



Stephanie Free, PLA
Urban Planner
Current Planning Division
National Capital Planning Commission
401 9th Street, NW | Suite 500 | Washington, DC 20004
stephanie.free@ncpc.gov

Re: Ft Belvoir/Boingo new cell tower TWR -2 Specker, NCPC Final submission

August 7, 2026

AAFES/Boingo was approached by Verizon Wireless in August 2024 and asked to help identify new macro cell tower sites on Ft Belvoir for the Carrier to relocate their cellular equipment from an existing water tank site to a new tower. The request to relocate to a dedicated macro cell tower will enable the Carriers to complete network upgrades, including 5G/C-Band upgrades, which require the addition of extra antennas/sectors for improved 360-degree coverage surrounding the site, which is currently hindered by the existing water tank deployment. The Carrier reported very high costs to complete the required structural modifications to the existing water tank, which would provide the ability for upgrades. Additionally, relocating to a dedicated macro cell tower will significantly reduce maintenance costs, as the current water tank deployment requires regular ongoing maintenance, including painting and refurbishment by the Privatized Water Providers, which creates downtime of the cell network and in some cases requires deployment of temporary solutions (like a Cell of Wheels) to provide even basic cell services to the area, while the proposed new cell tower and compound would be maintained by AAFES/Boingo.

Boingo worked closely with AAFES and Ft. Belvoir Master Planning and Cultural Teams to identify potential candidates on Ft. Belvoir, aiming to mitigate potential conflicts and place a new cellular site that was close enough to the existing water tank location to provide better cellular coverage than the current coverage.

After reviewing numerous candidates, it was determined that the only candidate that meets the Cellular Carriers' requirements and poses the least issues with space planning for future growth in the area, as well as the least disruptive location, is the Primary Candidate (Specker), which was presented and reviewed as the best candidate. Several possible sites were identified, but each additional candidate was ruled out due to the minimal green spaces that Master Planning did not want to be taken over by a tower. Additionally, other locations weren't feasible due to limited space, as this water tank is located close to the center of the Base. We have since filed

17 Cowboys Way, Frisco, TX 75034
tel 310.586.5180 • fax 310.586.4010

www.boingo.com

this proposed tower with the FAA, FAA study # 2025-AEA-11594-OE, and received a determination of no hazard on 10/16/2025.

The project proposal involves Boingo Wireless installing a new macro cellular antenna site to enhance cellular coverage & density on Ft. Belvoir. The new multi-carrier macro cellular antenna site is proposed to have an overall height of 115 feet, designed for multiple Cellular Carriers, with Verizon already confirmed for colocation on the tower at the time of submission.

This will be a multi-tenant 110-foot steel monopole with a 5-foot lightning rod. Associated ground equipment will be located within a 35-foot by 70-foot (2450 square foot) rectangular fenced compound at the base of the tower. The ground-level equipment will be approximately 7 feet tall with an 8 foot tall compound fence, no tree removal will be required for this project. Once the new tower is built and the carrier installs their equipment and is live on-air, the old antennas will be removed from the existing water tank site.

In addition to these NCPC project details, we've included our Photo Simulations of the new tower and compound, construction drawings, and a Carrier RF propagation map.

If you have any further questions or concerns, please don't hesitate to contact me for additional information.

Thank you.

**Adam
Fleming**

Adam Fleming
Director, Tower Site Development & Construction
Boingo Wireless, Inc.
469.831.1606 – Mobile
afleming@boingo.com

 Digitally signed by
Adam Fleming
Date: 2026.08.07
11:01:23 -05'00'

17 Cowboys Way, Frisco, TX 75034
tel 310.586.5180 • fax 310.586.4010

www.boingo.com



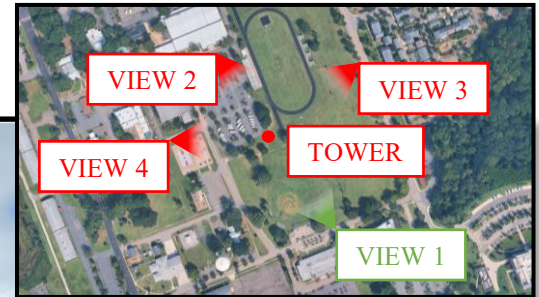
**SITE NAME: FT BELVOIR - TWR-Y SPECKER
PROPOSED 115'-0" MONOPOLE**

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
(FAIRFAX COUNTY)

EXISTING VIEW: LOCATION 1



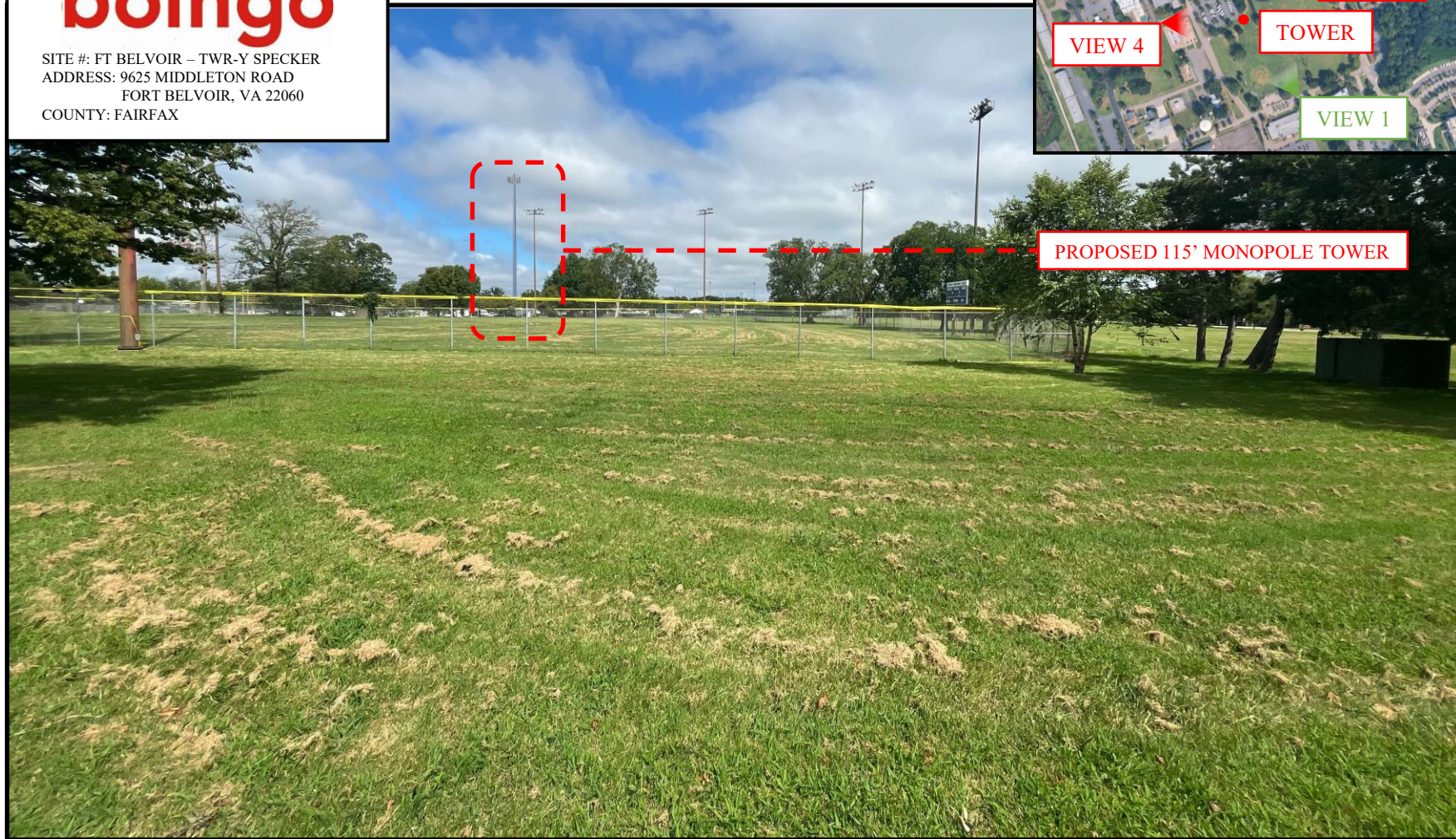
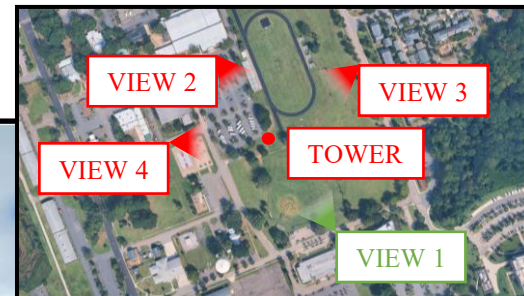
SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



PROPOSED VIEW: LOCATION 1



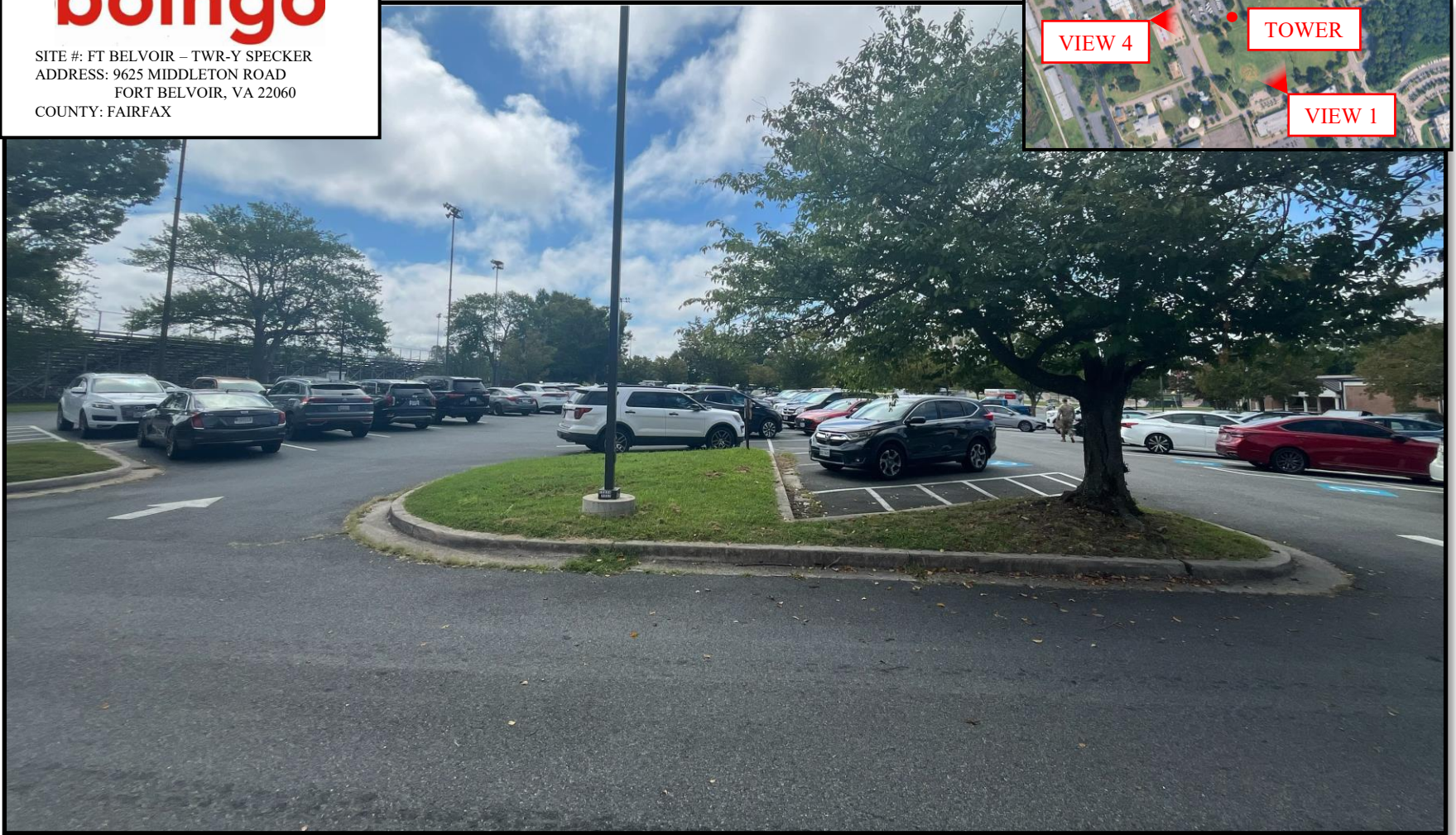
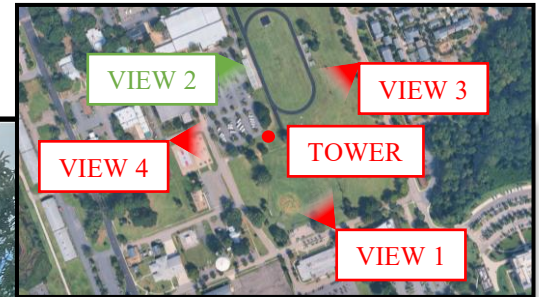
SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



EXISTING VIEW: LOCATION 2



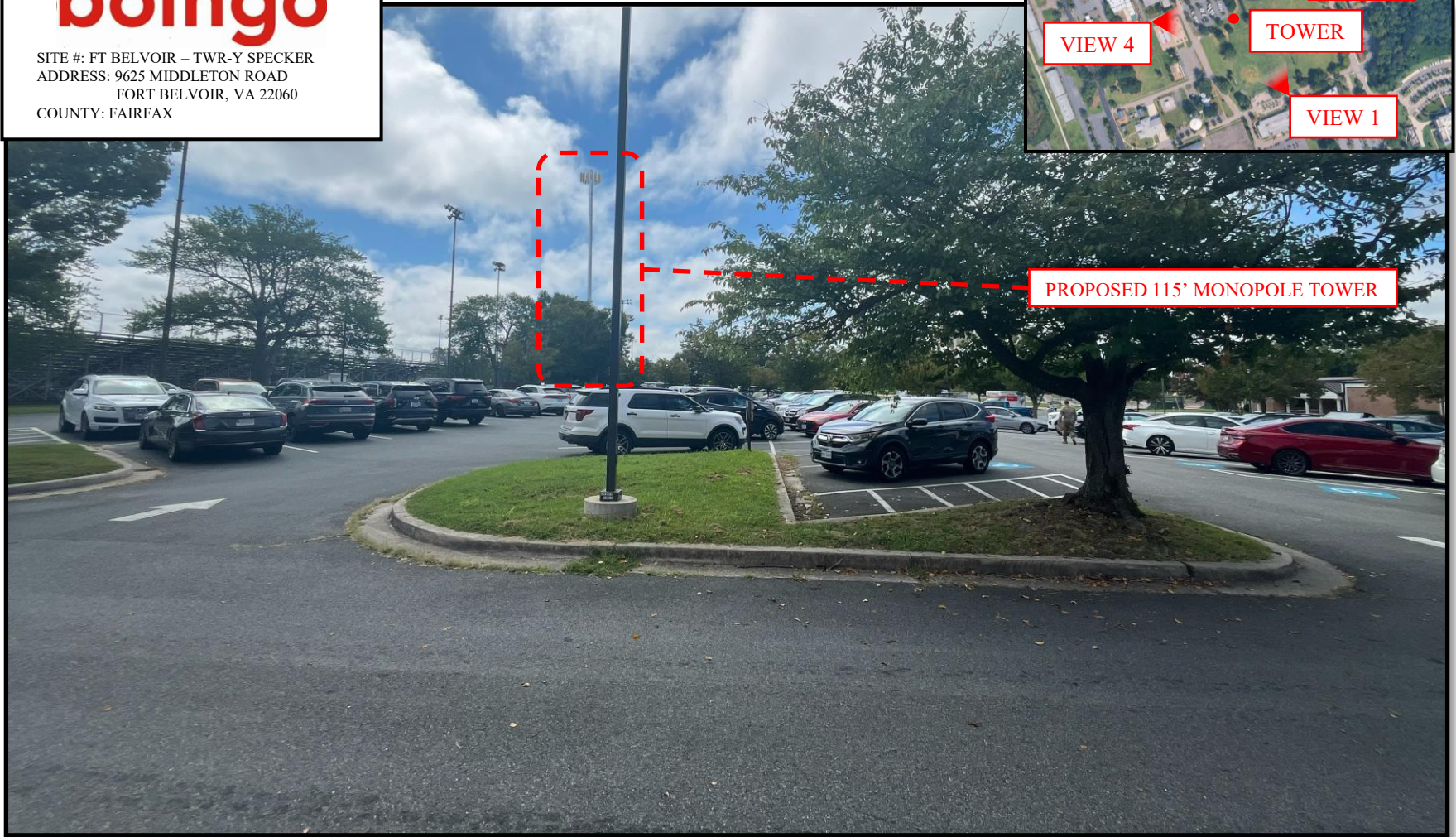
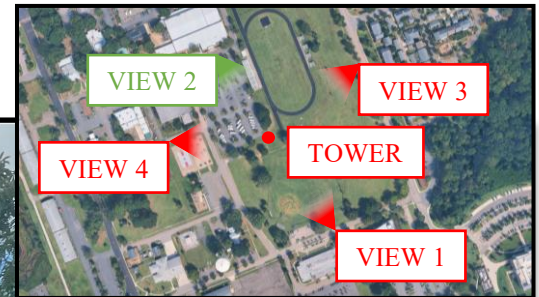
SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



PROPOSED VIEW: LOCATION 2



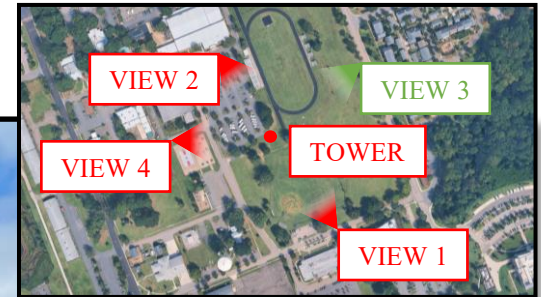
SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



