

REVIEW BY FORT BEND COUNTY
COMMISSIONERS COURT

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: 2017-12016

Applicant: Crown Castle NG Central LLC/Shift Companies

Job Location Site: 9641 1/2 Gaston Road, Katy, TX 77494

Bond No. **Date of Bond:** 5/12/2014 **Amount:** \$50,000.00

The above applicant came to make use of certain Fort Bend County property subject to, "The Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas, of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Chapter 181, Vernon's Texas Statutes and Codes Annotated.

Notes:

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
 - a. 48 hours in advance of construction start up, and
 - b. When construction is completed and ready for final inspection, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 28th day of February, 2017, Upon Motion of Commissioner Morales, seconded by Commissioner Patterson, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Signature

Presented to Commissioners Court and approved.

By: Charles O. Ay
for County Engineer

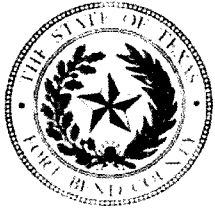
Date Recorded 3-9-17 Comm. Court No. 141

N/A

Clerk of Commissioners Court

By:
Drainage District Engineer/Manager

By: Ronda Wilkes
Deputy



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

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

- ☒ Right of Way Permit
☐ Commercial Driveway Permit

Permit No: 2017-12016

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: [REDACTED] Amount: \$50,000.00
- ☐ Performance bond submitted. Bond No: _____ Amount: _____
- ☐ Cashier's Check Check No: _____ Amount: _____

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval

Date

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

Charles O. Al

Permit Administrator

2/21/17
Date

SHIFT

November 28, 2016

Carmen Escobar, CFM
Permit Administrator
Fort Bend County Engineering
301 Jackson St, Richmond, TX 77469

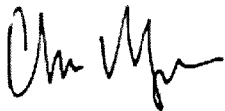
**RE: Cinco Ranch Traffic Control Plan
- Shift Project #160614**

Carmen,

Per our conversation on the phone, the work we are doing in the ROW will not require any road closures. There is no TCP required, the contractor will take adequate measure to ensure they are not impeding the public way.

Please let me know if you need anything else.

Thank you,



Chris Myers
Principal
SHIFT Companies



PROJECT NAME: CINCO RANCH EXPANSION
PROJECT ADDRESS: GASTON RD AND FALCON LANDING BLVD

PROJECT TYPE: METAL SLIMLINE POLE
HUB AREA: CINCO RANCH - HGOW

NODE #(s): CCR-47
COORDINATES: LAT: 29.73382, LONG: -95.81107

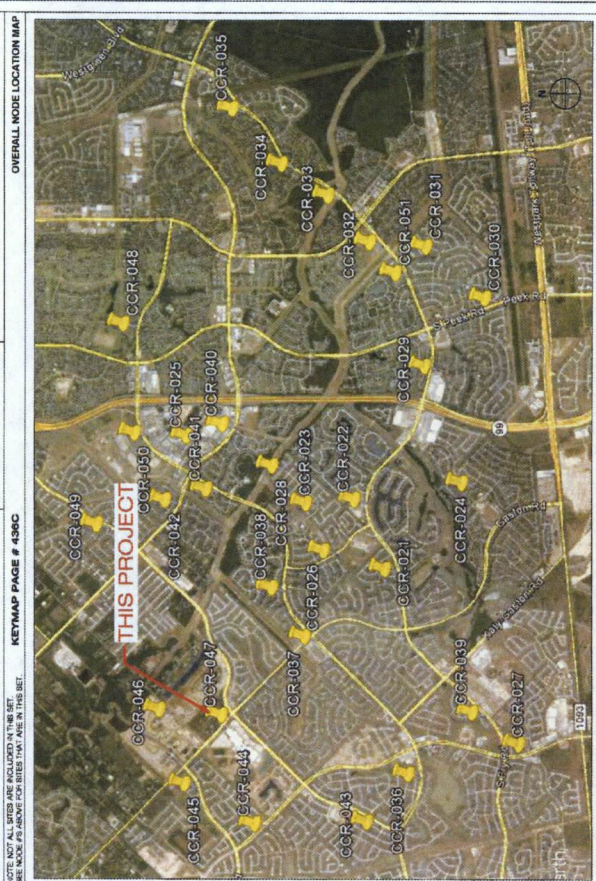
T1.1 - SHEET INDEX		
SHEET #	SHEET DESCRIPTION	PAGE
T1.1	TITLE SHEET	1
T1.2	GENERAL NOTES, ABREVIATIONS AND SYMBOLS	2
A1.0	EXISTING UTILITY SPECIFICATIONS	3
A1.1	ASPHALT	4
A1.2	CONCRETE	5
A1.3	CONCRETE	6
A1.4	CONCRETE	7
A1.5	CONCRETE	8
A1.6	CONCRETE	9
A1.7	CONCRETE	10
A1.8	CONCRETE	11
A1.9	CONCRETE	12
A1.10	CONCRETE	13
A1.11	CONCRETE	14
A1.12	CONCRETE	15
A1.13	CONCRETE	16
A1.14	CONCRETE	17
A1.15	CONCRETE	18
A1.16	CONCRETE	19
A1.17	CONCRETE	20
A1.18	CONCRETE	21
A1.19	CONCRETE	22
A1.20	CONCRETE	23
A1.21	CONCRETE	24
A1.22	CONCRETE	25
A1.23	CONCRETE	26
A1.24	CONCRETE	27
A1.25	CONCRETE	28
A1.26	CONCRETE	29
A1.27	CONCRETE	30
A1.28	CONCRETE	31
A1.29	CONCRETE	32
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A1.37	CONCRETE	40
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A1.90	CONCRETE	93
A1.91	CONCRETE	94
A1.92	CONCRETE	95
A1.93	CONCRETE	96
A1.94	CONCRETE	97
A1.95	CONCRETE	98
A1.96	CONCRETE	99
A1.97	CONCRETE	100

FORT BEND COUNTY ENGINEER
ENGINEER: *Paul D. Stangor, P.E.*
DATE: 1/23/17
THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN (1) YEAR FROM DATE OF APPROVAL.
APPROVED: *Maxx D. Stangor*
DATE: 1/27/17

TEAM MEMBERS REVIEW		REVIEWED/DATE
R.F. ENGINEERING		
PRODUCT MANAGEMENT		
NETWORK/REAL ESTATE TEAM		
UTILITY TEAM		
IMPLEMENTATION		
OPERATIONS		

ARCHITECT Company: SHIF CONSULTING Address: 7338 E MONTE VISTA RD SCOTTSDALE, AZ 85257 Phone Number: 480.994.0604 Fax Number: 480.994.0163 Contact: CHRIS WITERS	OWNER INFO Company: CROWN CASTLE Address: 1220 AUGUSTA DR HOUSTON, TX 77057 Phone #: 817.408.3115 Email: barr@barrycamp.com Contact: BARRY CAMP	PROJECT TEAM RF ENGINEER Company: CROWN CASTLE Address: 1220 AUGUSTA DR HOUSTON, TX 77057 Phone Number: Fax Number: Contact:	PROJECT SUMMARY PROJECT NAME: CINCO RANCH EXPANSION PROJECT AREA: CINCO RANCH - HGOW APPLICANT: CROWN CASTLE 1220 AUGUSTA DR HOUSTON, TX 77057 CONTACT: BARRY CAMP CODES: 2009 INTERNATIONAL BUILDING CODE (IBC) 2008 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2008 NATIONAL ELECTRICAL SAFETY CODE (NEC) 2008 NATIONAL ELECTRICAL SAFETY CODE (NEC) PLUMBING REQUIREMENTS: FACILITY HAS NO PLUMBING HANDICAPPED REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED. POWER COMPANY: CENTERPOINT ENERGY 5401 HIGHWAY BLVD. PH: 281.520.8275 CONTACT: KEN CORTEZ
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PROJECT DESCRIPTION
CROWN CASTLE PROPOSES TO PROVIDE AN ENHANCED RESIDENTIAL WIRELESS COMMUNICATIONS SYSTEM FOR THE KATY, TEXAS AREA. THE SYSTEM WILL IMPROVE CELLULAR COMMUNICATIONS AND INCREASE CALL CAPACITY. THE NETWORK AND ASSOCIATED EQUIPMENT HAVE BEEN DESIGNED TO MINIMIZE VISUAL INTERFERENCE TO THE SURROUNDING ENVIRONMENT. THE PROPOSED SYSTEM WILL PROVIDE A CELLULAR NETWORK THAT CAN BE UTILIZED BY DIFFERENT LICENSED TELECOMMUNICATIONS COMPANIES.
A SUBJECT NODE WILL CONSIST OF NEW METAL SLIMLINE POLE. THEY WILL HAVE GROUND MOUNTED RADIO EQUIPMENT INSIDE A CABINET WITH A METER AND DISCONNECT ATTACHED. THERE WILL ALSO BE POLE-TOP ANTENNAS CONCEALED IN SHROUDS.



