



AMELIA COUNTY PLANNING COMMISSION

Regular Meeting

County Administration Conference Room

16360 Dunn Street,
Amelia, Virginia 23002

Monday, July 24, 2023
7:30 P.M.

AGENDA

Action Needed

- | | | |
|----|--|---------------|
| 1. | Call to Order and Welcome of Guests: Larkin Moyer, Chairman | Call to Order |
| 2. | Determination of Quorum | Quorum |
| 3. | Approval of Minutes | |
| | I. Regular Meeting June 26, 2023 | Motion |
| 4. | Old Business | |
| | I. Rezoning Request - Dutch Gap & Grill LLC (R-1 to
Planned Community District) | Motion |
| 5. | New Business | |
| | I. Public Hearing - Special Exception Request - David
Deans (Detached Dwelling Unit) | Motion |
| | II. Public Hearing - Special Exception Request - Amelia
County Department of Emergency Management
(Wireless Towers in excess of 80') | Motion |
| | III. Public Hearing - Zoning Text Amendment - (List
"mining of minerals, other than coal" as special
exception use instead of a permitted use) | Motion |
| 6. | Chairman Comments | |
| 7. | Informational | |
| 8. | Adjournment | |

SPEAKER RULES OF PROCEDURE

Please respect all speakers and allow all opinions to be expressed in a tolerant atmosphere.

- a) Speakers may speak only once during a specific comment time and all comments should be directed to the Planning Commission.
- b) Speakers should approach the podium so they may be visible and audible to the Commission.
- c) Each speaker should clearly state his/her name and address.
- d) All questions should be directed to the Chairman. Speakers are encouraged to contact staff regarding unresolved concerns or to receive additional information.
- e) Speakers should be brief and avoid repetition of previously presented comments.

VIRGINIA: AT A REGULAR MEETING OF THE AMELIA COUNTY PLANNING COMMISSION HELD IN THE CONFERENCE ROOM OF THE COUNTY ADMINISTRATION BUILDING ON MONDAY, JUNE 26, 2023, AT 7:30 P.M.

PRESENT: LARKIN MOYER- Chairman
ROY EASTER – Vice-Chairman
JERRY “WHIT” MORRIS
DENNIS RAMSEY
RICHARD CUMBIE, JR.
JOHN AARON
MICHAEL BATES
TRAVIS BARNARD
JUAN WHITTINGTON
JENNIFER HARRIS
DAVID FELTS, JR. – Board of Supervisors Representative

ABSENT: JERRY “WHIT” MORRIS

Amelia County Planning Commission

BRADY DEAL, Director of Community Development

I. CALL TO ORDER

Chairman Moyer called the meeting of the Amelia County Planning Commission to order at 7:30 p.m.

II. DETERMINATION OF QUORUM

Chairman Moyer declared there was a quorum with 10 of 11 members present at 7:30 p.m.

III. APPROVAL OF MINUTES

Vice-Chairman Easter made a motion, seconded by Commissioner Bates that the Planning Commission approve the minutes of the April regular meeting.

The motion carried 10-0 recorded as follows: Larkin Moyer- AYE, John Aaron- AYE, Dennis Ramsey- AYE, Juan Whittington- AYE, Michael Bates- AYE, Travis Barnard- AYE Jennifer Harris- AYE, Roy Easter- AYE, Richard Cumbie- -AYE, David Felts- AYE.

IV. OLD BUSINESS

Mr. Deal stated that the EDA rezoning of the property on Richardson Road and the sawmill special exception filed by Esteban Yoder were approved by the Board of Supervisors at their June Regular Meeting.

V. NEW BUSINESS

Public Hearing – Rezoning – Dutch Gap Gas & Grill– R-1 to Planned Community District (PCD)

Mr. Deal provided the staff report, stating that the applicant, Dutch Gap Gas & Grill, is requesting a rezoning of property located on Dunn Street (Route 1002), TM 31-110 & 31-111, which is approximately 18.61 acres. He added that the property is located in the Village Development Area according to the Future Land Use Map in the Comprehensive Plan.

Mr. Deal provided an overview of the differences between the current R-1 Zoning and the requested PCD Zoning. Most importantly, he stated that the PCD Zoning had decreased lot development regulations such as reduced lot size requirements and reduced setbacks. He added that a subdivision is a by-right use in the R-1 but the maximum development on the property due to the more restrictive lot development regulations would be about 20-25 versus approximately 50 potential lots if the property was rezoned to PCD.

Mr. Deal then presented information on a PowerPoint such as the property GIS imagery, flood plain map, wetland map, and the conceptual plan of development. He mentioned the water and sewer capacity and detailed the lines that this development would connect into. He also outlined the on-site proffers that the applicant had made which included community sidewalks, a pavilion, fireplace/fire pits, a patio outside of pavilion, a raised garden bed area, storage sheds, and that only single-family detached dwellings would be built. Lastly, Mr. Deal provided an overview of the Traffic Impact Analysis (TIA) that the applicant completed and VDOT's comments on that information. In the statements on the VDOT information, Mr. Deal mentioned that the current plan of development only shows one entrance and that for the road system to be accepted by VDOT the development would need two entrances.

Mr. Adam Wilkerson, Area Land Use Engineer of the Chesterfield Residency, spoke regarding the TIA and provided more detailed information regarding the review process and VDOT's comments. In general, VDOT believed the level of service could be adequately handled by the road at its current construction but they did request the applicant confirm the road width as it is listed as variable in the VDOT records. Furthermore, he iterated that VDOT recommended the addition of stop bars on the Eastern and Western portions of Dunn Street that intersect with Five Forks Road.

Chairman Moyer opened the public hearing at 8:01 p.m.

Dale Grigg (16201 Dunn Street), spoke mainly regarding the traffic that the development would create. He did not oppose the project but wanted to encourage the County to ensure that the traffic increase was adequately considered and mitigated with improvements as necessary.

Martin Konkell (16211 Church Street), spoke regarding a well developed stream that runs along the backside of the property. He stated that the Cul-de-Sac depicted on the conceptual plan of development would impact that stream. He also thought it would be sensible planning for the houses to be backyard to backyard.

Mike Smith (6720 Bridgeforth Lane), spoke in favor of the project noting increased real estate taxes, support for local businesses, and hoped that it would add membership to local churches.

Mr. Deal read a letter sent in by David Keener (Amelia Avenue) who wrote in favor of the project. Jennifer Lowry (16236 Dunn Street), was not opposed to the project but was concerned regarding the quantity of housing and also wanted to preserve some of the natural trees/landscape as a buffer.

Raymond Gallagher (16230 Dunn Street), stated that the main concern for many of the local residents was having a buffer between the existing homes and new homes. He stressed that a good green barrier to help maintain privacy but that he felt the new development would be an advantage.

Anne Reames (16220 Dunn Street), stated that she has grown to not like her large yard due to the amount of mowing in the summer and therefore was not concerned about the proposed density of the development.

Chairman Moyer closed the public hearing at 8:20 p.m.

Commissioner Easter had some questions for the representative of Dutch Gap Gas & Grill, Emily Hayzlett, and she came to the podium to respond..

Commissioner Easter asked what they would plan on doing to maintain privacy and buffers.

Ms. Hayzlett stated that there are some natural buffers that already exist that they would seek to keep. Also, once they were in the site plan review process, they would work to implement as many measures as possible to protect current residents and future residents.

Commissioner Easter asked if there would be a privacy fence separating the two neighborhoods.

Ms. Hayzlett stated that currently they have portrayed an extended entrance into the community which would allow for a separation between the existing homes and new potential homes. She stated that the entrance would feature landscaping and that there would be other measures such as vegetative buffers.

Commissioner Easter asked if they intended to construct sidewalks.

Ms. Hayzlett stated that she liked the idea but did not have a plan in place at this time. She stated they would need to examine the width of VDOT's right-of-way and the overall cost.

Commissioner Easter stated that he would not be in favor of the rezoning unless sidewalks are constructed.

Commissioner Whittington stated that the housing layouts provided in the documentation showed 3 and 4 bedroom layouts. He stated that if the development was going to be marketed to seniors he felt that there needed to be more options suitable for those individuals.

Commissioner Felts stated that he did not want the neighborhood to have privately maintained roads due to the issues the County has experienced in the past. He asked if this development would be eligible for state maintenance.

Mr. Deal stated that he would defer to the VDOT representative in attendance for confirmation but it was his understanding that the development would either need a second entrance or a stubbed area of pavement that could potentially be developed into a second entrance in the future for VDOT to accept it in the secondary road system.

Commissioner Cumbie asked how long it would take for the applicant to determine if they could get a second entrance so that VDOT could accept maintenance of the roadways.

Ms. Hayzlett stated that she hoped the matter could be resolved within the next few weeks.

Commissioner Bates asked where the applicant would intend to have a second access point.

Ms. Hayzlett stated that they have a u-shaped space of road frontage on Dunn Street and they would use the side currently shown as an undeveloped open space.

Commissioner Barnard stated that he heard there could potentially be a sidewalk constructed through the property owned by DCT.

Ms. Hayzlett stated that they did like the idea of that but did not currently have an easement through that property to employ such activity.

Chairman Moyer asked the Commissioners if they had any more comments, questions, and/or concerns.

Commissioner Easter made a motion, seconded by Commissioner Aaron, to defer the item until the next meeting due to concerns over the second entrance, sidewalk, and privacy buffers.

The motion carried 10-0 recorded as follows: Larkin Moyer- AYE, John Aaron- AYE, Dennis Ramsey- AYE, Juan Whittington- AYE, Michael Bates- AYE, Travis Barnard- AYE Jennifer Harris- AYE, Roy Easter- AYE, Richard Cumbie- -AYE, David Felts- AYE.

VI. CHAIRMAN'S COMMENTS

VII. INFORMATIONAL

Chairman Moyer asked Mr. Deal to provide information on the effort being worked on by the CRC as it pertains to a Regional Economic Development Organization.

Mr. Deal provided an overview of what a Regional Economic Development Organization does and how Amelia could benefit from being a member of one. He then outlined the process that the CRC was going through with a consultant to formulate a strategic plan oriented towards forming an organization of this type.

VIII. ADJOURNMENT

There being no further business to come before the Planning Commission, Chairman Moyer adjourned the meeting at 8:49 p.m.

Larkin Moyer, Chairman
Amelia County Planning Commission

ATTEST:

Brady Deal
Director of Community Development



AMELIA COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT SUMMARY REPORT

Meeting Date: July 24, 2023

SUBJECT

David Deans (the “Applicant”), requests a Special Exception Permit for a Detached Dwelling Unit per section 325-7.3 of the Amelia County Code for property located on the Southside of Patrick Henry Highway (Route 360) and off of Rock Castle Lane (Route 608) at 10670 Rock Castle Lane, Amelia Court House, VA 23002, identified as TM 45-10H on the Amelia County Real Property Identification map. The property is zoned RP-5 Rural Preservation, and the Amelia County Comprehensive Plan shows the property is located in the Rural Preservation Area.

SUMMARY OF INFORMATION:

The applicant is requesting this detached dwelling unit for a disabled parent. He will be constructing a separate drainfield as depicted on the proposed survey included in the agenda packet. At this point, he has not decided exactly on the type of house that he would like to construct.

PUBLIC HEARINGS

Planning Commission Public Hearing July 24, 2023

SUMMARY OF FACTS

Applicant:	David Deans
Land Owner:	David Deans
Proposed Use:	Detached Dwelling Unit
Location:	On the Southside of Patrick Henry Highway (Route 360) and off of Rock Castle Lane (Route 608) at 10670 Rock Castle Lane, Amelia Court House, VA 23002, identified as TM 45-10H on the Amelia County Real Property Identification map.
Acreage:	7.37 acres
Existing Zoning:	RP-5 Rural Preservation

SPECIAL EXCEPTION PERMIT APPLICATION NUMBER: SEP23-06

Proposed Zoning: RP-5 Rural Preservation

Comprehensive Plan: This property is located in the Rural Preservation Area

Surrounding Zoning: RP-5 Rural Preservation

Utilities: n/a

Wetlands Impact: n/a

Zoning History: RP-5 Rural Preservation

RECOMMENDATION:

Review and (PC) provide recommendation to the Board of Supervisors

PAID

JUN 30 2023

Treasurer- Amelia Co.

Code: CACONU



Application for Special Exception Permit

Date: 6/30/2023 File Number: 23-08

Application Fee Paid: \$300.00

Applicant: David & Dawn Deans Phone: 1-804-855-4209
Applicant Address: 10670 Rock Castle Ln, Amelia, VA 23002
Email: ddeans@HBSurveying.com

Owner: David & Dawn Deans Phone: 1-804-855-4209
Property Address: 10670 Rock Castle Ln, Amelia, VA 23002
Email: ddeans@HBSurveying.com

Property Information:

Tax Map Number: 45-104 Acreage: 7.37

Subdivision: YES ☒ NO ☐ Zoning District: RP-5 Deed restrictions: YES ☐ NO ☐

Access to Property (easement, public road, private road): Rock Castle Road

The applicant requests a permit to locate the following use on the above-referenced property, as permitted by Section 7.3 of the Amelia County Zoning Ordinance.

Detached Dwelling Unit (Mother in Law)

FOR OFFICE USE ONLY:

Public Notice Dates: 7/6 & 7/13

Board of Supervisors Mtg Date: _____

Planning Commission Hearing Date: 7/24

Board of Supervisors Decision: _____

Planning Commission Recommendation: _____

Permit Signed by Applicant/Owner: _____

IMPROVEMENTS PROPOSED

Describe briefly the improvements proposed on the property. State whether new buildings are to be constructed, existing buildings are to be used and/or renovated or additions are to be made to existing buildings. Please include a plat, conceptual layout, and/or sketch plan demonstrating the proposed improvements.

New dwelling For disabled parent, driveway and drainfield.

PROTECTION TO ADJOINING PROPERTY

Describe the effects of the proposed use on adjacent properties and the surrounding neighborhood. What protection will be offered to adjoining property owners?

ENHANCEMENT OF COUNTY

How will this requested change be advantageous to the County?

Additional Revenue

PLAN

Furnish a plan showing boundaries and dimensions of the property, width of abutting rights-of-way, location and size of buildings on the site, roadways, walks, off street parking and loading spaces, landscaping, etc. A conceptual layout of the proposed changes is also required.

STATE OF VIRGINIA
COUNTY OF AMELIA

to wit

I, DAVID A DEANS, being duly sworn, depose and say that I am the Lessee/Owner of the property involved in the application. If I am not the Lessee/Owner, I will produce a copy of a contract to purchase the property or right to submit this application. I further declare that I have familiarized myself with respect to preparing and filing the application and that the foregoing statements and answers herein contained and the information on the attached sheets thoroughly and to the best of my ability present the argument on behalf of the applicant herewith requested and that the statements and information above referred to are in all respects true and correct to the best of my knowledge and belief.

Signed: 

Subscribed to and sworn before me on this 30 day of JUNE 2023.


Notary Public

8/31/2023
My Commission Expires



STATEMENT FOR VALIDITY OF INFORMATION

Every applicant shall sign the following document to substantiate the validity of submitted information.

STATE OF VIRGINIA
COUNTY OF AMELIA to wit

I, Dawn Deans, being duly sworn, depose and say that I am the lessee/owner of the property involved in the application. If I am not the Lessee/Owner, I will produce a copy of a contract to purchase the property or I will present written certification contract To purchase the property or I will present written certification from the owner granting me the right to submit this application. I, declare that I have familiarized myself with the rules and regulations pertaining to preparing and filing this application. I further declare that the foregoing statements and answers provided throughout the various sections of this application are in all respects true and correct to the best of my knowledge and belief.

Signed: Dawn Deans

Print Name: Dawn Deans

Subscribed and sworn before me this 30th day of June, 20 23.

Maribeth A. Smith
Notary Public

8/31/2023
My Commission Expires



OWNERSHIP DISCLOSURE

Please list below the names and addresses of all owners or parties in interest of the land subject to this request:

NOTE: If this request is in the name of a corporation, artificial person, joint venture, trust, or other form of ownership, all officers, directors, and any stockholders owning ten percent or more of such stock must be listed.

NAME:

ADDRESS:

DAVID DEANS 10670 Rock Castle Lane

I, DAVID A DEANS, do hereby swear and affirm that to the best of my knowledge and belief, the above information is true and that I am the applicant for this request for parcel number(s) 45-104 of tax map number(s) _____ requesting a Special Exception Permit. If the information above changes at any time while this request is being considered, I will provide the County with an updated list.

Signature: 

STATE OF VIRGINIA
COUNTY OF AMELIA

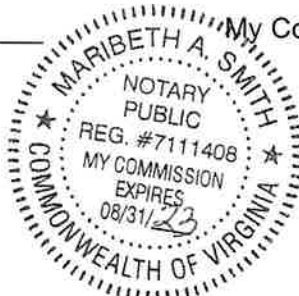
to wit

This day June 30, 2023 personally appeared before me, Maribeth Smith, a Notary Public in and for the County and State aforesaid, and swore or affirmed that the matters stated in the foregoing Ownership Disclosure are true to the best of his/her knowledge and belief.

Given under my hand this 30th day of June, 20 23.

Maribeth Smith
Notary Public

My Commission Expires: 8/31/2023



APPLICANT'S PERMISSION FOR INSPECTION OF PROPERTY

I, DAVID A. DEAN, hereby grant access to the Planning Director, Zoning Administrator, or assigns thereof, to enter my property during reasonable hours without prior notice to make inspections as deemed necessary for the evaluation of my application for

(Circle One) Special Exception Permit

Rezoning

Variance

[Signature]

Applicant's Signature

6-30-23

Date

Subscribed and sworn to before me this 30th day of June, 20 23.

[Signature]

Notary Public

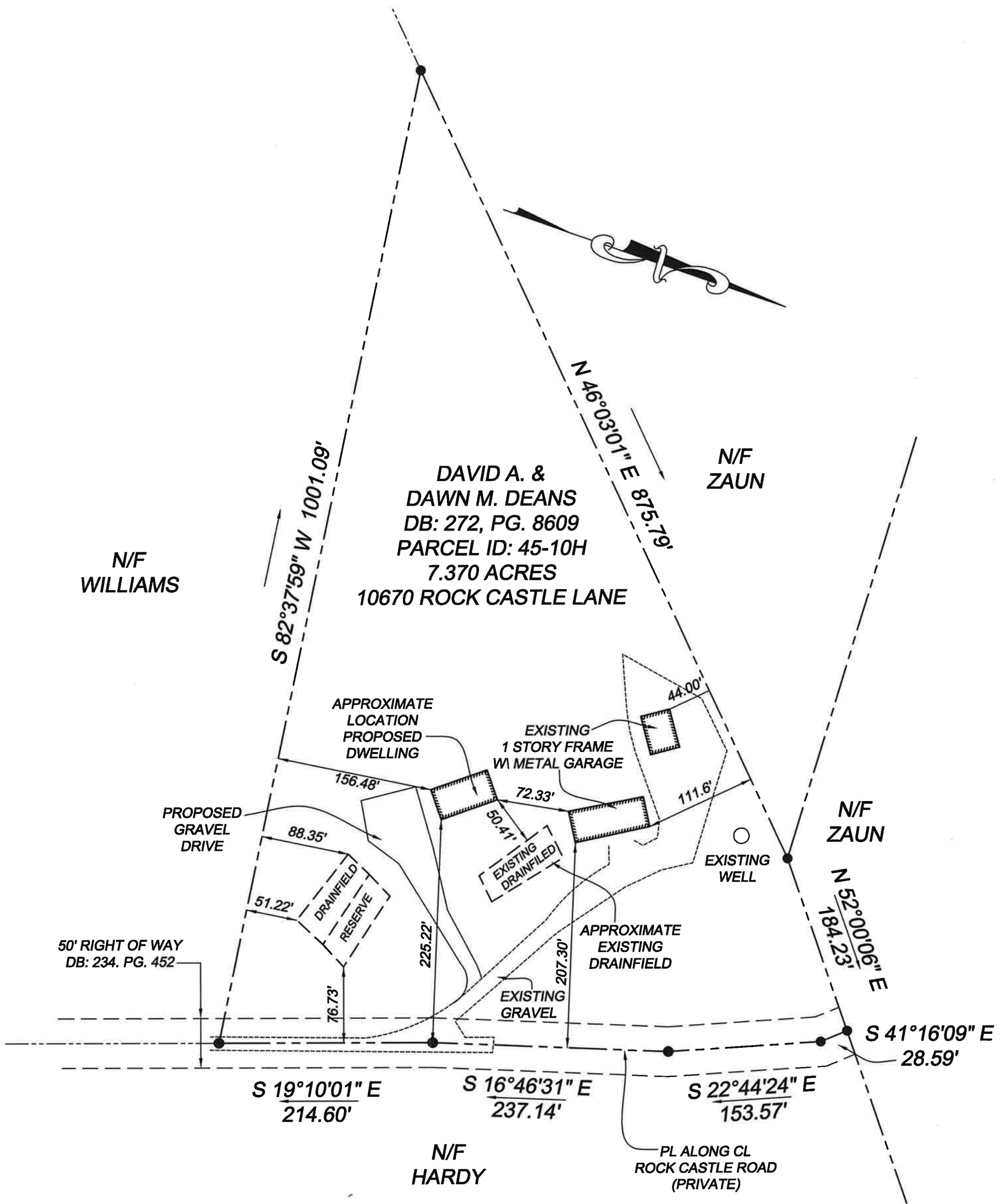
8/31/2023

Commission Expiration Date

7111408

Notary Registration Number





SCALE 1"=100'

EXHIBIT SHOWING
**A PROPOSED HOUSE
AND DRAINFIELD LOCATION
ON PARCEL ID: 45-10H**
AMELIA COUNTY, VIRGINIA



AMELIA COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT SUMMARY REPORT

Meeting Date: July 24, 2023

SUBJECT

Amelia County Emergency Management (the “Applicant”), requests a Special Exception Permit for two Wireless Support Structures in excess of 80 feet per section 325-6.3 and 325-18.3 of the Amelia County Code at the following locations: Property located on the Northside of Patrick Henry Highway (Route 360) and at the intersection of South Genito Road (Route 616) and Soap Stone Road (Route 645) at 7761 South Genito Road Jetersville, VA 23083, identified as TM 37-47A on the Amelia County Real Property Identification map. The property is zoned A-5 Agricultural, and the Amelia County Comprehensive Plan shows the property is located in the Rural Preservation Area. Property located on the Southside of Genito Road (Route 616) at the intersection of Virginia Street (Route 1009) and Dunn Street (Route 1002) at 16410 Dunn Street, Amelia Court House, VA 23002, identified as TM 31-84 on the Amelia County Real Property Identification Map. The property is zoned B-1 Business, and the Amelia County Comprehensive Plan shows the property is located in the Village Development Area.

SUMMARY OF INFORMATION:

The applicant is requesting to construct two new towers that will be used for the Dispatch Radio System update that the County is completing in collaboration with Motorola. The tower adjacent to the Convenience Center on Soap Stone Road will be 240 feet tall and the tower adjacent to the Emergency Operations Center on Dunn Street will be approximately 155 feet tall. A complete overview of each tower is provided in the construction drawings included in the agenda packet.

PUBLIC HEARINGS

Planning Commission Public Hearing July 24, 2023

SUMMARY OF FACTS

Applicant:	Amelia County Department of Emergency Management
Land Owner:	Amelia County
Proposed Use:	Wireless Support Structures in excess of 80’
Location:	Property located on the Northside of Patrick Henry Highway (Route 360) and at the intersection of South Genito Road (Route 616) and Soap Stone

SPECIAL EXCEPTION PERMIT APPLICATION NUMBER: SEP23-06

Road (Route 645) at 7761 South Genito Road Jetersville, VA 23083, identified as TM 37-47A on the Amelia County Real Property Identification map. The property is zoned A-5 Agricultural, and the Amelia County Comprehensive Plan shows the property is located in the Rural Preservation Area.

Property located on the Southside of Genito Road (Route 616) at the intersection of Virginia Street (Route 1009) and Dunn Street (Route 1002) at 16410 Dunn Street, Amelia Court House, VA 23002, identified as TM 31-84 on the Amelia County Real Property Identification Map. The property is zoned B-1 Business, and the Amelia County Comprehensive Plan shows the property is located in the Village Development Area.

Acreage: 2 acres (37-47A) / 6.892 acres (31-84)

Existing Zoning: A-5 (37-47A) / B-1 (31-84)

Proposed Zoning: A-5 (37-47A) / B-1 (31-84)

Comprehensive Plan: This property is located in the Rural Preservation Area

Surrounding Zoning: (37-47A) – A-5 / (31-84) – B-1 & R-1

Utilities: n/a

Wetlands Impact: n/a

Zoning History: A-5 (37-47A) / B-1 (31-84)

RECOMMENDATION:

Review and (PC) provide recommendation to the Board of Supervisors



Application for Special Exception Permit

Date: 6/23/23 File Number: 23-09

Application Fee Paid: N/A

Applicant: Amelia County Emergency Management Phone: 804-561-3914, Kent Emerson

Applicant Address: 16410 Dunn Street, Amelia, VA 23002

Email: _____

Owner: Board of Supervisors of Amelia County Phone: _____

Property Address: 7761 S. Genito Road, Jetersville, VA 23083

Email: _____

Property Information:

Tax Map Number: 37 Parcel ID 37-47A Acreage: 2

Subdivision: YES ☒ NO Zoning District: A-5 Deed restrictions: YES ☒ NO

Access to Property (easement, public road, private road): Public Road

The applicant requests a permit to locate the following use on the above-referenced property, as permitted by Section 6.3 of the Amelia County Zoning Ordinance.

Amelia County is implementing a new P25 Public Safety Radio System to replace their legacy analog conventional radio systems. Implementing this new system will provide needed coverage, capacity, and interoperability for all public safety and non-public safety radio users within the County for the next 15+ years. The new system will operate on four sites within the County to maximize communications coverage, which will include installing a new 155 foot tower at the rear of the Emergency Management Building, and installing a new 240 foot tower at 7761 S. Genito Rd. Jetersville, VA 23083 (Soap Stone).

FOR OFFICE USE ONLY:

Public Notice Dates: 07/06 & 07/13

Board of Supervisors Mtg Date: _____

Planning Commission Hearing Date: 07/24/23

Board of Supervisors Decision: _____

Planning Commission Recommendation: _____

Permit Signed by Applicant/Owner: _____



Application for Special Exception Permit

Date: 6/23/23 File Number: 23-09

Application Fee Paid: N/A

Applicant: Amelia County Emergency Management Phone: 804-561-3914, Kent Emerson

Applicant Address: 16410 Dunn Street, Amelia, VA 23002

Email: _____

Owner: Amelia County Emergency Management Phone: _____

Property Address: 16410 Dunn Street, Amelia, VA 23002

Email: _____

Property Information:

Tax Map Number: 31 Parcel ID 31-84 Acreage: 6.892

Subdivision: YES ☒ NO Zoning District: B-1 Deed restrictions: YES ☒ NO

Access to Property (easement, public road, private road): Public Road

The applicant requests a permit to locate the following use on the above-referenced property, as permitted by Section 18.3 of the Amelia County Zoning Ordinance.

Amelia County is implementing a new P25 Public Safety Radio System to replace their legacy analog conventional radio systems. Implementing this new system will provide needed coverage, capacity, and interoperability for all public safety and non-public safety radio users within the County for the next 15+ years.

The new system will operate on four sites within the County to maximize communications coverage, which will include installing a new 155 foot tower at the rear of the Emergency Management Building, and installing a new 240 foot tower at 7761 S. Genito Rd. Jetersville, VA 23083 (Soap Stone).

FOR OFFICE USE ONLY:

Public Notice Dates: 07/06 & 07/13

Board of Supervisors Mtg Date: _____

Planning Commission Hearing Date: 07/24/23

Board of Supervisors Decision: _____

Planning Commission Recommendation: _____

Permit Signed by Applicant/Owner: _____

IMPROVEMENTS PROPOSED

Describe briefly the improvements proposed on the property. State whether new buildings are to be constructed, existing buildings are to be used and/or renovated or additions are to be made to existing buildings. Please include a plat, conceptual layout, and/or sketch plan demonstrating the proposed improvements.

Proposed improvements at the Emergency Management Building include installing a new communications tower adjacent to building along with a transmission line support structure. New radio equipment will be installed inside the existing building. A backup dispatch terminal will be also be installed within the building to support emergency services. Proposed improvements at Soap Stone include installing a new tower and communications shelter at the "Deatonville Convenience Center". This area will comprise 3,750 square feet near the north east corner of the property. Fencing will be installed around the shelter compound to secure the site.

PROTECTION TO ADJOINING PROPERTY

Describe the effects of the proposed use on adjacent properties and the surrounding neighborhood. What protection will be offered to adjoining property owners?

The proposed tower at the Emergency Management Building has been placed to maximize distance from adjoining properties within zoning ordinance. The proposed tower at Soap Stone has been placed to maximize distance from adjoining properties within zoning ordinance.

ENHANCEMENT OF COUNTY

How will this requested change be advantageous to the County?

The improved 911 communications and improved EOC facilities will be a significant service. Implementing a new public safety grade communication system will provide the needed coverage, capacity, and interoperability for all current public safety and non-public safety radio users within the County for the next 15+ years. The two sites in consideration are critical to meeting the coverage requirements of the system and having this reliable communications coverage will keep our first responders and our citizens safe.

PLAN

Furnish a plan showing boundaries and dimensions of the property, width of abutting rights-of-way, location and size of buildings on the site, roadways, walks, off street parking and loading spaces, landscaping, etc. A conceptual layout of the proposed changes is also required.

Site Plans are included.

PROJECT DESCRIPTION
PROPOSED ADDITION OF EQUIPMENT WITHIN AN EXISTING BUILDING.
PROPOSED 155'-0" TALL MONOPOLE WITH CONCRETE FOUNDATION.
PROPOSED ANTENNAS AND EQUIPMENT MOUNTED TO PROPOSED TOWER.

SITE NAME:
AMELIA COUNTY EMERGENCY OPERATION CENTER

SITE ADDRESS:
16410 DUNN RD
AMELIA COURT HOUSE, VA 23002

SITE COORDINATES AND ELEVATION
LATITUDE - N 37° 20' 22.65" (NAD 83)
LONGITUDE - W 77° 58' 54.38 (NAD 83)
GRD ELEV. - ± 368.6' AMSL

SITE INFORMATION

PROPERTY OWNER
AMELIA COUNTY, VA
BOARD OF SUPERVISORS
P.O. BOX A
AMELIA COURT HOUSE, VA 23002

APPLICANT
AMELIA COUNTY, VA
DEPARTMENT OF EMERGENCY SERVICES
16410 DUNN ST.
AMELIA COURT HOUSE, VA 23002
PH: (804) 561-3914

CONTACT
MOTOROLA SOLUTIONS
COLE LINDNER
PH: (667) 500-4347
EMAIL: COLE.LINDNER@MOTOROLASOLUTIONS.COM

ARCHITECTURAL AND ENGINEERING
KCI TECHNOLOGIES, INC.
ERIC KOHL
4505 FALLS OF NEUSE ROAD SUITE #400
RALEIGH, NORTH CAROLINA 27609
PH: (919) 783-9214
EMAIL: ERIC.KOHL@KCI.COM

CONSULTANT TEAM

AMELIA COUNTY, VA REPRESENTATIVE :	RECEIVED :
	ACCEPTED :
MOTOROLA :	RECEIVED :
	ACCEPTED :
PROPERTY OWNER:	RECEIVED :
	ACCEPTED :
RECEIVED AND ACCEPTED	



DIRECTIONS TO SITE



LOCATION MAP AERIAL MAP PROVIDED BY GOOGLE EARTH

AMELIA COUNTY EMERGENCY OPERATION CENTER

16410 DUNN RD
AMELIA COURT HOUSE, VA 23002
AMELIA COUNTY, VA



DRAWING INDEX

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GN-2 GENERAL NOTES
GN-3 ABBREVIATIONS AND SYMBOLS
- C-1 SITE LOCATION PLAN
C-2 ENLARGED SITE PLAN
C-3.1 EXISTING BUILDING PLAN
C-3.2 PROPOSED BUILDING PLAN
C-3.3 PROPOSED BUILDING DETAIL
C-4 TOWER ELEVATION AND ANTENNA INFORMATION
C-5 MICROWAVE DETAILS
C-6 ICE BRIDGE DETAILS



Know what's below.
Call before you dig.
1-800-552-3120
CALL TOLL FREE

PRELIMINARY
NOT FOR
CONSTRUCTION

A	02/14/23	SITE SKETCH	TNW	
B	04/13/23	CONSTRUCTION DRAWINGS	TNW	
C	04/20/23	CONSTRUCTION DRAWINGS	TNW	
NO.	DATE	REVISIONS	BY	CHK APP'D



PROJECT INFORMATION, LOCATION MAPS,
AND DRAWING INDEX
AMELIA COUNTY
EMERGENCY OPERATION
CENTER
16410 DUNN RD
AMELIA COURT HOUSE, VA 23002

T-1

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GENERAL REQUIREMENTS

1. GENERAL

1.1. SUMMARY OF WORK

THE WORK MAY CONSIST OF, BUT NOT BE LIMITED TO, THE INSTALLATION OF PROPOSED TELECOMMUNICATIONS EQUIPMENT WITHIN AN EXISTING EQUIPMENT SHELTER, ANTENNAS AND LINES, GROUNDING, ELECTRICAL WORK, ETC., ASSOCIATED WITH THE MOTOROLA EQUIPMENT AS INDICATED ON DRAWINGS AND AS SPECIFIED HEREIN. CONTRACTOR SHALL SUPPLY ALL PERMANENT MATERIALS/EQUIPMENT REQUIRED AND ALL LABOR, EQUIPMENT, TOOLS, UTILITIES, MINOR HARDWARE/MATERIALS, TRANSPORTATION AND FACILITIES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF SERVICES AND INSTALL WORK, WHETHER TEMPORARY OR PERMANENT. CONTRACTOR SHALL BE OBLIGATED TO PERFORM ALL THE WORK OUTLINED IN THESE DRAWINGS IN ACCORDANCE WITH THE CONTRACT AGREEMENT, FEDERAL REGULATIONS, STATE REQUIREMENTS, LOCAL CODES, COMMERCIAL/INDUSTRY STANDARDS, DETAILED SCOPE OF WORK, AND THE DOCUMENTS IDENTIFIED BELOW. IN CASE OF A CONFLICT BETWEEN THE ABOVE LISTED DOCUMENTS REGARDING STANDARDS OF WORK, THE MORE STRINGENT CRITERIA SHALL APPLY. ANY ADDITIONAL COSTS OR DELAYS RESULTING FROM CORRECTION OF THE WORK TO COMPLY WITH THE ABOVE REQUIREMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.2. SITE VISIT

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH THE SCOPE OF WORK REQUIRED PER THE DRAWINGS AND ALL LOCAL CONDITIONS AND LAWS AND REGULATIONS THAT MAY IN ANY MANNER AFFECT THE PRICE, PROGRESS AND PERFORMANCE OF WORK, INCLUDING ANY COSTS ASSOCIATED WITH IT. THE CONTRACTOR SHALL ALSO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND NOTIFY THE MOTOROLA REPRESENTATIVE OF ANY DISCREPANCIES OR INTERFERENCES WHICH AFFECT THE WORK OF THIS CONTRACT.