EXISTING VIEW: LOCATION 3



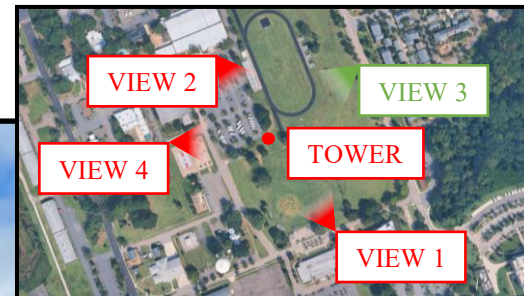
SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



PROPOSED VIEW: LOCATION 3



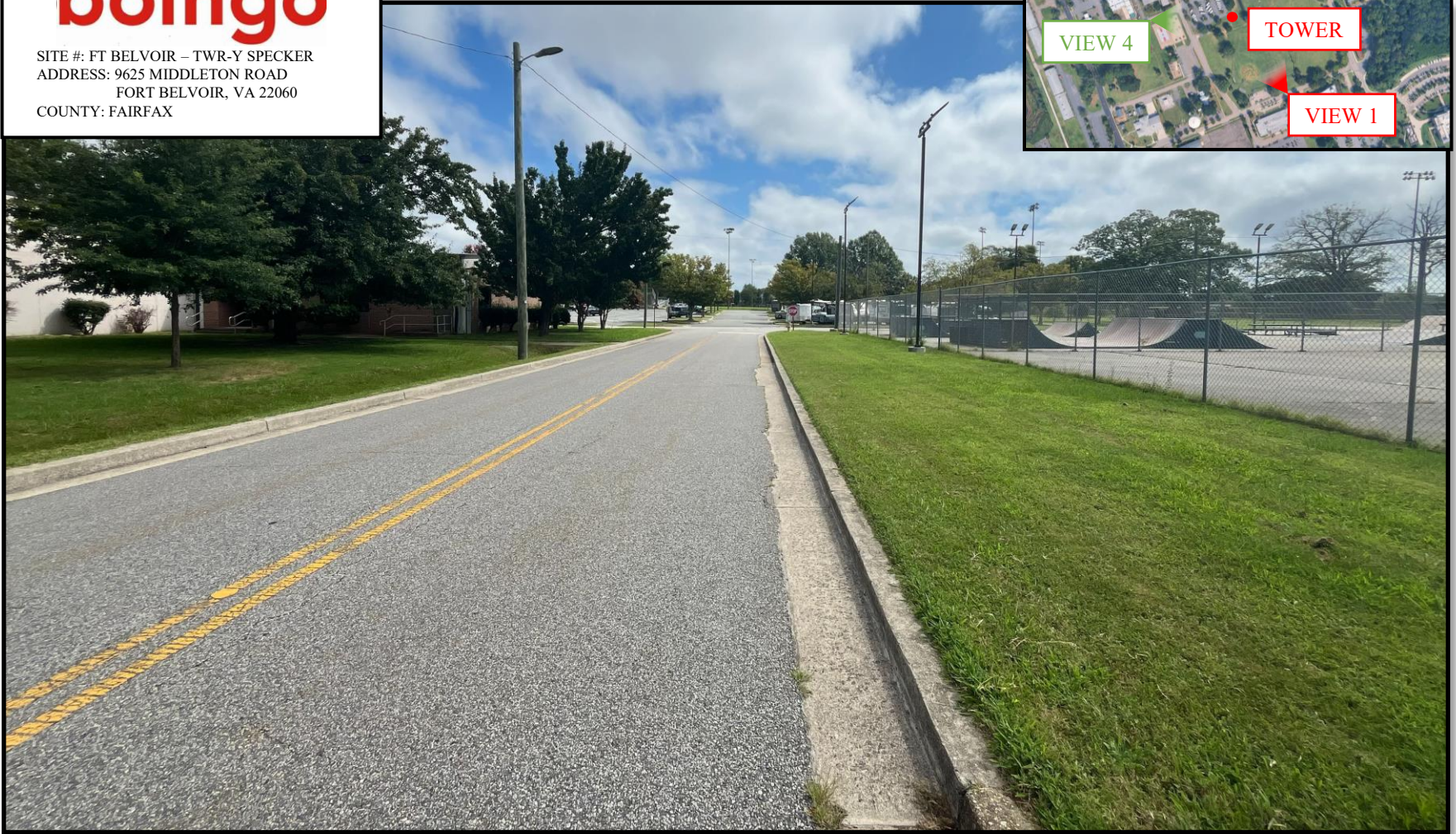
SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



EXISTING VIEW: LOCATION 4



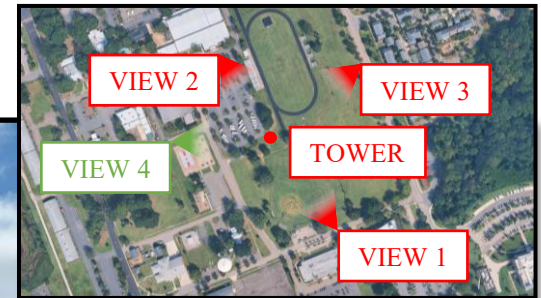
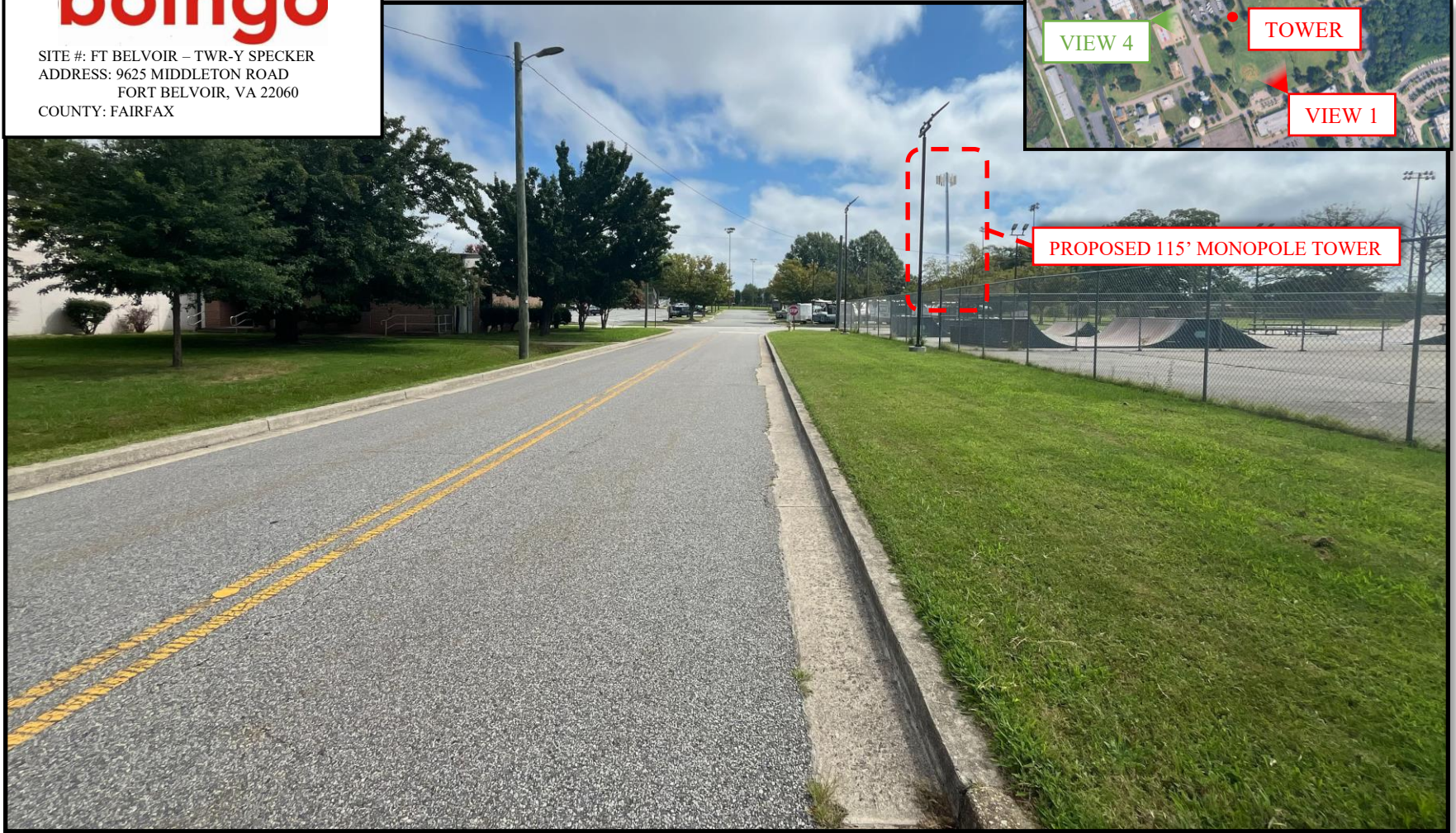
SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



PROPOSED VIEW: LOCATION 4



SITE #: FT BELVOIR – TWR-Y SPECKER
ADDRESS: 9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
COUNTY: FAIRFAX



SITE NAME:	FORT BELVOIR - TWR-2 SPECKER
SITE ADDRESS:	9625 MIDDLETON ROAD FORT BELVOIR, VA 22060 (FAIRFAX COUNTY)
PROJECT DESCRIPTION:	PROPOSED WIRELESS TELECOMM FACILITY
TOWER TYPE:	110' MONOPOLE TOWER
DISTURBED AREA:	0.0572 AC (2,495± SQ. FT.)
ACCOUNT #:	1152 01 0001
USE:	FORT BELVOIR MILITARY RESERVATION
LEGAL DESCRIPTION:	FORT BELVOIR MILITARY RESERVTN 1185 199 4881 395

PROJECT INFORMATION

LATITUDE N 38° 41' 40.76" (NAD '83)
 LONGITUDE W 77° 08' 25.33" (NAD '83)
 EXISTING GROUND ELEVATION = 134.1'± (NAVD '88)
 *INFORMATION PROVIDED IN THE FORM OF A 1A
 CERTIFICATION BY POINT TO POINT LAND SURVEYORS,
 DATED AUGUST 26, 2025.

1-A CERTIFICATION



LOCATION MAP

FROM WASHINGTON DULLES INTERNATIONAL AIRPORT (IAD), EXIT THE AIRPORT ONTO VA-267 EAST (DULLES TOLL ROAD). MERGE ONTO I-66 EAST TOWARD WASHINGTON, D.C. CONNECT TO I-495 SOUTH (CAPITAL BELTWAY). TAKE EXIT 173B TO MERGE ONTO US-1 SOUTH (RICHMOND HIGHWAY). CONTINUE ON US-1 SOUTH, THEN TURN RIGHT ONTO TULLEY ROAD, HEADING INTO TULLEY GATE. THIS SERVES AS THE VISITOR ENTRY POINT. SHOW NEED FOR ACCESS (INCLUDE WORK ORDER SUPPLIED BY BOINGO), THEN PROCEED THROUGH THE VISITOR CONTROL CENTER AND FOLLOW INTERNAL SIGNAGE TOWARD MIDDLETON RD.

INSTALLATION ACCESS INFO



**BOINGO WIRELESS, INC
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034**

SITE NAME: FT BELVOIR - TWR-2 SPECKER

**9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
(FAIRFAX COUNTY)**

TOWER OWNER:
NAME: BOINGO WIRELESS, INC.
ADDRESS: 17 COWBOYS WAY, SUITE 400
CITY, STATE, ZIP: FRISCO, TX 75034
CONTACT: ADAM FLEMING
PHONE: (469) 831-1606

CIVIL ENGINEER:

NAME:	TEP OPCO
ADDRESS:	326 TRYON ROAD
CITY, STATE, ZIP:	RALEIGH, NC 27603
CONTACT:	SCOTT BRANTLEY, P.E.
PHONE:	(919) 661-6351

ELECTRICAL ENGINEER:
NAME: TEP OPCO
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: SCOTT BRANTLEY, P.E.
PHONE: (919) 661-6351

SURVEYOR:
NAME: POINT TO POINT LAND SURVEYORS, INC.
ADDRESS: 100 GOVERNOR'S TRACE, SUITE 103
CITY, STATE, ZIP: PEACHTREE CITY, GA 30269
CONTACT: DAVID M. MILLER, P.L.S.
PHONE: (678) 565-4440

PROPERTY OWNER:

NAME:	UNITED STATES OF AMERICA
ADDRESS:	GENERAL SERVICES ADMIN,
CITY, STATE, ZIP:	WASHINGTON, DC 20407
CONTACT:	AAFES POC - VERONICA REESE
EMAIL:	REESEV@AAFES.COM

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:

1. INTERNATIONAL BUILDING CODE (2021 EDITION)
2. INTERNATIONAL CODE COUNCIL
3. ANSI/TIA-222-H
4. 2020 NEC
5. LOCAL BUILDING CODE
6. CITY/COUNTY/MILITARY BASE ORDINANCES

CODE COMPLIANCE

UTILITIES:	
POWER COMPANY:	DOMINION ENERGY
ADDRESS:	7888 BACKLICK ROAD
CITY, STATE, ZIP:	SPRINGFIELD, VA 22150
CONTACT:	CONSTRUCTION SERVICE
PHONE:	(866) 366-4357
XFMR # NEAR SITE:	TBD

TELEPHONE COMPANY: TBD
CONTACT:
PHONE:
PHONE # NEAR SITE:
PEDESTAL # NEAR SITE:

CONTACT INFORMATION

[illegible]

INDEX OF SHEETS

PLANS PREPARED BY:

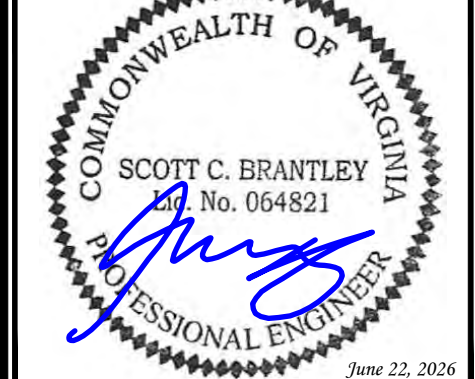


TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (303) 566-9914
www.tepgroup.net

4	06-22-26	CONSTRUCTION
3	06-15-26	CONSTRUCTION
2	06-09-26	CONSTRUCTION
1	04-29-26	PRELIMINARY
0	09-17-25	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: GPJ	CHECKED BY: NMC
---------------	-----------------

SEAL:



SHEET NUMBER: T-1	REVISION: 4
	TEP #: 350487.485056

PLAN SUBMISSION CHECKLIST

[SEE DEQ GUIDANCE MEMO NO. 22-2012 FOR ADDITIONAL INSTRUCTIONS]

G. PLAN INFORMATION (CONT.)

POST-DEVELOPMENT WATER QUANTITY & WATER QUALITY INFO.	SHEET NO.
35. NARRATIVE OF PROP. SWM FACILITIES / PRACTICES	C-10A
36. PROP. SWM FACILITIES / PRACTICES	C-10A
37. HYDROLOGIC & HYDRAULIC COMPUTATIONS *	N/A
38. LONG-TERM INSP., OPERATION & MAINTENANCE REQUIREMENTS	N/A
39. OUTFALL SUMMARY TABLE WITH PRE, POST, AND ALLOWABLE DISCHARGE RATES USED FOR QUANTITY ASSESSMENT; IDENTIFY THE TYPE OF CONVEYANCE SYSTEM AT EACH POINT OF DISCHARGE.	N/A
* STORM DRAIN DESIGN COMPUTATIONS AND HYDRAULIC GRADE LINE COMPUTATIONS SHOULD BE PROVIDED AND SHOULD INCLUDE EACH PIPE SEGMENT. IN ADDITION, STORM SEWER LONGITUDINAL PROFILES WITH HYDRAULIC GRADE LINE ELEVATIONS SHOULD BE INCLUDED FOR VISUAL REPRESENTATION. DESIGN CALCULATIONS AND CROSS-SECTIONS SHOULD BE PROVIDED FOR ALL OPEN MANMADE CHANNELS. CROSS-SECTIONS SHOULD SHOW AND LABEL THE 1-YEAR, 2-YEAR, AND 10-YEAR WATER SURFACE ELEVATIONS.	
SOILS & GEOTECHNICAL INFORMATION	SHEET NO.
40. SOILS MAP (INC. NRCS SOIL TYPES)	N/A
41. SOILS TABULATION	N/A
42. GEOTECHNICAL INVESTIGATION / REPORT	N/A

OTHER SUPPORTING INFORMATION	SHEET NO.
43. BOUNDARY SURVEY (18VAC10-20-370)	C-1
44. PHYSICAL IMPROVEMENT SURVEY (18VAC10-20-380)	C-1
45. TOPOGRAPHIC SURVEY (18VAC10-20-382)	C-1

H. LAND COVER TABULATION

EXISTING LAND COVER / USE	ACRES
1. IMPERVIOUS COVER	0
IMPERVIOUS COVER (% OF TOTAL LAND AREA OF DEVELOPMENT)	0%
2. MANAGED TURF	.0572
3. OPEN SPACE	0
4. FOREST COVER	0
5. PRIME FARMLAND (NRCS FARMLAND CLASSIFICATION)	0

PROPOSED LAND COVER / USE (*SITE* TAB OF VRRM SPREADSHEET)	ACRES
1. IMPERVIOUS COVER	.0572
IMPERVIOUS COVER (% OF TOTAL LAND AREA OF DEVELOPMENT)	100%
2. MANAGED TURF	0
3. OPEN SPACE	0
4. FOREST COVER	0

I. SOILS TABULATION

MAP UNIT SYMBOL	MAP UNIT NAME	HSG	K FACTOR	ERODIBILITY	ACRES IN LOD	% OF LOD
N/A						

J. EROSION & SEDIMENT CONTROL

ESC PLAN VARIANCE REQUEST: --- YES ☒ NO

IF 'YES', PLEASE PROVIDE JUSTIFICATION FOR THE VARIANCE REQUEST:

K. STORMWATER MANAGEMENT

APPLICABLE DESIGN CRITERIA: N/A PART II B
--- PART II C (GRANDFATHERING)
--- PART II C (TIME LIMITS ON
APPLICABILITY)
--- *SAFE HARBOR*

OFFSITE COMPLIANCE OPTION(S)? --- YES ☒ NO

IF 'YES', PLEASE DESCRIBE THE OFFSITE COMPLIANCE OPTION(S):

DISCHARGE TO A KARST FEATURE(S)? --- YES ☒ NO

IF 'YES', PLEASE DESCRIBE THE KARST FEATURE(S):

IF 'YES', PLEASE DESCRIBE ANY KNOWN NATURAL HERITAGE RESOURCES IN THE KARST FEATURE(S):

SWM PLAN EXCEPTION REQUEST? --- YES ☒ NO

IF 'YES', PLEASE PROVIDE THE JUSTIFICATION FOR THE EXCEPTION REQUEST:

L. STORMWATER MANAGEMENT FACILITIES / PRACTICES

FACILITY NO.	FACILITY TYPE	LAT.	LONG.	REC. WATER	TOT. ACRES TREATED	IMP. ACRES TREATED	PLAN SHEET NO.
N/A							

M. OWNER / DEVELOPER CERTIFICATION

I hereby certify that coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities will be obtained, if required, prior to commencing land-disturbing activities.

