ISSUE: Certificate of Appropriateness for alterations (small cell antenna)

APPLICANT: Cellco Partnership dba Verizon Wireless

LOCATION: Near 100-Year-Old Buildings

Verizon Telephone utility pole in right-of-way near 3737 Seminary Road

ZONE: R-20/Single-family zone.

STAFF RECOMMENDATION

Staff recommends approval of the Certificate of Appropriateness, as submitted.

GENERAL NOTES TO THE APPLICANT

- 1. ISSUANCE OF CERTIFICATES OF APPROPRIATENESS AND PERMITS TO DEMOLISH: Applicants must obtain a copy of the Certificate of Appropriateness or Permit to Demolish PRIOR to applying for a building permit. Contact BAR Staff, Room 2100, City Hall, 703-746-3833, or preservation@alexandriava.gov for further information.
- 2. APPEAL OF DECISION: In accordance with the Zoning Ordinance, if the Board of Architectural Review denies or approves an application in whole or in part, the applicant or opponent may appeal the Board's decision to City Council on or before 14 days after the decision of the Board.
- 3. COMPLIANCE WITH BAR POLICIES: All materials must comply with the BAR's adopted policies unless otherwise specifically approved.
- 4. BUILDING PERMITS: Most projects approved by the Board of Architectural Review require the issuance of one or more construction permits by Department of Code Administration (<u>including signs</u>). The applicant is responsible for obtaining all necessary construction permits after receiving Board of Architectural Review approval. Contact Code Administration, Room 4200, City Hall, 703-746-4200 for further information.
- 5. EXPIRATION OF APPROVALS NOTE: In accordance with Sections 10-106(B) and 10-206(B) of the Zoning Ordinance, any official Board of Architectural Review approval will expire 12 months from the date of issuance if the work is not commenced and diligently and substantially pursued by the end of that 12-month period.
- 6. HISTORIC PROPERTY TAX CREDITS: Applicants performing extensive, certified rehabilitations of historic properties may separately be eligible for state and/or federal tax credits. Consult with the <u>Virginia Department of Historic Resources (VDHR)</u> prior to initiating any work to determine whether the proposed project may qualify for such credits.



I. <u>APPLICANT'S PROPOSAL</u>

The applicant is requesting a Certificate of Appropriateness to install a small cell facility and equipment on the replacement utility wood pole in the right-of-way in front of the parcel at 3737 Seminary Road.

- The equipment and antennas will be installed on the new 25'-6" high wood telephone pole that will replace the existing pole in the same location.
- Install a 5G small cell facility measuring approximately 3'-6" high on top of the pole.
- Install a Verizon wireless meter box and center panel on the pole, starting at 8'-6" from grade.
- The 5G Nokia facility will have an array of three antennas pointing in different directions with a cubic volume of 2.5 CF.
- The volume of the other equipment is 0.82 CF.
- All features of the wireless facility will be color matched to the pole.

Site context

The subject pole is located at the intersection of Seminary Road and Deanery Drive at the entrance of the Virginia Theological Seminary complex. The closest 100-Year-Old Building is approximately 500 feet away from the pole location. (Figure 1)

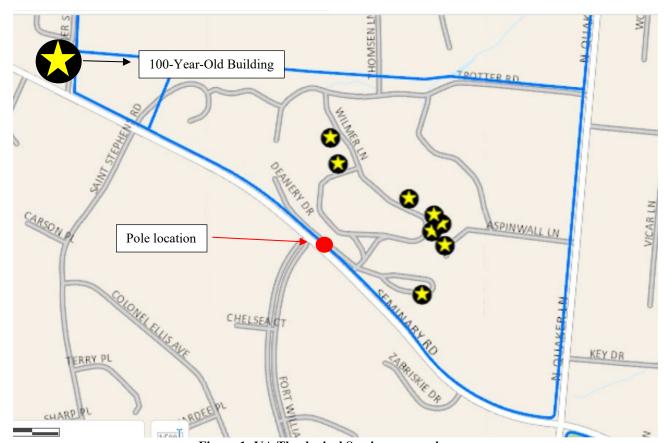


Figure 1- VA Theological Seminary complex

II. <u>HISTORY</u>

The pole is located near eight listed 100-Year-Old Buildings within the Virginia Theological Seminary complex. According to the VA Theological Seminary website:

The Virginia Seminary was founded in 1823 to educate men for the ministry of Christ's church. It was born of the struggle which followed the Revolutionary War. Among the founders were Bishop William Meade, the third Bishop of Virginia, and Francis Scott Key, whose 1814 poem The Defence of Fort McHenry became the text for our National Anthem in 1931.

During the early days of America's independence, a small group of dedicated men committed themselves to the task of recruiting and training a new generation of church leaders. In 1818, Francis Scott Key formed "An Education Society" and five years later opened the "School of Prophets," to become the Protestant Episcopal Theological Seminary in Virginia. When the school opened in Alexandria with two instructors, 14 students were enrolled.

During the Civil War, the Seminary was used to house 1,700 wounded Federal troops and to bury 500 of their comrades. After the war, two professors and 11 battle-weary veterans reopened the Seminary. By 1923, the year of its Centennial, the Seminary had regained the resources, the certainty of full enrollment, and the invested funds that had characterized the institution in 1860.

The years between 1923 and 1946 saw steady progress, but the end of World War II marked the advent of the present era of continuing expansion and improvements. On June 3, 1953, Virginia Seminary merged with The Bishop Payne Divinity School, a distinguished black institution started by Virginia Seminary in 1878.

Since 1950, 22 new buildings have been added to the campus, including five dormitories, the refectory and Scott Lounge, 15 faculty homes, a recreation building, and a day-care center for young children. In 1993, the Addison Academic Center opened, with classroom space, the Lettie Pate Whitehead Evans Auditorium, the Seminary bookstore, and the student lounge. ¹

III. ANALYSIS

To address the growing demand for wireless services across the United States, telecommunication providers are increasing the capacity of their networks by deploying small cell wireless facilities within the public right-of-way to reduce the data traffic load on roof-mounted equipment and larger cell towers. Small cell facilities are low-powered antennas that provide wireless service coverage to a limited geographic area (often with ranges of a few hundred feet) and are used to supplement and expand the coverage provided by the traditional, larger-scale network. The next generation of

¹ Virginia Theological Seminary website - https://www.vts.edu/about/history# - last accessed 9/9/20

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small cell wireless facilities, known as 5G, is currently being installed across the city. The new 5G networks will not just serve cellphones, but also be used as general internet service providers for laptops, desktop computers, smart home digital devices, urban infrastructure monitoring, smart traffic control, remote health monitoring, emergency monitoring and notification systems, connected and autonomous vehicles, and many more applications.

In the past several years, Federal and State legislation has been enacted to further streamline the local approval process for cellular facilities, shortening the approval time and limiting jurisdictions' authority. In 2017, and again in March 2020, City Council approved amendments to the zoning ordinance to ensure compliance with these laws.

In June 2019, the BAR approved the first small cell facilities in the historic district and shortly after adopted a BAR administrative policy for approval of certain small cell facilities (4G) in the historic districts and near the 100-Year-Old Buildings. City Council has recently approved license agreements for some of the wireless carriers and the City has seen a sharp increase in the number of applications for small cell facilities. Because the design of the antennas has evolved since the BAR administrative policy was adopted in June 2019, BAR staff proposed amendments to the policy to allow for more administrative approvals at the Board's April 22, 2020 electronic hearing (conducted electronically due to the Covid-19 emergency) at which time the Board tabled proposed amendments and rescinded the administrative policy. As a result, at this time all small cell facilities must now be approved by the BAR at public hearing.

A Certificate of Appropriateness is required under Section 10-304 (A) and 10-301- Purpose, of the zoning ordinance, which state that "The City of Alexandria seeks, through the creation of 100 year old building lists, to protect community health and safety and to promote the education, prosperity, and general welfare of the public through the identification, preservation, protection and enhancement of buildings, structures, places, or features, together with their landscapes and settings, which are over 100 years old, which are situated outside of the protections afforded buildings or structures in the Old and Historic Alexandria District or the Parker-Gray District, and which have special historical, cultural, artistic, or architectural significance." BAR staff has no objection to the installation of the small cell facility equipment in this location and finds that color matching the equipment and antennas the same color as the pole will help to camouflage them. The existence of utility poles and overhead wires, street signs, and light poles in the rights of way are part of the urban streetscape, and staff does not believe that the installation of the small cell equipment and an overall height of 29'-3" will adversely impact the integrity of the landscape and settings near the 100-Year-Old buildings within the Virginia Theological Seminary complex.

Staff recommends approval of the application, as submitted.

STAFF

Marina Novaes, Historic Preservation Planner, Planning & Zoning Tony LaColla, AICP, Land Use Services Division Chief, Planning & Zoning

IV. <u>CITY DEPARTMENT COMMENTS</u>

Legend: C- code requirement R- recommendation S- suggestion F- finding

Zoning

F-1 Height of the pole shall not exceed 50.00 feet without a Special Use Permit.

Pole indicated on the plans show a height of 25.67 and overall height with equipment 29.30 feet

F-2 Pole must be in the same general location as existing pole.

In Compliance

F-3 The replacement pole is not located in a manner that requires the removal of an existing tree or impacts of root zone.

There is a tree nearby



F-4 Replacement people shall be located that meets ADA requirements that do not impede or hinder pedestrian or vehicular travel.

In Compliance

F-5 Wireless facility shall be painted to match similar infrastructure on the block or earth tone color.

Plans indicate facility to be colored to be matched to the pole. (ZAP2020-0156)

Code Administration

No comments

Transportation and Environmental Services

R-1 The building permit must be approved and issued prior to the issuance of any permit for demolition, if a separate demolition permit is required. (T&ES)

- R-2 Applicant shall be responsible for repairs to the adjacent city right-of-way if damaged during construction activity. (T&ES)
- R-3 No permanent structure may be constructed over any existing private and/or public utility easements. It is the responsibility of the applicant to identify any and all existing easements on the plan. (T&ES)
- F-1 After review of the information provided, an approved grading plan is not required at this time. Please note that if any changes are made to the plan it is suggested that T&ES be included in the review. (T&ES)
- C-1 The applicant shall comply with the City of Alexandria's Solid Waste Control, Title 5, Chapter 1, which sets forth the requirements for the recycling of materials (Sec. 5-1-99). (T&ES)
- C-2 The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)
- C-3 All secondary utilities serving this site shall be placed underground. (Sec. 5-3-3) (T&ES)
- C-4 Any work within the right-of-way requires a separate permit from T&ES. (Sec. 5-2) (T&ES)
- C-5 All improvements to the city right-of-way such as curbing, sidewalk, driveway aprons, etc. must be city standard design. (Sec. 5-2-1) (T&ES)
- C-6 An encroachment request will be required for projections into the public right of way. (T&ES)
- C-7 The owner shall obtain and maintain a policy of general liability insurance in the amount of \$1,000,000 which will indemnify the owner (and all successors in interest); and the City as an Additional Insured, against claims, demands, suits and related costs, including attorneys' fees, arising from any bodily injury or property damage which may occur as a result of the encroachment. (Sec. 5-29 (h)(1)) (T&ES)

Please submit Insurance Certificate:
City of Alexandria
T&ES
Attn: Development Services
301 King Street, Room 4130
Alexandria, VA 22314

Alexandria Archaeology

No archaeological oversite required

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V. **ATTACHMENTS**

- 1- Application for BAR2020-00395: near 3737 Seminary Road 2- Supplemental Materials

ADDRESS OF PROJECT:
DISTRICT: ☐ Old & Historic Alexandria ☐ Parker – Gray ☐ 100 Year Old Building
TAX MAP AND PARCEL:ZONING:
APPLICATION FOR: (Please check all that apply)
☐ CERTIFICATE OF APPROPRIATENESS
PERMIT TO MOVE, REMOVE, ENCAPSULATE OR DEMOLISH (Required if more than 25 square feet of a structure is to be demolished/impacted)
□ WAIVER OF VISION CLEARANCE REQUIREMENT and/or YARD REQUIREMENTS IN A VISION CLEARANCE AREA (Section 7-802, Alexandria 1992 Zoning Ordinance)
WAIVER OF ROOFTOP HVAC SCREENING REQUIREMENT (Section 6-403(B)(3), Alexandria 1992 Zoning Ordinance)
Applicant: Property Owner Business (Please provide business name & contact person)
Name:
Address:
City: State: Zip:
Phone: E-mail :
Authorized Agent (if applicable): Attorney Architect
Name: Phone:
E-mail:
Legal Property Owner:
Name:
Address:
City: State: Zip:
Phone: E-mail:
Yes No Is there an historic preservation easement on this property? Yes No If yes, has the easement holder agreed to the proposed alterations? Yes No Is there a homeowner's association for this property? Yes No If yes, has the homeowner's association approved the proposed alterations?

BAR Case # _____

If you answered yes to any of the above, please attach a copy of the letter approving the project.

	BAR Case #
NATURE OF PROPOSED WORK: Please check all that apply	
NEW CONSTRUCTION EXTERIOR ALTERATION: Please check all that apply. awning fence, gate or garden wall HVAC doors windows siding lighting pergola/trellis painting other ADDITION DEMOLITION/ENCAPSULATION SIGNAGE	
DESCRIPTION OF PROPOSED WORK: Please describe the be attached).	proposed work in detail (Additional pages may
SUBMITTAL REQUIREMENTS: Items listed below comprise the minimum supporting materia request additional information during application review. Please Design Guidelines for further information on appropriate treatme	refer to the relevant section of the
Applicants must use the checklist below to ensure the application material that are necessary to thoroughly describe the project. In docketing of the application for review. Pre-application meetings All applicants are encouraged to meet with staff prior to submissi	ncomplete applications will delay the are required for all proposed additions.
Demolition/Encapsulation : All applicants requesting 25 square must complete this section. Check N/A if an item in this section does no	
N/A Survey plat showing the extent of the proposed demolitic Existing elevation drawings clearly showing all elements Clear and labeled photographs of all elevations of the but to be demolished. Description of the reason for demolition/encapsulation. Description of the alternatives to demolition/encapsulation considered feasible.	s proposed for demolition/encapsulation. uilding if the entire structure is proposed

BAR Case #	

Additions & New Construction: Drawings must be to scale and should not exceed 11" x 17" unless approved by staff. Check N/A if an item in this section does not apply to your project.