1.3. STANDARDS AND CODES

THE FOLLOWING DOCUMENTS (LATEST REVISION) SHALL BE CONSIDERED TO BE SPECIFICATION AND ARE INCORPORATED HEREIN BY REFERENCE. IN THE EVENT OF CONFLICT BETWEEN THE REQUIREMENTS OF THIS SPECIFICATION AND THE REQUIREMENTS OF THE REFERENCED DOCUMENTS, THE STRICTER SPECIFICATION SHALL GOVERN. WHERE PROVISIONS OF THE CODES AND STANDARDS ARE IN CONFLICT WITH THE BUILDING CODE IN FORCE OR THIS PROJECT, THE BUILDING CODE SHALL GOVERN.

A. AMERICAN CONCRETE INSTITUTE:

- ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- ACI 305 "HOT WEATHER CONCRETING".
- ACI 306 "COLD WEATHER CONCRETING".
- ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- ACI 614 "RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING CONCRETE".
- ACI 311 "RECOMMENDED PRACTICE FOR CONCRETE INSPECTION".
- ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- ACI 613 "RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR CONCRETE".

B. AMERICAN NATIONAL STANDARDS INSTITUTE:

- ANSI Z359 REQUIREMENTS FOR PERSONAL FALL ARREST SYSTEMS, SUBSYSTEMS AND COMPONENTS
- ANSI Z87.1 OCCUPATIONAL AND EDUCATIONAL EYE AND FACE PROTECTION
- ANSI Z89.1 PROTECTIVE HEADWEAR FOR INDUSTRIAL WORKERS –REQUIREMENTS
- ANSI/IEEE C95.1 SAFETY LEVELS WITH RESPECT TO HUMAN EXPOSURE TO RADIO FREQUENCY ENERGY
- ANSI/TLA/EIA STANDARD 222: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.

C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION:

- AISC MANUAL OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION: LATEST EDITION

D. AMERICAN SOCIETY FOR TESTING AND MATERIALS:

- ASTM A615 – "SPECIFICATION FOR DEFORMED AND PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT".
- ASTM C94–80 – "SPECIFICATION FOR READY–MIX CONCRETE.
- ASTM C39–77 – "SPECIFICATION FOR TEST FOR COMPREHENSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMEN".
- ASTM 33 – "SPECIFICATION FOR CONCRETE AGGREGATES".
- ASTM C150 – "SPECIFICATION FOR PORTLAND CEMENT".
- ASTM C172 – "SAMPLING FRESH CONCRETE".
- ASTM C143 – "SLUMP OF PORTLAND CEMENT CONCRETE".
- ASTM D698–91 – "TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT".
- ASTM D1556–84 – "DENSITY OF SOIL IN PLACE BY THE SAND–CONE METHOD".
- ASTM D1557 – "TEST FOR MOISTURE–UNIT WEIGHT RELATIONS OF SOILS AND SOIL–AGGREGATE MIXTURES USING 10–LB. HAMMER AND 18–IN. DROP". (PROCEDURE C)
- ASTM D2487 – "STANDARD CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)
- ASTM D2922 – "DENSITY OF SOIL AND SOIL AGGREGATE IN PLACE BY NUCLEAR METHODS SHALLOW DEPTH".
- ASTM D2940 – "STANDARD SPECIFICATION FOR GRADED AGGREGATE MATERIAL FOR BASES OR SUB–BASES FOR HIGHWAYS OR AIRPORTS"

E. AMERICAN WELDING SOCIETY:

- AWS D12.1 – "RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL. METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION".

F. CONCRETE REINFORCING STEEL INSTITUTE:

- "MANUAL OF STANDARD PRACTICE"

G. FEDERAL AVIATION ADMINISTRATION:

- DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR, AC 70/7460–1L: OBSTRUCTION MARKING AND LIGHTING.
- DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR, 150–5345–43, FAA/DOD SPECIFICATION L–856: HIGH INTENSITY OBSTRUCTION LIGHTING SYSTEMS.

H. FEDERAL COMMUNICATIONS COMMISSION:

- FEDERAL COMMUNICATIONS COMMISSION – RULES AND REGULATIONS PART 17, CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES.

I. STRUCTURAL STEEL PAINTING COUNCIL:

- SSPC–SP–1–63: SPECIFICATION FOR PAINTING STEEL STRUCTURES.

J. MOTOROLA R56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES (APRIL 2017).

K. MOTOROLA’S CIVIL WORKS BID SPECIFICATIONS

L. NATIONAL FIRE PROTECTION ASSOCIATION:

- NFPA 1 – FIRE PREVENTION CODE
- NFPA 54 – NATURAL GAS FUEL CODE
- NFPA 58 – LP GAS CODE
- NFPA 70 – NATIONAL ELECTRICAL CODE
- NFPA 101 – LIFE SAFETY CODE
- NFPA 110 – EMERGENCY/STANDBY POWER SYSTEMS
- NFPA 111 – STANDARD ON STORED ELECTRICAL ENERGY, EMERGENCY AND STANDBY POWER SYSTEMS
- NFPA 780 – STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS

M. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

- OSHA 1926
- OSHA DIRECTIVES CPL 2–1.29 – INTERIM INSPECTION PROCEDURES DURING COMMUNICATION TOWER CONSTRUCTION ACTIVITIES.

N. INTERNATIONAL BUILDING AND ELECTRICAL CODE, OR AHJ CODES.

1.4. NOTICE TO PROCEED

WHEN THE SITE IS READY FOR INSTALLATION, MOTOROLA SHALL ISSUE A NOTICE TO PROCEED TO THE CONTRACTOR. UPON RECEIPT OF THE NOTICE OF PROCEED. THE CONTRACTOR SHALL SUBMIT TO MOTOROLA A SCHEDULE REFLECTING THE WORK PLAN. THE CONTRACTOR SHALL ADVISE THE MOTOROLA REPRESENTATIVE IMMEDIATELY OF ANY SCHEDULE CHANGES. THE CONTRACTOR SHALL ADJUST HIS WORK, AS REQUIRED, TO COORDINATE WITH THE MOTOROLA INSTALLATION TEAM IF THE SCHEDULES OVERLAP.

1.5. MOTOROLA REPRESENTATIVE

MOTOROLA SHALL DESIGNATE A REPRESENTATIVE. THIS PERSON IS THE ONLY CONTACT POINT AUTHORIZED TO MAKE ANY CHANGES TO THE CONTRACT PROVISIONS OR THE PLANS AND SPECIFICATIONS. ANY CHANGES MADE BY THE CONTRACTOR ARE AT THE CONTRACTOR’S RESPONSIBILITY AND RISK.

1.6. CONTRACTORS FIELD REPRESENTATIVE

CONTRACTOR SHALL ASSIGN A FIELD REPRESENTATIVE WHO IS FAMILIAR WITH THESE SPECIFICATIONS AND WILL REPRESENT THE CONTRACTOR AND HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR AND SUPERVISE ALL CONSTRUCTION ACTIVITIES. THE REPRESENTATIVE SHALL BE AVAILABLE WHEN CONSTRUCTION ACTIVITIES BEGIN. THE FIELD REPRESENTATIVE SHALL BE THE PRIMARY POINT OF CONTACT FOR MOTOROLA DURING THE CONSTRUCTION PHASE OF THE WORK.

1.7. PROJECT MEETINGS

THE CONTRACTOR SHALL CONDUCT THE INITIAL (PRE–CONSTRUCTION) MEETING (INCLUDING ALL SUB–CONTRACTORS) WITH THE MOTOROLA REPRESENTATIVE WITHIN TWO WEEKS AFTER AWARD OF THE CONTRACT. SUBSEQUENTLY, THE CONTRACTOR SHALL PROVIDE PROGRESS SCHEDULE UPDATES TO MOTOROLA ON A WEEKLY BASIS.

1.8. MATERIALS

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS INCLUDING: ALL PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED, AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO MOTOROLA’S ACCEPTANCE.

MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KINDS (AS DEFINED BY INDUSTRY STANDARDS), FREE OF DEFECTS AND ALL MATERIALS SHALL BE NEW AND UNUSED IN ALL CASES, UNLESS OTHERWISE SPECIFIED. WHERE THE NAME OF A CONCERN OR MANUFACTURER IS MENTIONED ON DRAWINGS OR IN SPECIFICATIONS IN REFERENCE TO A REQUIRED SERVICE OR PRODUCT, AND NO QUALIFICATIONS OR SPECIFICATION OF SUCH IS INCLUDED, THEN THE MATERIAL SPECIFICATIONS, DETAILS OF MANUFACTURE, FINISH, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURER’S STANDARD PRACTICE, DIRECTION OR SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER’S / VENDOR’S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

1.9. VERIFICATION OF EXISTING CONDITIONS

BEFORE STARTING ANY OPERATION, THE CONTRACTOR SHALL EXAMINE EXISTING WORK, OR WORK PERFORMED BY OTHERS, TO WHICH ITS WORK IS TO ADJOIN OR BE APPLIED AND SHALL REPORT TO MOTOROLA PROJECT MANAGER ANY CONDITIONS THAT WILL PREVENT SATISFACTORY ACCOMPLISHMENT OF HIS WORK. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY DATA AS INDICATED IN THE PLANS AND SPECIFICATIONS AND/OR AS PROVIDED BY MOTOROLA. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS, OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE MOTOROLA REPRESENTATIVE IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED. FAILURE TO NOTIFY THE MOTOROLA REPRESENTATIVE OF DEFICIENCIES, ERRORS OR FAULTS PRIOR TO COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE THEREOF AND WAIVER OF ANY CLAIMS OF UNSUITABILITY, ERRORS, OMISSIONS OR INACCURACIES.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF HIS SUB–CONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE LAND OWNER OR MOTOROLA TO RE–ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.

PRELIMINARY
NOT FOR
CONSTRUCTION

A	02/14/23	SITE SKETCH	TNW		
B	04/13/23	CONSTRUCTION DRAWINGS	TNW		
C	04/20/23	CONSTRUCTION DRAWINGS	TNW		
NO.	DATE	REVISIONS	BY	CHK	APP'D



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1.10. PERMITS

THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL MEET ALL OF THE REGULATORY REQUIREMENTS OF THE JURISDICTION GOVERNING CONSTRUCTION.

1.11. SITE INSPECTION

THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR ARRANGING WITH MOTOROLA FOR AN INSPECTION PRIOR TO COVERING UP ALL WORK THAT WILL BE COVERED IN FINISHED CONDITION. IT IS THE SITE GENERAL CONTRACTOR’S RESPONSIBILITY TO MANAGE THE SEQUENCE OF WORK AND REQUEST THE INSPECTIONS IN A TIMELY MANNER. THE SITE GENERAL CONTRACTOR SHALL NOT REQUEST AN INSPECTION UNLESS ALL OF THE RELATED WORK HAS BEEN COMPLETED. WORK SHALL NOT PROCEED TO THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE LOCAL INSPECTORS AND THE MOTOROLA REPRESENTATIVE. THE PRESENCE OF THE OWNER OR MOTOROLA REPRESENTATIVE ON THE JOB SITE IN NO WAY RELIEVES THE SITE GENERAL CONTRACTOR OF THE ASSOCIATED RESPONSIBILITIES OF THE JOB. ANY WORK WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE CORRECTED OR REMOVED SOLELY AT THE SITE GENERAL CONTRACTOR’S EXPENSE.

THE FOLLOWING INFORMATION IS INCLUDED AS A GUIDE TO THE CONTRACTOR TO ASSIST IN DETERMINING THE TYPE AND FREQUENCY OF INSPECTIONS. THE LISTED INSPECTIONS REPRESENT THOSE REQUIRED FOR SMALL OR SIMPLE PROJECTS. LARGE OR COMPLEX PROJECTS MAY REQUIRE ADDITIONAL INSPECTIONS DEPENDING ON THE SEQUENCE OF WORK.

- FOUNDATION EXCAVATIONS AND REBAR: TO BE MADE AFTER TRENCHES ARE EXCAVATED AND FORMS ERECTED, REINFORCEMENT PLACED, COMPACTION TESTED, SOIL TREATED, VAPOR BARRIER PLACED, AND ESSENTIALLY READY FOR CONCRETE PLACEMENT.
- GROUNDING: TO BE MADE AFTER THE BELOW GROUND CADWELD CONNECTIONS HAVE BEEN COMPLETED, PRIOR TO COVERING UP THE TRENCHES.
- ELECTRICAL WORK WITHIN WALLS: TO BE MADE AFTER THE ROOF, FRAMING, FIRE BLOCKING AND BRACING IS IN PLACE PRIOR TO THE INSTALLATION OF INSULATION OR WALL/CEILING MEMBRANES.

AS A GENERAL RULE. THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO MOTOROLA FOR INSPECTION OF ALL WORK PRIOR TO CONCEALMENT. THE CONTRACTOR HAS RESPONSIBILITIES RELATIVE TO ALL TYPES OF INSPECTIONS AND IS RESPONSIBLE FOR CONTACTING ALL OF THE INSPECTING ENTITIES TO DETERMINE HIS RESPONSIBILITIES. ALL OF THESE INSPECTING ENTITIES HAVE UNIQUE AND SEPARATE RESPONSIBILITIES. ONE INSPECTION FROM AN ENTITY WILL NOT SUBSTITUTE FOR AN INSPECTION FROM ANOTHER ENTITY.

1.12. SAFETY

THE CONTRACTOR, HIS EMPLOYEES, ANY SUB–CONTRACTORS, VENDORS, THEIR RESPECTIVE EMPLOYEES AND CONTRACTOR’S VISITORS SHALL COMPLY WITH ALL SAFETY STANDARDS, ACCIDENT PREVENTION REGULATIONS AND ENVIRONMENTAL REGULATIONS PROMULGATED BY FEDERAL, STATE, OR LOCAL AUTHORITIES HAVING JURISDICTION AND SHALL AT ALL TIMES CONDUCT ALL OPERATIONS UNDER THE CONTRACT IN A MANNER TO AVOID THE RISK OF BODILY HARM TO ANY PERSONS AND THE RISK OF DAMAGE TO ANY PROPERTY, EQUIPMENT OR MATERIAL SUCH PARTIES SHALL ALSO COMPLY WITH ANY SAFETY PROGRAMS AND/OR RULES PROMULGATED BY OWNER AND/OR MOTOROLA.

1.13. ELECTRO MAGNETIC EMISSIONS

THE CONTRACTOR SHALL ACKNOWLEDGE ALL OR PORTIONS OF THE WORK MAY INVOLVE POSSIBLE EXPOSURE OF CONTRACTOR, SUB–CONTRACTORS, AND THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES AND OTHER VISITORS TO THE JOBSITE AND/OR MOTOROLA PREMISES TO ELECTRO–MAGNETIC ENERGY (“EME”) WHILE PERFORMING WORK UNDER THIS CONTRACT, ESPECIALLY IF WORK IS PERFORMED ON EXISTING ANTENNA TOWERS WHERE ANTENNAS ARE LOCATED. THE CONTRACTOR REPRESENTS THAT CONTRACTOR, SUBCONTRACTORS, AND ALL OF THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES, AND OTHER AUTHORIZED REPRESENTATIVES WHO ARE PERFORMING SERVICES UNDER THIS AGREEMENT WILL COMPLY WITH ALL ANSI AND ANY OTHER APPLICABLE EME STANDARDS, RULES OR REGULATIONS, INCLUDING, BUT NOT LIMITED TO THOSE RULES OR REGULATIONS IMPOSED OR SUGGESTED BY MOTOROLA, IF ANY.

THE CONTRACTOR SHALL ADHERE TO ALL OSHA RULES, REGULATIONS AND ADOPTED POLICIES. ALL CONTRACTOR PERSONNEL SHALL HAVE UNDERGONE ELECTROMAGNETIC ENERGY (EME) TRAINING FOR PERSONNEL WORKING IN THE VICINITY OF ACTIVE ANTENNAS. AS SUCH IT IS RECOMMENDED THAT RF MONITORS BE USED BY THE TOWER PERSONNEL TO MONITOR EXPOSURE LEVELS. IF EME LEVELS AT THE SITE EXCEED THE MAXIMUM PERMISSIBLE EXPOSURE LIMITS, THE CONTRACTOR SHALL COORDINATE WITH THE INDIVIDUALS RESPONSIBLE FOR USE OF THE TRANSMITTER TO MAKE SURE THAT THE EQUIPMENT IS DEACTIVATED BEFORE WORK CAN BE RESUMED, WITHOUT CAUSING A SERIOUS DISRUPTION OF THE SERVICE.

1.14. SITE CLEANUP

THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE AT ALL TIMES DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. WHENEVER THE WORK–SITE IS LEFT UNATTENDED, THE CONTRACTOR SHALL BLOCK THE OPENING WITH WARNING TAPE TO DISCOURAGE TRESPASSING. THE PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE AT THE CONCLUSION OF SITE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPE GRADING AND SEEDING OF THE DISTURBED SOIL THE CONTRACTOR SHALL USE LOCAL GRASS SEED TO STABILIZE SOIL AND SHALL COVER DISTURBED AREAS WITH HAY MULCH TO REDUCE RUNOFF OF SEDIMENT TO DOWNSTREAM AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION. ALL SLOPES AND DISTURBED AREAS NOT RECEIVING AGGREGATE SURFACING ARE TO BE PREPARED AND BROADCAST SEEDED AND FERTILIZED FOR EROSION PROTECTION. SEEDING FOR AREAS DISTURBED SHALL BE ESTABLISHED SEASONALLY AS REQUIRED BY LOCAL CODES.

THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE OR INTERRUPTION OF EXISTING UNDERGROUND OR OVERHEAD ELECTRIC SERVICES, UNDERGROUND GROUNDING AND FUEL LINES, EQUIPMENT AND BUILDINGS ON THE SITE, PLUS OFF SITE SERVICES, BURIED OR OVERHEAD, SURROUNDING THE EXISTING OR EXPANDED COMPOUND. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND MOTOROLA AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR MOTOROLA. BURNING WILL NOT BE PERMITTED.

1.15. FACILITY STARTUP & COMMISSIONING

THE CONTRACTOR AND/OR SUB–CONTRACTORS SHALL DEMONSTRATE TO MOTOROLA THAT ALL SYSTEMS AND SUB–SYSTEMS INSTALLED UNDER THIS CONTRACT, OPERATE PROPERLY PRIOR TO THE FINAL ACCEPTANCE INSPECTION AND PROVIDE THE OPERATIONS AND MAINTENANCE MANUALS AT THIS TIME.

1.16. SHOP DRAWINGS/AS–BUILT DRAWINGS

THE MODIFICATIONS TO THE DRAWINGS AFTER CONSTRUCTION START SHALL RECEIVE ENGINEERING AND MOTOROLA APPROVAL PRIOR TO ANY CHANGES BEING MADE. THE ENGINEER OF RECORD SHALL MAKE THE REQUIRED CHANGE AND WILL SUBMIT CHANGES TO MOTOROLA AND ANY JURISDICTION HAVING AUTHORITY.

THE CONTRACTOR SHALL KEEP UP–TO–DATE MARKED–UP PRINTS OF THE PROJECT DRAWINGS. UPON COMPLETION OF WORK AT THE SITE, THE CONTRACTOR SHALL REVIEW THE COMPLETED AS–BUILT DRAWINGS, AND ASCERTAIN THAT ALL DATA FURNISHED ON THE DRAWINGS IS ACCURATE AND TRULY REPRESENTS THE WORK IS ACTUALLY INSTALLED. MARKINGS INDICATING CHANGES TO THE DRAWINGS SHALL BE RED OR GREEN AND CLEARLY VISIBLE. TWO (2) SETS OF “AS–BUILT” DRAWINGS SHALL BE FURNISHED TO THE MOTOROLA REPRESENTATIVE WITHIN 5 DAYS OF THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL ALSO SHOW THE FOLLOWING:

- MODIFICATIONS TO SITE LAYOUT.
- GROUNDING SYSTEM LAYOUT.
- UNDERGROUND FUEL LINE RUN.
- UNDERGROUND TELCO CABLE RUN.
- UNDERGROUND ELECTRICAL RUN.

WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE SITE EQUIPMENT ROOM. ISOLATION TRANSFORMER. GENERATOR, ETC.) THAT REQUIRES PERIODIC MAINTENANCE, THE CONTRACTOR SHALL INCLUDE ALL OPERATION AND MAINTENANCE MANUALS AND ALL AS–BUILT DRAWINGS WHICH FULLY DESCRIBE THE ACTUAL INSTALLED EQUIPMENT.

1.17. TEST PROCEDURES AND RESULTS

CONTRACTOR WILL CONTRACT WITH A THIRD PARTY “INDEPENDENT” TESTING FIRM TO PERFORM & SUBMIT THE RESULTS OF ALL TESTS REQUIRED BY THE PROJECT SPECIFICATIONS AND DRAWINGS THAT FALL WITHIN THE SCOPE OF WORK. THESE RESULTS SHALL BE SUBMITTED TO THE DESIGNATED MOTOROLA REPRESENTATIVE. IN GENERAL, THE “INDEPENDENT” TESTING FIRM SHALL SUBMIT THE FOLLOWING TEST RESULTS:

- MIX DESIGN/CONCRETE COMPRESSION TEST FOR ALL CONCRETE WORK.
- FREQUENCY DOMAIN REFLECTOMETER (FDR) WITH PRECISION LOAD / SWEEP TEST FOR ANTENNA AND TRANSMISSION LINE INSTALLATION WORK. ALL SWEEP AND TEST MUST BE WITHIN THE GUIDELINES OUTLINED IN MOTOROLA MOP.
- FUEL LINE LEAKAGE TEST FOR FUEL TANK AND PIPING INSTALLATION WORK.
- SLUMP TEST FOR CONCRETE WORK.
- GROUNDING RESISTANCE TEST FOR GROUNDING WORK.
- STRUCTURAL STEEL FABRICATION DRAWINGS.
- STRUCTURAL (TOWER) STEEL MATERIALS, FINISH, ASSEMBLY, AND PROPER ASSEMBLY AND INSTALLATION OF ANTENNAS AND TRANSMISSION LINES. (“THIRD PARTY CLIMB” AND REPORT INCLUDING PHOTO DOCUMENTATION)
- ANY OTHER TEST THAT MAY BE REQUIRED.

1.18. CONTRACT CLOSEOUT – IN ACCORDANCE WITH MOTOROLA’S SUBCONTRACT AGREEMENT TERMS AND CONDITIONS

THE MOTOROLA REPRESENTATIVE WILL PROVIDE A CERTIFICATE OF COMPLETION AND APPROVE FINAL PAYMENT WHEN ALL PUNCH–LIST ITEMS HAVE BEEN CORRECTED, RECORD DRAWINGS SUBMITTED, AND ALL SYSTEMS ARE ACCEPTABLE. THE CONTRACTOR MUST ALSO RECEIVE A CERTIFICATE OF COMPLETION FROM THE MUNICIPALITY. AFTER FINAL PAYMENT, CONTRACTOR WILL SIGN A RELEASE OF LIEN.

1.19. WARRANTY

ALL WORK PERFORMED BY THE CONTRACTOR IN COMPLETING THE SCOPE IDENTIFIED ON THE DRAWINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL COMPLETION OF THE PROJECT. THIS GUARANTEE SHALL COVER ALL MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH IN THE OPINION OF MOTOROLA IS RENDERED DEFECTIVE OR INFERIOR OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT DURING THE GUARANTEE PERIOD. IF, WITHIN THE GUARANTEE PERIOD, REPAIRS OR CHANGES ARE REQUIRED TO CORRECT THE GUARANTEE WORK. THEN UPON RECEIPT OF NOTICE, THE CONTRACTOR SHALL PROMPTLY AND WITHOUT EXPENSE TO MOTOROLA OR THE OWNER, PROCEED TO:

- PLACE IN SATISFACTORY CONDITION ALL OF SUCH GUARANTEED WORK AND CORRECT ALL DEFECTS THEREIN.
- MAKE GOOD ALL DAMAGES TO THE STRUCTURE OR SITE OR EQUIPMENT OR CONTENTS THEREOF, WHICH, IN THE OPINION OF THE MOTOROLA REPRESENTATIVE, IS THE RESULT OF THE USE OF MATERIALS, EQUIPMENT, OR WORKMANSHIP WHICH ARE INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.
- MAKE GOOD ANY WORK, MATERIALS OR EQUIPMENT AND ADJACENT STRUCTURES DISTURBED IN FULFILLING THE GUARANTEE.

1.20. RELATED DOCUMENTS

CONTRACTOR SHALL BECOME FAMILIAR WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE FOLLOWING DOCUMENTS RELATED TO THE PROJECT:

- A. TOWER AND TOWER FOUNDATION DRAWINGS BY THE MANUFACTURER.
- B. R–56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES BY MOTOROLA.
- C. ALL OTHER PERTINENT DOCUMENTS.

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




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Abbreviations and Symbols

A/C	AIR CONDITIONING	N	NORTH
ADJ	ADJUSTABLE	N/A	NOT APPLICABLE
AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
APPROX	APPROXIMATELY	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS		
AWG	AMERICAN WIRE GAUGE	O/C,O.C.	ON CENTER
		OD	OUTSIDE DIAMETER
		OPG	OPENING
		OPP	OPPOSITE
BLDG	BUILDING		
BLK	BLOCK		
BMR	BASE MOBILE RADIO	PLYWD	PLYWOOD
B/S	BUILDING STANDARD	PR	PAIR
		PROJ	PROJECT
		PROP	PROPERTY
		PT	PRESSURE TREATED
CLG	CEILING		
CLR	CLEAR		
CND,C	CONDUIT		
CONC	CONCRETE	R	RADIUS
CONST	CONSTRUCTION	REQ'D	REQUIRED
CONT	CONTINUOUS	RM	ROOM
		RO	ROUGH OPENING
DBL	DOUBLE	S	SOUTH
DIA,ø	DIAMETER	SHT	SHEET
DIAG	DIAGONAL	SIM	SIMILAR
DIM	DIMENSION	SPEC	SPECIFICATION
DN	DOWN	SQ	SQUARE
DTL,DTL	DETAIL	SS	STAINLESS STEEL
DWG	DRAWING	STL	STEEL
		STRUCT	STRUCTURAL
E	EAST	SUSP	SUSPENDED
EA	EACH	SV	SHEET VINYL
EL,ELEV	ELEVATION		
ELECT	ELECTRICAL		
EQ	EQUAL	THRU	THROUGH
EQUIP	EQUIPMENT	TNND	TINNED
EW	EACH WAY	TOC	TOP OF CONCRETE
EXIST	EXISTING	TOM	TOP OF MASONRY
EXT	EXTERIOR	TYP	TYPICAL
FIN	FINISH	UBC	UNIFORM BUILDING CODE
FLUOR	FLUORESCENT		
FLR	FLOOR	UNO	UNLESS NOTED OTHERWISE
FT	FOOT		
GA	GAUGE	VERT	VERTICAL
GALV	GALVANIZE(D)	VIF	VERIFY IN FIELD
GC	GENERAL CONTRACTOR	VT	VINYL TILE
GRND	GROUND		
GWB	GYP SUM WALL BOARD	W	WEST
GYP BD	GYP SUM BOARD	W/	WITH
		WIN	WINDOW
		W/O	WITHOUT
		WP	WATERPROOF
HARD'WD	HARDWOOD		
HORIZ	HORIZONTAL		
HR	HOUR		
HT	HEIGHT		
HVAC	HEATING, VENTING & AIR CONDITIONING		
ID	INSIDE DIA.	∠	ANGLE
IN	INCH	&	AND
INFO	INFORMATION	CL	CENTER LINE
INSUL.	INSULATION	PL	PROPERTY LINE
INT	INTERIOR	@	AT
		#	NUMBER
LB(S)	POUND(S)		
MAX	MAXIMUM		
MECH	MECHANICAL		
MET,MTL	METAL		
MFR	MANUFACTURER		
MGR	MANAGER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		

Symbols

	REVISION		DETAIL REFERENCE
	KEY NOTE		ELEVATION REFERENCE
	ROOM NUMBER		SECTION REFERENCE
	KEYED NOTE		

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C	04/20/23	CONSTRUCTION DRAWINGS	TNW		
NO.	DATE	REVISIONS	BY	CHK	APP'D



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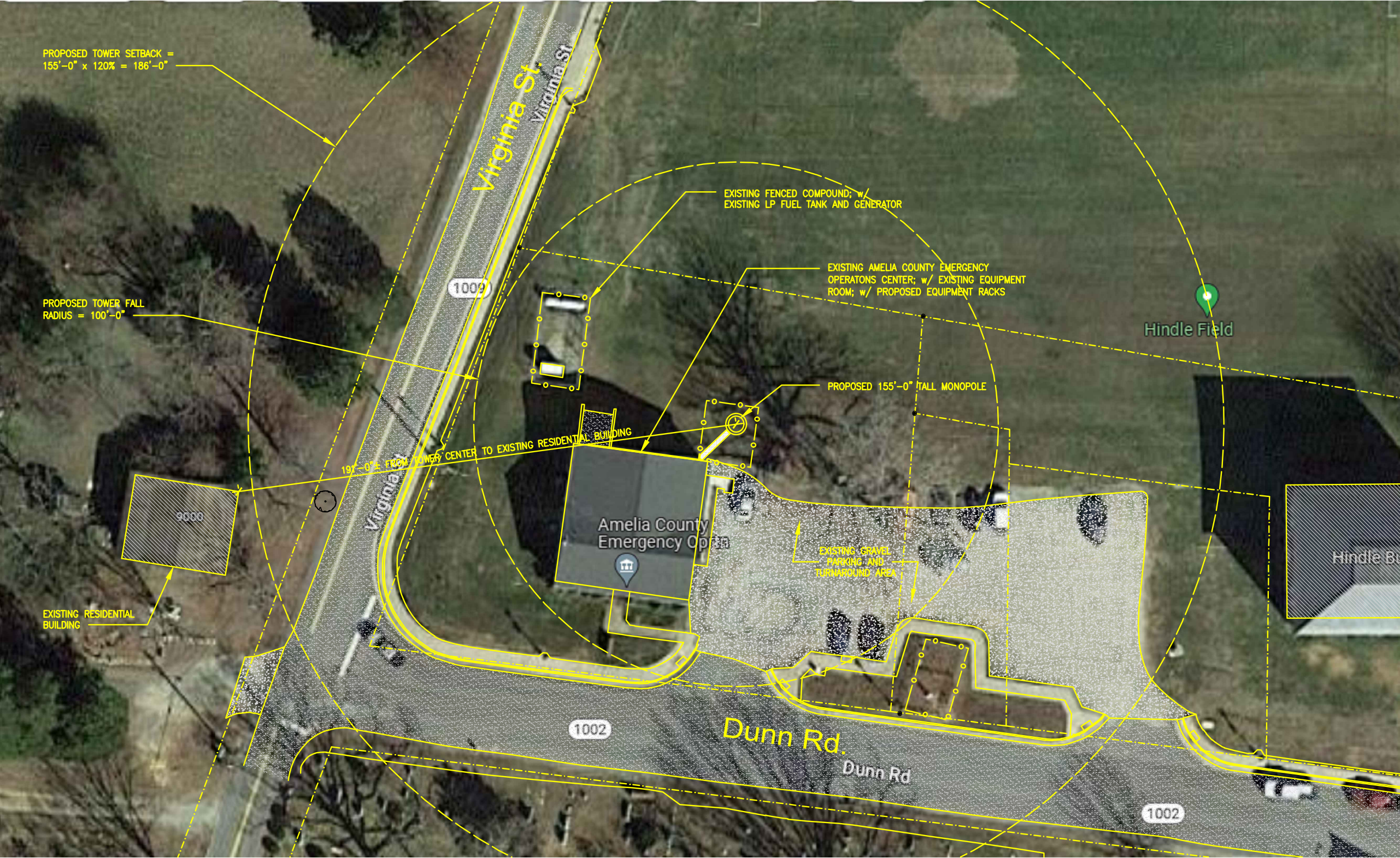
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SOLUTIONS



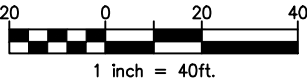
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TOWER NOTE:

PROPOSED MONOPOLE TOWER SHALL BE DESIGNED SO AS TO COLLAPSE WITHIN A 100'-0" MAX. FALL RADIUS.