CROWN CASTLE
8001 SHIF CARPENTER FAVY
HOUSTON, TX 77060

RECORD DRAWING ISSUE DATE: 12.14.15

RECORD DRAWING DRAFTING ONLY

SHIFT
SHIF COMPANIES, LLC
1220 AUGUSTA DR
HOUSTON, TX 77057
PH: 832.344227
FX: 832.344228

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RELEASE DATE: 12.14.15
SUBMITTAL: 12.14.15
12.14.15
12.14.15
12.14.15

REVISIONS
NO. DATE BY COMMENTS
1 12.14.15 BY: [redacted] INITIAL ADJUSTMENT

PROJECT NAME: CINCO RANCH EXPANSION
NODE ADDRESS: [redacted]
NODE #: CCR-47
GASTON RD AND FALCON LANDING BLVD

HUB AREA: CINCO RANCH - HGOW
SHIFT JOB NUMBER: 150602
DRAWN BY: [redacted]
CHECKED BY: [redacted]

SHEET TITLE: TITLE SHEET
SHEET NUMBER: T1.1
PAGE: 1 OF 14
PLOT SCALE: 1" = 24' 48" 12 @ 11x17"

 CROWN CASTLE CROWN CASTLE 600 E. JOHN CARPENTER FWY. SUITE 300 IRVING, TX 75062	RECORD DRAWINGS ISSUE DATE: 12/14/2016
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SHIFT

Shift Companies, LLC
7337 E. NORTH YISTA ROAD
SCOTTSDALE, ARIZONA 85257
ph: 480.294.0829
fax: 480.294.0153

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RELEASE	
DATE	SUBMITTAL
6.03.16	1ST CITY SUBMITTAL
10.18.16	2ND CITY SUBMITTAL

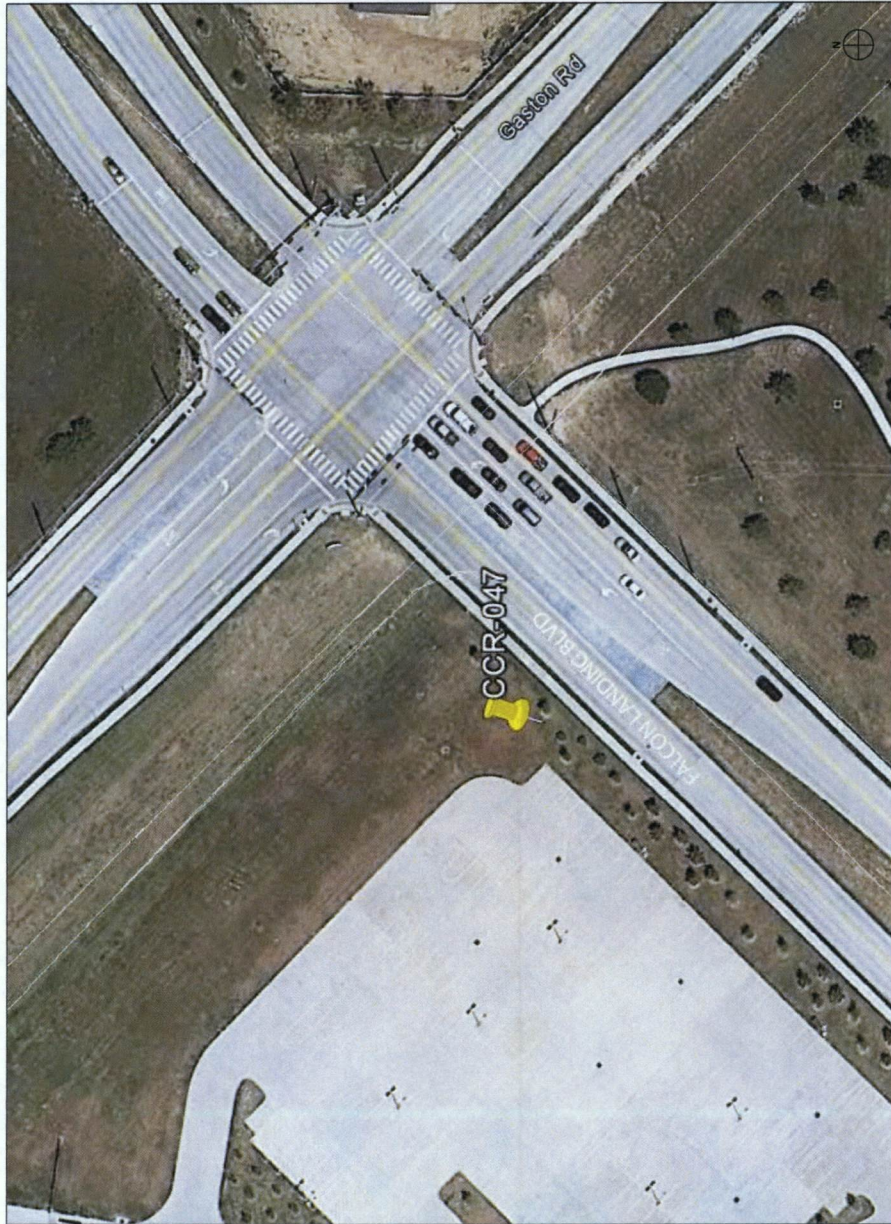
REVISIONS		
NO.	DATE	COMMENT
	10.18.16	CITY COMMENTS
	12.14.2016	SIDEWALK ADJUSTMENT

PROJECT NAME
CINCO RANCH EXPANSION

NODE #:CCR-47
GASTON RD AND
FALCON LANDING BLVD

HUB AREA
CINCO RANCH - HGCW
SHIFT JOB NUMBER
150602
IN HOUSE
DRAWN BY: RA
CHECKED BY: CM
SHEET TITLE
AERIAL

SHEET NUMBER
 PAGE
 A1.0 4 OF 14
 PLOT SCALE: 1:1 @ 24"x36"; 1:2 @ 11"x17"

PLOT SCALE: 1:1 @ 24"x36"; 1:2 @ 11"x17"

SITE PHOTO (EXISTING)

