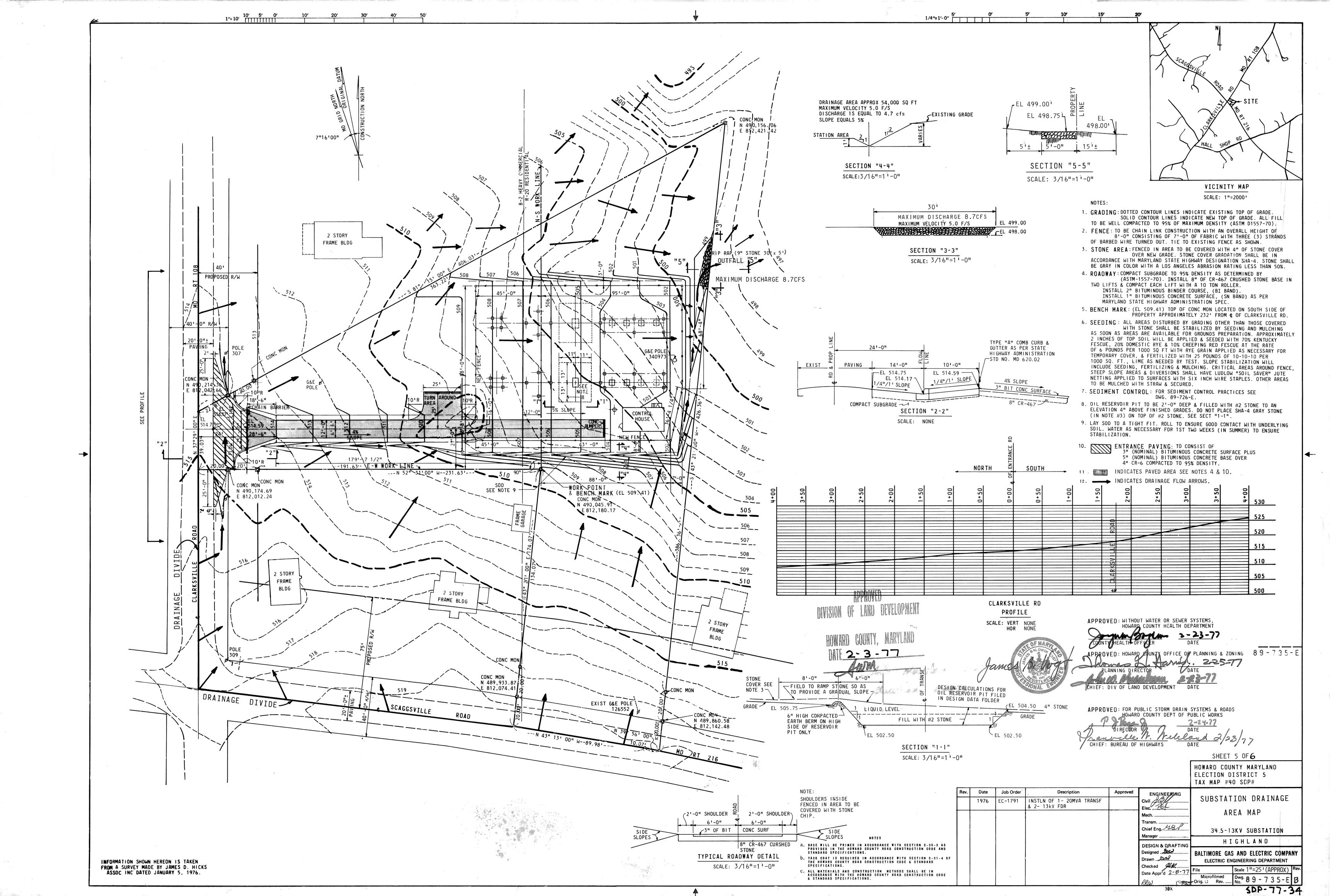
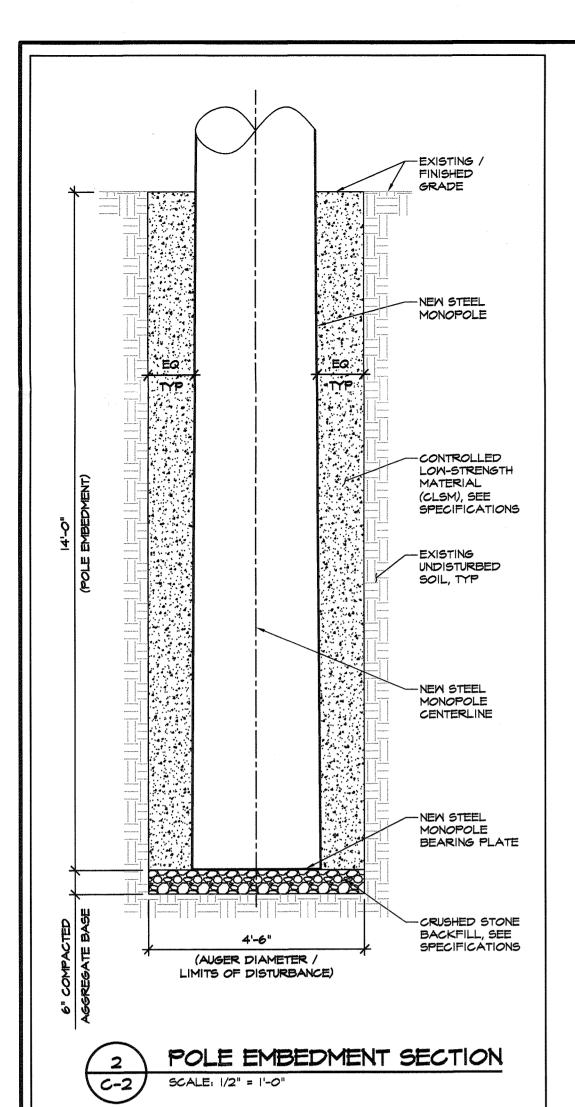
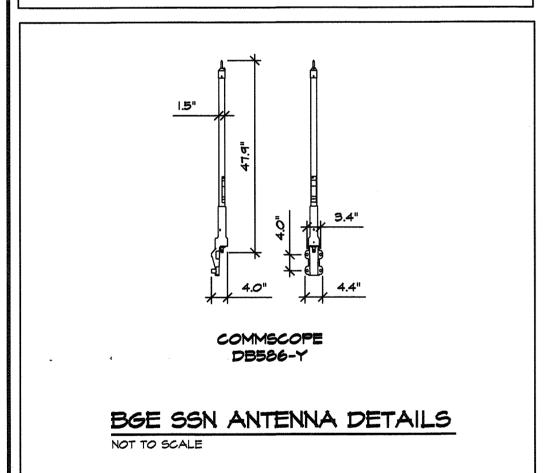