П	N/A	Scaled survey plat showing dimensions of lot and location of existing building and other
_		structures on the lot, location of proposed structure or addition, dimensions of existing structure(s), proposed addition or new construction, and all exterior, ground and roof mounted equipment.
		FAR & Open Space calculation form. Clear and labeled photographs of the site, surrounding properties and existing structures, if
	\Box	applicable. Existing elevations must be scaled and include dimensions.
		Proposed elevations must be scaled and include dimensions. Include the relationship to adjacent structures in plan and elevations.
		Materials and colors to be used must be specified and delineated on the drawings. Actual samples may be provided or required.
		Manufacturer's specifications for materials to include, but not limited to: roofing, siding, windows, doors, lighting, fencing, HVAC equipment and walls.
		For development site plan projects, a model showing mass relationships to adjacent properties and structures.
illur	ninat apply	& Awnings: One sign per building under one square foot does not require BAR approval unless ed. All other signs including window signs require BAR approval. Check N/A if an item in this section does y to your project.
	N/A	Linear feet of building: Front:Secondary front (if corner lot): Square feet of existing signs to remain: Photograph of building showing existing conditions. Dimensioned drawings of proposed sign identifying materials, color, lettering style and text. Location of sign (show exact location on building including the height above sidewalk). Means of attachment (drawing or manufacturer's cut sheet of bracket if applicable). Description of lighting (if applicable). Include manufacturer's cut sheet for any new lighting fixtures and information detailing how it will be attached to the building's facade.
Alt	erat	tions: Check N/A if an item in this section does not apply to your project.
	N/A	Clear and labeled photographs of the site, especially the area being impacted by the alterations, all sides of the building and any pertinent details.
		Manufacturer's specifications for materials to include, but not limited to: roofing, siding, windows, doors, lighting, fencing, HVAC equipment and walls.
		Drawings accurately representing the changes to the proposed structure, including materials and overall dimensions. Drawings must be to scale.
		An official survey plat showing the proposed locations of HVAC units, fences, and sheds. Historic elevations or photographs should accompany any request to return a structure to an earlier appearance.

ALL	APPLICATIONS: Please read and check that you have read and understand the following items:
	I have submitted a filing fee with this application. (Checks should be made payable to the City of Alexandria. Please contact staff for assistance in determining the appropriate fee.)
	I understand the notice requirements and will return a copy of the three respective notice forms to BAR staff at least five days prior to the hearing. If I am unsure to whom I should send notice I will contact Planning and Zoning staff for assistance in identifying adjacent parcels.
	I, the applicant, or an authorized representative will be present at the public hearing.
	I understand that any revisions to this initial application submission (including applications deferred for restudy) must be accompanied by the BAR Supplemental form and revised materials.
eleva accur action grants Section this a inspe	undersigned hereby attests that all of the information herein provided including the site plan, building tions, prospective drawings of the project, and written descriptive information are true, correct and rate. The undersigned further understands that, should such information be found incorrect, any in taken by the Board based on such information may be invalidated. The undersigned also hereby is the City of Alexandria permission to post placard notice as required by Article XI, Division A, on 11-301(B) of the 1992 Alexandria City Zoning Ordinance, on the property which is the subject of pplication. The undersigned also hereby authorizes the City staff and members of the BAR to ct this site as necessary in the course of research and evaluating the application. The applicant, if than the property owner, also attests that he/she has obtained permission from the property owner

BAR Case #

APPLICANT OR AUTHORIZED AGENT:

to make this application.

Signature:	
Printed Name:	
Date:	_

OWNERSHIP AND DISCLOSURE STATEMENT Use additional sheets if necessary

an interest in the applicant, ur case identify each owner of n	nddress and percent of ownership nless the entity is a corporat nore than three percent. The te interest held at the time of the cation.	ion or partnership, in which rm ownership interest shall
Name	Address	Percent of Ownership
1.		·
2.		
3.		
an interest in the property locate entity is a corporation or partner percent. The term ownership int time of the application in the rea	rship, in which case identify each terest shall include any legal or e al property which is the subject of	(address), unless the owner of more than three quitable interest held at the the application.
Name	Address	Percent of Ownership
1.		
2.		
3.		
ownership interest in the applications or financial relationshit existing at the time of this applications.	ionships. Each person or entity list ant or in the subject property is rep, as defined by Section 11-350 cation, or within the 12-month perior of the Alexandria City Council, as of Architectural Review.	equired to disclose any of the Zoning Ordinance, od prior to the submission of
Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1.		
2.		
3.		
	relationships of the type descrion and before each public hea	
As the applicant or the applican the information provided above	t's authorized agent, I hereby atte is true and correct.	est to the best of my ability that
Date Printed	 I Name	 Signature

A B C D E F G H J K L M N P Q

GENERAL NOTES

- I. 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.
- 2. 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.
- 3. 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.
- 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.
- 5. 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.
- 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.
 7. 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.
- 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.
- 9. 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.
- 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.
- II. 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.
- 12. 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.
- 13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- 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.
- 15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- 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 GRADE GALVANIZED.
- 17. 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.
- 18. CONTRACTOR IS RESPONSIBLE FOR STORAGE OF ALL MATERIALS PROVIDED BY VERIZON, AND IS LIABLE FOR THOSE MATERIALS ONCE PICKED UP FROM THE WAREHOUSE.
- 19. CONTRACTOR SHALL PERFORM A PUNCH WALK WITH VZW CONSTRUCTION & OPERATION REPRESENTATIVE PRIOR TO DECLARING CONSTRUCTION COMPLETE.
- 20. 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

Verizon

LANDMARK 25 - A - SMALL CELL
RIGHT OF MAY ADJACENT TO 3737 SEMINARY RD
ALEXANDRIA, VIRGINIA 22304

INDEX OF DRAWINGS

- CS-I SITE LOCATION AND VICINITY PLAN, INDEX OF DRAWINGS, AND CODE ANALYSIS
- C-I SITE PLAN
- C-2 SITE DETAILS
- C-3 TRANSPORTATION MANAGEMENT PLAN
- STRUCTURAL SECTIONS AND DETAILS

 GENERAL NOTES
- E-I SPECIFICATIONS, SYMBOLS LIST, PANEL SCHEDULE AND DETAILS
- E-2 POWER RISER DIAGRAM, EQUIPMENT PLAN, AND
- NOTES

GROUNDING DIAGRAM, DETAILS, AND NOTES

E-4 DIAGRAMS

CODE ANALYSIS

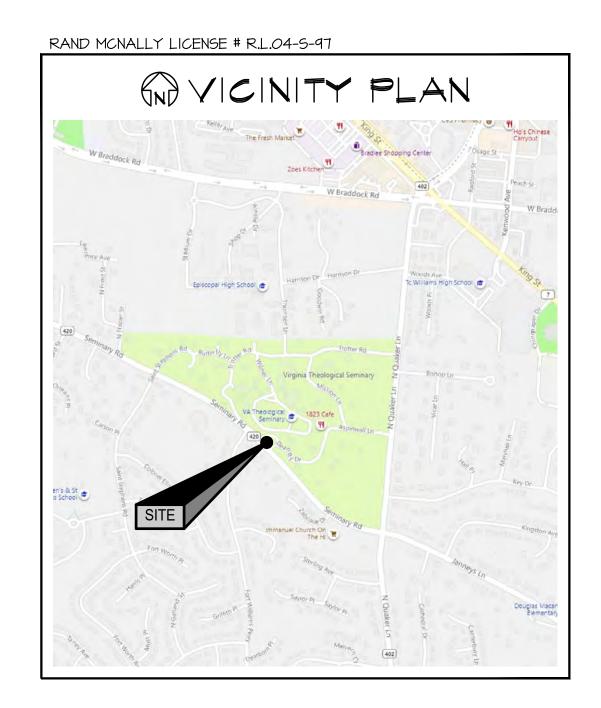
APPLICABLE BUILDING CODE: IBC 2015

USE GROUP: UTILITY (U)

CONSTRUCTION TYPE: IIB

UTILITY COMPANY: DO

DOMINION



PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE INSTALLATION OF VERIZON WIRELESS TELECOMMUNICATIONS EQUIPMENT ON A PROPOSED UTILITY POLE TO REPLACE EXISTING. THE ASSOCIATED ANTENNAS WILL BE MOUNTED ON THE PROPOSED UTILITY POLE AT A RAD CENTER OF 27'-10".

DIRECTIONS TO SITE

- FROM JUNCTION DRIVE:
 TURN LEFT ONTO HENKELS LANE
 TAKE RAMP ON LEFT FOR MD-32 EAST
 TAKE EXIT #IOC RAMP ON RIGHT FOR BALTIMORE
- WASHINGTON PARKWAY SOUTH
 TAKE EXIT #IB-C RAMP ON RIGHT FOR I-695
 TAKE EXIT #4 RAMP ON RIGHT FOR SEMINARY ROAD
- DESTINATION WILL BE ON THE LEFT

VERIZON WIRELESS REVIEW

BUILDING OWNER	DATE
ENGINEERING	DATE
OPERATIONS	DATE
CONSTRUCTION	DATE

l'elegent Engineering li 2216 Commerce Road, Suite 1 Forest Hill, MD 21050 410-692-5816 www.tel-eng.com TIME OF THE VIOLEN SMIDT **A**

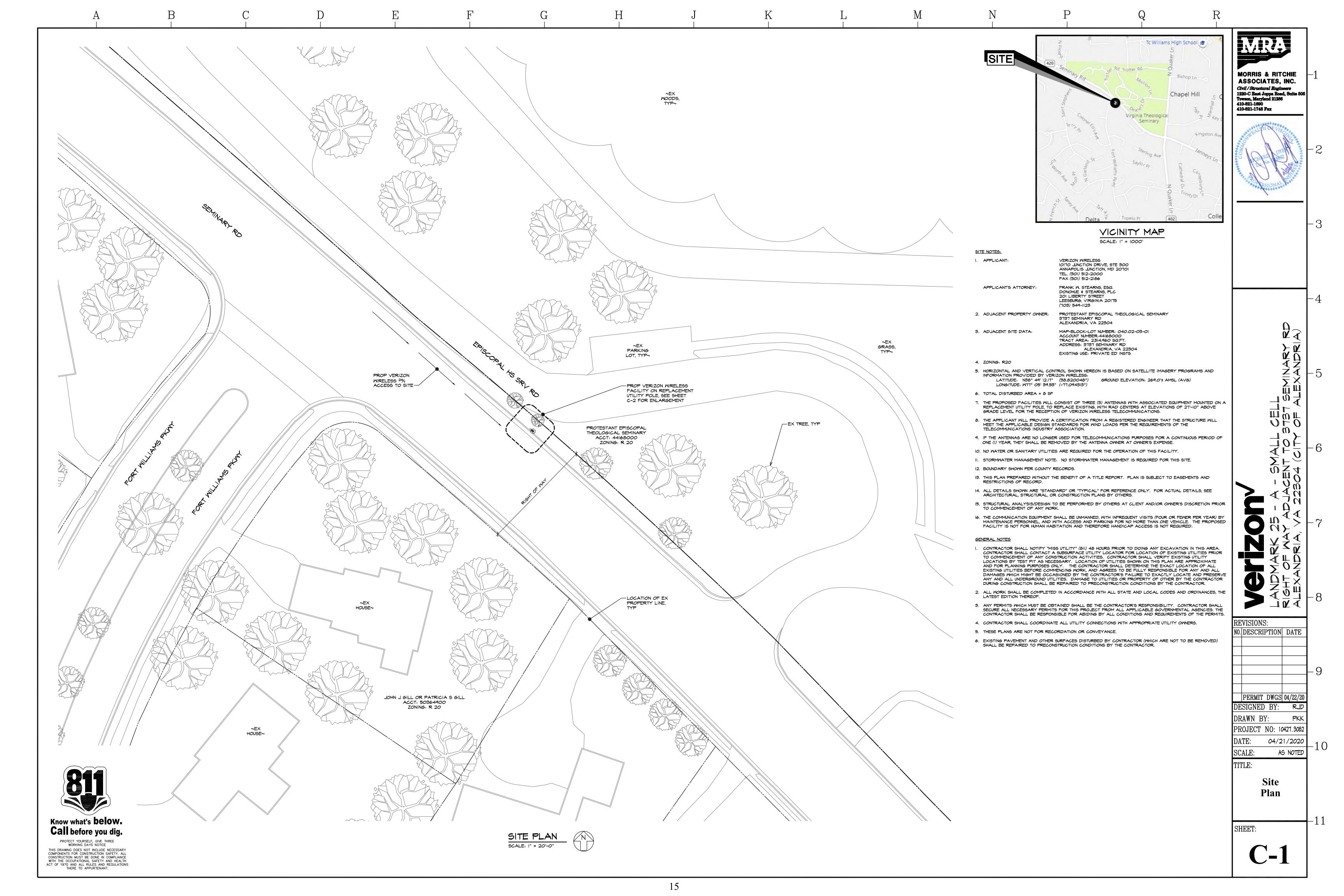
RIGHT OF TO STORY	-8
REVISIONS:	
NO. DESCRIPTION DATE	
	L 9
PERMIT DWGS. 4/22/20	
LAST REV.:	
PROJECT NO: 200421	
DATE: APRIL 22, 2020	
SCALE: AS NOTED	10
TITLE:	- 10
SITE LOCATION	

