

**PJM Facilities Study Report**  
**For**  
**Network Upgrade N9630**  
**Transition Cycle #1**

July 2025

## Introduction

This Facilities Study has been prepared in accordance with the PJM Open Access Transmission Tariff and PJM Manuals. The Transmission Owner (TO) is Virginia Electric and Power Company (VEPCO or Dominion).

### A. Project Description

The System Impact Study for PJM Interconnection Transition Cycle #1 has identified the need for PJM Network Upgrade N9630. The scope of this Network Upgrade includes the following:

- Construct a new 230kV line from AG1-285 substation to Finneywood 230kV substation
- Expand the proposed 115kV AG1-285 substation to include a 230kV substation with 2 230/115kV transformers.
- Add 230kV line position at Finneywood substation.

### B. Transmission Owner Facilities Study Results

#### 1. Detailed Scope of work for Network Upgrade N9630:

The following is a detailed description of Transmission Owner Upgrades for Network Upgrade N9630. These facilities shall be designed according to the Transmission Owner's Applicable Technical Requirements and Standards. Once built the Transmission Owner will own, operate, and maintain these facilities.

See Preliminary Scoping Summaries located in the Appendices, Attachment #1, #2 and #3.

#### 2. MILESTONE SCHEDULE FOR COMPLETION OF DOMINION WORK

Facilities outlined in this report are estimated to take 55 months to construct, from the time of full execution of the Generation Interconnection Agreement and completion of a construction kickoff call. This schedule may be impacted by the timeline for procurement and installation of long lead items and the ability to obtain outages to construct and test the proposed facilities.

Description	Start month	Finish month
Engineering	1	30
Permitting/Procurement	3	45
Construction	43	55

Due to outage congestion, Network Upgrades and/or internal Dominion projects have been identified as having possible outage conflicts with this network upgrade that may affect the estimated milestones listed above. Additional outage sequencing may be required that includes, but not limited to the following projects:

### **3. ASSUMPTIONS IN DEVELOPING SCOPE/COST/SCHEDULE**

- The preliminary construction schedule is dependent on outage availability.
- See Attachment 1 and 2– Preliminary Scoping Summary – Substation for additional assumptions
- See Attachment 3 – Preliminary Scoping Summary – Transmission line for additional assumptions

### **4. LAND REQUIREMENTS**

Dominion will be responsible for the following expectations in the area of Real Estate:

- Any additional land needed for Storm Water Management, Landscaping, and Wetlands/Wetlands Mitigation.
- Any other Land/Permitting requirements required by the Network Upgrade

### **5. ENVIRONMENTAL AND PERMITTING**

The Dominion will be responsible for the following expectations in the area of Environmental and Permitting:

- Assessment of environmental impacts related to the Network Upgrade including:
  - Environmental Impact Study requirements
  - Environmental Permitting
- A stormwater easement and/or specific stormwater design BMP's to allow access to and use of the facilities, including a maintenance agreement for said stormwater facilities.
- Conditional Use Permit for Substation
- Any additional land needed for Storm Water Management, Landscaping, and Wetlands/Wetlands Mitigation
- Any other Permitting requirements required by the Network Upgrade

**C. APPENDICES**

- Attachment #1: Preliminary Scoping Summary – Substation AG1-285
- Attachment #2: Preliminary Scoping Summary – Substation Earleys
- Attachment #3: Preliminary Scoping Summary – Transmission
- Attachment #4: Preliminary General Arrangement Plan
- Attachment #5: N9630 Single Line Diagram



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Project Number: N9630 – AG1-285

Project Description: ***Substation Scope of Work*** New 115/230kV Substation and New 230kV Line to Finneywood Substation

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Date: 7/1/2025

Revision Number: 1

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### Project Summary

Project number N9630 provides for the new 115kV/230kV breaker and a half station in Charlotte County, Virginia.

Transmission Line Engineering is to provide a new number for the lines to Finneywood, Central, Chase City, and the 115kV generator interconnect.

#### *Assumptions & Clarifications:*

- 1. The scope of work depicted on the drawings assumes that there is no overlap with other designs and construction activities, except if mentioned in this Project Summary.*
- 2. Relay Settings and P&C design will be revised as part of the SPE Scope of Work.*
- 3. 4-hole pad connections must be replaced with 6-hole and 8-hole pad connections to maintain 5000A ratings.*
- 4. It is assumed that level 3 fence security will be used. If level 1 is necessary, the station will require an estimate update.*

#### **Purchase & install substation material – Network Upgrade:**

1. Approximate station fence line dimensions of 430' x 430'. At a minimum, site preparation and grading will be required to extend 15' beyond these dimensions for station grounding. Additional property and site prep may be required for proper grading and stormwater management, etc.

2. Approximately 1,720 linear ft of 5/8" chain link, 12 ft tall, perimeter fence around the station along with the security cameras and integrators as per design 3 fence standards
3. Two (2), 230-115kV, 224MVA, three phase transmission transformer
4. Two (2), Transformer oil containment
5. Eight (8), 115kV, 3000A, 40kAIC, SF-6 circuit breaker
6. Four (4), 230kV, 4000A, 63kAIC, SF-6 circuit breaker
7. Sixteen (16), 115kV, 3000A, 3-phase center break gang operated switch
8. Eight (8), 230kV, 4000A, 3-phase double-end break switch
9. Eight (8), 115kV, relay accuracy CCVT
10. Five (5), 230kV, relay accuracy CCVT
11. Two (2), 115kV, 2000A wave trap
12. Two (2), line tuner
13. Fifteen (15), 90kV, 74kV MCOV surge arrester
14. Nine (9) 180kV, 144kV MCOV surge arrester
15. Six (6) 18kV, 15.3kV MCOV surge arrester
16. Four (4), 167kVA, 13.2kV-120/240V, station service transformer
17. Two (2), 13.2kV, 25A-E, SMD-20 fuse link
18. Two (2), 13.2kV, 25A-K, SMD-20 fuse link
19. Four (4), 8.3kV, 40A-K, BCL fuse
20. Two (2), 115kV, heavy duty steel backbone (by Transmission)
21. One (1), 230kV, heavy duty steel backbone (by Transmission)
22. Four (4), shield wire poles and three spans of shield wire (by Transmission)
23. One (1), 24' x 70' control enclosure
24. One (1), 125 VDC, 495 Ah station battery and 2-50 Amp charger (size to be verified during detail engineering)
25. Two (2), 38" x 38" x 42" precast yard pull box
26. Approximately 370 ft of cable trough with a 40 ft road crossing section
27. Station stone as required
28. Station lighting as required
29. Steel structures as required including switch stands, bus supports, station service transformers, CCVT and wave trap supports
30. Foundations as required including control house, equipment, and bus support stands
31. Conductors, connectors, conduits, control cables, cable trough, and grounding materials as per engineering standards

**Purchase & install relay material – Network Upgrade:**

1. Two (2), SPR Relay/Aux Package
2. Two (2), 4510 – SEL-2411 transformer annunciator
3. Two (2), 1217 – dual SEL-487E transmission transformer diff panel
4. Seven (7), 1110 – SEL-587/351 bus panel
5. Twelve (12), 4510 – SEL-2411 breaker annunciator
6. Eight (8), 1510 – dual SEL-351 transmission breaker panel w/ reclosing
7. Four (4), 1511 – dual SEL-351 transmission breaker panel w/o reclosing
8. One (1), 1340 – dual SEL-411L CD/Fiber line panel
9. Two (2), 1340 – dual SEL-411L DCB/PLC line panel

