Sprint



PROJECT:

SITE NAME:

NEW SITE BUILD

TOMPKINS COMMUNITY

COLLEGE

SITE CASCADE:

CROWN CASTLE ID:

AL90XC488 A 5800126 / APP 456831

SITE ADDRESS:

20 FAR VIEW DRIVE **DRYDEN, NY 13053**

140'-0" MONOPOLE

SITE INFORMATION

TOWER INFORMATION:

LATITUDE (NAD83): LONGITUDE (NAD83): N 42'-29'-59.45' W 76'-16'-47.60"

ANTENNA CENTERLINE: 126'-0"± A.G.L. JURISDICTION:

TOMPKINS COUNTY

TOWN OF DRYDEN

SITE ADDRESS:

20 FAR VIEW DRIVE DRYDEN, NY 13053

APPLICANT:

6391 SPRINT PARKWAY OVERLAND PARK, KS 66251

TOWER OWNER:

CROWN CASTLE

3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065

SPRINT CONTACT:

ELLEN DUDLEY

PHONE: (804) 926-7172

E-MAIL: ELLEN DUDLEY@MASTEC.COM

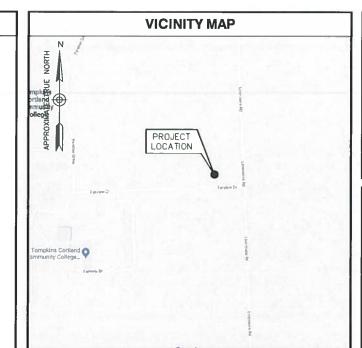
DEWBERRY ENGINEERS CONTACT:

ONE CALL 811 OR

HONE #: 1-(800) 962-7962 ww.digsafelyny.com

PHONE: (973) 576-0147 E-MAIL: BHUFF@DEWBERRY.COM





AERIAL MAP



PROJECT DESCRIPTION

- INSTALL (1) 10'-0"x10'-0" EQUIPMENT PLATFORM WITHIN 12'-0"x20'-0" LEASE AREA
- INSTALL (1) CABLE BRIDGE FROM PLATFORM TO TOWER INSTALL (1) ANTENNA PLATFORM WITH HANDRAIL ON TOWER
- NSTALL (6) PANEL ANTENNAS ON TOWER

SITE TYPE:

- INSTALL (12) RRH'S ON TOWER
- INSTALL (3) HYBRID CABLES

APPLICABLE CODES

- ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITES, NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- 2015 INTERNATIONAL BUILDING CODE NEW YORK EDITION.
- 3. NFPA 780 LIGHTNING PROTECTION CODE.
- 4. NFPA 70 (2014 NATIONAL ELECTRIC CODE).
- ANSI/TIA 607-B-COMMERCIAL BUILDING GROUNDING & BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.
- ANSI T1.333-2001-GROUNDING & BONDING OF TELECOMMUNICATIONS EQUIPMENT.
- 7. LOCAL BUILDING CODE.
- 8. CITY/COUNTY ORDINANCES.

GENERAL NOTES

THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION-

- ADA COMPLIANCE NOT REQUIRED.
- POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.

 NO OUTDOOR STORAGE OR ANY SOLID WASTE
- RECEPTACLES REQUIRED.

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK, FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

SHT NO.	SHEET TITLE
T-1	TITLE SHEET
SP-1	SPRINT SPECIFICATIONS I
SP-2	SPRINT SPECIFICATIONS II
SP-3	SPRINT SPECIFICATIONS III
A-1	COMPOUND PLAN & ELEVATION
A-2	EQUIPMENT PLAN
A-3	PROPOSED ANTENNA PLAN & ANTENNA SCHEDULE
A-4	CONSTRUCTION DETAILS I
A-5	CONSTRUCTION DETAILS II
A-6	CONSTRUCTION DETAILS III
A-7	CONSTRUCTION DETAILS IV
A-8	CONSTRUCTION DETAILS V
A-9	CABLE ROUTING & COLOR CODING INFORMATION
S-1	STEEL PLATFORM FRAMING PLAN
S-2	STRUCTURAL DETAILS
E-1	ELECTRICAL RISER DIAGRAM & NOTES
E-2	ELECTRICAL DETAILS I
E-3	ELECTRICAL DETAILS II
E-4	GROUNDING PLAN & NOTES
E-5	GROUNDING RISER DIAGRAM & DETAILS
E-6	GROUNDING DETAILS

SHEET INDEX





CLIFTON PARK, NY 12065

TOMPKINS COMMUNITY COLLEGE AL90XC488 A

CONSTR	RUCTION DRAWINGS
09/14/18	ISSUED AS FINAL
09/12/18	REVISED PER COMMENTS
08/27/18	REVISED PER COMMENTS
04/23/18	ISSUED FOR REVIEW
	09/14/18 09/12/18 08/27/18





NRS REVIEWED BY BSH GHN CHECKED BY 50102274 50102278 JOB NUMBER

20 FAR VIEW DRIVE DRYDEN, NY 13053

SHEET TITLE

SITE ADDRESS:

TITLE SHEET

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 - SCOPE OF WORK

THE WORK: SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, ALSO SEE SPRINT METHOD OF PROCEDURE (MOP) AND SPRINT STANDARDS AT THE TIME

SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE ALONG WITH SPRINT CONSTRUCTION MANAGER APPROVAL.

SITE FAMILIARITY:
CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION

ON—SITE SUPERVISION:
THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

<u>DRAWINGS. SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE:</u>
THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

- A. DETAILS ARE INTENDED TO SHOW DESIGN INTENT, PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM, MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- B CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK, DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE, MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK
- C. MARK THE FIELD SET OF DRAWINGS IN RED, DOCUMENTING ANY CHANGES FROM THE

METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION.
CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING

- A. BASE BAND LINIT IN EXISTING UNIT
- B. INSTALLATION OF BATTERIES
- C. INSTALLATION OF FIBER CABLE
- D. INSTALLATION OF RRU'S
- E. CABLING
 F. TS-0200 REV 5 ANTENNA LINE ACCEPTANCE STANDARDS

MOPS CONTRACTOR IS RESPONSIBLE TO USE LATEST MOP'S.

- G. SPRINT CELL SITE ENGINEERING NOTICE EN 2012-001, REV 1.
- H. COMMISSIONING MOPS

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE

CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT TO ENSURE IT IS PROTECTED AND HANDLED PROPERLY THROUGHOUT THE CONSTRUCTION DURATION

CONTRACTOR RESPONSIBLE FOR RECEIPT OF SPRINT FURNISHED FOURMENT AT CELL SITE OR CONTRACTORS LOCATION. CONTRACTOR TO COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE, CONTRACTOR MAY BE REQUIRED TO PICK UP MATERIAL AT LOCATION PRESCRIBED BY SPRINT.

SECTION 01 300 - CELL SITE CONSTRUCTION CO.

NOTICE TO PROCEED:

NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE

SITE CLEANLINESS:
CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND
TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL
REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

SECTION 01 400 - SUBMITTALS & TESTS

AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINTS CONSTRUCTION MANAGER FOR APPROVAL, SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED.

TESTS AND INSPECTIONS:

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
- 1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 5 ANTENNA LINE ACCEPTANCE
- 2. AGL, AZIMUTH AND DOWNTILT PROVIDE AN AUTOMATED REPORT UPLOADED TO SITERRA USING A COMMERCIAL MADE—FOR THE PURPOSE ELECTRONIC ANTENNA ALIGNMENT TOOL (AAT).
 INSTALLED AZIMUTH, CENTERLINE AND DOWNTILT MUST CONFORM WITH RF CONFIGURATION
- 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIMITIES AND/OR AS A RESULT OF
- 4. ALL TESTING REQUIRED BY APPLICABLE INSTALLATION MOPS.

- C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
- 1. AZIMUTH, DOWNTILT, AGL FROM SUNSIGHT INSTRUMENTS OR 3Z ANTENNA ALIGN ALIGNMENT TOOL (AAT)
- 2. SWEEP AND FIBER TESTS
- 3. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED
- 4. ALL AVAILABLE JURISDICTIONAL INFORMATION
- 5. PDF SCAN OF REDLINES PRODUCED IN FIELD
- 6. A PDF SCAN OF REDLINE MARK-UPS SUITABLE FOR USE IN ELECTRONIC AS-BUILT
- 7. LIEN WAIVERS
- 8. FINAL PAYMENT APPLICATION
- 9. REQUIRED FINAL CONSTRUCTION PHOTOS
- 10. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
- 11. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD)
- D. PROVIDE PHOTOGRAPHS OF FINAL PROJECT PER THE FOLLOWING LIST, ADDITIONAL PHOTOGRAPHS MAY BE REQUIRED TO SUPPORT ACCEPTANCE PROCESSES.
- (i) BACK MAIN HYBRID CABLE ROUTE (MINIMUM TWO PHOTOS).
- (ii) OF EACH ANTENNA AND RRU.
- (iii) MANUFACTURERS NAME TAG FOR ALL SERIALIZED EQUIPMENT.
- (iv) PULL AND DISTRIBUTION BOXES INTERMEDIATE BETWEEN RRU'S AND MMBS (DOOR OPEN).
- (v) MMBTS CABINET WITH DOOR OPEN SHOWING MODIFICATIONS
- (vi) POWER CABINET, DOORS OPEN, BATTERIES INSTALLED.
- (vii) BREAK OUT CYLINDERS.
- (viii) ASR SIGNAGE FOR SPRINT OWNED TOWERS
- (ix) RADIATION EXPOSURE WARNING SIGNS.
- (x) PHOTOGRAPH FROM EACH SECTOR FROM APPROXIMATE RAD CENTER OF ANY NEW ANTENNA AT
- LOAD PHOTOS TO SITERRA PROJECT LIBRARY IS. IN IS CREATE NEW CATEGORY; 2.5 DEPLOYMENT, AND SECTION; PERMANENT CONSTRUCTION. LABEL PHOTOS WITH SITE CASCADE AND VIEW BEING DEPICTED. CAMERAS USED TO TAKE PHOTOGRAPHS SHALL GPS ENABLED SUCH THAT THE GPS COORDINATES ARE INCLUDED IN THE PHOTO MEDIA-FILE INFORMATION.

 $\begin{array}{l} \underline{\text{INTEGRATION:}} \\ \text{PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS} \end{array}$

SECTION 11 700 - ANTENNA ASSEMBLY, REMOTE RADIO UNITS AND CABLE INSTALLATION

THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRU'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE.

THE NUMBER AND TYPE OF ANTENNAS AND RRU'S TO BE INSTALLED IS DETAILED ON THE

HYBRID CABLE WILL BE DC/FIBER AND FURNISHED FOR INSTALLATION AT EACH SITE. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S

JUMPERS AND CONNECTORS:

FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRU'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12-50, CR 540, OR FXL 540. SUPER-FLEX CABLES ARE NOT ACCEPTABLE. JUMPERS BETWEEN THE RRU'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED CDAXIAL CABLE, MIN LENGTH FOR JUMPER SHALL BE SO AS TO ALLOW FOR THE PROPER BEND RADIUS PER MANUFACTURER OR SPRINT SPECIFICATIONS.

REMOTE ELECTRICAL TILT (RET) CABLES:

MISCELLANEOUS: INSTALL SPLITTERS, COMBINERS, FILTERS PER RF DATA SHEET, FURNISHED BY SPRINT.

ANTENNA INSTALLATION:
THE CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ONSITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER, ANTENNA HEIGHT, AZIMUTH, AND FEED ORIENTATION INFORMATION SHALL BE AS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

- THE CONTRACTOR SHALL POSITION THE ANTENNA ON TOWER PIPE MOUNTS SO THAT THE BOTTOM STRUT IS LEVEL. THE PIPE MOUNTS SHALL BE PLUMB TO WITHIN 1 DEGREE.
- B. ANTENNA MOUNTING REQUIREMENTS: PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON

FIBER CABLE INSTALLATION:

- A. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
- B. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADII
- C. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.
- 1. FASTENING MAIN FIBER CABLES:

a LATTICE AND GUYED TOWERS;

ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE COAX LADDER AT 4'-0' DC USING NON-MAGNETIC STAINLESS STEEL CLIPS.