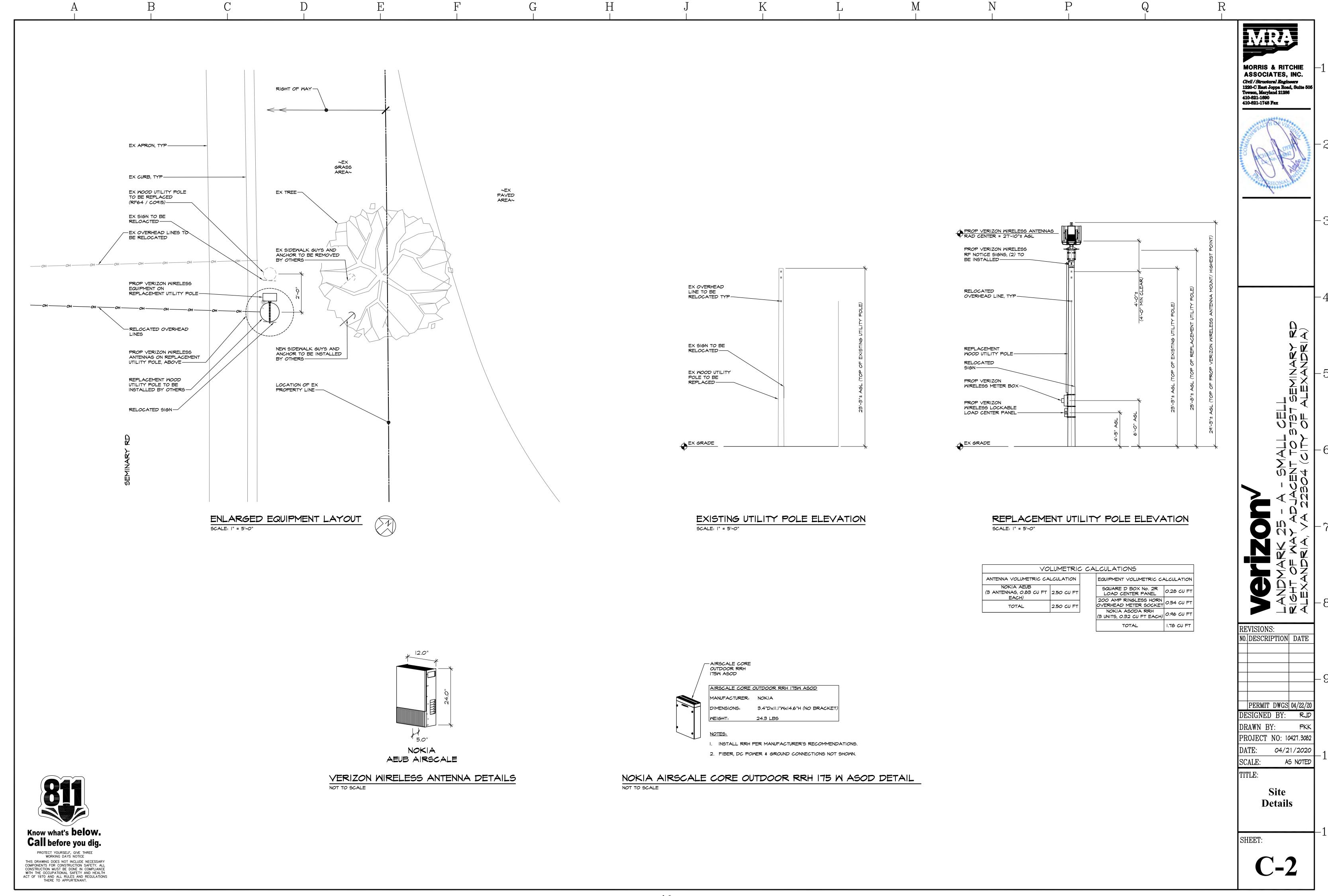
AND VICINITY
PLAN, INDEX OF
DRAWINGS, AND
CODE ANALYSIS

SHEET

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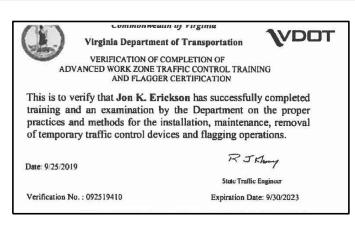
TEI#200421

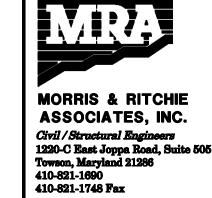




TRANSPORTATION MANAGEMENT PLAN

TEMPORARY TRAFFIC CONTROL PLAN NOTES & WORK AREA PROTECTION MANUAL TTC'S





PROJECT INFORMATION

- 1. THE PROJECT'S TMP PLAN HAS BEEN DESIGNED IN CONFORMANCE WITH TMP TYPE A.
- 2. WORK ZONE AREAS SHALL BE SETUP AS SHOWN ON TTC'S ON THIS PLAN SHEET. THE WORK ZONE LENGTHS AND WIDTHS MAY VARY BY LOCATION IN ACCORDANCE WITH APPLICABLE TTC.
- 3. CONSTRUCTION HOURS: 9AM-3:30PM MONDAY-THURSDAY. 9AM-2PM FRIDAY.
- NO WORK ON NIGHTS, WEEKENDS OR HOLIDAYS. NO LANE CLOSURES WILL BE ALLOWED FROM NOON ON THE DAY BEFORE A HOLIDAY UNTIL NOON ON THE WORKDAY FOLLOWING THE HOLIDAY. HOLIDAYS INCLUDE ALL STATE AND FEDERAL HOLIDAYS.
- 4. EXISTING INTERSECTIONS: THE NEAREST INTERSECTION IS SEMINARY RD AND FORT WILLIAMS PKWY. ALL EXISTING INTERSECTIONS ARE TO REMAIN OPEN AND FUNCTIONAL DURING CONSTRUCTION
- EXISTING PEDESTRIAN ACCESS POINTS: THERE ARE NO EXISTING PEDESTRIAN ACCESS POINTS WITHIN THE PROJECT LIMITS.
- EXISTING BUS STOPS: THERE ARE NO BUS STOPS WITHIN THE PROJECT LIMITS.
- EXISTING ENTRANCES: THERE ARE NO EXISTING ENTRANCES WITHIN THE CONSTRUCTION LIMITS.
- 5. THE TRAFFIC ON THE ROADWAY CONSIST PRIMARILY OF PASSENGER VEHICLES AND PEDESTRIANS. THE SURROUNDING AREA IS RESIDENTIAL.
- 6. THE CONTRACTOR SHALL:

DESIGNATE A PERSON ASSIGNED TO THE PROJECT WHO WILL HAVE THE PRIMARY RESPONSIBILITY, WITH SUFFICIENT AUTHORITY, FOR IMPLEMENTING THE TMP/SOC AND OTHER SAFETY AND MOBILITY ASPECTS OF THE PERMITTED WORK. THIS PERSON SHALL COORDINATE WITH THE INSPECTOR FOR THE DURATION OF CONSTRUCTION.

ENSURE THAT PERSONNEL IMPLEMENTING THE MOT ARE TRAINED IN TRAFFIC CONTROL TO A LEVEL COMMENSURATE WITH THEIR RESPONSIBILITY IN ACCORDANCE WITH VIRGINIA WORK ZONE TRAFFIC CONTROL TRAINING GUIDELINES.

INFORM COUNTY OF ANY WORK REQUIRING LANE SHIFTS. LANE CLOSURES, AND/OR PHASE CHANGES A MINIMUM OF TWO WORKING DAYS PRIOR TO IMPLEMENTING THIS ACTIVITY

PERFORM REVIEWS OF THE CONSTRUCTION AREA TO ENSURE COMPLIANCE WITH CONTRACT DOCUMENTS AT REGULARLY SCHEDULED INTERVALS AT THE

COORDINATE WITH CITY OF ALEXANDRIA POLICE DEPARTMENT AND CITY OF ALEXANDRIA FIRE/RESCUE DEPARTMENT FOR ANY LANE CLOSURES AND ANY DETOURS OF ANY NATURE, AT NO ADDITIONAL COST TO THE PROJECT.

DIRECTION OF COUNTY ENGINEERS. CONTRACTOR SHALL MAINTAIN A COPY OF THE TEMPORARY TRAFFIC CONTROL PLAN AT THE WORK SITE AT ALL TIMES

SCHEDULE ALL PHASES OF CONSTRUCTION IN SUCH A MANNER THAT WATER, SANITARY SEWER, CABLE, FIBER CABLE/OPTIC CABLE, ANY OVERHANGING UTILITIES, AND ANY UNDERGROUND UTILITIES SERVICES WILL NOT BE INTERRUPTED.

- 7. THIS TMP PLAN IS INTENDED AS A GUIDE. IF THE CONTRACTOR IS TO DEVIATE FROM THE APPROVED TMP, A NEW OR REVISED TMP MUST BE SUBMITTED TO COUNTY FOR REVIEW AND APPROVAL.
- 8. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FOR THE DURATION OF THE PROJECT. CONTRACTOR SHALL ADD ANY ADDITIONAL TEMPORARY MEASURES NECESSARY TO FACILITATE PROPER, POSITIVE DRAINAGE FOR THE DURATION OF CONSTRUCTION
- 9. WHERE GROUP 2 CHANNELIZING DEVICES ARE USED TO SEPARATE THE CONSTRUCTION AREA AND TRAFFIC, A MINIMUM CLEAR ZONE AREA SUCH AS
- DEFINED IN THE VWAPM IS TO BE MAINTAINED.
- 10. CONTRACTOR IS TO COORDINATE WITH CITY FOR LOCATION(S) OF THE CONSTRUCTION STAGING AREA. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND/OR EASEMENTS AS NECESSARY.
- 11. IMPLEMENTING THE TRANSPORTATION MANAGEMENT PLAN

DURING THE FIRST DAY OF THE NEW WORK ZONE TRAFFIC PATTERN, THE PROJECT'S MANAGER AND CITY'S INSPECTOR SHALL INSPECT THE WORK ZONE TO ENSURE COMPLIANCE WITH THE TMP. ON THE THIRD TO FIFTH DAY OF IMPLEMENTATION OF THE TMP'S NEW WORK ZONE TRAFFIC PATTERN THE CONSTRUCTION INSPECTOR SHALL CONDUCT AN ON-SITE REVIEW OF THE WORK ZONE'S PERFORMANCE IN COORDINATION WITH COUNTY AND RECOMMEND TO THE CONTRACTOR ANY REQUIRED CHANGES TO THE TMP TO ENHANCE THE WORK ZONE'S SAFETY AND MOBILITY. ALL SUCH CHANGES SHALL BE DOCUMENTED. AN ON-SITE REVIEW OF THE PROJECT'S WORK ZONE TRAFFIC CONTROL BY THE PROJECT MANAGER AND CONTRACTOR SHALL BE CONDUCTED (WITH COORDINATION FROM COUNTY) WITHIN 48 HOURS OF ANY FATAL INCIDENT/CRASH WITHIN THE WORK ZONE.

- 12. PUBLIC COMMUNICATIONS PLAN
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR:
- A. NOTIFYING THE PROJECT MANAGER AND CITY INSPECTOR TWO WEEKS IN ADVANCE OF ANY SCHEDULED WORK PLANS AND TRAFFIC DELAYS. B. NOTIFYING THE PROJECT MANAGER, CITY INSPECTOR, AND CORRESPONDING COUNTY ENGINEER OF ANY UNSCHEDULED TRAFFIC DELAYS.
- 16. TRANSPORTATION OPERATIONS
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND PROVIDING THE FOLLOWING:
- A. NOTIFY THE REGIONAL TRANSPORTATION OPERATIONS CENTER (TOC) 1 WEEK IN ADVANCE IN ORDER TO PLAN LANE CLOSURE INFORMATION ON
- THE 511 SYSTEM AND VA-TRAFFIC. B. IMMEDIATELY REPORT ANY TRAFFIC INCIDENTS THAT MAY OCCUR IN THE WORK ZONE.
- NOTIFY THE PROJECT'S CONSTRUCTION INSPECTOR AND COUNTY ENGINEER OF ANY INCIDENTS AND EXPECTED TRAFFIC DELAYS.
- D. WITHIN 24 HOURS OF ANY INCIDENTS WITHIN THE CONSTRUCTION WORK ZONE, A REVIEW OF THE TRAFFIC CONTROLS SHALL BE COMPLETED AND NECESSARY ADJUSTMENT MADE TO REDUCE THE FREQUENCY AND SEVERITY OF ANY FUTURE INCIDENTS.
- 17. CONTACT NUMBERS

PROJECT MANAGER: TBD TBD CITY INSPECTOR: 911 EMERGENCY CALL:

NON-EMERGENCY NUMBERS:

703-746-4444 CITY OF ALEXANDRIA POLICE:

CITY OF ALEXANDRIA FIRE & RESCUE: 703-746-4357

GENERAL CONSTRUCTION NOTES

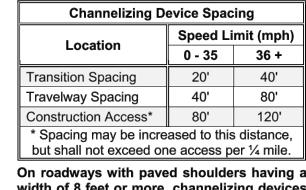
- NOTE: VWAPM VIRGINIA WORK AREA PROTECTION MANUAL (2011) INCLUDING REVISION 1 DATED 2015.
- 1. THE CONTRACTOR SHALL MAKE ANY NECESSARY ADJUSTMENTS DURING BOTH WORK AND NON-WORK HOURS TO ENSURE THE PROTECTION AND SAFETY OF PEDESTRIANS, VEHICULAR TRAFFIC, AND THE GENERAL PUBLIC FROM ANY CONSTRUCTION RELATED ACTIVITY, CONSTRUCTION EQUIPMENT, AND THE CONSTRUCTION SITE ITSELF.

Page 6H-38 April 2015 **Typical Traffic Control** Outside Lane Closure Operation on a Four-Lane Roadway (Figure TTC-16.1)

- 1. On divided highways having a median wider than 8', right and left sign assemblies shall be
- 2. Sign spacing should be 1300'-1500' for Limited Access highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
- 3. Care should be exercised when establishing the limits of the work zone to insure maximum possible sight distance in advance of the transition, based on the posted speed limit and at least equal to or greater than the values in Table 6H-3. For Limited Access highways a minimum of 1000' is desired.
- 4. All vehicles, equipment, workers, and their activities should be restricted to one side of the pavement.

