

217



CONSENT TO ENCROACHMENT

THE STATE OF TEXAS §
 §
COUNTY OF FORT BEND §

WHEREAS, **FORT BEND COUNTY** (the “Owners”) own that certain tract or parcel of real property and all improvements situated thereon in FORT BEND COUNTY, Texas, and described more fully as:

Fort Bend County right-of-way.

which is described on the attached surveys dated November 28, 2022 through December 6, 2022 and attached hereto as Exhibit “A” and is also known as McKeever Road Fiber Optic Plans (the “Property”); and

WHEREAS, GULF COAST WATER AUTHORITY (“GCWA”) is a conservation and reclamation district and a political subdivision of the State of Texas, having its principal office at 3630 FM 1765, Texas City, Texas 77591; and

WHEREAS, the Property is on or adjacent to certain water over which GCWA has a right of use and access (“GCWA’s Area”); and

WHEREAS, the Owners wish to place a camera pole and fiber optic trunk line (the “Encroachment”) within a portion of GCWA’s Area; and

WHEREAS, the Owners have requested that GCWA give its consent to the Encroachment within GCWA’s Area; and

WHEREAS, the Owners and GCWA wish to set forth in writing their agreements concerning the Encroachment in this Consent to Encroachment (this “Consent”).

AGREEMENT

NOW, THEREFORE, for and in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby expressly acknowledged, the parties agree as follows:

1. GRANT OF LICENSE; TERM. Pursuant to the terms and conditions set forth in this Consent, GCWA, as grantor, hereby grants to the Owners a license for the Owners to maintain on the Property and within GCWA's Area the Encroachment as shown on Exhibit A. The term of this Consent shall begin on the date on which this Consent is executed by GCWA (the "Effective Date") and, unless earlier terminated in accordance with the provisions hereof, shall expire on the thirtieth (30th) anniversary of the Effective Date.

2. TERMINATION OF CONSENT.

A. This Consent, and the license granted to Owners hereunder, shall automatically terminate if the Encroachment is hereafter either (i) removed by the party maintaining the Encroachment, or (ii) substantially destroyed by any cause beyond the control of and without the negligence of the GCWA. For purposes of the foregoing provision, the term "substantially destroyed" means that more than 75% of the Encroachment is damaged or destroyed.

B. GCWA shall have the right to terminate this Consent at any time and for any reason at its sole discretion upon twelve (12) months' prior written notice to Owners.

3. MAINTENANCE AND REPAIRS. The Owners are solely responsible for maintenance, repair and upkeep of the Encroachment and shall reimburse GCWA for any and all damage to GCWA's Area caused by the Encroachment.

4. MISCELLANEOUS. This Consent is intended solely for the benefit of the parties

hereto and shall not create any rights for any third parties. Venue for any action arising out of this Consent shall lie exclusively in the federal or state courts of Fort Bend County, Texas.

5. REQUIRED CONTRACT PROVISIONS. Every contract entered into between the Owners and any builder, supplier, mechanic, material man, laborer, worker, artisan, contractor or subcontractor in conjunction with the Owners' construction, operation, maintenance, inspection, repair, replacement, removal, existence and use of the Encroachment on, about, or attendant to GCWA's Area (a "Contractor") must contain a provision by which the Contractor agrees to defend, indemnify and hold harmless GCWA, its successors and assigns, agents, representatives, and employees ("GCWA Parties") from and against all liability arising from claims, suits, actions, costs (including reimbursement for reasonable attorney's fees and costs of investigation, expenses), damages, losses, fines, interest, penalties, assessments, judgments, demands, causes of action and all litigation/arbitration of any kind or character (individually, a "Claim" and collectively, "Claims") arising out of or in any way caused by, attributed to, resulting from or connected with the Owners' (including Owners' employees, agents, contractors, invitees, and others designated by Owners) construction, operation, maintenance, inspection, repair, replacement, removal, existence and used of said Encroachment on, about, or attendant to GCWA's Area that may be imposed on, incurred by or asserted by a third party against the GCWA Parties including any Claim alleged to be caused in whole or in part by the negligence or other wrongful act of a GCWA Party.

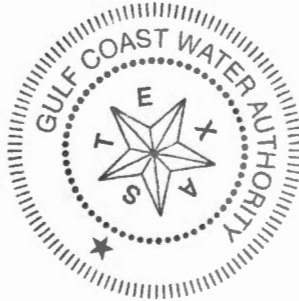
6. DISCHARGE OF LIENS. The Owners will not create or permit to be created or remain, and will discharge, at the Owners' sole cost and expense, any and all liens, encumbrances or charges levied on account of any builder's, supplier's, mechanic's, laborer's, materialmen's or similar lien that might become a lien, encumbrance, or charge upon GCWA's Area or any property belonging

to GCWA. If any such liens, encumbrances or charges shall at any time be filed against GCWA's Area or any property belonging to GCWA as a result of the Encroachment, the Owners will cause, within thirty (30) days' of written demand by GCWA, the same to be fully discharged and released of record by payment, deposit, bond, order of a court of competent jurisdiction, or otherwise.

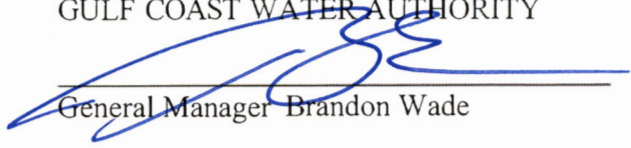
7. EXPANSION OF ENCROACHMENT PROHIBITED. The Owners agree for themselves, and for their successors, assigns, and grantees, that they will not expand nor modify the Encroachment within GCWA's Area without the prior express written consent of GCWA and, unless otherwise expressly provided herein, any construction within GCWA's Area shall be performed in full compliance with the GCWA requirements and applicable zoning regulations.

8. ASSIGNMENT. The exercise and enjoyment by Owners' successors, assigns, and grantees of the rights and privileges to which GCWA has herein granted its consent shall constitute affirmative acceptance by such successors, assigns, and grantees of the terms and conditions herein contained; provided, however, that GCWA hereby requires, for itself, and its successors and assigns, that any such successor, assign, or grantee must further signify acceptance of such terms and conditions by execution of a Consent to Encroachment in recordable form, and payment to GCWA of the applicable fee therefor, and should any such successor, assign, or grantee refuse to execute such Consent to Encroachment and pay such fee, upon thirty (30) days' prior written notice from GCWA, the rights and privileges herein consented to shall thereupon automatically terminate and shall be of no further force and effect.

IN WITNESS WHEREOF, the Owners and GCWA have executed this Consent as of the respective acknowledgment dates set forth below, to become effective for all purposes as of the Effective Date.

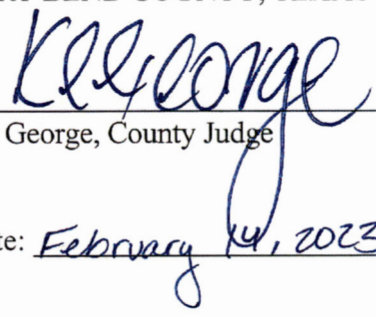


GULF COAST WATER AUTHORITY


General Manager Brandon Wade

Date: March 16, 2023

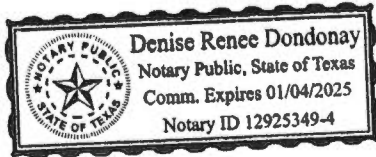
FORT BEND COUNTY, TEXAS


KP George, County Judge

Date: February 14, 2023

THE STATE OF TEXAS §
 §
COUNTY OF Galveston §

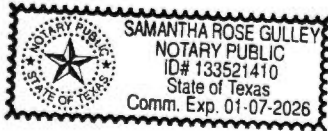
This instrument was acknowledged before me on the 16th day of March, 2023, by Brandon Wade, the General Manager of Gulf Coast Water Authority, a conservation and reclamation district and a political subdivision of the State of Texas, on behalf of said conservation and reclamation district.



Denise Renee Dondonay
Notary Public In and For the State of Texas

THE STATE OF TEXAS §
 §
COUNTY OF FORT BEND §

This instrument was acknowledged before me on the 14th day of February, 2023, by KP George, County Judge of Fort Bend County, Texas, on behalf of said county.