SDP-77-34









Know what's below Call before you dig

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION 4 23/19 DATÉ CHIEF, DIVISION OF LAND DEVELOPMENT45 Vallo Jollin 1-23-19 DIRECTOR OF PLANNING AND ZONING DATE

#### CONSTRUCTION NOTES

- A. ANSI/TIA-222-G-2-2014 "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS", AND ALL SUBSEQUENT SUPPLEMENTS
- B. INTERNATIONAL BUILDING CODE (IBC-2015)
- C. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE

### DESIGN LOADS

- THE EMBEDDED STEEL MONOPOLE HAS BEEN DESIGNED TO SUPPORT THE APPURTENANCES LISTED IN THE MONOPOLE ANALYSIS REPORT BY MORRIS & RITCHIE ASSOCIATES, JOB NO. 16208.267, DATED DECEMBER 3, 2018.
- B. WIND LOAD DESIGN DATA
  - ULTIMATE WIND SPEED (NO ICE): Vult = 120 MPH
- VI = 40 MPH BASIC WIND SPEED (WITH ICE): DESIGN RADIAL ICE THICKNESS: 34" (ICE THICKNESS INCREASES WITH HEIGHT) RISK CATEGORY:

MATERIAL SECTION OF NOTES FOR ADDITIONAL INFORMATION.

