COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT

DATE: May 22, 2024

TO: Planning Commission

FROM: Planning Staff

SUBJECT: Consideration of a request by the San Francisco Public Utilities Commission (SFPUC), pursuant to Government Code Section 65402, that the County determine whether the Skyline Ridge Radio Project conforms to the County General Plan.

County File Number: PLN2024-00100 (SFPUC)

PROPOSAL

Consideration of a request by the SFPUC, pursuant to Government Code Section 65402, that the County determine whether the construction of a 160-foot-tall radio tower on land owned by the SFPUC in the North Skyline area of the unincorporated County, to improve radio communications and coverage, conforms to the County General Plan.

RECOMMENDATION

That the Planning Commission find that the SFPUC Skyline Ridge Radio Project conforms to the County General Plan.

BACKGROUND

Report Prepared By: Katie Faulkner, Planner III

Applicant: San Francisco Public Utilities Commission (SFPUC)

Owner: San Francisco Public Utilities Commission (SFPUC)

Public Notification: Ten (10) day advanced notification for the hearing was mailed to property owners within 300 feet of the project parcel and a notice for the hearing posted in the San Mateo County Times for general public circulation.

Location: 12605 Skyline Boulevard, Redwood City, CA 94062 (North Skyline)

APN(s): 093-090-050

Size: 532.20 Acres

Existing Zoning: Resource Management District

General Plan Designation: Open Space

Local Coastal Plan Designation: Not Applicable

Sphere-of-Influence: None

Williamson Act: Not Applicable

Existing Land Use: Watershed lands

Flood Zone: Zone D - Area of Undetermined Flood Hazard

Environmental Evaluation: The City and County of San Francisco, as lead agency, determined that the SFPUC project is categorically exempt from environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15303 (Class 3, new construction or conversion of small structures).

Setting: The project site is on the north side of Skyline Boulevard (Highway 35) on SFPUC watershed lands.

DISCUSSION

A. KEY ISSUES

1. Project Description

The purpose of the project is to improve radio communications and coverage needed for infrastructure maintenance, personnel safety, preparing and responding to natural and man-made disasters, and improving coverage in areas without previous coverage or with poor coverage. The project site is on the north side of Skyline Boulevard (Highway 35) on SFPUC watershed lands within unincorporated San Mateo County, and will be accessed through SFPUC's existing, fenced driveway. The project involves the installation of a self-supporting, 160-foot-tall metal lattice radio tower with multiple antennas, an equipment shelter, underground utilities, a backup power generator, and security fencing.

Per California Government Code Section 65402, prior to construction of a project in another jurisdiction, the jurisdiction sponsoring the project must request an analysis of the proposed project's conformity with the General Plan of the jurisdiction in which the project is located.

2. Analysis

The subject parcel is outside of the County's coastal zone. The project location is not in an area of special biological significance, nor is this area listed in the California Natural Diversity Database (CNDDB). This area is not designated as prime agricultural land. The subject parcel is on the rural side of the County's urban-rural boundary.

The major General Plan topics related to this project include land use, visual quality, and natural hazard policies. The most relevant of these policies are discussed below.

Land Use

Chapter 9 of the General Plan addresses rural land use policies, and includes:

9.7 Rural Lands

Define Rural Lands as those rural areas outside of Rural Service Centers and Rural Residential Subdivisions. Rural lands include, but are not limited to, those generally developed to lower residential densities, agricultural activities, resource extraction, timber harvesting, resource conservation, public or private recreation or open space. Rural lands can also include institutional uses and public service uses, such as solid waste disposal sites.

9.43 San Francisco Watershed Lands

Recognize the San Francisco watershed lands as unique areas of special open space significance that should be protected from conflicting land uses in order to retain their value as open space, wildlife, water supply, and recreational resources.

9.50 Continue the Cooperative Management of the San Francisco Watershed Lands

Continue the cooperative agreements between the County, the City and County of San Francisco, the State of California and the Golden Gate National Recreation Area for the management of the San Francisco Watershed Lands.

The proposed project is located on San Francisco Watershed Lands and is needed to support SFPUC institutional and public service uses.

Visual Quality

Chapter 4 of the General Plan addresses visual quality policies, including:

4.21 Utility Structures

Minimize the adverse visual quality of utility structures, including roads, roadway and building signs, overhead wires, utility poles, T.V. antennae, distributed energy resources, solar water heaters, and satellite dishes.

4.22 Scenic Corridors

Protect and enhance the visual quality of scenic corridors by managing the location and appearance of structural development.

4.28 Ridgelines and Skyline

a. Discourage structures on open ridgelines and skylines, when seen as part of a public view in order to preserve visual integrity.

b. Allow structures on open ridgelines and skylines as part of a public view when no alternative building site exists.

c. Require structures on ridgelines in forested areas, which are part of a public view to: (1) blend with the existing silhouette; (2) not break or cause gaps within the ridgeline silhouette by removing tree masses; and (3) relate to the ridgeline form.

d. Define public view as a range of vision from a public road or other public facility.

4.29 Trees and Vegetation

a. Preserve trees and natural vegetation except where removal is required for approved development or safety.

b. Replace vegetation and trees removed during construction wherever possible. Use native plant materials or vegetation compatible with the surrounding vegetation, climate, soil, ecological characteristics of the region and acceptable to the California Department of Forestry.

c. Provide special protection to large and native trees.

4.40 Scenic Roads

Give special recognition and protection to travel routes in rural and unincorporated urban areas which provide outstanding views of scenic vistas, natural landscape features, historical sites and attractive urban development.

4.52 Colors and Materials

Depending on the design problems of the site, use colors and materials which: (1) blend with or complement the surrounding natural environment, (2) do not dominate or overpower the site, (3) are compatible with the size, scale, and architectural style of the structure, and (4) with the exception of greenhouses, are not highly reflective.

4.53 Height

a. Limit the height of structures or appurtenances in forested areas so as not to exceed the height of the forest canopy.

c. Allow distributed energy resources, and chimneys to extend beyond these height limits where required for safety or efficient operation.

The tower is in a forested area on a ridgeline and is proposed at that location to achieve a height that allows line of sight and communication with the other towers in the network for greater coverage. Per the applicant, this is the only location on SFPUC property that meets the requirements for radio coverage.

The subject parcel is located in the Junipero Serra and Skyline Boulevard Scenic Corridors and can be seen from various points along the Junipero Serra Freeway (Highway 280 from Millbrae to Santa Clara County) and Skyline Boulevard (State Route No. 35 from State Route No. 92 to Santa Clara County), which are State Designated Scenic Roads. The subject parcel can also be seen from the Cañada Road, a County Designated Scenic Road.

A Visual Assessment (attachment D) for the project included visual simulation and impact analysis for five viewpoints along Skyline Boulevard and Highway 280 and found no significant impacts would occur at any of these viewpoints. The Visual Assessment also found that views of the tower would be limited due to the lattice structure, the surrounding tall trees, and vegetation canopy. Per the applicant, views of the project from Cañada Road would be similar to the views from the Highway 280 Gate Vista Point (Viewpoint 5).

The project involves trimming one tree and removing two trees. The project will not remove scenic resources (i.e., trees, rock outcroppings, and historic buildings) adjacent to Skyline Boulevard. Over time the existing trees and shrubs in the foreground will continue to grow and provide further screening of the new facilities as shown in the visual simulation.

The tower will be a typical steel lattice tower, the vertical antennas will be sky blue, and the dish antennas will be off-white. The light reflectance value of the proposed steel tower is at the 70% range. The light reflectance value is a measure of the amount of light reflected, measured from 0 (absorbing all light) to 100 (reflecting all light). The reflectivity of the tower will be mitigated by the lattice structure and by the surrounding foliage obscuring the lower portion of the tower. The cyclone security fence will include green slats for screening. There will be no lights. The applicant will minimize tree removal such that trees will surround and screen the tower on all sides.

Natural Hazards

The project is located in a High Fire Hazard Severity Zone in a State Responsibility Area. Chapter 15 of the General Plan addresses Natural Hazard policies, including:

15.15 Critical Facilities

a. Where practical, avoid the location of new critical facilities in areas which contain significant natural hazards or are likely to contain significant natural hazards due to the impacts of climate change.

b. Continue to work with public utilities, school districts, and other agencies supplying critical public services to ensure that they have incorporated structural safety and other measures to be adequately protected from natural hazards for both existing and proposed facilities and are prepared for potential disasters affecting these facilities.

15.34 Vegetative Clearance Around Structures

a. Require clearance of flammable vegetation around structures as a condition of approval to new development in accordance with the requirements of the agency responsible for fire protection.

One of the purposes of the project is to improve radio communications and coverage needed for preparing and responding to natural and man-made disasters. Per the applicant, this is the only location on SFPUC property that meets the requirements for radio coverage. Project plans note that existing trees and vegetation will be removed from the proposed compound area to 20 feet outside of the fence.

Considering the propose of the project to improve radio communications and public safety, and the need to locate the project at a height that meets requirements for radio coverage, the project conforms to the policies of the County General Plan.

B. ALTERNATIVES

The alternative to a finding of conformity with the General Plan is for the Planning Commission to find that the proposed project does not conform to the policies of the County General Plan.

C. ENVIRONMENTAL REVIEW

The City and County of San Francisco, as lead agency, determined that the SFPUC project is categorically exempt from environmental review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15303 (Class 3, new construction or conversion of small structures).

D. REVIEWING AGENCIES

County Attorney

ATTACHMENTS

A. Recommended Findings
B. Location and Site Map
C. Application Letter
D. Skyline Ridge Radio Tower Visual Assessment Visual Assessment
E. Project Plans

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT A

Attachment A

County of San Mateo
Planning and Building Department

RECOMMENDED FINDING

Permit or Project File Number: PLN2024-00100 Hearing Date: May 22, 2024

Prepared By: Katie Faulkner
Project Planner

For Adoption By: Planning Commission

RECOMMENDED FINDING

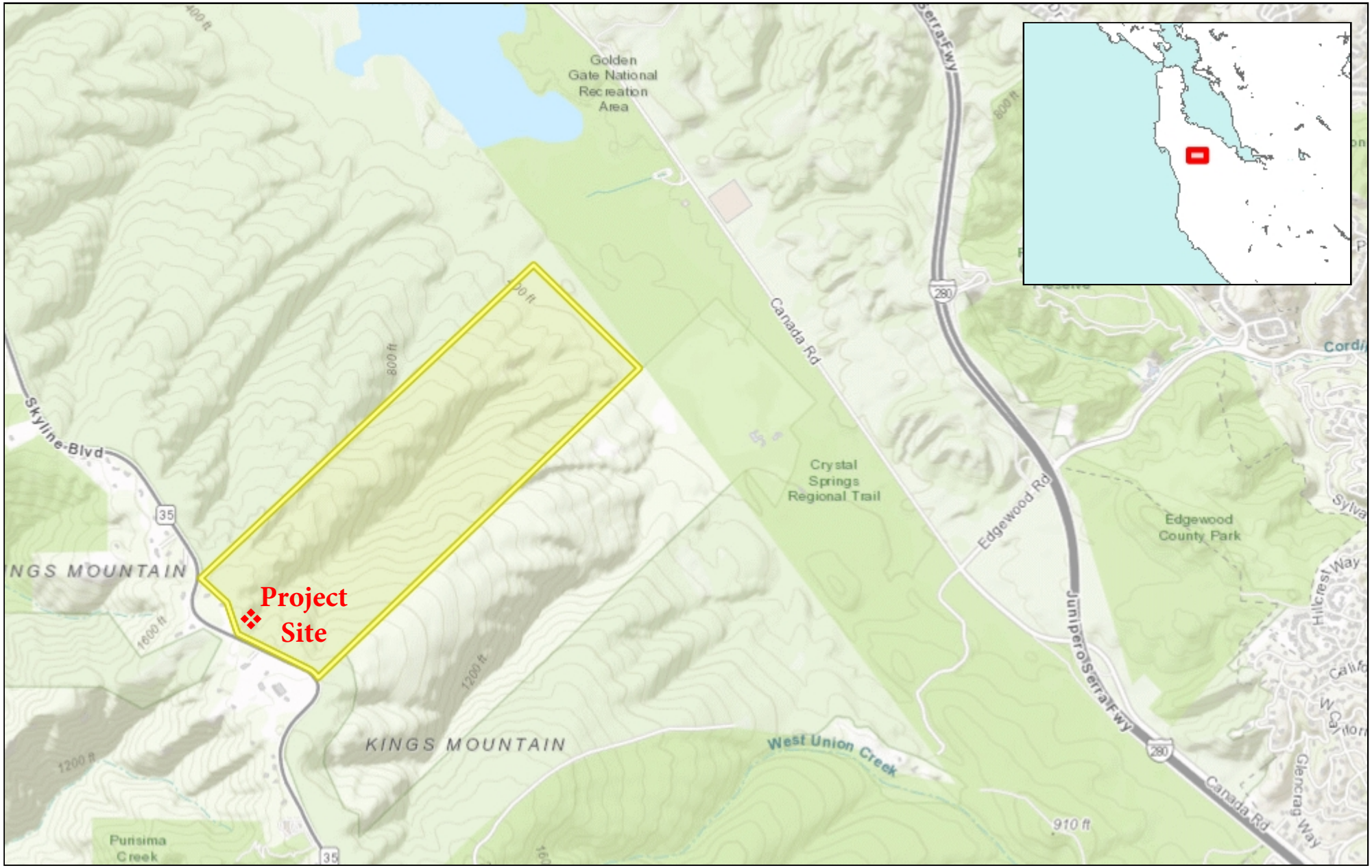
That the Planning Commission find that the SFPUC Skyline Ridge Radio Project conforms to the County General Plan.

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT B

San Mateo County

County San Mateo, CA



1.14 0 0.57 1.14 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

1: 36,112

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT C

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

Information Technology Services
525 Golden Gate Avenue, 5th Floor
San Francisco, CA 94102
T 415.554.3266

March 29, 2024

Mr. Steve Monowitz
Director of Planning and Building
County of San Mateo
400 County Center
Redwood City, CA 94063
Phone: (650) 363-1861
Email: smonowitz@smcgov.org

Via Email and Certified U.S. Mail - Return Receipt Requested

Re: Request for General Plan Conformity Determination for the Skyline Ridge Radio Project at 12605 Skyline Blvd, Redwood City, CA 94062 (APN 093-090-050)

Dear Mr. Monowitz:

The City and County of San Francisco, through the San Francisco Public Utilities Commission (SFPUC), submits this letter seeking a general plan conformity determination under California Government Code Section 65402(b) from the San Mateo County Planning and Building Department for the SFPUC's Skyline Ridge Water Radio Replacement Project (project).

The purpose of the project is to improve radio communications and coverage needed for infrastructure maintenance, personnel safety, preparing and responding to natural and man-made disasters, and improving coverage in areas without previous coverage or with poor coverage. The project site is on the north side of Skyline Boulevard (Highway 35) on SFPUC watershed lands within unincorporated San Mateo County, and will be accessed through SFPUC's existing, fenced driveway. The project involves the installation of a self-supporting, 160-foot-tall metal lattice radio tower with multiple antennas, an equipment shelter, underground utilities, a backup power generator, and security fencing. Construction is anticipated to start in Summer 2024 and be completed in approximately 45 working days.

Government Code Section 65402(b) requires that, prior to constructing a public building or structure in another city or county, the SFPUC must request your review of the project's conformity with the County's adopted

general plan. If the County does not respond within 40 days of this request, the project is deemed to be in conformity with the general plan.

Although Section 65402(b) requires the above review, California's intergovernmental immunity doctrine immunizes the SFPUC from the building and zoning ordinances of other cities and counties when the SFPUC performs work on property outside of San Francisco, regardless of whether the SFPUC owns the property, or when SFPUC leases or acquires property for public purposes in other cities and counties.[1]

The San Francisco Planning Department determined that the project is categorically exempt under the California Environmental Quality Act, Section 15303, Class 3 (Case No. 2023-011574ENV). The exemption is available at https://aca-prod.accela.com/ccsf/Cap/CapDetail.aspx?Module=Planning&TabName=Planning&capID1=23CAP&capID2=00000&capID3=00BXF&agencyCode=CCSF

This letter is provided to satisfy the noticing requirements of Government Code Section 65402(b) and does not necessarily require any action or reply on the part of the County. If you wish to respond, please contact me at alane@sfwater.org or (415) 535-3131. Thank you in advance for your attention to this matter.

Sincerely,

Alan Lane
Radio Communications Manager
San Francisco Public Utilities Commission - ITS - RADIO

[1] See *Lawler v. City of Redding* (1992) 7 Cal. App. 4th 778, 782-783 (Government Code Sections 53090 and 53091 prevail over the provision of Section 65402(b)), and an early case involving Sonoma County and the City of Santa Rosa, *Akins v. County of Sonoma* (1967), 67 Cal. 2d 185, 194.

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT D

MEMORANDUM

Date: November 16, 2023

To: Julie Moore, San Francisco Planning

From: Aaron Lui, Panorama Environmental, Inc.

Subject: Skyline Ridge Radio Tower Visual Assessment – Visual Simulations and Impact Analysis

Introduction

The purpose of this memorandum is to present the results of visual simulations and impact analysis for the San Francisco Public Utilities Commission's (SFPUC) Skyline Ridge Radio Tower Project (project), located off of Skyline Boulevard (Highway 35) in San Mateo County (Figure 1). Five of ten viewpoint (VP) locations were selected for visual simulation in coordination with San Francisco (SF) Planning to inform the impact analysis. Panoramic images for all ten VPs are provided in **Attachment A**. The visual simulations for the five selected viewpoints are provided in **Attachment B**. Additional information about the viewpoint selection process and field investigation results are available in the following memos prepared by Panorama:

- Skyline Ridge Radio Tower Visual Assessment (June 30, 2023)
- Skyline Ridge Radio Tower Visual Assessment – Field Investigation Results and Recommendations (August 2, 2023)

Visual Simulations and Impact Analysis Summary

Table 1 below describes the viewpoint simulation and impact analysis summary. The site location plan that was used to prepare the visual simulations is shown in **Figure 1**. The viewpoint locations are shown in **Figure 2** and **Figure 3**. Additionally, **Figure 4** through **Figure 7** provide representative views using Google Earth 3D imagery and a sample project tower that demonstrates views of the tower are limited due to the surrounding tall trees and vegetation canopy. Viewshed information and maps are available in the June 30 and August 2 memos.

Panorama conducted research using the Federal Communications Commission's (FCC) Antenna Structure Registration Database and associated maps to determine if there are existing

towers along and in the vicinity of Skyline Boulevard in the project region. The following two tower antennas were identified:

- Registration #1224923 (46.9 meters tall) at 15010 Skyline Road in Woodside. Two towers are visible in aerial imagery immediately adjacent to Skyline Boulevard just east of the Skeggs Point Parking Lot (see VP 8 in Appendix A).
- Registration #1260084 (27.4 meters tall) at Skeggs Peak at roughly the same location as the tower described above.

The tower locations are visible via Google Maps at this location (also refer to **Figure 8**): 37.410577, -122.306991.

Table 1 Visual Simulation and Impact Analysis Summary

ID [a]	Title [b]	Elevation [c]	Distance [b]	Visual Simulation Summary	Impact Analysis Summary
VP 1	Skyline Boulevard 1	1,377 feet	1.3 miles	A very small portion of the tower would be visible above the vegetation horizon.	The tower would not draw viewer attention at VP 1 and would be virtually undetectable due to the existing vegetative screening. No significant impacts would occur.
VP 2	Skyline Boulevard 2 & Skyline Ridge Trail [e]	1,810 feet	325 feet	Nearly the entire project tower and associated facilities at the base of the tower would be visible from VP 2 and the immediate area. Existing vegetation in the immediate foreground would partially screen views of the ground features and fence.	The tower may be visible to motorists for very brief durations (1-2 seconds) while they pass the driveway entrance to the site; however, the tower and associated features are not expected to draw the attention of most viewers due to the separation distance and narrow gap between nearly continuous vegetative screening along the highway. Additionally, highway users would have to look away from the travel direction at the precise time they passed the driveway to see the project features (approximately 45 to 90 degrees traveling north and approximately -90 to -135 traveling south). No significant impacts would occur.
VP 3	Skyline Boulevard 3	1,983 feet	0.4 mile	A very small portion of the tower would be visible through trees along the north side of Skyline Boulevard at VP 3.	The tower would not draw viewer attention at VP 3 and would be virtually undetectable due to the existing vegetative screening, as well as the perpendicular travel-to-viewing direction where brief views may be available. No significant impacts would occur.
VP 5	Gate Vista Point / Highway 280	643 feet	2.9 miles	Roughly half of the tower would be visible from VP 5 above the vegetation horizon.	The tower may be visible to scenic vista views or viewers traveling on Highway 230 in the area that look towards the tower site; however, the tower is not expected to draw the attention of most viewers due to separate distance. The form of the tower at 2.9 miles is difficult to discern and does not result in significant contrast with the surrounding tall trees due to the

ID [a]	Title [b]	Elevation [c]	Distance [b]	Visual Simulation Summary	Impact Analysis Summary
					tower's tall thin shape and gray color. No significant impacts would occur.
VP 10	Crystal Springs Rest Area / Highway 280	672 feet	5.5 miles	Roughly half or less of the tower would be visible from VP 10 above the vegetation horizon.	The tower may be visible to rest area views or viewers traveling on Highway 230 in the area; however, the tower is not expected to draw the attention of most viewers due to separate distance. As with VP 5, the form of the tower at 5.5 miles is difficult to discern and does not result in significant contrast with the surrounding tall trees due to the tower's tall thin shape and gray color. No significant impacts would occur.

Table Notes:

[a] VPs 4, 6, 7, 8, and 9 were not selected for visual simulation; however, these VPs are identified in maps and the panoramic images for informational purposes.

[b] Both Skyline Boulevard and Highway 280 are Designated State Scenic Highways.

[c] Above mean sea level. The project site elevation is approximately 1,882 feet.

[d] Distance refers to the distance between the VP and tower site.

[e] The approved Skyline Ridge Trail is scheduled to be constructed in the spring of 2024. The trail route generally runs parallel to Skyline Boulevard along its eastern side, south of Highway 92, and would be located in close proximity to the project site.

Figure 1 Site Location Plan

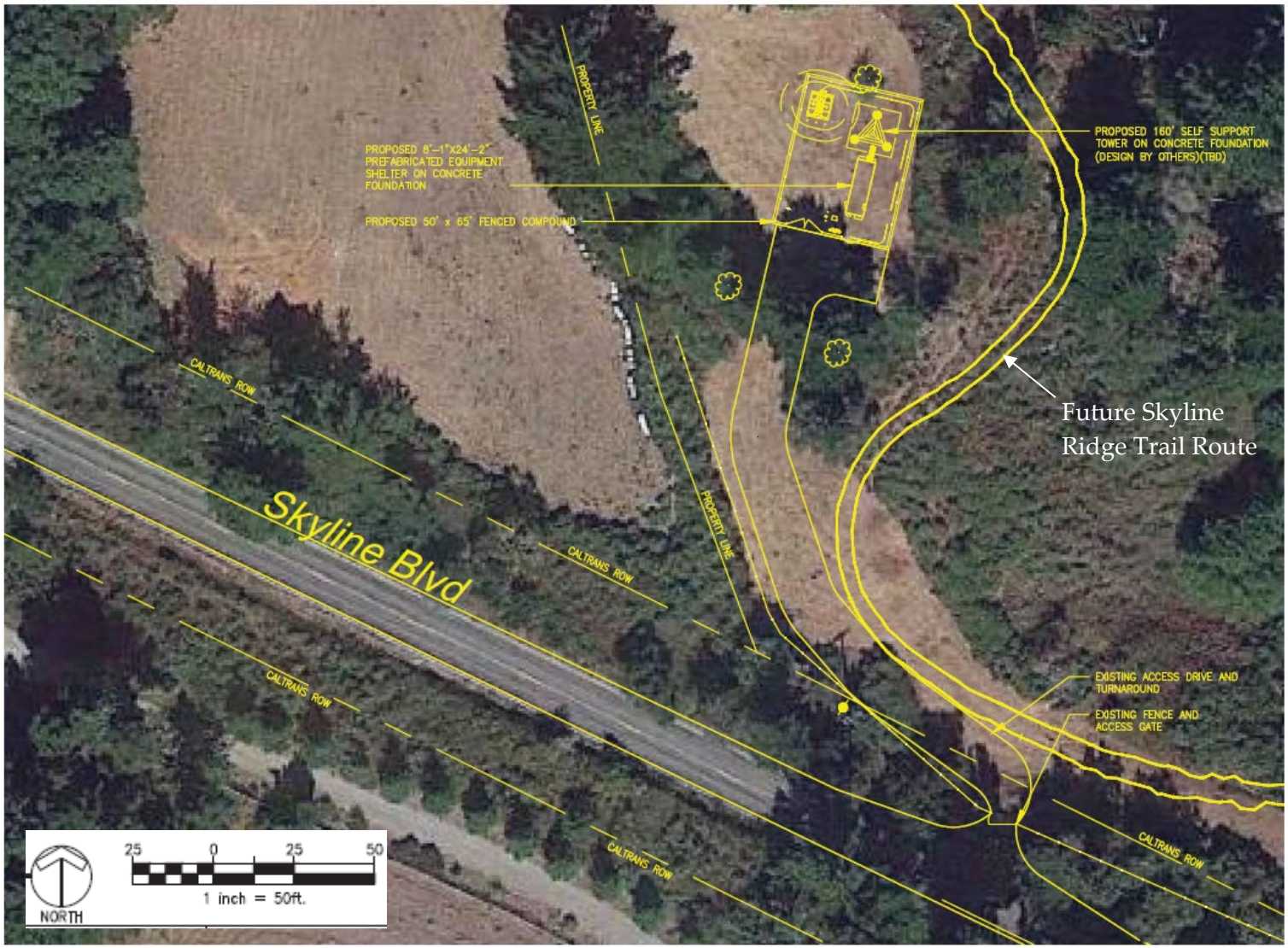


Figure 2 Viewpoint Locations (Overview)

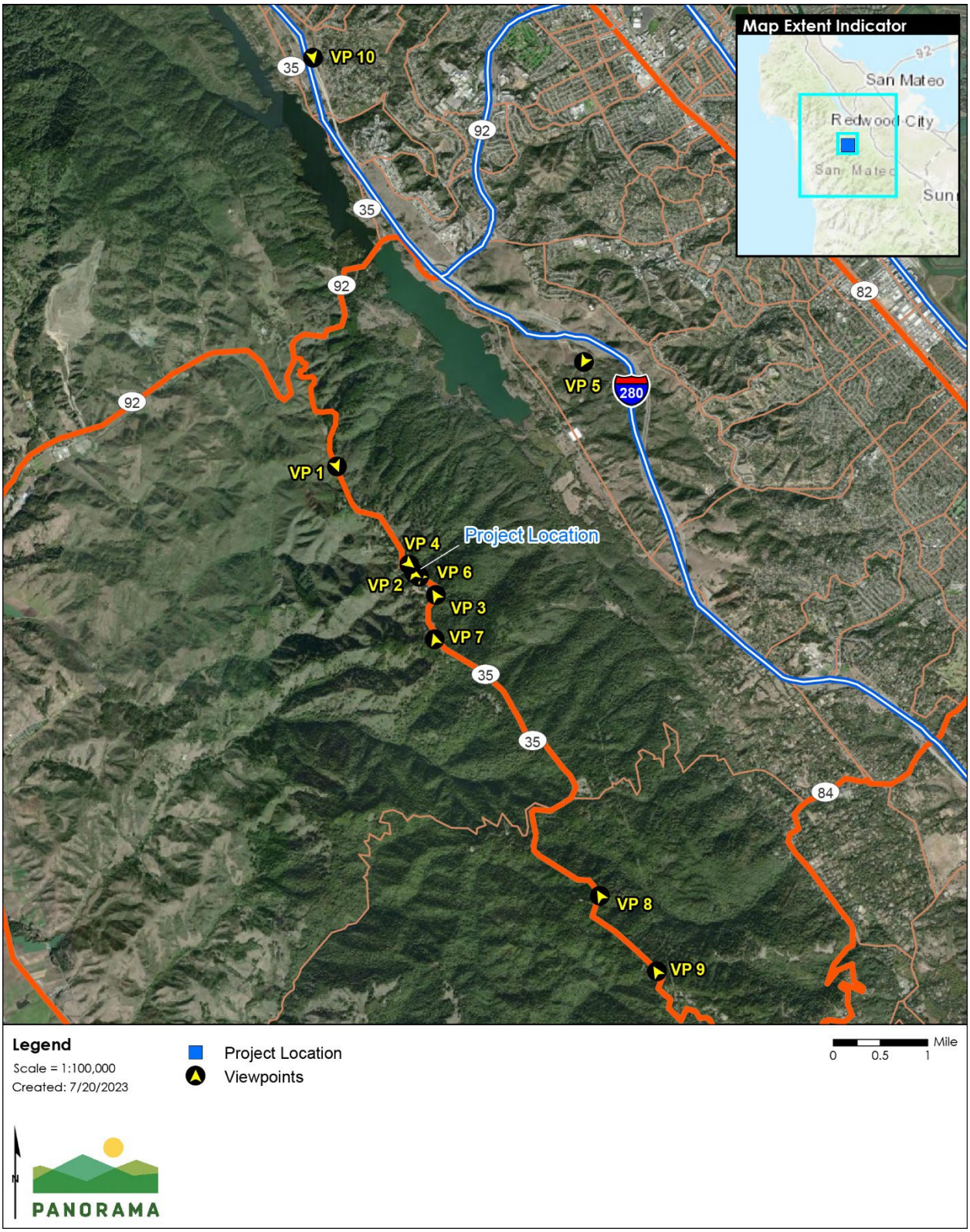


Figure 3 Viewpoint Locations (Project Vicinity)