Site Location Plan



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SITE LOCATION PLAN
AMELIA COUNTY
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16410 DUNN RD
AMELIA COURT HOUSE, VA 23002

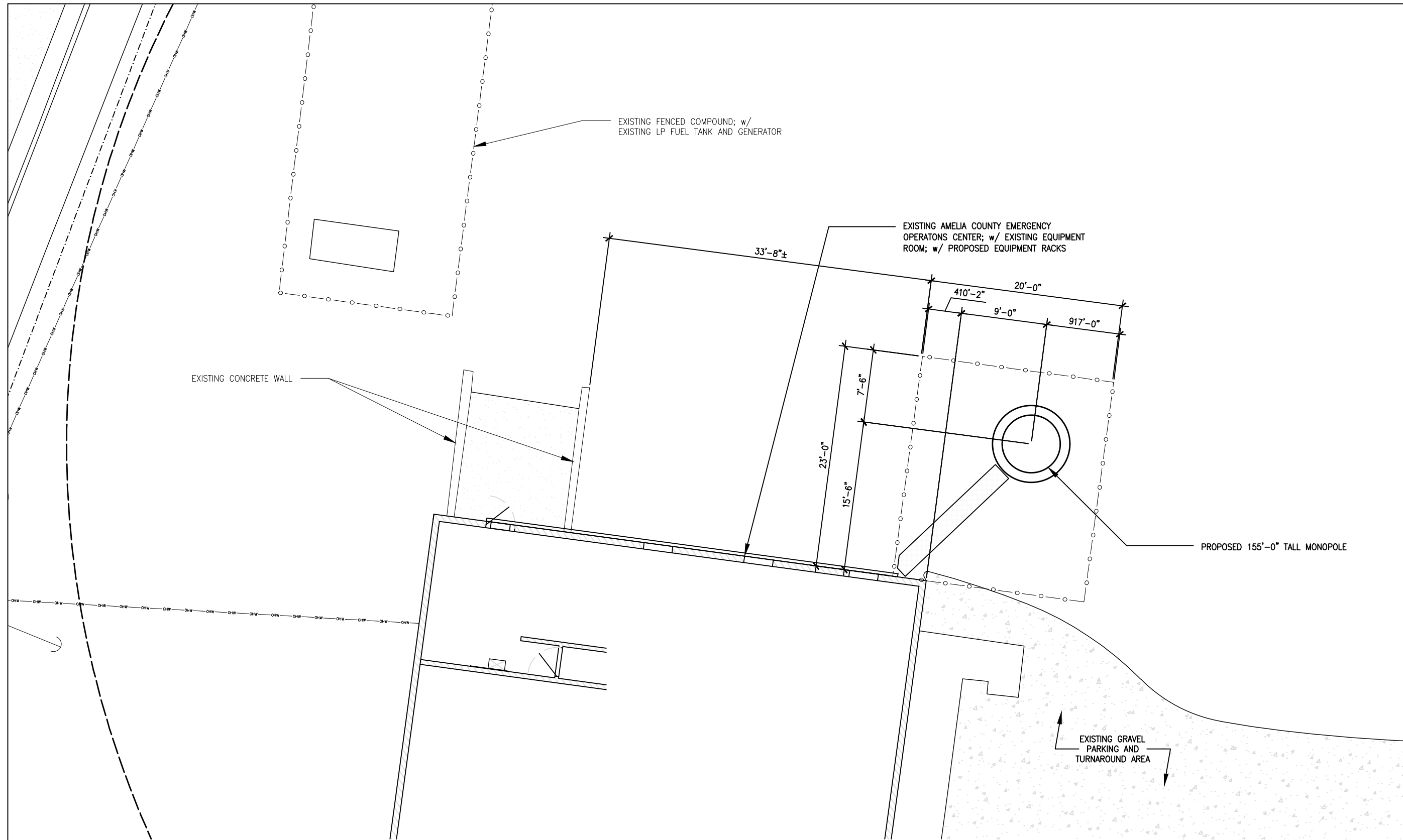
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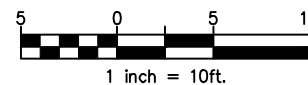
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Enlarged Site Plan



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ENLARGED SITE PLAN

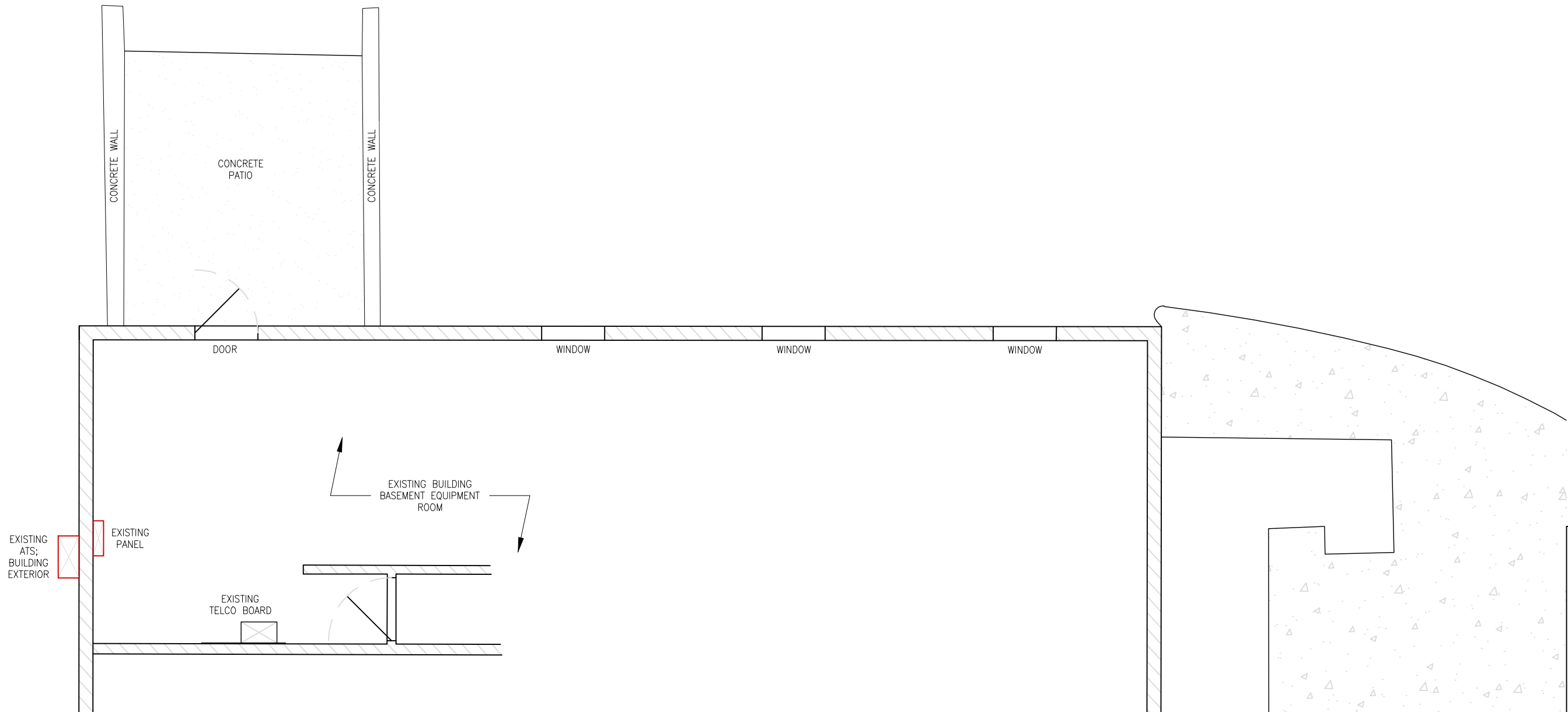
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Existing Building Plan

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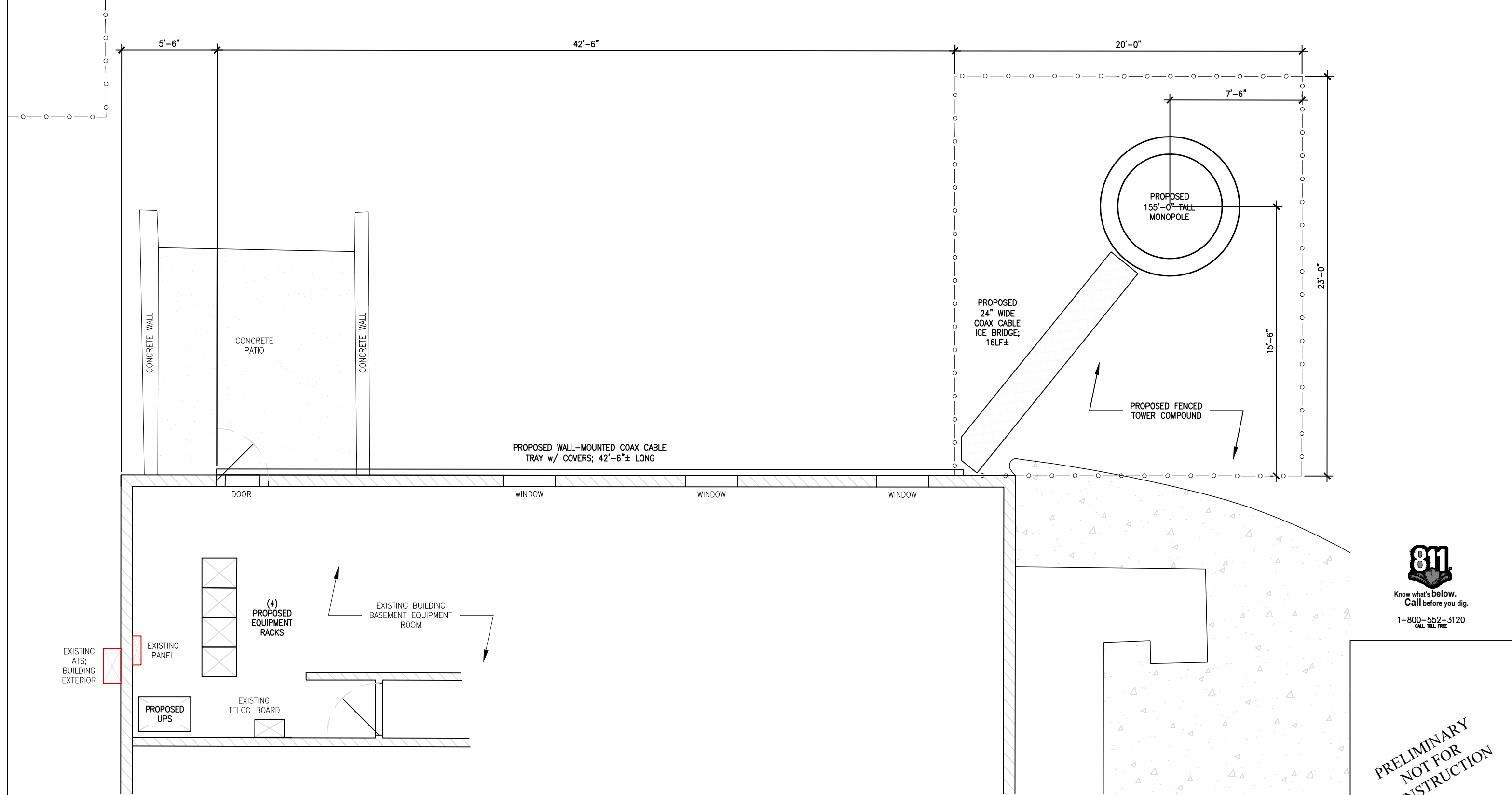


EXISTING BUILDING PLAN
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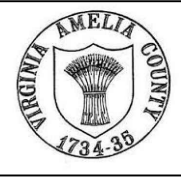
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Proposed Building Plan

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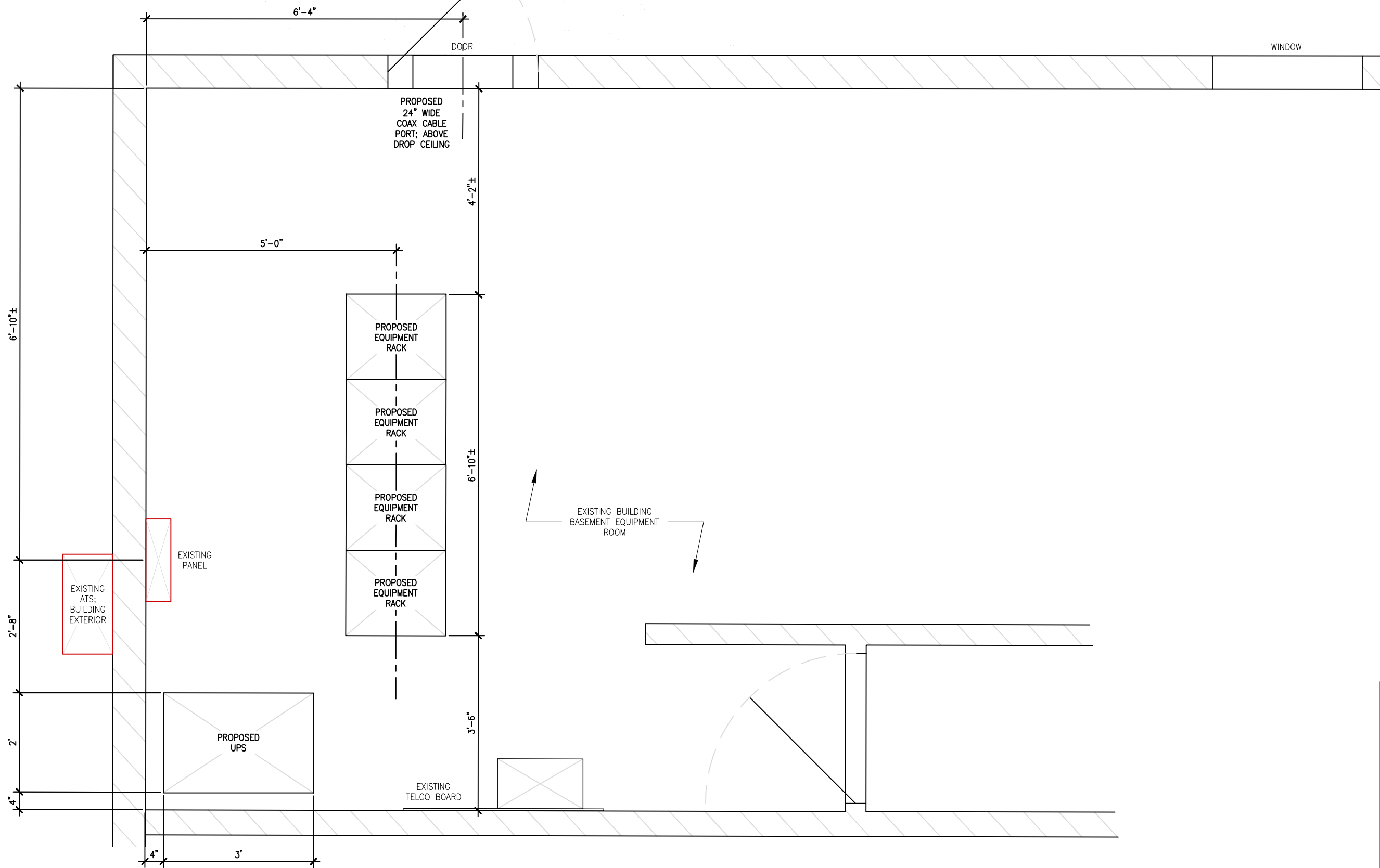


PROPOSED SHELTER PLAN
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Proposed Building Detail



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PROPOSED BUILDING DETAIL

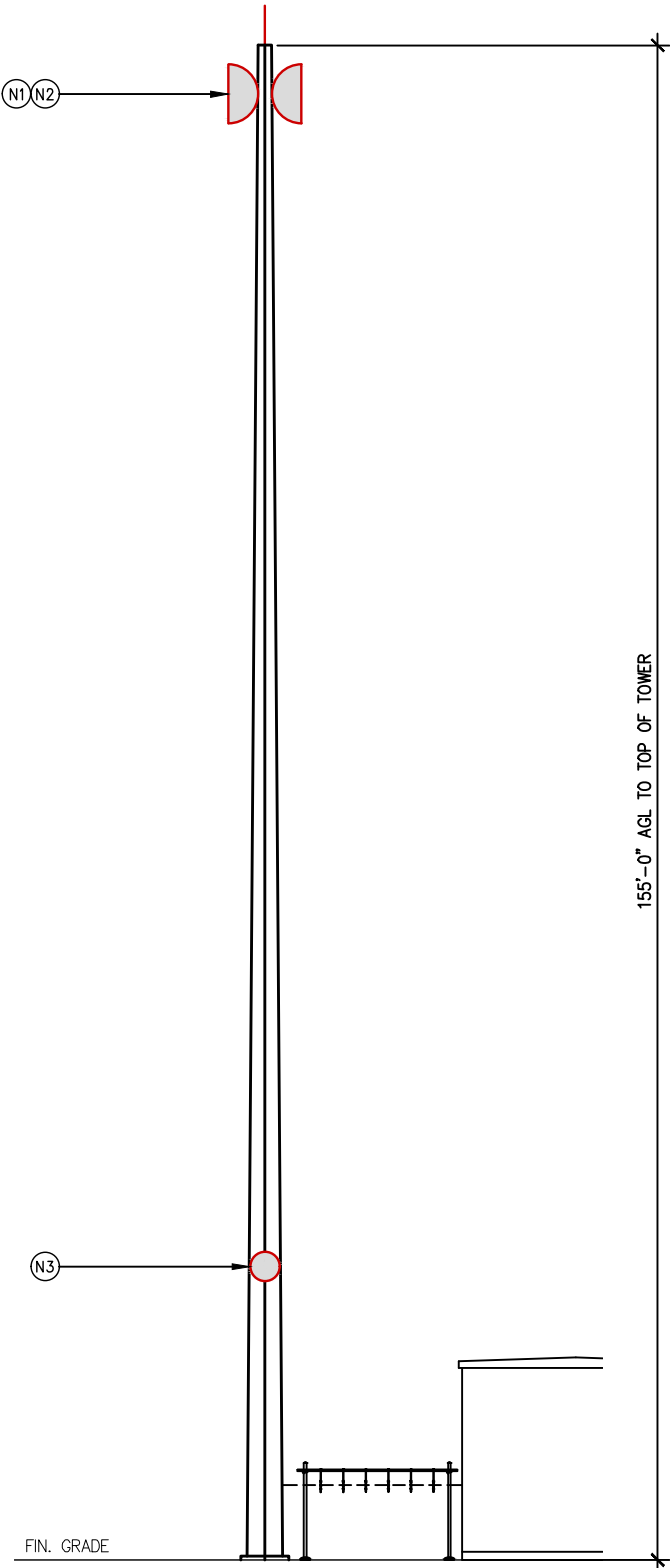
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1 Tower Elevation
NOT TO SCALE

AMELIA COUNTY EMERGENCY OPERATION CENTER 155'-0" SST		ANTENNA/APPURTENANCE LOCATION CHART														E = EXISTING	
LAT: N 37° 20' 22.65" (NAD 83)																N = NEW	
LON: W 77° 58' 54.38 (NAD 83)																F = FUTURE	
ANTENNA INFORMATION												FEEDLINE INFORMATION					
ANTENNA ID	MANUFACTURER	MODEL	TYPE	LENGTH	BOTTOM ELEV.	RAD CENTER	TOP ELEV.	MOUNT TYPE	LEG	AZIMUTH	QTY.	TYPE	MANUFACTURER	MODEL	SIZE	QTY.	BANDING COLOR
N1	RFS	HX6-W6	MICROWAVE	6'	147'	150'	153'	PIPE	N/A	132.92	1	ELLIPTICAL	FLEXWELL	E65	2.2" x 1.3"	1	BLUE BLUE
N2	RFS	HX6-W6	MICROWAVE	6'	147'	150'	153'	PIPE	N/A	261.68	1	ELLIPTICAL	FLEXWELL	E65	2.2" x 1.3"	1	BLUE WHITE
N3	RFS	SHP3-11W	MICROWAVE	3'	28.5'	30'	31.5'	PIPE	N/A	14.88	1	ELLIPTICAL	FLEXWELL	E105	1.3" x 0.8"	1	BLUE BLACK

2 Antenna Chart
NOT TO SCALE

GENERAL NOTES:

1. ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP AND BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION) AND NEAR ENTRY PORT ON THE SHELTER. ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 75 FEET.
2. THE CONTRACTOR SHALL CONDUCT A TDR SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE, CABLE INSERTION LOSS, REFLECTION AND STIMULUS RESPONSE MEASUREMENTS. RESULTS TO BE SUBMITTED TO MOTOROLA.
3. DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE SHELTER.
4. ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA, JUST BEFORE ENTERING THE SHELTER, AS WELL AS INSIDE THE SHELTER BEFORE CONNECTING TO THE SURGE SUPPRESSORS. SEE EQUIPMENT & COAXIAL CABLE SCHEDULE FOR COLOR CODING SCHEME.
5. ALL GROUNDING MUST CONFORM TO MOTOROLA R56 STANDARDS AND SPECIFICATIONS (APRIL 2017).

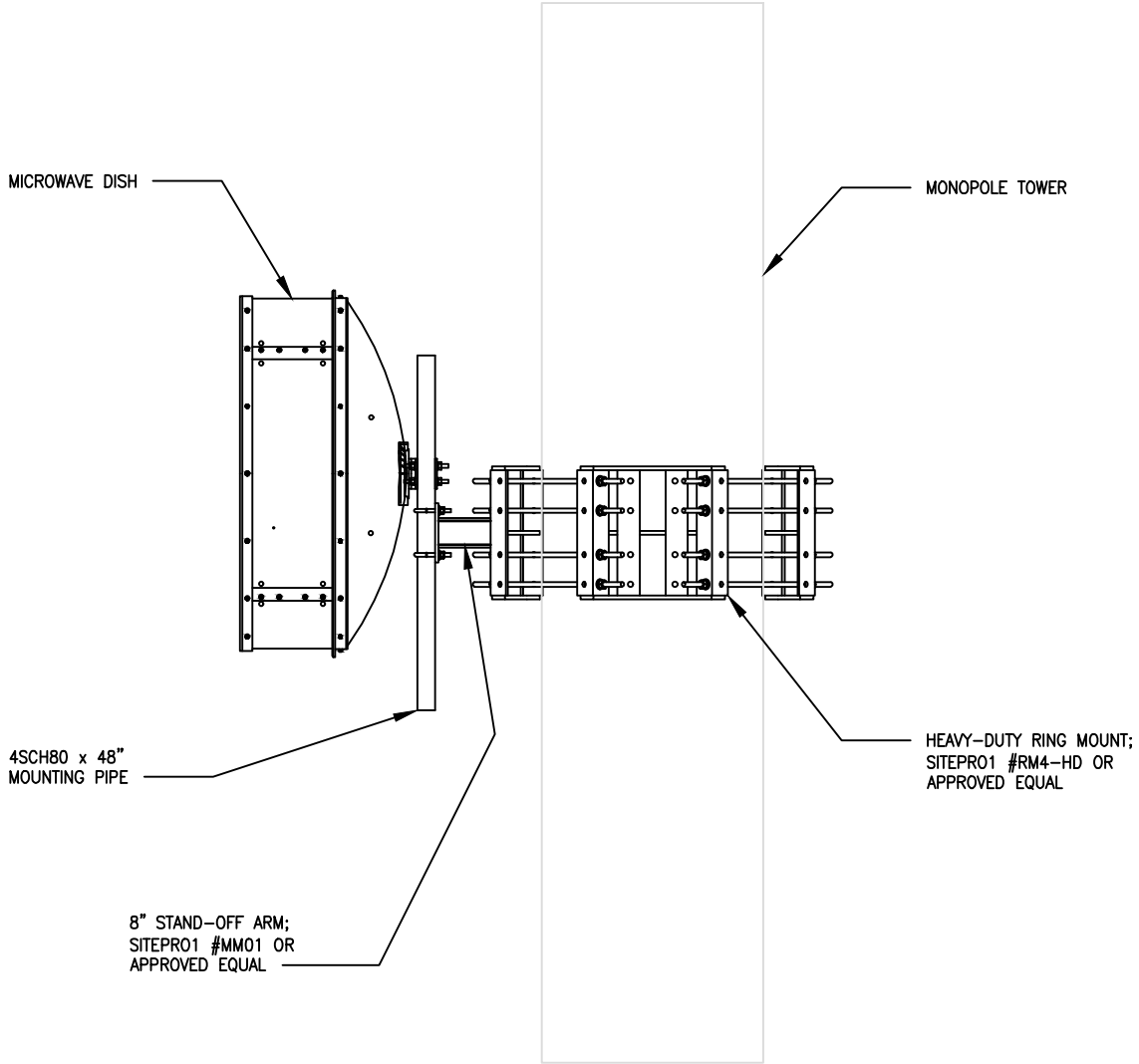
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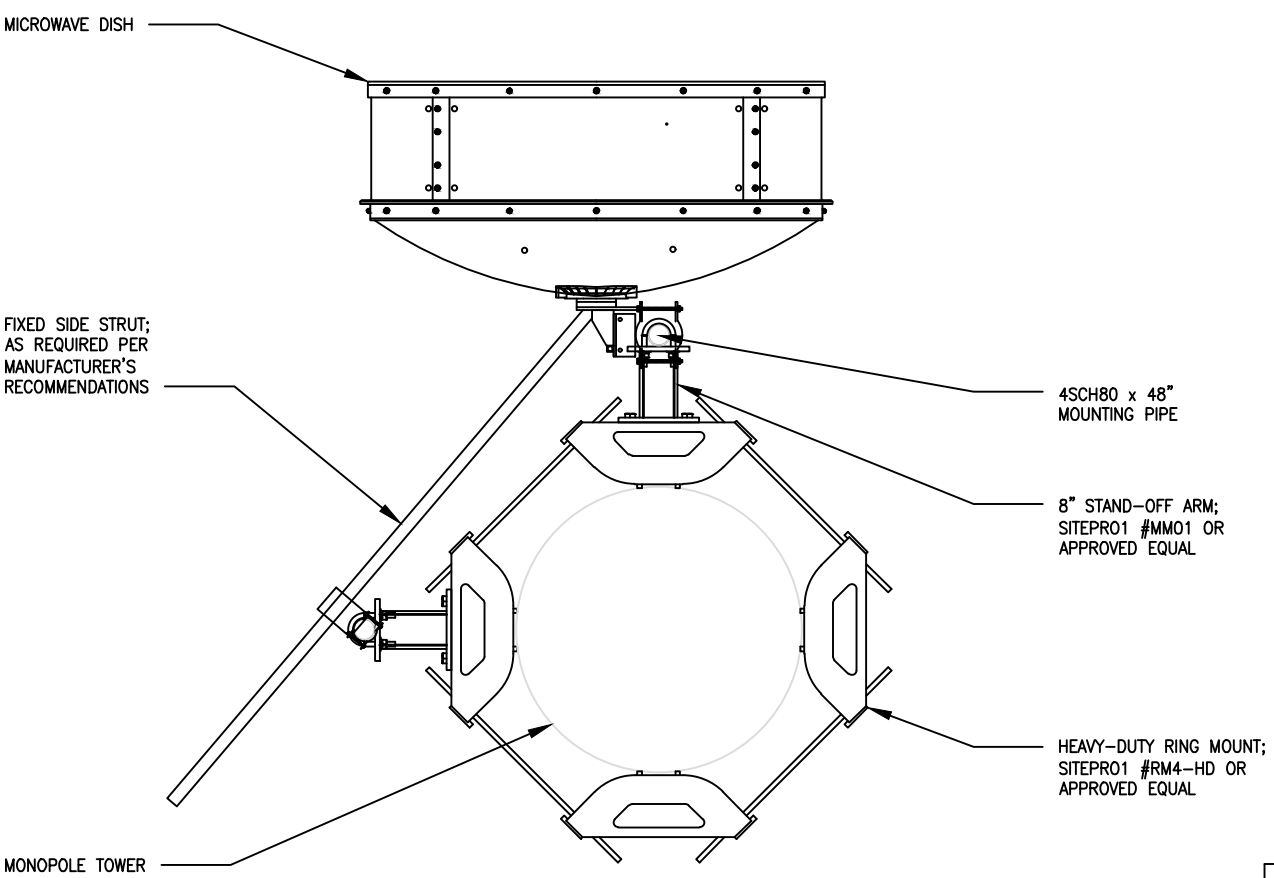
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- NOTES:
- 1. VERIFY IN FIELD OR REVIEW THE TOWER STRUCTURAL ANALYSIS FOR MEMBER SIZE PRIOR TO ORDERING ANTENNA MOUNTS.
 - 2. CONTRACTOR SHALL VERIFY THE RF CONFIGURATION & STRUCTURAL ANALYSIS BEFORE INSTALLATION.



Microwave Dish Mounts

1 NOT TO SCALE



Microwave Dish Mounting

2 NOT TO SCALE

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MICROWAVE DETAILS

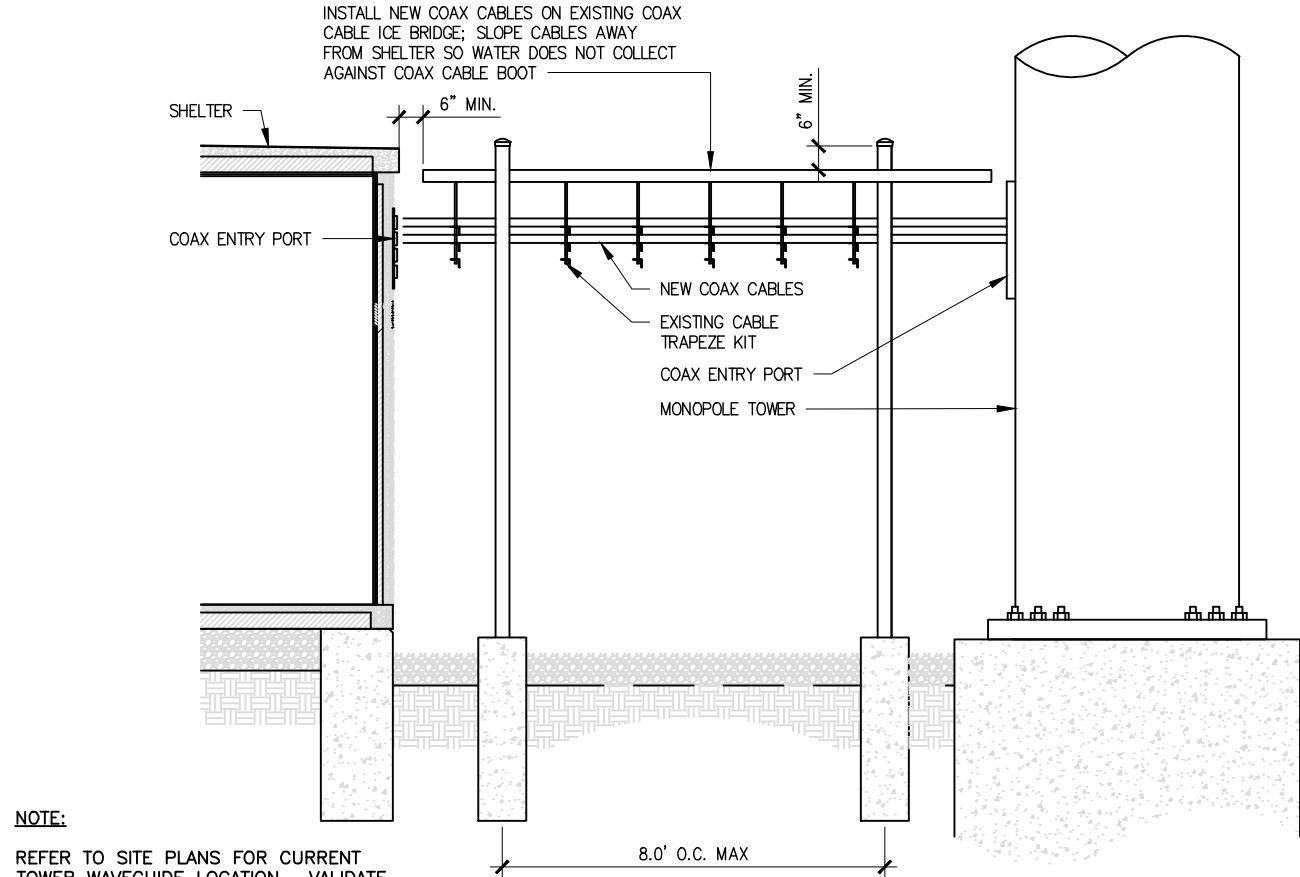
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NOTE:
REFER TO SITE PLANS FOR CURRENT
TOWER WAVEGUIDE LOCATION. VALIDATE
WITH STRUCTURAL ANALYSIS FOR EXACT
COAX CABLE PLACEMENT.

