



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: 2016-10748

Applicant: Crown Castle NG Central LLC/Shift Companies

Job Location Site: 5615 1/2 S Fry Road, Katy, TX 77450

Bond No. [REDACTED] **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 13th day of December, 2016, Upon Motion of Commissioner Meyers, 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 12-21-16 Comm. Court No. 13N

By: N/A
Drainage District Engineer/Manager

Clerk of Commissioners Court
By: Aminda Willis
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: 2016-10748

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

(1) COMPLETE APPLICATION FORM:

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

(2) BOND:

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

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval

Date

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

Cheryl O. Ay

Permit Administrator

12/6/16

Date

SHIFT

November 28, 2016

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

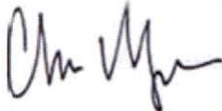
**RE: Cinco Ranch Traffic Control Plan
- Shift Project #160614**

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: RAINWOOD LN AND FRY RD

PROJECT TYPE: METAL SLIMLINE POLE
HUB AREA: CINCO RANCH - HGCW
NODE #(s): **CCR-51**
COORDINATES: LAT: 29.715566, LONG: -95.758179

T1.1 - SHEET INDEX		
SHEET #	SHEET DESCRIPTION	PAGE
T1.1	TITLE SHEET	1
T1.2	GENERAL NOTES ABBREVIATIONS AND SYMBOLS	2
T1.3	EQUIPMENT SPECIFICATIONS	3
A1.0	AERIAL	4
A1.1	SITE PLAN, EQUIPMENT AND ANTENNA PLAN	5
A1.2	POLE ELEVATION, PROPOSED	6
D1.1	CONSTRUCTION DETAILS	7
D1.2	CONSTRUCTION DETAILS	8
E1.0	ELECTRICAL PLANS	9
E1.1	ELECTRICAL DETAILS	10
REC-12A (1)	PEDESTRIAN FACILITIES CURB RAMPS	11
REC-12A (2)	PEDESTRIAN FACILITIES CURB RAMPS	12
REC-12A (3)	PEDESTRIAN FACILITIES CURB RAMPS	13
REC-12A (4)	PEDESTRIAN FACILITIES CURB RAMPS	14

FORT BEND COUNTY ENGINEER
 ENGINEER: *Paul J. Steinhilber, PE, PTOE*
 for *Richard W. Steinhilber, P.E.*
 DATE: 11/16/16
 APPROVED: *[Signature]*
 Development Coordinator
 DATE: 11/16/16

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



CROWN CASTLE
 600 E. JOHN CARPENTER Fwy.
 SUITE 300
 IRVING, TX 75062

RECORD DRAWINGS ISSUE DATE: 10/18/16

RECORD DRAWING DRAFTING ONLY



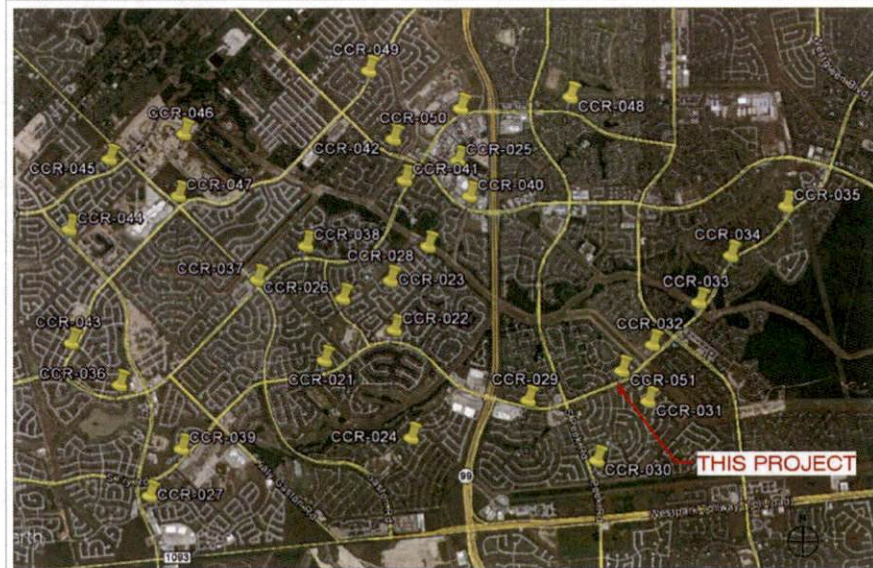
Shift Companies, LLC
 7715 E. WARRIOR BLVD. SUITE 100
 SCOTTSMOORE, TEXAS 75740
 PH: 480.254.8871
 FAX: 480.254.8833

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS REPRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

PROJECT TEAM	
ARCHITECT	OWNER INFO
Company: SHIFT CONSULTING Address: 7333 E. MONTE VISTA RD. SCOTTSDALE, AZ 85257 Phone Number: 480.264.0829 Fax Number: 480.264.0163 Contact: CHRIS MYERS	Company: CROWN CASTLE Address: 1220 AUGUSTA DR. HOUSTON, TX 77057 Phone #: 817.449.3113 Email: BARRY.CAMPALU@CROWNCASTLE.COM Contact: BARRY CAMPALU
STRUCTURAL	RF ENGINEER
Company: T.B.D. Address: Phone Number: Fax Number: Contact:	Company: CROWN CASTLE Address: 1220 AUGUSTA DR. HOUSTON, TX 77057 Phone Number: Fax Number: Contact:
FIBER ENGINEERING	
Company: TDC2 Address: 710 EAST PARK BLVD. SUITE 110 PLANO, TX 75074 Phone: 972.423.9060 Email: scott@tdc2.com Contact: SCOTT CRUM	

PROJECT SUMMARY	
PROJECT NAME: CINCO RANCH EXPANSION	APPLICANT: CROWN CASTLE 1220 AUGUSTA DR. HOUSTON, TX 77057 CONTACT: BARRY CAMPALU
PROJECT AREA: CINCO RANCH - HGCW	CODES: 2008 INTERNATIONAL BUILDING CODE (IBC) 2008 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2008 NATIONAL ELECTRICAL CODE (NEC) 2008 NATIONAL ELECTRICAL SAFETY CODE (NESC)
JURISDICTION: FORT BEND COUNTY ENGINEERING DEPT. 1124 SLUME RD. ROSENBERG, TX 77471 PH: 281.633.7500 CONTACT: JOHNNY ORTEGA	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 5431 HIGHWAY BLVD KATY, TX 77494 PH: 281.820.5275 CONTACT: KEN CORTEZ

NOTE: NOT ALL SITES ARE INCLUDED IN THIS SET. SEE NODE #S ABOVE FOR SITES THAT ARE IN THIS SET.



OVERALL NODE LOCATION MAP

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 IMPACTS IN URBAN SETTINGS. THE PROPOSED SYSTEM WILL PROVIDE A CELLULAR NETWORK THAT CAN BE UTILIZED SIMULTANEOUSLY 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.

RELEASE	
DATE	SUBMITTAL
9/28/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
1	10/18/16	CITY COMMENTS