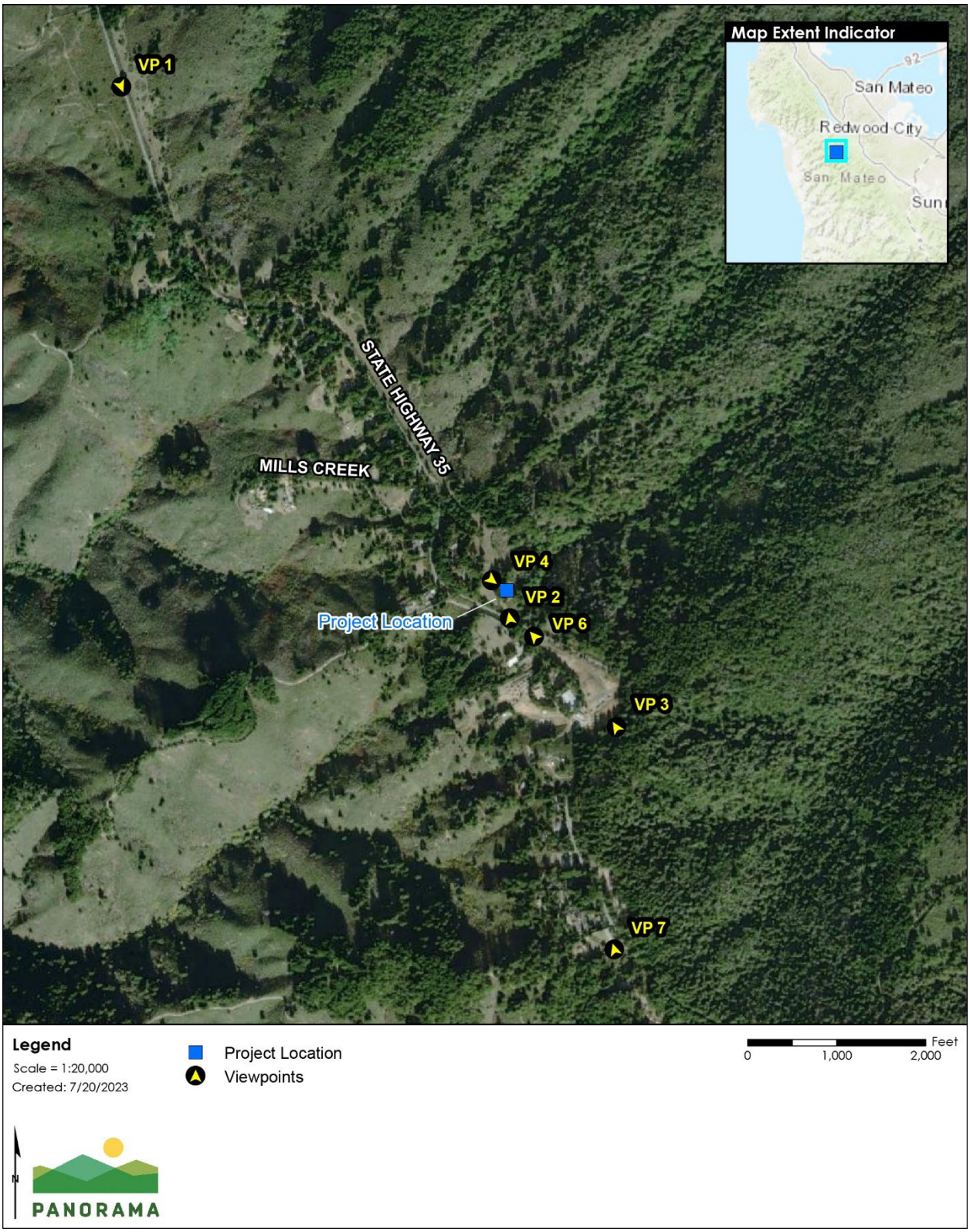


Figure 4 Google Earth 3D Imagery and Representative Tower (Facing North)

Figure 5 Google Earth 3D Imagery and Representative Tower (Facing East)

Figure 6 Google Earth 3D Imagery and Representative Tower (Facing South)

Figure 7 Google Earth 3D Imagery and Representative Tower (Facing East)

Figure 8 Google Earth 3D Imagery of Existing Communications Towers at Skeggs Point

Figure A-1 Viewpoint 1 – Skyline Boulevard 1

Figure A-2 Viewpoint 2 – Skyline Boulevard 2

Figure A-3 Viewpoint 3 – Skyline Boulevard 3

Figure A-4 Viewpoint 4 – Skyline Ridge Trail (Future Route)

Figure A-5 Viewpoint 5 – Gate Vista Point

Figure A-6 Viewpoint 6 – Cypress Ridge Road & Skyline Boulevard 4

Figure A-7 Viewpoint 7 – Purisima Creek Redwoods Preserve North Ridge Parking Area

Figure A-8 Viewpoint 8 – Skeggs Point Scenic Vista Parking Lot & Skyline Boulevard 5

Figure A-9 Viewpoint 9 – El Corte de Madera Creek Preserve Parking Area

Figure A-10 Viewpoint 10 – Crystal Springs Rest Area

Figure B-1 Viewpoint 1: Skyline Boulevard 1 – Existing Visual Conditions

Figure B-2 Viewpoint 1: Skyline Boulevard 1 – Visual Simulation

Figure B-3 Viewpoint 2: Skyline Boulevard 2 & Skyline Ridge Trail – Existing Visual Conditions

Figure B-4 Viewpoint 2: Skyline Boulevard 2 & Skyline Ridge Trail – Visual Simulation

Figure B-5 Viewpoint 3: Skyline Boulevard 3 – Existing Visual Conditions

Figure B-6 Viewpoint 3: Skyline Boulevard 3 – Visual Simulation

Figure B-7 Viewpoint 5: Gate Vista Point – Existing Visual Conditions

Figure B-8 Viewpoint 5: Gate Vista Point – Visual Simulation

Figure B-9 Viewpoint 10: Crystal Springs Rest Area – Existing Visual Conditions

Figure B-10 Viewpoint 10: Crystal Springs Rest Area – Visual Simulation

COUNTY OF SAN MATEO - PLANNING AND BUILDING DEPARTMENT

ATTACHMENT E

SKYLINE RIDGE

12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

PROJECT DESCRIPTION

INSTALLATION OF A PEPRO PREFABRICATED FARADAY CAGE TECHNOLOGY SHELTER FOR RADIO EQUIPMENT, (BUILDING FROM FT. MILEY, SF.), NEW GENERATOR, TWO PROPANE TANKS, AND A 160' SELF-SUPPORTING TOWER THAT INCLUDES RADIO AND MICROWAVE ANTENNAS, COAXIAL CABLE, AND ASSOCIATED MOUNTS.

UTILITIES INCLUDE POWER, VOICE AND FIBER OPTIC IN BURIED CONDUITS.

NO WATER SUPPLY OR SEWAGE TO/FROM THE RADIO SITE.

SITE NAME:

SKYLINE RIDGE

SITE ADDRESS:

12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

SITE COORDINATES

LATITUDE – N 37° 27' 39.9"
LONGITUDE – W 122° 20' 35.60"
ELEVATION – 1842'AMSL

SITE INFORMATION

LANDLORD

SAN FRANCISCO PUBLIC UTILITY COMMISSION (SFPUC)

APPLICANT

SFPUC RADIO COMMUNICATIONS MANAGER
525 GOLDEN GATE AVENUE, 5TH FLOOR
SAN FRANCISCO, CA 94102
PH: (415) 214-0394

MOTOROLA PROJECT MANAGER

MOTOROLA
JIM HARDIMON
J.HARDIMON@MOTOROLASOLUTIONS.COM
PH: (310) 413-0604

PROJECT MANAGER

PYRAMID NETWORK SERVICES, LLC
KEVIN HERRING
(951) 452-4121
KHERRING@PYRAMIDNS.COM

ARCHITECTURAL AND ENGINEERING

MISSION 1 COMMUNICATIONS
6202 CONSTITUTION DRIVE, SUITE C
FORT WAYNE, IN 46804

CONSULTANT TEAM

SFPUC REPRESENTATIVE :	RECEIVED :
	ACCEPTED :
MOTOROLA :	RECEIVED :
	ACCEPTED :
PROPERTY OWNER:	RECEIVED :
	ACCEPTED :

RECEIVED AND ACCEPTED

DIRECTIONS TO SITE

VICINITY MAP — MAP PROVIDED BY GOOGLE MAPS

LOCATION MAP — AERIAL MAP PROVIDED BY GOOGLE EARTH

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

DRAWING INDEX

REFERENCE DOCUMENTS :

PUBLIC UTILITIES COMMISSION INFRASTRUCTURE DESIGN 10-11-19
C-1001
C-4001
C-4002
SKYLINE RIDGE SHELTER TIE DOWN DETAILS 4-9-21
S101
S102

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEL III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
O	09-07-22	CONSTRUCTION DRAWINGS	RNV	SAH	
P	07-19-22	PRELIMINARY DRAWINGS - REVISED GEN. CIRCUITS	RNV	SAH	
N	07/07/22	PRELIMINARY DRAWINGS - REVISED PANEL SCHEDULE	RNV	SAH	
M	06/16/22	PRELIMINARY DRAWINGS - REVISED PER COMMENTS	RNV	SAH	
L	03/24/22	PRELIMINARY DRAWINGS - REVISED PER COMMENTS	RNV	SAH	

MISSION 1 COMMUNICATIONS
6202 Constitution Drive, Suite C
Fort Wayne, IN 46804

MOTOROLA SOLUTIONS

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

PROJECT INFORMATION, LOCATION MAPS, AND DRAWING INDEX

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

T-1

GENERAL REQUIREMENTS

1. GENERAL

1.1. SUMMARY OF WORK

A. THE WORK MAY CONSIST OF, BUT NOT BE LIMITED TO, THE INSTALLATION OF EQUIPMENT CABINETS, ANTENNAS ,AND LINES. FUEL TANKS, 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) WHERE APPLICABLE SHALL BE CONSIDERED TO BE SPECIFICATION AND ARE INCORPORATED HEREIN BY REFERENCE. WHERE PROVISIONS OF THE CODES AND STANDARDS ARE IN CONFLICT WITH THE BUILDING CODE IN FORCE FOR 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/TIA/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 (REV 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. CALIFORNIA STATE BUILDING AND ELECTRICAL CODE, OR AHJ CODES.
- 2019 CALIFORNIA BUILDING CODE (CBC)
- 2019 CALIFORNIA ELECTRICAL CODE (CEC)

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 MATERIALS PER MOTOROLA SCOPE OF WORK 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.

CERTIFICATION:

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	09–07–22	CONSTRUCTION DRAWINGS	RNV	SAH	
P	07–19–22	PRELIMINARY DRAWINGS – REVISED GEN. CIRCUITS	RNV	SAH	
N	07/07/22	PRELIMINARY DRAWINGS – REVISED PANEL SCHEDULE	RNV	SAH	
M	06/16/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	
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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. INCLUDING THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD)

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. STARTUP AND COMMISSIONING SHALL INCLUDE (3) MARVAIR HVAC UNITS AND ASSOCIATED LEAD/LAG CONTROLLER CONFIGURATION.

1.16. SHOP DRAWINGS/AS-BUILT DRAWINGS, TOWER 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.

THE SPECIAL INSPECTOR OR INSPECTION AGENCY SHALL SUBMIT A FINAL SIGNED REPORT TO THE ENGINEER OF RECORD STATING THAT ALL ITEMS WERE FULFILLED AND REPORTED AND, TO THE BEST OF HIS/HER KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS, SPECIFICATIONS, APPROVED CHANGE ORDERS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE 2019 CALIFORNIA BUILDING CODE. ITEMS NOT IN CONFORMANCE, UNRESOLVED ITEMS, OR ANY DISCREPANCIES IN INSPECTION COVERAGE (I.E. MISSED INSPECTIONS, PERIODIC INSPECTIONS WHEN CONTINUOUS WAS REQUIRED, ETC.) SHALL BE SPECIFICALLY ITEMIZED IN THIS REPORT.

UPON REVIEW AND APPROVAL OF THE FINAL SPECIAL INSPECTION REPORT THE ENGINEER OF RECORD WILL PROVIDE STAMPED/SIGNED AFFIDAVIT APPROVING THE RESULTS.

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 EIGHTEEN MONTHS 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.

CERTIFICATION

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMANN III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	09-07-22	CONSTRUCTION DRAWINGS	RNV	SAH	
P	07-19-22	PRELIMINARY DRAWINGS - REVISED GEN. CIRCUITS	RNV	SAH	
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Abbreviations and Symbols

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

Symbols

1	REVISION
1	KEY NOTE
100	ROOM NUMBER
22	KEYED NOTE
1 / T-1	DETAIL REFERENCE
1 / T-1	ELEVATION REFERENCE
1 / T-1	SECTION REFERENCE

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMANN III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	09-07-22	CONSTRUCTION DRAWINGS	RNV	SAH	
P	07-19-22	PRELIMINARY DRAWINGS – REVISED GEN. CIRCUITS	RNV	SAH	
N	07/07/22	PRELIMINARY DRAWINGS – REVISED PANEL SCHEDULE	RNV	SAH	
M	06/16/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	
L	03/24/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	

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MOTOROLA SOLUTIONS

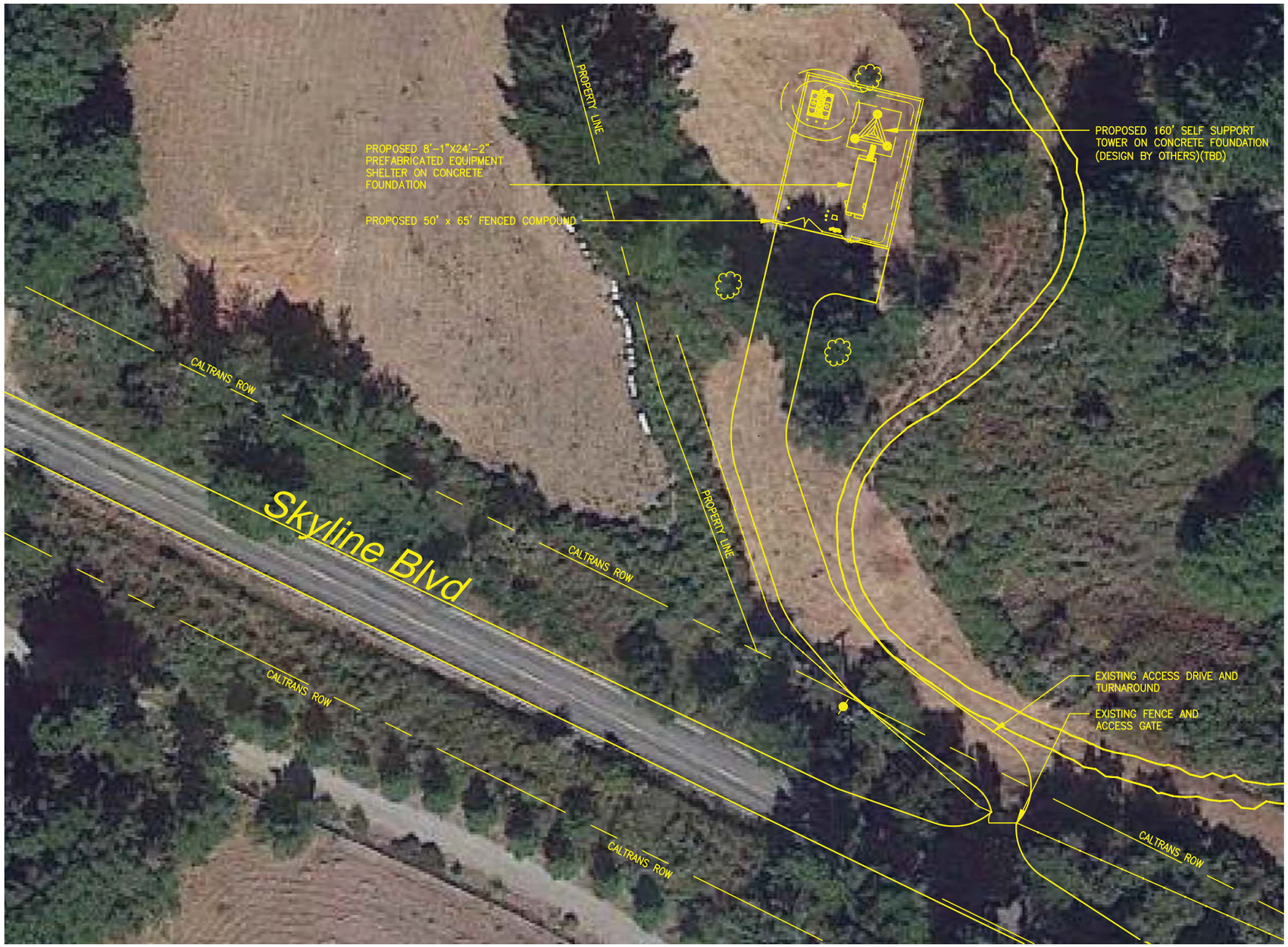
San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

ABBREVIATIONS AND SYMBOLS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17
PAGE SIZE

GN-3



Site Location Plan

NORTH

25 0 25 50

1 inch = 50ft.

GENERAL NOTES:

1. PROPERTY OFFSETS ARE APPROXIMATE. FINAL LOCATION OF COMPOUND TO BE DEVELOPED FROM TOWER ℄

2. 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 RESORTED TO SERVICE AT ONCE & PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

3. ALL CONSTRUCTION ACTIVITIES & MODIFICATIONS SHALL COMPLY WITH MOTOROLA R-56 STANDARDS, MOST CURRENT REVISION.

ANY DISCREPANCIES BETWEEN THIS DRAWING PACKAGE AND EXISTING FIELD CONDITIONS MUST BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

SITE FENCE STAKING NOTE:
SEE PUBLIC UTILITIES COMMISSION INFRASTRUCTURE PLAN C-1001 FOR LOCATION OF FENCE CORNERS. DATED 10-11-19

CERTIFICATE:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMANN III
74138
CIVIL
STATE OF CALIFORNIA

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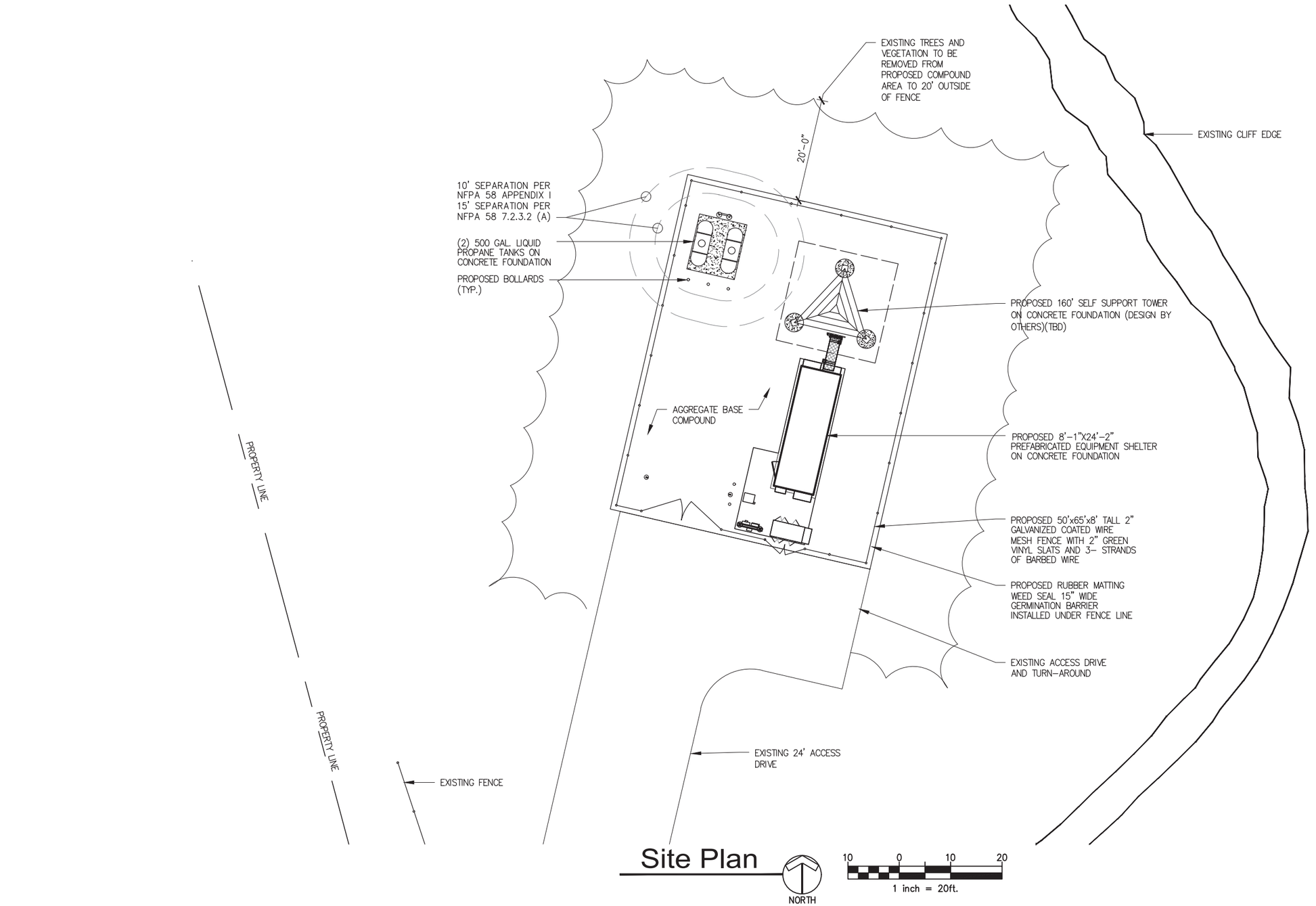
SITE LOCATION PLAN

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

C-1



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ANY DISCREPANCIES BETWEEN THIS DRAWING PACKAGE AND EXISTING FIELD CONDITIONS MUST BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

SITE FENCE STAKING NOTE:
SEE PUBLIC UTILITIES COMMISSION INFRASTRUCTURE PLAN C-1001 FOR LOCATION OF FENCE CORNERS. DATED 10-11-19

SEEDING NOTE:
G.C. TO RESTORE ALL DISTURBED AREAS AND RESEED WITH LIKE VEGETATION.

CERTIFICATION:

September 9, 2022

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San Francisco Water Power Sewer
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SITE PLAN

SKYLINE RIDGE
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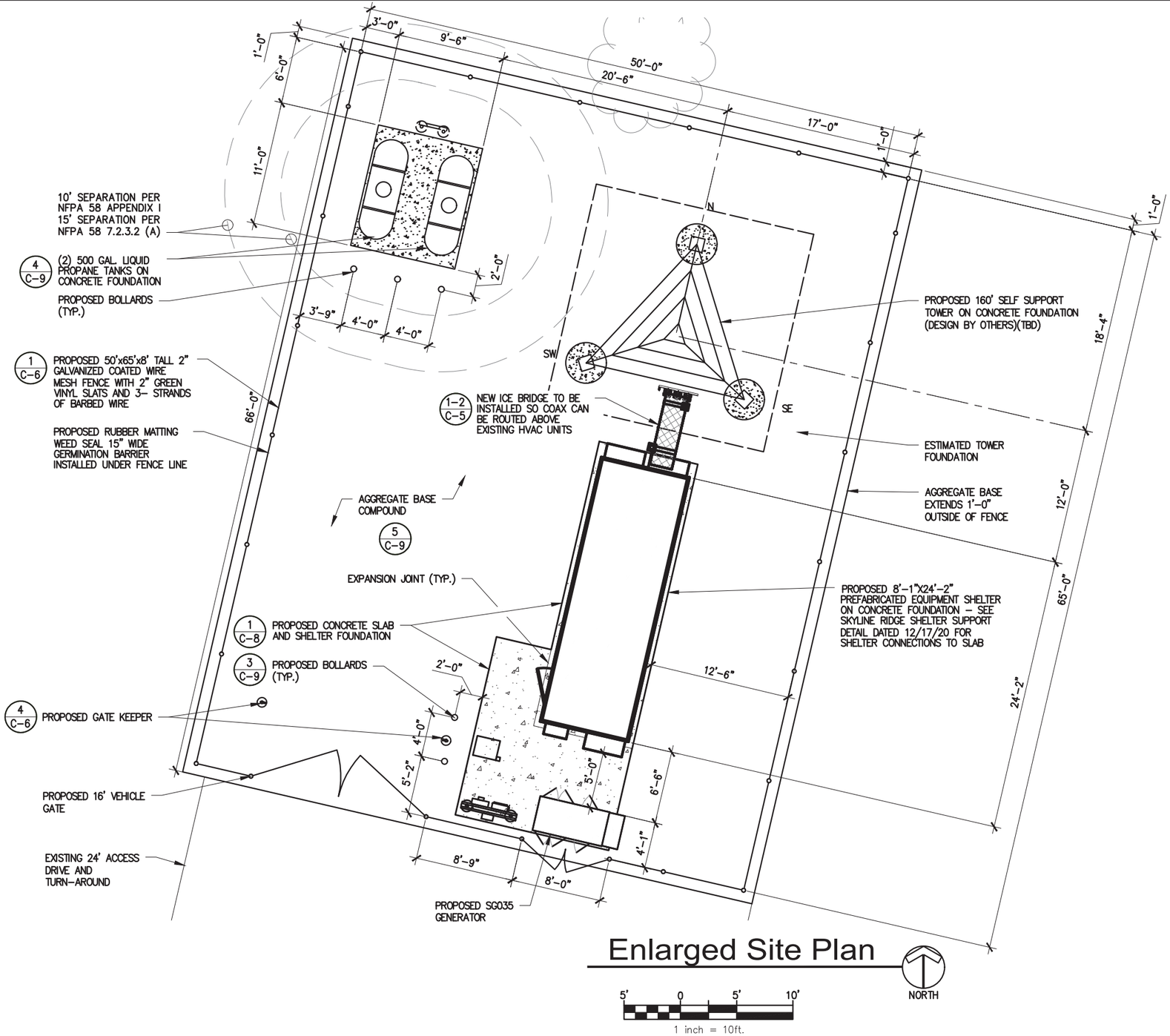
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

C-2



Enlarged Site Plan

5' 0 5' 10'

1 inch = 10ft.

