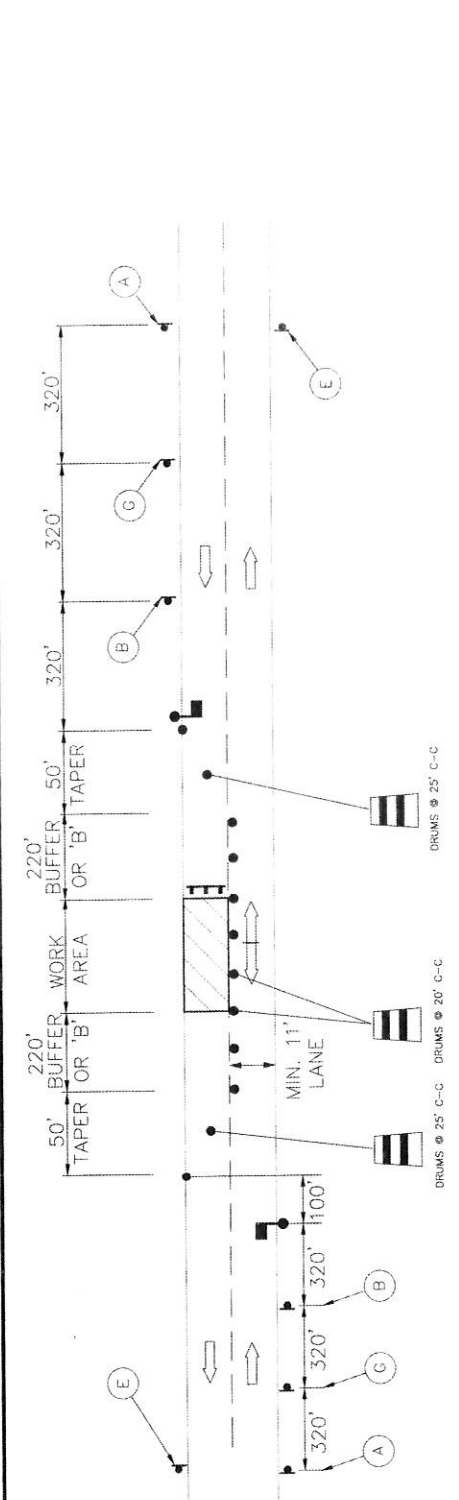
S44°52'00"W ~ 200.00'

S45°05'00"E ~ 180.00'

REV.	DATE	DESCRIPTION



SCALE: AS SHOWN
 DRAWING BY: HMT
 PROJECT: 3000-1
 SHEET NO: C-1.2
 DATE: 05-07-2016



GASTON ROAD
 STREET NAME

45
 SPEED LIMIT

- TRAFFIC NOTES:**
- CONTRACTOR SHALL PROVIDE AND INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH PART V. OF THE TEXAS MANUAL REGULATIONS DURING CONSTRUCTION. ALL TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. APPROXIMATE TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. APPROXIMATE TRAFFIC CONTROL PLAN SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
 - OFF DUTY POLICE OFFICERS/FLAGGERS ARE REQUIRED TO DIRECT TRAFFIC WHEN LANES ARE BLOCKED.
 - CONTRACTOR SHALL MAINTAIN THE EXISTING WORK, STREET, DATE, INDICATORS, AND SIGNAGE TO REMAIN UNCHANGED THROUGHOUT THE CONSTRUCTION PERIOD. IF CHANGES ARE NOT FEASIBLE, USE TRAFFIC FLAGGERS TO DELINEATE OR APPROVED TRAFFIC CONTROL DEVICES TO MAINTAIN THE EXISTING WORK AND SIGNAGE.
 - APPROXIMATE TRAFFIC CONTROL PLAN SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES.
 - CONTRACTOR SHALL MAINTAIN THE EXISTING WORK, STREET, DATE, INDICATORS, AND SIGNAGE TO REMAIN UNCHANGED THROUGHOUT THE CONSTRUCTION PERIOD. IF CHANGES ARE NOT FEASIBLE, USE TRAFFIC FLAGGERS TO DELINEATE OR APPROVED TRAFFIC CONTROL DEVICES TO MAINTAIN THE EXISTING WORK AND SIGNAGE.
 - CONTRACTOR SHALL MAINTAIN THE EXISTING WORK, STREET, DATE, INDICATORS, AND SIGNAGE TO REMAIN UNCHANGED THROUGHOUT THE CONSTRUCTION PERIOD. IF CHANGES ARE NOT FEASIBLE, USE TRAFFIC FLAGGERS TO DELINEATE OR APPROVED TRAFFIC CONTROL DEVICES TO MAINTAIN THE EXISTING WORK AND SIGNAGE.
 - CONTRACTOR SHALL MAINTAIN THE EXISTING WORK, STREET, DATE, INDICATORS, AND SIGNAGE TO REMAIN UNCHANGED THROUGHOUT THE CONSTRUCTION PERIOD. IF CHANGES ARE NOT FEASIBLE, USE TRAFFIC FLAGGERS TO DELINEATE OR APPROVED TRAFFIC CONTROL DEVICES TO MAINTAIN THE EXISTING WORK AND SIGNAGE.

ONE LANE - TWO WAY/FLAGGING OPERATION
 (DAY TIME WORKING HOURS ONLY)

Length for Longitudinal Buffer Posted Speed (mph)	Length in Feet (B)	TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES		
		Sign Spacing "X"	10' Offset	11' Offset
20	55	120'	150'	165'
25	65	160'	205'	225'
30	85	190'	245'	265'
35	120	240'	295'	320'
40	170	320'	495'	540'
45	220	400'	590'	640'
50	280	500'	660'	710'
55	335	550'	710'	760'

* ENGINEER TO STRIKE THROUGH ALL SPEED LIMITS NOT APPLICABLE

LEGEND (TYPICAL)

- PLASTIC DRUM (see spacing for channelization devices)
- OFF-DUTY UNIFORMED POLICE OFFICER
- TYPE III BARRICADE
- FLASHING ARROW PANEL (Optional)
- TUBULAR MARKER