PROJECT NAME
 CINCO RANCH EXPANSION

NODE ADDRESS
 NODE #:CCR-51
 RAINWOOD LN AND FRY RD

HUB AREA
 CINCO RANCH - HGCW

SHIFT JOB NUMBER IN HOUSE
 150602 DRAWN BY: RA
 CHECKED BY: CM

SHEET TITLE
 TITLE SHEET

SHEET NUMBER	PAGE
T1.1	1 OF 14


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

PART 9 - EXECUTION		SCALE: NTS 6	
1. EXECUTION			
A	Provide (1) main ground from the antenna mounting bracket at the top of the pole. To the main ground bus (TMGB) (location defined below). Main vertical ground shall consist of a 4" x 8" solid brass copper cable. Solid ground shall be protected by a PVC U-Guard to the top of the pole and extend every 2' with common resistor stepped galvanneal plates. #2 insulate copper cable against susceptibility to lightning by a PVC U-Guard to the top of the pole. #2 is coated is recommended by CDE. As it is cheaper and less likely to be stolen. Steel ground shall be protected by a PVC U-Guard to the top of the pole and extend every 2' with common resistor stepped galvanneal plates.		
B	Provide (1) main ground from the main ground bus (TMGB) (location defined below) to a ground rod at the pole base. Main ground vertical cable shall consist of a 4" x 8" solid brass copper cable. Steel ground shall be protected by a PVC U-Guard to the top of the pole and extend every 2' with common resistor stepped galvanneal plates.		
C	Ground rod shall be placed per NEC code with respect to depth and distance from wood pole.		
D	Ground rod shall be placed minimum of 6" below grade.		
E	#2 ground shall be protected per NEC code with respect to depth and distance from wood pole.		
F	Ground rod shall be placed per NEC code with respect to depth and distance from wood pole.		
G	#2 ground shall be placed per NEC code with respect to depth and distance from wood pole.		
H	Main ground vertical shall be attached directly to a ground bus (TMGB) (location defined below) to the top of the utility pole. Method of connect shall be 2" hole drilled lug (B) to the main ground bus (TMGB) on the left or top end depending on the orientation of the TMGB.		
I	Main ground vertical to the antenna mounting bracket shall be attached directly to the Antenna Bracket via a set tapping bolt or nut. A washer must be added to the thru bolt or nut to avoid damage to the lug while maintaining a secure bond.		
J	TMGB shall be installed above the Channel Cabinet below the 800 MHz antenna. Directly to the antenna pole structure.		
K	All pole mounted devices, including but not limited to: antenna mounts and antennas, mounting brackets, cabinets shall be connected to the TMGB with an approved crimped cable. All cables shall be green or copper.		
L	All pole mounted devices, including but not limited to: antenna mounts and antennas, mounting brackets, cabinets shall be connected to the TMGB using compression type 2 hole conductor lugs.		
M	Conductor lugs must attach to the bus bar with two holes facing up and with the bolt heads are on the back side of the bus bar.		
N	Flanking of conductor lugs is prohibited.		
O	Placement of conductor lugs on front and rear face of grounding bar is permitted.		
P	Any modification to the conductor lugs is prohibited, including but not limited to grinding, cutting or bending.		
Q	Conductor lugs must be installed with even spacing and must not come in contact with another conductor lug.		
R	Bottom side of the conductor lug should be bonded on the bottom side of the bus bar.		
S	All conductor lugs shall have (2) compression per lug.		
T	All conductor lugs must have NO-OD applied to any lugs which contact another metal to avoid corrosion including and especially the conductor in the compression end.		
U	All conductor lugs must be properly torqued from weather with heat stress.		
V	All conductor lugs must be attached using 3/8" hardware 2 per each lug and in the following manner:		
W	Flat Washer on the backside of the lug.		
X	Bolt thru the hole facing upward.		
Y	Flat Washer on the front side of the lug.		
Z	2" hole drilled lug (B) to the main ground bus (TMGB) on the left or top end depending on the orientation of the TMGB.		
AA	Flat Washer on the backside of the lug.		
AB	Flat Washer on the front side of the lug.		
AC	Flat Washer on the backside of the lug.		
AD	Flat Washer on the front side of the lug.		
AE	Flat Washer on the backside of the lug.		
AF	Flat Washer on the front side of the lug.		
AG	Flat Washer on the backside of the lug.		
AH	Flat Washer on the front side of the lug.		
AI	Flat Washer on the backside of the lug.		
AJ	Flat Washer on the front side of the lug.		
AK	Flat Washer on the backside of the lug.		
AL	Flat Washer on the front side of the lug.		
AM	No machine operations are acceptable except on the event of replacement (using a torque screw driver) of a product from the factory. - Channel Cabinet #6 ground lugs on each side of the cabinet.		
AN	Excess wires on cabinets must be ground off to a safe level.		
AO	All cut wires must be coated with Zinc-0 or the equivalent to prevent corrosion.		
AP	All exposed metal surfaces must be treated with a protective coating such as Zinc-0.		
AQ	All 48VAC exposed to environment must be sealed with stress wrap.		
AR	Exposed "shims" conductors are prohibited 7' in excess of 1' from an inlet.		
PART 3 - TESTING AND DOCUMENTATION			
1. TESTING	A. 5 Ohms ground is required for acceptance. If 5 Ohms cannot be met with above requirements, additional ground rods will be added to the field until 3 Ohms is achieved.		
2. DOCUMENTATION	A. Photos of the tests are required as well as test results in formal document format. Submit result of test to CC Construction Manager prior to this walkthrough. Submit all photos and tests with closed passages per Section 01700 - Closeout Procedures and Requirements Documents.		

GENERAL PROJECT NOTES		SCALE: NTS 10	
1.	PORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING.		
2.	CONTRACTOR SHALL NOTIFY PORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 48 HOUR NOTICE TO ANY CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE PAVING AT CONSTRUCTION@PORTBENDCOUNTYTX.GOV.		
3.	CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM PORT BEND COUNTY PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS WITHIN COUNTY ROAD RIGHT-OF-WAY.		
4.	ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH PORT BEND COUNTY "RULES, REGULATIONS AND REQUIREMENTS" RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS AS CURRENTLY AMENDED.		
5.	ALL ROAD WIDTHS, CURB RACKS AND CURB ALIGNMENT SHOWN INDICATED BACK OF CURB.		
6.	A CONTINUOUS LOW-CURB REINFORCING BAR SHALL BE USED IN THE CURBS.		
7.	ALL CONCRETE PAVEMENT SHALL BE 5" BACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS; TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 50 FEET.		
8.	ALL WEATHER ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.		
9.	4" x 12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB.		
10.	AT ALL INTERSECTION LOCATIONS, 12" x 12" HAMPS SHALL BE PLACED IN ACCORDANCE WITH TxDOT PRE-116-12 STANDARD DETAIL SHEET "A.D.A. - HANDICAP HAMPS (SHALL BE INSTALLED WITH STREET PAVING AT ALL INTERSECTIONS AND COMPLY WITH CURRENT A.D.A. REGULATIONS).		
11.	CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP HAMPS, WITH NO CONNECTION JOINT WITHIN 5' OF HAMPS.		
12.	ALL INTERSECTIONS (INCLUDING TRAFFIC CONTROL MEASURES) SHALL HAVE A.D.A. WHEEL CHAIR HAMPS INSTALLED.		
13.	GUIDELINES ARE SET FORTH IN THE TEXAS "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AS CURRENTLY AMENDED. SHALL BE OBSERVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE PLACEMENT, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION - BOTH DAY AND NIGHT.		
14.	ALL 11" STOP SIGNS SHALL BE 20" x 30" WITH DAMAGED SPACES SHEETING PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.		
15.	STREET NAME SIGNAGE SHALL BE ON A 6" HIGH SIGN FLAT BLADE REFLECTIVE ORANGE BACKGROUND; STREET NAMES SHALL BE UPPER AND LOWERCASE LETTERING WITH UPPER CASE LETTERS OF 6" MINIMUM AND LOWERCASE LETTERS OF 4.5" MINIMUM. THE LETTERS SHALL BE REFLECTIVE WHITE. STREET NAME SIGNS SHALL BE MOUNTED ON STOP SIGN POST.		
16.	A BLUE DOUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS; THE BUTTON SHALL BE PLACED 12 INCHES OFF OF THE CENTERLINE OF THE STREET ON THE SAME SIDE AS THE HYDRANT.		
NOTE: PORT BEND COUNTY NOTES SUPERSEDE ANY CONFLICTING NOTES.			
INTERSECTION, THE PROJECT AND ALL PARTS THEREOF SHALL BE SUBJECT TO INSPECTION FROM TIME TO TIME BY INSPECTORS DESIGNATED BY PORT BEND COUNTY. NO SUCH INSPECTIONS SHALL RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER. NEITHER FAILURE TO INSPECT NOR FAILURE TO DISCOVER OR REPORT ANY OF THE WORK AS NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, REQUIREMENTS AND SPECIFICATIONS OF PORT BEND COUNTY OR ANY PROVISION OF THIS PROJECT SHALL BE CONSTRUED TO IMPLY AN ACCEPTANCE OF SUCH WORK OR TO RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER.			


ALU CERTIFIED TECH NOTE		SCALE: NTS 11	
1.	RIGHT-OF-WAY USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.		
2.	A UTILITY LOCATE IS REQUIRED FOR ALL PROJECTS.		
3.	CROSSING OF EXISTING UTILITIES SHALL BE COORDINATED BY CONTRACTOR.		
4.	ALL WORK TO BE CONDUCTED IN CITY RIGHT OF WAY U.N.C.		
5.	ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.		
6.	ALL SURFACE REPAIR SHALL BE TO CITY SPECIFICATIONS.		
7.	ANY SIGNWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNAGE WILL BE PLACED.		
8.	TEMPORARY LIGHTING WILL BE COORDINATED WITH CITY AND PROVIDED THROUGHOUT EXISTING LIGHTING IS REMOVED OR UNAVAILABLE AS REQUIRED.		
9.	NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.		
10.	OPEN EXCAVATIONS SHALL BE PROPERLY GUARDED AND SIGNED. NO OPEN EXCAVATIONS WILL BE LEFT ACCESSIBLE TO THE PUBLIC.		
11.	CLEANUP OF THE WORK AREA WILL BE COMPLETED EACH EVENING AND THE PROJECT AREA WILL BE RETURNED TO EXISTING CONDITION AT THE COMPLETION OF CONSTRUCTION AT EACH NODE LOCATION.		
12.	ALL WORK TO COMPLY WITH HOUSTON AND CITY GUIDELINES.		
13.	CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING PRIVATE IRRIGATION PRIOR TO EXCAVATION; CONTRACTOR WILL REPAIR OR REDUCE IRRIGATION IN ROW AS NECESSARY.		
14.	THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND REPLACE AT THEIR COST ANY AND ALL DAMAGED PAVEMENT, SIDEWALK, CURB AND GUTTER OUTSIDE THE PAY LIMIT, DAMAGE DUE TO THEIR ACTIVITIES ON THE PROJECT. THIS INCLUDES BUT IS NOT LIMITED TO THE REMOVAL AND REPLACEMENT OF NEWLY CRACKED, THE REMOVAL AND REPLACEMENT OF EXISTING CRACKS WHERE THE CRACKS HAVE BEEN ENLARGED DUE TO THE CONTRACTOR'S OPERATIONS. THE REMOVAL AND REPLACEMENT OF DEFORMED PAVEMENT, CURB AND GUTTER, SIDEWALK, ETC. ALL SAW CUTS USED FOR THE REMOVAL OF THESE ITEMS SHALL BE PERPENDICULAR AND PARALLEL TO THE CENTERLINE CONTROLLING THAT ITEM, OR AT THE DISCRETION OF THE CITY INSPECTOR.		
15.	THE VALVES INSTALLED IN CONJUNCTION WITH THE INDIVIDUAL ANTENNA NEEDS SHALL BE FLUSH WITH THE GROUND.		