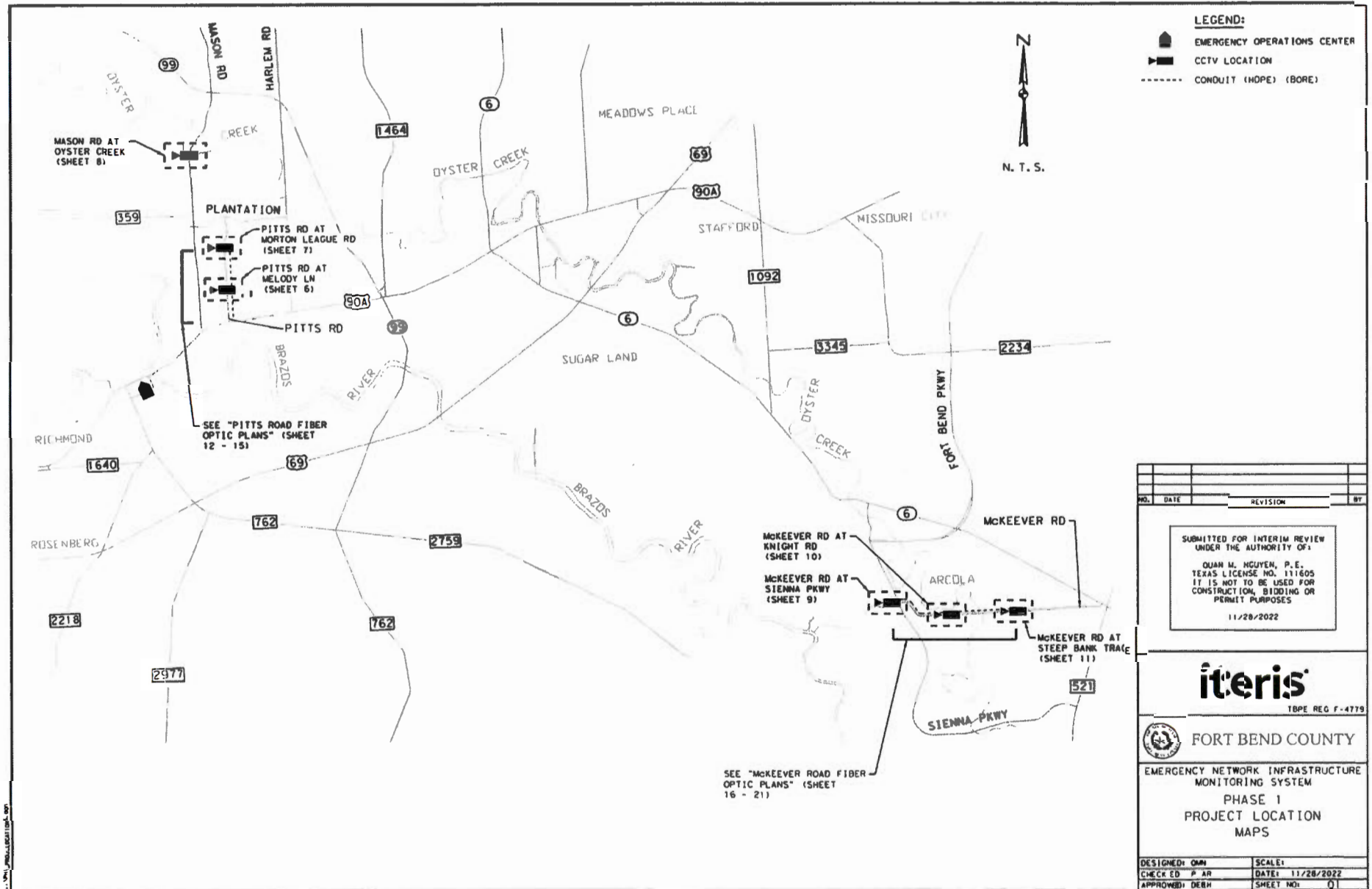


Samantha Rose Gulley
Notary Public In and For the State of Texas

Exhibit A

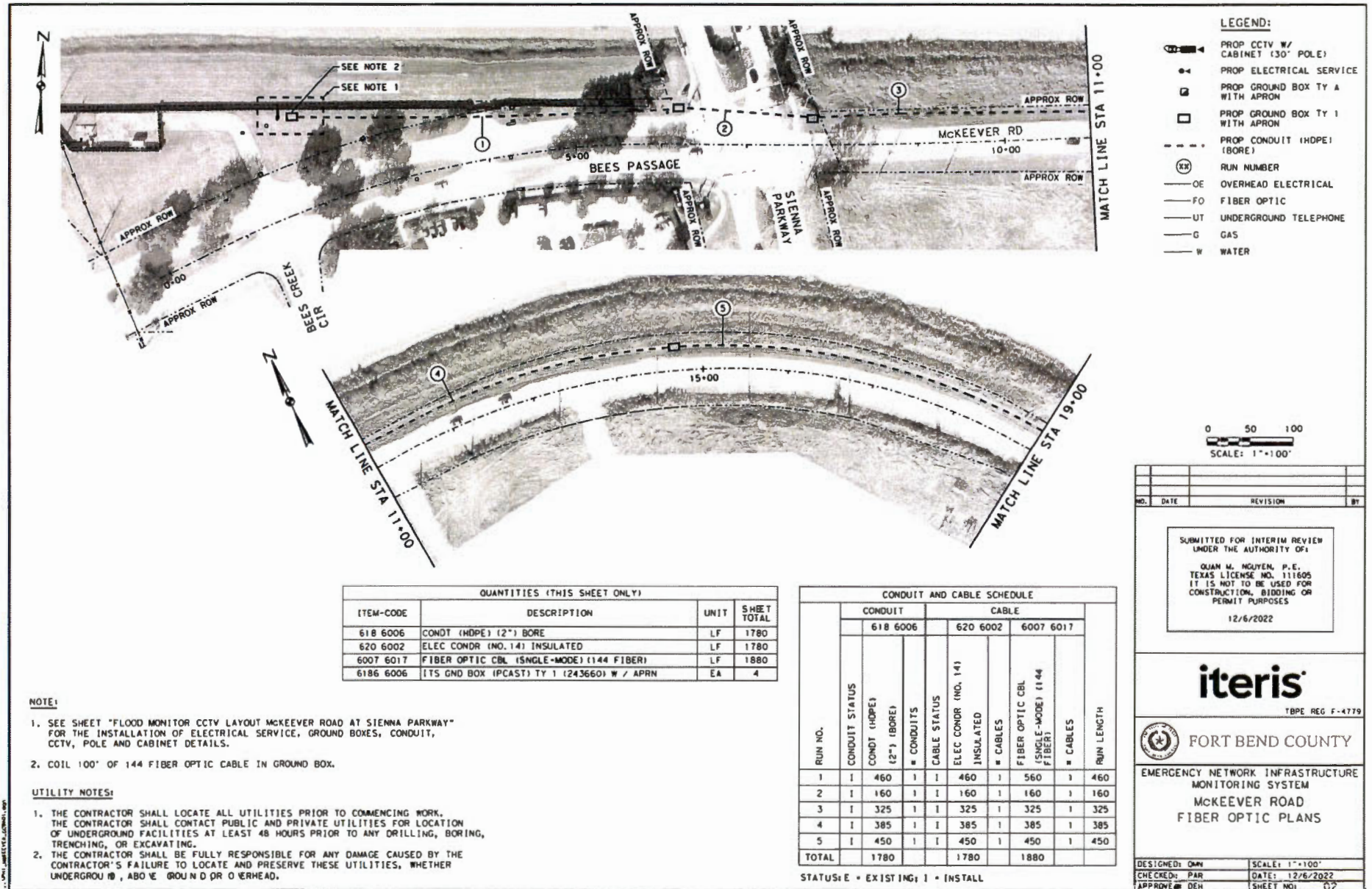
RECORDER'S MEMORANDUM

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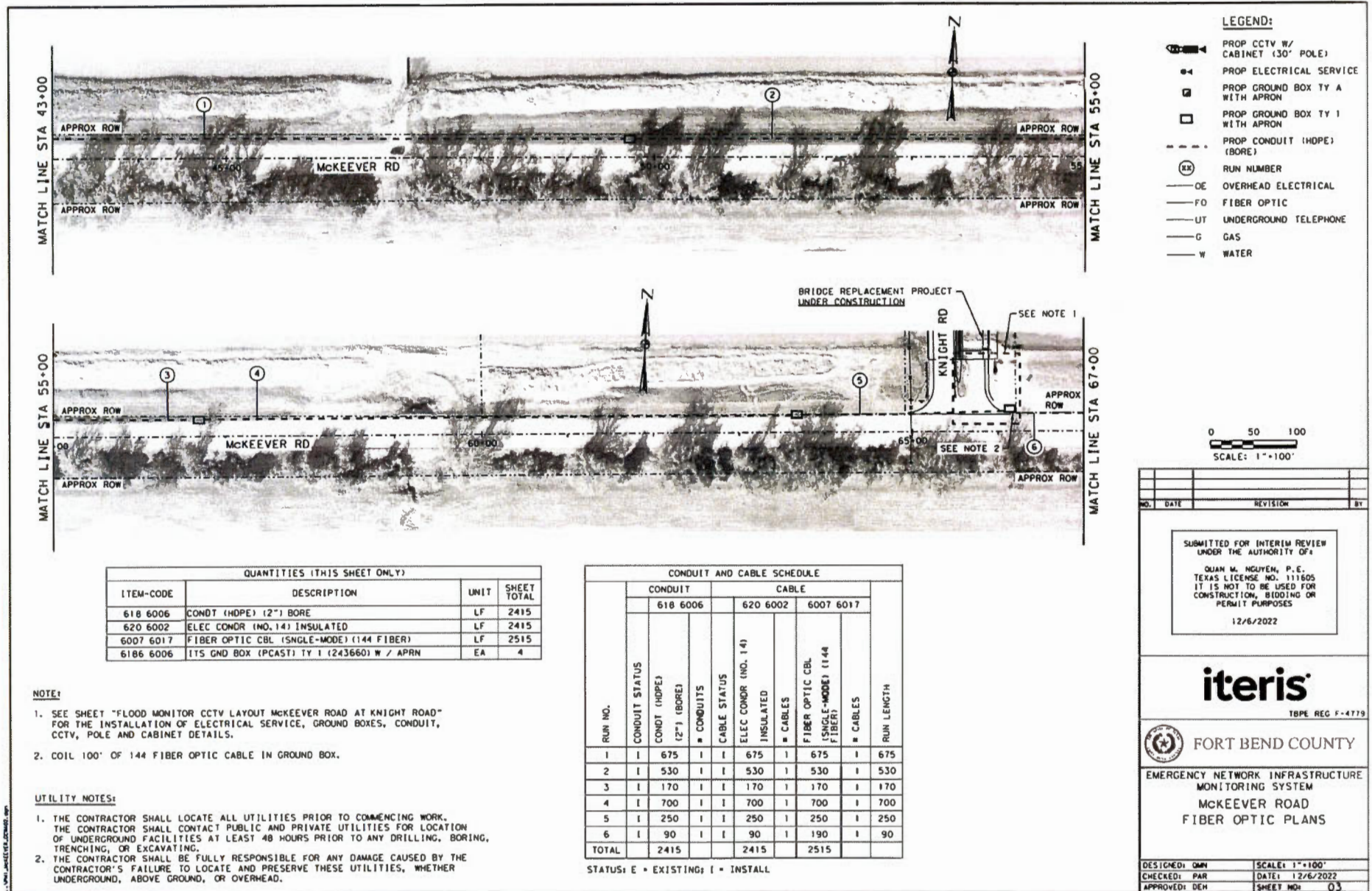
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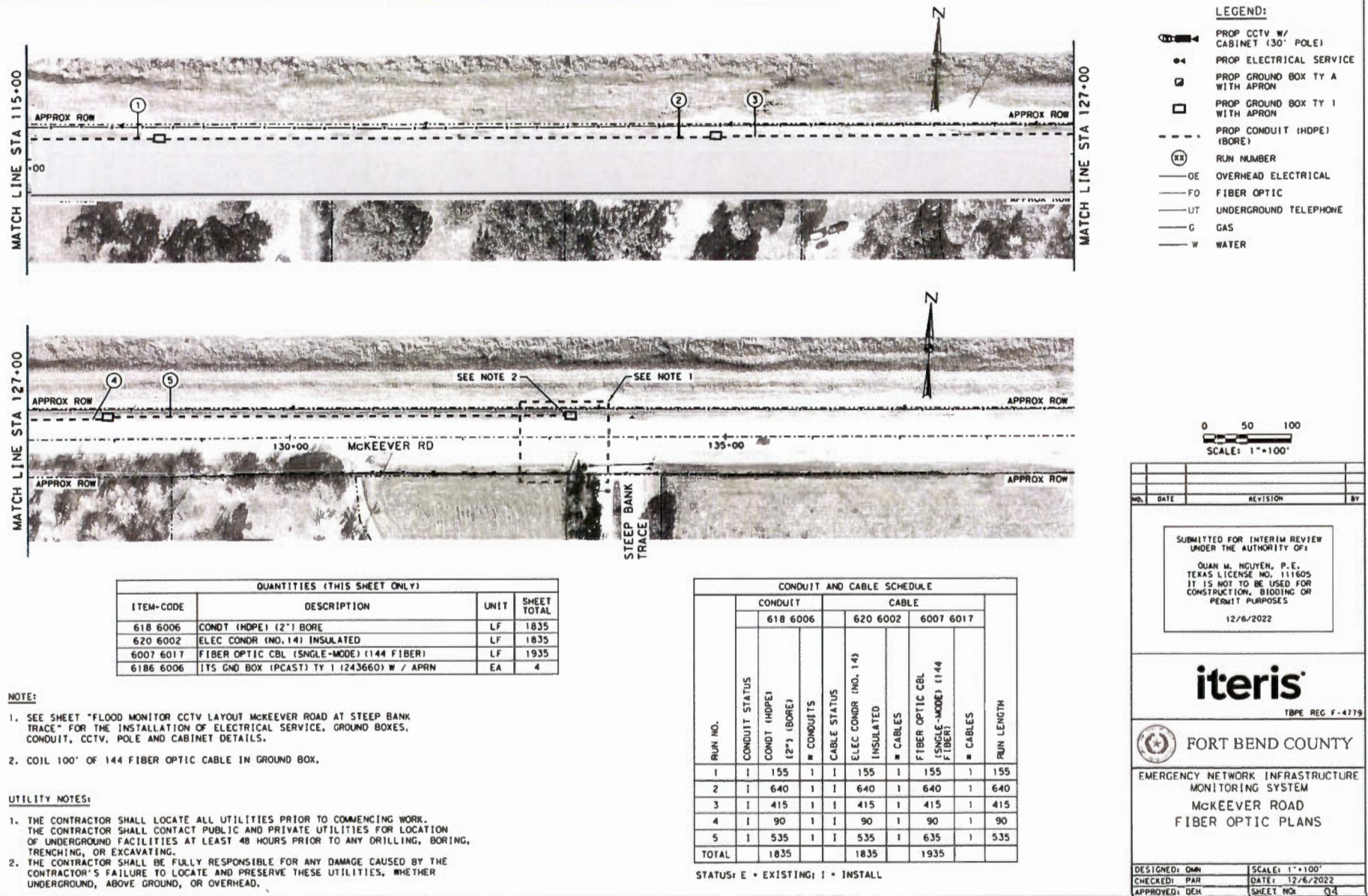
