CONTRACTOR NOTES

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

CONTRACTOR TO PROVIDE DOCUMENTATION OF THE CONDITION OF SIDEWALK PRIOR TO SCHEDULING THE WORK. SIDEWALK DAMAGE MUST BE REPAIRED WITHIN THREE DAYS OF CONSTRUCTION COMPLETION.

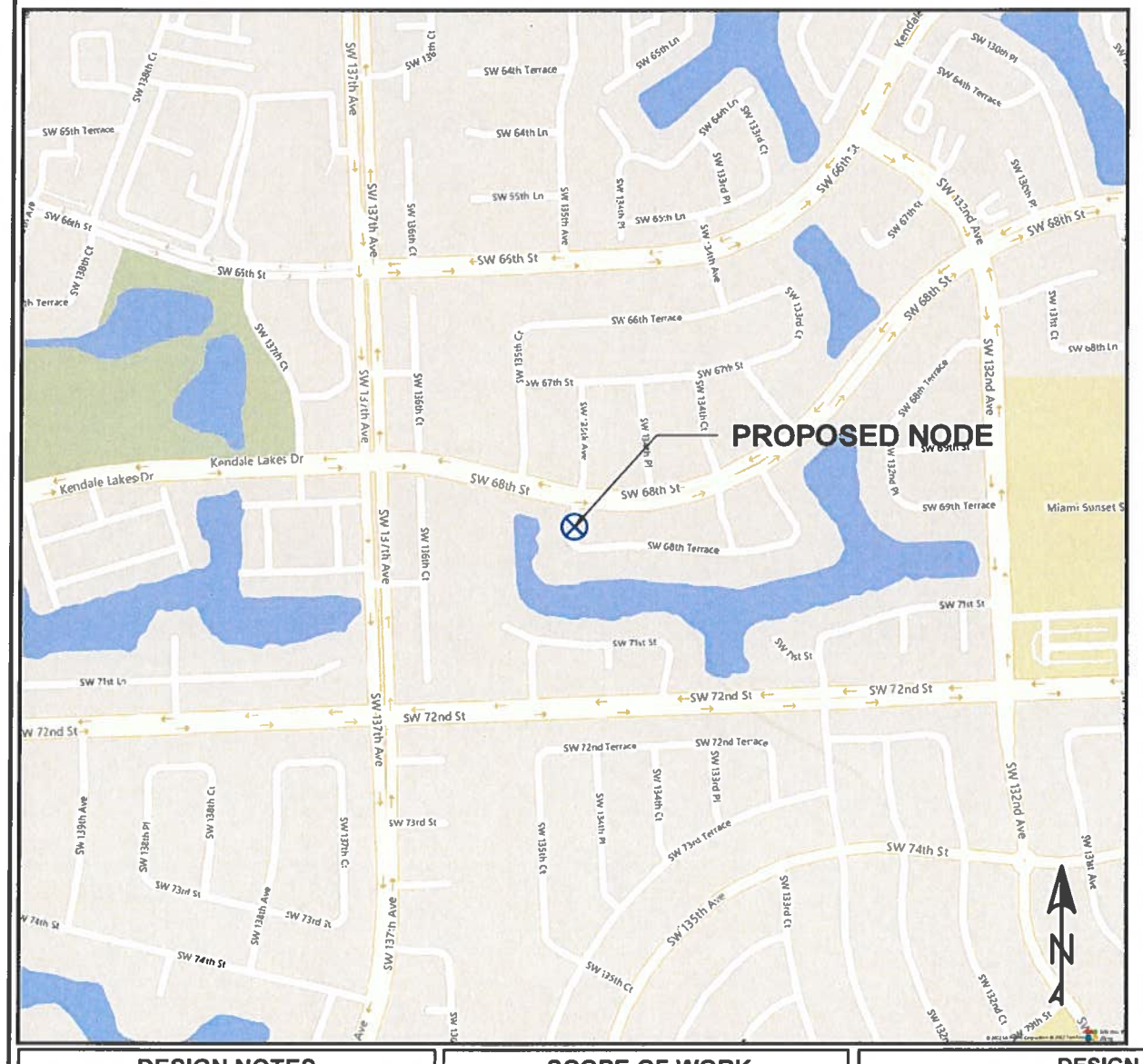
811 Know what's below Call before you dig.

TEP PROJECT ID: P-345534

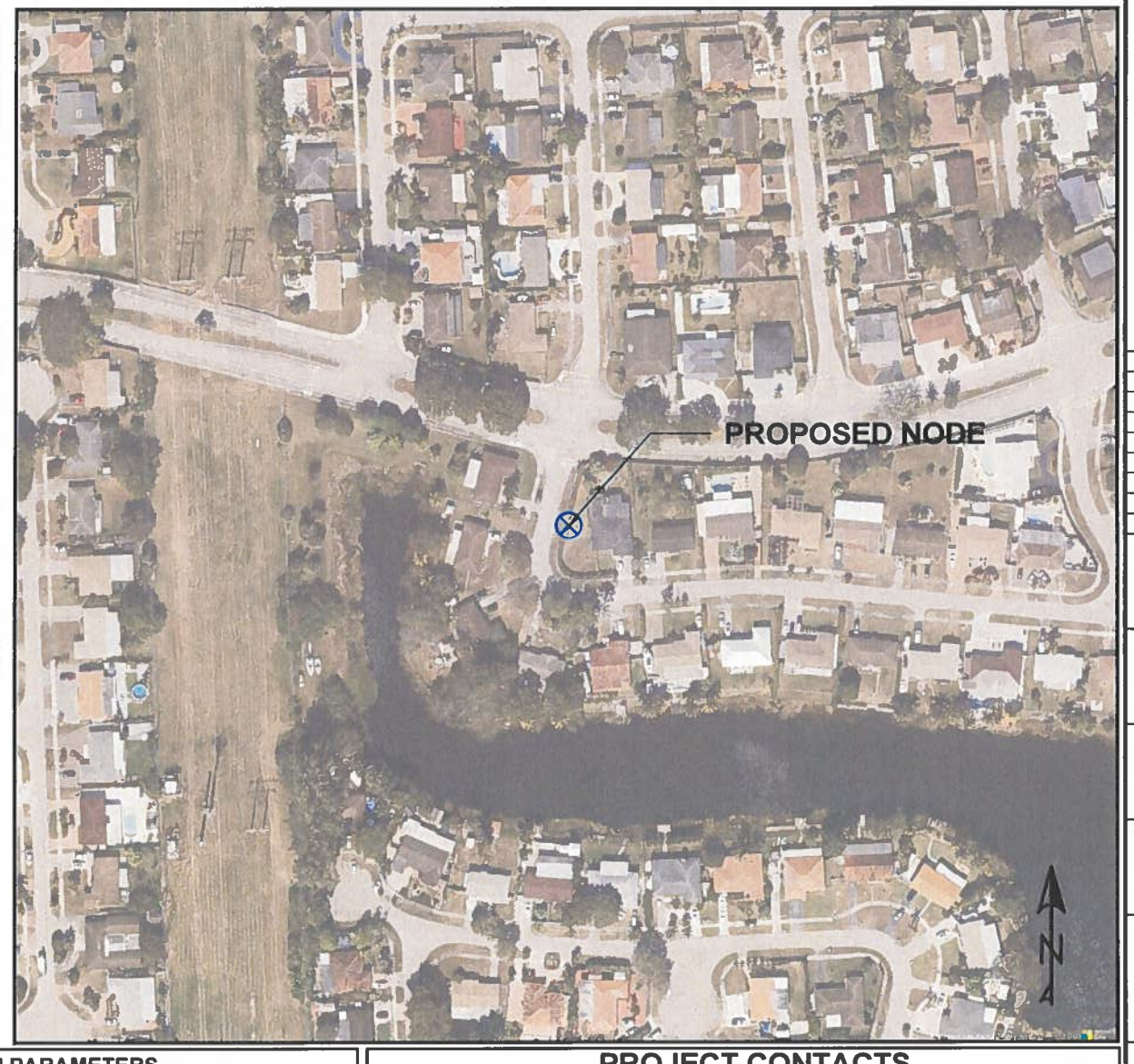
POLE TYPE: (N) CONCRETE POLE, POLE OWNER: CROWN CASTLE
CROWN CASTLE SITE ID: KENDALE LAKES 177
CARRIER SITE ID: 639427
ADDRESS: 6853 SW 135TH AVE., MIAMI, FL 33183
LAT: 25.702145, LONG: -80.412034
ROW: MIAMI-DADE COUNTY, EP: MIAMI-DADE COUNTY

SHEET	SHEET TITLE
T-1	COVER SHEET
T-2	LEGEND
N-1-N-3	GENERAL NOTES
C-1	AERIAL SITE PLAN
C-2	SITE PHOTOS
C-3	PROPOSED POLE ELEVATION
C-4	POLE PLACEMENT
E-1	ELECTRICAL DETAILS
EQ-1	EQUIPMENT DETAILS
TC-1-TC-3	MAINTENANCE OF TRAFFIC

VICINITY DETAIL



AERIAL DETAIL



DESIGN NOTES

The drawings and specifications depicted in the following plan set comply with applicable technical codes, rules and regulations including:
- FDOT Utility Accommodation Manual
- FDOT Roadway Design Standards
- Florida Statutes

In addition, the size, volume, and height of all antennae, ancillary equipment, poles, and support structures meet the requirements of Florida Statutes, and comply with jurisdictional regulations and design guidelines for small wireless facilities.

SCOPE OF WORK

- Installation of new 32'-0" AGL small cell concrete utility pole.
- Power and fiber conduit to be permitted separately.
- All areas disturbed by installation to be restored to existing or better condition.

DESIGN PARAMETERS

Code	NESC 2017 NEC 2017 FBC 2020
Load Cases	250B (Light Loading w/ Ice) 250C (Extreme Wind Grade C)
Wind Pressure (For use with NESC 250B)	9 psf
Radial Ice (For use with NESC 250B)	0"
Wind Speed (For use with NESC 250C)	130 mph

PROJECT CONTACTS

CLIENT

Crown Castle Fiber LLC
9250 West Flagler Street
5th Floor
Miami, FL 33174

Fernando Vazquez
Supv. Network Construction - SFL Small Cells
Office: (786) 610-7061
Mobile: (305) 542-4476
Fernando.Vazquez@crowncastle.com

John Ruiz
Sr Network Construction Manager
Small Cell & Fiber Solutions
Office: (786) 610-7084
Mobile: (954) 445-5067
John.Ruiz@crowncastle.com

ENGINEERING FIRM

TEP OPCO, LLC
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Raleigh, NC 27603

Joshua Carden
Director of Site Development Services - South
Office: (919) 741-4810
Mobile: (336) 214-2099
jcarden@tepgroup.net

Thomas Baker
Department Manager
Office: (813) 414-5622
Mobile: (904) 521-0945
tbaker@tepgroup.net

OWNER/DEVELOPER:

CROWN CASTLE

CROWN CASTLE FIBER LLC
9250 WEST FLAGLER STREET, 5TH FLOOR
MIAMI, FL 33174

ENGINEER:

TEP OPCO, LLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL C.O.A. #31011

JOSHUA H. CARDEN LICENSE No 83511 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by JOSHUA H. CARDEN using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

November 22, 2022

REV	DESCRIPTION	DATE
A	PRELIMINARY	10/31/22
0	ISSUED FOR PERMIT	11/22/22

CROWN CASTLE PROJECT NUMBER:
62348085

CROWN CASTLE SCU:
512494

CROWN CASTLE SITE ID:
KENDALE LAKES 177

CARRIER SITE ID:
639427

SHEET TITLE:
COVER SHEET

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
T-1

CONFIDENTIAL/PROPRIETARY

LEGEND

LINETYPES

- UG FIBER – EXISTING
- UG FIBER – PROPOSED
- AERIAL FIBER – EXISTING
- AERIAL FIBER – PROPOSED
- STRAND – EXISTING
- STRAND – PROPOSED
- CONDUIT – EXISTING
- CONDUIT – PROPOSED
- EXISTING BUILDING
- PARKING AND DRIVEWAY
- GAS
- WATER
- RECLAIMED WATER
- TELEPHONE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- SANITARY SEWER
- STORM DRAIN
- FENCE
- CABLE TV
- STEAM
- OIL
- UNKNOWN UTILITY
- RIGHT OF WAY
- PARCEL LINE
- EDGE OF PAVEMENT
- UTILITY EASEMENT
- FACE OF CURB

SYMBOL	DESCRIPTION
AGL	ABOVE GROUND LEVEL
ASW	ASPHALT SIDEWALK
BIP	BLACK IRON PIPE
BSP	BLACK STEEL PIPE
CSW	CONCRETE SIDEWALK
EOP	EDGE OF PAVEMENT
EOTW	EDGE OF TRAVEL WAY
FOC	FACE OF CURB
HDPE	HIGH DENSITY POLYETHYLENE
HH	HANDHOLE
JB	JUNCTION BOX
MH	MANHOLE
MP	MILE POST
O/S	OFFSET
PVC	POLY VINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL CONDUIT
ROW	RIGHT OF WAY
STA	STATION
V	VALVE

- RISER
- TELEPHONE RISER
- POWER PEDESTAL
- CATCH BASIN/INLET
- FIRE HYDRANT
- GROUND/BOND
- STREET LIGHT
- TREE
- CULVERT
- WING WALL
- BRIDGE
- MISC. UTILITY
- VALVE
- UTILITY POLE – EXISTING
- POLE – PROPOSED
- HANDHOLE – EXISTING
- HANDHOLE – PROPOSED
- MANHOLE – EXISTING
- MANHOLE – PROPOSED
- VAULT – EXISTING
- VAULT – PROPOSED

- AERIAL STORAGE – EXISTING
- AERIAL STORAGE – PROPOSED
- VAULT/BUILDING STORAGE – EXISTING
- VAULT/BUILDING STORAGE – PROPOSED
- EXISTING ANCHOR AND DOWN GUY
- PROPOSED ANCHOR AND DOWN GUY
- PROPOSED DOWN GUY ON EXISTING ANCHOR
- BUILDING CALLOUT – PROPOSED

  BUILDING
  NAME
  STREET
- POLE ATTACHMENT CALLOUT – EXISTING

  POLE NO N/A
  UTILITY1 0'-0"
- POLE ATTACHMENT CALLOUT – PROPOSED

  POLE NO N/A
  UTILITY1 0'-0"
- CABLE SPAN CALLOUT – EXISTING

  (1) CABLE FIBERS: FIBERS
  CABLE OWNER: OWNER
  CABLE LENGTH: LENGTH
  NOTES:
- CABLE SPAN CALLOUT – PROPOSED

  (1) CABLE FIBERS: FIBERS
  CABLE OWNER: OWNER
  CABLE LENGTH: LENGTH
  NOTES:
- STRAND CALLOUT – EXISTING

  (1) STRAND TYPE: TYPE
  STRAND LENGTH: LENGTH
  NOTES:
- STRAND CALLOUT – PROPOSED

  (1) STRAND TYPE: TYPE
  STRAND LENGTH: LENGTH
  NOTES:
- CONDUIT CALLOUT – EXISTING

  (1) CONDUIT OWNER: OWNER
  CONDUIT LENGTH: LENGTH
  CONDUIT QTY: CONDUITS
  CONDUIT SIZE: SIZE
  CONDUIT TYPE: TYPE
  INNER DUCT QTY: INNERDUCTS
  INNER DUCT SIZE: SIZE
  INNER DUCT TYPE: TYPE
  NOTES:
- CONDUIT CALLOUT – PROPOSED

  (1) CONDUIT OWNER: OWNER
  CONDUIT LENGTH: LENGTH
  CONDUIT QTY: CONDUITS
  CONDUIT SIZE: SIZE
  CONDUIT TYPE: TYPE
  INNER DUCT QTY: INNERDUCTS
  INNER DUCT SIZE: SIZE
  INNER DUCT TYPE: TYPE
  NOTES:

OWNER/DEVELOPER:

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CROWN CASTLE FIBER LLC
9250 WEST FLAGLER STREET, 5TH FLOOR
MIAMI, FL 33174

ENGINEER:

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DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
T-2

CONFIDENTIAL/PROPRIETARY

GENERAL NOTES

1. THE INTENTION OF THIS DOCUMENT IS TO SHOW THE COMPLETE INSTALLATION AND TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY, WHETHER OR NOT SPECIFICALLY INDICATED, FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT. THE INTENT OF THIS DOCUMENT IS NOT TO DESIGNATE THE MEANS AND METHODS OF PROCEDURE OF THE WORK. THE CONTRACTOR SHALL SUPERVISE AND COORDINATE ALL WORK, USING HIS PROFESSIONAL KNOWLEDGE AND SKILLS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, SEQUENCING, AND COORDINATING ALL PORTION OF THE WORK UNDER THE CONTRACT.

2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING CODES, STANDARDS, AND SUPPLEMENTS:
   - ALL GOVERNING STATE, COUNTY, AND LOCAL CODES AND ORDINANCES
   - AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATIONS
   - ANSI/TIA - TELECOMMUNICATIONS INDUSTRY ASSOCIATION - 222-H STANDARD
   - FBC - FLORIDA BUILDING CODE
   - IEEE - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
   - IMC - INTERNATIONAL MECHANICAL CODE
   - NEC - NATIONAL ELECTRICAL CODE
   - NESC - NATIONAL ELECTRICAL SAFETY CODE
   - NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
   - NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
   - NSPC - NATIONAL STANDARD PLUMBING CODE
   - OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
   - UL - UNDERWRITERS LABORATORIES

   THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES IN THE CODE REQUIREMENTS.

3. THE ENGINEERING DRAWINGS SHOW PRINCIPAL AREAS WHERE WORK MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INCIDENTAL WORK MAY ALSO BE NECESSARY IN AREAS NOT SHOWN ON THE ENGINEERING DRAWINGS DUE TO CHANGES AFFECTING EXISTING ELECTRICAL OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO A PARK OF THIS CONTRACT. INSPECT THOSE AREAS AND ASCERTAIN WHAT IS NEEDED TO DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.

4. DO NOT SCALE DRAWINGS. ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE.

5. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. HOWEVER, NO CHANGE THAT ALTERS THE ORIGINAL INTENT OF THE DESIGN WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT A CHANGE ORDER.

6. GENERAL CIVIL, STRUCTURAL, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, EACH CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

7. THE GENERAL NOTES CONTAINED HEREIN ARE PART OF THE PLANS AND SPECIFICATIONS, AND ARE TO BE COMPLIED WITH IN ALL RESPECTS. THE MOST RESTRICTIVE NOTES SPECIFIED ARE TO TAE PRECEDENCE. CERTAIN SECTIONS OF THE GENERAL NOTES MAY NOT APPLY TO EVERY SITE. THE CONTRACTOR IS TO COMPLY WITH ALL APPLICABLE GENERAL NOTES IN ALL RESPECTS.