10. Three (3), 4506 – 3-phase CCVT potential make-up box
11. Four (4), 4507 – 1-phase CCVT potential make-up box
12. Twelve (12), 4526\_A – Circuit breaker fiber optic make-up box
13. Two (2), 4526\_C - >=84MVA transformer fiber make-up box
14. Seven (7), 4200 – Bus differential CT make-up box
15. Two (2), 4000 – station service potential make-up box
16. Two (2), 4018 – 500A station service AC distribution panel
17. Two (2), 4007 – 225A outdoor transmission yard AC NQOD
18. Two (2), 4019 – 225A 3-phase throw over switch
19. Two (2), 4016 – 600A PVT disconnect switch
20. One (1), 4153c – wall mount station battery monitor
21. One (1), 5618 – SEL-3555 communications panel
22. One (1), 1255 – station annunciator panel
23. One (1), 5021 – SEL-2411 RTU panel
24. One (1), 5609 – fiber optic management panel
25. One (1), 5202 – 26" APP 601 digital fault recorder
26. Ten (10), 4040 – security fiber/power make-up box
27. One (1), 5603 – station network panel no. 1
28. One (1), 5603 – station network panel no. 2
29. One (1), 4051 – power block
30. One (1), 4042\_D1B – security utility – utility ATS
31. One (1), 4044 – 225A 1Ø outdoor main security AC NQOD
32. Two (2), 4040 – 100A 1Ø outdoor security AC NQOD
33. One (1), 5616 – station security panel
34. One (1), 5616 – station security fence panel
35. Two (2), 4018 – 225A station service AC distribution panel branch breaker
36. One (1), high voltage protection (HVP) box (provided by IT) (to be verified during detail engineering)
37. One (1), telephone interface box (to be verified during detail engineering)

The Transmission Owner Interconnection Facilities include the portion of the interconnecting switching station which is associated solely with the single feed to the generating facilities collector station. The equipment associated with the Transmission Owner Interconnection Facilities include the metering accuracy CCVT's, metering accuracy CT's, disconnect switch, conductors and connectors.

**Purchase and install substation material – Transmission Owner Interconnection Facilities Upgrade:**

1. One (1), 115kV, 2000A, 3-phase vertical mounted switch (by Transmission)
2. Three (3), 115kV, metering accuracy CCVT
3. Three (3), 115kV, 500:5 metering accuracy CT
4. Conductor, connectors, conduits, control cables, foundations, steel structures and grounding material as per engineering standards

**Purchase and install relay material – Transmission Owner Interconnection Facilities Upgrade:**

1. One (1), 1340 – 24” dual SEL-411L CD/Fiber line panel
2. One (1), 1425 – 24” dual SEL-735 transmission and generator interconnect metering panel
3. One (1), 4524 – revenue metering CT make-up box
4. One (1), 4506 – 3-phase CCVT potential make-up box with metering (P4)
5. One (1), 1323 – 24” SEL-487E/735 PMU and PQ monitoring panel



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Project Number: N9630 – Finneywood Substation

Project Description: ***SUBSTATION SCOPE OF WORK*** Install one new 230kV Line Position

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Date: 07/01/2025

Revision Number: 0

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### Project Summary

Network Upgrade N9630 provides for the addition of a new 230kV line position at Finneywood Substation in Mecklenburg County, Virginia.

Transmission line engineering is to provide a new number for the new line between Finneywood and AG1-285.

#### Assumption:

Currently, the scope and estimate assume Dominion standard spread footer foundations. Once the soil information is available and it is prudent to change the design to “helical pile foundations” the Dominion team should be informed to adjust the project estimate at the earliest possible opportunity.

#### Purchase and install substation material – Network Upgrade:

1. Two (2), 230kV, 4000A, 63kAIC, SF-6 circuit breaker
2. Two (2), 230kV, 4000A, 3-phase double end break switch
3. Three (3), 180kV, 144kV MCOV surge arrester
4. Three (3), 230kV relay accuracy CCVT
5. One (1), 230kV, heavy duty steel backbone (by Transmission)
6. Station stone as required
7. Station lighting as required
8. Steel structures as required including switch stands, bus supports, and CCVT supports
9. Foundations as required including equipment and bus support stands

10. Conductors, connectors, conduits, control cables, and grounding materials as per engineering standards

**Purchase and install relay material – Network Upgrade:**

1. One (1), 1340 – 24” dual SEL-411L CD/Fiber line panel
2. Two (2), 1510 – 24” dual SEL-351-7 transmission breaker with reclosing panel
3. Two (2), 4510 – SEL-2411 breaker annunciator
4. Two (2), 4526\_A – circuit breaker fiber optic make-up box
5. One (1), 4506 – 3-phase CCVT potential make-up box

230 kV LINE #2XXX  
500 kV LINE #556  
AG1-285 - Finneywood  
PROJECT N9630

**PRELIMINARY SCOPING SUMMARY**

This project serves to construct a new 230 kV line from AG1-285 substation to Finneywood substation following Line #1012's ROW for approximately 1 mile and then Line #556's ROW for approximately 3.5 miles, located in Charlotte and Mecklenburg County, VA. See **Figure 1** for the project location. The new line will be named 2XXX. Line #1012 will remain as is and Line #2XXX will be on separate structures for that section. The existing 3.5-mile span of Line #556 from Structure 556/46 to Finneywood substation will be rebuilt with double circuit 500/230 kV towers and 3-poles to include Line #2XXX. The proposed work will require a right of way of 170' for the span following Line #1012, however the span including Line #556 will all be completed within the existing 150'-250' right of way. A new 120' right of way will be required for Line #2XXX near Finneywood substation. This project will install a total of 28 new structures. CPCN filing is expected.

The existing relevant span of Line #556 consists of single circuit steel 500 kV towers. The proposed structures to be installed are 500 kV - 230 kV double circuit steel towers, 500 kV – 230 kV double circuit double dead-end 3-poles, 230 kV single circuit direct embed H-frames, and 230 kV single circuit double dead-end 3-poles. The conductor wires for Lines #556 & 2XXX will be triple bundled (3) 1351.5 ACSR (45/7) "Dipper" and twin bundled (2) 768.2 ACSS/TW/HS "Maumee", respectively. While Line #2XXX is adjacent to Line #1012, two (2) DNO-11410 OPGW will be used. Two (2) DNO-10100 OPGW will be used starting from when Line #2XXX & 556 are on shared double circuit structures to Finneywood. Single (1) 7#7 Alumoweld shield wire will be used for additional shielding in the substations.

This project assumes that the AG1-285 substation cut-in for Line #1012 and Finneywood substation cut-in and structure addition for Line #556 (992959V1 & 992959V8) have been completed. There will be anticipated outages for Lines #556, 235, 1012, & 2258.

