



CONSERVATION DISTRICT USE APPLICATION (CDUA)

All permit applications shall be prepared pursuant to HAR 13-5-31

File No.:

Acceptance Date:

180-Day Expiration Date:

Assigned Planner:

for DLNR Use

PROJECT NAME: City Broadband Initiative Phase 1B1 at Lualualei Communication Tower

Conservation District Subzone: General

Identified Land Use: P-14 Telecommunications (HAR §13-5-22)

(See Hawai'i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: Private Access Driveway Off Hakimo Road, Wai'anae, Hawai'i 96792

Ahupua'a, District, Island: Wai'anae, Wai'anae, O'ahu

Tax Map Key(s): (1) 8-7-006: 022 (por.)

Proposed Commencement Date: April 2026

Proposed Completion Date: August 2026

Estimated Project Cost: \$102,800.00

Type of permit sought Board or Departmental

ATTACHMENTS

\$ 250 Application fee. 2.5% of project cost for Board Permits, but no less than \$250, up to a maximum of \$2500; \$250 for Departmental Permits (*ref §13-5-32 through 34*).

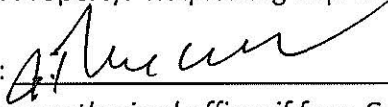
\$ N/A Public hearing fee if required (*\$250 plus publication costs; ref §13-5-40*)

- 6 copies of CDUA (*5 hard + 1 digital copy*) (*disc or cloud share; no flash drives*)
- Draft / Final Environmental Assessment (EA) or Final Environmental Impact Statement (EIS) or Statement of Exemption
- State Historic Preservation Division (SHPD) HRS 6E submittal form or Determination letter (dlnr.hawaii.gov/shpd/review-compliance/forms)
- Management plan or Comprehensive management plan (*ref §13-5-39*) if required
- Special Management Area determination (*ref Hawai'i Revised Statutes 205A*)
- Shoreline certification (*ref §13-5-31(a)(8)*) if land use is subject to coastal hazards.
- Kuleana documentation (*ref §13-5-31(f)*) if applying for a non-conforming kuleana use.
- Boundary determination (*ref §13-5-17*) if land use lies within 50 feet of a subzone boundary.

REQUIRED SIGNATURES

Applicant

Name: City and County of Honolulu
Title; Agency: Department of Transportation Services
Mailing Address: 711 Kapiolani Boulevard, Suite 1600, Honolulu, Hawai'i 96813
Contact Person & Title: Michael Sabido, Project Engineer
Phone: (808) 768-8393
Email: Michael.Sabido@honolulu.gov
Interest in Property: Requesting improvements at Lualualei Communication Tower.

Signature:  Date: 1/25/24
Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization

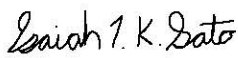
Landowner (if different than the applicant)

Name: State of Hawaii
Title; Agency: Department of Land and Natural Resources
Mailing Address: Kalanimoku Building, 1151 Punchbowl St., Honolulu, HI 96813
Phone:
Email:

Signature: _____ Date: _____
For public lands, the government entity with management control shall sign as landowner.

Agent or Consultant

Agency: R.M. Towill Corporation
Contact Person & Title: Isaiah Sato, Planner
Mailing Address: 2024 N King St. Honolulu, HI 96819
Phone: (808) 842-1133
Email: isaiahs@rmtowill.com

Signature:  Date: 3/19/26

For DLNR Managed Lands

Chairperson, Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai'i 96809-0621

Signature: _____ Date: _____

PROPOSED USE

Total area of proposed use (indicate in acres or sq. ft.): 938 square feet (sq. ft.)

Please provide a detailed description of the proposed land use(s) in its entirety. Information should describe what the proposed use is; the need and purpose for the proposed use; the size of the proposed use (provide dimensions and quantities of materials); and how the work for the proposed use will be done (methodology). If there are multiple components to a project, please answer the above for each component. Also include information regarding secondary improvements including, but not limited to, grading and grubbing, placement of accessory equipment, installation of utilities, roads, driveways, fences, landscaping, etc.

Attach all associated plans such as a location map, site plan, floor plan, elevations, and landscaping plans drawn to scale (*ref §13-5-31*).

The City and County of Honolulu (CCH), Department of Transportation Services (DTS) (the “Applicant”) submits this After-the-Fact (ATF) Conservation District Use Application (CDUA) for its City Broadband Initiative Phase 1B1 project (“Project”) to request authorization for retrofit improvements to the existing Lualualei Communication Tower (LCT). These retrofit improvements include upgrades to telecommunications equipment, enhancement to utility connections, and modifications to existing infrastructure to support expanded broadband capabilities. The proposed Project will also allow for the continued operation and maintenance of an existing public telecommunications facility located at the LCT in Wai’anae, O’ahu, TMK (1) 8-7-006: 022 (por.) (the “Project Site”).

The Project Site was originally authorized under Conservation District Use Permit (CDUP) OA-2849, approved by the Board of Land and Natural Resources (BLNR) on June 25, 1997 (see **Exhibit 1**). The facility was constructed between 1999 and 2001 and includes prefabricated equipment shelter, antenna monopole, cable trays, utility connections, and associated infrastructure (see **Exhibit 2**). The purpose of the facility is to support the CCH’s 800 MHz radio coverage improvements for emergency communications and public safety operations. The facility is part of Phase I of the City Broadband Initiative and is critical for reliable radio transmission in the Wai’anae region.

The primary components of the existing facility include a 25-foot-high monopole with omnidirectional antennas, a prefabricated equipment shelter, and power and communication conduits along the mountain slope face between the shelter and the monopole. These are mounted on existing concrete pads and enclosed by a 6-foot-high chain link fence with bollards for protection. The total footprint of the facility is approximately 938 sq. ft. within TMK (1) 8-7-006: 022 (por.), a 3.353-acre parcel. The monopole is secured with anchor bolts to a concrete pedestal foundation. The equipment shelter includes HVAC units, motorized dampers, and FM-200 fire suppression systems.

Utility connections include electrical service via overhead lines and a meter/main breaker panel mounted on a riser pole. Communication cabling is routed through existing conduits and cable trays, some of which are mounted along the adjacent mountain slope using steel brackets. No water or wastewater services are required, as the facility is unoccupied and remotely monitored. Access to the site is provided via an existing paved Board of Water Supply (BWS) road from Hakimo Road. Secondary improvements include a gravel access driveway, bollards, and minor landscaping to restore areas disturbed during installation. No grading or grubbing was performed, and the facility was designed to minimize visual and environmental impacts, consistent with the conditions of the CDUP OA-2849.

The proposed improvements for the proposed Project are designed to be fully integrated within the existing infrastructure footprint of the LCT site. Specifically:

- The new Tarana Wireless base node will be mounted on the existing monopole tower using a pipe mast and steel collar assembly, avoiding any new vertical expansion.
- Approximately 350 feet of hybrid fiber trunk will be routed from the equipment room to the antenna using existing conduit infrastructure, minimizing ground disturbance.
- A NEMA 4X-rated outdoor hybrid enclosure will be mounted to the monopole, to serve as an interface between cabling from the equipment room and cabling to the Tarana Wireless equipment.
- All work is confined to previously developed areas, and no excavation or grading is required.

This ATF CDUA is submitted to formally authorize the continued use of the existing LCT facility, located within TMK (1) 8-7-006: 022 (por.), as well as the proposed retrofit improvements described above. The DLNR, Office of Conservation and Coastal Lands (OCCL) has determined that the existing tower, constructed between 1999 and 2001, was not fully documented in prior approvals under CDUP OA-2849 (see **Exhibit 1**). While the original CDUP OA-2849 authorized a telecommunications tower and equipment on the south-facing side of the parcel, the final design and construction sited the monopole on the northeastern side of the property, on the ridge above the BWS water tank. This adjustment occurred within the same TMK parcel and Conservation District subzone, and the ridge location has remained in continuous use since installation.

The existing monopole was constructed on the northeastern ridgeline rather than the south-facing area depicted in the original CDUP OA-2849 plans (see **Exhibit 1**). While detailed records from the 1999-2001 design phase are limited, available project information suggests that the final siting decision was influenced by practical engineering and operational considerations typical for emergency communications infrastructure.

Although the precise reasoning was not documented in the original permit file, it is reasonable to infer that the final location was selected to optimize the tower's performance. Factors that

commonly influence siting decisions for public radio facilities, which appear consistent with the as-built conditions include:

- Improved line-of-sight for emergency radio communication coverage. The northeastern ridge position provides a clear transmission path toward communities to the north, such as Mā'ili and Wai'anae. If the monopole had been placed on the lower south-facing slope originally shown, the intervening ridge may have limited coverage to the north and primarily served areas to the south.
- Avoidance of conflicts with the existing BWS infrastructure. The south-facing area contains the 1.5 MG BWS tank. The northeastern ridgeline appears to have reduced potential interference with these facilities.

The as-built facility remains consistent with the scale, purpose, and environmental impact originally approved under CDUP OA-2849.

- Footprint:
The as-built facility occupies approximately 938 sq. ft., similar to the originally approved footprint, which is approximately 900 – 950 sq. ft. No expansion or enlargement occurred; only the position within the parcel changed.
- Profile of the Ridgeline:
The monopole height (approximately 25 feet) is consistent with the original approval. The as-built location places the tower slightly higher on the ridge shoulder, but it remains visually less prominent than the adjacent 1.5 MG BWS tank.
- Natural Environment:
The northeastern ridge location where the monopole was ultimately constructed exhibits environmental characteristics that closely mirror those of the south-facing slope shown in the original CDUP OA-2849. Both areas lie within the same enclosed utility compound, share similar soils and sparse vegetation. Neither location contains native habitat, cultural sites, or undisturbed natural resources. Accordingly, the environmental setting of the as-built location is functionally equivalent to that originally anticipated site, and the resulting environmental effects are comparable.

The CCH, DTS, seeks to resolve this oversight and incorporate the existing infrastructure into a new CDUP, which includes the proposed retrofit improvements as part of the City Broadband Initiative Phase 1B1 Project. This ATF CDUA is submitted to formally requests authorization for both the continued use of the existing LCT facility and the proposed retrofit improvements, which have not yet been installed.

Pursuant to HAR §11-200.1-15, the proposed action qualifies for an exemption from the requirement the prepare an Environmental Assessment (EA). As confirmed in OCCL's correspondence dated June 3, 2025 (OA 25-181) (**Exhibit 3**), the Project is eligible for exemption under HAR §11-200.1-15(c)(3), which covers "construction and location of single, new, small

facilities or structures and the alteration and modification of the facilities or structures and installation of new, small equipment facilities and the alteration and modification of the equipment or facilities.”

Additionally, the Project meets the criteria under the DLNRs Exemption List, Exemption Class 3 Part 1, No. 14: “Construction or placement of utilities (telecommunications, electrical, solar panels, drainage, waterlines, sewers) and related equipment (such as transformers, poles, cables, wires, pipes) accessory to existing facilities.”

This ATF CDUA proposes only retrofit improvements that are entirely accessory to the existing, previously constructed telecommunications facility. No ground disturbance, grading, new structures, or expansion beyond the existing footprint is involved. All work is confined to existing infrastructure.

The purpose of the Project is to expand broadband communications infrastructure to better serve the City’s constituents, with a focus on underserved communities in Leeward O’ahu. The improvements at the LCT site will support the deployment of free public Wi-Fi (Honolulu HotZone) at select City facilities by providing wireless communication links from the tower. Specifically, the proposed collocation improvements include the following: installation of a new Tarana Wireless base node on the existing monopole tower; routing approximately 350 feet of fixed wireless hybrid fiber trunk from the equipment room to the antenna using existing conduit infrastructure; mounting a Nema 4x-rated outdoor hybrid enclosure at the tower base; integrating new electrical conduit and fittings to connect broadband equipment to existing power systems; and retrofitting the existing equipment room to support operations. No excavation, grading, or ground disturbance is required; all improvements are confined to existing infrastructure footprints. See **Exhibit 4**.

All physical work associated with the original facility has been completed; however, the proposed retrofit improvements described in this application have not yet been constructed and are part of the current request for authorization in this ATF CDUA. The facility remains essential to the City’s emergency radio network and broadband expansion efforts, and is consistent with the objectives of the Conservation District and the General Subzone, providing critical infrastructure while minimizing environmental and visual impacts.

EXISTING CONDITIONS

Please describe the following, and attach maps, site plans, topo maps, colored photos, and biological or archaeological surveys as appropriate:

Prior Conservation District Use Permits or Site Plan Approvals (if applicable):

The existing LCT facility was originally authorized under CDUP OA-2849, approved by BLNR on June 25, 1997. CDUP OA-2849 permitted the construction of a personal communications system (PCS) cell site on a portion of TMK (1) 8-7-006: 022, located in the General Subzone of the State Land Use Conservation District (see **Exhibit 5**). The approved scope included a monopole antenna, two base transceiver (BTS) cabinets, and associated infrastructure, all situated on a concrete pad and enclosed by chain link fencing.

Subsequent construction of the facility occurred between 1999 and 2001, as confirmed by **Exhibit 2**. Recent review by the OCCL identified that certain components of the existing tower infrastructure were not fully documented in the original CDUP OA-2849. As such, this ATF CDUA is submitted to formally authorize the continued use of the existing facility to incorporate proposed retrofit improvements associated with the Project. While CDUP OA-2849 approved the development of a PCS cell site including a monopole antenna and associated equipment, the current facility includes additional infrastructure such as cable tray mounted along the adjacent slope, and expanded utility connection that were not explicitly detailed in the original permit. This ATF CDUA seeks to reconcile those differences and ensure all existing and proposed elements are properly authorized under a new CDUP.

Existing access to site:

Access to the Project Site is provided via an existing paved access road maintained by the BWS. The road is approximately 1,500 feet long and connects to Hakimo Road, a public roadway in Wai'anae (see **Exhibit 6**).

Existing buildings/structures:

The primary structure within the Project Site is a 1.5-million-gallon (MG) water tank owned and operated by the BWS. This tank is a major utility feature within TMK (1) 8-7-006: 022 and shares the access road and general infrastructure footprint with the LCT site. See **Exhibit 2** and **Exhibit 4**.

Adjacent to the BWS water tank is the LCT facility, which functions as a secondary utility use supporting public safety and broadband communications. The LCT includes a monopole antenna tower anchored to a concrete foundations and enclosed within a 6-foot-high chain link fence. A prefabricated equipment room houses electrical and communication infrastructure, including networking equipment, HVAC components, an FM-200 fire suppression system, and a battery

backup system. The equipment room is connected to the tower via existing conduit and cable trays, some of which are mounted along the adjacent mountain slope using hanger brackets. See **Exhibit 2 and 4**.

Additional site features include a backup generator, liquified petroleum gas (LPG) tank, electrical cabinet, and utility connections to Hawaiian Electric Company (HECO) service poles. These elements support the LCT's role in emergency communications and broadband expansion, but are accessory to the primary water utility infrastructure on the parcel.

Adjacent to the tower is a prefabricated equipment room that house electrical and communication infrastructure. This room contains networking equipment, an FM-200 fire suppression system, HVAC components, and a battery backup system. The equipment room is connected to the tower via existing conduit and cable trays, some of which are mounted along the adjacent mountain slope using hanger brackets. Additional site features include a backup generator, LPG tank, electrical cabinet, and utility connections to HECO service poles. See **Exhibit 2 and 4**.

Within the same TMK parcel (8-7-006: 022), and immediately adjacent to the LCT site, is a 1.5 MG water tank owned and operated by the BWS. This tank shares the access road and general infrastructure footprint with the LCT. See **Exhibit 2 and 4**.

Existing utilities (electrical, communication, gas, drainage, water & wastewater):

The Project Site is supported by a range of existing utility infrastructure. Electrical service is provided via overhead lines connected to a HECO utility pole located near the equipment room. The site includes a meter panel, electrical cabinet, and various panelboards that distribute power to the equipment shelter, antenna systems, and backup generator. Electrical conduits are routed both overhead and underground. Communication infrastructure includes cable trays, waveguide entries, and conduits that connect the equipment room to the antenna monopole, supporting both legacy public safety radio systems and the proposed broadband equipment for the Honolulu HotZone initiative. These lines are routed through existing conduits.

An LPG tank is located on-site to support the backup generator, and is securely installed as part of the facility's emergency power infrastructure. Drainage features include a drain inlet near the equipment room and paved areas designed to manage stormwater runoff and prevent erosion or pooling around critical equipment. The facility does not have potable water or wastewater services, as it is unoccupied and remotely operated. There are no restrooms or plumbing fixtures on-site. The BWS operates a 1.5 MG water tank adjacent to the LCT. This tank is a separate utility structure and does not share water service with the LCT facility. All utility connections are existing, and no new utility installations are proposed under this ATF CDUA. The Project improvements are limited to internal wiring and equipment within existing infrastructure.

Physiography (geology, topography, & soils):

The Project Site is located between Pu‘u‘ohulukai and Pu‘u‘ohuluuka ridges, on the east side of the ridge and is tucked into the ridge below the crest. The topography of the area is characterized by the sloping terrain of both ridges, which descend into the valley floors at the base of their eastern and western flanks (see **Exhibit 7**). Although the Project Site is surrounded by steep slopes, it is situated on a relatively level portion of the parcel, which has been previously cleared and developed to accommodate the existing infrastructure.

The (Land Study Bureau) LSB rating for the Project Site is E-Very Poor/not suitable and unclassified. The LSB refers to a soil classification under the Land Study Bureau Detailed Land Classification system. The LSB of the University of Hawai‘i prepared an inventory of the States land resources. Reference is made to the LSB’s Overall Productivity Rating. The Overall Productivity Rating evaluates each Land Type in its over-all or general productive capacity and not for any specific crop. LSB Class ratings are from A-E, with “A” representing the class of highest productivity soils and “E” representing lowest. See **Exhibit 8**.

The Agricultural Lands of Importance to the State of Hawai‘i (ALISH) system established in 1977 by the State of Hawai‘i Department of Agriculture divides lands into three classifications (“Prime”, “Unique”, “Other”). The Project Site is Unclassified as it does not meet the criteria for classification such as Prime, Unique or Other.

Hydrology (surface water, groundwater, coastal waters, & wetlands):

The Project Site is within the Lualualei aquifer system which has a sustainable yield of 2 million gallons per day (MGD). There is no surface water flowing through the Project Site nor are any wetlands present in the vicinity (see **Exhibit 9**). The Project Site is approximately 0.33 miles from the shoreline and is outside the Special Management Area (Area).

Flora & fauna (indicate if rare or endangered plants and/or animals are present):

According to the data provided by the State of Hawai‘i Office of Planning and Sustainable Development, the Project Site is located in an area with medium concentrations of threatened and endangered plant species (see **Exhibit 10**). Additionally, the critical habitat, sourced from the U.S. Fish and Wildlife Service, Pacific Islands Office, shows that the Project Site is not located within any designated critical habitat for threatened or endangered species (see **Exhibit 11**).

The Project Site has been previously disturbed and developed to accommodate existing infrastructure, including the LCT and 1.5 MG water tank operated by the BWS. The area consists of paved surfaces, utility structures, and some groundcover vegetation, and is enclosed by a security fence. Due to this prior ground disturbance and the ongoing use of the site for utility purposes, the

likelihood or rare or endangered plant or animal species being present within the immediate Project footprint is minimal.

Natural hazards (erosion, flooding, tsunami, seismic, etc.):

The Project Site is located within a previously developed utility area and consists of paved surfaces. The facility is situated on graded, level terrain, and the proposed work does not involve any ground disturbance under this ATF CDUA. As such, the potential for erosion is minimal. Existing drainage features, including a drain inlet near the equipment room and paved areas designed to manage stormwater runoff and mitigate erosion.

The Project Site is located in Flood Zone D (see **Exhibit 12**). According to the flood hazard areas depicted in the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), Flood Zone D does not fall within a special flood hazard area. The Project Site is located outside the Tsunami and Extreme Tsunami Evacuation Zones (see **Exhibit 13**). Seismic hazards in the area of the Project Site are considered very minimal due to the extinct status of the volcanoes comprising O'ahu.