I hereby certify that all wetlands permits required by law will be obtained, if required, prior to commencing land disturbing activities.

I hereby certify that permission to construct any offsite improvements, if proposed, will be obtained prior to commencing land disturbing activities.

I hereby certify that all offsite nonpoint source nutrient credits will be obtained, if proposed, prior to commencing land disturbing activities.

I hereby certify that construction record drawings (as-built drawings) for all permanent stormwater management facilities/practices will be prepared and submitted to DEQ prior to project closeout. The construction record drawings will be appropriately sealed and by a professional registered in the Commonwealth of Virginia, certifying that the stormwater management facilities/practices have been constructed in accordance with the approved plan(s).

I hereby certify that a long-term maintenance agreement(s) for all permanent stormwater management facilities/practices and other techniques specified to manage the quality and quantity of runoff will be submitted to DEQ, if required, prior to project closeout. The long-term maintenance agreement(s) will be recorded in the local land records prior to termination of coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities.

OWNER / DEVELOPER NAME:
OWNER / DEVELOPER TITLE:
SIGNATURE:
DATE:

N. DESIGN PROFESSIONAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I hereby certify that the plans and hydrologic & hydraulic computations herein are in compliance with the Stormwater Management Act and attendant regulations, the Erosion and Sediment Control Law and attendant regulations, and applicable DEQ guidance.

DESIGN PROFESSIONAL NAME:
LICENSE NO.:
SIGNATURE:
DATE:

O. DUAL COMBINED ADMINISTRATOR (DCA) CERTIFICATION
[INCLUDE THIS SECTION / CERTIFICATION IF REQUESTING A STREAMLINED PLAN REVIEW IN ACCORDANCE WITH DEQ GUIDANCE MEMO NO. 22-2011, OTHERWISE DELETE]

I hereby certify that I have reviewed the plans and hydrologic & hydraulic computations herein for compliance with the Stormwater Management Act and attendant regulations, the Erosion and Sediment Control Law and attendant regulations, and applicable DEQ guidance, and recommend the plans and computations for DEQ approval.

DCA NAME:
DCA CERTIFICATION NO.:
SIGNATURE:
DATE:

SOLAR SPECIFIC REQUIREMENTS

[SEE DEQ GUIDANCE MEMO NO. 22-2012, SECTION 5.500. CROSS "X" OUT IF NOT APPLICABLE]

I. INTERCONNECTION APPROVAL FOR SOLAR PROJECTS

N/A PANELS ARE CONSIDERED "UNCONNECTED IMPERVIOUS"

--- PANELS QUALIFY AS "PERVIOUS" WITH INTERCONNECTION DOCUMENTATION AND EXPLANATION PROVIDED BELOW:

II. SOLAR PANEL ARRAY HORIZONTAL PROJECTED AREA

THE FOLLOWING EQUATION SHOULD BE USED TO DETERMINE A SOLAR PANEL'S HORIZONTAL PROJECTED AREA (HPA) WHEN PERFORMING EROSION AND SEDIMENT CONTROL, WATER QUANTITY, AND WATER QUALITY DESIGN COMPUTATIONS:

WHERE:

HPA = HORIZONTAL PROJECTED AREA (SQUARE-FEET)

L = SOLAR PANEL LENGTH (FEET)

W = SOLAR PANEL WIDTH (FEET)

θ = SOLAR PANEL MINIMUM OPERATING ANGLE FROM HORIZONTAL (DEGREES) FOR NORMAL OPERATIONS WITHOUT A RAIN SENSOR, OR THE MAXIMUM ANGLE FROM HORIZONTAL (DEGREES) WHEN A RAIN SENSOR IS DEPLOYED IN ACCORDANCE WITH DEQ GUIDANCE MEMO NO. GM 22-2012, SECTION 5.500 D

--- NO RAIN SENSOR θ = ---

--- RAIN SENSOR SYSTEM PROVIDED θ = ---

DOCUMENTATION OF DESIGN (PROVIDED BELOW:

SHEET INDEX

- COVER SHEET
-
-
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APPROVAL BLOCK	DATE	REVISIONS	INITIAL
DEQ PLAN # 20___ - 0___			
DEPT. OF ENVIRONMENTAL QUALITY			
DATE			

DESIGN PROFESSIONAL



FT BELVOIR
TWR-2 SPECKER
FORT BELVOIR (FAIRFAX COUNTY), VIRGINIA

DEQ PLAN #

SHEET
2 OF 22

PROJECT NOTES:

1.

ALL REFERENCES MADE TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED BOINGO WIRELESS, INC OR ITS DESIGNATED REPRESENTATIVE.
2.

ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING TO HAVE SUFFICIENT EXPERIENCE AND ABILITY, IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE THE TOWER IS LOCATED.
3.

THE STRUCTURE SHALL BE DESIGNED IN ACCORDANCE WITH ANSI/TIA-222-H AND CONFORM TO THE REQUIREMENTS OF THE 2021 INTERNATIONAL BUILDING CODE.
4.

WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE.
5.

UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6.

ALL HARDWARE ASSEMBLY MANUFACTURER’S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7.

IT IS THE CONTRACTOR’S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8.

ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER’S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9.

ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK. RENTAL CHARGES, SAFETY, PROTECTION, AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE THE CONTRACTOR’S RESPONSIBILITY.
11.

ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE OWNER PROJECT MANAGER. THIS INCLUDES ALL SPECIFIC MILITARY INSTALLATION INSTRUCTIONS INCLUDING STAFF ACCESS AND GATE SPECIFIC INSTRUCTIONS.
12.

BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR/OWNER. CONTRACTOR/OWNER SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13.

ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14.

24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER AS WELL AS ANY REQUIRED NOTICES SPECIFIC TO THE MILITARY INSTITUTION.
15.

THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.
16.

THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17.

THE OWNER OR OWNERS REPRESENTATIVE SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

18.

ANY BUILDINGS ON THIS SITE ARE INTENDED TO SHELTER EQUIPMENT WHICH WILL ONLY BE PERIODICALLY MAINTAINED AND ARE NOT INTENDED FOR HUMAN OCCUPANCY.
19.

TEMPORARY FACILITIES FOR PROTECTION OF TOOLS AND EQUIPMENT SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE CONTRACTOR’S RESPONSIBILITY.
20.

THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL CARRY LIABILITY INSURANCE IN THE AMOUNTS AND FORM IN ACCORDANCE WITH OWNER SPECIFICATIONS. CERTIFICATES DEMONSTRATING PROOF OF COVERAGE SHALL BE PROVIDED TO OWNER PRIOR TO THE START OF THE WORK ON THE PROJECT.
21.

THE CONTRACTOR SHALL CONTACT ALL APPLICABLE UTILITY SERVICES TO VERIFY LOCATIONS OF EXISTING UTILITIES AND REQUIREMENTS FOR NEW UTILITY CONNECTIONS PRIOR TO EXCAVATING.
22.

THE CONTRACTOR SHALL MAINTAIN THE JOB CLEAR OF TRASH AND DEBRIS. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE PRIOR TO SUBSTANTIAL COMPLETION AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL FURNISH ONE 55 GALLON BARREL OR EQUIVALENT, AND TRASH BAGS, AND SHALL REMOVE TRASH, DEBRIS, ETC., ON A DAILY BASIS.
23.

THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING THE PROPOSAL. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS WITH THOSE AT THE SITE. ANY VARIATION WHICH REQUIRES PHYSICAL CHANGE SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER PROJECT ENGINEER FOR FACILITIES/CONSTRUCTION.
24.

THE CONTRACTOR SHALL GUARANTEE THE WORK PERFORMED ON THE PROJECT BY THE CONTRACTOR AND ANY OR ALL OF THE SUBCONTRACTORS WHO PERFORMED WORK FOR THE CONTRACTOR ON THIS PROJECT. THE GUARANTEE SHALL BE FOR A FULL YEAR FOLLOWING ISSUANCE OF THE FINAL PAYMENT OF RETAINAGE. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
25.

THE CONTRACTOR SHALL PROVIDE DAILY UPDATES IN THE FORM OF WRITTEN NOTIFICATION VIA EMAIL OR APP AND PHOTOS TO THE BOINGO CONSTRUCTION MANAGER.

UTILITY NOTES

1.

APPLY FOR THE UTILITY SERVICE (ELECTRIC) NO LATER THAN THE NEXT BUSINESS DAY FOLLOWING AWARD OF CONTRACT. COORDINATE WITH THE ELECTRIC UTILITY COMPANY FOR EXACT TRANSFORMER LOCATION, METERING REQUIREMENTS, AND THE SERVICE ROUTING. COORDINATE WITH THE TELEPHONE UTILITY COMPANY FOR EXACT TELEPHONE REQUIREMENTS AND ROUTING OF SERVICE.
2.

ALL UTILITY RELATED WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE UTILITY REQUIREMENTS. FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
3.

THE CONTRACTOR SHALL CONTACT UTILITIES AND LOCATOR SERVICE A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION. (MISS UTILITY ONE-CALL 1-800-257-7777).
4.

CONTRACTOR SHALL PROVIDE TRENCHING AND CONDUITS AS SHOWN OR AS REQUIRED BY LOCAL UTILITY.
5.

NO PENETRATIONS TO THE TOWER FOUNDATION OF ANY KIND.

PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

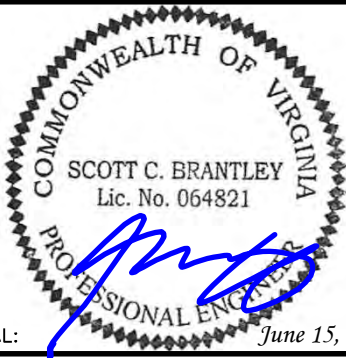
FORT BELVOIR
TWR-2 SPECKER

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
(FAIRFAX COUNTY)

PLANS PREPARED BY:



326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net



3	06-15-26	CONSTRUCTION
2	06-09-26	CONSTRUCTION
1	04-29-26	PRELIMINARY
0	09-17-25	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: GPJ	CHECKED BY: NMC
---------------	-----------------

SHEET TITLE:

PROJECT
NOTES

SHEET NUMBER: N-1	REVISION: 3 TEP#: 350487.485056
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LEGEND

- EXIST. PROPERTY LINE
- ADJ. PROPERTY LINE
- EXIST. UTILITY POLE
- EXIST. LIGHT POLE
- EXIST. HYDRANT
- EXIST. MANHOLE
- PROPERTY CORNER
- LEASE/EASE. CORNER
- EXIST. CONTOUR LINE
- EDGE OF PAVEMENT
- UNDERGROUND WIRE
- SEWER LINE
- WATER LINE
- RIGHT-OF-WAY
- CHAIN LINK FENCE
- EXISTING TREE LINE

1-A COORDINATES

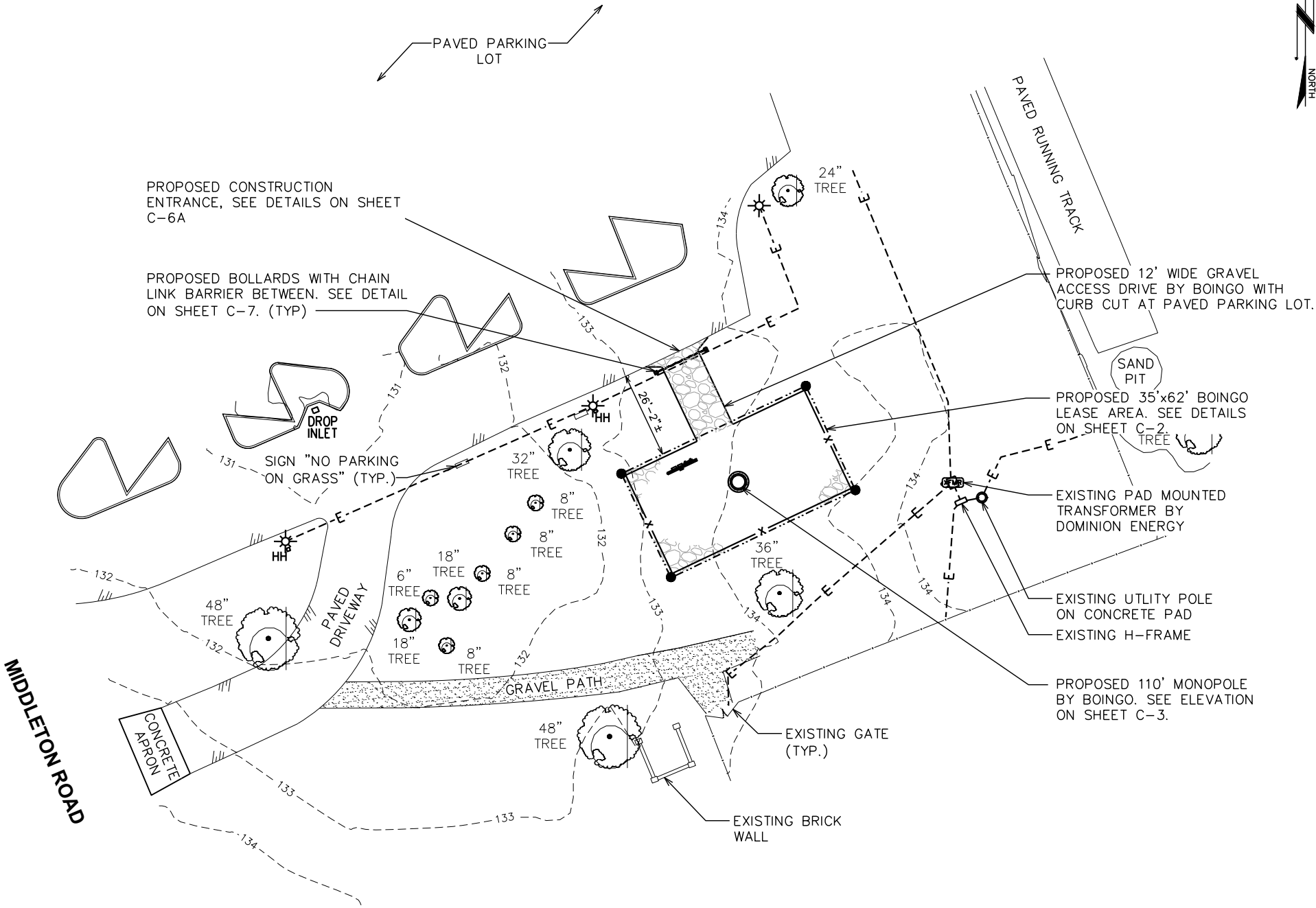
LATITUDE: N 38° 41' 40.76" (NAD 83)
LONGITUDE: W 77° 08' 25.33" (NAD 83)
GROUND ELEVATION: 134.1' (NAVD 88)

NOTES:

1. BEARINGS SHOWN ON THIS LAYOUT ARE BASED ON VIRGINIA GRID NORTH (NAD 83) NORTH ZONE.
2. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
3. PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X (AREA OF MINIMAL FLOOD HAZARD.) COMMUNITY PANEL NO.: 51059C0385E DATED SEPTEMBER 17, 2010.