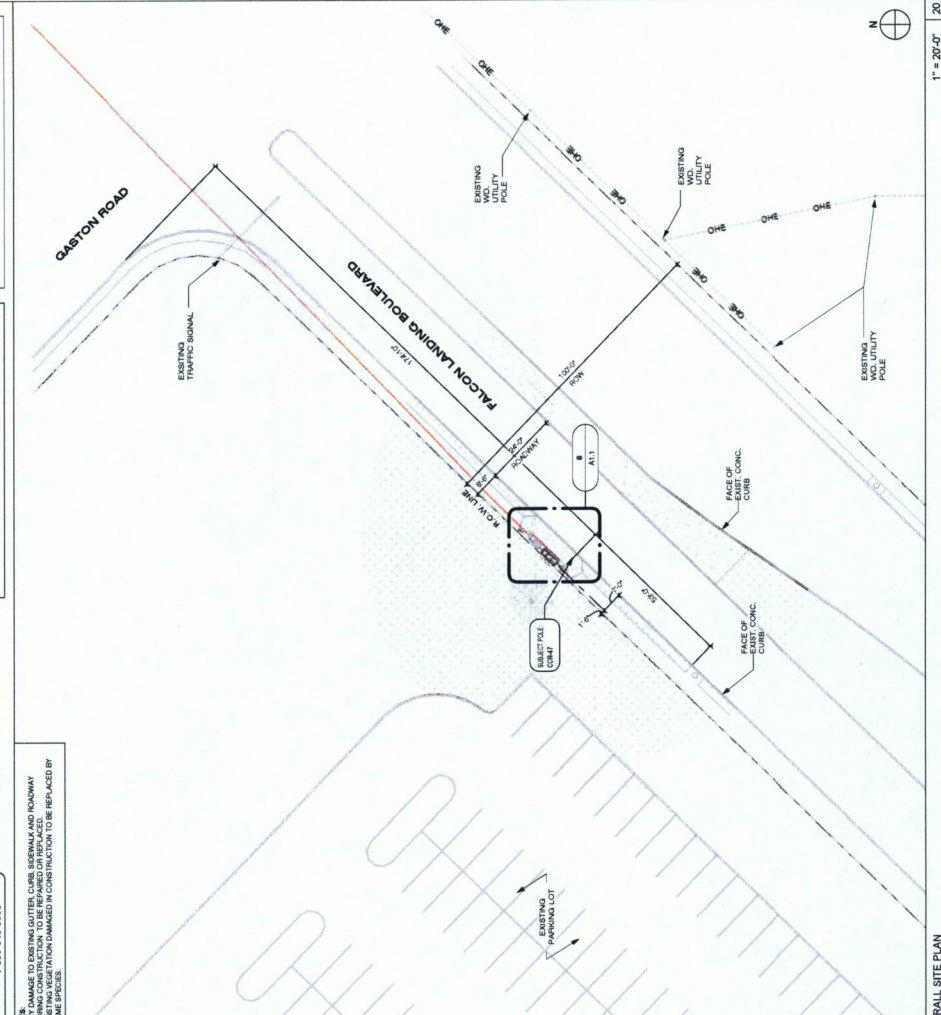
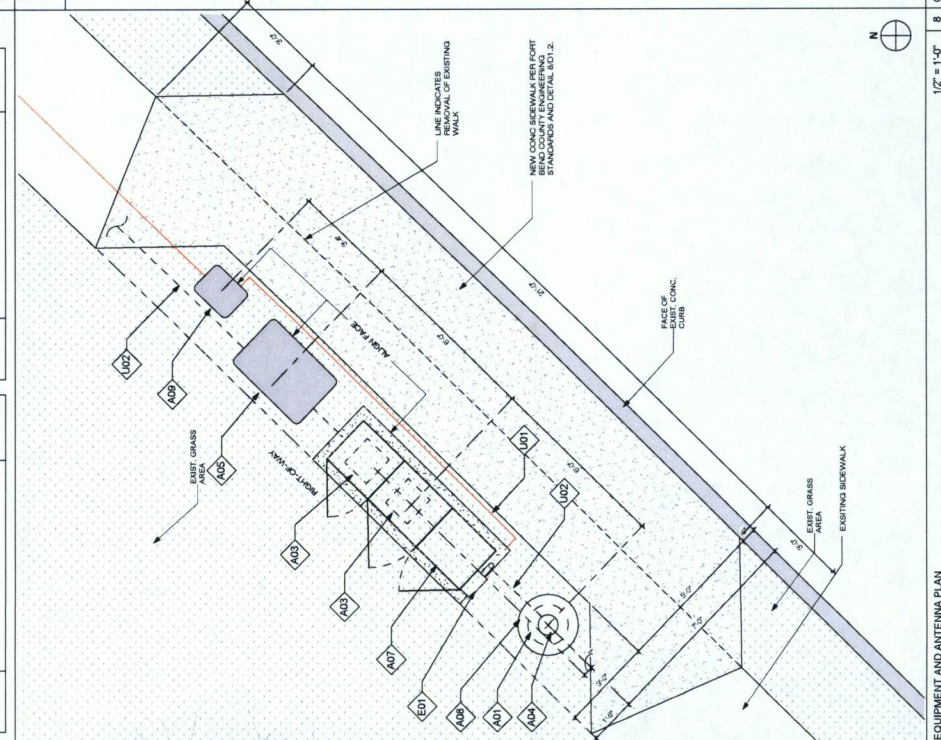
N.T.S.

KEYNOTE LEGEND		DETAIL
KEYNOTE	DESCRIPTION	
A01	PROPOSED CHOWN CASTLE OWN ANTENNA	1801-1
A02	PROPOSED CHOWN CASTLE P U/G CONDUIT (APPROXIMATE LOCATION, F.V.)	201-1
A03	PROPOSED CHOWN CASTLE REMOTE RADIO UNIT NOISE EQUIPMENT CABINET	1801-1
A04	PROPOSED NEW METAL BLUINE POLE	201-1
A05	PROPOSED CHOWN CASTLE UNDERGROUND	301-2
A06	PROPOSED CHOWN CASTLE NOISE IDENTIFICATION SIGNAGE	201-2
A07	PROPOSED CHOWN CASTLE EQUIPMENT CABINET	1801-1
A08	PROPOSED CHOWN CASTLE PEST FOUNDATION	1001-1
A09	PROPOSED ELECTRICAL HAND HOLE	

GENERAL NOTES

1. PAINT PROVIDES GROUND EQUIPMENT A NATURAL BATH COLOR OR AS APPROVED BY CITY.
2. CONTRACTOR TO FIELD LOCATE EXIST UNDERGROUND UTILITIES
3. EX LANDSCAPE PLANTINGS AND DECORATIVE HARDSCAPES SURROUNDING EXISTING ARE THE RESULT OF CONSTRUCTION SHALL BE REMOVED OR RELOCATED AS NECESSARY FOR THE LINE AND STRUCTURE.
4. CONTRACTOR TO HAND LOCATE EX IRIGATION PRIOR TO DEDICATION.
5. SITE PLAN IS A DIAGRAMMATIC REPRESENTATION ONLY. VERIFY ALL UTILITIES AND STRUCTURES PRIOR TO CONSTRUCTION.
6. VERIFY ALL PROPERTY LINE INFORMATION WITH AVAILABLE P.O.W. DATA.
7. EXIST UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY (AS PROVIDED BY LOCAL UTILITIES).

SUBJECT POLE: COR-47	
GPS COORDINATES:	
29 72582	
LONG: -98.61107	
FILE TYPE:	METAL SLIMLINE POLE
FILE #:	
UPPER ANTENNA RAD CENTER: 32' - 0" A.F.G.	
LOWER ANTENNA RAD CENTER: 30' - 0" A.F.G.	
SUBJECT POLE IS LOCATED IN:	FORT BEND COUNTY FLOW
APPROVED:	Development Coordinator
DATE:	





CROWN CASTLE
 100 JOHN CARPENTERS PKWY.
 SUITE 100
 IRVING, TX 76062

RECORD DRAWINGS ISSUE DATE: 12.14.2019



Shift Companies, LLC
 7701 E. SOUTH TEXAS ROAD
 SUITE 100
 IRVING, TX 76062
 TEL: 940-324-4333

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RELEASE DATE	SUBMITTAL
6.03.19	1ST CITY SUBMITTAL
10.18.19	2ND CITY SUBMITTAL

REVISIONS	DATE	COMMENT
10.18.19	CITY COMMENTS	
12.14.2019	SERIALS/ADJUSTMENTS	

PROJECT NAME: **CINCO RANCH EXPANSION**

PROJECT ADDRESS: **MODE #CCR-47
 MAGASTON RD AND
 FALCON LANDING BLVD**

PLANNING AREA: **CINCO RANCH - HGOW**

PLANNING AREA: **CINCO RANCH - HGOW**

PROJECT JOB NUMBER: **150602**

DRAWN BY: **CM**

CHECKED BY: **CM**

SHEET TITLE: **WHITE PLANT EQUIPMENT AND ANTENNA PLAN**

SHEET NUMBER: **A1.1**

PAGE: **5**

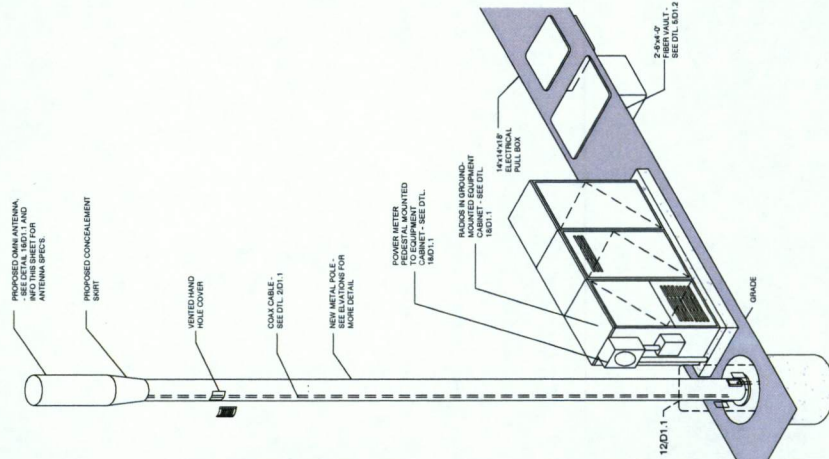
OF: **14**

SCALE: 1" = 200' 12.14.2019

PROPOSED PANEL ANTENNA SPECS

POLE INFO

APPROVED: _____
Development Coordinator



SCALE: N.T.S.	4
---------------	---

POLE ELEVATION (PROPOSED)

SCALE: 1/4" = 1'-0"

PLOT SCALE: 1:1 @ 24"x36"; 1:2 @ 11"x17"

CROWN CASTLE
CROWN CASTLE
100 E. JOHN CARPENTER FWY.
SUITE 300
IRVING, TX 75062

RECORD DRAWINGS ISSUE DATE 12.14.2018



Shift Companies, LLC
7323 E. MONTE VISTA ROAD
SCOTTSDALE, ARIZONA 85257
Tel: 480.264.0829
Fax: 480.264.0163