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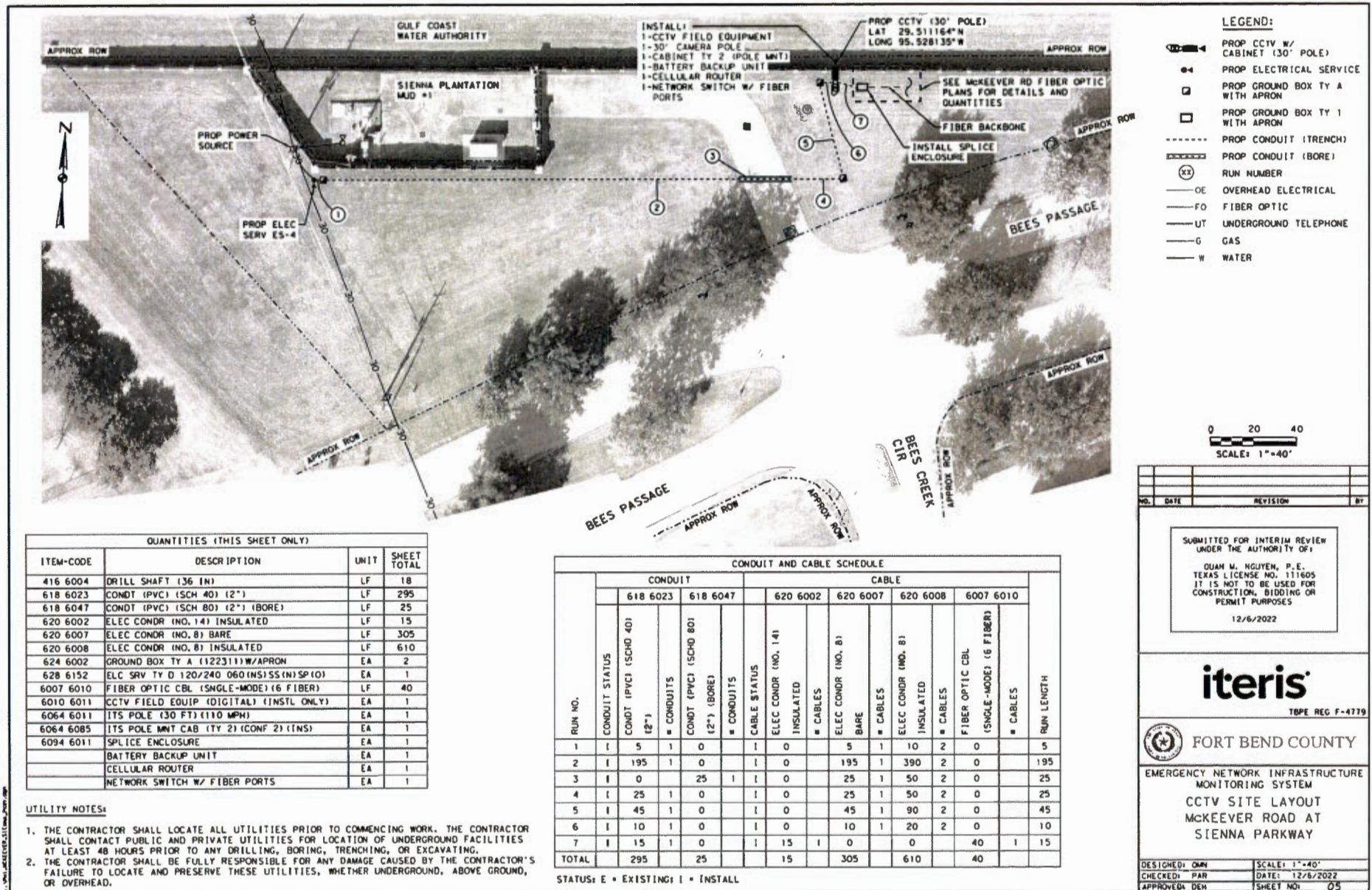
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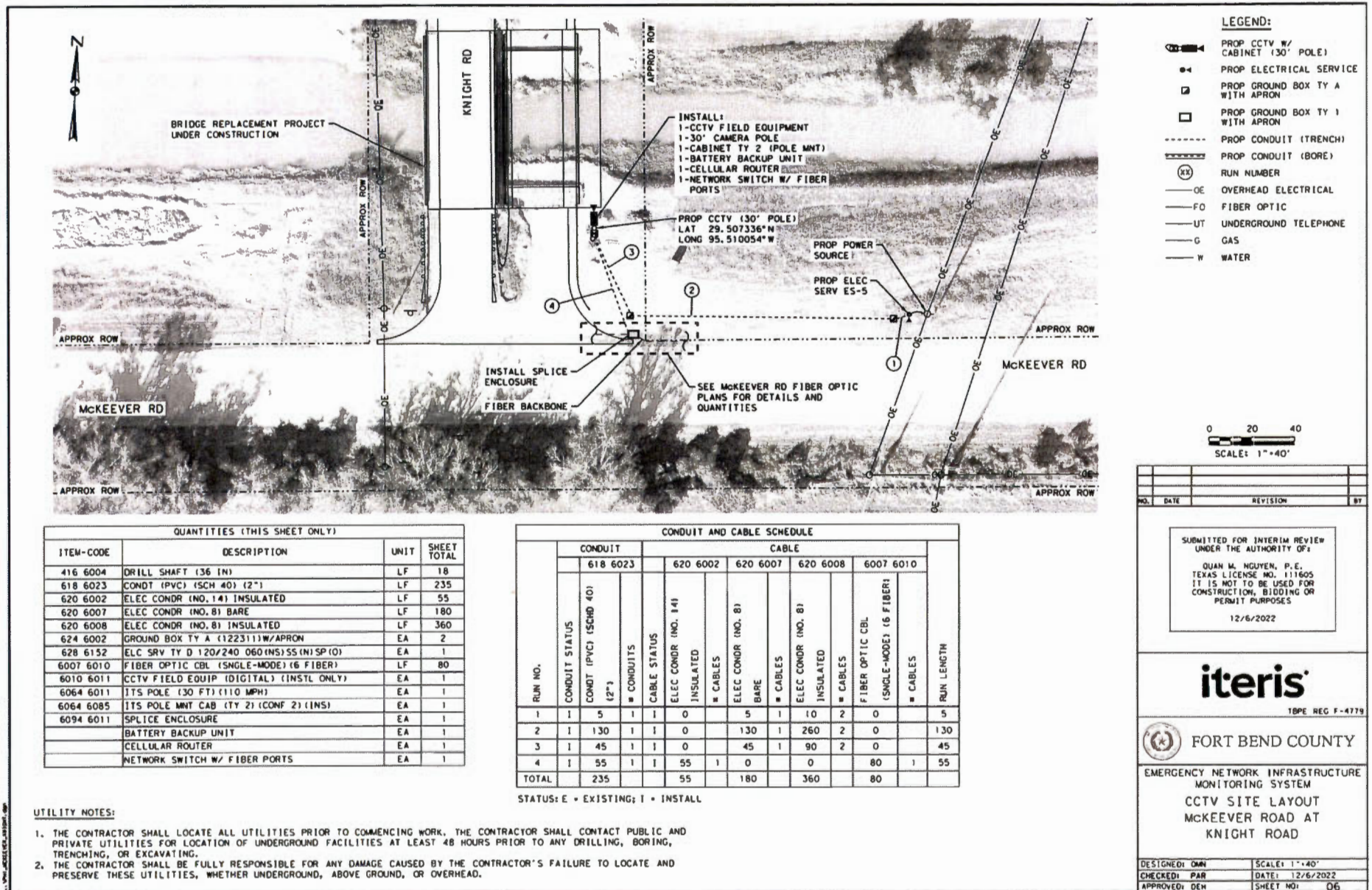
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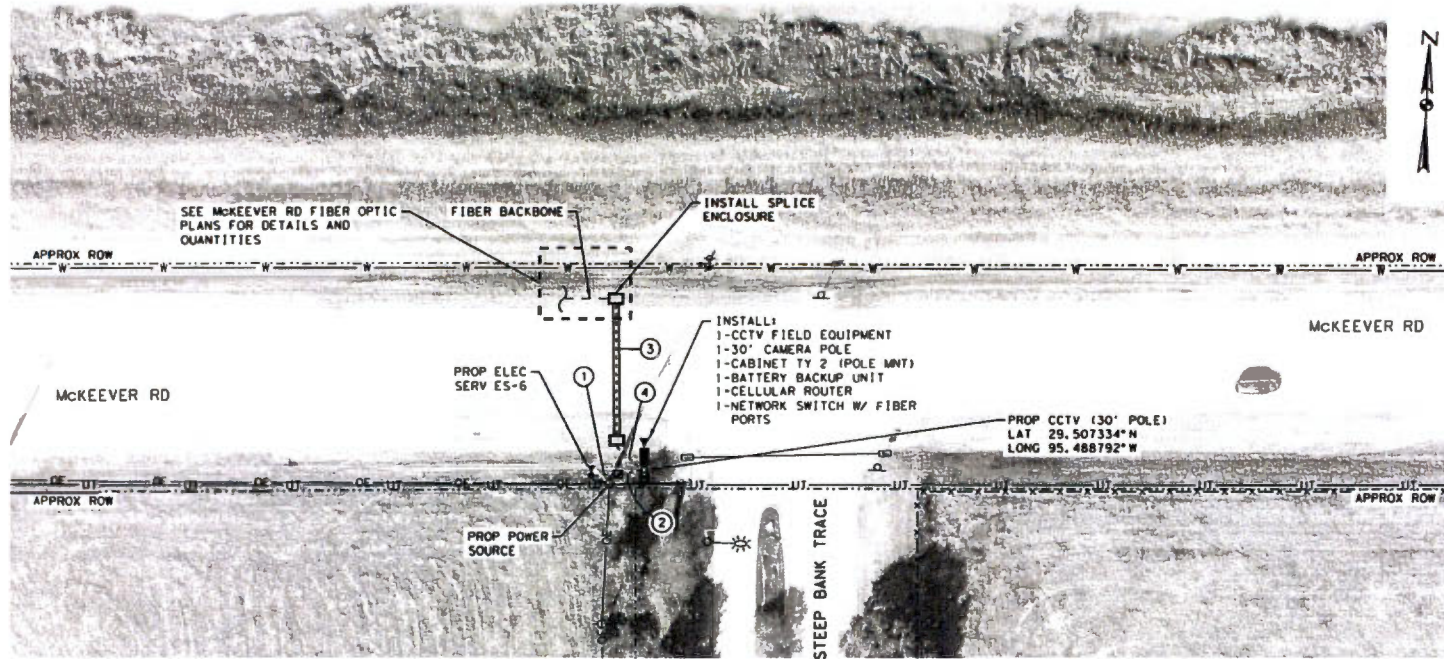
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RECORDER'S MEMORANDUM