D. MOROPOLES.
ALL CABLES SHALL BE PERMANENTLY SUPPORTED WITH HOISTING GRIPS AT INTERVALS OF NO MORE THAN 200 FEET (ONE HOISTING GRIP PER COAX). A HOISTING GRIP SHOULD BE INSTALLED AT MID-POINT IF CABLE RUN EXCEEDS 200' AS WELL AS TOP SIDE

- 2. FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE MMBTS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:
- o. FIBER: SUPPORT FIBER BUNDLES USING 1/2" VELCRO STRAPS OF THE REQUIRED LENGTH © 18° OC. STRAPS SHALL BE UV, OIL AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR APPROVED EQUAL.
- . OC: SUPPORT DC BUNDLES WITH ZIP TIES OF THE ADEQUATE LENGTH. ZIP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH AT 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.
- 3. FASTENING JUMPERS: FASTENING OR SECURING JUMPERS SHOULD CONSIST OF STAINLESS STEEL CLIPS, 18" FROM REAR OF CONNECTOR AND 24" THEREAFTER AND AT NO TIME SHALL THEY CONTACT TOWER OR STRUCTURAL STEEL
- 4: CABLE INSTALLATION:
- a. INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION
- b. CABLE ROUTING: CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES. WILL BE PROPERLY ROUTED IN THE CABLE ENVELOP AS INDICATED ON THE DRAWINGS. AVOID TWISTING AND CROSSOVERS.
- c. HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURES
- 5. GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON
- 6. HYBRID CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED PER LATEST VERSION OF
- HYBRID CABLE LABELING: INDIVIDUAL HYBRID AND DC BUNDLES SHALL BE LABELED ALPHA-NUMERICALLY ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE EN 2012-001, REV 1.

WEATHERPROOFING EXTERIOR CONNECTORS AND HYBRID CABLE GROUND KITS:

A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.

WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.

- 1. COLD SHRINK: ENCOMPASS CONNECTOR IN COLD SHRINK TUBING AND PROVIDE A DOUBLE WRAP OF 2" ELECTRICAL TAPE EXTENDING 2" BEYOND TUBING. PROVIDE 3M COLD SHRINK CXS
- 2. SELF-AMALGAMATING TAPE: CLEAN SURFACES, APPLY A DOUBLE WRAP OF SELF-AMALGAMATING TAPE 2" BEYOND CONNECTOR. APPLY A SECOND WRAP OF SELF-AMALGAMATING TAPE IN OPPOSITE DIRECTION, APPLY DOUBLE WRAP OF 2" WIDE ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF-AMALGAMATING TAPE.
- 3. 3M SLIM LOCK CLOSURE 716: SUBSTITUTIONS WILL NOT BE ALLOWED.
- 4. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE.





CLIFTON PARK, NY 12065

TOMPKINS COMMUNITY COLLEGE AL90XC488 A

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DRAWN BY NRS REVIEWED BY BSH CHECKED BY GHN

PROJECT NUMBER 50102274 JOB NUMBER 50102278

SITE ADDRESS

20 FAR VIEW DRIVE DRYDEN, NY 13053

SHEET TITLE

SPRINT SPECIFICATIONS

SECTION 11 800 - INSTALLATION OF MULTIMODAL BASE STATIONS (MMBTS) AND RELATED EQUIPMENT

SUMMARY:

- A. THIS SECTION SPECIFIES MMBTS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BUT NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).
- B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRED BY THE APPLICABLE INSTALLATION MOPS.
- C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS

DC CIRCUIT BREAKER LABELING

A. NEW DC CIRCUIT IS REQUIRED IN MMBTS CABINET SHALL BE CLEARLY IDENTIFIED AS TO RRUBEING SERVICED.

SECTION 26 100 - BASIC ELECTRICAL REQUIREMENTS

SUMMARY:

THIS SECTION SPECIFIES BASIC ELECTRICAL REQUIREMENTS FOR SYSTEMS AND COMPONENTS.

QUALITY ASSURANCE:

- A. ALL EQUIPMENT FURNISHED UNDER DMISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.
- B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.
- C. MANUFACTURERS OF EQUIPMENT: ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS.

SUPPORTING DEVICES:

- A. ALL EQUIPMENT FURNISHED UNDER DMISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.
- B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.
- C. MANUFACTURERS OF EQUIPMENT, ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS.

SUPPORTING DEVICES

- A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
- 1. ALLIED TUBE AND CONDUIT
- 2. B-LINE SYSTEM
- 3. UNISTRUT DIVERSIFIED PRODUCTS
- 4. THOMAS & BETTS
- B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
- 1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
- 2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE:
- 3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD
- 4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS
- 5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
- 6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.
- 7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
- 8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
- 9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

SUPPORTING DEVICES:

- A. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.
- B COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.
- C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
- 1. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.
- 2. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:

- A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.
- B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PLANELOAD.

SECTION 26 200 - ELECTRICAL MATERIALS AND EQUIPMENT CONDUIT:

- A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS CBO.1. FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.
- B. UNDERGROUND CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.
- C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG
- D. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILING. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-553, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTED.
- E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT, FITTINGS SHALL BE METALLIC GLAUD TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH ON FLEXIBLE CONDUIT SHALL NOT EXCEED 6-FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRE BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE, OR APPROVED EQUAL.
- F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

HUBS AND BOXES:

A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O—RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.

CABLE TERMINATION FITTINGS FOR CONDUIT

- A. CABLE TERMINATIONS FOR RGS CONDUITS SHALL BE TYPE CRC BY 0-Z/GEDNEY OR EQUAL BY ROX TEC.
- B. CABLE TERMINATORS FOR LFMC SHALL BE ETCO CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.
- C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE—HINDS WAB SERIES OR EQUAL.
- D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKETED COVERS. DUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE—HINDS FORM 8 OR EQUAL.
- E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE—HINDS, COPPER, ADALET, APPLETON, 0—Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM

- A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM TO THE EXTENT INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS, PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS EXCEPTED AS OTHERWISE NOTED.
- B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUCS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER; AT GROUND BARS USE TWO HOLE SPADES WITH NO OX.
- C. STOLEN GROUND—BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

EXISTING STRUCTURE:

A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

CONDUIT AND CONDUCTOR INSTALLATION:

- A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON BUSHING ON
- B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.

GENERAL NOTES:

- A. CONTRACTOR, SUBCONTRACTORS AND ANY SITE SPECIFIC PART/ PRODUCT/ CONCEALMENT MANUFACTURER TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO MANUFACTURING, FABRICATION OR CONSTRUCTION.
- B. THE APPLICANT, OR HIS REPRESENTATIVE, IS TO DESIGNATE AN INDMOUAL RESPONSIBLE FOR CONSTRUCTION SITE SAFETY DURING THE COURSE OF SITE IMPROVEMENTS PURSUANT TO N.J.A.C. 5:23-2.21 (E) OF THE N.J. UNIFORM CONSTRUCTION CODE AND CRT 1926.32 (F, OSHA COMPETENT PERSON).

SPRINT CONSTRUCTION SPECIFICATIONS MINI-MACRO CELL SITES:

1. BASIC REQUIREMENTS

- A. MEET ALL REQUIREMENTS OF JURISDICTIONS.
- B. IF EQUIPMENT FURNISHED BY COMPANY DOES NOT MATCH EQUIPMENT LISTED ON THE REDS AND SHOWN ON THE PERMITTING DRAWINGS, RESOLVE DISCREPANCY THROUGH INSTALLER'S CONSTRUCTION MANAGER AND COMPANY'S POINT OF CONTACT.

C. CABLE INSTALLATIONS

- a. ALL CABLES MUST BE OUTDOOR RATED AND HAVE UV RESISTANCE DUTER JACKET.
- b. CABLE BENDS MUST NOT EXCEED MANUFACTURER'S ALLOWABLE CABLE BEND RADII c. AT RADIOS INSTALL SERVICE LOOPS FOR POWER, FIBER AND ETHERNET SECURED AT LEAST TWICE AT
- d. SPARE FIBERS MUST BE ENCASED IN A LOW PROFILE WEATHERTIGHT ASSEMBLY.
-). FIBERS MUST BE FIELD-TERMINATED WITH LC-TYPE CONNECTORS.
- E. CONDUITS IN EARTH; PROVIDE PVC CONDUITS EXPOSED AND IN FACILITIES: PROVIDE RGS. HAND DIG TRENCHES IN COMPOUNDS.
- F. SECURE AND SUPPORT CONDUITS AND CABLES ON NO MORE THAT 48" INTERVALS.
- C. ON TOWER SITES RGS CONDUITS MAY BE SURFACE MOUNTED AWAY FROM WALKWAYS AND ACCESS/EGRESS PATHS. IF INSTALLATIONS IN WALKWAYS AND ACCESS/EGRESS PATHS CANNOT BE AVOIDED, IDENTIFY THE CONDUIT ENVELOPE/TRIP HAZARD BY ALTERNATING YELLOW AND BLACK STRIPES PAINTED ON CONCRETE AND CONDUIT.

2. SPRINT FURNISHED EQUIPMENT

- INSTALL THE FOLLOWING EDUIPMENT AT LOCATIONS AND AZIMUTHS SHOWN ON THE CONSTRUCTION DRAWINGS.
 - a. PANEL ANTENNAS.
 - b. RADIOS.
 - c. GPS ANTENNAS.
 - d. FILTERS.
 e. 120 VOLT DIN-RAIL CIRCUIT BREAKER ASSEMBLY.

3. TOWER INSTALLATION

- A. MEET ALL REQUIREMENTS OF THE TOWER OWNER.
- B. INSTALL CORRUGATED FLEXIBLE CONDUIT UP THE TOWER TO COMPANY RAD CENTER.
- C. PROVIDE HANGING GRIPS OR CONDUIT CLAMPS AND ENSURE CONDUITS AS WELL AS INNER CABLES ARE SUPPORTED.
- D. CONDUIT RISERS: AT TOP OF TOWER TURN CONDUIT DOWN AND PROVIDE CABLE TERMINATION FITTINGS. EXTEND CABLES TO RADIOS EXPOSED AND SECURED TO STRUCTURE. AT CONDUIT EXIT FROM TOWER, PROVIDE DRIP LOOPS AND WEEP HOLES.
- E. AT CABLE BRIDGE RUN CABLES IN RGS CONDUIT. UTILIZE CONDUITS TO MAKE COMPACT 90 DEGREE TURN.

4. AC POWER TIE-IN

- A INSTALL SPRINT'S 120 VOLT DIN-RAIL CIRCUIT BREAKER ASSEMBLY IN THE EXISTING POWER PROTECTION CABINET TELCO SECTION.
- B. INSTALL A 20 AMPERE MOLDED CASE CIRCUIT BREAKER IN AVAILABLE SPACE IN THE ADJACENT PPC POWER SECTION LOAD CENTER.

5. GROUNDING

- A. 120 VOLT CIRCUITS: POWER CABLES MUST BE 3-WIRE WITH EQUIPMENT GROUNDING CONDUCTOR.
- B. SUPPLEMENTAL GROUNDING: ALL GROUNDING HARDWARE MUST BE UL STAMPED AS SUITABLE FOR GROUNDING HARDWARE.
- C. RADIOS: BOND RADID TO THE POWER TOP OR SECTOR GROUND BAR WITH #8 BARE TINNED COPPER WIRE (GREEN INSULATED ON ROOFTOP).
- D. DIN-RAIL CIRCUIT BREAKER ASSEMBLY: BOND SURGE ARRESTOR TO PPC TELCO BOARD GROUND BAR.

6. MINOR MATERIALS

בונותאחם א

- RIGID GALVANIZED STEEL CONDUIT (RGS): UL LISTED, COMPLIANT WITH ANSI STANDARD CBO, HOT-DIP GALVANIZED WITH THREADED FITTING. MANUFACTURERS: ALLIED, REPUBLIC, WHEATLAND, OR EQUAL.
- CORRUGATED FLEXIBLE CONDUIT: DURALINE OR EQUAL.
 LIQUID—TIGHT FLEXIBLE METALLIC CONDUIT (LFMC): UL LABELED, UV RESISTANT, FLAME RETARDANT (LFMC): UL LABELED, UV RESISTANT (LFMC): UL LABELED, UV RESISTANT, FLAME RETARDANT (LFMC): UL LABELED, UV RESISTANT (LFMC): UL LABELED, UV RESISTANT (LFMC): UL LABELED, UV RESISTANT (LFMC): UL LABELED, UV RESISTANT, UV RESISTANT (LFMC): UL LABELED, UV RESISTANT, UL
- PVC JACKET, HOT-DIP GALVANIZED, GRAY, MANUFACTURER'S: AFC, ANACONDA, SDUTHWIRE OR EQUAL.

 d. PVC CONDUIT: SCHEDULE 4- CARLON OR EQUAL.
- B COAXIAL CABLE JUMPERS 1/2" LDF-4 MANUFACTURERS COMMSCOPE, RFS OR FCT.
- C. FASTENERS AND HARDWARE
 - TO SECURE RACEWAYS, UTILIZE NON CORRODING NON-MAGNETIC METALLIC FASTENERS AND HARDWARE SUITABLE FOR THE PURPOSE.
- D. POWER CABLES-3/C @12 SODW BY SOUTHWIRE OR EQUAL.
- E. ETHERNET CABLES AND CONNECTOR: OUTDOOR RATED, CAT SE, BELOW OR EQUAL
- F. FIBER CABLES: CORNING "FREEDOM FAN OUT" OUTDOOR RISER CABLE, 4F, SINGLE MODE, OR EQUAL.
- G. RF TRANSPARENT PAINT FOR ANTENNA CONCEALMENT: SELECT NO/LOW CARBON PAINTS, WITH NO/LOW TITANIUM DIOXIDE, AND WITHOUT SUSPENDED METAL PARTICLES (ALUMINUM, ZINC, COPPER, ETC.)

