



**REVIEW BY FORT BEND COUNTY  
COMMISSIONERS COURT**

13S  
**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: 2016-10753

**Applicant:** Crown Castle NG General LLC/Shift Companies

**Job Location Site:** SOUTH OF N.W.C. OF FRY RD AND FROSTFIELD LN, 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](http://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 \_\_\_\_\_, seconded by Commissioner \_\_\_\_\_, 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*  
County Engineer

Date Recorded 12-21-16 Comm. Court No. 13S

By: N/A  
Drainage District Engineer/Manager

Clerk of Commissioners Court  
By: *Jonda 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@fortbendcountytexas.gov

- Right of Way Permit**  
 **Commercial Driveway Permit**

Permit No: 2016-10753

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.**

*Chandy O. AJ*

\_\_\_\_\_  
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

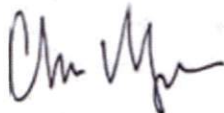
**RE: Cinco Ranch Traffic Control Plan  
- Shift Project #160614**

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:** CINCO RANCH BLVD AND MIDDLEWOOD MANOR LN  
**PROJECT TYPE:** BLACK DECORATIVE SLIMLINE POLE  
**HUB AREA:** CINCO RANCH - HGCW  
**NODE #(s):** **CCR-39**  
**COORDINATES:** LAT: 29.707523, LONG: -95.8107

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**FORT BEND COUNTY ENGINEER**

ENGINEER: *Richard W. Stolke, P.E., 0706*  
 For: Richard W. Stolke, P.E.  
 DATE: 11/11/16  
 THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN (1) YEAR FROM DATE OF APPROVAL.  
 APPROVED: *[Signature]*  
 Development Coordinator  
 DATE: 11/11/16

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



CROWN CASTLE  
 800 E. JOHN CARPENTER Pkwy.  
 SUITE 200  
 IRVING, TX 75002

RECORD DRAWINGS ISSUE DATE: 10/18/16

RECORD DRAWING DRAFTING ONLY



SHIFT Companies, LLC  
 17311 E. 45th Street  
 SCOTTSDALE, ARIZONA 85257  
 PH: 480.284.3670  
 FAX: 480.284.0000

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RELEASE DATE	SUBMITTAL
6/23/16	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  
**CINCO RANCH - HGCW**

NODE #:**CCR-39**  
**CINCO RANCH BLVD AND MIDDLEWOOD MANOR LN**

HUB AREA  
**CINCO RANCH - HGCW**

SHIFT JOB NUMBER: **150602**  
 IN HOUSE  
 DRAWN BY: SA  
 CHECKED BY: CM

SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER: **T1.1** OF 14

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

PROJECT NAME		PROJECT SUMMARY	
<b>ARCHITECT</b> SHIFT CONSULTING 7333 E MONTE VISTA RD. SCOTTSDALE, AZ 85257 Phone Number: 480.264.0826 Fax Number: 480.264.0163 Contact: CHRIS MYERS	<b>OWNER INFO</b> Company: CROWN CASTLE Address: 1220 AUGUSTA DR. HOUSTON, TX 77057 Phone #: 817.449.3113 Email: BARRY.CAMPALU@CROWNCASTLE.COM Contact: BARRY CAMPALU	<b>PROJECT NAME</b> CINCO RANCH EXPANSION  <b>PROJECT AREA:</b> CINCO RANCH - HGCW	<b>APPLICANT:</b> CROWN CASTLE 1220 AUGUSTA DR. HOUSTON, TX 77057 CONTACT: BARRY CAMPALU  <b>CODES:</b> 2008 INTERNATIONAL BUILDING CODE (IBC) 2008 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2008 NATIONAL ELECTRICAL CODE (NEC) 2008 NATIONAL ELECTRICAL SAFETY CODE (NEBSC)  <b>JURISDICTION:</b> FORT BEND COUNTY ENGINEERING DEPT 1124 BLUME RD ROSENBERG, TX 77471 PH: 281.633.7500 CONTACT: JOHNNY ORTEGA  <b>PLUMBING REQUIREMENTS:</b> FACILITY HAS NO PLUMBING.  <b>HANDICAPPED REQUIREMENTS:</b> -FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. -HANDICAPPED ACCESS REQUIREMENTS ARE NOT REQUIRED.
<b>STRUCTURAL</b> Company: T.B.D. Address: Phone Number: Fax Number: Contact:	<b>RF ENGINEER</b> Company: CROWN CASTLE Address: 1220 AUGUSTA DR. HOUSTON, TX 77057 Phone Number: Fax Number: Contact:	<b>POWER COMPANY:</b> CENTERPOINT ENERGY 5431 HIGHWAY BLVD. KATY, TX 77464 PH: 281.520.8275 CONTACT: KEN CORTEZ	
<b>FIBER ENGINEERING</b> Company: TDC2 Address: 710 EAST PARK BLVD. SUITE 110 PLANO, TX 75074 Phone: 972.423.9080 Email: sdn@tdc2.com Contact: SCOTT CRUM			