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RELEASE	
DATE	SUBMITTAL
6.03.16	1ST CITY SUBMITTAL
10.18.16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
	10.18.16	CITY COMMENTS
	12.14.2016	SIDEWALK ADJUSTMENT

PROJECT NAME
CINCO RANCH EXPANSION
NODE ADDRESS

CODE #:CCR-47

GASTON RD AND
FALCON LANDING BLVD

HUB AREA

CINCO RANCH - HGCW

SHIFT JOB NUMBER

150602

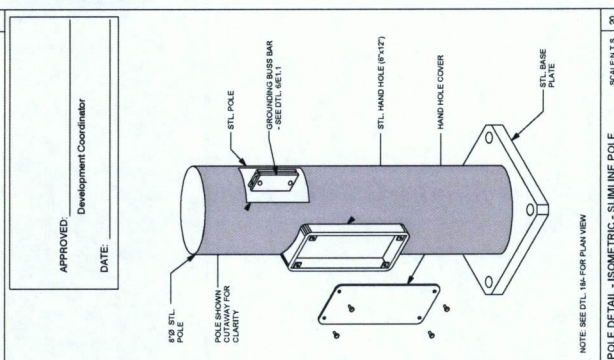
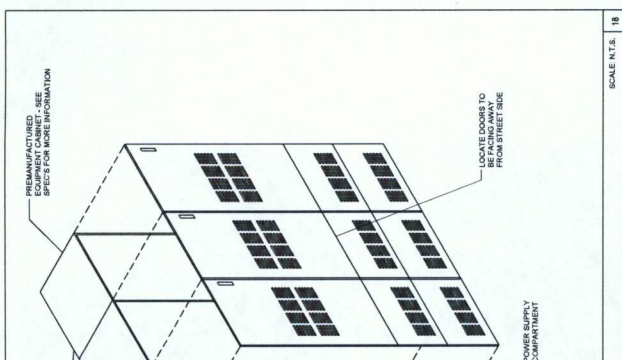
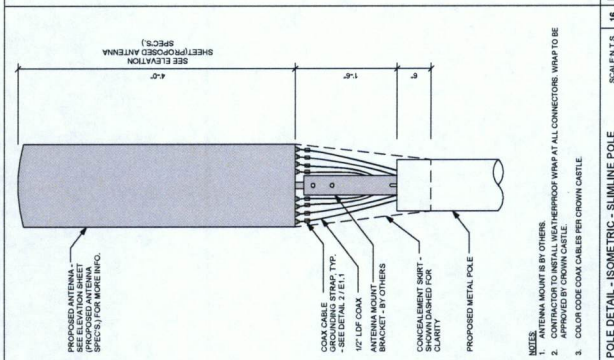
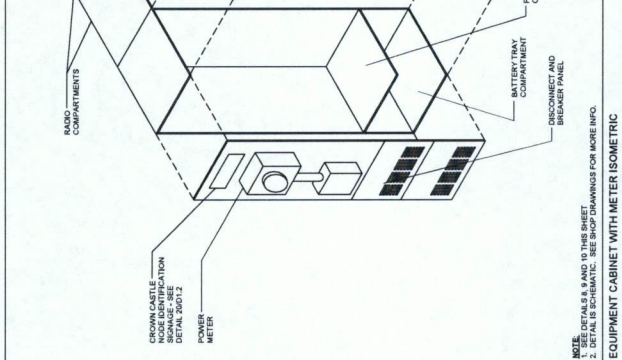
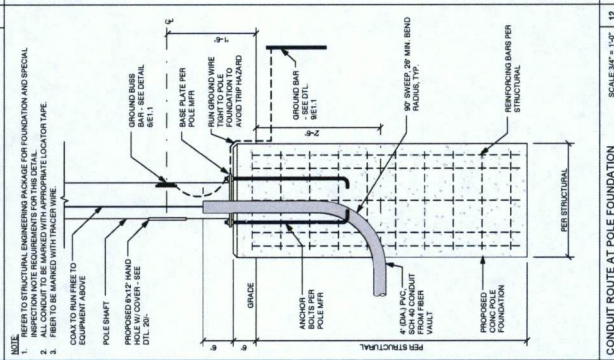
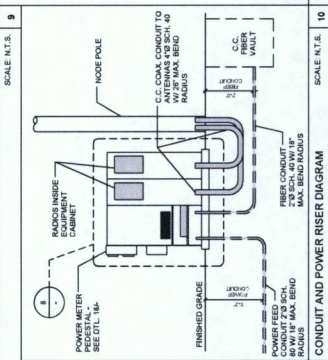
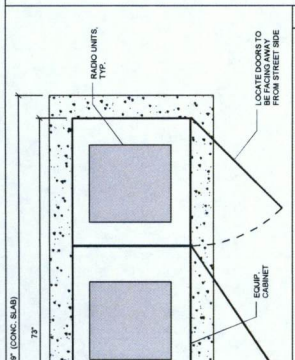
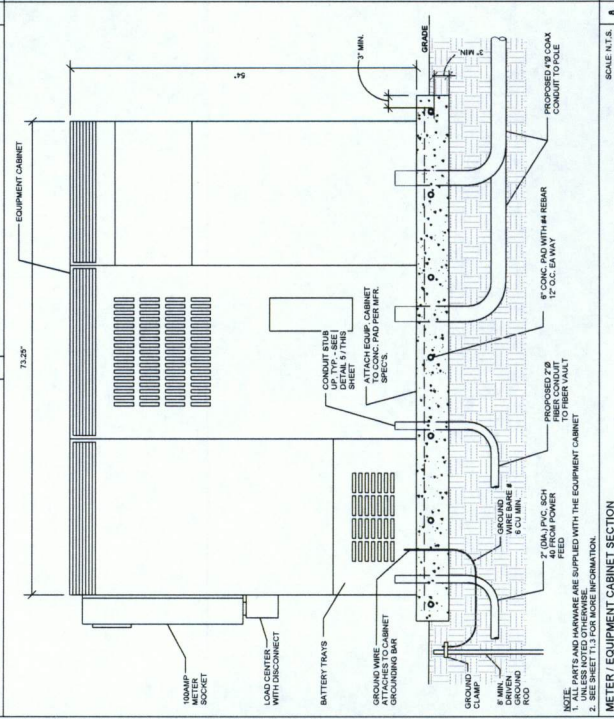
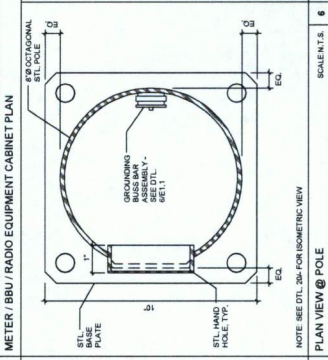
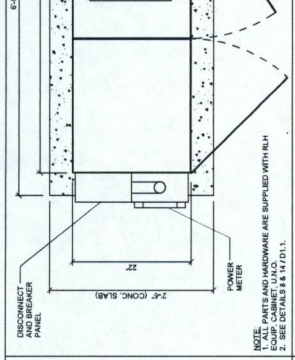
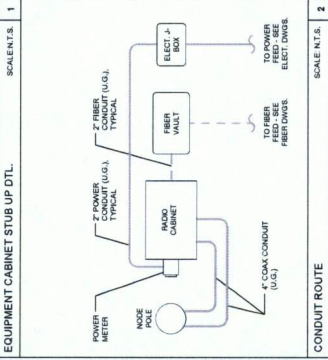
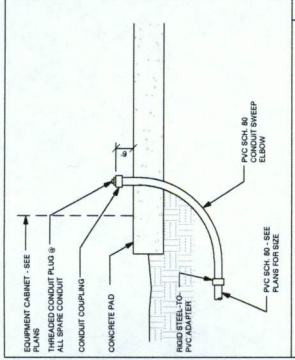
SHEET TITLE

POLE ELEVATION, PROPOSED

SHEET NUMBER PAGE

A1.2 6 OF 14

PLOT SCALE: 1:1 @ 24"x36"; 1:2 @ 11"x17"



SHIFT

Shift Companies, LLC
70111 NORTH WILTA ROAD
SCOTTSDALE, ARIZONA 85257
Tel: 480-344-1013
Fax: 480-284-1013