7. COLOR CODING

- A. COLOR CODE CABLES AND CONDUITS AS REQUIRED BY SPRINT STANDARD TS-0200.
- 8. TESTING AND CONSTRUCTION COMPLETE
- A. SWEEP ALL COAXIAL CABLES ACCORDING TO SPRINT STANDARD TS-0200.
- B. PANEL ANTENNA ALIGNMENT-USING ELECTRONIC ALIGNMENT TOOL. AZIMUTH/DOWNTILT ± 1 DEGREE.
- C. LEAVE EQUIPMENT DE-ENERGIZED UNTIL INSTRUCTED BY THE COMMISSIONING AND INTEGRATION TEAM TO ENERGIZE.
- D. OTHER REQUIREMENTS AND DELIVERABLES MAY BE REQUIRED BEFORE THE CONSTRUCTION COMPLETE MILESTONE CAN BE ACTUALIZED IN SITERRA (SPRINT'S DATABASE—OF—RECORD).



OVERLAND, KS 6625



TOMPKINS COMMUNITY COLLEGE AL90XC488_A

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	CONSTR	RUCTION DRAWINGS
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H		
0	09/14/18	ISSUED AS FINAL
С	09/12/18	REVISED PER COMMENTS
₿	08/27/18	REVISED PER COMMENTS
Α	04/23/18	ISSUED FOR REVIEW





DRAWN BY: NRS

REVIEWED BY: BSH

PROJECT NUMBER: 50102274

GHN

50102278

SITE ADDRESS:

CHECKED BY

JOB NUMBER

20 FAR VIEW DRIVE DRYDEN, NY 13053

SHEET TITLE

SPRINT SPECIFICATIONS II

SHEET NUMBER

SP-2

GENERAL CONSTRUCTION NOTES:

- ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, AND COMPLY WITH SPRINT SPECIFICATIONS.
- CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (811) FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
- 3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS
- ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
- 5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
- 6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
- CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
- 10 INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING.
- 11. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
- 12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE—CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE SPRINT CONSTRUCTION MANAGER.
- 13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A
- 14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR WILL NOTIFY ENGINEER, SPRINT PROJECT CONSTRUCTION MANAGER, AND LANDLORD IMMEDIATELY.
- 15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A CURRENT SET OF DRAWINGS AS SPECIFICATIONS FOR THIS PROJECT.
- 16. ALL ROOF WORK SHALL BE DONE BY A QUALIFIED AND EXPERIENCED ROOFING CONTRACTOR IN COORDINATION WITH ANY CONTRACTOR WARRANTING THE ROOF TO ENSURE THAT THE WARRANTY IS MAINTAINED.
- 17. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
- 18. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
- 19. CONTRACTOR SHALL FURNISH SPRINT WITH THREE AS-BUILT SETS OF DRAWINGS UPON COMPLETION OF
- 20. ANTENNAS AND CABLES ARE TYPICALLY PROVIDED BY SPRINT, PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH SPRINT PROJECT MANAGER TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED BY SPRINT SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED BY SPRINT.
- 21. PRIOR TO SUBMISSION OF BID, CONTRACTOR WILL COORDINATE WITH SPRINT PROJECT MANAGER TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY SPRINT. ALL REQUIRED PERMITS NOT OBTAINED BY SPRINT MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
- 22. CONTRACTOR SHALL START UP HVAC UNITS AND SYNCHRONIZE THE THERMOSTATS.
- 23. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- 24. UNLESS OTHERWISE NOTED SPRINT SHALL PROVIDE ALL REQUIRED RF MATERIAL FOR CONTRACTOR TO INSTALL, INCLUDING ANTENNAS, RRH'S, GPS ANTENNA, GPS SURGE ARRESTOR, COAXIAL & HYBRID CABLES.
- 25. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO BE PROVIDED BY SPRINT FOR INSTALLATION BY CONTRACTOR.
- 26. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO SPRINT SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
- 27. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- 28. CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS IN ADVANCE PRIOR TO CONSTRUCTION START, MORE SPECIFICALLY BEFORE; SEALING ANY FLOOR, WALL OR ROOF PENETRATION, FINAL UTILITY CONNECTIONS, POURING CONCRETE, BACKFILLING UTILITY TRENCHES AND STRUCTURAL POST OR MOUNTING CONNECTIONS, FOR ENGINEERING REVIEW AND INSPECTION.
- 29. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC. THIS SHALL INCLUDE A DETAILED SAFETY PLAN.

GROUNDING NOTES:

- 1. GROUND SHALL COMPLY WITH NEC ART, 250.
- 2. GROUND CONDUCTORS SHALL BE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR INDOOR USE.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONNECTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NOT BE BENT AT RIGHT ANGLE. ALWAYS MAKE 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY.
- CONNECTIONS TO GROUND BAR SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- TEST COMPLETED GROUND SYSTEM AND RECORD RESISTANCE VALUES FOR PROJECT CLOSE—OUT DOCUMENTATION, GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS.
- 7. GROUND CONDUCTORS BETWEEN MGB AND WATERMAIN SHALL BE #2/0. BONDING JUMPERS FROM METALLIC SURFACES SHALL BE #2 MINIMUM. ALL GROUND CONDUCTORS AND BONDING JUMPERS SHALL BE SOFT DRAWN ANNEALED, TINNED, BARE STRANDED COPPER WIRE. COAXML CABLES SHALL BE GROUNDED AT A MINIMUM OF TWO LOCATIONS USING SPRINT PROVIDED GROUNDING KITS. EXACT LOCATIONS SHALL BE FINALIZED IN THE FIELD BY THE CONSTRUCTION MANAGER.

CONCRETE AND REINFORCING STEEL NOTES:

- DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS
 OF ALL APPLICABLE CODES INCLUDING ACI 318-14 "BUILDING CODE REQUIREMENTS FOR REINFORCED
 CONCRETE".
- MIX DESIGN SHALL BE APPROVED BY OWNER'S REPRESENTATIVE AND SUBMITTED TO ENGINEER PRIOR TO PLACING CONCRETE.
- 3. CONCRETE SHALL BE NORMAL WEIGHT, 6 % AIR ENTRAINED (+/-1.5%) WITH A MAXIMUM 4" SLUMP AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
- 4. THE FOLLOWING MATERIALS SHALL BE USED:
 PORTLAND CEMENT: ASTM C-150, TYPE 1 OR 2
 REINFORCEMENT: ASTM A-185, PLAIN STEEL WELDED WIRE FABRIC
 REINFORCEMENT BARS: ASTM A615, GRADE 60, DEFORMED
 NORMAL WEIGHT AGGREGATE: ASTM C-33
 WATER: DRINKABLE
 ADMIXTURES: NON-CHLORIDE CONTAINING
- MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS (UNLESS OTHERWISE NOTED):
- A CONCRETE CAST AGAINST EARTH: 3" B. ALL OTHER CONCRETE: 2"
- A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 318-14, UNLESS NOTED OTHERWISE.
- 7. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE.
- 8. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN ACI 318-14.
- 9. DO NOT WELD OR TACK WELD REINFORCING STEEL.
- 10. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
- 11. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
- 12. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND
- 13. DO NOT ALLOW REINFORCEMENT, CONCRETE OR SUBBASE TO FREEZE DURING CONCRETE CURING AND SETTING PERIOD, OR FOR A MINIMUM OF 3 DAYS AFTER PLACEMENT.
- 14. FOR COLD-WEATHER AND HOT-WEATHER CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.
- 15. CONCRETE SHALL BE RUBBED TO A ROUGH GROUT FINISH. PADS SHALL BE SEALED BY STEEL TROWEL.
- 16. UNLESS OTHERWISE NOTE
 - A. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
- B. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
- 17. SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER. UNLESS OTHERWISE SHOWN OR NOTED REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 31B.
- 18. REINFORCING BAR DEVELOPMENT LENGTHS, AS COMPUTED IN ACCORDANCE WITH ACI 318, FORM THE BASIS FOR BAR EMBEDMENT LENGTHS AND BAR SPLICED LENGTHS SHOWN IN THE DRAWINGS. APPLY APPROPRIATE MODIFICATION FACTORS FOR TOP STEEL, BAR SPACING, COVER AND THE LIKE.
- DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
- ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION
 JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
- 21. LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. DRAWINGS SHOWING LOCATION OF DETAILS OF THE NEW CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS
- 22. SPLICES OF WWF, AT ALL SPLICED EDGES, SHALL BE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 8°.
- 23. BAR SUPPORTS SHALL BE ALL-GALVINIZED METAL WITH PLASTIC TIPS.
- 24. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR CONCRETE, TIE WIRE SHALL BE 15 GAUGE CONFORMING TO ASTM AB2
- 25 SLAB ON GROUND
- A. COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.
- B. PROVIDE VAPOR BARRIER BENEATH SLAB ON GROUND.
- 26. PER INTERNATIONAL BUILDING CODE 2015, NY EDITION, TABLE 1806.2: PRESUMPTIVE BEARING VALUE, THE EXISTING SOIL IS CONSIDERED TO HAVE A MINIMUM VERTICAL FOUNDATION PRESSURE OF 1500PSF FOR NEW CONSTRUCTION.

STRUCTURAL STEEL NOTES:

STRUCTURAL STEEL FRAMING

- THE STRUCTURE HAS BEEN DESIGNED IN CONFORMANCE WITH THE "ALLOWABLE STRENGTH DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC.)
- 2. STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING UNLESS OTHERWISE NOTED:

ASTM A-572, GRADE 50 ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE.
ASTM A-36 ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
ASTM A-500, GRADE B HSS SECTION (SQUARE AND RECTANGULAR).
ASTM A-500, GRADE B HSS SECTION (ROUND).
ASTM A501 OR A53 TYPE E OR S STEEL PIPE.
ASTM A-325, TYPE SC OR N,X ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS.
ASTM F1554 ALL ANCHOR BOLTS AND THREADED ROD, UNLESS NOTED OTHERWISE.

- BOLTS SHALL COMPLY WITH ASTM A325 OR A490, NUTS AND WASHERS SHALL BE COMPATIBLE WITH THE BOLT GRADE, HOLE SIZE, CONNECTION TYPE AND INSTALLATION METHOD AS INDICATED IN "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
- CONNECTIONS SHALL BE BOLTED WITH 3/4 INCH DIAMETER A325—X HIGH STRENGTH BOLTS OR WELDED U.N.O..
- 5. WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE STEEL". WELDING SHALL BE DONE BY QUALIFIED WELDERS CERTIFIED IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE STANDARD QUALIFICATION PROCEDURE" AND AWS D1.3, "STRUCTURAL WELDING CODE STRUCTURAL STEEL". WELDING ELECTRODOES SHALL BE ETOXX. FILLET WELDS SHALL BE NO LESS THAN MINIMUM SIZE REQUIRED PER AISC TABLE J2.4...
- STEEL SHOP DRAWINGS AND FABRICATION SHALL CONFORM TO THE AJSC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
- 7. STRUCTURAL STEEL SHOP DRAWINGS, INCLUDING CONNECTIONS, SHALL BE PREPARED UNDER THE DIRECTION OF A PROFESSIONAL STRUCTURAL ENGINEER, REGISTERED IN THE STATE WHERE THE CONSTRUCTION IS LOCATED. THE ENGINEER, EMPLOYED BY THE CONTRACTOR, SHALL PREPARE A SIGNED AND SEALED LETTER OF CERTIFICATION STATING THAT THE STRUCTURAL STEEL SHOP DRAWINGS, INCLUDING CONNECTIONS, HAVE BEEN PREPARED UNDER THEIR DIRECTION.
- 8. STRUCTURAL STEEL FABRICATION SHALL BE PERFORMED BY AN ORGANIZATION EXPERIENCED IN STRUCTURAL FABRICATION OF EQUIVALENT MAGNITUDE TO THIS PROJECT, AND HAS AN AISC CERTIFICATION FOR STRUCTURAL STEELWORK. PROVIDE, WITH THE BID, A COPY OF THE AISC CERTIFICATE INDICATING THAT THE FABRICATION PLANT MEETS AISC CATEGORY STD CERTIFICATION, IN LEU OF AN AISC CERTIFICATION, THE FABRICATION MAY SUBMIT DOCUMENTATION OF EQUIVALENT EXPERIENCE IN THE FABRICATION OF THE ITEM OR ITEMS IN QUESTION.
- 9. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE PREPPED BY COMMERCIAL BLAST CLEANING THEN HOT—DIPPED GALVANIZED.
- 10. SPLICING OF STRUCTURAL STEEL SECTIONS, NOT INDICATED ON CONTRACT DOCUMENTS, IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.
- 11. ORIENT MILL CAMBER UPWARD DURING FABRICATION AND ERECTION.

ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.

- 12. PROVIDE 3/8 INCH THICK MINIMUM WELDED STIFFENER PLATE ON BOTH SIDES OF THE WEB OF BEAMS AT POINT OF CONCENTRATED LOADS SUCH AS BEAMS SUPPORTING COLUMNS/POSTS OR RUNNING OVER TOPS OF COLUMNS, POSTS, OR OTHER BEAMS.
- 13. ALUMINUM AND STEEL MEMBERS SHALL BE TREATED OR PROPERLY SEPARATED TO PREVENT GALVANIC AND CORROSIVE EFFECTS.
- STEEL FABRICATOR IS SOLELY RESPONSIBLE FOR SURVEYING AND VERIFICATION OF EXISTING CONDITIONS INCLUDING BUT NOT LIMITED TO THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING WALLS AND FRAMING.
 ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN





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BHONE 973 739.9400
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REVIEWED BY:	BS

CHECKED BY: GHN

50102274

JOB NUMBER: 50102278

SITE ADDRESS:

PROJECT NUMBER

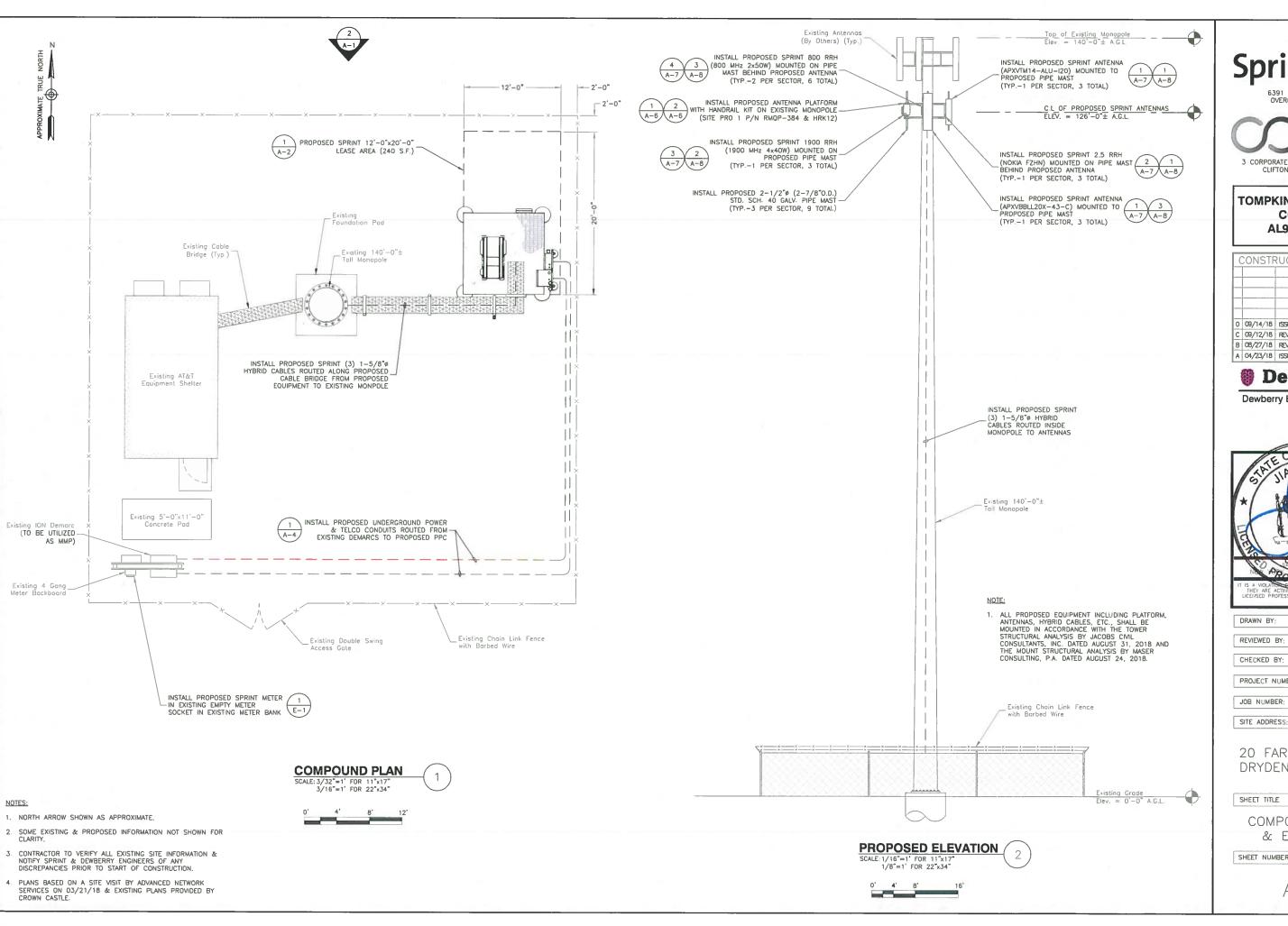
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SHEET TITLE

SPRINT SPECIFICATIONS III

SHEET NUMBER

SP-3





OVERLAND, KS 66251



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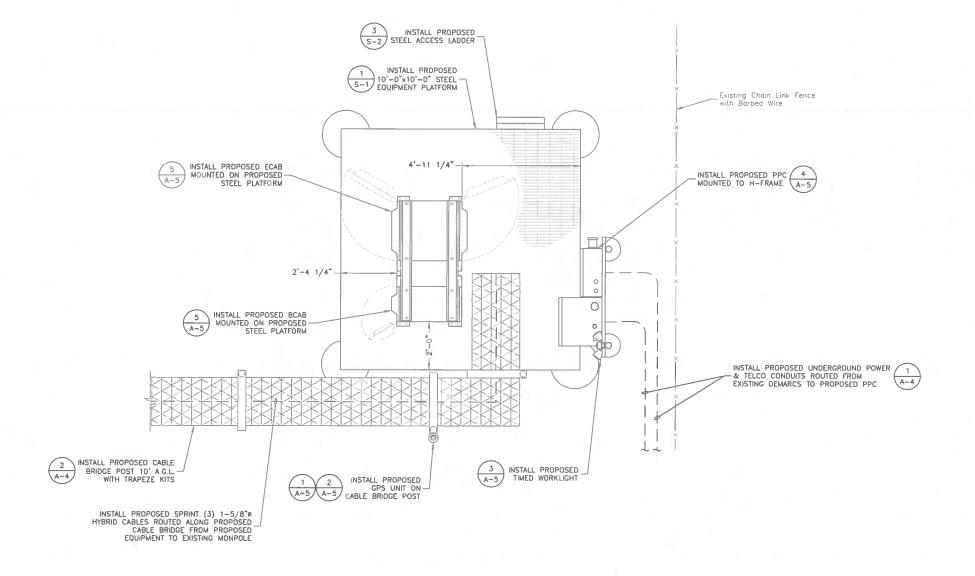
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JOB NUMBER:	50102278
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SHEET TITLE

COMPOUND PLAN & ELEVATION

APPROXIMATE TRUE NORTH



NOTES:

- 1. NORTH ARROW SHOWN AS APPROXIMATE.
- SOME EXISTING & PROPOSED INFORMATION NOT SHOWN FOR CLARITY.
- CONTRACTOR TO VERIFY ALL EXISTING SITE INFORMATION & NOTIFY SPRINT & DEWBERRY ENGINEERS OF ANY DISCREPANCIES PRIOR TO START OF CONSTRUCTION.
- PLANS BASED ON A SITE VISIT BY ADVANCED NETWORK SERVICES ON 03/21/18 & EXISTING PLANS PROVIDED BY CROWN CASTLE.







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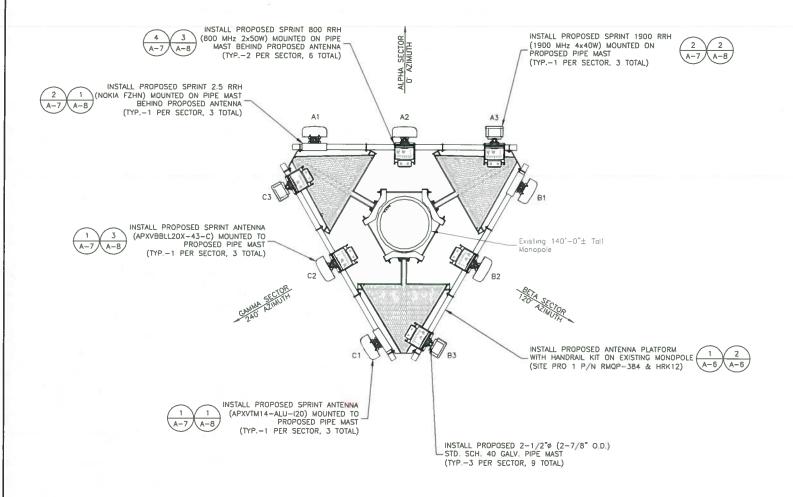
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EQUIPMENT PLAN

SHEET NUMBER

4-2





	PROPOSED ANTENNA SCHEDULE						
	ANTENNA POSITION	ANTENNA MODEL	TECHNOLOGY	AZIMUTH	RAD CENTER	RRH MODEL	HYBRID CABLE MODEL
_	A1	(P) APXVTM14-ALU-I20	2.5 GHz	0.	126'-0"	(1) 2,5 RRH	
ALPHA	A2	(P) APXVBBLL20X_43-C-I20	800/1900мнz	0.	126'-0"	(2) 800 RRH + (1) 1900 RRH	(1) HB158-21U6S12
•	A3	_	-	-	-	-	
	B1	(P) APXVTM14-ALU-I20	2.5 GHz	120°	126'-0"	(1) 2,5 RRH	
BETA	B2	(P) APXVBBLL20X_43-C-I20	800/1900MHz	120	126'-0"	(2) 800 RRH + (1) 1900 RRH	(1) HB158-21U6S12
	B3	_	-	-	-	_	
4	C1	(P) APXVTM14-ALU-I20	2.5 GHz	240	126'-0"	(1) 2.5 RRH	
GAMMA	C2	(P) APXVBBLL20X_43-C-I20	800/1900MHz	240	126'-0"	(2) 800 RRH + (1) 1900 RRH	(1) HB158-21U6S12
9	C3	-	-	-	-	_	

PROPOSED ANTENNA SCHEDULE

6391 SPRINT PARKWAY OVERLAND, KS 66251



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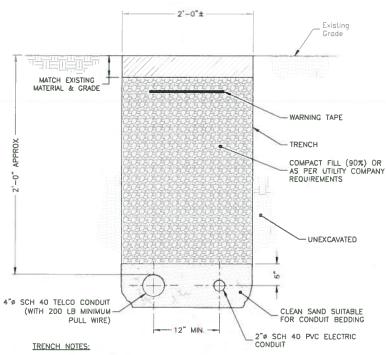
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SHEET TITLE

PROPOSED ANTENNA PLAN & ANTENNA SCHEDULE

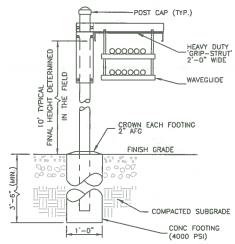




- IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
- IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
- IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE, CONTRACTOR SHALL HAND DIG U/G TRENCHING.

JOINT SERVICE TRENCH BURIED CONDUIT (ELECTRIC/TELEPHONE)

SCALE: N.T.S.