SITE PLAN

SCALE: 1" = 40'



PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
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TWR-2 SPECKER

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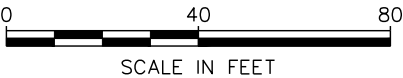
SITE PLAN

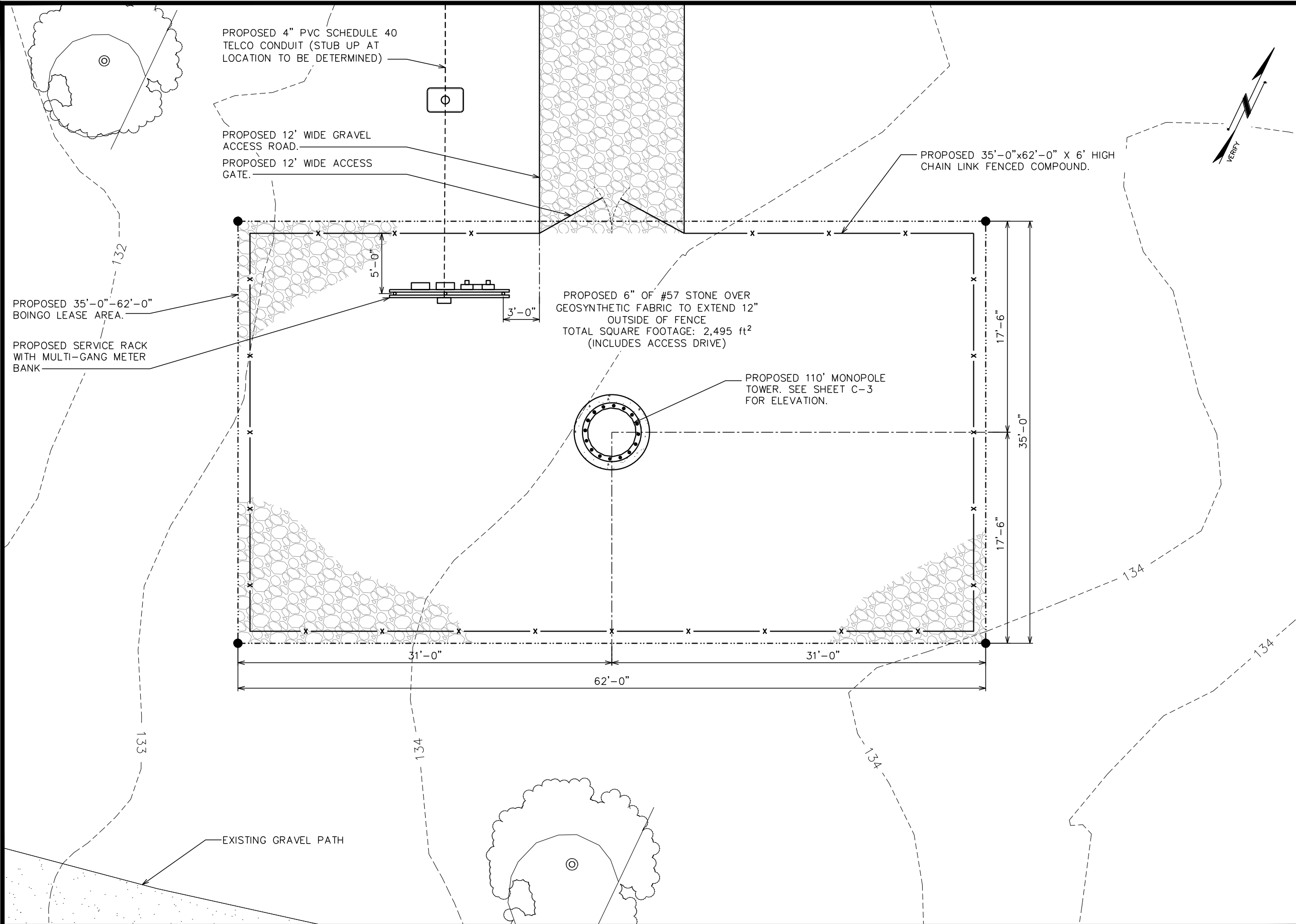
SHEET NUMBER: REVISION:

C-1

3

TEP#: 350487.485056





PLANS PREPARED FOR:

boingo

BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

**FORT BELVOIR
TWR-2 SPECKER**

9625 MIDDLETON ROAD
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COMMONWEALTH OF VIRGINIA

SCOTT C. BRANTLEY
Lic. No. 064821

PROFESSIONAL ENGINEER

SEAL: *[Signature]* June 15, 2026

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DRAWN BY: GPJ

CHECKED BY: NMC

SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER:

C-2

REVISION:

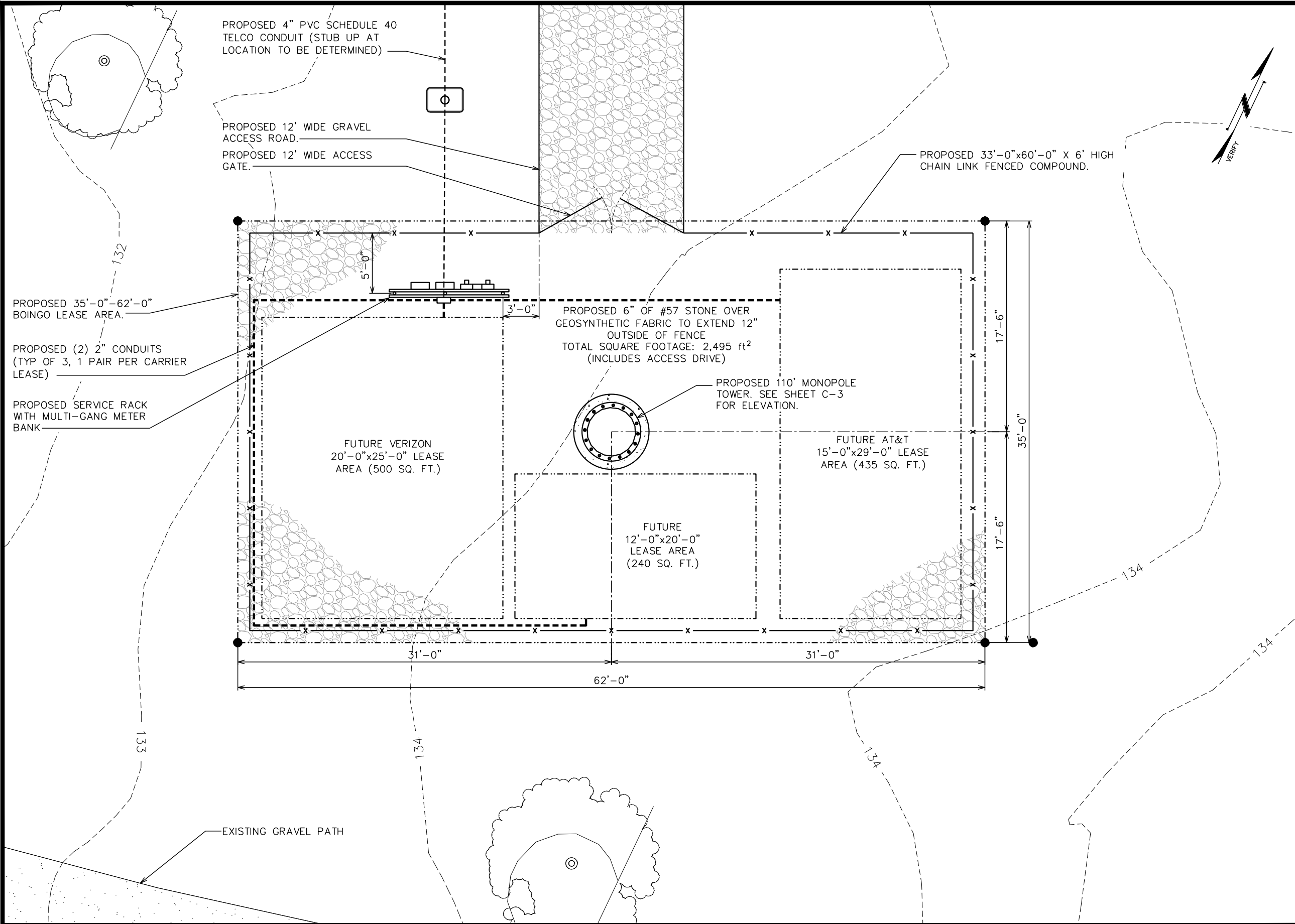
3

TEP#: 350487.485056

COMPOUND DETAIL

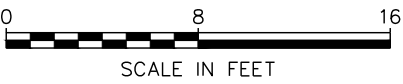
SCALE: 1/8" = 1'





COMPOUND DETAIL

SCALE: 1/8" = 1'



PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

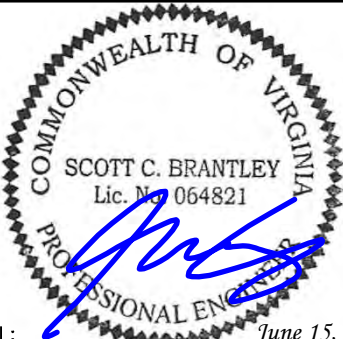
**FORT BELVOIR
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COMPOUND DETAIL

SHEET NUMBER: REVISION:

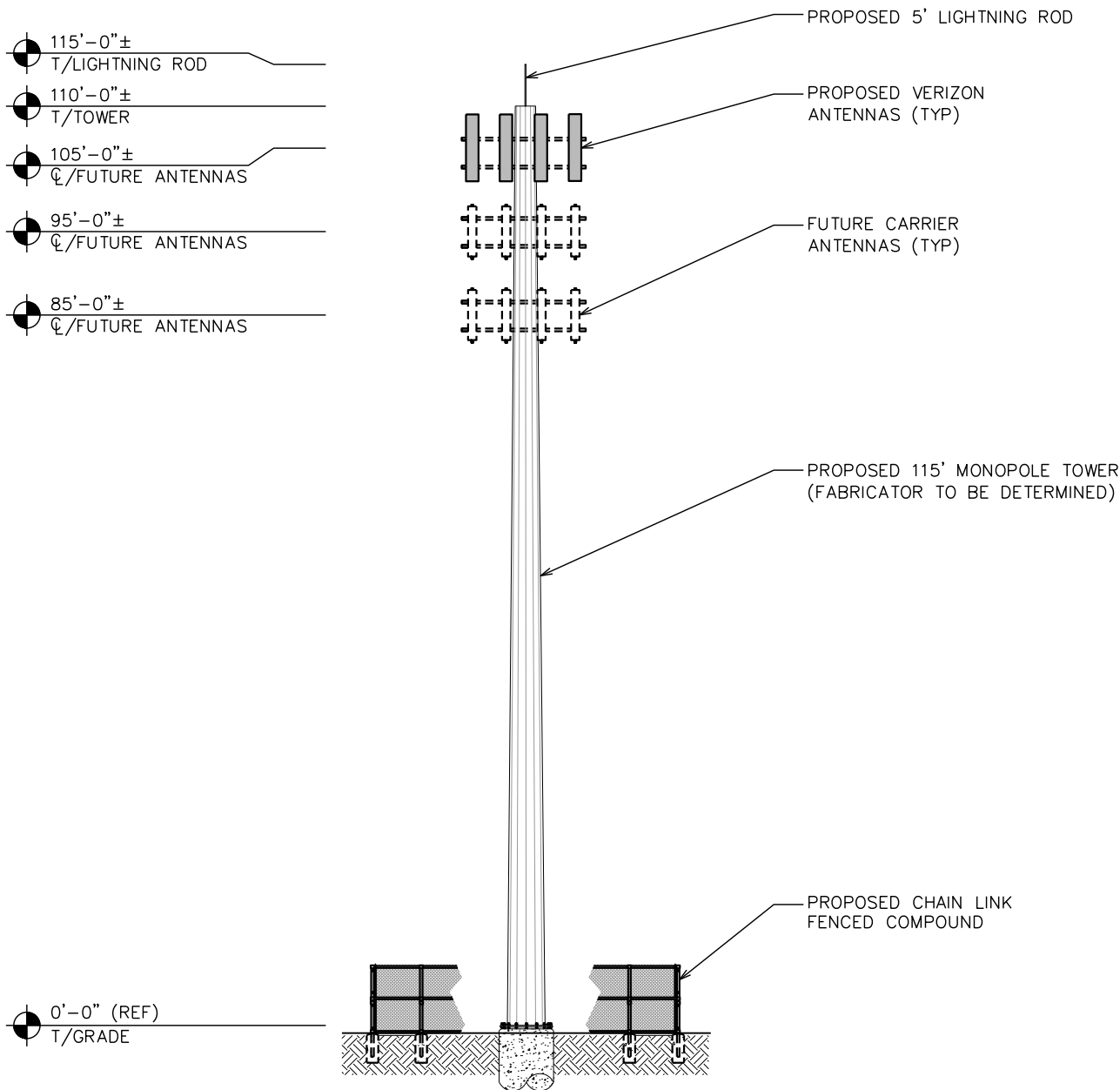
C-2A

3

TEP#: 350487.485056

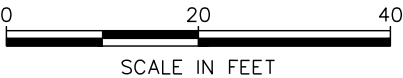
NOTES:

1. TOWER SHALL BE CONSTRUCTED OF GALVANIZED STEEL OR PAINTED PER APPLICABLE STANDARDS OF THE FAA OR OTHER APPLICABLE FEDERAL OR STATE AGENCY.
2. TOWER ELEVATION SHOWN FOR REFERENCE ONLY. VERIFY ACTUAL TOWER DESIGN & LOADING WITH TOWER DRAWINGS FROM MANUFACTURER AND/OR PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO VERIFY PROPOSED LOADING WITH PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION. CONTACT OWNER IN THE EVENT OF ANY DISCREPANCIES.



TOWER ELEVATION

SCALE: 1" = 20'



PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
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FRISCO, TX 75034

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9625 MIDDLETON ROAD
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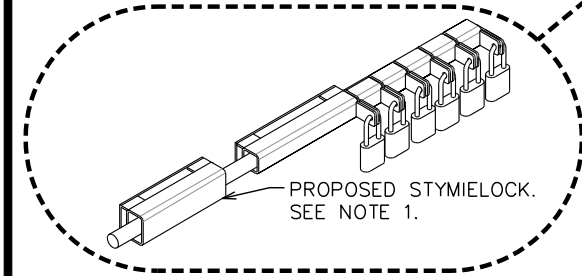
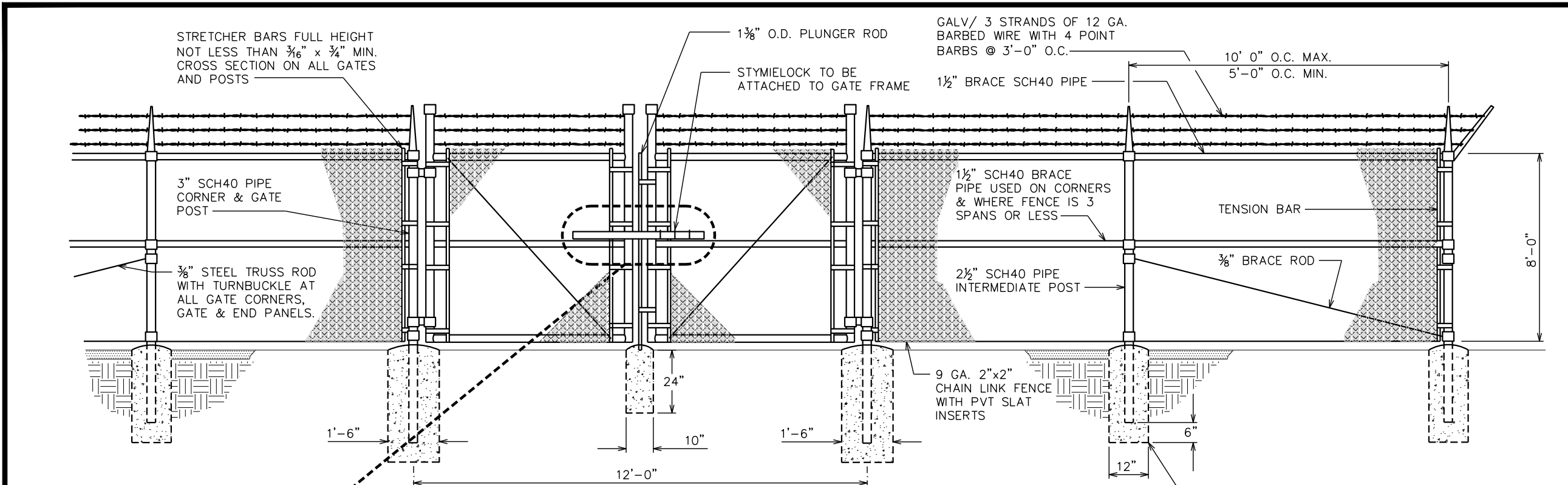
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0	09-17-25	PRELIMINARY
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DRAWN BY: GPJ CHECKED BY: NMC

SHEET TITLE:

TOWER ELEVATION

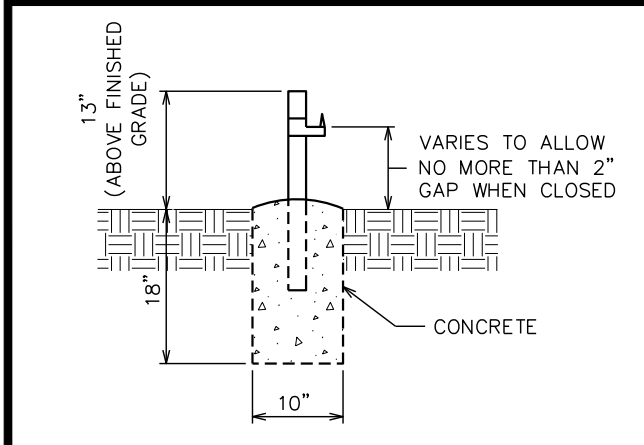
SHEET NUMBER:	REVISION:
C-3	3
	TEP#: 350487.485056



- NOTES:** (CENTERED ON FENCE LINE)
1. STYMIELOCK TO BE PROVIDED BY CONTRACTOR AS WELL AS A LOCK FOR THE OWNER (MASTER LOCK 175 OR EQUIVALENT).
 2. ALL WIRE TIES MUST BE 9-GAUGE STEEL.
 3. ALL CAPS MUST BE WELDED TO POSTS.
 4. ALL WELDED MATERIAL MUST BE COLD GALVANIZED SPRAYED.
 5. ANY OUTWARD FACING HARDWARE MUST BE SECURED (EX. GATE HINGE POSTS TO BE PEENED OR WELDED BOLT & NUT).
 6. TWISTED SELVAGE TO BE USED FOR TOP OF FABRIC. BOTTOM RAIL TO BE USED AT BOTTOM OF FABRIC.
 7. MAXIMUM VERTICAL & HORIZONTAL GAPS, INCLUDING GATE SWING ON ENTIRE FENCE LINE NOT TO EXCEED 2".
 8. ALL FENCES SHALL ADHERE TO DOD STANDARDS AS OUTLINED IN: UFC 4-022-03, UFGS 32 31 13, UFGS 32 32 12.53.

