



**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: 2016-10752

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

**Job Location Site:** S.W.C. OF RIVERGREEN PARK LANE AND CINCO RANCH BLV, KATY, TX 77494

**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](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 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. 13R

By: N/A  
Drainage District Engineer/Manager

Clerk of Commissioners Court  
By: Kinda Willis  
Deputy



# SHIFT

November 28, 2016

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

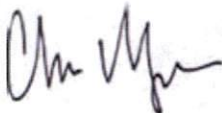
**RE: Cinco Ranch Traffic Control Plan  
- Shift Project #160614**

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:** RIVERGREEN PARK LANE AND CINCO RANCH BLVD  
**PROJECT TYPE:** METAL SLIMLINE POLE  
**HUB AREA:** CINCO RANCH - HGCW  
**NODE #(s):** **CCR-38**  
**COORDINATES:** LAT: 29.728578, LONG: -95.795817

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**FORT BEND COUNTY ENGINEER**  
 ENGINEER: *Mark D. Stangle, PE, P.E.*  
 For: Richard W. Skewis, 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 75062

RECORD DRAWINGS ISSUE DATE: 10/16/16

RECORD DRAWING DRAFTING ONLY



Shift Companies, LLC  
 7701 E. RICHARDS BLVD  
 SCOTTSDALE, ARIZONA 85251  
 PH: 480-344-1550  
 FX: 480-344-1552

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RELEASE	
DATE	SUBMITTAL
8/23/16	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-38

**RIVERGREEN PARK LANE AND CINCO RANCH BLVD**

**HUB AREA**  
 CINCO RANCH - HGCW

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

**SHEET TITLE**  
 TITLE SHEET

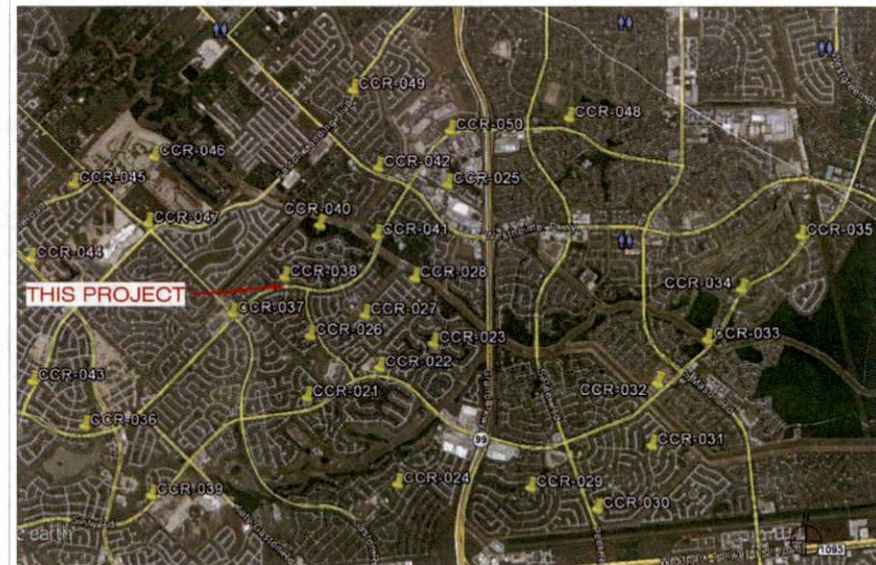
**SHEET NUMBER** | **PAGE**  
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**PLOT SCALE:** 1/16" @ 24"X36" | 1/2" @ 11'X17"


PROJECT TEAM	
<b>ARCHITECT</b>	<b>OWNER INFO</b>
Company: SHIFT CONSULTING Address: 7033 E MONTE VISTA RD SCOTTSDALE, AZ 85267 Phone Number: 480.264.0829 Fax Number: 480.264.0163 Contact: CHRIS MYERS	Company: CROWN CASTLE Address: 1200 AUGUSTA DR HOUSTON, TX 77057 Phone #: 817.440.3113 Email: BARRY.CAMPALU@CROWNCASTLE.COM Contact: BARRY CAMPALU
<b>STRUCTURAL</b>	<b>RF ENGINEER</b>
Company: T.B.D. Address: Phone Number: Fax Number: Contact:	Company: CROWN CASTLE Address: 1200 AUGUSTA DR HOUSTON, TX 77057 Phone Number: Fax Number: Contact:
<b>FIBER ENGINEERING</b>	
Company: TDC2 Address: 710 EAST PARK BLVD. SUITE 110 PLANO, TX 75074 Phone: 972.423.9080 Email: scott@tdc2.com Contact: SCOTT CRUM	

PROJECT SUMMARY	
<b>PROJECT NAME:</b> CINCO RANCH EXPANSION	<b>APPLICANT:</b> CROWN CASTLE 1200 AUGUSTA DR HOUSTON, TX 77057 CONTACT: BARRY CAMPALU
<b>PROJECT AREA:</b> CINCO RANCH - HGCW	<b>CODES:</b> 2009 INTERNATIONAL BUILDING CODE (IBC) 2009 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2008 NATIONAL ELECTRICAL CODE (NEC) 2008 NATIONAL ELECTRICAL SAFETY CODE (NESC)
<b>JURISDICTION:</b> FORT BEND COUNTY ENGINEERING DEPT. 1124 BLUME RD. ROSENBERG, TX 77471 PH: 281.883.7500 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>POWER COMPANY:</b> CENTERPOINT ENERGY 5431 HIGHWAY BLVD. KATY, TX 77494 PH: 281.520.6276 CONTACT: KEN CORTEZ