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



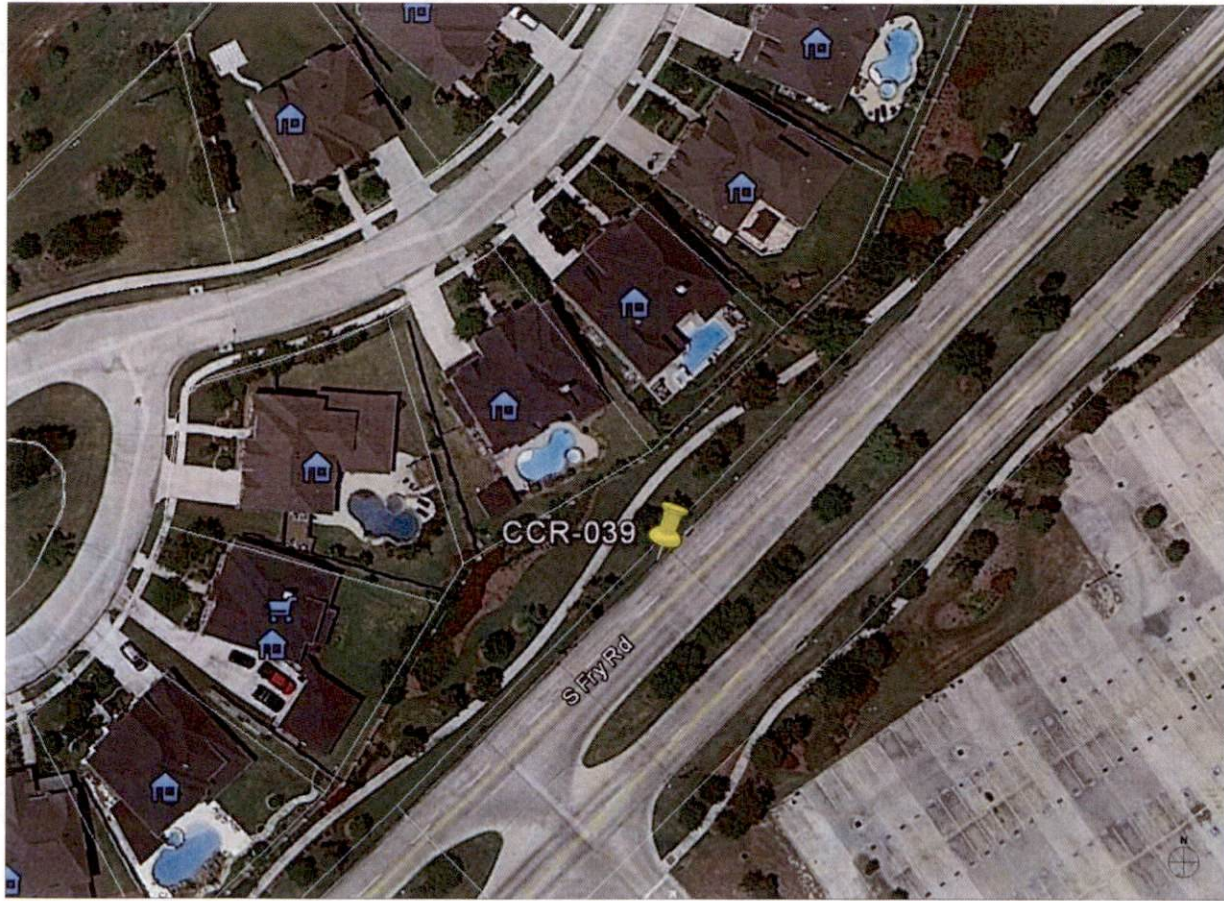
**PROJECT DESCRIPTION**

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.







NODE AERIAL PLAN

**SUBJECT POLE:** CCR-39

**GPS COORDINATES:**

**LAT:** 28.101923

**LONG:** -95.81127

**POLE TYPE:** BLACK DECORATIVE BLUMLINE POLE

**POLE ID #:**

**UPPER ANTENNA RAD CENTER:** 22 - O.A.F.G.

**LOWER ANTENNA RAD CENTER:** 30 - O.A.F.G.

**APPROVED:** *[Signature]*  
Development Coordinator

**DATE:** 11/11/16



**CROWN CASTLE**  
802 E. JOHN CARPENTER Pkwy  
SUITE 300  
IRVING, TX 75062

RECORD DRAWINGS ISSUE DATE: 10/18/16



**Shift Companies, LLC**  
7311 HEAT VISTA ROAD  
SCOTTSDALE, ARIZONA 85257  
PH: 480.244.6244  
FX: 480.244.6243

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RELEASE	
DATE	SUBMITTAL
5/03/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

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

**PROJECT NAME**  
CINCO RANCH EXPANSION

**NODE ADDRESS**  
NODE #: CCR-39

CINCO RANCH BLVD AND MIDDLEWOOD MANOR LN

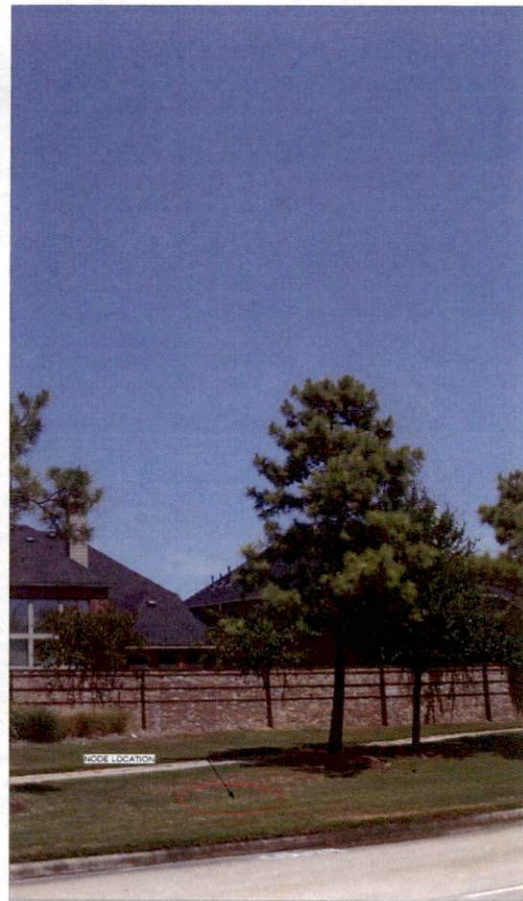
**HUB AREA**  
CINCO RANCH - HGCW

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

**SHEET TITLE**  
AERIAL

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

**PLOT SCALE:** 1" = 24'x30" 1:2 @ 11"x17"



SITE PHOTO (EXISTING)

N.T.S

PLAN CHECK #

CASE #

KEYNOTE	KEYNOTE LEGEND DESCRIPTION	DETAIL
A01	PROPOSED CROWN CASTLE OMNI ANTENNA	16D1.1
A02	PROPOSED CROWN CASTLE 2" U.G. CONDUIT (APPROXIMATE LOCATION, F.V.)	16D1.1
A03	PROPOSED CROWN CASTLE REMOTE RADIO UNIT (RDU) EQUIPMENT CABINET	16D1.1
A04	PROPOSED NEW METAL SUBLINE POLE	23D1.1
A05	PROPOSED CROWN CASTLE UNDERGROUND CONC. FIBER VAULT	16D1.2
A06	PROPOSED CROWN CASTLE NODE IDENTIFICATION SIGNAGE	26D1.2
A07	PROPOSED CROWN CASTLE EQUIPMENT CABINET	16D1.1
A08	PROPOSED CROWN CASTLE FIBER FOUNDATION	12D1.1
A09	PROPOSED ELECTRICAL HAND HOLE	