**Design Considerations:**

**EXISTING FACILITIES TO BE REMOVED:**

1. Remove twelve (12) existing single circuit steel 500 kV suspension towers as follows:
  - a. Structures 556/46-556/48, 556/50-556/57, & 556/59.
2. Remove two (2) existing single circuit steel 500 kV running angle towers as follows:
  - a. Structure 556/49 & 556/58.
3. Remove approximately 3.27 miles of triple bundled (3) 1351.5 ACSR (45/7) "Dipper" conductor wire from existing structures 556/46 through 556/59.
4. Remove approximately 3.27 miles of two (2) 7#7 Alumoweld shield wire from existing structures 556/46 through 556/59.

**EXISTING FACILITIES TO BE MODIFIED:**

1. Cut and transfer the existing triple bundled (3) 1351.5 ACSR (45/7) "Dipper" conductor wire

for Line #556 from the back side of existing structure 556/46 to the back side of proposed structure 2XXX/8A (556/45A).

2. Cut and transfer the existing triple bundled (3) 1351.5 ACSR (45/7) “Dipper” conductor wire for Line #556 from the ahead side of existing structure 556/59 to the ahead side of proposed structure 2XXX/23 (556/59A).
3. Cut and transfer the existing two (2) 7#7 Alumoweld shield wire for Line #556 from the back side of existing structure 556/46 to the back side of proposed structure 2XXX/8A (556/45A).
4. Cut and transfer the existing two (2) 7#7 Alumoweld shield wire for Line #556 from the ahead side of existing structure 556/59 to the ahead side of proposed structure 2XXX/23 (556/59A).

**PERMANENT FACILITIES TO BE INSTALLED:**

1. Install five (5) 230 kV single circuit direct embed suspension “DOM” steel H-frames [Reference Drawing 12.555] as follows:
  - a. Structures 2XXX/4-2XXX/8.
  - b. See **Figure 2** for proposed structure configuration.
2. Install two (2) 500 kV - 230 kV engineered steel double circuit double dead-end heavy angle 3-poles [Reference Drawing 15.226] on foundations as follows:
  - a. Structures 2XXX/8A (556/45A) & 2XXX/23 (556/59A).
  - b. See **Figure 3** for proposed structure configuration.
3. Install two (2) 500 kV – 230 kV engineered steel double circuit double dead-end light angle 3-poles [Reference Drawing 15.225] on foundations as follows:
  - a. Structures 2XXX/12 (556/49) & 2XXX/21 (556/58).
  - b. See **Figure 4** for proposed structure configuration.
4. Install twelve (12) 500 kV - 230 kV steel 5-2 LT Towers [Reference Drawing 15.800] on foundations as follows:
  - a. Structures 2XXX/9 (556/46)-2XXX/11 (556/48), 2XXX/13 (556/50)- 2XXX/20 (556/57), & 2XXX/22 (556/59).
  - b. See **Figure 5** for proposed structure configuration.
5. Install one (1) 230 kV single circuit steel backbone [Reference Drawing 12.901] on foundations as follows:
  - a. Structure 2XXX/1 in AG1-285 substation.
  - b. See **Figure 6** for proposed structure configuration.
6. Install three (3) 230 kV engineered steel single circuit double dead-end 3-poles [Reference Drawing 12.158] on foundations as follows:
  - a. Structures 2XXX/2, 2XXX/3, & 2XXX/24.
  - b. See **Figure 7** for proposed structure configuration.
7. Install three (3) steel static poles [Reference Drawing 9.008] on foundations as follows:

- a. Structure 2XXX/1A, 2XXX/1B, & 2XXX/1C.
  - b. See **Figure 8** for proposed structure configuration.
8. Install approximately 4.52 miles of twin bundled (2) 768.2 ACSS/TW/HS “Maumee” conductor wire from proposed backbone 2XXX/1 in AG1-285 substation to existing backbone 2XXX/25 in Finneywood substation.
  9. Install approximately 1.0 mile of two (2) DNO-11410 OPGW from proposed backbone 2XXX/1 in AG1-285 substation to proposed structure 2XXX/8A (556/45A).
  10. Install approximately 3.52 miles of two (2) DNO-10100 from proposed structure 2XXX/8A (556/45A) to existing backbone 2XXX/25 in Finneywood substation.
  11. Install approximately 3.5 miles of triple bundled (3) 1351.5 ACSR (45/7) “Dipper” conductor wire from proposed structure 2XXX/8A (556/45A) to proposed structure 2XXX/23 (556/59A).
  12. Install one (1) 7#7 Alumoweld shield wire as follows:
    - a. Approximately 0.02 miles from proposed backbone 2XXX/1 in AG1-285 substation to proposed static pole 2XXX/1A.
    - b. Approximately 0.02 miles from proposed static pole 2XXX/1B to proposed static pole 2XXX/1C.
  13. Install two (2) OPGW splices on structures as follows:
    - a. Proposed backbone 2XXX/1.
    - b. Existing backbone 2XXX/25.
    - c. Proposed structures 2XXX/2, 2XXX/3, 2XXX/8A (556/45A), 2XXX/12 (556/49), 2XXX/21 (556/58), 2XXX/23 (556/59A), & 2XXX/24.

**CONCEPTUAL SCOPE NOTES:**

1. No PLS-CADD modeling was done for this project. Structures were designed like for like using Lines #1012 & 556’s existing structures and estimated using typical transmission right of way characteristics.
2. Substation arrangement and proposed structure locations are subject to change. This design is based on conceptual substation arrangements for AG1-285 and Finneywood substations provided on 6/19/25. This scope may need to be revised if there are any changes to the conceptual substation designs.
3. Structures are designed based off the following NESC code parameters: NESC Heavy, 90 mph wind, 3/4” Ice & 30 mph wind regardless of project location.
4. It is assumed for detailed engineering that a LiDAR survey will be required.

5. The nearest airport is Chase City Municipal airport approximately 4.5 miles away.
6. Lines #2XXX & 556 cross over Highway 47 (in between structures 556/47 and 556/48) and a railway (in between 556/51 and 556/52).
7. Lines #1012, 235, 2258, & 556 will require outages.
  - a. Lines #2XXX & 556 will cross Line #1012.
  - b. Line #2XXX will cross over 230 kV Lines #235 & 2258.
8. An existing right of way width of 100' for Line #1012 and 150' for Line #556 is assumed based on map viewer.
  - a. For approximately 1.0 mile starting at AG1-285 substation and following Line #1012's span, an additional ROW width of 70-ft is needed to accommodate the installation of Line #2XXX for that span, resulting in a ROW width of 170-ft.
  - b. Line #556's existing 150-ft ROW width from Line #1012's intersection to Finneywood will not need to change.
  - c. A new 120-ft ROW is needed for approximately 0.09 miles between proposed structure 2XXX/23 and Finneywood substation.
9. A wetland delineation has not been completed as part of this conceptual package.
10. This scope is assuming that the existing 3-1351 ACSR is being removed and replaced with a new 3-1351 ACSR conductor. It may be determined in detailed engineering that the existing 500 kV conductor can be transferred to the new structures instead.
11. Wire reel lengths were not accounted for this line design. The assumed pull pad locations to avoid tension splices will be determined during detailed design. 15,000-ft reels may be required in detailed engineering.