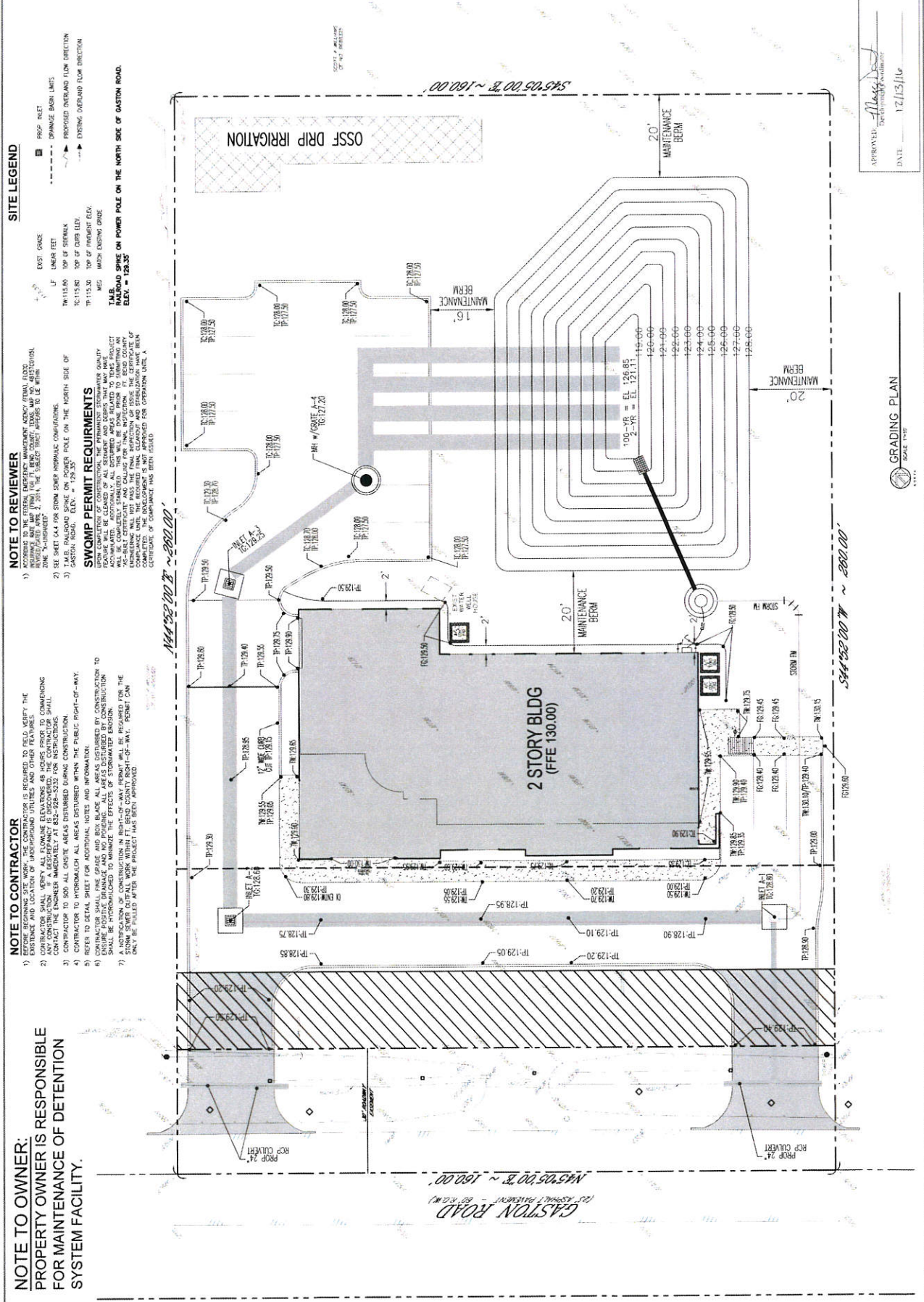
SPACING OF CHANNELIZATION DEVICES

Posted Speed (mph)	Sign Spacing "X"	10' Offset	11' Offset	12' Offset
20	120'	150'	165'	180'
25	160'	205'	225'	245'
30	190'	245'	265'	290'
35	240'	295'	320'	345'
40	320'	495'	540'	590'
45	400'	590'	640'	690'
50	500'	660'	710'	760'
55	550'	710'	760'	810'

TRAFFIC CONTROL DEVICES

- ROAD WORK AHEAD (S-1)
- END ROAD WORK (S-2)
- ROAD WORK AHEAD (S-1)
- END ROAD WORK (S-2)
- ROAD WORK AHEAD (S-1)
- END ROAD WORK (S-2)
- ROAD WORK AHEAD (S-1)
- END ROAD WORK (S-2)

APPROVED: *[Signature]*
 DATE: 12/3/16



NOTE TO OWNER:
PROPERTY OWNER IS RESPONSIBLE FOR MAINTENANCE OF DETENTION SYSTEM FACILITY.

NOTE TO CONTRACTOR

- BEFORE BEGINNING SITE WORK, THE CONTRACTOR SHALL BE FAMILIAR WITH THE FIELD AND FIELD VERIFY THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION. A RESPONSE IS REQUIRED. THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION.
- CONTRACTOR TO SOO ALL EXISTING AREAS DISTURBED DURING CONSTRUCTION.
- CONTRACTOR TO HYDROLOGICAL ALL AREAS DISTURBED WITHIN THE PUBLIC RIGHT-OF-WAY.
- REFER TO DETAIL SHEET FOR ADDITIONAL NOTES AND INFORMATION.
- CONTRACTOR SHALL MAINTAIN GRADE AND BOX BLADE ALL AREAS DISTURBED BY CONSTRUCTION TO ORIGINAL GRADE AND FINISH WITHIN 48 HOURS OF COMPLETION OF CONSTRUCTION.
- A NOTIFICATION OF CONSTRUCTION IN RIGHT-OF-WAY PERMIT SHALL BE REQUIRED FOR THE CONSTRUCTION OF ANY STRUCTURE OR UTILITY IN THE RIGHT-OF-WAY PERMIT CAN ONLY BE FILLED AFTER THE PROJECT HAS BEEN APPROVED.