NOTES:

- CABLE BRIDGE SHALL BE SITE PRO 1 GRIP STRUT TRANSMISSION LINE BRIDGE KIT (P/N: 1824D-216T3) OR APPROVED EQUAL:
- 2 ALL COMPONENTS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- CONTRACTOR SHALL DETERMINE REQUIRED QUANTITY OF ALL CABLE BRIDGE COMPONENTS.
- SNAP-IN HANGERS, SPLICE KITS, HINGE KITS, EXTENSION KITS, STIFFENERS, AND OTHER MISCELLANEOUS HARDWARE SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
- CABLE BRIDGE SHALL BE ROUTED TO ACCOMMODATE THE MINIMUM BENDING RADIUS OF THE COAXIAL CABLE.
- CABLE BRIDGE COMPONENTS SHOWN ARE SCHEMATIC, CONSULT MANUFACTURER FOR EXACT AND CURRENT SPECIFICATIONS.

CABLE BRIDGE DETAIL

SCALE: N.T.S





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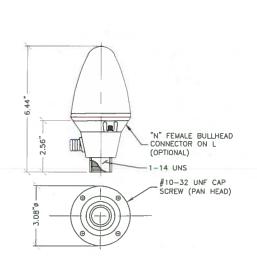
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CONSTRUCTION DETAILS I

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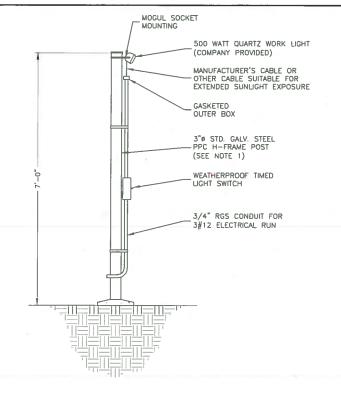
NOTE:

1. PROVIDE 1/2" COAX CABLE FOR CONNECTION

GPS ANTENNA DETAIL

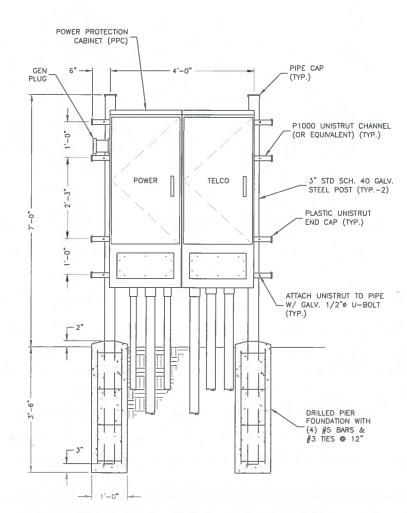
GPS ANTENNA GPS ANTENNA NOTES: (PCTEL P/N-GPS-TMG-HR-26N) 1. GROUND ANTENNAS AND MOUNTS PER MANUFACTURERS RECOMMENDATIONS AND SPRINT STANDARDS 2. FIELD LOCATE GPS ANTENNA A MINIMUM OF 10' HORIZONTALLY FROM EXISTING GPS ANTENNA WITH SPRINT CM APPROVAL. 1.25 Ø GALV. MOUNTING PIPE GROUND GPS MOUNTING STRUCTURE BACK TO GROUND SYSTEM W/ #2 SOLID BARE AND CAD WELDED (TYP.) CABLE BRIDGE POST MANUFACTURER: PCTEL MODEL: GPS-TMG-HR-26N BRACKET: SITE SPECIFIC BAND TO CABLE JUMPER ROUTED ON CABLE BRIDGE

GPS ANTENNA MOUNT

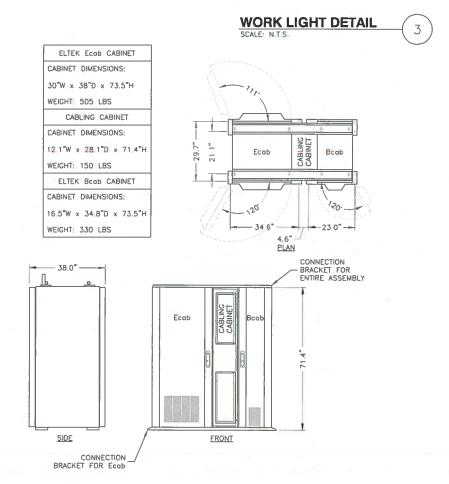


NOTE:

INSTALL WORK LIGHT ON PPC H-FRAME POST. SEE DETAIL 4 ON THIS SHEET.



PPC H-FRAME MOUNTING DETAIL



ELTEK MONOPOLE CABINET DETAIL (ASSEMBLED)





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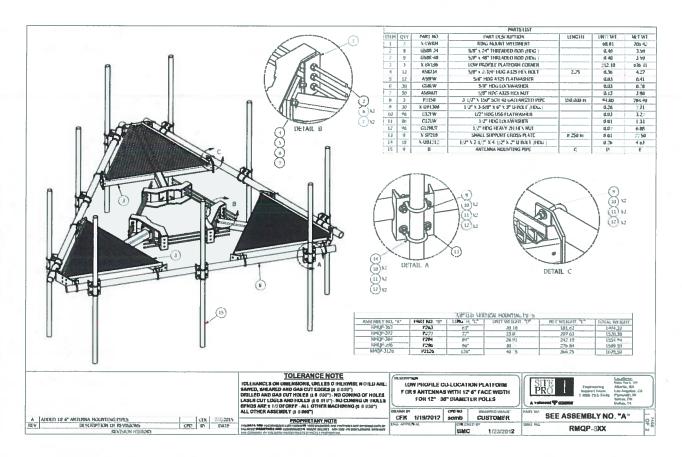
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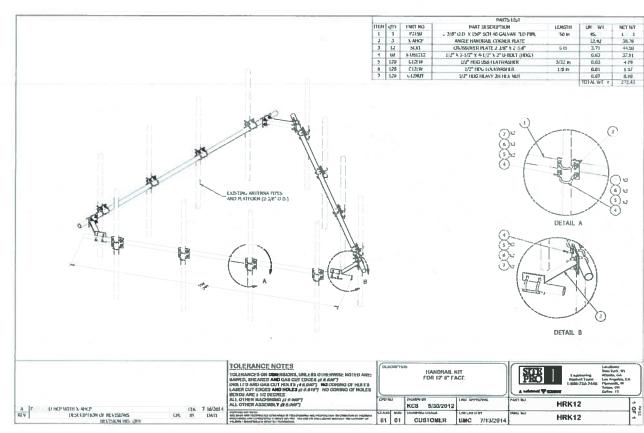
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SHEET TITLE

CONSTRUCTION DETAILS II





ANTENNA PLATFORM DETAIL
SCALE: N.T.S

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SCALE: N.T.S





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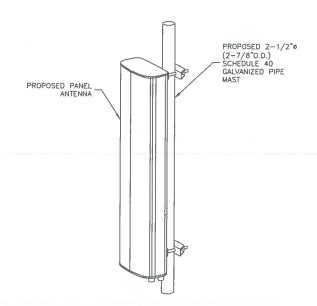
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SHEET TITLE

CONSTRUCTION DETAILS III

SHEET NUMBER



ANTENNA SP	PECIFICATIONS
MANUFACTURER	RFS
MODEL NUMBER	APXVTM14-ALU-I20
DIMENSIONS (HxWxD)	56.3"x12.6"x6.3"
WEIGHT	56.2 LBS

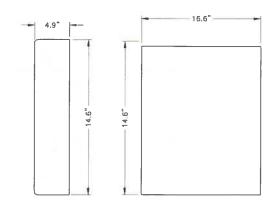
ANTENNA SP	ECIFICATIONS
MANUFACTURER	RFS
MODEL NUMBER	APXVBBLL15X-43-C-I20
DIMENSIONS (HxWxD)	82,6"x19,6"x8,5"
WEIGHT	85.3 LBS

NOTES:

- MOUNT ANTENNA PER MANUFACTURER'S RECOMMENDATIONS.
- 2. WEIGHT DOES NOT INCLUDE MOUNTING BRACKETS

ANTENNA DETAIL
SCALE: N.T.S. 1





SIDE VIEW

FRONT VIEW

NOTE:

1. INSTALL & MOUNT REMOTE RADIO HEAD PER MANUFACTURER'S RECOMMENDATIONS.

MANUFACTURER	NOKIA	
MODEL NUMBER	FZHN	
DIMENSIONS (HxWxD)	14.6" x 16.6" x 4.9"	
WEIGHT	44.1 LBS	

2.5 RRH DETAIL

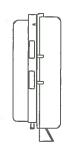
SCALE: N.T.S:

NOTE:

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN.



FRONT VIEW



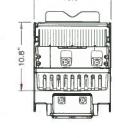
SIDE VIEW

- INSTALL & MOUNT REMOTE RADIO HEAD PER MANUFACTURER'S RECOMMENDATIONS.
- 2. DIMENSIONS ARE NOT OF BRACKET MOUNTED RRU

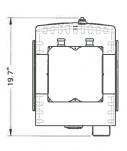
MANUFACTURER ALCATEL-LUCENT	
MODEL NUMBER	1900 MHz (65MHz)
DIMENSIONS (HxWxD)	25.1" x 11.1" x 11.4"
WEIGHT	60 LBS

1900 RRH DETAIL

SCALE: N.T.S.



PLAN VIEW



FRONT VIEW

MANUFACTURER	ALCATEL-LUCENT		
MODEL NUMBER	800 MHz 2x50W		
DIMENSIONS (HxWxD)	19.7" x 13.0" x 10.8"		
WEIGHT	53 LBS		

800 MHz RRH DETAIL

SCALE: N.T.S.

4

SIDE VIEW





3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065

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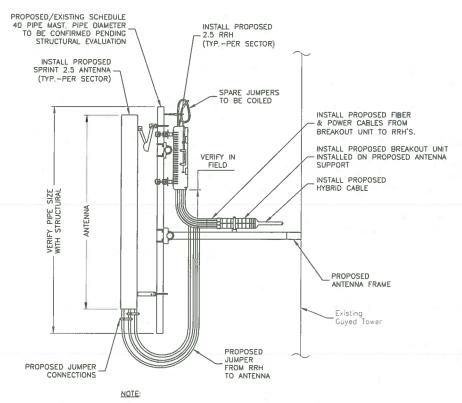
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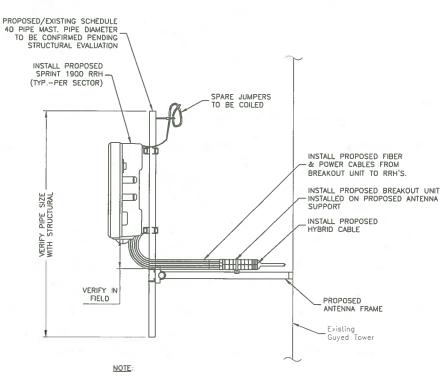
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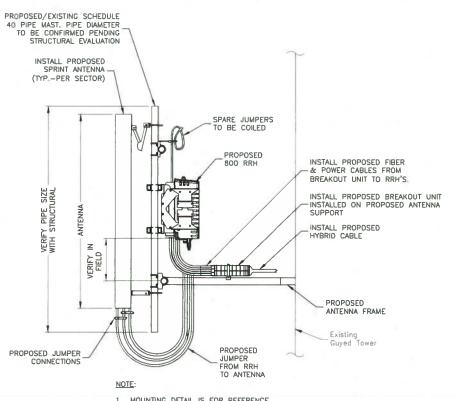
 MOUNTING DETAIL IS FOR REFERENCE AND IS DIAGRAMMATIC ONLY.

2.5 ANTENNA & RRH MOUNTING DETAIL ELEVATION SCALE: N.T.S.



MOUNTING DETAIL IS FOR REFERENCE
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1900 RRH MOUNTING DETAIL ELEVATION



MOUNTING DETAIL IS FOR REFERENCE AND IS DIAGRAMMATIC ONLY.

ANTENNA & 800 RRH MOUNTING DETAIL ELEVATION
SCALE: N.T.S.