8. ALL GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENT TO BE USED IN CONDITIONS WHICH ARE NOT SPECIFICALLY SHOWN OTHERWISE.

9. REPRESENTATION OF TRUE NORTH OTHER THAN THOSE FOUND ON THE PLOT OF THE SURVEY DRAWING SHALL NOT BE USED TO IDENTIFY OR ESTABLISH THE BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF THE SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE CIVIL SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ENGINEER.

10. THE CONTRACTOR SHALL USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS, AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.

11. THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD THE DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS SUCH AS OSHA COMPLIANCE DURING THE PROGRESS OF THE WORK. THE ENGINEER WILL NOT ADVISE NOR PROVIDE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.

13. THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY OF THE SECURITY OF THE SITE UNTIL COMPLETION OF THE CONSTRUCTION.

14. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS AND COORDINATE HIS WORK WITH THE WORK OF ALL OTHER CONTRACTORS TO ENSURE THAT WORK PROGRESSION IS NOT INTERRUPTED.

15. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT TO AVOID DELAYS IN THE CONTRACT SCHEDULE OR OTHER WORK PERFORMED IN THE VICINITY OF THE CONSTRUCTION AREA.

16. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE TO THE PROPERTY OWNER WELL IN ADVANCE OF THE STARTING DATE OF THE WORK. THE OWNER SHALL ALSO BE NOTIFIED OF A CHANGE IN THE CONSTRUCTION SCHEDULE.

17. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.

18. EACH CONTRACTOR IS RESPONSIBLE FOR FOR PULLING THE BUILDING PERMIT AT THE LOCAL JURISDICTION AS THE CONTRACTOR OF RECORD, AND SHALL PROVIDE THE JURISDICTION WITH ALL PROOF REQUIRED TO OPERATE AS THE CONTRACTOR IN THIS JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATIONS, ETC. PRIOR TO BEGIN THE WORK.

19. EACH CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES, BONDS, AND INSURANCES. DOCUMENTATION SHALL BE PROVIDED TO THE OWNER PRIOR TO WORK.

20. THE CONTRACTOR IS TO PROVIDE THE OWNER WITH A FULL SET OF RECORD DRAWINGS WITH ACTUAL DIMENSIONS, ROUTING AND CIRCUITS UPON COMPLETION OF CONSTRUCTION.

21. THE CONTRACTOR IS TO CONTACT BOTH LOCAL POWER AND TELEPHONE UTILITY COMPANIES BEFORE CONSTRUCTION BEGINS TO ORDER SERVICE, OBTAIN AND PAY ALL FEES ASSOCIATED WITH CONSTRUCTION, SCHEDULE INSTALLATION OF SERVICE, COORDINATE CONDUIT RUN/TERMINATION POINT AND OBTAIN ANY FIELD MATERIALS THAT MAY BE SUPPLIED BY THE UTILITY COMPANIES AND INSTALLED BY THE CONTRACTORS.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES, FORM WORK AND THE PROTECTION OF ALL WORK DURING CONSTRUCTION TO AVOID DAMAGE, COLLAPSE, DISTORTION & MISALIGNMENT.

23. THE CONTRACTOR SHALL MONITOR ALL EXISTING STRUCTURES DURING CONSTRUCTION.

24. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN SAFE CONDITIONS PRIOR TO INSTALLATIONS, AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT.

25. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY LOCATION AND IN A MANNER THAT WILL NOT OBSTRUCT THE FLOW OF OTHER WORK RELATED OR NOT TO THIS CONTRACT. ANY EQUIPMENT OR MATERIAL STORAGE MUST MEET ALL RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR SHALL INSPECT THOROUGHLY ALL MATERIALS AND EQUIPMENT PRIOR TO FINAL INSTALLATION. DAMAGED EQUIPMENT OR MATERIALS SHALL NOT BE INSTALLED PERMANENTLY.

26. ALL MATERIALS SHALL BE INSTALLED PER THE MANUFACTURERS' INSTRUCTIONS.

27. ALL EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB.

EXISTING CONDITIONS

1. BEFORE BEGINNING WORK THE CONTRACTOR SHALL INSPECT THE EXISTING SITE ABD DETERMINE THE EXTENT OF MAINTENANCE IN ORDER TO PERFORM THE WORK UNDER THIS CONTRACT. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS, AND ELEVATIONS BEFORE STARTING WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCES BETWEEN THE ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.

2. BY SUBMITTING A BID FOR THIS WORK, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS THOROUGHLY REVIEWED AND UNDERSTOOD THE CONSTRUCTION DOCUMENTS, VISITED THE SITE AND IS FAMILIAR WITH THE CONDITIONS ENCOUNTERED AT THE SITE.

3. THE CONTRACTOR, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING WHICH THE CONTRACTOR MIGHT NOT HAVE FULLY INFORMED HIMSELF OF PRIOR TO BIDDING.

4. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES THAT MAY BE ENCOUNTERED OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED WILL BE ACCEPTED AS A REASON FOR ANY FAILURE OR OMISSION OF THE PART OF THE CONTRACTOR TO FULFILL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

5. IT IS UNDERSTOOD BY THE OWNER THAT THE CONTRACTOR IN SUBMITTING HIS BID, WARRANTS THAT HE HAS CAREFULLY EXAMINED THE SITE OF THE PROJECT TO ACQUAINT HIMSELF WITH THE SURROUNDING PROPERTIES, THE MEANS OF APPROACH TO THE SITE, THE CONDITIONS OF THE ACTUAL JOB SITE, THE FACILITIES FOR DELIVERING, STORING, PLACING, HANDLING AND THE REMOVAL OF MATERIALS AND EQUIPMENT AND ANY AND ALL DIFFICULTIES THAT MAY BE ENCOUNTERED DURING THE EXECUTION OF THE WORK IN ACCORD WITH THE CONTRACT DOCUMENTS.

6. THE LOCATION OF THE EXISTING UNDERGROUND UTILITIES HAVE NOT BEEN VERIFIED BY THE OWNER OF ITS REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL UNDERGROUND UTILITIES LOCATED WITHIN THE LIMITS OF CONSTRUCTION AND ACCEPTS FULL RESPONSIBILITY FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THE CONTRACTOR'S FAILURE TO LOCATE ALL UNDERGROUND UTILITIES BEFORE COMMENCING WORK.

7. SHOULD ANY ERROR OR INCONSISTENCY APPEAR IN THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR, BEFORE PROCEEDING WITH THE WORK, MUST BRING THE MATTER TO THE ATTENTION OF THE ENGINEER FOR PROPER ADJUSTMENT. IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE WORK IN UNCERTAINTY OR WITH INSUFFICIENT DRAWINGS.

8. THE CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY IN DIMENSIONS WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE ENGINEER AND THE OWNER REPRESENTATIVE FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE OWNER OR ITS REPRESENTATIVE.

9. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGES WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGES TO NEW OR EXISTING SURFACES, STRUCTURES OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE PROPERTY OWNER. THE CONTRACTOR SHALL BEAR THE COST OF REPAIRING OR REPLACING ANY DAMAGED AREAS.

10. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES AND EFFORTS TO PROTECT THE STRUCTURAL INTEGRITY OF EXISTING STRUCTURES. WHEN WORK IS PERFORMED IN THE VICINITY OF EXISTING STRUCTURES, THE STRUCTURAL INTEGRITY AND STABILITY SHALL BE MONITORED AT ALL TIMES DURING EVERY PHASE OF CONSTRUCTION.

11. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MARKINGS. ANY MARKINGS DISTURBED OR DESTROYED, AS JUDGED BY THE OWNER OR OWNER'S REPRESENTATIVE, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR.

12. NEW CONSTRUCTION ADDED TO EXISTING CONSTRUCTION SHALL BE MATCHED IN FORM, TEXTURE, MATERIAL, AND PAINT COLOR, EXCEPT AS NOTED IN THE DRAWINGS.

13. WHERE INDICATED ON THE PLANS, THE CONTRACTOR SHALL PAINT ALL NEW ANTENNA SHROUDS AND RELATED MOUNTING HARDWARE TO MATCH THE EXISTING ADJACENT SURFACES. THE CONTRACTOR SHALL NOT USE A METAL BASED PAINT FOR ANTENNAS. ALL SURFACE CONTAMINATION SHALL BE REMOVED PRIOR TO PAINTING NEW SURFACES.

14. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES, WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORK CREW.

15. IF AN INACTIVE ELECTRICAL , TELEPHONE, SEWER, WATER OR ANY OTHER UTILITY ARE ENCOUNTERED AND INTERFERE WITH THE EXECUTION OF THE WORK, THE CONTRACTOR IS TO REMOVE THE UTILITY AND CAP, PLUG OR OTHERWISE TERMINATE THE UTILITY AT A POINT WHERE IT NO LONGER IS IN CONFLICT WITH THE WORK. THE UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE UTILITY COMPANIES RECOMMENDATIONS AND PER LOCAL AUTHORITY HAVING JURISDICTION.

16. ALL UTILITY WORK INVOLVING CONNECTIONS TO EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE AND THE UTILITY OWNER BEFORE EACH AND EVERY CONNECTION TO EXISTING SYSTEMS IS MADE.

17. MAINTAIN FLOW FOR ALL EXISTING UTILITIES.

18. THE CONTRACTOR SHALL RESTORE ALL PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO AT LEAST AS GOOD OF CONDITION AS BEFORE DISTURBED AS DETERMINED BY THE OWNER OR OWNER'S REPRESENTATIVE.

19. IN THE EVENT OF DAMAGE TO AN EXISTING STRUCTURE, THE CONTRACTOR SHALL NOTIFY THE OWNER OR ITS REPRESENTATIVE IMMEDIATELY, AND THEN PROMPTLY MAKE ALL REPLACEMENTS AND REPAIRS TO THE SATISFACTION OF THE OWNER. THE OWNER MAY ELECT TO USE A THIRD PARTY CONTRACTOR TO PERFORM THE REPAIRS. ALL EXPENSES ASSOCIATED WITH THE REPAIRS AND REPLACEMENTS SHALL BE PAID BY THE GENERAL CONTRACTOR SELECTED FOR THIS CONTRACT.

ACCESS

1. COORDINATE THE CONSTRUCTION SCHEDULE AND SITE ACCESS WITH THE SITE OWNER. ENSURE THAT THE OWNER OF PARENT PARCEL IS NOTIFIED IN WRITING OF CONSTRUCTION ACTIVITIES.

2. A LIST OF WORKERS INVOLVED IN THIS PROJECT SHALL BE PROVIDED TO THE PROPERTY OWNER OR ITS REPRESENTATIVE.

3. THE CONTRACTOR SHALL COORDINATE ALL SPECIAL CONSIDERATIONS OF CONSTRUCTION SUCH AS NOISY OPERATION, INTERRUPTION OF ANY MECHANICAL AND/OR ELECTRICAL SERVICES, MATERIAL DELIVERABLES AND STORAGE, STAGING AREA, CRANE LIFTS WITH THE OWNER PRIOR TO THE START OF WORK.

4. CONTRACTOR SHALL COORDINATE WITH AN OWNER REPRESENTATIVE ABOUT ANY INSTANCES OF TEMPORARY FENCE REMOVAL, LANDSCAPING, OR ANY EXPECTED DAMAGES TO ACCESS ROAD OR REPAIR OF ADJACENT PROPERTY PRIOR TO COMMENCING WORK.

5. THE CONTRACTOR SHALL COORDINATE WORK HOURS WITH THE OWNER.

6. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER ON THE CONSTRUCTION START DATE WELL IN ADVANCE OF CONSTRUCTION.

TRAFFIC CONTROL

1. THIS PROJECT WILL INVOLVE WORKING ALONG A MAJOR ARTERIAL ROAD AND HEAVY TRAFFIC VOLUME SHOULD BE ANTICIPATED.

2. UNIFORM TRAFFIC FLOW SHALL BE MAINTAINED AT ALL TIMES. ONLY EQUIPMENT AND MATERIALS NECESSARY FOR IMMEDIATELY SCHEDULED OR IN PROGRESS WORK WILL BE MAINTAINED IN THE WORK AREA. ALL OTHER EQUIPMENT AND MATERIALS WILL BE "STORED OR STOCKPILED" IN SUCH A MANNER AS TO ELIMINATE HAZARDOUS CONDITIONS FOR TRAFFIC OR PEDESTRIANS DURING NON-WORKING OR SHUT DOWN PERIODS.

3. TRAFFIC WARNING DEVICES AND SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (U.S. GOVERNMENT PRINTING OFFICE) AND TO THE OREGON STATE HIGHWAY DIVISION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. HIGH LEVEL WARNING TYPE DEVICES ARE TO BE USED AT ALL TIMES AND SPECIAL WARNING DEVICES MAY BE STIPULATED BY THE JURISDICTIONAL PERMIT AGENCY AT ANY TIME THE USE WILL ADD TO THE SAFETY AND PROTECTION OF TRAFFIC OR PEDESTRIANS IN THE CONSTRUCTION AREA.

4. ALL CONDUIT TRENCHING IN PAVED AREAS SHALL BE BACKFILLED WITH CRUSHED GRAVEL OR COMPLETELY COVERED AT THE COMPLETION OF EACH WORKING DAY. ANY BACKFILLED TRENCH SHALL BE CAPPED WITH A MINIMUM LAYER OF ASPHALTIC CONCRETE COLD PATCH AT THE END OF EACH WORKING DAY.

5. THE CONTRACTOR SHALL MARK THE CONDUIT TRENCH AND DEFINE HIS CONSTRUCTION AREA CLEARLY WITH BARRICADES, CONES, AND/OR OTHER VISIBLE METHODS THAT ALERT THE PUBLIC OF THE CONSTRUCTION ACTIVITY.

6. A TRAFFIC CONTROL PLAN SHALL BE PREPARED BY THE CONTRACTOR AS REQUIRED AND SUBMITTED TO EACH PERMITTING AGENCY REQUESTING SUCH PLAN FOR REVIEW AND APPROVAL OR REVISION PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY FOR THIS PROJECT. THE APPROVED PLAN SHALL BE SUBMITTED TO THE AGENCY AND A COPY OF THE PLAN SHALL BE KEPT AT THE CONSTRUCTION SITE AND MUST BE READILY AVAILABLE REVIEW BY THE AGENCY REPRESENTATIVES.

SITE MAINTENANCE

1. REMOVE STAINING OR REACTIVE MATERIALS FROM NEW AND EXISTING SURFACES IMMEDIATELY. REMOVE HAZARDOUS ACCUMULATIONS OF DEBRIS PROMPTLY, AT LEAST DAILY. CONFINE DUST PRODUCING OPERATIONS DURING CUTTING, DRILLING, PAINTING AND FINISHING.

2. THERE SHALL NOT BE ANY CREATION OF NOISE OUTSIDE OF THE NORMAL BUSINESS HOURS OF 7 AM TO 6 PM, UNLESS OTHERWISE AGREED UPON WITH THE OWNER. NOISE SHOULD BE KEPT TO A MINIMUM THROUGHOUT CONSTRUCTION.

3. THE CONTRACTOR IS TO PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OR 2 ABC WITHIN 75 FT OF TRAVEL TO ALL PORTIONS OF THE CONSTRUCTION AREA.

4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A NEAT AND ORDERLY SITE, YARD AND GROUNDS. HE IS TO REMOVE AND DISPOSE LEGALLY OFF SITE OF ALL RUBBISH, WASTE MATERIALS, LITTER, AND ALL FOREIGN SUBSTANCES. REMOVE PETROCHEMICAL SPILLS, STAINS AND OTHER FOREIGN DEPOSITS. RAKE GROUNDS TO A SMOOTH EVEN-TEXTURED SURFACE.

5. AT PROJECT COMPLETION, REMOVE TEMPORARY SERVICES, CONSTRUCTION EQUIPMENT, TOOLS AND FACILITIES, MOCKUPS, TEMPORARY STRUCTURES, SURPLUS MATERIALS, DEBRIS, AND RUBBISH FROM THE CONSTRUCTION SITE. PUT SITE IN NEAT AND ORDERLY CONDITION, READY FOR USE.

6. THE CONTRACTOR SHALL TAKE ALL MEASURE NECESSARY TO MAINTAIN POLLUTION CONTROL, COMPLY WITH ALL GOVERNING REGULATION PERTAINING TO ENVIRONMENTAL PROTECTION, AND PROMPTLY REMOVE ALL DEBRIS AND ACCUMULATION OF MATERIALS RESULTING FROM THE WORK.

DEMOLITION SPECIFICS

1. GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SHORING, BRACING, PROVIDING LATERAL SUPPORT, AND FOR MAINTAINING THE INTEGRITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.

2. THE CONTRACTOR IS TO DEMOLISH AND REMOVE FROM SITE (AND DISPOSE OF APPROPRIATELY) ALL ITEMS NOTED FRO DEMOLITION IN THE ARCHITECTURAL, CIVIL, ELECTRICAL AND/OR STRUCTURAL DRAWINGS, INCLUDING BELOW GRADE FOUNDATION AND STRUCTURES. CONTRACTOR SHALL COORDINATE WITH THE OWNER REPRESENTATIVE THE DISPOSAL OF EQUIPMENT AND MATERIALS.

GRADING

1. THE CONTRACTOR SHALL RESTORE THE DISTURBED AREA WITH THE APPROPRIATE GRADING AND SOD PER JURISDICTIONAL STANDARDS. THE SI GEOSOLUTIONS LANDLOK CS2 EROSION CONTROL BLANKET SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE WATERING TO ENSURE FAVORABLE GROWTH OF VEGETATION FOR A PERIOD OF 6 MONTHS.

3. ALL GROUNDING, UTILITIES AND UNDERGROUND EQUIPMENT EXPOSED BY GRADING SHALL BE REPLACED AND PROPERLY CONNECTED TO THE EXISTING PORTION OF THE ORIGINAL SYSTEM PER APPROVED CODES AND JURISDICTION REQUIREMENTS.

CLEARING AND GRUBBING

1. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE HELD TO A MINIMUM. ONLY TREES NECESSARY FOR THE CONSTRUCTION OF THE FACILITY SHALL BE REMOVED. ANY DAMAGES TO PROPERTY OUTSIDE THE CONSTRUCTION LIMIT SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

2. THE CONTRACTOR SHALL: PROTECT EXISTING TREES, VEGETATION, LANDSCAPING AND SITE IMPROVEMENTS NO SCHEDULED FOR CLEARING OR REMOVAL WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.