NOTE TO REVIEWER

- ACCORDING TO THE LATEST EXISTING SURVEY RECORDS, THE PROPERTY BOUNDARIES WERE SURVEYED IN 2014. THE SUBJECT TRACT APPLICABLE TO THIS PROJECT IS 100% ACCURATE.
- SEE SHEET C-1 FOR STORM STEP NORMALS CONSIDERATIONS.
- 2.16.R. RAILROAD SPIKE ON POWER POLE ON THE NORTH SIDE OF GASTON ROAD. ELEV. = 129.35'

SWAMP PERMIT REQUIREMENTS

UPON COMPLETION OF CONSTRUCTION, THE PERMANENT ESTIMATED QUALITY OF THE SWAMP SHALL BE MAINTAINED AT OR ABOVE THE ORIGINAL QUALITY. ALL DISTURBED AREAS RELATED TO THIS PROJECT SHALL BE RESTORED TO ORIGINAL OR BETTER QUALITY. ALL DISTURBED AREAS SHALL BE COMPLETELY STABILIZED. THIS WILL BE DONE PRIOR TO SUBMITTING AN APPLICATION FOR SWAMP PERMIT. THE SWAMP PERMIT SHALL BE OBTAINED BEFORE THE DEVELOPMENT IS NOT APPROVED FOR CONSTRUCTION UNTIL A CERTIFICATE OF COMPLIANCE HAS BEEN ISSUED.

SITE LEGEND

- EXISTING DRAINAGE
- PROPOSED DRAINAGE
- PROPOSED BERM LIMITS
- PROPOSED OVERLAND FLOW DIRECTION
- EXISTING OVERLAND FLOW DIRECTION
- TOP OF CURB ELEV.
- TOP OF FINISHT ELEV.
- MUCH EXISTING DRAINAGE

144'52'00" ± ~ 2002.00'

145'05'00" ± ~ 1602.00'

145'05'00" ± ~ 1602.00'

144'52'00" ± ~ 2002.00'

APPROVED: *[Signature]*
DATE: 12/13/16

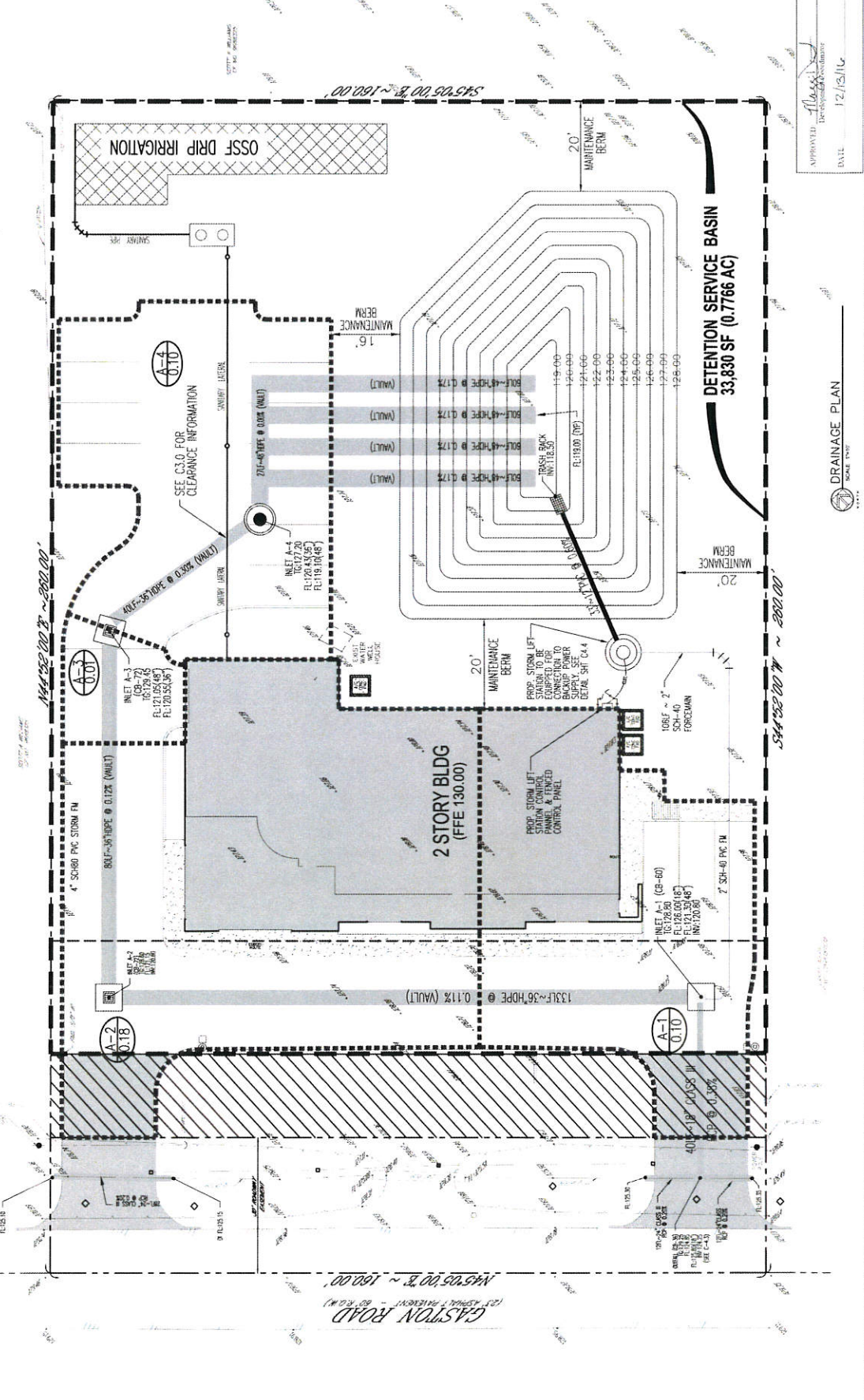
GRADING PLAN
SCALE 1"=20'

NOTE TO OWNER:
 PROPERTY OWNER IS RESPONSIBLE
 FOR MAINTENANCE OF DETENTION
 SYSTEM FACILITY.