KEYNOTE	KEYNOTE LEGEND DESCRIPTION	DETAIL
E01	PROPOSED POWER METER MOUNTED TO EQUIPMENT CABINET (DISTRIBUTED PANEL AND DISCONNECT)	16D1.1
U01	PROPOSED 2" CROWN CASTLE U.G. POWER CONDUIT (APPROXIMATE LOCATION, F.V.)	21C1.1 & 6D1.2
U02	PROPOSED CROWN CASTLE 2" U.G. FIBER CONDUIT BY OTHERS (APPROXIMATE LOCATION, F.V.)	21C1.1 & 6D1.2



NOTES:  
 1. ANY DAMAGE TO EXISTING GUTTER, CURB, SIDEWALK AND ROADWAY DURING CONSTRUCTION TO BE REPAIRED OR REPLACED.  
 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 HARDSCAPE DISTURBED OR DESTROYED AS A RESULT OF CONSTRUCTION SHALL BE REPLACED WITH A LIKE SIZE AND SPECIE.
- CONTRACTOR TO HAND LOCATE EX. IRRIGATION PRIOR TO EXCAVATION.
- SITE PLAN IS A DIAGNOSTIC 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 AND PROVIDED BY LOCAL UTILITIES.

**SUBJECT POLE:** CCR-39

**GPS COORDINATES:**

**LAT:** 29.707602  
**LONG:** -95.8107

**POLE TYPE:** BLACK DECORATIVE SUBLINE POLE

**POLE ID #:**

**UPPER ANTENNA RAD CENTER:** 32' - 0" O.A.P.G.  
**LOWER ANTENNA RAD CENTER:** 30' - 0" O.A.P.G.

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

**APPROVED:** [Signature]  
 Development Coordinator

**DATE:** 11/11/16



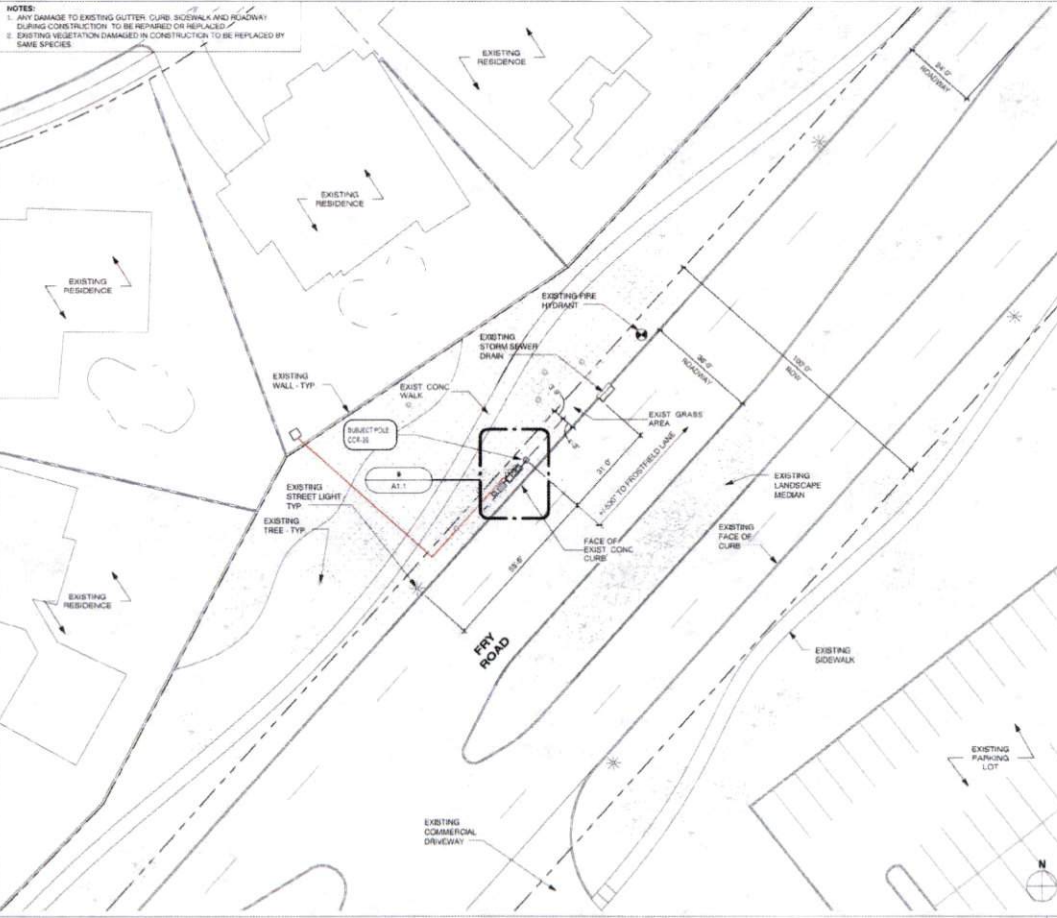
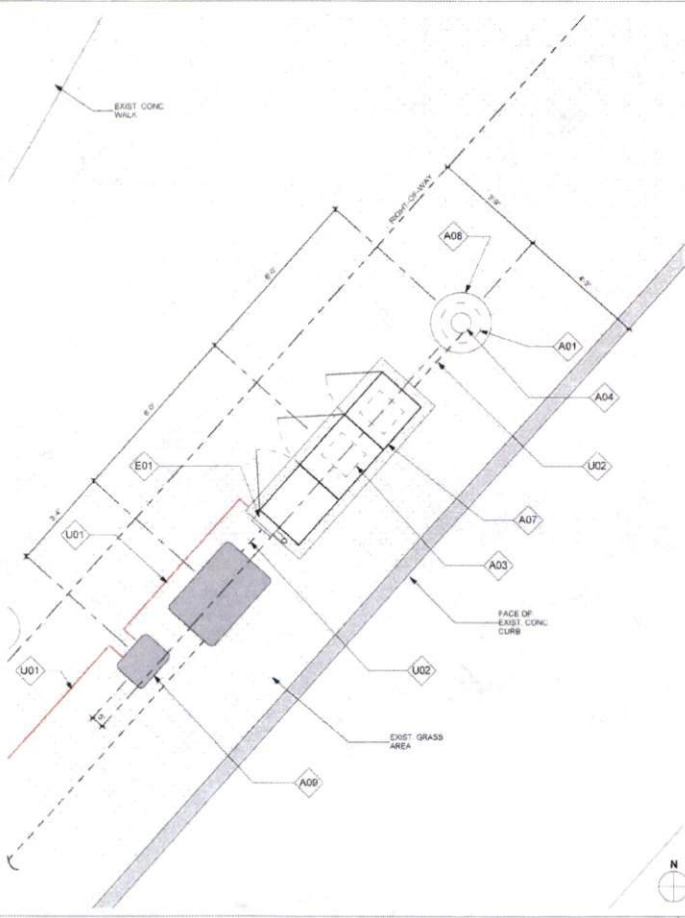
**CROWN CASTLE**  
 602 E. JOHN CARPENTER HWY.  
 SUITE 500  
 IRVING, TX 75062