ABBREVIATIONS AND SYMBOLS		SCALE: NTS 20	
AC	ADJ	AIR	ADJUSTABLE
ADJ	ADJ	ADJ	ADJUSTABLE
AMB	AMB	AMB	AMERICAN WIRE GAUGE
APPROX	APPROX	APPROX	APPROXIMATELY
AWG	AWG	AWG	AMERICAN WIRE GAUGE
BCV	BLDG	BARE	COPPER WIRE
BLDG	BLDG	BARE	COPPER WIRE
BLK	BLK	BLOCK	BLOCK
BSB	BSB	BOTTOM	OF BLOCK
BS	BS	BUILDING	STANDARD
CLD	CLR	CEILING	CLEAR
CLR	CLR	CEILING	CLEAR
CONC	CONC	CONCRETE	CONSTRUCTION
CONST	CONST	CONCRETE	CONSTRUCTION
CONT	CONT	CONCRETE	CONSTRUCTION
CO	CO	CONCRETE	CONSTRUCTION
DBL	DBL	DOUBLE	DIAMETER
DM	DM	DOWN	DOWN
DTL	DTL	DETAIL	DRAWING
DWG	DWG	DETAIL	DRAWING
E	EA	EAST	EACH
EA	EA	EAST	EACH
EL	EL	ELEVATION	ELEVATION
EL	EL	ELEVATION	ELEVATION
ELECT	ELECT	ELECTRICAL	ELECTRICAL
EPS	EPS	ELECTRICAL	PULL BOX
EQ	EQ	EQUIPMENT	EQUIPMENT
EQUIP	EQUIP	EQUIPMENT	EQUIPMENT
EW	EW	EACH-WAY	EACH-WAY
EX	EX	EXISTING	EXISTING
EXT	EXT	EXTERIOR	EXTERIOR
FIN	FIN	FRESH	FLUORESCENT
FLUOR	FLUOR	FLOOR	FOOT-FEET
FUR	FUR	FLOOR	FOOT-FEET
FT	FT	FOOT	FOOT-FEET
GA	GA	GAUGE	GALVANIZED
GALV	GALV	GAUGE	GALVANIZED
GC	GC	GENERAL	CONTRACTOR
GLB	GLB	GLUE	LAMINATED BEAM
GRND	GRND	GROUND	GROUND
GWB	GWB	GYPSONUM	WALL BOARD
HORIZ	HR	HORIZONTAL	HORIZONTAL
HR	HR	HORIZONTAL	HORIZONTAL
HVAC	HVAC	HEATING, VENTING AND AIR	CONDITIONING
IBC	IBC	INTERNATIONAL	BUILDING CODE
ID	ID	INSIDE	DIA
IN	IN	INCH	INCH
INT	INT	INTERIOR	INTERIOR
INFT	INFT	INFORMATION	TRANSMIT SIGNAL
ISUP	ISUP	BY	BY
LBH	LBH	POUNDS	LINEAR FEET
LF	LF	POUNDS	LINEAR FEET
MAX	MAX	MAXIMUM	MECH
MECH	MECH	MECHANICAL	MECH
MTL	MTL	METAL	MANUFACTURER
MFR	MFR	METAL	MANUFACTURER
MGR	MGR	MANAGER	MANAGER
MNR	MNR	MATERIAL	MISCELLANEOUS
MISC	MISC	MATERIAL	MISCELLANEOUS
MEC	MEC	MATERIAL	MISCELLANEOUS
UG	UG	UNDERGROUND	UNDERGROUND
UN	UN	UNDERWRITERS	LAB
UNO	UNO	UNLESS	NOTED OTHERWISE
UNO	UNO	UNLESS	NOTED OTHERWISE
VERI	VERI	VERTICAL	VERIFY IN FIELD
VF	VF	VERTICAL	VERIFY IN FIELD
VP	VP	VERTICAL	VERIFY IN FIELD
ON	ON	ON CENTER	OUTSIDE DIAMETER
OP	OP	OPENING	OPENING
OPR	OPR	OPENING	OPENING
OSPR	OSPR	OPENING	OPENING
PROPERTY LINE	PROPERTY LINE	PROPERTY LINE	PROPERTY LINE
PLYWOOD	PLYWOOD	PLYWOOD	PLYWOOD
PAIR	PAIR	PAIR	PAIR
PROJECT	PROJECT	PROJECT	PROJECT
PROPERTY	PROPERTY	PROPERTY	PROPERTY
PRESSURE TREATED	PRESSURE TREATED	PRESSURE TREATED	PRESSURE TREATED
REFLECTED CEILING PLAN	REFLECTED CEILING PLAN	REFLECTED CEILING PLAN	REFLECTED CEILING PLAN
REQUIRED	REQUIRED	REQUIRED	REQUIRED
ROUGH	ROUGH	ROUGH	ROUGH
ROUGH OPENING	ROUGH OPENING	ROUGH OPENING	ROUGH OPENING
RIGHT-OF-WAY	RIGHT-OF-WAY	RIGHT-OF-WAY	RIGHT-OF-WAY
RECEIVE SIGNAL	RECEIVE SIGNAL	RECEIVE SIGNAL	RECEIVE SIGNAL
REVISION	REVISION	REVISION	REVISION
KEY NOTE	KEY NOTE	KEY NOTE	KEY NOTE
DETAIL REFERENCE	DETAIL REFERENCE	DETAIL REFERENCE	DETAIL REFERENCE
ELEVATION REFERENCE	ELEVATION REFERENCE	ELEVATION REFERENCE	ELEVATION REFERENCE
ELEVATION MARKER	ELEVATION MARKER	ELEVATION MARKER	ELEVATION MARKER
PHOTOSHOP REFERENCE	PHOTOSHOP REFERENCE	PHOTOSHOP REFERENCE	PHOTOSHOP REFERENCE
ANTENNA AZIMUTH	ANTENNA AZIMUTH	ANTENNA AZIMUTH	ANTENNA AZIMUTH
VIEW NUMBER	VIEW NUMBER	VIEW NUMBER	VIEW NUMBER
SHEET NUMBER	SHEET NUMBER	SHEET NUMBER	SHEET NUMBER
SHEET GROUP	SHEET GROUP	SHEET GROUP	SHEET GROUP
EXISTING TREE	EXISTING TREE	EXISTING TREE	EXISTING TREE
EXISTING BUSH / SHrub	EXISTING BUSH / SHrub	EXISTING BUSH / SHrub	EXISTING BUSH / SHrub
APPROVED	APPROVED	APPROVED	APPROVED
DATE	DATE	DATE	DATE
Development Coordinator	Development Coordinator	Development Coordinator	Development Coordinator



CROWN CASTLE
800 E. JOHN CARPENTER FWY
SUITE 300
IRVING, TX 75060

RECORD DRAWINGS DATE: 10/16/16



SHIFT
Shift Companies, LLC
1122 E. ROSS WITH ROAD
SUITES 100, IRVING, TX 75060
PH: 409.444.8077
FX: 409.444.8063

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE	
DATE	SUBMITTAL
10/16/16	1ST CITY SUBMITTAL
10/16/16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
1	10/16/16	CITY COMMENTS

PROJECT NAME

CINCO RANCH EXPANSION

HUB AREA

CINCO RANCH - HGCV

SHIFT JOB NUMBER	IN HOUSE
150802	DRAWN BY: RA CHECKED BY: CM

SHEET TITLE

GENERAL NOTES

ABBREVIATIONS AND SYMBOLS

SHEET NUMBER	PAGE
T1.2	2 OF 14

PLOT SCALE: 1:1 @ 24"X36" 1:2 @ 11"X17"

PLAN CHECK #

Cinco Ranch Expansion
700 KRH Specifications

Mechanical	
Frequency Band	B13 (700MHz)
Technology	LTE FDD
RF Output Power	2400W/4320W (5W configurations)
Operational Range	DL: 746-756 MHz UL: 777.962 MHz
Instantaneous BW	10 MHz (4 Carriers)
RF Configuration	272R, 274R, 474R
Interfaces	ANSI 3.5 RS485 port 2 integrated Smart Base Tees 5 port external antenna (x4) Tx & Rx monitor ports
Power	620W typical @ full RF load -48 VDC
Environmental	-40°C to +55°C
Conditions	IP65
Connectors	DIN 7116



Physical	
Dimensions	21.8 x 12 x 3 in
Weight	37 lbs
Mounting options	Post/Wall
Connector Location	Bottom

Cinco Ranch Expansion
PCS KRH Specifications (Future)

Mechanical	
Frequency Band	B2 & B25 (1900)
Technology	LTE FDD
RF Output Power	2400W/4320W (5W configurations)
Operational Range	DL: 1930-1995 MHz UL: 1850-1915 MHz
Instantaneous BW	6.5 MHz (4 Carriers)
RF Configuration	272R, 274R, 474R
Interfaces	2 CPRI ports (x2) 2 integrated Smart Base Tees 5 port external antenna (x4) Tx & Rx monitor ports 2 port RS485 port
Power	620W typical @ full RF load -48 VDC
Environmental	-40°C to +55°C
Conditions	IP65
Connectors	DIN 7116



Physical	
Dimensions	21.2 x 12 x 7.1 in
Weight	33 lbs
Mounting options	Post/Wall
Connector Location	Bottom

Cinco Ranch Expansion
AWS KRH Specifications

Mechanical	
Frequency Band	B4 (2100)
Technology	LTE FDD
RF Output Power	2400W/4320W (5W configurations)
Operational Range	DL: 2110-2180 MHz UL: 1885-1950 MHz
Instantaneous BW	7.5 MHz
RF Configuration	272R, 274R, 474R
Interfaces	ANSI 3.5 RS485 port 2 integrated Smart Base Tees 5 port external antenna (x4)
Power	-48 VDC
Environmental	-40°C to +55°C
Conditions	IP65
Connectors	M16-DIN 4.3-18



Physical	
Dimensions	26 x 12 x 7.7 in
Weight	78 lbs
Mounting options	Post/Wall
Connector Location	Bottom

RADIO SPECIFICATIONS

SCALE: N T 5 10

Amphenol 696-960 / 696-960 / 1695-2700 / 1695-2700 MHz

2C2UT360X12Fxyz0

With (DIN 360) / PSEUDO DIN / LAMPED ATTENUATOR / DL (x4) / PL / 30P / 30P / 30P / 30P / 4.4-1.0-1.0-1.0-1.0-1.0 / PSEUD 120

Features

- Passive (DIN) configuration with 8 connectors
- Ideal for Small Cell (SCS) applications
- Available with 4.17x3.0 or 4.17x3.0 (17.0) DIN connectors
- Three (3) connector options
- Can be painted to blend in with mounting structure

Connector Description

The antenna has 8 connectors located at the bottom, each marked with a colored ring.