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

<p><b>PART 2 - EXECUTION</b></p> <p><b>2.1 EXECUTION</b></p> <p>A. Provide (1) main ground from the antenna mounting bracket at the top of the pole, to the main ground bus bar (TMGB) (shown below); (2) main vertical ground shield consist of # 2 solid bare copper cable. Bare ground shall be protected by a PVC-U jacket to the top of the pole and spaced every 24" with corrosion resistant (copper galvanized) splices. #2 solid bare copper cable to be installed in a hole drilled to fit the cable. #2 is stated in recommendations by Code. As to diameter and wire shall be as shown. Bare bars may also be covered to make them less susceptible to theft.</p> <p>B. Provide (1) main ground bus bar (TMGB) mounted and bolted to a ground rod at the pole base. Main ground vertical shall consist of a # 2 solid bare copper cable. Main ground shall be protected by a PVC-U jacket to the top of the pole and spaced every 24" with corrosion resistant (copper galvanized) splices. Ground rod shall be placed per NEC code with regards to depth and distance from wood poles.</p> <p>C. Ground rod shall be bored minimum of 6" below grade.</p> <p>D. # 2 ground shall be attached directly to the ground rod by Galv Weld.</p> <p>E. Main ground vertical shall be attached directly to a ground bus bar (TMGB) mounted to the base of the utility pole. Method of contact shall be 2" wide solid lug (shown) to the main ground bus (TMGB) on the left pole depending on the location of the TMGB.</p> <p>F. Main ground vertical to the antenna mounting bracket shall be attached directly to the antenna bracket with a self-tapping bolt or screw. A washer must be added to the top bolt or screw to avoid damage to the left pole depending on the location of the TMGB.</p> <p>G. TMGB shall be mounted above the Claret cabinet below the 8661 standard directly to the wood pole structure.</p> <p>H. All pole mounted devices, including but not limited to: antenna mounts and antennas, mounting brackets, cabinets, shall be connected to the TMGB with # 4 copper braided cable (X coded and galv) in conduit.</p> <p>I. 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" size conductor lugs.</p> <p>J. Conductor lugs must attach to the bus bar with two holes flaring up and out with the bolt heads on the back side of the bus bar.</p> <p>K. Splicing of conductor lugs is prohibited.</p> <p>L. Placement of conductor lugs on front and rear face of grounding bar is permitted.</p> <p>M. Any modifications to the conductor lugs is prohibited, including but not limited to grinding, cutting or bending.</p> <p>N. Conductor lugs must be placed with even loading and must not come in contact with another conductor lug.</p> <p>O. Settled wire of the conductor lug should be placed on the settled side of the bus bar.</p> <p>P. All conductor lugs shall have two (2) compression nuts.</p> <p>Q. All conductor lugs must have two (2) nuts applied to any poles which contact another metal in the following order including and especially the conductor in the compression end.</p> <p>R. All conductor lugs must be properly sealed from weather with seal sheath.</p> <p>S. All conductor lugs must be attached using 3/8" hardware x 2 per each lug and in the following order:</p> <ol style="list-style-type: none"> <li>Flat washer on the backside of the lug</li> <li>Bolt thru the lug from flaring outward</li> <li>Lock washer on the front side of the lug</li> <li>Lock washer on the backside of the washer</li> <li>Nut on the bolt, turned so three threads showing at maximum torque</li> <li>All nuts on conductor bars must be tightened to the 800 watters by a company print.</li> </ol> <p>T. No mechanical connections are acceptable except in the event of mechanical fittings being a integral part of the product from the factory. - either rated for ground lugs on top of the cable.</p> <p>U. Excess wires on distribution must be grounded off to a safe place.</p> <p>V. All cut wires must be covered with 200 or the product to prevent contact.</p> <p>W. All exposed metallic surfaces must be sprayed with a protective coating such as Zinc D.</p> <p>X. All fittings exposed to environment must be sealed with zinc wrap.</p> <p>Y. Exposed "stray" conductors are prohibited for a length of 1' (100%) or more.</p> <p><b>PART 3 - TESTING AND DOCUMENTATION</b></p> <p><b>3.1 TESTING</b></p> <p>A. 5 Ohms to ground is required for acceptance. If 5 Ohms cannot be met with above requirements, additional ground rods will be added to the last until 5 Ohms is achieved.</p> <p><b>3.2 DOCUMENTATION</b></p> <p>A. Photos of the items are required as well as test results in format document format. Submit result of test to CC, Construction Manager prior to the walkthrough. Submit all photos and tests with original package per Section 01750 - Electrical Procedures and Required Documents.</p>	<p>1. RIGHT-OF-WAY USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.</p> <p>2. A UTILITY LOCATE IS REQUIRED FOR ALL PROJECTS.</p> <p>3. CROSSING OF EXISTING UTILITIES SHALL BE COORDINATED BY CONTRACTOR.</p> <p>4. ALL WORK TO BE CONDUCTED IN CITY RIGHT OF WAY, U.N.C.</p> <p>5. ALL DISTURBED LANDSCAPING SHALL BE RESTORED TO SIMILAR EXISTING CONDITION.</p> <p>6. ALL SURFACE REPAIR SHALL BE TO CITY SPECIFICATIONS.</p> <p>7. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNAGE WILL BE PLACED.</p> <p>8. TEMPORARY LIGHTING WILL BE COORDINATED WITH CITY AND PROVIDED WHENEVER EXISTING LIGHTING IS REMOVED OR UNAVAILABLE AS REQUIRED.</p> <p>9. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.</p> <p>10. OPEN EXCAVATIONS SHALL BE PROPERLY GUARDED AND SIGNED. NO OPEN EXCAVATIONS WILL BE LEFT ACCESSIBLE TO THE PUBLIC.</p> <p>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 NOISE LOCATION.</p> <p>12. ALL WORK TO COMPLY WITH OSHA AND CITY GUIDELINES.</p> <p>13. CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING PRIVATE IRRIGATION PRIOR TO EXCAVATION. CONTRACTOR WILL REPAIR OR RELOCATE IRRIGATION IN ROW AS NECESSARY.</p> <p>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, DAMAGES 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 CONTRACTORS OPERATIONS, THE REMOVAL AND REPLACEMENT OF DEFORMED PAVEMENT, CURB AND GUTTER, SIDEWALK, ETC. ALL SAWN 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.</p> <p>15. THE VAULTS INSTALLED IN CONJUNCTION WITH THE INDIVIDUAL ANTENNA NODES SHALL BE FLUSH WITH THE GROUND.</p>	<p>AC ADJ AIR CONDITIONING</p> <p>ADU ABOVE FINISH FLOOR</p> <p>AMSL ABOVE MEAN SEA LEVEL</p> <p>APPROX APPROXIMATELY</p> <p>AWG AMERICAN WIRE GAUGE</p> <p>BCW BARE COPPER WIRE</p> <p>BLDG BUILDING</p> <p>BLK INF IN</p> <p>BOB BOTTOM OF BLOCK</p> <p>B/S BUILDING STANDARD</p> <p>CLG CEILING</p> <p>CLR CLEAR</p> <p>CONC CONCRETE</p> <p>CONCT CONSTRUCTION</p> <p>CONT CONTINUOUS</p> <p>CO COMPANY</p> <p>DD DOUBLE</p> <p>DIA DIAMETER</p> <p>DM DIMENSION</p> <p>DN DOWN</p> <p>DTL DETAIL</p> <p>DWG DRAWING</p> <p>E EAST</p> <p>EA EACH</p> <p>EL ELEVATION</p> <p>ELECT ELECTRICAL</p> <p>EPB ELECTRICAL PULL BOX</p> <p>EQ EQUAL</p> <p>EQUIP EQUIPMENT</p> <p>EW EACH WAY</p> <p>EXT EXISTING</p> <p>EXT EXTERIOR</p> <p>FIN FINISH</p> <p>FLOOR FLOOR</p> <p>FLR FLOOR</p> <p>FT FOOT, FEET</p> <p>GA GAUGE</p> <p>GALV GALVANIZED</p> <p>GEN GENERAL CONTRACTOR</p> <p>GLB GLUE LAMINATED BEAM</p> <p>GRND GROUND</p> <p>DVE OVERLAY WALL BOARD</p> <p>HCRZ HORIZONTAL</p> <p>HR HOUR</p> <p>HT HEIGHT</p> <p>HVAC HEATING, VENTING AND AIR CONDITIONING</p> <p>IBC INTERNATIONAL BUILDING CODE</p> <p>IN INCH</p> <p>INF INFORMATION</p> <p>INT INTERIOR</p> <p>LMB LINEAR FEET</p> <p>LF MAXIMUM</p> <p>MECH MECHANICAL</p> <p>MFL METAL</p> <p>MFR MANUFACTURER</p> <p>MOR MANAGER</p> <p>MNH