Historic & cultural resources:

There are no known historical and cultural resources on the Project Site that are used for traditional and customary Native Hawaiian practices. The property itself is not known to support such practices either on-site or in the immediate surrounding area. The developed portions of the parcel, including the LCT facility, are fenced and secured, and has been previously cleared, leveled, and paved to accommodate utility infrastructure, including the adjacent 1.5 MG BWS water tank. As noted in the original CDUP OA-2849 (see **Exhibit 3**), the State Historic Preservation Division (SHPD) reviewed the site and determined that there are no historic sites within the area. The parcel had already been disturbed during the construction of the BWS water tank, and SHPD concluded that it is highly unlikely that any historic or cultural resources remain due to past ground disturbance. No archeological or geological features of significance were identified. Given the previously developed nature of the Project Site, the limited scope of the proposed improvements, and the absence of any known traditional or customary practices, the proposed use and action is not expected to impact historical and cultural resources.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (*ref §13-5-30(c)*)

1. **The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. How is the proposed land use consistent with the purpose of the conservation district?** (*ref §13-5-1*)

The Project is consistent with the purpose of the Conservation District §13-5-1 of the Hawai'i Administrative Rules (HAR), which is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. The LCT facility was originally authorized under CDUP OA-2849, approved by the BLNR in 1997, for the development of a PCS cell site. This AFT CDUA seeks to formally authorize the continued use of the existing facility and to incorporate retrofit improvements associated with the City Broadband Initiative Phase 1B1 Project. These improvements are limited to internal wiring and equipment upgrades within existing infrastructure and do not involve new structural development, grading, or ground disturbance.

The facility is identified as a land use under HAR §13-5-22, P-14 Telecommunications, and is allowable in the General Subzone pursuant to HAR §13-5-25(a). The Project supports public safety and emergency communications and expands broadband access for underserved communities in Leeward O'ahu, thereby promoting public health, safety, and welfare. The use occupies only a small portion of the parcel and has been designed to minimize environmental and visual impacts. All work is confined to previously developed areas, and the Project aligns with the Conservation District's goals of sustainable land use and responsible resource management.

2. **How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur?** (*ref §13-5-11 through §13-5-15*)

As discussed above, telecommunications facilitates are a permitted use with a CDUP in the General Subzone.

3. **Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management" (see 205A objectives on p. 9).**

The National Coastal Zone Management (CZM) Program was created through the passage of the Coastal Zone Management Act of 1972. Hawai'i's CZM Program, adopted as Chapter 205A, Hawai'i Revised Statutes (HRS), provides a basis for protecting, restoring, and responsibly developing coastal communities and resources. The objectives and policies of the

CZM Program encompass broad concerns such as the impact on recreational resources, historic and archaeological resources, coastal scenic resources and open space coastal ecosystems, coastal hazards, and the management of development. This ATF CDUA complies with the objectives and policies of the CZM Program by authorizing the continued use of existing infrastructure and ensuring no new structural development, ground disturbance, or shoreline impacts are proposed.

(1) Recreational resources

Objective: *Provide coastal recreational opportunities accessible to the public.*

The Project Site is located approximately 0.33 miles inland from the coastline and lies outside the Special Management Area (SMA) (see **Exhibit 14**). All collocated improvements proposed in this ATF CDUA are internal to existing infrastructure and do not involve new structural development, ground disturbance, or expansion of the developed area. The Project Site is a secured utility facility with no public access, and the proposed action will not alter or affect existing access to recreational areas.

(2) Historic Resources

Objective: *Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.*

The Project Site has been previously disturbed and developed to accommodate utility infrastructure, including the LCT and adjacent BWS water tank. The SHPD previously reviewed the site under CDUP OA-2849 and determined that no historic or cultural resources are present. All collocated improvements proposed in this ATF CDUA are internal to existing infrastructure and do not involve ground disturbance or expansion. Therefore, the Project is not expected to impact any historic or cultural resources. In the event that historic resources are identified during the Project activities, the Applicant will cease work in the immediate area of the find and promptly notify SHPD.

(3) Scenic and open space resources

Objective: *Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.*

The Project Site is a previously developed utility area that includes existing infrastructure such as the LCT and a 1.5 MG BWS water tank. The proposed action for the Project are internal to existing infrastructure and do not involve any new structural development or vertical expansion. The LCT facility occupies a small footprint and is situated in a mauka location, shielded by the surrounding terrain of Pu'u'ohulukai and Pu'u'ohuluuka ridges. In comparison, the adjacent 1.5 MG BWS water tank is significantly larger and more visually

prominent structure. As such, the proposed improvements are not expected to adversely affect scenic views or open space resources in the coastal zone.

(4) Coastal ecosystems

Objective: *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

The Project is not expected to have any adverse effect on coastal ecosystems or resources. The Project Site is located inland, approximately 0.33 miles from the coastline, in an area that is not subject to coastal processes. All work will be undertaken in a manner that minimizes or avoids potential environmental impacts. Additionally, the Project will not involve any ground disturbance that could result in downstream runoff of sedimentation into coastal ecosystems.

(5) Economic uses

Objective: *Provide public or private facilities and improvements important to the State's economy in suitable locations.*

The Project will support reliable emergency communications and broadband infrastructure for public benefit, particularly in underserved areas of Leeward O'ahu. The improvements are necessary to maintain and enhance the City's radio network and expand public Wi-Fi access through the Honolulu HotZone initiative. While not a direct economic driver, the continued operation of the LCT facility contributes to overall safety, connectivity, and resilience of the region, factors that are essential to sustainable development and economic stability. Reliable communications infrastructure is critical for public safety, government operations, and community well-being, all of which support the broader socio-economic health of the State.

(6) Coastal hazards

Objective: *Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*

The Project Site is located inland away from the coastline and will not exacerbate any coastal hazards. The Project Site is located outside of the mapped tsunami hazard areas (see **Exhibit 13**). The Project Site is located within the FEMA – FIRM, Zone D, areas with possible but undetermined flood hazards (see **Exhibit 12**). No adverse effects during tsunami, flood, or storm wave events are anticipated. The proposed improvements involve no ground disturbance which significantly reduce possibly of erosion.

(7) Managing development

Objective: *Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

The proposed action will be reviewed through the ATF CUDA Departmental Permit process but does not involve any coastal resources, nor are coastal hazards anticipated to impact the proposed improvements.

(8) Public participation

Objective: *Stimulate public awareness, education, and participation in coastal management.*

The proposed action will be reviewed through the ATF CDUA Departmental Permit process. The Project involves collocated improvements to existing infrastructure at the LCT site, which supports emergency communications and broadband access for underserved communities. While the Project does not directly involve coastal resources, its review through the CDUA process ensures transparency and regulatory oversight. Continued operation of the facility contributes to public safety and connectivity, indirectly supporting public awareness and engagement in broader resource management efforts.

(9) Beach protection

Objective: *Protect beaches for public use and recreation.*

The Project Site is located inland away from the coast and not on a beach. Therefore, the proposed improvements will not impact any beaches for public use and recreation.

(10) Marine resources

Objective: *Promote the protection, use, and development of marine and coastal resources to assure their sustainability.*

The proposed action is not expected to have any adverse effect on marine or coastal resources. The Project Site is located inland from the coastline and is not subject to coastal processes. Additionally, no streams are located in the vicinity of the Project Site. All proposed improvements under this ATF CDUA are collocated and internal to existing infrastructure, and no ground disturbance is anticipated. The Project will be undertaken in a manner that minimizes environmental impacts and avoids sedimentation or runoff that could affect downstream coastal ecosystems.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

The Project will not cause substantial adverse impact to existing natural resources within the surrounding area, community, or region. The LCT facility is located within a previously developed portion of TMK (1) 8-7-006: 022 and was originally authorized under CDUP OA-2849. All existing infrastructure, including monopole antenna, equipment shelter, conduits, and utility connections, were constructed between 1999 and 2001 and occupy a small footprint within the parcel. The current ATF CDUA seeks to authorize retrofit improvements that are limited to internal wiring and equipment upgrades using existing conduit and

mounting systems. No ground disturbance, or expansion of the developed area is proposed, and all work will be confined to previously disturbed surfaces. Notably, the Project Site is adjacent to a 1.5 MG water tank operated by the BWS, which is a significantly larger and more visually prominent structure within the same parcel. In comparison, the proposed improvements to the LCT facility are minor, both in scale and impact, and do not introduce any new vertical or horizontal expansion.

The surrounding area consists of utility infrastructure and conservation lands, with no sensitive habitats identified within the immediate Project footprint. The facility is unoccupied, remotely operated, and does not require water or wastewater services, further minimizing its environmental footprint. The Project has been designed to avoid visual, ecological, and cultural impacts, and its continued use supports public safety and broadband access to underserved communities. As such, the proposed land use is not expected to result in any substantial adverse effects on natural resources or the broader Conservation District.

5. **Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.**

The proposed land use is compatible with the locality and surrounding areas and is appropriate to the physical conditions and capabilities of the subject parcel. The LCT facility is located within a previously developed utility site that also includes a 1.5 MG water tank operated by the BWS. The presence of this large-scale infrastructure demonstrates that the parcel is physically capable of supporting utility-related uses. The communication tower and associated equipment occupy a relatively small footprint and are situated on level, paved ground with existing access via a BWS service road. The surrounding area is characterized by rugged terrain and conservation lands, but the developed portion of the parcel has long been used for utility purposes and is not located within or adjacent to sensitive habitats or cultural sites.

The proposed retrofit improvements involve internal wiring and equipment upgrades within existing conduit and mounting systems, with no new structural development or expansion of the developed area. The facility is unoccupied and remotely operated, minimizing traffic, noise, and environmental disturbance. The Project supports public safety and broadband access for underserved communities in Leeward O’ahu, aligning with the broader public utility function of the site. Given the existing infrastructure, the limited scope of the improvements, and the essential public service function of the facility, the proposed land use is considered appropriate and compatible with both the physical characteristics of the parcel and the surrounding land uses.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

The proposed retrofit improvements at the LCT site are designed to preserve the natural beauty and open space characteristics of the surrounding area. The facility is located within a previously developed utility site that includes existing telecommunications infrastructure and a 1.5 MG water tank operated by the BWS. By collocating new broadband equipment within an established communications site, the Project avoids the need for new tower construction or expansion into undeveloped areas, thereby minimizing visual and environmental impacts. All proposed work is limited to internal wiring and equipment upgrades using existing conduit and mounting systems, with no ground disturbance or vegetation removal.

The Project Site is sparsely vegetated and consists primarily of paved surfaces and utility infrastructure. Due to the site being previously developed and disturbed from the installation of existing infrastructure, the likelihood of native or sensitive plant species being present within the immediate Project area is minimal, and no disturbance to vegetation is anticipated. The facility is unoccupied and remotely operated, and its continued use supports public safety and broadband access while maintaining the open space character of the Conservation District. The Project's limited scope and strategic location within an existing utility site ensure that the physical and environmental aspects of the land will be preserved.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

N/A. There will be no subdivision of land for the Project.

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

The LCT facility was originally authorized under CDUP OA-2849, which permitted the development of a PCS cell site, which included conditions requiring compliance with the Department of Health (DOH) regulations and measures to minimize adverse impacts to public health and safety. During the original permitting process, concerns were raised regarding potential health risks associated with long-term exposure to radio frequency (RF) emissions. However, the Applicant and agency staff clarified that the facility operates well within the safety standards established by the Federal Communications Commission (FCC), which are based on guidelines from the American National Standards Institute (ANSI) and National Council on Radiation Protection and Measurements (NCRP). These standards are supported by federal health agencies and are designed to ensure safe levels of human exposure to RF fields. The adjacent 1.5 MG BWS water tank, located within the same parcel, was not included in the scope of CDUP OA-2849 and is considered a separate utility infrastructure.

The current ATF CDUA proposes minor retrofit improvements to existing infrastructure, including internal wiring, equipment upgrades, and installation of appurtenant components such as conduit fittings and mounting hardware. These retrofit improvements consist of supplemental components and system modifications integrated into the existing infrastructure. There will be no ground disturbance or expansion of the developed area is proposed. The facility is unoccupied, remotely operated, and emits RF signals at very low power levels, comparable to or lower than those of standard household devices. Continued operation of the LCT facility enhances emergency communications and broadband access for underserved communities in Leeward O'ahu, directly supporting public safety and welfare. By maintaining compliance with federal safety standards and avoiding any physical or environmental disruption, the proposed land use remains consistent with the original permit conditions and poses no material detriment to public health and safety, or the surrounding community.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiian and other ethnic groups.

Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

There are no known cultural, historical, or natural resources on the Project Site that are used for traditional and customary Native Hawaiian practices. The property itself is not known to support such practices either on-site or in the immediate surrounding area. The developed portions of the parcel, including the LCT facility, is fenced and secured, and has been previously cleared, leveled, and paved to accommodate utility infrastructure, including the adjacent 1.5 MG water tank operated by the BWS.

As noted in the original CDUP OA-2849, SHPD reviewed the site and determined that there are no historic sites within the area. The parcel had already been disturbed during the construction of the BWS water tank, and SHPD concluded that it is highly unlikely that any historic or cultural resources remain due to past ground disturbance. No archeological or geological features of significance were identified. Given the previously developed nature of the Project Site, the limited scope of the proposed improvements, and the absence of any known traditional or customary practices, the proposed land use is not expected to impact Native Hawaiian rights or cultural resources.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

Because there are no known cultural, historical, or natural resources on the Project Site that are used for traditional and customary Native Hawaiian practices, the continued use of the LCT site and the proposed retrofit improvements will not impact such resources or practices. The Project involves collocating new broadband equipment within an established communications site that has been previously developed and disturbed. The entire facility is fenced and secured, and all proposed work is limited to internal wiring and equipment upgrades using existing conduit and mounting systems, with no ground disturbance or expansion of the developed area.

What feasible action, if any, could be taken by the Board of Land and Natural Resources regarding your application to reasonably protect Native Hawai'i rights?

Should there be concerns regarding the location of the proposed work for the Project, it could be relocated to another portion of the property. However, because there are no known cultural, historical, or natural resources on the property which are used for traditional and customary Native Hawaiian practices, the continued siting of the LCT facility improvements on the property will not impact such resources or practices. Therefore, no action is required by the BLNR to

protect such rights and resources as applied to this ATF CDUA. In the event that historic resources are identified, the Applicant will cease work in the immediate area of the find, protect the find from disturbance, and immediately contact SHPD.

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

The Project Site is located approximately 0.33 miles inland and is outside the SMA; therefore, the Project will not impact the Shoreline. The Mā'ili Pillbox hiking trail originates at the base of Pu'u'ohulukai ridge along Kaukama Road, west of the Project Site, but terminates approximately 0.50 miles east of the Project Site. There are no other public trails in the nearby area of the Project, and the entire Project Site is enclosed by a 6-foot-high chain link fence.

Does the proposed use have an effect (positive/negative) on beach processes?

The proposed use does not have any adverse effect on beach process but may have a positive effect in terms of providing enhanced telecommunications services to the area, including emergency communications. The Project Site is located approximately 0.33 miles inland from the shoreline and lies outside the SMA.

Will the proposed use cause increased sedimentation?

The proposed use will not cause increased sedimentation. All physical improvements associated with the Project have already been completed and are confined to existing infrastructure. No ground disturbance is proposed under this ATF CDUA.

Will the proposed use cause any visual impact on any individual or community?

The Project will be visible from the access road fronting the Project Site, but is not prominently visible from major public vantage points due to its mauka location and the surrounding terrain. The facility is situated within a previously developed utility site that includes a 1.5 MG water tank operated by the BWS, which is a significantly larger and more visually prominent structure. The LCT facility occupies a small footprint, further limiting its visibility. All retrofit improvements are internal and confined to existing infrastructure, with no new vertical or horizontal expansion. As such, the Project is not expected to cause adverse visual impact on individuals or the surrounding community.

Please describe any sustainable design elements that will be incorporated into the proposed land use (e.g. the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; etc.).

The proposed use incorporates sustainable design elements that reduce energy consumption and environmental impact. Specifically, the use of existing prefabricated equipment shelters and outdoor-mounted cabinets for telecommunications equipment minimize the need for additional climate control systems. This design reduces reliance on air conditioning units that would otherwise be required for enclosed indoor equipment, thereby lowering overall power usage.

Additionally, the Project utilizes existing conduit infrastructure and mounting systems, avoiding any new structural development or ground disturbance. This approach preserves the natural landscape and minimizes material waste. The facility is unoccupied and remotely monitored, which further reduces energy demand and eliminates the need for water, wastewater, or waste management systems. These design choices reflect commitment to sustainability and resource use within the Conservation District.

If the project involves landscaping, please describe how the landscaping is appropriate to the Conservation District (*e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; etc.*)

N/A. The Project does not involve landscaping.

Please describe Best Management Practices that will be used during construction and implementation of the proposed land use.

The proposed work under this ATF CDUA does not involve any new structural development or ground disturbance. All activities are limited to retrofit improvements and appurtenant upgrades to existing infrastructure, such as internal wiring, equipment enhancements, and installation of supplemental components. All work will be confined to previously developed areas and utilize existing infrastructure, avoiding ground disturbance, grading, or vegetation removal. The Applicant will ensure that waste and debris generated during equipment installation or maintenance will be properly collected and disposed.

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

As discussed above, the continued use of the LCT facility will not result in any adverse environmental or cultural impacts. There are no known cultural resources or traditional Native Hawaiian practices associated with the Project Site, which has been previously disturbed and developed to accommodate utility infrastructure.

The Project utilizes a small, previously developed area within the LCT site. All Project elements are above grade and confined to existing infrastructure. No ground disturbance is proposed under this AFT CDUA. The retrofit improvements are limited to internal wiring, equipment upgrades, and installation of appurtenant components. No new structural development or expansion of the developed area is planned. These measures ensure that the Project remains consistent with the goals of the Conservation District and responsibly mitigates any potential environmental or cultural impacts.

CHAPTER 205A – COASTAL ZONE MANAGEMENT

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawai'i Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.
- **Historic resources:** Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
- **Scenic and open space resources:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
- **Coastal ecosystems:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
- **Economic uses:** Provide public or private facilities and improvements important to the State's economy in suitable locations.
- **Coastal hazards:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
- **Managing development:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- **Public participation:** Stimulate public awareness, education, and participation in coastal management.
- **Beach protection:** Protect beaches for public use and recreation.
- **Marine resources:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued based on such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.

Isaiah T. K. Sato

3/19/26

Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize Isaiah Sato to act as my representative and to bind me in all matters concerning this application.

[Handwritten Signature]

3/12/26

Signature of applicant(s)

EXHIBIT 1

CDUP OA-2849



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P.O. BOX 621
HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

JUN 25 1997

REF:PB:LT

File No.: OA-2849

Mr. Keith Kurahashi
Kusao & Kurahashi, Inc.
210 Ward Avenue, Suite 124
Honolulu, Hawaii 96814

Dear Mr. Kurahashi:

**Subject: Conservation District Use Permit OA-2845 for the
Construction of a Personal Communications System (PCS)
Cell Site at Nanakuli, Oahu; TMK: 8-7-06: por. 22**

We are pleased to inform you that the Board approved Pocket Communications, Inc.'s application for the construction of a digital wireless antenna facility on June 13, 1997, subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules and regulations of the Federal, State and County governments, and applicable parts of Chapter 13-5, HAR;
2. The applicant, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
3. The applicant shall comply with all applicable Department of Health administrative rules;
4. Before proceeding with any work authorized by the Board, the applicant shall submit four (4) copies of the construction plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth

in the permit application. Three (3) copies of the plans will be returned to the applicant. Plan approval by the Department does not infer approvals required of other agencies. Compliance with Condition 1 remains the responsibility of the applicant;

5. Any work or construction to be done on the land shall be initiated within one (1) year of the approval of such use, and unless otherwise authorized, shall be completed within three (3) years of the approval of such use;
6. The applicant shall notify the Department in writing when construction has been initiated and when construction has been completed;
7. That all construction materials and debris shall be cleaned up and deposited at a landfill;
8. That the applicant shall take measures to minimize the visual impacts of the proposed project by painting the equipment cabinet and antenna with a color that will best blend with the existing environment;
9. That the applicant submit as part of their application, a Master Plan showing all existing antenna sites and facilities and areas of coverage from the sites;
10. That the applicant will accommodate, where possible, other commercial/government users to co-locate at the site, provided that plan approval is obtained from this Department prior to actual construction;
11. In issuing the permit, the Department and Board have relied on the information and data which the applicant has provided in connection with the permit application. If, subsequent to the issuance of the permit, such information and data prove to be false, incomplete, or inaccurate, the permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;
12. That all representations relative to mitigation set forth in the accepted application for this proposed use are hereby incorporated as conditions of this approval;
13. That failure to comply with any of these conditions shall render this permit null and void; and
14. Other terms and conditions as prescribed by the Chairperson.