Low Band #1 & #2	High Band #1 and #2
Low Band #1: 476-756 MHz	High Band #1: 1930-1995 MHz
Low Band #2: 1885-1950 MHz	High Band #2: 2110-2180 MHz

Electrical Characteristics	Low Band #1 and #2	High Band #1 and #2
Frequency Bands MHz	476-756 MHz	1930-1995 MHz / 2110-2180 MHz
Power	2400 W	2400 W
Horizontal Beamwidth	30P	30P
Vertical Beamwidth	30P	30P
Gain	12.5 dBi	12.5 dBi
Electrical Strength (V)	4000 V	4000 V
Impedance	50 Ohm	50 Ohm
VSWR	1.5:1	1.5:1
Upper Sideband Suppression	> 15 dB	> 15 dB
Isolation Between Ports	20 dB	20 dB
MS-DIN Connector	> 132 dBm	> 132 dBm
Peak Power	300 W	300 W
Operating	No	No
Number of Antennas / Sector Spacing	3 Antennas / 120 Degree	3 Antennas / 120 Degree
Lightning Protection	Shield Ground	Shield Ground

1 Section / Physical Order

Mechanical Characteristics

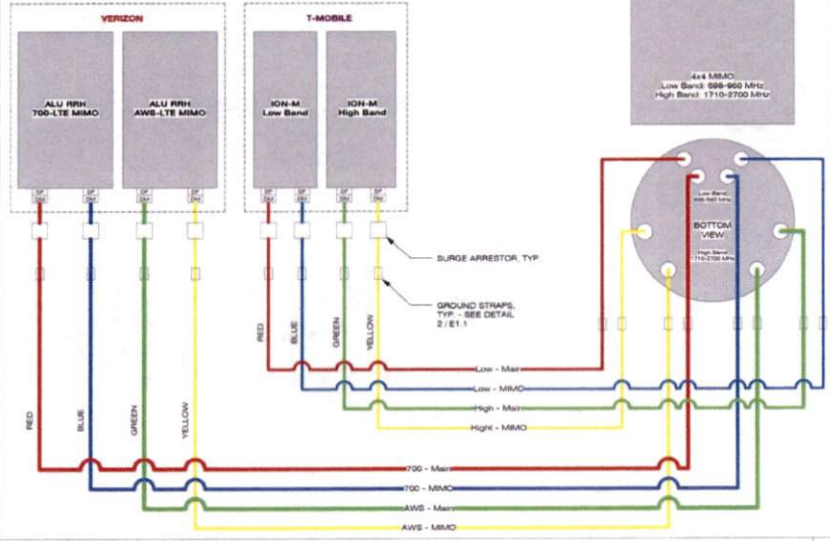
Minimum Dimension (Height x Diameter)	1229 x 271 mm	48.3 x 10.6 in
Weight without Mounting Bracket (kg)	11.3 kg	25.0 lbs
Terminal Thread Spacing	200 mm	7.87 in
Wind Area	0.47 m ²	0.53 ft ²
Wind Load (150 mph) at 100 mph	391 N	88 lbs

1 of 5

www.amphenol-antennas.com

SCALE: N T 5 12

CROWN CASTLE



WIRING DIAGRAM

SCALE: N T 5 18

CROWN CASTLE

CROWN CASTLE
800 E. JOHN CARPENTER Fwy.
SUITE 300
IRVING, TX 75062

RECORD DRAWINGS (ISSUE DATE: 10-14-16)

SHIFT

Shift Companies, LLC
15311 ROSE BERRY AVE
SCOTTSDALE, ARIZONA 85251
248-462-0000
www.shiftco.com

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE	
DATE	SUBMITTAL
6/20/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

REVISIONS		
NO	DATE	COMMENT
	10/18/16	CITY COMMENTS

PROJECT NAME
CINCO RANCH EXPANSION

HUB AREA

CINCO RANCH - HGCV

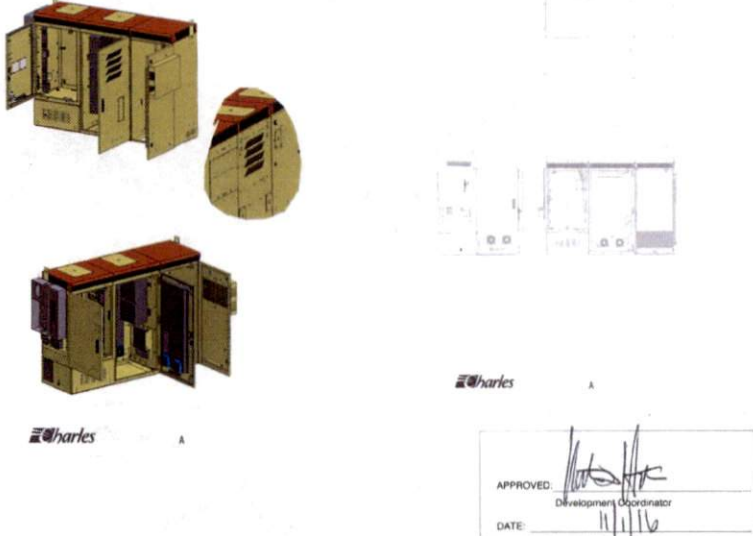
SHIFT JOB NUMBER 150602 IN HOUSE
DRAWN BY: RA CHECKED BY: CM

SHEET TITLE

EQUIPMENT SPECIFICATIONS

SHEET NUMBER T1.3 PAGE 3 OF 14

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

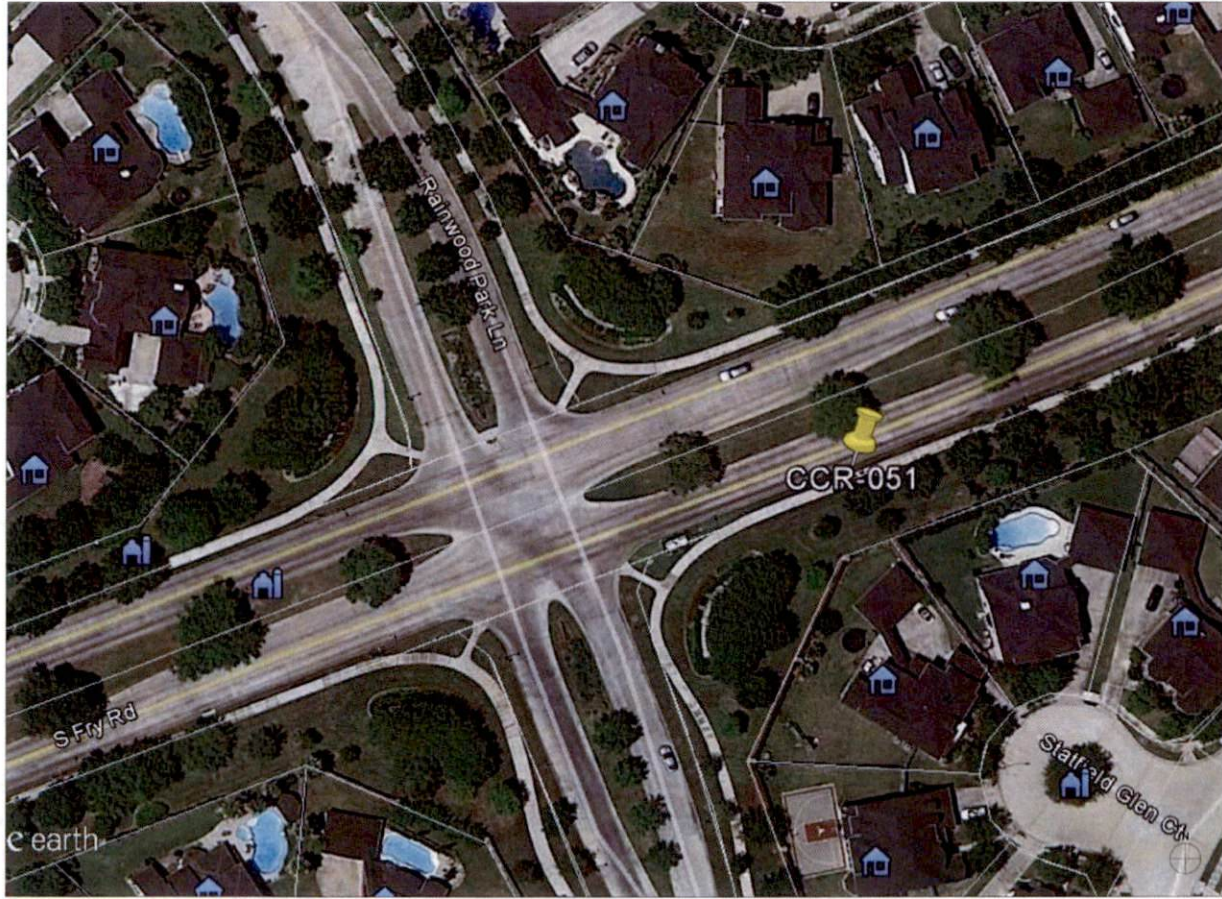


EQUIPMENT CABINET SPECIFICATIONS

SCALE: N T 5 20

APPROVED: [Signature]
Development Coordinator
DATE: 11/1/16

ANTENNA SPECIFICATIONS



NODE AERIAL PLAN

SUBJECT POLE: CCR-51

GPS COORDINATES:

LAT: 25.715666

LONG: -95.781712

POLE TYPE: METAL SLIMLINE POLE

POLE ID #:

UPPER ANTENNA RAD CENTER: 30' - 0" A.F.D.