1 Ice Bridge Side Elevation
NOT TO SCALE

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PROJECT DESCRIPTION
PROPOSED 50'-0" x 70'-0" FENCED EQUIPMENT COMPOUND WITH
PROPOSED 11'-8" x 16'-6" CONCRETE EQUIPMENT SHELTER,
EMERGENCY GENERATOR, AND FUEL TANKS.

PROPOSED 240'-0" TALL SEL-SUPPORTED TOWER WITH CONCRETE
FOUNDATION.

PROPOSED ANTENNAS AND EQUIPMENT MOUNTED TO PROPOSED
TOWER.

SITE NAME:
SOAP STONE

SITE ADDRESS:
7761 S. GENITO RD.
JETERSVILLE, VA 23083

SITE COORDINATES AND ELEVATION
LATITUDE - N 37° 19' 00.87" (NAD 83)
LONGITUDE - W 78° 10' 36.71 (NAD 83)
GRD ELEV. - ± 449.5' AMSL

SITE INFORMATION

PROPERTY OWNER
AMELIA COUNTY, VA
BOARD OF SUPERVISORS
P.O. BOX A
AMELIA COURT HOUSE, VA 23002

APPLICANT
AMELIA COUNTY, VA
DEPARTMENT OF EMERGENCY SERVICES
16410 DUNN ST.
AMELIA COURT HOUSE, VA 23002
PH: (804) 561-3914

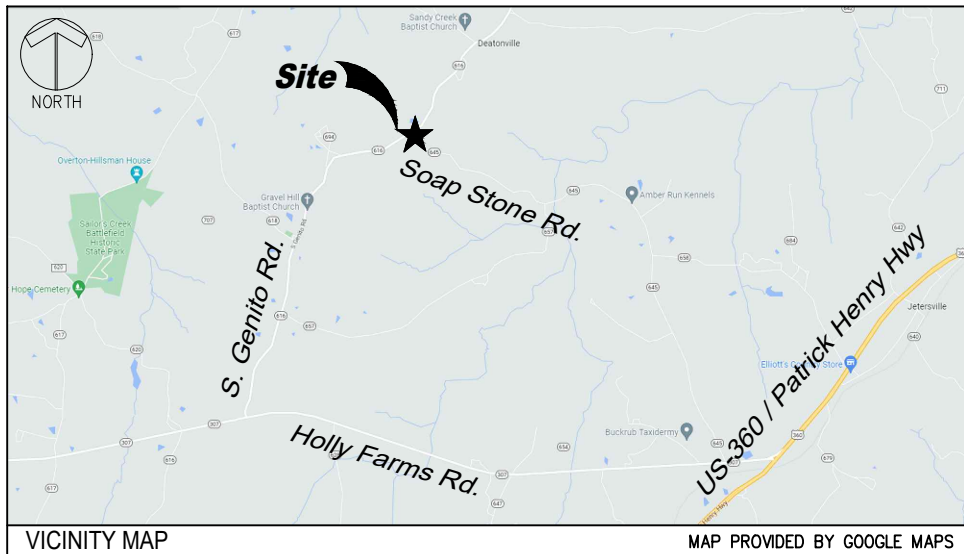
CONTACT
MOTOROLA SOLUTIONS
COLE LINDNER
PH: (667) 500-4347
EMAIL: COLE.LINDNER@MOTOROLASOLUTIONS.COM

ARCHITECTURAL AND ENGINEERING
KCI TECHNOLOGIES, INC.
ERIC KOHL
4505 FALLS OF NEUSE ROAD SUITE #400
RALEIGH, NORTH CAROLINA 27609
PH: (919) 783-9214
EMAIL: ERIC.KOHL@KCI.COM

CONSULTANT TEAM

AMELIA COUNTY, VA REPRESENTATIVE :	RECEIVED :
	ACCEPTED :
MOTOROLA :	RECEIVED :
	ACCEPTED :
PROPERTY OWNER:	RECEIVED :
	ACCEPTED :
RECEIVED AND ACCEPTED	

DIRECTIONS TO SITE



SOAP STONE

7761 S. GENITO RD.
JETERSVILLE, VA 23083
AMELIA COUNTY, VA



DRAWING INDEX

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- GN-2 GENERAL NOTES
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- C-1 SITE LOCATION PLAN
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- M-1 PROPANE DETAILS



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D	05/09/23	CONSTRUCTION DRAWINGS	TNW	
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PROJECT INFORMATION, LOCATION MAPS, AND DRAWING INDEX	
SOAP STONE	
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GENERAL REQUIREMENTS

1. GENERAL

1.1. SUMMARY OF WORK

THE WORK MAY CONSIST OF, BUT NOT BE LIMITED TO, THE INSTALLATION OF PROPOSED TELECOMMUNICATIONS EQUIPMENT WITHIN AN EXISTING EQUIPMENT SHELTER, ANTENNAS AND LINES, GROUNDING, ELECTRICAL WORK, ETC., ASSOCIATED WITH THE MOTOROLA EQUIPMENT AS INDICATED ON DRAWINGS AND AS SPECIFIED HEREIN. CONTRACTOR SHALL SUPPLY ALL PERMANENT MATERIALS/EQUIPMENT REQUIRED AND ALL LABOR, EQUIPMENT, TOOLS, UTILITIES, MINOR HARDWARE/MATERIALS, TRANSPORTATION AND FACILITIES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF SERVICES AND INSTALL WORK, WHETHER TEMPORARY OR PERMANENT. CONTRACTOR SHALL BE OBLIGATED TO PERFORM ALL THE WORK OUTLINED IN THESE DRAWINGS IN ACCORDANCE WITH THE CONTRACT AGREEMENT, FEDERAL REGULATIONS, STATE REQUIREMENTS, LOCAL CODES, COMMERCIAL/INDUSTRY STANDARDS, DETAILED SCOPE OF WORK, AND THE DOCUMENTS IDENTIFIED BELOW. IN CASE OF A CONFLICT BETWEEN THE ABOVE LISTED DOCUMENTS REGARDING STANDARDS OF WORK, THE MORE STRINGENT CRITERIA SHALL APPLY. ANY ADDITIONAL COSTS OR DELAYS RESULTING FROM CORRECTION OF THE WORK TO COMPLY WITH THE ABOVE REQUIREMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.2. SITE VISIT

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH THE SCOPE OF WORK REQUIRED PER THE DRAWINGS AND ALL LOCAL CONDITIONS AND LAWS AND REGULATIONS THAT MAY IN ANY MANNER AFFECT THE PRICE, PROGRESS AND PERFORMANCE OF WORK, INCLUDING ANY COSTS ASSOCIATED WITH IT. THE CONTRACTOR SHALL ALSO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND NOTIFY THE MOTOROLA REPRESENTATIVE OF ANY DISCREPANCIES OR INTERFERENCES WHICH AFFECT THE WORK OF THIS CONTRACT.

1.3. STANDARDS AND CODES

THE FOLLOWING DOCUMENTS (LATEST REVISION) SHALL BE CONSIDERED TO BE SPECIFICATION AND ARE INCORPORATED HEREIN BY REFERENCE. IN THE EVENT OF CONFLICT BETWEEN THE REQUIREMENTS OF THIS SPECIFICATION AND THE REQUIREMENTS OF THE REFERENCED DOCUMENTS, THE STRICTER SPECIFICATION SHALL GOVERN. WHERE PROVISIONS OF THE CODES AND STANDARDS ARE IN CONFLICT WITH THE BUILDING CODE IN FORCE OR THIS PROJECT, THE BUILDING CODE SHALL GOVERN.

A. AMERICAN CONCRETE INSTITUTE:

- ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- ACI 305 "HOT WEATHER CONCRETING".
- ACI 306 "COLD WEATHER CONCRETING".
- ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- ACI 614 "RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING CONCRETE".
- ACI 311 "RECOMMENDED PRACTICE FOR CONCRETE INSPECTION".
- ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- ACI 613 "RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR CONCRETE".

B. AMERICAN NATIONAL STANDARDS INSTITUTE:

- ANSI Z359 REQUIREMENTS FOR PERSONAL FALL ARREST SYSTEMS, SUBSYSTEMS AND COMPONENTS
- ANSI Z87.1 OCCUPATIONAL AND EDUCATIONAL EYE AND FACE PROTECTION
- ANSI Z89.1 PROTECTIVE HEADWEAR FOR INDUSTRIAL WORKERS –REQUIREMENTS
- ANSI/IEEE C95.1 SAFETY LEVELS WITH RESPECT TO HUMAN EXPOSURE TO RADIO FREQUENCY ENERGY
- ANSI/TLA/EIA STANDARD 222: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.

C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION:

- AISC MANUAL OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION: LATEST EDITION

D. AMERICAN SOCIETY FOR TESTING AND MATERIALS:

- ASTM A615 – "SPECIFICATION FOR DEFORMED AND PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT".
- ASTM C94–80 – "SPECIFICATION FOR READY–MIX CONCRETE.
- ASTM C39–77 – "SPECIFICATION FOR TEST FOR COMPREHENSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMEN".
- ASTM 33 – "SPECIFICATION FOR CONCRETE AGGREGATES".
- ASTM C150 – "SPECIFICATION FOR PORTLAND CEMENT".
- ASTM C172 – "SAMPLING FRESH CONCRETE".
- ASTM C143 – "SLUMP OF PORTLAND CEMENT CONCRETE".
- ASTM D698–91 – "TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT".
- ASTM D1556–84 – "DENSITY OF SOIL IN PLACE BY THE SAND–CONE METHOD".
- ASTM D1557 – "TEST FOR MOISTURE–UNIT WEIGHT RELATIONS OF SOILS AND SOIL–AGGREGATE MIXTURES USING 10–LB. HAMMER AND 18–IN. DROP". (PROCEDURE C)
- ASTM D2487 – "STANDARD CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)
- ASTM D2922 – "DENSITY OF SOIL AND SOIL AGGREGATE IN PLACE BY NUCLEAR METHODS SHALLOW DEPTH".
- ASTM D2940 – "STANDARD SPECIFICATION FOR GRADED AGGREGATE MATERIAL FOR BASES OR SUB–BASES FOR HIGHWAYS OR AIRPORTS"

E. AMERICAN WELDING SOCIETY:

- AWS D12.1 – "RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL. METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION".

F. CONCRETE REINFORCING STEEL INSTITUTE:

- "MANUAL OF STANDARD PRACTICE"

G. FEDERAL AVIATION ADMINISTRATION:

- DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR, AC 70/7460–1L: OBSTRUCTION MARKING AND LIGHTING.
- DEPARTMENT OF TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR, 150–5345–43, FAA/DOD SPECIFICATION L–856: HIGH INTENSITY OBSTRUCTION LIGHTING SYSTEMS.

H. FEDERAL COMMUNICATIONS COMMISSION:

- FEDERAL COMMUNICATIONS COMMISSION – RULES AND REGULATIONS PART 17, CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES.

I. STRUCTURAL STEEL PAINTING COUNCIL:

- SSPC–SP–1–63: SPECIFICATION FOR PAINTING STEEL STRUCTURES.

J. MOTOROLA R56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES (APRIL 2017).

K. MOTOROLA’S CIVIL WORKS BID SPECIFICATIONS

L. NATIONAL FIRE PROTECTION ASSOCIATION:

- NFPA 1 – FIRE PREVENTION CODE
- NFPA 54 – NATURAL GAS FUEL CODE
- NFPA 58 – LP GAS CODE
- NFPA 70 – NATIONAL ELECTRICAL CODE
- NFPA 101 – LIFE SAFETY CODE
- NFPA 110 – EMERGENCY/STANDBY POWER SYSTEMS
- NFPA 111 – STANDARD ON STORED ELECTRICAL ENERGY, EMERGENCY AND STANDBY POWER SYSTEMS
- NFPA 780 – STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS

M. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

- OSHA 1926
- OSHA DIRECTIVES CPL 2–1.29 – INTERIM INSPECTION PROCEDURES DURING COMMUNICATION TOWER CONSTRUCTION ACTIVITIES.

N. INTERNATIONAL BUILDING AND ELECTRICAL CODE, OR AHJ CODES.

1.4. NOTICE TO PROCEED

WHEN THE SITE IS READY FOR INSTALLATION, MOTOROLA SHALL ISSUE A NOTICE TO PROCEED TO THE CONTRACTOR. UPON RECEIPT OF THE NOTICE OF PROCEED. THE CONTRACTOR SHALL SUBMIT TO MOTOROLA A SCHEDULE REFLECTING THE WORK PLAN. THE CONTRACTOR SHALL ADVISE THE MOTOROLA REPRESENTATIVE IMMEDIATELY OF ANY SCHEDULE CHANGES. THE CONTRACTOR SHALL ADJUST HIS WORK, AS REQUIRED, TO COORDINATE WITH THE MOTOROLA INSTALLATION TEAM IF THE SCHEDULES OVERLAP.

1.5. MOTOROLA REPRESENTATIVE

MOTOROLA SHALL DESIGNATE A REPRESENTATIVE. THIS PERSON IS THE ONLY CONTACT POINT AUTHORIZED TO MAKE ANY CHANGES TO THE CONTRACT PROVISIONS OR THE PLANS AND SPECIFICATIONS. ANY CHANGES MADE BY THE CONTRACTOR ARE AT THE CONTRACTOR’S RESPONSIBILITY AND RISK.

1.6. CONTRACTORS FIELD REPRESENTATIVE

CONTRACTOR SHALL ASSIGN A FIELD REPRESENTATIVE WHO IS FAMILIAR WITH THESE SPECIFICATIONS AND WILL REPRESENT THE CONTRACTOR AND HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR AND SUPERVISE ALL CONSTRUCTION ACTIVITIES. THE REPRESENTATIVE SHALL BE AVAILABLE WHEN CONSTRUCTION ACTIVITIES BEGIN. THE FIELD REPRESENTATIVE SHALL BE THE PRIMARY POINT OF CONTACT FOR MOTOROLA DURING THE CONSTRUCTION PHASE OF THE WORK.

1.7. PROJECT MEETINGS

THE CONTRACTOR SHALL CONDUCT THE INITIAL (PRE–CONSTRUCTION) MEETING (INCLUDING ALL SUB–CONTRACTORS) WITH THE MOTOROLA REPRESENTATIVE WITHIN TWO WEEKS AFTER AWARD OF THE CONTRACT. SUBSEQUENTLY, THE CONTRACTOR SHALL PROVIDE PROGRESS SCHEDULE UPDATES TO MOTOROLA ON A WEEKLY BASIS.

1.8. MATERIALS

CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS INCLUDING: ALL PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED, AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO MOTOROLA’S ACCEPTANCE.

MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KINDS (AS DEFINED BY INDUSTRY STANDARDS), FREE OF DEFECTS AND ALL MATERIALS SHALL BE NEW AND UNUSED IN ALL CASES, UNLESS OTHERWISE SPECIFIED. WHERE THE NAME OF A CONCERN OR MANUFACTURER IS MENTIONED ON DRAWINGS OR IN SPECIFICATIONS IN REFERENCE TO A REQUIRED SERVICE OR PRODUCT, AND NO QUALIFICATIONS OR SPECIFICATION OF SUCH IS INCLUDED, THEN THE MATERIAL SPECIFICATIONS, DETAILS OF MANUFACTURE, FINISH, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURER’S STANDARD PRACTICE, DIRECTION OR SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER’S / VENDOR’S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

1.9. VERIFICATION OF EXISTING CONDITIONS

BEFORE STARTING ANY OPERATION, THE CONTRACTOR SHALL EXAMINE EXISTING WORK, OR WORK PERFORMED BY OTHERS, TO WHICH ITS WORK IS TO ADJOIN OR BE APPLIED AND SHALL REPORT TO MOTOROLA PROJECT MANAGER ANY CONDITIONS THAT WILL PREVENT SATISFACTORY ACCOMPLISHMENT OF HIS WORK. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY DATA AS INDICATED IN THE PLANS AND SPECIFICATIONS AND/OR AS PROVIDED BY MOTOROLA. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS, OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE MOTOROLA REPRESENTATIVE IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED. FAILURE TO NOTIFY THE MOTOROLA REPRESENTATIVE OF DEFICIENCIES, ERRORS OR FAULTS PRIOR TO COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE THEREOF AND WAIVER OF ANY CLAIMS OF UNSUITABILITY, ERRORS, OMISSIONS OR INACCURACIES.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF HIS SUB–CONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE LAND OWNER OR MOTOROLA TO RE–ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.

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C	04/20/23	CONSTRUCTION DRAWINGS	TNW		
D	05/09/23	CONSTRUCTION DRAWINGS	TNW		
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F	06/27/23	CONSTRUCTION DRAWINGS	TNW		
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GENERAL NOTES

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GN-1

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1.10. PERMITS

THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL MEET ALL OF THE REGULATORY REQUIREMENTS OF THE JURISDICTION GOVERNING CONSTRUCTION.

1.11. SITE INSPECTION

THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR ARRANGING WITH MOTOROLA FOR AN INSPECTION PRIOR TO COVERING UP ALL WORK THAT WILL BE COVERED IN FINISHED CONDITION. IT IS THE SITE GENERAL CONTRACTOR’S RESPONSIBILITY TO MANAGE THE SEQUENCE OF WORK AND REQUEST THE INSPECTIONS IN A TIMELY MANNER. THE SITE GENERAL CONTRACTOR SHALL NOT REQUEST AN INSPECTION UNLESS ALL OF THE RELATED WORK HAS BEEN COMPLETED. WORK SHALL NOT PROCEED TO THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE LOCAL INSPECTORS AND THE MOTOROLA REPRESENTATIVE. THE PRESENCE OF THE OWNER OR MOTOROLA REPRESENTATIVE ON THE JOB SITE IN NO WAY RELIEVES THE SITE GENERAL CONTRACTOR OF THE ASSOCIATED RESPONSIBILITIES OF THE JOB. ANY WORK WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE CORRECTED OR REMOVED SOLELY AT THE SITE GENERAL CONTRACTOR’S EXPENSE.

THE FOLLOWING INFORMATION IS INCLUDED AS A GUIDE TO THE CONTRACTOR TO ASSIST IN DETERMINING THE TYPE AND FREQUENCY OF INSPECTIONS. THE LISTED INSPECTIONS REPRESENT THOSE REQUIRED FOR SMALL OR SIMPLE PROJECTS. LARGE OR COMPLEX PROJECTS MAY REQUIRE ADDITIONAL INSPECTIONS DEPENDING ON THE SEQUENCE OF WORK.

- FOUNDATION EXCAVATIONS AND REBAR: TO BE MADE AFTER TRENCHES ARE EXCAVATED AND FORMS ERECTED, REINFORCEMENT PLACED, COMPACTION TESTED, SOIL TREATED, VAPOR BARRIER PLACED, AND ESSENTIALLY READY FOR CONCRETE PLACEMENT.
- GROUNDING: TO BE MADE AFTER THE BELOW GROUND CADWELD CONNECTIONS HAVE BEEN COMPLETED, PRIOR TO COVERING UP THE TRENCHES.
- ELECTRICAL WORK WITHIN WALLS: TO BE MADE AFTER THE ROOF, FRAMING, FIRE BLOCKING AND BRACING IS IN PLACE PRIOR TO THE INSTALLATION OF INSULATION OR WALL/CEILING MEMBRANES.

AS A GENERAL RULE. THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO MOTOROLA FOR INSPECTION OF ALL WORK PRIOR TO CONCEALMENT. THE CONTRACTOR HAS RESPONSIBILITIES RELATIVE TO ALL TYPES OF INSPECTIONS AND IS RESPONSIBLE FOR CONTACTING ALL OF THE INSPECTING ENTITIES TO DETERMINE HIS RESPONSIBILITIES. ALL OF THESE INSPECTING ENTITIES HAVE UNIQUE AND SEPARATE RESPONSIBILITIES. ONE INSPECTION FROM AN ENTITY WILL NOT SUBSTITUTE FOR AN INSPECTION FROM ANOTHER ENTITY.

1.12. SAFETY

THE CONTRACTOR, HIS EMPLOYEES, ANY SUB–CONTRACTORS, VENDORS, THEIR RESPECTIVE EMPLOYEES AND CONTRACTOR’S VISITORS SHALL COMPLY WITH ALL SAFETY STANDARDS, ACCIDENT PREVENTION REGULATIONS AND ENVIRONMENTAL REGULATIONS PROMULGATED BY FEDERAL, STATE, OR LOCAL AUTHORITIES HAVING JURISDICTION AND SHALL AT ALL TIMES CONDUCT ALL OPERATIONS UNDER THE CONTRACT IN A MANNER TO AVOID THE RISK OF BODILY HARM TO ANY PERSONS AND THE RISK OF DAMAGE TO ANY PROPERTY, EQUIPMENT OR MATERIAL SUCH PARTIES SHALL ALSO COMPLY WITH ANY SAFETY PROGRAMS AND/OR RULES PROMULGATED BY OWNER AND/OR MOTOROLA.

1.13. ELECTRO MAGNETIC EMISSIONS

THE CONTRACTOR SHALL ACKNOWLEDGE ALL OR PORTIONS OF THE WORK MAY INVOLVE POSSIBLE EXPOSURE OF CONTRACTOR, SUB–CONTRACTORS, AND THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES AND OTHER VISITORS TO THE JOBSITE AND/OR MOTOROLA PREMISES TO ELECTRO–MAGNETIC ENERGY (“EME”) WHILE PERFORMING WORK UNDER THIS CONTRACT, ESPECIALLY IF WORK IS PERFORMED ON EXISTING ANTENNA TOWERS WHERE ANTENNAS ARE LOCATED. THE CONTRACTOR REPRESENTS THAT CONTRACTOR, SUBCONTRACTORS, AND ALL OF THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES, AND OTHER AUTHORIZED REPRESENTATIVES WHO ARE PERFORMING SERVICES UNDER THIS AGREEMENT WILL COMPLY WITH ALL ANSI AND ANY OTHER APPLICABLE EME STANDARDS, RULES OR REGULATIONS, INCLUDING, BUT NOT LIMITED TO THOSE RULES OR REGULATIONS IMPOSED OR SUGGESTED BY MOTOROLA, IF ANY.

THE CONTRACTOR SHALL ADHERE TO ALL OSHA RULES, REGULATIONS AND ADOPTED POLICIES. ALL CONTRACTOR PERSONNEL SHALL HAVE UNDERGONE ELECTROMAGNETIC ENERGY (EME) TRAINING FOR PERSONNEL WORKING IN THE VICINITY OF ACTIVE ANTENNAS. AS SUCH IT IS RECOMMENDED THAT RF MONITORS BE USED BY THE TOWER PERSONNEL TO MONITOR EXPOSURE LEVELS. IF EME LEVELS AT THE SITE EXCEED THE MAXIMUM PERMISSIBLE EXPOSURE LIMITS, THE CONTRACTOR SHALL COORDINATE WITH THE INDIVIDUALS RESPONSIBLE FOR USE OF THE TRANSMITTER TO MAKE SURE THAT THE EQUIPMENT IS DEACTIVATED BEFORE WORK CAN BE RESUMED, WITHOUT CAUSING A SERIOUS DISRUPTION OF THE SERVICE.

1.14. SITE CLEANUP

THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE AT ALL TIMES DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. WHENEVER THE WORK–SITE IS LEFT UNATTENDED, THE CONTRACTOR SHALL BLOCK THE OPENING WITH WARNING TAPE TO DISCOURAGE TRESPASSING. THE PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE AT THE CONCLUSION OF SITE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPE GRADING AND SEEDING OF THE DISTURBED SOIL THE CONTRACTOR SHALL USE LOCAL GRASS SEED TO STABILIZE SOIL AND SHALL COVER DISTURBED AREAS WITH HAY MULCH TO REDUCE RUNOFF OF SEDIMENT TO DOWNSTREAM AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION. ALL SLOPES AND DISTURBED AREAS NOT RECEIVING AGGREGATE SURFACING ARE TO BE PREPARED AND BROADCAST SEEDED AND FERTILIZED FOR EROSION PROTECTION. SEEDING FOR AREAS DISTURBED SHALL BE ESTABLISHED SEASONALLY AS REQUIRED BY LOCAL CODES.

THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE OR INTERRUPTION OF EXISTING UNDERGROUND OR OVERHEAD ELECTRIC SERVICES, UNDERGROUND GROUNDING AND FUEL LINES, EQUIPMENT AND BUILDINGS ON THE SITE, PLUS OFF SITE SERVICES, BURIED OR OVERHEAD, SURROUNDING THE EXISTING OR EXPANDED COMPOUND. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND MOTOROLA AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR MOTOROLA. BURNING WILL NOT BE PERMITTED.

1.15. FACILITY STARTUP & COMMISSIONING

THE CONTRACTOR AND/OR SUB–CONTRACTORS SHALL DEMONSTRATE TO MOTOROLA THAT ALL SYSTEMS AND SUB–SYSTEMS INSTALLED UNDER THIS CONTRACT, OPERATE PROPERLY PRIOR TO THE FINAL ACCEPTANCE INSPECTION AND PROVIDE THE OPERATIONS AND MAINTENANCE MANUALS AT THIS TIME.

1.16. SHOP DRAWINGS/AS–BUILT DRAWINGS

THE MODIFICATIONS TO THE DRAWINGS AFTER CONSTRUCTION START SHALL RECEIVE ENGINEERING AND MOTOROLA APPROVAL PRIOR TO ANY CHANGES BEING MADE. THE ENGINEER OF RECORD SHALL MAKE THE REQUIRED CHANGE AND WILL SUBMIT CHANGES TO MOTOROLA AND ANY JURISDICTION HAVING AUTHORITY.

THE CONTRACTOR SHALL KEEP UP–TO–DATE MARKED–UP PRINTS OF THE PROJECT DRAWINGS. UPON COMPLETION OF WORK AT THE SITE, THE CONTRACTOR SHALL REVIEW THE COMPLETED AS–BUILT DRAWINGS, AND ASCERTAIN THAT ALL DATA FURNISHED ON THE DRAWINGS IS ACCURATE AND TRULY REPRESENTS THE WORK IS ACTUALLY INSTALLED. MARKINGS INDICATING CHANGES TO THE DRAWINGS SHALL BE RED OR GREEN AND CLEARLY VISIBLE. TWO (2) SETS OF “AS–BUILT” DRAWINGS SHALL BE FURNISHED TO THE MOTOROLA REPRESENTATIVE WITHIN 5 DAYS OF THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL ALSO SHOW THE FOLLOWING:

- MODIFICATIONS TO SITE LAYOUT.
- GROUNDING SYSTEM LAYOUT.
- UNDERGROUND FUEL LINE RUN.
- UNDERGROUND TELCO CABLE RUN.
- UNDERGROUND ELECTRICAL RUN.

WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE SITE EQUIPMENT ROOM. ISOLATION TRANSFORMER. GENERATOR, ETC.) THAT REQUIRES PERIODIC MAINTENANCE, THE CONTRACTOR SHALL INCLUDE ALL OPERATION AND MAINTENANCE MANUALS AND ALL AS–BUILT DRAWINGS WHICH FULLY DESCRIBE THE ACTUAL INSTALLED EQUIPMENT.

1.17. TEST PROCEDURES AND RESULTS

CONTRACTOR WILL CONTRACT WITH A THIRD PARTY “INDEPENDENT” TESTING FIRM TO PERFORM & SUBMIT THE RESULTS OF ALL TESTS REQUIRED BY THE PROJECT SPECIFICATIONS AND DRAWINGS THAT FALL WITHIN THE SCOPE OF WORK. THESE RESULTS SHALL BE SUBMITTED TO THE DESIGNATED MOTOROLA REPRESENTATIVE. IN GENERAL, THE “INDEPENDENT” TESTING FIRM SHALL SUBMIT THE FOLLOWING TEST RESULTS:

- MIX DESIGN/CONCRETE COMPRESSION TEST FOR ALL CONCRETE WORK.
- FREQUENCY DOMAIN REFLECTOMETER (FDR) WITH PRECISION LOAD / SWEEP TEST FOR ANTENNA AND TRANSMISSION LINE INSTALLATION WORK. ALL SWEEP AND TEST MUST BE WITHIN THE GUIDELINES OUTLINED IN MOTOROLA MOP.
- FUEL LINE LEAKAGE TEST FOR FUEL TANK AND PIPING INSTALLATION WORK.
- SLUMP TEST FOR CONCRETE WORK.
- GROUNDING RESISTANCE TEST FOR GROUNDING WORK.
- STRUCTURAL STEEL FABRICATION DRAWINGS.
- STRUCTURAL (TOWER) STEEL MATERIALS, FINISH, ASSEMBLY, AND PROPER ASSEMBLY AND INSTALLATION OF ANTENNAS AND TRANSMISSION LINES. (“THIRD PARTY CLIMB” AND REPORT INCLUDING PHOTO DOCUMENTATION)
- ANY OTHER TEST THAT MAY BE REQUIRED.

1.18. CONTRACT CLOSEOUT – IN ACCORDANCE WITH MOTOROLA’S SUBCONTRACT AGREEMENT TERMS AND CONDITIONS

THE MOTOROLA REPRESENTATIVE WILL PROVIDE A CERTIFICATE OF COMPLETION AND APPROVE FINAL PAYMENT WHEN ALL PUNCH–LIST ITEMS HAVE BEEN CORRECTED, RECORD DRAWINGS SUBMITTED, AND ALL SYSTEMS ARE ACCEPTABLE. THE CONTRACTOR MUST ALSO RECEIVE A CERTIFICATE OF COMPLETION FROM THE MUNICIPALITY. AFTER FINAL PAYMENT, CONTRACTOR WILL SIGN A RELEASE OF LIEN.

1.19. WARRANTY

ALL WORK PERFORMED BY THE CONTRACTOR IN COMPLETING THE SCOPE IDENTIFIED ON THE DRAWINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL COMPLETION OF THE PROJECT. THIS GUARANTEE SHALL COVER ALL MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH IN THE OPINION OF MOTOROLA IS RENDERED DEFECTIVE OR INFERIOR OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT DURING THE GUARANTEE PERIOD. IF, WITHIN THE GUARANTEE PERIOD, REPAIRS OR CHANGES ARE REQUIRED TO CORRECT THE GUARANTEE WORK. THEN UPON RECEIPT OF NOTICE, THE CONTRACTOR SHALL PROMPTLY AND WITHOUT EXPENSE TO MOTOROLA OR THE OWNER, PROCEED TO:

- PLACE IN SATISFACTORY CONDITION ALL OF SUCH GUARANTEED WORK AND CORRECT ALL DEFECTS THEREIN.
- MAKE GOOD ALL DAMAGES TO THE STRUCTURE OR SITE OR EQUIPMENT OR CONTENTS THEREOF, WHICH, IN THE OPINION OF THE MOTOROLA REPRESENTATIVE, IS THE RESULT OF THE USE OF MATERIALS, EQUIPMENT, OR WORKMANSHIP WHICH ARE INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.
- MAKE GOOD ANY WORK, MATERIALS OR EQUIPMENT AND ADJACENT STRUCTURES DISTURBED IN FULFILLING THE GUARANTEE.

1.20. RELATED DOCUMENTS

CONTRACTOR SHALL BECOME FAMILIAR WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE FOLLOWING DOCUMENTS RELATED TO THE PROJECT:

- A. TOWER AND TOWER FOUNDATION DRAWINGS BY THE MANUFACTURER.
- B. R–56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES BY MOTOROLA.
- C. ALL OTHER PERTINENT DOCUMENTS.

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





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Abbreviations and Symbols

A/C	AIR CONDITIONING	N	NORTH
ADJ	ADJUSTABLE	N/A	NOT APPLICABLE
AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
APPROX	APPROXIMATELY	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS		
AWG	AMERICAN WIRE GAUGE	O/C,O.C.	ON CENTER
		OD	OUTSIDE DIAMETER
		OPG	OPENING
		OPP	OPPOSITE
BLDG	BUILDING		
BLK	BLOCK		
BMR	BASE MOBILE RADIO	PLYWD	PLYWOOD
B/S	BUILDING STANDARD	PR	PAIR
		PROJ	PROJECT
		PROP	PROPERTY
		PT	PRESSURE TREATED
CLG	CEILING		
CLR	CLEAR		
CND,C	CONDUIT		
CONC	CONCRETE	R	RADIUS
CONST	CONSTRUCTION	REQ'D	REQUIRED
CONT	CONTINUOUS	RM	ROOM
		RO	ROUGH OPENING
DBL	DOUBLE		
DIA,ø	DIAMETER	S	SOUTH
DIAG	DIAGONAL	SHT	SHEET
DIM	DIMENSION	SIM	SIMILAR
DN	DOWN	SPEC	SPECIFICATION
DTL,DTL	DETAIL	SQ	SQUARE
DWG	DRAWING	SS	STAINLESS STEEL
		STL	STEEL
		STRUCT	STRUCTURAL
E	EAST	SUSP	SUSPENDED
EA	EACH	SV	SHEET VINYL
EL,ELEV	ELEVATION		
ELECT	ELECTRICAL		
EQ	EQUAL	THRU	THROUGH
EQUIP	EQUIPMENT	TNND	TINNED
EW	EACH WAY	TOC	TOP OF CONCRETE
EXIST	EXISTING	TOM	TOP OF MASONRY
EXT	EXTERIOR	TYP	TYPICAL
FIN	FINISH	UBC	UNIFORM BUILDING CODE
FLUOR	FLUORESCENT		
FLR	FLOOR	UNO	UNLESS NOTED OTHERWISE
FT	FOOT		
GA	GAUGE	VERT	VERTICAL
GALV	GALVANIZE(D)	VIF	VERIFY IN FIELD
GC	GENERAL CONTRACTOR	VT	VINYL TILE
GRND	GROUND		
GWB	GYP SUM WALL BOARD	W	WEST
GYP BD	GYP SUM BOARD	W/	WITH
		WIN	WINDOW
		W/O	WITHOUT
		WP	WATERPROOF
HARD'WD	HARDWOOD		
HORIZ	HORIZONTAL		
HR	HOUR		
HT	HEIGHT		
HVAC	HEATING, VENTING & AIR CONDITIONING		
ID	INSIDE DIA.	∠	ANGLE
IN	INCH	&	AND
INFO	INFORMATION	CL	CENTER LINE
INSUL.	INSULATION	PL	PROPERTY LINE
INT	INTERIOR	@	AT
		#	NUMBER
LB(S)	POUND(S)		
MAX	MAXIMUM		
MECH	MECHANICAL		
MET,MTL	METAL		
MFR	MANUFACTURER		
MGR	MANAGER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		

Symbols

	REVISION		DETAIL REFERENCE
	KEY NOTE		ELEVATION REFERENCE
	ROOM NUMBER		SECTION REFERENCE
	KEYED NOTE		

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MOTOROLA
SOLUTIONS



ABBREVIATIONS AND SYMBOLS

SOAP STONE

7761 S. GENITO RD.
JETERSVILLE, VA 23083

GN-3

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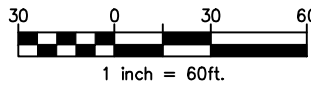
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TOWER NOTE:

PROPOSED MONOPOLE TOWER SHALL BE DESIGNED SO AS TO COLLAPSE WITHIN A 100'-0" MAX. FALL RADIUS.