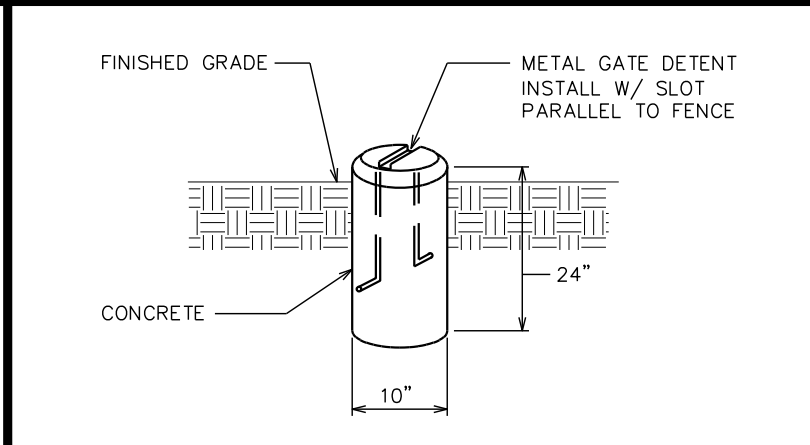
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



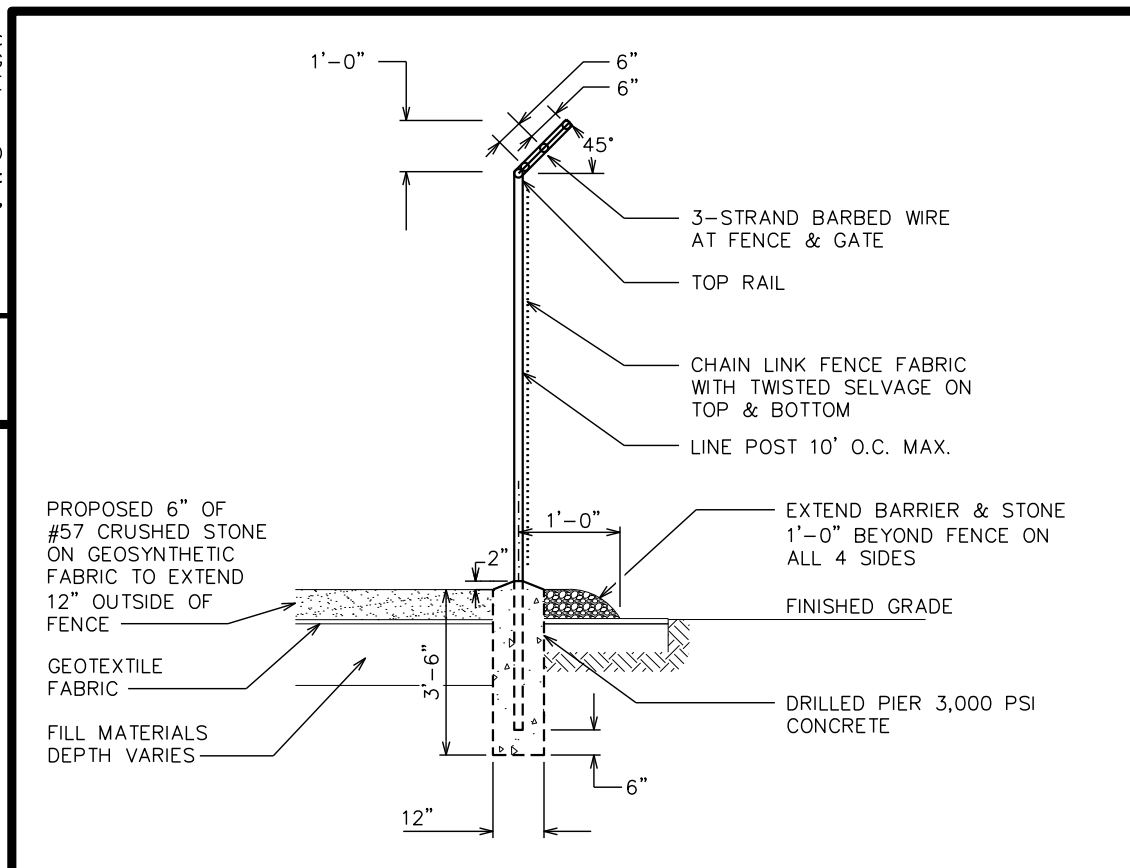
GATE STOP / KEEPER DETAIL

SCALE: N.T.S.



GATE DETENT DETAIL

SCALE: N.T.S.



FENCE / BARBED WIRE ARM DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:

boingo

BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

**FORT BELVOIR
TWR-2 SPECKER**

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
(FAIRFAX COUNTY)

PLANS PREPARED BY:

TEP

326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
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COMMONWEALTH OF VIRGINIA

SCOTT C. BRANTLEY
Lic. No. 064821

PROFESSIONAL ENGINEER

SEAL: June 15, 2026

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DRAWN BY: GPJ CHECKED BY: NMC

SHEET TITLE:

**FENCE
DETAILS**

SHEET NUMBER: **C-4**

REVISION: **3**

TEP#: 350487.485056

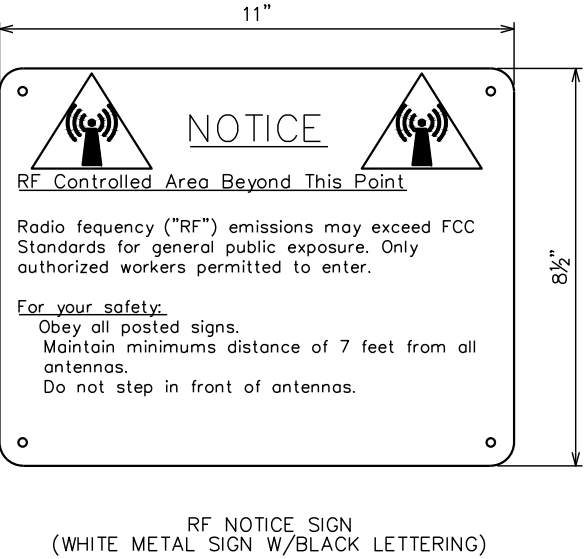
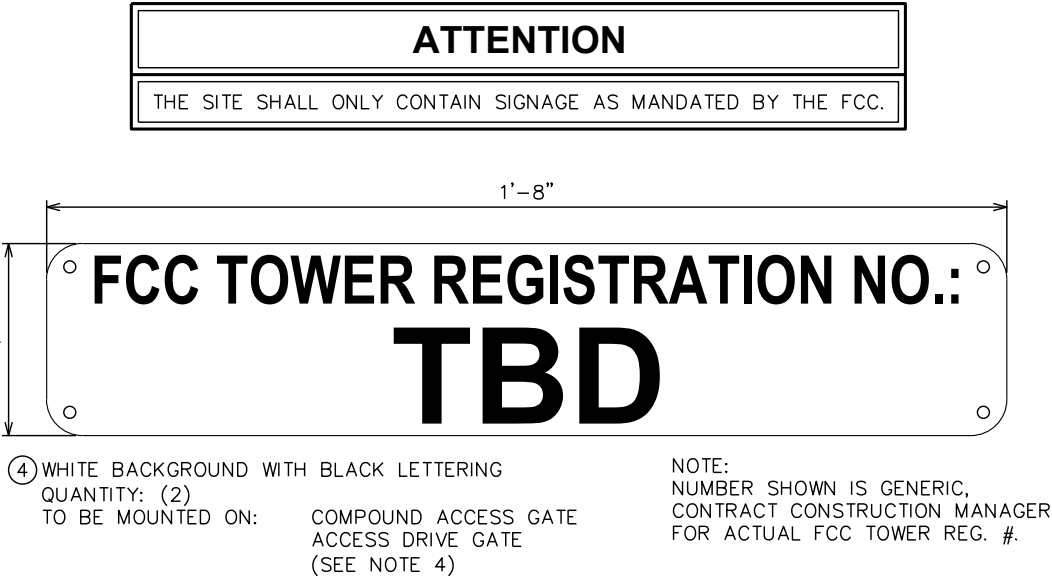
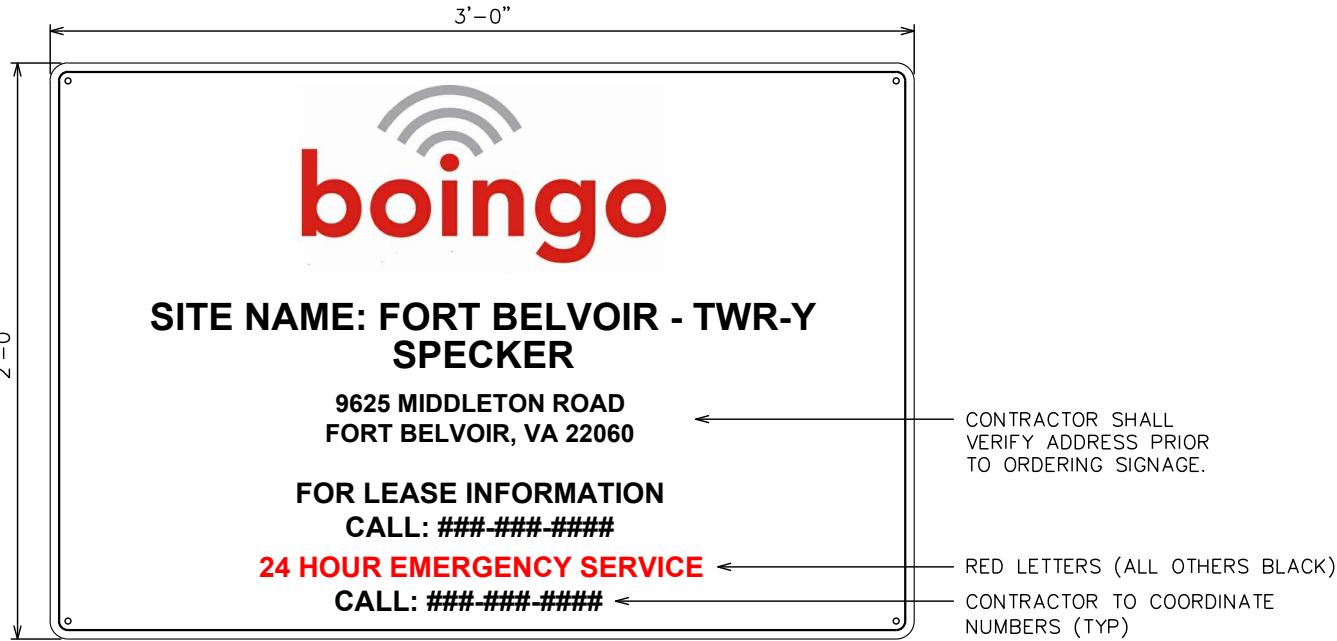
NOTES:

1. SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL, AND PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
2. SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE AND FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (AS UTILIZED IN FENCE INSTALLATIONS) OR BRACKETS WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION.
3. ADDITIONAL E911 ADDRESS SIGNS ARE REQUIRED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS ON THE COMPOUND GATE ITSELF.
4. ADDITIONAL FCC REGISTRATION # SIGNS ARE REQUIRED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS ON THE COMPOUND GATE ITSELF. SIGN SHALL MEASURE (20" LONG x 4" TALL). THE LETTERS SHALL BE 1" AND THE NUMBERS SHALL BE 2".
5. RECOMMENDED SOURCES FOR OBTAINING SIGNAGE:

ST. CLAIR SIGNS
3184 WADE HAMPTON BOULEVARD
TAYLORS, SC 29687
(864) 244-0040

RF EXPOSURE SIGNS
RICHARD TELL ASSOCIATES
3433 RINGSTAR ROAD, SUITE 3
NORTH LAS VEGAS, NV 89030
(702) 645-3338

EXCEL SIGN & DECAL
1509 NORTH MILPITAS BLVD.
MILPITAS, CA 95035
(408) 942-8881
6. SIGNAGE SHOWN BELOW IS AN EXAMPLE ONLY. OWNER WILL PROVIDE OWNER SIGN. CONTRACTOR WILL INSTALL OWNER SIGNAGE AND WILL PROVIDE ADDITIONAL SIGNAGE AS NEEDED.



TYPICAL SIGNS AND SPECIFICATIONS

SCALE: N.T.S.

PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

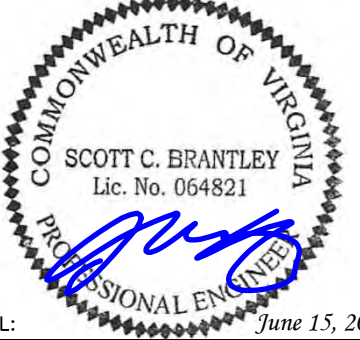
**FORT BELVOIR
TWR-2 SPECKER**

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
(FAIRFAX COUNTY)

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CHECKED BY: NMC

SHEET TITLE:

SIGNAGE DETAILS

SHEET NUMBER:	REVISION:
C-5	3
	TEP#: 350487.485056

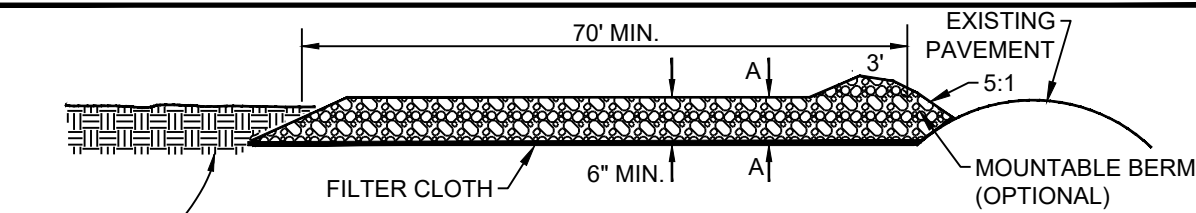


STANDARD ROAD SECTION (POOR SUBGRADE)

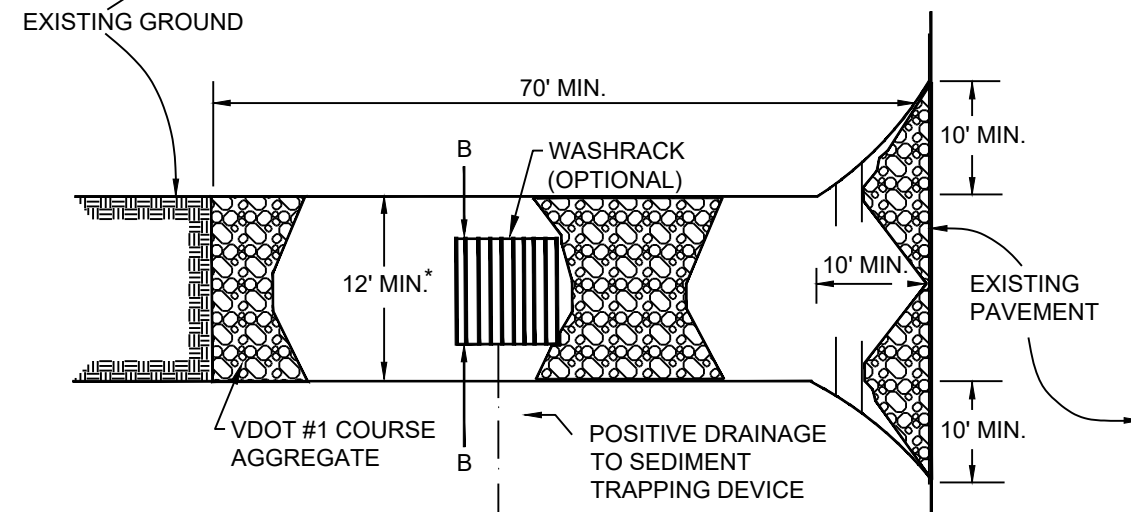
CURB CUT DETAIL FOR ACCESS DRIVE

CONCRETE PAVEMENT CROSS SECTION

TEP#: 350487.485056

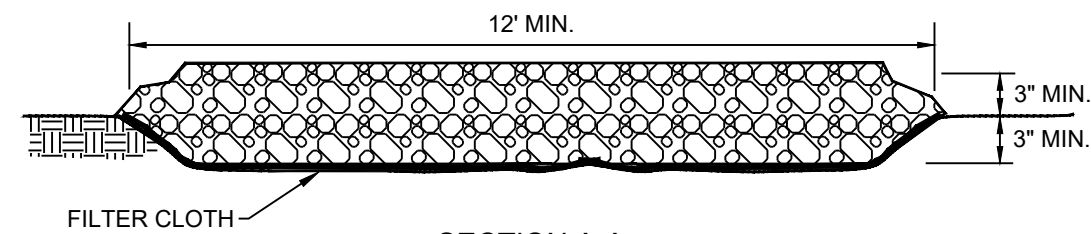


SIDE ELEVATION

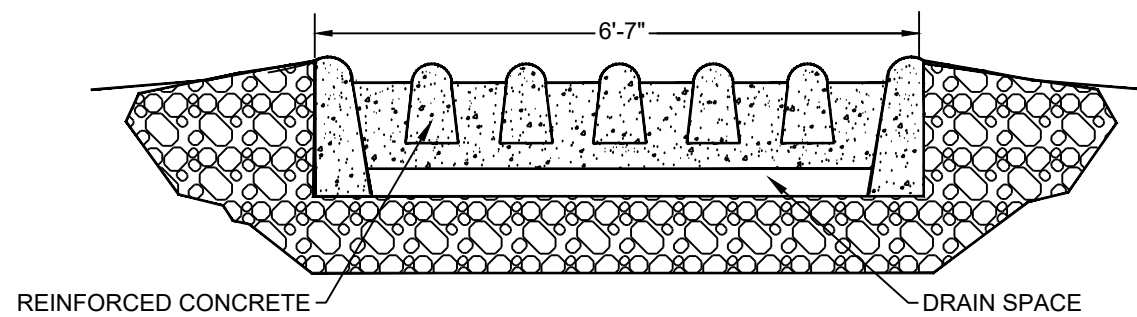


PLAN VIEW

* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION



SECTION A-A



SECTION B-B



STONE CONSTRUCTION ENTRANCE

v1.1 SOURCE: VA. DSWC, MD ESC STDS C-SCM-03-1

PLANS PREPARED FOR:

BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

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TWR-2 SPECKER**

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
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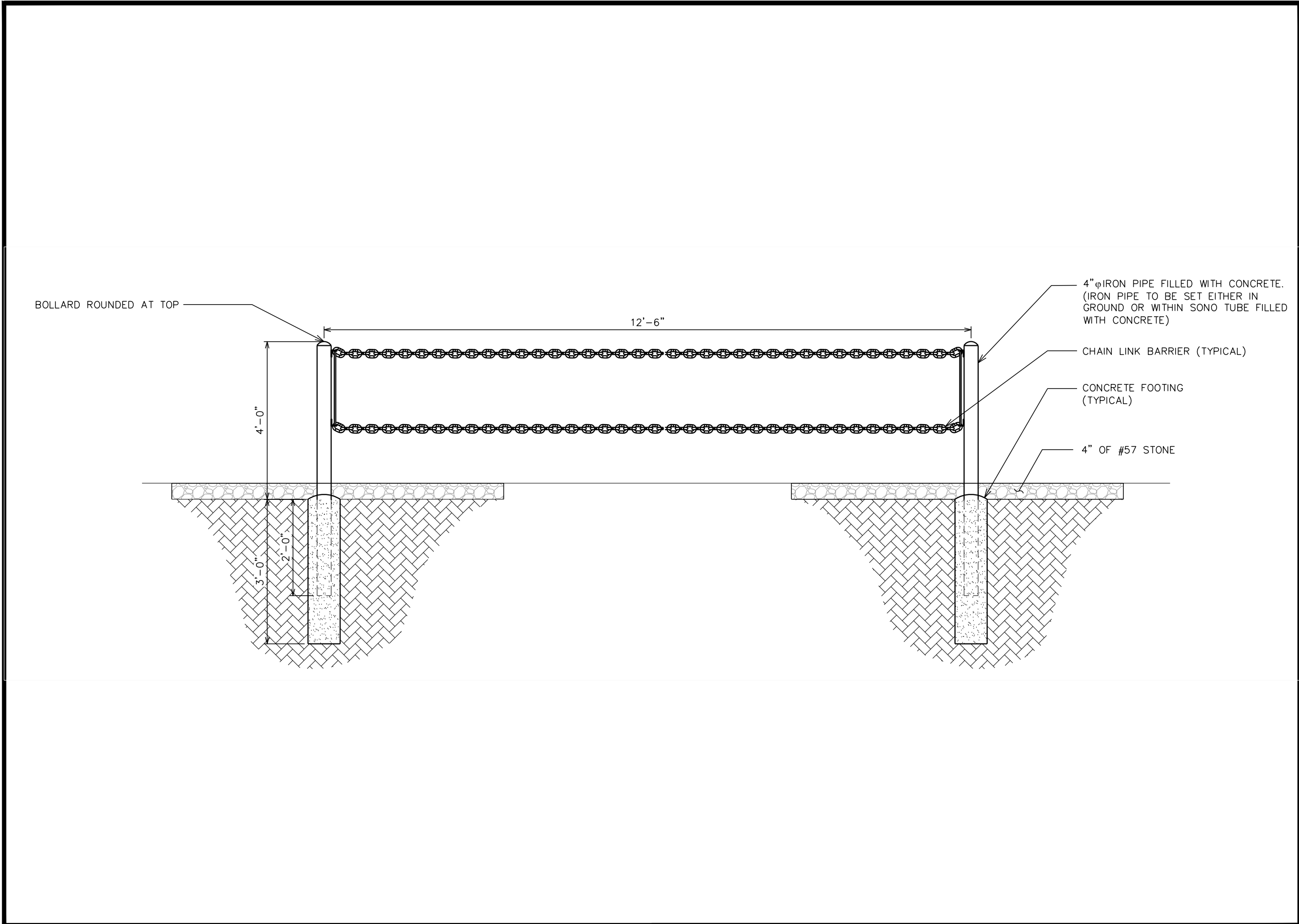
DRAWN BY: GPJ CHECKED BY: NMC

SHEET TITLE:

**DRIVEWAY DETAILS
PT.2**

SHEET NUMBER: **C-6A** REVISION: **3**

TEP#: 350487.485056



BOLLARDS WITH CHAIN LINK BARRIER DETAIL

SCALE: 1/2" = 1'-0"

PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

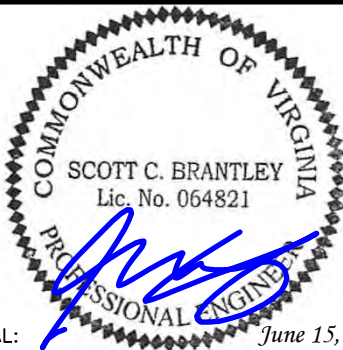
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TWR-2 SPECKER**

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SHEET TITLE:

**BOLLARDS WITH CHAIN
LINK BARRIER DETAIL**

SHEET NUMBER: REVISION:

C-7

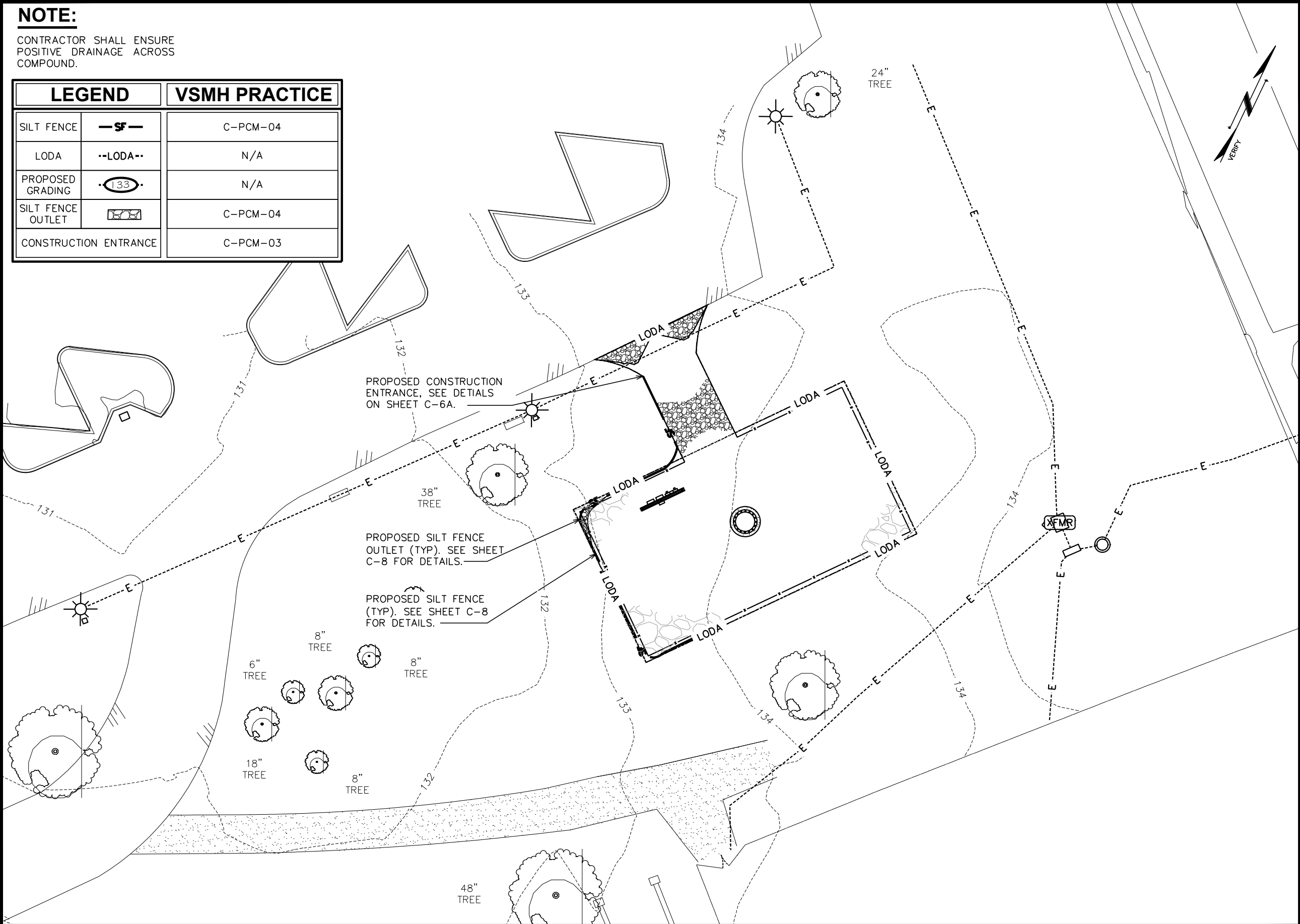
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TEP#: 350487.485056

NOTE:

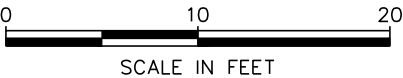
CONTRACTOR SHALL ENSURE
POSITIVE DRAINAGE ACROSS
COMPOUND.

LEGEND		VSMH PRACTICE
SILT FENCE		C-PCM-04
LODA		N/A
PROPOSED GRADING		N/A
SILT FENCE OUTLET		C-PCM-04
CONSTRUCTION ENTRANCE		C-PCM-03



EROSION CONTROL PLAN

SCALE: 1" = 10'



PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
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4	06-22-26	CONSTRUCTION
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REV	DATE	ISSUED FOR:

DRAWN BY: GPJ CHECKED BY: NMC

SHEET TITLE:

EROSION CONTROL
PLAN

SHEET NUMBER:

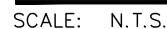
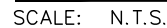
C-8

REVISION:

4

TEP#: 350487.485056

1. FILTER FABRIC SHALL CONFORM TO THE REQUIREMENTS LISTED IN ASTM D 6461.
2. ENDS OF INDIVIDUAL FILTER FABRIC SHALL BE SECURELY FASTENED AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
3. PLACE 12 INCHES OF FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
4. INSPECT SEDIMENT FENCE(S) AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL.
5. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE.
6. AFTER CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE AND PROPERLY STABILIZE THE SITE.



SHEET NUMBER: C-9	REVISION: 3
	TEP#: 350487.485056

NARRATIVE:

The primary erosion and sediment control method to be utilized during the construction of this project is to install a silt fence on the western and southern boundaries of the proposed compound. All installation and sequencing shall be performed per 9VAC25–875–560 as described below. Silt fence shall be inspected for damage at least once every 7 days and within 24 hours after every rainfall event of .5 inches or greater.

- A. An erosion and sediment control plan consistent with the following criteria, techniques, and methods shall be submitted to the VESMP authority or VESCP authority for review and approval:
1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.

3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, is mature enough to survive, and will inhibit erosion.

4. Sediment basins and traps, perimeter dikes, sediment barriers, and other measures intended to trap sediment shall be constructed as a first step in any land–disturbing activity and shall be made functional before upslope land disturbance takes place.

5. Stabilization measures shall be applied to earthen structures such as dams, dikes, and diversions immediately after installation.

6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.

a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.

b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25–year storm of 24–hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.

7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

10. All storm sewer inlets that are made operable during construction shall be protected so that sediment–laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport, and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.

13. When a live watercourse must be crossed by construction vehicles more than twice in any six–month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

14. All applicable federal, state, and local requirements pertaining to working in or crossing live watercourses shall be met.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

a. No more than 500 linear feet of trench may be opened at one time.

b. Excavated material shall be placed on the uphill side of trenches.

c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both and discharged in a manner that does not adversely affect flowing streams or off–site property.

d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

e. Restabilization shall be accomplished in accordance with this chapter.

f. Applicable safety requirements shall be complied with.

17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land–disturbing activities.

18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP or VESMP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion, and damage due to increases in volume, velocity, and peak flow rate of stormwater runoff for the stated frequency storm of 24–hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not manmade channels and shall be exempt from any flow rate capacity and velocity requirements for natural or manmade channels:

a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or manmade receiving channel, pipe, or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

b. Adequacy of all channels and pipes shall be verified in the following manner:

(1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is 100 times greater than the contributing drainage area of the project in question; or

(2) (a) Natural channels shall be analyzed by the use of a two–year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks;

(b) All previously constructed manmade channels shall be analyzed by the use of a 10–year storm to verify that stormwater will not overtop the stormwater’s banks and by the use of a two–year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and

(c) Pipes and storm sewer systems shall be analyzed by the use of a 10–year storm to verify that stormwater will be contained within the pipe or system.

c. If existing natural receiving channels or previously constructed manmade channels or pipes are not adequate, the applicant shall:

(1) Improve the channels to a condition where a 10–year storm will not overtop the banks and a two–year storm will not cause erosion to the channel, the bed, or the banks;

(2) Improve the pipe or pipe system to a condition where the 10–year storm is contained within the appurtenances;

(3) Develop a site design that will not cause the predevelopment peak runoff rate from a two–year storm to increase when runoff outfalls into a natural channel or will not cause the predevelopment peak runoff rate from a 10–year storm to increase when runoff outfalls into a manmade channel; or

EROSION AND SEDIMENT CONTROL NARRATIVE

SCALE: N.T.S.

PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

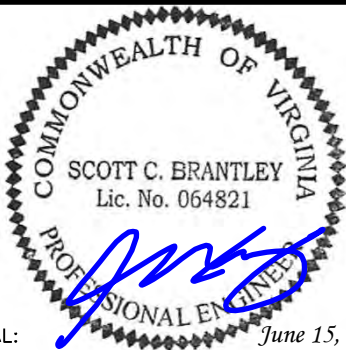
FORT BELVOIR TWR-2 SPECKER

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
(FAIRFAX COUNTY)

PLANS PREPARED BY:



326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net



SEAL: June 15, 2026

3	06-15-26	CONSTRUCTION
2	06-09-26	CONSTRUCTION
1	04-29-26	PRELIMINARY
0	09-17-25	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: GPJ CHECKED BY: NMC

SHEET TITLE: EROSION AND STORM WATER CONTROL NARRATIVE PT.1

SHEET NUMBER: C-10	REVISION: 3 TEP#: 350487.485056
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- (4) Provide a combination of channel improvement, stormwater detention, or other measures that is satisfactory to the VESCP or VESMP authority to prevent downstream erosion.

d. The applicant shall provide evidence of permission to make the improvements.

e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.

f. If the applicant chooses an option that includes stormwater detention, the applicant shall obtain approval from the VESCP or VESMP authority for a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.

h. All onsite channels must be verified to be adequate.

i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe, or pipe system or to a detention facility.

j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial, or industrial development shall not be considered to be separate development projects. Instead, the development as a whole shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

k. All measures used to protect properties and waterways shall be employed in a manner that minimizes impacts on the physical, chemical, and biological integrity of rivers, streams, and other waters of the state.

l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or manmade channels shall satisfy the flow rate capacity and velocity requirements for natural or manmade channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5-year, two-year, and 10-year 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming the site was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when the site was in a good forested condition divided by the runoff volume from the site in the site's proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or manmade channels as defined in any regulations promulgated pursuant to § 62.1-44.15:28 of the Code of Virginia (VESMA) or § 62.1-44.15:54 or 62.1-44.15:65 of the Code of Virginia (ESCL).

m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Code of Virginia (ESCL) and this subdivision 19 shall be satisfied by compliance with water quantity requirements in the VESMA and attendant regulations, unless such land-disturbing activities (i) are in accordance with provisions for time limits on applicability of approved design criteria in 9VAC25-875-480 or grandfathering in 9VAC25-875-490, in which case the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Code of Virginia (ESCL) shall apply; or (ii) are exempt pursuant to § 62.1-44.15:34 G 2 of the Code of Virginia (VESMA).

n. Compliance with the water quantity minimum standards set out in 9VAC25-875-600 shall be deemed to satisfy the requirements of this subdivision 19.

B. All land-disturbing activities shall be conducted in a manner that is consistent with the applicable requirements of subsection A of this section.

EROSION AND SEDIMENT CONTROL NARRATIVE

SCALE: N.T.S.

The current conditions of the site are managed turf consisting of .0572 acres. The conditions of the site after construction will be 100% impervious cover consisting of compacted gravel. No stormwater facilities exist on the current site. The proposed 100% impervious cover area is under 10,000 sq feet for typical regulated LDAm and is under 2,500 sq feet for projects within the Chesapeake Bay Preservation Area (CBPA) that subject to the technical criteria required by the Virginia Stormwater Management Handbook. Therefore, no additional stormwater management details are proposed at this time.

STORMWATER MANAGEMENT NARRATIVE

SCALE: N.T.S.

PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

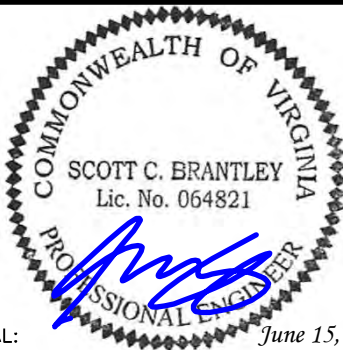
FORT BELVOIR
TWR-2 SPECKER

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PLANS PREPARED BY:



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RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
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SEAL: June 15, 2026

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REV	DATE	ISSUED FOR:

DRAWN BY: GPJ CHECKED BY: NMC

SHEET TITLE:
**EROSION AND STORM
WATER CONTROL
NARRATIVE PT.2**

SHEET NUMBER: C-10A	REVISION: 3 TEP#: 350487.485056
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1. The construction contractor shall complete and submit a Fort Belvoir DPW Excavation Permit Application (DIG Permit) for processing at Fort Belvoir DPW. A blank excavation permit application can be picked up from Building 1442.
2. A pre-construction meeting is required with the contractor's field supervisor prior to beginning construction. Contact the Fort Belvoir DPW MS4 Program manager by phone at (703) 806-0022 to schedule a meeting prior to construction.
3. If portable toilets are necessary for this construction, please locate a minimum of 25 feet away from the nearest stormwater feature (inlets, swales, ponds, etc...)
4. If temporary fuel tanks are necessary, please contact the Fort Belvoir SPCC Program Manager at (703) 806-3694. Please locate a minimum of 25 feet away from the nearest stormwater feature (inlets, swales, ponds, etc...). Ensure that the temporary fuel tank has secondary containment. If the secondary containment involves a plug, the plug must remain in place for the duration of the project.
5. If a construction material storage area is necessary for this project, materials must be stored in a manner where they do not come in contact with stormwater. Please locate a minimum of 25 feet away from the nearest stormwater feature (inlets, swales, ponds, etc...)
6. If concrete is poured on this construction site, a concrete washout must be utilized in accordance with the EPA Concrete Washout Guidelines.
7. For all necessary dewatering operations, perform in accordance with Fort Belvoir ESC Technical Bulletin #1 -Dewatering Operations.
8. For all potential spills on this construction site, please follow the spill response placard within this plan set.

FORT BELVOIR EROSION AND SEDIMENT CONTROL NOTES

SCALE: N.T.S.

ES-1 Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the Virginia stormwater management handbook and Virginia erosion and stormwater management regulations 9VAC25-875.

ES-2 All erosion and sediment control measures are to be placed prior to or as the first step in clearing.

ES-3 A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.

ES-4 Prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or waste areas), the contractor shall submit a supplemental erosion control plan to the Virginia Department of Environmental Quality for review and approval.

ES-5 The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sediment as determined by the Shenandoah County erosion and sediment control inspector.

ES-6 All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved.

ES-7 During dewatering operations, water will be pumped into an approved filtering device and will be performed in accordance with the specifications outlined within practice C-SCM-10 of the Virginia Stormwater Management Handbook.

ES-8 The contractor shall inspect all erosion control measures periodically and after each runoff-producing rainfall event. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

SCALE: N.T.S.

SPILL RESPONSE PROCEDURES

Step 1 Evaluate Spill, does it meet one of the following criteria?