5. Taper Length (L) and Channelizing Device Spacing shall be:

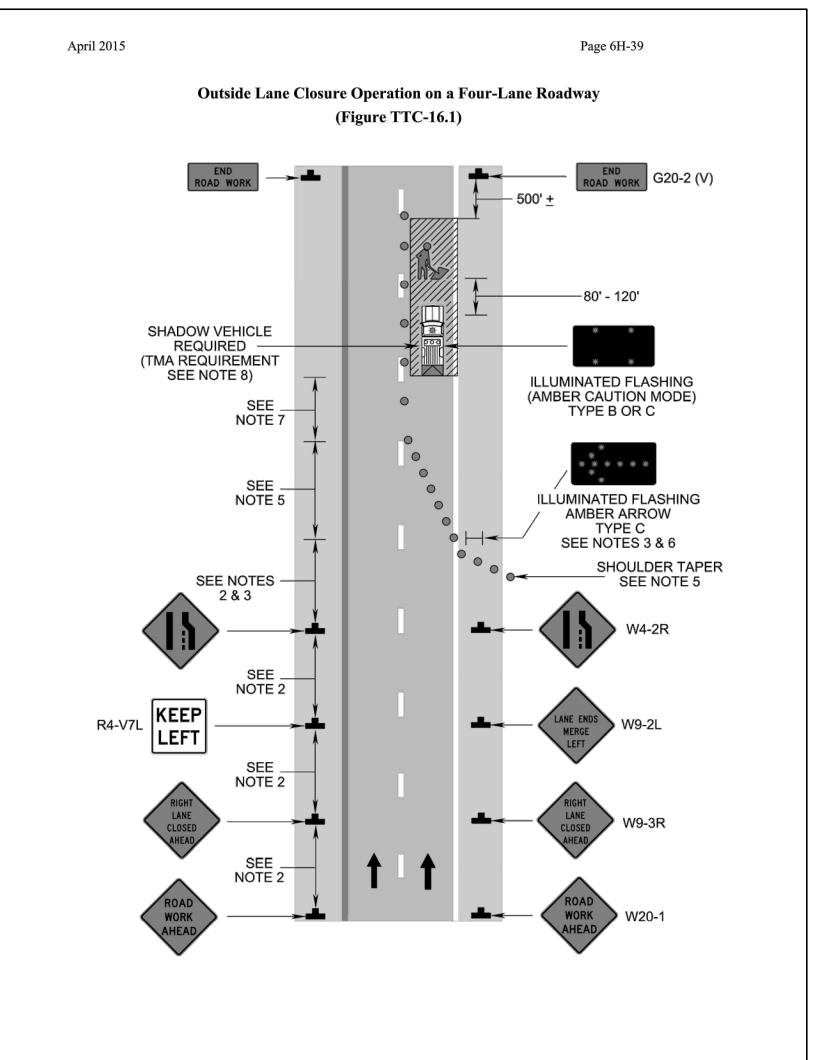
Taper Length (L)								
Speed Limit	Lane Width (Feet)							
(mph)	9	10	11	11 12				
25	95	105	115	125				
30	135	150	165	180				
35	185	205	225	245				
40	240 270		295	320				
45	405	450	495	540				
50	450	50 500	550	600				
55	495	550	605	660				
60	540	600	660	720				
65	585	650	715	780				
70	630	700	770	840				
Minimum taper lengths for Limited Access highways shall be 1000 feet.								
Shoulder Taper = ½ L Minimum								

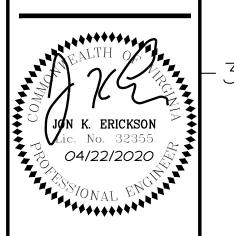


width of 8 feet or more, channelizing devices advance of the merging taper to direct vehicular traffic to remain within the traveled

- 6. An arrow board shall be used when a lane is closed. When more than one lane is closed, a separate arrow board shall be used for each closed lane (see Figure TTC-18).
- 7. The buffer space length shall be shown in Table 6H-3 on Page 6H-5 for the posted speed limit.
- 8. A shadow vehicle with either a Type B or C arrow board operating in the caution mode, or at least one high intensity amber rotating, flashing, or oscillating light shall be parked 80'-120' in advance of the first work crew. When the posted speed limit is 45 mph or greater, a truckmounted attenuator shall be used.
- 9. Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, or oscillating lights but can be used to supplement the amber rotating, flashing,
- 10. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.

1: Revision 1 – 4/1/2015

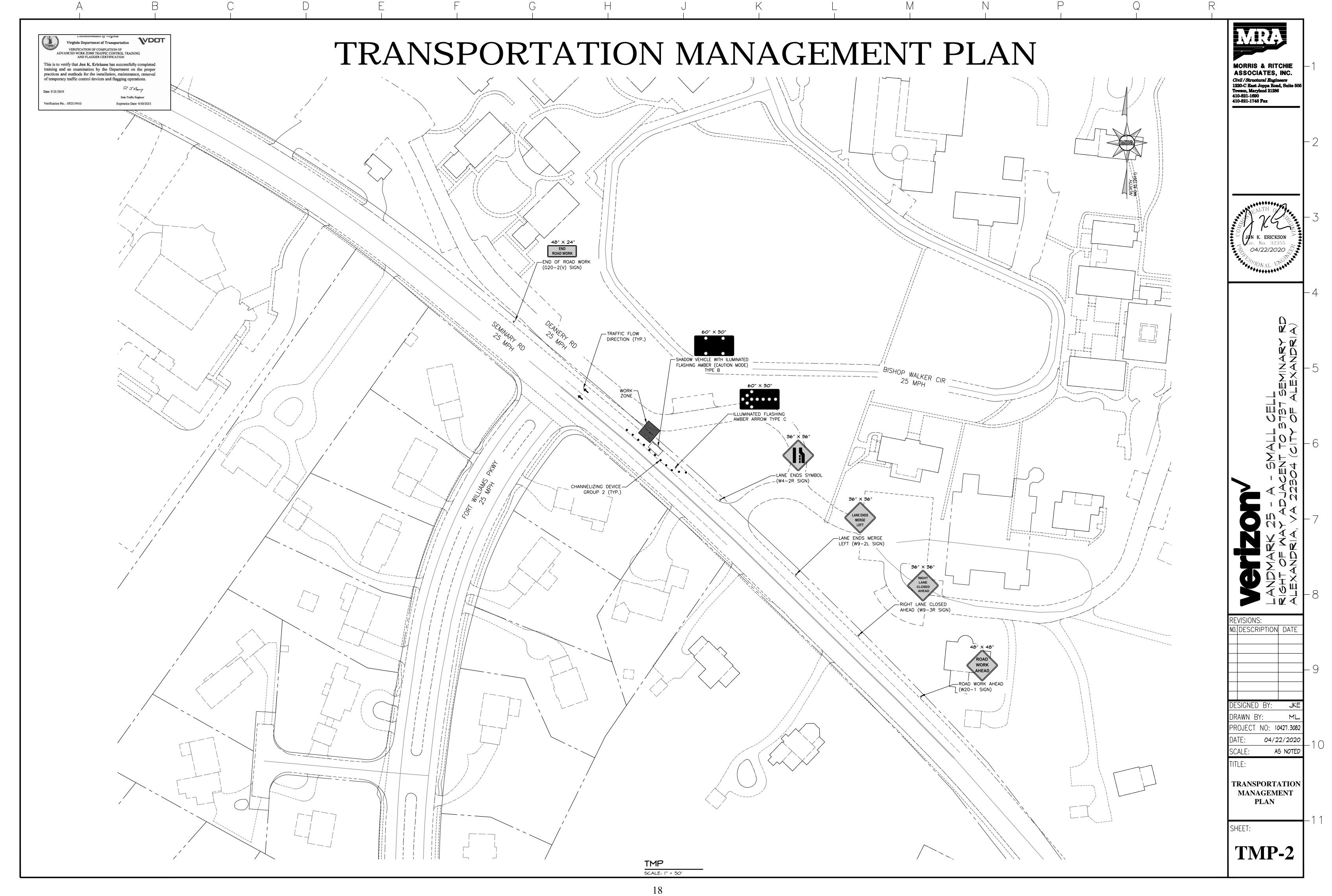


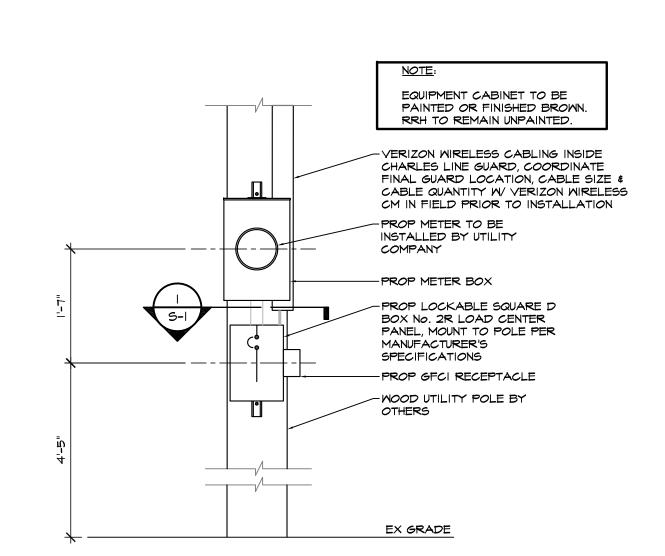




DESIGNED BY: DRAWN BY: PROJECT NO: 10427.3082 04/22/2020 AS NOTED

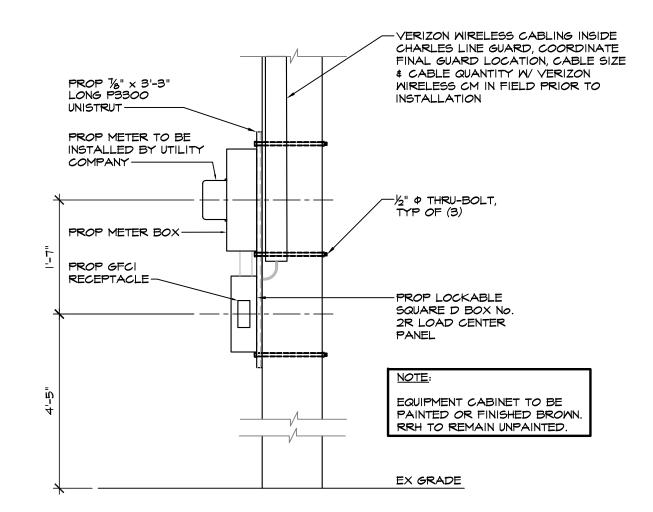
TRANSPORTATION MANAGEMENT PLAN NOTES





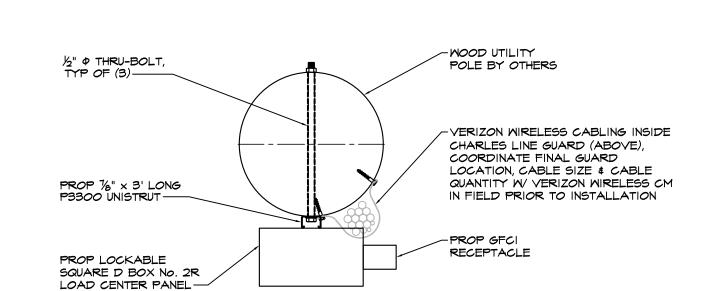
POLE EQUIPMENT FRONT ELEVATION

SCALE: 3/4" = 1'-0"

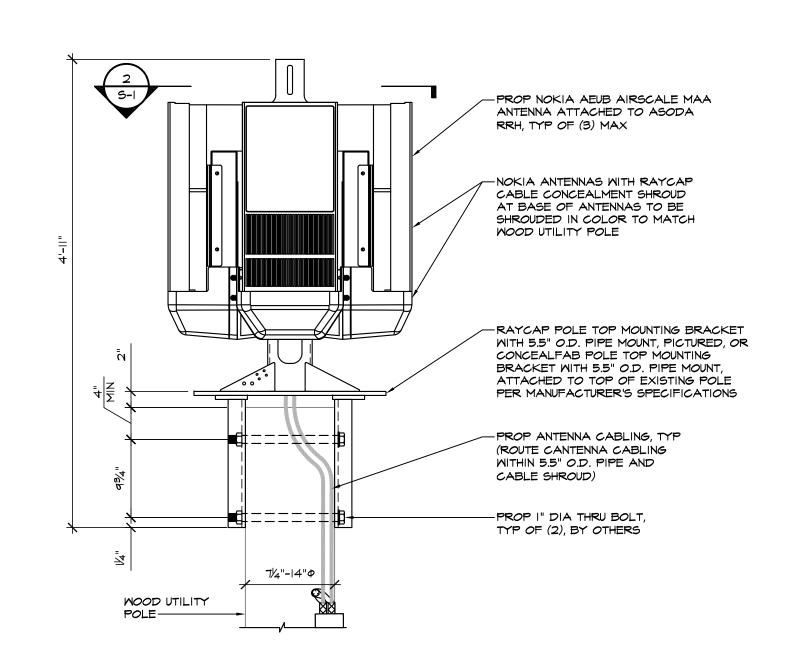


POLE EQUIPMENT SIDE ELEVATION

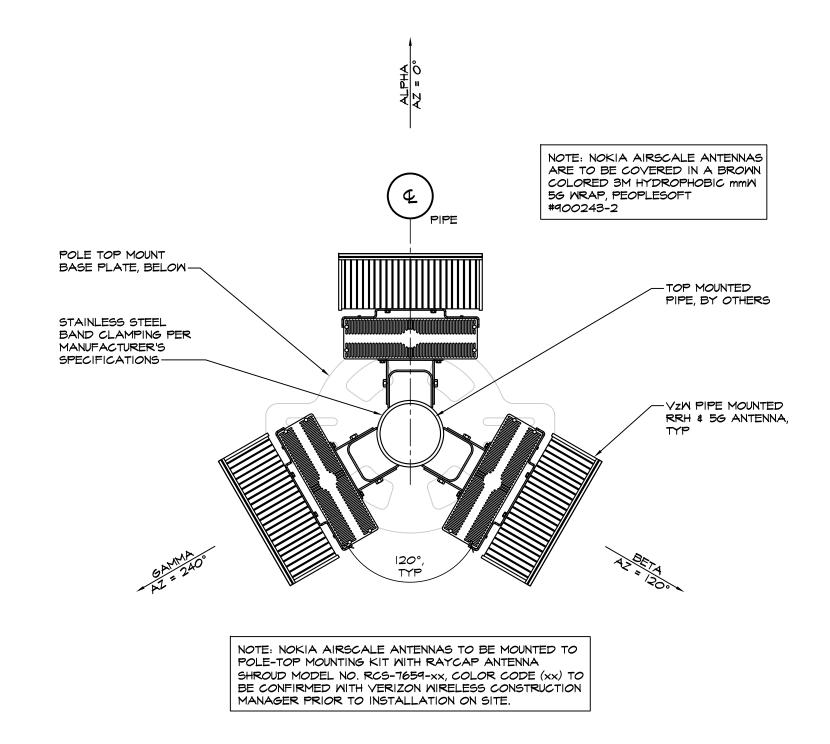
SCALE: 3/4" = 1'-0"



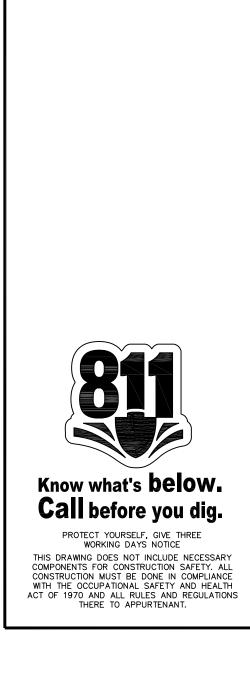
| EQUIPMENT MOUNT



CANTENNA \$ 5G PANEL ANTENNA MOUNT



2 5G PANEL ANTENNA SECTION S-I SCALE: I-I/2" = I'-0"



ASSOCIATES, INC. Civil / Structural Engineers 1220-C East Joppa Road, Suite 505 Towson, Maryland 21286 410-821-1690 410-821-1748 Fax REVISIONS: NO. DESCRIPTION DATE | PERMIT DWGS | 04/22/20 DESIGNED BY: DRAWN BY: PROJECT NO: 10427.3082 DATE: 04/21/2020 AS NOTED TITLE: Structural **Sections & Details**

MORRIS & RITCHIE

PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE ACT OF 1970 AND ALL RULES AND REGULATIONS
THERE TO APPURTENANT.