#### **CONCEPTUAL ESTIMATE NOTES:**

1. Engineered steel pole costs were determined based off typical wind and weight spans, line angles, and average structure heights in the typical right of way associated with the structure type.
2. Steel pole foundation costs were based off the projects' location and structure type in the regional soil profile map. The regional soil profile map used for this project is Piedmont.

3. The conceptual estimate assumes that a laydown yard is required for this project.
4. Prior to detailed engineering, a full land rights review would be required. A desktop review was completed to estimate the project cost.
5. Forestry estimate cost inputs include the following assumptions:
  - a. Work pad totals based on provided SOW and assumptions from KMZ file. Assume 15 mats for tangents and 30 mats for angles at each work pad for reconductor work and 50 mats per pull pad.
  - b. DDE structures assumed based off wire reel lengths-based off pull pad location.
  - c. Pull pad locations based on location of major road/water crossings and line mileage.
  - d. Assuming that existing stone in substations will be used for access per SOW and that access is existing or will be built by others before the start of construction. Assuming that the substations will be constructed with access roads built to and from substations and work from inside the substations for backbone installation.
  - e. Assumes no delays due to permitting or real estate issues after work begins. Assume no schedule compressions from SOC/PJM.
  - f. Assumes all clearing and forestry costs have been captured by others. No access costs for forestry activities included in this pricing.
  - g. Stream crossing based on estimates from aerial imagery.
  - h. Assuming that all existing roads may be dressed in stone that can remain at the end of the project. Assuming two track roads exist in many locations will be impermeable. No costs for stone road removal are included.
6. Due to the time allotted to create an estimate, stakeholders were not consulted for their respective costs. Stakeholder costs were derived as follows:
  - a. DEES Permitting costs were based on a cost per mile based off comparable projects in the TC#1 Phase 3 Cycle. Project N9217, which is rebuilding 230 kV line 298 from Buckingham Sub to Farmville Sub for approximately 12.73 miles, was used to develop the DEES cost per mile due to similar project scope and location.
  - b. Siting and Permitting costs were derived using the permitting spreadsheet but not verified by the permitting team.
  - c. Real Estate acquisition costs are based on typical cost per acre in the West region of Virginia as provided by the real estate team in 2025.
  - d. Right of Way Management (Encroachment) costs were based on a cost per mile based off comparable projects in the TC#1 Phase 3 Cycle. Project N9217 was used to develop the ROW Management cost per mile due to similar project scope and location.
  - e. Forestry, Rehab, and Access costs were based on a cost per mile based off comparable projects in the TC#1 Phase 3 Cycle. Project N9217 was used to develop the Forestry and Access cost per mile due to similar project scope and location.

- f. Surveying costs were based on the typical cost to acquire approximately ten miles of survey and acquire new right of way. These costs were provided by the surveying team as part of the TC#1 Phase 3 process.
- g. Communications (Marketing Manager) costs are assumed to be Tier 4 - \$300K due to similar scope of work for project N9217.
- h. Telecommunications costs were based on a cost per mile based off comparable projects in the TC#1 Phase 3 Cycle. Project N9217 was used to develop the Telecommunications cost per mile due to similar length of the lines.