Site Location Plan



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SITE LOCATION PLAN

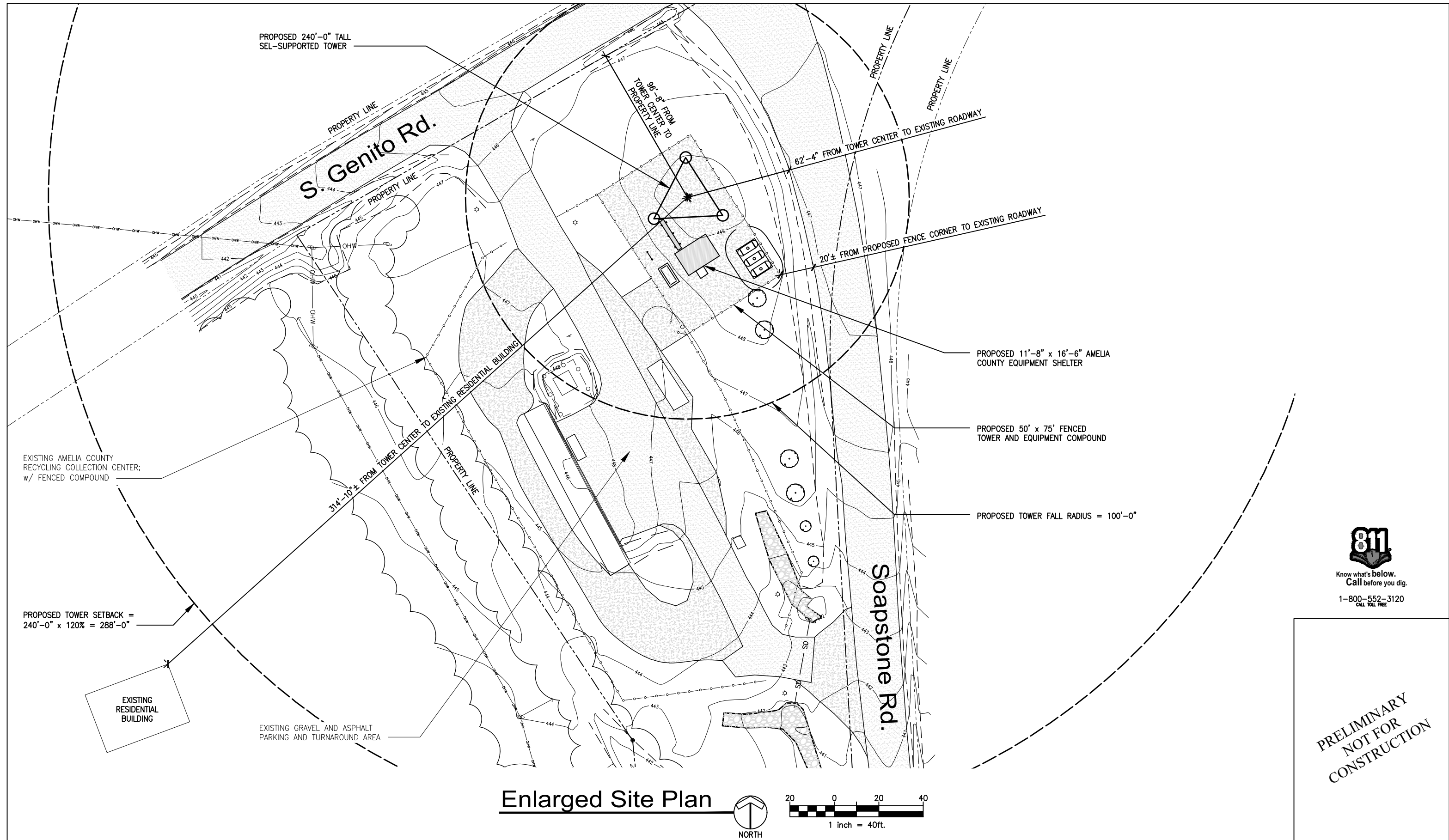
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 **KCI**
TECHNOLOGIES
4505 FALLS OF NEUSE ROAD
SUITE #400
RALEIGH, NORTH CAROLINA 27609
(919) 783-9214

 **MOTOROLA**
SOLUTIONS



ENLARGED SITE PLAN

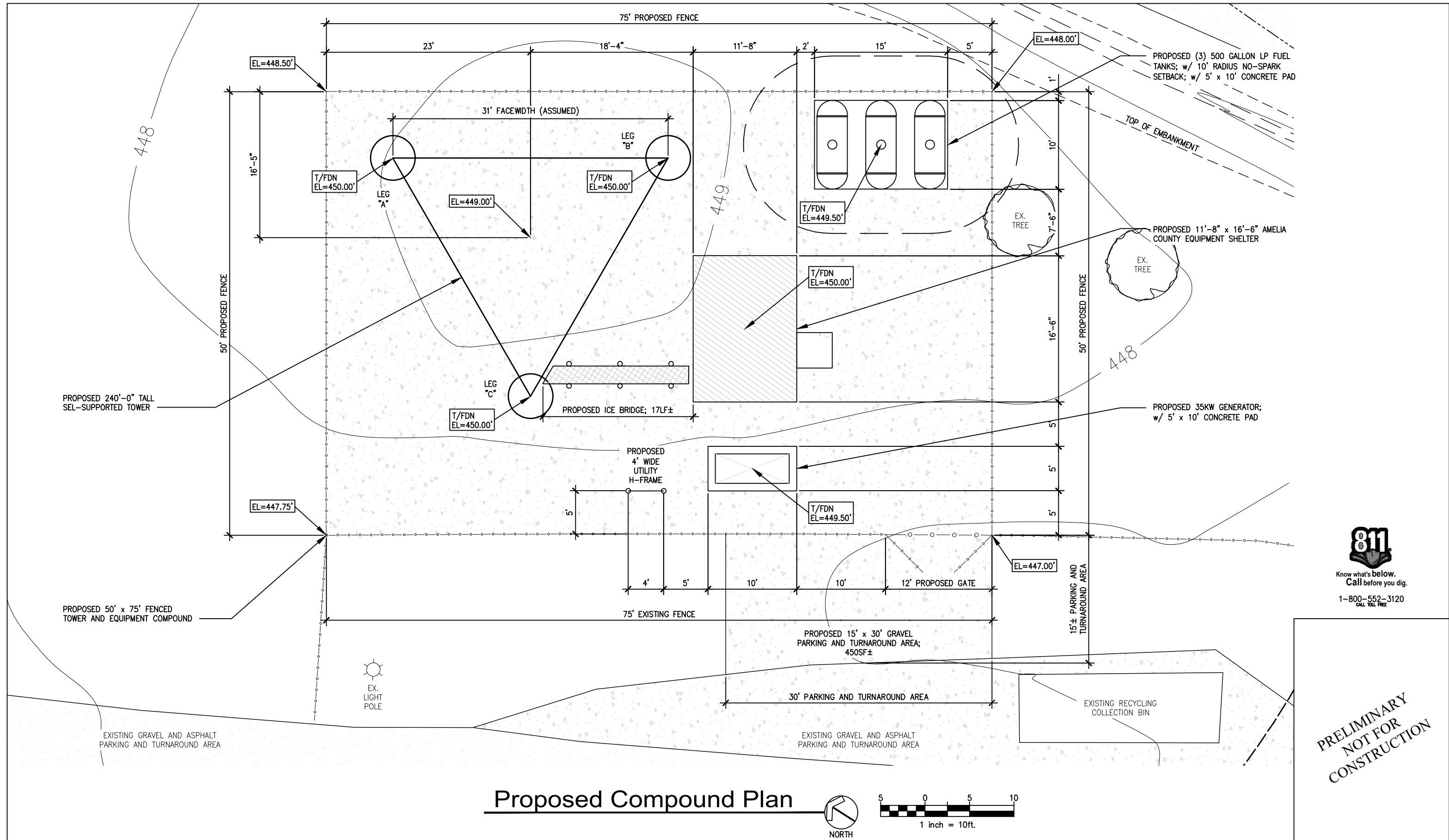
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MOTOROLA SOLUTIONS



PROPOSED COMPOUND PLAN

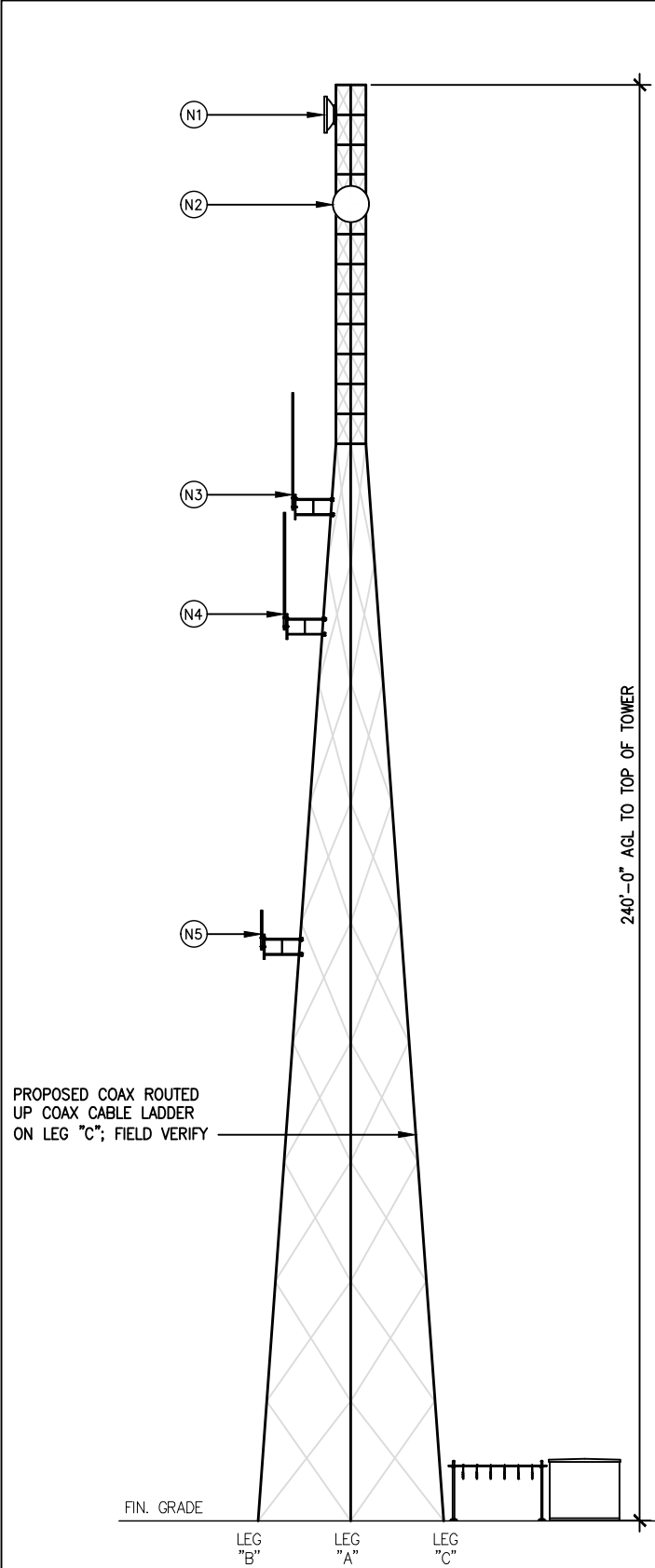
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1 Tower Elevation
NOT TO SCALE

SOAP STONE – 240'-0" SST		ANTENNA/APPURTENANCE LOCATION CHART													E = EXISTING	
LAT: N 37° 19' 00.87" (NAD 83)															N = NEW	
LON: W 78° 10' 36.71 (NAD 83)															F = FUTURE	
ANTENNA INFORMATION												FEEDLINE INFORMATION				
ANTENNA ID	MANUFACTURER	MODEL	TYPE	LENGTH	BOTTOM ELEV.	RAD CENTER	TOP ELEV.	MOUNT TYPE	LEG	AZIMUTH	QTY.	TYPE	MODEL	SIZE	QTY.	BANDING COLOR
N1	RFS	HX6-W6	MICROWAVE	6'	232'	235'	238'	PIPE	B	81.62° EMER. MGMT.	1	ELLIPTICAL	E65	2.2" x 1.3"	1	BLUE BLUE
N2	RFS	HX6-W6	MICROWAVE	6'	217'	220'	223'	PIPE	A	24.97° COOK ROAD	1	ELLIPTICAL	E65	2.2" x 1.3"	1	BLUE WHITE
N3	ALIVE TELECOM	ATC-GC7V120	Rx OMNI	17'	171.5'	180'	188.5'	SIDE ARM	B	N/A	1	COAX	AT078J50	7/8"	1	RED RED
			TTA		171.5'							COAX	AT012J50	1/2"	1	RED WHITE
N4	ALIVE TELECOM	ATC-GC7V120	Tx OMNI	17'	151.5'	160'	168.5'	SIDE ARM	B	N/A	1	COAX	AT158J50	1-5/8"	1	GREEN GREEN
N5	DB SPECTRA	DS4C03CS36UN	INTEROP OMNI	4'	98'	100'	102'	SIDE ARM	B	N/A	1	COAX	AT012J50	1/2"	1	YELLOW YELLOW

2 Antenna Chart
NOT TO SCALE

GENERAL NOTES:

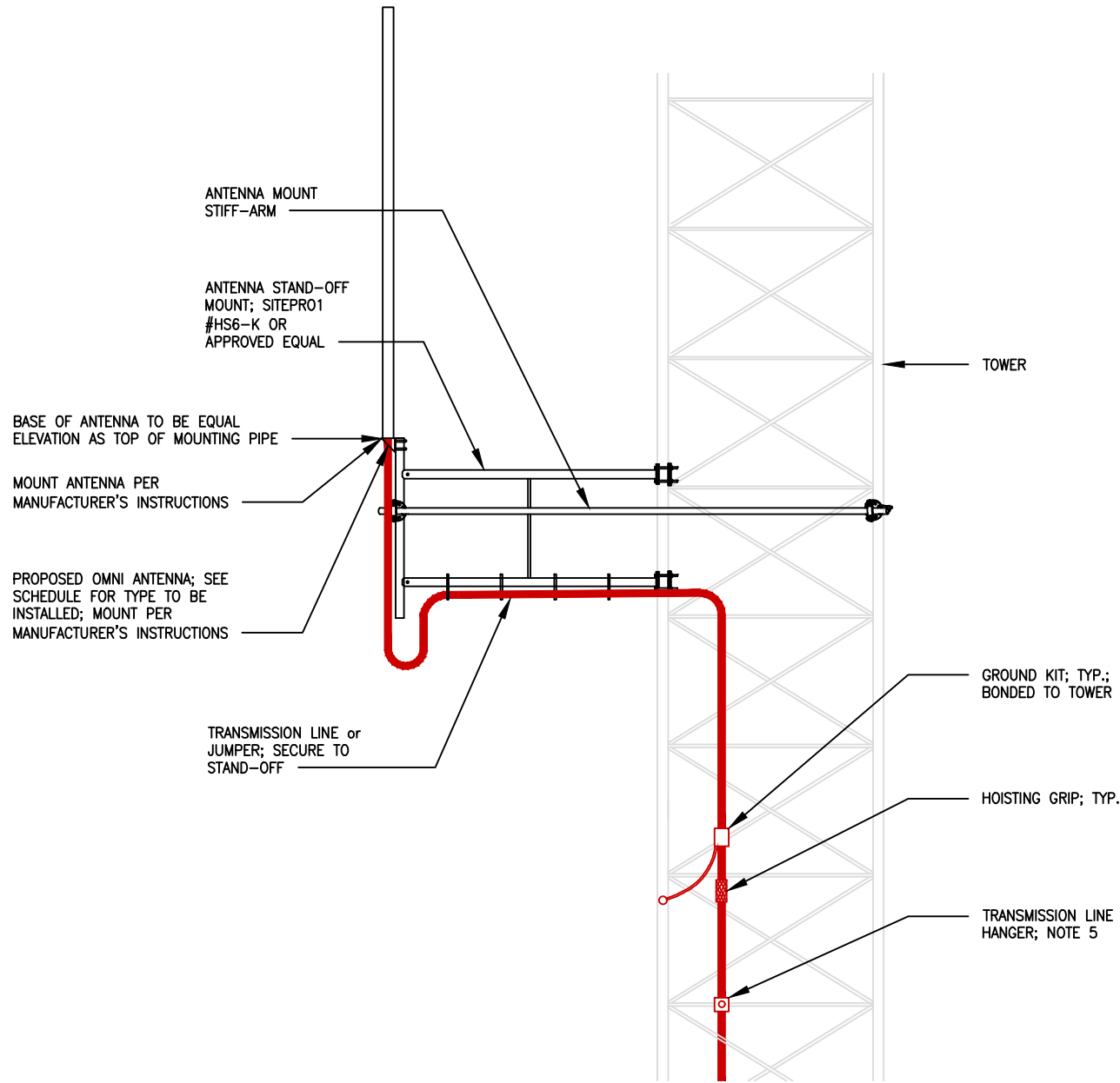
1. ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP AND BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION) AND NEAR ENTRY PORT ON THE SHELTER. ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 75 FEET.
2. THE CONTRACTOR SHALL CONDUCT A TDR SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE, CABLE INSERTION LOSS, REFLECTION AND STIMULUS RESPONSE MEASUREMENTS. RESULTS TO BE SUBMITTED TO MOTOROLA.
3. DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE SHELTER.
4. ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA, JUST BEFORE ENTERING THE SHELTER, AS WELL AS INSIDE THE SHELTER BEFORE CONNECTING TO THE SURGE SUPPRESSORS. SEE EQUIPMENT & COAXIAL CABLE SCHEDULE FOR COLOR CODING SCHEME.
5. ALL GROUNDING MUST CONFORM TO MOTOROLA R56 STANDARDS AND SPECIFICATIONS (APRIL 2017).

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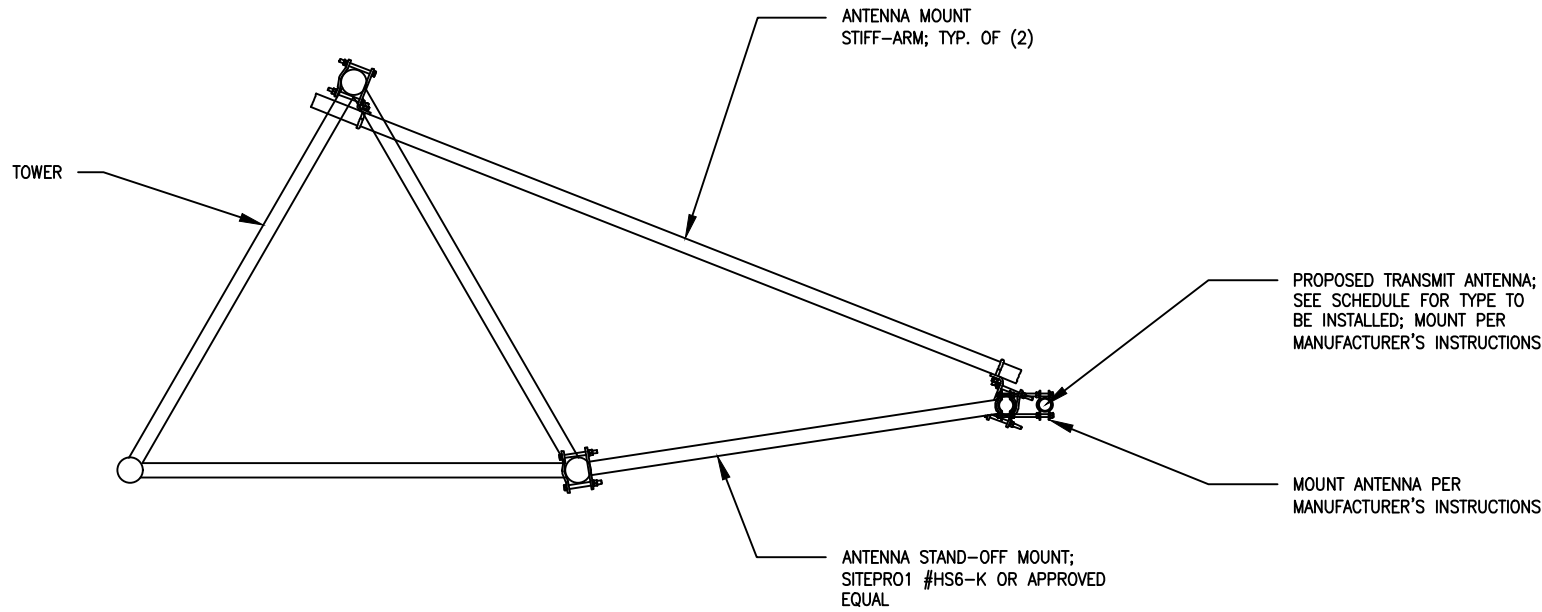
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TOWER ELEVATION AND ANTENNA INFORMATION		C-4	THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
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1 **Antenna Detail**
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2 **Antenna Detail**
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NOTES:

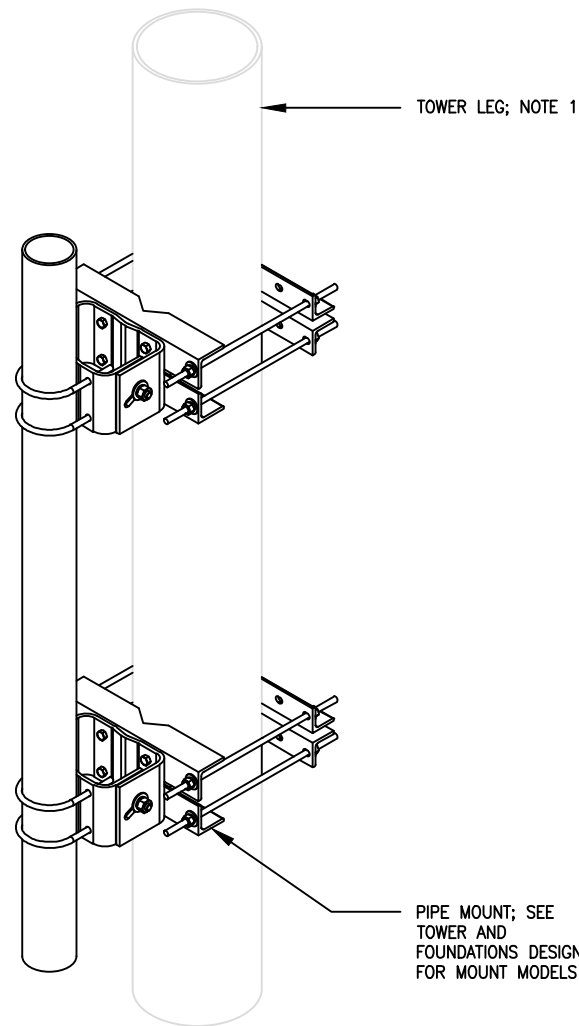
1. ANTENNAS, CONNECTORS, JUMPERS, TRANSMISSION LINES, TO BE FURNISHED BY MOTOROLA, AND INSTALLED BY CONTRACTOR.
2. CONTRACTOR TO USE STRAIN RELIEF EVERY 200 FEET (MIN.) FOR TRANSMISSION LINES. TO BE INSTALLED BEFORE INSTALLATION OF TRANSMISSION LINES.
3. CONTRACTOR TO WATERPROOF ALL EXTERNAL CONNECTIONS.
4. CONTRACTOR TO INSTALL GALVANIZED OR STAINLESS STEEL MOUNTING HARDWARE.
5. CONTRACTOR TO ATTACH CABLES TO TOWER EVERY 3 FOOT (MAX.)
6. CONTRACTOR SHALL PERFORM A SWEEP TEST ON TRANSMISSION AND TEST LINES PRIOR TO INSTALLATION. IMMEDIATELY NOTIFY MOTOROLA OF ANY LINE DEFICIENCIES.
7. ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS WILL BE GROUNDED NEAR THE TOP AND BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION) AND NEAR ENTRY PORT ON THE SHELTER. TRANSMISSION LINE GROUND KITS WILL BE INSTALLED EVERY 75 FEET.
8. VERIFY IN FIELD OR REVIEW THE TOWER STRUCTURAL ANALYSIS FOR MEMBER SIZE PRIOR TO ORDERING ANTENNA MOUNTS.
9. CONTRACTOR SHALL VERIFY THE RF CONFIGURATION AND STRUCTURAL ANALYSIS BEFORE INSTALLATION.

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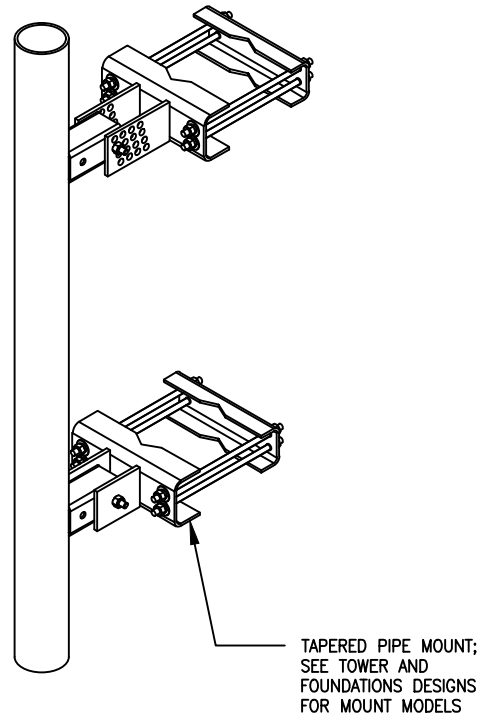
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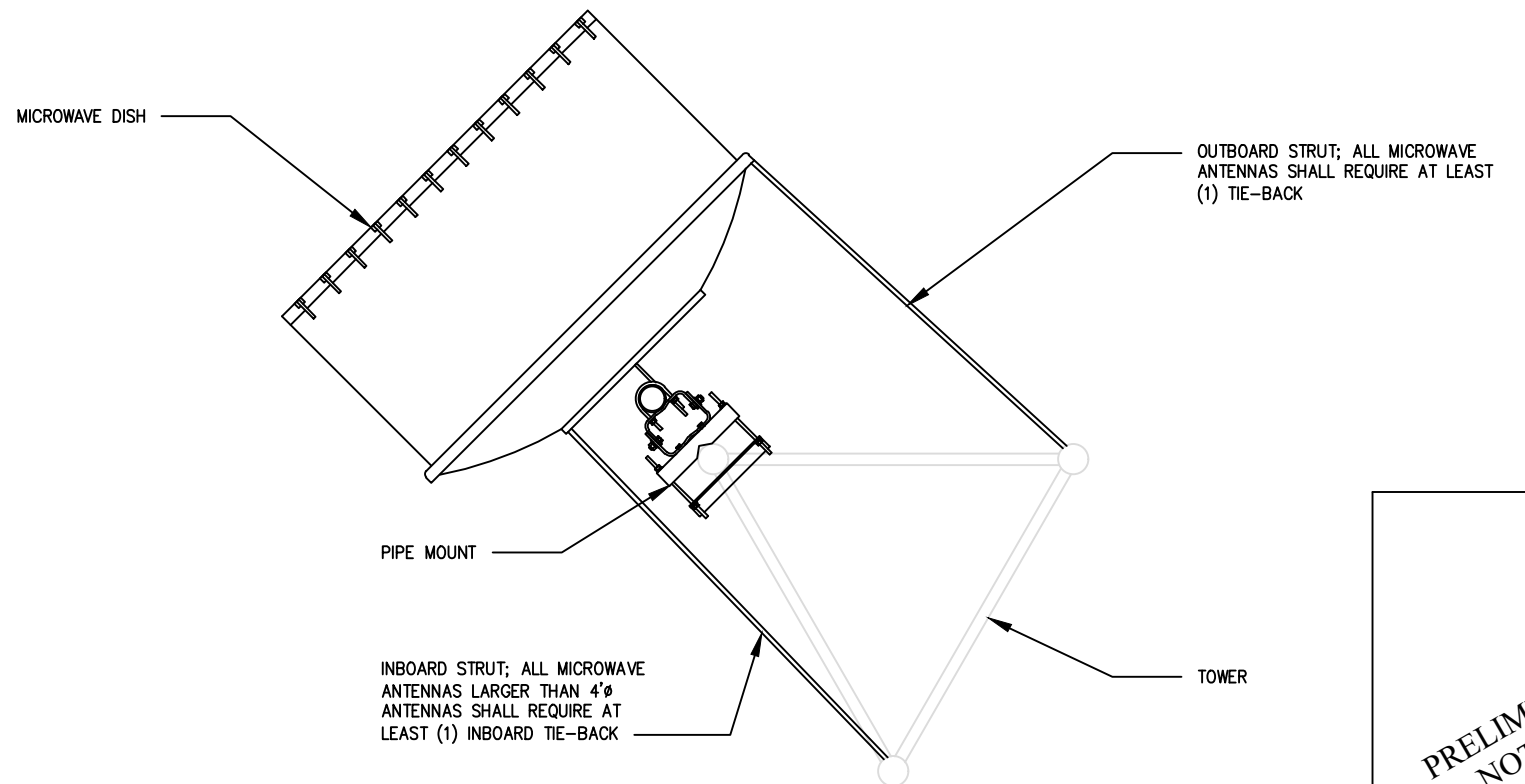
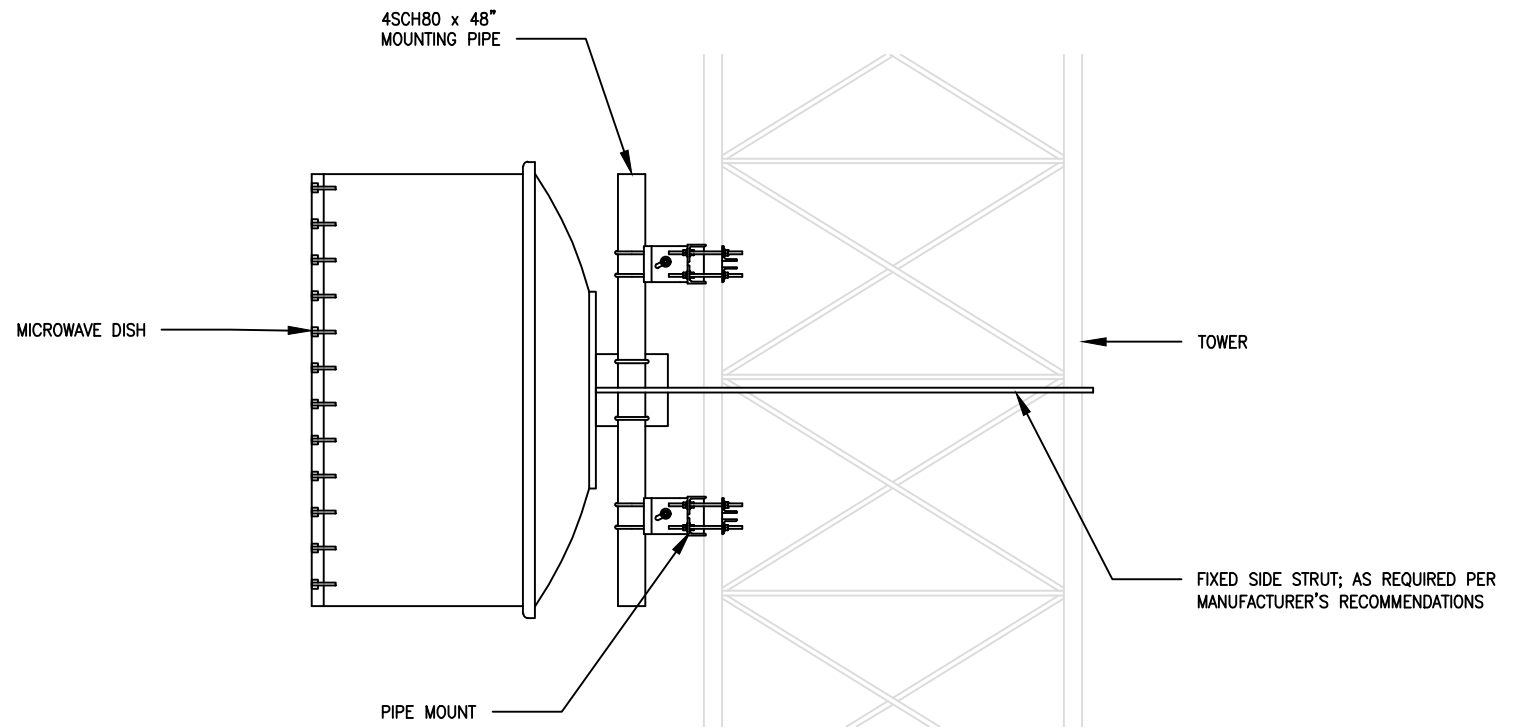


- NOTES:**
1. VERIFY IN FIELD OR REVIEW THE TOWER STRUCTURAL ANALYSIS FOR MEMBER SIZE PRIOR TO ORDERING ANTENNA MOUNTS.
 2. CONTRACTOR SHALL VERIFY THE RF CONFIGURATION & STRUCTURAL ANALYSIS BEFORE INSTALLATION.



