GENERAL NOTES CODE ANALYSIS THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. OVERALL SITE APPLICABLE BUILDING CODES: 2013 DC BUILDING CODE 2012 IBC WITH 2013 DCMRI2A SUPPLEMENT 2012 IEBC WITH 2013 DCMRI2J SUPPLEMENT. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. 2011 NEC WITH 2013 DCMRI2C SUPPLEMENT 2012 IFGC WITH 2013 DCMRI2D SUPPLEMENT. 2012 IFC WITH 2013 DCMRI2H SUPPLEMENT 2012 IGCC WITH 2013 DCMRI2K SUPPLEMENT THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE VERIZON REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE. 2012 IECC WITH 2013 DCMRI2I SUPPLEMENT 2012 IPC WITH 2013 DCMRI2G SUPPLEMENT 2012 IMC WITH 2013 DCMR12E SUPPLEMENT 4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN. INDUSTRY STANDARDS: ASCE/SEI 7-2010 THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. 2010 ANSI/AISC 360 VERZON 2010 ANSI/AISC 341 2010 ANSI SI000-07/S2 6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS. 2009 AISI SI000-07/SI 2004 ASTM A325 OR A490 THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE. 2015 AMS DI.I 2014 ACI 318 2011 ACI 530 BEST MESTERN REPLACEMENT 8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. 2011 ACI 530.1 2016 TIA 222-G O STREET, SM 2015 TIA 607-C 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. 2012 IEEE81 2005 IEEEII00 MASHINGTON, D.C. 20024 2002 IEEE C62.41 IO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY. TELCORDIA GR-1275 TELCORDIA GR-1503 1991 ANSI TI.311 FOR TELÉCOM THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. 2011 NFPA 780 LIGHTNING PROTECTION CODE 2011 THE CONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DEBRIS, TRASH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. DETAILS OF EQUIPMENT TO BE INCLUDED IN RFQ PACKAGE. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. EXISTING PRIMARY BUILDING USE GROUP: RESIDENTIAL (R2) 13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHAREQUIREMENTS AS THEY APPLY TO THIS PROJECT CONSTRUCTION TYPE: 14. THE CONTRACTOR SHALL NOTIFY THE VERIZON REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE VERIZON REPRESENTATIVE. BUILDING HEIGHT: APPROXIMATELY 96'-6" COPYRIGHT ADC THE MAP PEOPLE PERMITTED USE NUMBER 20506142 NUMBER OF STORIES MASHINGTON, D.C. NINE (9) + PENTHOUSE ABOVE GRADE: ADC MAP NO.: 16 GRID: C-4 NUMBER OF STORIES 15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB. BELOW GRADE: ONE (I) NO VICINITY PLAN PROJECT DESCRIPTION INDEX OF DRAWINGS FIRE PROTECTION: N/A 16. ALL UNISTRUT, HARDWARE, AND OUTDOOR JUNCTION BOXES SHALL BE GALVANIZED STEEL. FOR FIELD CUTS OF GALVANIZED ITEMS, FIRST COAT SHALL BE COLD GALVANIZED AND SECOND COAT SHALL BE MARINE SITE LOCATION AND VICINITY PLAN, INDEX OF DRAWINGS, AND CODE ANALYSIS CS-I THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A BUILDING AREA: 34,040 SQ. FT. SCREENED EQUIPMENT PLATFORM ON BUILDING ROOF FOR MOUNTING OF TELECOMMUNICATIONS EQUIPMENT AND HIGH RISE REQUIREMENTS: GRADE GALVANIZED. YES C-I SITE PLAN STAND-BY GENERATOR. THE ASSOCIATED TWELVE (12) 17. GENERAL CONTRACTOR TO PROVIDE PORTABLE BATHROOM FACILITIES DURING CONSTRUCTION. ANTENNAS WILL BE FLUSH MOUNTED TO PENTHOUSE C-2 SITE DETAILS EXTERIOR WALL AND MOUNTED BEHIND STEALTH PROPOSED PRIMARY ENCLOSURES ON BUILDING MAIN ROOF. 18. RETURN ANY UNUSED MATERIALS WITH REQUIRED DOCUMENTATION TO THE VERIZON WAREHOUSE WITHIN 14 DAYS OF PROJECT COMPLETION, RETURNED MATERIAL NEEDS TO BE ACCOMPANIED WITH AN RMA FORM AND PACKAGING REQUIREMENTS STIPULATED BY THE VZW CONSTRUCTION ENGINEER. SITE ELEVATIONS BUILDING GC-I ROOF PLAN, EQUIPMENT PLAN, AND NOTES STRUCTURAL DETAILS USE GROUP: BUSINESS (B) DIRECTIONS TO SITE S-2 STRUCTURAL DETAILS 19. WITHIN 24 HOURS, CONTRACTOR SHALL OPEN A REMEDY TICKET WITH THE VZW NOCC AND PERFORM DAILY VISUAL MONITORING, OR PROVIDE A WIRELESS MONITORING DEVICE UNTIL THE SITE IS ON AIR. CONSTRUCTION TYPE: NON COMBUSTIBLE S-3 STRUCTURAL DETAILS FROM MONTPELIER ROAD: FROM MONTPELIER ROAD: - MERGE ONTO I-95 SOUTH - MERGE ONTO I-495 SOUTH/I-95 SOUTH - TAKE EXIT #22B FOR BALTIMORE/WASHINGTON PARKWAY - TAKE EXIT #1B-C TOWARD I-695/ROUTE 395/DOWNTOWN - CONTINUE ONTO I-695 (SIGNS FOR I-395/DOWNTOWN) - MERGE ONTO I-395 SOUTH - TAKE EXIT #5 FOR 6TH STREET SOUTHWEST - KEEP RIGHT AT THE FORK AND MERGE ONTO E STREET SW - TAKE 4TH STREET SW TO G STREET SW - TURN RIGHT ONTO 4TH STREET SW - TURN LEFT AT THE IST CROSS STREET ONTO G STREET SW - AT THE TRAFFIC CIRCLE, CONTINUE STRAIGHT TO STAY ON G STREET SW NUMBER OF STORIES S-4 STRUCTURAL NOTES ABOVE GRADE: ONE (I)).FILL OUT THE PROVIDED ENVIRONMENTAL EVALUATION SUMMARY (EES) AND SUBMIT WITHIN 24 HOURS OF COMPLETION OF THE WORK OUTLINED IN ATTACHMENT 'A' OF THE FORM. P-I NUMBER OF STORIES GAS PIPE ROUTING PLANS AND NOTES BELOW GRADE: ZERO (O) P-2 SYMBOLS LIST, ABBREVIATIONS, RISER, AND NOTES FIRE PROTECTION: 21. CONTRACTOR IS RESPONSIBLE FOR STORAGE OF ALL MATERIALS PROVIDED BY VERIZON, AND IS LIABLE FOR THOSE MATERIALS ONCE PICKED UP FROM THE N/A ELECTRICAL SPECIFICATIONS, SYMBOLS LIST, AND SCHEDULE HIGH RISE REQUIREMENTS: N/A POWER RISER DIAGRAM AND NOTES E-2 EQUIPMENT AREA: 150.0 SQ. FT. 22. CONTRACTOR SHALL PERFORM A PUNCH WALK WITH VZW CONSTRUCTION & OPERATION REPRESENTATIVE PRIOR TO DECLARING CONSTRUCTION COMPLETE. VERIZON WIRELESS EQUIPMENT PLATFORM) E-3 ROUTING PLANS AND NOTES G STREET SW BUILDING IS ON THE LEFT LIGHTING AND POWER PLAN, SCHEDULE, AND NOTES 23. REFER TO THE VZW SIGNAGE AND DEMARCATION POLICY DOCUMENT FOR ALL ROOFTOP SITES TO ENSURE THE PROPER SIGNAGE AND BARRIERS ARE IN PLACE.° FCC SIGNAGE MUST BE POSTED ON SITE FOR NEW TOWERS UPON BREAKING GROUND.° THE FCC REGISTRATION # MUST BE VISIBLE FROM THE ENTRANCE TO THE CELL SITE FROM THE ROAD, THEN AT THE BASE OF THE TOWER.° THE GC MUST COMMUNICATE WITH CONSTRUCTION & RF ENGINEERING TO VERIFY THEY ARE IN AGREEMENT WITH COMPLIANCE GROUNDING PLANS, DETAIL, AND NOTES E-6 DETAILS verizon wireless review E-7 DETAILS HYBRIFLEX DETAILS AND DIAGRAM BUILDING OWNER E-9 POLAR POWER DC GENERATOR DETAILS AND NOTES 24. GENERAL CONTRACTOR SHALL PROVIDE A IOLBS. DRY-CHEMICAL FIRE EXTINGUISHER ON SITE DURING CONSTRUCTION. UPON COMPLETION OF ALL WORK, CONTRACTOR SHALL REMOVE FIRE EXTINGUISHER FROM SITE. ENGINEERING **OPERATIONS** CONSTRUCTION

Telegent Engineering In 2216 Commerce Road, Suite 1 Forest Hill, MD 21050 410-692-5816 www.tel-eng.com

REVISIONS: NO. DESCRIPTION DATE PERMIT DRAWINGS |11/27/ |ELECTRIC SERVICE REV.|11/17/1 LAST REV.: PROJECT NO: 17086F

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NOVEMBER 17, 2017

SCALE:

SITE LOCATION AND VICINITY PLAN, INDEX OF

DATE

DATE

DATE

DATE

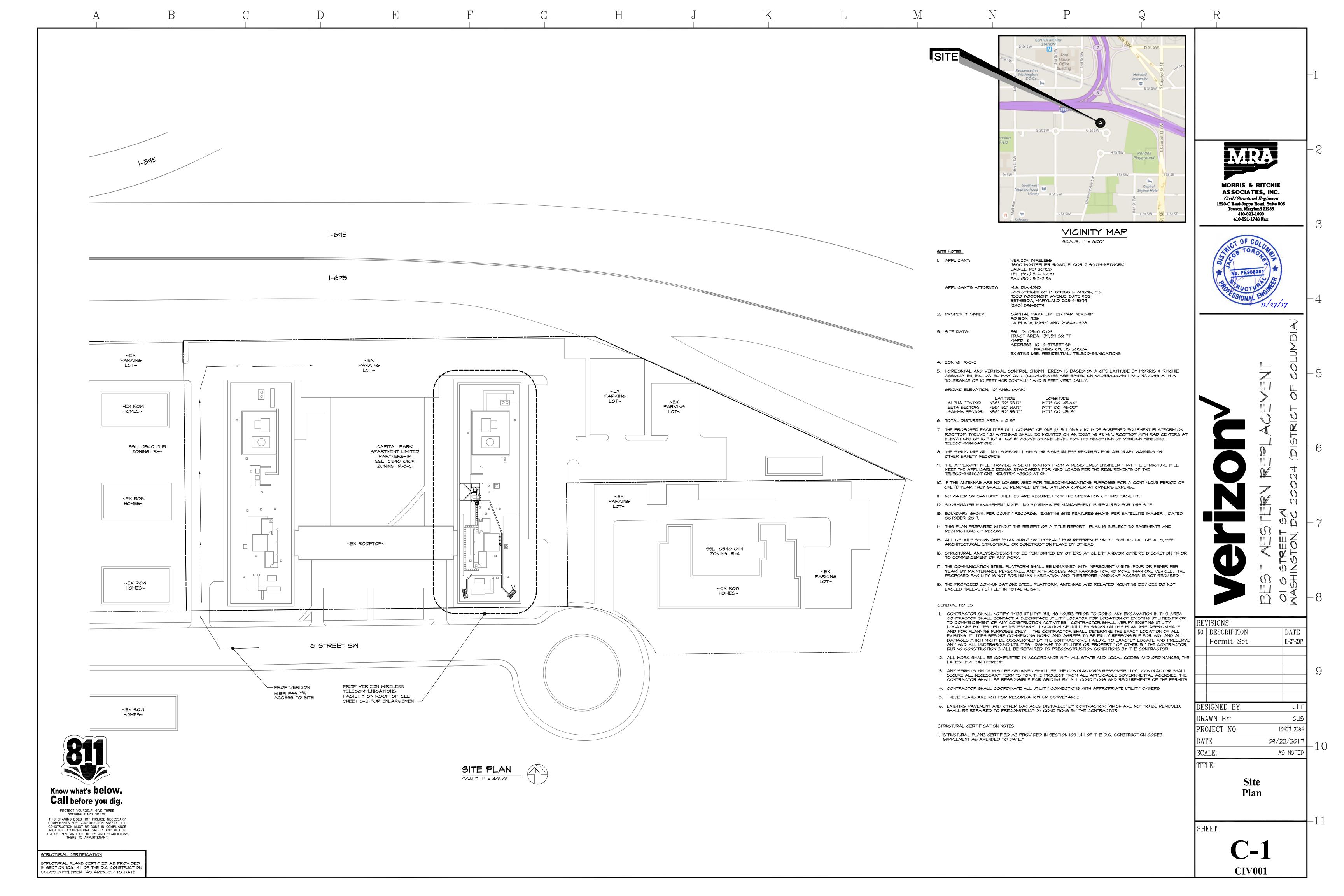
DRAWINGS, AND CODE ANALYSIS

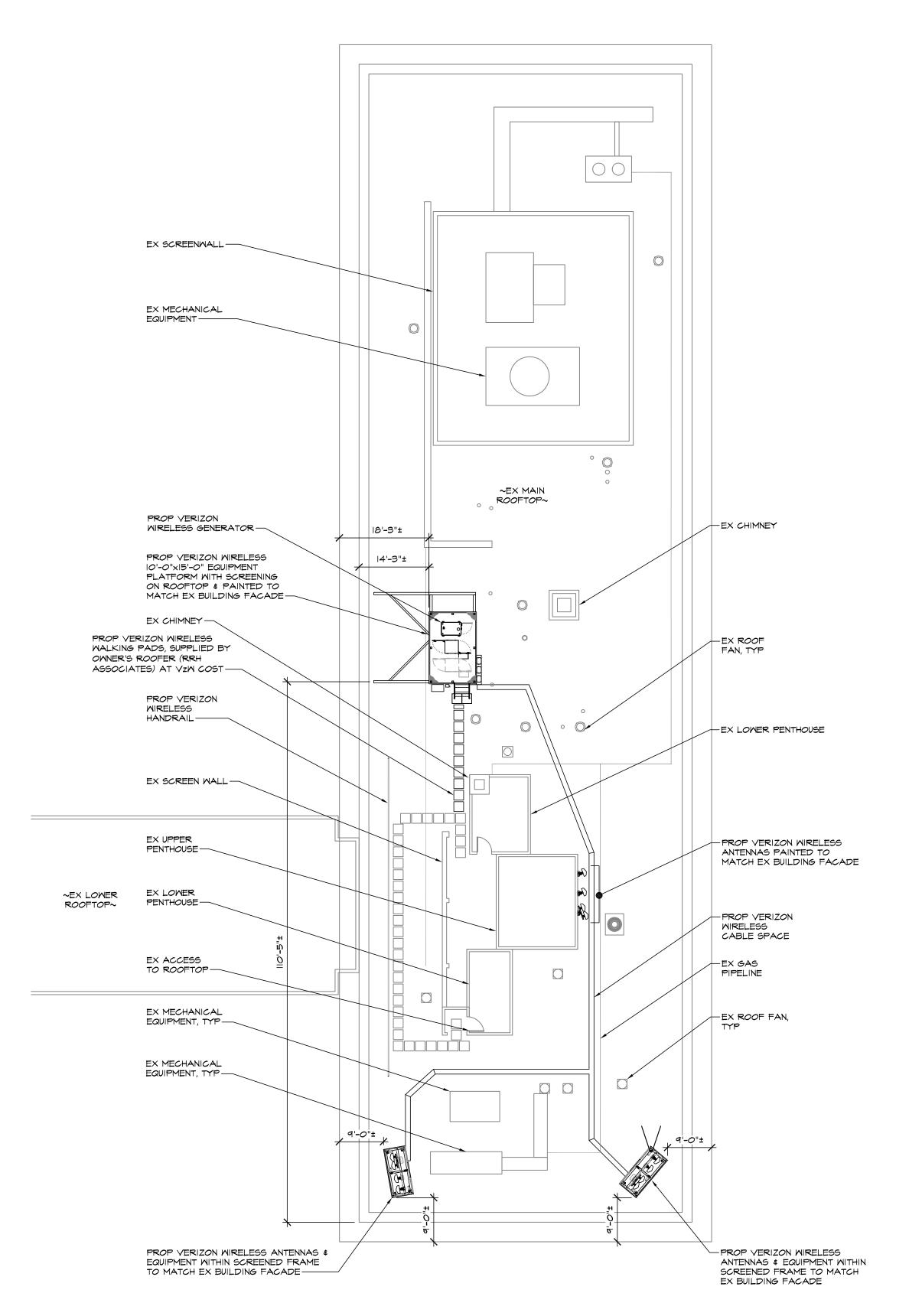
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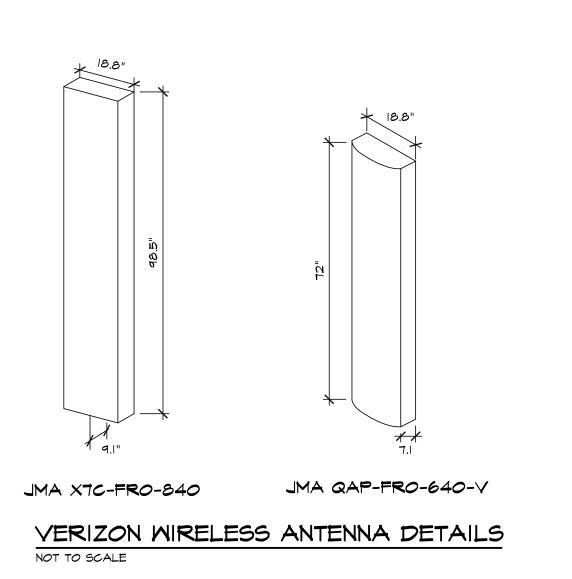
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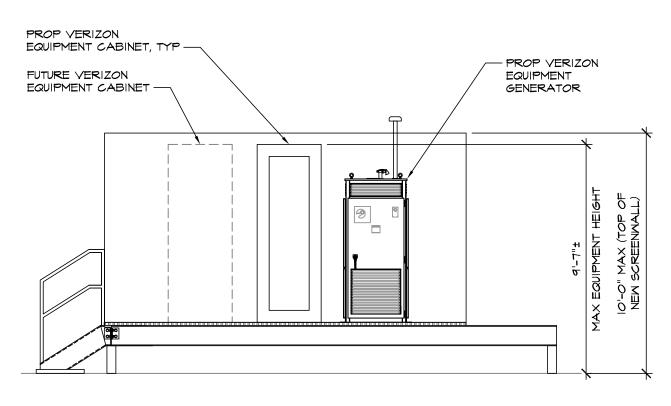
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STEEL PLATFORM ELEVATION W/ GENERATOR

SCALE: 1/4" = 1'-0"



Know what's below.
Call before you dig.

PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

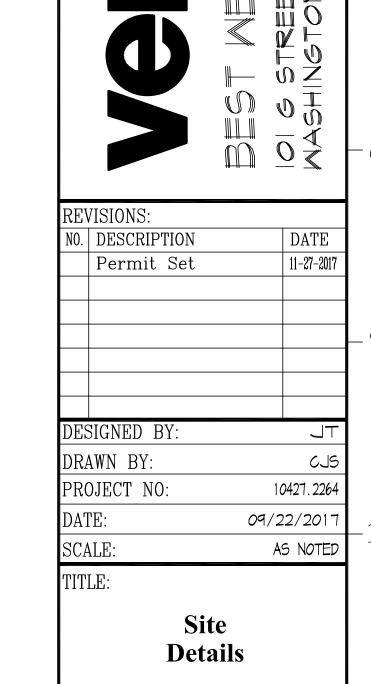
STRUCTURAL CERTIFICATION

STRUCTURAL PLANS CERTIFIED AS PROVIDED IN SECTION 106.1.4.1 OF THE D.C CONSTRUCTION CODES SUPPLEMENT AS AMENDED TO DATE

ENLARGED COMPOUND LAYOUT

SCALE: |" = |0'-0"



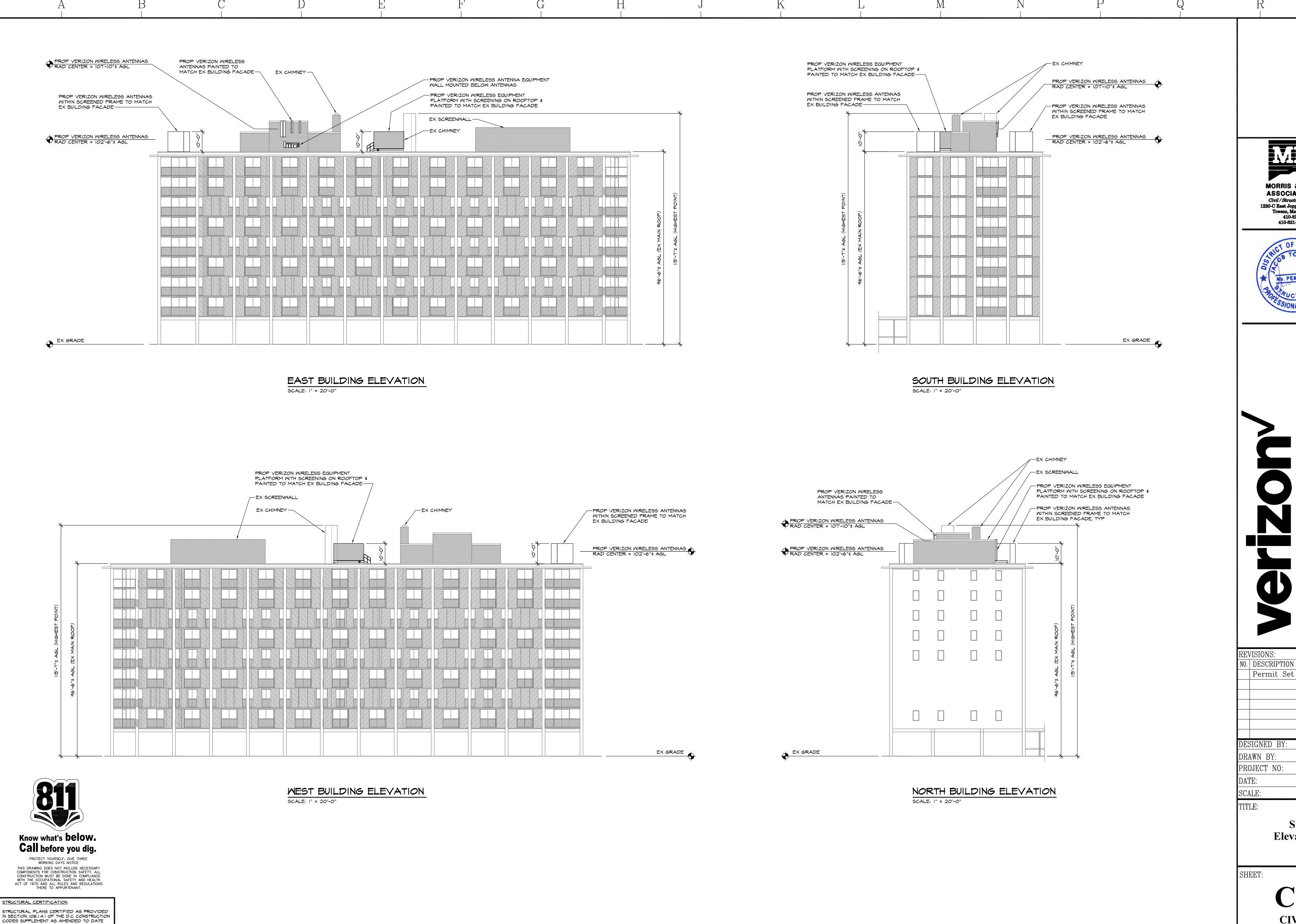


CIV002

SHEET:

ASSOCIATES, INC.