MANHOLE</p> <p>MISC MISCELLANEOUS</p> <p>N NORTH</p> <p>NA NOT APPLICABLE</p> <p>NC NOT IN CONTRACT</p> <p>NTS NOT TO SCALE</p> <p>OC ON CENTER</p> <p>OD OUTSIDE DIAMETER</p> <p>OPPOSITE OPPOSITE</p> <p>PL PROPERTY LINE</p> <p>PLY PLWOOD</p> <p>PAIR PAIR</p> <p>PROJ PROJECT</p> <p>PROP PROPERTY</p> <p>PT PRESURE TREATED</p> <p>RCP REFLECTED CEILING PLAN</p> <p>REQD REQUIRED</p> <p>ROOM ROOM</p> <p>ROU ROUGH OPENING</p> <p>ROW RIGHT-OF-WAY</p> <p>RX RECEIVE SIGNAL</p>	<p>S SCHEDULE</p> <p>SF SQUARE FEET</p> <p>SHT SHEET</p> <p>SOL SOLAR</p> <p>SPEC SPECIFICATION</p> <p>SQ SQUARE</p> <p>SE SANITARY SEWER</p> <p>STL STEEL</p> <p>STR STRUCTURAL</p> <p>SUSP SUSPENDED</p> <p>SV SCLARE YARD</p> <p>THRU THROUGH</p> <p>TRENCH TRENCH</p> <p>T.C. TOP OF</p> <p>TOB TOP OF BLOCK</p> <p>TOC TOP OF CONCRETE</p> <p>TCM TOP OF MASONRY</p> <p>TUBE TUBE</p> <p>TS TUBE STEEL</p> <p>TX TRANSMIT SIGNAL</p> <p>TYP TYPICAL</p> <p>UG UNDERGROUND</p> <p>UL UNDERWRITERS LAB</p> <p>URH UNIVERSAL RACH HEAD</p> <p>UNO UNLESS NOTED OTHERWISE</p> <p>VERT VERTICAL</p> <p>VERIF VERIFY IN FIELD</p> <p>VFL VINYL TILE</p> <p>W WEST</p> <p>WITH WITH</p> <p>WDW WINDOW</p> <p>W/O WITHOUT</p> <p>WP WORKING POINT</p> <p>WTR WATER</p>
<p><b>GROUNDING SPECIFICATIONS</b> SCALE: NTS 6</p> <p>1. FORT BEND COUNTY MUST BE INVITED TO THE PRE-CONSTRUCTION MEETING.</p> <p>2. CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 48 HOUR NOTICE TO ANY CONSTRUCTION ACTIVITY WITHIN THE LIMITS OF THE PAVED AT CONSTRUCTION/FORT BEND COUNTY TX 030.</p> <p>3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS WITHIN CITY RIGHT OF WAY.</p> <p>4. ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY "RULES, REGULATIONS AND REQUIREMENTS" RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS AS CURRENTLY AMENDED.</p> <p>5. ALL ROAD WIDTHS, CURB BACK AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB.</p> <p>6. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS.</p> <p>7. ALL CONCRETE PAVEMENT SHALL BE 8" THICK CONCRETE 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 80 FEET.</p> <p>8. ALL WEATHERS ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.</p> <p>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.</p> <p>10. AT ALL INTERSECTION LOCATIONS, TYPE 7 RAMPS SHALL BE PLACED IN ACCORDANCE WITH TxDOT PED-12A STANDARD DETAIL SHEET, D.A.A - HANDICAP RAMPS SHALL BE INSTALLED WITH STREET PAVING AT ALL INTERSECTIONS AND COMPLY WITH CURRENT D.A.A REGULATIONS.</p> <p>11. CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMBS WITH NO CONSTRUCTION JOINT WITHIN 9' OF RAMPS.</p> <p>12. ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE A 3" WHEEL CHAIR RAMPS INSTALLED.</p> <p>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 FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION - BOTH DAY AND NIGHT.</p> <p>14. ALL 81-1 STOP SIGNS SHALL BE 30" X 30" WITH DAMAGED GRACE SHEETING PER TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.</p> <p>15. STREET NAME SIGNAGE SHALL BE ON A 9" HIGH SIGN PLAT BLADE WITH REFLECTIVE GREEN BACKGROUND. STREET NAMES SHALL BE UPPER AND LOWER CASE LETTERS. STREET NAME SIGNS SHALL BE MOUNTED ON STOP SIGN POST.</p> <p>16. REFLECTIVE WHITE STREET NAME SIGNS SHALL BE MOUNTED ON STOP SIGN POST.</p> <p>17. A BLUE SQUARE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS. THE BUTTON SHALL BE PLACED 12 INCHES OFF THE CENTERLINE OF THE STREET ON THE SAME SIDE AS THE HYDRANT.</p> <p><b>NOTE: FORT BEND COUNTY NOTES SUPERSEDE ANY CONFLICTING NOTES.</b></p> <p>INSPECTION: THE PROJECT AND ALL PARTS THEREOF SHALL BE SUBJECT TO INSPECTION FROM TIME TO TIME BY INSPECTORS DESIGNATED BY FORT BEND COUNTY. NO SUCH INSPECTIONS SHALL RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER. NEITHER FAILURE TO INSPECT NOR FAILURE TO DISCOVER OR REJECT ANY OF THE WORK AS NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, REQUIREMENTS AND SPECIFICATIONS OF FORT BEND COUNTY OR ANY PROVISION OF THIS PROJECT SHALL BE CONSIDERED TO IMPLY AN ACCEPTANCE OF SUCH WORK OR TO RELIEVE THE CONTRACTOR OF ANY OF ITS OBLIGATIONS HEREUNDER.</p>	<p><b>GENERAL PROJECT NOTES</b> SCALE: NTS 10</p> <p>CREW MUST HAVE ONE ALCI CERTIFIED PERSON - PERSONNEL WORKING IN/AROUND THE NODE CABINET MUST HAVE THE ALCI METRO CELL CERTIFICATION - ONLY CERTIFIED PERSONNEL MAY INSTALL ALL METRO CELLS. I.E. NO TRAIN THE TRAINER OPTIONS PERMITTED - A CERTIFIED INSTALLER MAY SUPERVISE ONE OR MORE NON-CERTIFIED "HELPER" AS LONG THE CERTIFIED INSTALLER IS ON THE SAME SITE 100% OF THE TIME. I.E. NO ROAMING SUPERVISORS - A CERTIFIED INSTALLER MAY NOT ACT AS A ROAMING QUALITY AUDITOR UNLESS THE ORIGINAL INSTALLATION IS COMPLETED BY A CERTIFIED INSTALLER AND THE QUALITY AUDIT IS ONLY USED TO ENSURE INTERNAL QUALITY. IN NO WAY WILL THE AUDIT BE PORTRAYED AS AN ALGALC- LUCENT AUDIT - CERTIFIED PERSONNEL HAVE ACCESS TO REMOTE TECHNICAL SUPPORT FOR ISSUES RELATED TO METRO CELL INSTALLATION. 8666 982-3688 / 866-LUCENT - THE FOLLOWING PRODUCTS ARE COVERED: 9788 METRO CELL INDOOR, 9789 METRO CELL OUTDOOR, 9789 METRO CELL INDOOR, 9784 METRO CELL OUTDOOR, 9788 METRO RADIO OUTDOOR V1.D. AND THE 7310 CABINET.</p> <p><b>ALU CERTIFIED TECH NOTE</b> SCALE: NTS 11</p>	<p>GA GAUGE</p> <p>GALV GALVANIZED</p> <p>GEN GENERAL CONTRACTOR</p> <p>GLB GLUE LAMINATED BEAM</p> <p>GRND GROUND</p> <p>DVE OVERLAY WALL BOARD</p> <p>HCRZ HORIZONTAL</p> <p>HR HOUR</p> <p>HT HEIGHT</p> <p>HVAC HEATING, VENTING AND AIR CONDITIONING</p> <p>IBC INTERNATIONAL BUILDING CODE</p> <p>IN INCH</p> <p>INF INFORMATION</p> <p>INT INTERIOR</p> <p>LMB LINEAR FEET</p> <p>LF MAXIMUM</p> <p>MECH MECHANICAL</p> <p>MFL METAL</p> <p>MFR MANUFACTURER</p> <p>MOR MANAGER</p> <p>MNH MANHOLE</p> <p>MISC MISCELLANEOUS</p> <p>N NORTH</p> <p>NA NOT APPLICABLE</p> <p>NC NOT IN CONTRACT</p> <p>NTS NOT TO SCALE</p> <p>OC ON CENTER</p> <p>OD OUTSIDE DIAMETER</p> <p>OPPOSITE OPPOSITE</p> <p>PL PROPERTY LINE</p> <p>PLY PLWOOD</p> <p>PAIR PAIR</p> <p>PROJ PROJECT</p> <p>PROP PROPERTY</p> <p>PT PRESURE TREATED</p> <p>RCP REFLECTED CEILING PLAN</p> <p>REQD REQUIRED</p> <p>ROOM ROOM</p> <p>ROU ROUGH OPENING</p> <p>ROW RIGHT-OF-WAY</p> <p>RX RECEIVE SIGNAL</p>	<p>REVISION</p> <p>KEY NOTE</p> <p>DETAIL REFERENCE</p> <p>ELEVATION REFERENCE</p> <p>SECTION REFERENCE</p> <p>ELEVATION MARKER</p> <p>PHOTOGRAPH REFERENCE</p> <p>ANTENNA AZIMUTH</p> <p>VIEW NUMBER</p> <p>SHEET NUMBER</p> <p>SHEET GROUP</p> <p>EXISTING TREE</p> <p>EXISTING BUSH - SHRUB</p>
<p><b>ABBREVIATIONS AND SYMBOLS</b> SCALE: NTS 20</p> <p>--- CENTER LINE</p> <p>--- PROPERTY LINE</p> <p>--- RIGHT-OF-WAY</p> <p>--- FIBER</p> <p>--- GAS</p> <p>--- POWER</p> <p>--- SANITARY SEWER</p> <p>--- STORM DRAIN</p> <p>--- WATER</p> <p>--- LIGHT CIRCUIT POWER</p> <p>--- OVERHEAD POWER LINE</p> <p>APPROVED: </p> <p>DATE: 11/16</p> <p>Development Coordinator</p>	<p><b>ABBREVIATIONS AND SYMBOLS</b> SCALE: NTS 20</p> <p>--- CENTER LINE</p> <p>--- PROPERTY LINE</p> <p>--- RIGHT-OF-WAY</p> <p>--- FIBER</p> <p>--- GAS</p> <p>--- POWER</p> <p>--- SANITARY SEWER</p> <p>--- STORM DRAIN</p> <p>--- WATER</p> <p>--- LIGHT CIRCUIT POWER</p> <p>--- OVERHEAD POWER LINE</p>	<p><b>ABBREVIATIONS AND SYMBOLS</b> SCALE: NTS 20</p> <p>--- CENTER LINE</p> <p>--- PROPERTY LINE</p> <p>--- RIGHT-OF-WAY</p> <p>--- FIBER</p> <p>--- GAS</p> <p>--- POWER</p> <p>--- SANITARY SEWER</p> <p>--- STORM DRAIN</p> <p>--- WATER</p> <p>--- LIGHT CIRCUIT POWER</p> <p>--- OVERHEAD POWER LINE</p>	<p><b>ABBREVIATIONS AND SYMBOLS</b> SCALE: NTS 20</p> <p>--- CENTER LINE</p> <p>--- PROPERTY LINE</p> <p>--- RIGHT-OF-WAY</p> <p>--- FIBER</p> <p>--- GAS</p> <p>--- POWER</p> <p>--- SANITARY SEWER</p> <p>--- STORM DRAIN</p> <p>--- WATER</p> <p>--- LIGHT CIRCUIT POWER</p> <p>--- OVERHEAD POWER LINE</p>