GENERAL NOTES:

1. PROPERTY OFFSETS ARE APPROXIMATE. FINAL LOCATION OF COMPOUND TO BE DEVELOPED FROM TOWER ℄

2. 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 RESORTED TO SERVICE AT ONCE & PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

3. ALL CONSTRUCTION ACTIVITIES & MODIFICATIONS SHALL COMPLY WITH MOTOROLA R-56 STANDARDS, MOST CURRENT REVISION.

4. SEISMIC DESIGN BY OTHERS.

ANY DISCREPANCIES BETWEEN THIS DRAWING PACKAGE AND EXISTING FIELD CONDITIONS MUST BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

GENERATOR NOTE:

G,C, TO FOLLOW MANUFACTURER'S INSTRUCTIONS FOR FASTENING GENERATOR TO THE CONCRETE SLAB, CONNECTING INTAKE / EXHAUST, CONNECTING FUEL LINES, AND ELECTRIC / ALARMS. SEE MANUFACTURER'S INSTRUCTIONS FOR STUB UP LOCATIONS AT NEW CONCRETE SLAB

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEL III
74138
CIVIL
STATE OF CALIFORNIA

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San Francisco Water Power Sewer
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ENLARGED SITE PLAN

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

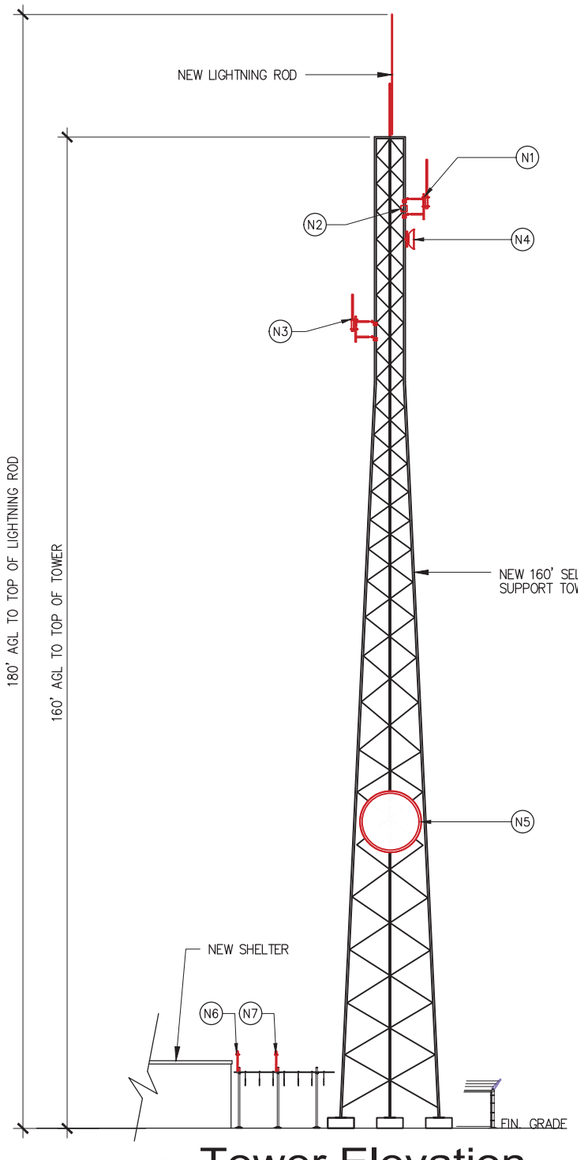
C-2.1

SKYLINE RIDGE - 160' SELF SUPPORT TOWER
LAT: N 37° 27' 39.9"
LON: W 122° 20' 35.6"

Antenna/Appurtenance Location Chart

E = EXISTING
N = NEW
R = REMOVE

ANTENNA INFORMATION													FEEDLINE INFORMATION					COLOR CODE			
ANTENNA ID	MANUFACTURER	MODEL	TYPE	LENGTH	BOTTOM ELEV	RAD CENTER	TOP ELEV.	LEG	AZIMUTH	DOWN TILT	DEST.	QTY.	TYPE	MANUFACTURER	MODEL	SIZE	QTY.	BAND 1	BAND 2	BAND 3	BAND 4
N1	RFI	CC-807-08	RX1	8.0'	150.0'	154.0'	158.0'	N	N/A	N/A	N/A	1	COAX	TRILOGY	AT114J50	1-1/4"	1	GREEN			
N2	Filtronics	DSTA798202002000	TTA		150.0'	-	-	-	N/A	N/A	N/A	1	COAX	TRILOGY	AT012J50	1/2"	1	GREEN	WHITE		
N3	RFI	CC-807-06	TX1	6.0'	130.0'	133.0'	136.0'	SW	N/A	N/A	N/A	1	COAX	TRILOGY	AT114J50	1-1/4"	1	RED			
N4	RFS	SC3-W100AMPT	MW1	3.0'	143.5'	145.0'	146.5'	N	0°	-	SAWYER	1	DATALINE	DATA LINE	CAT5E EXTERIOR	1/2"	1	BLUE	WHITE		
N5	RFS	PAD10-W57A	MW2	10.0'	45.0'	50.0'	55.0'	SE	120°	-	MT. ALLISON	1	WAVEGUIDE	COMMSCOPE	E-60	2.2"	1	BLUE	WHITE	WHITE	
N6	MSI	PMUG1017A	GPS	-	ICE BRIDGE			-	-	-	-	1	DATALINE	MSI	DS30C87465CO1	1/2"	1	ORANGE			
N7	MSI	PMUG1017A	GPS	-	ICE BRIDGE			-	-	-	-	1	DATALINE	MSI	DS30C87465CO1	1/2"	1	ORANGE	WHITE		



1 Tower Elevation
NOT TO SCALE

PENDING TOWER AND FOUNDATION DESIGN BY OTHERS

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 CABLE LADDER 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 & BOTTOM OF THE TOWER(BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE SHELTER). TRANSMISSION LINE GROUND KITS WILL BE INSTALLED EVERY 50 TO 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 & STRUCTURAL ANALYSIS BEFORE INSTALLATION.
10. STRAIN RELIEF SHALL BE USED A MINIMUM OF EVERY 200 FEET ALONG THE TRANSMISSION LINE DURING INSTALLATION AND SHALL BE RETAINED AND USED TO SUPPORT THE CABLE AFTER INSTALLATION. AN AUXILIARY SUPPORT LINE SHALL BE USED DURING INSTALLATION TO SUPPORT THE CABLE BETWEEN THE STRAIN RELIEF GRIPS TO PREVENT DAMAGE TO THE TRANSMISSION LINE CAUSED BY LIFTING FROM ONLY ONE POINT.

GENERAL NOTES:

1. TOWER AND FOUNDATION STRUCTURAL BY OTHERS
2. ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP & BOTTOM OF THE TOWER(BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE SHELTER). ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 200 FEET.
3. THE CONTRACTOR SHALL CONDUCT A FDR SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE. CABLE INSERTION LOSS, REFLECTION & STIMULUS RESPONSE MEASUREMENTS. RESULTS TO BE SUBMITTED TO MOTOROLA.
4. DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE SHELTER.
5. 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.

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMAN III
74138
CIVIL
STATE OF CALIFORNIA

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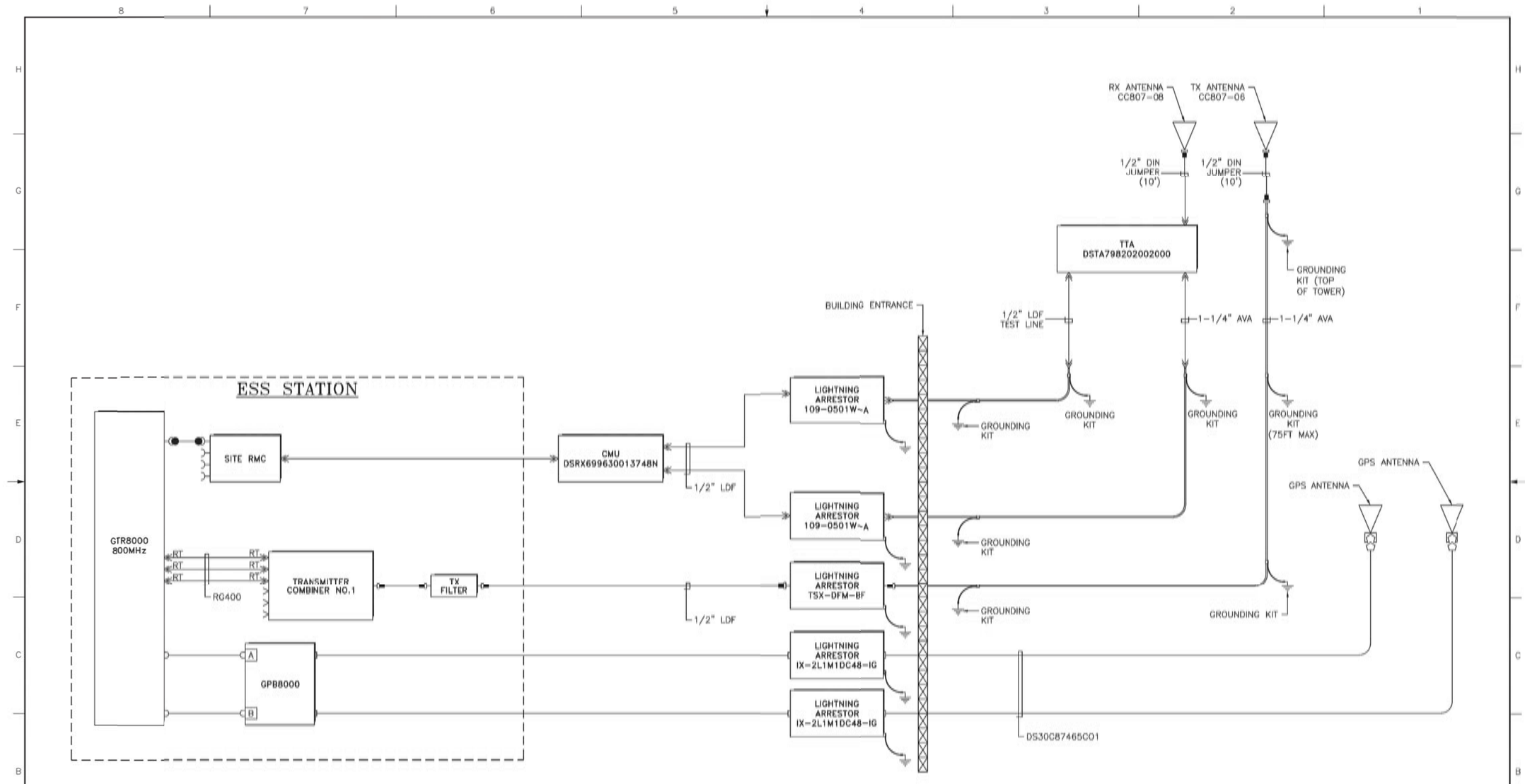
San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

TOWER ELEVATION AND ANTENNA INFORMATION

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

C-3

11 X 17 PAGE SIZE



NOTES:

1. ALL GROUNDING KITS TO BE INSTALLED PER R56 REQUIREMENTS.
2. REFER TO TOWER DRAWING FOR ANTENNA DETAILS

CONNECTOR/SYMBOL LEGEND

FEMALE "N" TYPE	BNC MALE	DIN FEMALE			
MALE "N" TYPE	BNC FEMALE	DIN MALE			
QMA MALE	DEUTSCH FEMALE	RT	RIGHT ANGLE "N" TYPE		
QMA FEMALE	DEUTSCH MALE	RT	RIGHT ANGLE ADAPTOR		
RJ45 MALE	DB 15		50 OHM LOAD		

*CONNECTORS AND CORRESPONDING CABLES ARE EQUAL IN SIZE UNLESS OTHERWISE SPECIFIED.

REV NO:	DATE:	ENGR:	DESCRIPTION:
O	6-10-22	R.W.	ORIGINAL RELEASE

ORIGINAL DOCUMENT SIZE IS 22X34. CORRECT SCALE IS NOT GUARANTEED IF REDUCED OR ENLARGED

MOTOROLA SOLUTIONS

PROJECT: SAN FRANCISCO PUBLIC WORKS COMMISSION P25 PHASE 2 TDMA

TITLE: SKYLINE SIMULCAST SUBSITE ANTENNA INTERCONNECT DIAGRAM

CONTRACT:	ENGINEER: R. WAGNER	PROJECT MANAGER: J. HARDIMON	SCALE: NONE	SIZE: D
PROGRAM: AUTOCAD 2006	DRAWN: L. DAYRIT	CHECKED: R. WAGNER	SHEET: 1 OF 1	REV:
FILE NAME: 1_SFPU_SKY_11_01	DATE: 10-22-20	PROJECT NUMBER: CA-17I101A	DRAWING NO:	

CERTIFICATION:

FOR REFERENCE ONLY

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NEW ANTENNA INTERCONNECTION DIAGRAM

SKYLINE RIDGE
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SAN MATEO COUNTY

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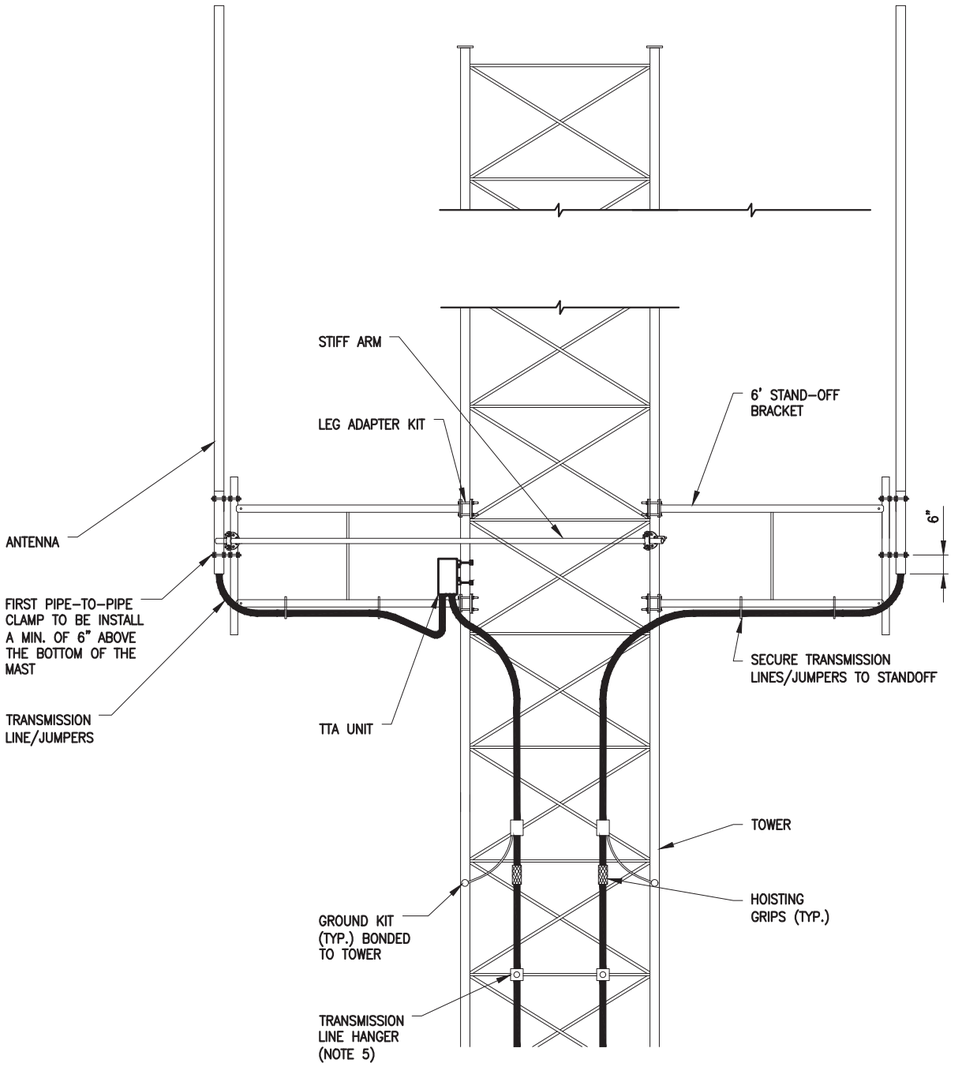

1 Antenna Detail - Stand-off Mount

NOT TO SCALE

SEE TOWER DRAWINGS BY OTHERS FOR MOUNT SPECIFICATIONS THAT WERE ORDERED FOR NEW ANTENNA INSTALLATION

NOTES:

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3. CONTRACTOR TO WATERPROOF ALL EXTERNAL CONNECTIONS.
4. CONTRACTOR TO INSTALL HOT DIPPED GALVANIZED OR STAINLESS STEEL MOUNTING HARDWARE.
5. CONTRACTOR TO ATTACH CABLES TO TOWER EVERY 3 FOOT (MAX.)
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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 & STRUCTURAL ANALYSIS BEFORE INSTALLATION.

CERTIFICATION:

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ANTENNA MOUNT DETAILS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

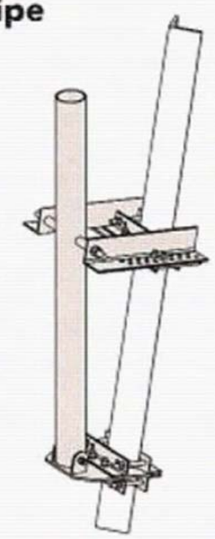
C-4

11 X 17 PAGE SIZE

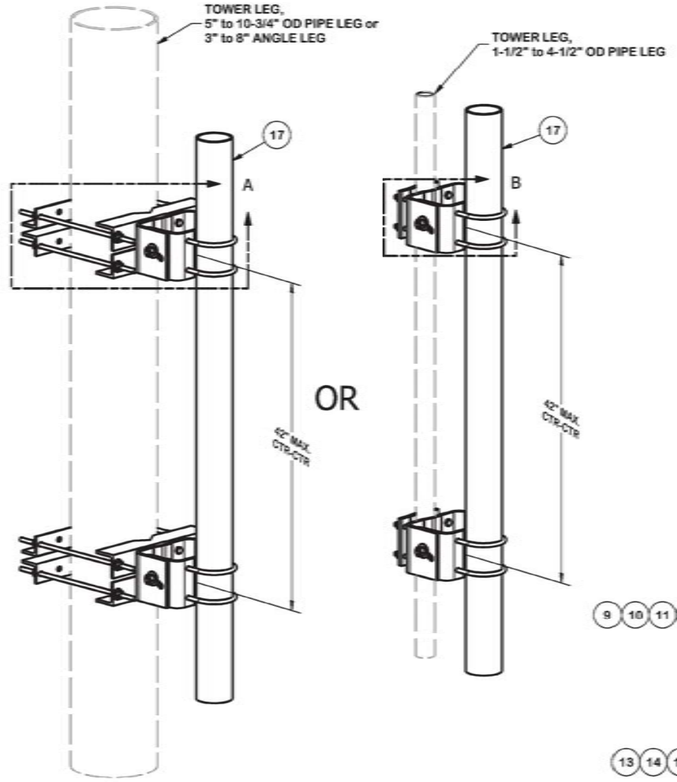
Universal Adjustable Slope Pipe Mount without Standoff

Universal Adjustable Slope Pipe Mount will fit round legs from 2" to 8-5/8" O. D. and angle legs from 2-1/2" to 6". It is also adjustable to fit tower leg slopes from zero to 15-1/2 degrees. A 4-1/2" O. D. x 5' long mounting pipe is provided.

This pipe mount is designed to support an 8' diameter antenna at a 100-mph, 40 psf wind, or an Antenna Mounting Frame with a maximum lateral load of 2.7 kips.



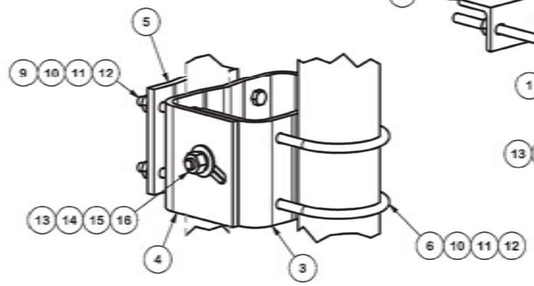
Description	P/N
Universal Adjustable Slope Pipe Mount	B2990



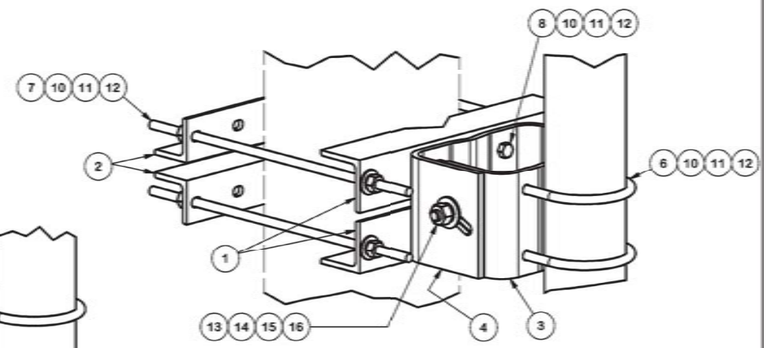
TAPER NOTE:
THE MAXIMUM TAPER ADJUSTMENT IS 5.7° BASED UPON 30" SPACING OF ADJUSTABLE MOUNTING BRACKETS.

THE MAXIMUM TAPER ADJUSTMENT IS 3.8° BASED UPON 45" SPACING OF ADJUSTABLE MOUNTING BRACKET.

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	4	X-158320	ANGLE CLAMP	16 1/2 in	8.51	34.03
2	4	X-126501	BRACKET ANGLE LEG MOUNTING	16 1/2 in	7.13	28.51
3	2	X-154463	UNIVERSAL PIPE MOUNTING PLATE (INNER)		10.52	21.03
4	2	X-155561	UNIVERSAL PIPE MOUNTING PLATE (OUTER)		13.16	26.31
5	2	X-159999	BACKING PLATE		5.73	11.46
6	4	X-UB1458	1/2" X 4-5/8" X 7" X 3" GALV U-BOLT		0.97	3.89
7	8	G12R-20	1/2" x 20" GALV. THREADED ROD		1.12	8.92
8	8	G1203	1/2" x 3" HDG HEX BOLT GR5 FULL THREAD	3 in	0.22	1.74
9	8	G1204	1/2" x 4" HDG HEX BOLT GR5 FULL THREAD	4 in	0.27	2.16
9	8	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	3.28
10	32	G12FW	1/2" HDG USS FLATWASHER		0.03	1.09
11	32	G12LW	1/2" HDG LOCKWASHER		0.01	0.44
12	32	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	2.29
13	4	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.09
14	4	G58FW	5/8" HDG USS FLATWASHER		0.07	0.28
15	4	G58LW	5/8" HDG LOCKWASHER		0.03	0.10
16	4	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.52
17	1	P472	4-1/2" X 72" SCH. 40 GALVANIZED PIPE		64.89	64.89
					TOTAL WT. #	148.00



DETAIL B
USED FOR 1-1/2" to 4-1/2" OD PIPE LEGS



DETAIL A
USED FOR 5" to 10-3/4" OD PIPE LEGS
& 3" to 8" ANGLE LEGS

1 Microwave Dish Mount

NOT TO SCALE

2 10' Microwave Dish Mount Site Pro 1 (R5-LL)

NOT TO SCALE

CERTIFICATION:

FOR REFERENCE ONLY

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N	07/07/22	PRELIMINARY DRAWINGS – REVISED PANEL SCHEDULE	RNV	SAH	
M	06/16/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	
L	03/24/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	

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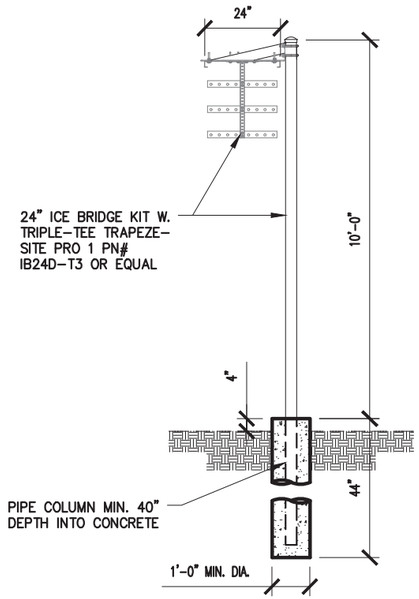
San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

MICROWAVE MOUNT DETAILS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

C-4.1

11 X 17
PAGE SIZE

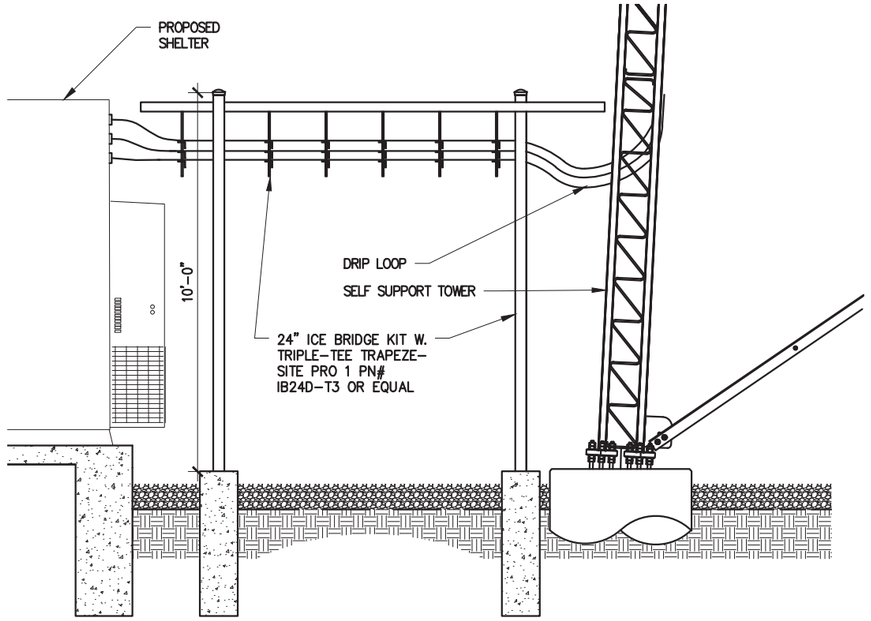


① Ice Bridge Section

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

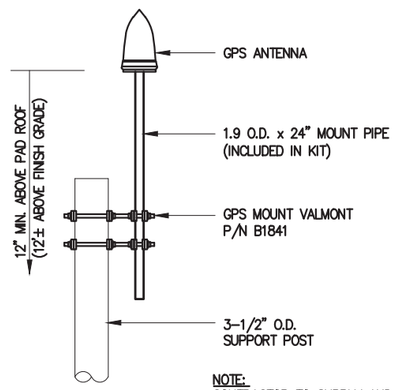
ICE BRIDGE NOTES:

1. MINIMUM OF SUPPORTS EVERY 8' FOR EVERY 10' SECTION OF ICE 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' 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 7-98, SECOND GUST WIND SPEED OF 110 MPH, EXPOSURE C, ELEVATION AT GRADE. THIS DESIGN IS BASED ON A 24" WIDE ICE BRIDGE & (12) 1-1/5" ø CABLES & MAX. POST SUPPORT SPACING OF 10'-0" O.C.



② Ice Bridge Side Elevation

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



NOTE:
CONTRACTOR TO SUPPLY AND INSTALL GPS MOUNT. GPS, CABLE, CONNECTORS, ETC. TO BE PROVIDED BY MOTOROLA AND INSTALLED BY CONTRACTOR.