Civil/Structural Engineers
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax



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| Permit Set

DATE 11-27-2017

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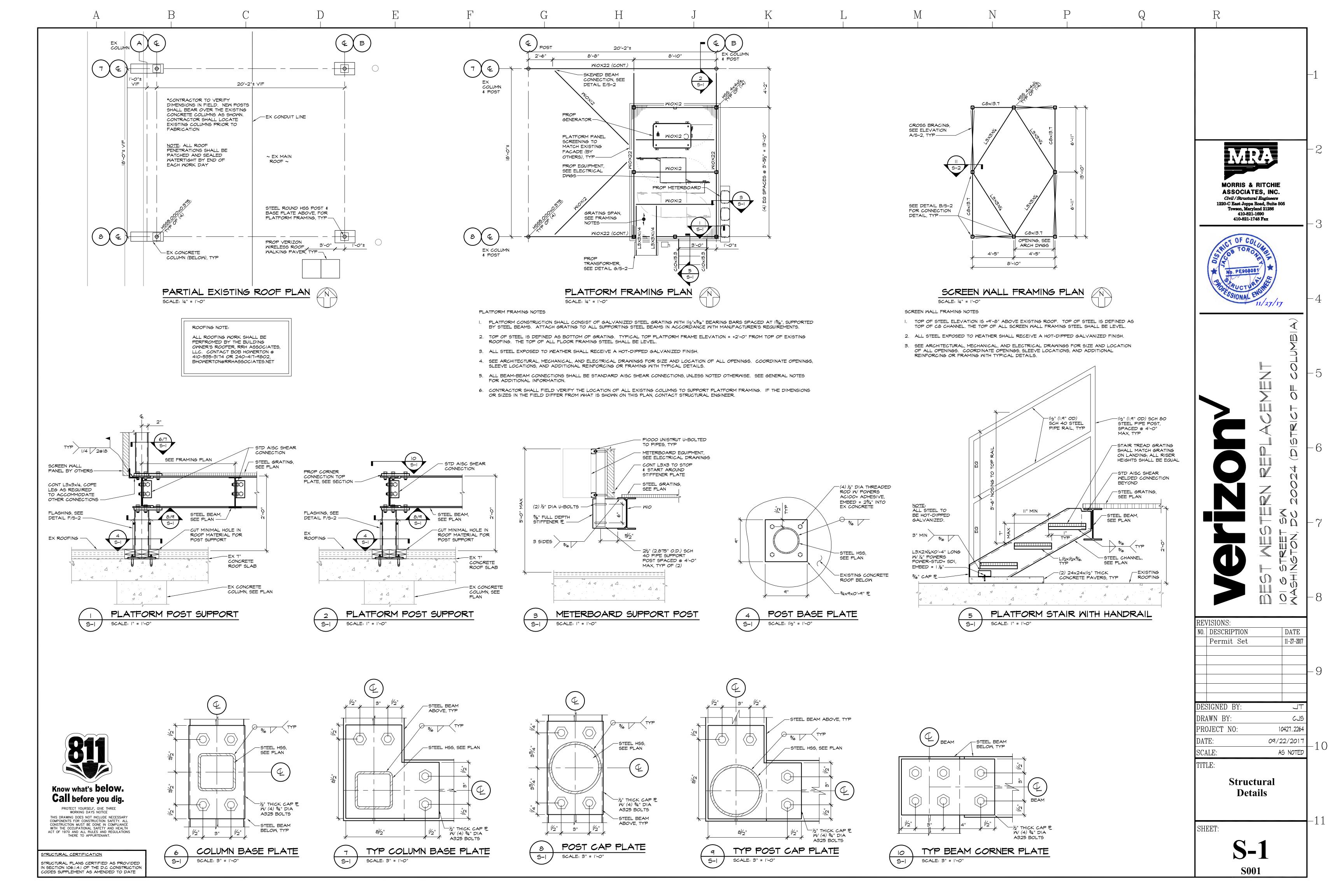
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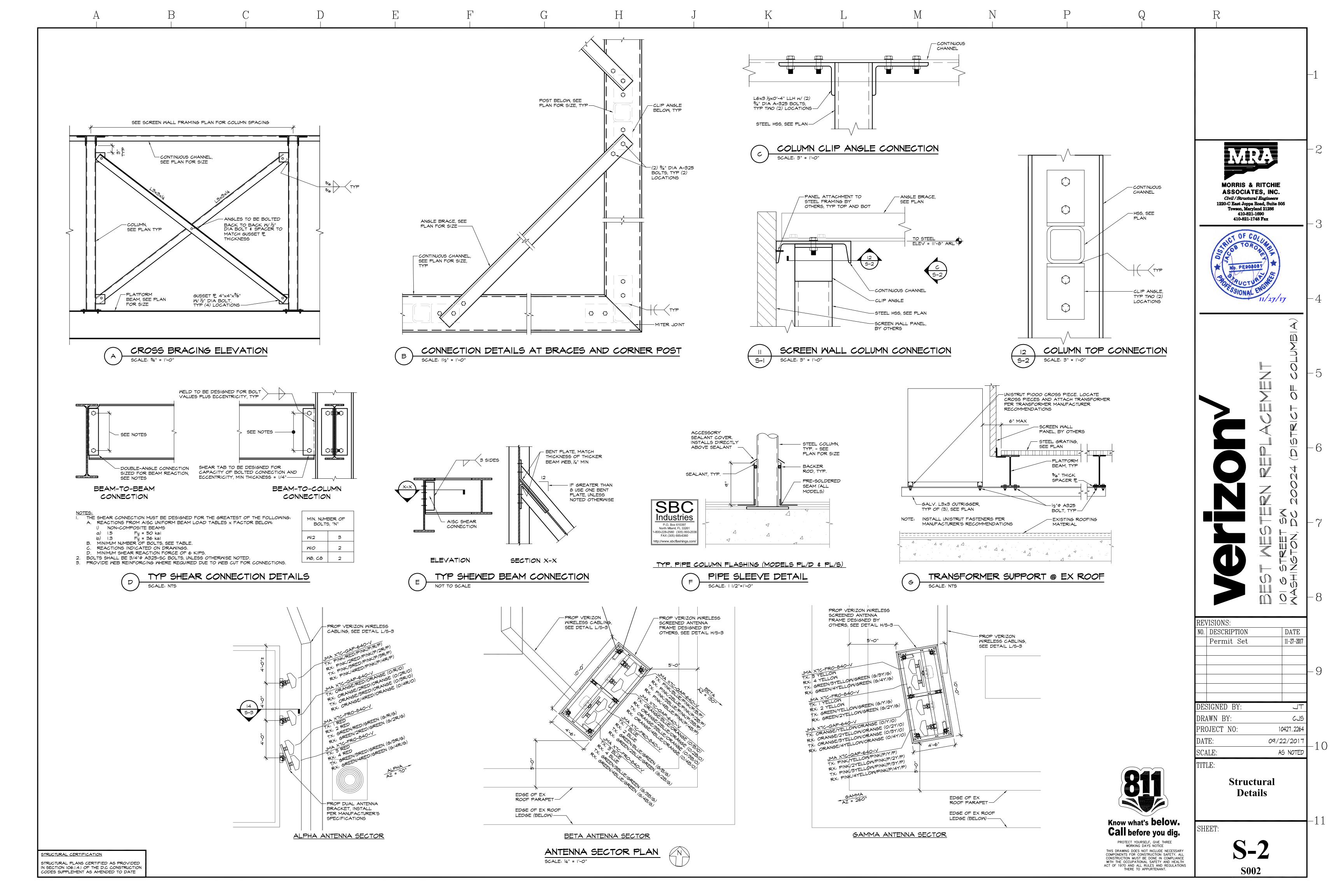
Elevations

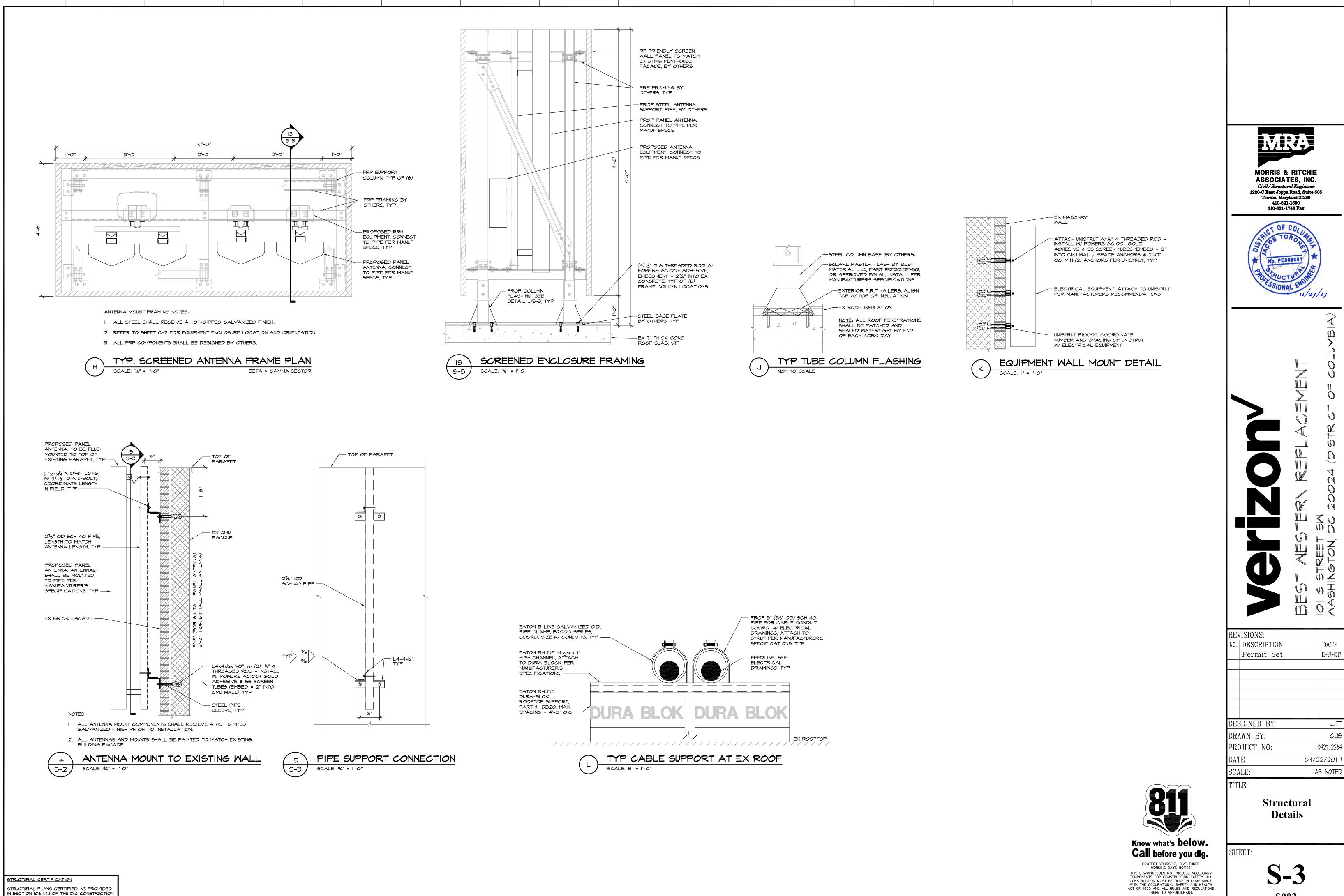
CIV003

MORRIS & RITCHIE ASSOCIATES, INC.