3. TRIM EXISTING TREES AND VEGETATION AS RECOMMENDED BY THE ARBORIST FOR PROTECTION DURING CONSTRUCTION.

4. CLEAR AND GRUB STUMPS, VEGETATION, DEBRIS, RUBBISH, DESIGNATED TREES AND SITE IMPROVEMENT.

5. STRIP AND STOCKPILE TOPSOIL.

6. PROTECT TEMPORARY ADJACENT PROPERTY, STRUCTURES, BENCHMARKS AND MONUMENTS.

7. MARK DESIGNATED TREES AND VEGETATION DURING CONSTRUCTION ACTIVITIES.

8. PROVIDE TEMPORARY EROSION CONTROL, SILTATION CONTROL AND DUST CONTROL.

9. REMOVE AND LEGALLY DISPOSE OF CLEARED MATERIALS.

OWNER/DEVELOPER:

CROWN CASTLE

CROWN CASTLE FIBER LLC
9250 WEST FLAGLER STREET, 5TH FLOOR
MIAMI, FL 33174

ENGINEER:

TEP OPCO, LLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL C.O.A. #31011

JOSHUA H. CARDEN
LICENSE
No 83511
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by JOSHUA H. CARDEN using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

November 22, 2022

REV	DESCRIPTION	DATE
A	PRELIMINARY	10/31/22
0	ISSUED FOR PERMIT	11/22/22

CROWN CASTLE PROJECT NUMBER:

62348085

CROWN CASTLE SCU:

512494

CROWN CASTLE SITE ID:

KENDALE LAKES 177

CARRIER SITE ID:

639427

SHEET TITLE:

GENERAL NOTES

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:

N-1

CONFIDENTIAL/PROPRIETARY

FOUNDATION NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES.
2. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.
3. ALL WORK PRESENTED ON THESE DRAWINGS IS TO BE COMPLETED BY THE CONTRACTOR UNLESS OTHERWISE NOTED AND/OR AGREED TO WITH TEP OPCO, LLC.
4. THE CONTRACTOR MUST HAVE EXPERIENCE IN PERFORMANCE OF WORK DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT THEY HAVE SUFFICIENT EXPERIENCE, ABILITY, AND KNOWLEDGE OF WORK TO BE PERFORMED AND THAT THEY ARE PROPERLY LICENSED, REGISTERED, AND/OR ENSURED TO PERFORM THIS WORK.
5. CONTRACTOR IS REQUIRED TO HAVE ALL NECESSARY INSPECTIONS PERFORMED BY THE LOCAL BUILDING CODE OFFICIAL OR AN APPROVED AGENCY.
6. FOUNDATION DESIGN ASSUMES FIELD INSPECTIONS WILL BE PERFORMED TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS AND ANY ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED UPON CONDITIONS EXISTING AT THE SITE.
7. ALL HARDWARE ASSEMBLY AND MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED; ANY CONTRADICTION BETWEEN THE MANUFACTURER'S RECOMMENDATIONS AND THESE DRAWINGS ARE TO BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ENGINEER AND OWNER.
8. ANY CONTRACTOR INSTALLING ADHESIVE ANCHORING SYSTEMS SHALL BE TRAINED, IN PERSON BY A MANUFACTURER'S REPRESENTATIVE, ON THE PROPER INSTALLATION TECHNIQUES. THIS TRAINING SHALL INCLUDE PROPER DRILLING, HOLE CLEANING, AND INSTALLATION METHODS FOR THE ADHESIVE ANCHORING SYSTEM AND CONSTRUCTION CONDITIONS ON THIS PROJECT. ALL TRAINING TO BE CONDUCTED PRIOR TO CREWS STEPPING ON SITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT MANUFACTURER REPRESENTATIVE TO SET UP TRAINING. TEP OPCO, LLC IS NOT RESPONSIBLE FOR ANY COST OCCURRED FOR OR DURING ADHESIVE ANCHORING SYSTEM TRAINING.
9. CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, INITIATING, MAINTAINING, LAYOUT, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THE WORK COMPLIES WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS.
10. ALL DIMENSIONS AND/OR ELEVATIONS, OR SIMILAR EXISTING CONDITIONS SHOWN ON THE DRAWING ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIAL ORDERING, FABRICATION, OR CONSTRUCTION WORK. ANY DISCREPANCIES ARE TO BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER/OWNER. DISCREPANCIES MUST BE RESOLVED BEFORE CONTRACTOR IS TO PROCEED WITH THE WORK.
11. FOUNDATION DESIGN HAS BEEN DEVELOPED IN ACCORDANCE WITH THE LIMITS OF THE SUBSURFACE DATA PROVIDED. APPLICABLE CODES ARE ACI-318. SHOULD SUBSURFACE CONDITIONS VARY FROM THOSE VALUES USED IN THE DESIGN, THEN TEP OPCO, LLC SHOULD BE NOTIFIED IMMEDIATELY.
12. FOUNDATION BACKFILL SHALL BE PLACED IN 8-INCH MAXIMUM LAYERS AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR). ADDITIONALLY, STRUCTURAL BACKFILL MUST HAVE A MINIMUM COMPACTED UNIT WEIGHT OF 120 LBS PER CUBIC FOOT.
13. CONTRACTOR TO PROVIDE A "SAFE WORKING" SOIL SLOPE FOR EXCAVATIONS DEEPER THAN 4 FT. (I.E. FOR EVERY FOOT OF DEPTH, TRENCH MUST BE EXCAVATED BACK 1-1/2FT). IF "SAFE WORKING" SLOPE CANNOT BE ATTAINED, CONTRACTOR SHALL PROVIDE TEMPORARY SOIL SHORING PER ALL APPLICABLE SAFETY CODES & REGULATIONS DURING CONSTRUCTION.

DRILLED SHAFT

1. REINFORCING CAGES SHALL BE BRACED TO RETAIN PROPER DIMENSIONS DURING HANDLING AND THROUGHOUT PLACEMENT OF CONCRETE. WHEN TEMPORARY CAGES ARE UTILIZED, BRACING SHALL BE ADEQUATE TO RESIST FORCES OCCURRING FROM THE FLOWING CONCRETE DURING CASING EXTRACTION.
2. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL NOT EXCEED 3 INCHES, NOR BE LESS THAN 2 INCHES.
3. SPACERS SHALL BE ATTACHED THROUGHOUT THE ENTIRE LENGTH OF VERTICAL REINFORCING CAGES TO INSURE CONCENTRIC PLACEMENT OF CAGES IN EXCAVATIONS.
4. FOUNDATION DESIGN ASSUMES CAGING, IF USED, WILL NOT BE LEFT IN PLACE. EQUIPMENT, PROCEDURES AND PROPORTIONS OF CONCRETE MATERIALS SHALL INSURE CONCRETE WILL NOT BE ADVERSELY DISTRIBUTED UPON CASING REMOVAL.
5. INTIMATE CONTACT BETWEEN CONCRETE AND SOIL-WALLS OF DRILLED SHAFT IS ESSENTIAL FOR ADEQUATE FOUNDATION PERFORMANCE. THE CONCRETE SHOULD BE APPROPRIATELY VIBRATED DURING CONSTRUCTION.
6. FOR ANCHOR BOLTS AND TEMPLATES, SEE TOWER MANUFACTURER. DRAWINGS PROVIDED BY THE TOWER MANUFACTURER REPRESENTATIVE.

CONCRETE

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING APPLICABLE CODES:
   - ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS
   - ACI 318 - BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
2. MIX DESIGN SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL BE NORMAL WEIGHT, 6% AIR ENTRAINED (+/- 1.5%) WITH A MAXIMUM OF 4" SLUMP, AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI UNLESS OTHERWISE NOTED.
4. MAXIMUM AGGREGATE SIZE SHALL BE 1"
5. THE FOLLOWING MATERIALS SHALL BE USED:
   - PORTLAND CEMENT — ASTM C 150, TYPE 1
   - REINFORCEMENT — ASTM A 185 & A 615
   - NORMAL WEIGHT AGGREGATE — ASTM C 33
   - WATER — DRINKABLE
   - ADMIXTURES — NON-CHLORIDE CONTAINING
6. REINFORCING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315.
7. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS OTHERWISE NOTED. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED WIRE FABRIC UNLESS OTHERWISE NOTED. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNLESS NOTED OTHERWISE.
8. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   - CONCRETE CAST AGAINST EARTH — 3 IN
   - CONCRETE EXPOSED TO EARTH OR WEATHER
     - #6 AND LARGER: — 2 IN
     - #5 AND SMALLER AND WWF: — 1-1/2 IN
   - CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
     - SLABS AND WALL: — 3/4"
     - BEAMS AND COLUMNS: — 1-1/2"
9. A CHAMFER OF 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS OTHERWISE NOTED, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
10. CURING COMPOUNDS SHALL CONFORM TO ASTM C-309.
11. ADMIXTURE SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN ACI-301.
12. PLACE CONCRETE IN A UNIFORM MANNER TO PREVENT THE FORMATION OF COLD JOINTS AND OTHER PLANES OF WEAKNESS. VIBRATE THE CONCRETE TO FULLY EMBED REINFORCING. DO NOT USE VIBRATOR TO TRANSPORT CONCRETE THROUGH CHUTES OR FORMWORK.
13. DO NOT PLACE CONCRETE IN PONDING WATER, ICE, OR ON FROZEN GROUND.
14. FOR COLD WEATHER AND HOT WEATHER CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS MINIMUM.
16. DO NOT WELD OR TACKWELD REINFORCING STEEL
17. ALL DOWELS, ANCHORS, BOLTS, EMBEDMENT STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS, AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE THE START OF CONCRETE PLACEMENT.
18. REINFORCEMENT SHALL BE COLD BENT WHEN BENDING IS REQUIRED.

STEEL NOTES

1. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES E-70XX OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325N, THREAD INCLUDED WITH SHEAR PLANE (UNLESS OTHERWISE NOTED).
2. ALL BOLTED CONNECTIONS TO BE INSTALLED TO A SNUG-TIGHTENED CONDITION IN ACCORDANCE WITH AISC 13 PART 16.2, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 8.1, UNLESS OTHERWISE SPECIFIED. WHEN "X" TYPE BOLTS ARE USED, CONTRACTOR MAY BE REQUIRED TO STACK ADDITIONAL WASHERS TO OBTAIN PROPER SNUG TIGHT INSTALLATION. ALL NUTS SHALL BE HEAVY HEX UNLESS OTHERWISE NOTED.
3. ALL STEEL, AFTER FABRICATION, SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH MULTIPLE COATS OF ZRC COLD GALVANIZING COMPOUND ACHIEVING A MINIMUM OF 4 MILS DRY FILM PER ASTM A 780.
4. ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED. CONTRACTOR IS REQUIRED TO PROVIDE TEP OPCO, LLC WITH A PASSING CERTIFIED WELDING INSPECTION FOR ALL WELDS.
5. STRUCTURAL STEEL MAY NOT BE TORCH CUT FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC STANDARDS.

ELECTRICAL

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, TRANSPORTATION, CONSTRUCTION TOOLS, ETC. FOR THE INSTALLATION OF COMPLETE AND PROPERLY OPERATING SYSTEMS.
2. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE LAWS AND ORDINANCES OF ALL AUTHORITIES HAVING JURISDICTION AND WITH ALL ASSOCIATED UTILITY COMPANY REGULATIONS AND APPLICABLE REQUIREMENTS. INSTALLATION WILL ALSO COMPLY WITH THE LATEST EDITIONS OF ALL CODES AND STANDARDS OF THE ENTITIES LISTED ON SHEET N-1, NOTE 2. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.
3. THE CONTRACTOR SHALL SECURE ALL NECESSARY ELECTRICAL PERMITS AND PAY ALL REQUIRED FEES.
4. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
5. ALL BROCHURES, OPERATION MANUALS, CATALOGS, SHOP DRAWINGS, SPECIFICATIONS, ETC. SHALL BE TURNED OVER TO THE CARRIER AT THE COMPLETION OF THE PROJECT.
6. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUND, ETC. FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIAL AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR PERIOD WARRANTY. IF, AFTER THIRTY (30) DAYS THE CORRECTIONS ARE NOT COMPLETE, THE OWNER RESERVES THE OPTION OF ARRANGING FOR THE NECESSARY REPAIRS AND BACKCHARGING THE CONTRACTOR FOR THE WORK.
7. DO NOT INTERRUPT EXISTING SERVICES WITHOUT THE WRITTEN PERMISSION OF THE OWNER OF THAT SERVICE AND WRITTEN PERMISSION OF THIS INSTALLATION'S CARRIER.
8. CHANGES: NO ADDITIONAL COST FOR LABOR OR MATERIALS WILL BE ALLOWED FOR CHANGES OR MODIFICATIONS MADE UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER OR OWNER IN THE FORM OF A CHANGE ORDER.
9. DRAWING: ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT TO BE SCALED.
10. DISCREPANCIES: DISCREPANCIES ON THESE PLANS, SPECIFICATIONS, ETC. MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
11. SURVEY AND CONDITIONS: VISIT THE JOB SITE PRIOR TO SUBMITTING BID, AND MAKE A SURVEY OF EXISTING CONDITIONS WHICH MAY AFFECT THE WORK TO BE PERFORMED. NO OTHER ALLOWANCES WILL BE GIVEN FOR THE SITE CONDITION.
12. CO-OPERATION: COOPERATE WITH OTHER CONTRACTORS AND SUBCONTRACTORS ON SITE. ARRANGE AND EXECUTE WORK IN SUCH A MANNER AS REQUIRED FOR THE SATISFACTORY AND EFFICIENT CONSTRUCTION OF THIS PROJECT BY ALL TRADES CONCERNED.
13. INSTALLATION SHALL COMPLY SPECIFICALLY WITH THE ENGINEERING STANDARDS MANUAL. ANY DEVIATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER PRIOR TO COMMENCEMENT OF WORK.
14. PROCUREMENT VERIFICATION: PROVIDE AN ITEMIZED CERTIFICATION TO THE PROJECT MANAGER THAT THE EQUIPMENT AND RELATED HARDWARE HAVE BEEN ORDERED WITHIN 24 HOURS OF NOTICE TO PROCEED.
15. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

INSPECTIONS

1. GENERAL: DURING AND UPON COMPLETION OF WORK, ARRANGE AND PAY ALL ASSOCIATED INSPECTIONS OF ALL ELECTRICAL WORK INSTALLED UNDER THIS CONTRACT IN ACCORDANCE WITH THE CONDITIONS OF THE CONTRACT.
2. INSPECTIONS REQUIRED: AS PER THE LAWS AND REGULATIONS OF THE LOCAL AND/OR STATE AGENCIES HAVING JURISDICTION AT THE PROJECT SITE.
3. INSPECTION AGENCY: APPROVED BY THE LOCAL AND/OR STATE AGENCIES HAVING JURISDICTION AT THE PROJECT SITE.
4. CERTIFICATES: SUBMIT ALL REQUIRED INSPECTION CERTIFICATES TO THE CARRIER AND UTILITY.

HANGARS AND SUPPORTS

1. MATERIALS: ALL HANGERS, SUPPORTS, FASTENERS AND HARDWARE SHALL BE ZINC COATED OR OF EQUIVALENT CORROSION RESISTANCE BY TREATMENT OR INHERENT PROPERTY AND SHALL BE MANUFACTURED PRODUCTS DESIGNED FOR THE APPLICATION. PRODUCTS FOR OUTDOOR USE SHALL BE HOT DIP GALVANIZED.
2. TYPES: HANGERS, STRAPS, RISER SUPPORTS, CLAMPS, U-CHANNEL, THREADED RODS, ETC. AS INDICATED OR REQUIRED.
3. INSTALLATION: RIGIDLY SUPPORT AND SECURE ALL MATERIAL, RACEWAY AND EQUIPMENT TO BUILDING STRUCTURE USING HANGERS, SUPPORTS AND FASTENERS SUITABLE FOR THE USE ON MATERIALS AND LOADS ENCOUNTERED. PROVIDE ALL NECESSARY HARDWARE.

ELECTRICAL SERVICE

1. GENERAL: COMPLY WITH AND CO-ORDINATE ALL REQUIREMENTS OF THE UTILITY COMPANY.
2. SHORT CIRCUIT RATINGS: PROVIDE EQUIPMENT WITH HIGHER FAULT CURRENT RATINGS AS NEEDED TO MATCH UTILITY COMPANY AVAILABLE FAULT CURRENT.
3. CONTRACTOR TO VERIFY UTILITY CO. FAULT CURRENT AND ENSURE THAT ALL EQUIPMENT MEETS FAULT CURRENT (AT A MINIMUM ALL EQUIPMENT TO BE 10,000 AIC).
4. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ARRANGEMENTS WITH THE ELECTRIC UTILITY RELATIVE TO A TIMELY INSTALLATION OF THE NEW SERVICE AND PAYING ALL ASSOCIATED FEES.
5. IDENTIFICATION: IDENTIFY SERVICE DISCONNECTION MEANS WITH PERMANENT NAMEPLATE.
6. THE LOCATION SHOWN FOR A UTILITY POLE OR CONNECTION TO NEW UTILITIES IS FOR CONCEPTUAL USE ONLY. THE CONTRACTOR SHALL COORDINATE THE ACTUAL LOCATION WITH THE ELECTRIC UTILITY.
7. LOCATION AND ARRANGEMENTS: DRAWINGS INDICATE DIAGRAMMATICALLY THE DESIRED LOCATION OF EQUIPMENT, FIXTURES, OUTLETS, ETC. AND ARE NOT TO BE SCALED. PROPER JUDGEMENT MUST BE EXERCISED IN THE EXECUTION TO ENSURE THE BEST POSSIBLE INSTALLATION.
8. PANEL AND DISTRIBUTION BOARD IDENTIFICATION: SWITCHBOARDS, PANELBOARDS, TRANSFORMERS AND DISTRIBUTION SECTIONS SHALL BE IDENTIFIED WITH ENGRAVED, WHITE ON BLACK, LAMINATED, RIGID PHENOLIC NAMEPLATES WITH 1/4 INCH CHARACTERS, SECURELY AFFIXED TO FACE OF CABINET.

CHECKOUT, TESTING AND ADJUSTING

1. CORRECTION/REPLACEMENT: AFTER TESTING BY CONTRACTOR, OWNER OR ENGINEER, CORRECT ANY DEFICIENCIES AND REPLACE MATERIALS AND EQUIPMENT SHOWN TO BE DEFECTIVE OR UNABLE TO PERFORM AT DESIGN OR RATED CAPACITY.
2. POWER CONDUCTORS: CONTRACTOR SHALL CONDUCT A CONTINUITY AND INSULATION TEST ON CONDUCTORS BETWEEN SERVICE DISCONNECT SWITCH AND LOAD CENTER.
3. WHEN POWER IS DERIVED FROM A 3-PHASE SOURCE, LOAD READINGS WILL BE TAKEN AND RECORDED TO MAINTAIN A BALANCED LOAD AT THE PRIMARY SOURCE. RECORDS SHALL BE RETURNED TO THE OWNER'S REPRESENTATIVE.