GENERAL STRUCTURAL NOTES

BUILDING CODES

- A. ALL CONSTRUCTION SHALL CONFORM WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE 2015 CONSTRUCTION CODE, THE TIA STANDARD (TIA-222-G) AND ALL SUBSEQUENT SUPPLEMENTS, THE INTERNATIONAL BUILDING CODE (IBC 2015) AND ALL SUBSEQUENT SUPPLEMENTS & DOCUMENTS.
- B. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH ANY LOCAL CODES AND REQUIREMENTS.

<u>DESIGN LOADS</u>

- 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. WIND LOAD DESIGN DATA

NOT APPLICABLE:

BASIC WIND SPEED (ULTIMATE 3-SECOND GUST): BASIC WIND SPEED (NOMINAL 3-SECOND GUST): 90 MPH RISK CATEGORY: WIND EXPOSURE CATEGORY:

C. SEISMIC LOAD DESIGN DATA

MISCELLANEOUS

- 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 CIVIL AND MEP CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS.

5s < 1.0

- C. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
- D. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- E. APPLY DETAILS, SECTIONS AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.

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 MISCELLANEOUS STEEL (CHANNELS AND PLATES) SHALL CONFORM TO ASTM A36 (Fy = 36 KSI).
- C. ALL HSS SQUARE OR RECTANGULAR SHAPES SHALL CONFORM TO ASTM A500, GRADE B (FY = 46 KSI).
- D. ALL PIPES SHALL CONFORM TO ASTM A53, GRADE B (Fy = 35KSI)
- E. ALL THRU BOLTS SHALL CONFORM TO ASTM A307 (Fu = 60 KSI).
- F. ALL NUTS SHALL CONFORM TO ASTM A563. ALL WASHERS SHALL CONFORM TO ASTM F436.
- G. ALL SHOP 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 BEING WELDED UNLESS OTHERWISE INDICATED.
- H. 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.
- I. STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES EXPOSED TO MEATHER 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.
- J. PROVIDE HOLES IN STEEL AS REQUIRED TO PREVENT ANY ACCUMULATION OF WATER. ALL PENETRATIONS THROUGH MAIN MEMBERS SHALL NOT EXCEED 1-1/8" DIA. AND SHALL BE GROUND SMOOTH. THESE DRAINS MUST BE KEPT CLEAN AND OPEN.
- K. 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
- L. 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

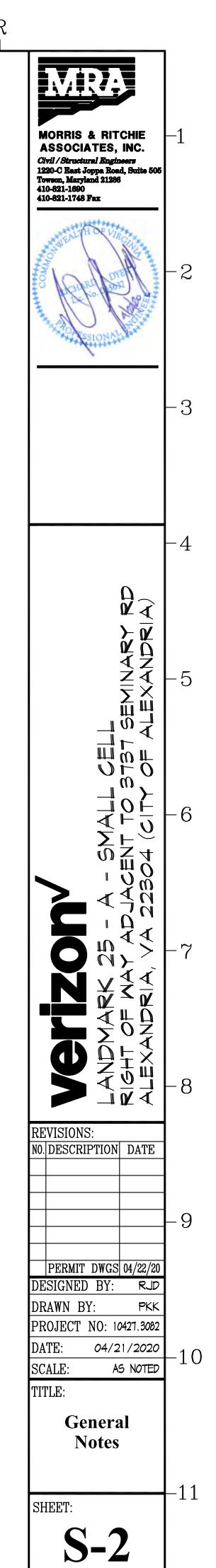
DOMINION NOTES:

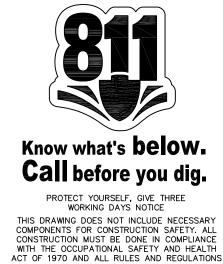
- A. A 9"XII" RF NOTICE SIGN MUST BE INSTALLED ON BOTH SIDES OF THE POLE A MINIMUM OF ONE FOOT ABOVE THE UPPERMOST ELECTRIC SUPPLY FACILITIES. THIS SIGN MARKS THE POINT WHERE RF EXPOSURE LEVELS MAY EXCEED "FCC OET-65 APPENDIX A" LIMITS FOR UNCONTROLLED GENERAL POPULATION EXPOSURE. WORKING ABOVE THIS POINT REQUIRES DE-ENERGIZING THE ANTENNA. THIS SIGN MUST INCLUDE THE STANDARD RE SYMBOL AND STATE "NON RF WORKERS MUST POWER DOWN DEVICE WHEN WORKING ABOVE THIS POINT." THE SIGN SHALL BE 60 MIL LEXAN WITH U.V. INHIBITORS AND SIGNS SHALL ADHERE TO IEEE C95.2 STANDARDS.
- B. A POWER DISCONNECT MUST BE INSTALLED. THIS DEVICE MUST PROVIDE DISCONNECTING MEANS FOR DE-ENERGIZING AC AND DC (BATTERY BACK UP) POMER TO THE ANTENNA. THE DISCONNECT SHOULD BE A STANDARD NEMA TYPE HINGED ENCLOSURE AND IS SUBJECT TO COMPANY APPROVAL. THE DISCONNECT SHALL BE CLEARLY LABELED AS THE ANTENNA POWER DISCONNECT.
- C. AN ADDITIONAL RF LABEL ON THE EQUIPMENT MUST INCLUDE COMMUNICATION COMPANY NAME, AND A 24-HR CONTACT PHONE NUMBER. THE LABEL SHALL ADHERE TO IEEE C95.2 STANDARDS.
- D. THE ANTENNA SHALL BE MOUNTED THE GREATER VALUE OF NESC MINIMUM CLEARANCE OR THE MINIMUM CLEARANCE REQUIRED TO MEET OFT UNCONTROLLED EXPOSURE GUIDELINES AT A POINT I' ABOVE THE ELECTRIC FACILITIES. THE ANTENNA INCLUDING ATTACHING HARDWARE SHALL BE MOUNTED A MINIMUM OF 45" ABOVE PRIMARY INSTALLATIONS AND 40" ABOVE SECONDARY INSTALLATIONS. (NESC TABLE 238-I)
- E. ANTENNA EQUIPMENT IS PERMISSIBLE ON WOOD POLES ONLY.
- F. ONLY NON METALLIC ELECTRIC GRADE CONDUIT OR RISERS CAN BE USED FOR ROUTING THE COMMUNICATION CABLES THROUGH THE SUPPLY SPACE. THE CONDUIT INSTALLATION SHALL NOT OBSTRUCT THE CLIMBING SPACE OR WORKING SPACE ON THE POLE AND SHALL NOT OBSTRUCT SUPPLY EQUIPMENT. (NESC 239B, AND NESC
- G. THE INSTALLATION MUST MEET ALL NESC REQUIREMENTS.
- H. A DOMINION DISTRIBUTION REPRESENTATIVE MUST APPROVE ALL ANTENNA ATTACHMENT POLES. ANTENNAS ARE NOT ALLOWED ON POLES FREQUENTLY VISITED BY OPERATIONS PERSONNEL. THESE INCLUDE EQUIPMENT POLES SUCH AS RECLOSERS, THREE PHASE TRANSFORMER BANKS, THREE PHASE TERMINALS, CAPACITORS, SMITCHES, ETC.
- I. INSTALLERS WORKING IN THE AREA OF THE POLE ABOVE THE NORMAL COMMUNICATIONS SPACE MUST MEET OSHA 1910.269 REQUIREMENTS.
- J. AN ANTENNA GROUND WIRE AND GROUNDING ELECTRODE IS REQUIRED. THIS GROUND SHALL BE BONDED TO THE
- K. VERIZON TO LEAVE MINIMUM 3' LEADS COILED AND SECURED TO PREVENT ACCIDENTAL CONTACT WITH SECONDARY CONDUCTORS.

- L. SERVICE WILL BE CONNECTED BY VERIZON IN COMPLIANCE WITH FILED RATE PLAN.
- M. LINE ARRESTER INSTALLATIONS ARE REQUIRED ON POLES WITH PRIMARY CONDUCTORS.
- N. VERIZON'S GROUND MAY NOT BE USED TO SATISFY NEC REQUIREMENTS FOR THE EQUIPMENT BRACKET AC SERVICE GROUND. THE EQUIPMENT AND ITS AC SERVICE GROUND ARE REQUIRED TO BE BONDED TO THE COMPANY GROUND CONDUCTOR ON THE POLE AT LEAST 6" ABOVE GROUND LEVEL USING A NO. 6 CU CONDUCTOR. CONNECTION TO THE COMPANY'S GROUND ROD OR CONNECTOR IS NOT APPROVED.
- O. BONDS SHALL BE MADE BETWEEN THE GROUND WIRE AND THE EQUIPMENT CABINET (NOT NEUTRAL BUS) OF THE POWER SUPPLY/SWITCH. THESE CONNECTIONS ARE TO AVOID POTENTIAL DIFFERENCES BETWEEN DEVICES ON THE POLES. BOND TO THE POWER SUPPLY/SWITCH SHALL BE EXTERNAL AND VISIBLE FROM THE GROUND. WHEN A COMPANY DRIVEN GROUND EXISTS ON THE POLE, THE EQUIPMENT CASE BONDING WIRE NEED EXTEND ONLY FROM THE SWITCH TO THE COMPANY GROUND WIRE.
- P. THE METER BASE, EQUIPMENT CABINET AND DISCONNECT SHALL BE MOUNTED AT AN OPERATIONAL HEIGHT AS DETAILED ON THE CONSTRUCTION DOCUMENTS: THE METER BASE, EQUIPMENT CABINET OR DISCONNECT SHALL NOT OBSTRUCT A WALKWAY OR BE SUBJECT
- TO VEHICULAR TRAFFIC. 2. THE EQUIPMENT BRACKET SHALL NOT BE USED ALONE OR IN CONJUNCTION WITH A FENCE, PEDESTAL, ETC. AS A CLIMBING AID.
- Q. FOR SAFETY PURPOSES DEVICES WITH LEAD ACID BATTERIES SHALL NOT BE USED.
- R. DUE TO OPERATIONAL CONCERNS, SECONDARY POLES OR GUY STUB POLES ARE PREFERRED FOR ANTENNA ATTACHMENTS. PRIMARY POLES SHOULD ONLY BE CONSIDERED WHEN THERE IS NO OTHER SUITABLE POLE IN
- S. THE WEATHERHEAD WILL BE INSTALLED 4" ABOVE THE NEUTRAL.

POST-INSTALLATION INSPECTION

- A. A POST-INSTALLATION INSPECTION REPORT IS REQUIRED AND SHALL BE INCLUDED IN THE CONTRACTOR'S BID. A POST-INSTALLATION INSPECTION IS A VISUAL INSPECTION OF TOWER INSTALLATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE INSTALLATION DRAWINGS.
- B. THE POST-INSTALLATION INSPECTION REPORT SHALL BE COMPLETED BY A PROFESSIONAL ENGINEER LICENSED IN THE JURISDICTION IN WHICH THE PROJECT IS LOCATED.
- C. THE INTENT OF THE POST-INSTALLATION INSPECTION REPORT IS TO CONFIRM INSTALLATION AND CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE INSTALLATION DESIGN ITSELF.
- TO ENSURE THAT THE REQUIREMENTS OF THE POST-INSTALLATION INSPECTION REPORT ARE MET, IT IS VITAL THAT THE CONTRACTOR AND POST-INSTALLATION INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED.





ELECTRICAL SPECIFICATIONS

- I. 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.
 - B. ALL WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, BOCA, AND LOCAL ELECTRICAL CODES THAT GOVERN EACH PARTICULAR TRADE AND THE 2014 NATIONAL ELECTRICAL CODE.
 - 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 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.
- G. 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.
- I. 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.
- J. GUARANTEE: ALL NEW ELECTRICAL INSTALLATIONS SHALL BE GUARANTEED FOR A PERIOD OF ONE (I) 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 ABROGATE 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.
- K. ANY ELECTRICAL WORK WHICH WILL INTERFERE WITH THE NORMAL OPERATION OF THE STREET LIGHT SHALL BE DONE AT SUCH TIME OR TIMES AS SHALL BE MUTUALLY AGREED UPON BETWEEN THE CONTRACTOR AND THE DOMINION REPRESENTATIVE (IF APPLICABLE).
- L. 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, OR EQUIPMENT. SUPPORTS, HANGERS, BRACES AND ATTACHMENTS SHALL BE STANDARD MANUFACTURED ITEMS OR FABRICATED STRUCTURAL STEEL SHAPES.
- M. THERE SHALL BE NO INTERRUPTION OF POWER TO EXISTING ELECTRICAL SYSTEMS WITHOUT PRIOR CONSENT FROM VERIZON. SUCH INTERRUPTIONS SHALL BE KEPT TO A MINIMUM. ANY COST FOR WORK THAT MUST BE DONE ON AN OVERTIME BASIS SHALL BE INCLUDED IN THE BID.
- N. MOUNTING AND SUPPORTING OF ALL EQUIPMENT PROVIDED BY THIS CONTRACTOR SHALL BE COORDINATED WITH VERIZON IN THE FIELD PRIOR TO CONSTRUCTION.
- 2. SECTION 16050 BASIC ELECTRICAL MATERIALS & METHODS
 - A. <u>CONDUIT & BOXES:</u>
 - I. ALL CONDUIT BELOW GRADE SHALL BE SCHEDULE 40 PVC. ALL CONDUIT ABOVE GRADE SHALL BE NON METALLIC ELECTRIC GRADE.