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QUANTITIES (THIS SHEET ONLY)			
ITEM-CODE	DESCRIPTION	UNIT	SHEET TOTAL
416 6004	DRILL SHAFT (36 IN)	LF	18
618 6023	CONDT (PVC) (SCH 40) (2")	LF	35
618 6047	CONDT (PVC) (SCH 80) (2") (BORE)	LF	50
620 6002	ELEC CONDR (NO. 14) INSULATED	LF	65
620 6007	ELEC CONDR (NO. 8) BARE	LF	20
620 6008	ELEC CONDR (NO. 8) INSULATED	LF	40
624 6002	GROUND BOX TY A (122311) W/ APRON	EA	1
628 6152	ELC SRV TY D 120/240 060 (NS) (SP) (O)	EA	1
6007 6010	FIBER OPTIC CBL (SNGLE-MODE) (6 FIBER)	LF	90
6010 6011	CCTV FIELD EQUIP (DIGITAL) (INSTL ONLY)	EA	1
6064 6011	ITS POLE (30 FT) (110 MPH)	EA	1
6064 6085	ITS POLE MNT CAB (TY 2) (CONF 2) (INS)	EA	1
6094 6011	SPLICE ENCLOSURE	EA	1
6186 6006	ITS GND BOX (PCAST) TY 1 (243660) W / APRN	EA	1
	BATTERY BACKUP UNIT	EA	1
	CELLULAR ROUTER	EA	1
	NETWORK SWITCH W/ FIBER PORTS	EA	1

CONDUIT AND CABLE SCHEDULE									
RUN NO.	CONDUIT STATUS	CONDUIT				CABLE			
		618 6023	618 6047	620 6002	620 6007	620 6008	6007 6010	RUN LENGTH	
		CONDT (PVC) (SCH 40) (2")	CONDT (PVC) (SCH 80) (2") (BORE)	ELEC CONDR (NO. 14) INSULATED	ELEC CONDR (NO. 8) BARE	ELEC CONDR (NO. 8) INSULATED	FIBER OPTIC CBL (SNGLE-MODE) (6 FIBER)		
1	I	10	1	0	1	0	10	2	0
2	I	10	1	0	1	0	10	2	0
3	I	0	50	1	1	0	0	65	1
4	I	15	1	0	1	15	1	0	25
TOTAL		35	50	65	20	40	90		

STATUS: E = EXISTING; I = INSTALL

UTILITY NOTES:

1. THE CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL CONTACT PUBLIC AND PRIVATE UTILITIES FOR LOCATION OF UNDERGROUND FACILITIES AT LEAST 48 HOURS PRIOR TO ANY DRILLING, BORING, TRENCHING, OR EXCAVATING.
2. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY DAMAGE CAUSED BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE THESE UTILITIES, WHETHER UNDERGROUND, ABOVE GROUND, OR OVERHEAD.