RACEWAY SYSTEMS / CONDUIT

1. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. CONDUIT. UNDERGROUND PVC CONDUIT SHALL TRANSITION TO RIGID GALVANIZED STEEL CONDUIT OR SCHEDULE 80 PVC CONDUIT BEFORE RISING ABOVE GRADE OR CONCRETE SLAB. EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL (RGS) CONDUIT OR SCHEDULE 80 PVC CONDUIT.
2. GRS CONDUITS, WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT.
3. ELECTRICAL METALLIC TUBING (EMT) OR RIGID, NONMETALLIC CONDUIT (RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
4. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (RIGID PVC SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
5. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATIONS OCCUR OR FLEXIBILITY IS NEEDED.
6. PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LB. TEST POLYETHYLENE CORD.
7. ALL CONDUIT BENDS SHALL BE MINIMUM OF 24 INCH RADIUS.
8. ALL METALLIC RACEWAYS SHALL BE GROUNDED PER NEC.
9. THE CONTRACTOR SHALL FIELD VERIFY THE BEST AND LEAST DISRUPTIVE ROUTING OF CONDUITS, CABLE TRAYS AND DUCTS. CONDUIT ROUTING IS SHOWN AS A GUIDE ONLY. ACTUAL CONDUIT PLACEMENT IS TO BE DONE IN A PROFESSIONAL MANNER.

EQUIPMENT

1. THE MAIN CIRCUIT BREAKER SHALL BE RATED FOR STANDARD A.I.C. RATING HIGHER THAN INCOMING EQUIPMENT A.I.C.
2. ALL EQUIPMENT SHALL BE BRACED FOR STANDARD A.I.C RATING HIGHER THAN INCOMING FROM UTILITY CO.
3. THE CONTRACTOR SHALL PROVIDE AN ITEMIZED CERTIFICATION TO THE CARRIER OF ALL EQUIPMENT AND RELATED HARDWARE, SPECIFIED TO BE PURCHASED AND INSTALLED BY THE CONTRACTOR, WHERE ORDERED WITHIN 24 HRS OF NOTICE TO PROCEED.
4. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH ITS VOLTAGE RATING, PHASE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
5. METAL RECEPTACLE SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND BE RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER -PROTECTED (WP OR BETTER) OUTDOORS.
6. NONMETALLIC RECEPTACLE SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2, AND BE RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER-PROTECTED (WP OR BETTER) OUTDOORS.

TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS)

1. TVSS DEVICES FOR AC POWER SHALL BE INSTALLED IN ALL EXISTING FACILITIES THAT ARE MISSING TVSS DEVICES OR HAVE UNSUITABLE TVSS DEVICES.
2. THE AC POWER COMMON MODE SURGE SUPPRESSOR SHALL BE CONNECTED TO THE COMMERCIAL POWER INPUT SIDE OF THE MANUAL TRANSFER SWITCH.
3. IN MARKETS WITH LIGHTNING ZONE GREATER THAN OR EQUAL TO 4, RF TVSS DEVICE SHALL BE INSTALLED AT THE ENTRANCE TO THE SHELTER OR AS CLOSE AS POSSIBLE TO THE BTS CABINET FOR OUTDOOR SITES, TO PROTECT AGAINST LIGHTNING AND TRANSIENT VOLTAGES.
4. A T1 TRANSPORT TVSS DEVICE SHALL BE INSTALLED AT ALL SITES BETWEEN THE NIU AND THE BTS.

OWNER/DEVELOPER:

CROWN CASTLE

CROWN CASTLE FIBER LLC
9250 WEST FLAGLER STREET, 5TH FLOOR
MIAMI, FL 33174

ENGINEER:

TEP OPCO, LLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL C.O.A. #31011

JOSHUA H. CARDEN
LICENSE
No 83511
STATE OF FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by JOSHUA H. CARDEN using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

November 22, 2022

REV	DESCRIPTION	DATE
A	PRELIMINARY	10/31/22
0	ISSUED FOR PERMIT	11/22/22

CROWN CASTLE PROJECT NUMBER:
62348085

CROWN CASTLE SCU:
512494

CROWN CASTLE SITE ID:
KENDALE LAKES 177

CARRIER SITE ID:
639427

SHEET TITLE:
GENERAL NOTES

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
N-2

CONFIDENTIAL/PROPRIETARY

GROUNDING

1. THE SUBCONTRACTOR SHALL VERIFY THAT THE SYSTEM IS EFFECTIVELY GROUNDED, MEETS NEC ARTICLE 250 REQUIREMENTS, IS ACCEPTABLE TO THE LOCAL UTILITY AND THE LOCAL AUTHORITY HAVING JURISDICTION, AND MEETS THE CARRIER'S ELECTRICAL AND GROUNDING SPECIFICATIONS. FOLLOWING COMPLETION OF WORK, CONDUCT GROUND TEST. OWNER'S REPRESENTATIVE WILL INSPECT CADWELDS AND REVIEW GROUND TEST PRIOR TO BURIAL. USE CLEAN SAND AND CLAY BACKFILL FOR BURIED GROUND CONDUCTORS.

2. ALL DETAILS SHOWN ARE DIAGRAMMATICAL. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.

3. METAL TO METAL CONTACT IS NOT ALLOWED WITHOUT AN INTENTIONAL BOND.

4. ALL METALLIC SURFACES AND/OR GROUND COMPONENTS INSTALLED W/IN 6' OF EACH OTHER MUST BE PROPERLY BONDED TO VGR., INCLUDING BUT NOT LIMITED TO, RADIO SHROUD, ANTENNA BRACKETS, STREET LIGHTS AND THE METER/DISCONNECT OF THE AC SERVICE.

5. RF GROUND KITS ARE NOT REQUIRED WHERE RF SURGE PROTECTION DEVICES (SPDS) ARE INSTALLED AHEAD OF THE RF CABLES ENTRY POINT INTO THE SHROUD. GROUND AVAILABLE SPDS TO VGR.

6. NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING THE GROUND SYSTEM DUE TO SITE/SOIL CONDITIONS.

7. GROUND CONNECTIONS: WHERE GROUND CONNECTIONS ARE MADE, THE CONTACT POINTS SHALL BE THOROUGHLY CLEANED AND MADE FREE OF FOREIGN MATERIAL SUCH AS PAINT, GALVANIZATION, AND CORROSION, TO ENSURE ADEQUATE BOND. REFER TO EXOTHERMIC WELD, LUGS, AND ANTI-OXIDIZATION COMPOUND NOTES FOR FURTHER DETAILS. ALL ABOVE GROUND CONNECTIONS TO THE VERTICAL GROUND RISER (VGR) SHALL BE IRREVERSIBLE CLAMP TYPE AND WEATHER PROOFED.

8. GROUND WIRE - OUTSIDE/UNDERGROUND: MINIMUM NO. 2 AMERICAN WIRE GAUGE (AWG) BARE, SOLID, ANNEALED, THINNED COPPER WIRE (BTCW) BUT SIZED IN ACCORDANCE WITH NEC TABLE 250.66. UNDER NO CIRCUMSTANCES IS STRANDED WIRE ACCEPTABLE. ALL BURIED WIRE SHALL BE INSTALLED TO MEET MINIMUM BEND RADIUS. SHARP BENDS AND KINKS ARE NEVER ACCEPTABLE. WHEN ANY GROUNDING OR BONDING WIRE RUNS THROUGH CONCRETE, IT SHALL BE SLEEVED IN PVC. GROUND WIRES SHALL NOT BE INSTALLED OR ROUTED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS.

9. GROUND WIRE - INSIDE: WIRE SHALL BE NO. 2 AWG THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° WC (WET AND DRY) OPERATION, GREEN INSULATED (A HIGH-STRAND COUNT WIRE IS PREFERRED).

10. BURIED GROUND RING: THE EQUIPMENT/SHELTER PAD OR PLATFORM SHALL HAVE A BURIED GROUND RING (BGR) THAT CONSISTS OF A RING OF NO. 2 AWG BARE, SOLID, ANNEALED, TINNED COPPER WIRE AND EXOTHERMICALLY WELDED GROUND RODS. THE BGR DESIGN SHOULD RESULT IN 10 OHMS OR LESS WITH SOIL RESISTIVITIES OF UP TO 50,000 OHM-CM. SOIL RESISTIVITIES HIGHER THAN THIS WILL REQUIRE FURTHER AUGMENTATION. ALL UNDERGROUND (BELOW GRADE) GROUNDING CONNECTIONS, INCLUDING COPPER GROUND RODS, CHEMICAL GROUND ROD ATTACHMENTS, AND GROUND LEADS FROM EQUIPMENT, TOWER, AND COAX SHALL BE MADE BY AN EXOTHERMIC WELD. THE GROUND RING SHALL BE BETWEEN A MINIMUM OF TWO FEET FROM THE SHELTER FOUNDATION, BTS PAD, OR PLATFORM PERIMETER AT A MINIMUM DEPTH OF 2 FEET, SIX INCHES, AND WITH NO BEND HAVING A RADIUS OF LESS THAN TWO FEET. THE TRENCH SHALL BE DUG 6 INCHES BELOW THE REQUIRED WIRE DEPTH. GROUND RODS TO BE INSTALLED, AT A MINIMUM, AT EACH CORNER OF THE BGR, OF PER NFPA 70, ARTICLE 250-56. EVERY EFFORT SHALL BE MADE TO ENSURE THAT ALL GROUND PATHS TO ENSURE THAT ALL GROUND PATHS TO THE BGR ARE INSTALLED SO THAT ANY POTENTIAL DISCHARGE OF ELECTRICITY WILL BE DOWNWARD, OR IF NECESSARY, FLAT. AT NO POINT SHOULD ANY GROUND PATH GO UPWARD.

11. EXOTHERMIC WELDING: EXOTHERMIC WELDS SHALL BE CADWELD, A REGISTERED TRADEMARC OF ERICO PRODUCTS, INC. OF CLEVELAND, OHIO, OR THERMOWELD, A DIVISION OF CONTINENTAL INDUSTRIES, INC. OF TULSA, OKLAHOMA OR EQUIVALENT.

12. GROUND ROD: 5/8" X 8 FEET (MINIMUM LENGTH) STEEL WITH PURE COPPER JACKET NOT LESS THAN 0.0012 INCHES THICK. GROUND RODS SHALL BE SPACED NO GREATER THAN 15 FT. O.C. AND NO LESS THAN 6 FT. O.C.. ELECTRICAL CONTRACTOR TO PERFORM TEST TO DETERMINE GROUND RESISTANCE AFTER GROUND RODS ARE DRIVEN FULL LENGTH. WHERE APPLICABLE EARTH GROUND RESISTANCE OF 5 OHMS OR LESS IS PREFERRED. IF RESISTANCE EXCEEDS 5 OHMS ELECTRICAL CONTRACTOR SHALL DETERMINE, FROM TEST RESULTS, NUMBER OF RODS REQUIRED. ALL GROUND RODS SHOULD BE BONDED UNLESS OTHERWISE SPECIFIED BY POWER COMPANY.

13. GROUND ROD COUPLING: 5/8" GROUND ROD COUPLING MADE OF THE SAME MATERIAL AS THE GROUND ROD TO PREVENT DISSIMILAR METAL HIGH OXIDIZATION POINTS. DISSIMILAR METALS IN DIRECT CONTACT, CAUSE CHEMICAL REACTION BETWEEN THE METALS, LEADING TO CORROSION.

14. CHEMICAL GROUND ROD: COMPRISED OF A HOLLOW COPPER GROUND ROD, A GROUND TEST WELL, A 4'-0" EXOTHERMICALLY WELDED PIGTAIL, AND CONDUCTIVE BACKFILL MATERIAL. THE CHEMICAL GROUND ELECTRODE SHALL BE MADE OF A MINIMUM 2 INCH I.D. TYPE K COPPER TUBE WITH A MINIMUM WALL THICKNESS OF 0.083 INCHES AND SHALL BE A MINIMUM OF 8 FEET IN LENGTH. THE CHEMICAL GROUND ROD SHALL BE UL LISTED. IN SITUATIONS WHERE DRILLING VERTICALLY IS TOO DIFFICULT OR COSTLY, HORIZONTAL L-SHAPE CHEMICAL GROUND RODS ARE ACCEPTABLE.

15. GROUND BARS: GROUND BARS SHALL BE MANUFACTURED EXACTLY AS SPECIFIED. NO DEVIATIONS ARE ALLOWED. DIMENSIONS SHALL BE 1/4 INCH THICK SOLID ELECTRICAL GRADE COPPER MANUFACTURED BY HARGER OR APPROVED EQUAL. GROUND BARS SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD. COAXIAL CABLE GROUND BARS SHOULD BE MECHANICALLY CONNECTED TO THE TOWER STRUCTURAL STEEL. HOWEVER, DO NOT DRILL HOLES OR USE EXOTHERMIC WELDS TO CONNECT GROUND LEADS TO A STEEL TOWER EXCEPT ON STEEL TABS OR FLANGES SPECIFICALLY DESIGNED FOR THAT PURPOSE. HOLES AND/OR EXOTHERMIC WELDING CAN NEGATIVELY IMPACT THE STRUCTURAL INTEGRITY OF THE TOWER AND INCREASE CHANCES OF CORROSION.

16. INSULATORS: POLYESTER FIBERGLASS, 15 KV MINIMUM DIELECTRIC STRENGTH, FLAME RESISTANT PER UL 94 VO CLASSIFICATION.

17. CLIPS: WHEN SECURING ANY GROUND WIRES, SOLID OR STRANDED, INSULATED OR UNINSULATED, NEVER USE ANY CLIPS OR OTHER DEVICES THAT ARE CONDUCTIVE AND FORM A CLOSED LOOP. METALLIC CLIPS ARE ACCEPTABLE IF THEY DO NOT FORM A CLOSE LOOP.

18. GROUND CLAMP: BURNDY GAR STYLE UL CLAMP WITH TWO-HOLE PROVISIONS FOR LONG BARREL MULTIPLE CRIMP TWO-HOLE LUGS.

19. COAX GROUNDING KIT: COAX GROUND KITS SHALL BE FROM THE SAME MANUFACTURER AS THE COAX. GROUND KITS SHALL BE SOLID STRAP TYPE WITH NO. 6 AWG WIRE AND 2-HOLE COMPRESSION CRIMPED LUGS (INSTALLED USING THE PROPER UL TOOL AND CIRCUMFERENTIAL HEXAGON DIE). BRAID OR HOSE CLAMP TYPE SHALL NOT BE USED. SOLID COPPER STRAP TYPE WITH SINGLE HOLE LUGS SHALL NOT BE USED. ALL COAX CABLES ARE TO BE GROUNDED AT THEIR SECTOR CGB, THE COLLECTOR CGB, MIDPOINT CGB (IF REQUIRED), BOTTOM CGB, WAVEGUIDE BRIDGE CGB (IF REQUIRED), AND AT THE SHELTER WALL. A MIDPOINT CGB IS ONLY REQUIRED IF THE COAX LENGTH EXCEEDS 200'. A WAVEGUIDE BRIDGE CGB IS ONLY REQUIRED WHEN THE LENGTH (FROM TOWER TO EQUIPMENT) IS GREATER THAN 15 FEET.

20. WEATHERPROOFING: ALL COAX GROUND KITS SHALL BE WEATHERPROOFED. ONLY GROUND KITS APPROVED BY THE COAX MANUFACTURER SHALL BE USED.

21. METALLIC CONDUIT: ANY GROUND WIRES, SOLID OR STRANDED, THAT PASS THROUGH CONDUIT, METALLIC SLEEVE, OR CABLE COVER, SHALL BE BONDED AT BOTH ENDS.

22. SERVICE DISCONNECT GROUNDING: IF THERE IS A SERVICE DISCONNECT SEPARATE FROM THE PPC MAIN CIRCUIT BREAKERS, THE NEUTRAL TO GROUND BOND SHALL BE MADE AT THE SERVICE DISCONNECT SWITCH LOCATED SEPARATELY AND ON THE SUPPLY SIDE OF THE PPC CABINET AND NO NEUTRAL TO GROUND CONNECTION SHOULD BE IN THE PPC. IT IS CRITICAL THAT ONLY ONE NEUTRAL TO GROUND BOND BE MADE AT THE SERVICE ENTRANCE EQUIPMENT AS DEFINED BY THE NATIONAL ELECTRIC CODE.

23. FOUNDATION: WHEN A NEW FOUNDATION IS INSTALLED, BOND THE AVAILABLE REBAR TO THE SITE GROUNDING.

COAXIAL CABLE REQUIREMENTS

1. GENERAL: PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY FOR RECEIVING, INSTALLING, TESTING, AND ADJUSTING ANTENNA CABLES FROM THE ANTENNA TO THE CONNECTIONS AT THE BASE TRANSMISSION SYSTEM (BTS). THE SHALL INCLUDE ALL EQUIPMENT SHOWN OR REQUIRED FOR A COMPLETE OPERATING SYSTEM. ANTENNA, ANTENNA CABLES, CONNECTORS, AND FITTING SHALL BE THIRD PARTY FURNISHED COMPONENTS AS SHOWN ON THE BILL OF MATERIALS.

2. CABLE HANGERS SHALL BE INSTALLED AT A MAXIMUM 4' SPACING.

3. INSTALLATION:
   - COAXIAL CABLE LENGTHS SHALL BE FIELD MEASURED. INSTALLER SHALL NOTIFY CARRIER PRIOR TO PURCHASE OF CABLE OF THE OVERALL LENGTH REQUIRED.
   - COAXIAL CABLE TYPE AND DIAMETER SHALL BE VERIFIED WITH CARRIER.
   - COAXIAL CABLES SHALL BE LABELED IN ACCORDANCE WITH CARRIER ELECTRICAL MATERIALS AND METHODS SPECIFICATIONS. ALL MAIN CABLES WILL BE COLOR CODED AT FOUR LOCATIONS: A) AT ANTENNA PRIOR TO JUMPER, B) AT THE BOTTOM OF THE TOWER, C) EXTERIOR PART OF THE WAVE GUIDE ENTRY PORT (AT THE SHELTER/CABINET WALL), D) INTERIOR OF THE SHELTER/CABINET.
   - PROVIDE AT LEAST 6' OF SLACK IN THE MAIN COAXIAL CABLES AT THE ANTENNA END TO PROVIDE FOR FUTURE CONNECTOR REPLACEMENT.
   - INSTALL CONNECTORS TO COAXIAL CABLE AT BOTH ENDS (ANTENNA END AND BTS LOCATION).
   - UPON SUCCESSFUL COMPLETION OF THE SWEEP TEST, THE CONTRACTOR SHALL PROVIDE A WEATHERTIGHT SEAL ON THE COAX CABLES.
   - THE MINIMUM BENDING RADIUS FOR ALL ANTENNA CABLES SHALL BE AS SHOWN BELOW OR PER THE MANUFACTURER, WHICHEVER IS MORE CONSERVATIVE:

CABLE	IN AIR OR CABLE TRAY	IN CONDUIT
1/2"	5"	10"
7/8"	10"	18"
1-5/8"	20"	28"

4. CABLES SHALL BE INSTALLED WITH THE MINIMUM NUMBER OF BENDS. CABLE SHALL NOT BE LEFT UNTERMINATED IN THE FIELD.

5. GROUNDING:
   - ALL MAIN CABLES WILL BE GROUNDED AT: A) THE ANTENNA, B) MIDDLE OF THE CABLE RUN IF OVER 200', C) PRIOR TO ENTERING EQUIPMENT SHELTER/CABINET (WITHIN 1' OF ENTRY).
   - GROUNDING KITS - AFTER INSTALLATION OF GROUND STRAPS, THE CONNECTIONS SHALL BE MADE WEATHER TIGHT USING WEATHERPROOF KITS AS IDENTIFIED. GROUND PIGTAILS SHALL BE BROUGHT OUT IN THE DOWNWARD DIRECTION FROM THE CONNECTION TO THE ANTENNA CABLE WITHOUT ANY SHARP BENDS (MINIMUM 10" RADIUS) AND CONNECTION SHALL BE MADE TO GROUNDING SYSTEM.