Civil / Structural Engineers
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax







DATE

11-27-2017

S003

STRUCTURAL CERTIFICATION STRUCTURAL PLANS CERTIFIED AS PROVIDED IN SECTION 106.1.4.1 OF THE D.C CONSTRUCTION CODES SUPPLEMENT AS AMENDED TO DATE

GENERAL STRUCTURAL NOTES

BUILDING CODES

- A. ALL CONSTRUCTION SHALL CONFORM WITH THE ICC INTERNATIONAL BUILDING CODE (IBC 2012), DC BUILDING CODE (DCBC 2013) AND ALL SUBSEQUENT SUPPLEMENTS.
- B. ADDITIONS/ALTERATIONS TO EXISTING STRUCTURES SHALL CONFORM WITH THE ICC INTERNATIONAL EXISTING
- BUILDING CODE (IEBC 2012), DC EXISTING BUILDING CODE (DCEBC 2013) AND ALL SUBSEQUENT SUPPLEMENTS.
- ASCE/SEI 7 -10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES ACISI8-II BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

C. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE FOLLOWING INDUSTRY STANDARDS:

DESIGN LOADS

A. THE DESIGN DEAD LOADING FOR ALL FRAMING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS. ALL FRAMING IS DESIGNED FOR THE WEIGHT OF THE EQUIPMENT INDICATED ON THE DRAWINGS.

B. SNOW LOAD DESIGN DATA

GROUND SNOW LOAD:

SNOW EXPOSURE FACTOR:

THERMAL FACTOR:

SNOW LOAD IMPORTANCE FACTOR:

FLAT ROOF SNOW LOAD:

SLOPED ROOF SNOW LOAD:

PG = 25 PSF

CE = 1.0

EI = 1.0

PF = 21 PSF

CS = 1.0

SLOPED ROOF SNOW LOAD:

PS = 21 PSF

AMS DI.1:2015 - STRUCTURAL WELDING CODE - STEEL

C. WIND LOAD DESIGN DATA

ANALYSIS PROCEDURE: ANALYTICAL V = 90 MPH BASIC WIND SPEED: ULTIMATE WIND SPEED VULT = 115 MPH WIND IMPORTANCE FACTOR l = l.O EXPOSURE CATEGORY: PRESSURE EXPOSURE COEFFICIENT: KZ = 0.7TOPOGRAPHIC FACTOR KZT = 10DIRECTIONALITY FACTOR: KD = 0.95GUST EFFECT FACTOR: G = 1.0 FORCE COEFFICIENT: CF = 1.3ENCLOSURE CLASSIFICATION: VARIES

D. EARTHQUAKE LOAD DESIGN DATA

SEISMIC IMPORTANCE FACTOR: IE = 1.0

SPECTRAL RESPONSE ACCELERATIONS: SS = 0.1185

SI = 0.051

SITE CLASS: D

SITE COEFFICIENTS: FA = 1.6

FV = 2.4

SPECTRAL RESPONSE COEFFICIENTS: SDS = 0.126

SDI = 0.082

SEISMIC DESIGN CATEGORY:

BASIC SEISMIC EORGE PERISTING SYSTEM.

SEISMIC DESIGN CATEGORY:

BASIC SEISMIC FORCE RESISTING SYSTEM:

STEEL FRAMES NOT SPECIFICALLY DESIGNED
FOR SEISMIC RESISTANCE

EQUIVALENT LATERAL FORCE

ANALYSIS PROCEDURE: EQUIVALENT I
RESPONSE MODIFICATION COEFFICIENT: R = 3.0
BASE SHEAR COEFFICIENT: C5 = 0.0253

E. THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS OR UNDERTAKE ANY CONSTRUCTION OPERATION WHICH WILL EXCEED THE DESIGN LIVE LOADINGS NOTED.

F. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS FOR NEW AND EXISTING STRUCTURES, AS REQUIRED TO COMPLETE THE PROJECT. THE STABILITY OF THE STRUCTURE IS DEPENDENT UPON THE DIAPHRAGM ACTION OF THE FLOORS AND ROOF. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE METHOD OF CONSTRUCTION AND SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN THE STABILITY OF THE STRUCTURE AND TO SUPPORT CONSTRUCTION LOADS DURING CONSTRUCTION. CONTRACTOR SHALL RETAIN STRUCTURAL ENGINEER LICENSED IN THE STATE IN WHICH PROJECT IS LOCATED TO DESIGN TEMPORARY BRACING AND CONSTRUCTION SUPPORTS.

G. STRUCTURAL COMPONENTS ARE NOT DESIGNED FOR VIBRATING EQUIPMENT. MOUNT VIBRATING EQUIPMENT ON VIBRATION ISOLATORS.

EXISTING STRUCTURE

- A. ALL EXISTING PLANS, DETAILS, DIMENSIONS, AND ELEVATIONS INDICATE EXISTING CONDITIONS AS KNOWN. THE EXISTING INFORMATION SHOWN IS NOT INTENDED TO BE "AS BUILT" AND THE ACTUAL CONSTRUCTION MAY DIFFER FROM THAT SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING DIMENSIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. MINOR VARIATIONS CAN BE EXPECTED AND ANY REQUIRED DEVIATION FROM THE CONTRACT DOCUMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- B. THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF CONSTRUCTION AND PREVENT DAMAGE TO THEM. SHOULD DAMAGE OCCUR TO ANY UTILITIES, THE CONTRACTOR IS REQUIRED TO REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER AT HIS OWN EXPENSE.
- C. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN THE STABILITY OF THE EXISTING STRUCTURE DURING CONSTRUCTION. THE DESIGN OF ALL TEMPORARY BRACING AND SHORING IS THE CONTRACTORS RESPONSIBILITY.
- D. THE CONTRACTOR SHALL MONITOR THE EXISTING STRUCTURE DURING CONSTRUCTION. IMMEDIATELY NOTIFY THE ENGINEER OF AREAS EXHIBITING DISTRESS OR FAILURE.
- E. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE AND CONDITION OF ALL EXISTING FRAMING. SHOULD THE SIZE OR CONDITION OF THE EXISTING FRAMING DIFFER FROM THAT SHOWN ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

MISCELLANEOU

- A. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.
- B. SEE ARCHITECTURAL, CIVIL AND MEP CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS.
- C. THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS. THE STRUCTURAL CONSTRUCTION DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR CRITERIA INDICATED THE STRUCTURAL DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
- D. IN CASES OF CONFLICT BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
- E. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- F. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
- G. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- H. APPLY DETAILS, SECTIONS AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.
- I. ASSUME EQUAL SPACING BETWEEN ESTABLISHED DIMENSIONS, IF NOT INDICATED ON DRAWINGS.
- J. CENTERLINES OF FRAMING MEMBERS COINCIDE WITH COLUMN CENTERLINES, UNLESS OTHERWISE NOTED.
- K. THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOAD IS APPLIED.

STRUCTURAL AND MISCELLANEOUS STEEL

- A. ALL STEEL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE AISC STEEL CONSTRUCTION MANUAL "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (ANSI/AISC 360) AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
- B. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES, AND SHAPES CUT THEREOF, SHALL CONFORM TO ASTM A992 (FY = 50 KSI)
- C. ALL MISCELLANEOUS STEEL (ANGLES, CHANNELS, PLATES, AND BARS) SHALL CONFORM TO ASTM A36 (Fy = 36
- D. ALL HSS ROUND SHAPES SHALL CONFORM TO ASTM A500, GRADE B (Fy = 42 KSI). ALL HSS SQUARE OR RECTANGULAR SHAPES SHALL CONFORM TO ASTM A500, GRADE B (Fy = 46 KSI).
- E. ALL PIPE SHALL CONFORM TO ASTM A53, GRADE B (Fy = 35 KSI).
- F. WHERE NO CAMBER IS INDICATED, FABRICATE BEAMS SO THAT ANY NATURAL CAMBER IS UPWARD AFTER ERECTION.

- G. ALL BEAM CONNECTIONS SHALL BE DESIGNED FOR THE MAXIMUM OF 50% OF THE UNIFORM LOAD CAPACITY OF THE MEMBER (LATERALLY SUPPORTED) OR THE SHEAR CAPACITY OF THE WEB, WITH DUE CONSIDERATION OF CONCENTRATED LOADS. BOLTED CONNECTIONS SHALL USE NO LESS THAN TWO 3/4" DIA ASTM A325 OR A490 HIGH STRENGTH BOLTS. CONFORM TO AISC SPECIFICATION "STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"
- H. UNLESS NOTED OTHERWISE, DETAILS INDICATED ON THE DRAWINGS INDICATE GENERAL CRITERIA FOR DESIGN AND DETAILING OF THE CONNECTIONS. DETAILS INDICATED ON DRAWINGS ARE NOT INTENDED TO CONVEY COMPLETE CONNECTOR SIZES, PLATE SIZES, WELD SIZES, NUMBER OF BOLTS OR ANY OTHER SPECIFIC INFORMATION THAT IS OBTAINED THROUGH DESIGNING OF AN INDIVIDUAL CONNECTION FOR A GIVEN SET OF LOADS. THESE DETAILS DO NOT SHOW ERECTION AIDS. PROVIDE ERECTION AIDS AS REQUIRED AND REMOVE THEM AFTER WORK IS COMPLETE.
- ALL WELDED CONNECTIONS SHALL USE ETOXX ELECTRODES.

BEING WELDED UNLESS OTHERWISE INDICATED.

- J. ALL NUTS SHALL CONFORM TO ASTM A563. ALL WASHERS SHALL CONFORM TO ASTM F436.
- K. ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE DOUBLE ANGLE OR SINGLE PLATE SHEAR CONNECTIONS DESIGNED AND DETAILED IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION WITH A MINIMUM EDGE DISTANCE OF 1 1/2 INCHES AND BOLT SPACING OF 3 INCHES.
- .. BRACING AND MOMENT CONNECTIONS SHALL BE CONSIDERED SLIP-CRITICAL. BOLTS IN SLIP-CRITICAL CONNECTIONS SHALL BE TIGHTENED BY THE TURN-OF-NUT METHOD. BOLTS IN ALL OTHER CONNECTIONS SHALL BE MADE "SNUG TIGHT" AS DEFINED BY AISC.
- M. ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY CERTIFIED WELDERS AND CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR BUILDINGS AWS DI.I. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS
- N. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.
- O. AN INDEPENDENT INSPECTION AGENCY SHALL INSPECT ALL STRUCTURAL STEEL AND VERIFY THAT IT CONFORMS TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. FIELD INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN 5 DAYS OF THE INSPECTION. THE CONTRACTOR SHALL NOTIFY THE INSPECTION AGENCY OF ALL PHASES OF STEEL CONSTRUCTION AND WELDING.
- P. STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES EXPOSED TO WEATHER OR INDICATED TO BE GALVANIZED SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM AI23 AFTER FABRICATION. ALL BOLTS, SCREWS, WASHERS & NUTS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM F2329.
- Q. PROVIDE HOLES IN STEEL AS REQUIRED TO PREVENT ANY ACCUMULATION OF WATER. ALL PENETRATIONS THROUGH MAIN MEMBERS SHALL NOT EXCEED 1-1/6" DIA. AND SHALL BE GROUND SMOOTH. THESE DRAINS MUST BE KEPT CLEAN AND OPEN.
- R. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.
- 5. SHOW ALL COPES, HOLES, OPENINGS AND MODIFICATIONS REQUIRED IN STRUCTURAL STEEL MEMBERS FOR ERECTION OR THE WORK OF OTHER TRADES ON THE SHOP DRAWINGS FOR APPROVAL BY THE STRUCTURAL ENGINEER.

ANTENNA COMPONENT COATING NOTES:

- A. ALL METAL COMPONENTS OF THE ANTENNA SYSTEM ARE SPECIFIED TO BE FABRICATED FROM HOT DIP GALVANIZED STEEL. AFTER ERECTION, THESE COMPONENTS SHALL BE COATED AS FOLLOWS:
- I. SOLVENT CLEAN WITH LOW PRESSURE WATER WASHING (<3,500 PSI) IN CONFORMANCE WITH SSPC SP-I.
- 2. PRIME WITH A 100% SOLIDS PIGMENTLESS EPOXY RECOMMENDED FOR USE ATOP HOT DIP GALVANIZED SURFACES.
- 3. INTERMEDIATE AND TOPCOATING SHALL BE THE SAME FOR EXTERIOR COATING AND INTERIOR COATING SPECIFICATIONS.
- B. SOME ANTENNA COMPONENTS MAY BE COATED PRIOR TO ERECTION. HOWEVER, FINAL COATING INSPECTION OF THESE ITEMS IS REQUIRED AND ITEMS REJECTED BY WARREN COUNTY'S QC REPRESENTATIVE, DATANET
- C. ANTENNAS, MOUNTS, VISIBLE PORTIONS OF COAX, AND COAX SUPPORT SHALL BE PAINTED TO MATCH EXISTING WATER TANK.