- ✓ Is it 5-gallons or more of fuel, oil, or any amount of other chemicals
- ✓ Does it cover an area of 5 square feet or more
- ✓ Did it enter a water way, storm drain, sewer system or surface water
- ✓ Does it pose a threat to public health or welfare

**If YES to any of the above, the spill is
TOO LARGE TO HANDLE SAFELY!**

Step 2 For Large Spills Only Call Fort Belvoir Fire Dept. at (703) 781-1800
(For Small Spills, fill out Incident Report Form, skip to Step 3)

Step 3 For all Spills, notify one of the following:

- ✓ **Spill Response Manager** (520) 692-3123 or
- ✓ **Compliance Branch Chief** (520) 673-3768 or
- ✓ **Hazardous Waste Manager** (520) 692-3123

- ▷ If you get a voice mail, leave a message.
- ▷ then call the next
- ▷ number on the list

Step 4 Email Incident Report Form to nataliaekoroleva.civ@armymil

Step 5 If you have been Trained and are Qualified, Use Appropriate Personal Protective Equipment (Check MSDS) when Cleaning up Spill

Step 6 Contain or Confine the Spill Using Equipment in Spill Kit

DO NOT wash or dilute the pollutant with water



If the Spill has been Contained & it is less than 5-gallons or smaller than 5 square feet, YOU MUST!



Step 7 Turn in used materials and waste to the Fort Belvoir Hazardous Waste Consolidated Site located at Building 1495 by calling (703) 806-4537

Images of Spill Response Equipment are Courtesy of the New Pig Corporation www.newpig.com
For information about Spill Cards go to www.ebpainters-store.us or call (904) 287-4200
Quick Reference Card—S016 © 2013

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PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

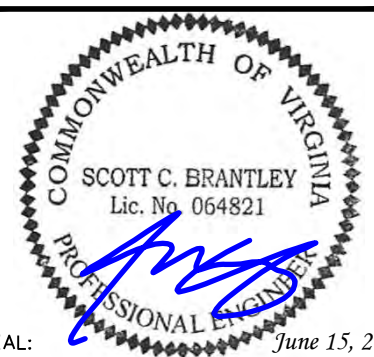
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REV	DATE	ISSUED FOR:

DRAWN BY: GPJ	CHECKED BY: NMC
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SHEET TITLE:
**EROSION & SEDIMENT
CONTROL NOTES &
SPILL CARD**

SHEET NUMBER: C-11	REVISION: 3
	TEP#: 350487.485056

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
- A. THE NATIONAL ELECTRICAL SAFETY CODE

B. THE NATIONAL ELECTRIC CODE – NFPA–70

C. REGULATIONS OF THE SERVING UTILITY COMPANY

D. LOCAL AND STATE AMENDMENTS

E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING:

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE:

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE THEMSELVES WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. THE CONDUIT SHALL BE RIGID STEEL AT GRADE TRANSITIONS OR WHERE EXPOSED TO DAMAGE.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT OR PVC.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
- A. MINIMUM WIRE SIZE SHALL BE #12 AWG.

B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.

C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.

D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
3. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
NEC	–	NATIONAL ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL

PNLBD	–	PANELBOARD
PVC	–	RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

----	E	----	UNDERGROUND ELECTRICAL CONDUIT
----	T	----	UNDERGROUND TELEPHONE CONDUIT
			KILOWATT–HOUR METER
-----			UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
	Ø		GROUND ROD
	●		CADWELD
	⊠		GROUND ROD WITH INSPECTION WELL

PLANS PREPARED FOR:



PROJECT INFORMATION:

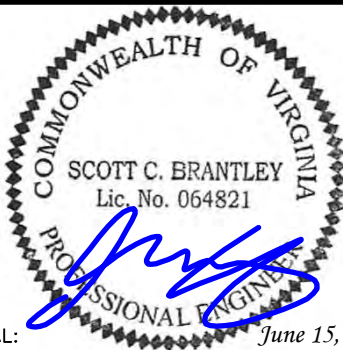
FORT BELVOIR
TWR-2 SPECKER

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
(FAIRFAX COUNTY)

PLANS PREPARED BY:



326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net



SEAL: June 15, 2026

3	06-15-26	CONSTRUCTION
2	06-09-26	CONSTRUCTION
1	04-29-26	PRELIMINARY
0	09-17-25	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: GPJ CHECKED BY: NMC

SHEET TITLE:

ELECTRICAL
NOTES

SHEET NUMBER:	REVISION:
E-1	3
	TEP#: 350487.485056

NOTES:

- ① WATT-HOUR SOCKETS/SERVICE DISCONNECT MEANS. UTILITY COMPANY TO PROVIDE METERS. PROVIDE IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.

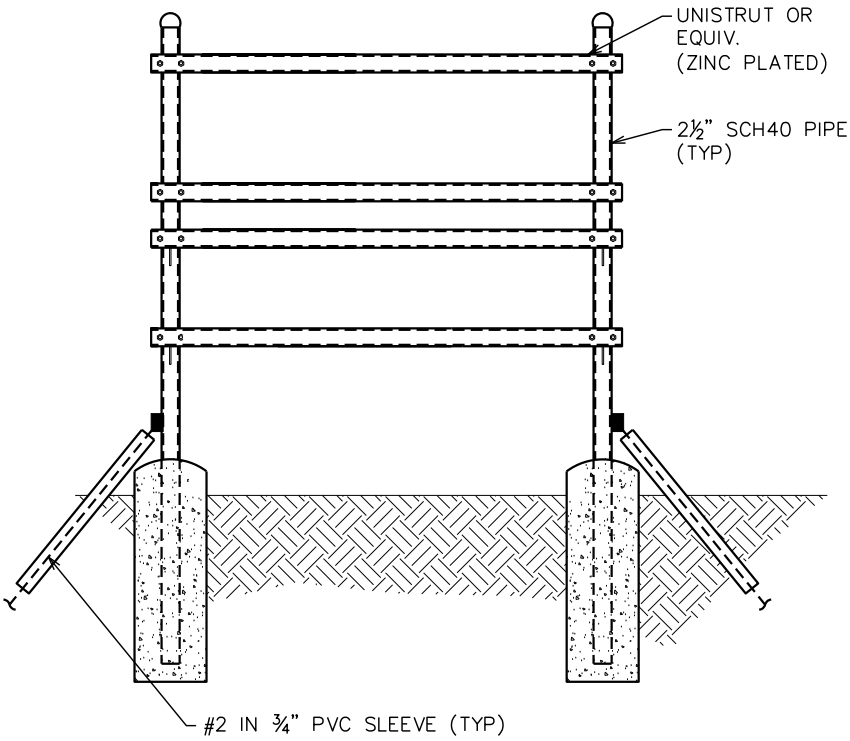
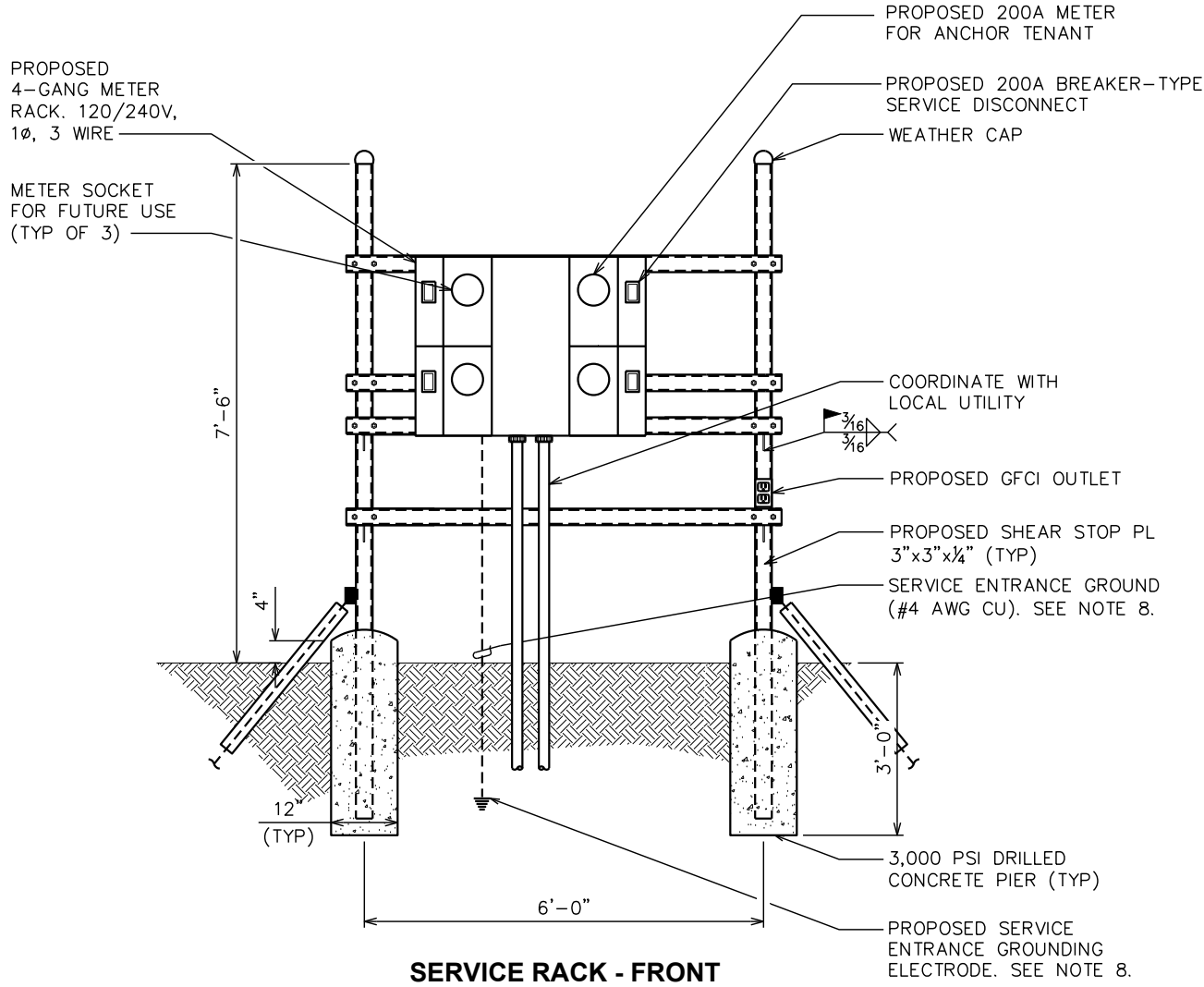
② ALL NEW STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 G90 AFTER FABRICATION.

③ FIELD ABRASIONS SHALL BE TOUCH UP PAINTED WITH ZINC RICH GALVANIZING REPAIR IN ACCORDANCE WITH ASTM A780.
- ④ ALL EXPOSED ENDS OF CONDUIT SHALL HAVE WEATHERPROOF CAPS.

⑤ PROVIDE 200LB. TEST PULL WIRES IN EACH TELEPHONE AND POWER CONDUIT. STUB CONDUITS INTO ENCLOSURE AND LABEL.

⑥ THE POWER COMPANY SHALL TERMINATE THE POWER CABLES (SUPPLIED AND INSTALLED BY THE POWER COMPANY) AT THE UTILITY METERS LOCATED ON THE EQUIPMENT RACK.
- ⑦ CONTRACTOR TO VERIFY RACK DIMENSIONS AND STRUT SPACING RELATIVE TO METER BASE MODEL NUMBER.

⑧ GROUNDING ELECTRODE CONDUCTOR IS SIZED FOR SINGLE 100A SERVICE ONLY. IF METER BANK SHARES A COMMON NEUTRAL/GROUND POINT, CONTRACTOR WILL INSTALL (1) 3/0 COPPER GEC INSTEAD.



PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
17 COWBOYS WAY, SUITE 400
FRISCO, TX 75034

PROJECT INFORMATION:

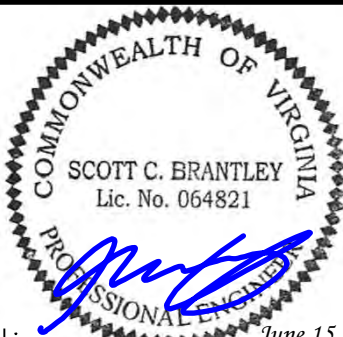
**FORT BELVOIR
TWR-2 SPECKER**

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
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SHEET TITLE:

**SERVICE RACK
DETAILS**

SHEET NUMBER:	REVISION:
E-2B	3
	TEP#: 350487.485056

SERVICE RACK DETAILS

SCALE: N.T.S.

GROUNDING NOTES:

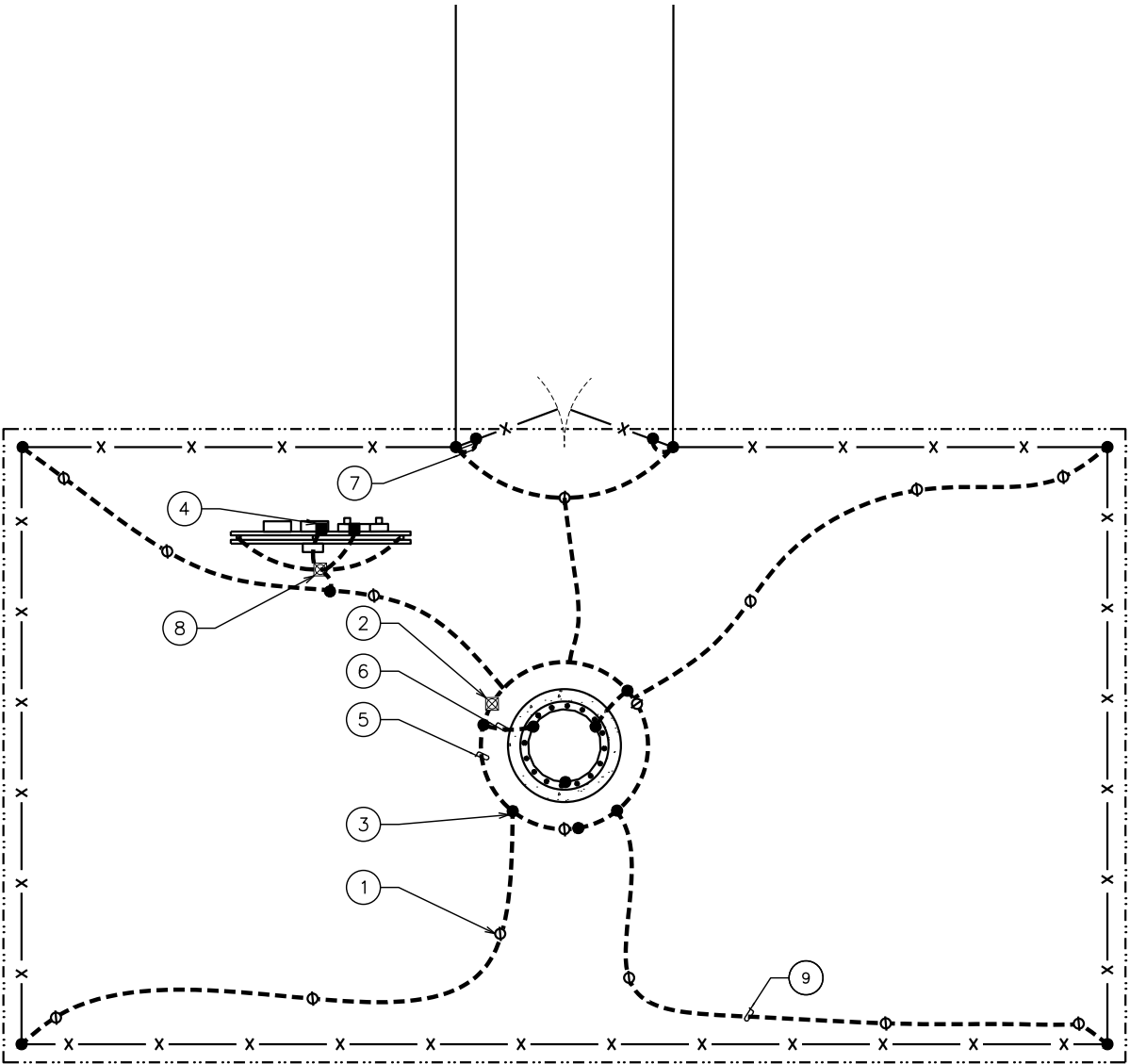
- 1. CONTRACTOR SHALL VERIFY THAT GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 AWG BARE TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 30 INCHES BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS (PROVIDE AND INSTALL AS REQUIRED. REQUIRED PER PLAN BELOW).
- 2. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
- 3. GROUND RING CONNECTION CONDUCTORS SHALL BE OF EQUAL LENGTH, MATERIAL, AND BONDING TECHNIQUE.
- 4. CONTRACTOR SHALL ENSURE GROUND RING IS WITHIN 12 TO 36 INCHES OF THE EQUIPMENT PAD, FENCE, OR TOWER FOUNDATION. PROVIDE AND INSTALL GROUNDING CONNECTIONS SHOWN BELOW AS NEEDED PER EXISTING SITE GROUNDING SYSTEM. CONTRACTOR SHALL VERIFY EXISTING SITE GROUNDING CONDITIONS BEFORE STARTING WORK OR PURCHASING EQUIPMENT.
- 5. BOND GROUND BAR TO EXTERNAL GROUND RING WITH 1 RUN OF #2 BARE, TINNED, SOLID COPPER CONDUCTOR IN PVC. CONNECT BAR END WITH 2 HOLE LUG, AND "CADWELD" THE OTHER END TO THE EXTERNAL GROUND ROD.
- 6. ALL DOWN CONDUCTORS MUST GO DOWN.
- 7. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.