ANTENNA REQUIREMENTS

1. AZIMUTHS ARE ORIENTED CLOCKWISE FROM TRUE NORTH.

2. CONTRACTOR SHALL VERIFY ANTENNA TYPE, AZIMUTHS, AND DOWNTILTS WITH THE CARRIER PRIOR TO CONSTRUCTION.

FDOT CONSTRUCTION NOTES

1. AERIAL CROSSINGS OF STATE ROADS INVOLVING TEMPORARY LANE CLOSURES ARE TO BE DONE BETWEEN THE HOURS OF 12:00 AM AND 5:00 AM MONDAY THROUGH THURSDAY UNLESS PREVIOUSLY APPROVED BY THE DEPARTMENT.

2. WHEN DIRECTIONAL BORE IS THE METHOD OF INSTALLATION, A MINIMUM OF 2-FOOT SEPARATION SHALL BE MAINTAINED FROM ALL EXISTING UTILITIES, ITS/ATMS, AND STORM DRAIN SYSTEMS.

3. IF THE PROPOSED UTILITY CANNOT BE INSTALLED PER THE APPROVED PERMITTED PLAN AND BY FDOT SPECIFICATIONS, A REVISED PLAN MUST BE PROVIDED TO THE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE INSTALLATION OF PRODUCTS OR MATERIALS AT THE GIVEN LOCATIONS WHERE CONFLICTS OCCUR.

4. ANY NEW PROPOSED PLAN SHALL INCLUDE CROSS SECTIONS, PLAN VIEWS AND PROFILES OF THE STATE ROAD ADEQUATELY REFLECTING ALL RIGHT-OF-WAY FEATURES INCLUDING BUT NOT LIMITED TO EXISTING UTILITIES, STORM DRAIN SYSTEMS AND ANY ABOVE OR BELOW GROUND APPURTENANCES WHERE APPLICABLE.

5. NO PEDESTRIAN PATHWAY IS TO BE REMOVED, BLOCKED, OR DISTURBED WITHOUT HAVING A SUFFICIENT DESIGNATED TEMPORARY PEDESTRIAN PATHWAY WITH ALL APPROPRIATE PEDESTRIAN MAINTENANCE OF TRAFFIC SIGNS (INDEX 660) IN-PLACE PRIOR TO PATHWAY BEING AFFECTED.

6. ALL TEMPORARY PEDESTRIAN PATHWAYS MUST BE FIRM AND UNYIELDING.

7. ANY SIDEWALK DISTURBED WILL BE REPLACED BY SECTION WITHIN 72 HOURS TO FDOT SPECIFICATIONS.

8. ALL CONCRETE PLACED WITHIN FDOT RIGHT-OF-WAY FOR DRIVEWAYS AND SIDEWALKS SHALL BE A MINIMUM OF 6 INCHES THICK AND BE AN FDOT-APPROVED MIX, CLASS 1 NON-STRUCTURAL, 2,500 PSI WITH FIBER MESH.

9. FDOT RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO ANY PERMITTED METHOD OF INSTALLATION, SCOPE OF WORK, AND RESTORATION THAT MAY BE REQUIRED TO POSITIVELY SUPPORT LIFE, SAFETY, AND ENVIRONMENTAL WELL-BEING OF ALL USERS OF THE TRANSPORTATION SYSTEM.

10. THE PERMITTEE SHALL NOTIFY THE FDOT OF DATE OF COMPLETION, REQUEST A FINAL INSPECTION, AND A NOTICE OF FINAL ACCEPTANCE.

11. ALL CONSTRUCTION AND/OR MAINTENANCE IN THE FDOT RIGHT-OF-WAY SHALL CONFORM TO THE FEDERAL MANUAL ON UNIFORM TRAFFIC DEVICES (MUTCD), THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE FLORIDA DESIGN MANUAL, AND THE DRAINAGE MANUAL.

12. PRIOR TO REMOVAL OF EXISTING CURB OR DRIVEWAY, THE EDGE OF TRAVEL SHALL BE SAWCUT TO AVOID DAMAGING THE EXISTING ROADWAY ASPHALT. ALL CONCRETE TO BE REMOVED IN FDOT RIGHT-OF-WAY SHALL BE SAWCUT AND REMOVED FROM THE NEAREST JOINT.

13. THE UAO SHALL NOTIFY THE FDOT REPRESENTATIVE IDENTIFIED ON THE PERMIT A MINIMUM OF TWO (2) BUSINESS DAYS PRIOR TO STARTING WORK AND AGAIN IMMEDIATELY UPON COMPLETION OF WORK. ALL WORK, MATERIALS, AND EQUIPMENT SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY FDOT. THE UAO SHALL INPUT TIME, LOCATION OF LANE CLOSURE AND DESCRIPTION OF WORK INTO THE FDOT LANE CLOSURE INFORMATION SYSTEM (LCIS) OF ANY LANE CLOSURES NEEDED FOR THE UTILITY WORK. THE UAO SHALL NOT CLOSE ANY LANES UNTIL RECEIVING APPROVAL THROUGH LCIS OR ALTERNATIVELY BY FDOT. THE UAO IS NOT REQUIRED TO REPORT LANE CLOSURES TO THE LCIS SYSTEM TO PERFORM WORK IN ACCORDANCE TO UAM SECTION 2.3 OR UAM SECTION 3.1.

14. LANE CLOSURES MUST BE LIMITED TO SUNDAY THROUGH THURSDAY 8:00 PM TO 5:30 AM UNLESS OTHERWISE APPROVED BY FDOT.

15. ANY SIDEWALK DAMAGED BECAUSE OF WORK BEING PERFORMED IN ASSOCIATION WITH THE PERMITTEE AND CONTRACTOR SHALL BE REMOVED AND REPLACED WITH 6-INCH THICK CLASS 1 NON-STRUCTURAL, 2,500 PSI WITH FIBER MESH.

16. OPEN CUTTING OF ANY ROADWAY, DRIVEWAY OR SIDEWALK OUTSIDE THOSE LIMITS IDENTIFIED WITHIN THE PERMIT ARE NOT ALLOWED WITHOUT PRIOR APPROVAL OF BY FDOT.

17. THE CONTRACTOR SHALL HAVE AN AUTHORIZED PERSON AVAILABLE AT/OR NEAR THE WORK SITE ON A 24-HOUR BASIS, 7 DAYS A WEEK IN ORDER TO ADDRESS EMERGENCY ISSUES ASSOCIATED WITH THE PROJECT.

18. NO STOCKPILING, STORING OR SEMI-PERMANENT USE OF THE RIGHT-OF-WAY IS AUTHORIZED UNLESS SPECIFICALLY IDENTIFIED WITHIN THE PERMIT.

19. NO WORK SHALL BE PERFORMED DURING THE WEEKS OF ANY STATE OR FEDERAL HOLIDAY UNLESS OTHERWISE APPROVED IN WRITING BY FDOT.

20. THE PERMITTED WORK SCHEDULE IS DEFINED AS MONDAY THROUGH FRIDAY 7:00 AM TO 5:30 PM UNLESS OTHERWISE NOTED WITHIN THE PERMIT. ANY WORK DESIRED OUTSIDE OF THIS PERIOD MUST BE REQUESTED IN ADVANCE AND APPROVED BEFORE WORKING THE ALTERNATE SCHEDULE.

21. WHEN WORK IS ASSOCIATED WITH ROADWAY MODIFICATIONS AND/OR SITE DEVELOPMENT, THE CONTRACTOR IS REQUIRED TO HAVE A PRECONSTRUCTION MEETING WITH THE FDOT INSPECTOR TWO WEEKS PRIOR TO ANY CONSTRUCTION BEGINNING WITHIN THE RIGHT-OF-WAY.

22. ALL WORK PERFORMED UNDER THIS PERMIT WITHIN THE RIGHT-OF-WAY IS TO BE SCHEDULED WITH FDOT INSPECTION STAFF.

23. ROADWAY RESTORATION SHALL UTILIZE 100 PSI EXCAVATABLE FLOWABLE FILL MATERIAL AND ASPHALT PLACED WITHIN THE STATE RIGHT-OF-WAY SHALL BE PLACED FULL-DEPTH, TWO 2.5-INCH LIFTS OF SP 12.5, TWO 1.5-INCH LIFTS OF SP 9.5. TYPICAL SECTIONS WILL NEED TO BE PROVIDED WITHIN THE PLANS FOR THE PAVEMENT PLACEMENT. A STAIR STEP METHOD SHOULD BE INCORPORATED, PRIOR TO PLACING ASPHALT, TO AVOID VERTICAL JOINTS. MILLING OF THE PATCH MAY BE REQUIRED BASED ON THE PATCHED SURFACE PERFORMANCE. THE MILLING SHALL BE UTILIZED FOR SURFACE LEVELING TO A THICKNESS EQUAL TO OR GREATER THAN THE EXISTING FRICTION COARSE MATERIAL. THE MILLING LIMITS ARE 50-FOOT OF THE PATCH ALONG THE LONGITUDINAL PATH OF THE LANE, FULL LANE WIDTH AND TO INCLUDE ANY ADJACENT BIKE LANES, SHARED PATH OR URBAN SHOULDER SECTIONS.

24. ANY DISRUPTIONS TO ANY PERMEABLE PEDESTRIAN WAY AND BIKE LANE ARE TO BE RESTORED AS WORK CONTINUES. ALL PATCHES SHALL BE FULL WIDTH FROM OUTSIDE EDGE OF PEDESTRIAN PATH TO WHITE LINE EDGE OF TRAVEL LANE WITH STAIR STEP (STAGGERED) JOINTS. RESTORATION TO INCLUDE BACKFILL WITH EXISTING SUB-GRADE MATERIAL AND #57 STONE AS BASE MATERIAL (COMPACT IN 6-INCH LIFTS) TO BOTTOM OF EXISTING PERVIOUS ASPHALT BASE, FOLLOWED BY PERMEABLE DESIGN MIX (IF AVAILABLE) OR 12.5 SUPERPAVE COURSE MIX WITH A MINIMUM 2-INCH AND MAXIMUM 3-INCH LIFTS. MAINTAIN INGRESS/EGRESS ON ALL DRIVES AND SIDE STREETS DURING CONSTRUCTION.

25. SODDING RESTORATION TO COMPLY WITH FDOT 2021-22 DESIGN STANDARDS INDEX 570-010.

26. PROPOSED HANDHOLES ARE TO BE INSTALLED PER FDOT 2021-22 STANDARD INDEX NO. 635-001.

27. PROPOSED WORK ON ANY SIDEWALKS, RAMPS, AND/OR CURB AND GUTTER SHOULD BE COMPLETED PER FDOT 2021-22 STANDARD PLANS INDEX NO. 520-001, 522-001, AND 522-002, AND FDOT STANDARD SPECIFICATION 522.

28. SAW CUTTING OF THE EXISTING SIDEWALK SHALL BE MADE ONLY AT THE NEAREST FLAG JOINTS. REFER TO FDOT STANDARD PLANS FY 2021-22 INDEX NO. 522-001.

29. DAMAGED SIDEWALK, CURB AND GUTTER, AND TRAFFIC SEPARATORS SHALL BE RESTORED WITH FULL FLAGS/JOINT-TO-JOINT AT THE CONTRACTOR'S EXPENSE PER FDOT STANDARD PLANS INDEX NO. 522-001, 520-001, AND FDOT STANDARD SPECIFICATION 522; PATCHING IS NOT PERMITTED. CONTRACTOR TO FURNISH APPROPRIATE EXPANSION JOINTS PER FDOT 2021-22 STANDARD PLANS INDEX 350-001.

30. IMPACTED PEDESTRIAN RAMPS SHALL BE REPLACED COMPLETELY. CONTRACTOR TO INCLUDE ONE FOOT OF LEVEL EMBANKMENT FOR EROSION AND ENSURE TO NOT CREATE ANY DROP OFF HAZARDS AS SHOWN ON FDM FIGURE 222.3.1. IMPACTED DETECTABLE WARNING SURFACES NEED TO BE RESTORED IN ACCORDANCE WITH FDOT STANDARD PLANS INDEX NO. 522-002 AND SPECIFICATION 527.

31. SIDEWALK RESTORATION SHALL MATCH EXISTING CONCRETE PATTERN, PAVERS, AND COLOR.

32. CONTRACTOR TO ENSURE THAT THE APPROPRIATE EROSION CONTROL DEVICES ARE IN PLACE BEFORE ANY CONSTRUCTION BEGINS AND ARE USED THROUGHOUT THE DURATION OF CONSTRUCTION.

33. CONTRACTOR TO ENSURE THAT ALL ACTIONS CARRIED OUT ARE IN ACCORDANCE WITH ALL ENVIRONMENTAL REGULATORY REQUIREMENTS.

34. EXISTING FDOT DRAINAGE SYSTEM SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR. FIELD VERIFICATION OF LOCATION AND DEPTH OF EXISTING STORM SEWER SYSTEM IS REQUIRED TO AVOID CONFLICTS WITH STORM DRAINPIPES AND STRUCTURES. ANY DAMAGE TO THE FDOT DRAINAGE SYSTEM (STRUCTURES OR PIPES) SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO COST TO THE DEPARTMENT.

35. CONTRACTOR TO ENSURE EXISTING UTILITIES ARE NOT IMPACTED BY PROPOSED WORK. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATION AND PATH OF ALL UNDERGROUND FACILITIES PRIOR TO DIRECTIONAL DRILLING/TRENCH WORK AND ASSUMES ALL RESPONSIBILITY FOR ANY DAMAGE DONE TO UNDERGROUND AND ABOVE GROUND UTILITIES WHICH MIGHT BE 20 FEET FROM THE BORE PATH/TRENCH. DIRECTIONAL BORING SHALL BE CONDUCTED ACCORDING TO LATEST SECTION 555 OF FDOT STANDARD SPECIFICATIONS AND 3.16.9.1 OF THE 2017 U.A.M. OPEN TRENCH SHALL BE CARRIED OUT PER 3.16.4. OF 2017 U.A.M.

36. CONDUIT INSTALLATION SHALL ADHERE TO THE LATEST FDOT STANDARD PLANS INDEX NO. 630-001.PROPOSED HANDHOLES, PULL BOXES, SPLICE BOXES MUST ADHERE TO LATEST FDOT STANDARD PLANS INDEX NO. 635-001.

37. ANY ABOVE GROUND FEATURES THAT MAY BE IMPACTED BY PROPOSED WORK MUST BE IDENTIFIED TO BE ADJUSTED/RELOCATED/REPLACED. IF SIGNS ARE DAMAGED, THESE MUST BE REPLACED ACCORDING TO THE LATEST FDOT STANDARD PLANS INDEX NO. 700-101. CONTRACTOR TO ENSURE THAT THE LATERAL OFFSET AND CLEAR ZONE STANDARDS ARE ADHERED TO.

38. MAINTAIN THE TEMPORARY PATCHES AROUND THE HANDHOLE BOX EDGES AND/OR ANYWHERE ELSE WHERE SIDEWALK HAS BEEN IMPACTED OR DAMAGED BY CONSTRUCTION SO THAT IT PROVIDES A SMOOTH, ALL-WEATHER SURFACE AT ALL TIMES. ONCE THE HANDHOLE IS INSTALLED, THE LID MUST BE KEPT IN PLACE, BOLTED, AND SECURED.

39. ANY DAMAGE DONE TO EXISTING TRAFFIC SIGNALS SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND THEREFORE WILL REQUIRE CONCURRENCE FROM THE MIAMI-DADE TRAFFIC DIVISION.

40. NO TREE IMPACTS ARE PROPOSED OR ANTICIPATED. THE APPLICANT WILL INFORM FDOT PRIOR TO ANY POTENTIAL TREE IMPACTS. THE PROJECT CORRIDOR IS WITHIN THE CONSULTATION AREA FOR THE FLORIDA BONNETED BAT WHICH IS LISTED AS AN ENDANGERED SPECIES. TREES ALONG THE PROJECT CORRIDOR HAVE BEEN IDENTIFIED AS POTENTIAL HABITAT FOR THE BAT.