- EXPOSURE CATEGORY:
- TOPOGRAPHIC CATEGORY: C. EARTHQUAKE LOAD DESIGN DATA
- NOT APPLICABLE:
- D. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AS REQUIRED DURING ERECTION AND CONSTRUCTION. DESIGN OF TEMPORARY BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR. SEE CONTROLLED LOW-STRENGTH

#### MISCELLANEOUS

- A. THE CONTRACTOR SHALL INSTALL THE EMBEDDED STEEL MONOPOLE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS, IN ADDITION TO THE SPECIFICATIONS ON THESE DRAWINGS.
- THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF CONSTRUCTION AND PREVENT DAMAGE TO THEM. SHOULD DAMAGE OCCUR TO ANY UTILITIES, THE CONTRACTOR IS REQUIRED TO REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER AT HIS OWN EXPENSE.
- C. IN CASES OF CONFLICT BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH
- D. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP
- E. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- APPLY DETAILS, SECTIONS AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.
- PROVIDE SHORING AND PROTECTION FOR EXCAVATION AS NECESSARY TO PREVENT CAVING AND COMPLY WITH ALL APPLICABLE OSHA RULES AND REGULATIONS.
- H. 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.

CLASS H8, RUS S-09.0 (12-SIDED)

THREE-PIECE WITH SLIP JOINTS

#### EMBEDDED STEEL MONOPOLE

A. STEEL MONOPOLE SPECIFICATIONS:

MANUFACTURER: DESIGNATION: TOTAL POLE LENGTH: TOP SECTION THICKNESS

MIDDLE SECTION THICKNESS: BOTTOM SECTION THICKNESS BASE DIA @ BEARING PLATE: GROUNDLINE MOMENT CAPACITY: APPROXIMATE POLE WEIGHT: EMBEDMENT LENGTH:

0.281 IN 32.33 IN 1,069.8 K\*FT 8,292 LBS SEE DRAWINGS

SEE DRAWINGS

VALMONT

0.219 IN

0.250 IN

B. MISCELLANEOUS SPECIFICATIONS:

STEEL FINISH: CORROCOTE: CLIMBING HARDWARE: 1'-6" ABOVE GRADE TO BOTTOM OF POLE STEP-BOLTS IO' ABOVE GRADE TO TOP OF POLE

## STRUCTURAL AND MISCELLANEOUS STEEL

- 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 PIPE SHALL CONFORM TO ASTM A53, GRADE B (Fy = 35 KSI).
- C. ALL U-BOLTS SHALL CONFORM TO ASTM A307 (Fu = 60 KSI).
- D. ALL NUTS SHALL CONFORM TO ASTM A563.
- E. ALL WASHERS SHALL CONFORM TO ASTM F436
- F. FIELD WELDING IS NOT PERMITTED.
- G. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.
- ALL STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM AI23 AFTER FABRICATION. ALL BOLTS, WASHERS & NUTS SHALL BE HOT-DIPPED GALVANIZED IN
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- 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.