**CROWN CASTLE**

800 E. JOHN CARPENTER PWAY  
SUITE 300  
IRVING, TX 75062

RECORD DRAWING ISSUE DATE: 10.16.16

T.C. TOP OF

TOB TOP OF BLOCK

TOC TOP OF CONCRETE

TCM TOP OF MASONRY

TUBE TUBE

TS TUBE STEEL

TX TRANSMIT SIGNAL

TYP TYPICAL

UG UNDERGROUND

UL UNDERWRITERS LAB

URH UNIVERSAL RACH HEAD

UNO UNLESS NOTED OTHERWISE

VERT VERTICAL

VERIF VERIFY IN FIELD

VFL VINYL TILE

W WEST

WITH WITH

WDW WINDOW

W/O WITHOUT

WP WORKING POINT

WTR WATER

**SHIFT**

Shift Companies, LLC

7033 NORTH WETA ROAD  
SUITE 1000A WETA ROAD  
IRVING, TEXAS 75062  
PH: 972.264.4000  
FAX: 972.264.1000

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RELEASE	
DATE	SUBMITTAL
6.03.16	1ST CITY SUBMITTAL
11.16.16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT
1	10.13.16	CITY COMMENTS

PROJECT NAME

**CINCO RANCH EXPANSION**

HUB AREA	
CINCO RANCH - HGCV	
SHIFT JOB NUMBER	IN HOUSE
150802	DRAWN BY: SA CHECKED BY: SA
SHEET TITLE	

**GENERAL NOTES**

**ABBREVIATIONS AND SYMBOLS**

SHEET NUMBER	PAGE
T1.2	2 OF 14

PLOT SCALE: 1" = 11' 0" (1" = 24' 0"); 1" = 11' 0" X 1"





NODE AERIAL PLAN

**SUBJECT POLE:** CCR-38

**GPS COORDINATES:**

**LAT:** 29.72879

**LONG:** -95.79217

POLE TYPE: METAL SLIMLINE POLE  
POLE ID #:

UPPER ANTENNA RAD CENTER: 22 - D.A.F.G.  
LOWER ANTENNA RAD CENTER: 30 - D.A.F.G.