NO.	DATE	REVISION	BY

SUBMITTED FOR INTERIM REVIEW
UNDER THE AUTHORITY OF:
QUAN M. NGUYEN, P.E.
TEXAS LICENSE NO. 111605
IT IS NOT TO BE USED FOR
CONSTRUCTION, BIDDING OR
PERMIT PURPOSES
12/6/2022

iteris

TBPE REG F-4779

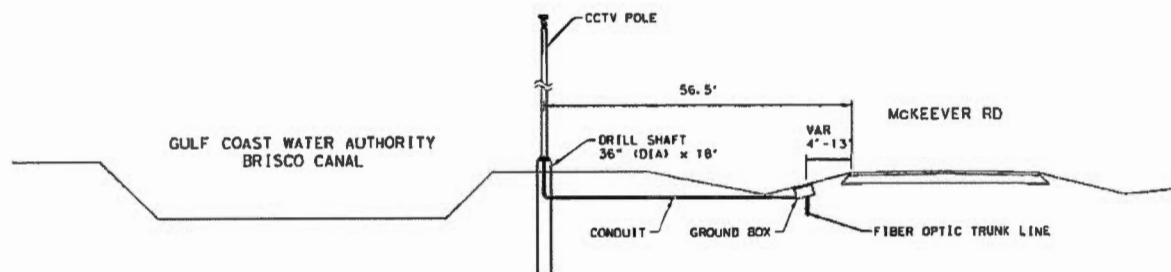


FORT BEND COUNTY

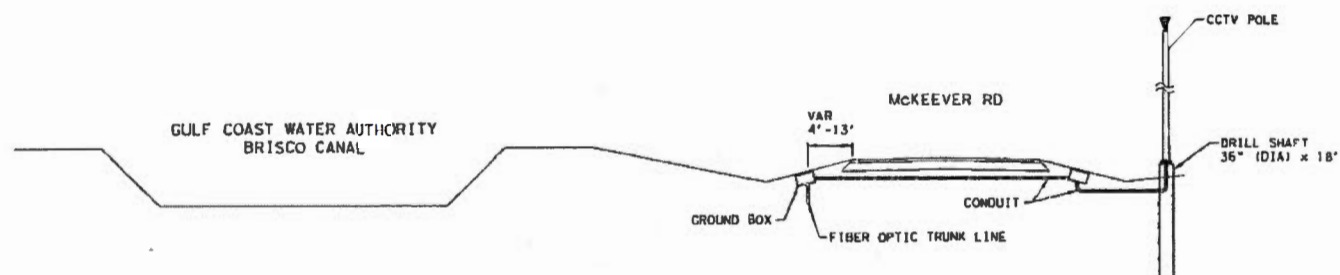
EMERGENCY NETWORK INFRASTRUCTURE
MONITORING SYSTEM

CCTV SITE LAYOUT
McKEEVER ROAD AT
STEEP BANK TRACE

DESIGNED: DMN	SCALE: 1"=40'
CHECKED: PAH	DATE: 12/6/2022
APPROVED: DEH	SHEET NO: 07



CCTV CROSS SECTION
McKEEVER RD AT KNIGHT RD
LOOKING EAST (SCALE 1\"/>



CCTV CROSS SECTION
McKEEVER RD AT STEEP BANK TRACE
LOOKING EAST (SCALE 1\"/>

NO.	DATE	REVISION	BY

SUBMITTED FOR INTERIM REVIEW
 UNDER THE AUTHORITY OF:
 QUAN M. HOLYEN, P.E.
 TEXAS LICENSE NO. 111605
 IT IS NOT TO BE USED FOR
 CONSTRUCTION, BIDDING OR
 PERMIT PURPOSES
 12/6/2022