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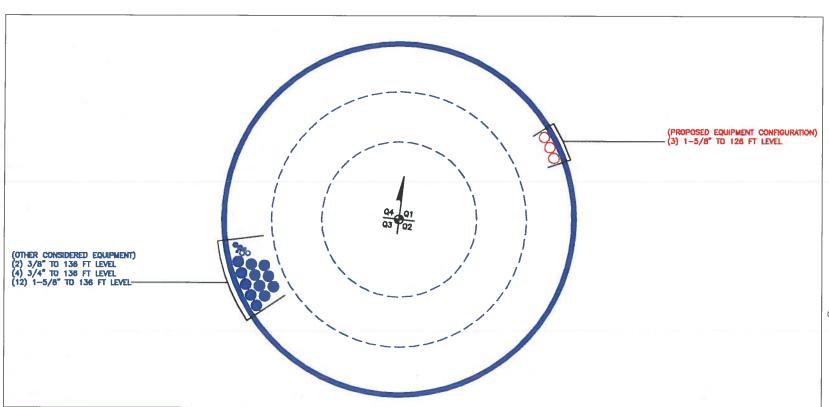
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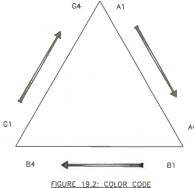




	2.5MI	M BAND	
2.5 FREQUENCY	2500	ID	
2500 #1	YELLOW	WHITE	GREEN
2500 #2	YELLOW	WHITE	RED
2500 #3	YELLOW	WHITE	BROWN
2500 #4	YELLOW	WHITE	BLUE
2500 #5	YELLOW	WHITE	GREY
2500 #6	YELLOW	WHITE	ORANGE
2500 #7	YELLOW	WHITE	WHITE
2500 #8	YELLOW	WHITE	PURPLE

FIGURE 1: ANTENNA ORIENTATION

SPRINT CABLE COLOR CODE



2.5 FREQUENCY	INDICATOR		ID
2500 #1	YELLOW	WHITE	GREEN
2500 #2	YELLOW	WHITE	RED
2500 #3	YELLOW	WHITE	BROWN
2500 #4	YELLOW	WHITE	BLUE
2500 #5	YELLOW	WHITE	GREY
2500 #6	YELLOW	WHITE	ORANGE
2500 #7	YELLOW	WHITE	WHITE
2500 #8	YELLOW	WHITE	PURPLE

FIGURE 19.1: CABLE COLOR CODE

BASE LEVEL DETAIL

SCALE: N.T.

NOTES:

- ALL CABLES SHALL BE MARKED AT THE TOP AND BOTTOM WITH 2" COLORED TAPE, STENCIL TAG COLORED TAPE, OR COLORED HEAT SHRINK TUBING.
- COLORED TAPE MAY BE OBTAINED FROM GRAYBAR ELECTRIC. UV STABILIZED TAPE OR HEAT SHRINK ARE PREFERRED.
- THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE, AND THERE SHALL BE A 1" SPACE BETWEEN EACH RING.
- 4. THE CABLE COLOR CODE SHALL BE APPLIED IN ACCORDANCE TO TABLE 19-1
- 4.A. TABLE 19-1 ONLY SHOWS 3 SECTORS, BUT ADDITIONAL SECTORS ARE EASILY SUPPORTED BY ADDING THE APPROPRIATE NUMBER OF COLORED RINGS TO THE CABLE COLOR CODE.
- 5. AFTER THE CABLE COLOR CODE IS APPLIED, THE FREQUENCY COLOR CODE, TABLE 19-2, MUST BE APPLIED FOR THE SPECIFIC FREQUENCY BAND IN USE ON A GIVEN LINE.
- 5.A. 2" GAP SHALL SEPARATE THE CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE.
- 5.B. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
- 6 WRAP 2" COLORED TAPE A MINIMUM OF 3 TIMES AROUND THE COAX, AND KEEP THE TAPE IN THE SAME AREA AS MUCH AS POSSIBLE. THIS WILL ALLOW REMOVAL OF TAPE THAT FADES OR DISCOLORS DUE TO WEATHER.
- 7. EXAMPLES OF THE CABLE AND FREQUENCY COLOR CODES ARE SHOWN IN FIGURE 19-1 AND FIGURE 19-2

	1900 RRH #1
	FREQUENCY INDICATOR
/	SECTOR #2 CABLE #2
	• 1
	-800 RRH #1
DC POWER FIBER	?
	EXAMPLE
	SECTOR 2 AND CABLE 2, (BOOMHz RADIO #1)
HYBRID (CABLE (GOOMINE TOLDIO #1)
	EXAMPLE SECTOR 3 AND CABLE 1,
SECTOR #2 CA	(1900MHz RADIO #1)
	EXAMPLE
	SECTOR 2 AND CABLE 4, (800MHz RADIO #1 AND
	1900MHz RADIO #1)

SECTOR	CABLE	FIRST RING	SECOND RING	THIRD RING
1 ALPHA	1	GREEN	NO TAPE	NO TAPE
	2	BLUE	NO TAPE	NO TAPE
	3	BROWN	NO TAPE	NO TAPE
	4	WHITE	NO TAPE	NO TAPE
	5	RED	NO TAPE	NO TAPE
	6	GREY	NO TAPE	NO TAPE
	7	PURPLE	NO TAPE	NO TAPE
	8	ORANGE	NO TAPE	NO TAPE
2 BETA	1	GREEN	GREEN	NO TAPE
	2	BLUE	BLUE	NO TAPE
	3	BROWN	BROWN	NO TAPE
	4	WHITE	WHITE	NO TAPE
	5	RED	RED	NO TAPE
	6	GREY	GREY	NO TAPE
	7	PURPLE	PURPLE	NO TAPE
	8	ORANGE	ORANGE	NO TAPE
3 GAMMA	1	GREEN	GREEN	GREEN
	2	BLUE	BLUE	BLUE
	3	BROWN	BROWN	BROWN
	4	WHITE	WHITE	WHITE
	5	RED	RED	RED
	6	GREY	GREY	GREY
	7	PURPLE	PURPLE	PURPLE
	8	ORANGE	ORANGE	ORANGE

COLOR CODE INFORMATION 2





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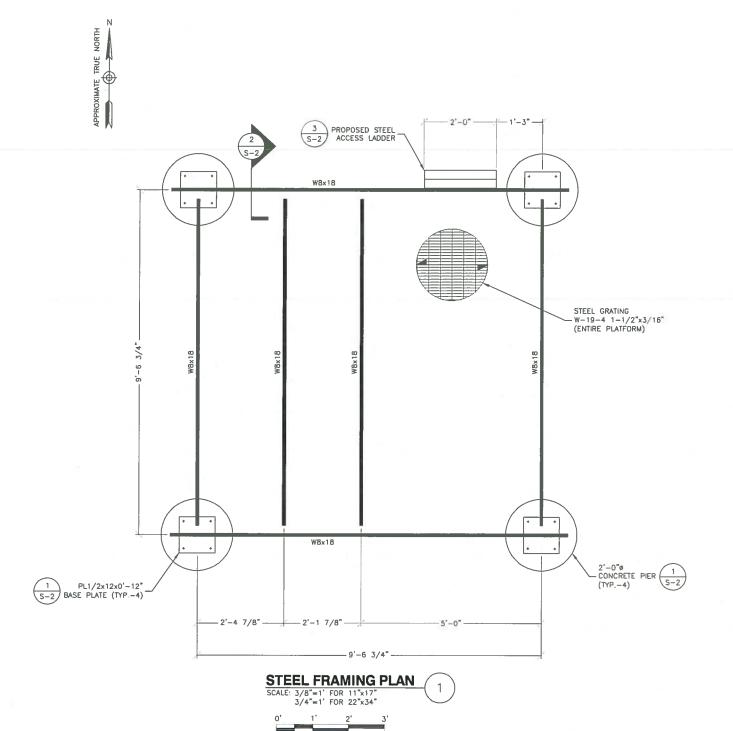
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SHEET TITLE

CABLE ROUTING & COLOR CODING INFORMATION

SHEET NUMBER



NOTES:

- 1. NOT ALL INFORMATION SHOWN FOR CLARITY.
- 2. NORTH IS APPROXIMATE.
- 3. ALL BOLTS SHALL BE 5/8" ASTM A325 BOLTS UNLESS NOTED OTHERWISE.
- 4. CONTRACTOR TO OBTAIN ALL FIELD WELDING PERMITS AND MAINTAIN ALL SAFETY REQUIREMENTS AS SPECIFIED BY CITY & OSHA.
- 5. ALL STEEL SHALL BE ASTM A572 GALVANIZED UNLESS NOTED OTHERWISE (YIELD STRENGTH: 50KSI)
- 6. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
- 7. ALL BOLT HOLE LOCATIONS TO BE VERIFIED PRIOR TO FABRICATION.
- B. ALL STRUCTURAL BOLTS TO BE ASTM A325.
- 9. ALL EQUIPMENT MOUNTING BOLT HOLES TO BE 9/16" SLOTTED, USE OVERSIZED WASHER TO MOUNT EQUIPMENT AS REQUIRED.
- 10. BOLT HOLE LOCATIONS NOT SHOWN INDICATED EQUIPMENT TO BE BOLTED TO STEEL GRATING W/ SADDLE CLIPS & CENTERED OVER BEAMS AS SHOWN.
- 11. GRATING TO BE BOLTED TO EQUIPMENT PLATFORM W/ SADDLE CLIPS SPACED © 12° O.C. EXCEPT WHERE SHOWN.
- 12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL REQUIRED WELDING PERMITS PRIOR TO CONSTRUCTION.
- 13. SEE SHEET SP-3 FOR ADDITIONAL STRUCTURAL NOTES.





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Dewberry Engineers Inc.

600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHO NE: 873 738 8400
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DRAWN BY: NRS

REVIEWED BY: BSH

GHN

PROJECT NUMBER: 50102274

JOB NUMBER: 50102278

SITE ADDRESS:

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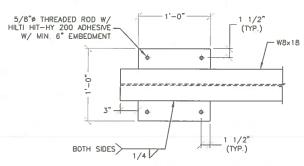
20 FAR VIEW DRIVE DRYDEN, NY 13053

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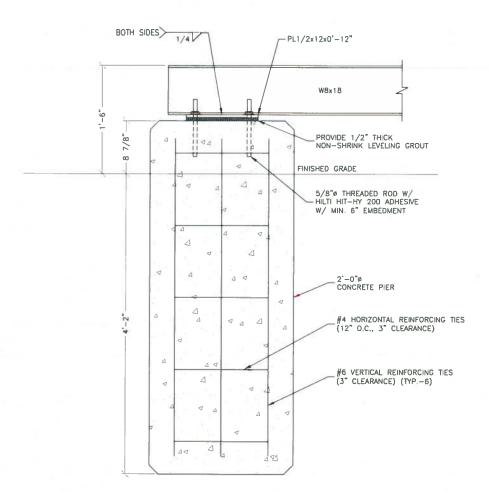
STEEL PLATFORM FRAMING PLAN

SHEET NUMBER

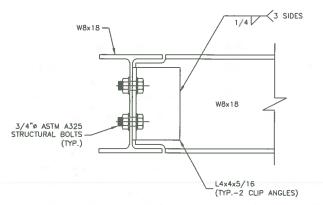
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BASE PLATE



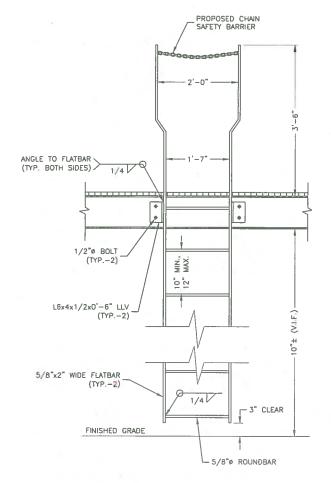




FRAME CONNECTION DETAIL

SCALE: 1 1/2"=1" FOR 11"x17"

3"=1" FOR 22"x34"



ACCESS LADDER DETAIL
SCALE: N.T.S.