RECORD DRAWINGS ISSUE DATE: 10/18/16



**Shift Companies, LLC**  
 7333 E. MEYER VISTA ROAD  
 COTTLEWOOD, MISSOURI 63017  
 PH: 314.284.2600  
 FAX: 314.284.2603

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RELEASE	
DATE	SUBMITTAL
6.03.16	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-39  
 CINCO RANCH BLVD AND MIDDLEWOOD MANOR LN

**HUB AREA**  
 CINCO RANCH - HGCW

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

**SHEET TITLE**  
 SITE PLAN, EQUIPMENT AND ANTENNA PLAN

**SHEET NUMBER** PAGE  
 A1.1 5 OF 14

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

EQUIPMENT AND ANTENNA PLAN

1/2" = 1'-0" 8 OVERALL SITE PLAN

1" = 20'-0" 20

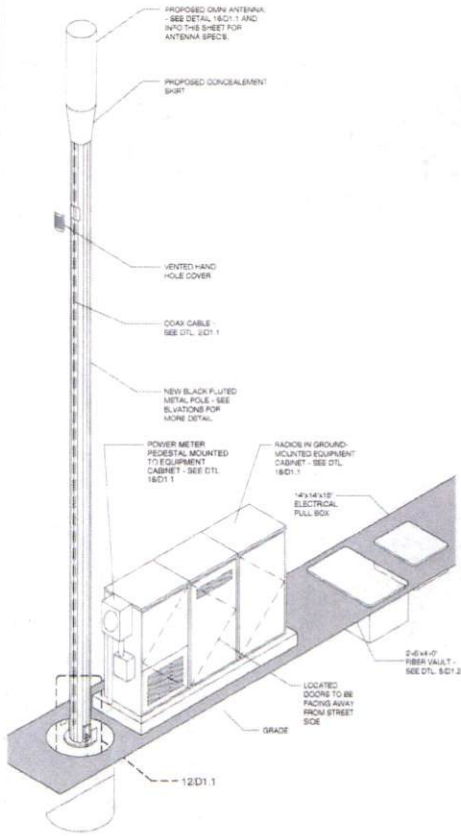
PLAN CHECK #

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

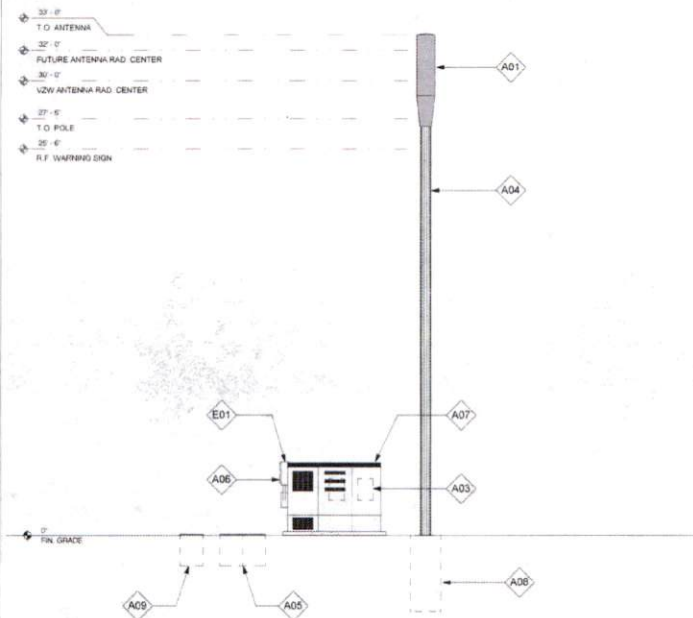
KEYNOTE LEGEND		
KEYNOTE	DESCRIPTION	DETAIL NUMBER
A01	PROPOSED CROWN CASTLE OMNI ANTENNA	18D1.1
A02	PROPOSED CROWN CASTLE 2" U.G. CONDUIT (APPROXIMATE LOCATION, F.V.)	2D1.1
A03	PROPOSED CROWN CASTLE REMOTE RADIO UNITS INSIDE EQUIPMENT CABINET	18D1.1
A04	PROPOSED NEW METAL SUBLINE POLE	2D01.1
A05	PROPOSED CROWN CASTLE UNDERGROUND CONC. FIBER VAULT	5D1.2
A06	PROPOSED CROWN CASTLE MOBE IDENTIFICATION SIGNAGE	02D1.2
A07	PROPOSED CROWN CASTLE EQUIPMENT CABINET	18D1.1
A08	PROPOSED CROWN CASTLE POLE FOUNDATION	12D1.1
A09	PROPOSED ELECTRICAL HAND HOLE	
E01	PROPOSED POWER METER MOUNTED TO EQUIPMENT CABINET (DISTRIBUTED PANEL AND DISCONNECT)	18D1.1