③ GPS Antenna Mounting Detail

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

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMANN III
74138
CIVIL
STATE OF CALIFORNIA

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San Francisco Water Power Sewer
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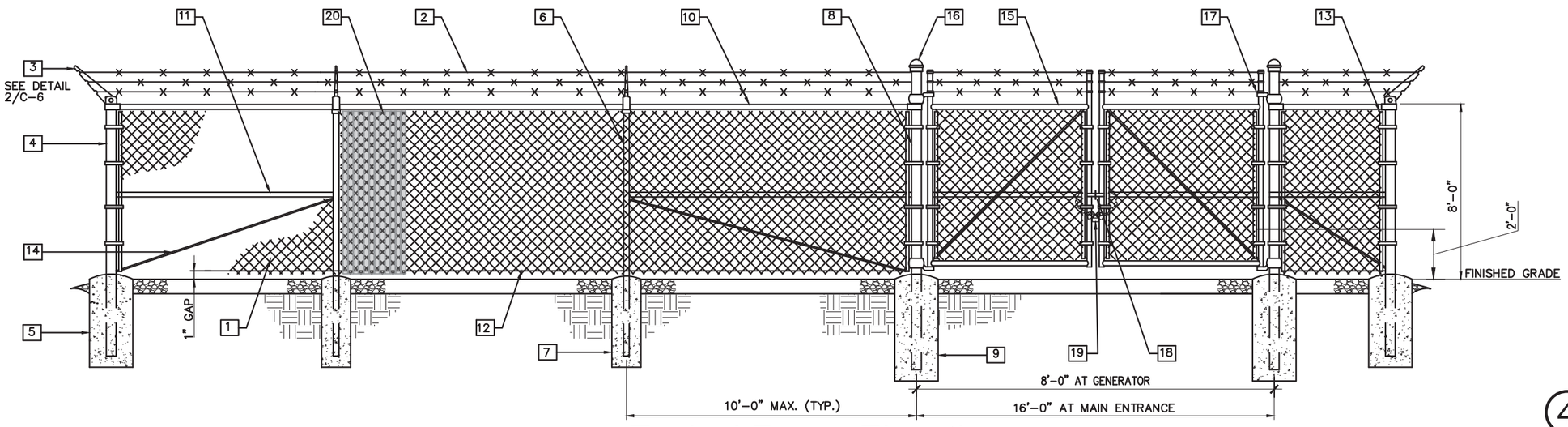
ICE BRIDGE DETAILS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

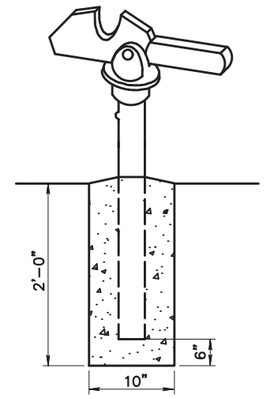
11 X 17 PAGE SIZE

C-5



1 Typical Fence Elevation

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



4 Gate Keeper Detail

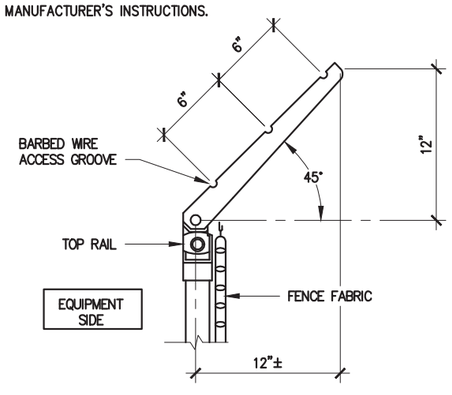
NOT TO SCALE

Keynote Legend

1. FABRIC: 9 GAUGE, 2" HOT DIPPED GALVANIZED COATED 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
19. LOCK CHAIN: 3/8" SIZE, 36" LONG HOT DIP GALVANIZED ZINC COATED. W/ MARINE-GRADE PROGRAMMABLE FOUR DIGIT PADLOCK (SESAMEE BRAND OR APPROVED EQUAL)
20. SCREENING SLATS: 8' TALL GREEN VINYL PRIVACY SLATS FOR 2" MESH

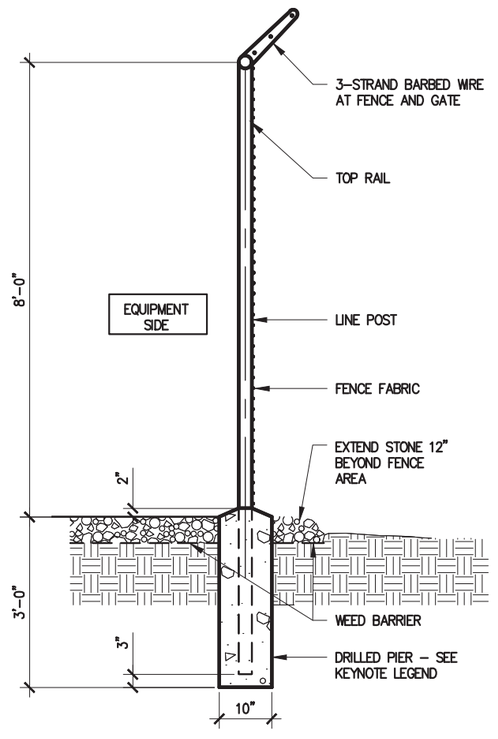
NOTES:

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

SCALE: 1" = 1'-0"



3 Typical Fence Section

SCALE: 3/8" = 1'-0"

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMAN III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

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L	03/24/22	PRELIMINARY DRAWINGS - REVISED PER COMMENTS	RNV	SAH	

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MOTOROLA SOLUTIONS

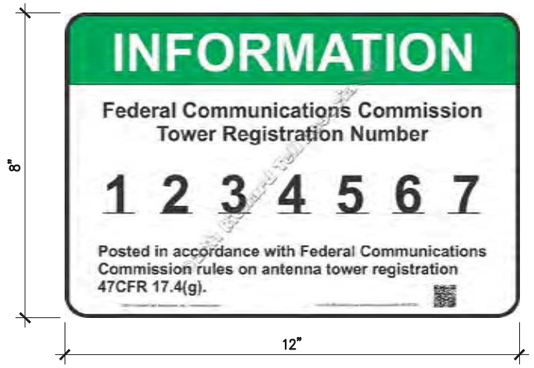
San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

FENCE DETAILS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

C-6

11 X 17 PAGE SIZE



SITE REGISTRATION SIGN:

RICHARD TELL & ASSOC.; PART: MPN/SKU 8X12FTRK

MOTOROLA SHALL ACQUIRE ASR NUMBER TO PROVIDE TO CONTRACTOR.

CONTRACTOR SHALL VERIFY ASR NUMBER PRIOR TO ORDERING SIGN.

① Tower ASR Registration Sign

SCALE: N.T.S.

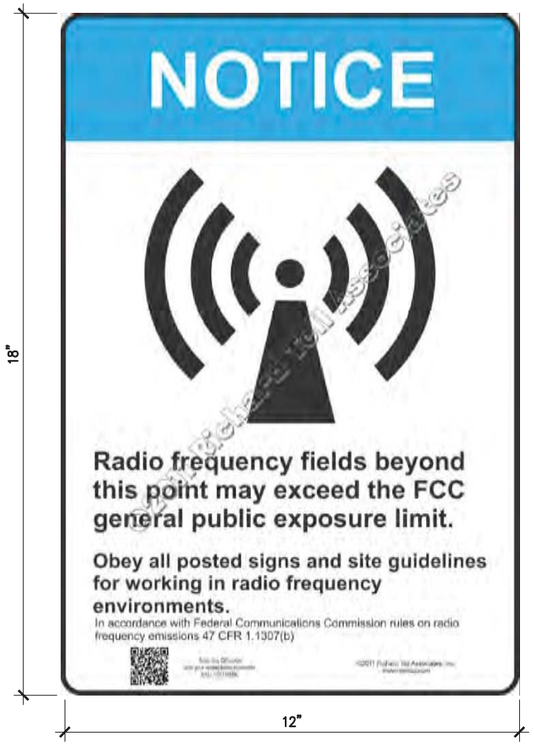
SITE SIGNAGE NOTES:

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.

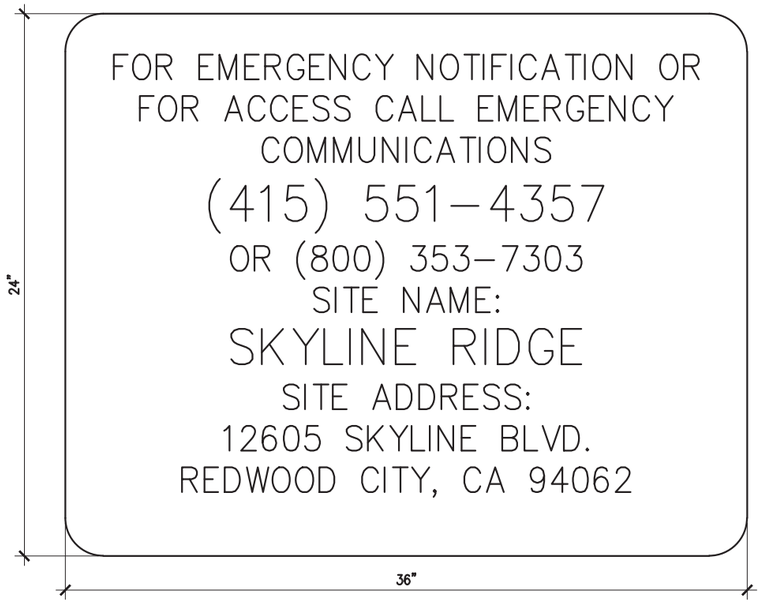


RF WARNING SIGN:

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"

③ Site Contact Information Sign

SCALE: N.T.S.

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CIVIL
STATE OF CALIFORNIA

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San Francisco Water Power Sewer
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SITE SIGNAGE

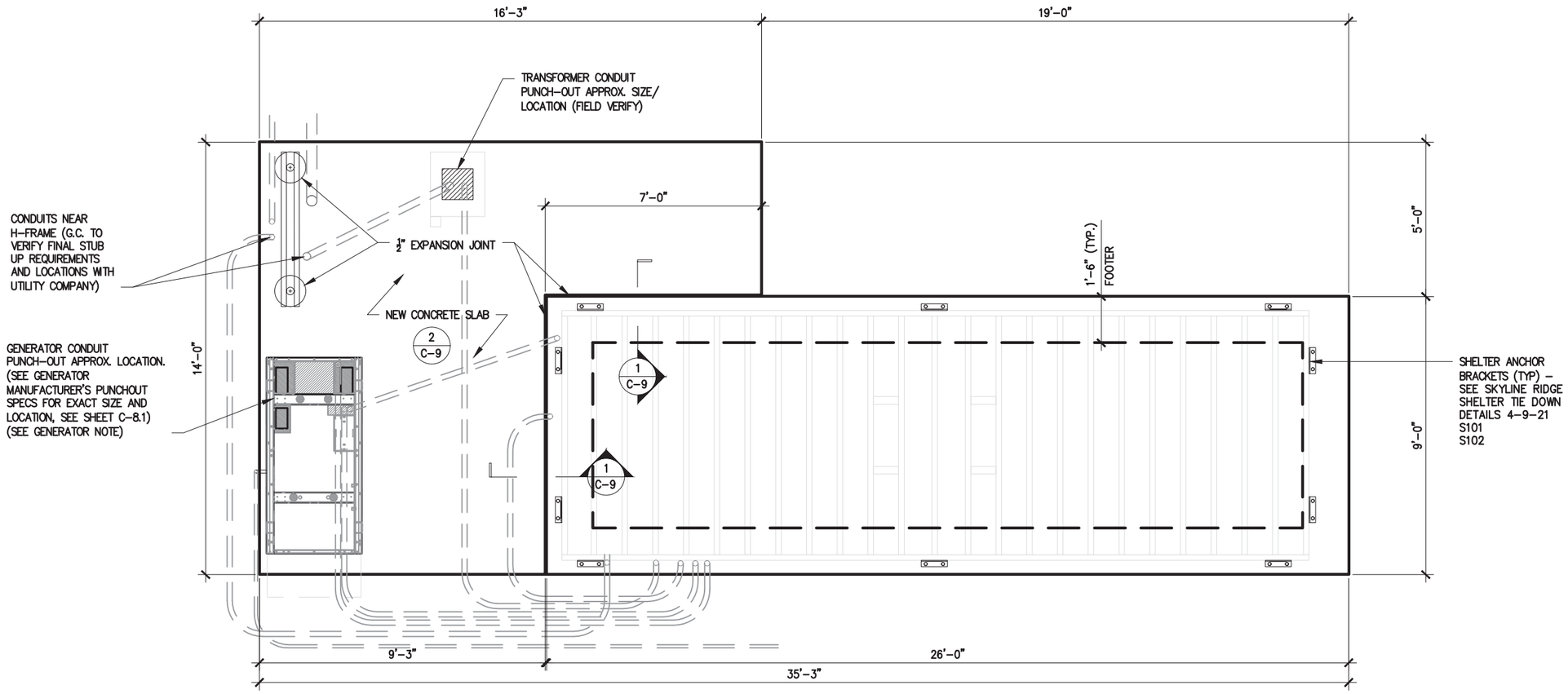
SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

C-7

NOTES:

INFORMATION CONTAINED IN THESE DRAWINGS REFERRING TO THE PROPOSED EQUIPMENT SHELTER WERE OBTAINED FROM EQUIPMENT SHELTER DRAWINGS PROVIDED BY MOTOROLA & PRODUCED BY THE SHELTER MANUFACTURER. THE INFORMATION CONTAINED IN THESE PLANS SHOULD BE CONSIDERED AS A GUIDE & THE CONTRACTOR IS SPECIFICALLY DIRECTED TO OBTAIN & USE THE SPECIFIED SHELTER MANUFACTURER'S PLANS PROVIDED BY MOTOROLA SPECIFIC TO THIS SITE.



GENERATOR NOTE:

G,C, TO FOLLOW MANUFACTURER'S INSTRUCTIONS FOR FASTENING GENERATOR TO THE CONCRETE SLAB, CONNECTING INTAKE / EXHAUST, CONNECTING FUEL LINES, AND ELECTRIC / ALARMS. SEE MANUFACTURER'S INSTRUCTIONS FOR STUB UP LOCATIONS AT NEW CONCRETE SLAB

1 Equipment Shelter Foundation Detail

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

NORTH

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMAN III
74138
CIVIL
STATE OF CALIFORNIA

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San Francisco Water Power Sewer
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EQUIPMENT SHELTER INFORMATION

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

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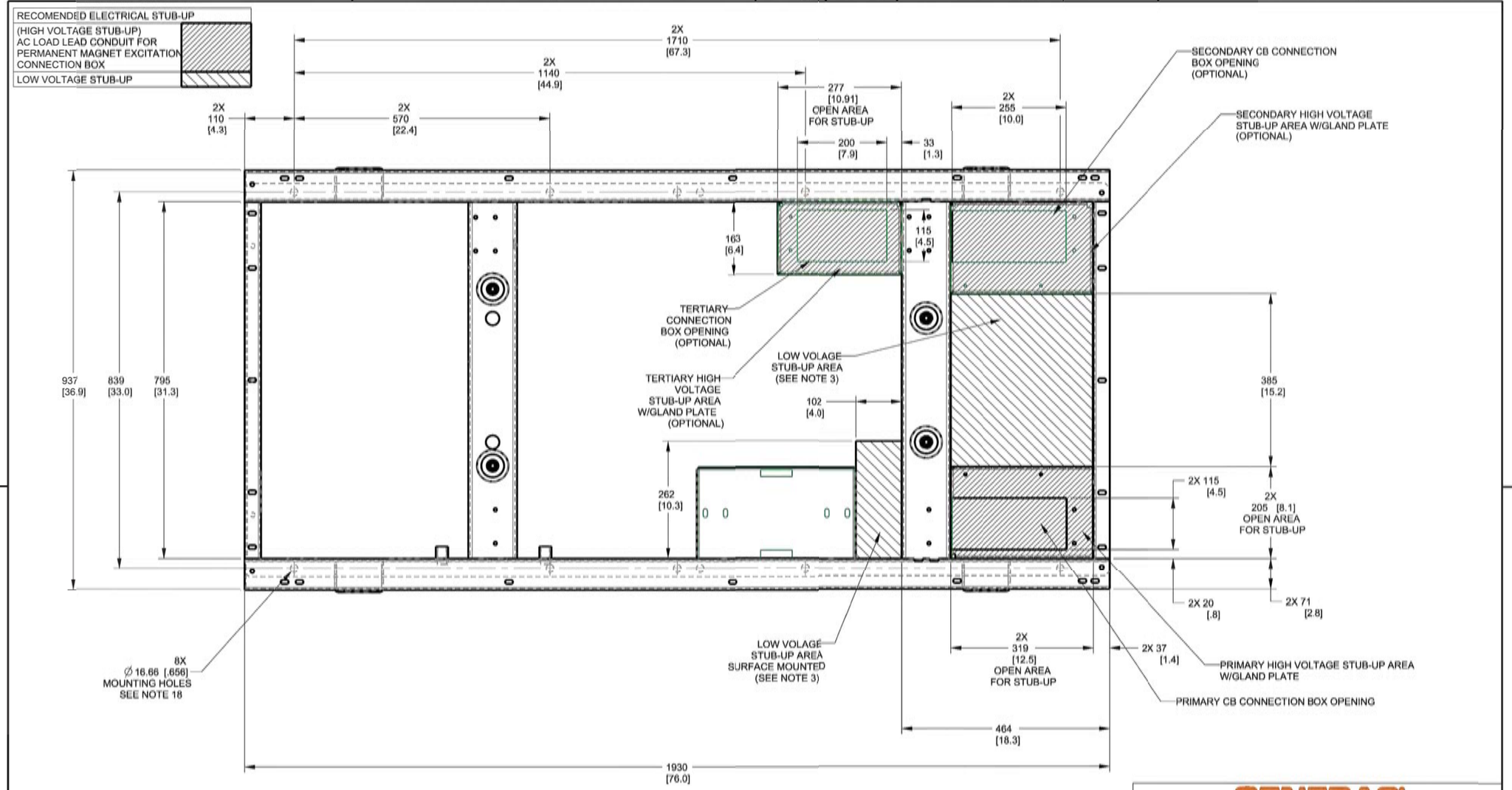
C-8



DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS [INCHES]

INSTALLATION DRAWING

ELECTRONICALLY APPROVED INSIDE WINDCHILL

GENERAC

TITLE

STUB-UP
G4.5L 60Hz
SG35, SG40, SG45, SG50

ISSUE DATE:

SIZE	CAGE NO	DWG NO	REV
B	N/A	A0000292914	C

SCALE 0.120 | WT-KG | SHEET 2 of 3

CERTIFICATION:

FOR REFERENCE ONLY

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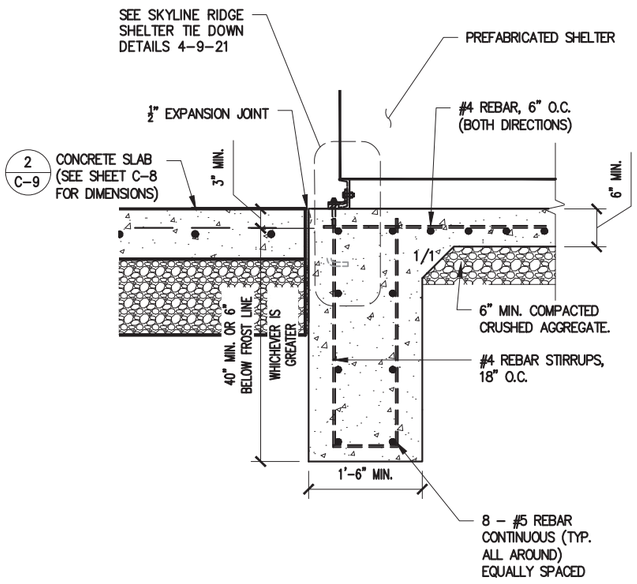
GENERATOR STUB-UP DETAIL (BY OTHERS)

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

C-8.1

11 X 17
PAGE SIZE



1 Shelter Foundation

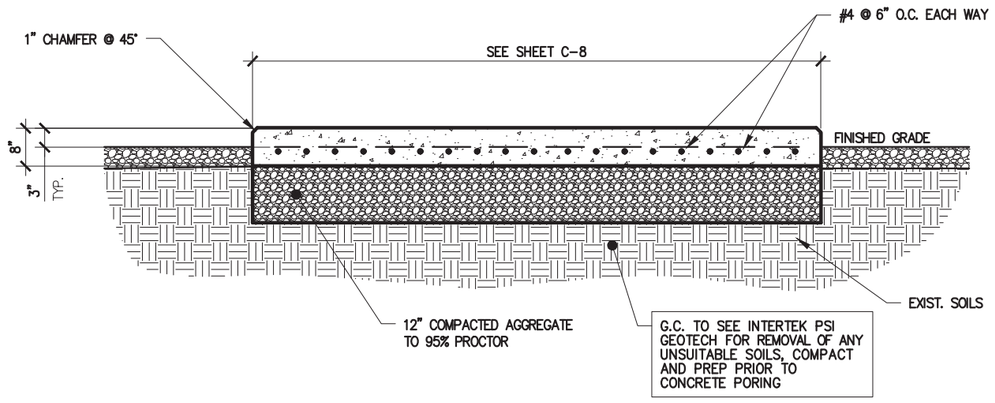
SCALE: 1/8" = 1'-0"

NOTES:

1. CONCRETE SHALL ATTAIN A MINIMUM ULTIMATE COMPRESSION STRENGTH OF 4000 PSI WITHIN 28 DAYS.
2. ALL REBAR TO HAVE A MINIMUM OF 3" CONCRETE COVER.
3. MINIMUM SOIL BEARING 2000 PSF.

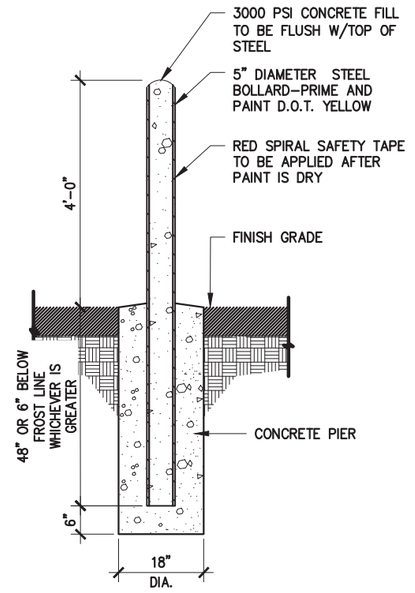
NOTES:

FOLLOW INTERTEK PSI PROJECT No. 575-1511 DATED AUGUST 12, 2019 FOR REMOVAL OF UNSUITABLE SOILS, STRUCTURAL FILL, AND PROOF ROLLING - COORDINATE W/SOILS ENGINEER



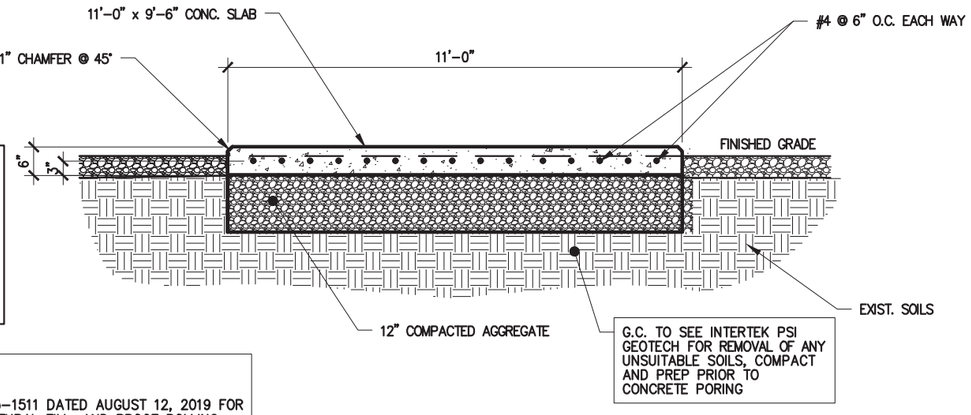
2 Concrete Slab Detail

SCALE: 3/8" = 1'-0"



3 Pipe Bollard Detail

SCALE: 3/8" = 1'-0"



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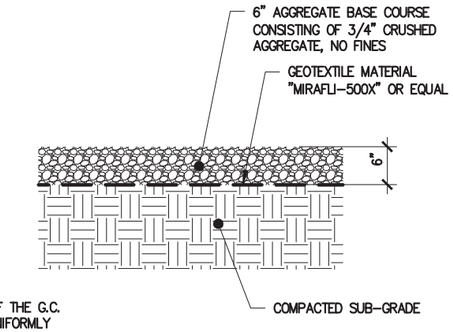
4 LP Slab Detail

SCALE: 3/8" = 1'-0"

NOTES:

WHERE PERMISSIBLE BY THE LOCAL CODES, AS EPA APPROVED HERBICIDE SHALL BE APPLIED TO ALL AREAS PRIOR TO LAYING DOWN THE GEOTEXTILE FABRIC. THE RATE OF APPLICATION OF THIS HERBICIDE SHALL BE A MIN. OF 10 POUNDS OF PRODUCT PER ACRE, UNLESS OTHERWISE REQUIRED BY LOCAL CODES OR MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL CHECK THE LOCAL CODES PRIOR TO APPLYING DEFOLIANT. SUBSTANCE SHALL NOT BE APPLIED IF GROUND IS FROZEN OR THERE IS DANGER OR WEED KILLER BEING WASHED BEYOND THE INTENDED AREA.



NOTE:
IT IS THE RESPONSIBILITY OF THE G.C. TO VERIFY THE STONE IS UNIFORMLY COLORED AFTER PLACEMENT

5 Aggregate Base

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

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMAN III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
O	09-07-22	CONSTRUCTION DRAWINGS	RNV	SAH	
P	07-19-22	PRELIMINARY DRAWINGS - REVISED GEN. CIRCUITS	RNV	SAH	
N	07/07/22	PRELIMINARY DRAWINGS - REVISED PANEL SCHEDULE	RNV	SAH	
M	06/16/22	PRELIMINARY DRAWINGS - REVISED PER COMMENTS	RNV	SAH	
L	03/24/22	PRELIMINARY DRAWINGS - REVISED PER COMMENTS	RNV	SAH	

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MOTOROLA SOLUTIONS

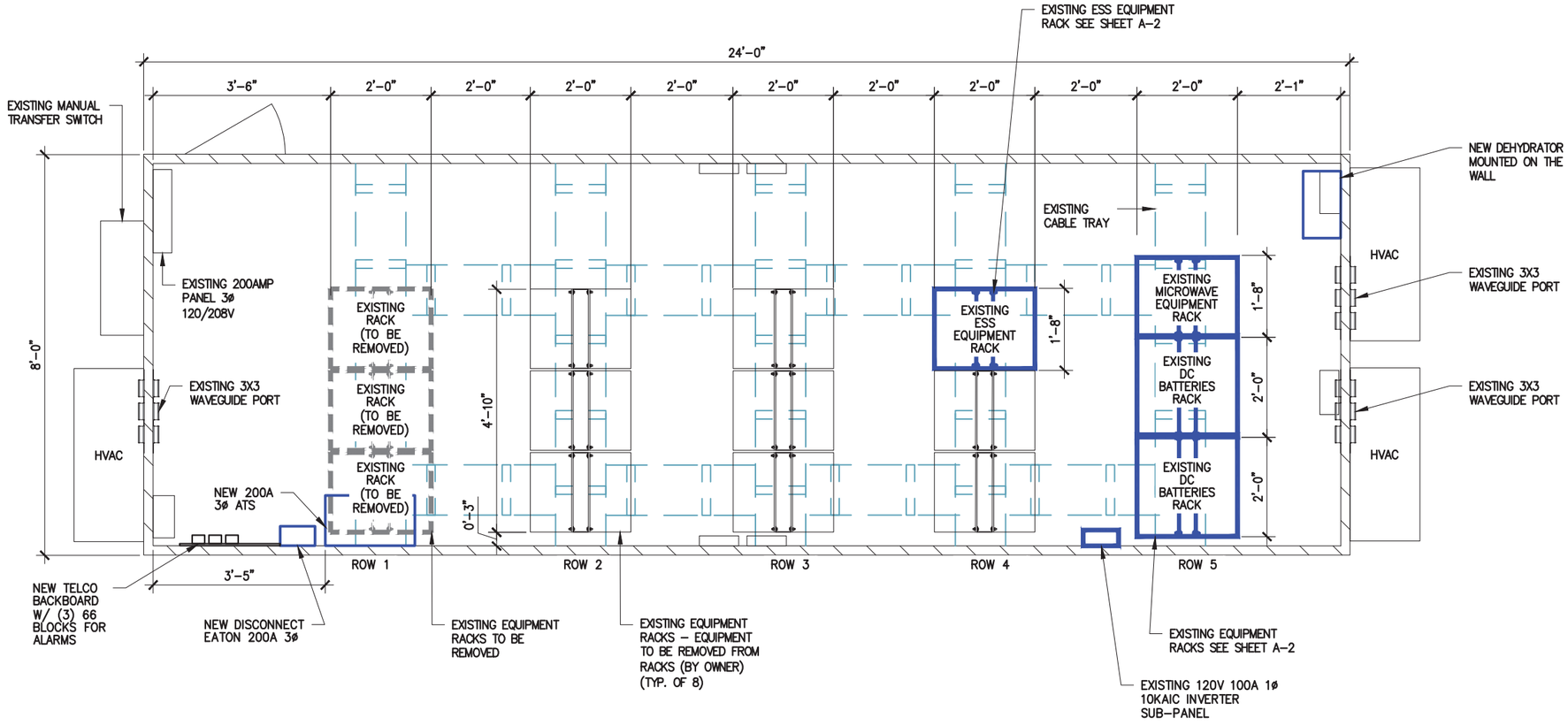
San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

SITE CIVIL DETAILS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

C-9

11 X 17 PAGE SIZE



Shelter Floor Plan

SCALE : 3/8" = 1'-0"

NORTH

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEN III
74138
CIVIL
STATE OF CALIFORNIA