## STRUCTURAL BACKFILL

## CRUSHED STONE:

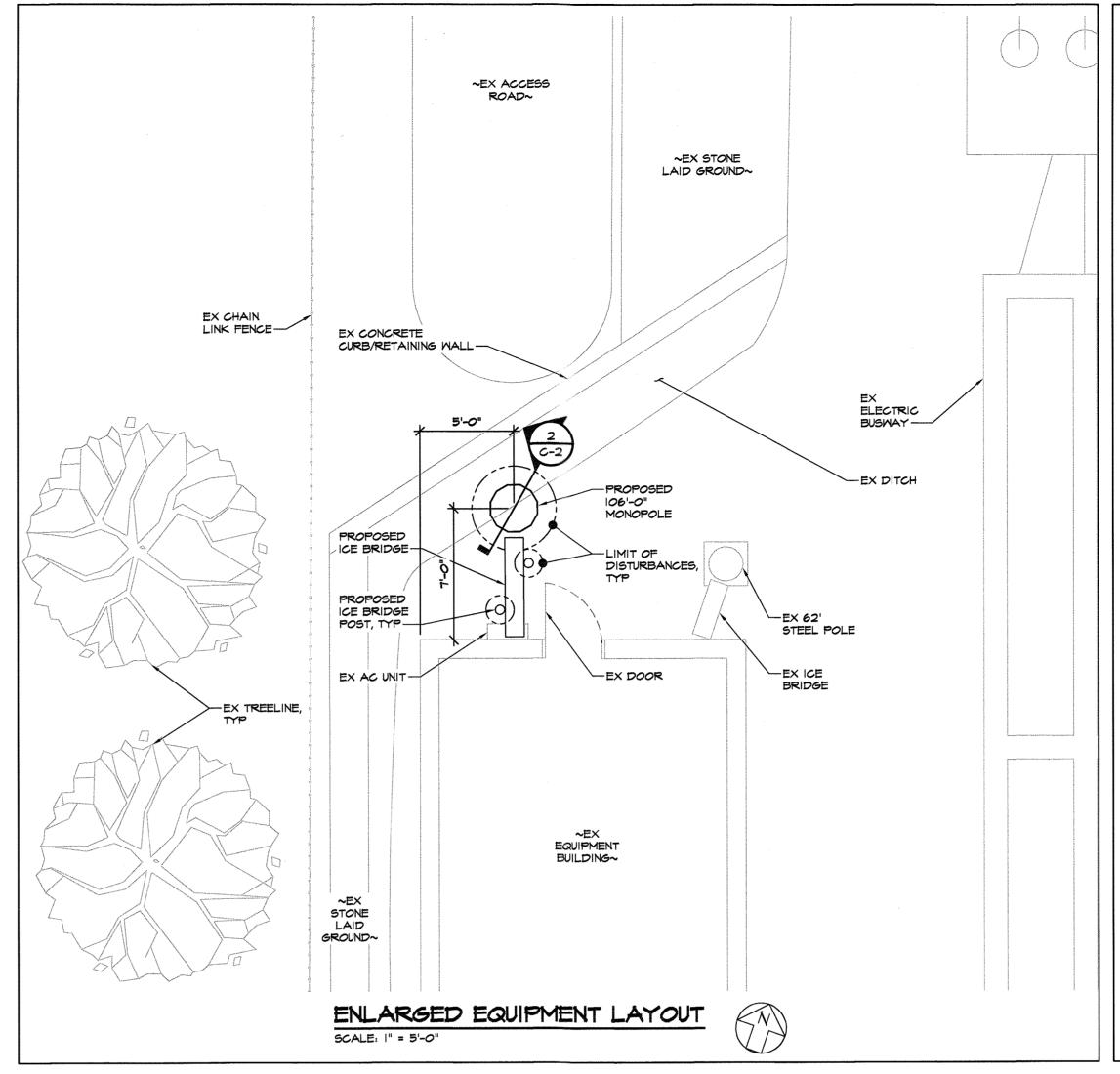
- A. STONE SHALL BE I" DIAMETER OR SMALLER MEETING THE GRADATION REQUIREMENTS OF SIZE NO. 57 PER COARSE
- B. STONE SHALL BE DEPOSITED IN 6 INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO THE SPECIFIED FINISHED