STORM SEWER TABULATIONS

Drainage Area (Acres)	Inlet Area (Acres)	Inlet Coefficient (C _i)	Inlet CA (Acres)	Time of CA (min)	Time of Land Contribution (min)	System CA (Acres)	System Intensity (in/hr)	Inlet Intensity (in/hr)	Inlet Flow (cfs)	Peak Flow (cfs)	Slope (ft/ft)	Section Size (D.I.)	Actual Pipe Velocity (ft/s)	Design Full Capacity (ft ³ /s)	Length (ft)	Material	Manholes	NOI of Manholes (ft)	NOI of Invert Elevation (ft)	Up Invert Elevation (ft)	Down Invert Elevation (ft)	Curve (ft)
4.1	0.100	0.85	0.10	21.87	11.30	0.27	3.05	3.05	3.17	29.40	0.14	36.00	3.17	29.40	333	HDPE	0.013	128.70	128.70	127.50	127.15	4.50
4.2	0.100	0.85	0.10	22.09	11.30	0.27	3.05	3.05	3.17	29.40	0.14	36.00	3.17	29.40	333	HDPE	0.013	128.70	128.70	127.50	127.15	4.50
4.3	0.100	0.85	0.10	19.44	11.30	0.27	3.05	3.05	3.17	29.40	0.14	36.00	3.17	29.40	333	HDPE	0.013	128.70	128.70	127.50	127.15	4.50
4.4	0.100	0.85	0.10	21.87	11.30	0.27	3.05	3.05	3.17	29.40	0.14	36.00	3.17	29.40	333	HDPE	0.013	128.70	128.70	127.50	127.15	4.50

LEGEND
 --- TOP OF NATURAL GROUND
 --- EXISTING GRADE
 --- DRAINAGE BASIN LIMITS
 --- RAILROAD SPIKE ON POWER POLE ON THE NORTH SIDE OF GASTON ROAD
 --- 12/13/16



REV. DATE & DESCRIPTION

Commercial
Residential
Paradise Engineering
 1318 SPINTER OAK DR HOUSTON, TEXAS 77065
 PH 281-221-9516

T K W DESIGNS
 1318 SPINTER OAK DR HOUSTON, TEXAS 77065
 PH 281-221-9516

AS SHOWN
 CHECKED BY: HMT
 PROJECT: 3000-1
 SHEET NO: C-2.1
 DATE: 09-07-2016

APPROVED: [Signature]
 DATE: 12/13/16

DRAINAGE PLAN
 SCALE: 1"=40'

STORMWATER DETENTION VOLUME DETERMINATIONS

100-YR ICRP MODEL	13.000
2-YR ICRP MODEL	1.000
100-YR ICRP MODEL	13.000
2-YR ICRP MODEL	1.000
100-YR ICRP MODEL	13.000
2-YR ICRP MODEL	1.000
100-YR ICRP MODEL	13.000
2-YR ICRP MODEL	1.000
100-YR ICRP MODEL	13.000
2-YR ICRP MODEL	1.000

PROPOSED CONDITIONS HYDROLOGY - ICRP MODEL

100-YR / 24-HR
RETURN EVENT
Simulations: 100-YR
Flow Rate: 1.00 CFS
Peak Flow: 1.00 CFS
Peak Time: 0.00 HRS

2-YR / 24-HR
RETURN EVENT
Simulations: 2-YR
Flow Rate: 0.05 CFS
Peak Flow: 0.05 CFS
Peak Time: 0.00 HRS

PROPOSED CONDITIONS - 2 YEAR ICRP MODEL
Name: 2-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

PROPOSED CONDITIONS - 100 YEAR ICRP MODEL
Name: 100-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

NOTE TO REVIEWER: DEVELOPED PROPERTY...
REF FLOOD STATION 6.41 FOR DRAINAGE AREAS LESS THAN 50 ACRES
C_{up} = (0.168 AS) X (0.725 CFS/AS) = 0.071 CFS (4.31 GPM)

APPROVED: [Signature]
DATE: 12/15/16

ICRP MODEL INPUT

Name: 2-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

Name: 100-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

RAILING CURVES
Name: 2-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

RAILING CURVES
Name: 100-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

RAILING CURVES
Name: 2-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

RAILING CURVES
Name: 100-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000

RAILING CURVES
Name: 2-YR ICRP
Group: Run
Time (hrs): 18.000
Peak (inches): 60.000
Run (inches): 15.000



Code	Description	Area (sq ft)	Area (ac)
1	Impervious	100000	2.28
2	Permeable	100000	2.28
3	Water	100000	2.28
4	Other	100000	2.28

Code	Description	Area (sq ft)	Area (ac)
1	Impervious	100000	2.28
2	Permeable	100000	2.28
3	Water	100000	2.28
4	Other	100000	2.28

Code	Description	Area (sq ft)	Area (ac)
1	Impervious	100000	2.28
2	Permeable	100000	2.28
3	Water	100000	2.28
4	Other	100000	2.28