**Figure 1 – Project Location**

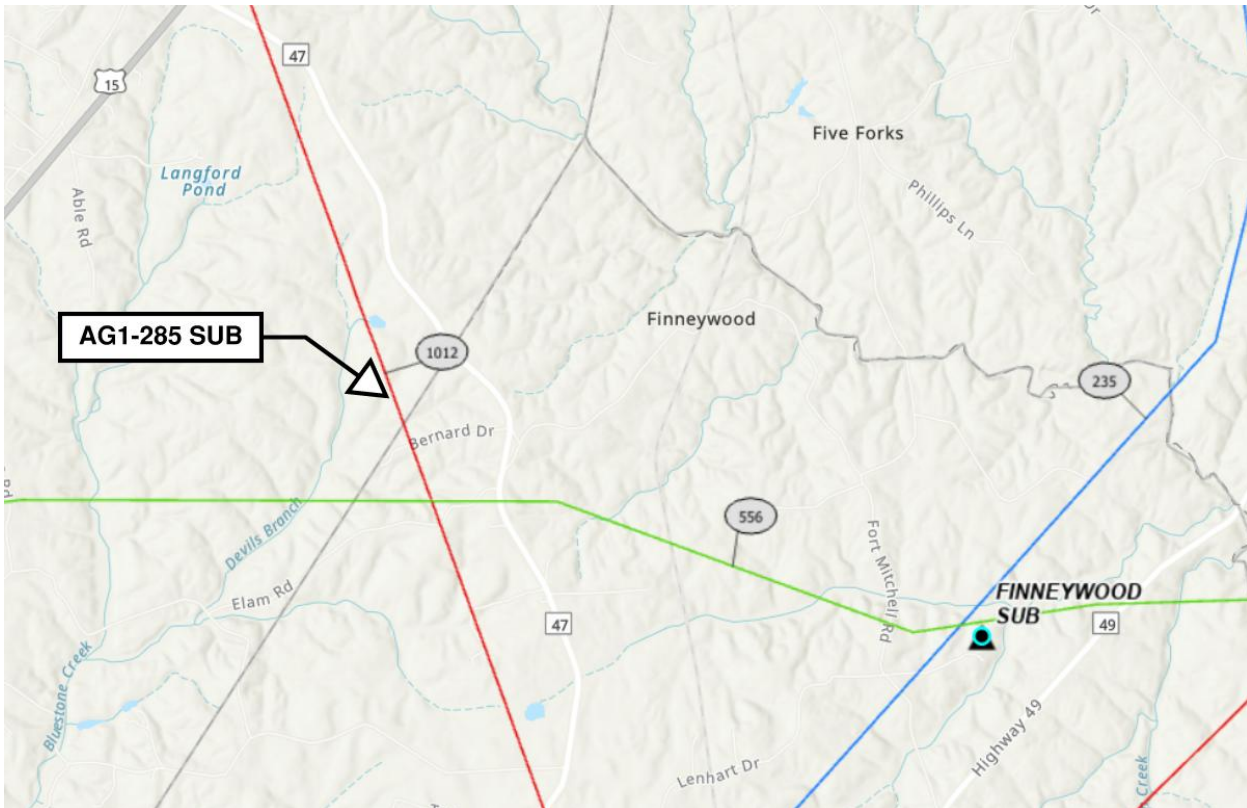


Figure 2 – Proposed Structure Configuration

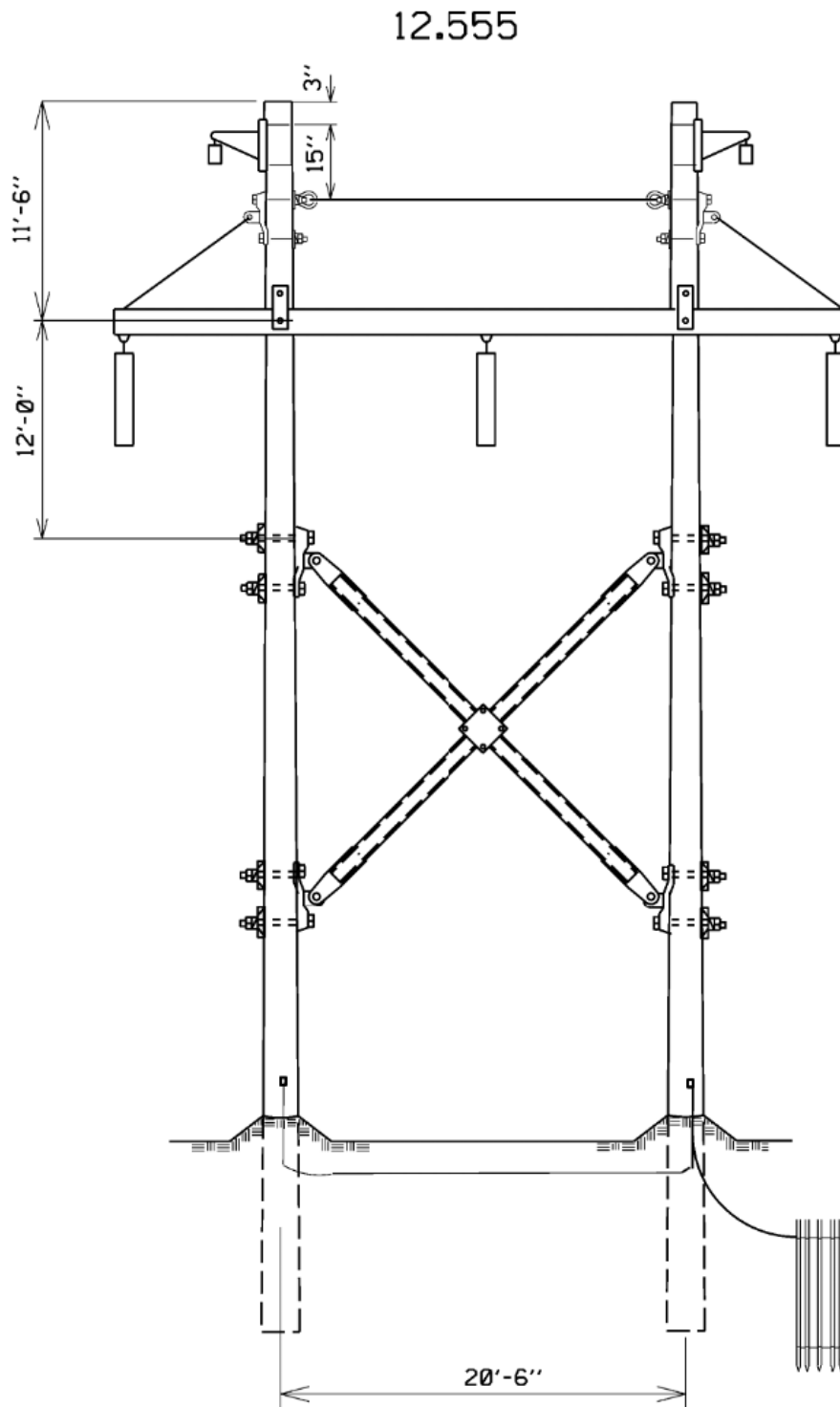


Figure 3 – Proposed Structure Configuration

15.226

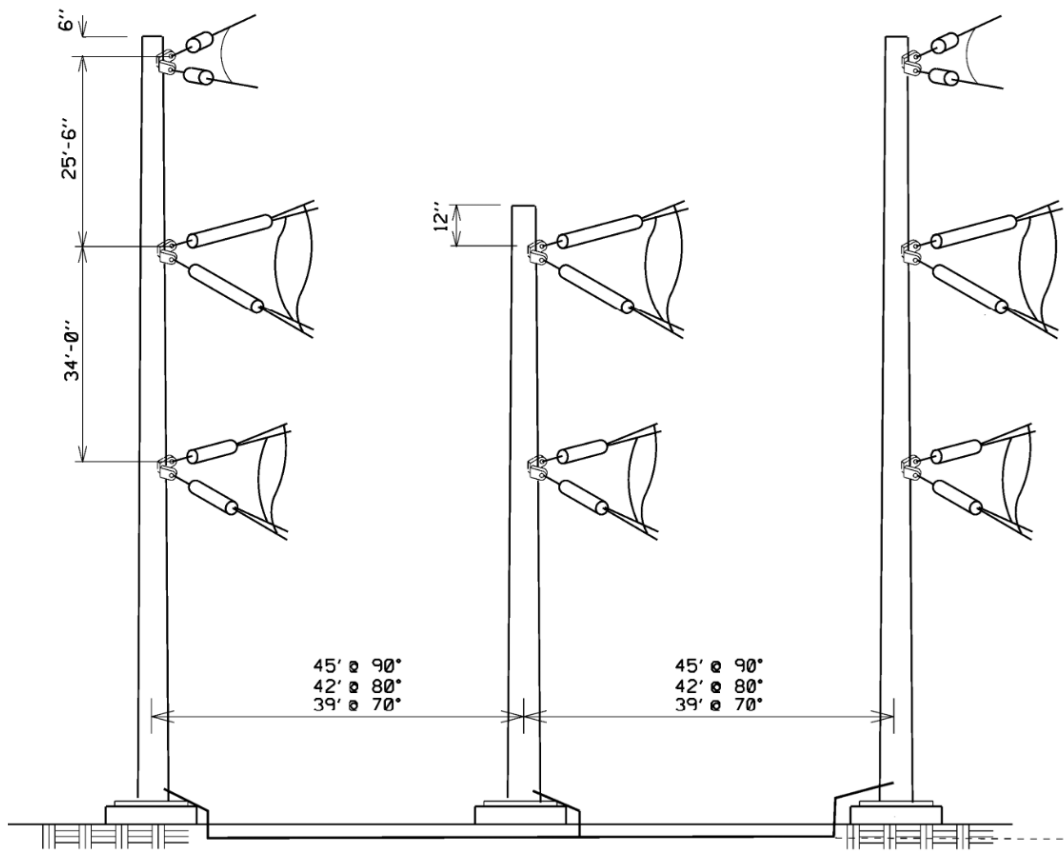
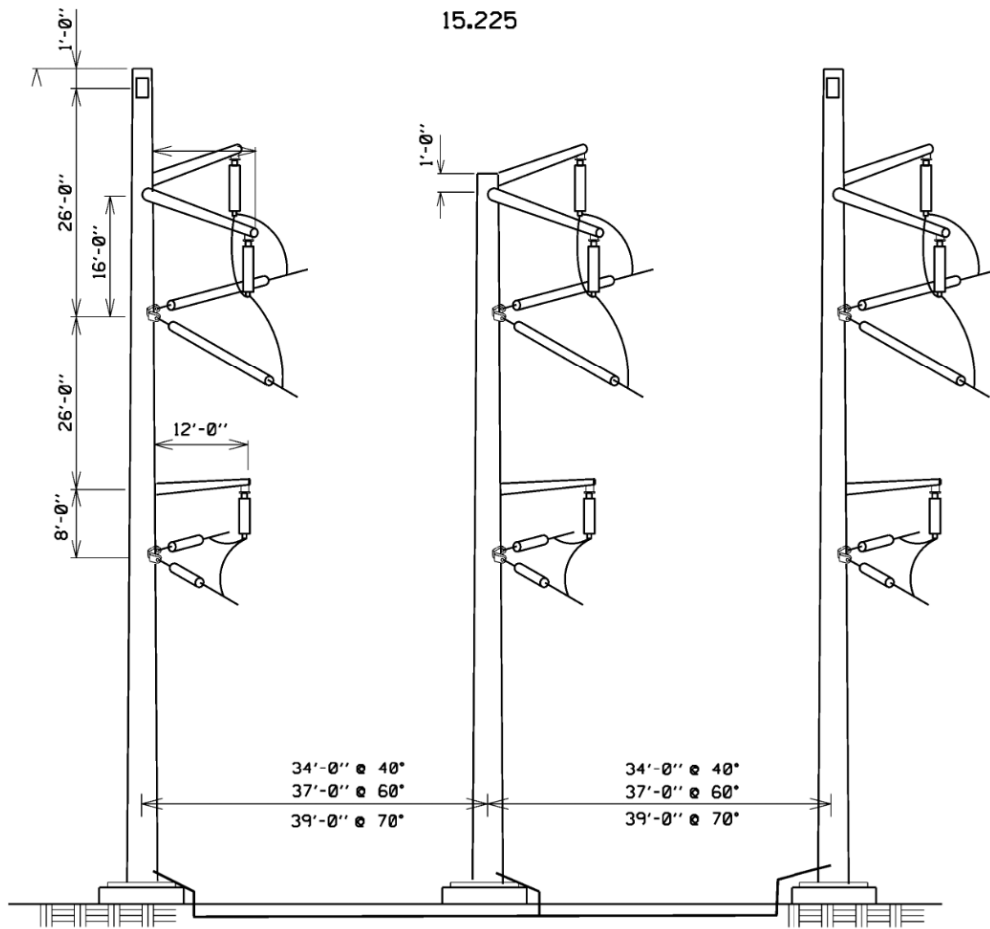