Please acknowledge receipt of this permit with the above noted conditions, in the space provided below. Please sign two copies, retain one and return the other within thirty (30) days.

If you have questions on any of these conditions, please call Lauren Tanaka at 587-0385.

Aloha,

/S/ GILBERT S. COLOMA-AGARAN

MICHAEL D. WILSON

Receipt acknowledged:

Applicant's Signature

Date _____

cc: Oahu Board Members
Oahu District Land Office
City and County of Honolulu - DLU

bcc: DOCARE/DOFAW/HPD/SP

COULS
AS

STATE OF HAWAII
Department of Land and Natural Resources
Land Division
Honolulu, Hawaii

File No.: OA-2849
180-Day Exp. Date: 6/18/97

June 13, 1997

Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

REGARDING: Conservation District Use Permit Application for
the Construction of a Personal Communications
System (PCS) Cell Site at Nanakuli, Oahu

APPLICANT: Pocket Communications, Inc.
2550 M Street, NW, Suite 200
Washington, DC 20037

AGENT: Keith Kurahashi
Kusao & Kurahashi, Inc.
210 Ward Avenue, Suite 124
Honolulu, Hawaii 96814

LANDOWNER: Raymond H. Sato, Manager and Chief Engineer
Board of Water Supply
630 S. Beretania Street
Honolulu, Hawaii 96843

LOCATION/ Nanakuli, Oahu
TMK: 8-7-06: por. 22

AREA OF PARCEL/ 3.353 acres
USE: 755 square feet

SUBZONE: General

DESCRIPTION OF AREA/CURRENT USE:

Located in the Waianae district, the project site is slightly northwest of Farrington Highway. An existing 1.5 million gallon (MG) water reservoir was built by the Board of Water Supply (BWS) on a portion of the property that was cleared, leveled, and paved. Access to the water tank is by way of an existing BWS road located approximately 1,500 feet from the proposed site connecting it to Hakimo Road. The remainder of the parcel is steeply sloped with cliffs up to 50 feet in height (Exhibits 1, 2, 3 & 4).

Electricity and telephone services are available on the site and arrangements will be made for connections with Hawaiian Electric Company and Hawaiian Telephone Company. Water and sewage services are not required for the proposed project.

At the lower elevations, given the climate and type of soil, the vegetation is of kiawe, pili grass, Japanese tea, and haole koa. Lantana, guava, Natal redtop, and molasses grass can be found at its higher elevations. There are no known rare, threatened, or endangered plant or animal life existing in the area.

There are no known archaeological or geological features of significant value associated with the site.

The proposed site is located in the General subzone (Exhibit 5).

PROPOSED USE:

The PCS cell site facility will be located south of the existing reservoir and near the center of the parcel. A 25 foot high wooden monopole, two (2) omni directional antennae, cylindrical in shape, two (2) Base Transceiver Station (BTS) cabinets, and a utility backboard for support of the cables will be installed. The equipment will be placed on an existing concrete foundation pad that is 15 feet by 23 feet and a 6 foot high chain link fence with a 3 foot wide locked personnel gate surrounding the facility. The approximate height of the antennae and monopole combined will be 30 feet, 6 inches from existing grade (Exhibit 6).

The two (2) antennae, each measuring 5 feet 6 inches high will be placed 9 feet apart and at a distance of 180 feet from the closest property line which is located to the east. The two (2) BTS cabinets will be 4 feet west of the monopole and mounted to an existing concrete platform that measures 10 feet by 6 feet by 8 inches. The cabinet dimensions are 4 feet 3 inches by 2 feet 4 inches by 5 feet 9 inches, and the utility backboard is 4 feet 6 inches by 5 feet by 2 feet.

SUMMARY OF COMMENTS:

The application was referred to the State Department of Business, Economic Development and Tourism, Office of Hawaiian Affairs, Office of Planning, and the Department of Land and Natural Resources' Divisions of Conservation and Resources Enforcement, Forestry and Wildlife, Historic Preservation, State Parks, and the Oahu District Land Office. The City and County of Honolulu's Department of Land Utilization was also asked for comments on the application.

Substantive comments received are summarized below:

Department of Land and Natural Resources

Historic Preservation Division

A review of our records shows that there are no known historic sites at the project location. This parcel has been previously cleared for the existing BWS reservoir. It is highly unlikely historic sites remain due to past disturbances.

Division of Forestry and Wildlife

We have no problems with the installation as drawn. If lighting is installed, it will attract the Wedge-tailed shearwaters. It should be aimed to the ground and shaded.

City and County of Honolulu

Department of Land Utilization

The project is not located within the Special Management Area. A visual assessment of the project site with the proposed facility superimposed to scale, such as photographs from vantage points should be included. Concerns over the cumulative visual impacts of the massing of antennae should be addressed should the State advocate co-location of facilities.

PUBLIC HEARING SUMMARY:

On May 22, 1997, a public hearing was held before the Board of Land and Natural Resources in Honolulu, Hawaii.

Board Member William Kennison, conducted the hearing in the absence of the Chairperson and Board Member Chris Yuen. Staff presented information on the application. Keith Kurahashi, the Agent for Pocket Communications briefly described the development. Four people living in the Nanakuli area gave oral testimony. Three individuals were opposed to the project, the fourth person was Judith Kalin who was upset at not having been notified by the State about the public hearing.** (See NOTE:)

Questions from the Board and Nanakuli residents focused on the potential health risks associated with long term exposure to radio frequency (RF) emissions and contamination of the water. Other concerns expressed were that if the permit is approved and the PCS site developed, it would encourage the greater telecommunications industry to locate sites in the same vicinity resulting in a mass of antennae and equipment, becoming a visual eyesore.

There was discussion about the area of coverage each site can service, how sites are selected, pros and cons of co-location of facilities, the cumulative effects of radio frequency (RF)

emissions when multiple companies share the site, the various systems installed, and antenna farms.

According to the Agent, public exposure to radiation from the emissions associated with antenna sites is very low, often hundreds of times lower than levels permitted by federal safety standards, the area of coverage per site is dependent on the type of system installed, selection of sites are based on those areas which have an existing infrastructure as it is less cost prohibitive. Telephone and electrical services are necessary for the transmission and receiving of communications signals and sites owned and developed with BWS facilities are highly desirable. This is because the size of lots are larger, setbacks are greater, and their proximity from a residential community are farther.

Co-location, or the sharing of towers is less common than the sharing of sites. It is because cellular systems differ from digital wireless systems in terms of the amount of energy required for their operation. Also, taller poles would be needed to separate the signals and eliminate interference. The range of coverage for digital wireless systems is a radius of 2 to 5 miles. If you translate that figure to service the entire island, approximately 75 sites would have to be built, with each antenna able to handle between 40 to 50 calls.

****NOTE: The afternoon of May 22, 1997, I received a phone call from Judith Kalin. She was very angry about not being notified of the public hearing, claiming she lived nearby the water tank. She demanded an explanation as to why the State failed to give notice to those persons who may be affected by the proposed project.**

I explained that written notification of the public hearing was sent to those people who were on the same TMK map as the proposed site, in Zone 8, Section 7, Plat 06, with names and addresses extracted from the State of Hawaii Realty Directory, Real Estate Handbook, 30th edition, 1996. However, I did not include those property owners whose names and properties were designated on adjoining plats. When I told her I had overlooked the other plats, she was belligerent and said she would come to the hearing to register her complaint.

I decided I would speak with Chairperson Wilson before the hearing began to offer my apology for the omission and to forewarn him. Board Member William Kennison was acting Chairperson as both Michael Wilson and Chris Yuen were not able to be at the hearing.

When Mr. Kennison opened the public hearing, he explained the purpose of the public hearing was to provide both the applicant

and persons interested or affected, an opportunity to present testimony and express opinions about the proposed project. He emphasized that a decision on the application would not be made that evening, but at meeting of the Board on a later date. At that time, the public will have another opportunity to present testimony which the Board will take into consideration during the decision-making process. (Later during the hearing, I informed all those in attendance that the application was scheduled for the June 13, 1997 Board meeting).

Chapter 91, Chapter 183C, HRS, and Title 13, Chapter 5, HAR, do not require notification of a public hearing is to be provided to neighboring landowners/lessees, individuals and organizations.

Section 183C-4(e), HRS, and Section 13-5-40, HAR, requires notification of a public hearing by publication in a newspaper of the time, place, and purpose of the hearing. The provisions also include how often the notice is to be published, and the number of days before the date of the hearing the notice should be given.

The practice of sending letters and notices to landowners whose property may be impacted by a proposed project is for public information and relations. Staff individually set procedures for who is notified. Community organizations, individuals who are known to have an interest in a proposed project, and landowners have been informed of a hearing on a case by case basis. However, the Neighborhood Commission and Neighborhood Boards representing the area in which the project is proposed, are sent copies of notices soon after it is published in the newspaper. (As a result of this situation, the Planning Branch will collectively develop uniform procedures for notification of a public hearing.)

ANALYSIS:

Following review and acceptance of the application for processing, the applicant, by letter dated January 17, 1997, was notified that:

1. The proposed use is an identified land use within the General "G" subzone of the Conservation District, according to Section 13-5-22 P6 and 13-5-25(a), HAR;
2. No public hearing is required in accordance with Section 13-5-40 and 13-5-2, HAR, (since PCS cellular phone companies are designated as public utilities by the PUC); and****(See Note:)**
3. The proposed action may be considered exempt in accordance with Section 11-200-8(a)(3)(D), HAR.

(****Note: A new site for personal communications system will be established. In the interests of the public and community, the Chairperson determined that a public hearing should be held on the application.)**

Section 13-5-22, P-6 Public Purpose Uses (D-2), provides the following:

Transportation systems, transmission facilities for public utilities, water systems, energy generation facilities utilizing the renewable resources of the area (e.g. hydroelectric or wind farms) and communications systems and other such land uses which are undertaken by non-governmental entities which benefit the public and are consistent with the purpose of the conservation district.

The objective of the General subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature.

Section 13-5-30, HAR, relating to permits requires the proposed land use to be consistent with the objectives of the subzone of the land on which the use will occur.

ISSUES:

The long term physical impacts of radiation exposure from radio frequency emission and the proliferation of sites having a significant impact on the visual landscapes are the shared concerns.

To become familiar with the issues associated with the establishment of telecommunications sites, discussions with representatives of the industry and research performed, it is learned that the Federal Communications Commission (FCC), the agency responsible for licensing the communications industry, including wireless antenna facilities, requires compliance with established standards governing human exposure to RF fields. A uniform national standard was adopted based on the ANSI (American National Standards Institute) and the NCRP (National Council on Radiation Protection and Measurements) standards. Federal agencies charged with protecting the public's health have given support to these standards.

The FCC has also taken the position that no State or local government may regulate the placement, construction, and modification of personal wireless service facilities based on environmental effects of these emissions. Prolonged exposure at

or below the FCC standards is considered safe for human health.

Wireless antenna operate at very low power levels. A typical wireless antenna emits 100 watts of power or less, comparable to the power emitted by a standard lightbulb. The signals from TV and AM/FM radio stations are hundreds, sometimes thousands of times stronger than those from wireless antennae.

Community Input and Public Hearing Notification Procedures

Public hearing notices were sent to the Waianae Neighborhood Board and all landowners on TMK: 8-7-06. Discussions by telephone with the President and several members of the Waianae Neighborhood Board provided information about the extent of the community's knowledge of and concerns with the proposed antennae site.

A representative for Pocket Communications had been scheduled to make a presentation before the full Waianae Neighborhood Board (WNB) in January, no one showed up. They were rescheduled to speak to the Planning Committee sometime in February, and again, there was a no-show. At the public hearing, the acting Chairperson asked the Agent if he would make a presentation to the WNB before the June 13, 1997 meeting of the BLNR.

Arrangements were made with Glenn Kila, President of the WNB for Mr. Kurahashi to provide the details of the project, to answer questions and address concerns at the June 3, 1997 meeting. At the same time, Mr. Kila will make an announcement that the CDUP application for the antennae site will be presented before the Board of Land and Natural Resources regular scheduled meeting on June 13, 1997 and public testimony on the application will be taken with decision-making to follow.

Notification of the June 13, 1997 Board meeting is being sent to property owners on TMK: 8-7-06, 07, 17 and 22, Kamaki Kanahele, President of the Nanakuli Hawaiian Homestead Community Association, and Princess Kahanu Estates Association.

Potential Impacts

There is no conclusive evidence that RF emissions from cellular, digital wireless phone and paging systems have a detrimental effect on humans. The primary impact will be visual, although according to the Agent, there are several standard telephone and electrical poles in the vicinity. If the permit is approved, the applicant will be required to have the equipment of a color that matches the surrounding environment and blends in with the water tank so as not to be visually intrusive.

According to Keith Kurahashi and Anne Kusao of Kusao & Kurahashi, Inc., Pocket Communications is involved in Chapter 11 bankruptcy

proceedings. The company's financial status is uncertain, but as its Agents, an agreement was made to continue the process for obtaining permits for proposed projects.

Staff recommends the following:

RECOMMENDATION:

That the Board approve the application for the construction of a Personal Communications System (PCS) cell site on 755 square feet of 3.353 acres at Nanakuli, Oahu, subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules and regulations of the Federal, State and County governments, and applicable parts of Chapter 13-5, HAR;
2. The applicant, its successors and assigns, shall indemnify and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;
3. The applicant shall comply with all applicable Department of Health administrative rules;
4. Before proceeding with any work authorized by the Board, the applicant shall submit four (4) copies of the construction plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three (3) copies of the plans will be returned to the applicant. Plan approval by the Department does not infer approvals required of other agencies. Compliance with Condition 1 remains the responsibility of the applicant;
5. Any work or construction to be done on the land shall be initiated within one (1) year of the approval of such use, and unless otherwise authorized, shall be completed within three (3) years of the approval of such use;
6. The applicant shall notify the Department in writing when construction has been initiated and when construction has been completed;
7. That all construction materials and debris shall be cleaned

up and deposited at a landfill;

8. That the applicant shall take measures to minimize the visual impacts of the proposed project by painting the equipment cabinet and antenna with a color that will best blend with the existing environment;
9. That the applicant submit as part of their application, a Master Plan showing all existing antenna sites and facilities and areas of coverage from the sites;
10. That the applicant will accommodate, where feasible, other commercial/government users to co-locate at the site, provided that plan approval is obtained from this Department prior to actual construction;
11. In issuing the permit, the Department and Board have relied on the information and data which the applicant has provided in connection with the permit application. If, subsequent to the issuance of the permit, such information and data prove to be false, incomplete, or inaccurate, the permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;
12. That all representations relative to mitigation set forth in the accepted application for this proposed use are hereby incorporated as conditions of this approval;
13. That failure to comply with any of these conditions shall render this permit null and void; and
14. Other terms and conditions as prescribed by the Chairperson.

Respectfully submitted,

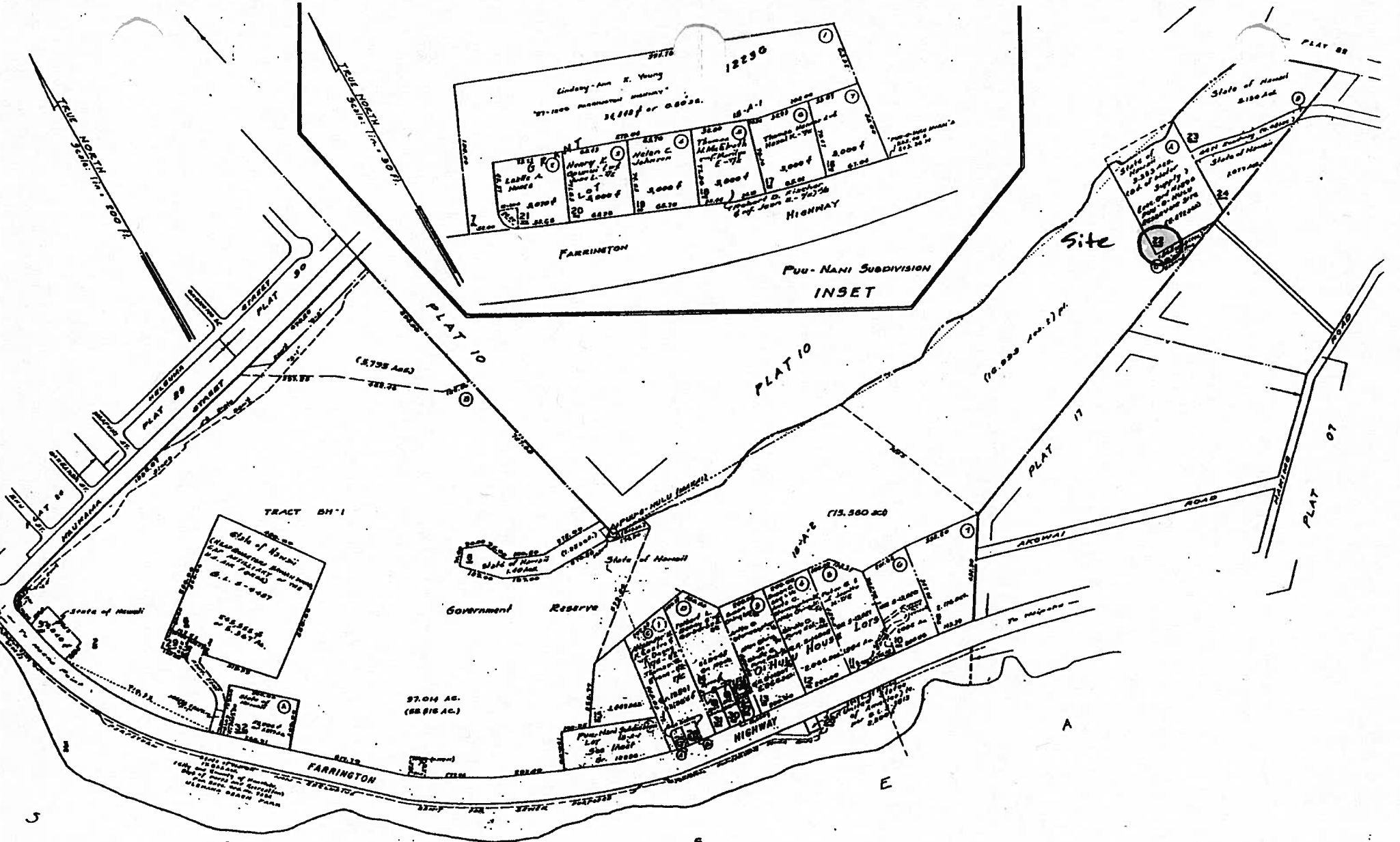
Lauren Tanaka

LAUREN TANAKA
Staff Planner

Attachment(s)

Approved for Submittal:

Michael D. Wilson
MICHAEL D. WILSON, Chairperson
BOARD OF LAND AND NATURAL RESOURCES



City & County of Honolulu
 Department of Planning
 1500 Ala Moana Blvd., Room 2000
 Honolulu, Hawaii 96813