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SHELTER FLOOR PLAN

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SAN MATEO COUNTY

11 X 17 PAGE SIZE

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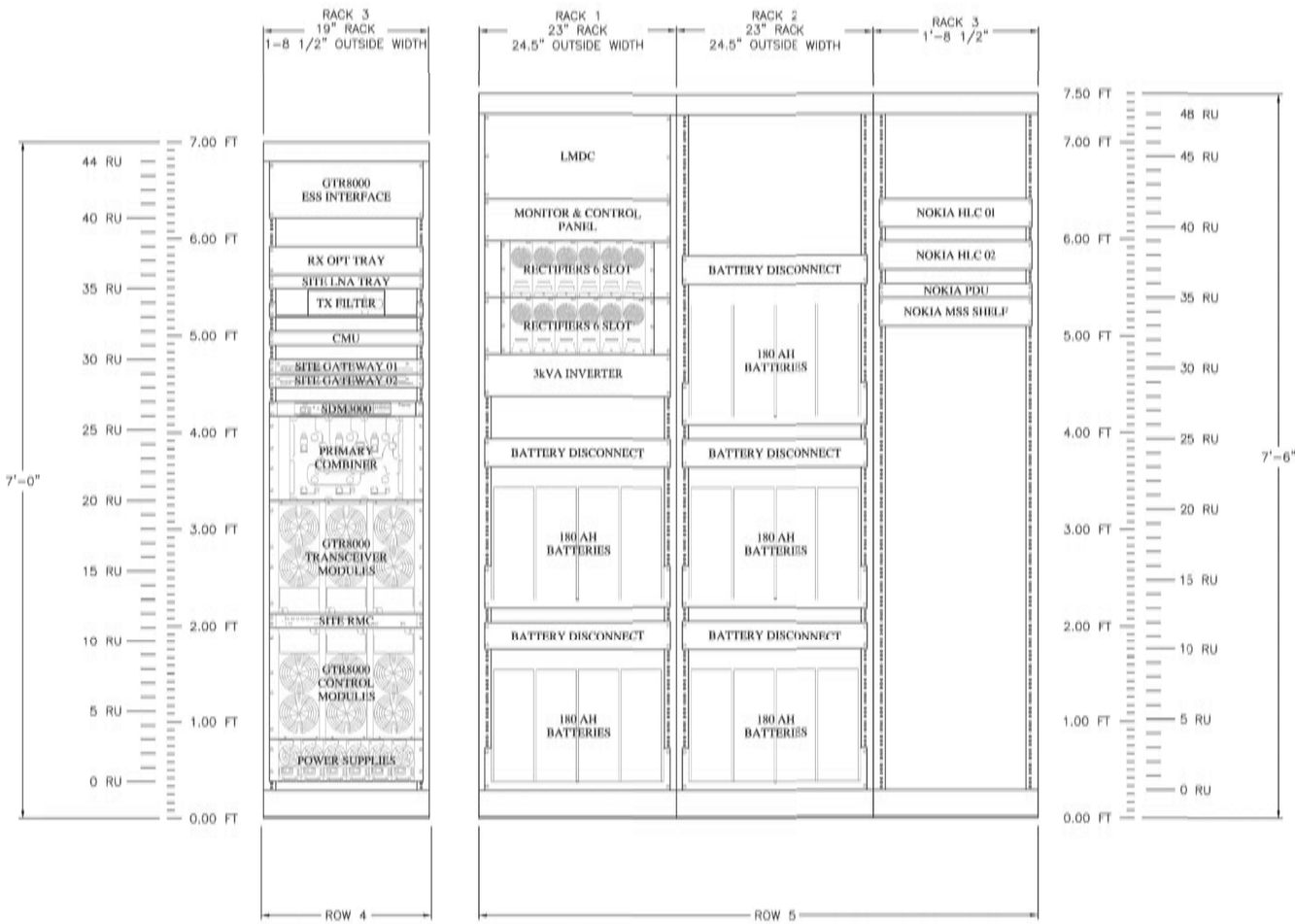

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REV NO.	DATE	ENGR.	DESCRIPTION
A	10-11-21	R.W.	ORIGINAL RELEASE

MOTOROLA SOLUTIONS

PROJECT: SAN FRANCISCO PUBLIC UTILITIES COMMISSION
P25 PHASE 2 TDMA

TITLE: SKYLINE RF REPEATER SITE
EQUIPMENT RACK LAYOUT

CONTRACT:	ENGINEER: S. PEREZ	PROJECT MANAGER: J. HARDIMON	SCALE: 1=1/2"=1'	SIZE: D
PROGRAM: AUTOCAD 2006	DRAWN: L. DAYRIT	CHECKED: S. PEREZ	SHEET: 1 OF 1	REV:
FILE NAME: 1_SFPU_SKY_09_02	DATE: 1-26-21	PROJECT NUMBER: CA-171101A	DRAWING NO:	

ORIGINAL DOCUMENT SIZE IS 22X34, CORRECT SCALE IS NOT GUARANTEED IF REDUCED OR ENLARGED

CERTIFICATION:

FOR REFERENCE ONLY

EQUIPMENT RACKS

SKYLINE RIDGE
12605 SKYLINE BLVD.
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SAN MATEO COUNTY

A-2

11 X 17
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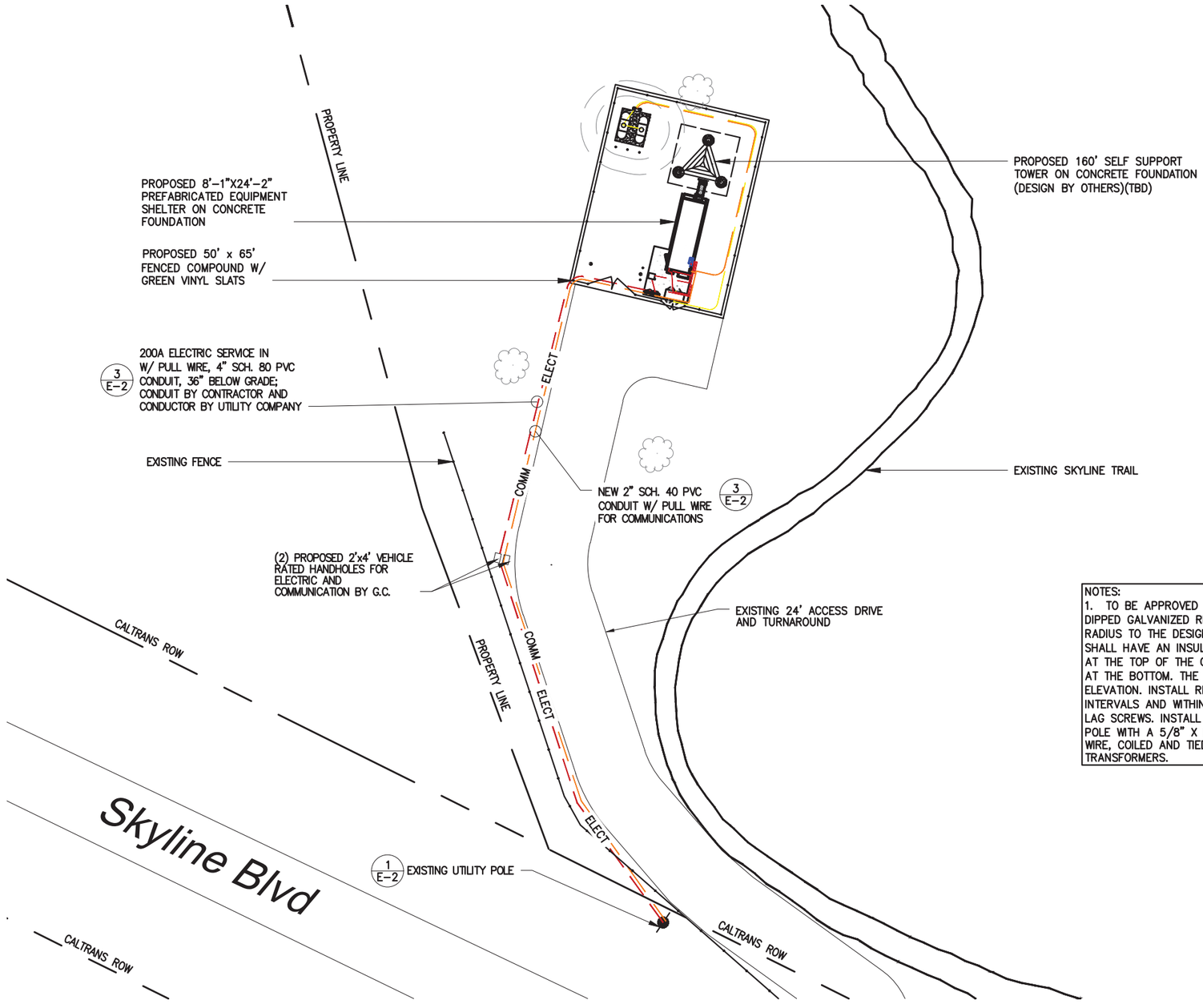

NOTES:
1. TO BE APPROVED BY ELECTRIC UTILITY: SFPUC PROVIDE AND INSTALL A 3" HOT DIPPED GALVANIZED RIGID STEEL RISER ON THE WOODEN POLE WITH A 36" MINIMUM RADIUS TO THE DESIGNED 36" TRENCH DEPTH. THE SECONDARY VOLTAGE RISER CONDUIT SHALL HAVE AN INSULATING BUSHING AT THE TOP, A 3" CONDUIT GROUND CLAMP NEXT AT THE TOP OF THE CONDUIT RISER, AND A METALLIC/NON-METALLIC CONDUIT ADAPTER AT THE BOTTOM. THE RISER SHALL BE 8-0" MIN TO 10'-6" MAX HEIGHT FROM GROUND ELEVATION. INSTALL RISER WITH HOT DIPPED GALVANIZED HANGERS AT 3'-0" MAX INTERVALS AND WITHIN 4" FROM ENDS WITH 1/4" X 2-1/2" HOT DIPPED GALVANIZED LAG SCREWS. INSTALL A 5/8" X 8'-0" GROUND ROD 18" MIN FROM THE BASE OF THE POLE WITH A 5/8" X NO. 4 TO 2/0 GROUND ROD CLAMP. INSTALL ENOUGH SECONDARY WIRE, COILED AND TIED TO POLE AT CONDUIT BUSHING HEIGHT, TO REACH DISTRIBUTION TRANSFORMERS.

Utility Color Legend

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

Overall Utility Site Plan

NORTH

20 0 20 40
1 inch = 40ft.

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

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MOTOROLA SOLUTIONS

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OVERALL UTILITY SITE PLAN

SKYLINE RIDGE
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SAN MATEO COUNTY

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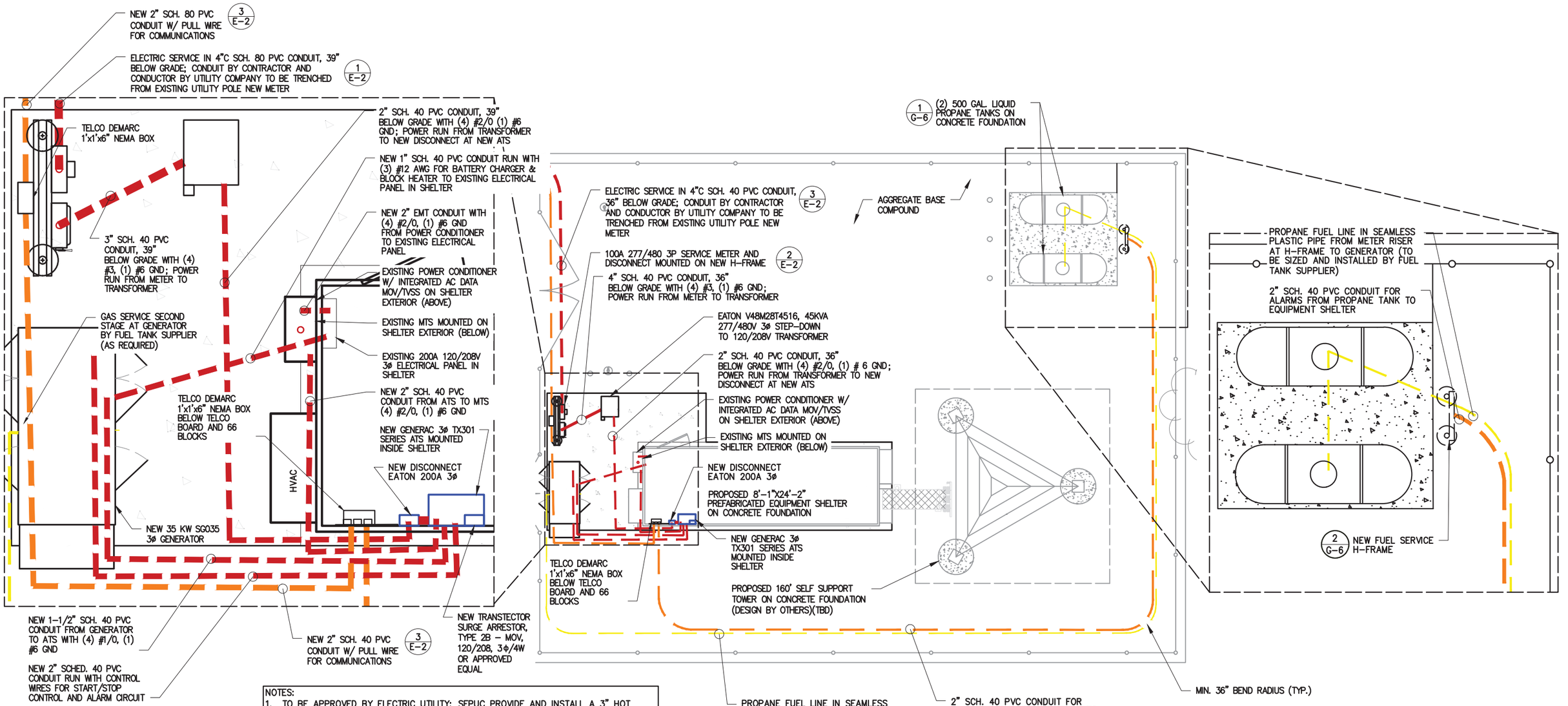

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Enlarged Utility Site Plan

NORTH

20 0 20 40
1 inch = 40ft.

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ENLARGED UTILITY SITE PLAN

SKYLINE RIDGE
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SAN MATEO COUNTY

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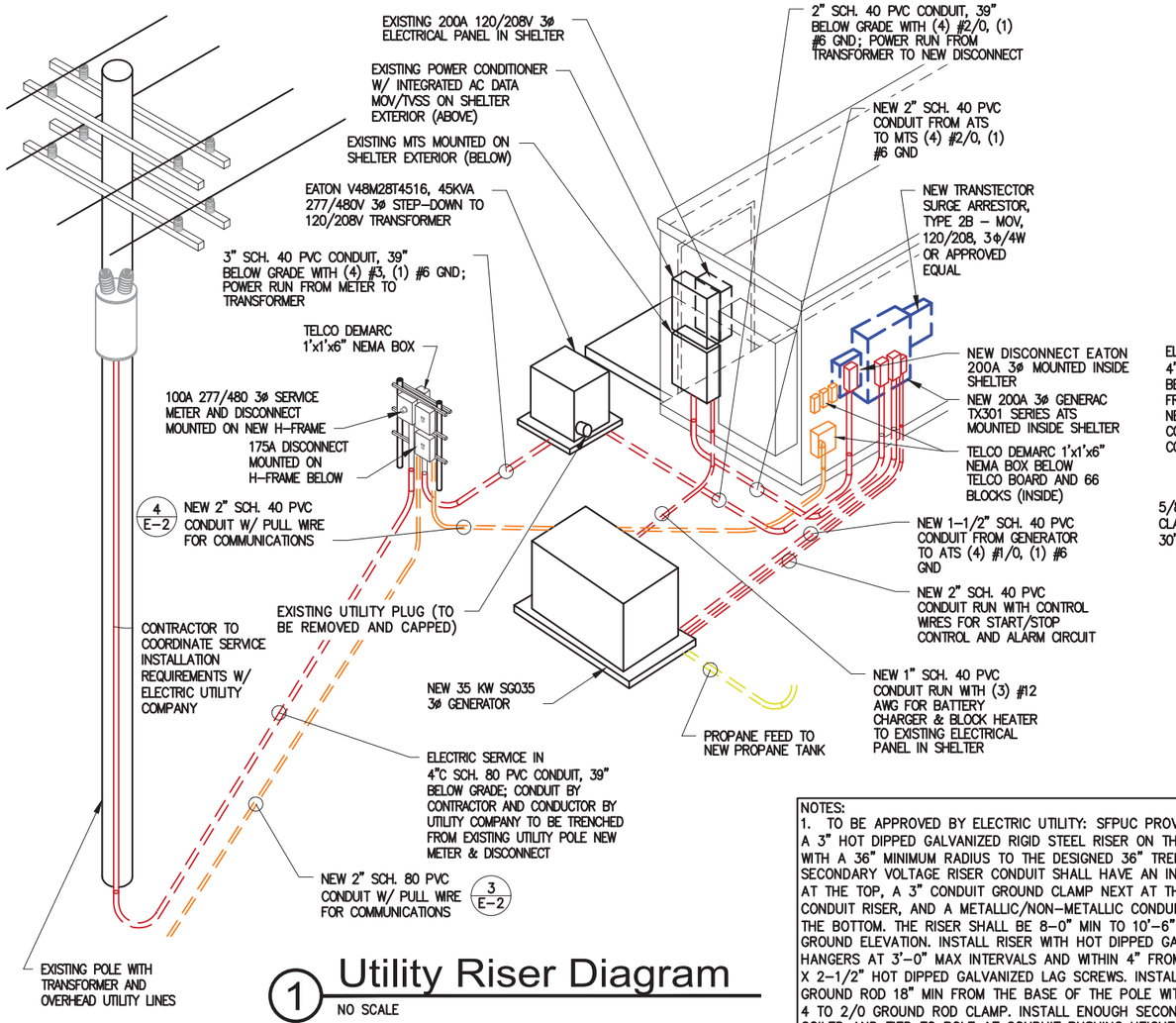
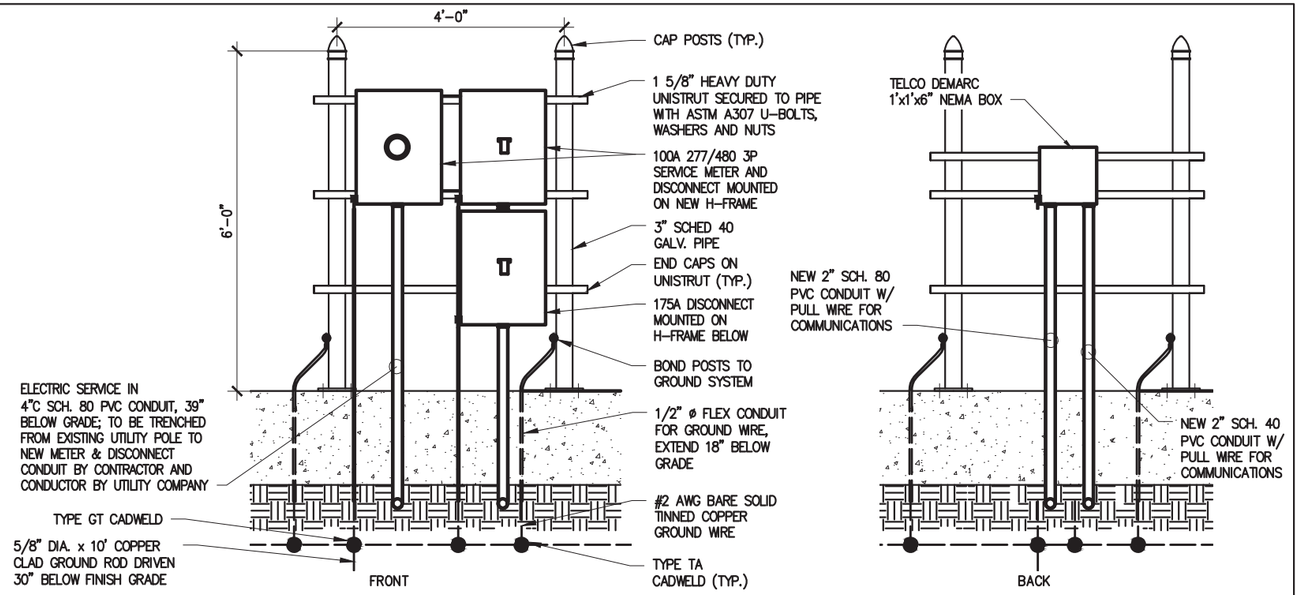


1 Utility Riser Diagram

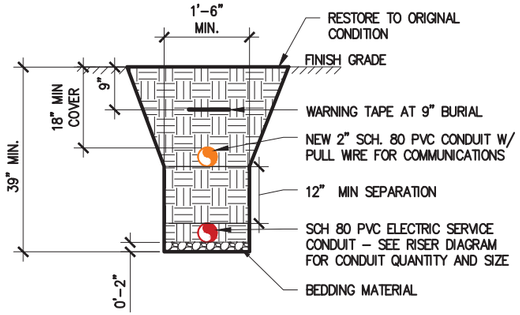
NO SCALE

NOTES:
1. TO BE APPROVED BY ELECTRIC UTILITY: SFPUC PROVIDE AND INSTALL A 3" HOT DIPPED GALVANIZED RIGID STEEL RISER ON THE WOODEN POLE WITH A 36" MINIMUM RADIUS TO THE DESIGNED 36" TRENCH DEPTH. THE SECONDARY VOLTAGE RISER CONDUIT SHALL HAVE AN INSULATING BUSHING AT THE TOP, A 3" CONDUIT GROUND CLAMP NEXT AT THE TOP OF THE CONDUIT RISER, AND A METALLIC/NON-METALLIC CONDUIT ADAPTER AT THE BOTTOM. THE RISER SHALL BE 8-0" MIN TO 10'-6" MAX HEIGHT FROM GROUND ELEVATION. INSTALL RISER WITH HOT DIPPED GALVANIZED HANGERS AT 3'-0" MAX INTERVALS AND WITHIN 4" FROM ENDS WITH 1/4" X 2-1/2" HOT DIPPED GALVANIZED LAG SCREWS. INSTALL A 5/8" X 8'-0" GROUND ROD 18" MIN FROM THE BASE OF THE POLE WITH A 5/8" X NO. 4 TO 2/0 GROUND ROD CLAMP. INSTALL ENOUGH SECONDARY WIRE, COILED AND TIED TO POLE AT CONDUIT BUSHING HEIGHT, TO REACH DISTRIBUTION TRANSFORMERS.



2 Utility H-Frame

SCALE: 3/16" = 1'-0"



3 Buried Utility

N.T.S.

GENERAL NOTES:

1. 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 VOID THE U.L. LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
2. COORDINATE ELECTRIC SERVICE WITH LOCAL POWER UTILITY COMPANY. COORDINATE WITH UTILITY FOR METER TYPE AND CONNECTION.
3. ALL CONDUIT SHALL BE SEALED WATERTIGHT UNTIL FINAL TERMINATION'S ARE MADE.
4. PROVIDE PULL CORD IN ALL CONDUITS. SECURE AT EACH END.
5. ADJUST DEPTH OF CONDUITS TO PASS ABOVE GROUNDING SYSTEM.
6. PROVIDE 18 INCH (MIN.) RADIUS ELBOWS FOR ALL BENDS.
7. 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:

1. PROVIDE PVC SCH 40 (OUTSIDE), PVC SCH 80 (OUTSIDE IN TRAFFIC AREAS) CONDUIT FOR ALL POWER & ALARM/CONTROL REQUIREMENTS - WIRING PROVIDED BY CONTRACTOR.
2. COORDINATE LOCATION OF GENERATOR POWER AND CONTROL WITH GENERATOR EQUIPMENT INSTALLATION & SHELTER MANUFACTURER DRAWINGS.
3. MOSCAD CONTROL PANEL FURNISHED BY SHELTER MANUFACTURER &: INSTALLED BY CONTRACTOR UNDER THIS CONTRACT. GENERATOR REMOTE RELAY PANEL PROVIDED & INSTALLED BY SHELTER MANUFACTURER.

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

Utility Color Legend

- ELECTRIC
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- COMMUNICATIONS
- POTABLE WATER
- RECLAIMED WATER
- SEWER/ DRAINAGE
- SURVEY MARKS

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MOTOROLA SOLUTIONS

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

UTILITY DETAILS

SKYLINE RIDGE
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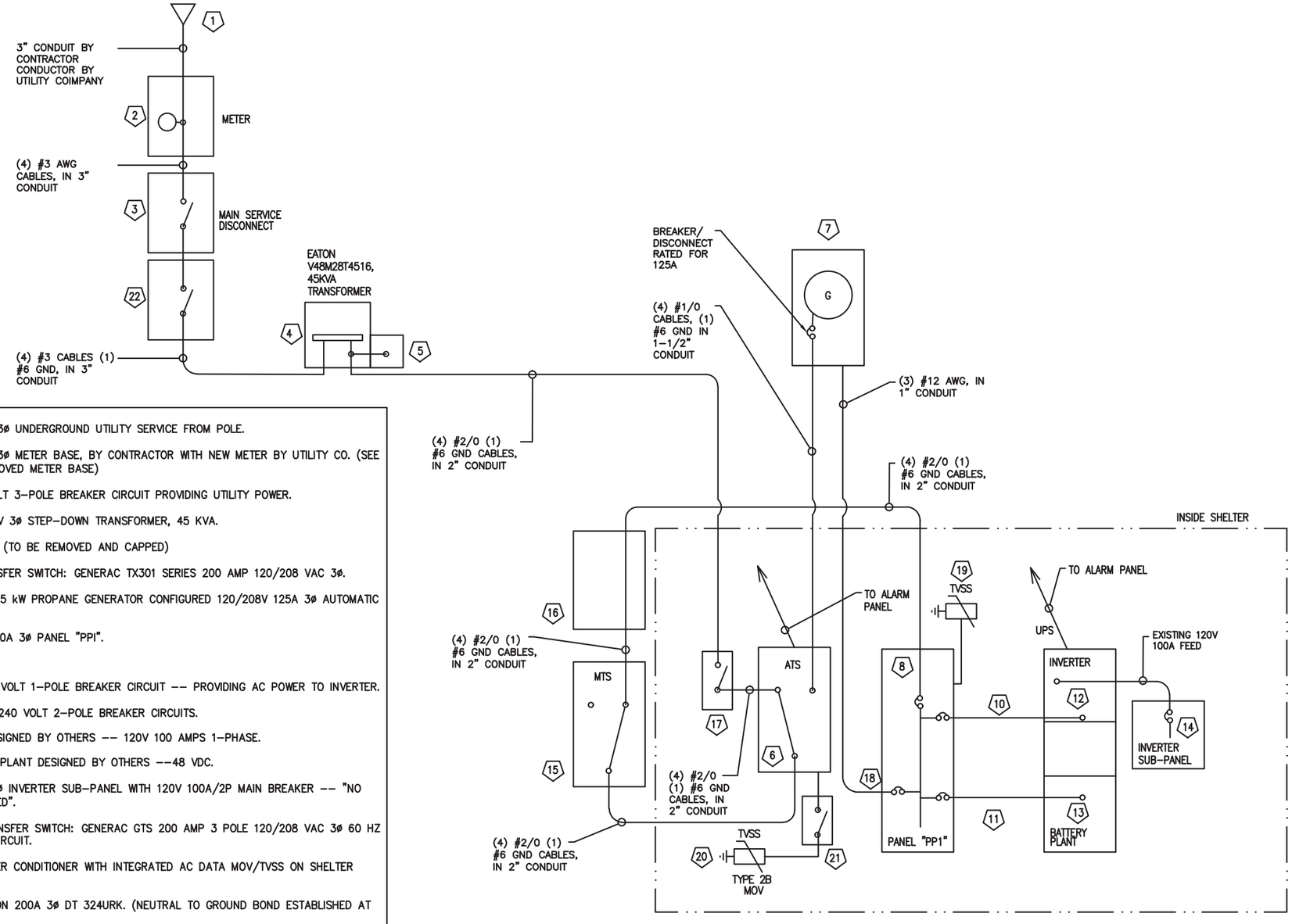
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

E-2



NOTES:

1. 277/480 VOLT 100A, 3ø UNDERGROUND UTILITY SERVICE FROM POLE.
2. 277/408 VOLT 100A, 3ø METER BASE, BY CONTRACTOR WITH NEW METER BY UTILITY CO. (SEE UTILITY CO. FOR APPROVED METER BASE)
3. 100 AMP 277/480 VOLT 3-POLE BREAKER CIRCUIT PROVIDING UTILITY POWER.
4. 277/480V – 120/208V 3ø STEP-DOWN TRANSFORMER, 45 KVA.
5. EXISTING UTILITY PLUG (TO BE REMOVED AND CAPPED)
6. NEW AUTOMATIC TRANSFER SWITCH: GENERAC TX301 SERIES 200 AMP 120/208 VAC 3ø.
7. NEW GENERAC SG035 35 kW PROPANE GENERATOR CONFIGURED 120/208V 125A 3ø AUTOMATIC STANDBY SERVICE.
8. EXISTING 120/208V 200A 3ø PANEL "PPI".
9. – NOT USED
10. EXISTING 30 AMP 120 VOLT 1-POLE BREAKER CIRCUIT -- PROVIDING AC POWER TO INVERTER.
11. EXISTING (6) 30 AMP 240 VOLT 2-POLE BREAKER CIRCUITS.
12. EXISTING INVERTER DESIGNED BY OTHERS -- 120V 100 AMPS 1-PHASE.
13. EXISTING DC BATTERY PLANT DESIGNED BY OTHERS --48 VDC.
14. EXISTING 120V 100A 1ø INVERTER SUB-PANEL WITH 120V 100A/2P MAIN BREAKER -- "NO 240V CIRCUITS ALLOWED".
15. EXISTING MANUAL TRANSFER SWITCH: GENERAC GTS 200 AMP 3 POLE 120/208 VAC 3ø 60 HZ WITH 2-WIRE START CIRCUIT.
16. EXISTING PANEL: POWER CONDITIONER WITH INTEGRATED AC DATA MOV/TVSS ON SHELTER EXTERIOR
17. NEW DISCONNECT EATON 200A 3ø DT 324URK. (NEUTRAL TO GROUND BOND ESTABLISHED AT THIS LOCATION)
18. NEW 20A 240V 2-POLE BREAKER CIRCUIT (3) #12 AWG. – PROVIDING POWER TO GENERATOR BLOCK HEATER AND BATT CHARGER.
19. EXISTING TVSS AT PANEL IN SHELTER.
20. NEW TRANSTECTOR SURGE ARRESTOR, TYPE 2B – MOV, 120/208, 3ϕ/4W OR APPROVED EQUAL – (4) #4 AWG IN 1" EMT CONDUIT.
21. NEW IN LINE 60A FUSED DISCONNECT FOR ATS TVSS.
22. NEW 175A FUSED DISCONNECT INSTALLED ON H-FRAME BELOW SERVICE METER AND DISCONNECT AS A COMBINATION DISCONNECT/BREAKER TO PROTECT THE TRANSFORMER.