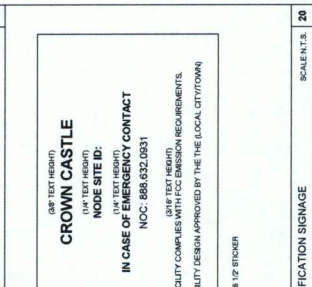
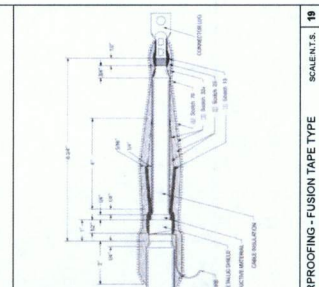
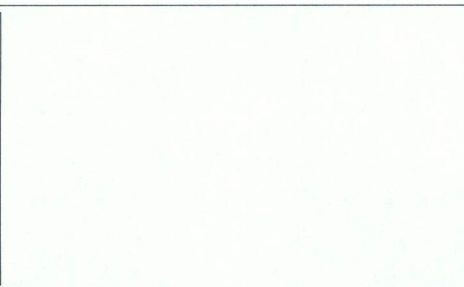
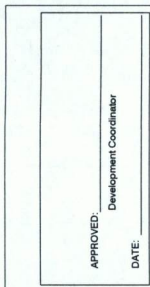
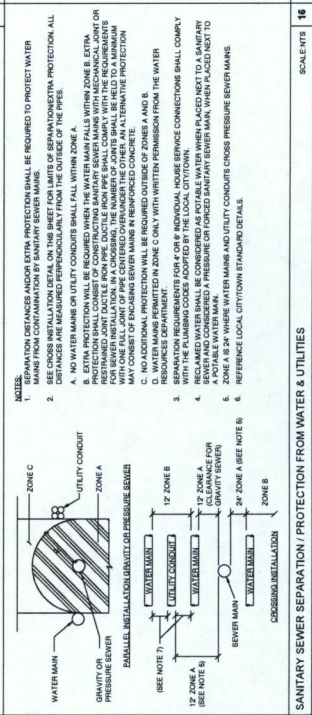
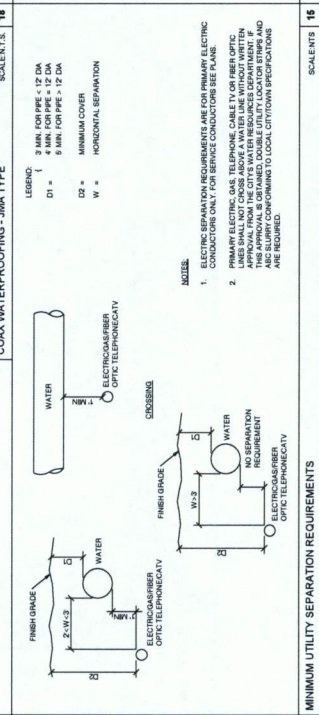
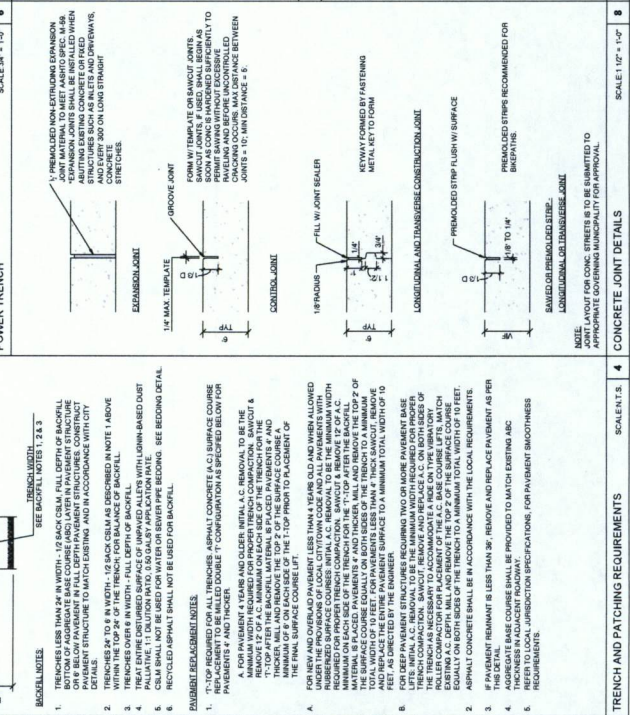
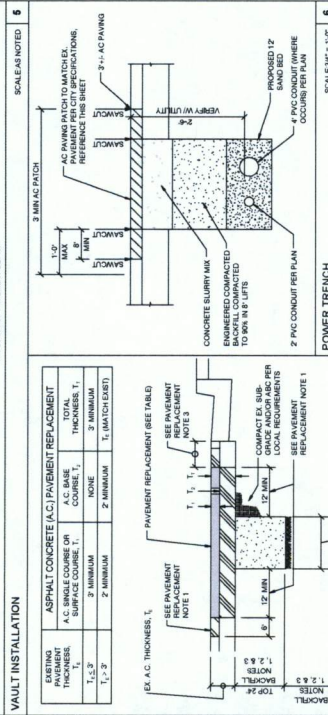
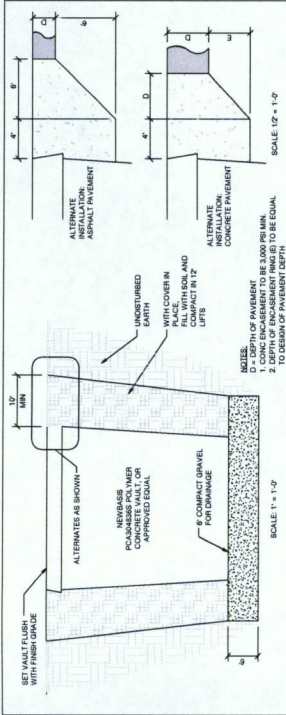
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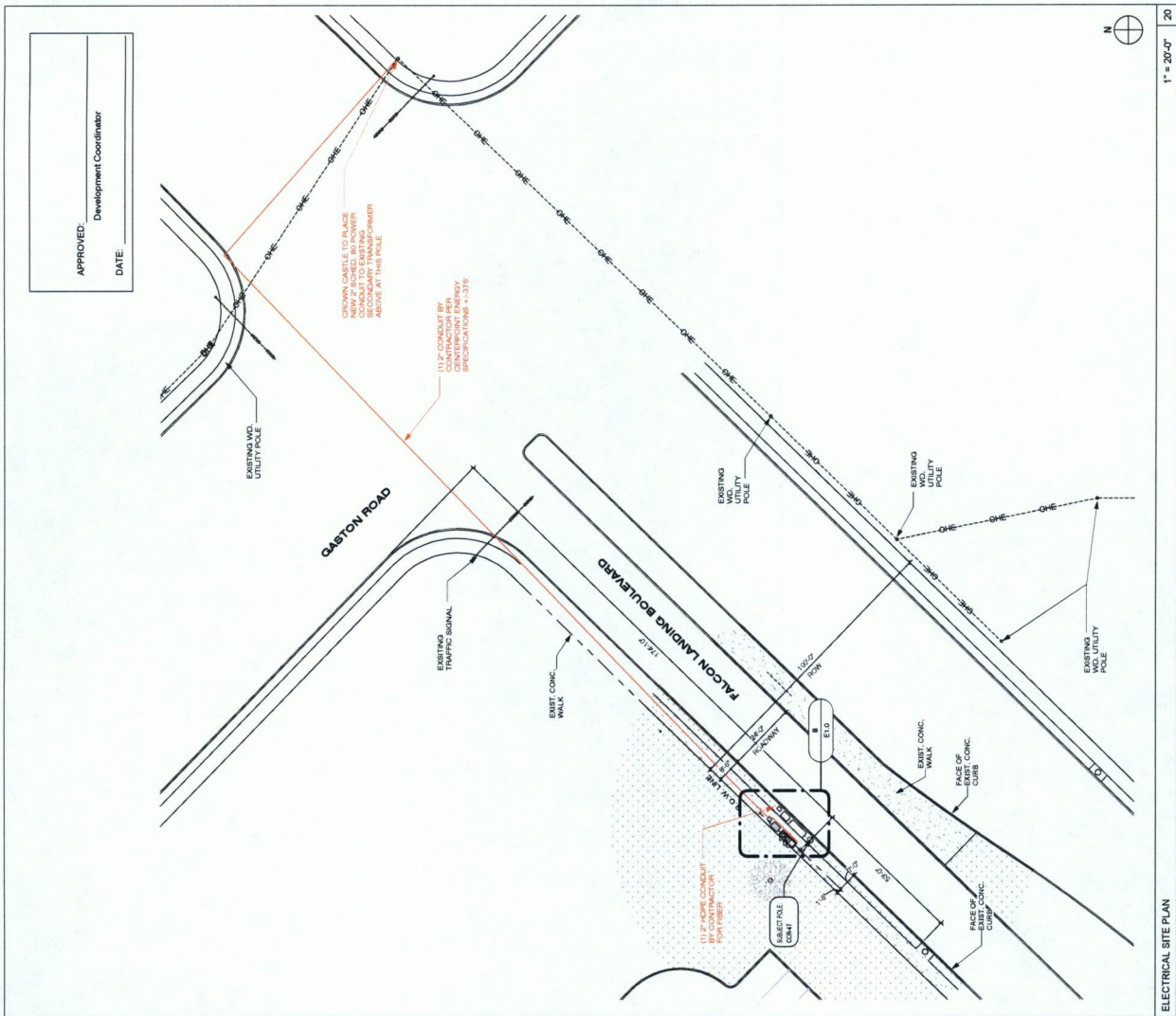
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DATE	SUBMITTAL
6/03/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