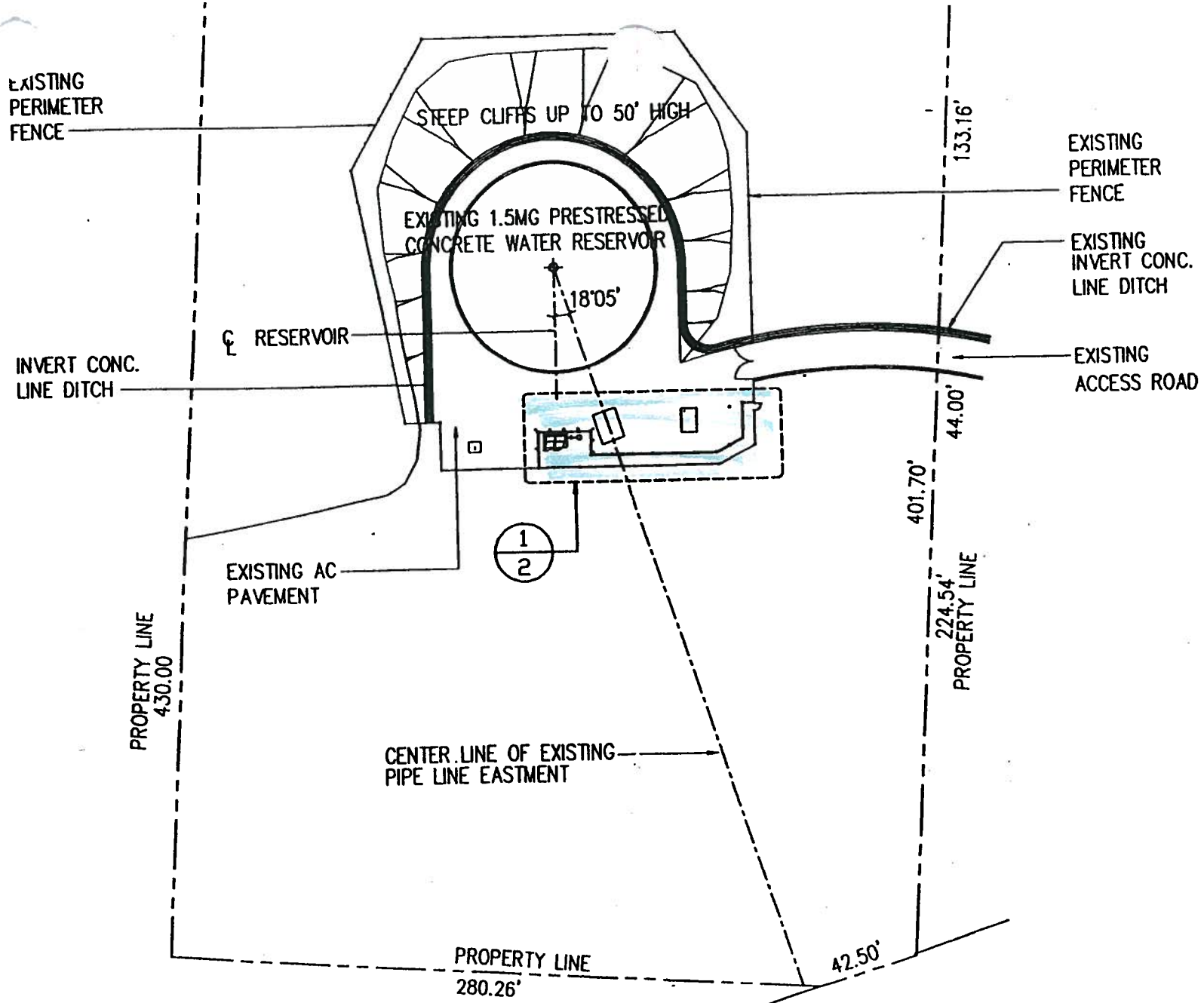
- 24 Kenneth C. Gillen
 2016
- 25 Kenneth J. Condon & Barbara M. Condon
 1000
- 26 Honolulu Golf Course
 1000
- 27 Dora S. Alonimo
 1000
- 28 Mary H. Shirong
 1000
- 29 Fred S. McArthur
 1000
- 30 Fred S. McArthur
 1000
- 31 Fred S. McArthur
 1000

Note: All lots owned by the State of Hawaii unless otherwise noted.

Parcel Shaded in

FIRST ZONE	DIVISION SEC.	PLAT
8	7	06

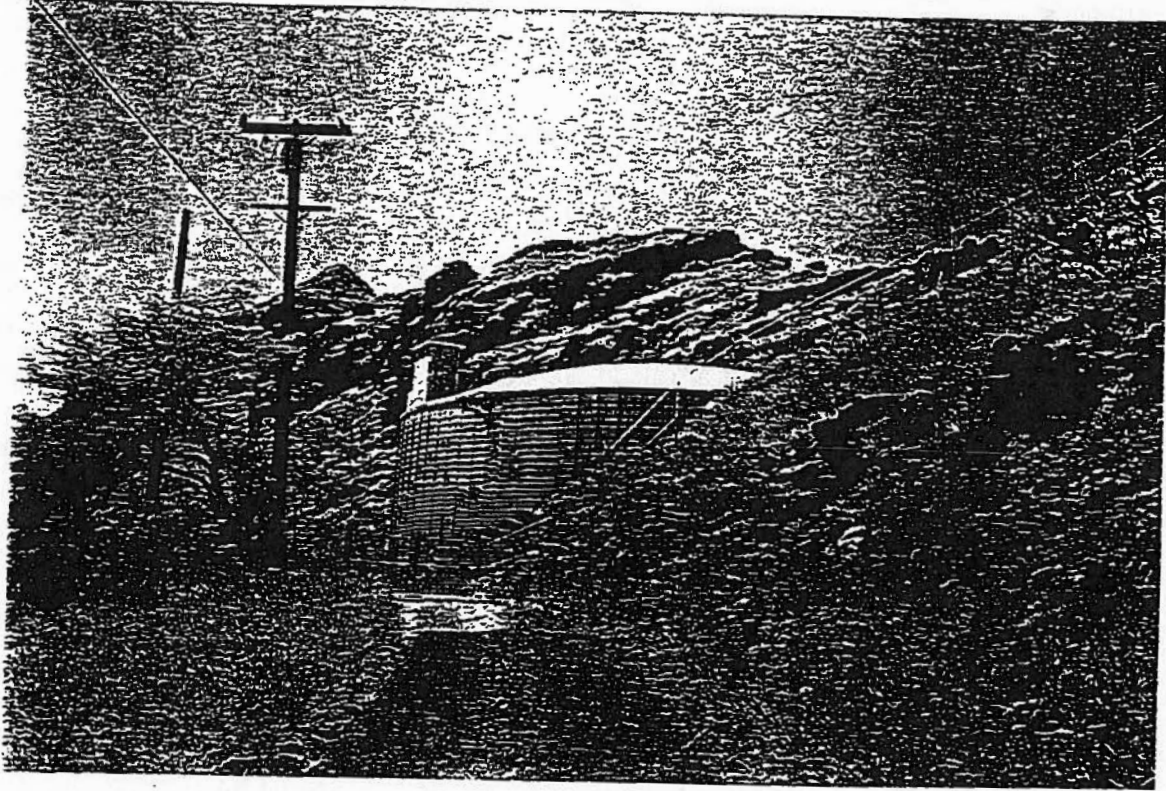
CONTAINING PARCEL
 SCALE 1" = 200 FT



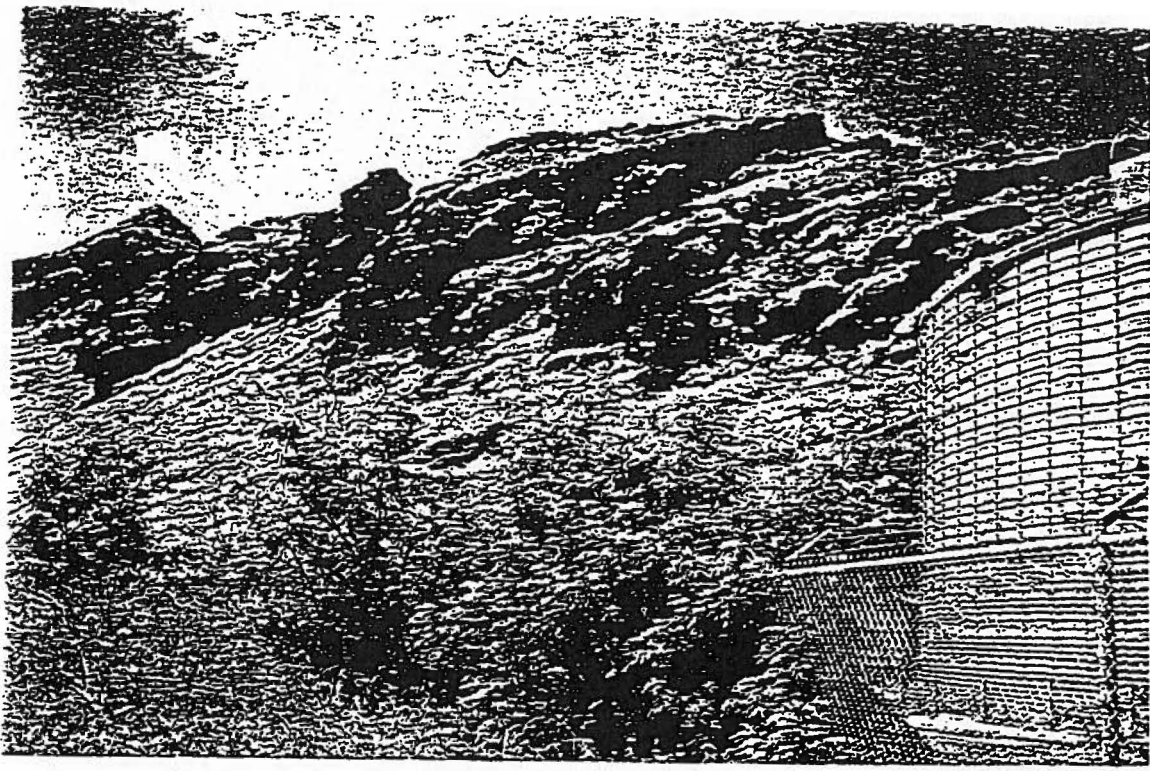
1
1

SITE PLAN
 SCALE 1" = 600'