1 One-Line Diagram

NO SCALE

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ONE LINE DIAGRAM

SKYLINE RIDGE
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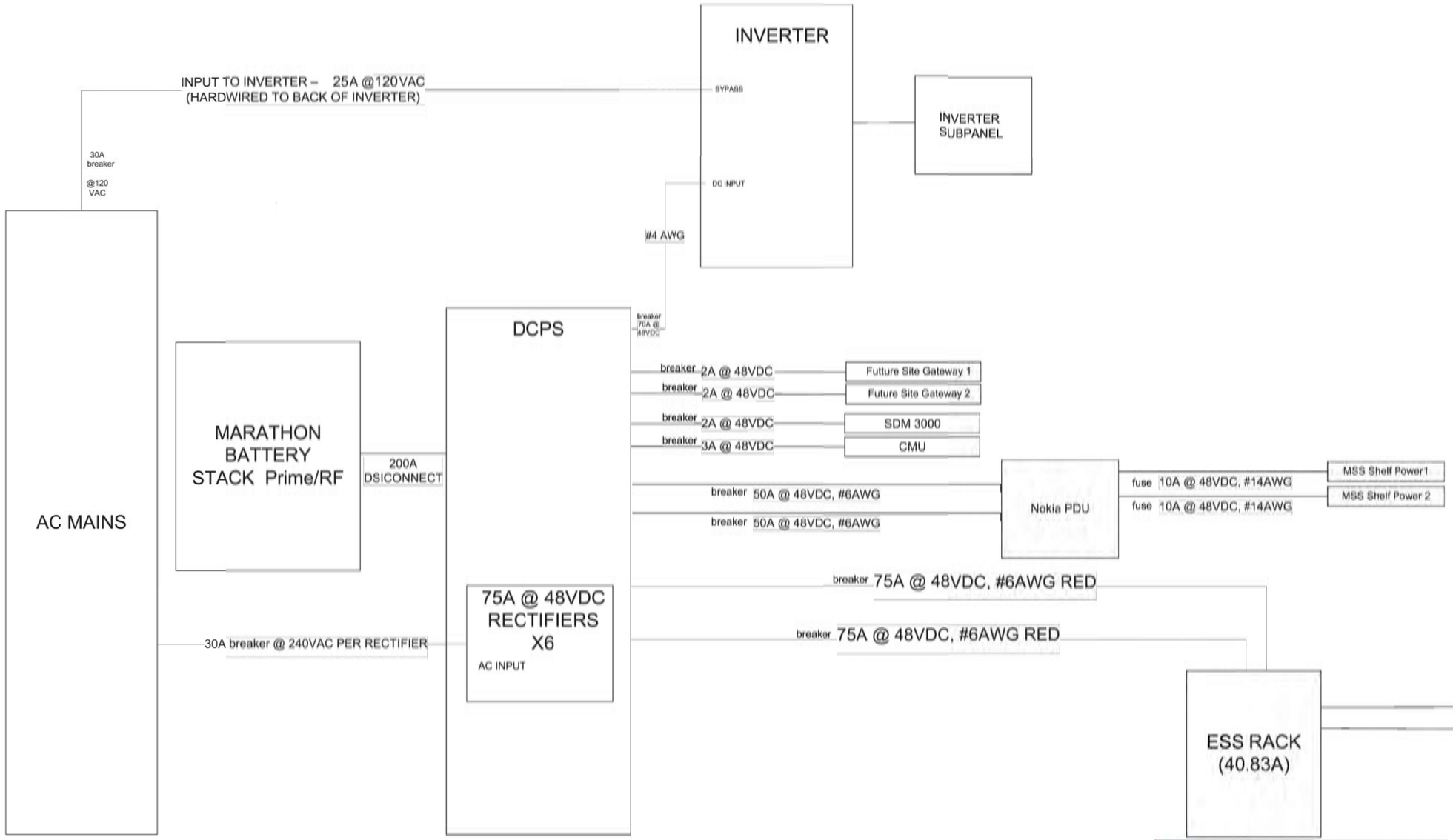

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MOTOROLA SOLUTIONS

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MOTOROLA POWER DISTRIBUTION DIAGRAM

SKYLINE RIDGE
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SAN MATEO COUNTY

E-2.2

11 X 17 PAGE SIZE

MOUNTING:	EXISTING - PANEL 1											NO MAIN	200 AMP
NEW CIRCUITS	120 \ 208 VOLTS			3 PHASE 4 WIRE				Y				BUS	

LOCATION	VOLT AMPS			CONDUIT	GUAG	GRND	BRKR	CKT	BUS A	BUS B	BUS C	CKT	BRKR	GRND	GUAG	CONDUIT	VOLT AMPS			LOCATION
	ϕA	ϕB	ϕC														ϕA	ϕB	ϕC	
A/C #1 (EXISTING)	1220	1220	1220	3/4"	#10	#10	30	1				2								
								3				4	30	#10	#10	3/4"	1220	1220	1220	A/C #2 (EXISTING)
								5				6								
A/C #3 (EXISTING)	1220	1220	1220	3/4"	#10	#10	30	7				8	30	#10	#10	1/2"	2000	2000		MDL 1 (EXISTING)
								9				10								
								11				12	30	#10	#10	1/2"	2000		2000	MDL 2 (EXISTING)
MDL 6 (EXISTING)	2000	2000		1/2"	#10	#10	30	13				14								
								15				16	30	#10	#10	1/2"		2000	2000	MDL 3 (EXISTING)
MDL 5 (EXISTING)	2000		2000	1/2"	#10	#10	30	17				18								
								19				20								
MDL 4 (EXISTING)		2000	2000	1/2"	#10	#10	30	21				22	60	#4		1"				TVSS-SAD/MOV (120/208v 3PH)
								23				24								
SPARE								25				26	15	#14	#14	1/2"	500			INTERIOR LIGHTING
							30	27				28	15	#14	#14	1/2"		360		EXTERIOR LIGHTING
								29				30	15	#14	#14	1/2"			50	SMOKE DETECTOR
RECEPTACLES	720			1/2"	#12	#12	20	31				32	20	#12	#12	1/2"	500			NO LABEL
RECEPTACLES		720		1/2"	#12	#12	20	33				34								
INVERTER BYPASS			2640	1/2"	#10	#10	30	35				36	20	#12	#12	1"		1800	1800	GEN BLK HTR/BAT CHGR
								37				38								
								39				40								
								41				42								

VOLT - AMPS PER PHASE	ϕA	13380	ϕB	14540	ϕC	16150
TOTAL VOLT - AMPS =	44070		AMPS =	122.42		

NOTES:	EXISTING PANEL

PROJECT: SKYLINE	DATE: August 31, 2022	BY:	REV. 1

1 Panel Schedule

N.T.S.

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PANEL SCHEDULE

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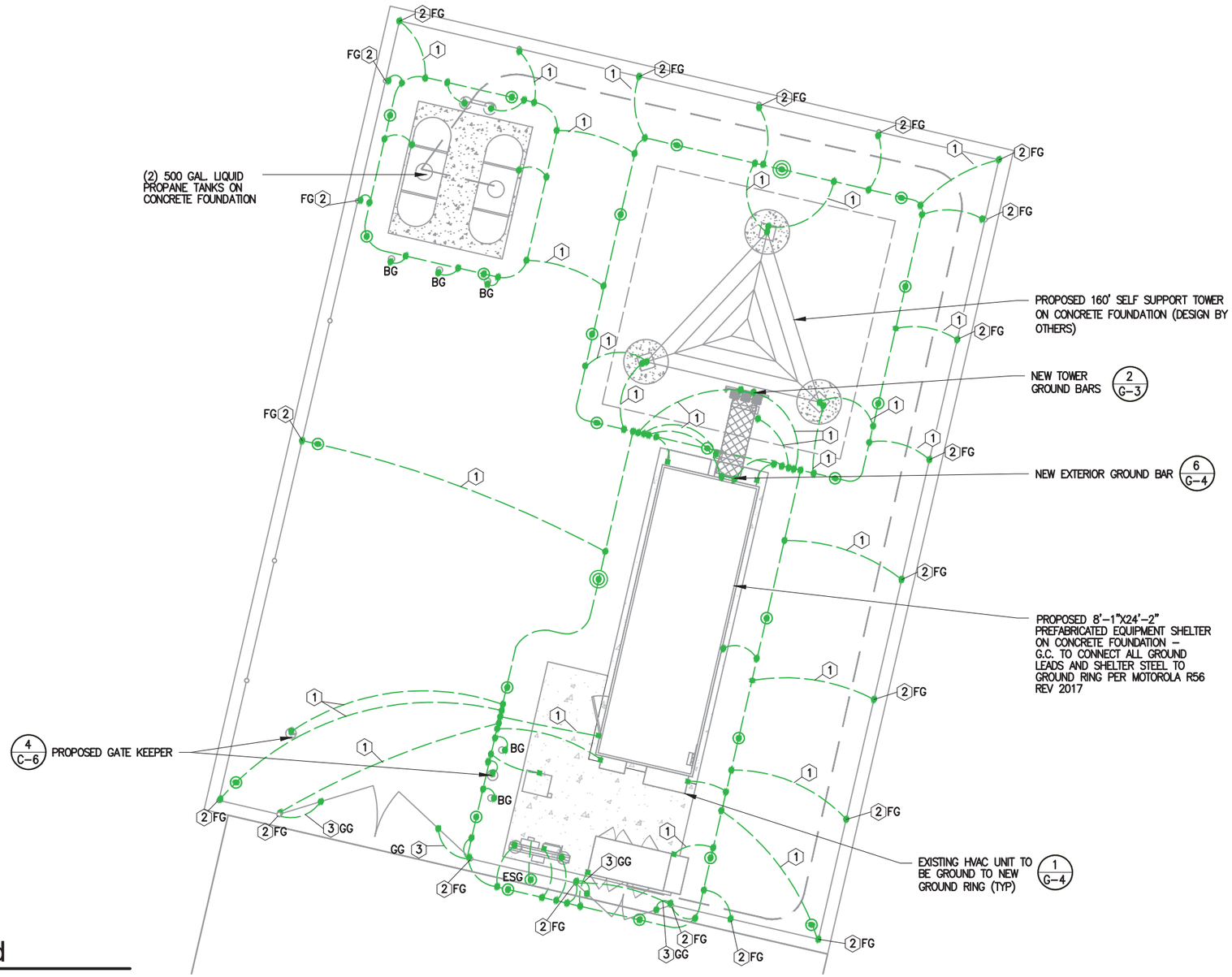

TYPICAL GROUNDING NOTES

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 REV 2017.
3. FENCE FABRIC RUNS LESS THAN 40' SHALL BE BONDED ON ONE END. FENCE FABRIC RUNS GREATER THAN 40' SHALL BE BONDED ON BOTH ENDS.
4. FENCE TOP RAIL TO BE BONDED TO CORNER POSTS ON BOTH ENDS.
5. CONTRACTOR TO REPAIR ANY EXISTING GROUNDING LEADS CUT DURING CONSTRUCTIONS

RESISTIVITY NOTE:

GROUNDING BASED ON NORMAL SOILS – ADDITIONAL GROUNDING MAY BE REQUIRED AFTER RESISTIVITY TEST.

Legend

- (1) #2 SOLID BARE COPPER GROUND 30" 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

Grounding Plan

5' 0 5' 10'

1 inch = 10ft.

NORTH

ANY DISCREPANCIES BETWEEN THIS DRAWING PACKAGE AND EXISTING FIELD CONDITIONS MUST BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMANN III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
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M	06/16/22	PRELIMINARY DRAWINGS - REVISED PER COMMENTS	RNV	SAH	
L	03/24/22	PRELIMINARY DRAWINGS - REVISED PER COMMENTS	RNV	SAH	

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GROUNDING PLAN

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

G-1

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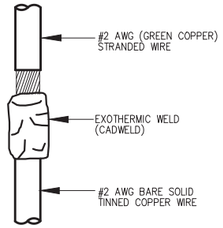
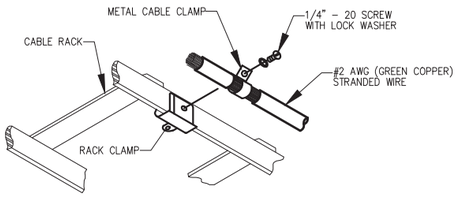
PAGE SIZE



1 Grounding Detail

NO SCALE



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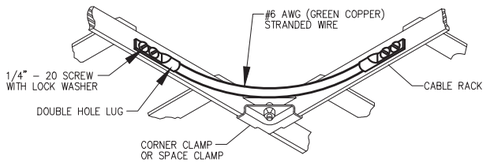

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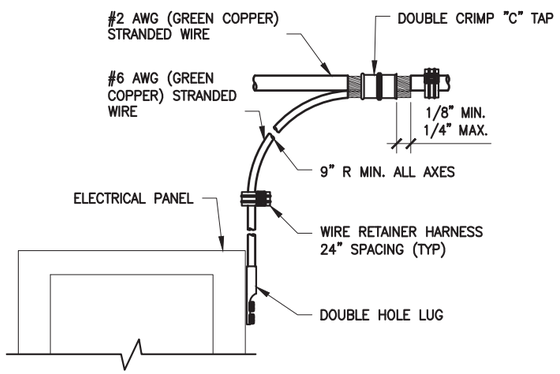
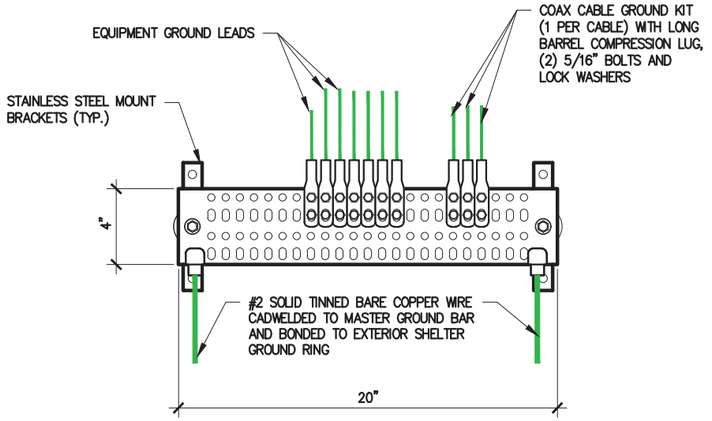


4 Grounding Detail

NOT TO SCALE

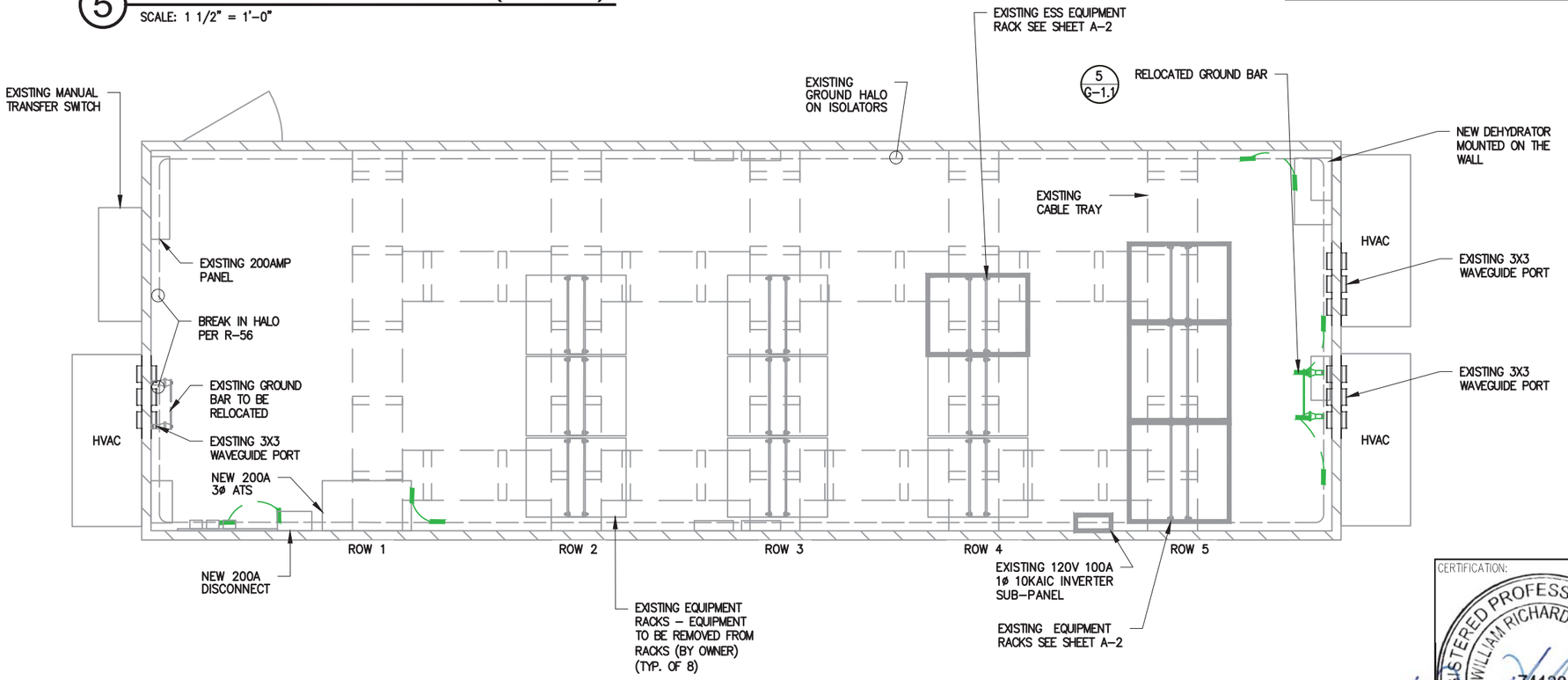


5 Master Ground Bar (MGB)

SCALE: 1 1/2" = 1'–0"

NOTES:

1. ALL NEW METALLIC ITEMS TO BE GROUNDED PER MOTOROLA R56 IN EQUIPMENT ROOM
2. G.C TO GROUND NEW EQUIPMENT PER MOTOROLA R56 STANDARDS. VERIFY EXISTING SHELTER AND EQUIPMENT MEET R56 STANDARDS
3. G.C. TO UTILIZE/TIE INTO EXISTING SHELTER GROUNDING SYSTEM. VERIFY MEETS R–56 REQUIREMENTS AND UPDATE AS REQUIRED.
4. ALL PROTRUSIONS THROUGH WALLS (WAVEGUIDE ENTRY, ETC) SHALL BE SEALED.
5. PER MOTOROLA ALL EXISTING EQUIPMENT AND METALLIC ITEMS ARE GROUNDED



6 Interior Grounding Plan

SCALE: 3/8" = 1'–0"

NORTH

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INTERIOR GROUNDING PLAN & DETAILS

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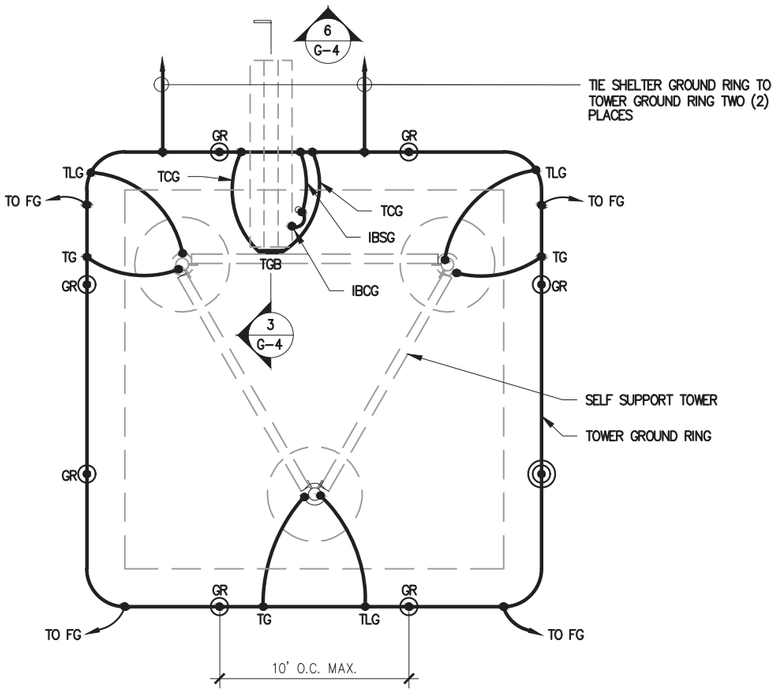

① Grounding Schematic

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 TINNED 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).

BG BOLLARD GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG SOLID BARE COPPER GROUND WIRE FROM STEEL BOLLARD TO GROUND RING. ALL CONNECTIONS TO BE CADWELD.

DCG DOOR CANOPY GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED 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"X4"X1/4" TINNED 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 TINNED 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 TINNED COPPER GROUND WIRE AT FENCE POST. GROUND WIRE TO BE ROUTED ALONG FENCE POST AND CADWELDED 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 TINNED 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 TINNED COPPER CLAD STEEL GROUND ROD DRIVEN VERTICAL TOP OF ROD 30" 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 TINNED 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 TINNED 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 TINNED 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"X4"X1/4" TINNED 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 TINNED 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"X4"X1/4" TINNED 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 TINNED 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 TINNED 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 TINNED 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

1. 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.
2. GROUND ALL NEW EXPOSED METALLIC OBJECTS USING A TWO-HOLE NEMA DRILLED CONNECTOR SUCH AS THOMAS & BETTS #32207 OR APPROVED EQUAL
3. 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.
4. ALL NEW 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.
5. ALL NEW 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.
6. 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.
7. 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.
8. ALL NEW MOUNTING HARDWARE SHALL BE STAINLESS STEEL
9. 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 10 FEET OF THE GROUND RING SHALL BE DIRECTLY BONDED TO THIS GROUND SYSTEM, WITHOUT USING SERIES OR DAISY CHAIN CONNECTION ARRANGEMENTS.
10. 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.
11. 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.
12. ALL BELOW GRADE GROUND SYSTEM CONDUCTORS SHALL BE A MINIMUM DEPTH OF 30".

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GROUNDING SCHEMATIC AND NOTES

SKYLINE RIDGE
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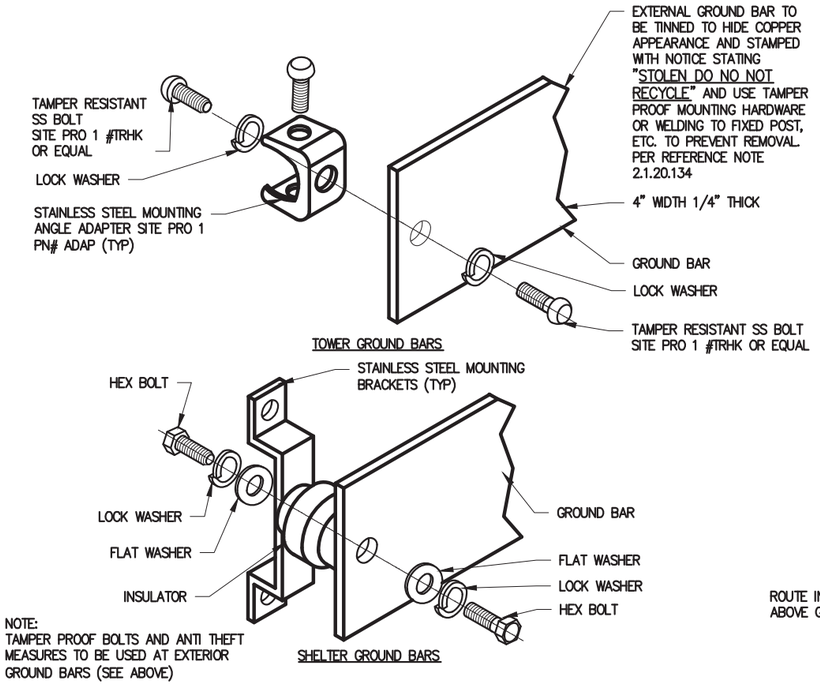
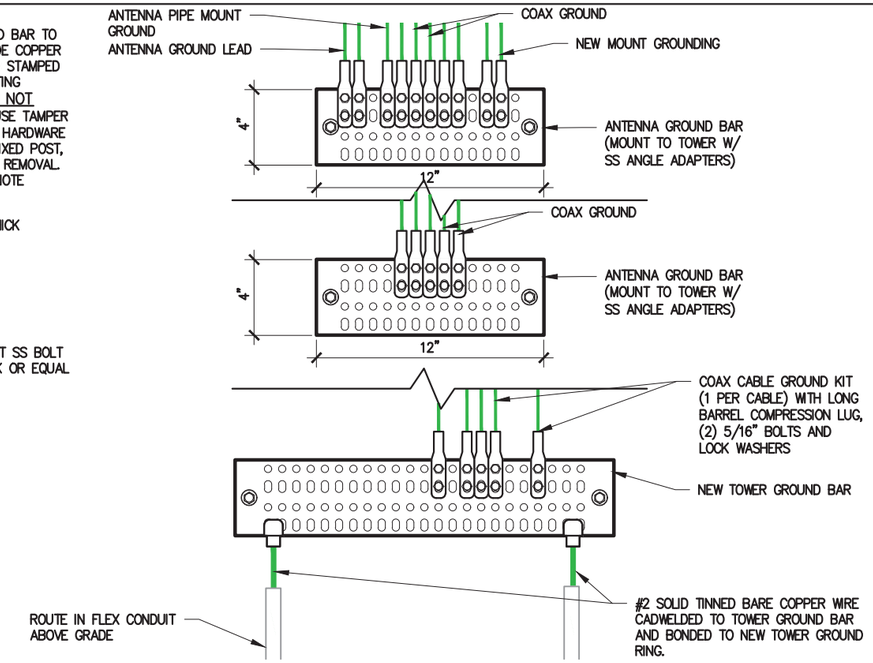


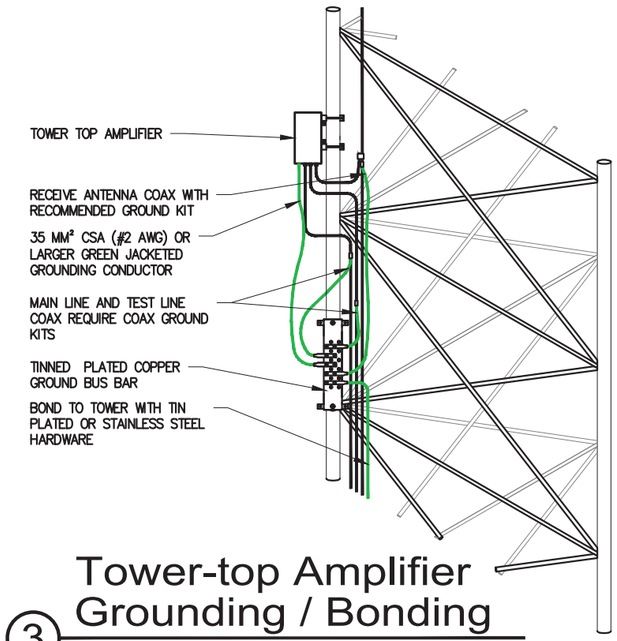
1 Ground Bar Installation

SCALE: 3" = 1'-0"



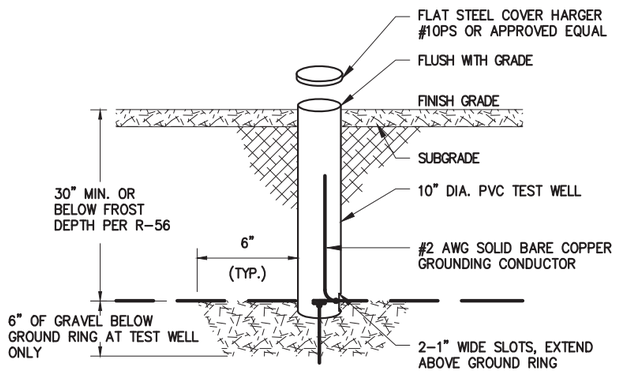
2 Antenna Ground Bar (AGB) Mid Ground Bar (MGB) & Tower Ground Bar (TGB)

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



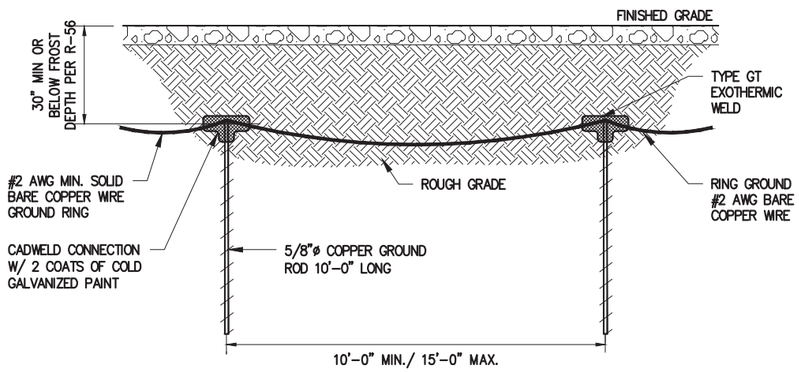
3 Tower-top Amplifier Grounding / Bonding

NOT TO SCALE



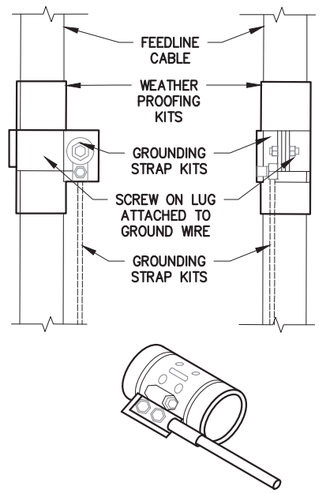
4 Grounding Inspection Test Well

NOT TO SCALE



5 Grounding Rod Detail

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



6 Coax Cable Ground Kit Detail

SCALE: N.T.S.