REVISIONS	
NO.	DATE
	10/18/16
	12/14/2016

PROJECT NAME
CINCO RANCH EXPANSION

HUB AREA		CINCO RANCH - HGOW	
SHIFT JOB NUMBER	IN HOUR	DRAWN BY: RW	CHECKED BY: CM
150602			
SHEET TITLE		CONSTRUCTION DETAILS	
SHEET NUMBER	PAGE	7 OF 14	
D1.1			





SHIFT

Shift Companies, LLC
7333 E. MONTE VISTA ROAD
SCOTTSDALE, ARIZONA 85257
ph: 480.264.0829
fax: 480.264.0113

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RELEASE	
DATE	SUBMITTAL
6.03.16	1ST CITY SUBMITTAL
10.18.16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
	10.18.16	CITY COMMENTS
	12.14.2016	SIDEWALK ADJUSTMENT

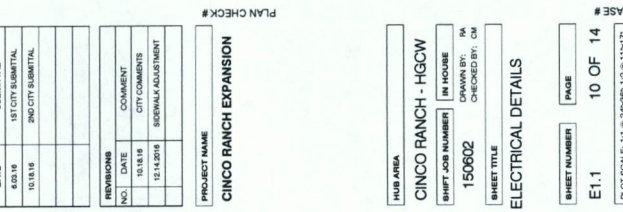
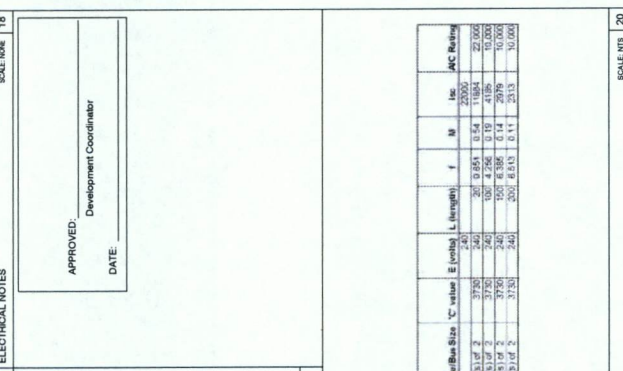
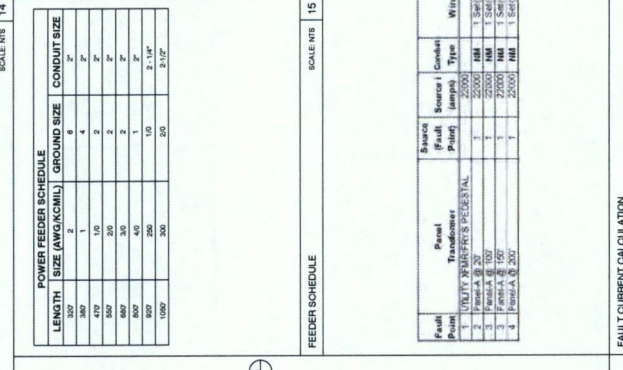
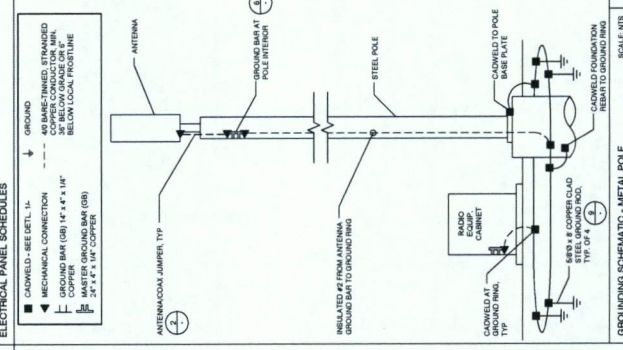
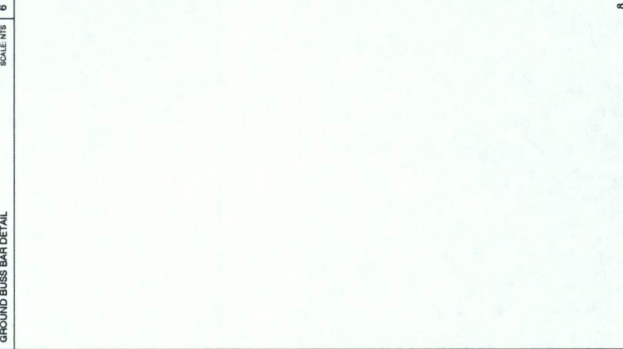
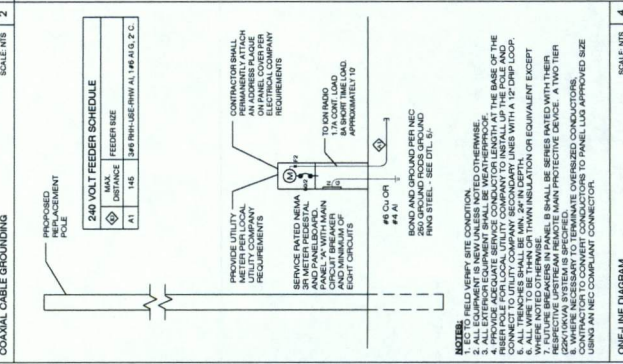
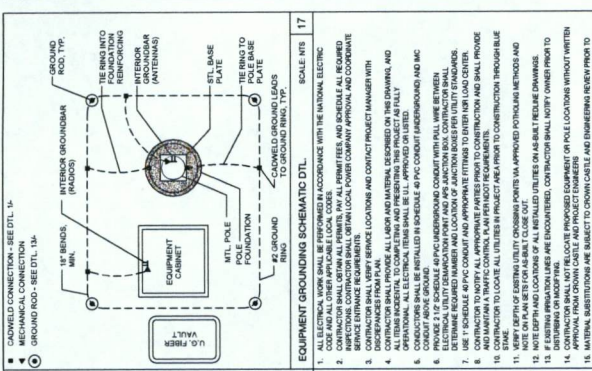
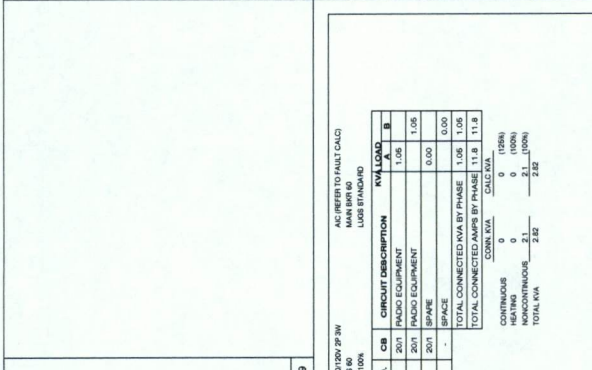
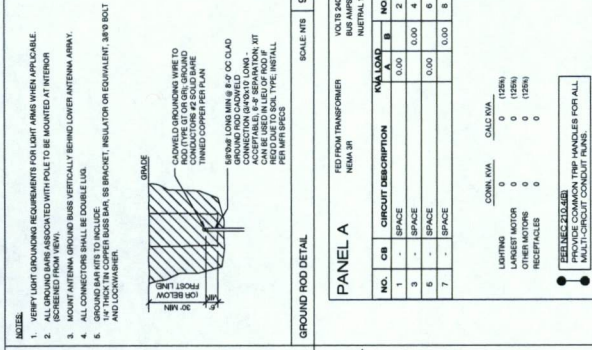
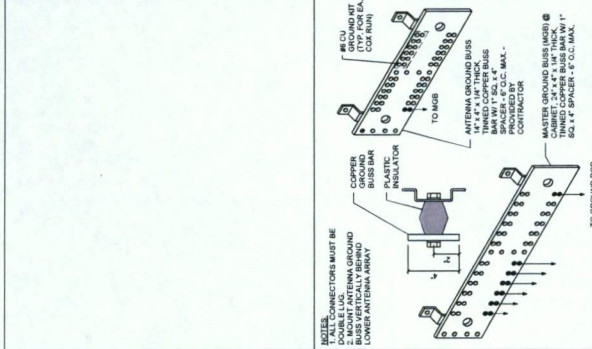
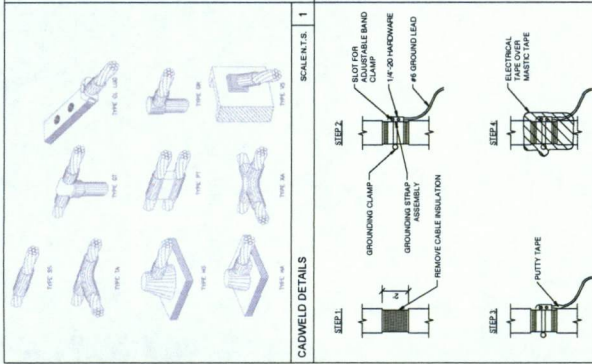
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CINCO RANCH EXPANSION