Figure 4 – Proposed Structure Configuration



**Figure 5 – Proposed Structure Configuration**

15.800

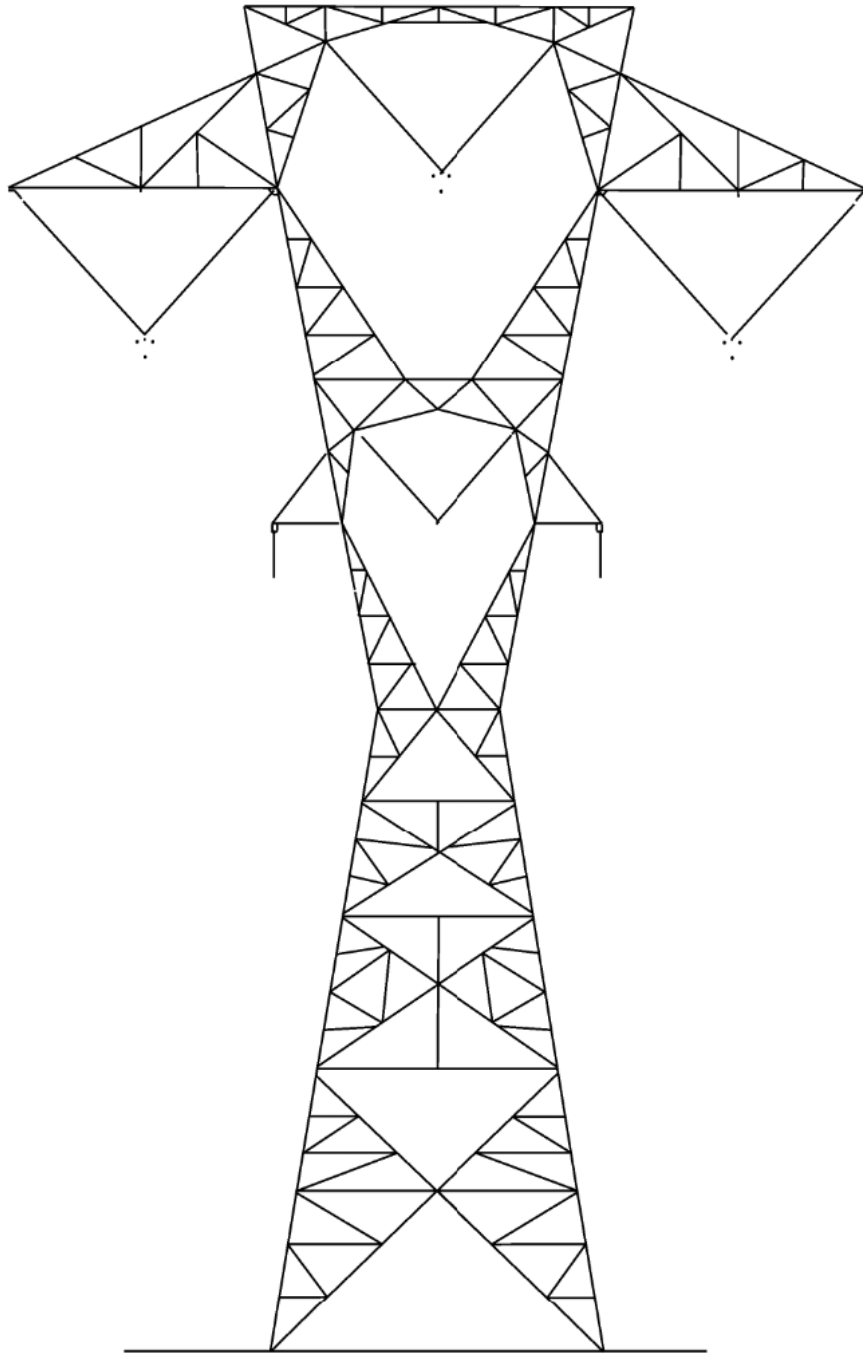


Figure 6 – Proposed Structure Configuration