LOWER ANTENNA RAD CENTER: 30' - 0" A.F.D.

APPROVED: *[Signature]*
Development Coordinator

DATE: 11/16



CROWN CASTLE
600 E. JOHN CARPENTER Fwy
SUITE 300
IRVING, TX 75062

RECORD DRAWINGS ISSUE DATE: 10-16-16



Shift Companies, LLC
7311 E. HEINE ROAD
MCKINNEY, TEXAS 75069
PH: 972.344.0000
TX: 972.344.0002

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS REPRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE	
DATE	SUBMITTAL
8-03-16	1ST CITY SUBMITTAL
10-18-16	IND-CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
	10-18-16	CITY COMMENTS

PROJECT NAME
CINCO RANCH EXPANSION

NODE ADDRESS
NODE #:CCR-51
RAINWOOD LN AND FRY RD

HUB AREA
CINCO RANCH - HGCW

SHIFT JOB NUMBER IN HOUSE
150602

SHEET TITLE
AERIAL

SHEET NUMBER **PAGE**
A1.0 4 OF 14

PLOT SCALE: 1" @ 24'-0" 1/2 @ 11'x17"



SITE PHOTO (EXISTING)

N.T.S.

PLAN CHECK #

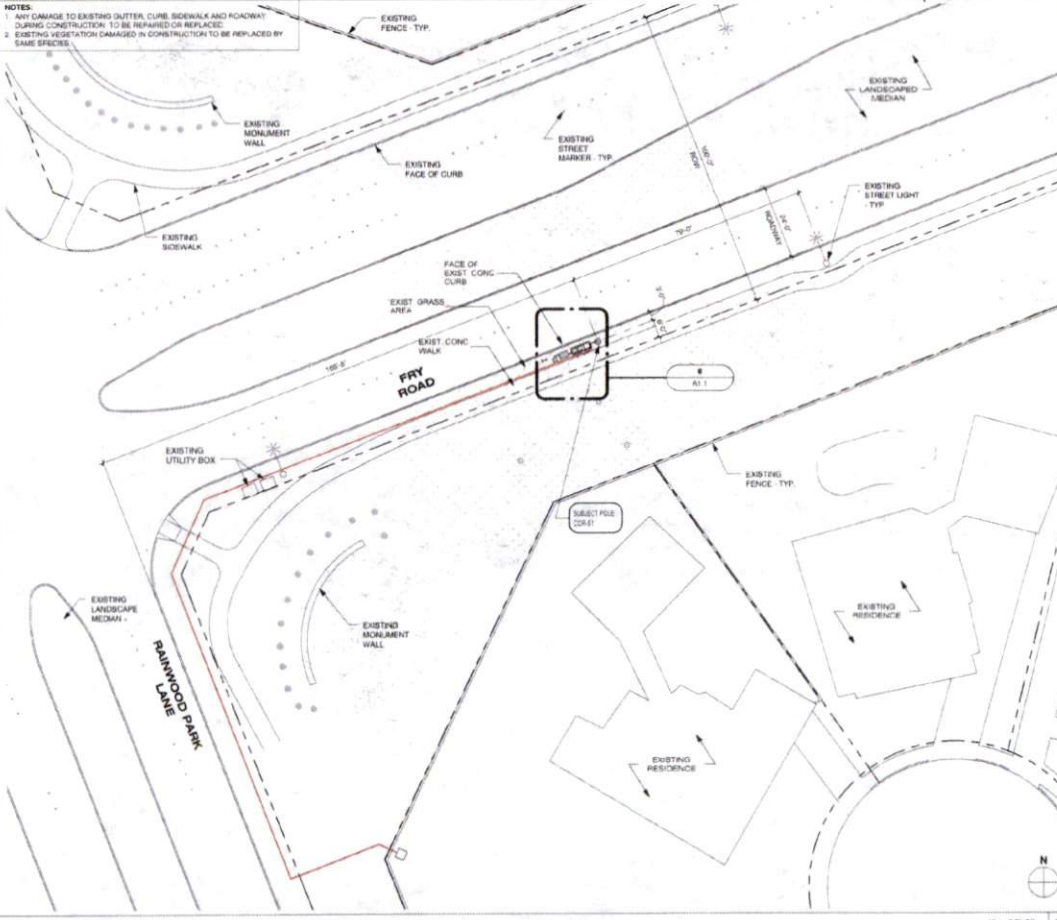
CASE #

KEYNOTE	KEYNOTE LEGEND DESCRIPTION	DETAIL
A01	PROPOSED CROWN CASTLE OMNI ANTENNA	18D1.1
A02	PROPOSED CROWN CASTLE 2" U.G. CONDUIT (APPROXIMATE LOCATION, F.V.)	20D1.1
A03	PROPOSED CROWN CASTLE REMOTE RADIO UNIT INSIDE EQUIPMENT CABINET	18D1.1
A04	PROPOSED NEW METAL SLALINE POLE	20D1.1
A05	PROPOSED CROWN CASTLE (UNDERGROUND) CONC. FIBER VAULT	5D1.2
A06	PROPOSED CROWN CASTLE NODE IDENTIFICATION SIGNAGE	20D1.2
A07	PROPOSED CROWN CASTLE EQUIPMENT CABINET	18D1.1
A08	PROPOSED CROWN CASTLE FIBER FOUNDATION	12D1.1
A09	PROPOSED ELECTRICAL HAND HOLE	

KEYNOTE	KEYNOTE LEGEND DESCRIPTION	DETAIL
U01	PROPOSED 2" CROWN CASTLE U.G. POWER CONDUIT (APPROXIMATE LOCATION, F.V.)	20D1.1 & 6D1.2
U02	PROPOSED CROWN CASTLE 2" U.G. FIBER CONDUIT BY OTHERS (APPROXIMATE LOCATION, F.V.)	20D1.1 & 6D1.2



NOTES:
 1. ANY DAMAGE TO EXISTING GUTTER, CURB, SIDEWALK AND ROADWAY DURING CONSTRUCTION TO BE REPAIRED OR REPLACE.
 2. EXISTING VEGETATION DAMAGED IN CONSTRUCTION TO BE REPLACED BY SAME SPECIES.



GENERAL NOTES

- PAINT PROPOSED GROUND EQUIPMENT A NATURAL EARTH COLOR OR AS APPROVED BY CITY
- CONTRACTOR TO FIELD LOCATE EXIST UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION
- EX. LANDSCAPE PLANTINGS AND DECORATIVE HARDSCAPES DISTURBED OR DESTROYED AS A RESULT OF CONSTRUCTION SHALL BE REPLACED WITH A LIKE SIZE AND SPECIES
- CONTRACTOR TO HAND LOCATE EX. IRRIGATION PRIOR TO EXCAVATION
- SITE PLAN IS A DIAGNOMATIC REPRESENTATION ONLY. VERIFY ALL DIMENSIONS
- VERIFY ALL PROPERTY LINE INFORMATION WITH AVAILABLE R.O.W. DATA
- EXIST. UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY (AS PROVIDED BY LOCAL UTILITIES)

SUBJECT POLE: CCR-51

GPS COORDINATES:

LAT: 29.715866

LONG: 95.758179

POLE TYPE: METAL SLALINE POLE

POLE ID #:

UPPER ANTENNA RAD CENTER: 32' - 0" A.P.G.

LOWER ANTENNA RAD CENTER: 30' - 0" A.P.G.

SUBJECT POLE IS LOCATED IN: FORT BEND COUNTY R.O.W.

APPROVED: [Signature]
Development Coordinator

DATE: 11/11/16



CROWN CASTLE
 600 E. JOHN CARPENTER Pkwy.
 SUITE 200
 IRVING, TX 75062

RECORD DRAWINGS - ISSUE DATE: 10.18.16



Shift Companies, LLC
 7311 E. HOUSTON BOULEVARD
 SUITE 100, ARLINGTON, TEXAS 76010
 817.465.2424
 WWW.SHIFT.COM

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE	
DATE	SUBMITTAL
6/23/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
10	10-18-16	CITY COMMENTS

PROJECT NAME
CINCO RANCH EXPANSION

HUB ADDRESS

NODE #: CCR-51
RAINWOOD LN AND FRY RD

HUB AREA
CINCO RANCH - HGCW

SHIFT JOB NUMBER 150602
IN HOUSE
 DRAWN BY: RA
 CHECKED BY: CM

SHEET TITLE
SITE PLAN, EQUIPMENT AND ANTENNA PLAN

SHEET NUMBER A1.1
PAGE 5 OF 14

PLOT SCALE: 1/1 @ 24"x36"; 1/2 @ 17"x17"

NOTE:
ISO IS SCHEMATIC IN NATURE. FIBER VAULT, POWER METER PEDESTAL AND GROUND-MOUNTED RADIO EQUIPMENT PEDESTAL CAN BE RECONFIGURED TO SUIT PROJECT LOCATION