POST-INSTALLED ANCHORS (ADHESIVE ANCHORS):

STRUCTURAL FIBERGLASS

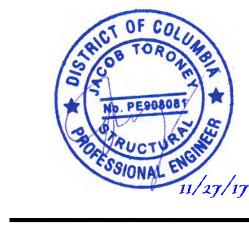
ENGINEERING SHALL BE RE-ACCOMPLISHED.

- A. THE ADHESIVE ANCHOR SYSTEM USED FOR POST-INSTALLED ANCHORAGE TO CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY PUBLISHED ACI 355.4.
- B. EXISTING REINFORCING BARS AND/OR POST-TENSIONING TENDONS SHALL NOT BE DAMAGED DURING INSTALLATION OF THE ADHESIVE ANCHORS. THE CONTRACTOR SHALL FIELD LOCATE ALL REINFORCING BARS AND/OR TENDONS IN THE VICINITY OF THE ADHESIVE ANCHORS BY MEANS OF NON-DESTRUCTIVE METHODS (GPR, X-RAY OR OTHER NON-DESTRUCTIVE METHOD).
- C. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (FC') OF 2,500 PSI AT THE TIME OF ADHESIVE
- D. CONCRETE AT TIME OF ADHESIVE ANCHOR INSTALLATION SHALL HAVE A MINIMUM AGE OF 21 DAYS.
- E. CONCRETE TEMPERATURE AT THE TIME OF ADHESIVE ANCHOR INSTALLATION SHALL BE AT LEAST 50° F.
- F. EMBEDMENT DEPTH SHALL BE AS SHOWN ON THE DRAWINGS OR DETAILS FOR THE PARTICULAR ANCHOR OR GROUP OF ANCHORS BEING INSTALLED. ANCHOR PROJECTION SHALL BE AS REQUIRED TO COMPLETELY INSTALL ALL ATTACHED COMPONENTS.
- G. ADHESIVES SHALL BE STORED AND INSTALLED AT THE SERVICE TEMPERATURE RANGES RECOMMENDED BY THE MANUFACTURER.
- H. ADHESIVE ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL TRAINED TO INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR CONSTRUCTION DOCUMENTS. POST-INSTALLED ADHESIVE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- I. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. THESE ANCHORS ARE DESIGNATED WITH "(CERT)" AFTER THE ANCHOR CALL-OUT.
- J. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT REQUIRED TO INSTALL THE ADHESIVE ANCHOR INCLUDING, BUT NOT LIMITED TO, DRILLS, SETTING TOOLS, CLEAN-OUT BRUSHES, BLOW OUT BULBS, OIL-FREE COMPRESSED AIR, SHOP VACUUMS, WRENCHES, ETC.
- K. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH A ROTARY IMPACT HAMMER DRILL OR ROCK DRILL. CORE-DRILLING HOLES FOR ADHESIVE ANCHORS IS NOT PERMITTED.
- L. ANCHOR HOLES SHALL BE THOROUGHLY CLEANED PRIOR TO ADHESIVE INJECTION, AS REQUIRED BY THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- M. DRILLED AND CLEANED ANCHOR HOLES SHALL BE PROTECTED FROM CONTAMINATION UNTIL THE ADHESIVE IS INSTALLED.
- N. INSTALLED ADHESIVE ANCHORS SHALL BE SECURELY FIXED IN-PLACE TO PREVENT DISPLACEMENT WHILE THE ADHESIVE CURES. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, ANCHORS SHALL BE INSTALLED PERPENDICULAR TO THE CONCRETE SURFACE. ANCHORS DISPLACED BEFORE FULL ADHESIVE CURE SHALL BE CONSIDERED DAMAGED AND REPLACED.
- O. REINFORCING BARS OR ALL-THREAD BARS SHALL NOT BE BENT AFTER BEING ADHESIVELY EMBEDDED IN THE HARDENED, SOUND CONCRETE.
- A. ALL STRUCTURAL SHAPES ARE TO BE MANUFACTURED BY THE PULTRUSION PROCESS WITH A GLASS CONTENT MINIMUM OF 45%, MAXIMUM OF 55% BY WEIGHT. THE STRUCTURAL SHAPES SHALL BE COMPOSED OF FIBERGLASS REINFORCEMENT AND RESIN IN QUALITIES, QUANTITIES, PROPERTIES, ARRANGEMENTS AND DIMENSIONS AS NECESSARY TO MEET THE DESIGN REQUIREMENTS AND DIMENSIONS AS SPECIFIED.
- 3. FIBERGLASS REINFORCEMENT SHALL BE A COMBINATION OF CONTINUOUS ROVING, CONTINUOUS STRAND MAT,
 AND SURFACING VEIL IN SUFFICIENT QUANTITIES AS NEEDED BY THE APPLICATION AND/OR PHYSICAL
 PROPERTIES REQUIRED
- C. ALL FINISHED SURFACES OF FRP ITEMS AND FABRICATIONS SHALL BE SMOOTH, RESIN-RICH, FREE OF VOIDS AND MITHOUT DRY SPOTS, CRACKS, CRAZES OR UNREINFORCED AREAS. ALL GLASS FIBERS SHALL BE WELL COVERED WITH RESIN TO PROTECT AGAINST THEIR EXPOSURE DUE TO WEAR OR WEATHERING.
- D. ALL PULTRUDED STRUCTURAL SHAPES SHALL BE PROTECTED FROM ULTRAVIOLET (UV) ATTACK WITH INTEGRAL UV INHIBITORS IN THE RESIN AND A SYNTHETIC SURFACING VEIL TO PRODUCE A RESIN RICH SURFACE.
- E. PULTRUDED STRUCTURAL SHAPES ARE TO HAVE THE MINIMUM LONGITUDINAL MECHANICAL PROPERTIES LISTED BELOW:
 - TENSILE STRENGTH 30,000 PSI TENSILE MODULUS D638 2500 KSI FLEXURAL STRENGTH 30.000 PSI FLEXURAL MODULUS D790 1,800 KSI FLEXURAL MODULUS (FULL SECTION) 2,800 KSI SHORT BEAM SHEAR (TRANSVERSE) D2344 4,500 PSI SHEAR MODULUS (TRANSVERSE) 450 KSI COEFFICIENT OF THERMAL EXPANSION 4.4 x10-6 IN/IN/°F FLAME SPREAD 25 OR LESS

STRUCTURAL SHAPES SUPPLIED SHALL MEET THE MINIMUM DIMENSIONAL REQUIREMENTS AS SHOWN OR SPECIFIED. THE CONTRACTOR SHALL PROVIDE AND/OR VERIFY MEASUREMENTS IN FIELD FOR WORK FABRICATED TO FIT FIELD CONDITIONS AS REQUIRED BY MANUFACTURER TO COMPLETE THE WORK. DETERMINE CORRECT SIZE AND LOCATIONS OF REQUIRED HOLES OR COPING FROM FIELD DIMENSIONS BEFORE STRUCTURAL SHAPE FABRICATION.

- G. ALL SHOP FABRICATED CUTS OR DRILLING SHALL BE COATED WITH VINYL ESTER RESIN TO PROVIDE MAXIMUM CORROSION RESISTANCE. ALL FIELD FABRICATED CUTS OR DRILLING SHALL BE COATED SIMILARLY BY THE CONTRACTOR IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- H. THE CONTRACTOR SHALL FURNISH MANUFACTURER'S SHOP DRAWINGS CLEARLY SHOWING MATERIAL SIZES, TYPES, STYLES, PART OR CATALOG NUMBERS, COMPLETE DETAILS FOR THE FABRICATION OF AND ERECTION OF COMPONENTS INCLUDING, BUT NOT LIMITED TO, LOCATION, LENGTHS, TYPE AND SIZES OF FASTENERS, CLIP ANGLES, MEMBER SIZES, AND CONNECTION DETAILS.

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410-821-1690
410-821-1748 Fax



REVISIONS:

NO. DESCRIPTION DATE

Permit Set 11-27-2017

DESIGNED BY:

DRAWN BY:

PROJECT NO: 10421.2264

09/22/201

AS NOTED

Structural Notes

Know what's **below.**Call before you dig.

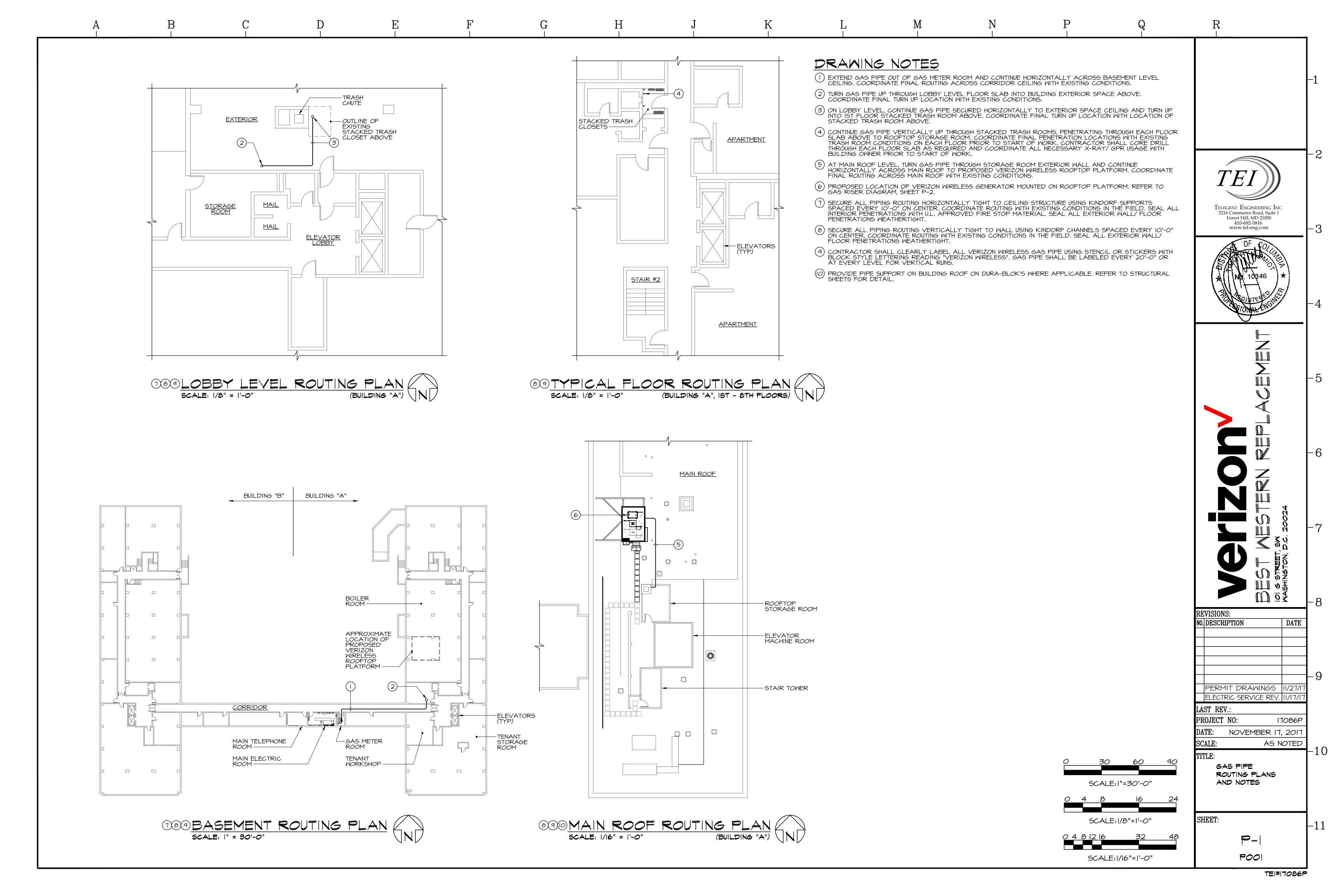
PROTECT YOURSELF, GIVE THREE
WORKING DAYS NOTICE
THIS DRAWING DOES NOT INCLUDE NECESSARY
COMPONENTS FOR CONSTRUCTION SAFETY. ALL
CONSTRUCTION MUST BE DONE IN COMPLIANCE
WITH THE OCCUPATIONAL SAFETY AND HEALTH
ACT OF 1970 AND ALL RULES AND REGULATIONS
THERE TO APPURTENANT.