OWNER/DEVELOPER:

CROWN CASTLE

CROWN CASTLE FIBER LLC
9250 WEST FLAGLER STREET, 5TH FLOOR
MIAMI, FL 33174

ENGINEER:

TEP OPCO, LLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL C.O.A. #31011

JOSHUA H. CARDEN LICENSE No 83511 STATE OF FLORIDA PROFESSIONAL ENGINEER

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November 22, 2022

REV	DESCRIPTION	DATE
A	PRELIMINARY	10/31/22
0	ISSUED FOR PERMIT	11/22/22

CROWN CASTLE PROJECT NUMBER:
62348085

CROWN CASTLE SCU:
512494

CROWN CASTLE SITE ID:
KENDALE LAKES 177

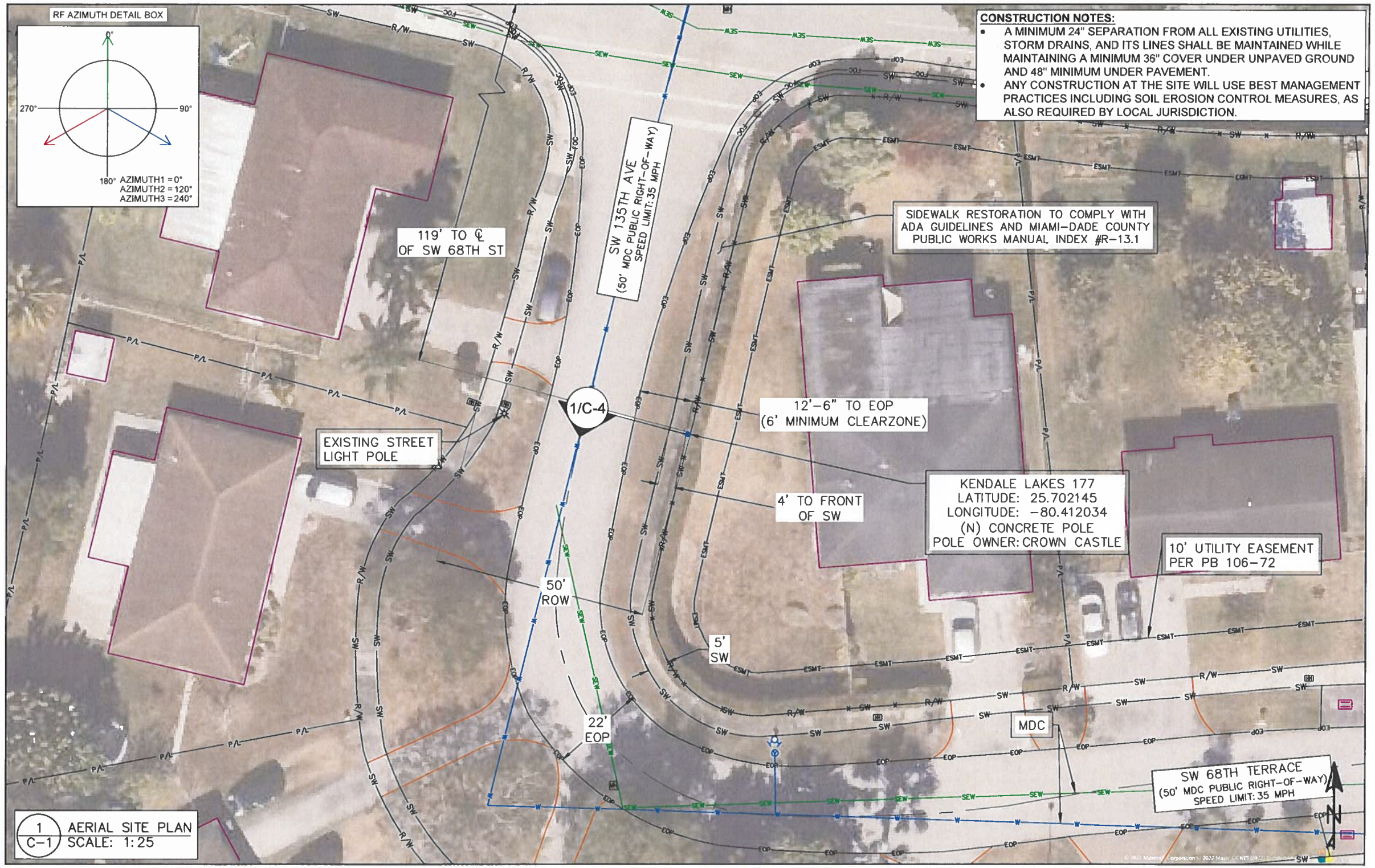
CARRIER SITE ID:
639427

SHEET TITLE:
GENERAL NOTES

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
N-3

CONFIDENTIAL/PROPRIETARY



1 / C-1 AERIAL SITE PLAN
SCALE: 1:25

NOTES:

- THIS SITE PLAN WAS PREPARED WITHOUT THE USE OF A CERTIFIED LAND SURVEY. PROPERTY LINES, RIGHTS-OF-WAY, EASEMENTS, AND UTILITIES SHOWN ON THESE PLANS ARE ESTIMATED. ALL DIMENSIONS TO BE FIELD VERIFIED.
- CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS, UNDERGROUND UTILITIES AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
- POWER AND FIBER ROUTING TO BE PERMITTED SEPARATELY.

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SHEET TITLE:
AERIAL SITE PLAN

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
C-1

CONFIDENTIAL/PROPRIETARY







1 / C-2 SITE PHOTOS
SCALE: N.T.S.

NOTE:
PHOTOS MAY NOT REPRESENT FINAL NODE LOCATION.
REFER TO SHEET C-1 FOR FINAL NODE LOCATION.

OWNER/DEVELOPER:

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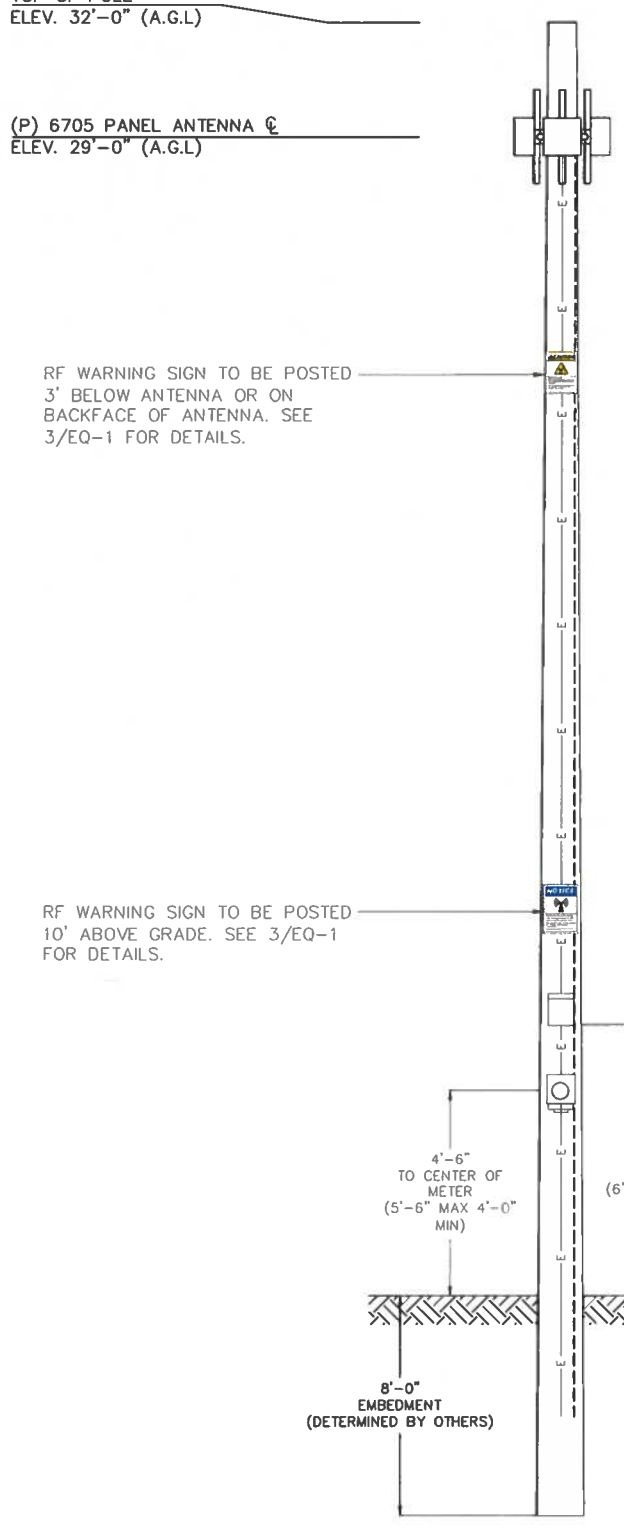
SHEET TITLE:
SITE PHOTOS

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

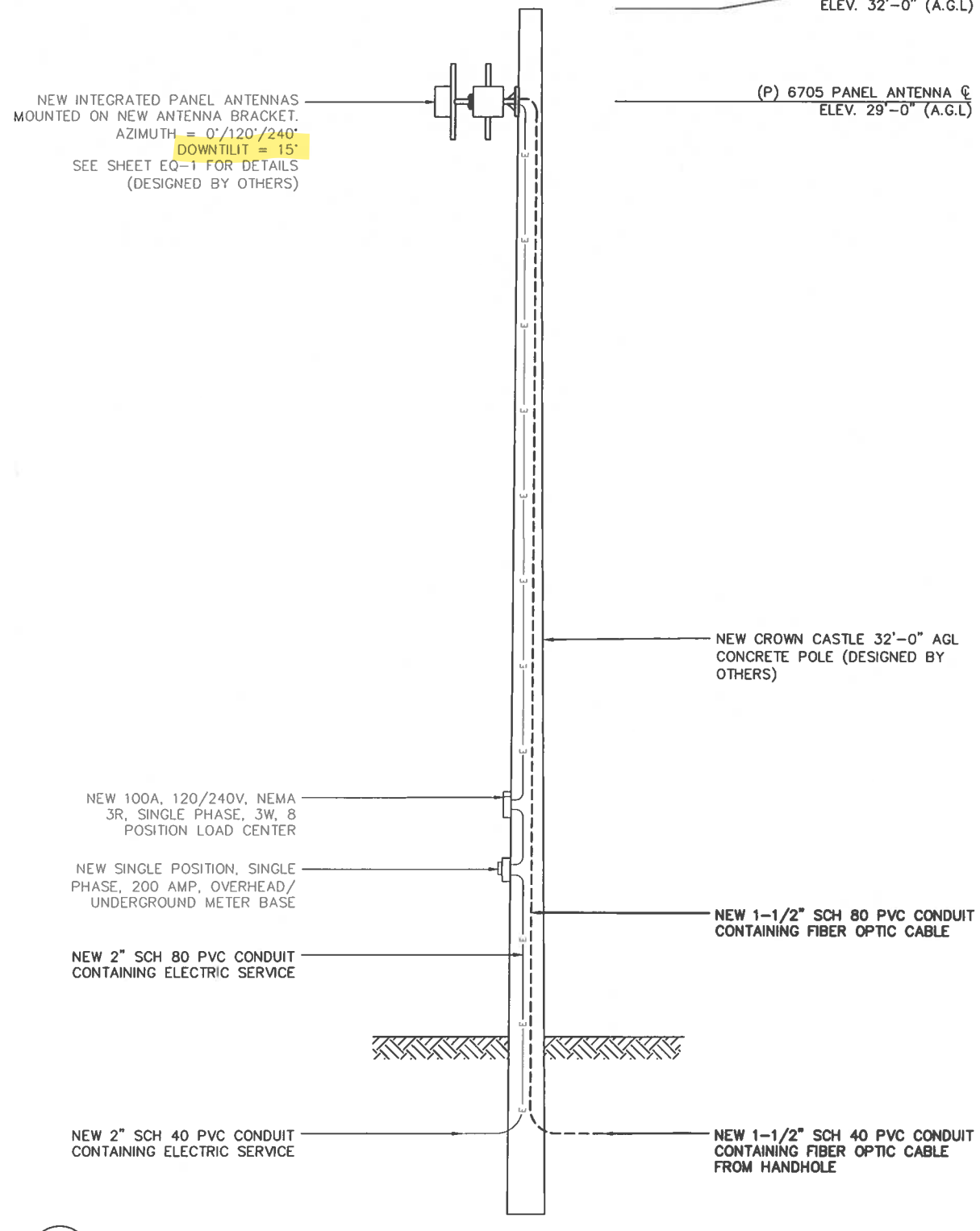
SHEET:
C-2

CONFIDENTIAL/PROPRIETARY

NOTES:
- GROUNDING NOT SHOWN FOR CLARITY, SEE DETAIL 3/E-1 FOR GROUNDING DETAILS
- ALL CONDUITS, HANDHOLES, AND PROPOSED APPURTENANCES WILL BE OWNED AND MAINTAINED BY CROWN CASTLE
- THE EXTERNAL FINISH OF THE PROPOSED POLE MOUNTED EQUIPMENT TO BE PAINTED GRAY TO MATCH THE POLE COLOR



1 C-3 PROPOSED POLE ELEVATION (FROM SHOULDER – FACING ONCOMING TRAFFIC)
SCALE: N.T.S.



2 C-3 PROPOSED POLE ELEVATION (FROM ROAD – FACING POLE)
SCALE: N.T.S.

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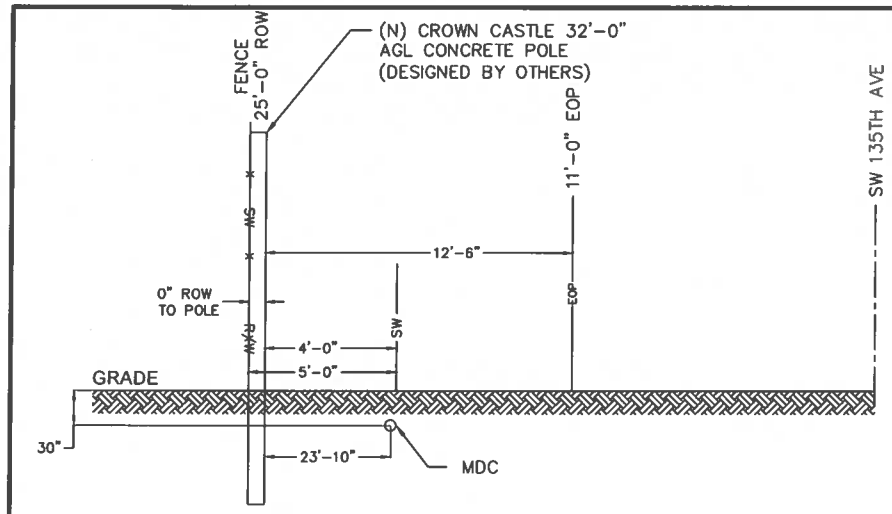
CARRIER SITE ID:
639427

SHEET TITLE:
PROPOSED ELEVATION

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
C-3

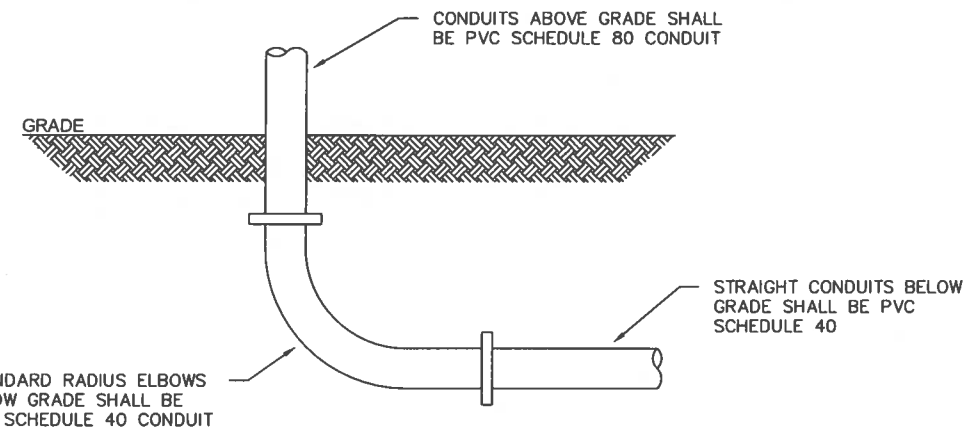
CONFIDENTIAL/PROPRIETARY



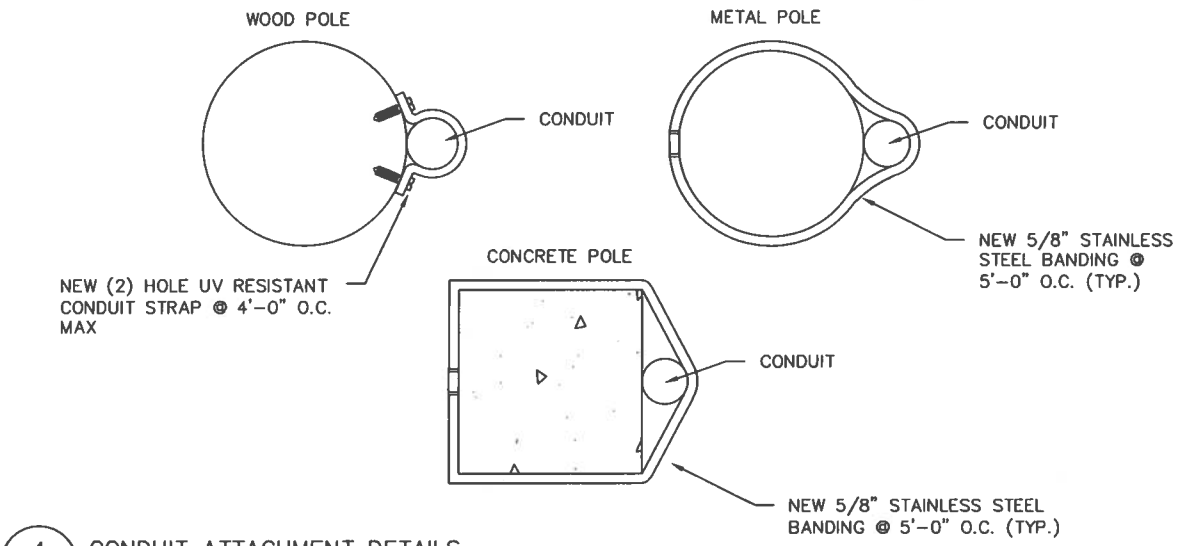
REFERENCE	UTILITY
O	UNKNOWN CONDUIT
O	POWER
O	GAS
O	SANITARY SEWER
O	STORM SEWER
O	TELEPHONE
O	CABLE
O	FIBER
O	WATER
O	RECLAIMED WATER

1 / C-4 CROSS SECTION VIEW
SCALE: N.T.S.

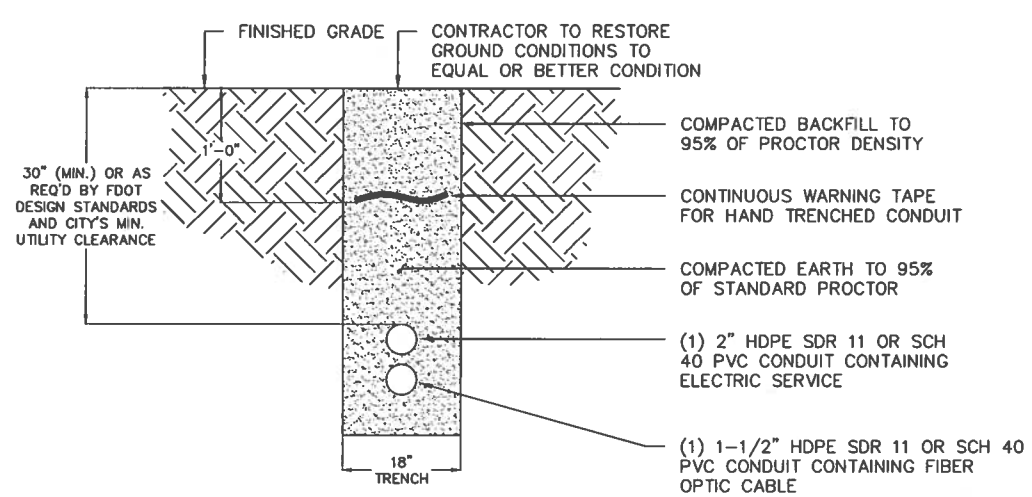
2 / C-4 NOT USED
SCALE: N.T.S.