NODE #:CCR-47
GASTON RD AND
FALCON LANDING BLVD

HUB AREA	CINCO RANCH - HGCW	SHIFT JOB NUMBER	IN HOUSE
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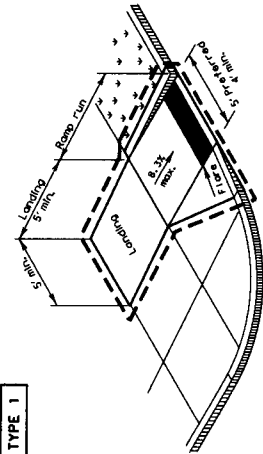
150602
DRAWN BY: RA
CHECKED BY: CM

SHEET NUMBER PAGE
E1.0 9 OF 14
PLOT SCALE: 1:1 @ 24x36; 1:2 @ 11x17



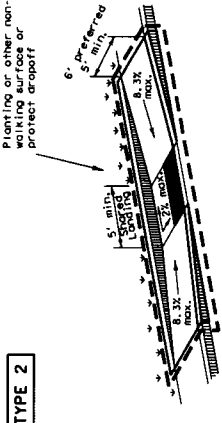
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TYPE 1



PERPENDICULAR CURB RAMP

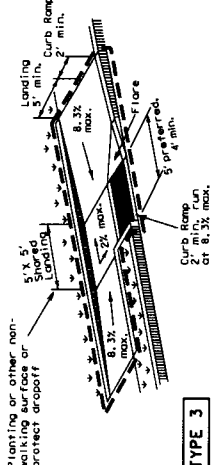
TYPE 2



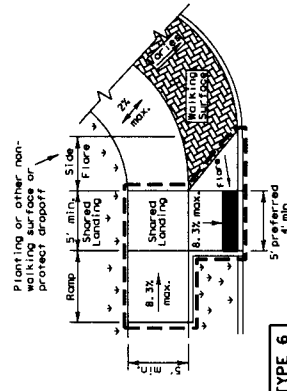
PARALLEL CURB RAMP

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

TYPE 3

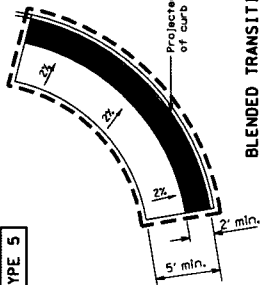


TYPE 6



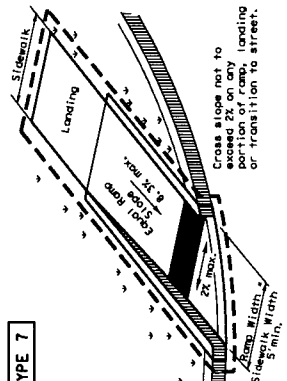
COMBINATION CURB RAMP

TYPE 5



BLENDED TRANSITION

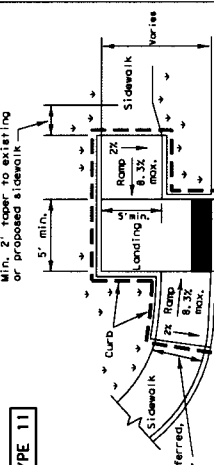
TYPE 7



(Sidewalk set back from curb)

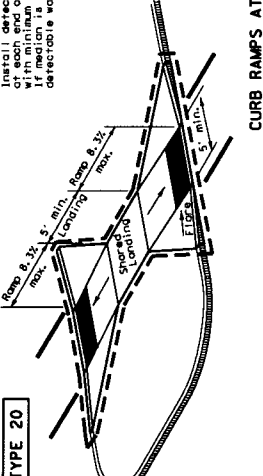
DIRECTIONAL RAMPS WITHIN RADIUS

TYPE 11



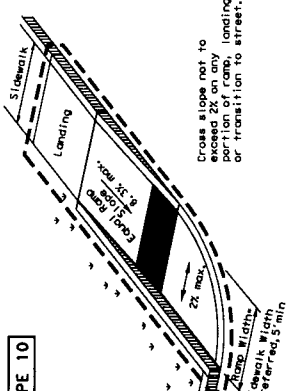
OFFSET PARALLEL CURB RAMP

TYPE 20



CURB RAMPS AT MEDIAN ISLANDS

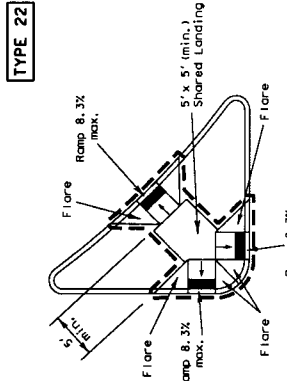
TYPE 10



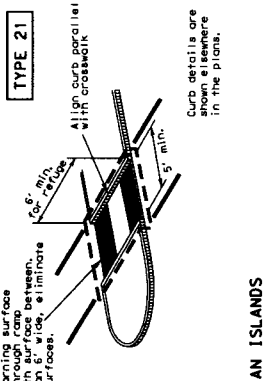
(Sidewalk adjacent to curb)

COMBINATION ISLAND RAMPS

TYPE 22



TYPE 21



NOTES / LEGEND:
See General Notes on sheet 2 of 4 for more information.
u.u. Denotes planting or non-walking surface not part of pedestrian circulation path.
--- Ramp Limits of Payment
■ Detectable Warning Surface

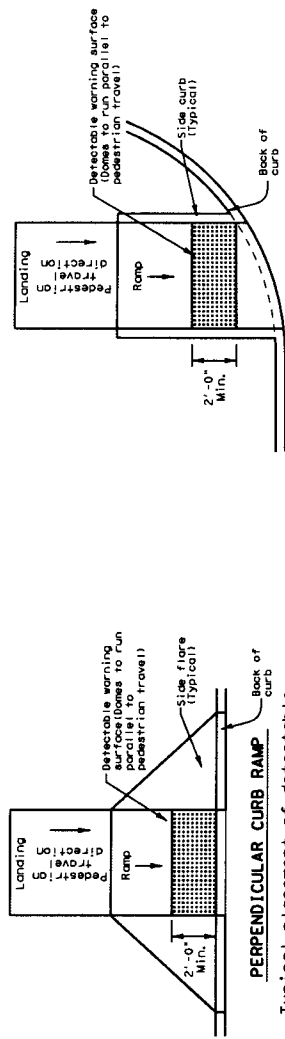
General Notes

Curb Ramps

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' passing areas at intervals not to exceed 200' are required.
4. Landings shall be 5' x 5' minimum with a maximum 2% slope in any direction.
5. Maneuvering space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
6. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and feature may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC 68.102.
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, marked with crosswalk markings. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Handrails are not required on curb ramps. Provide curb ramps wherever an accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curb shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.

Detectable Warning Material

18. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 705 of the TAS. The warning surface shall be visually distinct from the adjacent sidewalk surface. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
19. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
20. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
21. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
22. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. Align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Detectable warning surfaces may be curved along the corner radius.
23. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

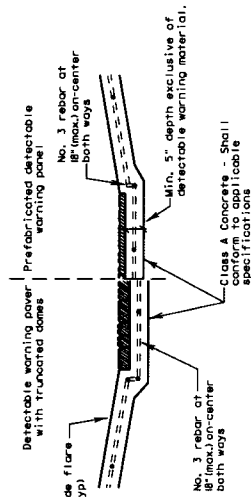


PERPENDICULAR CURB RAMP

Typical placement of detectable warning surface on sloping ramp run.

DIRECTIONAL CURB RAMP

Typical placement of detectable warning surface on sloping ramp run.



SECTION: CURB RAMP AT DETECTABLE WARNING

PARALLEL CURB RAMP

Typical placement of detectable warning surface on landing at street edge.

DETECTABLE WARNINGS

Detectable Warning Pavers

24. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit checker board pattern or as directed.
25. Lay full-size units first followed by closure units consisting of at least 25 percent of a full unit. Cut detectable warning paver units using a power saw.