Microwave Dish Mounts

1 NOT TO SCALE



Microwave Dish Mounting

2 NOT TO SCALE

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MICROWAVE INFORMATION

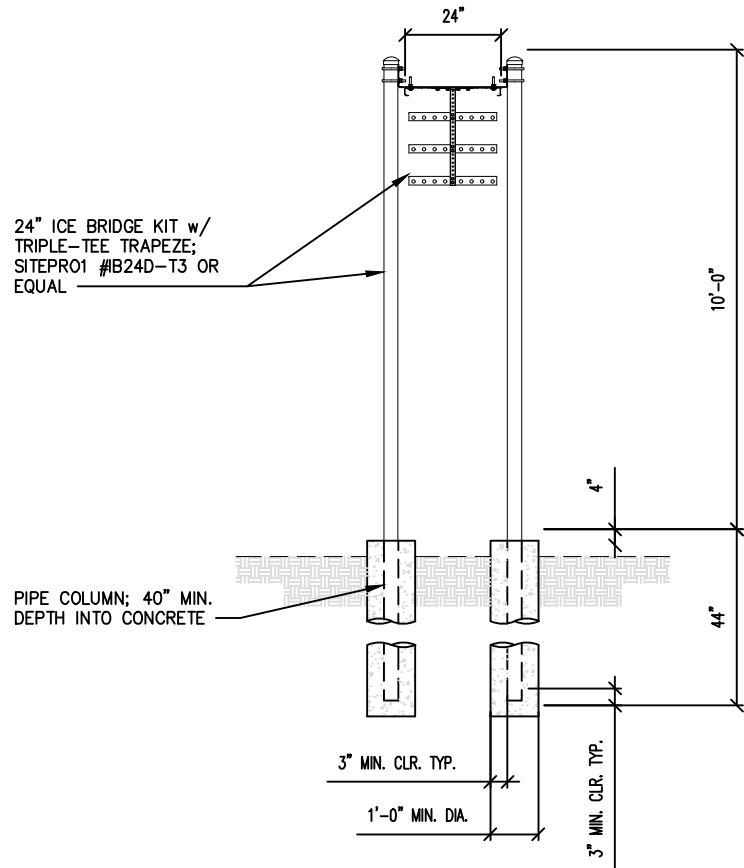
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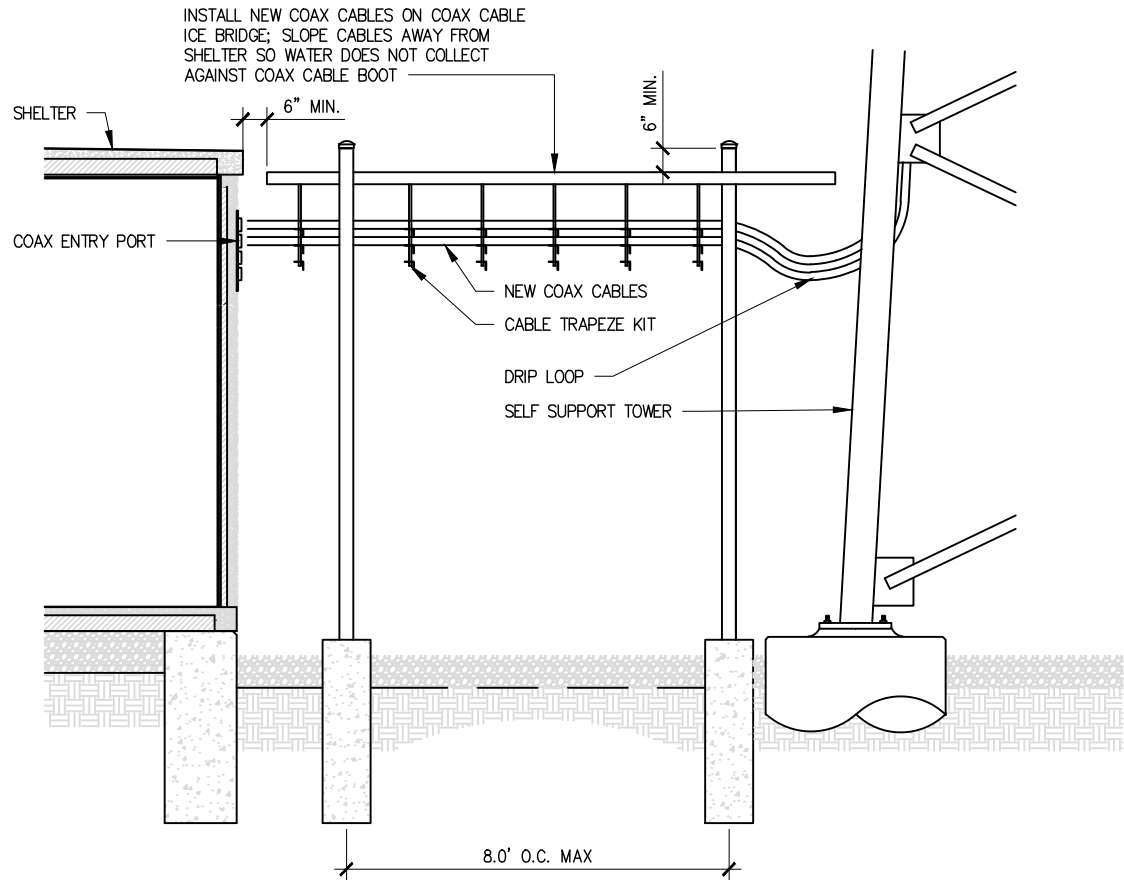
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1 Ice Bridge Section
NOT TO SCALE



2 Ice Bridge Side Elevation
NOT TO SCALE

ICE BRIDGE NOTES:

1. MAXIMUM ALLOWABLE DISTANCE BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF BRIDGE CHANNEL SHALL BE 8 FEET FOR 10 FEET BRIDGE CHANNEL
2. WHEN SPLICING BRIDGE CHANNEL SECTIONS, THE SPLICE SHOULD BE PROVIDED AT THE SUPPORT, IF POSSIBLE, OR AT A MAXIMUM OF 2' FROM THE SUPPORT.
3. SUPPORT SHOULD BE PROVIDED AS CLOSE AS POSSIBLE TO THE ENDS OF ICE BRIDGES, WITH A MAXIMUM CANTILEVER DISTANCE OF 2'-0" FROM THE SUPPORT TO THE FREE END OF THE ICE BRIDGE.
4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES TREATED WITH A MATERIAL TO RESTORE THESE EDGES TO THE ORIGINAL CHANNEL, OR EQUIVALENT, FINISH.
5. ICE BRIDGES MAY BE CONSTRUCTED WITH COMPONENTS FROM OTHER MANUFACTURERS, PROVIDED THE MANUFACTURERS INSTALLATION GUIDELINES ARE FOLLOWED AND THEIR PRODUCT IS CONSIDERED AN EQUAL OR BETTER.
6. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH THE RESPECTIVE MANUFACTURER'S APPROVAL
7. DEVIATIONS FROM ICE BRIDGE FOUNDATIONS REQUIRE ENGINEERING APPROVAL. THE DESIGN IS BASED ON ASCE 7-16 AND 2021 INTERNATIONAL BUILDING CODE (IBC 2021), 3 SECOND GUST WIND SPEED OF 133 MPH, EXPOSURE D, ELEVATION AT GRADE. THIS DESIGN IS BASED ON A 24" WIDE ICE BRIDGE & (12) 1-1/4"Ø CABLES AND MAXIMUM POST SUPPORT SPACING OF 8'-0" O.C.

EXCAVATION AND EARTH WORK NOTES:

1. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING EXCAVATION. LOCATION OF THE KNOWN EXISTING UTILITIES IS APPROXIMATE.
2. THE CONTRACTOR SHALL PHYSICALLY VERIFY THE LOCATION AND ELEVATION OF ALL INDICATED EXISTING UTILITIES TO THE GREATEST EXTENT POSSIBLE PRIOR TO STARTING THE EXCAVATION PROCESS.
3. THE CONTRACTOR SHALL ALSO SCAN THE CONSTRUCTION SITE WITHIN THE NECESSARY LIMITS OF EXCAVATION WITH ELECTRO-MAGNETIC AND SONIC EQUIPMENT IN ORDER TO IDENTIFY THE PRESENCE AND LOCATION OF ALL KNOWN AND UNKNOWN EXISTING UTILITIES PRIOR TO STARTING THE EXCAVATION PROCESS.
4. THE CONTRACTOR SHALL MARK THE SURFACE OF THE GROUND WHERE SUB-SURFACE UTILITIES ARE LOCATED. IF ADDITIONAL SUB-SURFACE UTILITIES OTHER THAN THOSE INDICATED ARE DISCOVERED AT ANY TIME DURING THE EXECUTION OF WORK, IT SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE MOTOROLA CONSTRUCTION MANAGER.

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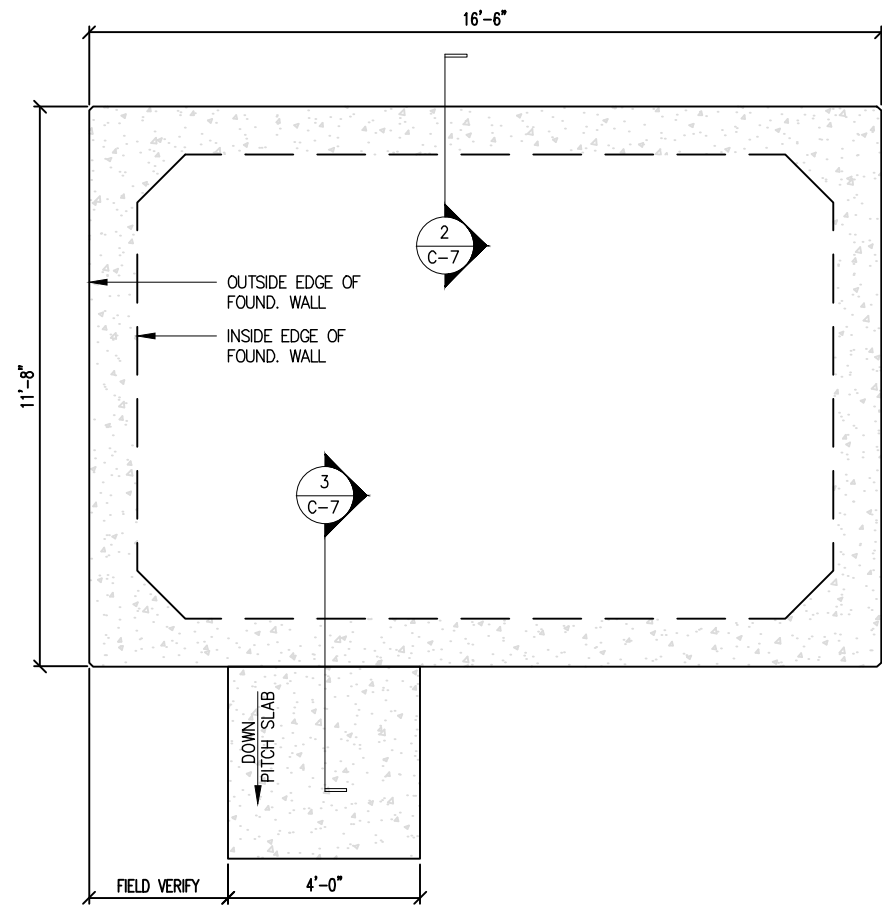
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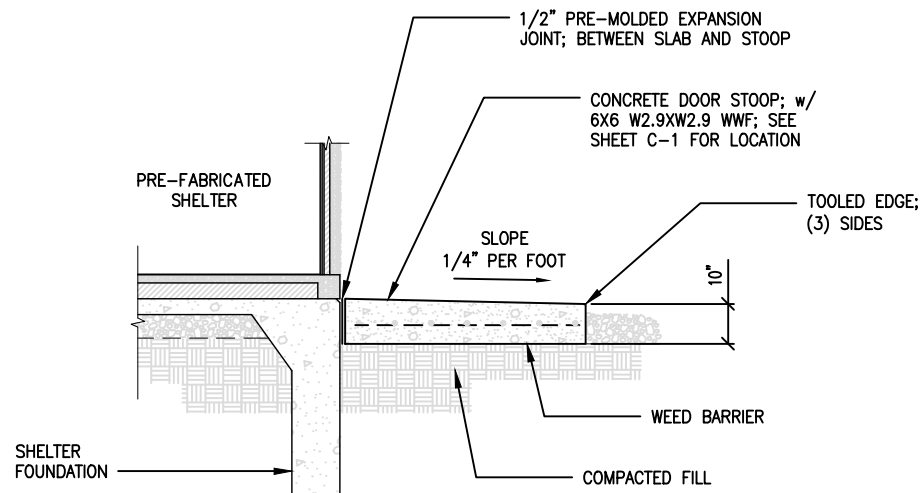
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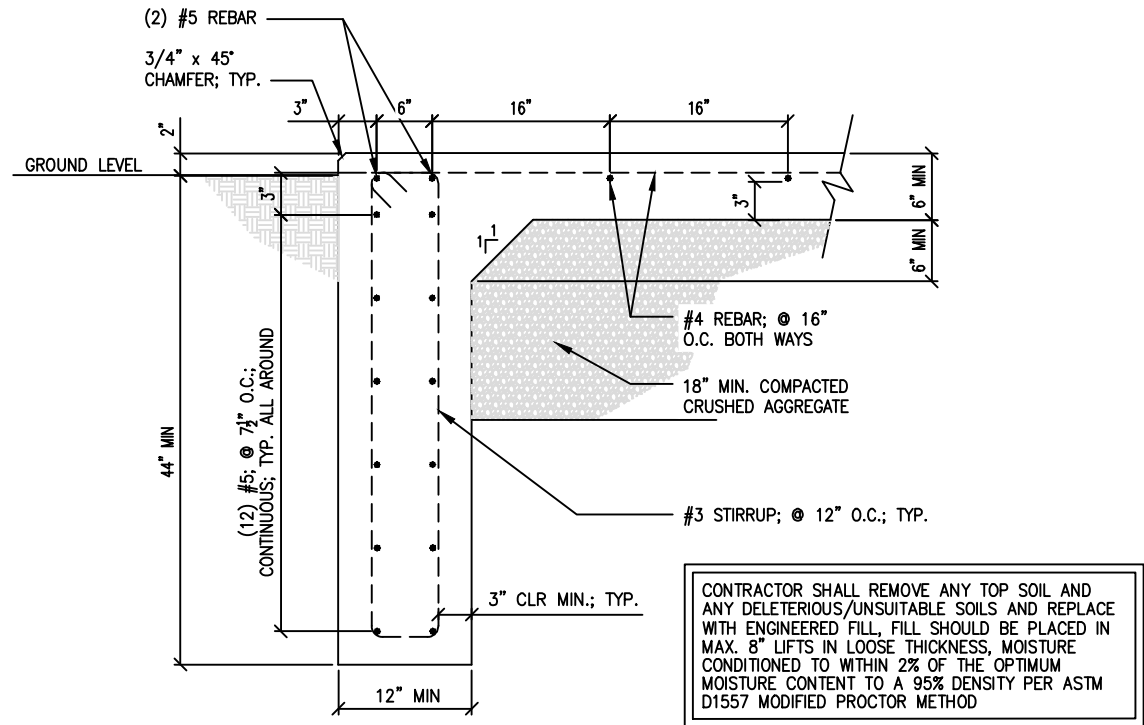
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1 Shelter Foundation
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3 Concrete Stoop
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2 Foundation Section
NOT TO SCALE

CONCRETE:

- WORK SHALL BE IN ACCORDANCE WITH THE ACI 318 - 14, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR RESISTANCE TO LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENTS OF ACI 318 CHAPTER 19 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. AS A MINIMUM, CONCRETE SHALL DEVELOP A COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS SATISFYING THE PARAMETERS BELOW:
 - SLUMP = 5"
 - W/C = 0.45
 - REBAR COVER = 3"
 - REBAR GRADE (NOT TO BE WELDED) = ASTM-615-60
 - REBAR GRADE (TO BE WELDED) = ASTM-706-60
 - MAXIMUM AGGREGATE SIZE = 1.5"
- CONCRETE SHALL BE PLACED IN A MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, INFILTRATION OF WATER OR SOIL, AND OTHER OCCURRENCES THAT MAY DECREASE THE STRENGTH OR DURABILITY OF THE CONCRETE.
- IN COLD WEATHER CONDITIONS, WORK SHALL BE IN ACCORDANCE WITH ACI 306.1-90 (REAPPROVED 2002). SEE ACI 306 FOR DESCRIPTION OF COLD WEATHER CONDITIONS.
- SULFATE RESISTANT CEMENT SHALL BE USED IN AREAS WHICH ARE KNOWN TO HAVE HIGH SULFATES IN SOIL AND GROUND WATER.
- SLUMP TEST SHALL BE PERFORMED ON-SITE TO ENSURE WORKABILITY OF CONCRETE. A SUFFICIENT SAMPLING OF CONCRETE SHALL BE TAKEN TO ENSURE A FAIR REPRESENTATION OF THE CONCRETE USED FOR ALL SLUMP AND COMPRESSION TESTS. NON-COMFORMING MATERIAL SHALL NOT BE ACCEPTED BY CONTRACTOR.
- ALL TEST CYLINDERS SHALL BE MADE AND CURED IN ACCORDANCE WITH ASTM C31. COMPRESSION TESTING SHALL BE DONE IN ACCORDANCE WITH ASTM C39. CYLINDERS TO BE BROKEN ON DAYS 7 AND 28. (2) ADDITIONAL CYLINDERS SHOULD BE AVAILABLE FOR ANY ADDITIONAL TESTING.

FOUNDATION REINFORCEMENT:

- REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED. SPLICES IN REINFORCEMENT SHALL NOT BE ALLOWED UNLESS OTHERWISE NOTED.
- REINFORCEMENT SHALL BE PROPERLY PLACED PRIOR TO ANY CONCRETE PLACEMENT. REINFORCING SHALL BE BRACED TO RETAIN PROPER DIMENSIONS DURING HANDLING AND THROUGHOUT PLACEMENT OF CONCRETE.
- WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
- MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES. REBAR CHAIRS MUST BE USED TO ENSURE THE 3 INCHES MINIMUM COVER. CONCRETE BLOCKS ARE NOT TO BE USED TO OBTAIN MINIMUM COVER.
- ALL STIRRUPS SHALL HAVE MINIMUM 135° HOOKS PLUS 6"DB EXTENSIONS AT FREE ENDS AROUND CORNER LONGITUDINAL BAR UNLESS OTHERWISE NOTED.

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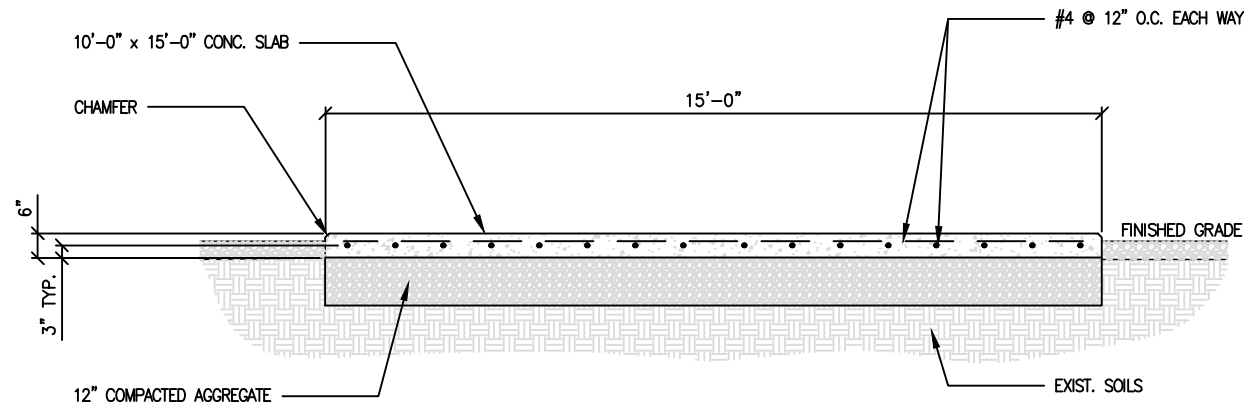
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C-7

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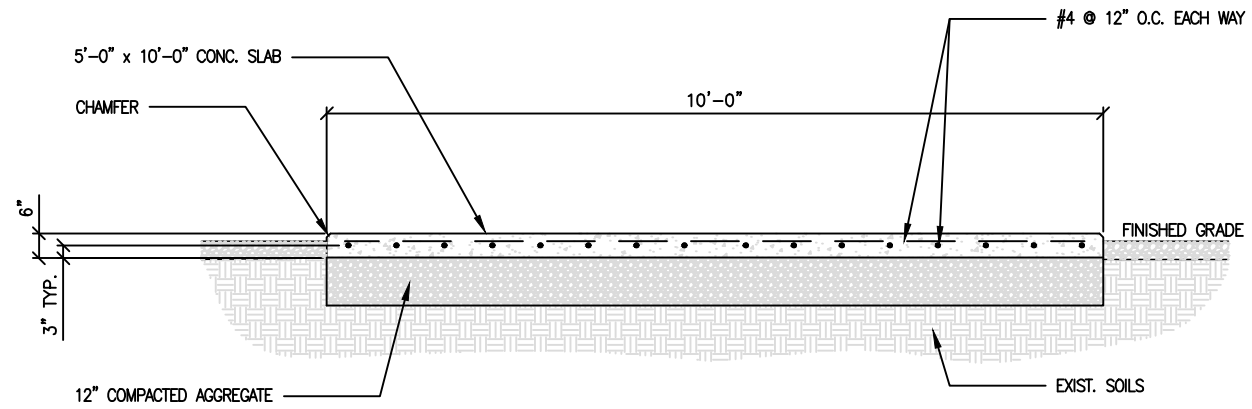
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NOTES:
 FOUNDATION IS DESIGNED ASSUMING NORMAL SOILS AND A GEOTECHNICAL BORING RESULTS WERE NOT PROVIDED AT TIME OF DESIGN. RESULTS OF GEOTECHNICAL REPORT MAY ALTER THE FOUNDATION DESIGN. CONTRACTOR SHALL COORDINATE WITH SOILS ENGINEER.

1 Fuel Tank Foundation

NOT TO SCALE



NOTES:
 FOUNDATION IS DESIGNED ASSUMING NORMAL SOILS AND A GEOTECHNICAL BORING RESULTS WERE NOT PROVIDED AT TIME OF DESIGN. RESULTS OF GEOTECHNICAL REPORT MAY ALTER THE FOUNDATION DESIGN. CONTRACTOR SHALL COORDINATE WITH SOILS ENGINEER.

2 Generator Foundation

NOT TO SCALE

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 NOT FOR
 CONSTRUCTION

B	04/11/23	CONSTRUCTION DRAWINGS	TNW	
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NO.	DATE	REVISIONS		BY CHK APP'D



FOUNDATION DETAILS		C-8	
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SITE REGISTRATION SIGN:
RICHARD TELL & ASSOC.; PART:
MPN/SKU 8X12FTRK
CONTRACTOR SHALL VERIFY ASR NUMBER
PRIOR TO ORDERING SIGN.

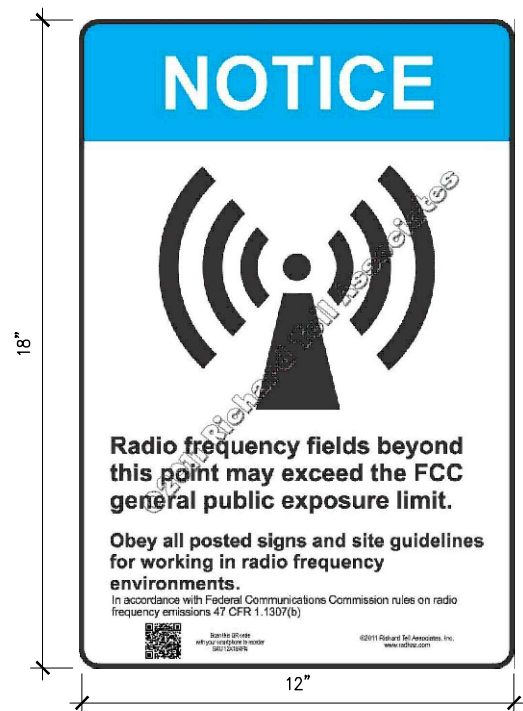
1 Tower ASR
Registration Sign
SCALE: N.T.S.



AUTHORIZED PERSONNEL ONLY SIGN:
SAFETYSIGN.COM; PART: F6005-BK, 14x10" SIZE

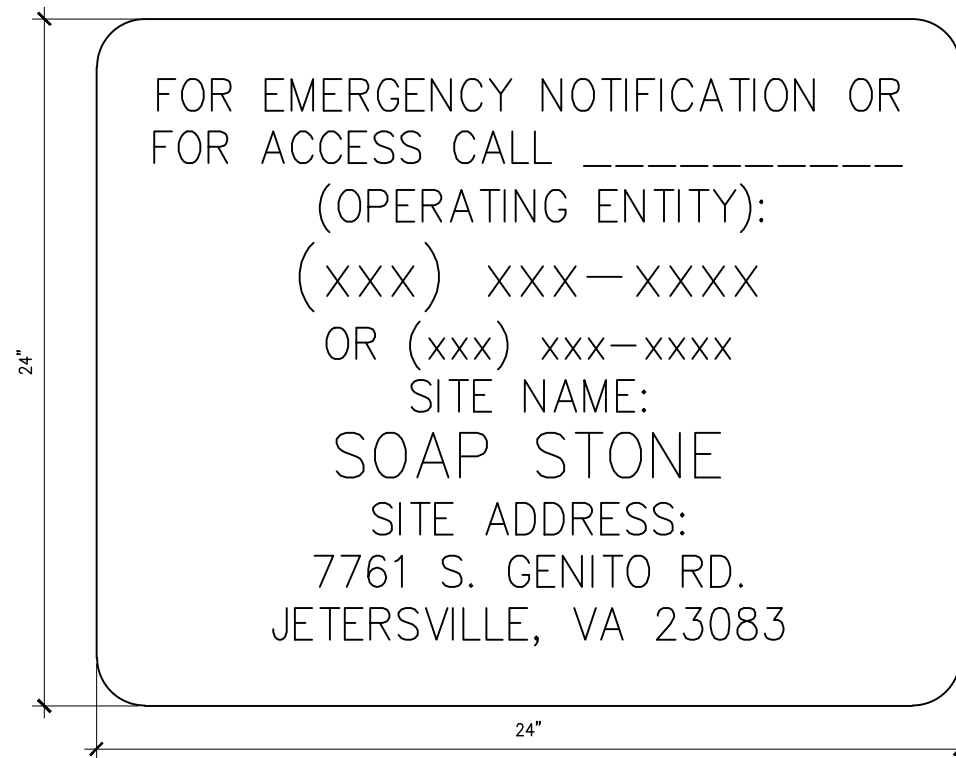
3 Authorized Personnel Only Sign
SCALE: N.T.S.

SITE SIGNAGE NOTES:
THE INTENT OF THE SIGNAGE IS THE MEET REGULATORY AND MOTOROLA R-56 REQUIREMENTS FOR SITE SIGNAGE PER R-56 SECTION 3.15.1
AT A MINIMUM, SITES WHICH ARE NOT CONTINUOUSLY SUPERVISED SHALL PORT THE FOLLOWING SIGNAGE:
-AUTHORIZED PERSONNEL ONLY. NO TRESPASSING
-RESPONSIBLE ENTITY IDENTIFICATIONS
-SITE OPERATING ENTITY WITH APPROPRIATE CONTACT INFORMATION
-PERMIT OR LICENSE INFORMATION (AS ASSIGNED BY THE FEDERAL COMMUNICATIONS COMMISSION OR OTHER EQUIVALENT)
ALL SIGNAGE SHALL BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. QUESTIONS FROM THE GENERAL CONTRACTOR CONCERNING SITE SIGNAGE SHALL BE DIRECTED TO THE MOTOROLA CONSTRUCTION MANAGER PRIOR TO ORDERING.



RF WARNING SIGN:
RICHARD TELL & ASSOC.; PART:
MPN/SKU 12X18RFN

2 RF Hazard Sign
SCALE: N.T.S.



CONTRACTOR SHALL VERIFY NOTIFICATION, CALL NUMBERS AND OTHER INFORMATION PRIOR TO ORDERING SIGN.