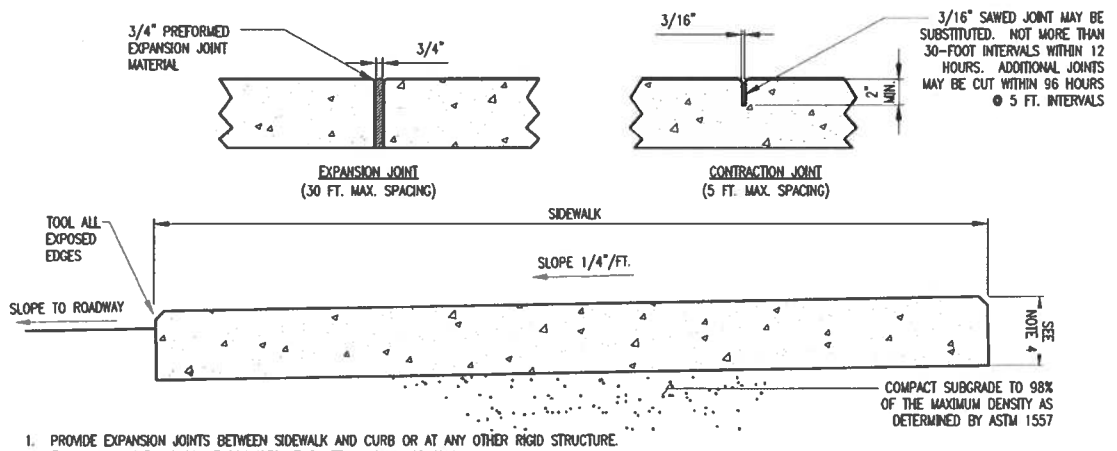
3 / C-4 STUB UP DETAIL
SCALE: N.T.S.



4 / C-4 CONDUIT ATTACHMENT DETAILS
SCALE: N.T.S.



5 / C-4 UNDERGROUND CONDUIT(S) TRENCHING DETAIL (IF APPLICABLE)
SCALE: N.T.S.



1. PROVIDE EXPANSION JOINTS BETWEEN SIDEWALK AND CURB OR AT ANY OTHER RIGID STRUCTURE.
2. EXPANSION JOINTS SHALL BE PROVIDED AT 30 FT. MAXIMUM SPACING.
3. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 2,500 P.S.I. @28 DAYS FOR SIDEWALKS
4. MINIMUM THICKNESS OF SIDEWALK SHALL BE 4 INCHES. CONCRETE DRIVEWAYS SHALL BE 6 INCHES THICK MINIMUM AND SHALL BE REINFORCED WITH 6X6 W1.4 X W1.4 WELDED WIRE MESH, PLACED 3 INCHES CLEAR FROM BOTTOM.
5. FOR SIDEWALKS OR DRIVEWAYS WITH R.O.W., COMPACT SUB-GRADE TO 98% OF MAXIMUM DENSITY AS DETERMINED BY ASTM1557. COMPACTION OUTSIDE R.O.W. MAY BE 95% OF MAXIMUM DENSITY.

6 / C-4 CONCRETE SIDEWALK (IF APPLICABLE)
SCALE: N.T.S.

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62348085

CROWN CASTLE SCU:
512494

CROWN CASTLE SITE ID:
KENDALE LAKES 177

CARRIER SITE ID:
639427

SHEET TITLE:
POLE PLACEMENT

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

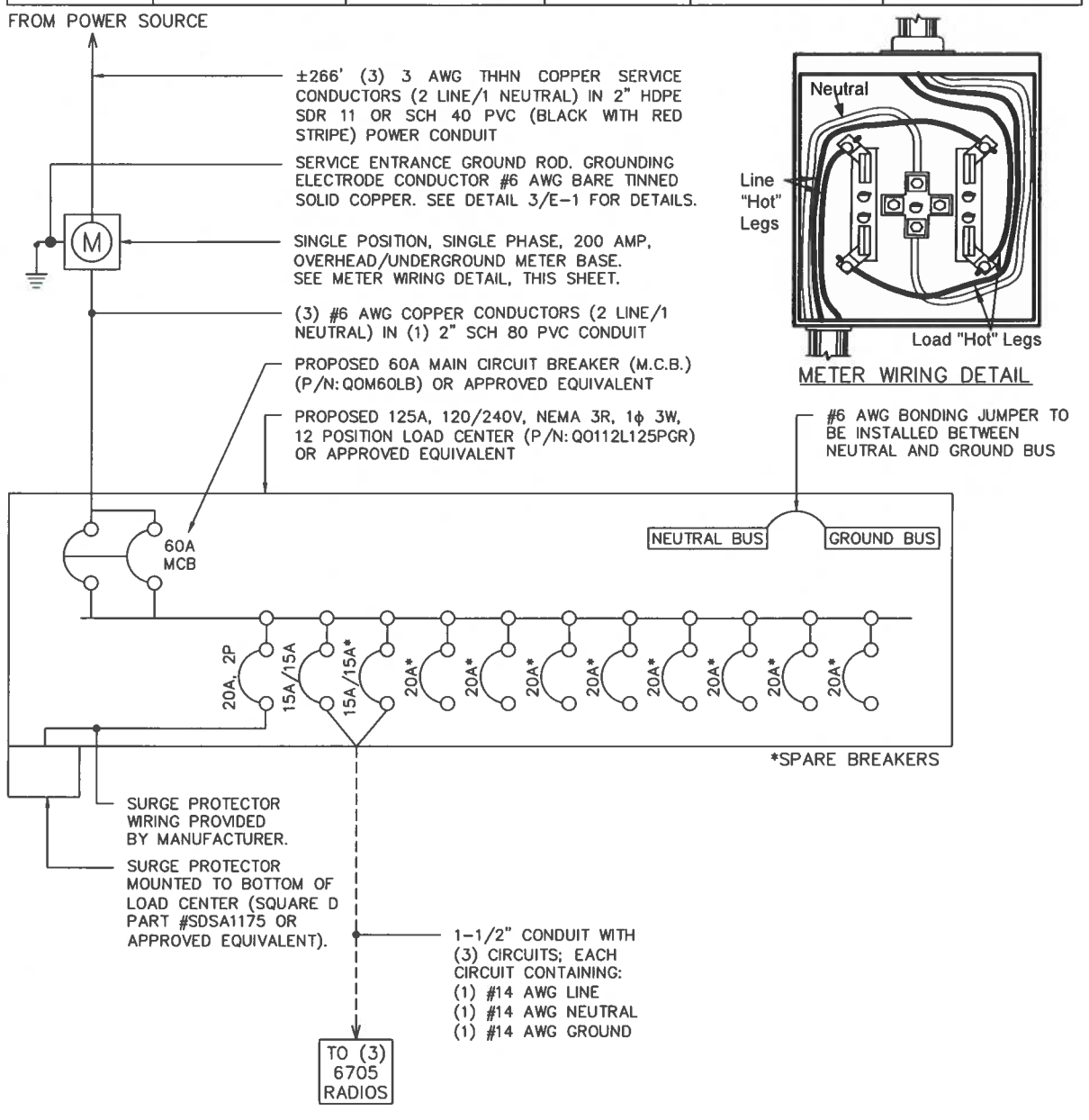
SHEET:
C-4

CONFIDENTIAL/PROPRIETARY

SERVICE LATERAL COPPER CONDUCTOR & CONDUIT SIZING

60A, 120/240V, 1Ph, 3W, 4% MAX VOLTAGE DROP

CONDUCTOR SIZE	MAX CONDUCTOR LENGTH	MIN CONDUIT SIZE	CONDUCTOR SIZE	MAX CONDUCTOR LENGTH	MIN CONDUIT SIZE
6 AWG	162'	2" HDPE/PVC	300 KCMIL	1864'	2 1/2" HDPE/PVC
4 AWG	259'	2" HDPE/PVC	350 KCMIL	2179'	2 1/2" HDPE/PVC
3 AWG	326'	2" HDPE/PVC	400 KCMIL	2492'	3" HDPE/PVC
2 AWG	412'	2" HDPE/PVC	500 KCMIL	3100'	3" HDPE/PVC
1 AWG	519'	2" HDPE/PVC	600 KCMIL	3738'	3 1/2" HDPE/PVC
1/0 AWG	655'	2" HDPE/PVC	700 KCMIL	4347'	3 1/2" HDPE/PVC
2/0 AWG	827'	2" HDPE/PVC	750 KCMIL	4678'	3 1/2" HDPE/PVC
3/0 AWG	1044'	2" HDPE/PVC	800 KCMIL	4968'	3 1/2" HDPE/PVC
4/0 AWG	1315'	2" HDPE/PVC	900 KCMIL	5594'	4" HDPE/PVC
250 KCMIL	1553'	2 1/2" HDPE/PVC	1000 KCMIL	6201'	4" HDPE/PVC



METER WIRING DETAIL

#6 AWG BONDING JUMPER TO BE INSTALLED BETWEEN NEUTRAL AND GROUND BUS

NOTES:

- THIS CONFIGURATION IS ONLY APPLICABLE FOR 120/240V 3W SERVICE.
- CONTRACTOR TO VERIFY INCOMING WIRE SIZE AND WIRE QUANTITY PRIOR TO TYING BUSSES TOGETHER.
- 2-WIRE SURGE PROTECTION DEVICES NOT TO BE USED UNLESS APPROVED BY THE MANUFACTURER.

1 / E-1 ONE-LINE DIAGRAM
SCALE: N.T.S.

POWER PANEL SCHEDULE

120/240V, 1-PHASE, 3-WIRE, 125A

MAIN BREAKER RATING: 60A, SYSTEM VOLTAGE: 240V

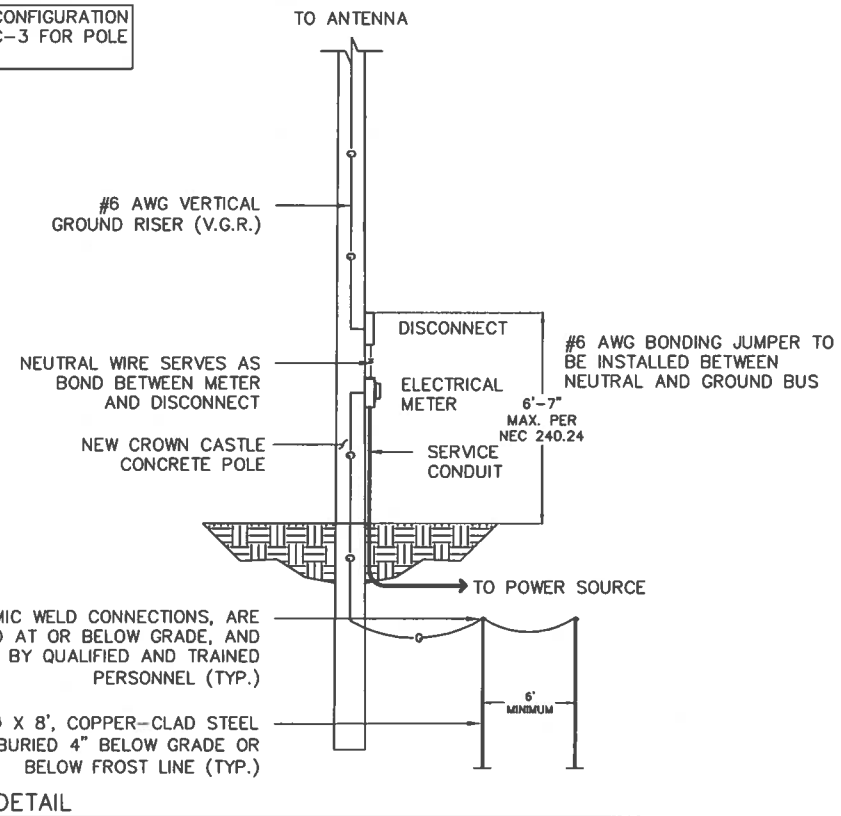
LOAD SERVED	VOLT AMPERES (WATTS) L1	VOLT AMPERES (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPERES (WATTS) L1	VOLT AMPERES (WATTS) L2	LOAD SERVED
SURGE SUPPRESSOR	–		20A	1	A	2	20A	–		SPARE
		–		3	B	4	20A		–	SPARE
6705(x2)	1000		15A/15A	5	A	6	20A	–		SPARE
6705(x1) / SPARE		500	15A/15A	7	B	8	20A		–	SPARE
SPARE	–		20A	9	A	10	20A	–		SPARE
SPARE		–	20A	11	B	12	20A		–	SPARE
VOLT AMPS	1000	500						0	0	VOLT AMPS
			L1 VOLT AMPERES	1000	500	L2 VOLT AMPERES				
			L1 AMPS	8.3	4.2	L2 AMPS				
				8.3		MAX AMPS				
				10.4		MAX AMPS x125%				

NOTES:

- ALL ELECTRICAL WORK TO PERFORMED BY A LICENSED ELECTRICIAN.
- ALL EQUIPMENT INSIDE POLE (RADIOS, COAX, ETC.) TO BE GROUNDED TO MASTER GROUND BAR (MGB).
- ALL GROUND RODS SHOULD BE BONDED, UNLESS OTHERWISE SPECIFIED BY POWER COMPANY.
- SEE GROUNDING SECTION OF THE GENERAL NOTES ON SHEET N-3 FOR ADDITIONAL DETAILS.
- SHORT CIRCUIT CURRENT OF MAIN CIRCUIT BREAKER 10KAIC RATED.
- SERVICE LATERAL CONDUCTORS SIZED FOR MAXIMUM VOLTAGE DROP OF 4% AT A SERVICE LOAD OF 60A.
- CONDUCTOR SIZING ASSUMES BALANCED LOADS BETWEEN EACH UNGROUNDED CONDUCTOR MAXIMUM UNBALANCED LOAD IS 50% OF THE SERVICE LOAD.
- BRANCH CIRCUIT CONDUCTORS SIZED FOR A MAXIMUM VOLTAGE DROP OF 1% AT DESIGN LOAD, UNLESS SUPPLIED BY EQUIPMENT MANUFACTURER.
- ALL CONDUCTORS ARE TO BE COPPER WIRE WITH INSULATION TYPE THHN.
- ALL ABOVE GRADE CONDUIT IS TO BE UV RESISTANT SCHEDULE 80 PVC. ALL BELOW GRADE CONDUIT IS TO BE SCHEDULE 40 PVC
- ARC-FLASH WARNING SIGN TO BE LOCATED ON DISCONNECT SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT PER NEC 110.16

2 / E-1 POWER PANEL SCHEDULE
SCALE: N.T.S.

DETAIL FOR GROUNDING CONFIGURATION ONLY. REFER TO SHEET C-3 FOR POLE AND EQUIPMENT DETAILS.



3 / E-1 GROUNDING DETAIL
SCALE: N.T.S.

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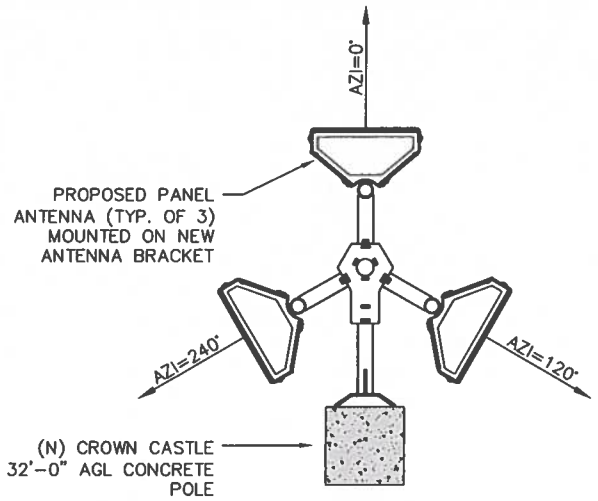
CARRIER SITE ID:
639427

SHEET TITLE:
ELECTRICAL DETAILS

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
E-1

CONFIDENTIAL/PROPRIETARY



1 EQ-1 ANTENNA ORIENTATION
SCALE: N.T.S.

SPECTRUM:	28 GHZ/ B261
IBW:	850 MHZ
OBW:	UP TO 800 MHZ
EIRP:	59 DBM (CM1, 800MHZ CONFIG)
EIS:	−116 DBM (CM1, 800MHZ CONFIG)
ANTENNA:	H: +/− 60°, V: +/− 15°
TOTAL ANTENNA BW:	UP TO 1600 MHZ (800MHZ 2X2)
THROUGHPUT:	5 GBPS DL/ 2 GBPS UL

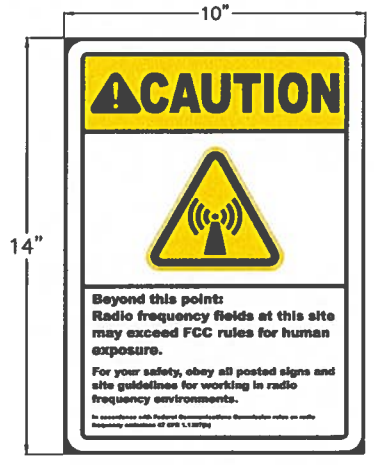
POWER INPUT:	AC: 100−250V
OPERATIONAL CONDITIONS:	−40° TO +55° C, IP 65
COOLING:	ACTIVE
POWER:	<350 W TYPICAL, <500 W MAX
MISC:	GPS, 1588V2 SYNCH

	Height	Width	Depth	Weight
w/o protruding items	14.4 In (366 mm)	7.9 In (200 mm)	6 In (150 mm)	30 lbs (13.6 Kg)
w/ protruding items incl. GPS Ant	16.2 In (409 mm)	8.1 In (204 mm)	6.1 In (154 mm)	



2 EQ-1 RADIO 1 DETAIL
SCALE: N.T.S.

SIGNAGE NOTES:
- ALL SIGNAGE TO ME MOUNTED TO POLE.
- ALL SIGNAGE TO BE STAINLESS STEEL TO PREVENT CORROSION OVER TIME.
- SEE SHEET C-3 FOR SIGNAGE LOCATION.