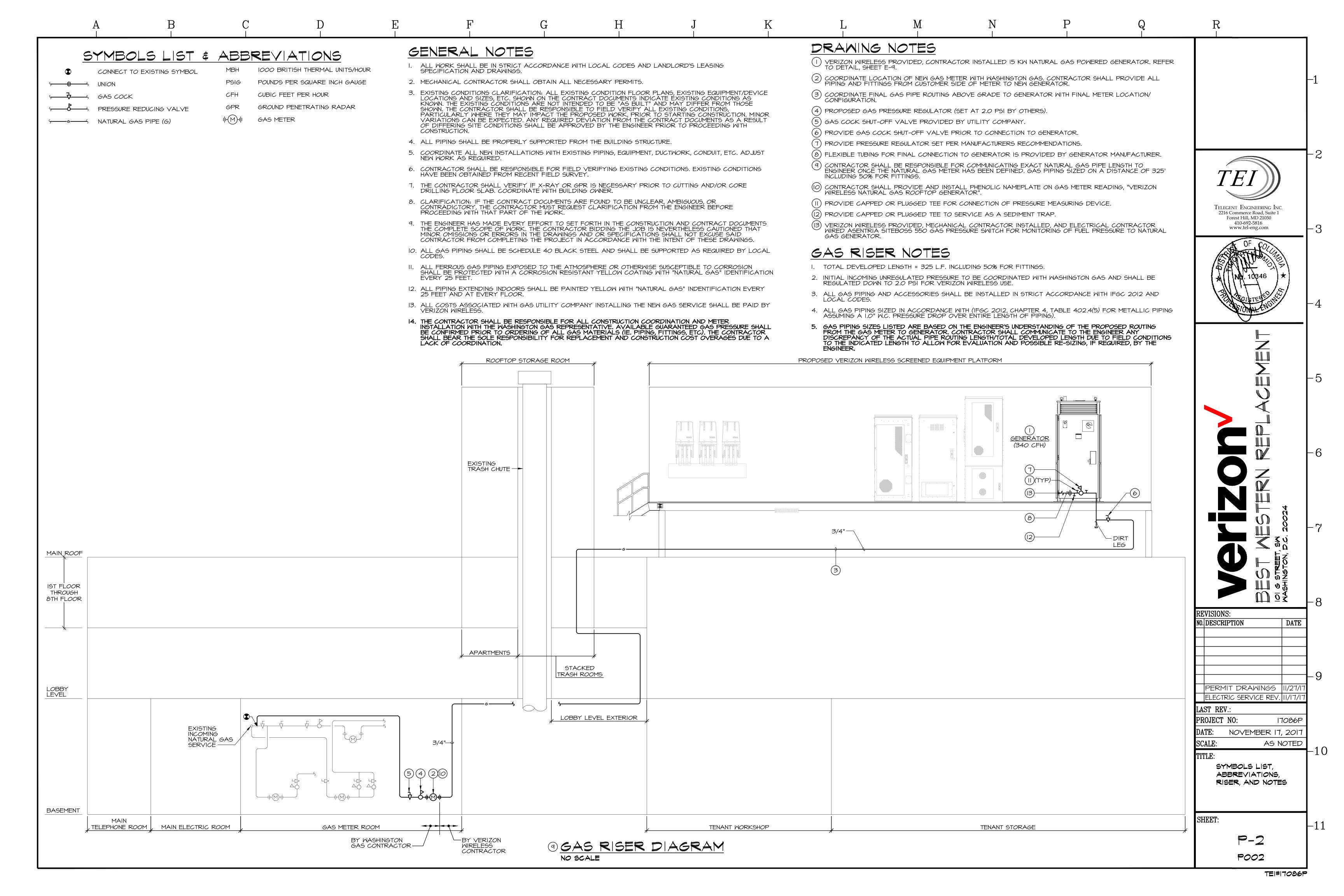
SHEET:

S-2 S004

STRUCTURAL CERTIFICATION

STRUCTURAL PLANS CERTIFIED AS PROVIDED IN SECTION 106.1.4.1 OF THE D.C CONSTRUCTION CODES SUPPLEMENT AS AMENDED TO DATE





ELECTRICAL SPECIFICATION

SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS

A. THE WORK INCLUDES FURNISHING AND INSTALLING THE MATERIAL, EQUIPMENT AND SYSTEMS COMPLETE AS SPECIFIED AND/OR INDICATED ON THE DRAWINGS, THE ELECTRICAL INSTALLATIONS, WHEN FINISHED, SHALL BE COMPLETE AND COORDINATED AND READY FOR SATISFACTORY SERVICE.

GOVERN EACH PARTICULAR TRADE AND THE 2011 NATIONAL ELECTRICAL CODE.

- B. ALL WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, BOCA AND LOCAL ELECTRICAL CODES THAT
- C. THE CONTRACTOR SHALL COORDINATE THE ELECTRICAL EQUIPMENT INSTALLATION WITH ALL TRADES.
- D. THE CONTRACTOR SHALL MAKE APPLICATION AND PAY ALL CHARGES FOR ALL NECESSARY PERMITS, LICENSES AND INSPECTIONS AS REQUIRED UNDER THE ABOVE CODES. UPON COMPLETION OF THE WORK, THE CUSTOMARY CERTIFICATIONS OF APPROVAL SHALL BE FURNISHED.
- E. NO MATERIALS OR EQUIPMENT SHALL BE USED IN THE WORK UNTIL APPROVED. ALL MATERIALS SHALL BE U.L. LISTED.
- F. THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS AND SPECIFICATIONS AND SHALL INSPECT THE EXISTING CONDITIONS OF THE SITE, FAILURE TO COMPLY WITH THIS REQUIREMENT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLYING WITH THE CONTRACT DOCUMENTS.
- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL INSTALLATIONS. DETAILS OF PROPOSED DEPARTURES DUE TO ACTUAL FIELD CONDITIONS OR OTHER CAUSES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. REWORK OF COMPLETED ITEMS DUE TO IMPROPER FIELD COORDINATION SHALL BE AT THE CONTRACTOR'S EXPENSE.
- H. PROVIDE SUFFICIENT ACCESS AND CLEARANCE FOR ALL ITEMS OF EQUIPMENT REQUIRING SERVICING AND MAINTENANCE.
- THE CONTRACTOR SHALL PERFORM ALL NECESSARY CUTTING AND PATCHING AS REQUIRED TO COMPLETE THE INSTALLATIONS, PATCHING OF WALLS, FLOORS, CEILINGS, ETC. SHALL MATCH THE ADJACENT SURFACES.
- THE CONTRACTOR SHALL PREPARE THREE (3) COPIES OF A RECORD AND INFORMATION BOOKLET. THE BOOKLET SHALL BE BOUND IN A THREE RING LOOSE-LEAF BINDER AND INCLUDE ALL ITEMS OF ELECTRICAL EQUIPMENT (I.E. PANELBOARDS, LIGHTING FIXTURES, LAMPS, ETC.).
- K. K. UPON COMPLETION OF THE ELECTRICAL INSTALLATION, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS OF THE ELECTRICAL CONTRACT DRAWINGS WHICH SHALL BE LEGIBLY MARKED IN RED TO SHOW ALL CHANGES AND DEPARTURES OF THE INSTALLATIONS COMPARED WITH THE ORIGINAL DESIGN. THEY SHALL BE SUITABLE FOR USE IN PREPARATION OF RECORD DRAWINGS. AS A MINIMUM, THE CONTRACTOR SHALL ADDRESS THE FOLLOWING:
- I. SOURCE, ORIGIN, AND/OR ROUTING OF VERIZON FEEDER. 2. CIRCUIT NUMBERING, CONTRACTOR SHALL ATTACH TO THE AS-BUILT A COPY OF THE FINAL TYPEWRITTEN PANEL SCHEDULE AS LEFT IN EACH
- PANELBOARD. 3. LOCATION OF MAJOR PIECES OF DISTRIBUTION EQUIPMENT SUCH AS KILOWATTHOUR METER AND VERIZON FEEDER OVERCURRENT DEVICES. 4. LOCATION OF THE EMERGENCY GENERATOR AND AUTOMATIC TRANSFER
- GUARANTEE: ALL NEW ELECTRICAL INSTALLATIONS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR BEGINNING THE DAY OF THE FINAL ACCEPTANCE OF THE WORK OR BENEFICIAL OCCUPANCY OF THE OWNER, WHICHEVER OCCURS FIRST. THE ABOVE SHALL NOT IN ANY WAY VOID OR ABBROGATE EQUIPMENT MANUFACTURER'S GUARANTEE OR WARRANTY, CERTIFICATES OF GUARANTEE SHALL BE DELIVERED TO THE OWNER. UPON RECEIPT OF NOTICE FROM THE OWNER OF FAILURE OF ANY PART OF THE ELECTRICAL INSTALLATION DURING THE GUARANTEE PERIOD, NEW REPLACEMENT PARTS SHALL BE FURNISHED AND INSTALLED PROMPTLY AND AT NO COST TO VERIZON.
- ANY ELECTRICAL WORK WHICH WILL INTERFERE WITH THE NORMAL USE OF THE BUILDING IN ANY MANNER SHALL BE DONE AT SUCH TIME OR TIMES AS SHALL BE MUTUALLY AGREED UPON BETWEEN THE CONTRACTOR AND THE VERIZON
- N. ALL EXISTING ELECTRICAL SYSTEMS IN OCCUPIED AREAS SHALL BE KEPT IN OPERATION DURING THE PROGRESS OF WORK, TEMPORARY ELECTRICAL CONNECTIONS SHALL BE PROVIDED TO ALL SYSTEMS OR EQUIPMENT, WHERE NECESSARY TO MAINTAIN CONTINUOUS OPERATION UNTIL THE NEW SYSTEMS AND EQUIPMENT ARE READY FOR OPERATION.
- O. WHEN THE WORK SPECIFIED HEREUNDER CONNECTS TO ANY EXISTING CONDUIT, WIRING OR OTHER EQUIPMENT, THE CONTRACTOR SHALL PERFORM ALL NECESSARY ALTERATIONS, CUTTING, AND FITTING OF THE EXISTING WORK AS MAY BE NECESSARY OR REQUIRED TO MAKE SATISFACTORY CONNECTIONS BETWEEN THE NEW AND EXISTING WORK AND SHALL LEAVE COMPLETED WORK IN A FINISHED AND WORKMANLIKE CONDITION, TO THE ENTIRE SATISFACTION OF THE
- SUPPORTS, HANGERS, AND FOUNDATIONS: PROVIDE ALL SUPPORTS, HANGERS, BRACES, ATTACHMENTS, AND FOUNDATIONS REQUIRED FOR THE WORK, SUPPORT AND SET THE WORK IN A THOROUGHLY SUBSTANTIAL AND WORKMANLIKE MANNER WITHOUT PLACING STRAINS ON THE MATERIALS, EQUIPMENT, OR THE BUILDING STRUCTURE. SUPPORTS, HANGERS, BRACES AND ATTACHMENTS SHALL BE STANDARD MANUFACTURED ITEMS OR FABRICATED STRUCTURAL STEEL SHAPES.
- Q. THERE SHALL BE NO INTERRUPTION OF POWER TO EXISTING ELECTRICAL SYSTEMS WITHOUT PRIOR CONSENT OF THE BUILDING OWNER. SUCH INTERRUPTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE SCHEDULED WITH THE OWNER AT LEAST THREE BUSINESS DAYS IN ADVANCE OF THE OUTAGE. ANY COST FOR WORK THAT MUST BE DONE ON AN OVERTIME BASIS SHALL BE INCLUDED IN THE BID.
- MOUNTING AND SUPPORTING OF ALL EQUIPMENT PROVIDED BY THIS CONTRACTOR SHALL BE COORDINATED WITH VERIZON IN THE FIELD.
- PREPARE AND SUBMIT TO VERIZON CATALOG CUTS FOR THE FOLLOWING: PANELBOARDS LIGHTING FIXTURES
- PROVIDE ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THE ELECTRICAL WORK. ANY DAMAGE DONE TO THE WORK ALREADY IN PLACE BY REASON OF THIS WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE BY A QUALIFIED MECHANIC EXPERIENCED IN SUCH WORK, PATCHING SHALL BE UNIFORM IN APPEARANCE AND SHALL MATCH THE SURROUNDING SURFACE. DO NOT 3. SECTION 16400 - SERVICE ₺ DISTRIBUTION CUT STRUCTURAL MEMBERS WITHOUT APPROVAL BY VERIZON. ALL PENETRATIONS THROUGH WALLS OF NEW ROOM SHALL BE SEALED TO PREVENT PASSAGE OF FM200 AGENT. WHERE PENETRATIONS ARE NECESSARY THROUGH THE ROOF, PROVIDE ALL NECESSARY CURBS, SLEEVES, SHIELDS, FLASHING, FITTINGS, AND
- U. IN GENERAL, POWER WIRING AND MOTOR STARTING EQUIPMENT FOR SYSTEMS ARE INCLUDED UNDER THIS SPECIFICATION. CONTROL AND INTERLOCK WIRING FOR HVAC SYSTEMS IS INCLUDED UNDER MECHANICAL SPECIFICATION. CAREFULLY REVIEW THE CONTRACT DOCUMENTS AND COORDINATE THE ELECTRICAL WORK UNDER THE VARIOUS DIVISIONS.