APPROVED: *[Signature]*  
Development Coordinator

DATE: 11/16



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

RECORD DRAWINGS ISSUE DATE: 10.16.16



**Shift Companies, LLC**  
13111 ACRES 4574 ROAD  
7017 BUNGE, ANDERSON, MS  
PH: 482.254.2629  
MO: 482.254.0033

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RELEASE	
DATE	SUBMITTAL
0.03.16	1ST CITY SUBMITTAL
10.16.16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT

PROJECT NAME  
**CINCO RANCH EXPANSION**

NODE ADDRESS  
**CCR-38**

**RIVERGREEN PARK LANE AND CINCO RANCH BLVD**

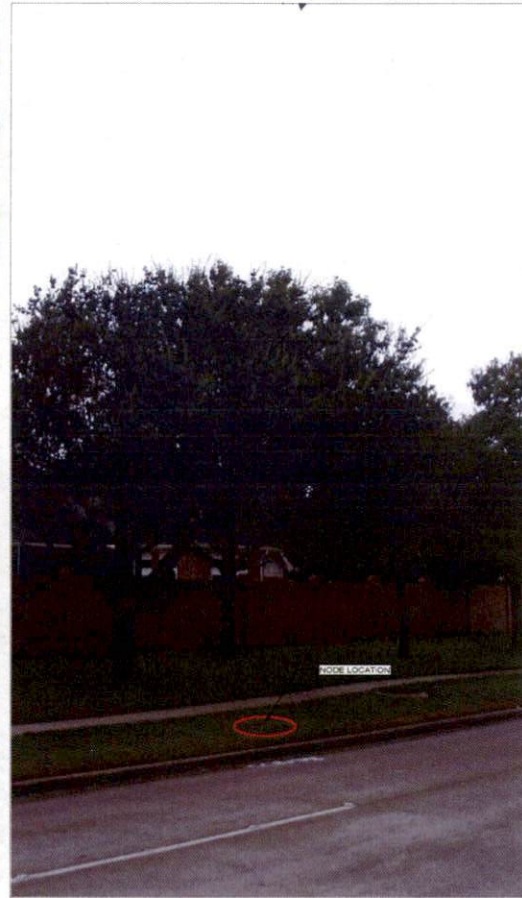
HUB AREA  
**CINCO RANCH - HGCV**

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

SHEET TITLE  
**AERIAL**

SHEET NUMBER: A1.0  
PAGE: 4 OF 14

PLOT SCALE: 1" = 24.00'; 1/2" = 11.71'



SITE PHOTO (EXISTING)

N.T.S.

KEYNOTE	DESCRIPTION	DETAIL
A01	PROPOSED CROWN CASTLE 2' DIA ANTENNA	18D1.1
A02	PROPOSED CROWN CASTLE 2' U.G. CONDUIT (APPROXIMATE LOCATION, F.V.)	2D1.1
A03	PROPOSED CROWN CASTLE REMOTE RADIO UNIT (RUE) EQUIPMENT CABINET	18D1.1
A04	PROPOSED NEW METAL S.L. MUNE 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	DESCRIPTION	DETAIL
E01	PROPOSED POWER METER MOUNTED TO EQUIPMENT CABINET (CONSTRAINED PANEL AND DISCONNECT)	18D1.1
U01	PROPOSED 2' CROWN CASTLE U.G. POWER CONDUIT (APPROXIMATE LOCATION, F.V.)	2D1.1 & 6D1.2
U02	PROPOSED CROWN CASTLE 2' U.G. FIBER CONDUIT BY OTHERS (APPROXIMATE LOCATION, F.V.)	2D1.1 & 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**

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

**SUBJECT POLE:** CCR-38

**GPS COORDINATES:**

**LAT:** 29.708874  
**LONG:** -95.758817

**POLE TYPE:** METAL SURELINE POLE  
**POLE ID #:**

**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 R.O.W.

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

**DATE:** 11/16



CROWN CASTLE  
 600 E. JOHN DAMPER FERRY  
 SUITE 200  
 IRVING, TX 75063

RECORD DRAWINGS ISSUE DATE: 10.18.16



Shift Companies, LLC  
 7211 HEINTZ VISTA ROAD  
 8077 HUNTS, WISDOM, TEXAS  
 PH: 409.344.8829  
 FAX: 409.344.8824

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RELEASE	
DATE	SUBMITTAL
6/29/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT

**PROJECT NAME**  
 CINCO RANCH EXPANSION

**NODE ADDRESS**  
 RIVERGREEN PARK LANE AND CINCO RANCH BLVD

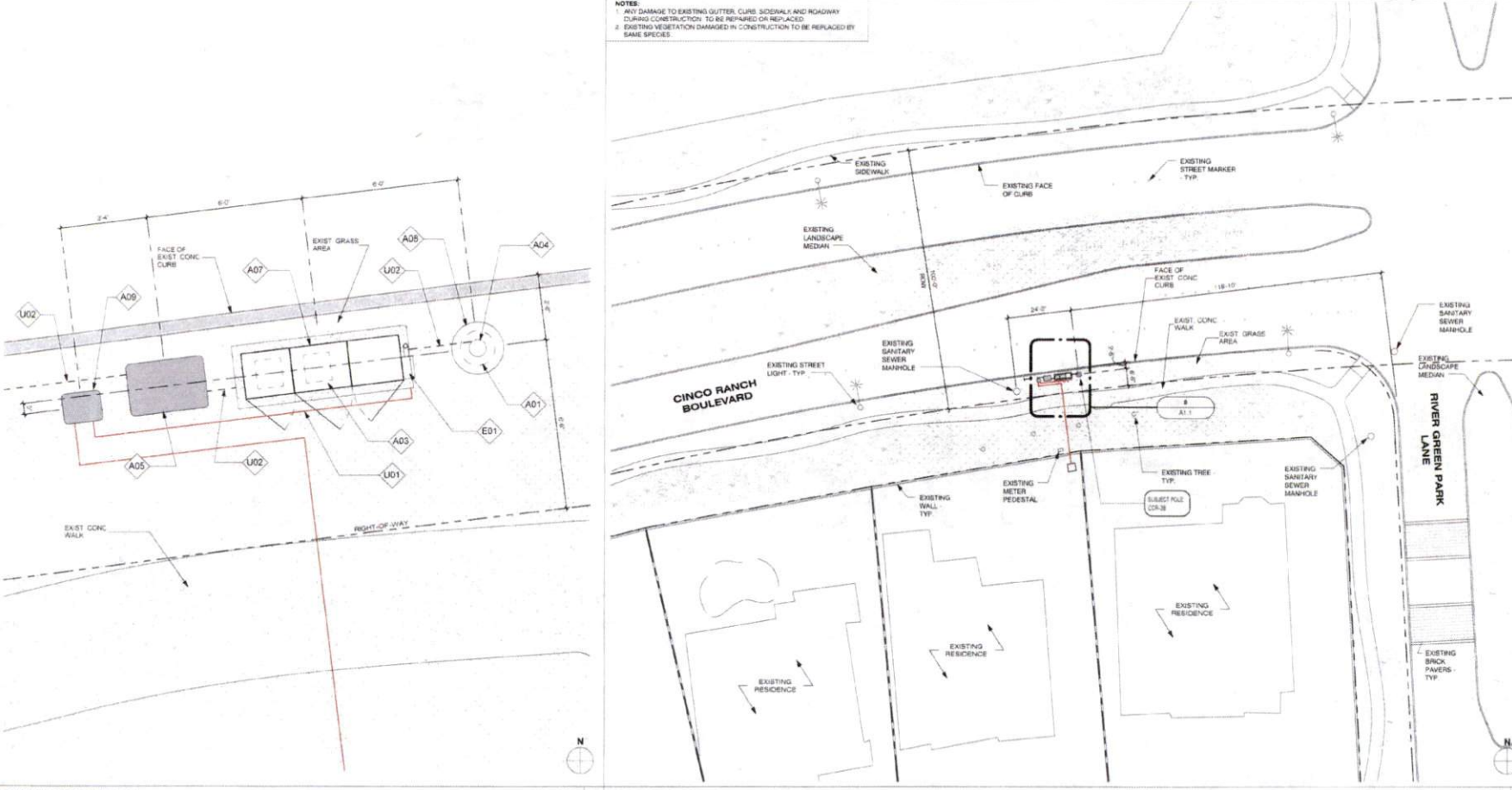
**HUB AREA**  
 CINCO RANCH - HGCW

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

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

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

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



EQUIPMENT AND ANTENNA PLAN

1/2" = 1'-0"

8 OVERALL SITE PLAN

1" = 20'-0" 20

PLAN CHECK #

C:\Users\ruetbe\_000\Documents\AAA - Shift Companies\AAA - Crown Castle\Houston\Cinco Ranch Expansion\Sheet\CCR-38 - Project - 12.14.16.rvt

10/17/2016 2:35:40 PM

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	16/D1.1
A02	PROPOSED CROWN CASTLE 2" U.G. CONDUIT APPROXIMATE LOCATION (F.V.)	2/D1.1
A03	PROPOSED CROWN CASTLE REMOTE RADIO UNITS INSIDE EQUIPMENT CABINET	16/D1.1
A04	PROPOSED NEW METAL SKIRL/RAIL POLE	30/D1.1
A05	PROPOSED CROWN CASTLE UNDERGROUND CONC. FIBER VAULT	6/D1.2
A06	PROPOSED CROWN CASTLE NODE IDENTIFICATION BRASS/PLATE	30/D1.2
A07	PROPOSED CROWN CASTLE EQUIPMENT CABINET	16/D1.1
A08	PROPOSED CROWN CASTLE POLE FOUNDATION	12/D1.1
A09	PROPOSED ELECTRICAL HAND HOLE	
E01	PROPOSED POWER METER MOUNTED TO EQUIPMENT CABINET (DISTRIBUTED PANEL AND DISCONNECT)	16/D1.1

MODEL: AMPHENOL\_ZCANTENK107440  
 LENGTH: 48"  
 WIDTH: 14.6" DIA  
 DEPTH: N/A  
 WEIGHT: 28.1 LBS

PROPOSED PANEL ANTENNA SPECS

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

POLE INFO

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



CROWN CASTLE  
 600 E. JOHN CARPENTER FRY  
 SUITE 300  
 IRVING, TX 75060

RECORD DRAWINGS ISSUE DATE: 10/18/16



Shift Companies, LLC  
 7511 E. HEWITT AVE SUITE 100  
 SCOTTSDALE, ARIZONA 85251  
 PH: 480.344.2625  
 FAX: 480.344.5000

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DATE	SUBMITTAL
6/20/16	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-38**

**RIVERGREEN PARK LANE AND CINCO RANCH BLVD**

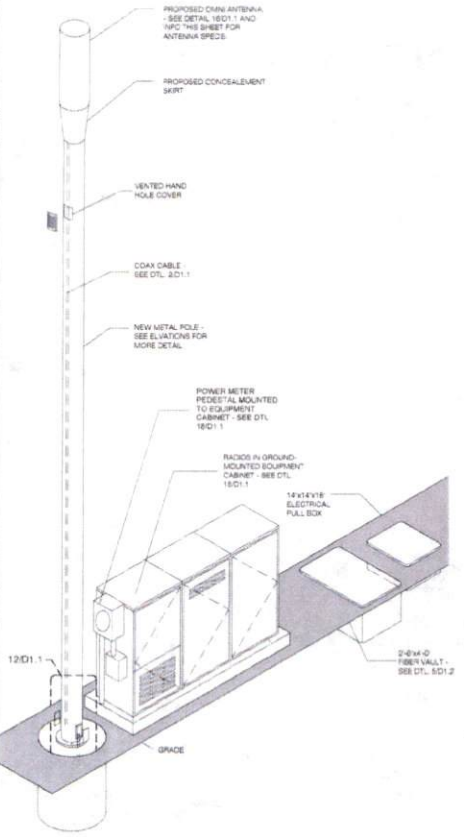
HUB AREA  
**CINCO RANCH - HGCW**

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

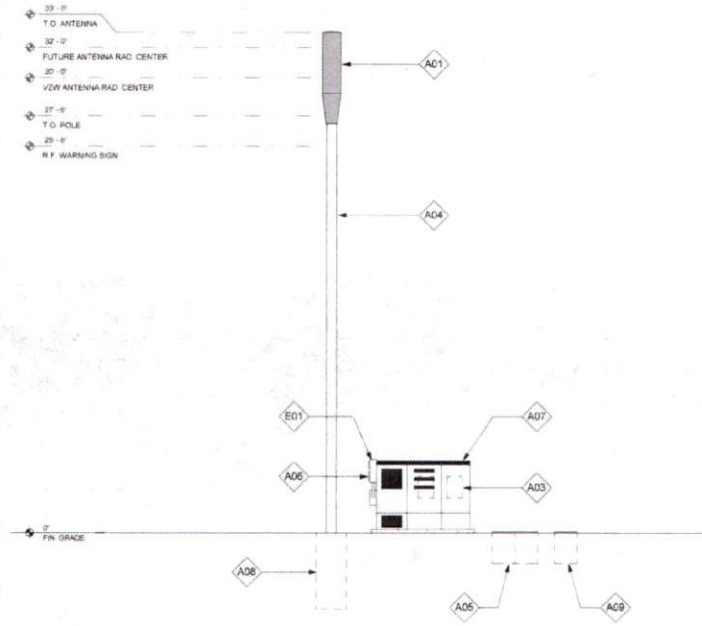
SHEET TITLE  
**POLE ELEVATION, PROPOSED**