KEYNOTE LEGEND		
KEYNOTE	DESCRIPTION	DETAIL NUMBER
A01	PROPOSED CROWN CASTLE OMN ANTENNA	16D1.1
A02	PROPOSED CROWN CASTLE 2" U.S. CONDUIT (APPROXIMATE LOCATION, F.V.)	12D1.1
A03	PROPOSED CROWN CASTLE REMOTE RADIO UNITS INSIDE EQUIPMENT CABINET	18D1.1
A04	PROPOSED NEW METAL SLIMLINE POLE	20D1.1
A05	PROPOSED CROWN CASTLE UNDERGROUND COILS, FIBER VAULT	18D1.2
A06	PROPOSED CROWN CASTLE NODE IDENTIFICATION SIGNAGE	25D1.2
A07	PROPOSED CROWN CASTLE EQUIPMENT CABINET	18D1.1
A08	PROPOSED CROWN CASTLE POLE FOUNDATION	12D1.1
A09	PROPOSED ELECTRICAL HAND HOLE	
A10	PROPOSED POWER METER MOUNTED TO EQUIPMENT CABINET (DISTRIBUTED PANEL AND DISCONNECT)	18D1.1

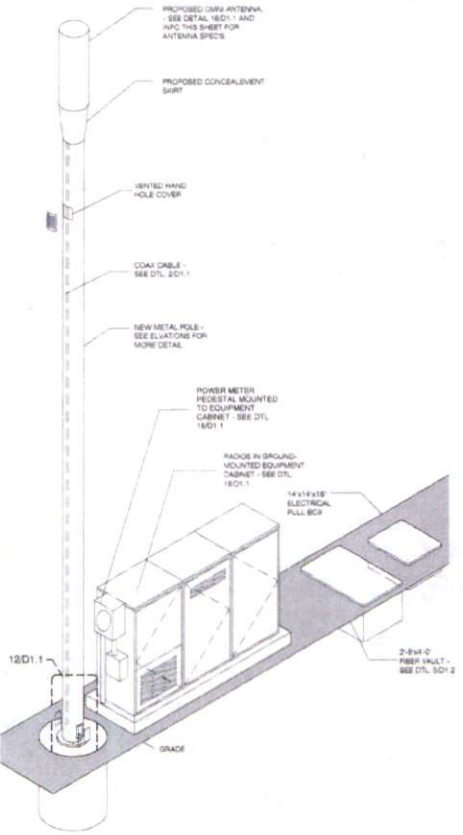
MODEL: AIRPANEL - JCUTM6K13FV40
 LENGTH: 40"
 WIDTH: 14.6" DIA
 DEPTH: 8"
 WEIGHT: 28 LBS

PROPOSED PANEL ANTENNA SPECS

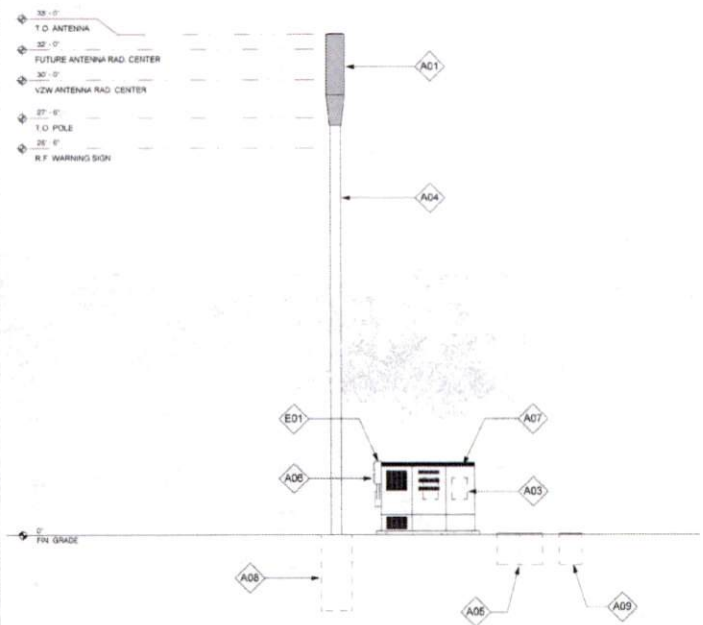
PROPOSED POLE WIDTH = 6"0
 PROPOSED POLE HEIGHT = 27' - 6"
 (14' 4" ANTENNA AND 13' ANTENNA MOUNT)

POLE INFO

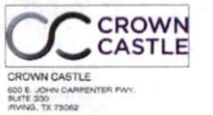
APPROVED: *[Signature]*
 Development Coordinator
 DATE: 11/1/16



METAL POLE ISOMETRIC SCALE: SCALE N.T.S. 4



POLE ELEVATION (PROPOSED) SCALE: 1/4" = 1'-0" 20



RECORD DRAWING ISSUE DATE: 10-18-16



THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS APPLICABLE REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE	
DATE	SUBMITTAL
6/23/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENTS
1	10/18/16	CITY COMMENTS

PROJECT NAME: CINCO RANCH EXPANSION

NODE ADDRESS: NODE #CCR-51

RAINWOOD LN AND FRY RD

HUB AREA: CINCO RANCH - HGCW

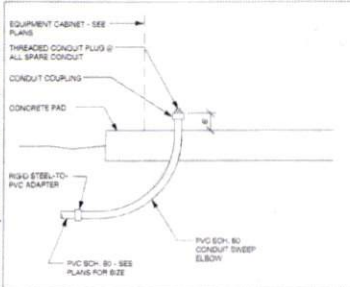
SHIFT JOB NUMBER: 150602 IN HOUSE
 DRAWN BY: RA CHECKED BY: CM

SHEET TITLE: POLE ELEVATION, PROPOSED

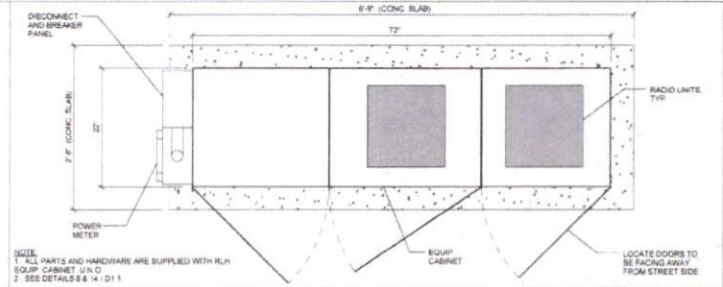
SHEET NUMBER: A1.2 PAGE: 6 OF 14
 PLOT SCALE: 1/1" @ 24x36", 1/2" @ 11x17"

C:\Users\ruelbe_000\Documents\AAA - Crown Castle Houston\Cinco Ranch Expansion\Sites\Cinco Ranch Expansion - Detail Sheets - 12.14.15.rvt