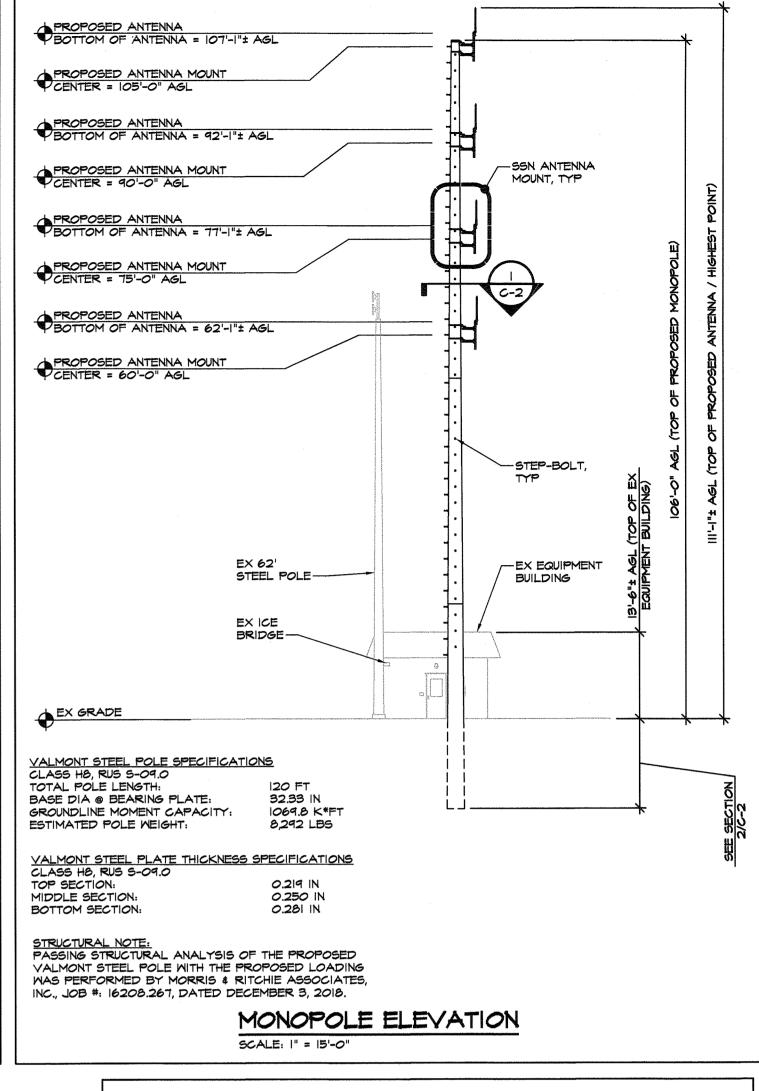
## CONTROLLED LOW-STRENGTH MATERIAL (CLSM):

- A. ALL CLSM CONSTRUCTION SHALL CONFORM TO THE LATEST STANDARD FOR CONTROLLED LOW-STRENGTH MATERIAL (ACI 229).
- B. CLSM MATERIAL SPECIFICATIONS:
- I. AGGREGATE SHALL CONFORM TO ASTM C33. COARSE AGGREGATE SHALL CONSIST OF A WELL-GRADED MIXTURE OF CRUSHED ROCK OR SAND WITH A MAXIMUM SIZE AGGREGATE OF %". 100% SHALL PASS THE ½" SIEVE. NOT MORE THAN 30% SHALL BE RETAINED BY THE %" SIEVE AND NOT MORE THAN 12% SHALL PASS THE NUMBER 200 SIEVE. ALL MATERIAL SHALL BE FREE FROM ORGANIC MATTER AND NOT CONTAIN MORE ALKALI, SULFATES, OR SALTS THAN THE NATIVE MATERIAL AT THE SITE.
- 2. THE ENTRAINED AIR CONTENT SHALL BE A MINIMUM OF 8% AND A MAXIMUM OF 20%.