SITE CONTACT INFORMATION SIGN:
SMALL TEXT SHALL HAVE A MINIMUM TEXT HEIGHT OF 1.75"
LARGE TEXT SHALL HAVE A MINIMUM TEXT HEIGHT OF 2.5"

4 Site Contact Information Sign
SCALE: N.T.S.

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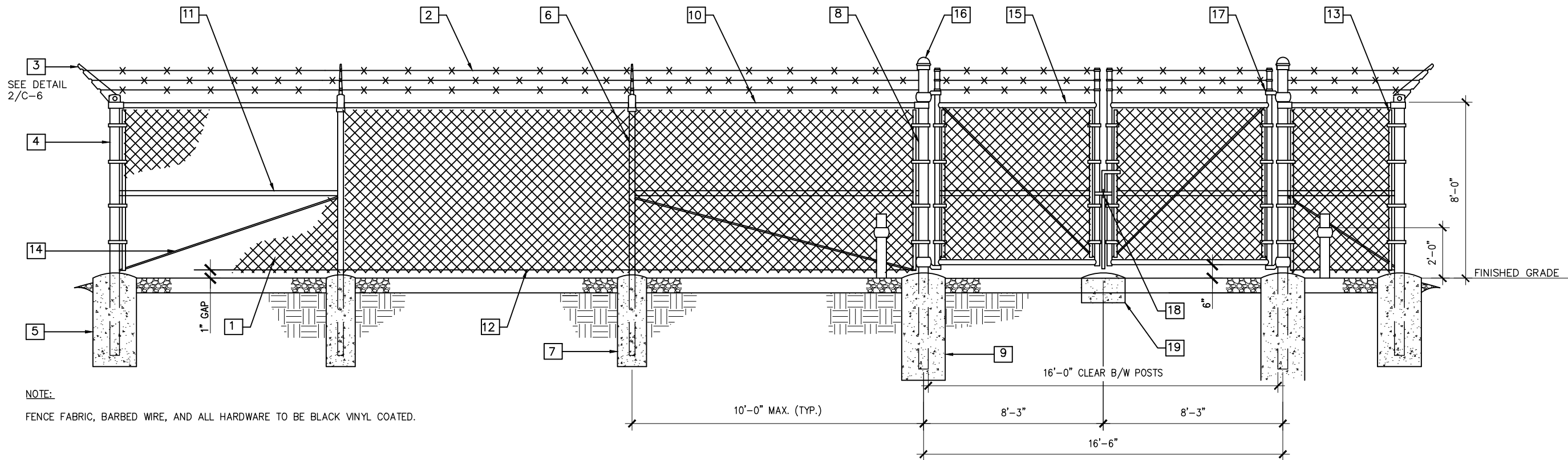
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SITE SIGNAGE DETAILS		C-9	
SOAP STONE			
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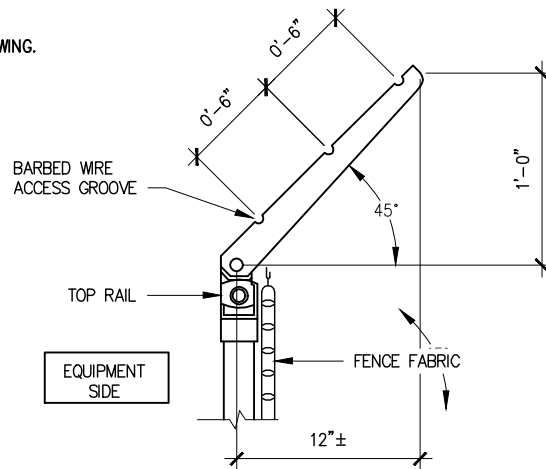


1 Typical Fence Elevation
NOT TO SCALE

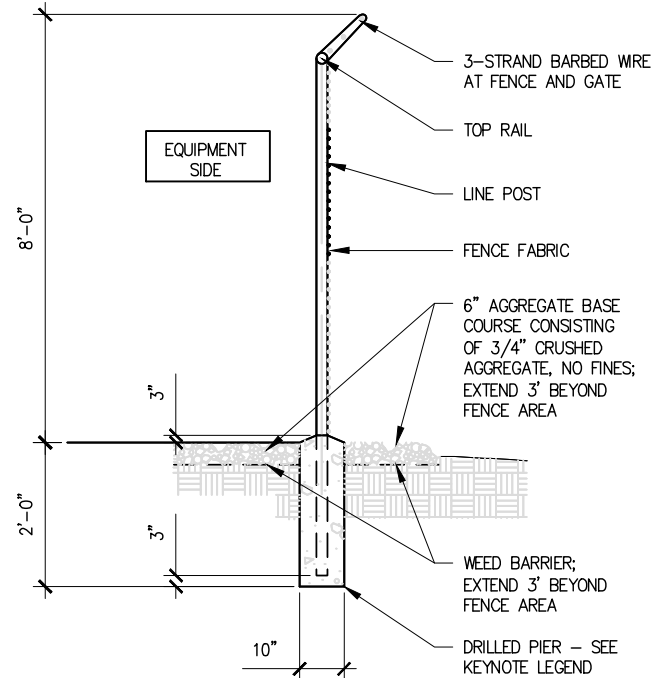
- 1 FABRIC: 9 GAUGE, 2" MESH, ASTM A392 (SEE FENCE SECTION FOR HEIGHT).
- 2 BARBED WIRE: 12 GAUGE WIRE, 4 POINT (3 RUNS), FINISH TO MATCH FABRIC, ASTM A121.
- 3 EXTENSION ARMS: STAMPED STEEL WITH MALLEABLE IRON BASE, FINISH TO MATCH FENCE FRAMEWORK, ASTM F626.
- 4 END AND CORNER POSTS: 3"Ø PIPE SCH. 40 (GALV.) ASTM F1083
- 5 CONCRETE FOUNDATION: 36"x12"Ø (3000 PSI)
- 6 LINE POSTS: 2"Ø PIPE SCH. 40 (GALV.) ASTM F1083
- 7 CONCRETE FOUNDATION: 36"x10"Ø (3000 PSI)
- 8 GATE POSTS: 4"Ø PIPE SCH. 40 (GALV.) ASTM F1083
- 9 CONCRETE FOUNDATION: 48"x12"Ø (3000 PSI)
- 10 TOP RAIL & BRACE RAIL: 1-1/2"Ø PIPE SCH. 40 (GALV.) ASTM F1083
- 11 MIDDLE RAILS: 1-1/2"Ø PIPE SCH. 40 (GALV.) ASTM F1083
- 12 BOTTOM TENSION WIRE: 0.177"Ø METALLIC-COATED STEEL (GALV.), MARCELLED, ASTM A824
- 13 TENSION BARS: 3/16"x3/4", FULL HEIGHT OF FABRIC, FINISH TO MATCH FENCE FRAMEWORK.
- 14 TENSION ROD: 3/8"Ø WITH ADJ. TIGHTNER, FINISH TO MATCH FENCE FRAMEWORK.
- 15 GATE FRAME: 2"Ø SCH. 40 (GALV.) ASTM F1083
- 16 POST CAPS: PER POST DIAMETER.
- 17 GATE HINGES: NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180 DEGREE SWING.
- 18 DOUBLE GATE LATCH: COMMERCIAL STRONG ARM EQUAL TO: DAC INDUSTRIES 615-C ELEVENTH STREET, GRAND RAPIDS, MI 49504

NOTES:

1. REFER TO PROJECT SPECIFICATIONS FOR INFORMATION NOT SHOWN IN THE DRAWING.
2. FENCE FABRIC SHALL CONFORM TO CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL.
3. INSTALL FENCE IN COMPLIANCE WITH ASTM F 567.
4. INSTALL SWING GATES IN COMPLIANCE WITH ASTM F 900.
5. DO NOT BEGIN INSTALLATION AND ERECTION BEFORE FINAL GRADING IS COMPLETED, UNLESS OTHERWISE PERMITTED. INSTALL FENCING ON BOUNDARY LINES INSIDE OF PROPERTY LINE ESTABLISHED BY SURVEY.
6. DRILL OR HAND-EXCAVATE (USING POST-HOLE DIGGER) HOLES FOR POSTS TO DIAMETERS AND SPACINGS INDICATED, IN FIRM, UNDISTURBED OR COMPACTED SOIL. IF NOT INDICATED ON DRAWINGS, EXCAVATE HOLES FOR EACH POST TO MINIMUM DIAMETER RECOMMENDED BY FENCE MANUFACTURER, BUT NOT LESS THAN (4) TIMES LARGEST GROSS-SECTION OF POST.
7. REMOVE POST HOLE SPOILS FROM SITE. DO NOT SET SPOILS ON AGGREGATE WITHOUT ADEQUATE PROTECTION.
8. PROTECT PORTION OF POSTS ABOVE GROUND FROM CONCRETE SPLATTER. PLACE CONCRETE AROUND POSTS AND VIBRATE OR TAMP FOR CONSOLIDATION. CHECK EACH POST FOR VERTICAL AND TOP ALIGNMENT AND HOLD IN POSITION DURING PLACEMENT AND FINISHING OPERATIONS, UNLESS OTHERWISE SHOWN. EXTEND CONCRETE FOOTING 1 INCH ABOVE GRADE AND TROWEL TO A CROWN TO SHED WATER.
9. INSTALL BARBED WIRE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
10. APPLY FABRIC TO OUTSIDE OF FRAMEWORK.



2 Barbed Wire Detail
NOT TO SCALE



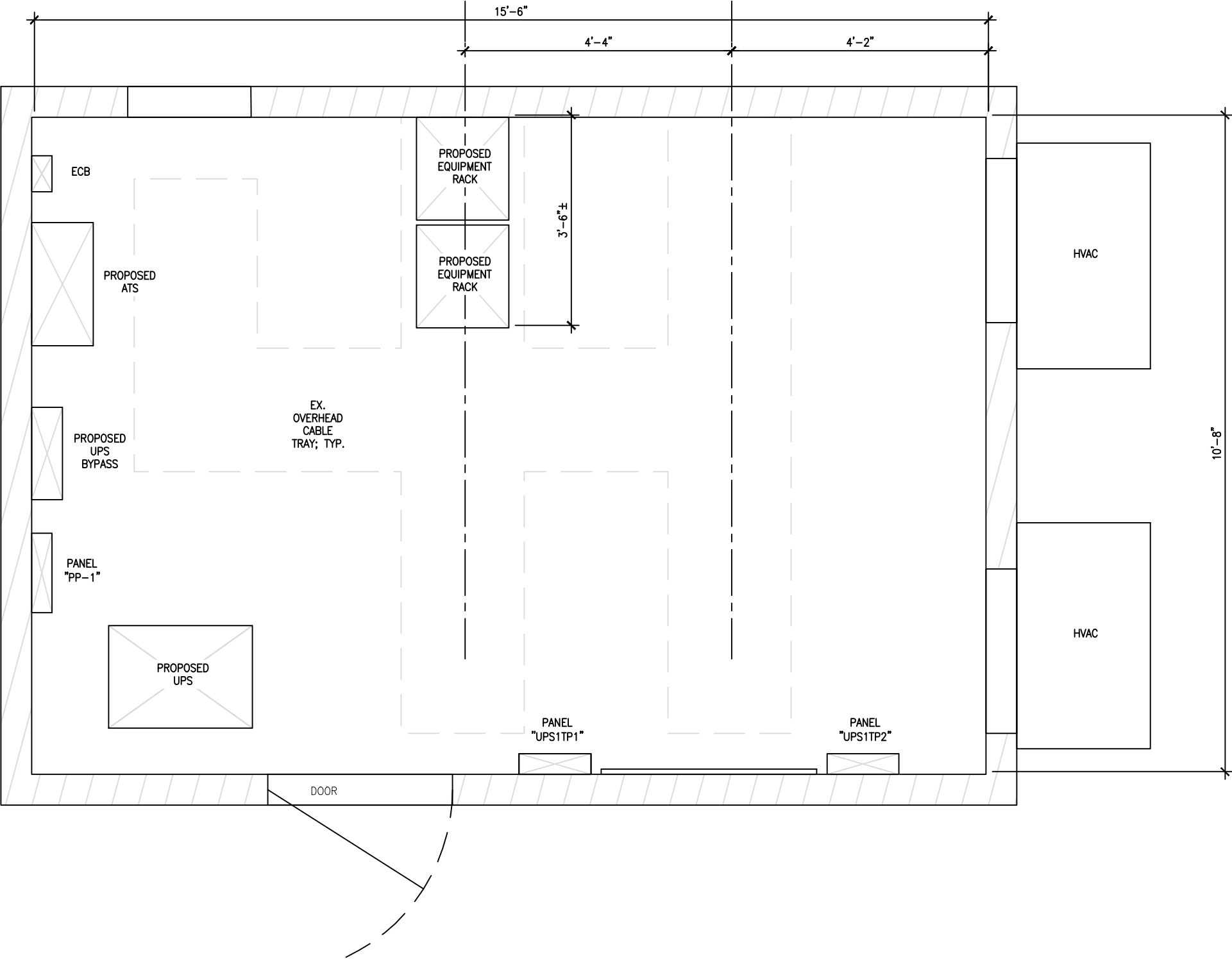
3 Typical Fence Section
NOT TO SCALE

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NOTE:
SEE MANUFACTURER'S SPECIFICATIONS FOR ACTUAL
PROPOSED BUILDING PLANS AND DIMENSIONS.

1 Proposed Shelter Plan
NOT TO SCALE

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PROPOSED SHELTER PLAN	
SOAP STONE	
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C-11

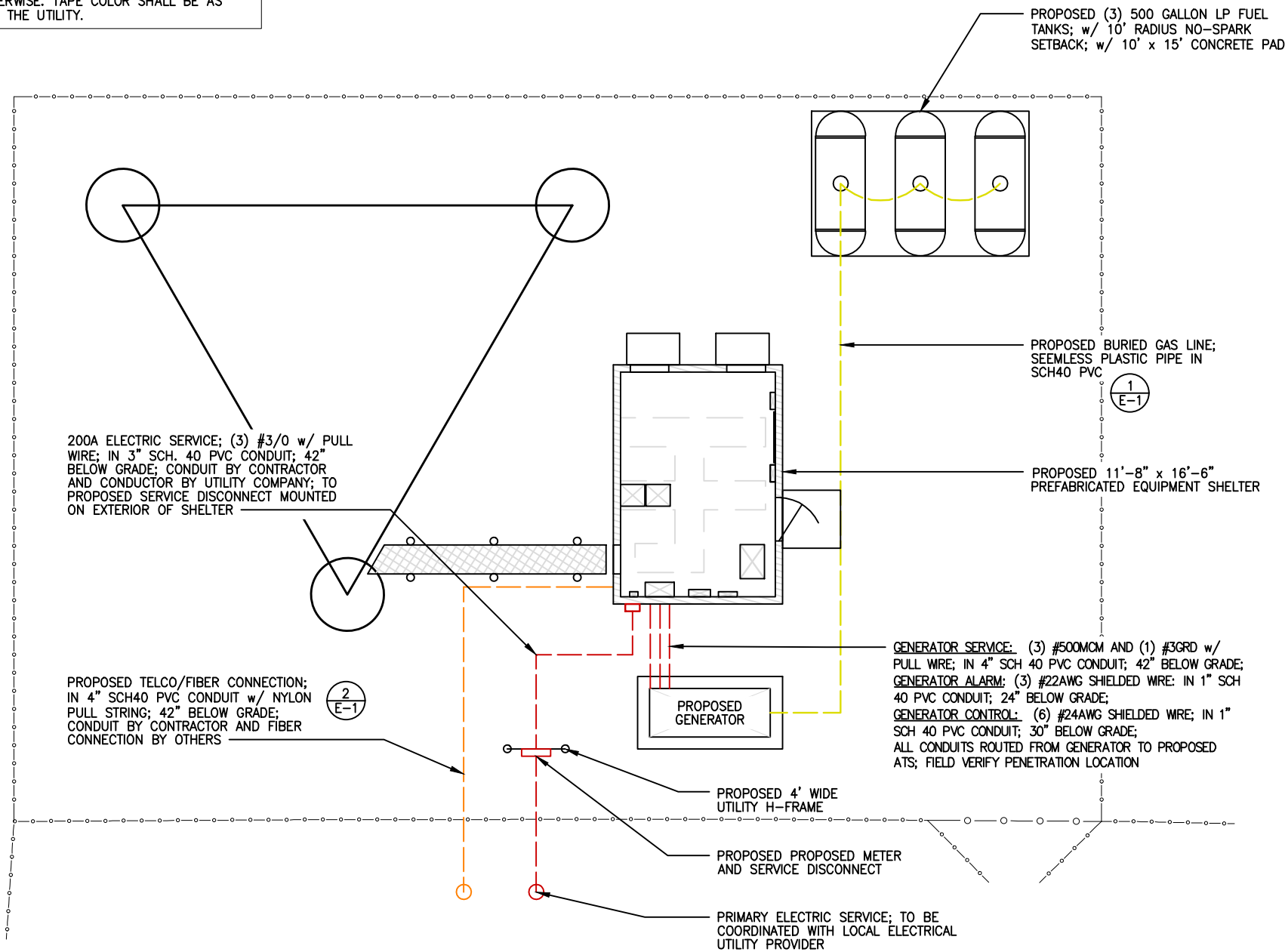
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GENERAL NOTES:

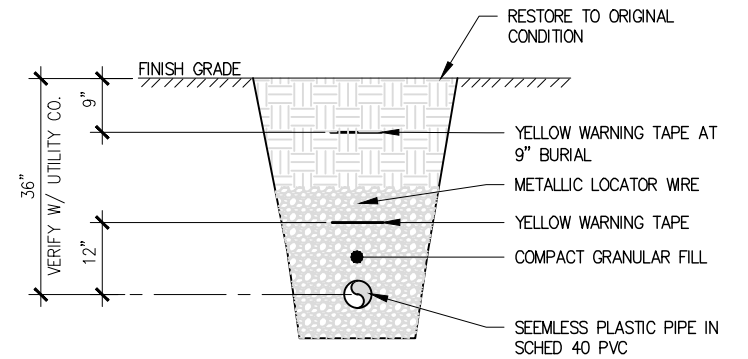
1. THE LOCATION, SIZE & TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS & SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION & ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES & THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS & SERVICES SHALL BE RESTORED TO SERVICE AT ONCE & PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

2. NEW GROUNDING NOT SHOWN FOR CLARITY

3. WARNING TAPE SHALL BE INSTALLED DIRECTLY ABOVE CONDUITS AT A DEPTH OF 12 INCHES BELOW FINISHED GRADE UNLESS NOTED OTHERWISE. TAPE COLOR SHALL BE AS SPECIFIED BELOW AND SHALL BEAR DESCRIPTION OF THE UTILITY.

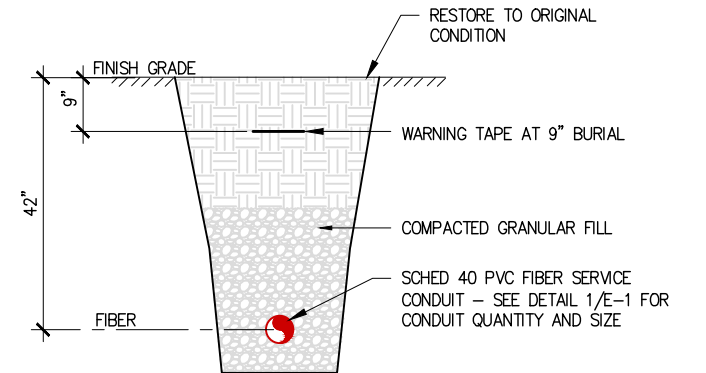


Site Utility Plan



Fuel Service to Generator

1 NOT TO SCALE



Fiber Service to Equipment Shelter

2 NOT TO SCALE

Utility Color Legend

- ELECTRIC
- GAS, OIL, STEAM
- COMMUNICATIONS
- POTABLE WATER
- RECLAIMED WATER
- SEWER/ DRAINAGE
- SURVEY MARKS



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G.C. RESPONSIBLE FOR
PRE-CONSTRUCTION WALK
WITH UTILITY PROVIDERS TO
VERIFY REQUIREMENTS

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SITE UTILITY PLAN

SOAP STONE

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E-1

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CONTRACTOR TO PROVIDE AND
INSTALL 200A DISCONNECT
SWITCH

CONTRACTOR TO PROVIDE
AND INSTALL NEW MILLBANK
METER; w/ 200A

PRIMARY ELECTRIC SERVICE;
TO BE COORDINATED WITH
LOCAL ELECTRICAL UTILITY
PROVIDER

200A ELECTRIC SERVICE; (3) #3/0
W/ PULL WIRE; IN 3" SCH. 40
PVC CONDUIT; 42" BELOW GRADE;
CONDUIT BY CONTRACTOR AND
CONDUCTOR BY UTILITY COMPANY

INSIDE COMPOUND

NOTES:

CONTRACTOR TO COORDINATE ALL INSPECTIONS.
ALL CONDUIT ELBOWS TO BE LONG SWEEP 90° ONLY.
NO SHARP BENDS.
CONTRACTOR SHALL SUPPLY DETECTABLE METALLIC
FLAT "MULE" TAPE IN ALL UTILITY CONDUIT BETWEEN
H-FRAME AND EQUIPMENT SHELTER

1 Utility Riser Diagram
NOT TO SCALE

Utility Color Legend

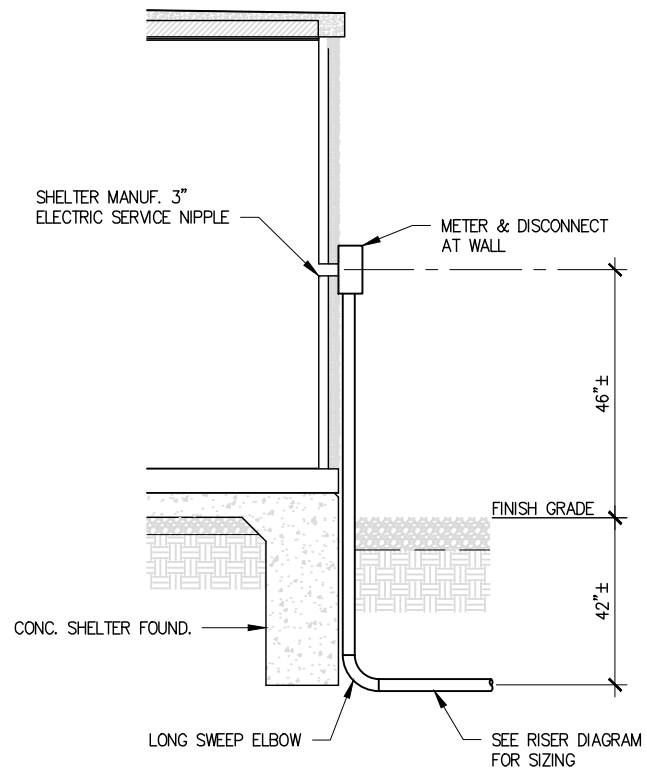
- ELECTRIC
- GAS, OIL, STEAM
- COMMUNICATIONS
- POTABLE WATER
- RECLAIMED WATER
- SEWER/ DRAINAGE
- SURVEY MARKS

GENERAL NOTES:

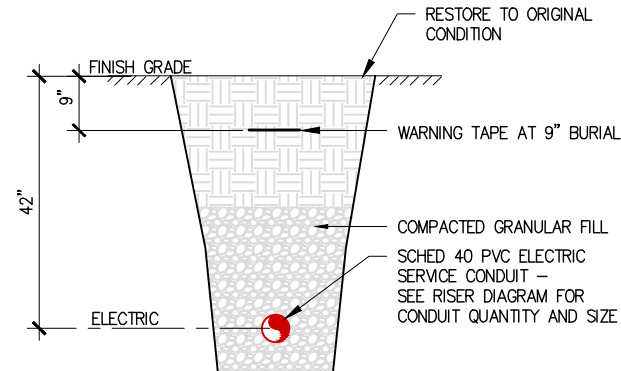
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS, AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATION WHICH VOIDS THE U.L. LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
- COORDINATE ELECTRIC SERVICE WITH LOCAL POWER UTILITY COMPANY. COORDINATE WITH UTILITY FOR METER TYPE AND CONNECTION.
- ALL CONDUIT SHALL BE SEALED WATERTIGHT UNTIL FINAL TERMINATIONS ARE MADE.
- PROVIDE PULL CORD IN ALL CONDUITS. SECURE AT EACH END.
- ADJUST DEPTH OF CONDUITS TO PASS ABOVE GROUNDING SYSTEM.
- PROVIDE 18 INCH (MIN.) RADIUS ELBOWS FOR ALL BENDS.
- PROVIDE PHENOLIC ENGRAVED NAMEPLATES AT THE SERVICE DISCONNECT NEUTRAL SHALL BE PULLED WHEN REQUIRED BY UPS MANUFACTURER LABELED; "SERVICE DISCONNECT" (PER NEC 230-70). PROVIDE ADDITIONAL NAMEPLATES NOTING TYPE AND LOCATION OF STANDBY POWER SOURCE.

SERVICE CONDUIT:

- PROVIDE PVC SCH 40 (OUTSIDE), PVC SCH 80 (OUTSIDE IN TRAFFIC AREAS) CONDUIT FOR ALL POWER AND ALARM/CONTROL REQUIREMENTS.
- COORDINATE LOCATION OF GENERATOR POWER AND CONTROL WITH GENERATOR EQUIPMENT INSTALLATION AND SHELTER MANUFACTURER DRAWINGS.
- MOSCADO CONTROL PANEL FURNISHED BY SHELTER MANUFACTURER AND INSTALLED BY CONTRACTOR UNDER THIS CONTRACT. GENERATOR REMOTE RELAY PANEL PROVIDED & INSTALLED BY SHELTER MANUFACTURER.
- FOR CONNECTION BETWEEN GENERATOR AND EQUIPMENT SHELTER, REFER TO VFP SHELTER MANUFACTURER DRAWINGS, PAGES 15, 17, AND 18.



2 Electric Service Entrance
NOT TO SCALE



3 Electrical Service to Equipment Shelter
NOT TO SCALE



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EXTERIOR ELECTRICAL DETAILS

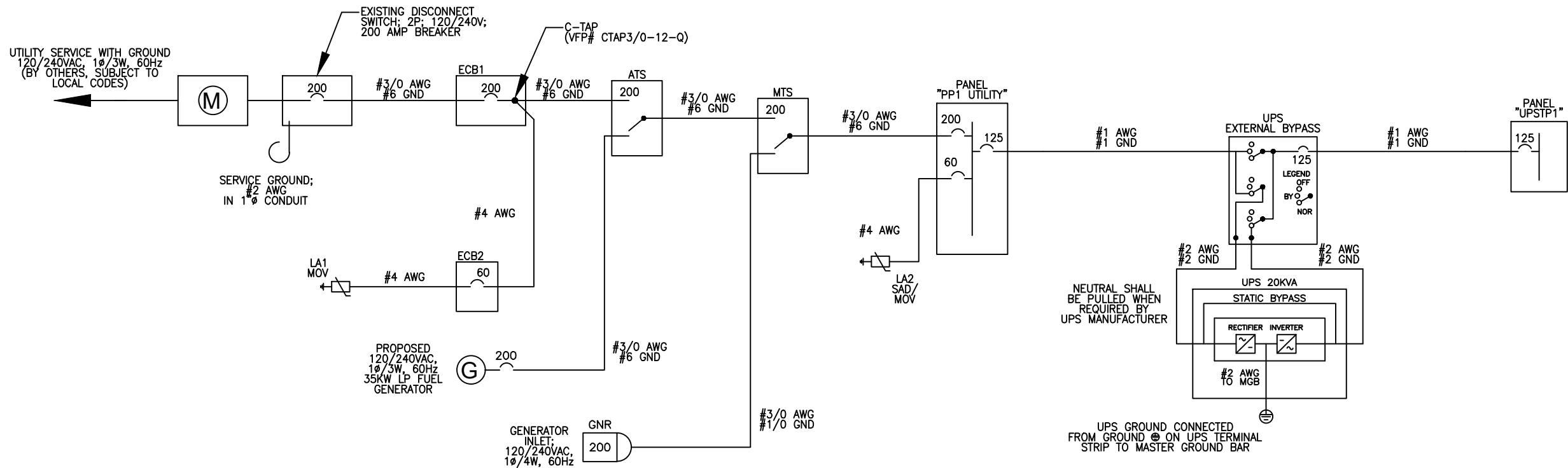
SOAP STONE

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E-2

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1 Shelter One-Line Diagram

NOT TO SCALE

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ONE LINE DIAGRAM		E-3	THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
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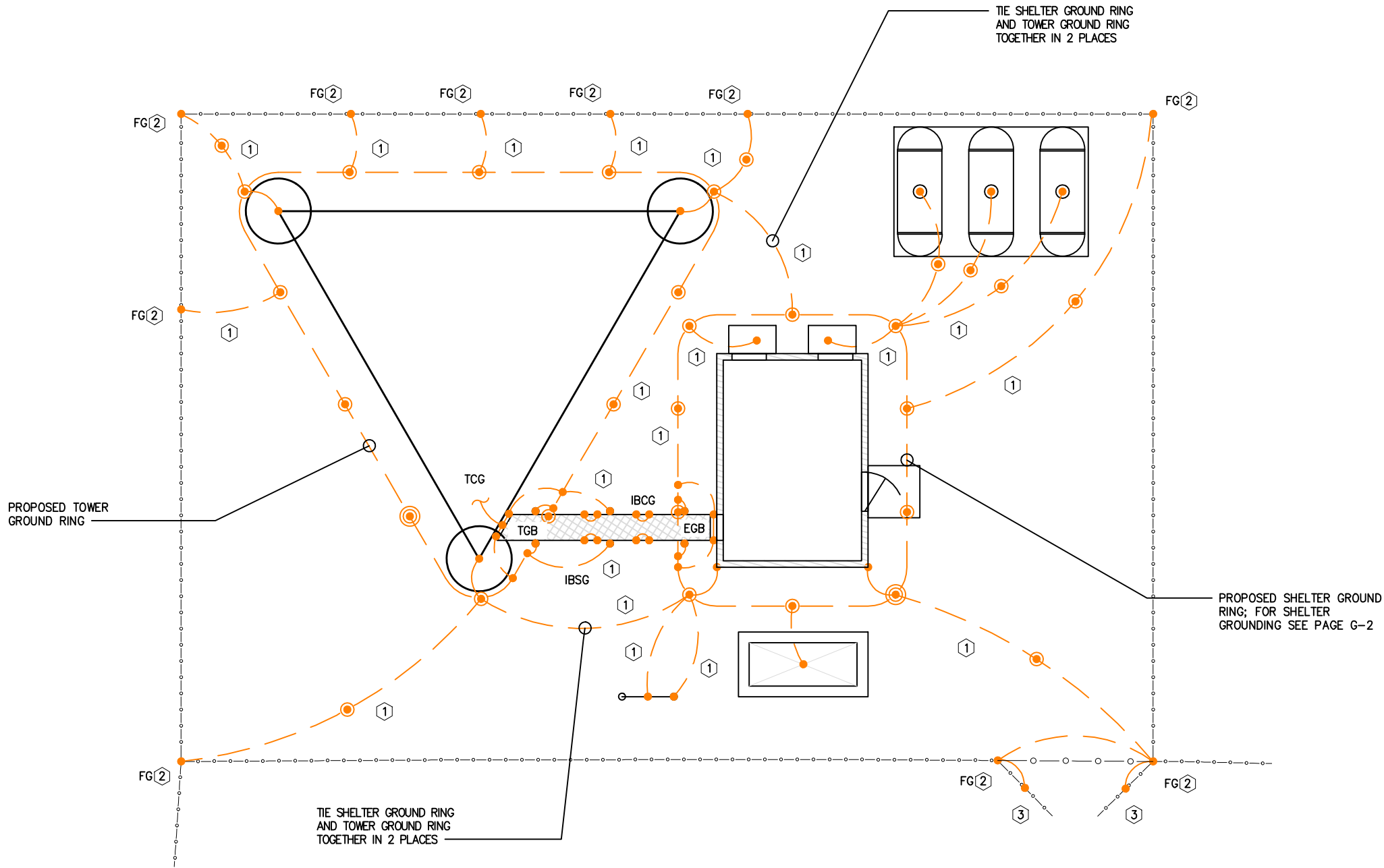
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- TYPICAL GROUNDING NOTES:
1. ALL METALLIC ITEMS AND FENCE POSTS WITHIN 6' OF THE GROUNDING SYSTEM TO BE BONDED TO GROUND RING.
 2. FENCE FABRIC TO BE BONDED PER MOTOROLA R-56 STANDARDS APRIL 2017.
 3. CONTRACTOR TO REPAIR ANY EXISTING GROUNDING LEADS CUT DURING CONSTRUCTIONS

Legend

- ① #2 SOLID BARE COPPER GROUND 36" BELOW GRADE
- ② CADWELD TO FENCE POST
- ③ BOND GATE LEAF TO GATE POST WITH A FLEXIBLE GATE JUMPER
- GROUND ROD
- ⊙ GROUND SYSTEM TEST WELL (HAND HOLE)
- CADWELD CONNECTION
- FENCE LINE



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Site Grounding Plan

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SITE GROUNDING PLAN

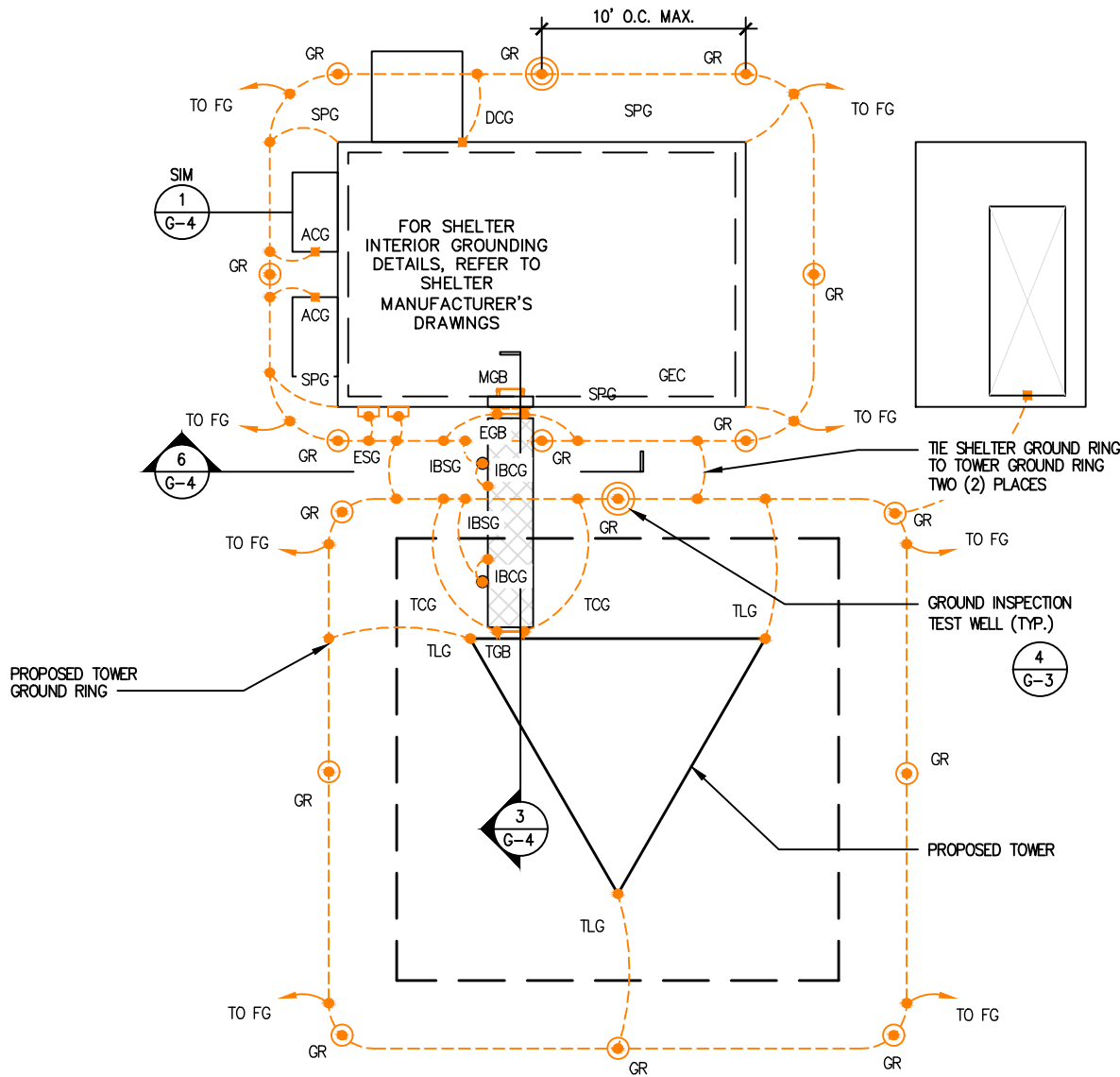
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G-1

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Shelter and Tower Grounding Schematic

1 NOT TO SCALE

GROUNDING LEGEND	
SYMBOL	DESCRIPTION
	5/8" x 10'-0" COPPER OR STAINLESS STEEL COPPERCLAD GROUND ROD
	GROUND ROD WITH INSPECTION WELL
	EXOTHERMIC WELD (CADWELD)
	#2 SOLID TINNED COPPER WIRE UNLESS OTHERWISE NOTED
	MECHANICAL CONNECTION
ESG	ELECTRICAL SERVICE GROUND
TSG	TELCO SERVICE GROUND

Legend

- ACG AIR CONDITIONER GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM AIR CONDITIONER CABINET TO GROUND RING. CONNECTION AT AIR CONDITIONER CABINET TO BE MECHANICAL, CONNECTION AT GROUND RING TO BE CADWELD (TYPICAL OF 2).
- DCG DOOR CANOPY GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM DOOR CANOPY TO SHELTER GROUND RING. CONNECTION AT DOOR CANOPY TO BE MECHANICAL, CONNECTION AT GROUND RING TO BE CADWELD.
- EGB EXTERIOR GROUND BAR: SHELTER MANUFACTURER FURNISHED AND INSTALLED 24" x 4" x 1/4" TNND COPPER GROUND BAR ON EXTERIOR SIDEWALL OF SHELTER BELOW COAX BUILDING ENTRY.
- ESG ELECTRICAL SERVICE GROUND: E.C. SHALL FURNISH AND INSTALL #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM SERVICE LB BOX TO A GROUND ROD. BOTH CONNECTIONS TO BE CADWELD.
- FG FENCE GROUND: E.C. TO FURNISH AND INSTALL #2 AWG BARE SOLID TNND COPPER GROUND WIRE AT FENCE POST. GROUND WIRE TO BE ROUTED ALONG FENCE POST AND CADWELDED OR MECHANICALLY BONDED IN FOUR (4) PLACES, TOP RAIL, TOP AND BOTTOM OF CORNER POST, AND GROUND RING.
- GEC GENERATOR EXHAUST GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM GENERATOR EXHAUST TO GROUND RING. CONNECTION AT GENERATOR EXHAUST TO BE MECHANICAL, CONNECTION AT GROUND RING TO BE CADWELD (TYPICAL OF 1).
- GG GATE GROUND: SIMILAR TO FENCE GROUND (FG), E.C. SHALL ALSO FURNISH AND INSTALL #2 BRAIDED GATE JUMPER WIRE BETWEEN THE GATE FRAME AND THE GATE POST. CONNECTIONS AT GATE FRAME AND GATE POST TO BE CADWELD.
- GR 5/8" DIA. x 10' LONG TNND COPPER CLAD STEEL GROUND ROD DRIVEN VERTICAL TOP OF ROD 36" MIN. BELOW GRADE. SPACING OF GROUND RODS 10' MIN TO TWICE THE LENGTH OF THE ROD USED. ALL CONNECTIONS TO BE CADWELD.
- IBCG ICE BRIDGE CHANNEL GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND JUMPER WIRE FROM ICE BRIDGE CHANNEL TO ICE BRIDGE SUPPORT POST. ALL CONNECTIONS TO BE CADWELD.
- IBSG ICE BRIDGE SUPPORT GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM ICE BRIDGE SUPPORT POST TO GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- IEHG INTERIOR/EXTERIOR HOOD GROUND: E.C. TO FURNISH AND INSTALL TWO (2) #2 AWG BARE SOLID TNND COPPER GROUND WIRES FROM THE INTERIOR/ EXTERIOR GENERATOR HOOD TO GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- MGB MASTER GROUND BAR: SHELTER MANUFACTURER FURNISHED AND INSTALLED 24" x 4" x 1/4" TNND COPPER GROUND BAR ON INTERIOR SIDEWALL OF SHELTER BELOW COAX BUILDING ENTRY.
- SPG SHELTER PLATE GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM SHELTER PLATE TO SHELTER GROUND RING. TYPICAL OF 2 AT SHELTER AND ON DIAGONAL CORNERS. CONNECTION AT GROUND RING TO BE CADWELD.
- TGB TOWER GROUND BAR: E.C. TO FURNISH AND INSTALL 20" x 4" x 1/4" TNND COPPER GROUND BARS ON THE TOWER AS REQUIRED. ONE TO BE LOCATED AT ANTENNA MOUNT ELEVATION (ATTACHED TO TOWER STEEL), THE OTHER AT THE BASE OF THE TOWER ADJACENT TO THE ICE BRIDGE (ISOLATED FROM TOWER STEEL).ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 50 FEET MINIMUM AND 75 FEET MAXIMUM.