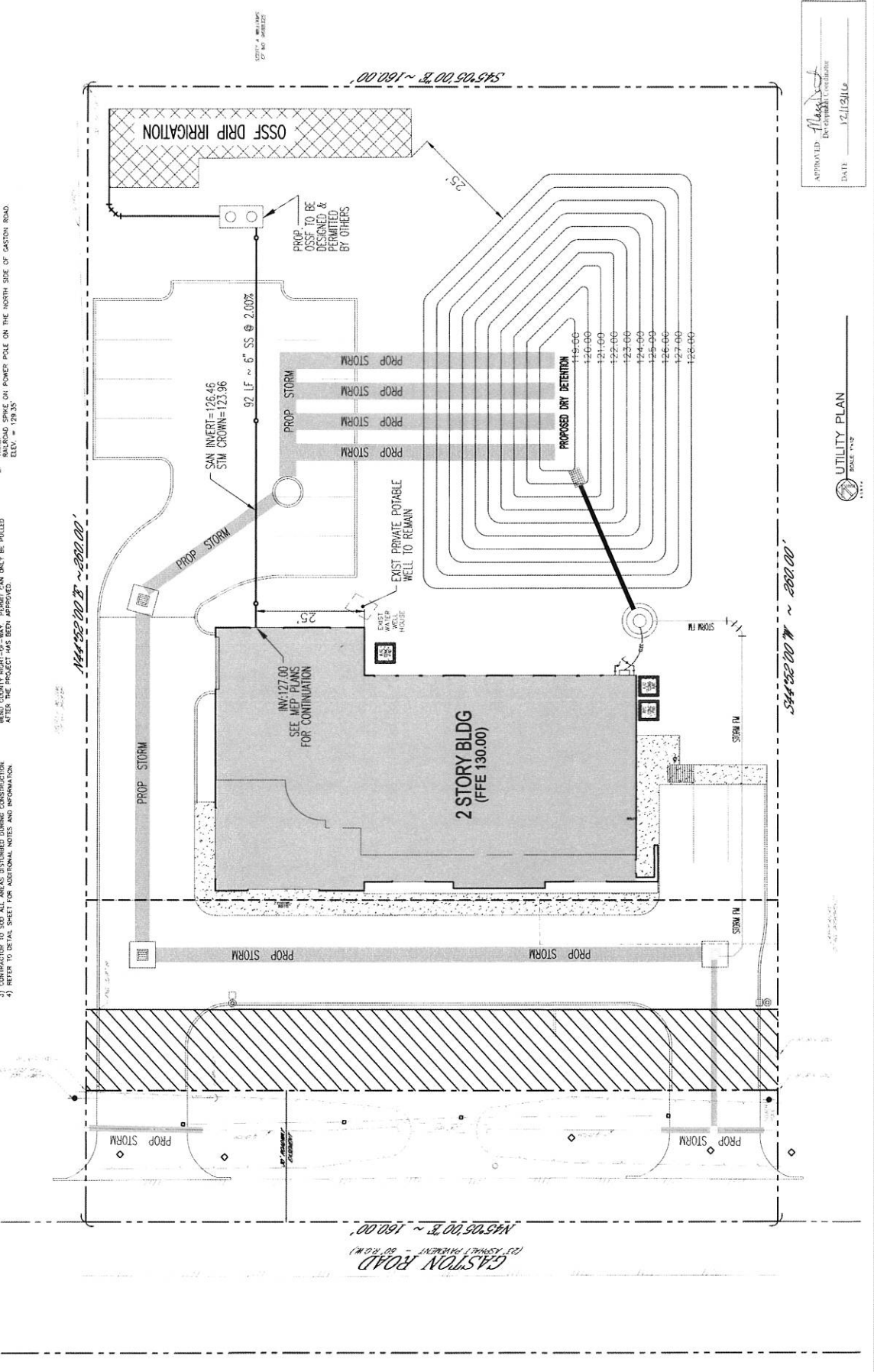
Code	Description	Area (sq ft)	Area (ac)
1	Impervious	100000	2.28
2	Permeable	100000	2.28
3	Water	100000	2.28
4	Other	100000	2.28

NOTE TO CONTRACTOR

- 1) BEFORE BEGINNING SITE WORK, THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES.
- 2) CONTRACTOR SHALL VERIFY ALL ELEVATION ELEVATIONS 48 HOURS BEFORE CONSTRUCTION BEGINS. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY AT 832-808-5533 FOR INSTRUCTIONS.
- 3) REFER TO DETAIL SHEET FOR ADDITIONAL NOTES AND INFORMATION.

NOTE TO REVIEWER

1. CONTRACTOR SHALL FINE GRAYE AND BOY BLADE ALL AREAS DISTURBED BY CONSTRUCTION TO ENSURE POSITIVE DRAINAGE TO THE STREET. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DAMAGE TO THE STREET. THIS FLOOD STATEMENT DOES NOT IMPLY THAT THE ENGINEER HAS INSPECTED THE WORK OR THAT THE ENGINEER HAS DAMAGED THIS FLOOD STATEMENT SHALL NOT CREATE LIABILITY ON THE PART OF THE ENGINEER.
2. A NOTIFICATION OF CONSTRUCTION IN RIGHT-OF-WAY PERMIT WILL BE REQUIRED FOR THE FORM SEWER DUTAIL WORK WITHIN 11' OF THE STREET. THE PERMIT SHALL BE OBTAINED AND BE FILLED AFTER THE PROJECT HAS BEEN APPROVED.



APPROVED: *Alexander*
DATE: 12/12/16

UTILITY PLAN
SCALE: N/A

First Band County Engineering
1411 BRUNSON DRIVE
FORT WORTH, TEXAS 76104
Phone: 817.335.1111
www.fbceng.com



First Band County
Construction - General Notes

- 1. For steel concrete walls to be used for the concrete structure member.
2. Concrete shall meet the minimum compressive strength of 4000 psi at 28 days.
3. All concrete shall be placed in accordance with the approved concrete placement plan.
4. All rebar shall be placed in accordance with the approved rebar placement plan.
5. All rebar shall be lap spliced in accordance with the approved rebar placement plan.
6. All rebar shall be lap spliced in accordance with the approved rebar placement plan.
7. All rebar shall be lap spliced in accordance with the approved rebar placement plan.
8. All rebar shall be lap spliced in accordance with the approved rebar placement plan.
9. All rebar shall be lap spliced in accordance with the approved rebar placement plan.
10. All rebar shall be lap spliced in accordance with the approved rebar placement plan.

TRAFFIC CONTROL NOTES

- 1. CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. ALL TRAFFIC CONTROL DEVICES SHALL BE PLACED IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE PLACED IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ALL TRAFFIC CONTROL DEVICES SHALL BE PLACED IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

STORM SEWER CONSTRUCTION NOTES

- 1. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.
2. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.
3. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.
4. ALL STORM SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.

WASTEWATER CONSTRUCTION NOTES

- 1. SANITARY SEWERS AND MANHOLES SHALL BE CONSTRUCTED, UNDEVELOPED, UNBUTTERED AND UNLINED.
2. SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.
3. SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.
4. SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.

CAUTION UNDERGROUND GAS FACILITIES

- 1. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF 29 CFR 1910.146.
2. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF 29 CFR 1910.146.
3. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF 29 CFR 1910.146.

GENERAL CONSTRUCTION NOTES

- 1. ALL UTILITIES SHOWN ARE IN REFERENCE TO THE BENCHMARK AS NOTED ON THESE PLANS AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
2. ALL UTILITIES SHOWN ARE IN REFERENCE TO THE BENCHMARK AS NOTED ON THESE PLANS AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
3. ALL UTILITIES SHOWN ARE IN REFERENCE TO THE BENCHMARK AS NOTED ON THESE PLANS AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.