Sidewalks

26. Provide clear ground space at operable parts, including pedestrian push buttons.
27. Operable parts shall be placed within one or more reach ranges specified in TAS 308.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway, where a continuous grade greater than 5% must be provided. Handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with TAS 505.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item 510, "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item 510, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

SHEET 2 OF 4



Texas Department of Transportation

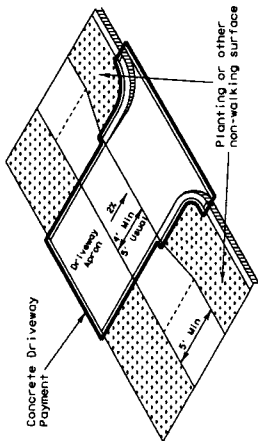
PEDESTRIAN FACILITIES

CURB RAMPS

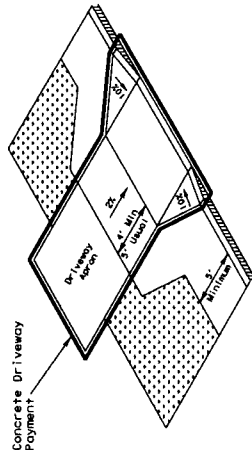
PED-12A

FILED	APR 20 2010	FOR	NO. 1001	BY	VP
DATE	APR 20 2010	SECTION	404	REVISION	
VP	JUNE 13, 2012	COUNTY		SHEET NO.	

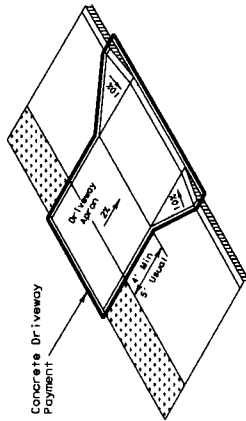
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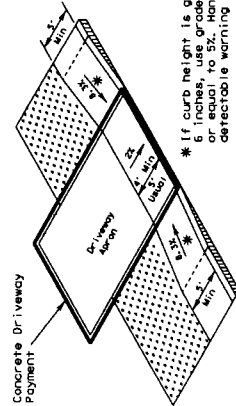
Set-back sidewalk



Apron offset sidewalk

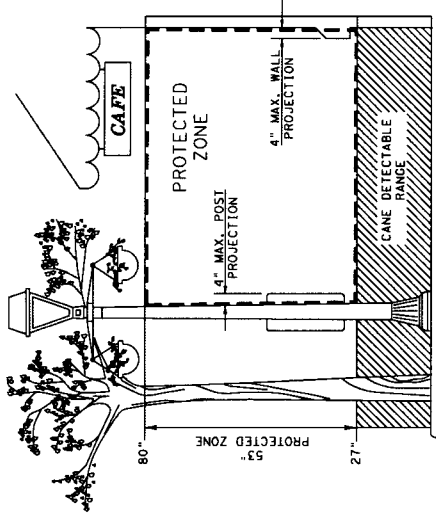


Wide sidewalk



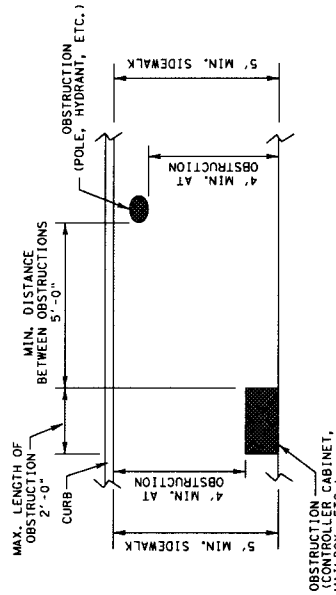
Ramp sidewalk

SIDEWALK TREATMENT AT DRIVEWAYS

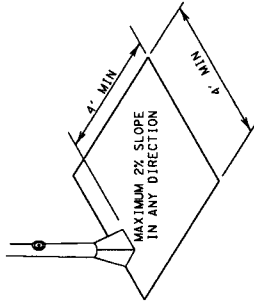


PROTECTED ZONE

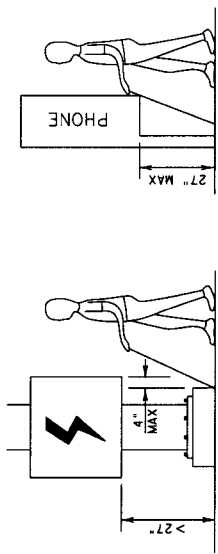
In pedestrian circulation area, maximum 4" projection for post or wall mounted objects between 27" and 80" above the surface.



PLAN VIEW PLACEMENT OF STREET FIXTURES (ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4" CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.)



CLEAR GROUND SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



When an obstruction of a height greater than 27" from the surface would create a protrusion of more than 4" into the pedestrian circulation area, construct additional curb or foundation at the bottom to provide a maximum 4" overhang.

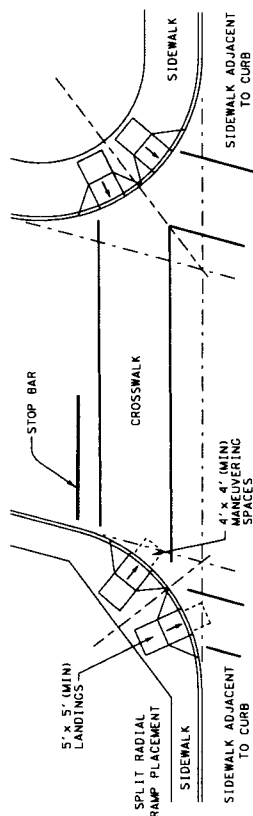
Protruding objects of a height $\leq 27"$ are detectable by cane and do not require additional treatment.

DETECTION BARRIER FOR VERTICAL CLEARANCE $< 80"$

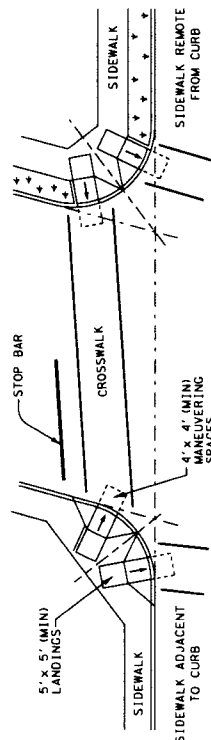
SHEET 3 OF 4

Texas Department of Transportation		Design Division Standard	
PEDESTRIAN FACILITIES			
CURB RAMPS			
PED-12A			
FILE: PED12A.000	DATE: 12/01	BY: JN	REVISED: 12/01
DESIGNED: 12/01	CHECKED: 12/01	DATE: 12/01	BY: JN
VP: June 13, 2012	REVISED: 12/01	DATE: 12/01	BY: JN
COUNTY		SHEET NO.	

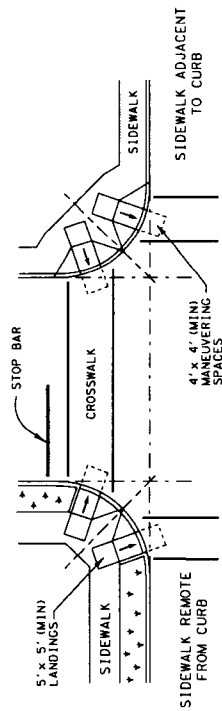
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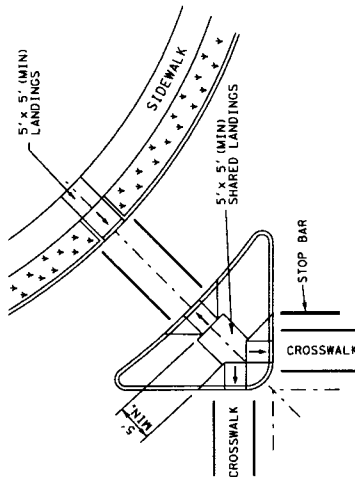
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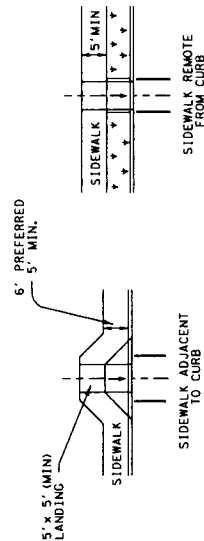
SKewed INTERSECTION WITH "SMALL" RADIUS



NORMAL INTERSECTION WITH "SMALL" RADIUS



AT INTERSECTION
W/FREE RIGHT TURN & ISLAND



MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

Texas Department of Transportation

Design Division

Standard

PEDESTRIAN FACILITIES

CURB RAMPS

PED-12A

SHEET 4 OF 4

FILED	ped12a.dgn	Rev 12/07	CS:RM	Rev 12/07	CS:VP
DATE	12/07	DATE	12/07	DATE	12/07
BY	VP	BY	VP	BY	VP
CHECKED	VP	CHECKED	VP	CHECKED	VP
DATE	JAN 13, 2012	DATE	JAN 13, 2012	DATE	JAN 13, 2012
COUNTY		COUNTY		COUNTY	
SHEET NO.		SHEET NO.		SHEET NO.	

TYPICAL CROSSING LAYOUTS