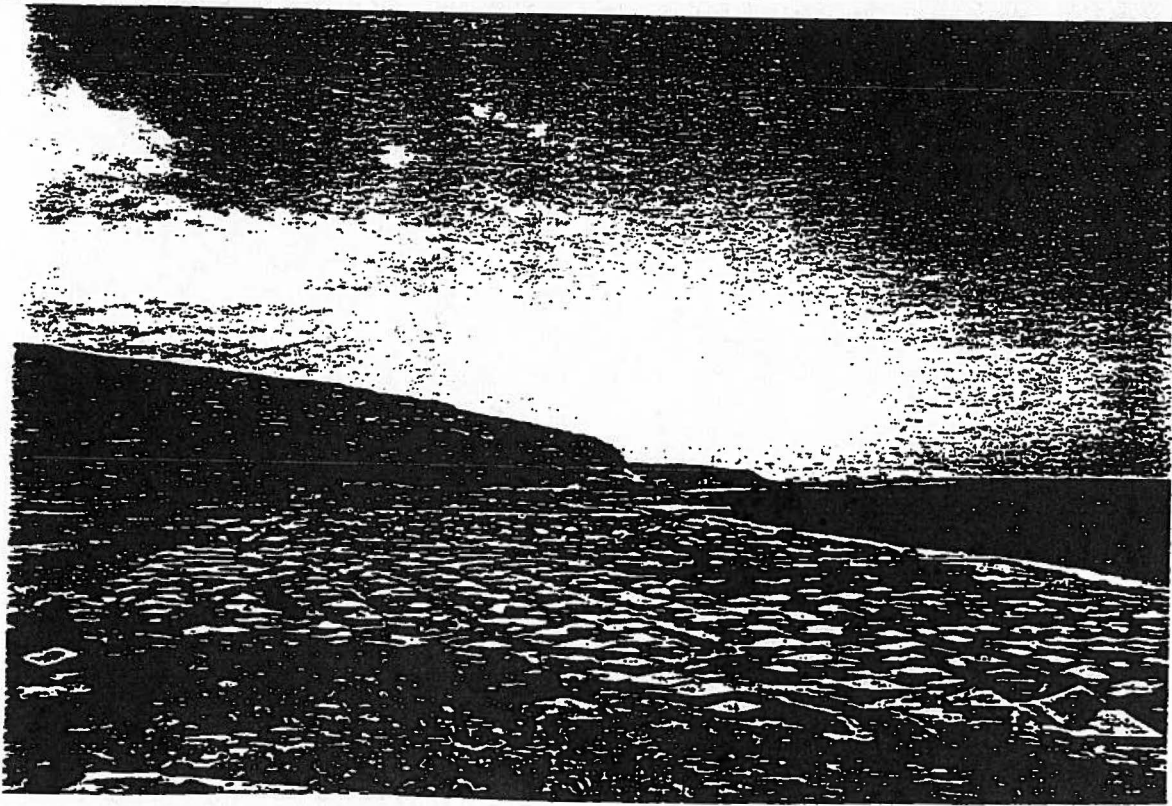




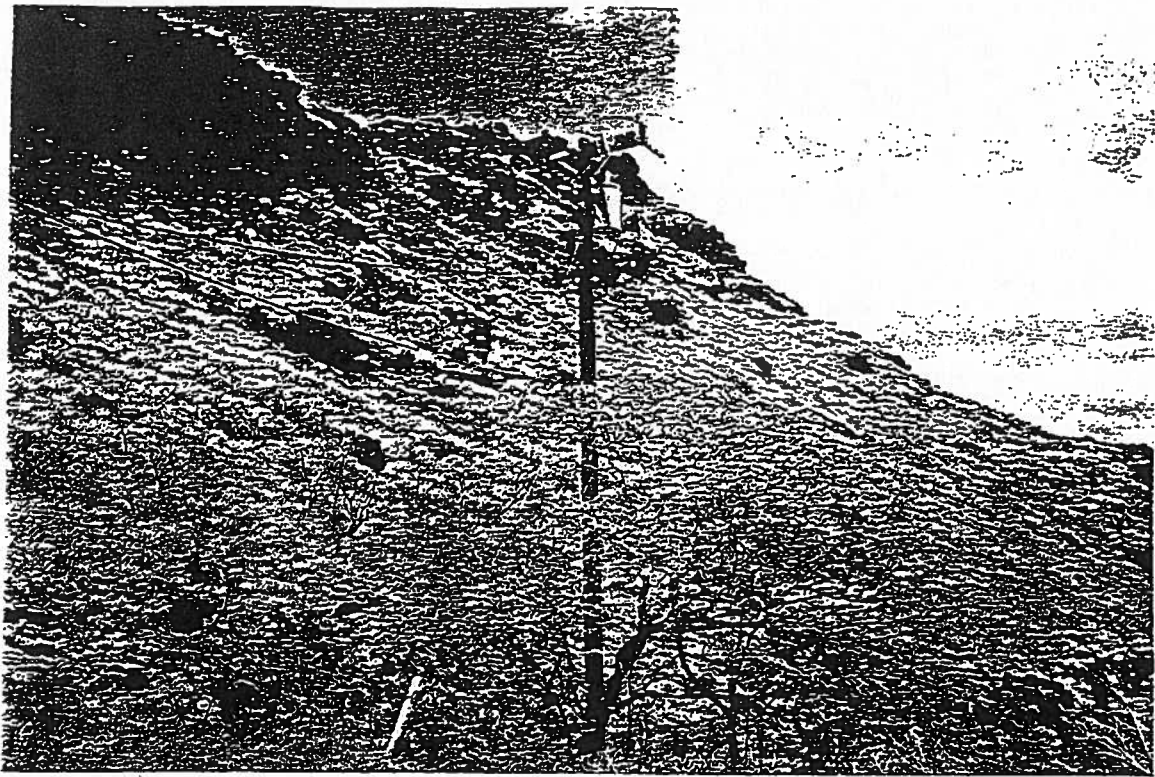
View of Proposed Site



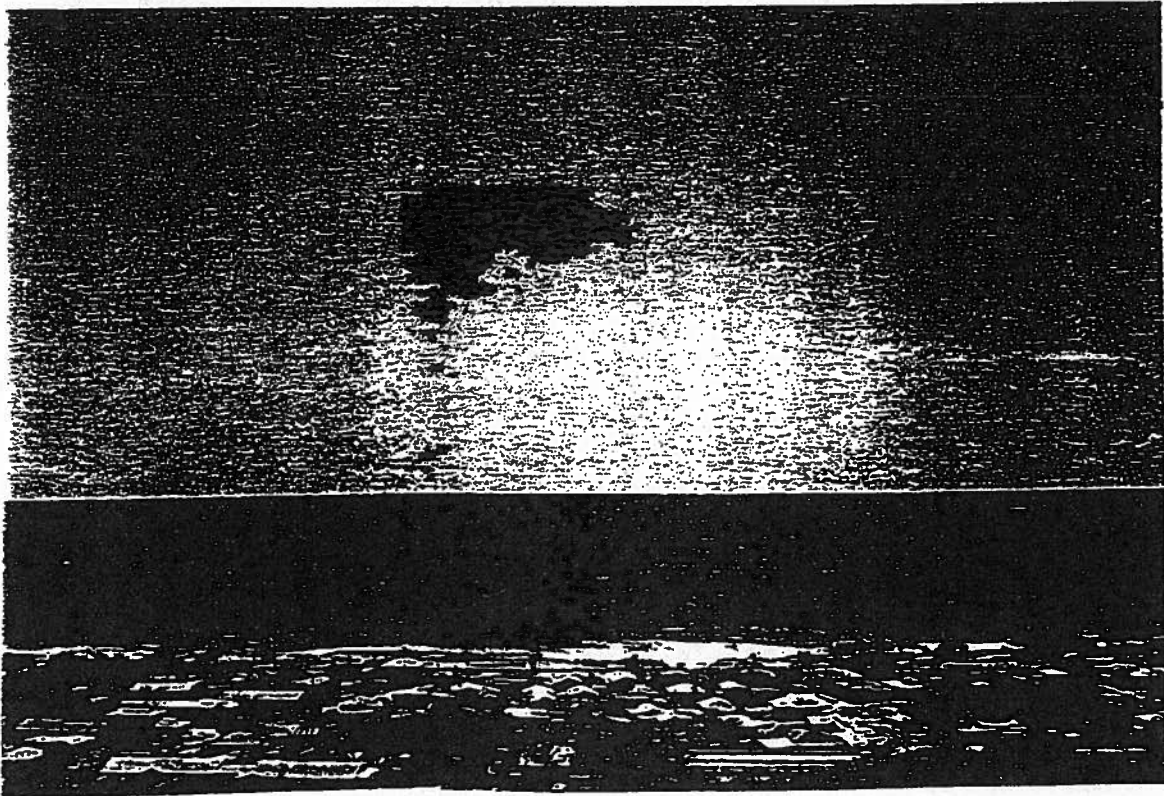
North View from Site



South View from Site



East View from Site



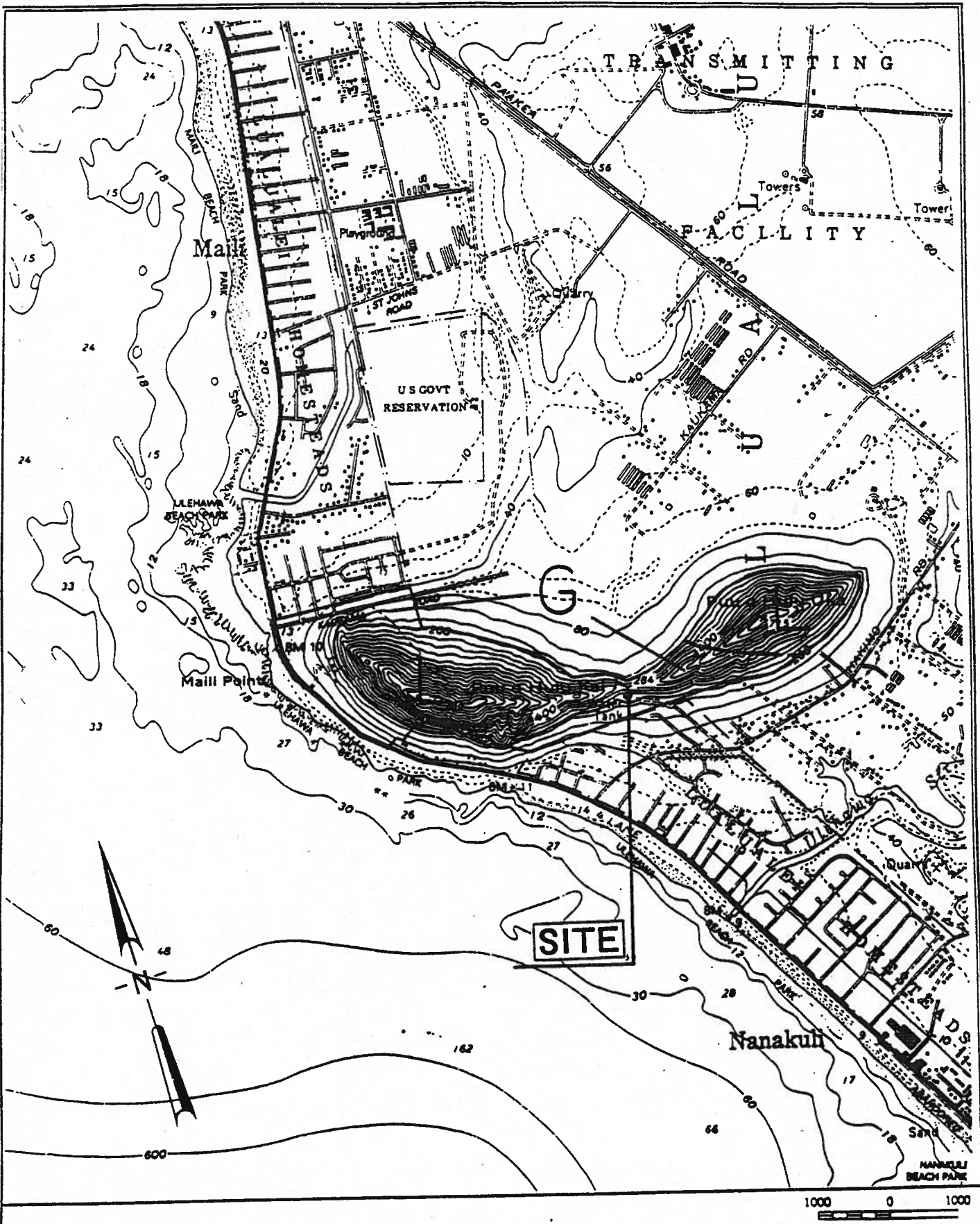
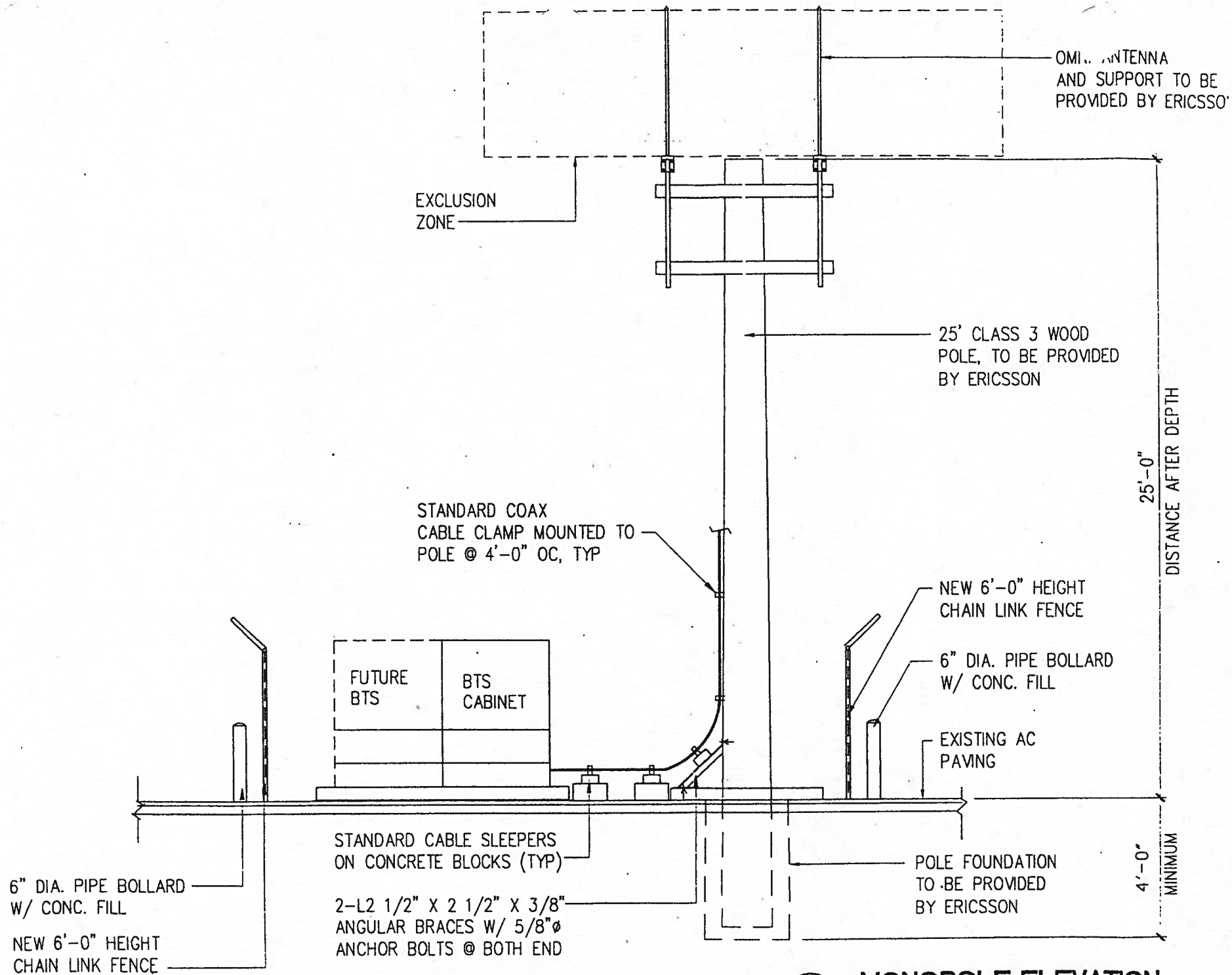


EXHIBIT 5

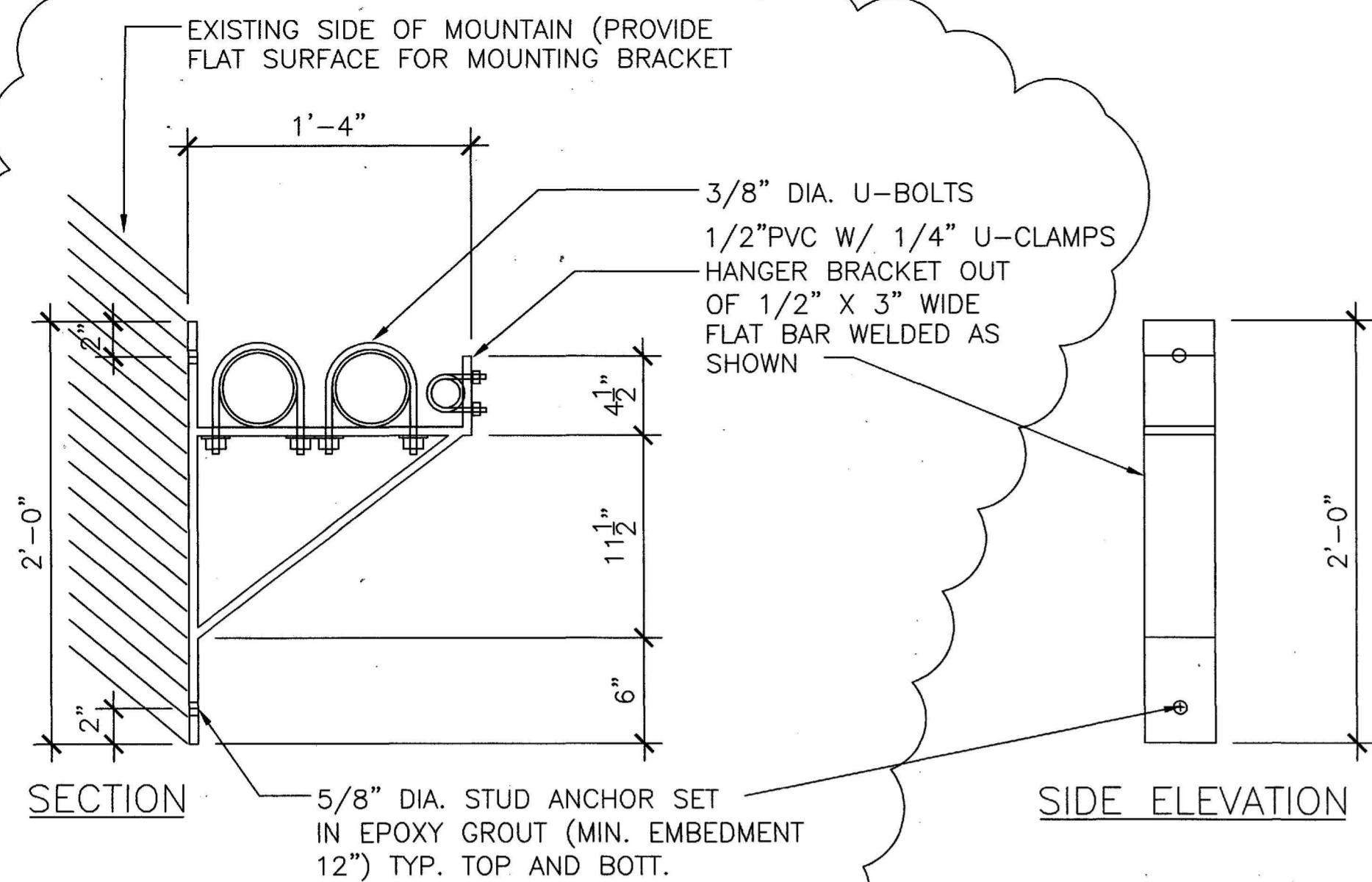


1 **MONOPOLE ELEVATION**
 4 SCALE 1/4" = 1'-0"

EXHIBIT 2

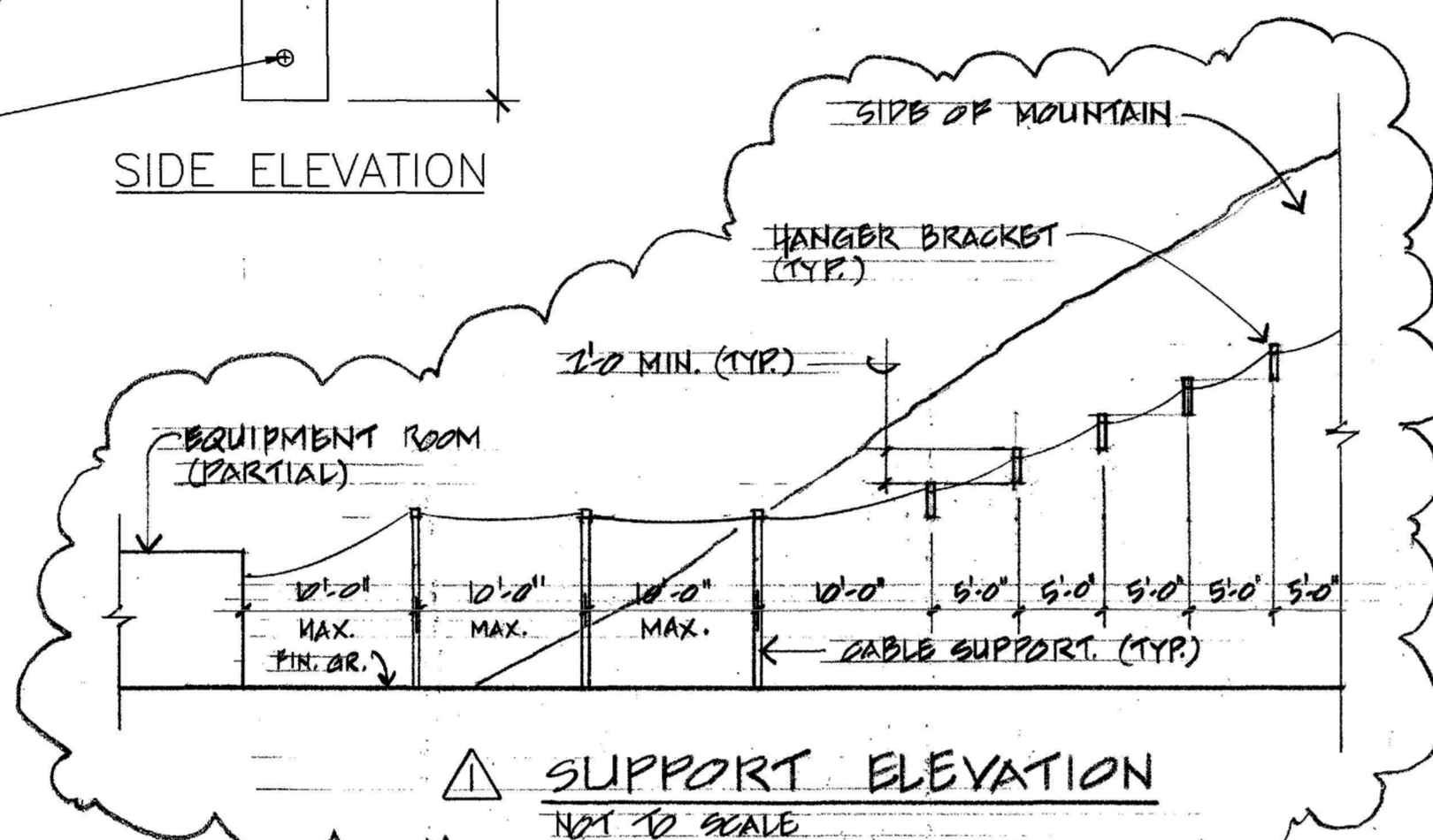
AS-BUILTS

NOTE: INSTALL BRACKETS AT 5'-0" APART

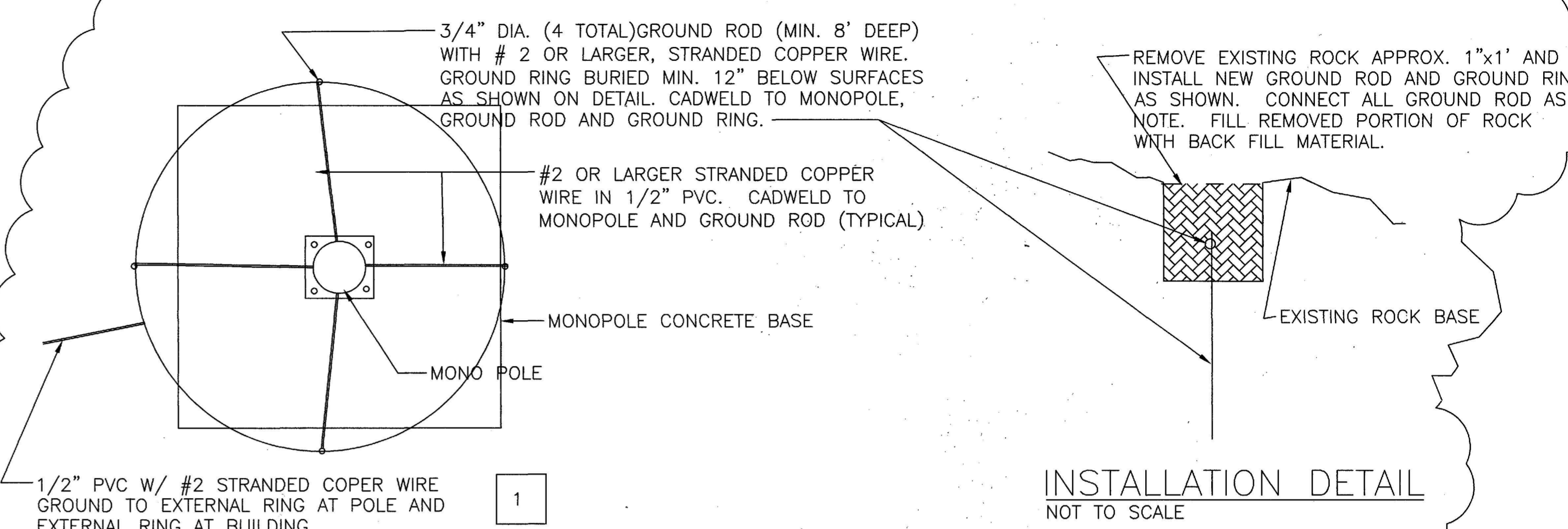


HANGER BRACKET DETAIL
SCALE: 1 1/2" = 1'-0"

SIDE ELEVATION

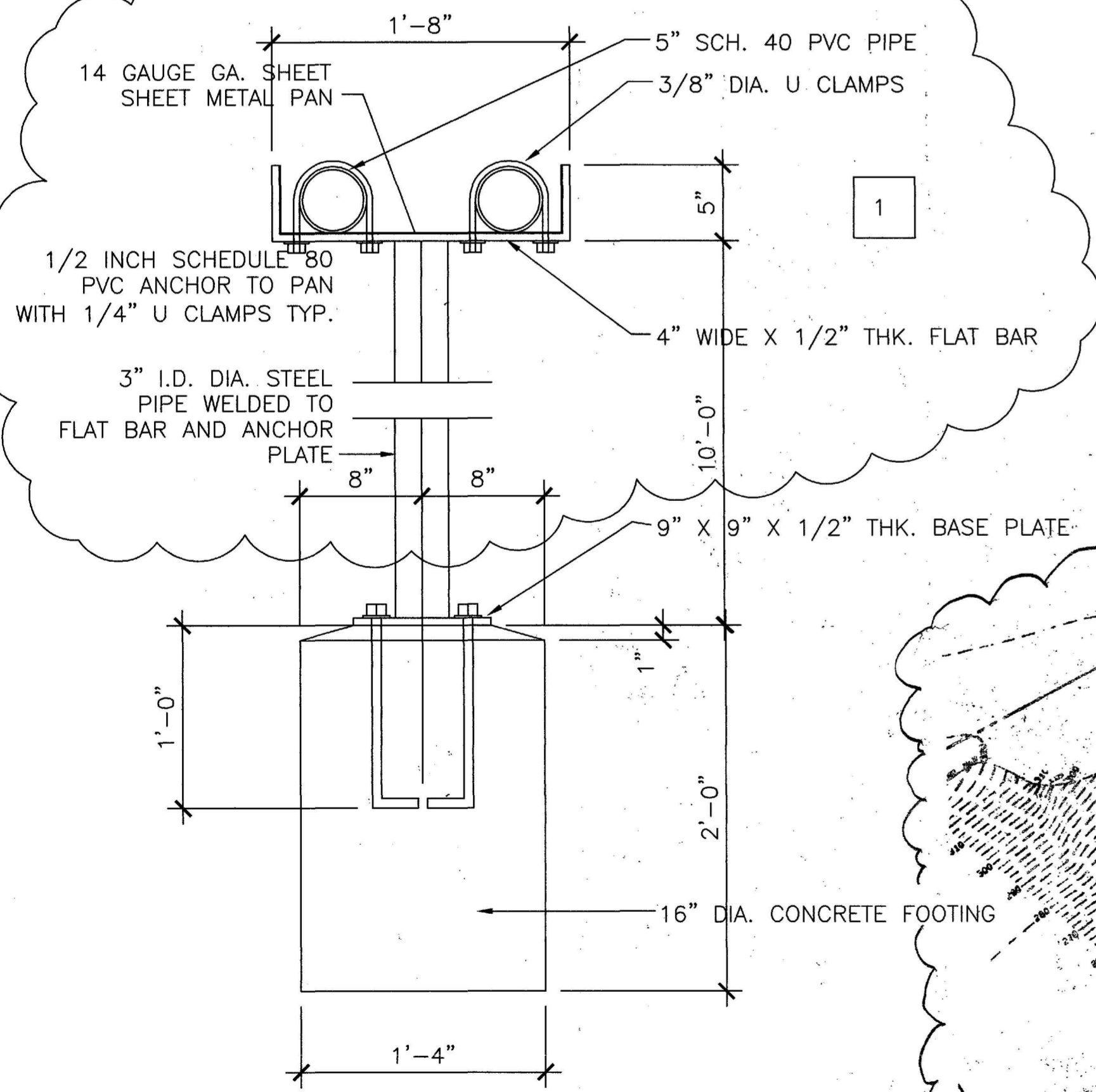


SUPPORT ELEVATION
NOT TO SCALE

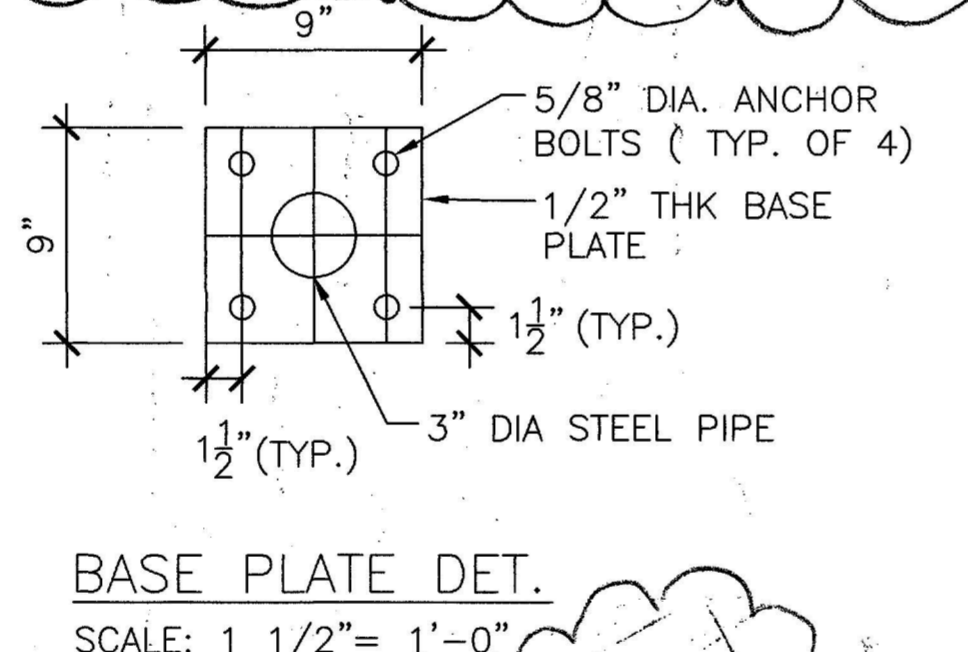


MONOPOLE GROUND ROD
SCALE: 1/4" = 1'-0"