12.901

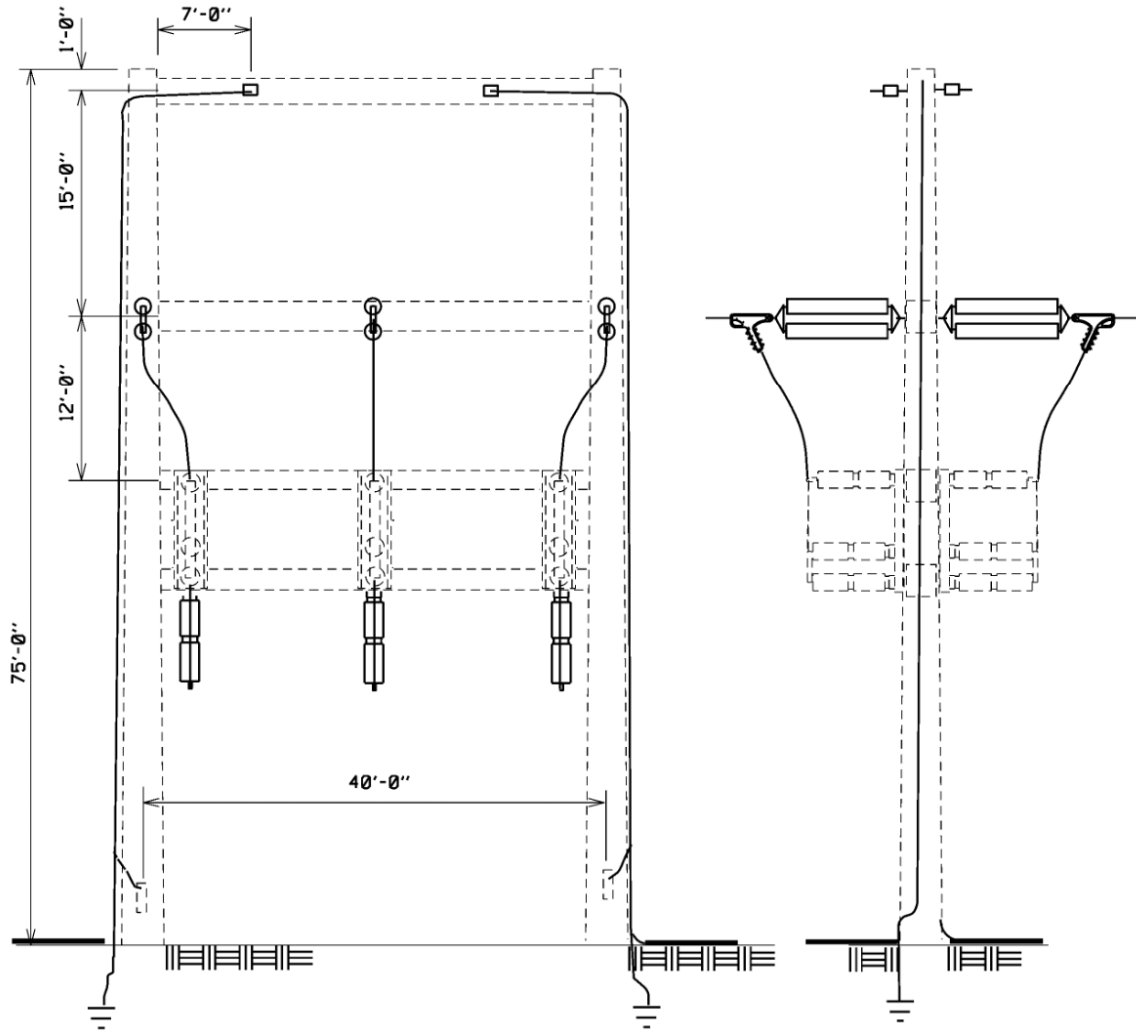


Figure 7 – Proposed Structure Configuration

12.158

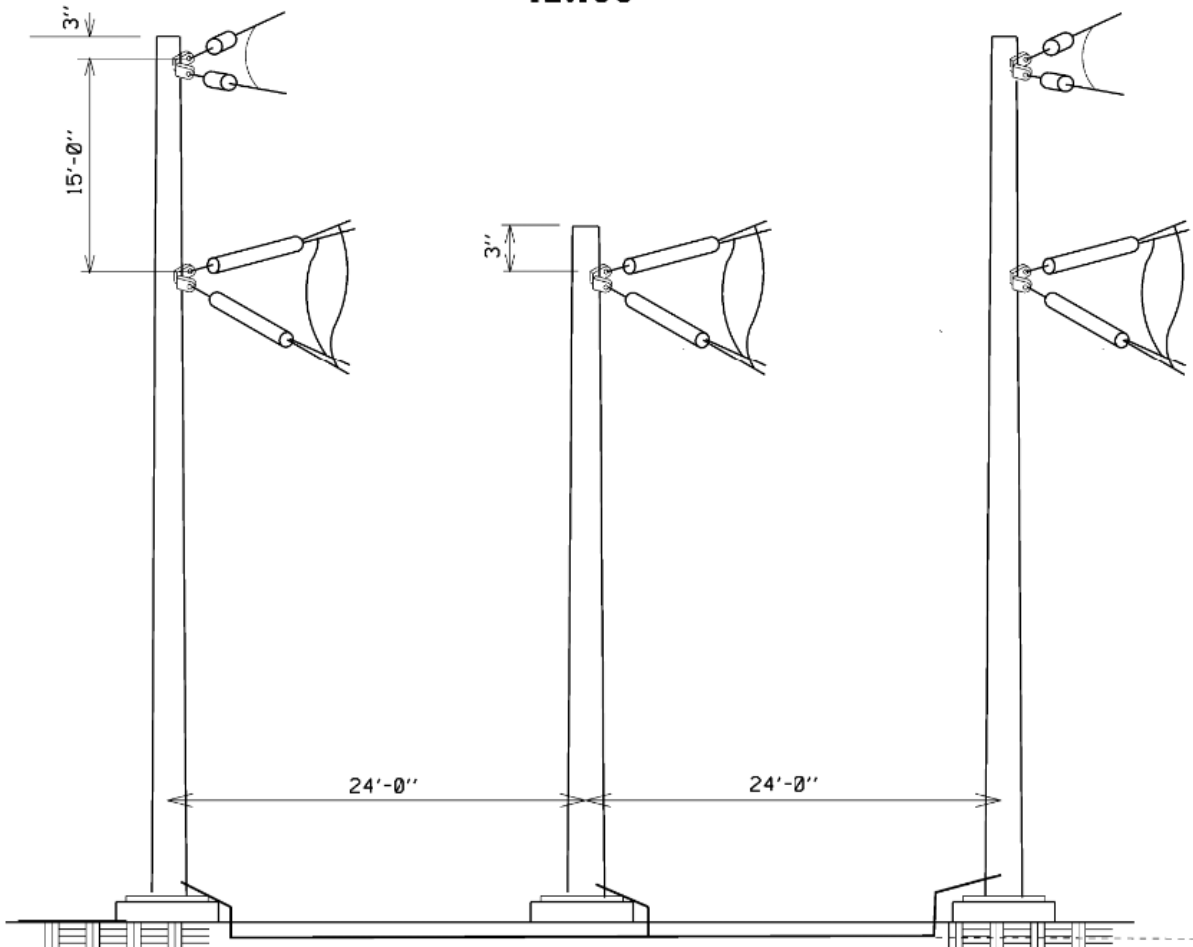
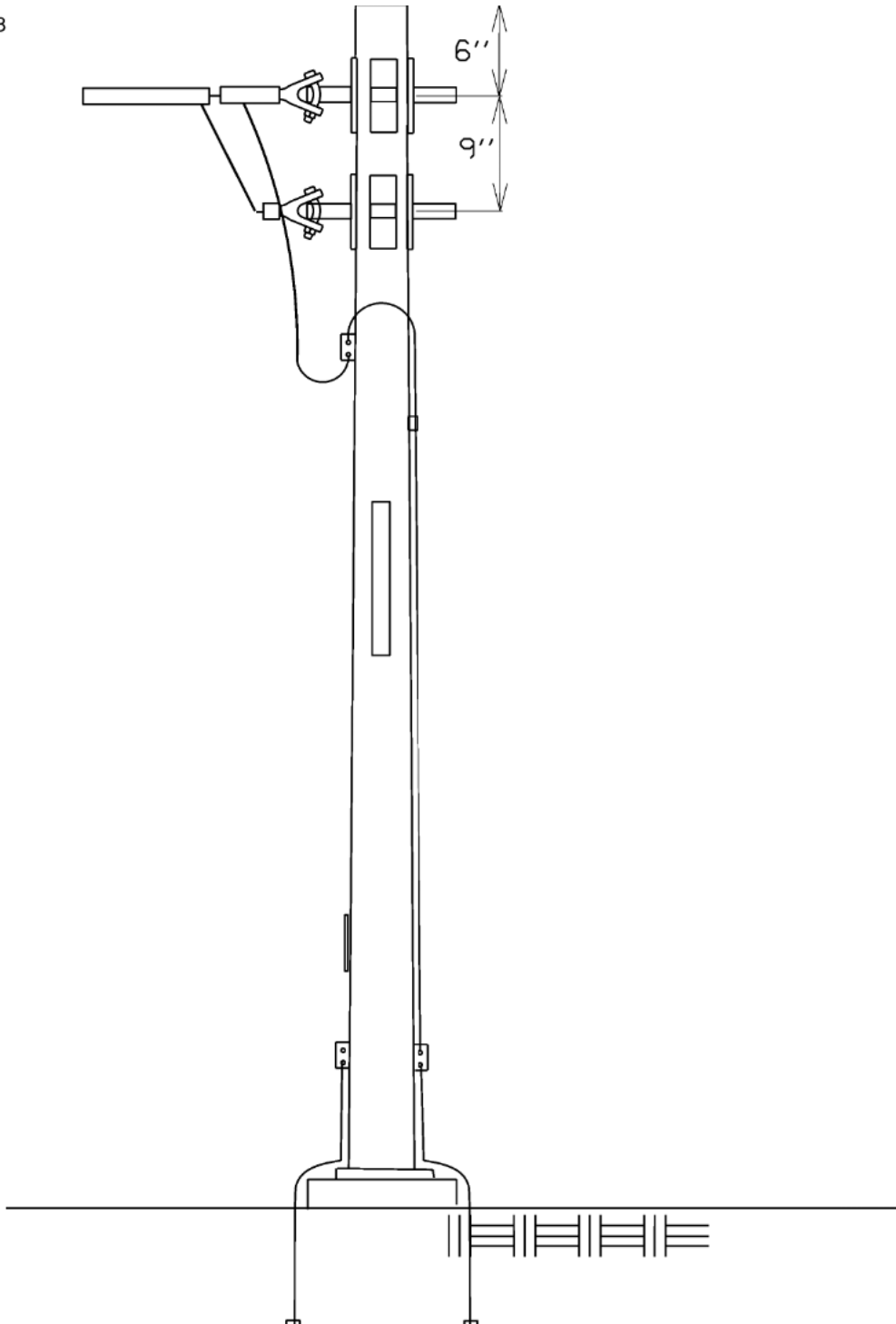