iteris

TYPE REG F-4779



FORT BEND COUNTY

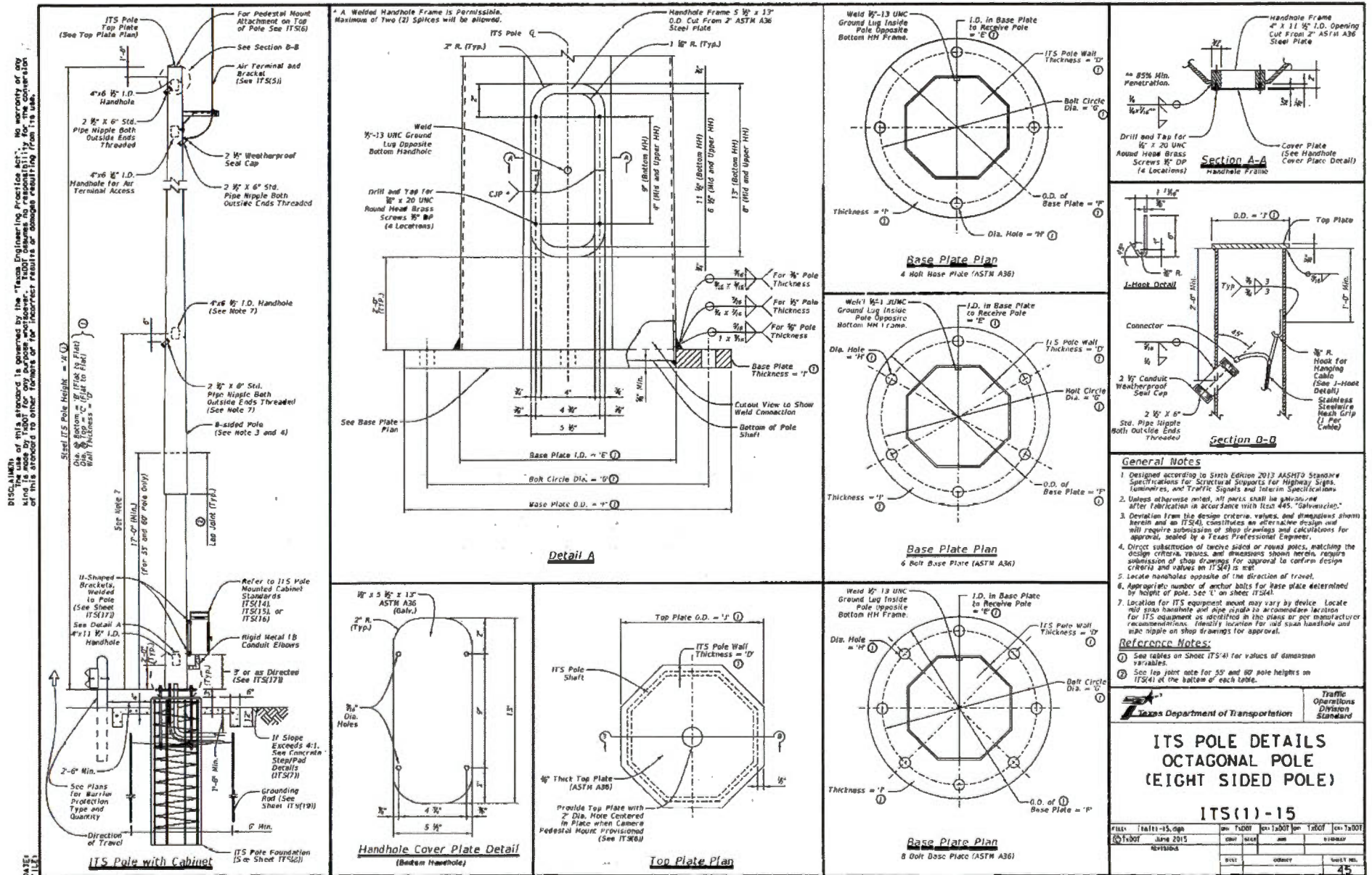
EMERGENCY NETWORK INFRASTRUCTURE
 MONITORING SYSTEM

GULF COAST WATER AUTHORITY
 McKEEVER ROAD
 CROSS SECTIONS

DESIGNED: DMH	SCALE:
CHECKED: PAR	DATE: 12/6/2022
APPROVED: DEH	SHEET NO: 08

Exhibit B

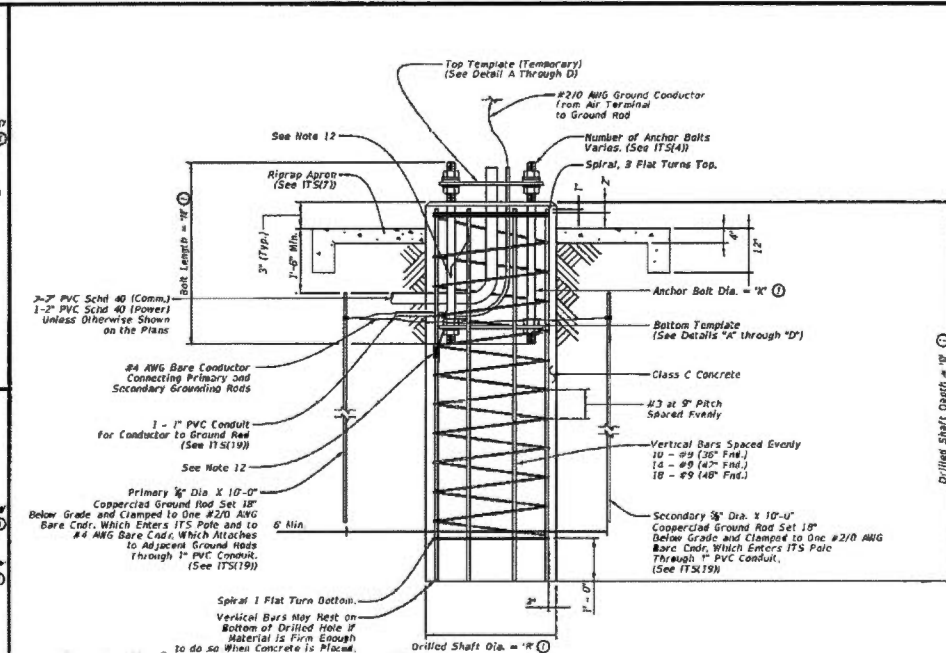
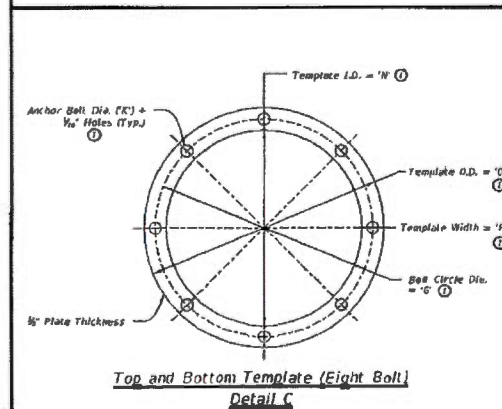
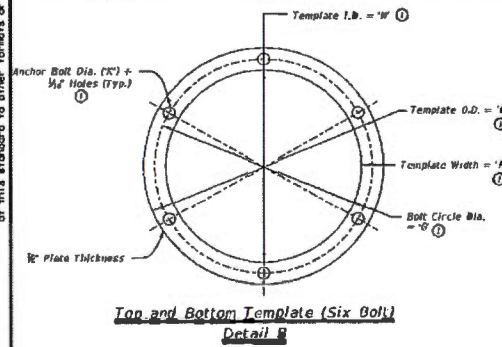
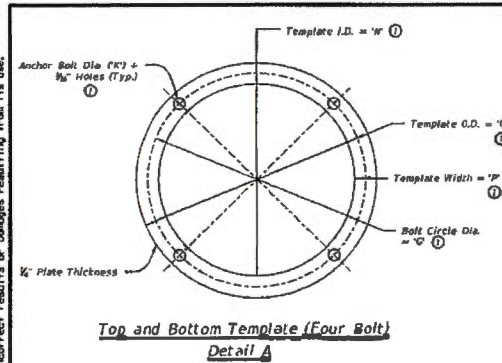
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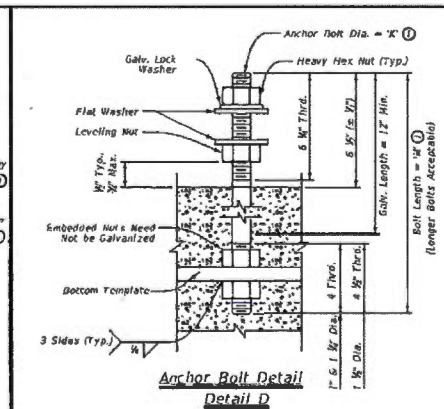
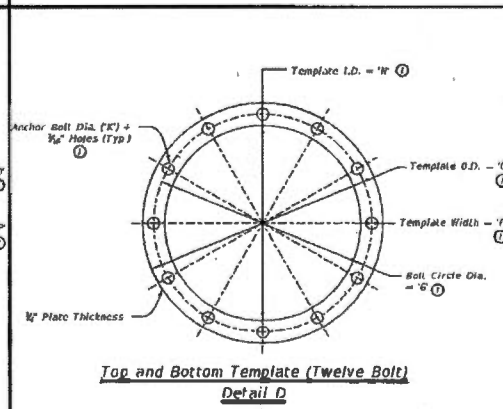
RECORDER'S MEMORANDUM

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DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to SI units. TxDOT assumes no responsibility for the conversion of this standard to SI units.



Foundation Details (Typical)
Elevation
Not to Scale



- General Notes:**
1. Drilled shaft concrete shall be Class "C" (Pc = 3,600 PSI) in accordance with Item 416, "Drilled Shaft Foundations."
 2. Reinforcing bars shall be Grade 60 (Fy = 60 KSI) and conform to ASTM A-615. All reinforcing shall conform to Item 440, "Reinforcing Steel."
 3. Provide ASTM A-36 steel for templates. Top and bottom templates need not be galvanized.
 4. Anchor bolts shall be rigidly held in position during concrete placement using steel templates at the top and bottom. Top templates shall remain in place until the concrete has cured in place beyond initial set time.
 5. Lubricate and tighten anchor bolts, when erecting pole, in accordance with Item 449, "Anchor Bolts."
 6. Anchor bolts shall conform to ASTM F1554 Grade 35, or ASTM A193 B7 with ASTM A194 Grade 2H or ASME heavy hex nuts with F436 washers. Galvanize a minimum of the top and thread length plus 6 inches for all anchor bolts unless otherwise noted. Exposed washers and exposed nuts shall be galvanized. All galvanizing shall be in accordance with Item 445, "Galvanizing."
 7. All vertical reinforcement shall be carried to the bottom of the drilled shaft.
 8. Place three flat turns of the spiral bar at the top and one flat turn at the bottom of the drilled shaft.
 9. Drilled shaft shall be measured by the linear foot and paid under Item 416, "Drill Shaft Foundations."
 10. If rock is encountered, the drilled shaft to extend a minimum of two diameters into solid rock.
 11. Location for conduit entering foundation may vary. Orient conduit entering foundation to coincide with location of ground boxes and primary ground rod.
 12. Bond anchor bolts to rebar with #2/0 AWG jumper and two mechanical connectors or by bending No. 3 bar on bottom template as shown and wire tightly with ten turns of No. 10 wire or one mechanical connector. Mechanical connectors shall be UL listed for concrete encasement.

Reference Notes:

1. See tables on Sheet ITS(4) for values of dimension variables.

Texas Department of Transportation
Traffic Operations Division Standard

ITS POLE FOUNDATION DETAILS

ITS(3)-16

FILED	1547(3)-16.dgn	Rev	TS001	Ch	TS001	Rev	TS001
DATE	10/01/2015	DATE	10/01/2015	DATE	10/01/2015	DATE	10/01/2015
REVISED				REVISED			
BY				COUNTY			
SHEET NO.				46			

This page is not satisfactory for photographic recordation due to carbon or photo copy, discolored paper, etc. All block-outs, additions and changes were presented at time instrument was filed and recorded.

TABLE 1: ITS POLE - 90 MPH (W/ 2 SOLAR PANELS) ①

POLE TYPE ①	POLE SHAFT ①②										FOUNDATION ③									
	POLE HEIGHT (FT)	BOTTOM OUTSIDE DIA. (IN)	TOP OUTSIDE DIA. (IN)	WALL THICKNESS (IN)	INSIDE DIA. (IN)	ROCK CIRCLE DIA. (IN)	ROCK HOLE DIA. (IN)	THICKNESS (IN)	OUTSIDE DIA. (IN)	DIA. (IN)	NO. OF BOLTS	LENGTH OF BOLT MIN. (IN)	TEMPLATE INSIDE DIA. (IN)	TEMPLATE OUTSIDE DIA. (IN)	TEMPLATE WIDTH (IN)	DRILL SHAFT DEPTH - TEXAS CONE PENETROMETER (N - BLOWS/FT) (SEE NOTE 5)	DRILLED SHAFT DIA. (IN)			
	'R	'S	'C	'D	'E	'F	'G	'H	'I	'J	'K	'L	'M	'N	'O	'P	'Q	N = 10 N = 15 N = 40		
8 SIDED	20	10	8	1/2	10-1/16	21	16	1-1/4	1-1/2	8	1	4	29	14	18	2	12	11	10	36
	30	12	9	1/2	12-1/16	24	18	1-3/8	1-1/2	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	15	12	10	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-1/2	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	17	14	11	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-1/2	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	18	16	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-1/2	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	19	16	12	42
12 SIDED	20	10	8	1/2	10-1/16	21	16	1-1/4	1-1/2	8	1	4	29	14	18	2	12	11	10	36
	30	12	9	1/2	12-1/16	24	18	1-3/8	1-1/2	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	15	12	10	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-1/2	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	17	14	11	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-1/2	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	18	16	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-1/2	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	19	16	12	42
60	20	10	8	1/2	10-1/16	21	16	1-1/4	1-1/2	8	1	4	29	14	18	2	12	11	10	36
	30	12	9	1/2	12-1/16	24	18	1-3/8	1-1/2	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	15	12	10	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-1/2	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	17	14	11	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-1/2	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	18	16	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-1/2	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	19	16	12	42