3. AIR ENTRAINING ADMIXTURE AND/OR WATER REDUCING AGENT MAY BE ADDED TO IMPROVE THE WORKABILITY

- AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C260 AND ASTM C494, RESPECTIVELY. 4. WATER SHALL BE POTABLE, CLEAN AND FREE FROM OBJECTIONABLE QUANTITY OF SILTY ORGANIC MATTER,
- ALKALI, SALTS, AND OTHER IMPURITIES. C. CLSM PERFORMANCE SPECIFICATIONS:
- I. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 500 PSI.
- 2. THE MINIMUM UNCONFINED COMPRESSIVE STRENGTH AT 6-HOURS SHALL BE 50 PSI. THE STEEL MONOPOLE SHALL BE TEMPORARILY SUPPORTED DURING THE CLSM 6-HOUR SETTING PERIOD TO ALLOW THE CLSM TO PROPERLY
- 3. THE MINIMUM FLOW (SLUMP) SHALL BE 8 INCHES WHEN TESTED IN ACCORDANCE WITH ASTM D6103.
- ALL CLSM MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CLSM.
- E. ALL CLSM SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CLSM. TESTING SHALL BE IN ACCORDANCE WITH ASTM
- THE CLSM SHALL NOT BE REQUIRED TO SUPPORT WIND LOADING FOR A MINIMUM OF 6 HOURS AND ALL TEMPORARY BRACING REQUIRED TO SUPPORT THE MONOPOLE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF MARYLAND, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE, AND LOCATION OF ALL TEMPORARY BRACING, AS WELL AS THE SEQUENCE OF CONSTRUCTION.





-STEP-BOLT, TYP

(I'-0" MIN, I'-6" MAX)

STANDOFF

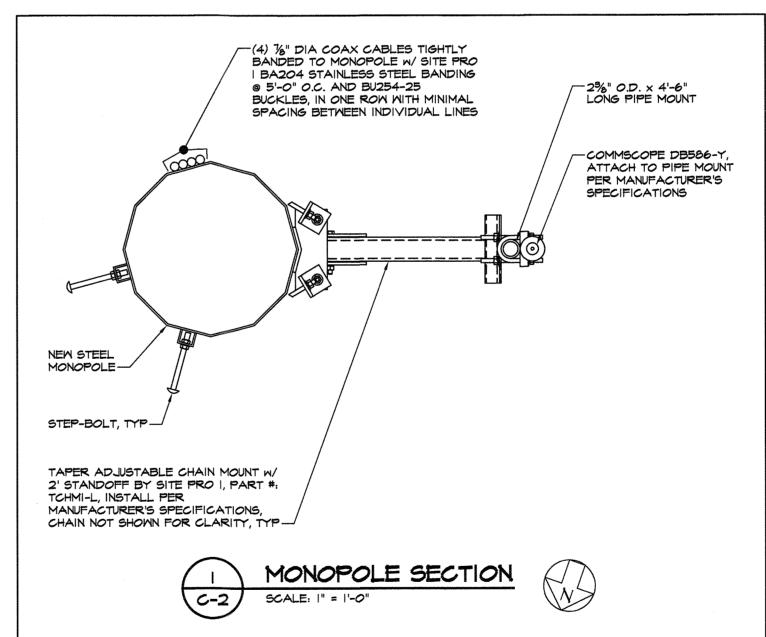
ANTENNA

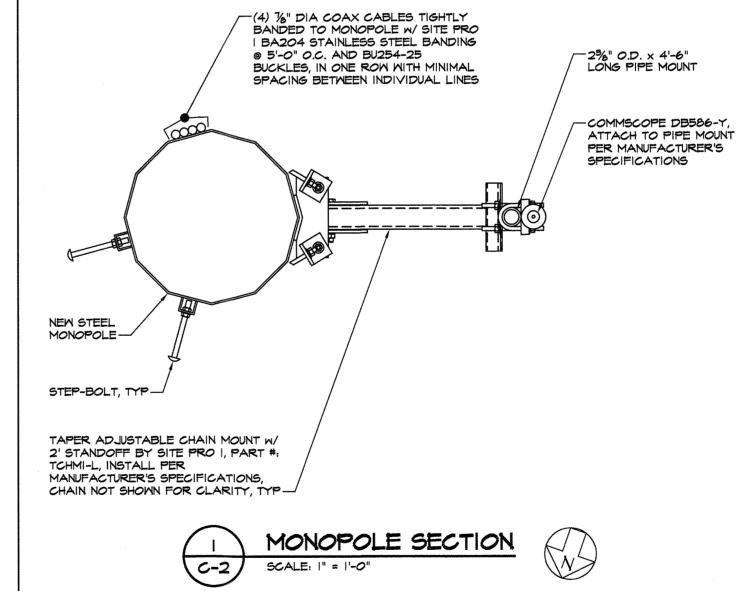
ELEVATION

MONOPOLE

TYP SSN ANTENNA MOUNT

2'-0"