INSTALLATION DETAIL
NOT TO SCALE



CABLE SUPPORT DETAIL
SCALE: 1 1/2" = 1'-0"



BASE PLATE DET.
SCALE: 1 1/2" = 1'-0"

NOTE:

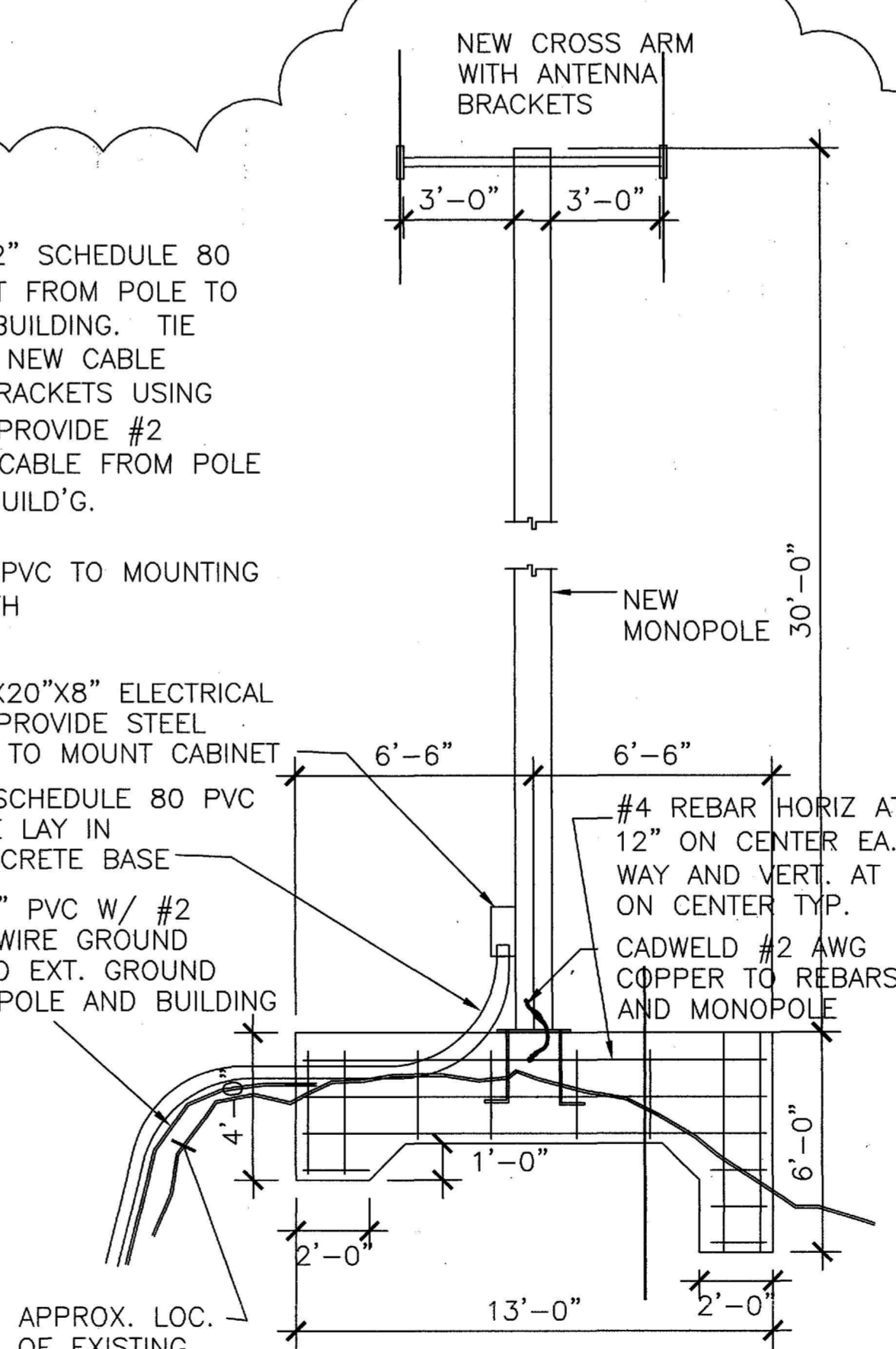
PROVIDE 1/2" SCHEDULE 80 PVC CONDUIT FROM POLE TO EQUIPMENT BUILDING. TIE CONDUIT TO NEW CABLE MOUNTING BRACKETS USING U-CLAMPS. PROVIDE #2 GROUNDING CABLE FROM POLE TO EQUIP. BUILD'G.

ANCHOR 5" PVC TO MOUNTING BRACKET WITH U-CLAMPS.

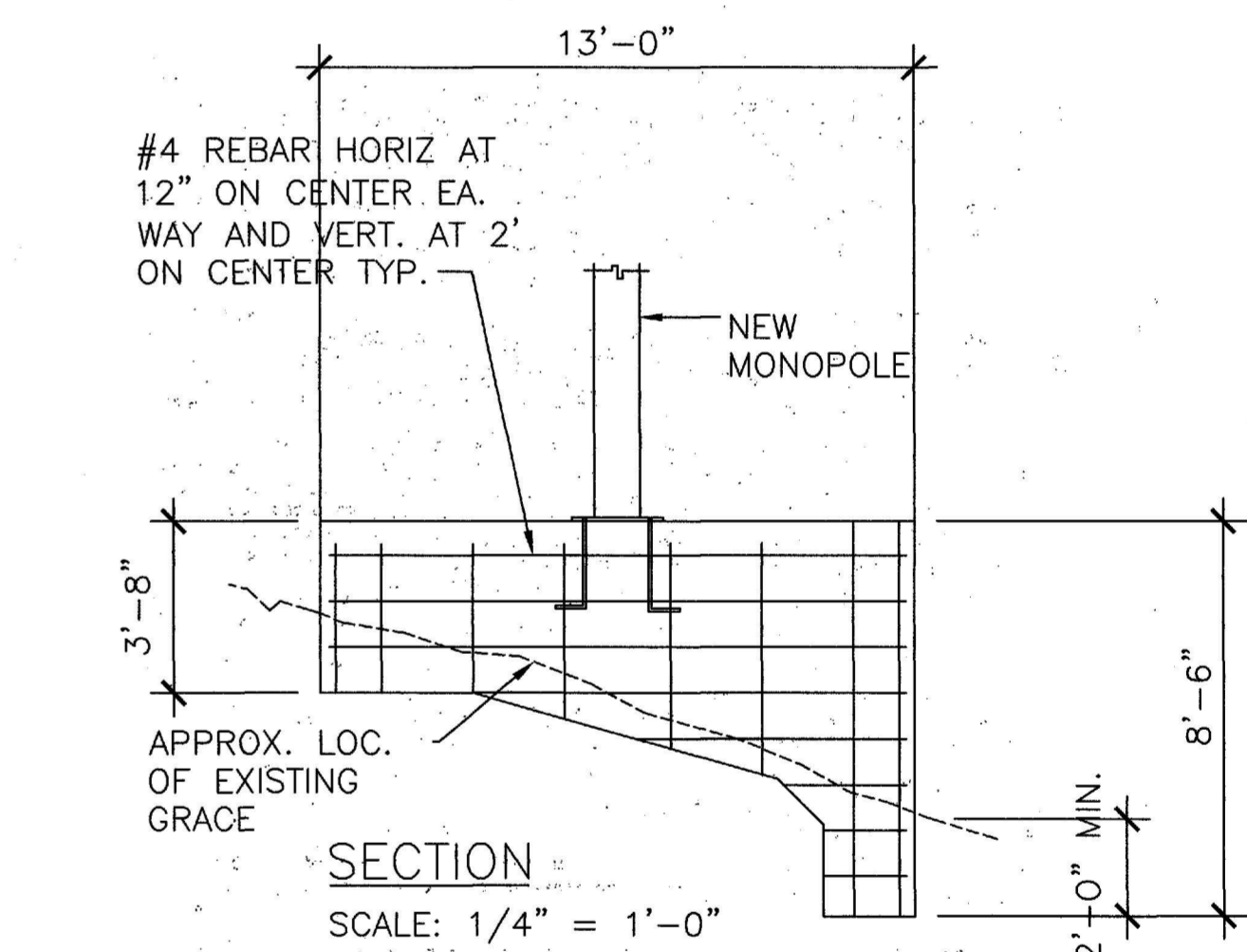
NEW 16"x20"x8" ELECTRICAL CABINET PROVIDE STEEL CHANNEL TO MOUNT CABINET

5" SCHEDULE 80 PVC PIPE LAY IN CONCRETE BASE

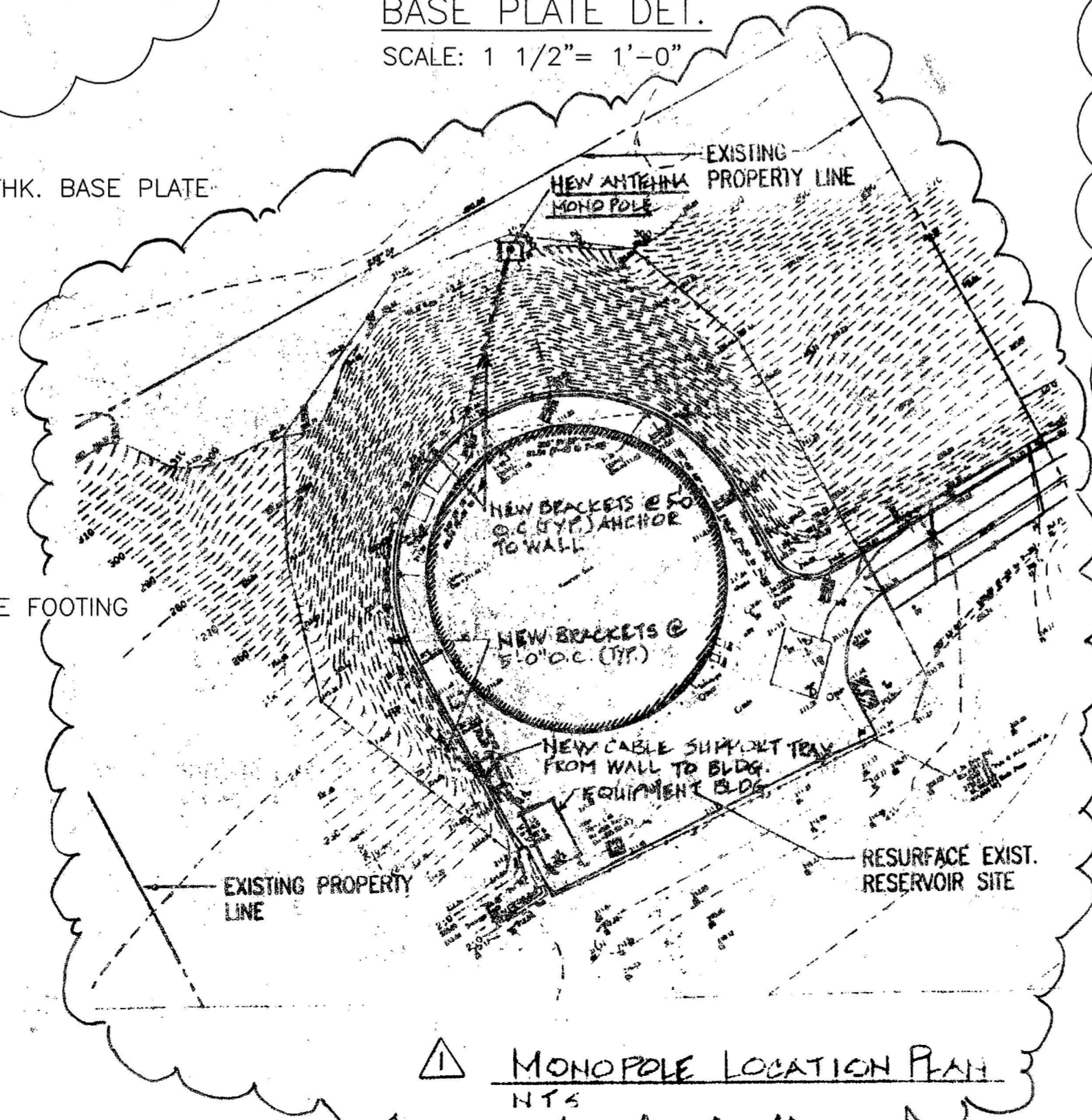
NEW 1/2" PVC W/ #2 COPPER WIRE GROUND MOUNT TO EXT. GROUND RING AT POLE AND BUILDING



MONOPOLE ANCHOR DETAIL
SCALE: 1/4" = 1'-0"



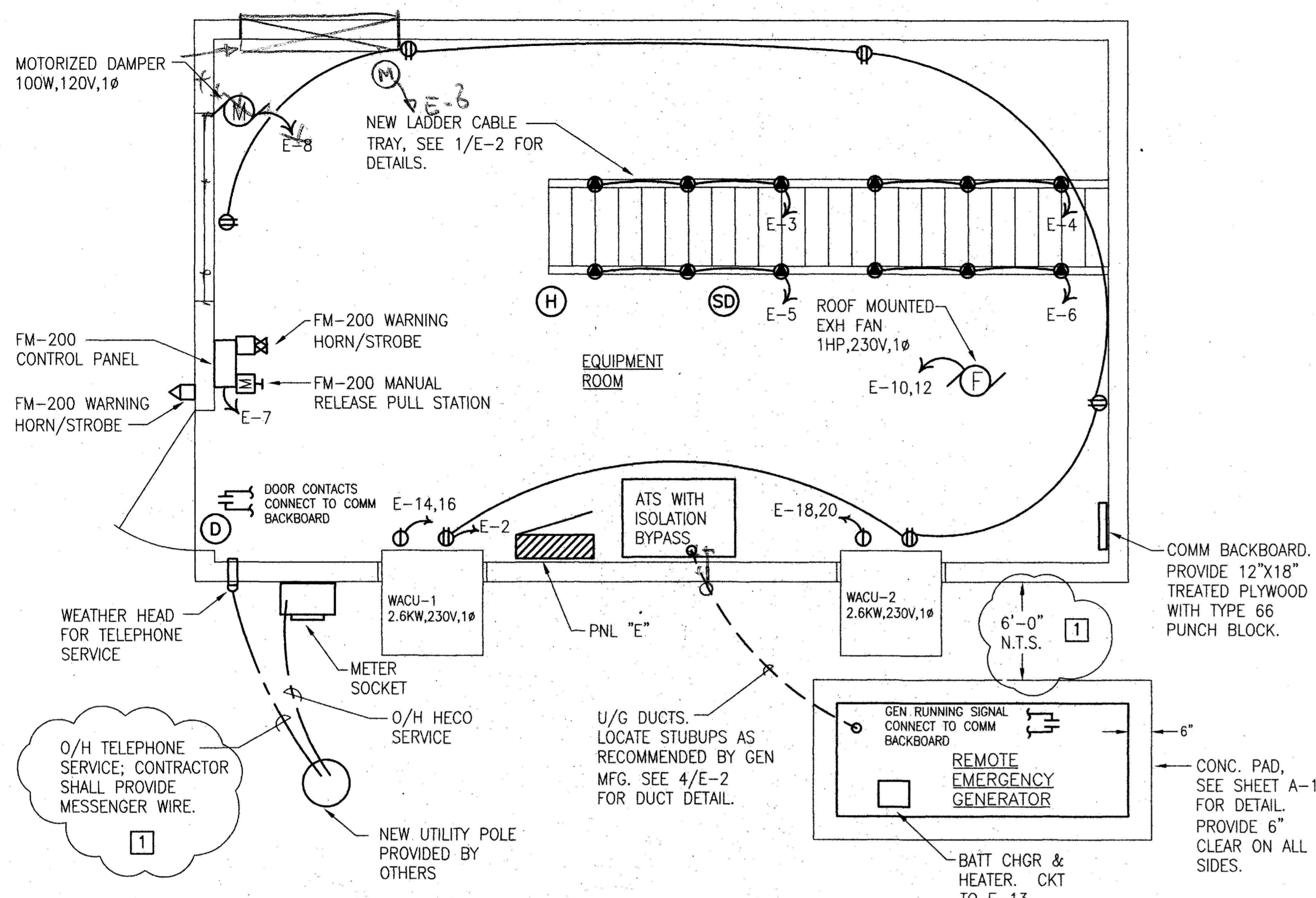
SECTION
SCALE: 1/4" = 1'-0"



MONOPOLE LOCATION PLAN
NOT TO SCALE

APPROVED BY: *Michael Lala* 11/12/99
CHIEF, PLANNING AND ENGINEERING #2
BOARD OF WATER SUPPLY

PROJECT NO. 1: LOCATION PLAN		20P3
1	12/9/98	ADDENDUM NO. 1: ADD GROUND RODS AND REVISE DETAILS AND NOTES
REVISION	DATE	DESCRIPTION
DEPARTMENT OF DESIGN & CONSTRUCTION		CITY & COUNTY OF HONOLULU
800 MHZ RADIO COVERAGE IMPROVEMENTS PHASE 1		LUALUALEI 242 RESERVOIR, WAIANA, HAWAII
DESIGN: PG		A-2/R-2
DRAWN: PG		SHEET 2
CHECKED: PG		OF 6 SHEETS
DATE: NOV. 98		
PROJECT NO. IV-31-99-C	FILE 10	DRAW 16 FOLDER 7