TABLE 2: ITS POLE - 110 MPH (W/ 2 SOLAR PANELS) ①

POLE TYPE ①	POLE SHAFT ①②										FOUNDATION ③									
	POLE HEIGHT (FT)	BOTTOM OUTSIDE DIA. (IN)	TOP OUTSIDE DIA. (IN)	WALL THICKNESS (IN)	INSIDE DIA. (IN)	ROCK CIRCLE DIA. (IN)	ROCK HOLE DIA. (IN)	THICKNESS (IN)	OUTSIDE DIA. (IN)	DIA. (IN)	NO. OF BOLTS	LENGTH OF BOLT MIN. (IN)	TEMPLATE INSIDE DIA. (IN)	TEMPLATE OUTSIDE DIA. (IN)	TEMPLATE WIDTH (IN)	DRILL SHAFT DEPTH - TEXAS CONE PENETROMETER (N - BLOWS/FT) (SEE NOTE 5)	DRILLED SHAFT DIA. (IN)			
	'R	'S	'C	'D	'E	'F	'G	'H	'I	'J	'K	'L	'M	'N	'O	'P	'Q	N = 10 N = 15 N = 40		
8 SIDED	20	10	8	1/2	10-1/16	21	16	1-1/4	1-1/2	8	1	4	29	14	18	2	14	12	10	36
	30	12	9	1/2	12-1/16	24	18	1-3/8	1-1/2	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	18	15	11	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-1/2	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	20	17	12	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-1/2	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	21	18	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-1/2	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	22	19	14	42
12 SIDED	20	10	8	1/2	10-1/16	21	16	1-1/4	1-1/2	8	1	4	29	14	18	2	14	12	10	36
	30	12	9	1/2	12-1/16	24	18	1-3/8	1-1/2	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	18	15	11	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-1/2	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	20	17	12	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-1/2	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	21	18	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-1/2	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	22	19	14	42
60	20	10	8	1/2	10-1/16	21	16	1-1/4	1-1/2	8	1	4	29	14	18	2	14	12	10	36
	30	12	9	1/2	12-1/16	24	18	1-3/8	1-1/2	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	18	15	11	36
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	48	16	10	1/2	16-1/16	27	22	1-3/8	1-1/2	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	21	18	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-1/2	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	22	19	14	42

TABLE 3: ITS POLE - 130 MPH (W/ 1 SOLAR PANEL) ①

POLE TYPE ①	POLE SHAFT ①②										FOUNDATION ③									
	POLE HEIGHT (FT)	BOTTOM OUTSIDE DIA. (IN)	TOP OUTSIDE DIA. (IN)	WALL THICKNESS (IN)	INSIDE DIA. (IN)	ROCK CIRCLE DIA. (IN)	ROCK HOLE DIA. (IN)	THICKNESS (IN)	OUTSIDE DIA. (IN)	DIA. (IN)	NO. OF BOLTS	LENGTH OF BOLT MIN. (IN)	TEMPLATE INSIDE DIA. (IN)	TEMPLATE OUTSIDE DIA. (IN)	TEMPLATE WIDTH (IN)	DRILL SHAFT DEPTH - TEXAS CONE PENETROMETER (N - BLOWS/FT) (SEE NOTE 5)	DRILLED SHAFT DIA. (IN)			
	'R	'S	'C	'D	'E	'F	'G	'H	'I	'J	'K	'L	'M	'N	'O	'P	'Q	N = 10 N = 15 N = 40		
8 SIDED	20	10	8	1/2	10-1/16	21	16	1-3/8	1-3/4	8	1-1/4	4	35	13-1/2	18-1/2	2-1/2	16	14	10	36
	30	12	9	1/2	12-1/16	24	19	1-3/8	1-3/4	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	18	16	11	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-3/4	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	20	17	12	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-3/4	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	21	18	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-3/4	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	22	19	14	42
12 SIDED	20	10	8	1/2	10-1/16	21	16	1-3/8	1-3/4	8	1-1/4	4	35	13-1/2	18-1/2	2-1/2	16	14	10	36
	30	12	9	1/2	12-1/16	24	19	1-3/8	1-3/4	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	18	16	11	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-3/4	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	20	17	12	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-3/4	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	21	18	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-3/4	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	22	19	14	42
60	20	10	8	1/2	10-1/16	21	16	1-3/8	1-3/4	8	1-1/4	4	35	13-1/2	18-1/2	2-1/2	16	14	10	36
	30	12	9	1/2	12-1/16	24	19	1-3/8	1-3/4	10	1-1/4	4	35	16-1/2	21-1/2	2-1/2	18	16	11	36
	40	15	9	1/2	15-1/16	26	21	1-3/8	1-3/4	10	1-1/4	4	35	18-1/2	23-1/2	2-1/2	20	17	12	42
	48	16	10	1/2	16-1/16	27	22	1-3/8	1-3/4	11	1-1/4	4	35	19-1/2	24-1/2	2-1/2	21	18	12	42
	58	17	10	1/2	17-1/16	28	23	1-3/8	1-3/4	11	1-1/4	4	35	20-1/2	25-1/2	2-1/2	22	19	14	42

General Notes:

- Designed according to Sixth Edition 2013 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications Thereon.
- Table 1 and Table 4 design wind speed equals 90 MPH (3-Second Wind Gusts) with a 1.14 gust factor. A wind importance factor of 1.00 is applied to adjust the wind speed to a 50 year recurrence interval at 33 FT above the ground for Exposure C category in accordance with TxDOT WY612(ITS2013). Design values listed in the table allow the base of the pole to be elevated above the surrounding ground level no more than 20 FT.
- Table 2 and Table 5 design wind speed equals 110 MPH (3-Second Wind Gusts) with a 1.14 gust factor. A wind importance factor of 1.00 is applied to adjust the wind speed to a 50 year recurrence interval at 33 FT above the ground for Exposure C category in accordance with TxDOT WY612(ITS2013). Design values listed in the table allow the base of the pole to be elevated above the surrounding ground level no more than 20 FT.
- Table 3 and Table 6 design wind speed equals 130 MPH (3-Second Wind Gusts) with a 1.14 gust factor. A wind importance factor of 1.00 is applied to adjust the wind speed to a 50 year recurrence interval at 33 FT above the ground for Exposure C category in accordance with TxDOT WY612(ITS2013). Design values listed in the table allow the base of the pole to be elevated above the surrounding ground level no more than 20 FT.
- Recommended embedment lengths are for information purposes only. Foundation embedment depth is based off Texas Cone Penetrometer Value N = 10 Blows/FT. For soft soils and up to 40 Blows/FT. For hard soils. Foundation lengths shall be as shown on the plans, or as directed by the Engineer. Foundations will be paid for under item 416, "Drilled Shaft Foundations" unless otherwise shown on the plans.

- Deviation from the design criteria and values contained in the tables above constitute and alternative design and will require submission of shop drawings and calculations for approval, sealed by a Texas Professional Engineer.
- 12-sided or round poles as a direct substitution for 8-sided and round poles as a direct substitution for 12-sided poles, meeting the design criteria and values contained in the Tables above, require submission of shop drawings for approval.

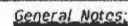
Reference Notes

- See the following ITS Pole Standard sheets:
 - 8-sided pole - ITS(1)
 - 12-sided pole - ITS(2)
- Provision for 2" Dia. opening in top plate for poles requiring cameras mounted on top.
 - See ITS Pole Mounting Details - ITS(6)
- See ITS Pole Foundation Details - ITS(3)
- Designed to support the following:
 - Two Type 3 ITS pole mounted cabinets (280 LBS/EA and EPA = 14.50 sq. ft. per cabinet). See ITS(16).
 - Two 250 W (50 LBS/EA and EPA = 30.70 sq. ft. per panel) solar panels (see ITS(24) "Solar Panel Matrix Table").
 - Combined ITS equipment dead load of 170 LBS with an EPA = 6 sq. ft.
- Designed to support the following:
 - Two Type 3 ITS pole mounted cabinets (280 LBS/EA and EPA = 14.50 sq. ft. per cabinet). See ITS(16).
 - One 250 W (50 LBS/EA and EPA = 30.70 sq. ft. per panel) solar panel (see ITS(24) "Solar Panel Matrix Table").
 - Combined ITS equipment dead load of 170 LBS with an EPA = 6 sq. ft.

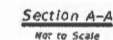
TABLE 4: ITS POLE WITH STIFFENERS - 90 MPH (W/ 4 SOLAR PANELS) ①

POLE TYPE ①	POLE SHAFT ①				BASE PLATE ①				TOP PLATE ②		ANCHOR BOLT ③				FOUNDATION ④					
	POLE HEIGHT (FT)	BOTTOM OUTSIDE DIA. (IN)	TOP OUTSIDE DIA. (IN)	WALL THICKNESS (IN)	INSIDE DIA. (IN)	OUTSIDE DIA. (IN)	BOLT CIRCLE DIA. (IN)	BOLT HOLE DIA. (IN)	THICKNESS (IN)	OUTSIDE DIA. (IN)	DIA. (IN)	NO. OF BOLTS	LENGTH OF BOLT MIN. (IN)	TEMPLATE INSIDE DIA. (IN)	TEMPLATE OUTSIDE DIA. (IN)	TEMPLATE WIDTH (IN)	DRILL SHAFT DEPTH - TEXAS CONE PENETROMETER (N - BLOWS/FT) (SEE NOTE 5)	DRILLED SHAFT DIA. (IN)		
B SIDED	'A	'B	'C	'D	'E	'F	'G	'H	'I	'J	'K	'L	'M	'N	'O	'P	N = 10 'Q	N = 15 'R	N = 40 'S	
	30	13	9	3/8	13-1/16	26	22	1-1/4	1-3/4	10	1	8	29	16	24	2	17	15	12	42
	40	15	9	1/2	15-1/16	28	24	1-1/4	2	10	1	8	29	18	26	2	20	17	12	42
	45	16	10	1/2	16-1/16	31	25	1-3/16	2	11	1-1/8	8	35	25-1/2	29-1/2	2-1/2	21	18	13	42
	50	17	10	1/2	17-1/16	32	26	1-1/16	3	11	1-1/8	8	35	28-1/2	30-1/2	2-1/2	21	18	18	42
12 SIDED	55 ⑦	19	11	5/8	19-1/16	34	27	1-9/16	2	12	1-1/4	12	35	24-1/2	29-1/2	2-1/2	21	18	13	48
	60 ⑧	20	12	3/4	20-1/16	35	28	1-5/16	2	13	1-1/4	12	35	25-1/2	30-1/2	2-1/2	22	18	14	48