NOTES:

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

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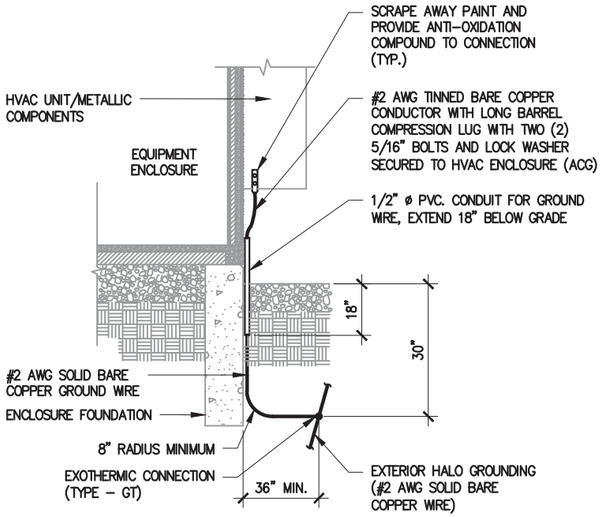
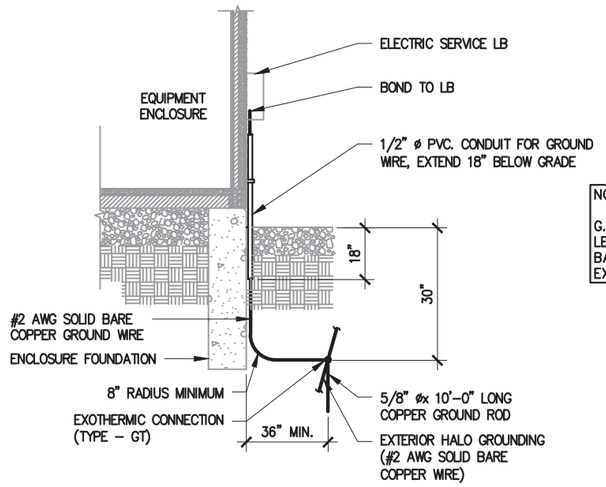


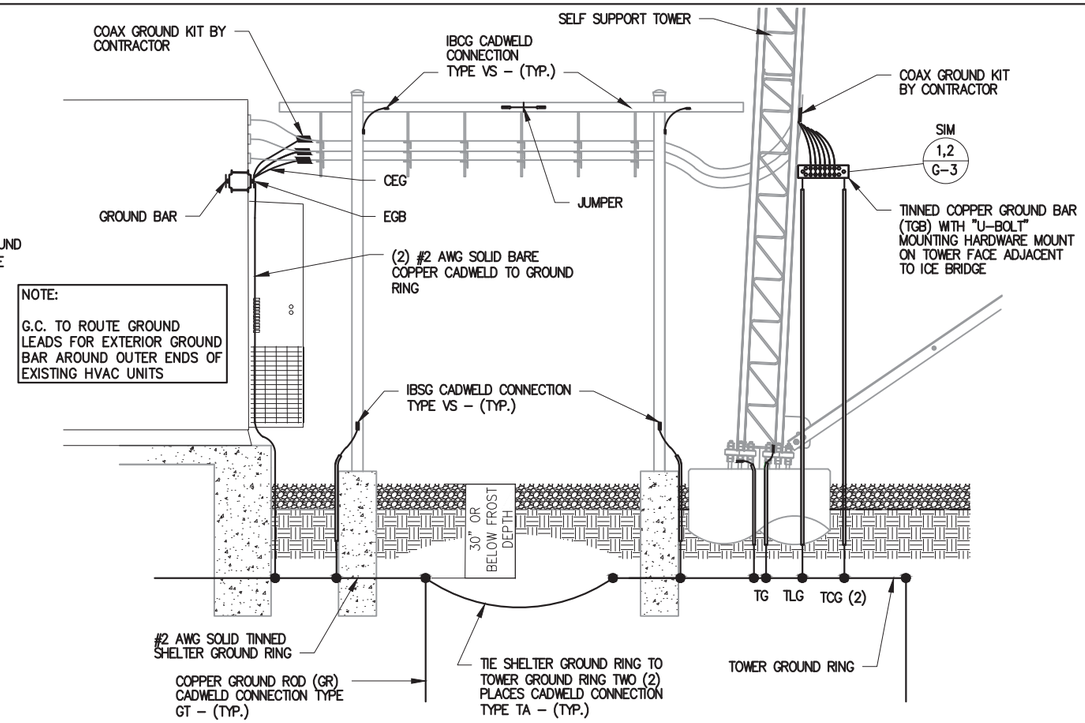
1 HVAC (ACG)/Metallic Components Grounding

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



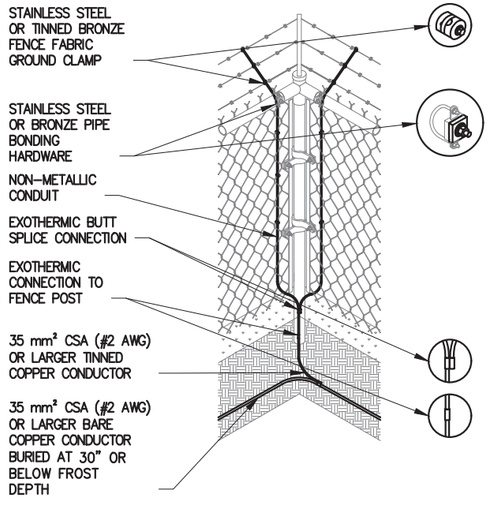
2 Electric Service Grounding

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



3 Shelter and Tower Grounding Elevation Schematic

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



4 Fence Fabric and Deterrent Wiring Bonding

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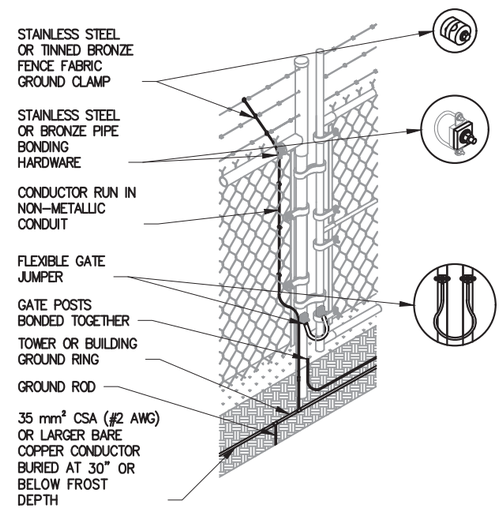

5 Gate Bonding

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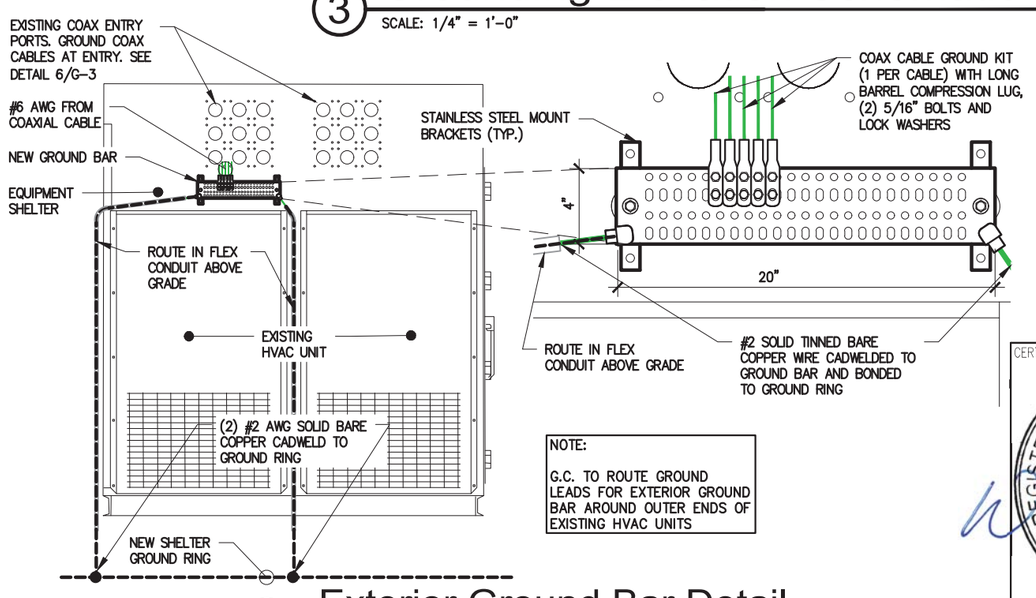

6 Exterior Ground Bar Detail

NO SCALE

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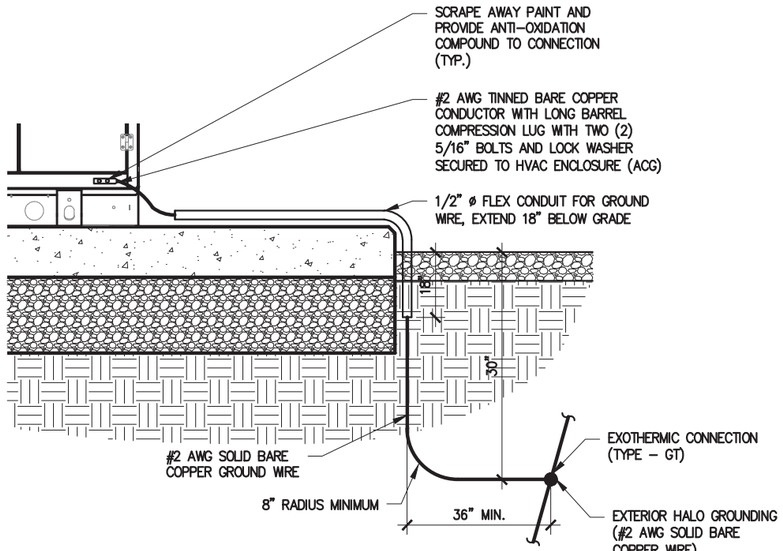
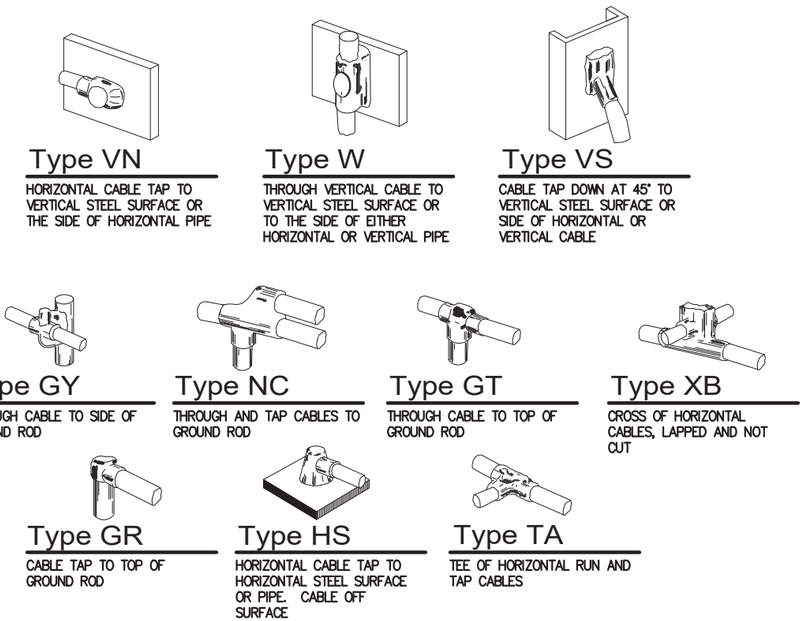
G-4

11 X 17 PAGE SIZE



1 Generator Grounding Detail

SCALE: N.T.S.



2 Exothermic (Cadweld) Details

SCALE: N.T.S.

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMAN III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	09-07-22	CONSTRUCTION DRAWINGS	RNV	SAH	
P	07-19-22	PRELIMINARY DRAWINGS – REVISED GEN. CIRCUITS	RNV	SAH	
N	07/07/22	PRELIMINARY DRAWINGS – REVISED PANEL SCHEDULE	RNV	SAH	
M	06/16/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	
L	03/24/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	

MISSION 1 COMMUNICATIONS
6202 Constitution Drive, Suite C
Fort Wayne, IN 46804

MOTOROLA SOLUTIONS

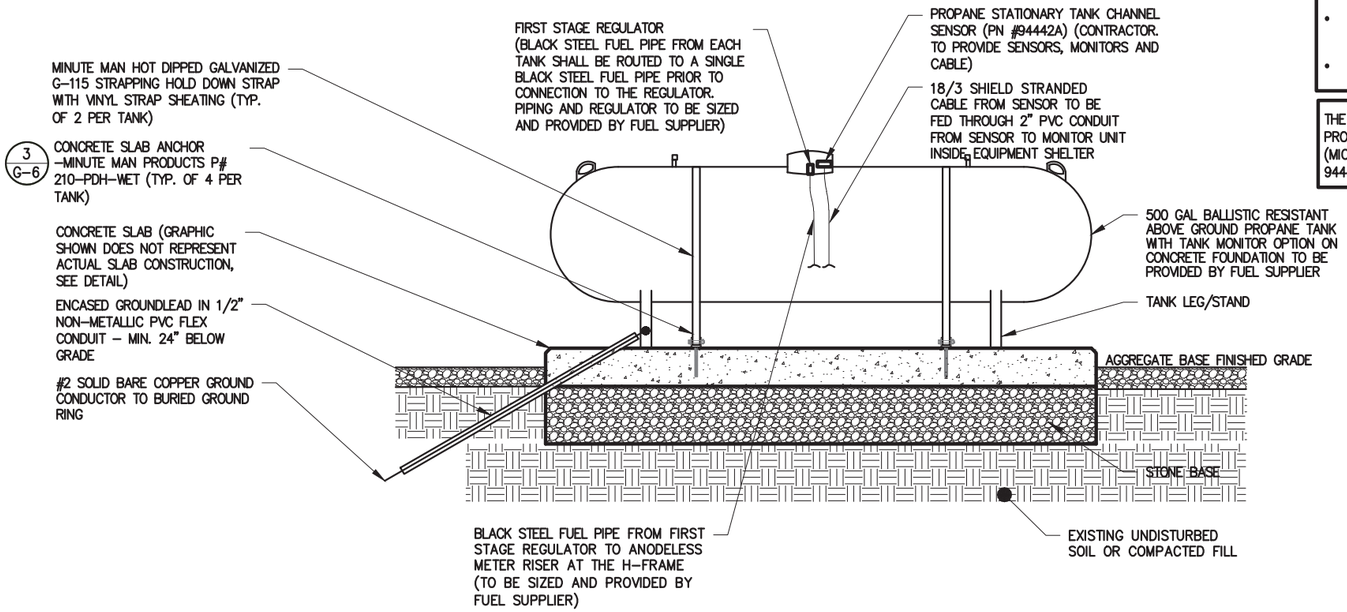
San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

GROUNDING DETAILS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

G-5



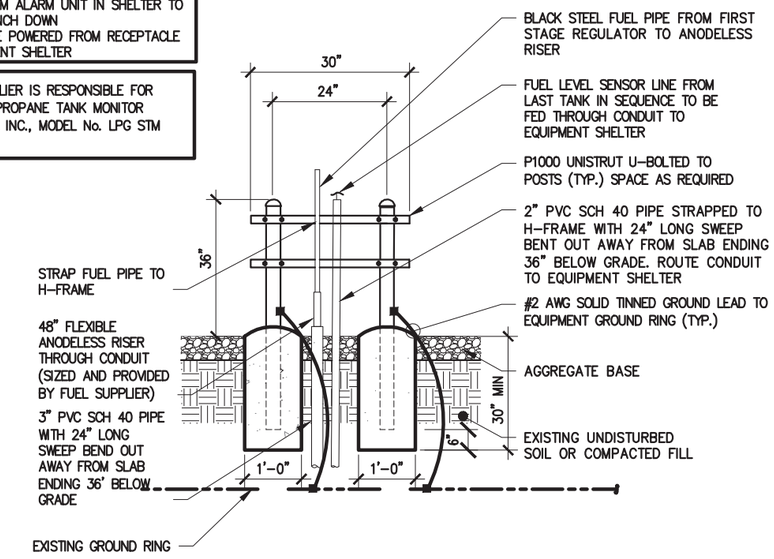
1 Propane Tank Detail

SCALE: N.T.S.

PROPANE TANK MONITOR

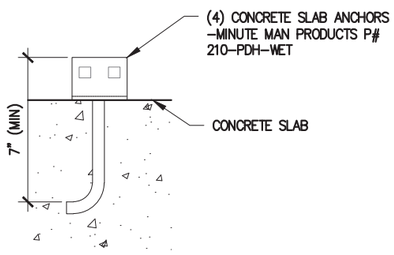
- G.C. TO SUPPLY SENSOR AND MONITOR UNIT
- G.C. TO SUPPLY 18/3 SHIELD STRANDED CABLE FROM UNIT TO ALARM UNIT IN EQUIPMENT SHELTER
- G.C. TO SUPPLY 18/3 SHIELD STRANDED CABLE FROM ALARM UNIT IN SHELTER TO ALARM PUNCH DOWN
- UNIT TO BE POWERED FROM RECEPTACLE IN EQUIPMENT SHELTER

THE FUEL SUPPLIER IS RESPONSIBLE FOR PROVIDING (1) PROPANE TANK MONITOR (MICRO–DESIGN. INC., MODEL No. LPG STM 94442A)



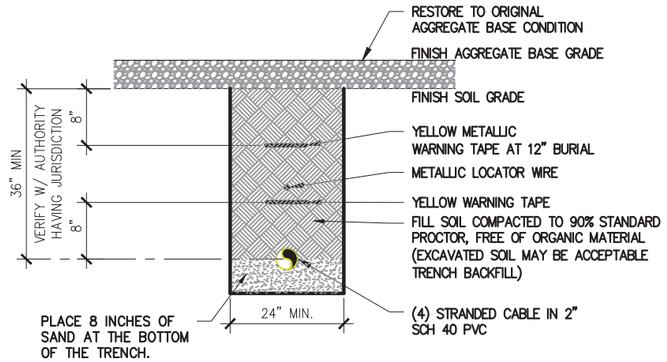
2 Fuel Service H-Frame

SCALE: N.T.S.



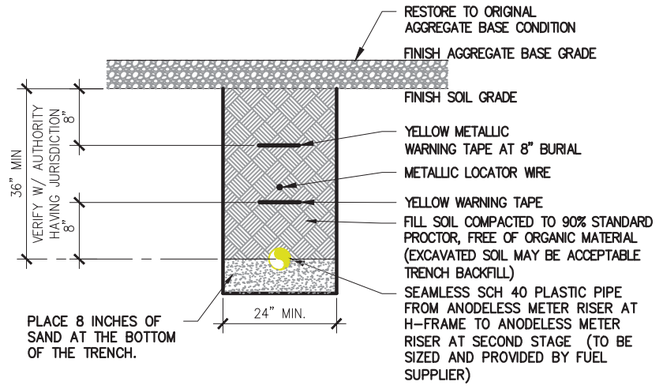
3 Propane Tank Strap Down Anchor Detail

SCALE: N.T.S.



4 LP Tank Alarm from Propane Tank to Equipment

SCALE: 3/8" = 1'–0"



5 Propane Gas Service from Propane Tank to Generator

SCALE: 3/8" = 1'–0"

CERTIFICATION:

REGISTERED PROFESSIONAL ENGINEER
WILLIAM RICHARD HEIDEMANN III
74138
CIVIL
STATE OF CALIFORNIA

September 9, 2022

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	09–07–22	CONSTRUCTION DRAWINGS	RNV	SAH	
P	07–19–22	PRELIMINARY DRAWINGS – REVISED GEN. CIRCUITS	RNV	SAH	
N	07/07/22	PRELIMINARY DRAWINGS – REVISED PANEL SCHEDULE	RNV	SAH	
M	06/16/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	
L	03/24/22	PRELIMINARY DRAWINGS – REVISED PER COMMENTS	RNV	SAH	

MISSION 1 COMMUNICATIONS
6202 Constitution Drive, Suite C
Fort Wayne, IN 46804

MOTOROLA SOLUTIONS

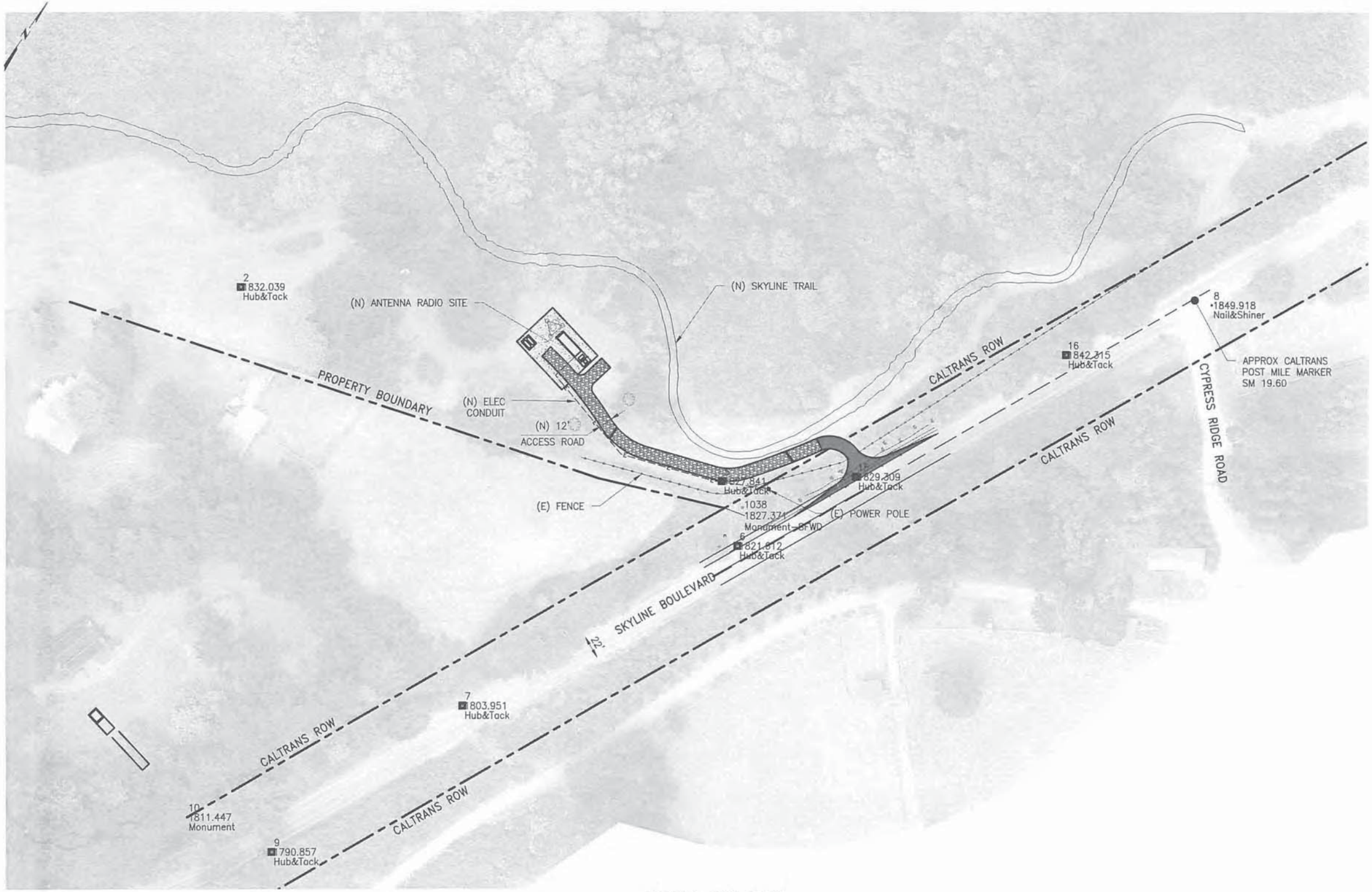
San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

PROPANE DETAILS

SKYLINE RIDGE
12605 SKYLINE BLVD.
REDWOOD CITY, CA 94062
SAN MATEO COUNTY

11 X 17 PAGE SIZE

G-6



OVERALL SITE PLAN

1"=50'

NOTES:

1. CALTRANS ROW BASED ON RIGHT-OF-WAY RECORD MAPS PROVIDED BY CALTRANS.
2. SURVEY INFORMATION OBTAINED BY SFPUC SURVEYING STAFF IN JULY 2019.
3. POSTED ROAD SPEED LIMIT IS 50 MILES PER HOUR (MPH).