CAUTION OVERHEAD ELECTRICAL CABLES

- 1. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL OVERHEAD ELECTRICAL CABLES.
2. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL OVERHEAD ELECTRICAL CABLES.
3. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL OVERHEAD ELECTRICAL CABLES.

CAUTION UNDERGROUND TELEPHONE UTILITIES

- 1. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UNDERGROUND TELEPHONE UTILITIES.
2. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UNDERGROUND TELEPHONE UTILITIES.
3. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UNDERGROUND TELEPHONE UTILITIES.

CAUTION UNDERGROUND GAS FACILITIES

- 1. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF 29 CFR 1910.146.
2. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF 29 CFR 1910.146.
3. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF 29 CFR 1910.146.

WATER CONSTRUCTION

- 1. ALL WATER LINES TO HAVE A MINIMUM OF FIVE (5) FEET OF COVER TO TOP OF GRADE.
2. ALL WATER LINES TO HAVE A MINIMUM OF FIVE (5) FEET OF COVER TO TOP OF GRADE.
3. ALL WATER LINES TO HAVE A MINIMUM OF FIVE (5) FEET OF COVER TO TOP OF GRADE.

CONSTRUCTION NOTES FOR ALL PROJECTS LOCATED IN THE 100 YEAR FLOOD PLAIN OR BELOW THE BASE FLOOD ELEVATION.

- 1. NO SET BACKS TO BE OBSERVED.
2. ALL FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.
3. ALL FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.
4. ALL FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 1910 DRAINAGE CODE.

GENERAL CONSTRUCTION PERMIT NOTES

- 1. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UTILITIES.
2. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UTILITIES.
3. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UTILITIES.

GENERAL CONSTRUCTION PERMIT NOTES

- 1. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UTILITIES.
2. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UTILITIES.
3. CONTRACTOR SHALL MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ALL UTILITIES.

APPROVED: [Signature]

DATE: 12/15/16

APPROVED: [Signature]

REV.	DATE	DESCRIPTION

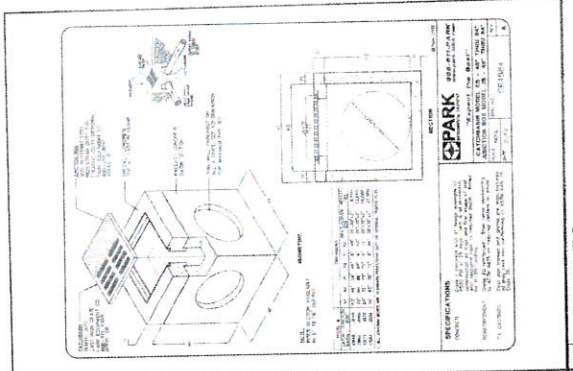


Commercial
Residential
MULTIFAMILY

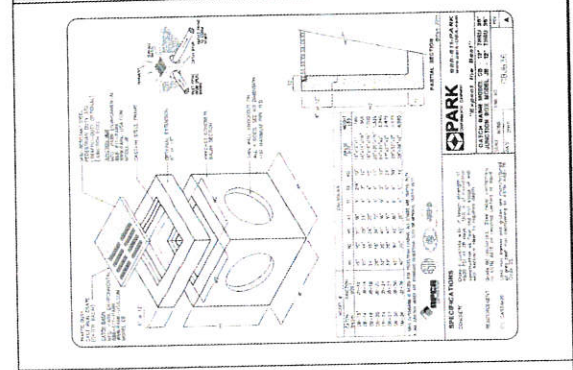
T K W
DESIGNS
13703 SHELTERED OAK CTR
HOUSTON TEXAS 77065
PH 281-271-9519



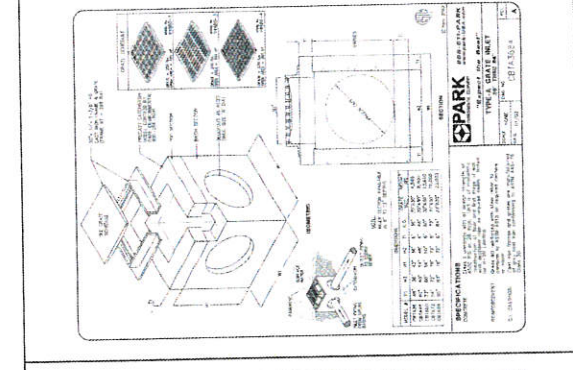
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PROJECT: 3000-1
SHEET NO: C-4.2
DATE: 09-07-2016