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4. Provide lightning protection using air terminals on structures utilizing the rolling sphere method. Provide lightning protection system consisting of air terminals, down conductor, and grounding system installed in accordance with NFPA 780 and listed in accordance with IEEE Std. 996-1996, following requirements:
- A. Position in center of least utilized field of view.
 - B. Height - camera equipment to be within 45 degree protective zone of air terminal.
 - C. Material - B7 EPP alloy 110 copper air terminal (Class II).
 - D. Clearance - 36" minimum height above highest point of its equipment.
 - E. Bonding - attach air terminal to bracket by cathodic weld or with approved clamping.
 - F. Structure wind rating in accordance with TxDOT WV & IE (TS20213).
 - G. Galvanize air terminal bracket in accordance with Item 445, "Galvanizing."
2. Alternative orientation for air terminal and pole mounted cabinet due to project specific needs to be indicated on the plans and detailed in shop drawing submittal for approval.
3. Weld air terminal bracket to ITS pole in accordance with Item 448 "Structural Field Welding." Bracket may be welded by the fabricator in the shop prior to delivery. A bolco conversion for the air terminal bracket is acceptable in lieu of a welded connection with approval by the Engineer and detailed in the shop drawings.



Texas Department of Transportation
Traffic Operations Division
Standard

ITS POLE
AIR TERMINAL DETAILS

ITS(5)-15

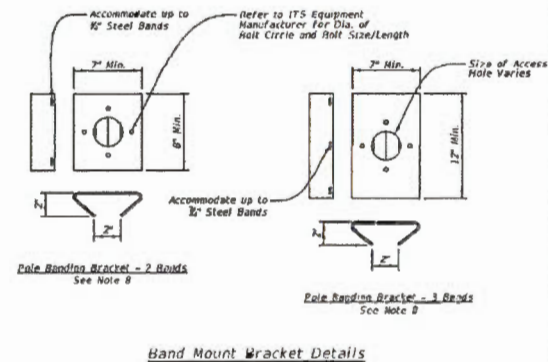
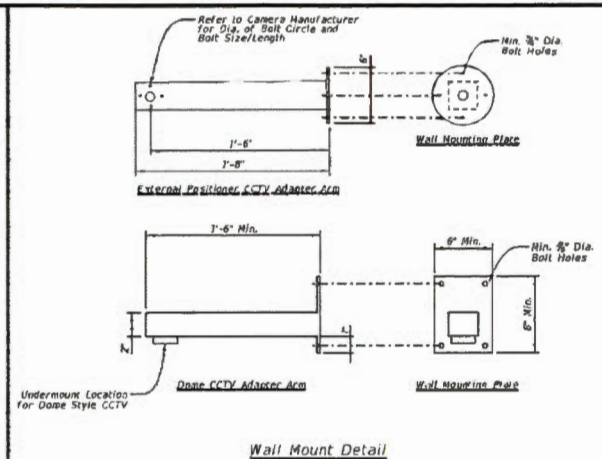
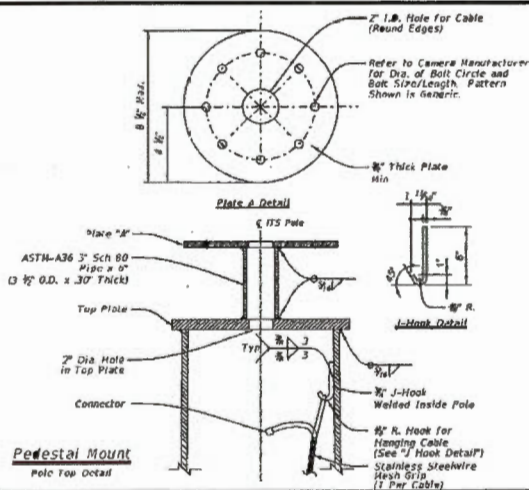
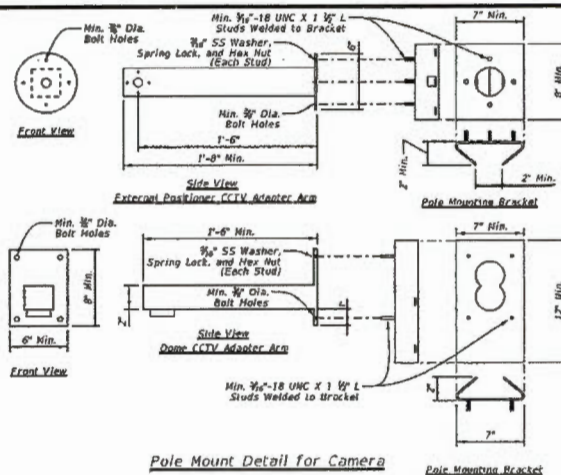
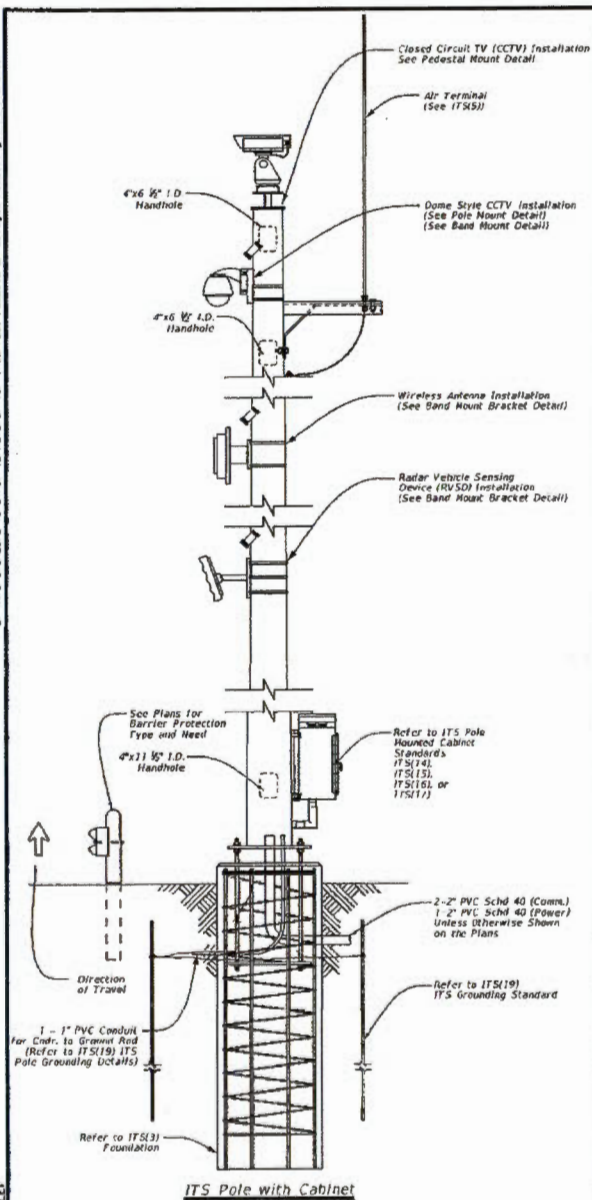
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REVISIONS							
		DI	B3	CORRECT		SCALE: N/A	
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RECORDER'S MEMORANDUM

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

DATE
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General Notes:

- Designed according to Sixth Edition AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications.
- Hang all cabling inside ITS pole structure with stainless steel wire mesh grips.
- Not positioning in the pedestal top plate (Plate "A") for the pan/tilt base must be determined in the field per camera manufacturers' recommendations. This will allow positioning of the camera to maximize coverage area. The Engineer will determine the camera's blind zone at each location.
- Provide pedestal top plate and Plate "A" that conform to ASTM A36.
- Make all welds conform to Item 441 and AWS D1.1 (Structural Welding). Repair damaged galvanized coating per Item 445, "Galvanizing."
- Galvanize parts in accordance with Item 445, "Galvanizing" unless otherwise noted.
- The type of ITS equipment shown to be mounted to the ITS pole is intended to represent the most common ITS equipment applications and should not be treated as all inclusive. Other ITS equipment applications may exist that are project specific.
- Mounting brackets are intended to be diagrammatic and for information only, and are not all inclusive. Contractor responsible for submitting mounting bracket design for approval by the Engineer prior to fabrication. Mounting bracket designed to support a maximum 35 lbs. Off-the-shelf mounting brackets are acceptable and shall be submitted by shop drawing for approval.
- Mounting heights to be determined in the field based on manufacturer recommendations.

Texas Department of Transportation		Traffic Operations Division Standard	
ITS POLE EQUIPMENT MOUNTING DETAILS			
ITS(6)-15			
REV	DATE	BY	CHK
1	11/15/15	001	001
2	11/15/15	001	001
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