3





3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065

TOMPKINS COMMUNITY COLLEGE AL90XC488_A

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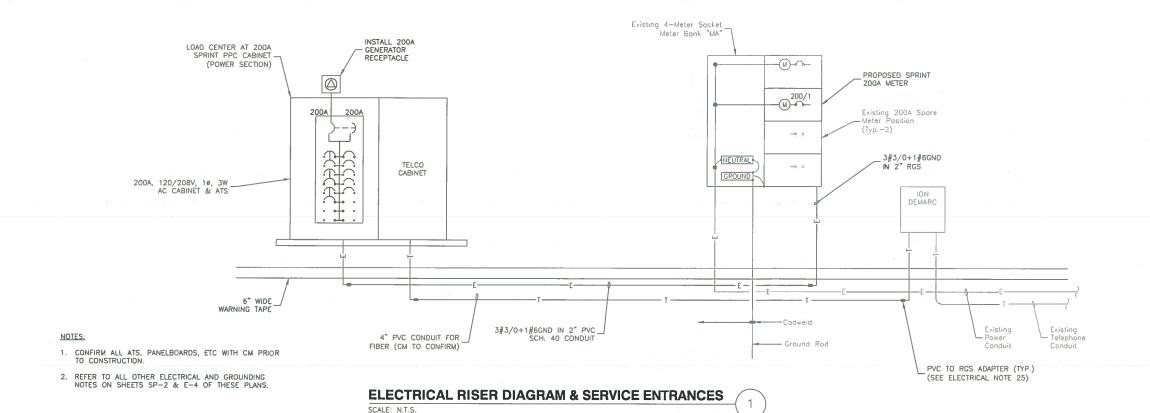
20 FAR VIEW DRIVE DRYDEN, NY 13053

SHEET TITLE

STRUCTURAL DETAILS

SHEET NUMBER

S-2



GENERAL ELECTRICAL NOTES

- SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS
- CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATION TESTS. AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
- HEIGHTS SHALL BE VERIFIED WITH OWNER PRIOR TO INSTALLATION.
- THESE PLANS ARE DIAGRAMMATIC ONLY.
- EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)
- CONTRACTOR SHALL PROVIDE ALL LABOR. MATERIALS, INSURANCE, EQUIPMENT,
 INSTALLATION, CONSTRUCTION TOOLS,
 TRANSPORTATION, ETC., FOR A COMPLETE AND
 PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED
 AND SHALL BE OF THE BEST GRADE AND OF
 THE SAME MANUFACTURER THROUGHOUT FOR
 EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION, MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH

- APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
- CONTRACTOR SHALL CARRY OUT HIS WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY AND LOCAL CODES AND O.S.H.A.
- 10. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE BY OWNER. ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE CYPTANE OF THE CONTROL EXPENSE OF THE CONTRACTOR
- ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE.
- 12. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED"

 DRAWINGS AT THE COMPLETION OF THE JOB. SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND
- 13. ALL BROCHURES, OPERATING MANUALS. CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.
- 14. USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURE.
- 15. ALL CONDUCTORS SHALL BE COPPER.
- 16. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
- 17. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY NEC.
- 18. PATCH, REPAIR AND PAINT ANY AREA THAT HAS

- BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK
- IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, M. PIPE RUNS, ETC., IT MUST BE CLEARLY UNDERSTOOD THAT TENDONS CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED AND/OR REINFORCING STEEL WILL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES.
 - LOCATION OF TENDONS AND/OR REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND, THEREFORE, MUST BE SEARCHED FOR BY
 APPROPRIATE METHODS AND EQUIPMENT VIA
 X-RAY OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING AND/OR
 - 21. PENETRATIONS IN FIRE RATED WALLS SHALL BE INTERNATIONAL BUILDING CODE 2015, NEW YORK EDITION.
 - 22. WIRE AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM UNLESS
 SPECIFICALLY STATED OTHERWISE ON DRAWINGS.
 - 23. VERIFY ALL CONDUIT ROUTING W/OWNER REP. & SPRINT C.M.
 - 24. ALL MATERIALS SHALL BE U.L. LISTED.
 - 25. CONDUIT:
 - RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3
 - ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED

- ONLY FOR INTERIOR RUNS.
- FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SOUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL
- CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED
 OTHERWISE, CONDUIT INDICATED SHALL RUN
 PARALLEL OR AT RIGHT ANGLES TO CEILING. FLOOR OR BEAMS VERIEV EXACT ROLLTING OF ALL EXPOSED CONDUIT WITH ARCHITECT PRIOR TO INSTALLING.
- 26. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- 27. COORDINATE THE ELECTRICAL SERVICE SHUTDOWN WITH BUILDING OWNER.
- 28. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE OWNER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE. SUBMIT TEST REPORTS AND FURNISH TO DISPATCH COMMUNICATIONS ONE COMPLETE SET OF PRINTS SHOWING "INSTALLED WORK".
- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, AND FALL POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED
- 30. ALL WALL PENETRATIONS SHALL BE FIRE STOPPED WITH FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP BY HILTI OR APPROVED EQUAL INSTALL PER MANUFACTURERS RECOMMENDATIONS.

ELECTRICAL AND TELEPHONE GENERAL NOTES:

- FOLLOWING COMPLETION OF WORK, PROVIDE OWNER WITH AS-BUILT
- 2. WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, NEC 2014.
- 3. COORDINATE WITH UTILITY AND LOCAL ELECTRICAL INSPECTOR FOR FINAL
- UTILITY WILL SUPPLY METER: COORDINATE WITH UTILITY FOR METER TYPE AND INTERCONNECTION
- CONTRACTOR SHALL CONTACT "DIG SAFELY. NEW YORK" (1-800-962-7962) AND LOCATE ALL EXISTING UTILITIES WITHIN THE AREA OF WORK PRIOR TO THE START OF ANY EXCAVATION.
- SEE PAGE E-4 FOR GENERAL GROUNDING NOTES.
- COORDINATE WITH LOCAL TELEPHONE COMPANY FOR ALL ROUTING AND
- CONTRACTOR TO CONFIRM STUB UP LOCATIONS OF WIRING CONDUITS PRIOR TO CONSTRUCTION





TOMPKINS COMMUNITY COLLEGE AL90XC488 A

CLIFTON PARK, NY 12065

	CONSTRUCTION DRAWINGS				
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DRAWN BY NRS REVIEWED BY BSH GHN CHECKED BY

PROJECT NUMBER 50102274

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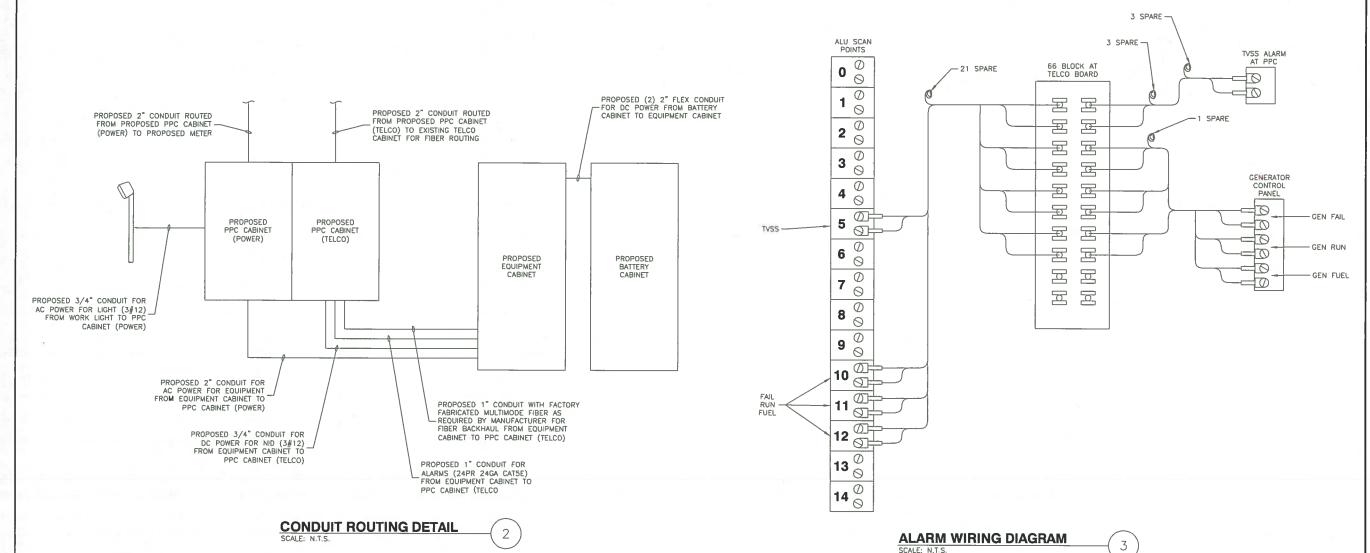
20 FAR VIEW DRIVE DRYDEN, NY 13053

SHEET TITLE

ELECTRICAL RISER DIAGRAM & NOTES

VOLTAGE:		240V/12D		PHASE:	PHASE: 1			WIRE:	3
MAIN BRE	AKER:	200AMP		BUS RATING: NEUTRAL BAR:		225 AMPS		AIC:	TBD
						YES		GROUND BAR:	TBD
				SERVICE ENTR	ANCE:	YES/ND			
СКТ	LOAD DESCTRIPTION	BREAKER AMPS	BREAKER POLES	PHASE A VA	PHASE B VA	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	СКТ
1	TVSS	60	2	-	-	_	_		2
3	-	_	7-1	-11	180	-	_	_	4
5	-	_	-	-	-	1	15	TELCO FAN	6
7	MMBS	100	2	3500	180	1	15 -	TELCO RECEPTACLE	8
9	_		; - ;		3500	-	-		10
11		_	_	-	-	-	-	-	12
13	-	(**)	-	-		-	-	_	14
15	LIGHTING	20	1	500		-	-		16
17	-	()	-	_		i.⇒i	-	72	18
19	JACKET WATER	Ε.	-	1500	-		(7)	_	20
21	_	-	-	-	1500	- 1	-	BATTERY CHARGER	22
23		(27)	-	-	_	-	-	_	24
				5500	5360	TOTAL KVA	10.86	TOTAL CONNECTED LOAD	
						AMPS	45.25		

ELECTRICAL PANEL DETAIL SCALE: N.T.S.







3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065

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Dewberry

Dewberry Engineers Inc.

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PARSIPPANY, NJ 07054
PHOTE 373 739 8400
PARSIPPANY, NJ 07054
PHOTE 373 739 8710

REPRESENTATION

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DRAWN BY: NRS

REVIEWED BY: BSH

CHECKED BY: GHN

PROJECT NUMBER: 50102274

JOB NUMBER: 50102278

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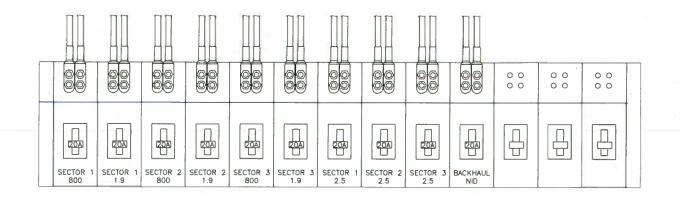
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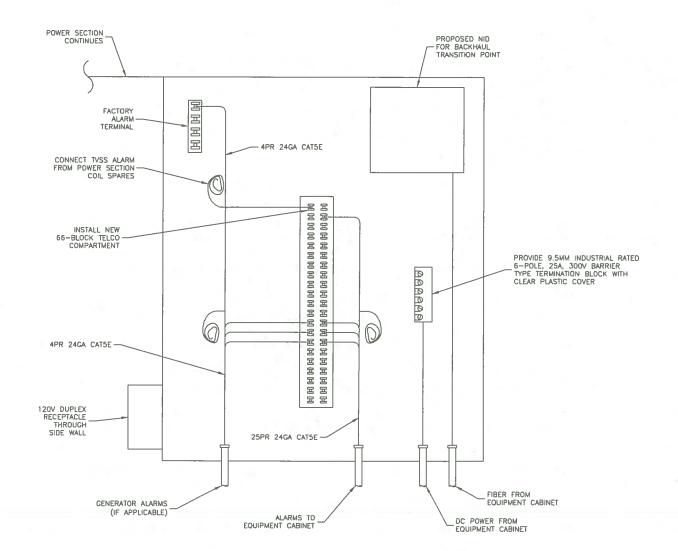
ELECTRICAL DETAILS I

SHEET NUMBER

E-2



DC DISTRIBUTION AT FIBER DISTRIBUTION BOX



PLYWOOD BACKBOARD AT PPC TELCO COMPARTMENT

SCALE: N.T.S.