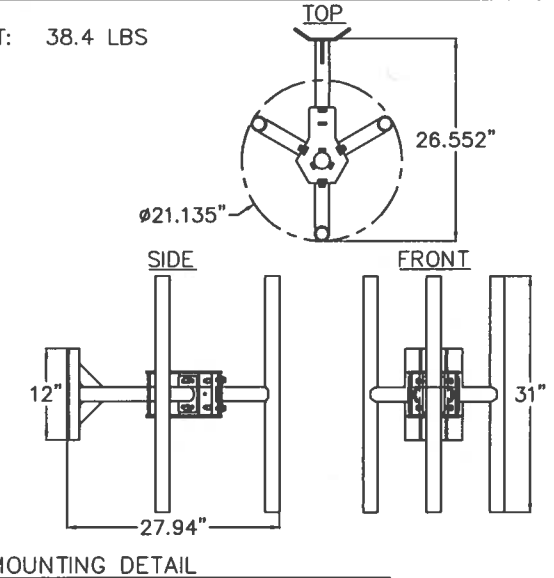




3 EQ-1 SIGNAGE DETAIL
SCALE: N.T.S.

4 EQ-1 NOT USED
SCALE: N.T.S.

WEIGHT: 38.4 LBS



5 EQ-1 MOUNTING DETAIL
SCALE: N.T.S.

6 EQ-1 NOT USED
SCALE: N.T.S.

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SHEET TITLE:
EQUIPMENT DETAILS

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CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
EQ-1

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TABLE 1
CHANNELIZING DEVICE SPACING

Work Zone Speed (mph)	Maximum Spacing (feet)			
	Cones or Temporary Tubular Markers		Type I Barricades, Type II Barricades, Vertical Panels, or Drums	
	Taper	Tangent	Taper	Tangent
≤ 45	25	50	25	50
≥ 50	25	50	50	100

TABLE 2
TAPER LENGTH "L"

FORMULAS

S ≤ 40	$L = WS^2/60$
S ≥ 45	$L = WS$

Where:
L = Taper Length in feet
W = Width of Offset in feet
S = Work Zone Speed in mph

NOTE: See Table 9 for example taper length values.

TABLE 3
WORK ZONE SIGN SPACING "X"

Road Type	Minimum Spacing (feet)
Arterials and Collectors with Work Zone Speed ≤ 40 mph	200
Arterials and Collectors with Work Zone Speed ≥ 45 mph	500
Limited Access Roadways (See Note)	1,500

NOTE:
For Limited access roadways with work zone speed ≤ 55 mph, the minimum spacing may be reduced in accordance with the MUTCD and as approved by the Engineer.

TABLE 4
BUFFER LENGTH "B"

Work Zone Speed (mph)	Minimum Length (feet)
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730

NOTE:
When Buffer Length "B" cannot be attained due to geometric constraints, use the greatest length possible, but not less than 155 feet.

TABLE 5
CLEAR ZONE WIDTHS FOR WORK ZONES

Work Zone Speed (mph)	Travel Lanes & Multilane Ramps (feet)	Auxiliary Lanes & Single Lane Ramps (feet)
60-70	30	18
55	24	14
45-50	18	10
30-40	14	10
ALL SPEEDS CURB & GUTTER	4' BEHIND FACE OF CURB	4' BEHIND FACE OF CURB

NOTE:
For temporary conditions where existing curb has been removed but not reconstructed, curb and gutter values may be used.

TABLE 6
MINIMUM RADII FOR NORMAL CROWN

Work Zone Posted Speed (mph)	Minimum Radius (feet)
70	4090
65	3130
60	2400
55	1840
50	1390
45	1080
40	820
35	610
30	430

Superelevate When Smaller Radii is Used

LAST REVISION 7/12/21	REVISION	FDOT	FY 2022-23 STANDARD PLANS	QUICK REFERENCE SHEET 102 SERIES TABLES

TABLE 7
POST AND FOUNDATION TABLE FOR WORK ZONE SIGNS

SIGN SHAPE	SIGN SIZE (inches)	NUMBER OF STEEL U CHANNEL POSTS
Octagon	30x30	1
Triangle	36x36x36	1
	48x48x48	1
	60x60x60	2
Rectangle (W x H)	24x18	1
	24x30	1
	30x24	1
	36x18	1
	36x24	1
	48x18	1
	48x24	1
	36x48	2
	48x30	2
	48x36	2
	54x36	2
	48x60	3
	72x48	3
Square	30x30	1
	36x36	2
	48x48	2
Diamond	48x48	2
Circle	36Ø	2

Notes For Table:

1. Use 3 lb/ft posts for Clear Height up to 10' and 4 lb/ft posts for Clear Height up to 12'.
2. Minimum foundation depth is 4.0' for 3 lb/ft posts and 4.5' for 4 lb/ft posts.
3. For both 3 lb/ft and 4 lb/ft base or sign posts installed in rock, a minimum cumulative depth of 2' of rock layer is required.
4. The soil plate as shown on the APL vendor drawing is not required for base posts or sign posts installed in existing rock (as defined in Note 3), asphalt roadway, shoulder pavement or soil under sidewalk.
5. For diamond warning signs with supplement plaque (up to 5 ft² in area), use 4 lb/ft posts for up to 10 ft Clear Height (measure to the bottom of diamond warning sign).

TABLE 8
DROP-OFF PROTECTION REQUIREMENTS

Condition	X (ft)	D (in.)	Device Required
1	0-12	> 3	Temporary Barrier
2	> 12-CZ	> 3 to ≤ 5	Channelizing Device
3	0-CZ	> 5	Temporary Barrier
4	Removal of Bridge or Retaining Wall Barrier		Temporary Barrier
5	Removal of portions of Bridge Deck		Temporary Barrier

TABLE 9
EXAMPLE "L" VALUES

S (mph)	W (feet)											
	5			8			10			12		
	L	L/2	L/3	L	L/2	L/3	L	L/2	L/3	L	L/2	L/3
25	52	26	17	83	42	28	104	52	35	125	63	42
30	75	38	25	120	60	40	150	75	50	180	90	60
35	102	51	34	163	82	54	204	102	68	245	123	82
40	133	67	44	213	107	71	267	133	89	320	160	107
45	225	113	75	360	180	120	450	225	150	540	270	180
50	250	125	83	400	200	133	500	250	167	600	300	200
55	275	138	92	440	220	147	550	275	183	660	330	220
60	300	150	100	480	240	160	600	300	200	720	360	240
65	325	163	108	520	260	173	650	325	217	780	390	260
70	350	175	117	560	280	187	700	350	233	840	420	280

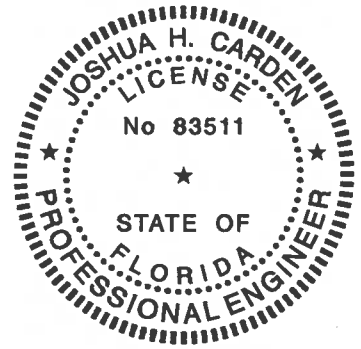
LAST REVISION 7/12/21	REVISION	FDOT	FY 2022-23 STANDARD PLANS	QUICK REFERENCE SHEET 102 SERIES TABLES

1 / TC-1 MAINTENANCE OF TRAFFIC
SCALE: N.T.S.

OWNER/DEVELOPER:
CROWN CASTLE
CROWN CASTLE FIBER LLC
9250 WEST FLAGLER STREET, 5TH FLOOR
MIAMI, FL 33174

ENGINEER:
TEP OPCO, LLC
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net
FL C.O.A. #31011





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November 22, 2022

REV	DESCRIPTION	DATE
A	PRELIMINARY	10/31/22
0	ISSUED FOR PERMIT	11/22/22

CROWN CASTLE PROJECT NUMBER:
62348085

CROWN CASTLE SCU:
512494

CROWN CASTLE SITE ID:
KENDALE LAKES 177

CARRIER SITE ID:
639427

SHEET TITLE:
MAINTENANCE OF TRAFFIC

DRAWN BY:	UTTAM SUTAR
CHECKED BY:	THOMAS BAKER, EI
PROJECT NUMBER:	P-345534
DESCRIPTION:	(N) CONCRETE POLE
DRAWING NAME:	KENDALE LAKES 177.dwg

SHEET:
TC-1

CONFIDENTIAL/PROPRIETARY

NOTE:

1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work on the shoulder.

2. L = Taper Length
   X = Work Zone Sign Spacing
   B = Buffer Length
   See Index 102-600 for "L", "X", "B", and channelizing device spacing values.

3. Where work activities are between 2' and 15' from the edge of traveled way, the Engineer may omit signs and channelizing devices for work operations 60 minutes or less.

4. When four or more work vehicles enter the through traffic lanes in a one hour period (excluding establishing and terminating the work area), use a flagger or lane closure to accommodate work vehicle ingress and egress.

5. For work less than 2' from the traveled way and work zone speed is greater than 45 MPH, use a lane closure.

6. The "Speeding Fines Doubled When Workers Present" signs (NOT-13-06) and "End Road Work" Signs (G20-2) along with the associated work zone sign spacing distances may be omitted when the work operation is in place for 24 hours or less.

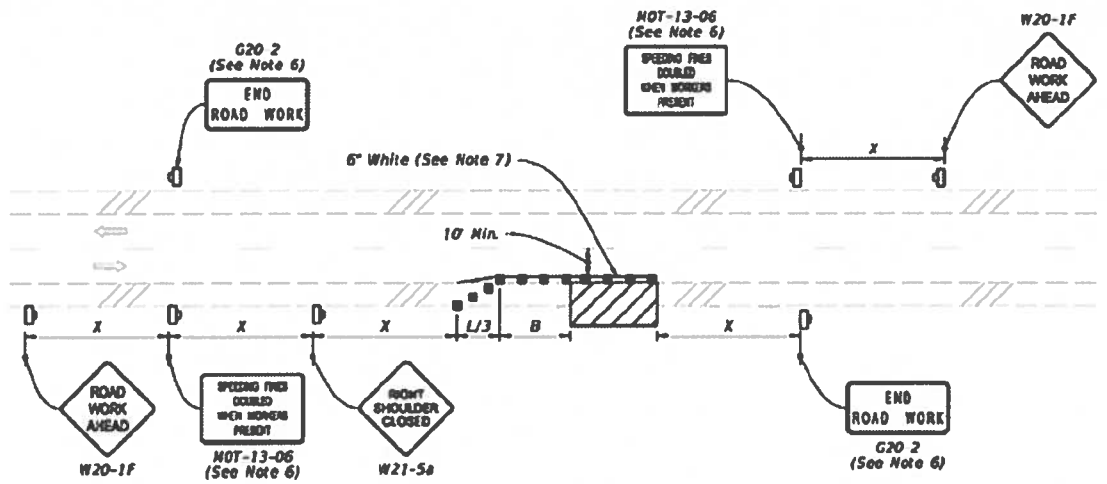
7. Temporary pavement markings may be omitted when the work operation is in place for 3 days or less.

8. Omit "Shoulder Closed" signs (W21-5a) along with associated work zone sign spacing distances for work on the median.

9. When there is no paved shoulder, the "Worker" sign (W21-1) may be used instead of the "Shoulder Closed" sign (W21-5a).

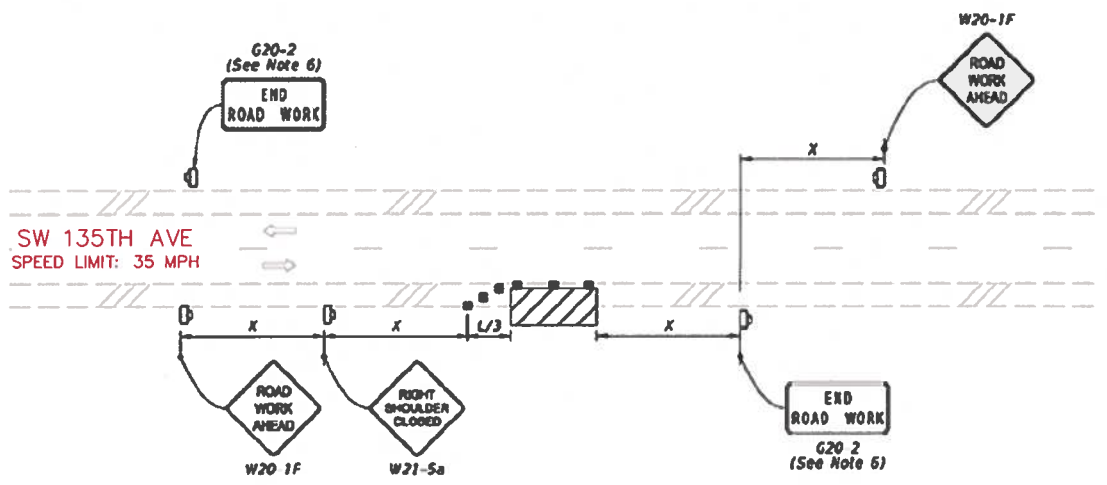
SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic



DOES NOT APPLY

TWO-LANE ROADWAY
SHOULDER WORK LESS THAN 2' FROM THE TRAVELED WAY WITH WORK ZONE SPEED OF 45 MPH OR LESS



TWO-LANE ROADWAY
SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	TWO-LANE AND MULTILANE, WORK ON SHOULDER	INDEX	SHEET
11/01/21					102-602	1 of 2

9/21/2021 2:40:48 PM

1 TC-2 MAINTENANCE OF TRAFFIC
SCALE: N.T.S.

This Certifies that
Thomas C. Baker
Has Completed a Florida Department of Transportation Approved Temporary Traffic Control (TTC) Advanced Course.
Date Expires: 01/11/2023 Certificate # 46687
Instructor: Jack Luckhardt FDOT Provider # 110
Safety Links
Phone: 800-768-7036
1855 W State Rd 434 Ste 283
Longwood, FL 32750
www.safetylinks.net
ghansen@safetylinks.net

OWNER/DEVELOPER
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CROWN CASTLE FIBER LLC
9250 WEST FLAGLER STREET 5TH FLOOR
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326 TRYON ROAD
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www.tepgroup.net
FL C O.A. #31011

JOSHUA H. CARDEN LICENSE No 83511 STATE OF FLORIDA PROFESSIONAL ENGINEER

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November 22, 2022

REV	DESCRIPTION	DATE
A	PRELIMINARY	10/31/22
0	ISSUED FOR PERMIT	11/22/22

CROWN CASTLE PROJECT NUMBER
62348085

CROWN CASTLE SCU
512494

CROWN CASTLE SITE ID
KENDALE LAKES 177

CARRIER SITE ID
639427

SHEET TITLE
MAINTENANCE OF TRAFFIC

DRAWN BY	UTTAM SUTAR
CHECKED BY	THOMAS BAKER EI
PROJECT NUMBER	P-345534
DESCRIPTION	(N) CONCRETE POLE
DRAWING NAME	KENDALE LAKES 177.dwg

SHEET
TC-2

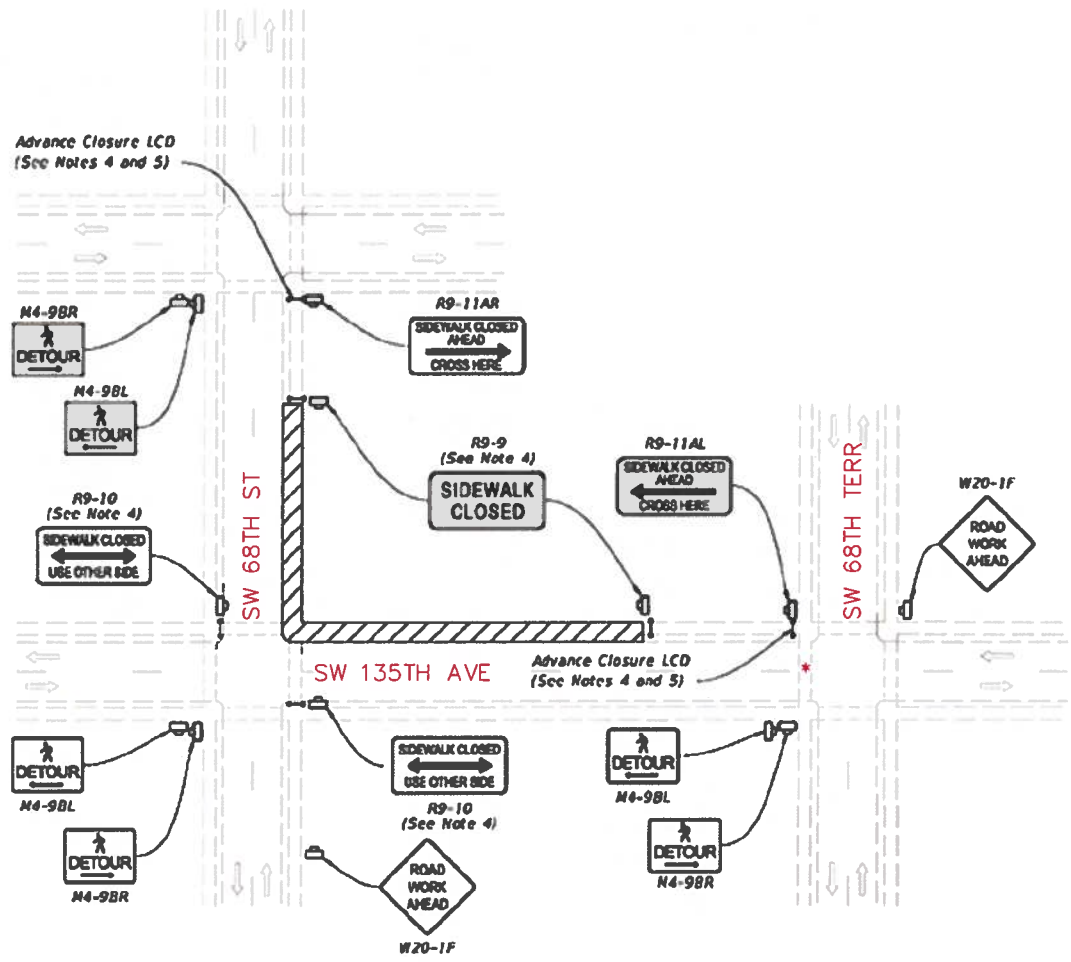
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NOTES:

1. Cover or deactivate pedestrian traffic signal display(s) controlling closed crosswalks.
2. Place pedestrian LCDs across the full width of the closed sidewalk.
3. For post mounted signs located near or adjacent to a sidewalk, maintain a minimum 7" clearance from the bottom of the sign panel to the surface of the sidewalk.
4. "Sidewalk Closed" signs (R9-XX) may be mounted on pedestrian LCDs in accordance with the manufacturer's instructions.
5. Omit the Advance Closure LCD if it blocks access to other pedestrian facilities (e.g., transit stops, residences, or business entrances).

SYMBOLS:

- Work Area
- Work Zone Sign
- Pedestrian Longitudinal Channelizing Device (LCD)
- Lane Identification and Direction of Traffic



PEDESTRIAN DETOUR

* CONTRACTOR TO INSTALL 5' WIDE TEMPORARY PEDESTRIAN CROSSWALK

9/21/2021 12:38:54 PM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	SIDEWALK CLOSURE	INDEX	SHEET
11/01/20						102-660	1 of 2

1 / TC-3 PEDESTRIAN M.O.T.
SCALE: N.T.S.

FDOT This Certifies that
Thomas C. Baker
Has Completed a Florida Department of Transportation Approved Temporary Traffic Control (TTC) Advanced Course.
Date Expires: 01/11/2023 Certificate # 48687
Instructor: Jack Luckhardt FDOT Provider # 110
Safety Links
Phone: 800-768-7036
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OWNER/DEVELOPER

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ENGINEER

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SHEET
TC-3

CONFIDENTIAL/PROPRIETARY