MODEL: AMPHEMOL - 320T30R13.rvt	
LENGTH: 45'	
WIDTH: 14.6" DIA.	
DEPTH: N/A	
WEIGHT: 201 LBS	
PROPOSED PANEL ANTENNA SPECS	
PROPOSED POLE WIDTH = 8"Ø	
PROPOSED POLE HEIGHT = 27' - 8"	
(4' 0" ANTENNA AND 1' 0" ANTENNA MOUNT)	
POLE INFO	

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



METAL POLE ISOMETRIC SCALE: 1/4" = 1'-0" 4



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



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

RECORD DRAWINGS ISSUE DATE: 10/18/16



Shift Companies, LLC  
1201 E. WHITE WEAVER ROAD  
SCOTTSDALE, ARIZONA 85257  
PH: 480.364.8529  
WWW: 480.364.8210

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RELEASE	
DATE	SUBMITTAL
6.02.16	1ST CITY SUBMITTAL
10.18.16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
	10.18.16	CITY COMMENTS

PROJECT NAME  
CINCO RANCH EXPANSION

NODE ADDRESS

NODE #: CCR-39  
CINCO RANCH BLVD  
AND MIDDLEWOOD  
MANOR LN

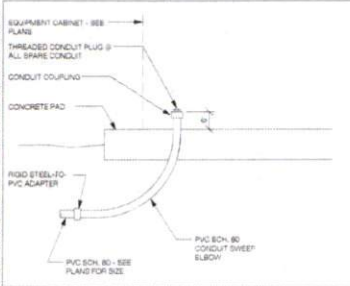
HUB AREA  
CINCO RANCH - HGCW

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

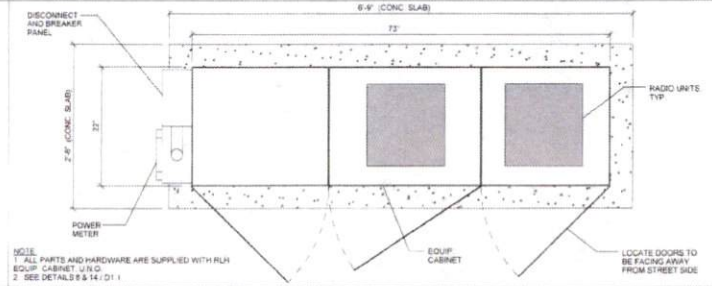
SHEET TITLE  
POLE ELEVATION, PROPOSED

SHEET NUMBER: A1.2 PAGE: 6 OF 14

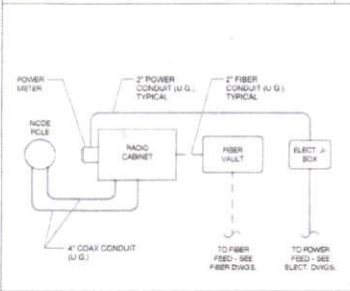