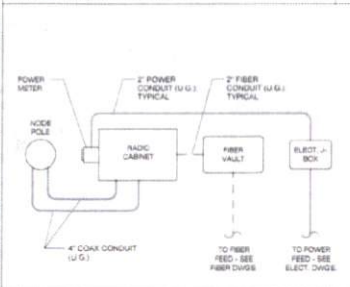
10/17/2016 3:28:55 PM



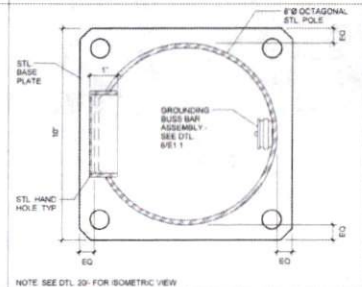
EQUIPMENT CABINET STUB UP DTL SCALE N.T.S. 1



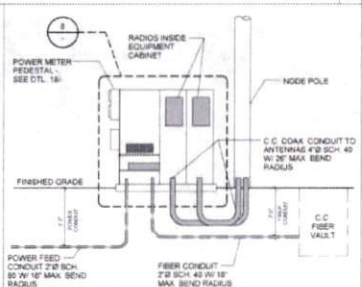
METER / BBU / RADIO EQUIPMENT CABINET PLAN SCALE N.T.S. 2



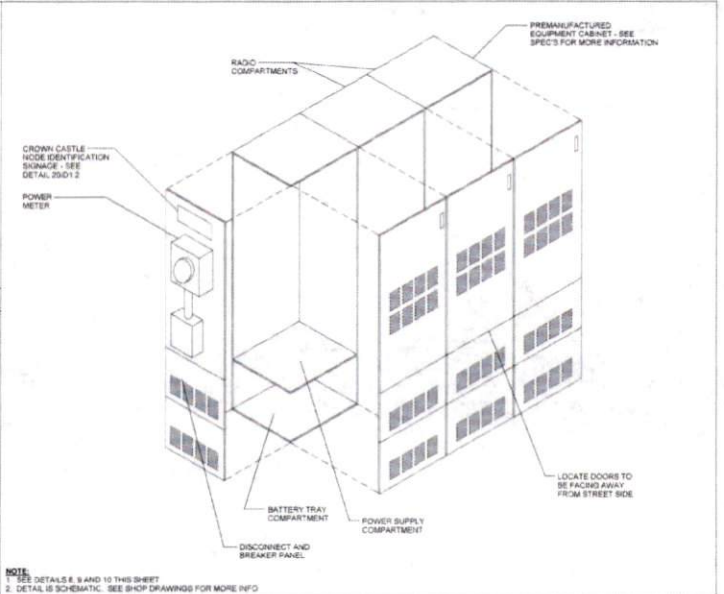
CONDUIT ROUTE SCALE N.T.S. 3



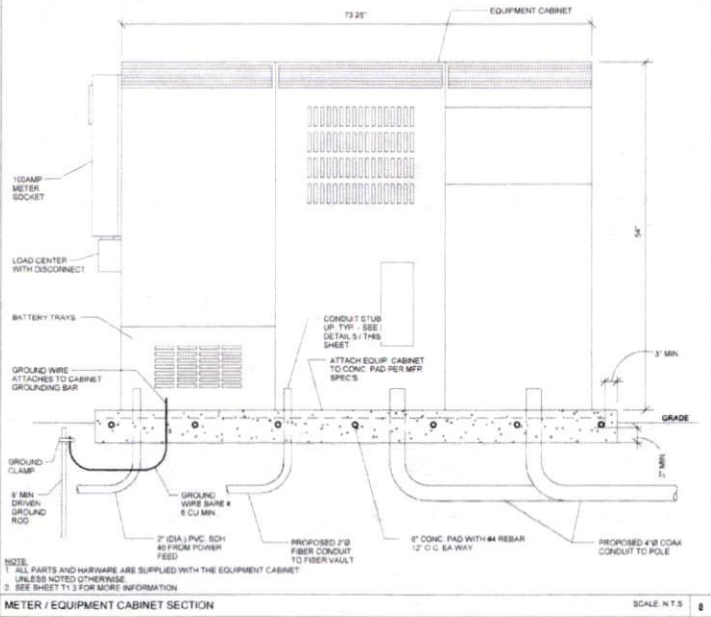
PLAN VIEW @ POLE SCALE N.T.S. 4



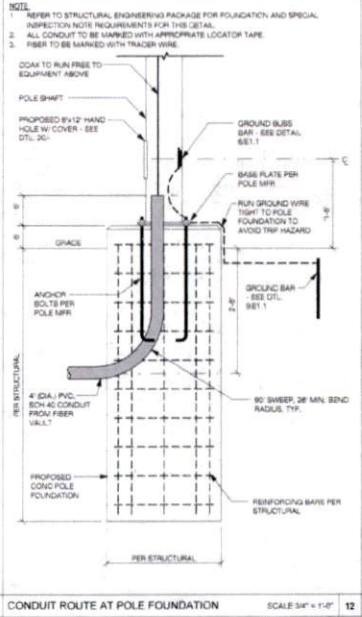
CONDUIT AND POWER RISER DIAGRAM SCALE N.T.S. 5



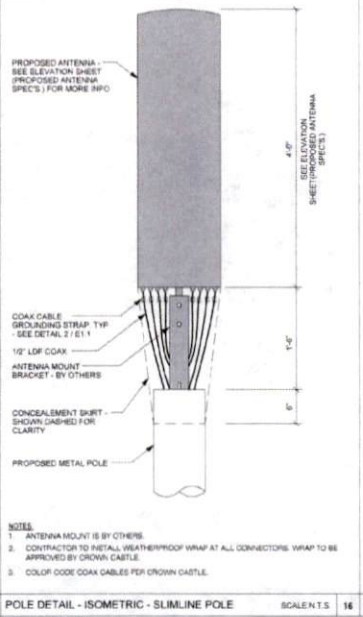
EQUIPMENT CABINET WITH METER ISOMETRIC SCALE N.T.S. 6



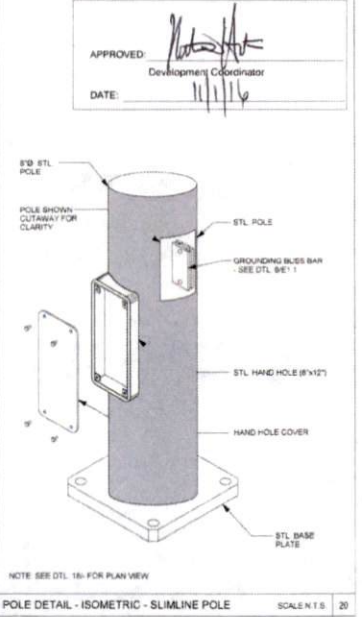
METER / EQUIPMENT CABINET SECTION SCALE N.T.S. 7



CONDUIT ROUTE AT POLE FOUNDATION SCALE 3/4" = 1'-0" 8



POLE DETAIL - ISOMETRIC - SLIMLINE POLE SCALE N.T.S. 9



POLE DETAIL - ISOMETRIC - SLIMLINE POLE SCALE N.T.S. 10

NOTE:
1. REFER TO STRUCTURAL ENGINEERING PACKAGE FOR FOUNDATION AND SPECIAL INSPECTION NOTE REQUIREMENTS FOR THIS DETAIL.
2. ALL CONDUIT TO BE MARKED WITH APPROPRIATE LOCATOR TAPE.
3. FIBER TO BE MARKED WITH TRACER WIRE.

NOTE:
1. SEE DETAILS 8, 9 AND 10 THIS SHEET.
2. DETAIL IS SCHEMATIC. SEE SHOP DRAWINGS FOR MORE INFO.

APPROVED: *[Signature]*
Development Coordinator
DATE: 11/1/16



CROWN CASTLE
800 E. JOHN CARPENTER Fwy.
SUITE 300
IRVING, TX 75062

RECORD DRAWING ISSUE DATE: 10/16/16



Shift Companies, LLC
1313 S. 19TH STREET
SCOTTSDALE, ARIZONA 85257
PH: 480.344.5821
WWW.SHIFT.COM

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PROVIDED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED HEREIN IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE	
DATE	SUBMITTAL
6/23/16	1ST CITY SUBMITTAL
10/16/16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT

PROJECT NAME
CINCO RANCH EXPANSION

HUB AREA
CINCO RANCH - HGCW

SHIFT JOB NUMBER: **150602** | IN HOUSE
DRAWN BY: RA | CHECKED BY: CH

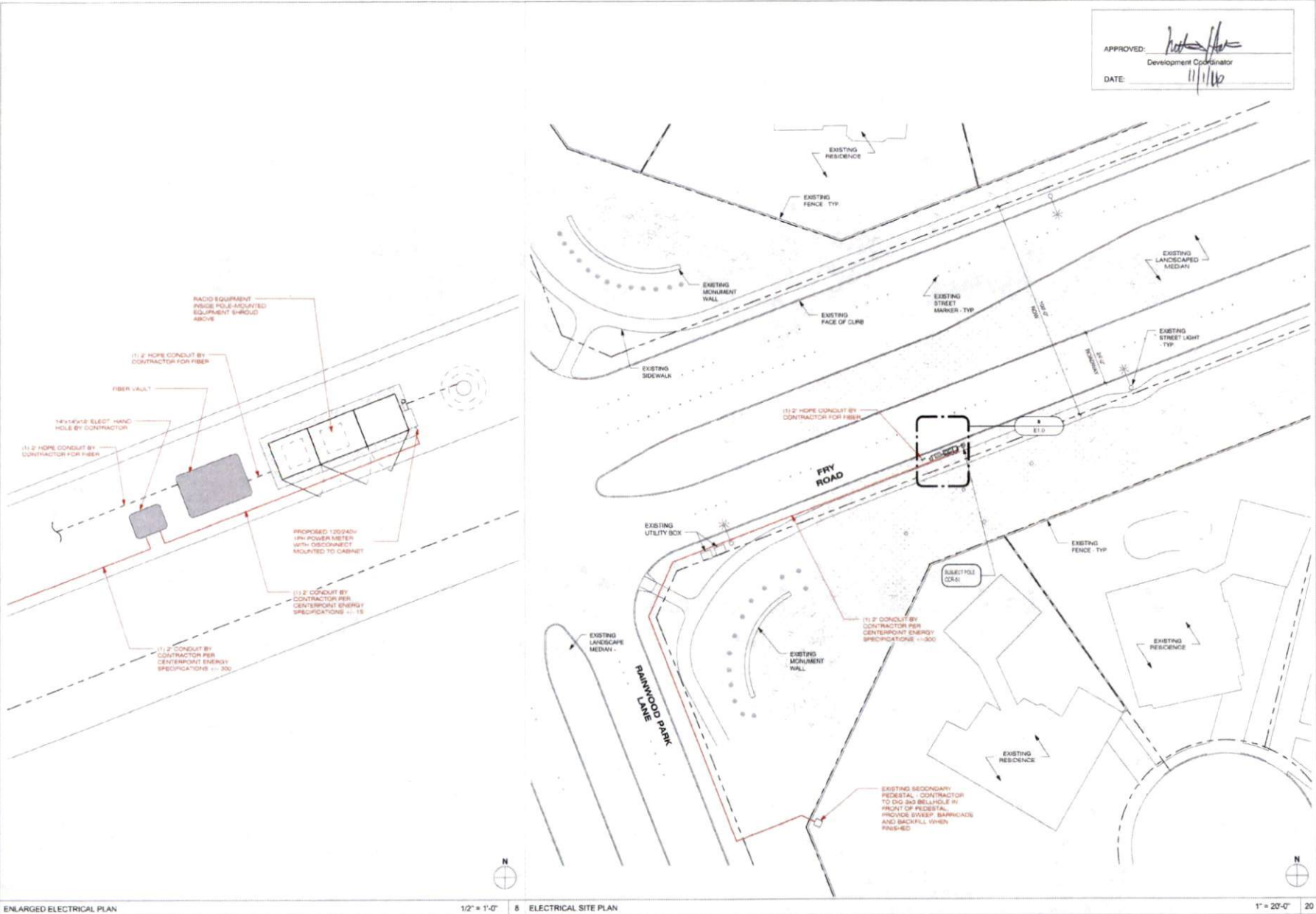
SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER: **D1.1** | PAGE: **7 OF 14**