0 50 100 150

SCALE: 1" = 50'-0"

ELEVATION DATUM NAVD88

REGISTERED PROFESSIONAL ENGINEER CARMAN K. NG C 72205 CIVIL STATE OF CALIFORNIA

Exp 06/30/20 10/11/19

NO.	DATE	DESCRIPTION	BY	APP'D

REVISIONS

CONTRACT NO. ####

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE DIVISION
ENGINEERING MANAGEMENT BUREAU

SKYLINE RADIO SITE

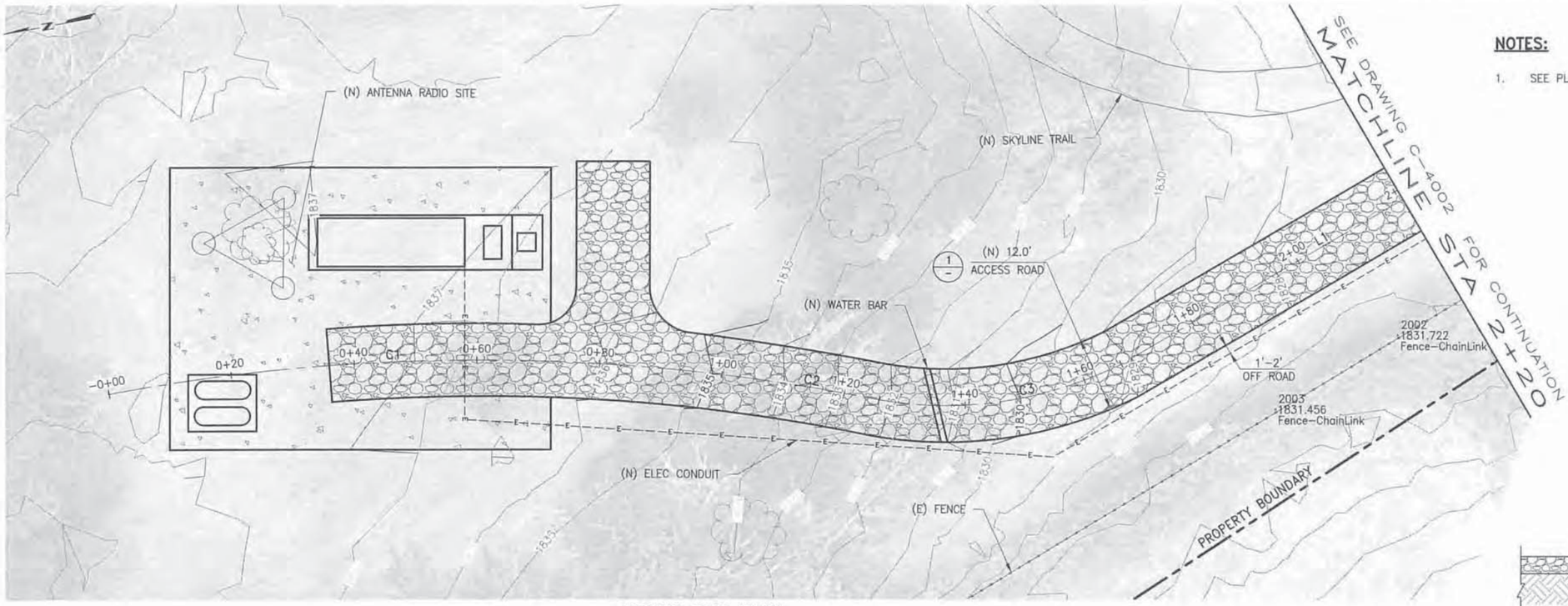
OVERALL SITE PLAN

CHECKED / APPROVED	DRAWN
SECTION MANAGER	DESIGNED
SCALE: AS SHOWN	DATE: SEPTEMBER 2019
APPROVED: MANAGER, ENGINEERING MANAGEMENT BUREAU	APPROVED: MANAGER, WATER SUPPLY AND TREATMENT DIVISION

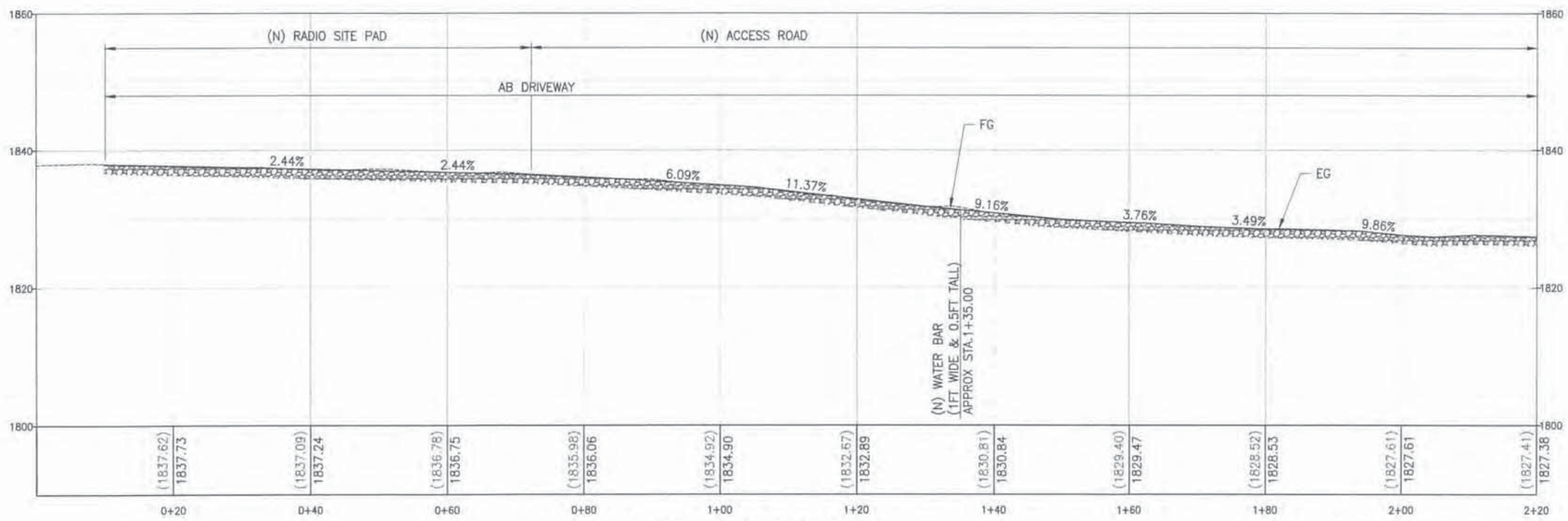
PLAN NO.	DRAWING / FILE NO.	REVISION NO.
C-1001	E-	0

FILE: G:\CUWOOD-SKYLINE-RADIO-SITE\CIVIL\100% SUBMITTAL\ACTIVE\C-1001.DWG

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 4



ACCESS ROAD PLAN
1"=10'

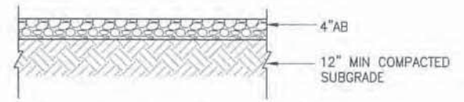


ACCESS ROAD PROFILE
1"=10'

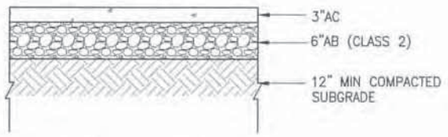
0 10 20 30
SCALE: 1" = 10'-0"

NOTES:

1. SEE PLAN NO C-4002 FOR ACCESS ROAD LINE AND CURVE TABLE.



TYPICAL AB ACCESS ROAD (1 / C-4001,C-4002)
SCALE: N.T.S.



AC DRIVEWAY PAVEMENT (2 / C-4002)
SCALE: N.T.S.

ELEVATION DATUM
NAVD88

REGISTERED PROFESSIONAL ENGINEER
CARMANA NG
C 72205
CIVIL
STATE OF CALIFORNIA
Exp 06/30/20
10/11/19

NO.	DATE	DESCRIPTION	BY	APP'D

REVISIONS

CONTRACT NO. ####

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE DIVISION
ENGINEERING MANAGEMENT BUREAU

SKYLINE RADIO SITE

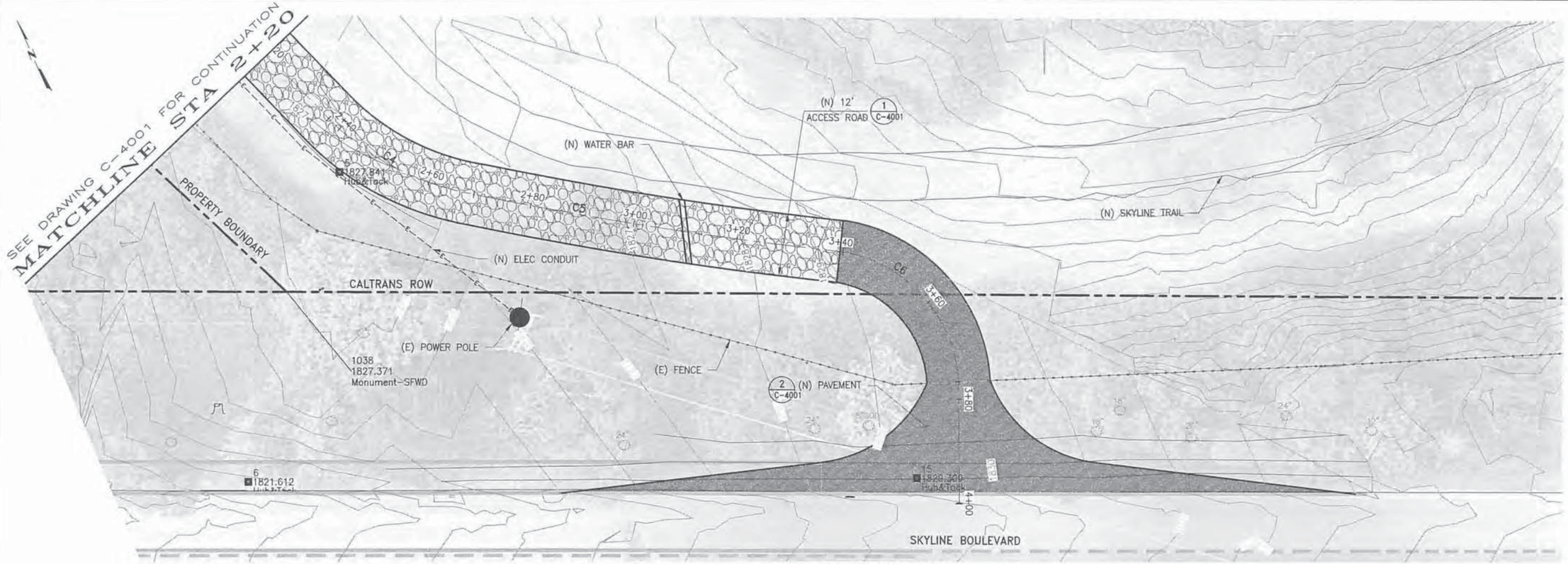
NEW ACCESS ROAD PLAN & PROFILE (STA 0+00 TO STA 2+20)

CHECKED / APPROVED	DRAWN
SECTION MANAGER	DESIGNED
SCALE: AS SHOWN	DATE: SEPTEMBER 2019
APPROVED: MANAGER, ENGINEERING MANAGEMENT BUREAU	APPROVED: MANAGER, WATER SUPPLY AND TREATMENT DIVISION

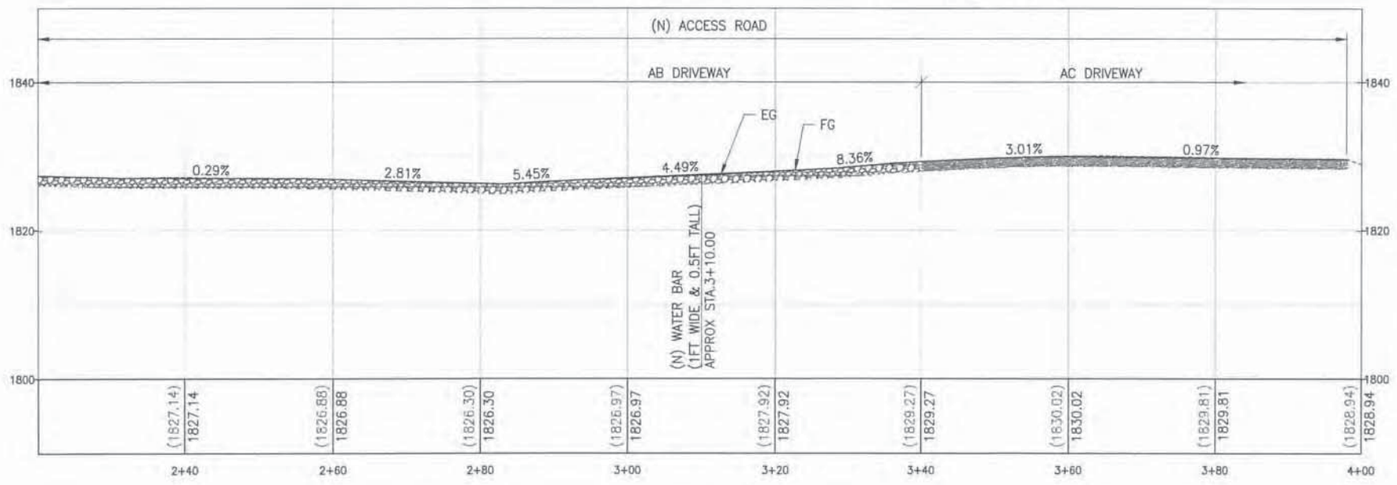
PLAN NO.	DRAWING / FILE NO.	REVISION NO.
C-4001	##	0

FILE: O:\CUW000-SKYLINE-RADIO-SITE\CIVIL\100% SUBMITTAL\ACTIVE\C-4001.DWG

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



ACCESS ROAD PLAN
1"=10'



ACCESS ROAD PROFILE
1"=10'

NEW ACCESS ROAD LAYOUT TABLE					
ID	LENGTH	RADIUS	LINE/CHORD DIRECTION	START POINT	END POINT
C1	125.71'	328.56'	S13° 30' 01.26"W	N:1995651.0625 E:6026703.8898	N:1995529.5693 E:6026674.7211
C2	125.71'	328.56'	S13° 30' 01.26"W	N:1995651.0625 E:6026703.8898	N:1995529.5693 E:6026674.7211
C3	40.84'	64.03'	S04° 34' 26.42"W	N:1995529.5693 E:6026674.7211	N:1995489.5453 E:6026671.5191
L1	70.56'		S17° 30' 19.89"E	N:1995489.5453 E:6026671.5191	N:1995422.2521 E:6026692.7437
C4	31.79'	50.92'	S35° 50' 51.82"E	N:1995422.2521 E:6026692.7437	N:1995396.9014 E:6026711.0594
C5	71.72'	689.49'	S54° 51' 11.97"E	N:1995396.9014 E:6026711.0594	N:1995355.6354 E:6026769.6734
C6	36.00'	26.93'	S15° 17' 40.76"E	N:1995355.6354 E:6026769.6734	N:1995323.4376 E:6026778.4785

0 10 20 30
SCALE: 1" = 10'-0"

ELEVATION DATUM NAVD88

REGISTERED PROFESSIONAL ENGINEER CARMAN K. NG C 72205 CIVIL STATE OF CALIFORNIA
Exp 06/30/20
10/1/19

NO.	DATE	DESCRIPTION	BY	APPR'D
		REVISIONS		

CONTRACT NO. ####

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
INFRASTRUCTURE DIVISION
ENGINEERING MANAGEMENT BUREAU

SKYLINE RADIO SITE

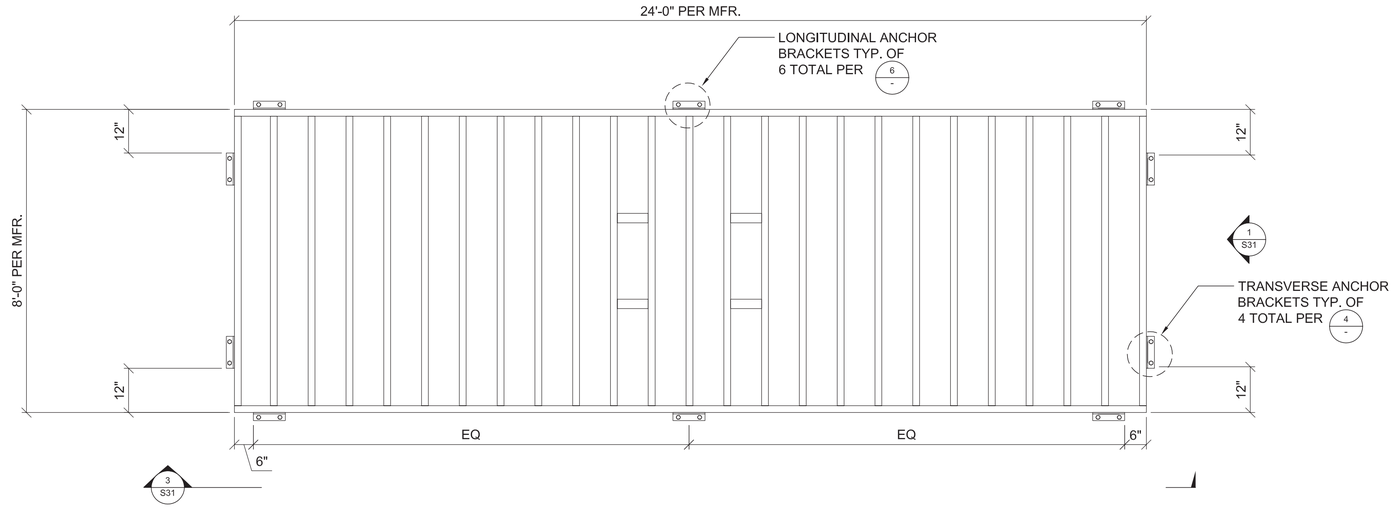
NEW ACCESS ROAD PLAN & PROFILE (STA 2+20 TO STA 4+00)

CHECKED / APPROVED	DRAWN
SECTION MANAGER	DESIGNED
SCALE: AS SHOWN	DATE: SEPTEMBER 2019
APPROVED: MANAGER, ENGINEERING MANAGEMENT BUREAU	APPROVED: MANAGER, WATER SUPPLY AND TREATMENT DIVISION

PLAN NO.	DRAWING / FILE NO.	REVISION NO.
C-4002	##	0

FILE: O:\CUW000-SKYLINE-RADIO-SITE\CIVIL\100% SUBMITTAL\ACTIVE\C-4002.DWG

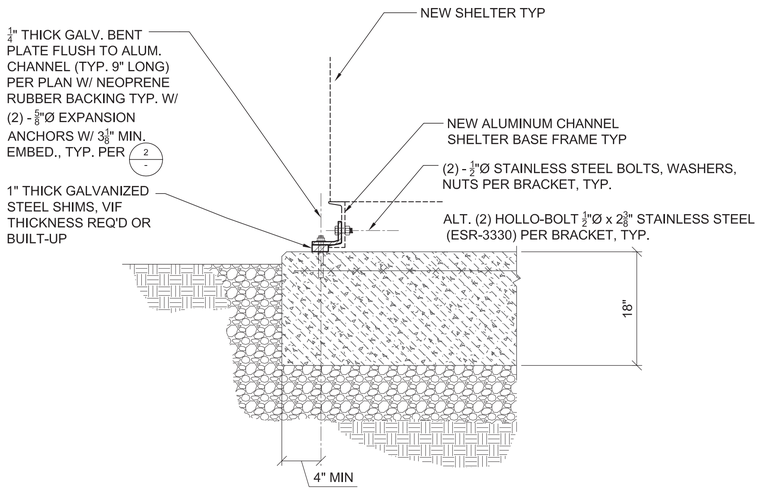
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 4



NOTE:
CONFORMANCE OF SHELTER BASE FRAME TO BE VERIFIED IN THE FIELD. SEOR SHALL BE ALERTED OF ANY DISCREPANCIES FOUND.

NEW SHELTER PLAN | 3

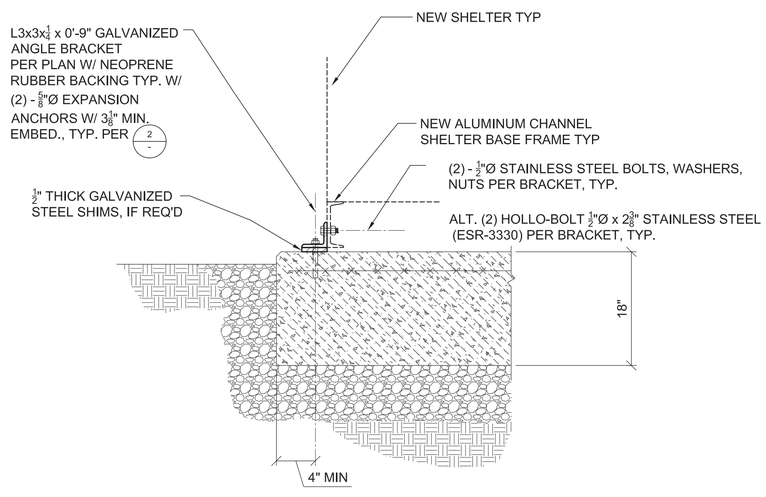
DETAIL ID: | SCALE:NTS | S11



NOTE:
COORDINATE ANCHOR EDGE DISTANCE WITH OVERALL SHELTER PAD DIMENSIONS SHOWN ON SHEET C-103. INCREASE PAD DIMENSIONS ACCORDINGLY, IF REQ'D.

SHELTER SUPPORT DETAIL | 6

DETAIL ID: | SCALE:NTS | S11

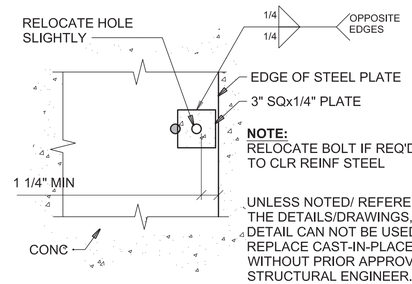


NOTE:
COORDINATE ANCHOR EDGE DISTANCE WITH OVERALL SHELTER PAD DIMENSIONS SHOWN ON SHEET C-103. INCREASE PAD DIMENSIONS ACCORDINGLY, IF REQ'D.

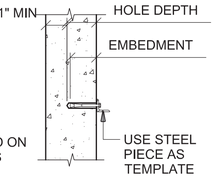
SHELTER SUPPORT DETAIL | 4

DETAIL ID: | SCALE:NTS | S11

TYPICAL CARBON STEEL ANCHOR INSTALLATION DESIGN AND TEST VALUES							
BOLT DIAMETER	3/8"	1/2"		5/8"		3/4"	
MIN. EMBEDMENT	2"	2"	3-1/4"	3-1/8"	4"	3-3/4"	4-3/4"
MIN. HOLE DEPTH	2-5/8"	2-5/8"	4"	3-7/8"	4-3/4"	4-5/8"	5-3/4"
MIN MEMBER THICKNESS	4"	4"	6"	5"	6"	6"	8"
INSTALLATION TORQUE	25 FT-LBS	40 FT-LBS		60 FT-LBS		110 FT-LBS	



ANCHOR RELOCATION DETAIL



ANCHOR AT WALL OR SLAB

INSTALLATION:

1. ALLOWABLE WEDGE ANCHOR TYPES: HILTI KB-TZ (ESR-1917), DEWALT WEDGE-BOLT (ESR-2526), SIMPSON STRONG BOLT 2 (ESR-3037)
2. UNLESS NOTED OTHERWISE INSTALL ANCHORS PER MANUFACTURER'S RECOMMENDED SPECIFICATIONS.
3. THE TABULATED INSTALLATION AND TEST VALUES PERTAIN TO USE IN HARDROCK CONCRETE, CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI.
4. WHEN INSTALLING DRILLED-IN ANCHORS IN NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE REINFORCING BARS OR OTHER EMBEDDED ITEMS SUCH AS ELECTRICAL/TELECOMMUNICATIONS CONDUIT AND GAS LINES. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR.
5. DRILLED EXPANSION TYPE ANCHOR BOLTS SHALL BE USED ONLY WHERE DETAILED OR FOR ATTACHMENT OF MECH, ELEC, OR MISC ACCESSORIES OR EQUIPMENT TO THE STRUCTURE.
6. WHERE EDGE DISTANCE AND SPACING IS NOT SHOWN ON DETAILS, REFER ICC ESR REPORT FOR MINIMUM VALUES.

TYPICAL EXPANSION ANCHOR DETAIL | 2

DETAIL ID: | SCALE:NTS | S11

NO.	DATE	REVISIONS	BY	CHK	APP'D
4	12/17/20	REVISED PER COMMENTS	NGO	SAM	SAM
3	09/28/20	FINAL CD	NGO	SAM	SAM
2	07/23/20	PRELIM. CD	SAM		
1	05/27/20	90% CD FOR REVIEW	KWN		
0	04/22/20	90% CD FOR REVIEW	KWN		

SCALE: AS SHOWN | DESIGNED BY: DG | DRAWN BY: JY

Pyramid Network Services, LLC

MOTOROLA SOLUTIONS

SITE NAME: "SKYLINE RIDGE"
13899 SKYLINE BLVD.
REDWOOD CITY, CA 94062

PLAN AND DETAILS

S-101
DRAWING NUMBER | REV. 3

PROJECT NUMBER: BNJ - S210052 | DATE: 03/08/21

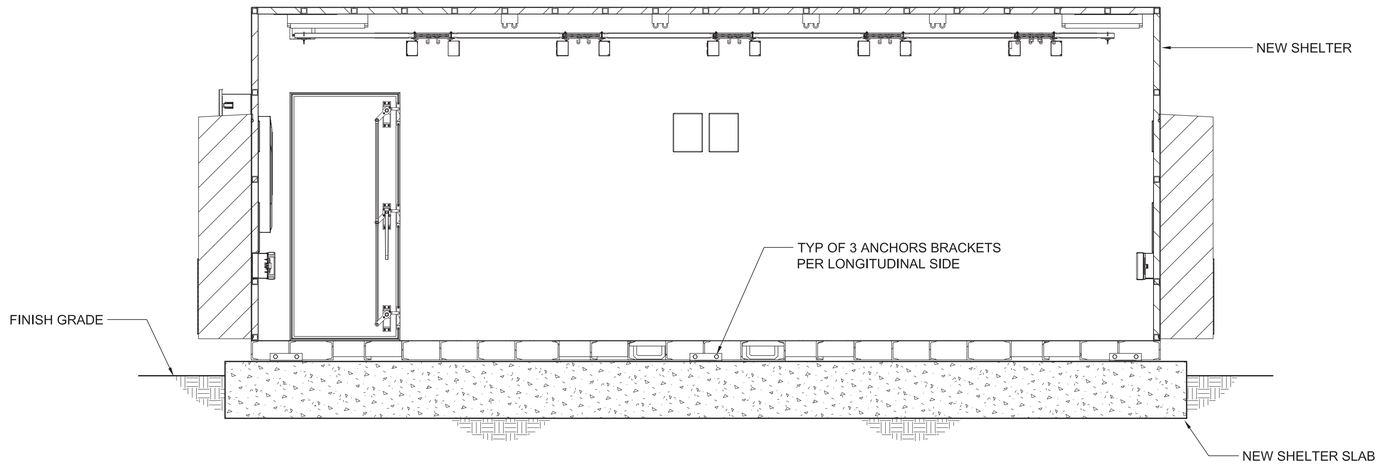
REGISTERED PROFESSIONAL ENGINEER JAMES DALE FRANCIS S4839 STRUCTURAL STATE OF CALIFORNIA

4/9/2021

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 22" x 34". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

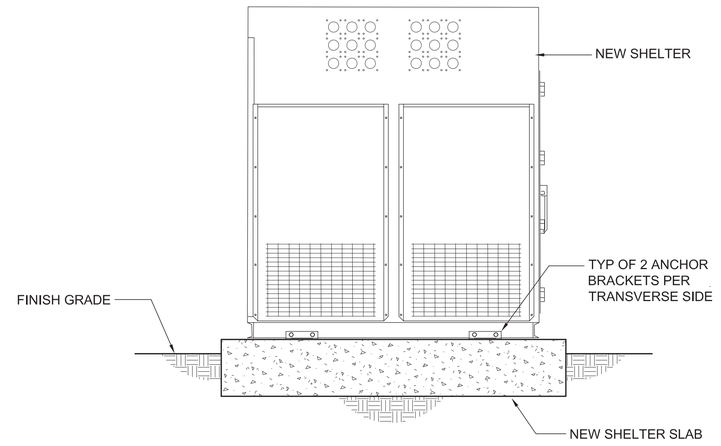
PLOT DATE: 04-09-2021

CAD FILE: F:\21\S21-0052 PNS - SKYLINE SHELTER ANCHORAGE\DRAWINGS\SHEETS\S11.DWG



SHELTER ELEVATION | 3

DETAIL ID: | SCALE:NTS | S11



SHELTER ELEVATION | 1

DETAIL ID: | SCALE:NTS | S11

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 22" x 34". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

NO.	DATE	REVISIONS	BY	CHK	APPD
4	12/17/20	REVISED PER COMMENTS	NGO	SAM	SAM
3	09/28/20	FINAL CD	NGO	SAM	SAM
2	07/23/20	PRELIM. CD	SAM		
1	05/27/20	90% CD FOR REVIEW	KWN		
0	04/22/20	90% CD FOR REVIEW	KWN		

SCALE: AS SHOWN | DESIGNED BY: DG | DRAWN BY: JY

Pyramid Network Services, LLC

MOTOROLA SOLUTIONS

SITE NAME: "SKYLINE RIDGE"

13899 SKYLINE BLVD.
REDWOOD CITY, CA 94062

ELEVATIONS

S-102
DRAWING NUMBER

REV 3

PROJECT NUMBER: BNJ - S210052 | DATE: 03/08/21

REGISTERED PROFESSIONAL ENGINEER
JAMES DALE RAMSEY
No. S4375
STRUCTURAL
STATE OF CALIFORNIA

4/9/2021

PLOT DATE: 04-09-2021

CAD FILE: F:\21\S21-0052 PNS - SKYLINE SHELTER ANCHORAGE\DRAWINGS\SHEET\S31.DWG