PLOT SCALE: 1:1 @ 24x36; 1:2 @ 11x17



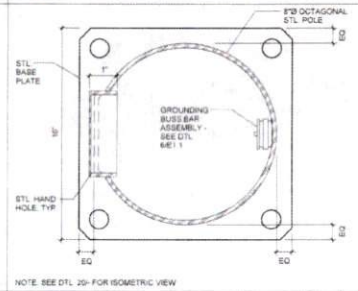
EQUIPMENT CABINET STUB UP DET. SCALE N.T.S. 1



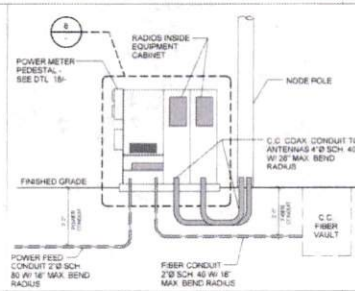
METER / BBU / RADIO EQUIPMENT CABINET PLAN. SCALE N.T.S. 9



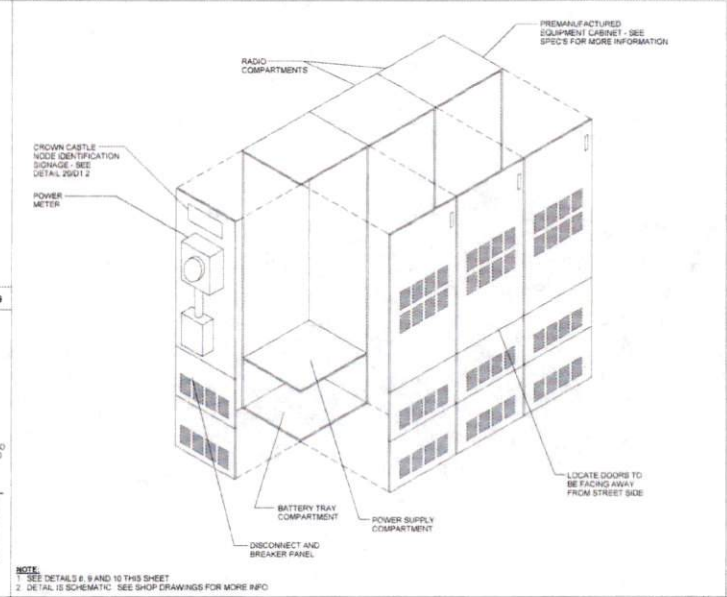
CONDUIT ROUTE. SCALE N.T.S. 2



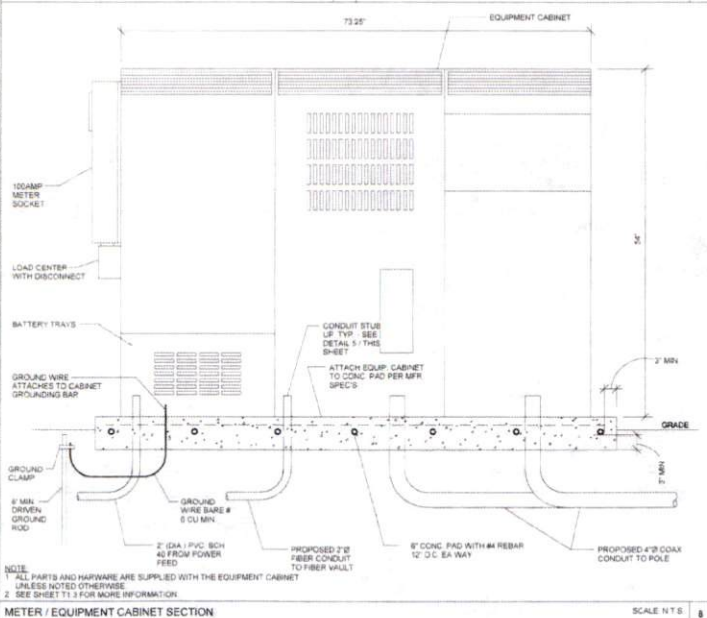
PLAN VIEW @ POLE. SCALE N.T.S. 6



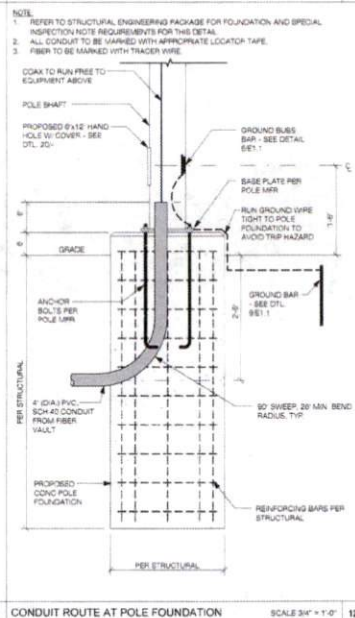
CONDUIT AND POWER RISER DIAGRAM. SCALE N.T.S. 10



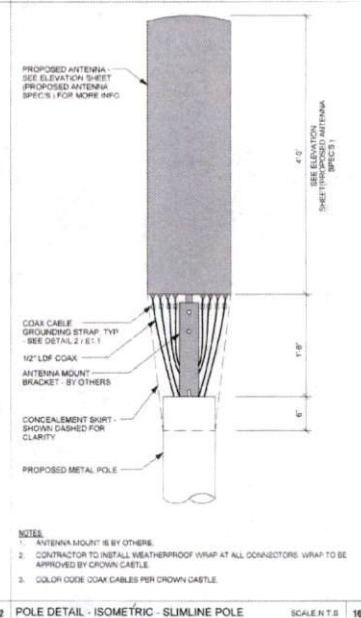
EQUIPMENT CABINET WITH METER ISOMETRIC. SCALE N.T.S. 18



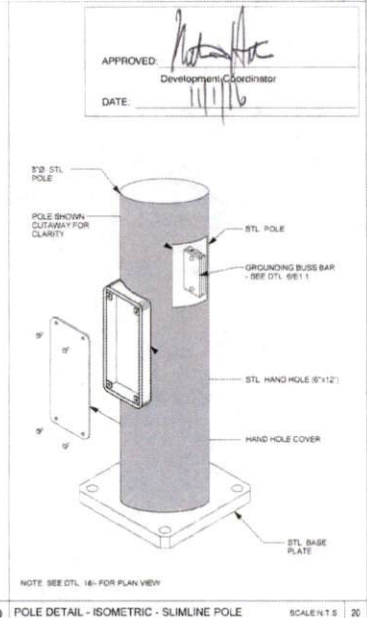
METER / EQUIPMENT CABINET SECTION. SCALE N.T.S. 8



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



POLE DETAIL - ISOMETRIC - SLIMLINE POLE. SCALE N.T.S. 16



POLE DETAIL - ISOMETRIC - SLIMLINE POLE. SCALE N.T.S. 20



CROWN CASTLE  
600 E. JOHN CARPENTER Pkwy  
SUITE 500  
IRVING, TX 75062

RECORD DRAWINGS ISSUE DATE: 10/18/16



SHIFT Companies, LLC  
7331 F. FRONT VISTA ROAD  
SCOTTSDALE, ARIZONA 85252  
PH: 480.344.9300  
WWW: 480.344.9300

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RELEASE	DATE	SUBMITTAL
	03.16	1ST CITY SUBMITTAL
	10.16.16	2ND CITY SUBMITTAL