Figure 8 - Proposed Structure Configuration

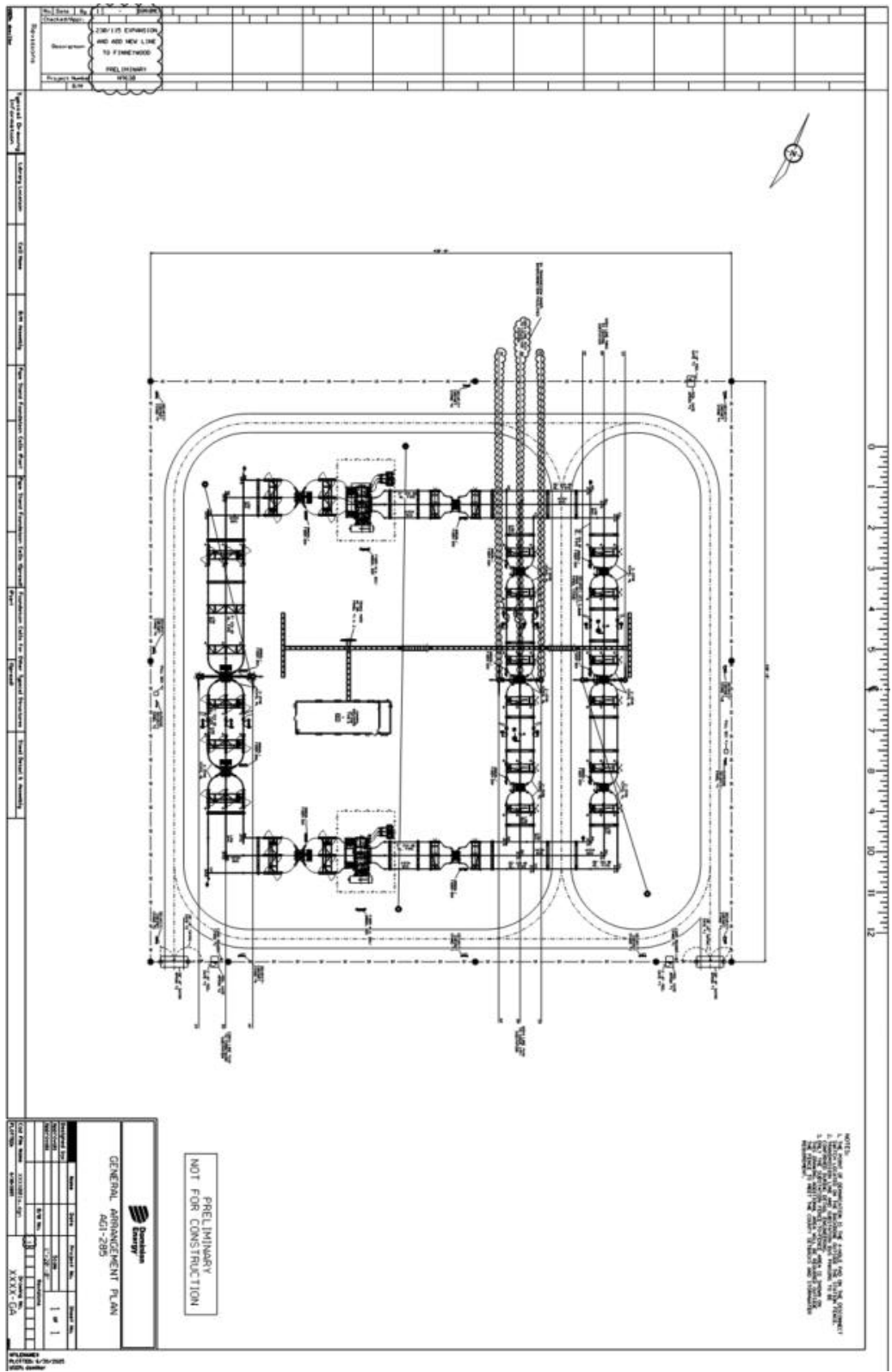
9.008



### Required Material Summary

Item	Qty
Backbones	1
Static Poles	3
Engineered Structures	7
Lattice Towers	12
DOM Poles	5
7,100-Ft Static Reels	1
12,000-Ft DNO-11410 OPGW	2
12,000-Ft DNO-10100 OPGW	4
12,000-Ft 768.2 ACSS/TW/HS "Maumee"	14
12,000-Ft 1351.5 ACSR (45/7) "Dipper"	18

Attachment #4



Attachment #5