2





3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065

TOMPKINS COMMUNITY COLLEGE AL90XC488_A

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PARSIPPANY, NJ 07054
NJ DIE ST. 389.9400



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLE THEY ARE ACTING UNDER THE DIRECTION OF A UCEMSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT

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REVIEWED BY: BSH

CHECKED BY: GHN

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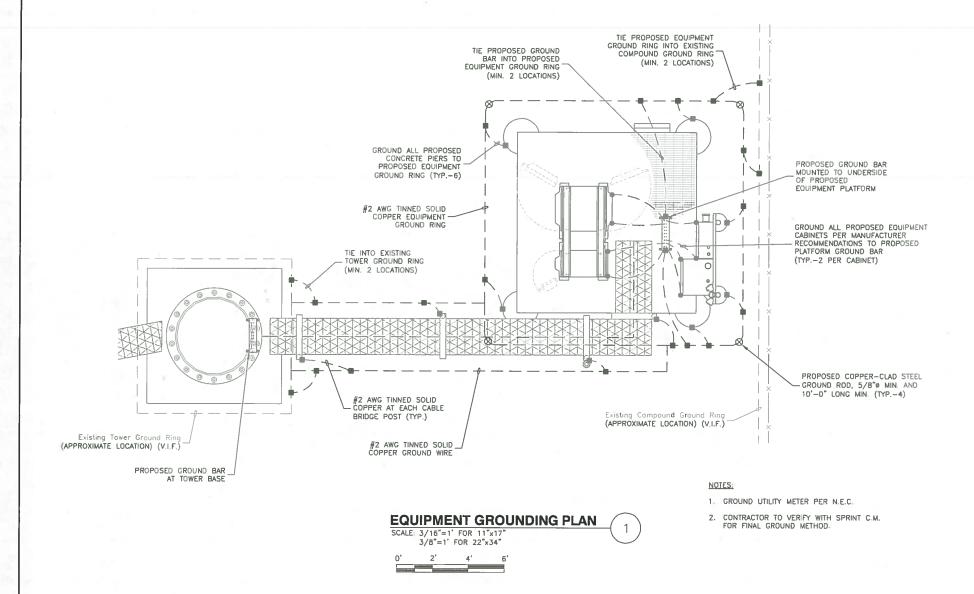
20 FAR VIEW DRIVE DRYDEN, NY 13053

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ELECTRICAL DETAILS II

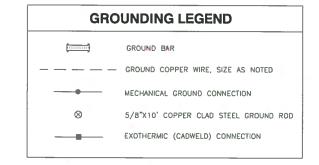
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E-3



GROUNDING GENERAL NOTES

- ALL DOWN CONDUCTORS AND THE GROUND RING CONDUCTOR SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. CONDUCTOR SHALL BE AT A MINIMUM DEPTH BELOW GRADE OF 18 INCHES OR TO LEDGE, MINIMUM BEND RADIUS SHALL BE B INCHES. CONDUCTOR SHALL BE AT LEAST 24 INCHES FROM ANY FOUNDATION, UNLESS OTHERWISE NOTED.
- GROUND RODS SHALL BE 5/8" DIAMETER COPPER CLAD, HARGER, T&B, ERICO, OR EQUIVALENT TOP OF ROD SHALL BE A MINIMUM OF 18" BELOW GRADE. IF LEDGE IS ENCOUNTERED, INSTALL GROUND ROD AT AN ANGLE. ELECTRICAL METER GROUND ROD EXCEPTED.
- 3. WHERE MECHANICAL CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION—TYPE, CLAMPS OR SPLIT—BOLT TYPE CONNECTORS SHALL BE USED.
- GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2
 CONDUCTOR AT 6" ABOVE GRADE OR FOUNDATION, WHICHEVER IS HIGHER.
 COLD—GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND RING.
- INSTALL GROUNDING KITS AT ANTENNA CENTERLINE, AND TOWER EXIT POINTS.
 GROUND COAX LINES. EXOTHERMICALLY WELD #2 DOWN CONDUCTOR TO PLATES,
 RUN DOWN TOWER, AND TIE INTO GROUNDING SYSTEM.
- . ALL GROUNDING WORK SHALL COMPLY WITH SPRINT CONSTRUCTION CONTRACT STANDARDS. FOLLOWING COMPLETION OF WORK, GROUND SYSTEM MUST BE TESTED AND SHALL HAVE A RESISTANCE OF 5 DHMS OR LESS SUBMIT AN INDEPENDENT "FALL POTENTIAL" TESTING REPORT.
- 7. CONTRACTOR SHALL HAND-DIG IN AREAS AROUND EXISTING UTILITIES.
- 8. NOTIFY CONSTRUCTION ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
- GROUNDING RING IS SHOWN AS SCHEMATIC ONLY. IT IS DESIGNED WITHOUT BENEFIT OF RESISTMTY TESTING AND DOES NOT NECESSARILY REPRESENT A GROUNDING SYSTEM TO MEET ANY SPECIFIC GROUND RESISTANCE.
- 10. PRIOR TO POURING CONCRETE, ALL REBAR LOCATED NEAR THE BOTTOM OF THE FOUNDATION SHALL BE BONDED TOGETHER TO FORM A SINGLE GROUNDING ELECTRODE, BY STEEL TIES OF OTHER EFFECTIVE MEANS APPROVED BY NEC 2011 AND STRUCTURAL ENGINEER, AND BONDED TO THE GROUND RING AS DETAILED IN THESE PLANS. (INSPECTION MAY BE REQUIRED PRIOR TO POURING CONCRETE AND MUST BE COORDINATED BY CONTRACTOR.)
- IN ACCORDANCE WITH NEC 2011 REQUIREMENTS, ALL GROUNDING ELECTRODES PRESENT ON SITE SHALL BE BONDED TOGETHER (REFERENCE 2011 NEC ARTICLE 250.50).





OVERLAND, KS 66251



3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065

TOMPKINS COMMUNITY COLLEGE AL90XC488 A

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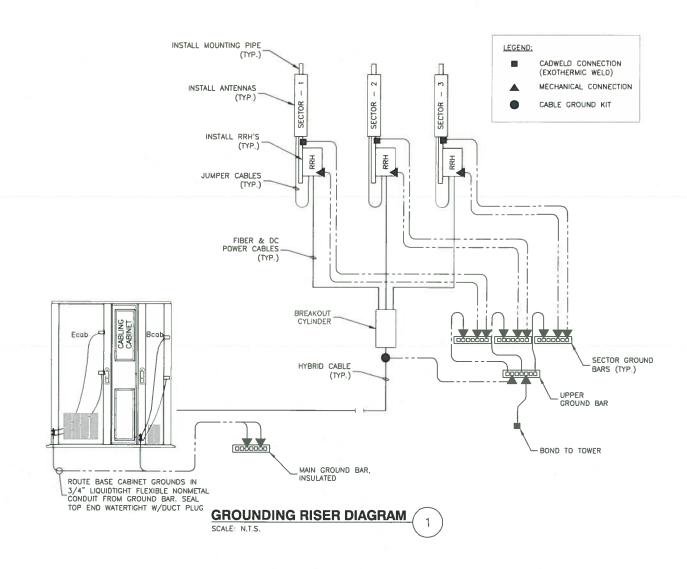
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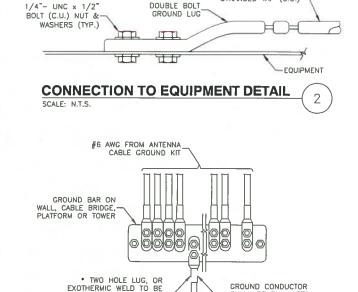
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GROUNDING PLAN & NOTES

SHEET NUMBER

F-4





#2 INSULATED GREEN STRANDED TAP (C.U.)

GROUND CONDUCTOR SHALL BE ELIMINATED -WHEN GROUND BAR IS

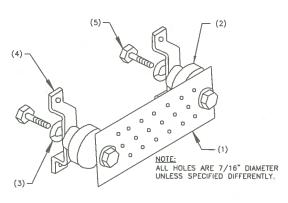
ELECTRICALLY BONDED TO METAL TOWER STRUCTURE

GROUND BARS AT THE BOTTOM OF TOWER SHALL ONLY USE EXOTHERMIC WELDS.

USED WITH #2 AWG BCW-TO BUILDING SERVICE

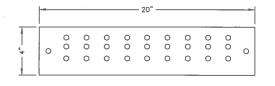
GROUND OR GROUND RING

INSTALLATION OF GROUND WIRE TO GROUND BAR SCALE: N.T.S.

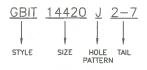


LEGEND:

- COPPER GROUND BAR, 1/4"x4"x20", GBIT 14420 J 2-7, HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- 2. STANDOFF INSULATORS, HARGER LIGHTNING PROTECTION, INC. CAT. No. 5263-AB.
- 3. 1/2" LOCKWASHERS, HARGER CO. CAT. No. LWBS.
- 4. WALL MOUNTING STAINLESS STEEL, MOUNTING BRACKET, HARGER CAT NO. WBKT-1.
- 5. 1/2-13 x 1" HEX HEAD CAP SCREW, HARGER, CAT No. CS88S.



THE GROUND BAR IS 1/4" THICK, 4" WIDE, 20" LONG. IT HAS A HOLE PATTERN "J" WITH A NO. 2 AWG SOLID TINNED TAIL

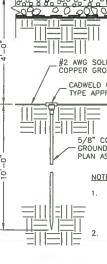


STYLE: GBIT — GROUND BAR WITH WALL MOUNTING BRACKETS, INSULATORS AND A 25' EXOTHERMICALLY WELDED TAIL.

SIZE: THICKNESS, WIDTH, LENGTH IN INCHES.

 $\underline{\text{HOLE PATTERN}}$: HOLE PATTERN CENTERS MATCH NEMA DOUBLE LUG CONFIGURATION, SEE ISOMETRIC,

TAIL: SPECIFY AMERICAN WIRE GAUGE (AWG) SIZE AND STRANDING REQUIRED. 25' LENGTH IS STANDARD UNLESS OTHERWISE REQUESTED.



-SITE FINISH GRADE #2 AWG SOLID, TINNED COPPER GROUND WIRE CADWELD CONNECTION (TYP.) USE TYPE APPROPRIATE TO APPLICATION 5/8" COPPER CLAD STEEL GROUND ROD INDICATED ON PLAN AS: NOTES: WHERE ROCK IS ENCOUNTERED ROCK SHALL BE DRILLED, FILLED WITH CONDUCTIVE SOIL, AND RODS INSTALLED TO FULL DEPTH. GROUND RODS SHALL BE INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS.

GROUND ROD AND RING DETAIL

6391 SPRINT PARKWAY



OVERLAND, KS 66251

TOMPKINS COMMUNITY COLLEGE AL90XC488 A

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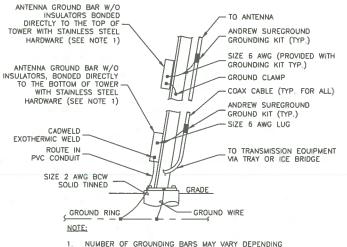
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DRYDEN, NY 13053

SHEET TITLE

GROUNDING RISER DIAGRAM & DETAILS

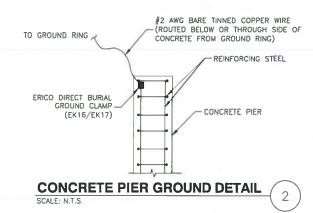
GROUND BAR DETAIL 4 SCALE: N.T.S.

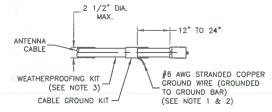


NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED. GROUND BAR IS NOT REQUIRED FOR SITES WITH ONE

TOWER - ANTENNA CABLE GROUNDING DETAIL

SCALE: N.T.S.



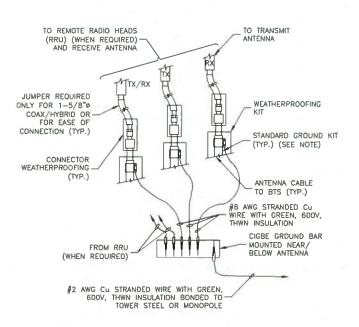


NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
- 2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
- WEATHER PROOFING SHALL BE A TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE DETAIL

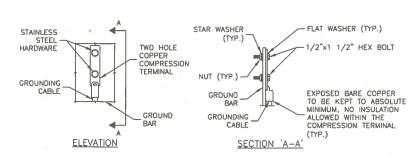
SCALE N.T.S.



NOTE:

DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

CONNECTION OF GROUND WIRE TO GROUNDING BAR DETAIL



NOTES:

- 1. DOUBLING UP OR STACKING OF CONNECTIONS IS NOT PERMITTED
- 2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL







TOMPKINS COMMUNITY COLLEGE AL90XC488 A

	CONSTRUCTION DRAWINGS					
\vdash						
0	09/14/18	ISSUED AS FINAL				
С	09/12/18	REVISED PER COMMENTS				
В	08/27/18	REVISED PER COMMENTS				
Α	04/23/18	ISSUED FOR REVIEW				





DRAWN BY: NRS

REVIEWED BY BSH CHECKED BY: GHN PROJECT NUMBER: 50102274 JOB NUMBER: 50102278

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SHEET TITLE

SITE ADDRESS

GROUNDING DETAILS