REVISIONS	NO.	DATE	COMMENT
	10.18.16		CITY COMMENTS

PROJECT NAME  
**CINCO RANCH EXPANSION**

HUB AREA  
**CINCO RANCH - HGCW**

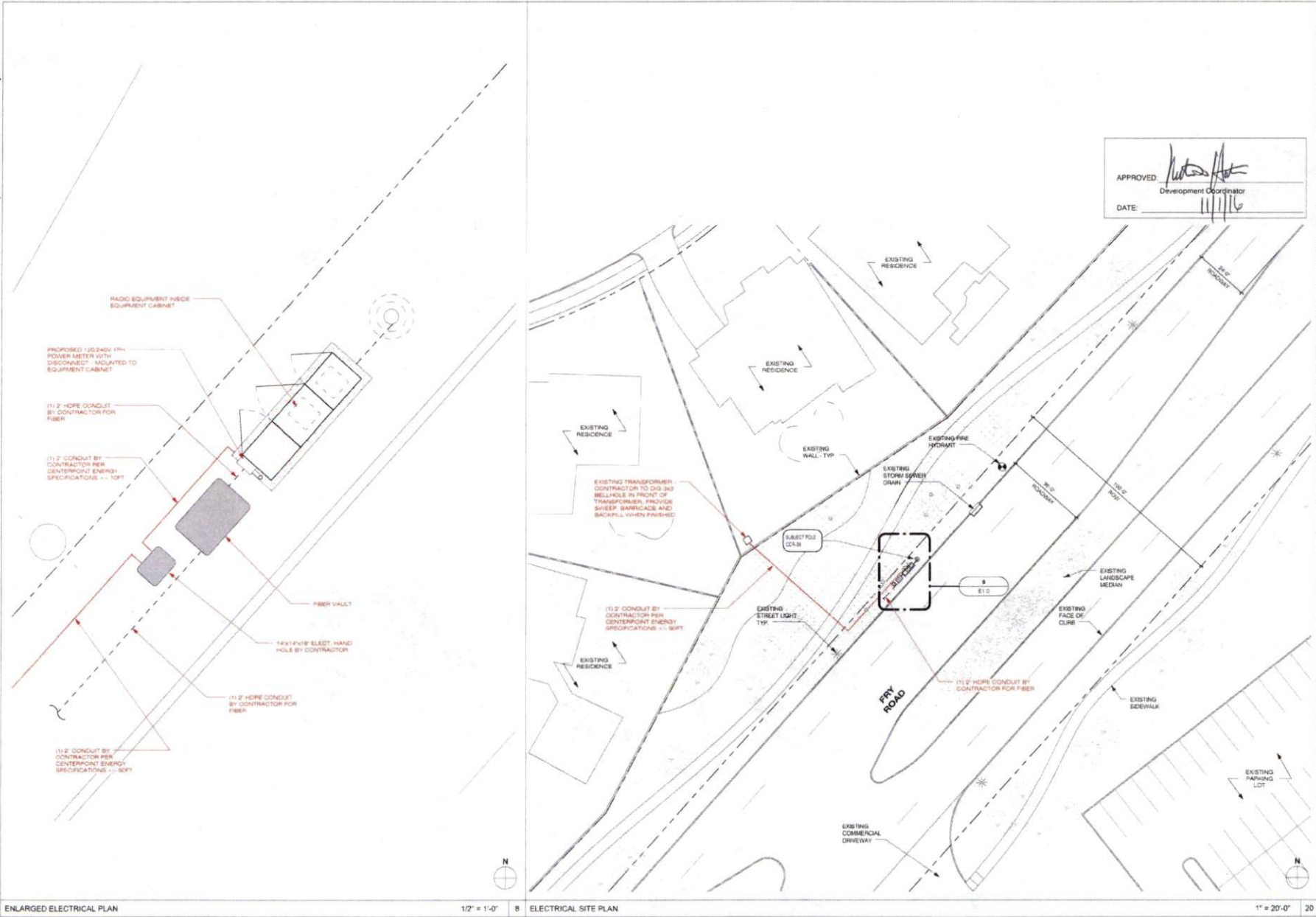
SHEET JOB NUMBER: **150602**  
IN HOUSE:  DRAWN BY: RA  
CHECKED BY: CM

SHEET TITLE  
**CONSTRUCTION DETAILS**

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

PLOT SCALE: 1" = 2'-0" (0.50) 1:2 = 11' x 17'





ENLARGED ELECTRICAL PLAN

1/2" = 1'-0"

ELECTRICAL SITE PLAN

1" = 20'-0"



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

RECORD DRAWINGS ISSUE DATE: 10/18/16

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



Shift Companies, LLC  
7331 E. NORTH EAST ROAD  
SUITE 100, ARLING HEIGHTS  
IL 60004-3829  
Tel: 847.344.0333

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RELEASE	
DATE	SUBMITTAL
6/23/16	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-39**

**CINCO RANCH BLVD AND MIDDLEWOOD MANOR LN**

HUB AREA  
**CINCO RANCH - HGCV**

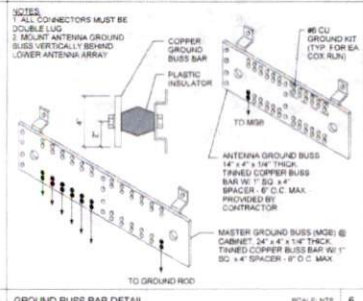
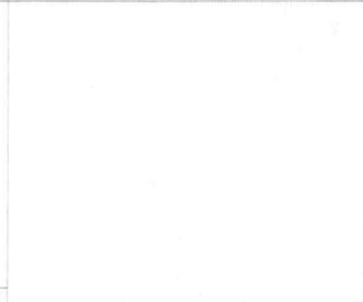
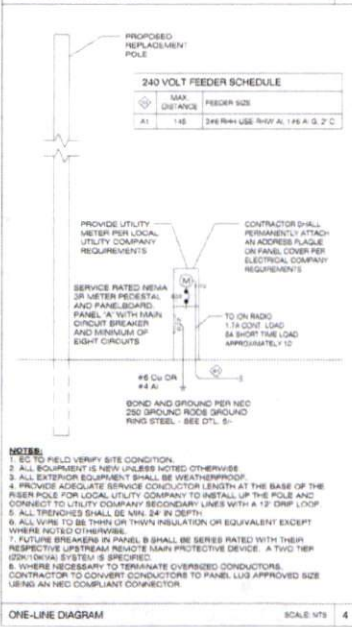
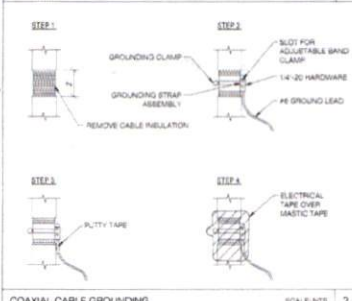
SHIFT JOB NUMBER **150602** IN HOUSE  
DRAWN BY: RA  
CHECKED BY: CH

SHEET TITLE  
**ELECTRICAL PLANS**

SHEET NUMBER **E1.0** PAGE **9 OF 14**

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

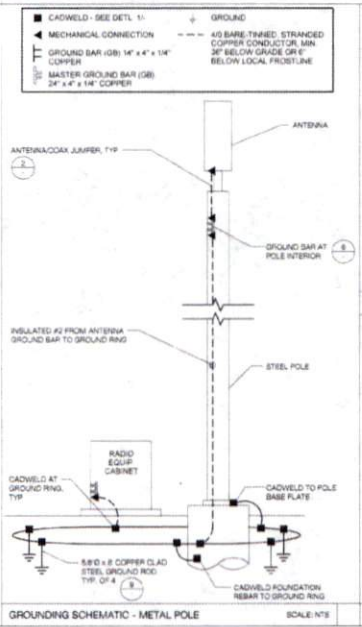
PLAN CHECK #  
CASE #



PANEL A

NO.	CB	CIRCUIT DESCRIPTION	KVA LOAD	A	B	NO.	CB	CIRCUIT DESCRIPTION	KVA LOAD	A	B
1	-	SPACE	0.00	0	0	201	-	RADIO EQUIPMENT	1.08	1.08	
3	-	SPACE	0.00	0	0	201	-	RADIO EQUIPMENT	1.08	1.08	
5	-	SPACE	0.00	0	0	201	-	SPACE	0.00	0.00	
7	-	SPACE	0.00	0	0	201	-	SPACE	0.00	0.00	
TOTAL CONNECTED KVA BY PHASE			1.08	1.08		TOTAL CONNECTED AMPS BY PHASE			11.8	11.8	
LOADING			0	0	(12%)	CONTINUOUS			0	0	(12%)
LARGEST MOTOR			0	0	(12%)	HEATING			0	0	(100%)
OTHER MOTORS			0	0	(100%)	NON-CONTINUOUS			2.1	2.1	(100%)
RECEPTACLES			0	0		TOTAL KVA			2.82	2.82	