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

PLAN CHECK #

CASE #



APPROVED: *[Signature]*
 Development Coordinator
 DATE: 11/1/16

CROWN CASTLE
 CROWN CASTLE
 800 E. JOHN CARPENTER FWY.
 SUITE 200
 IRVING, TX 75062

RECORD DRAWINGS ISSUE DATE: 10.18.16

SHIFT
 Shift Companies, LLC
 7311 WEST 16TH ROAD
 ADDITIONAL ADDRESS
 #10024 202
 #10024 202

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS APPLICABLE REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE	
DATE	SUBMITTAL
6.0.16	1ST CITY SUBMITTAL
10.18.16	2ND CITY SUBMITTAL

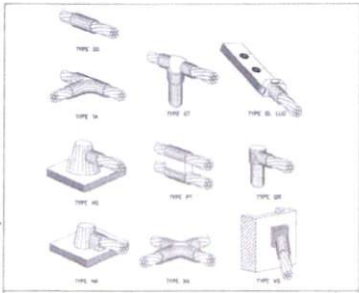
REVISIONS		
NO.	DATE	COMMENT
1	10.18.16	CITY COMMENTS

PROJECT NAME
CINCO RANCH EXPANSION

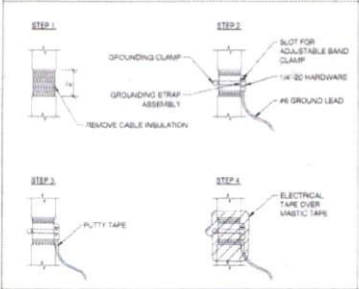
NODE ADDRESS
NODE #CCR-51
RAINWOOD LN AND FRY RD

HUB AREA
CINCO RANCH - HGCW
 SHEET JOB NUMBER **150602** IN HOUSE
 DRAWN BY: **RM**
 CHECKED BY: **DM**
 SHEET TITLE
ELECTRICAL PLANS

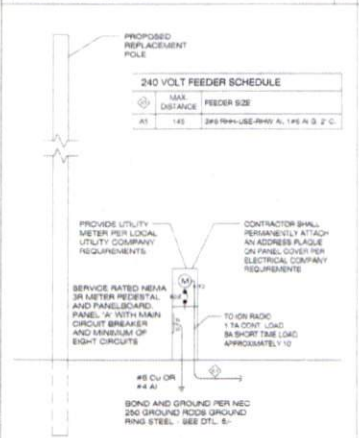
SHEET NUMBER **E1.0** PAGE **9 OF 14**
 PLOT SCALE: 1" @ 24'00"; 1/2" @ 11'11"



CADWELD DETAILS SCALE: NTS 1



GROUND BUSS BAR DETAIL SCALE: NTS 2

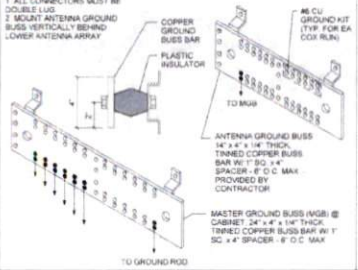


ONE-LINE DIAGRAM SCALE: NTS 4

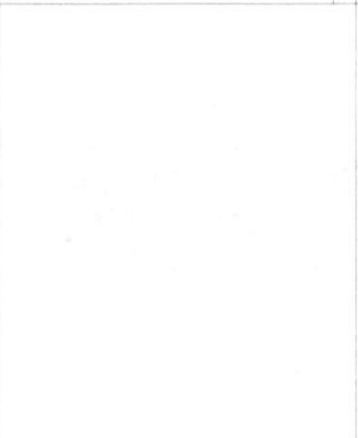
NOTES:
 1. TO FIELD VERIFY SITE CONDITION.
 2. ALL EQUIPMENT IS NEW UNLESS NOTED OTHERWISE.
 3. ALL EXTERIOR EQUIPMENT SHALL BE WEATHERPROOF.
 4. PROVIDE ADEQUATE SERVICE CONDUCTOR LENGTH AT THE BASE OF THE RIBBER POLE FOR LOCAL UTILITY COMPANY TO INSTALL UP THE POLE AND CONNECT TO UTILITY COMPANY SECONDARY LINES WITH A 1/2" CRIP JOINT.
 5. ALL TRNCSHALLS SHALL BE MIN 24" IN DEPTH.
 6. ALL WIRE TO BE THIN OR THIN INSULATOR OR EQUIVALENT EXCEPT WHERE NOTED OTHERWISE.
 7. FUTURE BREAKERS IN PANEL B SHALL BE SERIES RATED WITH THEIR RESPECTIVE UPSTREAM REMOTE MAIN PROTECTIVE DEVICE. A TWO TIER DISTRIBUTION SYSTEM IS SPECIFIED.
 8. WHERE NECESSARY TO TERMINATE OVERSIZED CONDUCTORS, CONTRACTOR TO CONVERT CONDUCTORS TO PANEL LOAD APPROVED SIZE USING AN NEC COMPLIANT CONNECTOR.



GROUND ROD DETAIL SCALE: NTS 9



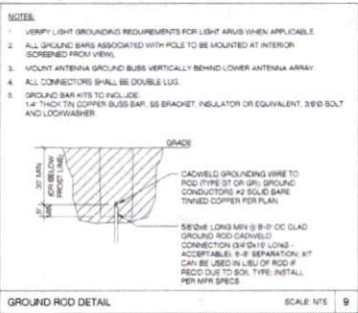
ELECTRICAL PANEL SCHEDULES SCALE: NTS 14



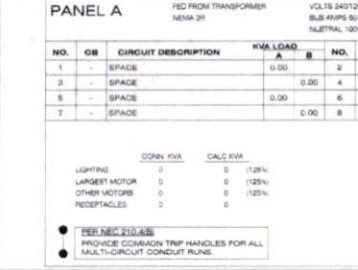
GROUNDING SCHEMATIC - METAL POLE SCALE: NTS 5



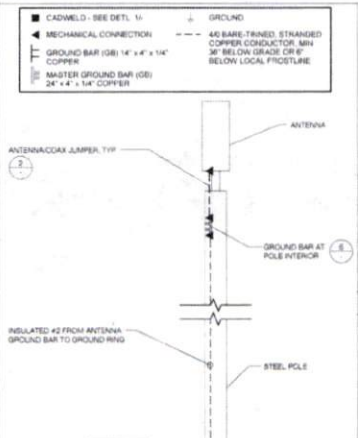
POWER FEEDER SCHEDULE SCALE: NTS 15



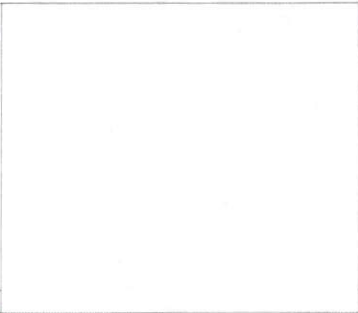
ELECTRICAL NOTES SCALE: NONE 18



EQUIPMENT GROUNDING SCHEMATIC DTL SCALE: NTS 17



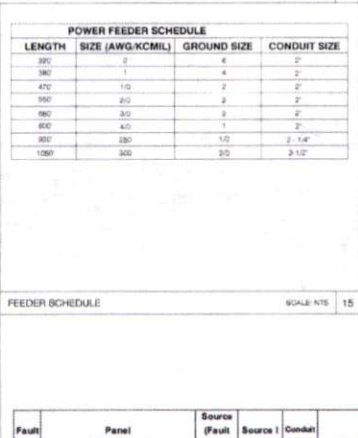
FAULT CURRENT CALCULATION SCALE: NTS 20



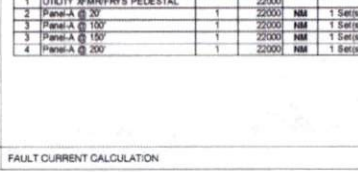
CADWELD CONNECTION - SEE DTL 13-1
 MECHANICAL CONNECTION - SEE DTL 13-1



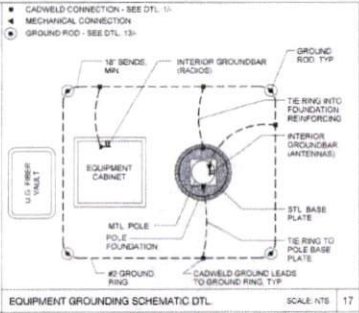
GROUNDING SCHEMATIC - METAL POLE SCALE: NTS 5



ELECTRICAL NOTES SCALE: NONE 18



EQUIPMENT GROUNDING SCHEMATIC DTL SCALE: NTS 17



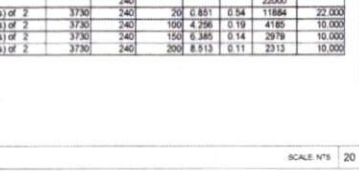
ELECTRICAL NOTES SCALE: NONE 18



EQUIPMENT GROUNDING SCHEMATIC DTL SCALE: NTS 17



EQUIPMENT GROUNDING SCHEMATIC DTL SCALE: NTS 17



EQUIPMENT GROUNDING SCHEMATIC DTL SCALE: NTS 17



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

RECORD DRAWINGS (SHEET DATE: 10/14/16)



Shift Companies, LLC
 1311 E. HOUSTON BLVD SUITE 200
 HOUSTON, TEXAS 77060
 PH: 481.241.9201
 FAX: 481.941.6333

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PREPARED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

RELEASE DATE	SUBMITTAL
6/23/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

NO.	DATE	COMMENT
15	10/18/16	CITY COMMENTS

PROJECT NAME
CINCO RANCH EXPANSION

HUB AREA
CINCO RANCH - HGCW

SHEET JOB NUMBER
150602

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E1.1

PAGE
10 OF 14

PLOT SCALE: 1:1 @ 24X36; 1:2 @ 11X17