- TCG TOWER COAX GROUND: E.C. TO FURNISH AND INSTALL TWO (2) #2 AWG BARE SOLID TNND COPPER GROUND WIRES FROM TOWER GROUND BAR (TGB) TO GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- TG TOWER GROUND: E.C. TO FURNISH AND INSTALL #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM BASE OF TOWER TO TOWER GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- TLG TOWER LEG GROUND: E.C. TO FURNISH AND INSTALL #2 AWG BARE SOLID TNND COPPER GROUND WIRE FROM TOWER LEG TO TOWER GROUND RING. ALL CONNECTIONS TO BE CADWELD. PROVIDE A MINIMUM OF 90 DEGREE SERRATION BETWEEN THE TLG AND TG.

NOTE: ALL GROUND LEADS AT TOWER, ICE BRIDGE SUPPORT POSTS, FENCE POSTS, ETC. TO BE ROUTED IN 1/2" NON-METALLIC PVC FLEX CONDUIT. GROUND LEADS AT SHELTER FROM EXTERNAL GROUND BARS, COAX ENTRY, LOUVERS, PIPES, ETC. TO BE ROUTED IN 1/2" NON-METALLIC PVC RIGID CONDUIT SECURED TO SHELTER WALL WITH AT LEAST ONE (1) NON-METALLIC CONDUIT CLAMP 36" MAX. SPACING. CONDUIT TO BE 4" MAX. FROM APPLIANCE CONNECTION AND EXTEND 18" MIN. BELOW GRADE.

Typical Grounding Notes

- ALL GROUND CABLE IN CONCRETE OR THROUGH WALL SHALL BE IN 3/4" PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTOR SLEEVES.
- GROUND ALL EXPOSED METALLIC OBJECTS USING A TWO-HOLE NEMA DRILLED CONNECTOR SUCH AS THOMAS & BETTS #32207 OR APPROVED EQUAL
- THE CONTRACTOR SHALL NOTIFY THE PYRAMID NETWORK SERVICES, LLC REPRESENTATIVE WHEN THE GROUND RING IS INSTALLED SO THAT THE REPRESENTATIVE CAN INSPECT GROUND RING BEFORE IT IS CONCEALED.
- ALL EXTERIOR GROUND CONDUCTORS INCLUDING GROUND RING SHALL BE #2 AWG SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE INCLUSIVE ANGLE OF ANY BEND SHALL NOT EXCEED 90'. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD THE BURIED GROUND RING.
- ALL BELOW GROUND EXTERNAL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL-TYPE. EXCEPT FOR THE GROUND RODS WHICH ARE TEE-TYPE EXOTHERMIC WELDS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING. USE SPRAY GALVANIZED SUCH AS HOLUB LECTROSOL #15-501.
- WHERE MECHANICAL CONNECTORS (TWO-HOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF A CONDUCTIVE ANTI-OXIDE COMPOUND ON ALL CONNECTORS. PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTORS, REPAINT TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.
- A RESISTANCE TO GROUND OF (10) OHMS OR LESS IS REQUIRED FOR ALL MOTOROLA SITES. THE CONTRACTOR SHOULD RETAIN HIS OWN TESTER AT HIS OWN EXPENSE. IN ADDITION, A THIRD PARTY SHOULD BE HIRED TO OBTAIN MEGGER AND SWEEP RESULTS ON ALL SITES INCLUSIVE OF WHAT RESULTS THE CONTRACTOR SUBMITS, TO INSURE PROPER QUALITY CONTROL ON ALL SITES. SCHEDULE FINAL MEGGER TEST SUCH THAT THE PYRAMID NETWORK SERVICES, LLC REPRESENTATIVE CAN BE PRESENT FOR FIELD VERIFICATION. REFER TO THE MOTOROLA MASTER SPECIFICATION FOR MEGGER TESTING PROCEDURES. IF THE FINAL GROUNDING RESISTANCE MEASUREMENT EXCEEDS 10 (TEN) OHMS, THE CONTRACTOR SHALL NOTIFY THE PYRAMID NETWORK SERVICES, LLC REPRESENTATIVE.
- ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL
- THE GROUND CONDUCTORS SHALL BE RUN STRAIGHT FOR MINIMUM INDUCTANCE AND VOLTAGE DROP. SINCE CABLE BENDS INCREASE INDUCTANCE, THE MINIMUM REQUIRED BENDING RADIUS IS 8 INCHES WHEN BENDS ARE UNAVOIDABLE. ALL METAL WORK WITHIN 6 FEET OF THE GROUND RING SHALL BE DIRECTLY BONDED TO THE GROUND SYSTEM WITHOUT USING SERIES OR DAISY CHAIN CONNECTION ARRANGEMENTS.
- PAINT, ENAMEL, LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATINGS SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
- CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL. THAT IS A PART OF THE ATTACHMENT DEVICE LISTED AND APPROVED FOR USE WITH THE SPECIFIC DISSIMILAR METALS MAY BE USED FOR THE PURPOSE.
- ALL BELOW GRADE GROUND SYSTEM CONDUCTORS SHALL BE A MINIMUM DEPTH OF 36".

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E	06/14/23	CONSTRUCTION DRAWINGS	TNW	
F	06/27/23	CONSTRUCTION DRAWINGS	TNW	
NO.	DATE	REVISIONS	BY	CHK APP'D



GROUNDING SCHEMATIC AND NOTES

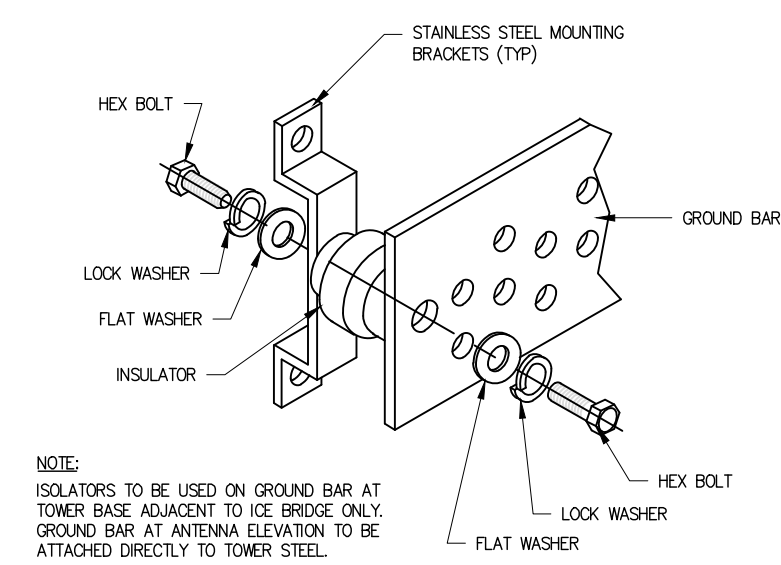
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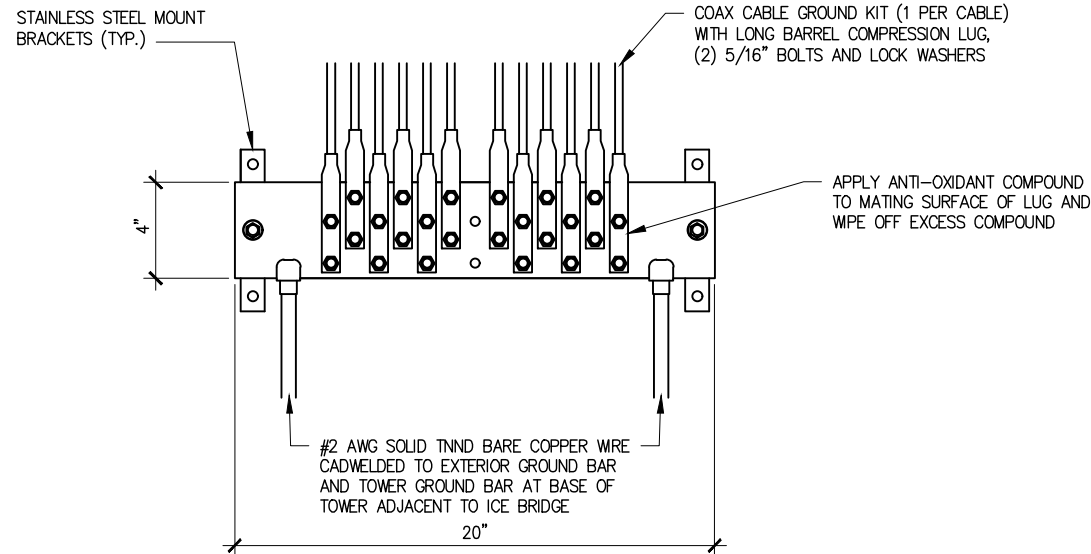
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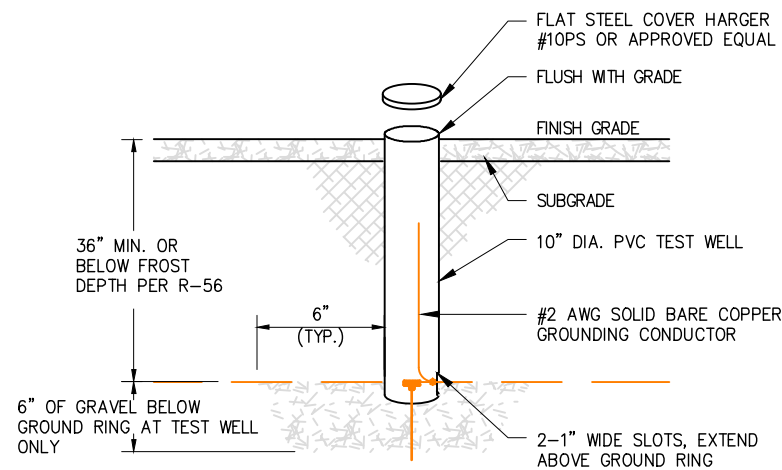
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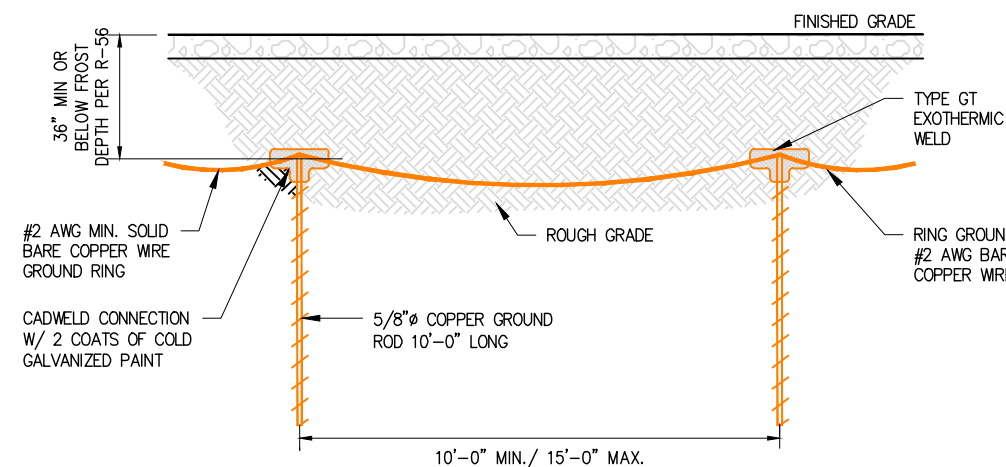
1 Ground Bar Installation
NOT TO SCALE



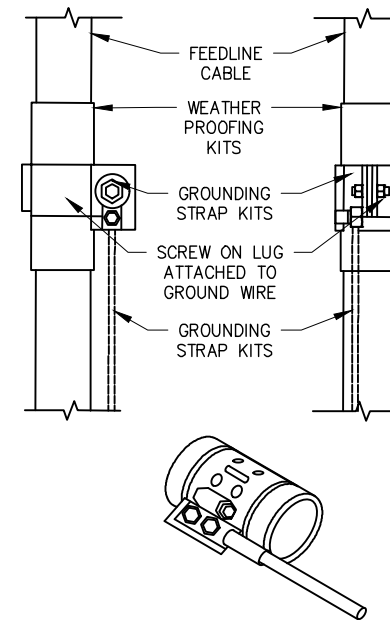
2 Tower Ground Bar (TGB)
NOT TO SCALE



4 Grounding Inspection Test Well
NOT TO SCALE



5 Grounding Rod Detail
NOT TO SCALE



6 Coax Cable Ground Kit Detail
NOT TO SCALE

NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR
- THIS DETAIL IS TYPICAL FOR EACH COAX / HYBRID CABLE WHERE IT IS SPECIFIED TO BE GROUNDED
- CABLE TO BE GROUNDED AT ANTENNA LEVEL AND PRIOR TO ENTERING SHELTER ENTRY PANEL
- CABLE ALSO TO BE GROUNDED TO GROUND BAR AT TOWER BASE IF APPLICABLE

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GROUNDING DETAILS

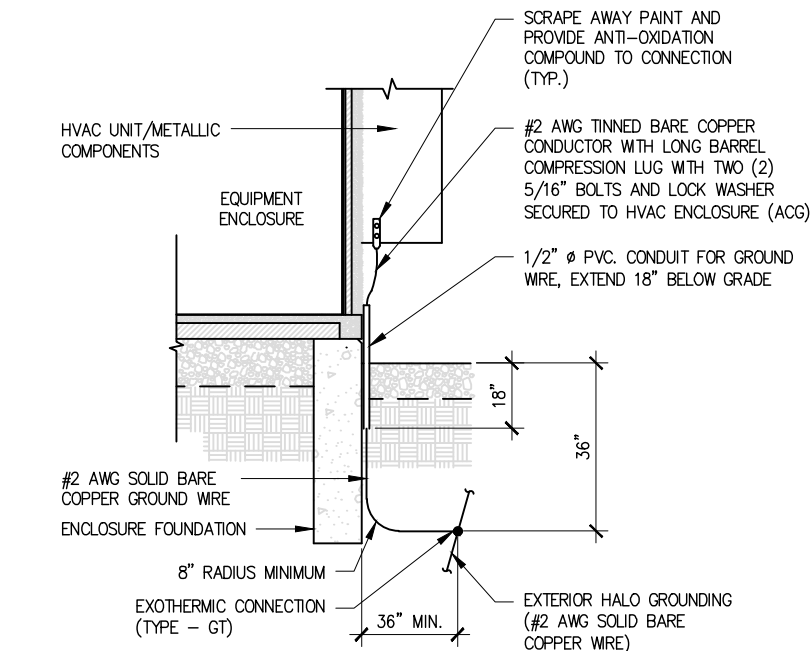
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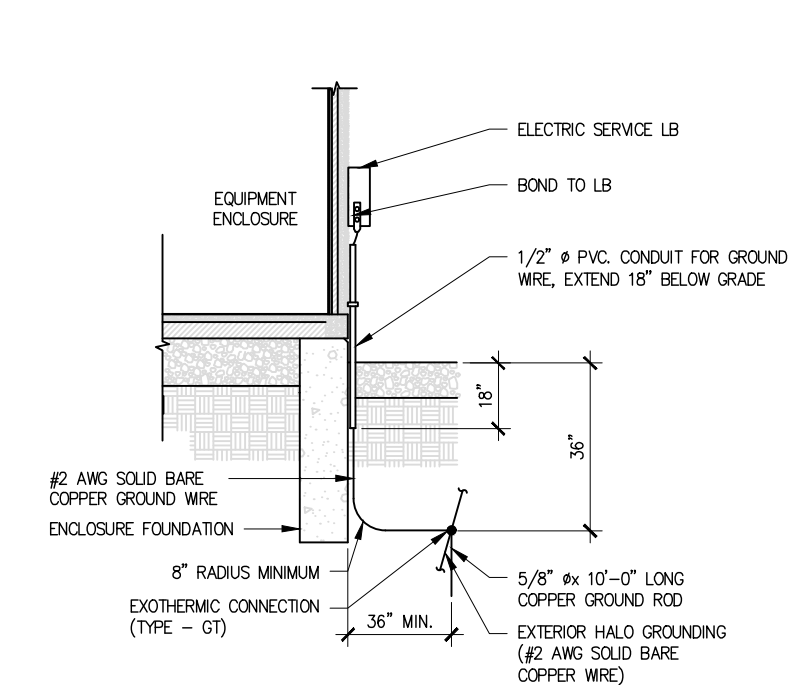
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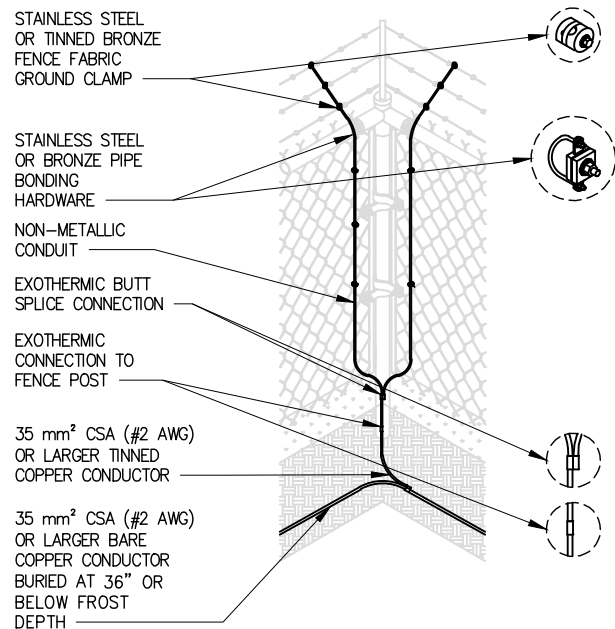
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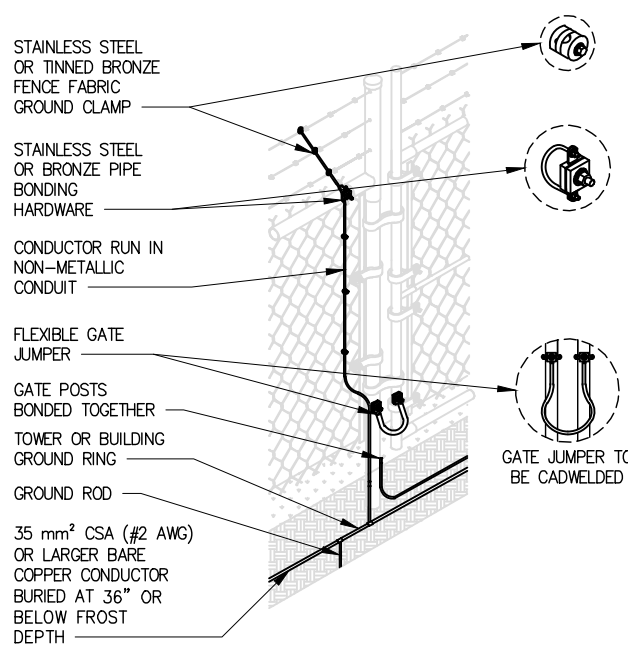
1 HVAC (ACG)/Metallic Components Grounding
NOT TO SCALE



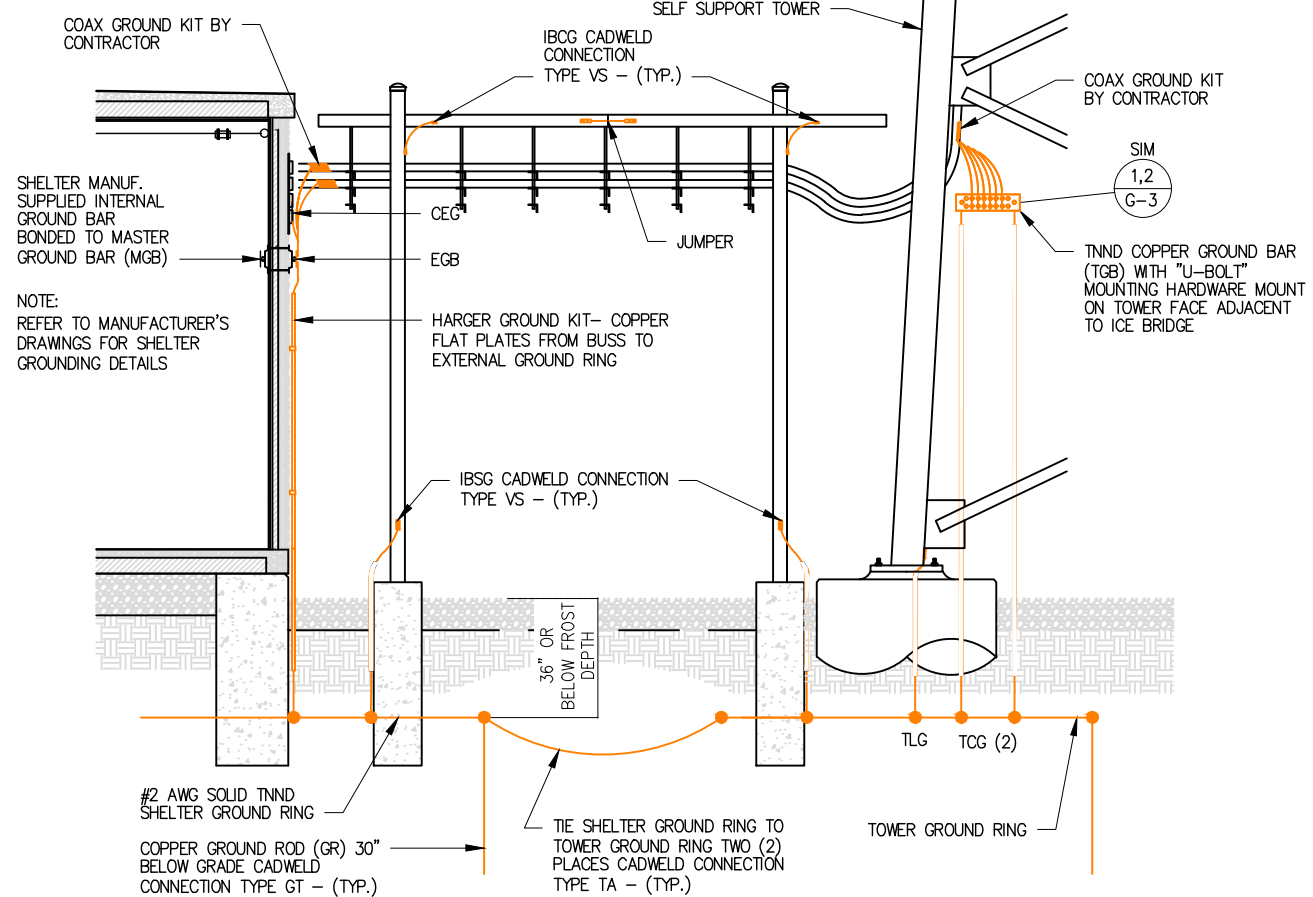
2 Electric Service Grounding
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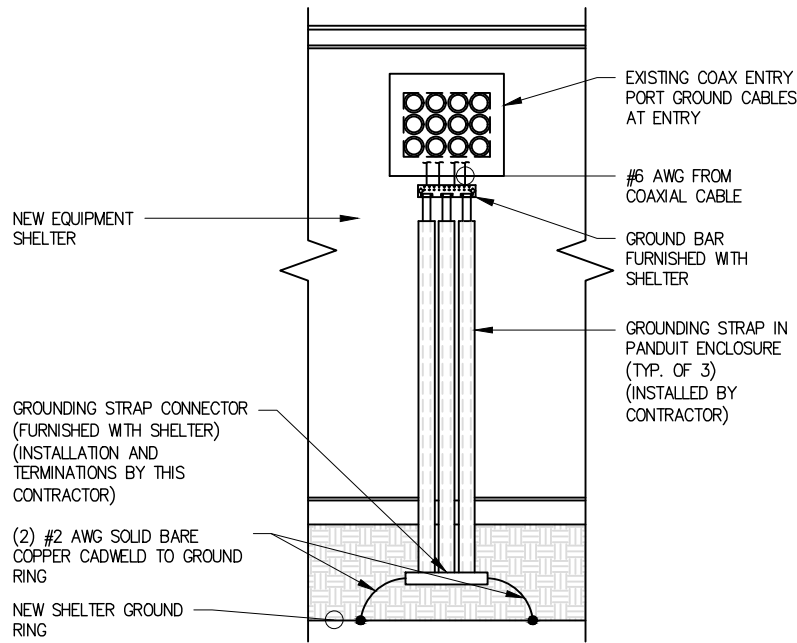
4 Fence Fabric and Deterrent Wiring Bonding
NOT TO SCALE



5 Gate Bonding
NOT TO SCALE



3 Shelter and Tower Grounding Elevation Schematic
NOT TO SCALE



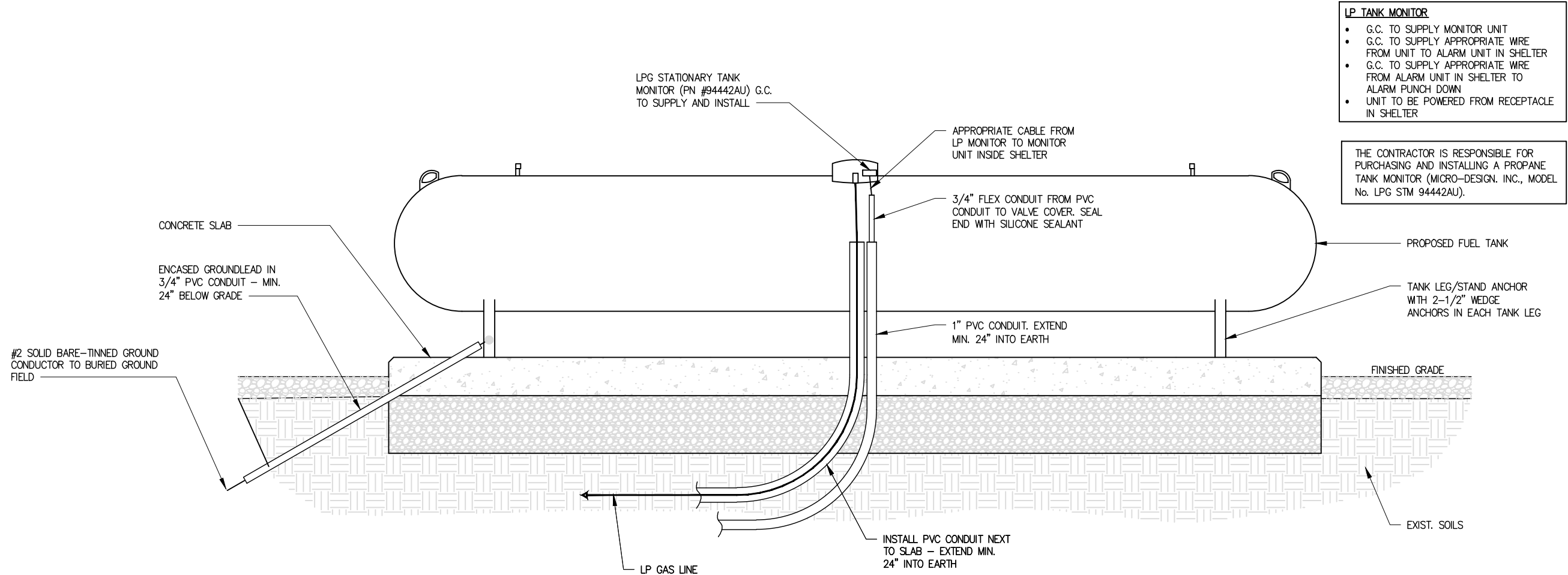
6 Shelter Grounding Detail
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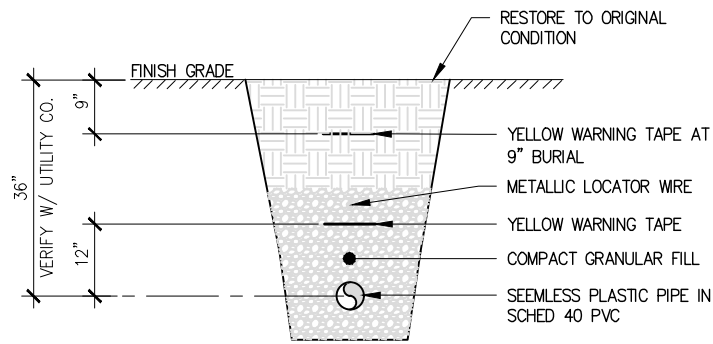
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- LP TANK MONITOR**
- G.C. TO SUPPLY MONITOR UNIT
 - G.C. TO SUPPLY APPROPRIATE WIRE FROM UNIT TO ALARM UNIT IN SHELTER
 - G.C. TO SUPPLY APPROPRIATE WIRE FROM ALARM UNIT IN SHELTER TO ALARM PUNCH DOWN
 - UNIT TO BE POWERED FROM RECEPTACLE IN SHELTER

THE CONTRACTOR IS RESPONSIBLE FOR PURCHASING AND INSTALLING A PROPANE TANK MONITOR (MICRO-DESIGN, INC., MODEL No. LPG STM 94442AU).

1 LP Tank Detail
NOT TO SCALE



2 LP Gas Service from LP Tank to Generator
NOT TO SCALE

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LP FUEL TANK DETAILS	
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M-1

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