SHEET NUMBER: A1.2  
 PAGE: 6 OF 14

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



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

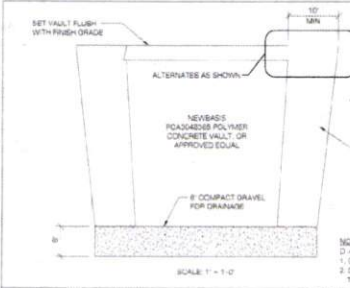


POLE ELEVATION (PROPOSED) SCALE: 1/4" = 1'-0" 20

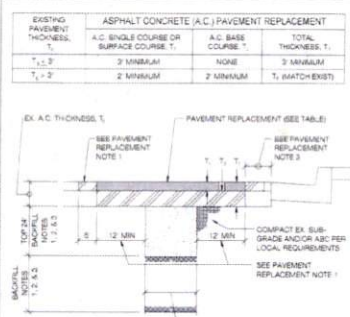
PLAN CHECK #

CASE #





VAULT INSTALLATION SCALE: 1/2" = 1'-0" 5



PAVEMENT REPLACEMENT SCALE: 3/4" = 1'-0" 6

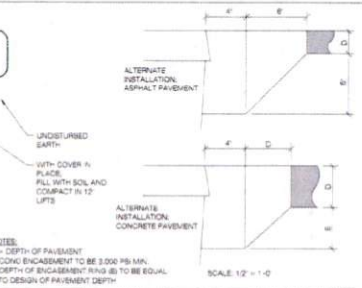
**REBAR NOTES**

- TRENCHES LESS THAN 24" IN WIDTH - 1/2" BACK CULM. FULL DEPTH OF BACKFILL BOTTOM OF AGGREGATE BASE COURSE (ABC) LAYER IN PAVEMENT STRUCTURE OR 8" BELOW PAVEMENT IN FULL DEPTH PAVEMENT STRUCTURES. CONSTRUCT PAVEMENT STRUCTURE TO MATCH EXISTING AND IN ACCORDANCE WITH CITY DETAILS.
- TRENCHES 24" TO 36" IN WIDTH - 1/2" BACK CULM. AS DESCRIBED IN NOTE 1 ABOVE WITHIN THE TOP 24" OF THE TRENCH FOR BALANCE OF BACKFILL.
- TRENCHES OVER 36" IN WIDTH - FULL DEPTH OF BACKFILL.
- TREAT EXISTING UNFINISHED SURFACE OF UNPAVED ALLEYS WITH USG/BA BASED DUST PALLADIUM 1:1 DILUTION RATIO, 0.80 GAL/SY APPLICATION RATE.
- CULM SHALL NOT BE USED FOR WATER OR SEWER PIPE BEDDING. SEE BEDDING DETAIL.
- RECYCLED ASPHALT SHALL NOT BE USED FOR BACKFILL.

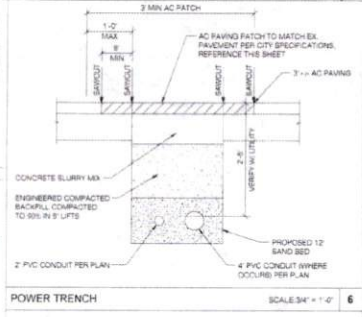
**PAVEMENT REPLACEMENT NOTES**

- 1" TOP REQUIRED FOR ALL TRENCHES. ASPHALT CONCRETE (A.C.) SURFACE COURSE REPLACEMENT TO BE MAILED DOUBLE T" COMPENSATION AS SPECIFIED BELOW FOR PAVEMENTS 4" AND THICKER.
  - A. FOR PAVEMENT 4" YEARS AND OLDER, INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTOR. SAWCUT AND REMOVE 12" OF A.C. MATERIAL ON EACH SIDE OF THE TRENCH FOR THE 1" TOP AFTER THE BACKFILL.
  - B. FOR PAVEMENTS LESS THAN 4" YEARS OLD AND WHEN ALLOWED UNDER THE PROVISIONS OF LOCAL CITY/TOWN CODE AND ALL PAVEMENTS WITH FIBERGLASS BASE COURSES INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTOR. SAWCUT AND REMOVE 12" OF A.C. MATERIAL ON EACH SIDE OF THE TRENCH FOR THE 1" TOP AFTER THE BACKFILL. TOTAL WIDTH OF 15 FEET FOR PAVEMENTS LESS THAN 4" THICK SAWCUT, REMOVE AND REPLACE THE ENTIRE PAVEMENT SURFACE TO A MINIMUM TOTAL WIDTH OF 10 FEET AS DIRECTED BY THE ENGINEER.
- FOR DEEP PAVEMENT STRUCTURES REQUIRING TWO OR MORE PAVEMENT BASE LIFTS, INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTOR. SAWCUT AND REMOVE A.C. ON BOTH SIDES OF THE TRENCH AS NECESSARY TO ACCOMMODATE A RIDE ON TYPE VIBRATORY TROLLER COMPACTOR FOR PLACEMENT OF THE A.C. BASE COURSE LIFTS. MATCH EXISTING A.C. DEPTH, MILL AND REMOVE THE TOP 2" OF THE SURFACE COURSE EQUALLY ON BOTH SIDES OF THE TRENCH TO A MINIMUM TOTAL WIDTH OF 15 FEET.
- ASPHALT CONCRETE SHALL BE IN ACCORDANCE WITH THE LOCAL REQUIREMENTS.
- IF PAVEMENT REMAINING IS LESS THAN 36" REMOVAL AND REPLACE PAVEMENT AS PER THIS DETAIL.
- AGGREGATE BASE COURSE SHALL BE PROVIDED TO MATCH EXISTING ABC THICKNESS IN ADJACENT ROADWAY.
- REFER TO LOCAL JURISDICTION SPECIFICATIONS FOR PAVEMENT SMOOTHNESS REQUIREMENTS.