- 2. 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. GASKETED COVER PLATES SHALL BE FURNISHED FOR OUTDOOR INSTALLATIONS.
- 3. ALL BOXES, WHETHER OUTLET, JUNCTION, PULL, OR EQUIPMENT SHALL BE FURNISHED WITH APPROPRIATE COVERS.
- 4. NO SECTIONALIZED BOXES SHALL BE USED.
- 5. ALL FIELD CUTS OF GALVANIZED ITEMS SHALL BE BRUSHED WITH MARINE GRADE GALVANIZING.
- 6. ALL METALLIC OBJECTS EXPOSED TO WEATHER SHALL BE GALVANIZED.
- 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. 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.
- 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>GROUNDING:</u>
- I. PROVIDE GROUND FOR ALL RACEWAYS, DEVICES, AND UTILIZATION EQUIPMENT PERMANENTLY AND EFFECTIVELY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, AS HEREINAFTER 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 FOUIPMENT
- 3. <u>SECTION 16400 SERVICE & DISTRIBUTION</u>
 - A. <u>ELECTRICAL SERVICE:</u>
 - I. ELECTRICAL POWER TO THE NEW EQUIPMENT SHALL BE EXTENDED FROM THE PROPOSED UTILITY METER AND SERVICE ENTRANCE RATED LOAD CENTER PANEL MOUNTED ON NEW POLE. LABEL METER WITH PHENOLIC NAMEPLATE READING "VERIZON WIRELESS". LABEL PANEL WITH PHENOLIC NAMEPLATE READING "VERIZON WIRELESS SERVICE DISCONNECT".
- B. COMMUNICATIONS SERVICE:
- I. TELEPHONE SERVICE SHALL BE EXTENDED BY THE TELEPHONE COMPANY. PROVIDE SERVICE CONDUITS, SLEEVES, AND OTHER EQUIPMENT SHOWN ON THE DRAWINGS FOR USE BY THE TELEPHONE COMPANY. ALL CHARGES BY THE UTILITY COMPANY SHALL BE PAID BY THE OWNER.
- 2. 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.

ELECTRICAL SYMBOLS LIST

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

DRAWING NOTE

DRAWING NOTE

ELECTRIC FEEDERS

TELEPHONE SERVICE

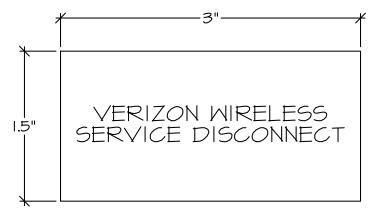
BRANCH CIRCUIT

METER

GROUND CONDUCTOR

BURIED GROUND ROD

DESIGNATES FRONT



* PHENOLIC NAMEPLATE SHALL HAVE A BLACK BACKGROUND WITH WHITE LETTERING AND BE PERMANENTLY INSTALLED ON FRONT OF LOAD CENTER PANEL.

DETAIL - LOAD
CENTER PLACARD
NO SCALE



NOT TO SCALE

(PROPOSED) (NEMA 3R)												
PANEL "VERIZON WIRELESS"												
120/2	40 V	OLTS	14	3	M	RE	: 10	00	Α١	1P	MAIN	L.O.
ο⊻⊢	1	2	113	3	4	1	#	5	6	ź	7	8
ሠ	4	0	15	5	15	5	<u>15</u>	15	5	5	١	-
DESCRIPTION	<u> </u>		NOKIA ANTENNA - ALPHA	ASODA RADIO UNIT - ALPHA	NOKIA ANTENNA - BETA	ASODA RADIO UNIT - BETA	NOKIA ANTENNA - GAMMA	ASODA RADIO UNIT - GAMMA	GFCI RECEPTACLE	SPARE	SPACE	SPACE
POWER LOAD: 2.34 KVA x 125% = 2.93 KVA = 12.21 AMPS @ 120/240V, 1¢, 3M												

- * PANEL SHALL BE LOCKABLE WITH PADLOCK.

 ** PANEL SHALL BE SERVICE ENTRANCE RATED.
- *** PANELBOARD SHALL BE EQUIPPED WITH A TYPEWRITTEN DIRECTORY, INDICATING PLAINLY WHAT EACH CIRCUIT OF THE PANEL CONTROLS. THIS SCHEDULE SHALL BE PLACED ON FRONT COVER OF PANEL.
- **** CONTRACTOR SHALL PROVIDE AND INSTALL ISAMP TANDEM BREAKERS IN SPACES AS SHOWN.

DOMINION SPECIFICATIONS

- I. A 9"XII" RF NOTICE SIGN MUST BE INSTALLED ON BOTH SIDES OF THE POLE A MINIMUM OF ONE FOOT ABOVE THE UPPERMOST ELECTRIC SUPPLY FACILITIES. THIS SIGN MARKS THE POINT WHERE RF EXPOSURE LEVELS MAY EXCEED "FCC OET-65 APPENDIX A" LIMITS FOR UNCONTROLLED GENERAL POPULATION EXPOSURE. WORKING ABOVE THIS POINT REQUIRES DE-ENERGIZING THE ANTENNA. THIS SIGN MUST INCLUDE THE STANDARD RF SYMBOL AND STATE "NON RF WORKERS MUST POWER DOWN DEVICE WHEN WORKING ABOVE THIS POINT." THE SIGN SHALL BE 60 MIL LEXAN WITH U.V. INHIBITORS AND SIGNS SHALL ADHERE TO IEEE C95.2 STANDARDS.
- 2. A POWER DISCONNECT MUST BE INSTALLED. THIS DEVICE MUST PROVIDE DISCONNECTING MEANS FOR DE-ENERGIZING AC AND DC (BATTERY BACK UP) POWER TO THE ANTENNA. THE DISCONNECT SHOULD BE A STANDARD NEMA TYPE HINGED ENCLOSURE AND IS SUBJECT TO COMPANY APPROVAL. THE DISCONNECT SHALL BE CLEARLY LABELED AS THE ANTENNA POWER DISCONNECT.
- 3. AN ADDITIONAL RF LABEL ON THE EQUIPMENT MUST INCLUDE COMMUNICATION COMPANY NAME, AND A 24-HR CONTACT PHONE NUMBER. THE LABEL SHALL ADHERE TO IEEE C95.2 STANDARDS.
- 4. THE ANTENNA SHALL BE MOUNTED THE GREATER VALUE OF NESC MINIMUM CLEARANCE OR THE MINIMUM CLEARANCE REQUIRED TO MEET OET UNCONTROLLED EXPOSURE GUIDELINES AT A POINT I' ABOVE THE ELECTRIC FACILITIES. THE ANTENNA INCLUDING ATTACHING HARDWARE SHALL BE MOUNTED A MINIMUM OF 45" ABOVE PRIMARY INSTALLATIONS AND 40" ABOVE SECONDARY INSTALLATIONS. (NESC TABLE 238-I)
- 5. ANTENNA EQUIPMENT IS PERMISSIBLE ON WOOD POLES ONLY.
- 6. ONLY NON METALLIC ELECTRIC GRADE CONDUIT OR RISERS CAN BE USED FOR ROUTING THE COMMUNICATION CABLES THROUGH THE SUPPLY SPACE. THE CONDUIT INSTALLATION SHALL NOT OBSTRUCT THE CLIMBING SPACE OR WORKING SPACE ON THE POLE AND SHALL NOT OBSTRUCT SUPPLY EQUIPMENT. (NESC 239B, AND NESC 239H4).
- 7. THE INSTALLATION MUST MEET ALL NESC REQUIREMENTS.
- 8. A DOMINION DISTRIBUTION REPRESENTATIVE MUST APPROVE ALL ANTENNA ATTACHMENT POLES. ANTENNAS ARE NOT ALLOWED ON POLES FREQUENTLY VISITED BY OPERATIONS PERSONNEL. THESE INCLUDE EQUIPMENT POLES SUCH AS RECLOSERS, THREE PHASE TRANSFORMER BANKS, THREE PHASE TERMINALS, CAPACITORS, SWITCHES, ETC.
- 9. INSTALLERS WORKING IN THE AREA OF THE POLE ABOVE THE NORMAL COMMUNICATIONS SPACE MUST MEET OSHA 1910.269 REQUIREMENTS.

- IO. AN ANTENNA GROUND WIRE AND GROUNDING ELECTRODE IS REQUIRED. THIS GROUND SHALL BE BONDED TO THE COMPANY GROUND WIRE.
- II. VERIZON TO LEAVE MINIMUM 3' LEADS COILED AND SECURED TO PREVENT ACCIDENTAL CONTACT WITH SECONDARY CONDUCTORS.
- 12. SERVICE WILL BE CONNECTED BY VERIZON IN COMPLIANCE WITH FILED RATE PLAN.
- 13. LINE ARRESTER INSTALLATIONS ARE REQUIRED ON POLES WITH PRIMARY CONDUCTORS.
- 14. VERIZON'S GROUND MAY NOT BE USED TO SATISFY NEC REQUIREMENTS FOR THE EQUIPMENT BRACKET AC SERVICE GROUND. THE EQUIPMENT AND ITS AC SERVICE GROUND ARE REQUIRED TO BE BONDED TO THE COMPANY GROUND CONDUCTOR ON THE POLE AT LEAST 6" ABOVE GROUND LEVEL USING A No. 6 CU CONDUCTOR. CONNECTION TO THE COMPANY'S GROUND ROD OR CONNECTOR IS NOT APPROVED.
- 15. BONDS SHALL BE MADE BETWEEN THE GROUND WIRE AND THE EQUIPMENT CABINET (NOT NEUTRAL BUS) OF THE POWER SUPPLY/SWITCH. THESE CONNECTIONS ARE TO AVOID POTENTIAL DIFFERENCES BETWEEN DEVICES ON THE POLES. BOND TO THE POWER SUPPLY/SWITCH SHALL BE EXTERNAL AND VISIBLE FROM THE GROUND. WHEN A COMPANY DRIVEN GROUND EXISTS ON THE POLE, THE EQUIPMENT CASE BONDING WIRE NEED EXTEND ONLY FROM THE SWITCH TO THE COMPANY GROUND WIRE.
- 16. THE METER BASE, EQUIPMENT BRACKET, AND DISCONNECT SHOULD BE MOUNTED PROVIDING DOMINION BLUE BOOK AND NEC CLEARANCE. THEY MAY BE MOUNTED AT OPERATIONAL HEIGHT THAT:
 A. THE EQUIPMENT BRACKET DOES NOT OBSTRUCT A WALKWAY OR IS SUBJECT TO VEHICULAR TRAFFIC.
 B. THE EQUIPMENT BRACKET CAN NOT BE USED ALONE OR IN CONJUNCTION WITH A FENCE, PEDESTAL, ETC. AS A CLIMBING AID.
- 17. FOR SAFETY PURPOSES DEVICES WITH LEAD ACID BATTERIES SHALL NOT BE USED.
- 18. DUE TO OPERATIONAL CONCERNS, SECONDARY POLES OR GUY STUB POLES ARE PREFERRED FOR ANTENNA ATTACHMENTS. PRIMARY POLES SHOULD ONLY BE CONSIDERED WHEN THERE IS NO OTHER SUITABLE POLE IN THE AREA.
- 19. ONE RADIO CABINET, A SERVICE DISCONNECT AND THE METER BASE MAY BE POLE MOUNTED. ADDITIONAL EQUIPMENT, OR LARGE CABINETS SHALL BE PAD MOUNTED. PAD MOUNTED EQUIPMENT MUST BE LOCATED A MINIMUM OF 10' FROM THE BASE OF THE POLE.

REVISIONS:

NO. DESCRIPTION DATE

PERMIT DWG5. 4/22/20

LAST REV.:

PROJECT NO: 200421

DATE: APRIL 22, 2020

SCALE: AS NOTED

1

SPECIFICATIONS,

PANEL SCHEDULE

SYMBOLS LIST

and details

SHEET

ELEGENT ENGINEERING I

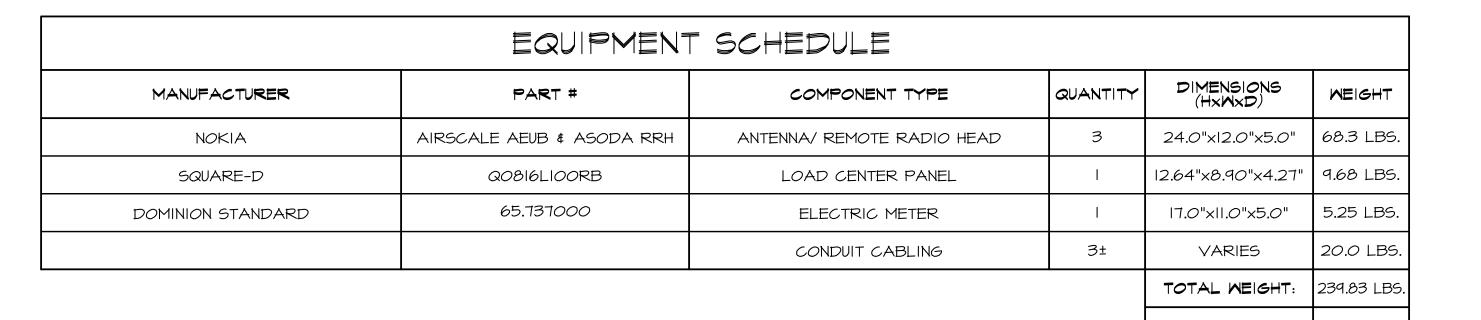
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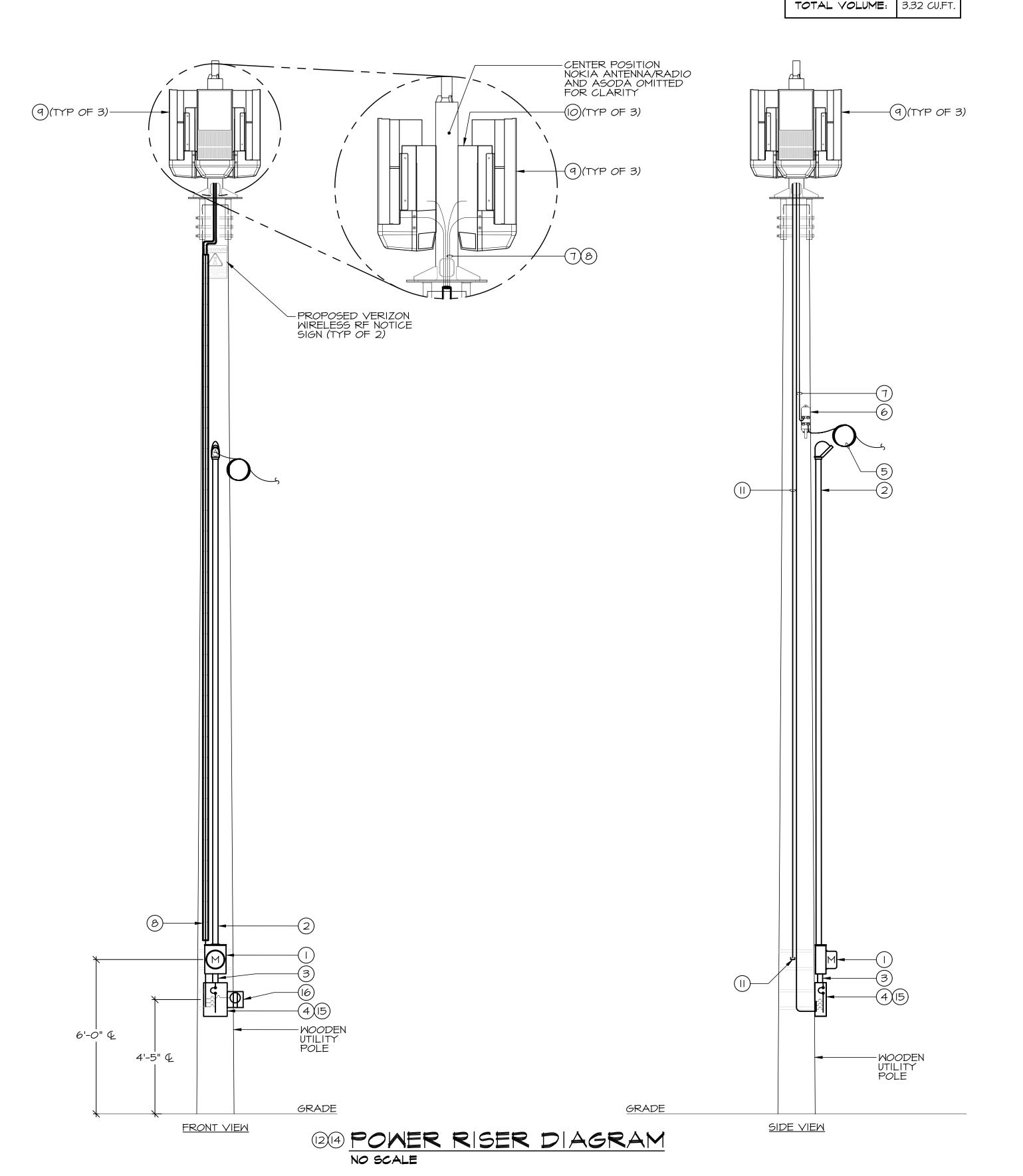
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TIMOTHY YOHN SMIDT

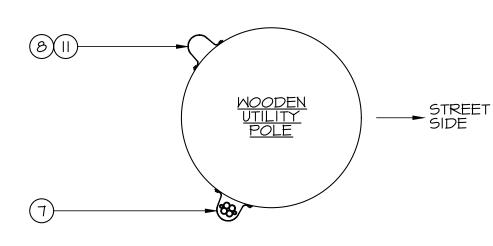
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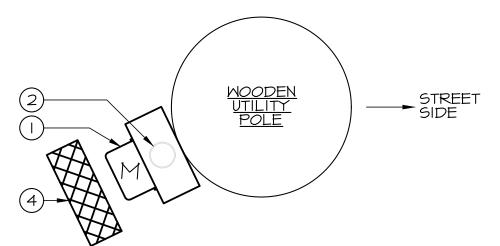


DRAWING NOTES

- PROPOSED UTILITY COMPANY METER CAN MOUNTED ON UTILITY POLE. NEW METER GLOBE PROVIDED AND INSTALLED BY UTILITY COMPANY. PROVIDE PHENOLIC NAMEPLATE READING "VERIZON WIRELESS"
- 2 EXTEND 3#I/O AWG + #6 GRD IN ONE (I) 2" GRAY SCHEDULE 40 PVC CONDUIT VERTICALLY UP UTILITY POLE FROM LINE SIDE OF METER CAN FOR EXTENSION OF OVERHEAD ELECTRIC SERVICE CABLES. COORDINATE FINAL CONDUIT TERMINATION POINT WITH UTILITY REPRESENTATIVE IN THE FIELD. PROVIDE WEATHER HEAD AT TOP END OF CONDUIT. ELECTRICIAN SHALL ALLOW 3'-O" OF SLACK AT WEATHERHEAD AND METER FOR FINAL TERMINATIONS BY UTILITY COMPANY.
- (3) EXTEND 3#6 AWG + #8 GRD I" CONDUIT FROM METER TO PANEL.
- PROVIDE AND INSTALL MEATHERPROOF SERVICE ENTRANCE RATED, 120/240 VOLT, 1¢, 3M, 100 AMP M.L.O EIGHT (8) POSITION QO LOAD CENTER PANEL (MODEL #Q0816L100RB) WITH FIELD INSTALLED 2P40A MAIN CIRCUIT BREAKER MOUNTED ABOVE METER CAN ON UTILITY POLE. PROVIDE PHENOLIC NAMEPLATE READING, "VERIZON WIRELESS SERVICE DISCONNECT". REFER TO PANEL SCHEDULE, SHEET E-I FOR ADDITIONAL INFORMATION.
- 5 PROPOSED ROUTE OF INCOMING OVERHEAD FIBER CABLE BY UTILITY COMPANY. EXCESS FIBER SHALL BE COILED AND SECURED TO UTILITY POLE ABOVE ALL EQUIPMENT. COORDINATE FINAL INCOMING FIBER ROUTE WITH UTILITY COMPANY.
- 6 UTILITY COMPANY PROVIDED AND INSTALLED OPTISHEATH MULITPORT TERMINAL MOUNTED ON UTILITY POLE. EXACT MOUNTING LOCATION SHALL BE COORDINATED WITH VERIZON TELEPHONE IN FIELD.
- 7 EXTEND SIX (6) PAIR FIBER FROM PROPOSED OMNI-TAP TO SERVE ASODA RADIO UNITS MOUNTED ON UTILITY POLE.
- 8 EXTEND DAMP LOCATION RATED MC CABLE (4#12 AWG + 2#12 GRD) FROM EACH 15 AMP TANDEM BREAKER (TYP OF 3) VERTICALLY UP EXTERIOR OF UTILITY POLE IN RISER GUARD TO EACH NOKIA ANTENNA/ASODA UNIT MOUNTED ON UTILITY POLE (TYP OF 3). REFER TO PANEL SCHEDULE, SHEET E-I, FOR ADDITIONAL INFORMATION.
- 9 VERIZON WIRELESS PROVIDED, CONTRACTOR INSTALLED NOKIA ANTENNA/RADIO UNIT MOUNTED ON UTILITY POLE.
- VERIZON WIRELESS PROVIDED AND CONTRACTOR INSTALLED NOKIA AIRSCALE CORE OUTDOOR 175W ASODA REMOTE RADIO HEAD MOUNTED BEHIND NOKIA ANTENNAS (TYP OF 3). REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL MOUNTING INFORMATION.
- (I) EXTEND ONE (I) WEATHERPROOF RATED CAT 5E CABLE FROM EACH ASODA AND COIL UP AT BASE OF LOAD CENTER. PROVIDE AND INSTALL RJ45 PLUG KIT WITH CAP TO KEEP CONNECTION WEATHERPROOF.
- (2) CONTRACTOR MUST REFER TO THE LATEST EDITION OF VERIZON WIRELESS FIBER DESIGN STANDARDS FOR FIBER QUANTITIES/ INTERCONNECTS.
- (13) REFER TO DRAWING PREPARED BY MRA FOR SITE PLAN.
- (4) VERIZON CONTRACTOR SHALL COORDINATE FINAL AVAILABLE SERVICE CHARACTERISTICS (VOLTAGE, PHASE, ETC.) WITH UTILITY COMPANY PRIOR TO START OF WORK. PREFERRED VOLTAGE IS: 120/240V, 1Φ, ACCEPTABLE VOLTAGE IS: 120/208V, 1Φ.
- (5) CONTRACTOR SHALL PROVIDE AND INSTALL ONE (I) MASTER LOCK BRASS 4 DIGIT PAD LOCK SET TO STANDARD VERIZON WIRELESS COMBINATION. PAD LOCK SHALL BE PLACED THROUGH CLASP ON LOAD CENTER TO PROHIBIT COVER FROM BEING OPENED. COMBINATION FOR MASTER LOCK IS THE STANDARD VERIZON WIRELESS FOUR DIGIT CODE. CONTRACTOR CAN'T INSTALL THE COMBINATION LOCK ON THE DISCONNECT UNTIL ALL INSPECTIONS ARE DONE AND FINAL.
- (6) CONTRACTOR SHALL PROVIDE AND INSTALL IS AMP, DUPLEX, GFCI OUTLET IN SINGLE GANG, WEATHERPROOF, THREADED, BOX WITH SINGLE GANG METAL, WEATHERPROOF COVER WHICH ACCEPTS A STANDARD VERIZON WIRELESS PAD LOCK. PROVIDE AND INSTALL PADLOCK WITH STANDARD VERIZON WIRELESS FOUR DIGIT CODE. CONTRACTOR CAN'T INSTALL THE COMBINATION LOCK ON THE GFCI OUTLET UNTIL ALL INSPECTIONS ARE DONE AND FINAL.



UPPER EQUIPMENT

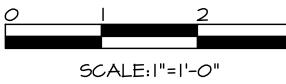


LOWER EQUIPMENT

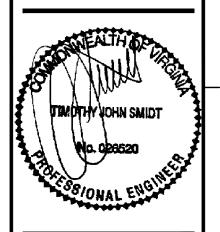
* COORDINATE FINAL MOUNTING LOCATION OF METER WITH UTILITY COMPANY REPRESENTATIVE PRIOR TO START OF WORK.

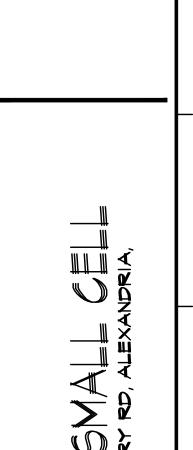
** ALL VERTICAL UTILITY RUNS TO BE LOCATED IN THE SAME QUADRANT ON POLE, CONTRACTOR TO COORDINATE THE FINAL PLACEMENT OF THE CABLE SHROUD AS INDICATED ON SHEET S-I.

(2)3(4) EQUIPMENT PLAN SCALE: I" =1'-0"

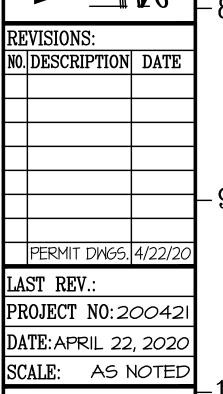


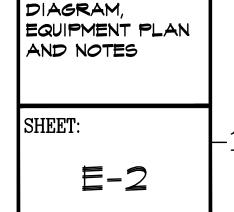
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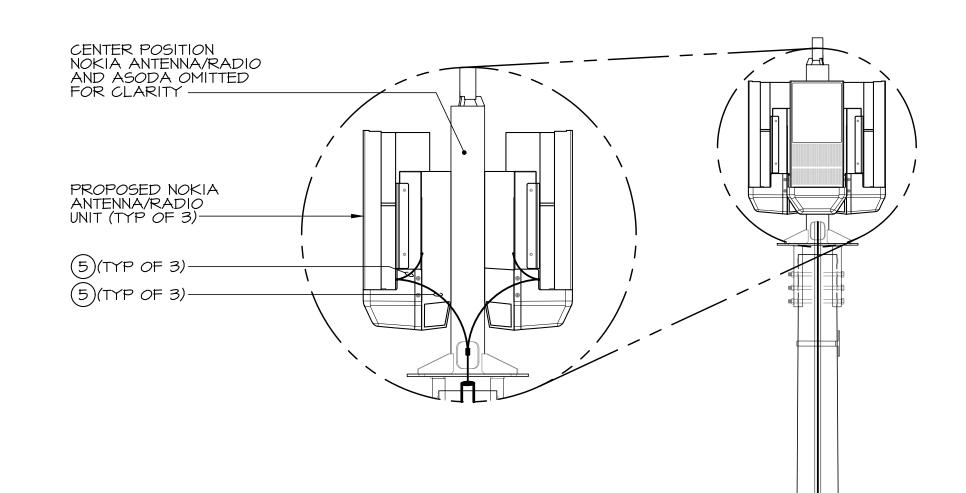