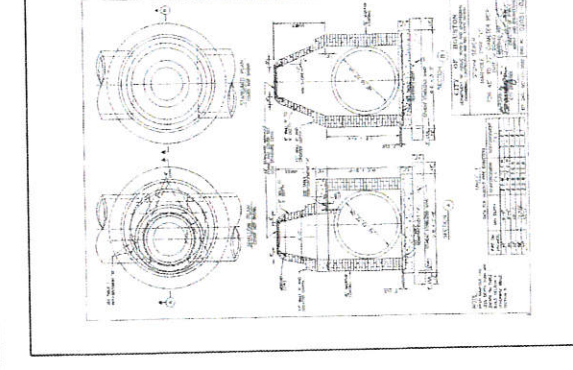
5 INLET DETAILS



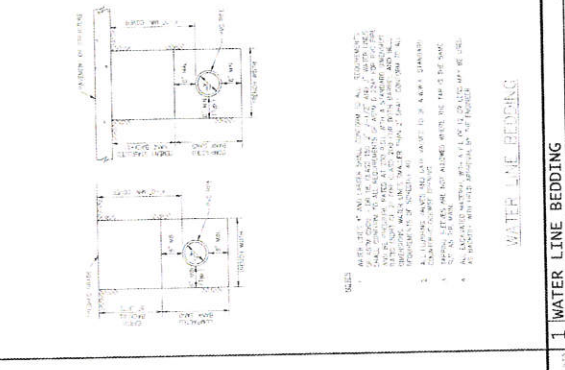
6 INLET DETAILS



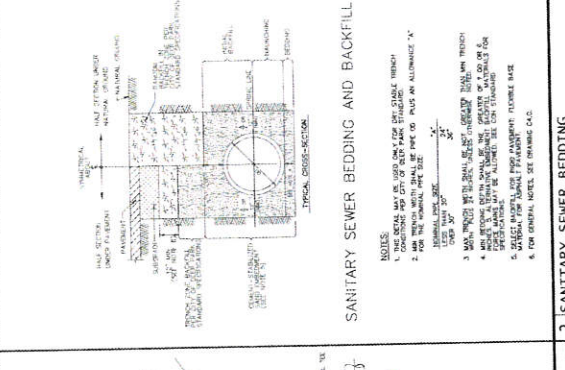
7 INLET DETAILS



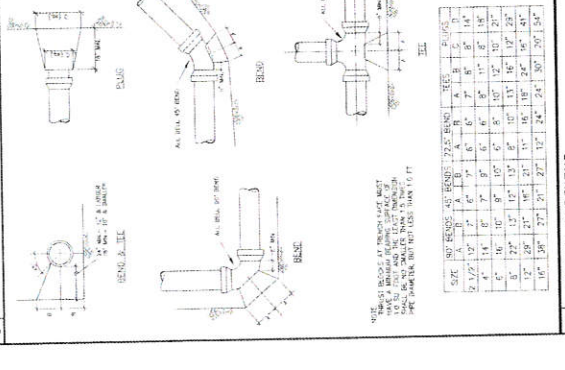
8 INLET DETAILS



1 WATER LINE BEDDING



2 SANITARY SEWER BEDDING



3 THRUST BLOCKING

APPROVED: *[Signature]*
DATE: 12/15/16

REV. DATE & DESCRIPTION

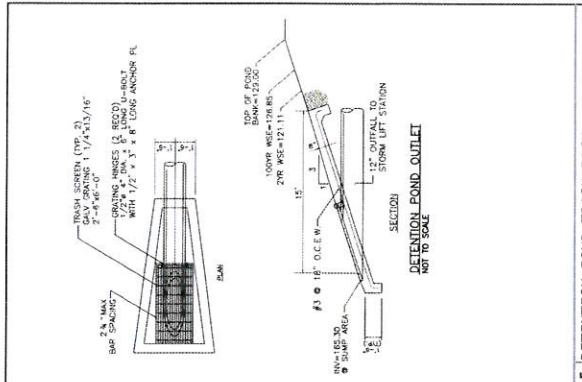


Commercial
 PARADISE
 Residential
 PH: 281-221-9515

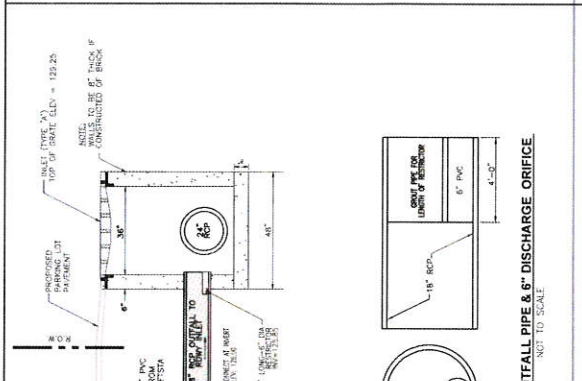
T K W
 DESIGNS
 13318 SHERRILL CIRCLE
 HOUSTON, TEXAS 77055



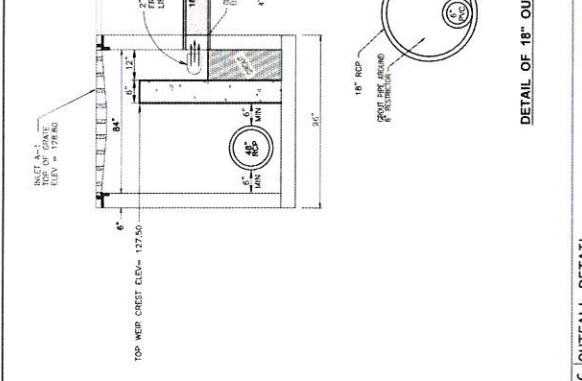
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 CHECKED BY: HMT
 PROJECT: 3000-1
 SHEET NO: C-4.3
 DATE: 08-07-2016