CAULKING TO MAKE THE PENETRATIONS ABSOLUTELY WATERTIGHT.

2. SECTION 16050 - BASIC ELECTRICAL MATERIALS & METHODS

A. CONDUIT & BOXES:

KILOWATTHOUR METER

- I. INSTALL ALL WIRING IN CONDUIT (EXCEPT AS OTHERWISE INDICATED SEE PART B WIRES & CABLE) AND PROVIDE EMPTY CONDUIT FOR SPECIAL SYSTEMS DESCRIBED ELSEWHERE. MINIMUM CONDUIT SIZE SHALL BE 3/4". INSTALL ALL CONDUIT CONCEALED UNLESS OTHERWISE INDICATED, SUPPORT ALL CONDUIT SO THAT STRAIN IS NOT TRANSMITTED TO OUTLET BOXES AND PULL BOXES, ETC. SUPPORTS SHALL BE SUFFICIENTLY RIGID TO PREVENT DISTORTION OF CONDUITS DURING WIRE PULLING.
- 2. SUPPORT SINGLE RUNS OF SUSPENDED FEEDER CONDUIT WITH 'KINDORF' C-149 OR C-150 ADJUSTABLE HANGERS USING 3/8" RODS FOR CONDUITS UP TO 2" AND I/2" RODS FOR CONDUITS LARGER THAN 2". SUPPORT SURFACE RUNS OF CONDUIT USING ONE OR TWO HOLE PIPE STRAPS. STRAP SPACING 6 FOOT ON CENTERS, MAXIMUM.

- 3. FASTEN CONDUIT STRAPS TO CONCRETE USING INSERTS OR EXPANSION BOLTS AND TO HOLLOW MASONRY USING TOGGLE BOLTS. WOODEN PLUGS ARE UNACCEPTABLE.
- 4. PROVIDE HOT-DIP GALVINIZED, RIGID STEEL CONDUIT FOR WORK EXPOSED TO WEATHER, PROVIDE ELECTRICAL METALLIC TUBING (EMT) FOR CONCEALED WORK ABOVE SUSPENDED CEILINGS AND WITHIN INTERIOR PARTITIONS. PROVIDE FLEXIBLE METAL CONDUIT (GREENFIELD) IN SHORT LENGTHS FOR THE CONNECTION OF RECESSED LIGHTING FIXTURES, MOTORS, AND ANY VIBRATING EQUIPMENT, PROVIDE FULL SIZE EQUIPMENT GROUND WIRE WHERE LENGTHS EXCEED SIX (6) FEET. <u>ALUMINUM CONDUIT IS PROHIBITED. SET SCREW TYPE</u> CONDUIT FITTINGS ARE PROHIBITED.
- 5. ALL OUTLET, SMITCH AND JUNCTION BOXES, ETC., SHALL BE SHERARDIZED OR GALVANIZED STAMPED STEEL AS MANUFACTURED BY STEEL CITY, RACO, APPLETON, OR GENERAL ELECTRICAL, PROVIDE BOX AT EACH OUTLET SWITCH, ETC. ALL BOXES SHALL BE SIZED PER THE NEC OF A TYPE SUITABLE FOR THE DUTY INTENDED AND SUPPLIED WITH APPROPRIATE RINGS.
- 6. JUNCTION AND PULL BOXES SHALL BE FURNISHED AND INSTALLED AS SHOWN OR WHERE REQUIRED TO FACILITATE PULLING OF WIRES OR CABLES. SUCH BOXES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS. ALL BOXES FOR CONCEALED WORK SHALL BE CONSTRUCTED OF #12 GAUGE USS GALVANIZED SHEET STEEL MINIMUM, UNLESS OTHERWISE SPECIFIED OR INDICATED AND PROVIDED WITH MOUNTING BRACKETS AND FLAT SCREW COVERS, SECURED IN POSITION BY ROUND HEAD BRASS OR STAINLESS STEEL 300 GRADE MACHINE SCREWS. GASKETED COVER PLATES SHALL BE FURNISHED FOR OUTDOOR INSTALLATIONS.
- 7. ALL OUTLET BOXES USED FOR SUPPORTING FIXTURES SHALL BE FURNISHED WITH MALLEABLE IRON FIXTURE STUDS OF "NO-BOLT" TYPE SECURED BY
- 8. ALL BOXES, WHETHER OUTLET, JUNCTION, PULL, OR EQUIPMENT SHALL BE FURNISHED WITH APPROPRIATE COVERS.
- 9. NO SECTIONALIZED BOXES SHALL BE USED.
- IO. OUTLET, JUNCTION, AND PULL BOXES SHALL BE SHEET STEEL. WHERE REQUIRED TO FACILITATE PULLING OF WIRES OR CABLES, SUCH BOXES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- II. CONDUIT SHALL BE COMPRESSION FITTING TYPE ONLY.

B. <u>WIRES & CABLE:</u>

- I. BUILDING WIRE, UNLESS OTHERWISE INDICATED, SHALL BE 600 VOLT, TYPE THWN INSULATION FOR INTERIOR AND EXTERIOR USE. CONDUCTORS SHALL BE SOFT DRAWN COPPER OF NOT LESS THAN 98% CONDUCTIVITY. FOR BRANCH CIRCUITS (UNDER 50 AMPS) INSTALLED ABOVE DROPPED CEILINGS AND WITHIN DRYWALL PARTITIONS, TYPE MC CABLE (METAL CLAD) MAY BE USED WHERE PERMITTED BY THE NEC AND LOCAL CODES. NO ROMEX OR AC (BX) CABLE WILL BE ALLOWED ON THE PROJECT.
- 2. NO WIRE SMALLER THAN NO. TWELVE (12) AWG SHALL BE USED UNLESS OTHERWISE INDICATED, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND FROM TERMINAL BOARD TO POINT OF FINAL CONNECTION, AND NO SPLICE SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, ALL CONDUCTORS SHALL BE OF THE SIZES AS INDICATED. ALL WIRES NO. EIGHT (8) AWG AND LARGER SHALL BE STRANDED. THE CONTRACTOR SHALL MAKE WIRING CONNECTIONS OF ALL ELECTRICAL EQUIPMENT REQUIRING ELECTRICAL SERVICE. WIRES AND CABLES SHALL BE AS MANUFACTURED BY PIRELLI, ROYAL, AND TRIANGLE OR EQUIVALENT.
- 3. ALL WIRING SHALL BE COLOR CODED. MATCH EXISTING SYSTEM COLOR CODING WHERE APPLICABLE.
- 4. WIRING FOR GENERAL 20 AMP BRANCH CIRCUIT WORK SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED;

HOME RUN LENGTH <u>AND WIRE SIZE</u> 60' - 100' #10 100'AND UP... #8

CIRCUIT LENGTH AND WIRE SIZE 0' - 100'... #12 100'AND UP... #10

C. <u>DISCONNECTS:</u>

I. FURNISH AND INSTALL SAFETY SWITCHES WHERE INDICATED AND AS REQUIRED FOR MOTOR OUTLETS OR OTHER EQUIPMENT, SWITCHES SHALL BE OF SIZE. NUMBER OF POLES AND FUSED OR NON-FUSED, AS REQUIRED FOR JOB CONDITIONS AND THE NATIONAL ELECTRICAL CODE.

D. <u>WIRING DEVICES:</u>

- I. THE FOLLOWING WIRING DEVICES SHALL BE FURNISHED AND INSTALLED WHERE CALLED FOR ON THE DRAWINGS. MISCELLANEOUS ITEMS NOT INCLUDED BELOW SHALL BE UNDERWRITERS' LABORATORIES STANDARD CONFORMING TO THE NEC, ALL DEVICES SHALL BE OF THE SAME MANUFACTURER, DEVICES SHALL BE ARROW HART, BRYANT, PASS & SEYMOUR, OR HUBBELL AND EQUAL TO THE ARROW HART NUMBERS LISTED BELOW.
- 2. WALL SWITCHES: TOGGLE SWITCHES SHALL BE OF THE SILENT MECHANICAL TYPE RATED 20 AMPERE, 120/277 VOLT A.C. SINGLE POLE SWITCHES SHALL BE ARROW HART #1991 FOR 20 AMPERES. THREE-WAY SMITCHES SHALL BE OF THE SAME MANUFACTURER AND GRADE. ALL DEVICES SHALL BE WHITE.
- 3. RECEPTACLES: RECEPTACLES FOR WALL OUTLETS SHALL BE RATED 20 AMPERE, 125 VOLTS, DUPLEX, THREE-WIRE WITH THIRD POLE GROUNDED. OUTLETS SHALL BE ARROW HART #5362W FOR 20 AMPERE. GFCI SHALL BE #GFS20 RATED I5 AMPERE, I20 VOLT. ALL DEVICES SHALL BE WHITE.

E. <u>GROUNDING:</u>

- I. PROVIDE GROUND FOR ALL RACEWAYS, DEVICES, AND UTILIZATION EQUIPMENT PERMANENTLY AND EFFECTIVELY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, AS HERINAFTER SPECIFIED. ALL GROUNDING AND BONDING CONNECTIONS SHALL BE SOLDERLESS.
- 2. PROVIDE INSULATED GROUNDING CONDUCTORS FOR FEEDER AND BRANCH CIRCUIT WIRING AS CALLED FOR ON THE PLANS. PROVIDE GROUNDING BLOCKS, TERMINALS, ETC., FOR CONNECTION OF GROUND WIRE IN ALL DISTRIBUTION EQUIPMENT, OUTLETS, JUNCTION BOXES, AND UTILIZATION

A. <u>ELECTRICAL SERVICE:</u>

I. ELECTRICAL SERVICE TO THE NEW VERIZON WIRELESS ROOFTOP EQUIPMENT PLATFORM SHALL BE EXTENDED FROM THE PROPOSED METER AND ENCLOSED CIRCUIT BREAKERS MOUNTED ON MAIN ELECTRIC ROOM INTERIOR WALL.