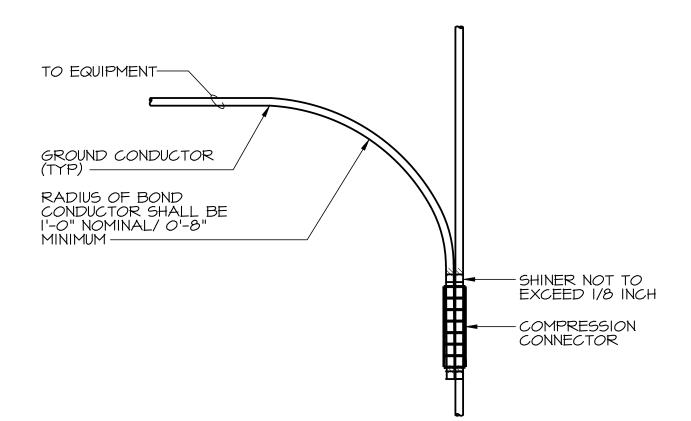




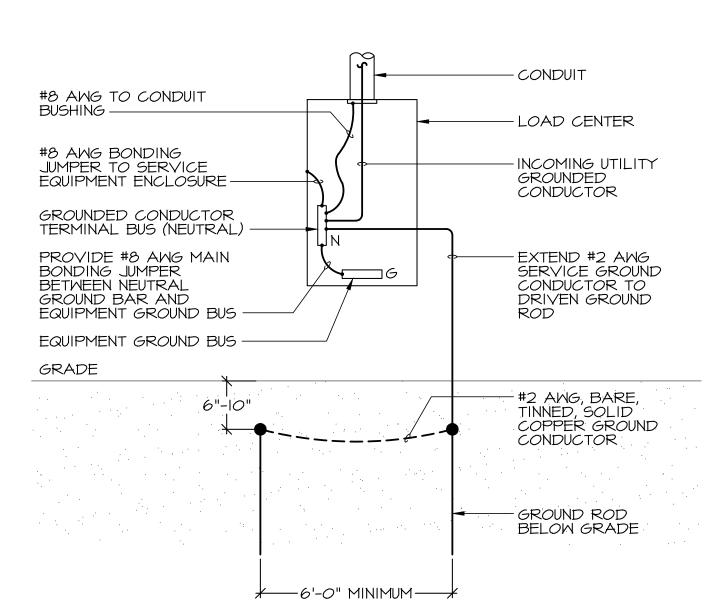
POWER RISER







DETAIL - DIRECTIONAL SPLICE No scale



DETAIL - TYP. ELECTRIC SERVICE GROUNDING ELECTRODE NO SCALE

3 2 WOODEN UTILITY POLE GRADE R 4 1

UTILITY POLE GROUNDING DIAGRAM
NO SCALE

GROUNDING GENERAL NOTES

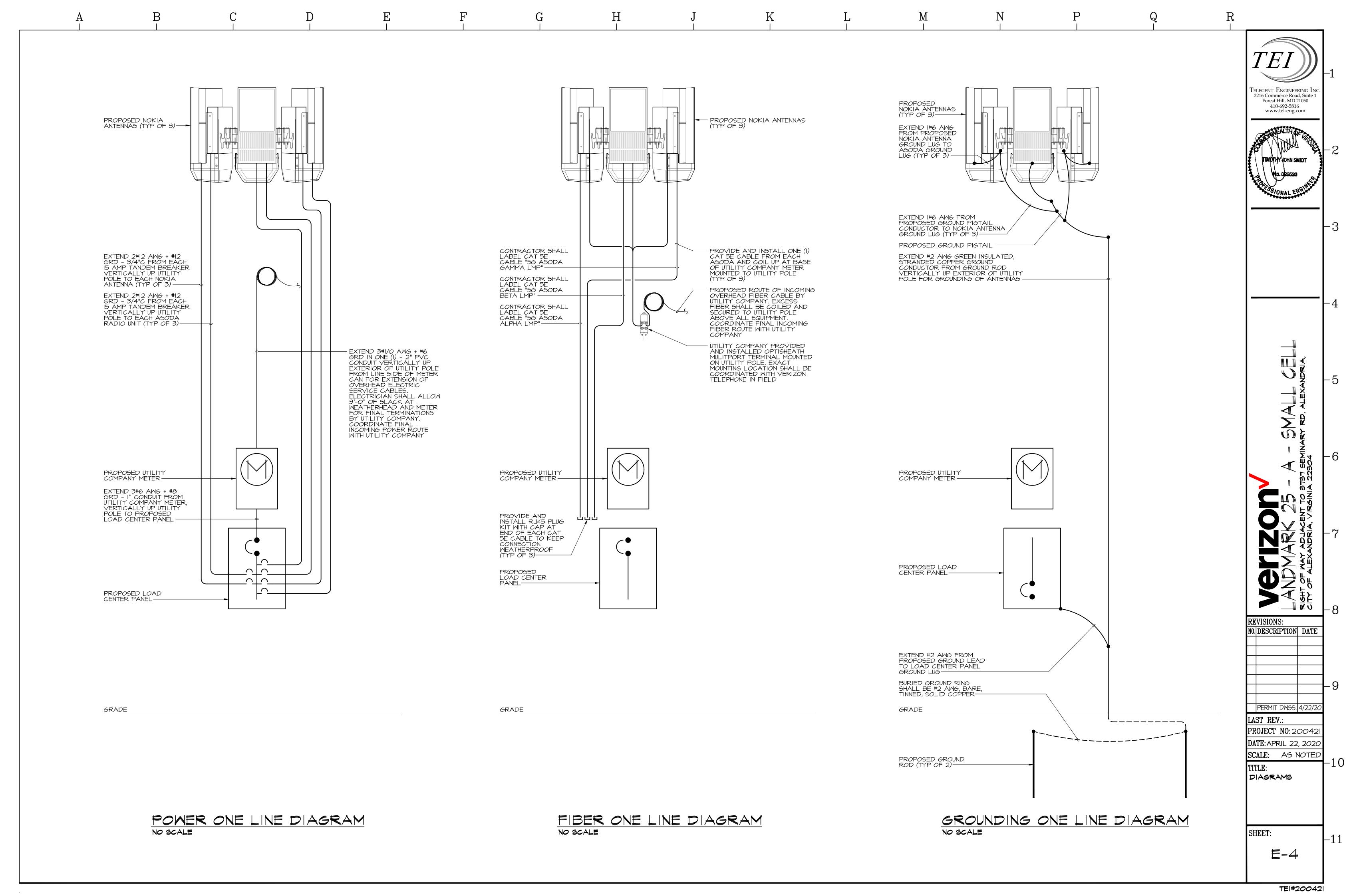
- I. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD)TO NEAREST REINFORCING BAR USING ERICO CADWELD "ONE-SHOT" CONNECTIONS.
- 2. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG BARE, TINNED SOLID COPPER, UNLESS NOTED OTHERWISE.
- 3. ALL GROUND CONNECTIONS ABOVE GRADE SHALL BE TWO-HOLE COPPER COMPRESSION TYPE WITH STANDARD LENGTH BARREL (BURNDY # YA2CL- 2TC14E1). SINGLE HOLE LUGS ARE NOT ACCEPTABLE.
- 4. ALL MOUNTING HARDWARE FOR EXTERIOR LOCATIONS SHALL BE GALVANIZED INCLUDING NUTS, BOLTS, FLAT AND LOCK WASHERS.
- 5. ALL EXTERIOR MECHANICAL CONNECTIONS SHALL BE MADE USING OXIDE-INHIBITING JOINT COMPOUND. THE COMPOUND SHALL BE APPLIED TO ALL SURFACES OF BOLTS, WASHERS, NUTS AND CONNECTING SURFACES OF GROUND BAR PLATES. ALL BARE COPPER SURFACES OF CONDUCTORS SHALL BE COATED PRIOR TO LUGGING. JOINT COMPOUND SHALL BE NO-OX.
- 6. TYPICAL BI-DIRECTIONAL BONDING CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE MADE USING DOUBLE CRIMP TYPE "C" TAP CONNECTORS.
- 7. ALL EXOTHERMIC WELD CONNECTIONS AND FIELD CUTS OF METALLIC OBJECTS EXPOSED TO WEATHER SHALL BE FIRST SPRAYED WITH COLD GALVANIZING (AFTER COOL DOWN) THEN BE TOPPED WITH BRUSH ON MARINE GRADE GALVANIZING.
- 8. ALL CONDUIT USED AS SLEEVES FOR GROUNDING OR BONDING CONDUCTORS SHALL BE PVC.
- 9. ALL GROUND RODS SHALL BE DRIVEN VERTICALLY USING A GROUND ROD SHIELD TO PREVENT THE ENDS FROM "MUSHROOMING".
- 10. JOINT COMPOUND FOR GROUNDING SHALL BE NO-OX.

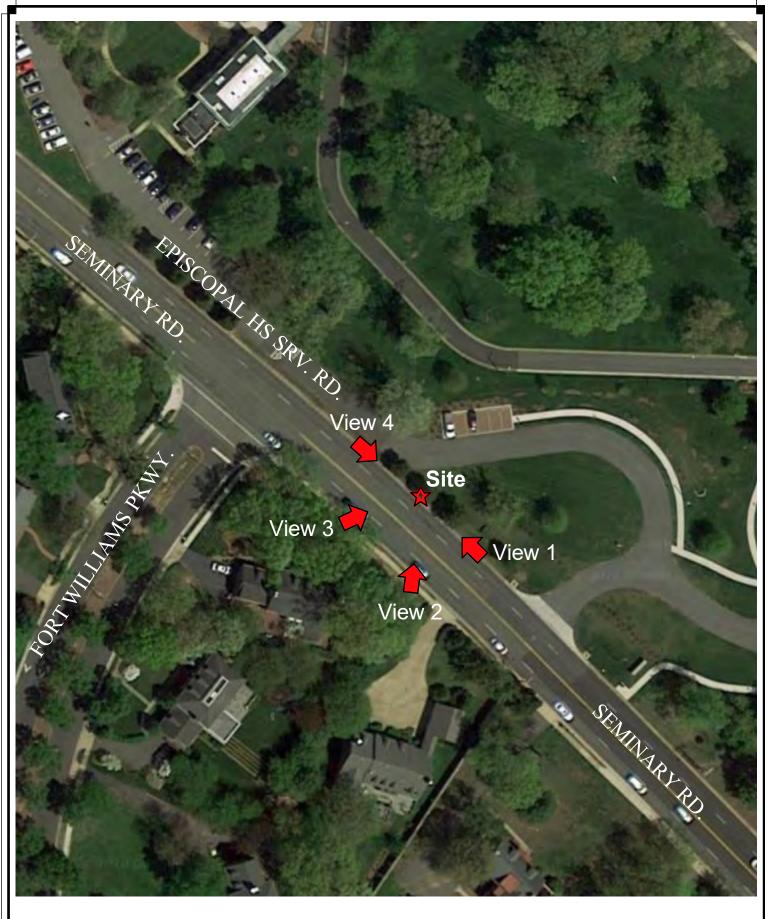
DRAWING NOTES

- (I) PROVIDE 8'-0" (MINIMUM) X 5/8" COPPER CLAD STEEL GROUND ROD.
- EXTEND I#2 AWG, GREEN INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM BURIED GROUND ROD VERTICALLY UP UTILITY POLE FOR GROUNDING OF EQUIPMENT/ANTENNAS. GROUND CONDUCTOR SHALL BE HOUSED WITHIN I/2" GROUND WIRE MOLDING THEN TRANSITION AT ELEVATION OF HEAVY WALL, SCHEDULE 40 PV MOLDING (POLE RISER). SECURE GROUND WIRE MOLDING TO UTILITY POLE VIA GALVANIZED 2"x5/8" STAPLES. SECURE POLE RISER TO UTILITY POLE VIA GALVANIZED LAG BOLTS, REFER TO STRUCTURAL FOR DETAILS.
- 3 EXTEND I#2 AWG, GREEN INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM ENCLOSURE OF PROPOSED LOAD CENTER PANEL AND BOND TO GROUND CONDUCTOR EXTENDING TO BURIED GROUND ROD. REFER TO SERVICE GROUNDING DETAIL, THIS SHEET.
- 4 BURIED GROUND RING SHALL BE #2 AWG, BARE, TINNED, SOLID COPPER.
- EXTEND I#6 AMG, GREEN INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM EACH NOKIA ANTENNA/RADIO UNIT/ASODA AND BOND TO GROUND PIGTAIL CONDUCTOR. EXTEND GROUND PIGTAIL AND BOND TO GROUND CONDUCTOR EXTENDING DOWN LIGHT POLE TO BURIED GROUND ROD. REFER TO DIRECTIONAL SPLICE DETAIL, THIS SHEET.

ELEGENT ENGINEERING I 2216 Commerce Road, Suite 1 Forest Hill, MD 21050 410-692-5816 www.tel-eng.com TIME WHO THE YORK SMIDT REVISIONS: NO. DESCRIPTION DATE |PERMIT DWGS.|4/22/2 LAST REV.: PROJECT NO: 20042 DATE: APRIL 22, 2020 SCALE: AS NOTEI TITLE: GROUNDING DIAGRAM, DETAILS AND NOTES SHEET:

TEI#200421







Landmark 25 - AOverall Site Layout





Landmark 25 - AExisting View 1





Landmark 25 - AProposed View 1

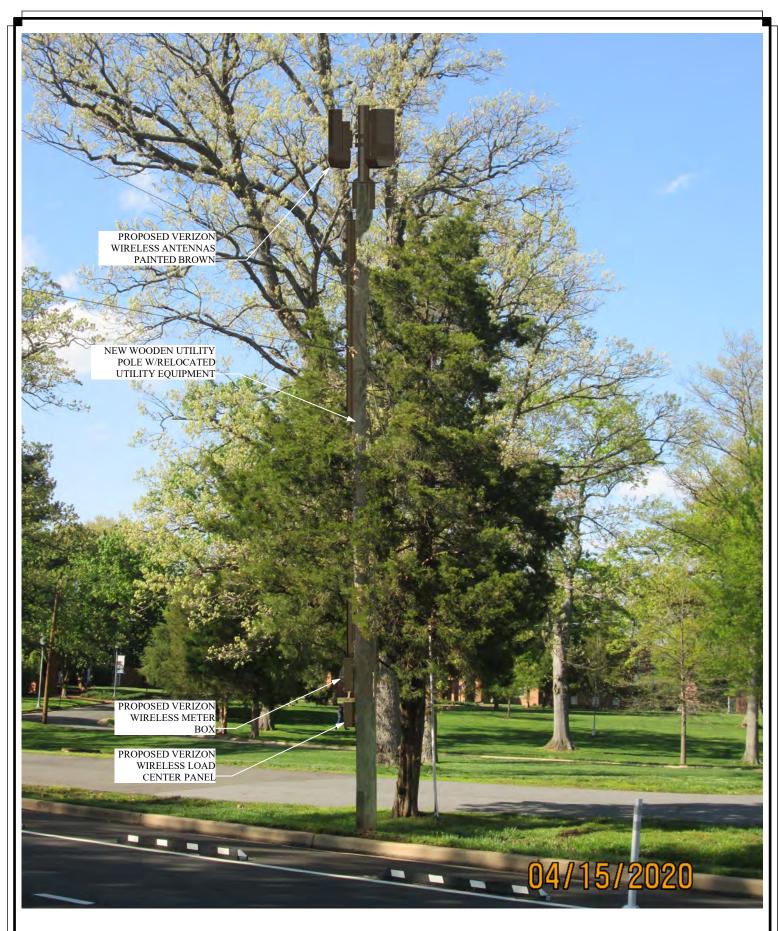




Landmark 25 - AExisting View 2

07 May 2020







Landmark 25 - A
Proposed View 2

07 May 2020





Landmark 25 - A
Existing View 3

Of May 2020





Landmark 25 - A
Proposed View 3

07 May 2020







Landmark 25 - A
Existing View 4

07 May 2020





Landmark 25 - AProposed View 4