CONTRACTOR SHALL NOTIFY "MISS UTILITY" (I-800-257-7777) 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY

CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT

LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE

UTILITIES. DAMAGE TO UTILITIES OR PROPERTY OF OTHER BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES

APPLICABLE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR

4. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY

5. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT

THE STRUCTURE WILL NOT SUPPORT LIGHTS OR SIGNS UNLESS REQUIRED FOR AIRCRAFT WARNING OR OTHER SAFETY RECORDS.

CONTINUOUS PERIOD OF ONE (1) YEAR, THEY SHALL BE REMOVED BY THE ANTENNA OWNER AT

TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE

8. IF THE ANTENNAS ARE NO LONGER USED FOR TELECOMMUNICATIONS PURPOSES FOR A

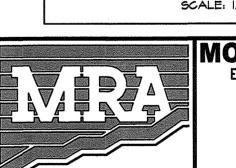
3. BUILDING PERMIT WILL BE OBTAINED BY BALTIMORE GAS & ELECTRIC. GENERAL CONTRACTOR SHALL SECURE ELECTRICAL PERMIT FOR THIS PROJECT FROM ALL

ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.

AND ORDINANCES, THE LATEST EDITION THEREOF.

CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND

LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY



# SCALE: 1/2" = 1'-0" MORRIS & RITCHIE ASSOCIATES, INC ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

-COMMSCOPE DB586-

ATTACH TO PIPE MOUNT

TAPER ADJUSTABLE CHAIN

PRO I. PART #: TCHMI-L.

SPECIFICATIONS

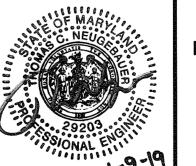
MOUNT W/ 2' STANDOFF BY SITE

INSTALL PER MANUFACTURER'S

PER MANUFACTURER'S SPECIFICATIONS

14280 PARK CENTER DRIVE **LAUREL, MD 20707** (410) 792-9792 / (301) 776-1690 FAX: (410) 792-7395 MRAGTA.COM

Copyright 2018 Morris & Ritchie Associates, Inc. **HIGHLAND SUBSTATION - BGE** 



**ESSENTIAL TELECOMMUNICATION STRUCTURE CONSTRUCTION DETAILS AND NOTES** 

ELECTION DISTRICT 5, ZONE B-1 (BUSINESS: LOCAL DISTRICT) MD\_PROFESSIONAL 1-9-19 CERTIFICATION: 13365 CLARKSVILE PIKE HIGHLAND, MARYLAND 20777 - HOWARD COUNTY

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29203, EXPIRATION DATE:

CONTACTS

APPLICANT'S ATTORNEY: BANKERS TRUST CO TRUSTEE

APPLICANT

BALTIMORE GAS & ELECTRIC

C/O BALTIMORE GAS & ELECTRIC CO

BALTIMORE, MARYLAND 21203-1475

BALTIMORE GAS & ELECTRIC COMPAI

BANKERS TRUST CO TRUSTEES

1068 NORTH FRONT STREET

BALTIMORE, MD 21202

TEL. (410) 470-8572

FAX (410) 470-589

PO BOX 1475

PO BOX 1475

BALTIMORE, MD 21203

06/16/2019.

JOB NO.: 16208267 REVISIONS SCALE: SEE DETAIL REVISED SITE DEVELOPMENT PLAN FOR TELECOM 1-09-2019 STRUCTURE AND NEW SHEET 6 MONOPOLE DETAILS | DATE: 11/30/18 DRAWN BY: MAM DESIGN BY: MAM REVIEW BY: TM SHEET: 6 OF 6

SDP-77-34