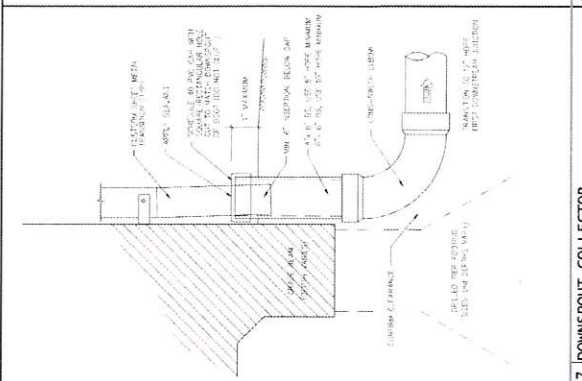
1 DETENTION POND TRASH RACK
 NOT TO SCALE



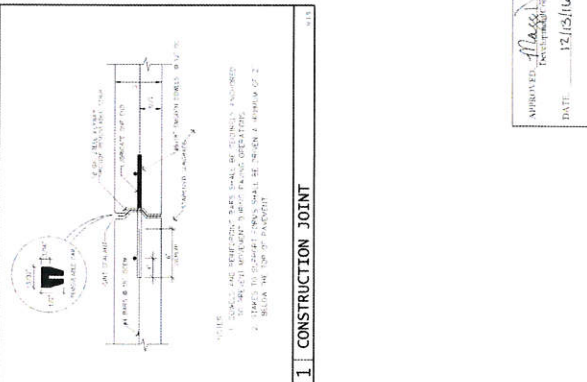
2 DETAIL OF 18\"/>
 NOT TO SCALE



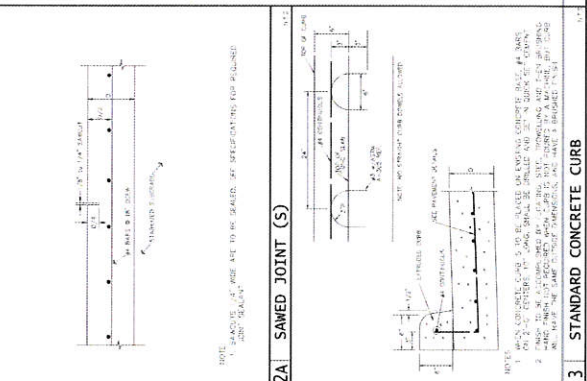
3 OUTFALL DETAIL
 NOT TO SCALE



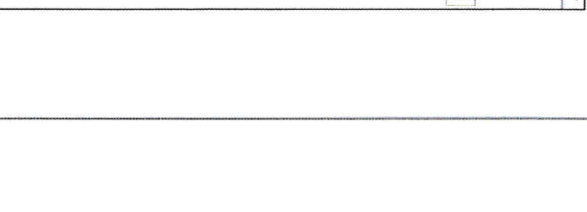
4 DOWNSPOUT COLLECTOR
 NOT TO SCALE



5 CONSTRUCTION JOINT
 NOT TO SCALE



6 STANDARD CONCRETE CURB
 NOT TO SCALE



7 INLET / MANHOLE BLOCKOUT
 NOT TO SCALE

APPROVED: *[Signature]*
 DATE: 12/15/16

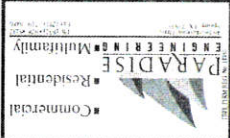
NOTES:
 1. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN FEET AND INCHES.
 2. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.
 3. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED.

NOTES:
 1. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN FEET AND INCHES.
 2. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.
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 2. DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.
 3. DIMENSIONS TO CENTER UNLESS OTHERWISE SPECIFIED.

REV.	DATE	DESCRIPTION



SCALE: AS SHOWN
 CHECKED BY: HMT
 PROJECT: J000-1

SHEET NO: C-5.0
 DATE: 09-07-2016

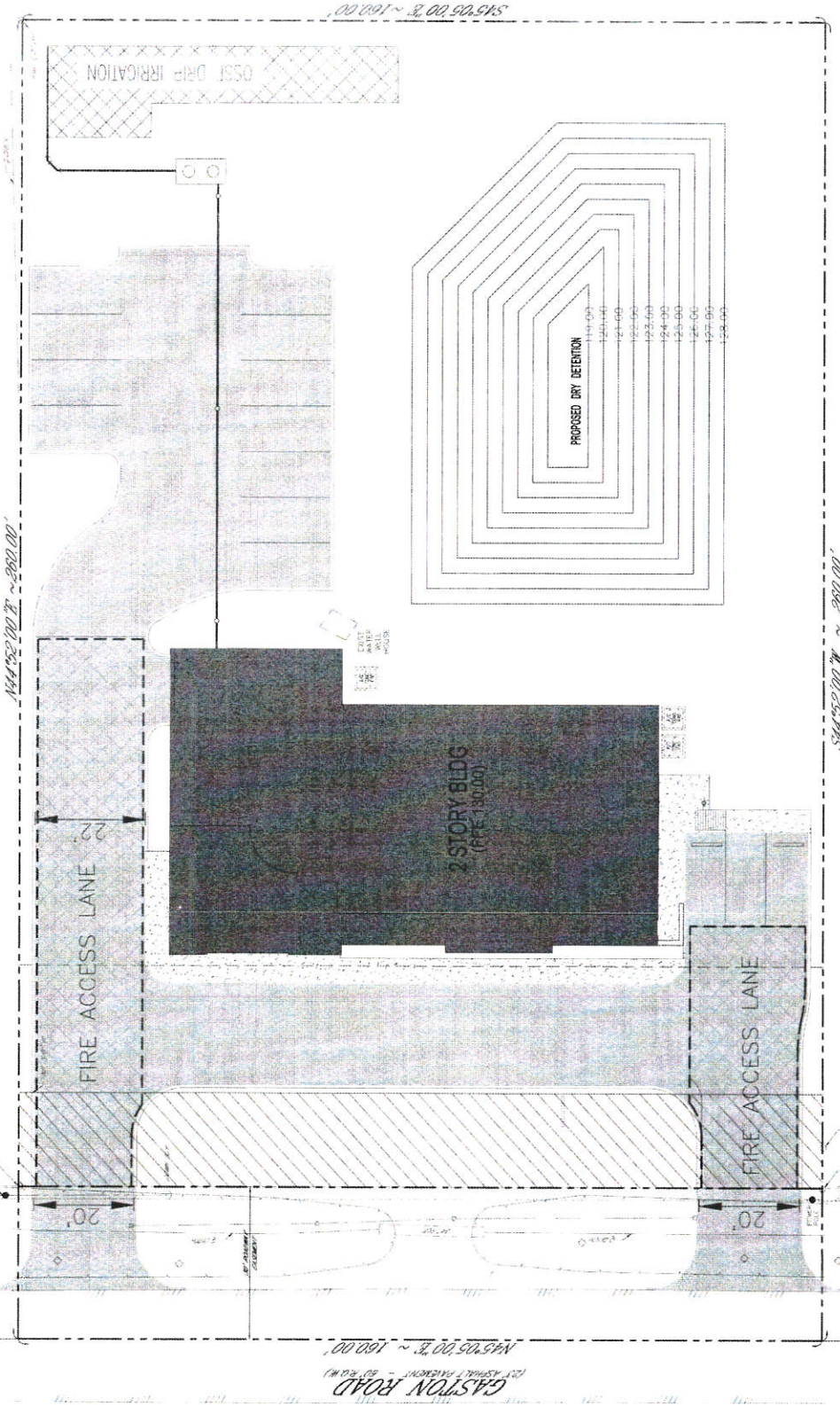
NOTE TO FIRE CODE REVIEWER, INSPECTOR, AND CAPABLE OF SUPPORTING A FIRE LOAD OF FIVE THOUSAND POUNDS PER SQUARE FOOT. APPROXIMATE WEIGHTING SEVENTY-FIVE THOUSAND POUNDS AS PERTAIN TO COUNTY SPECS.



PROP. FIRE ACCESS LANE

1. ALL FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
2. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
3. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
4. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
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6. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.

- NOTES:
1. ALL FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
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 3. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
 4. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
 5. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.
 6. FIRE LANE SURFACES SHALL BE FINISHED WITH A 2" THICK CONCRETE SLAB ON GRADE.



APPROVED: [Signature]
 DATE: 12/15/16

FIRE LANE PLAN
 SCALE: 1" = 20'