DRAWING NOTES:

- 1 GROUND ROD 5/8"x10' LONG (TYP)
- 2 GROUND ROD WITH INSPECTION WELL (TYP)
- 3 CADWELD (TYP)
- 4 2-HOLE LUG MECHANICAL CONNECTION (TYP)
- 5 PROPOSED TOWER GROUND RING
- 6 GROUND LEAD FROM TOWER TO TOWER GROUND RING (TYP)
- 7 GATE POST GROUNDING (TYP)
- 8 PROPOSED SERVICE ENTRANCE GROUNDING ELECTRODE
- 9 #2 GROUND LEAD FROM TOWER GROUND RING TO FENCE POST (TYP)

GROUNDING PLAN

SCALE: 1" = 10'



PLANS PREPARED FOR:



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PROJECT INFORMATION:

FORT BELVOIR
TWR-2 SPECKER

9625 MIDDLETON ROAD
FORT BELVOIR, VA 22060
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SHEET TITLE:

GROUNDING PLAN

SHEET NUMBER: E-4 REVISION: 3

TEP#: 350487.485056

TOP VIEW

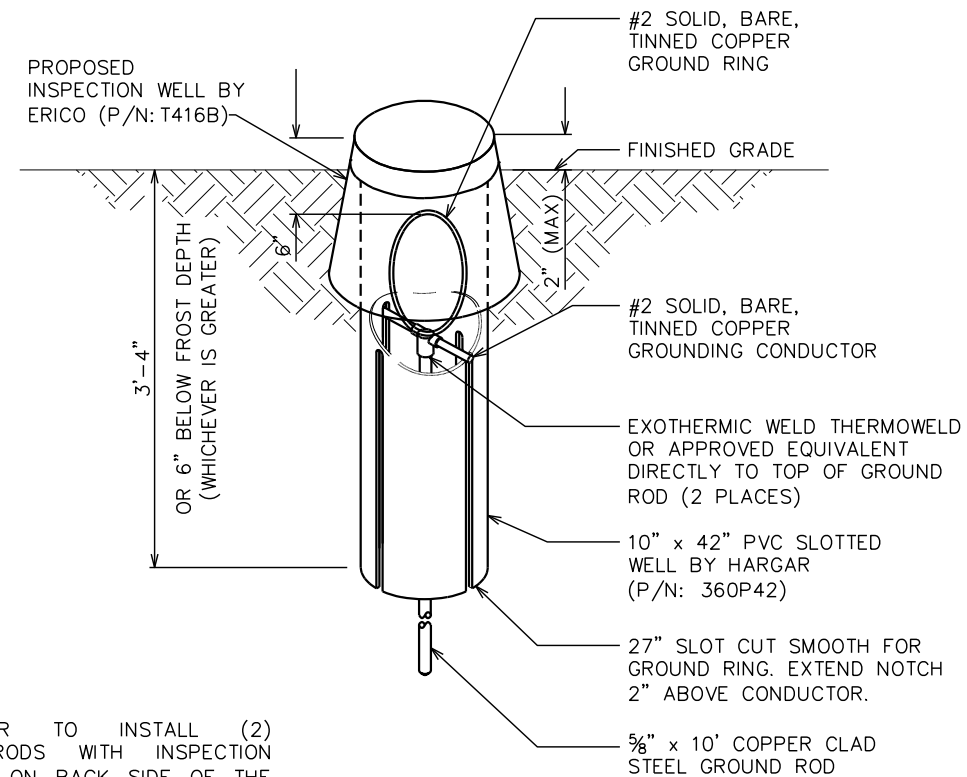
SIDE VIEW

NOTE:

MINIMUM SPACING OF 12"
BETWEEN ALL CADWELDS

CADWELD GROUNDING DETAIL

SCALE: N.T.S.

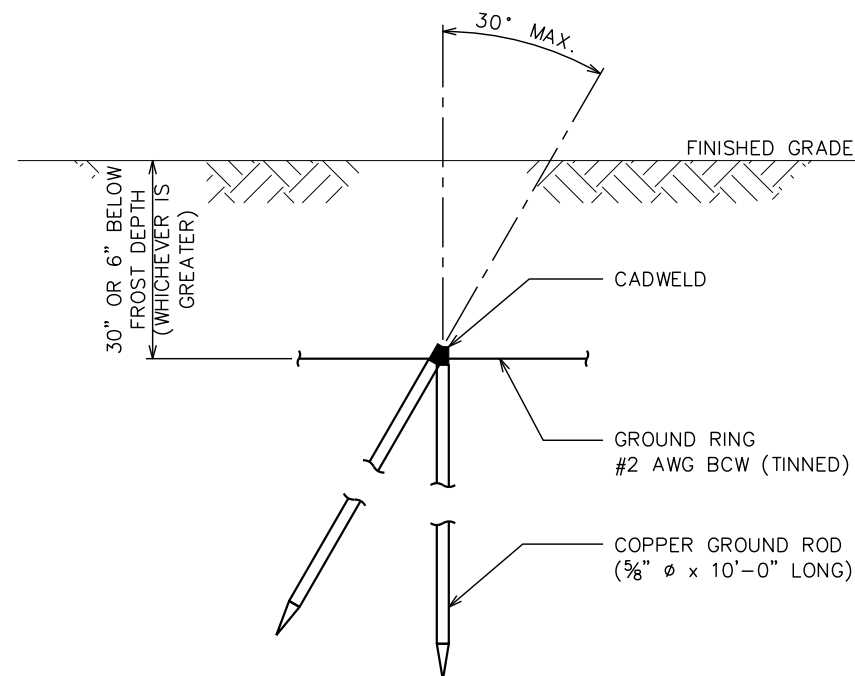


NOTE:

CONTRACTOR TO INSTALL (2)
GROUND RODS WITH INSPECTION
WELLS. (1) ON BACK SIDE OF THE
TOWER AND (1) LOCATED BY THE
H-FRAME NOT TO OBSTRUCT THE
PATH TO THE METER CENTER.

GROUND ROD WITH INSPECTION WELL DETAIL

SCALE: N.T.S.



COPPER-CLAD STEEL GROUND ROD DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:



BOINGO WIRELESS, INC.
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PROJECT INFORMATION:

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SHEET TITLE:

GROUNDING DETAILS I

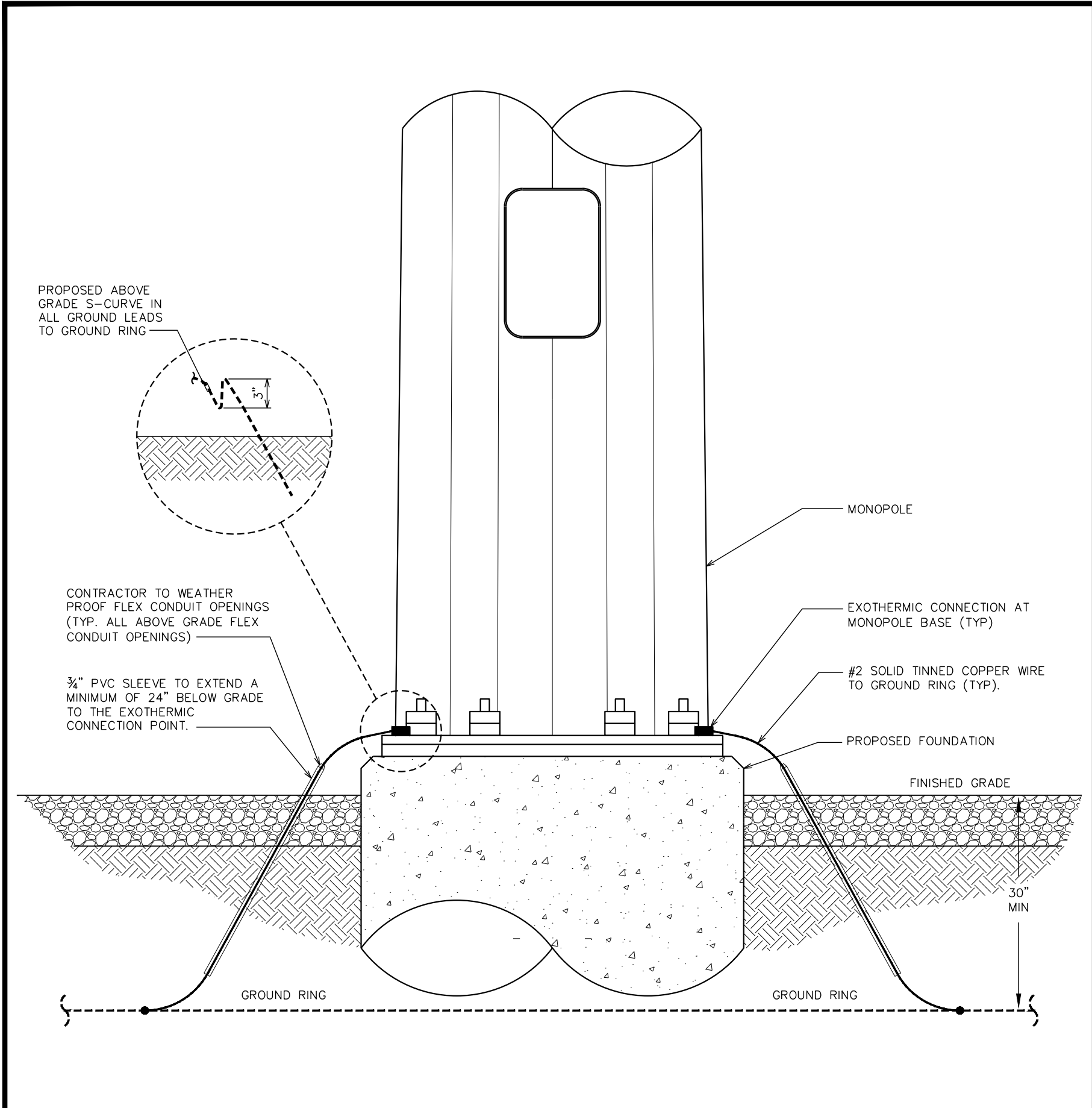
SHEET NUMBER:

E-5

REVISION:

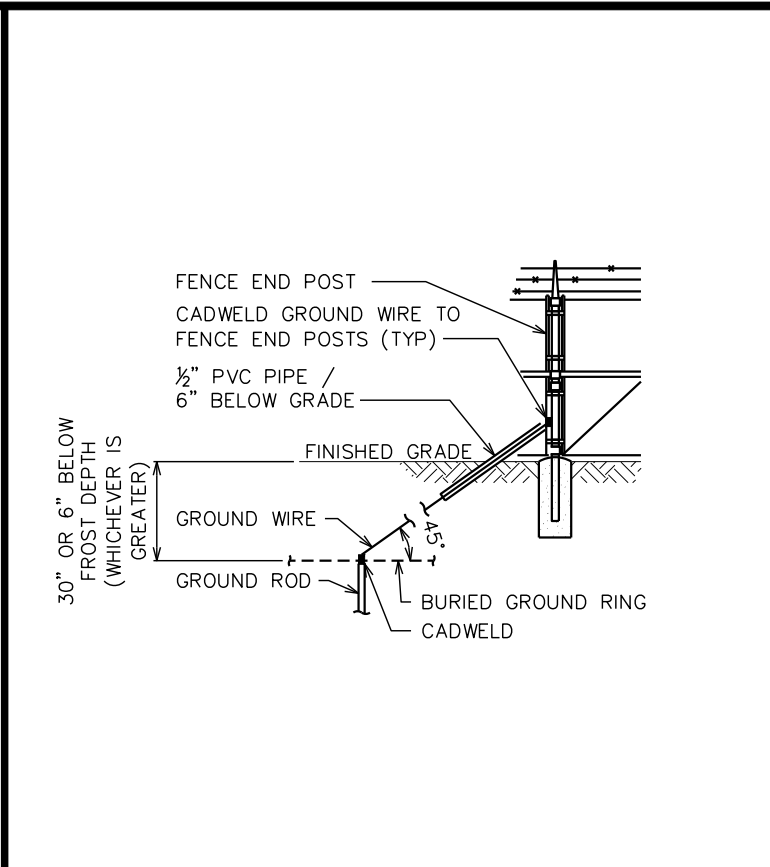
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TEP #: 350487.485056



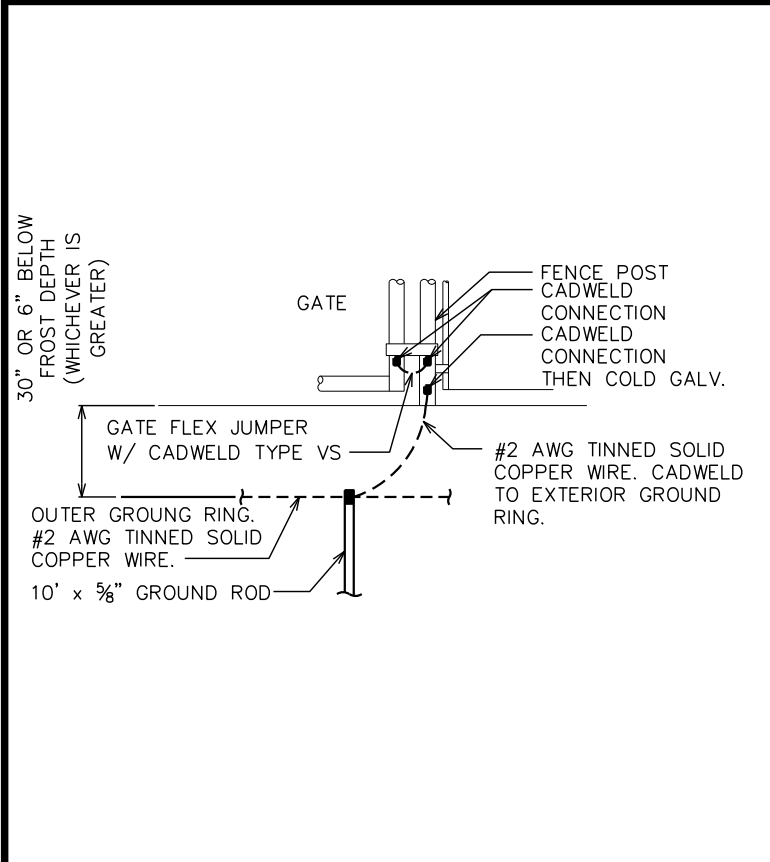
TOWER GROUNDING DETAIL

SCALE: N.T.S.



FENCE GROUNDING DETAIL

SCALE: N.T.S.



TYP. GATE POST GROUNDING DETAIL

SCALE: N.T.S.

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RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

COMMONWEALTH OF VIRGINIA

SCOTT C. BRANTLEY
Lic No. 064821

PROFESSIONAL ENGINEER

SEAL: June 15, 2026

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SHEET TITLE:

**GROUNDING
DETAILS II**

SHEET NUMBER:

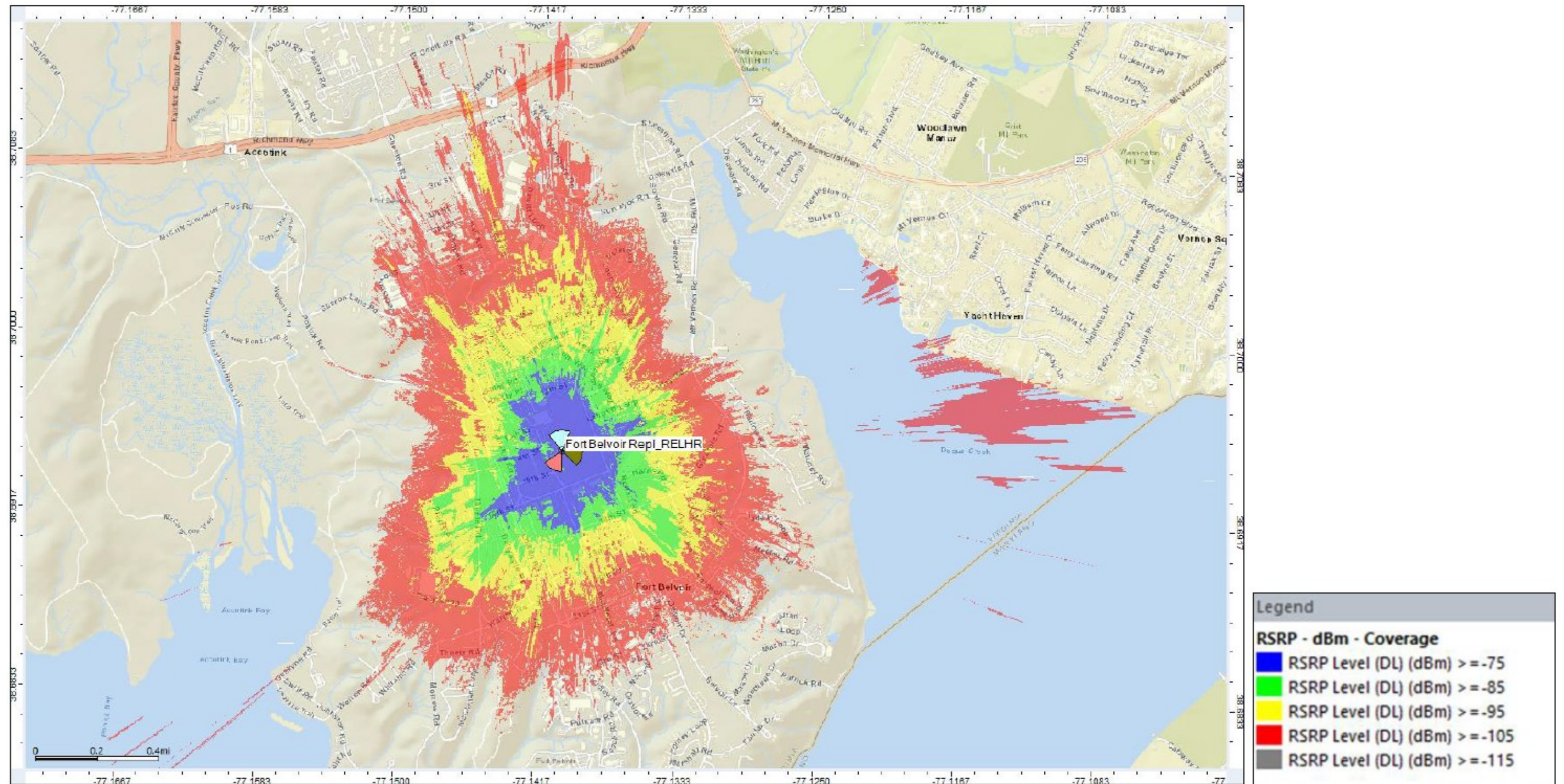
E-6

REVISION:

3

TEP#: 350487.485056

Ft Belvoir Twr 2 - Specker - LTE coverage map



Signal Strength Legend

Legend

RSRP - dBm - Coverage

	RSRP Level (DL) (dBm) ≥ -75	 Excellent
	RSRP Level (DL) (dBm) ≥ -85	 Good
	RSRP Level (DL) (dBm) ≥ -95	 Fair
	RSRP Level (DL) (dBm) ≥ -105	 Marginal
	RSRP Level (DL) (dBm) ≥ -115	 Poor Coverage