PANELBOARDS:

I. THE CONTRACTOR SHALL BALANCE THE LOADS ON ALL PANELBOARDS AS CLOSELY AS POSSIBLE AND TO THE SATISFACTION OF THE ENGINEER.

- 2. FURNISH AND INSTALL, WHERE INDICATED ON THE DRAWINGS, AUTOMATIC CIRCUIT BREAKER PANELBOARDS COMPLETE WITH ENCLOSING CABINETS. ENCLOSURES SHALL BE NEMA I FOR RECESSED OR SURFACE MOUNTING AS INDICATED, PANELBOARDS AND ENCLOSING CABINETS SHALL CONFORM TO STANDARDS ESTABLISHED BY UNDERWRITERS' LABORATORIES, INC. AND REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.
- 3. ALL PANELBOARD INTERIORS SHALL BE FACTORY ASSEMBLED, COMPLETE WITH CIRCUIT BREAKERS AS SCHEDULED ON THE DRAWINGS. INTERIORS SHALL BE DESIGNED AND ASSEMBLED SO THAT ANY INDIVIDUAL BREAKER CAN BE REPLACED WITHOUT DISTURBING ADJACENT UNITS, WITHOUT REMOVING MAIN BUS, AND SHALL EMPLOY SEQUENCE BUSSING, MAIN BUSSES AND BACK PANS OF DISTRIBUTION AND POWER PANELBOARDS SHALL BE OF SUCH DESIGN THAT BRANCH CIRCUITS MAY BE CHANGED WITHOUT ADDITIONAL DRILLING. MACHINING, OR TAPPING. ALL CIRCUIT BREAKERS SHALL BE QUICK-MAKE AND SHALL BE TRIP INDICATING.
- 4. PANELBOARDS SHALL EMPLOY BOLT-ON BREAKERS OF NOT LESS THAN 22,000 SYMMETRICAL A.I.C. AT I20 VOLTS OR 240 VOLTS AS REQUIRED. PANELBOARDS SHALL BE EQUIPPED WITH COPPER BUS BARS, FURNISH SQUARE D, GENERAL ELECTRIC, OR WESTINGHOUSE AS INDICATED ON THE PANELBOARD SCHEDULE AND AS FOLLOWS:

MANUFACTURER **DESIGNATION** AA300G-3PH-423R INTERSECT

5. PANELBOARDS SHALL BE EQUIPPED WITH A TYPEWRITTEN DIRECTORY, INDICATING PLAINLY WHAT EACH CIRCUIT OF THE PANEL CONTROLS.

C. <u>SAFETY DISCONNECT SWITCHES:</u>

- I, SWITCHES SHALL BE VISIBLE BLADE EXTERNALLY OPERATED WITH ALL CURRENT CARRYING PARTS SILVER OR TIN PLATED. ALL SWITCHES SHALL HAVE PROVISIONS FOR NOT LESS THAN TWO (2) EXTERNAL PADLOCKS.
- 2. SWITCHES SHALL BE HEAVY-DUTY TYPE, FUSED (DUAL ELEMENT, TIME DELAY) OR UNFUSED AS INDICATED, AS MANUFACTURER BY SQUARE D, GENERAL ELECTRIC, OR WESTINGHOUSE, SWITCHES SHALL BE RATED 240 VOLT, AND SHALL BE SIDE HANDLE OPERATED. ENCLOSURES SHALL BE NEMA I FOR GENERAL INTERIOR WORK AND NEMA 3R FOR EXTERIOR.

D. <u>COMMUNICATIONS SERVICE:</u>

- I. THE EXISTING TELEPHONE SERVICE SHALL REMAIN AND BE EXTENDED FROM THE TELCO DEMARC TO TELEPHONE JUNCTION BOX ON THE NEW EQUIPMENT PLATFORM.
- 2. FURNISH BACKBOARD FOR TELEPHONE EQUIPMENT, WHERE INDICATED ON
- 3. ALL ELBOWS IN CONDUIT RUNS SHALL BE WIDE SWEEP FIELD BENDS. INSTALL PULL BOXES AS REQUIRED AND WHERE DIRECTED BY THE TELEPHONE COMPANY AND/OR AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
- 4. PROVIDE NYLON PULL WIRE IN ALL CONDUITS LEFT EMPTY. ALL CONDUITS SHALL BE TERMINATED WITH NYLON INSULATING BUSHINGS.
- 5. COMMUNICATIONS SERVICE SHALL BE PROVIDED WITH 50 PAIR CABLE, BUILDING ENTRANCE PANEL, AND SNAP JACK.

STAND-BY DC GENERATOR:

- I. THE CONTRACTOR SHALL INSTALL THE OWNER FURNISHED POLAR POWER STAND-BY GENERATOR. VERIZON WIRELESS HAS PRE-PURCHASED THE FOLLOWING EQUIPMENT:
 - POLAR POWER -48V DC GENERATOR SET (15 KW GENERATOR: NATURAL GAS POWERED WITH WEATHERPROOF, SOUND ATTENUATED ENCLOSURE).
- 2. COORDINATE ALL INSTALLATION REQUIREMENTS WITH VERIZON AND THE
- 3. PROVIDE ALL MATERIALS FOR STARTUP AND TESTING; TURN OVER A COMPLETE, FUNCTIONAL SYSTEM TO VERIZON.

SECTION 16500 - LIGHTING FIXTURES

- I, FURNISH AND INSTALL A COMPLETE LIGHTING FIXTURE FOR EACH LIGHTING FIXTURE SYMBOL SHOWN ON THE DRAWINGS, OF THE TYPE AND QUALITY DESCRIBED HEREIN. FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS OF THE WATTAGE INDICATED. SOCKETS, HOUSING, BALLAST (IF REQUIRED), SHADES, DIFFUSERS, SUPPORTS, ETC., AND WIRED FOR OPERATION.
- 2. ALL FIXTURES SHALL BE WIRED FOR POLARIZED SYSTEM WITH ONE WIRE IN EACH FIXTURE TO BE DISTINCTLY MARKED FOR ITS ENTIRE LENGTH. WIRE SHALL BEAR THE LABEL OF APPROVAL OF THE UNDERWRITERS' LABORATORIES, INC. FIXTURE WIRING FOR FLUORESCENT FIXTURES AND BRANCH CIRCUIT WIRING IN FLUORESCENT FIXTURE CHANNELS SHALL BE TYPE THHN OR THW (90 DEGREES C. RATED), ALL CHANNELS IN FLUORESCENT LIGHTING FIXTURES SHALL BE APPROVED FOR THROUGH WIRING. TYPE AF WIRE SHALL ONLY BE USED FOR INTERIOR INCANDESCENT FIXTURE WIRING.
- 3. EACH FIXTURE SHALL BE COMPLETELY EQUIPPED WITH LAMPS OF THE SIZE, TYPE, WATTAGE AND SHAPE INDICATED AND SPECIFIED. ALL LAMPS SHALL BE MANUFACTURED BY THE GENERAL ELECTRIC CO., WESTINGHOUSE MFG. CO., SYLVANIA, OR APPROVED EQUAL, OF STANDARD SCHEDULE MAKE. LUMEN OUTPUT AND LIFE OF LAMPS SHALL BE IN ALL RESPECTS EQUIVALENT TO THOSE SPECIFIED. ALL LAMPS SHALL BE PROPER VOLTAGE FOR THE BUILDING. EXACT VOLTAGE SHALL BE CHECKED BEFORE ORDERING LAMPS.
- 4. AT THE LOCATIONS OF OUTLETS INDICATED ON THE VARIOUS DRAWINGS, THE TYPE OF FIXTURE REQUIRED IS DESIGNATED BY A TYPE LETTER. ALL FIXTURES SHALL BE FURNISHED IN THE QUANTITIES, SIZES AND TYPES AS INDICATED ON THE DRAWINGS.

ELECTRICAL SYMBOLS LIST

NOTE: ALL MOUNTING HEIGHTS ARE TO CENTER LINE OF THE OUTLET BOX UNLESS OTHERWISE INDICATED.

FIXTURE-POST MOUNTED

SWITCH-SINGLE POLE, TIMMER, SUBSCRIPT DENOTES FIXTURE CONTROLLED

RECEPTACLE-20A-125 VOLTS DUPLEX M.H. 1'-8"

JUNCTION BOX

PANELBOARD 120/208 VOLTS-M.H. 6'-6" TO TOP

TELEPHONE TERMINAL BACKBOARD

DRAWING NOTE

BRANCH CIRCUIT-EXPOSED IN CEILING

OR WALLS

ELECTRIC FEEDER CONDUIT

GROUND CONDUCTOR

TELEPHONE CONDUIT

CONTROL WIRING CONDUIT

ALARM WIRING CONDUIT

HOMERUN TO PANEL-LETTER AND NO. INDICATES CIRCUIT NUMBER. NO. OF NOTED CROSSLINES INDICATES NO. OF OTHERWISE CONDUCTORS WHEN MORE THAN 3.

 \Box DISCONNECT SWITCH-UNFUSED, FUSED M.H. 5'-6" TO TOP

METER

DRY TYPE TRANSFORMER

GROUND CONNECTION

GROUND BAR PLATE

ENCLOSED CIRCUIT BREAKER

FRONT OF EQUIPMENT

ABBREVIATIONS

- MOUNTED

MCA - MINIMUM CIRCUIT AMPS - MOUNTING HEIGHT

- GROUND BAR - ABOVE FINISHED FLOOR

- GROUND FAULT INTERRUPTER - WEATHERPROOF - AUTOMATIC TRANSFER SWITCH

C, CDT - CONDUIT - DRAWING

120/208 VOLTS :	3Φ	4 V	NRE	20	OO AMP MAIN C.B.
DESCRIPTION	w w w w	OKT	コガハ	anna	DESCRIPTION
CHARLES CABINET RECTIFIER I	30	<u> </u> 3	2	20 20	CHARLES CABINET #1 RECPT PLATFORM LIGHTING
CHARLES CABINET RECTIFIER 2	30	5	6	_	SPACE
CHARLES CABINET	30	9	10	-	SPACE SPACE
CHARLES CABINET		 3	12 14		SPACE SPACE
RECTIFIER 4	30	15	16	-	SPACE
SPACE SPACE	- -	17 19	18 20		SPACE SPACE
SPACE SPACE	_	21	22		SPACE
SPACE	-	23	24		SPACE
SPACE	-	25	26	-	SPACE
SPACE	_	27	28	-	SPACE
SPACE	_	29	30	_	SPACE
SPACE	_	31	32	-	SPACE
SPACE	_	33	34	_	SPACE
SPACE	_	35	36	_	SPACE
SPACE	-	37	38	_	SPACE
SPACE	-	39	40	_	SPACE
SPACE		41	42	_	SPACE
LIGHTING LOAD: RECEPTACLE LOAD: CHARLES CABINET LO TOTAL LOAD:	<u>AD:</u>		0.02	KV	/A x 125% = 0.03 KVA 0.18 KVA <u>11.52 KVA</u> 11.73 KVA = 32.5 A @ 120/208V, 3¢, 4W

* CONTRACTOR SHALL FIELD COORDINATE OVERCURRENT PROTECTION WITH MANUFACTURER'S RECOMMENDATIONS.

** PANELBOARDS SHALL BE EQUIPPED WITH A TYPEWRITTEN DIRECTORY, INDICATING PLAINLY WHAT EACH CIRCUIT OF THE PANEL CONTROLS.

TELEGENT ENGINEERING INC. 2216 Commerce Road, Suite 1 Forest Hill, MD 21050 410-692-5816 www.tel-eng.com 10346 # 0 H $\overline{0}$ $\overline{2}$ REVISIONS: NO. DESCRIPTION DATE |PERMIT DRAWINGS |II/27/I |ELECTRIC SERVICE REV.|11/17/1 LAST REV.: PROJECT NO: 17086F NOVEMBER 17, 2017 AS NOTEI

TEI#17086P

ELECTRICAL

SPECIFICATIONS.

SYMBOLS LIST,

AND SCHEDULE

EOOl