ELECTRICAL LEGEND

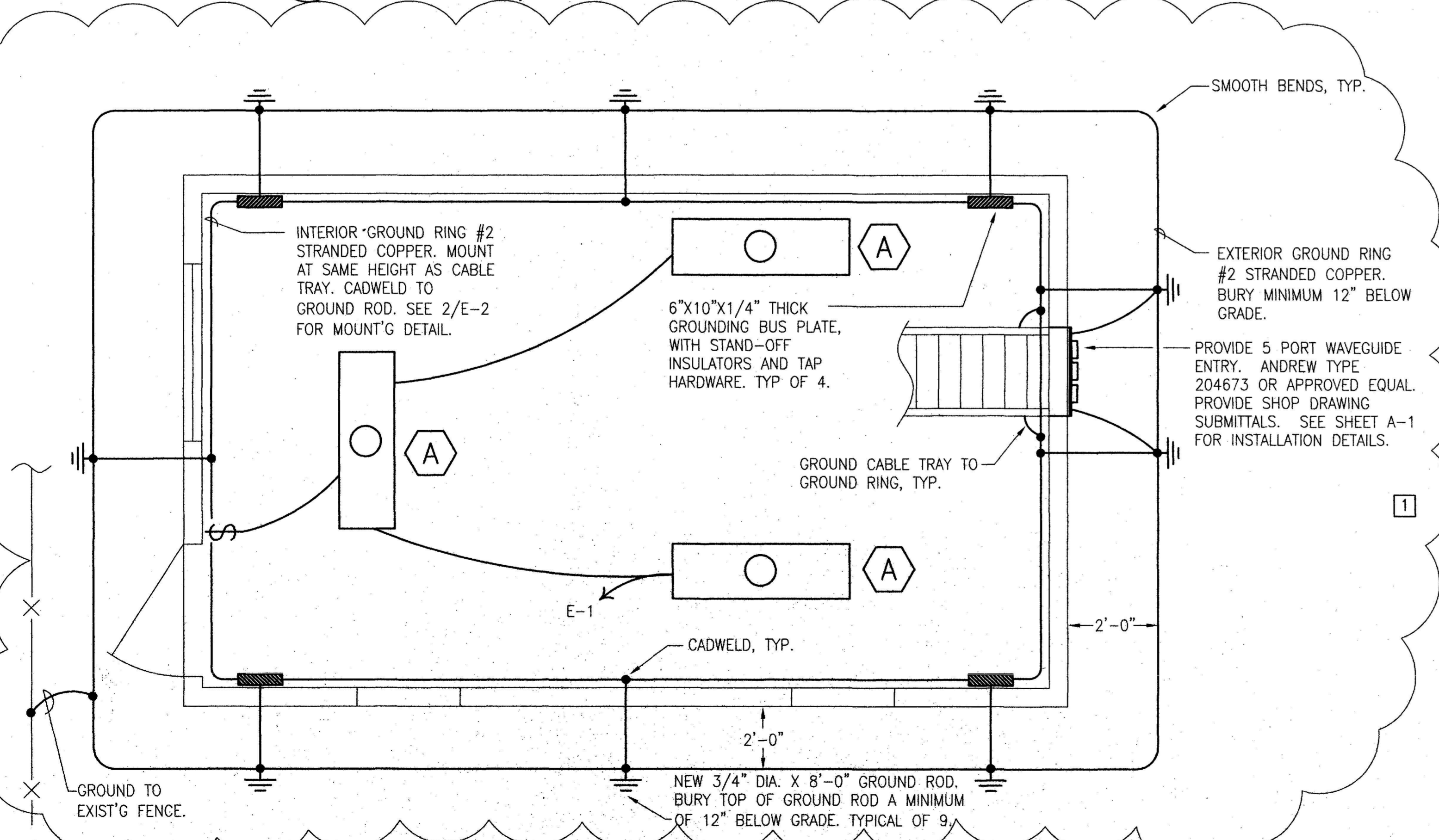
NEW	DESCRIPTION
	1'x4' SURFACE MTD FLUORESCENT FIXTURE.
	LIGHTING FIXTURE DESIGNATION, TYPE "A"
	SWITCH, SINGLE POLE, 20A, +48" AFF, OR AS NOTED
	RECEPTACLE, DUPLEX, NEMA 5-20R, SURFACE MT+18" AFF, OR AS NOTED
	RECEPTACLE, DUPLEX, TWIST-LOCK, NEMA L5-20R, MTD ON CABLE TRAY
	RECEPTACLE, SIMPLEX, TO MATCH EQUIPMENT PLUG, VERIFY NEMA CONFIG AND MTD HEIGHT WITH ARCHITECT
	PANELBOARD
	SURFACE MTD CONDUIT
	HOMERUN
	DOOR CONTACT
	HEAT DETECTOR
	SMOKE DETECTOR

LIGHT FIXTURE SCHEDULE

TYPE	LAMP	MOUNTING	DESCRIPTION	MANUFACTURER
A	(3) F32T8/IS 32W 4100 K	SURFACE	FLUORESCENT, 11"x4" SURFACE MOUNTED, WRAPAROUND, ACRYLIC DIFFUSER, BAKED WHITE ENAMEL FINISH, INSTANT START ELECTRONIC BALLAST, SPRING LOADED LATCHES, U.L. LISTED, 120V.	LITHONIA AWN332120, DAY-BRITE AWN332120, OR APPROVED EQUAL

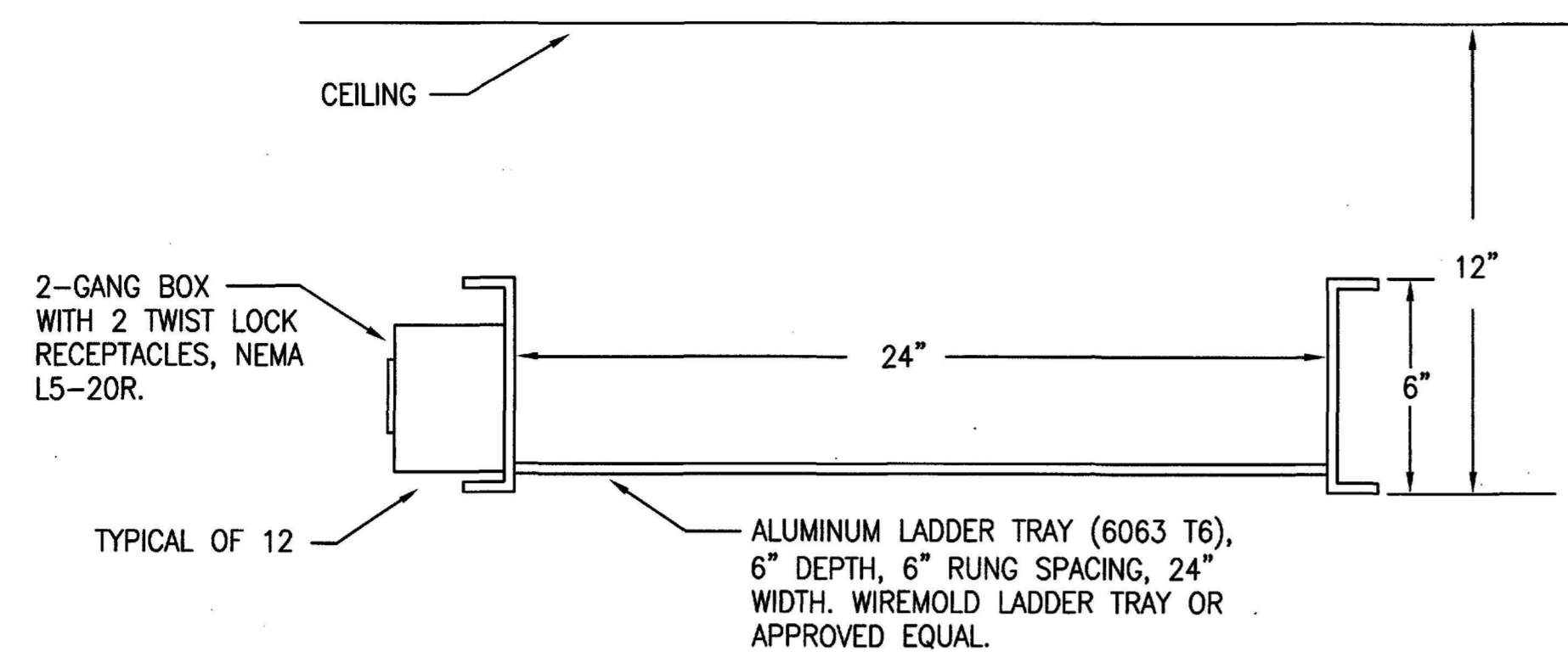
BUILDING ENERGY EFFICIENCY STANDARDS

EXTERIOR LIGHTING POWER ALLOWANCE	NA	INSTALLED	
INTERIOR LIGHTING POWER ALLOWANCE	360W	INSTALLED	264W
METHOD USED:	PRESCRIPTIVE	SYSTEM PERFORMANCE	X
CALCULATIONS:	SEPARATE	ON DRAWINGS	

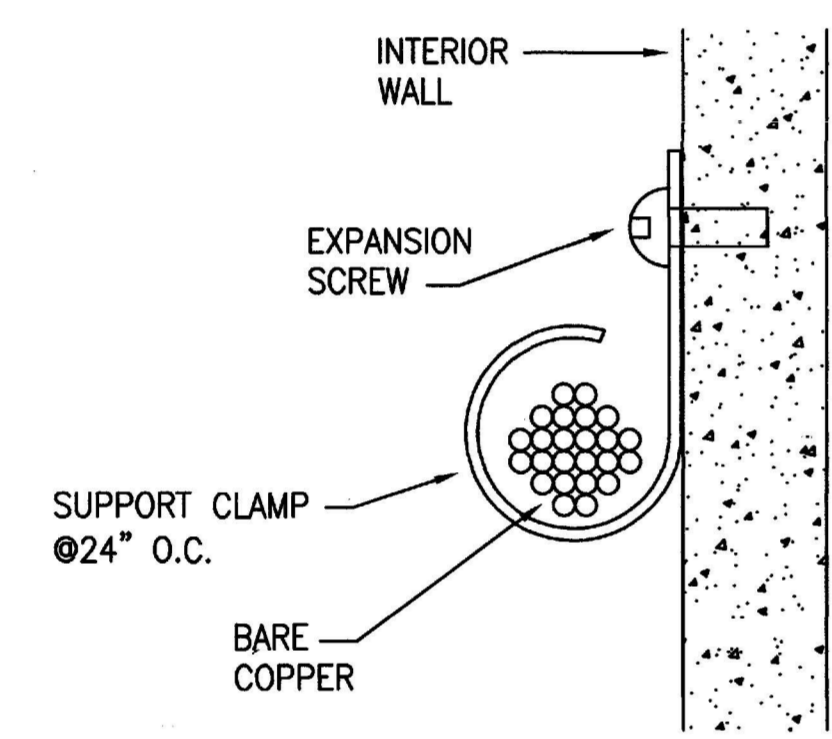


- ### GENERAL NOTES:
- WORK INCLUDES INSTALLATION OF ALL ELECTRICAL SYSTEMS COMPLETE AND OPERATIONAL TO THE SATISFACTION OF THE OWNER AS LIMITED BY THE INTENT OF THE CONTRACT DOCUMENTS.
 - ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), NATIONAL ELECTRICAL SAFETY CODE, AND ALL LOCAL RULES AND REGULATIONS.
 - THE CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND THE EXTENT OF REMOVAL, RELOCATION, RECONNECTION AND/OR NEW WORK PRIOR TO BIDDING. BID SUBMISSION SHALL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS VISITED THE SITE AND RESOLVED ALL DISCREPANCIES AND QUESTIONS AND NO EXTRA PAYMENT WILL BE AUTHORIZED FOR WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO DO SO.
 - ALL EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL. MINIMUM SIZE IS 3/4 INCH.
 - CONDUIT SIZES CALLED OUT ON THE DRAWINGS ARE NOT NECESSARILY BASED ON THE MINIMUM SIZE ALLOWED BY THE NATIONAL ELECTRICAL CODE AND MAY BE PURPOSELY OVERSIZED FOR FUTURE CONDUCTORS OR TO AVOID EXCESS CONDUIT HEATING. CONDUIT SIZES NOT CALLED OUT ON THE DRAWINGS SHALL BE SIZED BY THE CONTRACTOR, BASED ON THE ACTUAL NUMBER OF CONDUCTORS TO BE INSTALLED, USING THE NATIONAL ELECTRICAL CODE AS A GUIDE. IN NO CASE SHALL CONDUIT SIZES BE SMALLER THAN IS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
 - ALL CIRCUITS SHALL INCLUDE AN INSULATED GREEN GROUNDING CONDUCTOR, SIZED PER TABLE 250-95 OF THE NATIONAL ELECTRICAL CODE. THIS CONDUCTOR SHALL BE CARRIED IN ALL RACEWAYS INCLUDING THOSE INSTALLED FOR SWITCH LEGS AND SHALL BE ATTACHED TO THE DEVICE, LUMINAIRE, OR EQUIPMENT HOUSING USING A SUITABLE GROUNDING LUG.
 - THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL JUNCTION AND PULL BOXES REQUIRED FOR THE INSTALLATION OF ELECTRICAL DEVICES AND EQUIPMENT, WHETHER OR NOT SPECIFICALLY INDICATED ON THE PLANS. SIZING OF THESE BOXES SHALL BE PER THE NATIONAL ELECTRICAL CODE.
 - THE CONTRACTOR SHALL CONFIRM EXACT COUNTER HEIGHTS, EQUIPMENT LOCATIONS AND FURNITURE LAYOUTS PRIOR TO ROUGHING IN FOR POWER AND COMMUNICATIONS DEVICES.
 - NEW PANELS SHALL HAVE TYPED CIRCUIT DIRECTORIES REFLECTING THE CIRCUIT ARRANGEMENT AS IT WAS ACTUALLY INSTALLED.
 - ALL PENETRATIONS THROUGH FIRE RATED WALLS AND SLABS SHALL BE SEALED TO MAINTAIN THE INTEGRITY OF THE FIRE RATING USING A U.L. LISTED FIRE RATED SEALANT. 3M(PSS)7904 OR APPROVED EQUAL.
 - THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ARCHITECT BEFORE MAKING ANY PENETRATIONS THROUGH STRUCTURAL MEMBERS OR FIRE RATED WALLS AND SLABS.
 - THE CONTRACTOR SHALL CONFIRM THE TYPE OF CEILING BEING INSTALLED PRIOR TO ORDERING LUMINAIRE TRIMS FOR PROPER COORDINATION. CATALOG NUMBERS ARE GIVEN FOR GENERIC LUMINAIRE AND MAY NOT MATCH THE TYPE OF CEILING OR OPENING ACTUALLY PROVIDED BY OTHER TRADES. IMPROPER ORDERING OF LUMINAIRE OR TRIM SHALL NOT BE CONSIDERED REASON FOR EXTRA COST.

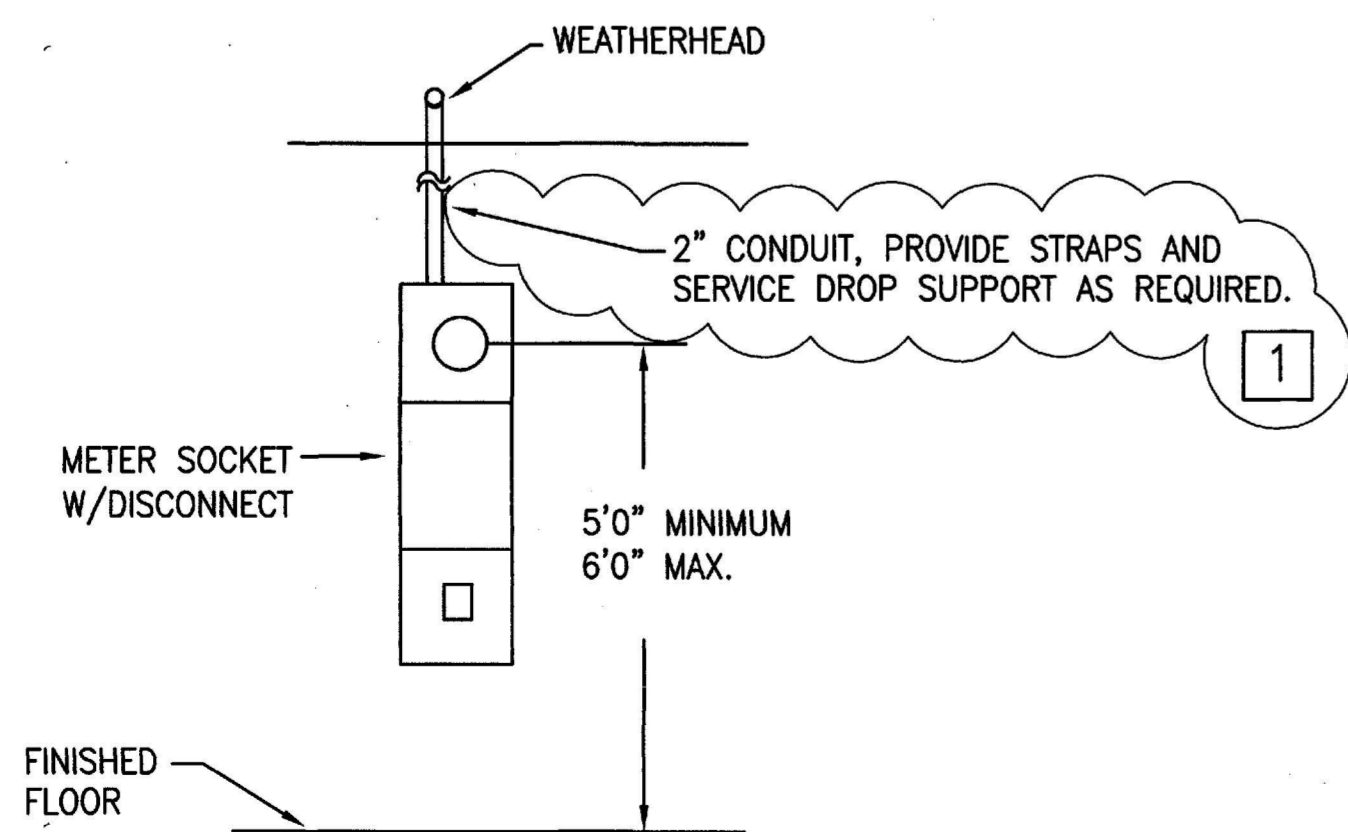
1	12/9/98	ADDENDUM NO. 1: REVISED GROUNDING PLAN, REVISED NOTES, LOCATION OF GENERATOR.	2 OF 3
REVISION	DATE		SHT. NO. APPROVED
DEPARTMENT OF DESIGN & CONSTRUCTION CITY & COUNTY OF HONOLULU			
800 MHz RADIO COVERAGE IMPROVEMENTS, PHASE I LUALUALEI, 242 RESERVOIR			
GENERAL NOTES, LEGEND, POWER & SIGNAL PLAN, LIGHTING & GROUNDING PLAN, LIGHT FIXTURE SCHEDULE, ENERGY EFFICIENCY STANDARDS			
DESIGN	J. LOW	AS BUILT <i>J. Low</i> 6/14/01	E-1/R-1
DRAWN	J. LOW		SHEET 5
CHECKED	J. LOW		OF 6 SHEETS
DATE	NOV. 1998		
PROJECT NO. IV-31-99-C		FILE 10 DRAW 10 FOLDER 7	