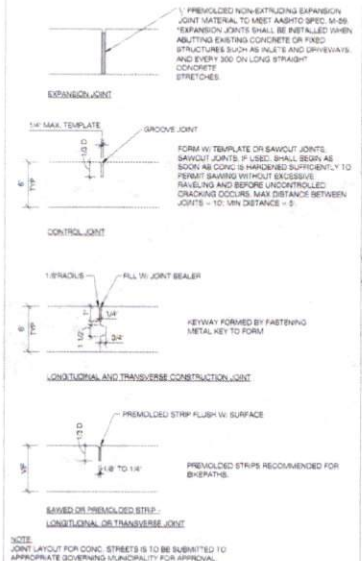
TRENCH AND PATCHING REQUIREMENTS SCALE: 1/2" = 1'-0" 4



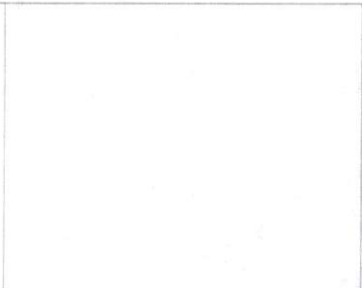
CONCRETE JOINT DETAILS SCALE: 1/2" = 1'-0" 8



MINIMUM UTILITY SEPARATION REQUIREMENTS SCALE: 1/2" = 1'-0" 16



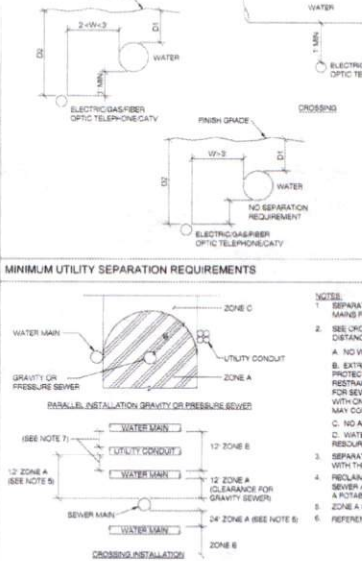
SANITARY SEWER SEPARATION / PROTECTION FROM WATER & UTILITIES SCALE: 1/2" = 1'-0" 16



COAX WATERPROOFING - JMA TYPE SCALE: 1/2" = 1'-0" 18



COAX WATERPROOFING - FUSION TAPE TYPE SCALE: 1/2" = 1'-0" 19



NODE IDENTIFICATION SIGNAGE SCALE: 1/2" = 1'-0" 20

**Step #1: Prep**

**Step #2: Install**

**Step #3: Compress**

**Step #4: Torque**

**COAX WATERPROOFING - JMA TYPE** SCALE: 1/2" = 1'-0" 18

**COAX WATERPROOFING - FUSION TAPE TYPE** SCALE: 1/2" = 1'-0" 19

**LEGEND**

- D1 = 3 MM. FOR PIPE - 12" DIA
- D2 = 4 MM. FOR PIPE - 12" DIA
- D3 = 5 MM. FOR PIPE - 12" DIA
- D4 = MAXIMUM COVER
- D5 = HORIZONTAL SEPARATION

**NOTES:**

- ELECTRIC SEPARATION REQUIREMENTS ARE FOR PRIMARY ELECTRIC CONDUCTORS ONLY. FOR SERVICE CONDUCTORS SEE PLANS.
- PRIMARY ELECTRIC GAS, TELEPHONE, CABLE TV OR FIBER OPTIC LINES SHALL NOT CROSS ABOVE A WATER LINE WITHOUT WRITTEN APPROVAL FROM THE CITY'S WATER RESOURCES DEPARTMENT. IF THE APPROVAL IS OBTAINED, DOUBLE UTILITY LOCATOR STRIPS AND ABC SLURRY CONFORMING TO LOCAL CITY/TOWN SPECIFICATIONS ARE REQUIRED.

**CROWN CASTLE**

1331 F. ROATE WEST ROAD  
HOUSTON, TEXAS 77057  
PH: 409.243.0601  
WWW.CROWNCASTLE.COM

**PROJECT NAME**  
CINCO RANCH EXPANSION

**HUB AREA**  
CINCO RANCH - HGCW

**SHEET JOB NUMBER**  
150602

**SHEET TITLE**  
CONSTRUCTION DETAILS

**SHEET NUMBER**  
D1.2

**PAGE**  
8 OF 14

**DATE**  
10/18/16

**REVISIONS**

NO.	DATE	COMMENT
1	10/18/16	1ST CITY SUBMITTAL
2	10/18/16	2ND CITY SUBMITTAL

**RELEASE**

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

**APPROVED:** [Signature] Development Coordinator

**DATE:** 10/18/16

**Step #1: Prep**

**Step #2: Install**

**Step #3: Compress**

**Step #4: Torque**

**COAX WATERPROOFING - JMA TYPE** SCALE: 1/2" = 1'-0" 18

**COAX WATERPROOFING - FUSION TAPE TYPE** SCALE: 1/2" = 1'-0" 19

**LEGEND**

- D1 = 3 MM. FOR PIPE - 12" DIA
- D2 = 4 MM. FOR PIPE - 12" DIA
- D3 = 5 MM. FOR PIPE - 12" DIA
- D4 = MAXIMUM COVER
- D5 = HORIZONTAL SEPARATION

**NOTES:**

- ELECTRIC SEPARATION REQUIREMENTS ARE FOR PRIMARY ELECTRIC CONDUCTORS ONLY. FOR SERVICE CONDUCTORS SEE PLANS.
- PRIMARY ELECTRIC GAS, TELEPHONE, CABLE TV OR FIBER OPTIC LINES SHALL NOT CROSS ABOVE A WATER LINE WITHOUT WRITTEN APPROVAL FROM THE CITY'S WATER RESOURCES DEPARTMENT. IF THE APPROVAL IS OBTAINED, DOUBLE UTILITY LOCATOR STRIPS AND ABC SLURRY CONFORMING TO LOCAL CITY/TOWN SPECIFICATIONS ARE REQUIRED.

**CROWN CASTLE**

1331 F. ROATE WEST ROAD  
HOUSTON, TEXAS 77057  
PH: 409.243.0601  
WWW.CROWNCASTLE.COM

**PROJECT NAME**  
CINCO RANCH EXPANSION

**HUB AREA**  
CINCO RANCH - HGCW

**SHEET JOB NUMBER**  
150602

**SHEET TITLE**  
CONSTRUCTION DETAILS

**SHEET NUMBER**  
D1.2

**PAGE**  
8 OF 14

**DATE**  
10/18/16

**REVISIONS**

NO.	DATE	COMMENT
1	10/18/16	1ST CITY SUBMITTAL
2	10/18/16	2ND CITY SUBMITTAL

**RELEASE**

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

**APPROVED:** [Signature] Development Coordinator

**DATE:** 10/18/16

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**PROJECT NAME**  
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**RELEASE**

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

**APPROVED:** [Signature] Development Coordinator

**DATE:** 10/18/16



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



**CROWN CASTLE**  
 800 E. JOHN CARPENTER Fwy  
 SUITE 200  
 IRVING, TX 75060

RECORD DRAWINGS ISSUE DATE: 10/16/16



**Shift Companies, LLC**  
 7331 F. ROAD WEST ROAD  
 HOUSTON, TEXAS 77057  
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RELEASE	
DATE	SUBMITTAL
6/24/16	1ST CITY SUBMITTAL
10/18/16	2ND CITY SUBMITTAL

REVISIONS		
NO.	DATE	COMMENT

PROJECT NAME  
**CINCO RANCH EXPANSION**

HUB ADDRESS  
**NODE #CCR-38**

**RIVERGREEN PARK LANE AND CINCO RANCH BLVD**

HUB AREA  
**CINCO RANCH - HGCW**

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

SHEET TITLE  
**ELECTRICAL PLANS**

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

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

PLAN CHECK # CASE #