SCALE: NTS 14



POWER FEEDER SCHEDULE

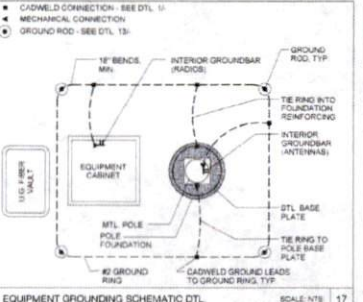
LENGTH	SIZE (AWG/KMIL)	GROUND SIZE	CONDUIT SIZE
300	2	6	2"
380	1	4	2"
470	1.0	2"	2"
560	2.0	2"	2"
660	3.0	2"	2"
600	4.0	1"	2"
800	2.0	1.6"	2.1/4"
1080	3.0	2.0"	2.5/2"

SCALE: NTS 15

FAULT CURRENT CALCULATION

Fault Point	Panel Transformer	Source (Fault Point)	Source I (amps)	Contact Type	Wire/Bus Size	C value	E (volts)	L (length)	f	M	inc	AC Rating
1	UTILITY XFMTR/RY'S PEDESTAL	1	22000	NM	1 S6610 of 2	3750	240				22000	22,000
2	Panel-A @ 20'	1	22000	NM	1 S6610 of 2	3750	240	20'	0.851	0.54	11894	22,000
3	Panel-A @ 100'	1	22000	NM	1 S6610 of 2	3750	240	100'	4.256	0.19	4185	10,000
4	Panel-A @ 150'	1	22000	NM	1 S6610 of 2	3750	240	150'	6.385	0.14	2979	10,000

SCALE: NTS 20



ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL OTHER APPLICABLE LOCAL CODES.
- CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL PERMIT FEES, AND SCHEDULE ALL REQUIRED INSPECTIONS. CONTRACTOR SHALL OBTAIN LOCAL POWER COMPANY APPROVAL AND COORDINATE SERVICE ENTRANCE REQUIREMENTS.
- CONTRACTOR SHALL VERIFY SERVICE LOCATION AND CONTACT PROJECT MANAGER WITH DISCREPANCIES PRIOR TO PLAN.
- CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THE DRAWING, AND ALL SERVICE NECESSARY TO COMPLETING AND MAINTAINING THE PROJECT AS FULLY OPERATIONAL. ALL ELECTRICAL TERMS SHALL BE U.S. APPROVED OR LISTED.
- CONDUCTIONS SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT UNDERGROUND AND RIG CONDUIT ABOVE GROUND.
- PROVIDE 1 1/2" EDC SCHEDULE 40 PVC UNDERGROUND CONDUIT WITH FULL WIRE BETWEEN ELECTRICAL UTILITY DEMARICATION POINT AND JUNCTION BOX. CONTRACTOR SHALL DETERMINE REQUIRED NUMBER AND LOCATION OF JUNCTION BOXES PER UTILITY STANDARDS.
- CONTRACTOR TO VERIFY ALL APPROPRIATE MARKERS PRIOR TO CONSTRUCTION AND SHALL PROVIDE AND MAINTAIN A TRAFFIC CONTROL PLAN PER LOCAL REQUIREMENTS.
- CONTRACTOR TO LOCATE ALL UTILITIES IN PROJECT AREA PRIOR TO CONSTRUCTION THROUGH BLUE PRINTS.
- VERIFY DEPTH OF EXISTING UTILITY CROSSING POINTS VIA APPROVED POT-HOLDING METHODS AND NOTE ON PLAN SETS FOR AS-BUILT CLOSE-OUT.
- NOTE DEPTH AND LOCATIONS OF ALL INSTALLED UTILITIES ON AS-BUILT RECORD DRAWINGS.
- EXISTING IRRIGATION LINES ARE UNCLASSIFIED. CONTRACTOR SHALL NOTIFY GARDEN PRIOR TO DISTURBING OR LOCATING.
- CONTRACTOR SHALL NOT RELOCATE PROPOSED EQUIPMENT OR POLE LOCATIONS WITHOUT WRITTEN APPROVAL FROM CROWN CASTLE AND PROJECT ENGINEERS.
- MATERIAL SUBSTITUTIONS ARE SUBJECT TO CROWN CASTLE AND ENGINEERING REVIEW PRIOR TO CONSTRUCTION.

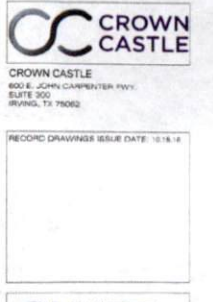
SCALE: NONE 18



FEEDER SCHEDULE

Source (Fault Point)	Source I (amps)	Contact Type	Wire/Bus Size	C value	E (volts)	L (length)	f	M	inc	AC Rating
1	22000	NM	1 S6610 of 2	3750	240				22000	22,000
2	22000	NM	1 S6610 of 2	3750	240	20'	0.851	0.54	11894	22,000
3	22000	NM	1 S6610 of 2	3750	240	100'	4.256	0.19	4185	10,000
4	22000	NM	1 S6610 of 2	3750	240	150'	6.385	0.14	2979	10,000

SCALE: NTS 20



RELEASE

DATE	SUBMITTAL
6.03.16	1ST CITY SUBMITTAL
10.16.16	2ND CITY SUBMITTAL

REVISIONS

NO.	DATE	COMMENT
10	10.16.16	CITY COMMENTS

PROJECT NAME: CINCO RANCH EXPANSION

HUB AREA: CINCO RANCH - HGCW

SHIFT JOB NUMBER: 150602

SHEET TITLE: ELECTRICAL DETAILS

SHEET NUMBER: E1.1

PAGE: 10 OF 14

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