1 CABLE TRAY DETAIL
E-2 NOT TO SCALE

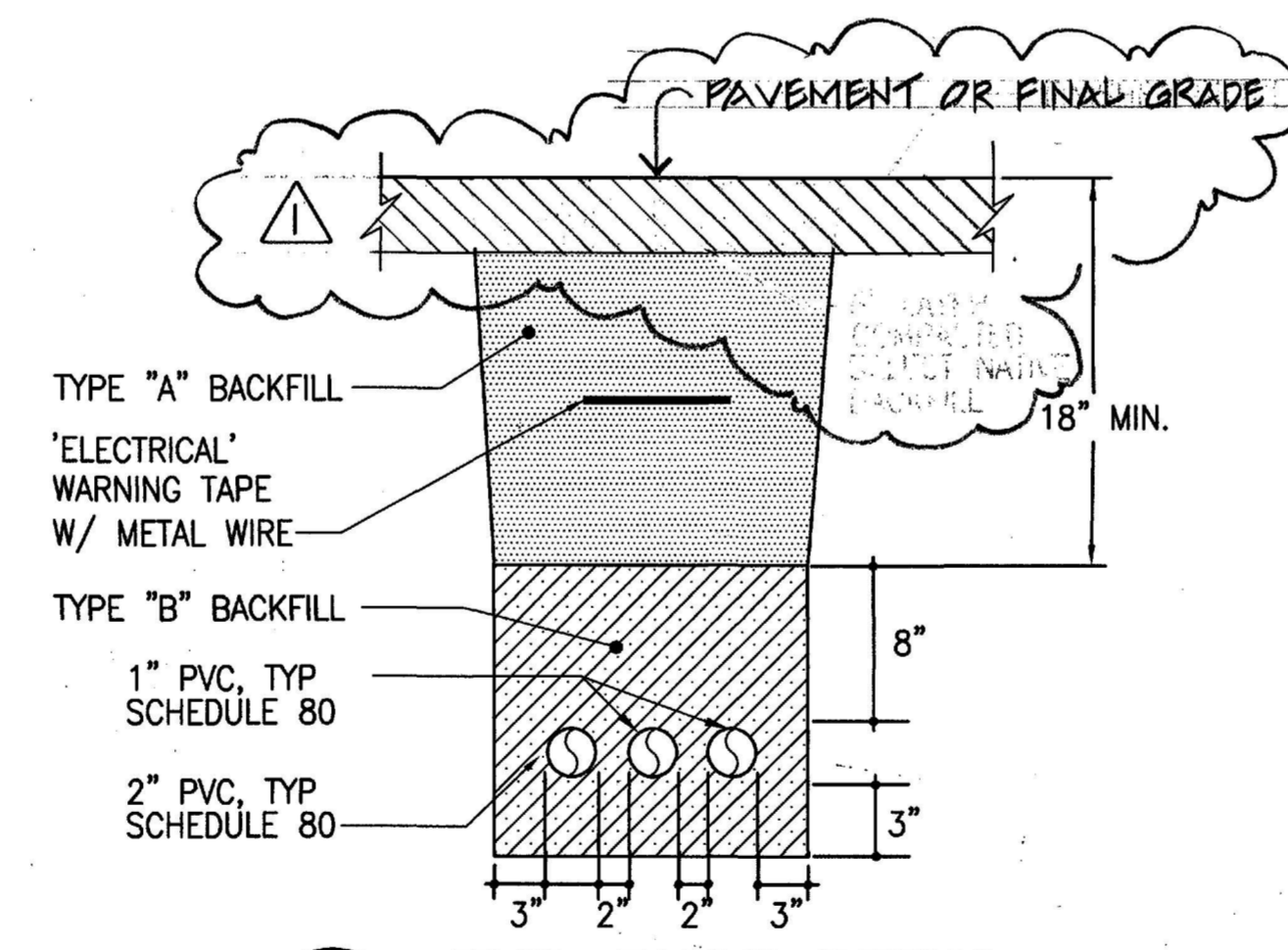


2 GROUND RING SUPPORT DETAIL
E-2 NOT TO SCALE



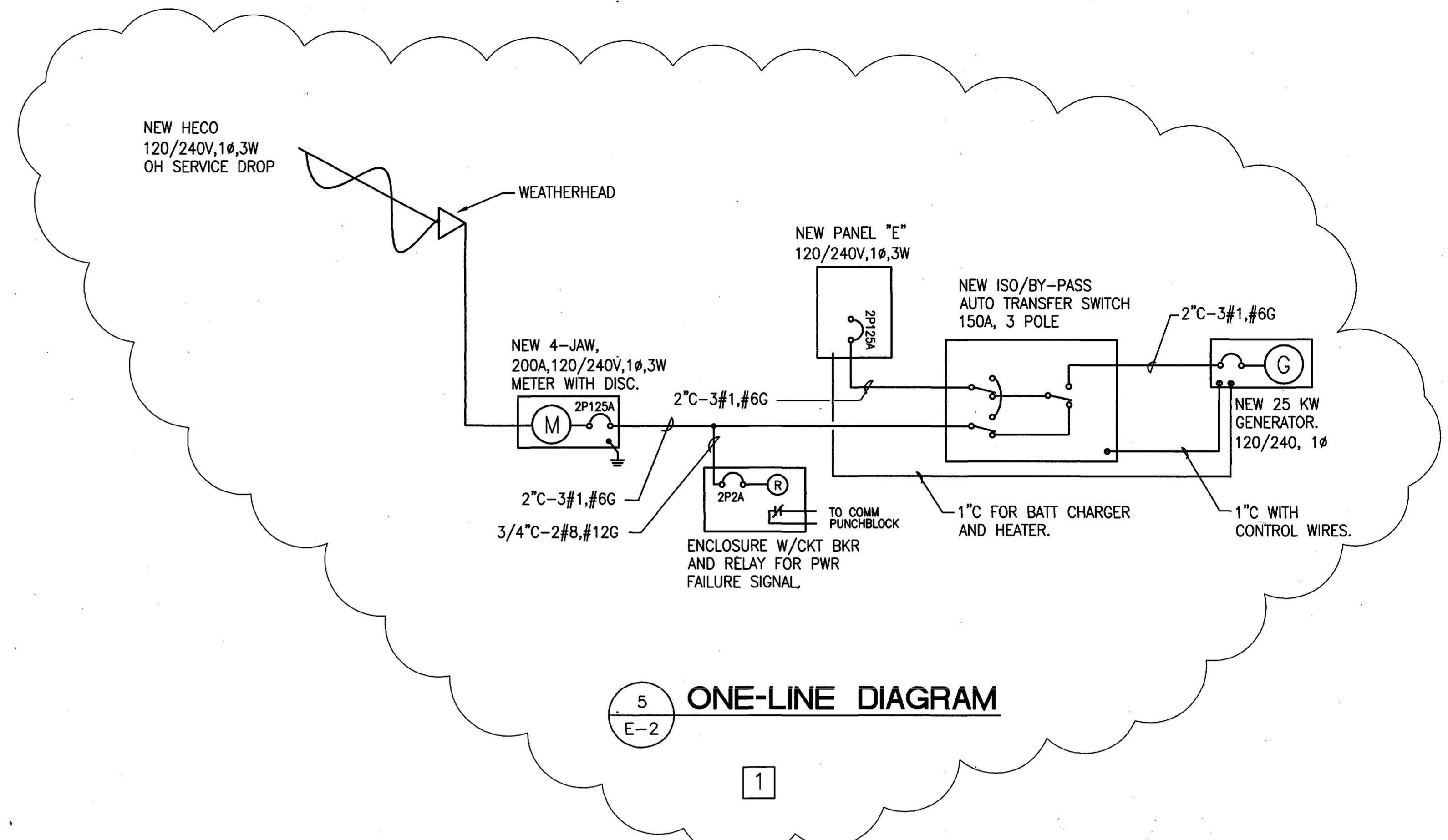
3 SERVICE ELEVATION
E-2 NOT TO SCALE

NOTE: INSTALL METER SOCKET PER HECO REQUIREMENTS. 1



4 TYP. DUCT DETAIL
E-2 DIRECT BURIED

NTS
BACKFILL: TYPE "A" BACKFILL - EARTH GRAVEL. ROCK SIZE TO BE 1" MAX & MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
TYPE "B" BACKFILL - EARTH GRAVEL. MIXTURE MUST PASS A 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.



5 ONE-LINE DIAGRAM
E-2

PANEL: "E"
Volt: 120V/240 PH/W: 1 PH, 3 W
KALC: 10KALC
MOUNTING: SURFACE
MAIN: 150A, 2P125A CKT BKR
BREAKERS: BOLT-ON

See Note	Ckt	Brkr	Wire Poles	Wire Size	DESCRIPTION	Phase A	Phase B	DESCRIPTION	Ckt Brkr Poles	Wire Size	See Note
1	1P	20A	#12		L-EQUIP RM	0.3	1.0	R-CONVENIENCE	1P 20A	#12	2
3	1P	20A	#12		R-RACKS		0.8 0.8	R-RACKS	1P 20A	#12	4
5	1P	20A	#12		R-RACKS	0.8	0.8	R-RACKS	1P 20A	#12	6
7	1P	20A	#12		FM200 CONTROL PANEL		1.0 0.1	DAMPER MOTOR	1P 20A	#12	8
9	2P	50A			800 MHZ RECTIFIER 1&2	3.0	1.0	EXHAUST FAN	2P 20A	#12	10
11							3.0 1.0				12
13	1P	20A	#12		GEN-BATT CHR, HEATER	0.7	1.3	WAC #1	2P 20A	#12	14
15	1P	20A			SPARE		1.0 1.3				16
17	1P	20A			SPARE	1.0	1.3	WAC #2	2P 20A	#12	18
19	1P	20A			SPARE		1.0 1.3				20
21					PFB						22
23					PFB						24
25					PFB						26
27					PFB						28
29					PFB						30
TOTALS:						12.2	11.5				
CURRENT (AMPS):						101.7	95.8				
TOTAL CONNECTED:						23.7					
DEMAND FACTOR:						0.70					
DEMAND LOAD:						16.6					
AVERAGE DEMAND CURRENT:						69.1					

DESCRIPTION CODES: R - Receptacle(s); L - Lights; S - Spare;
PFB - Provision for Future Breaker; WC - Electric Water Cooler;

NOTES:
1. EQUIPMENT TO BE INSTALLED AND CONNECTED BY OTHERS.

1	12/9/98	ADDENDUM NO. 1: ADD NOTE AND REVISED ONE-LINE DIAGRAM.	3 OF 3
REVISION	DATE		SHT. NO. APPROVED

DEPARTMENT OF DESIGN & CONSTRUCTION
CITY & COUNTY OF HONOLULU

800 MHz RADIO COVERAGE IMPROVEMENTS, PHASE I
LUALUALEI, 242 RESERVOIR

DETAILS, ONE-LINE DIAGRAM, SERVICE ELEVATION, PANEL SCHEDULE

DESIGN	J. LOW	E-2/R-2
DRAWN	J. LOW	
CHECKED	J. LOW	
DATE	NOV. 1998	

SHEET 6
OF 6 SHEETS

PROJECT NO. IV-31-99-C FILE 10 DRAW 16 FOLDER 7

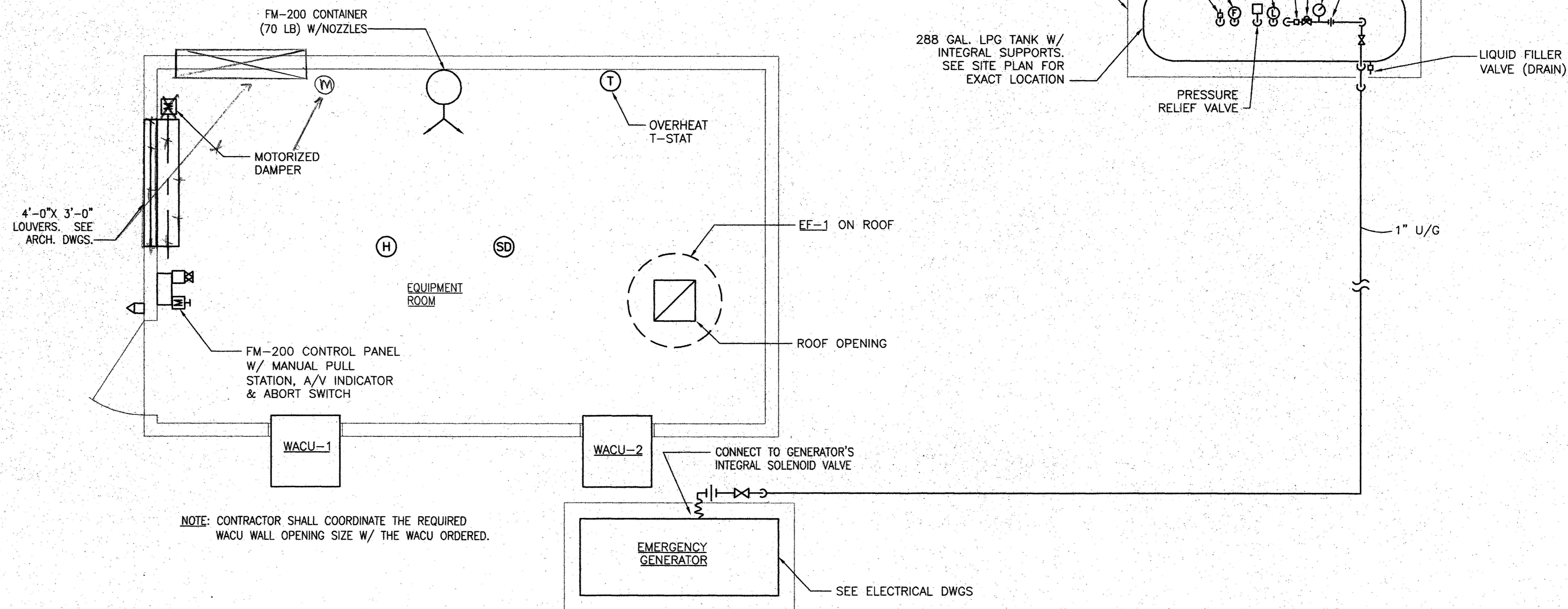
MECHANICAL LEGEND		
SYMBOL	ABBREV.	DESCRIPTION
	WACU	WINDOW AIR CONDITIONING UNIT
(SD)	SD	SMOKE DETECTOR
(H)	HD	HEAT DETECTOR
(M)	MD	MOTORIZED DAMPER
(TDR)	TDR	TIME DELAY RELAY
(PRV)	PRV	PRESSURE REGULATING VALVE
(BV)	BV	BALL VALVE
(U)		UNION
(MDS)		MANUAL DISCHARGE STATION
(HS)		HORN/STROBE
(S)		STROBE

MECHANICAL GENERAL NOTES:

1. THE CONTRACTOR SHALL INSPECT THE PROJECT SITE BEFORE PROCEEDING WITH THE WORK AND SHALL NOTIFY AND COORDINATE WITH THE OFFICER-IN-CHARGE ANY MAJOR DEVIATIONS OR DISCREPANCIES IN THE PLANS AND SPECIFICATIONS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS.
2. THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE BUILDING CODE OF THE CITY AND COUNTY OF HONOLULU, STATE DEPARTMENT OF HEALTH REGULATIONS, THE CURRENT VERSION OF THE UNIFORM PLUMBING CODE, UNIFORM FIRE CODE, NFPA 58, NATIONAL ELECTRICAL CODE, HAWAII STATE MODEL ENERGY CODE, AND ALL OTHER AGENCIES HAVING JURISDICTION.
3. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL AND EQUIPMENT INCLUDING CUTTING AND PATCHING AS REQUIRED FOR COMPLETE AND OPERATING SYSTEMS. "PROVIDE SHALL MEAN TO PROCURE ALL NECESSARY AND SPECIFIED MATERIALS AND INSTALL A COMPLETE WORKING INSTALLATION AS REFERENCED ON THE CONSTRUCTION DRAWINGS.
4. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COVER THE COMPLETE INSTALLATION OF SYSTEMS TO FUNCTION AS DESCRIBED AND SPECIFIED. THE OMISSION OF REFERENCE TO ANY NECESSARY ITEM OF LABOR OR MATERIAL SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING SUCH LABOR AND MATERIAL.
5. ALL ROOM THERMOSTATS SHALL BE MOUNTED AT 4'-0" AFF UNLESS OTHERWISE INDICATED.
6. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL ROOF, WALL AND FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO THE START OF CONSTRUCTION.
7. UNDERGROUND LPG PIPING SHALL BE POLYETHYLENE. SUPERVISING AND INSTALLING PERSONEL ARE REQUIRED TO HAVE CERTIFICATION FROM A MANUFACTURER'S TRAINING COURSE OF NOT LESS THAN ONE WEEK DURATION OR PROVIDE SATISFACTORY PROOF TO THE OFFICER-IN-CHARGE THAT PERSONNEL ARE CURRENTLY WORKING IN THE INSTALLATION OF PE GAS DISTRIBUTION LINES.

FM-200 FIRE PROTECTION NOTES:

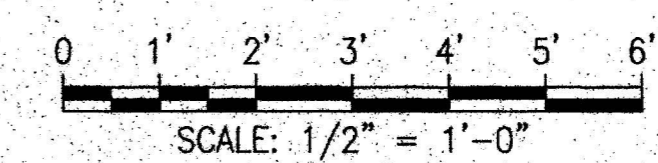
1. CONTRACTOR SHALL DESIGN AND LOCATE HALON CONTAINERS AND NOZZLES TO PROVIDE A UNIFORM 7% CONCENTRATION THROUGHOUT THE PROTECTED SPACE.
2. PERFORM DISCHARGE TEST IN ACCORDANCE WITH SPECIFICATIONS & MANUFACTURER'S RECOMMENDATIONS.
3. ENSURE THAT ALL WALLS AND CEILING PENETRATIONS ARE PROPERLY SEALED TO INSURE THE INTEGRITY OF THE PROTECTED SPACE.
4. THE DESIGN AND INSTALLATION OF THE SYSTEM SHALL BE IN ACCORDANCE WITH NFPA REQUIREMENTS.



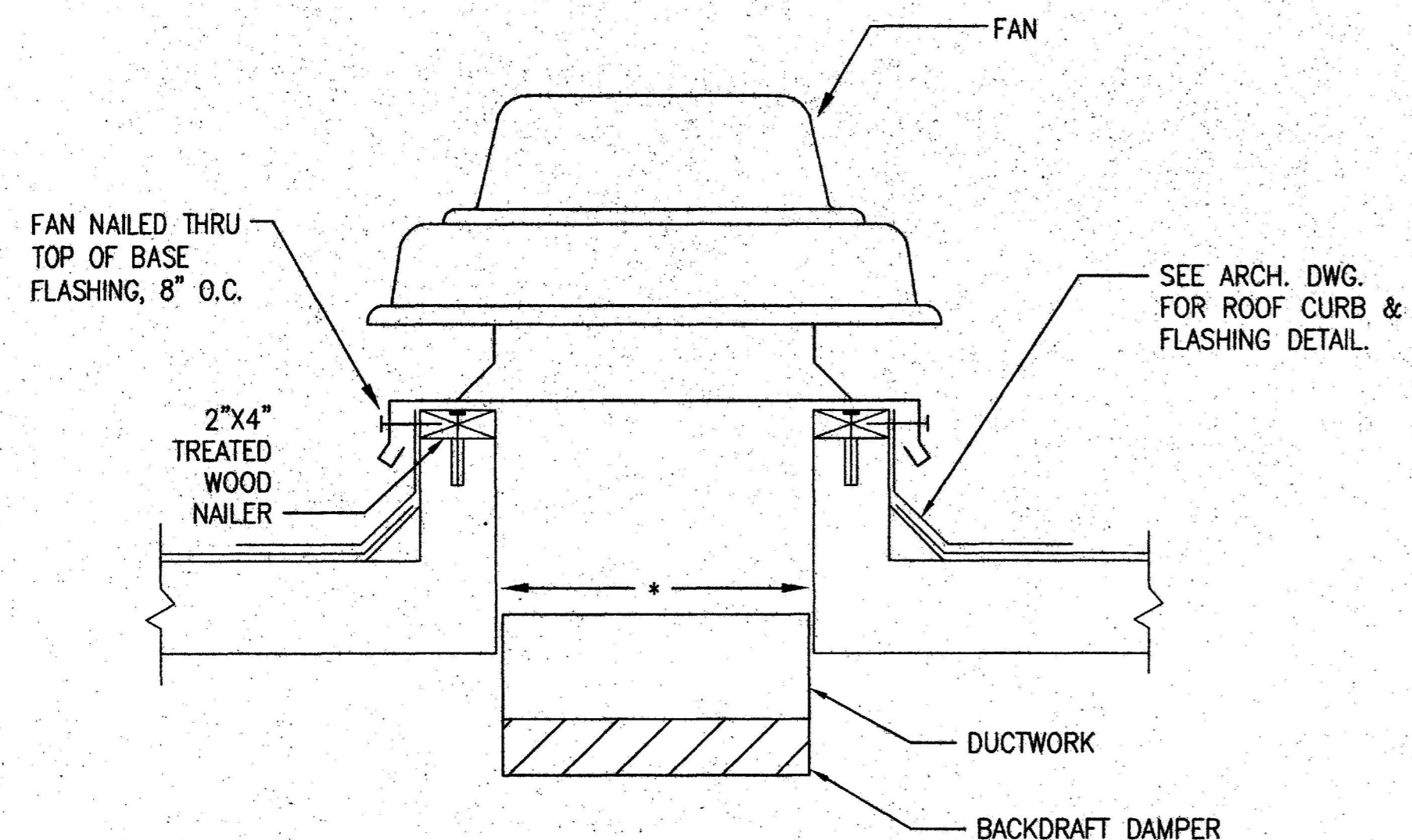
NOTE: CONTRACTOR SHALL COORDINATE THE REQUIRED WACU WALL OPENING SIZE W/ THE WACU ORDERED.

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

MECHANICAL ENERGY CODE COMPLIANCE FORM	
CODE ARTICLES	COMPLIANCE METHOD
ENVELOPE	PRESCRIPTIVE
HVAC SYSTEMS	PRESCRIPTIVE
HVAC EQUIPMENT	PRESCRIPTIVE
SERVICE WATER HEATING	NONE IN PROJECT
ENERGY MANAGEMENT	24 HOUR FACILITY
ROOF	
ROOF RHGF = U _r X ALPHA X R _B	MAX. RHGF = 0.05
= (0.05) X 1 X 1	1 = 0.05
WALL CONCRETE W/ HEAT CAPACITY > 7.5 BTU/DEG. F-FT ²	
PENETRATION NO WINDOWS IN PROJECT	
EQUIPMENT	
FOR EQUIPMENT EFFICIENCIES, SEE EQUIPMENT SCHEDULES	



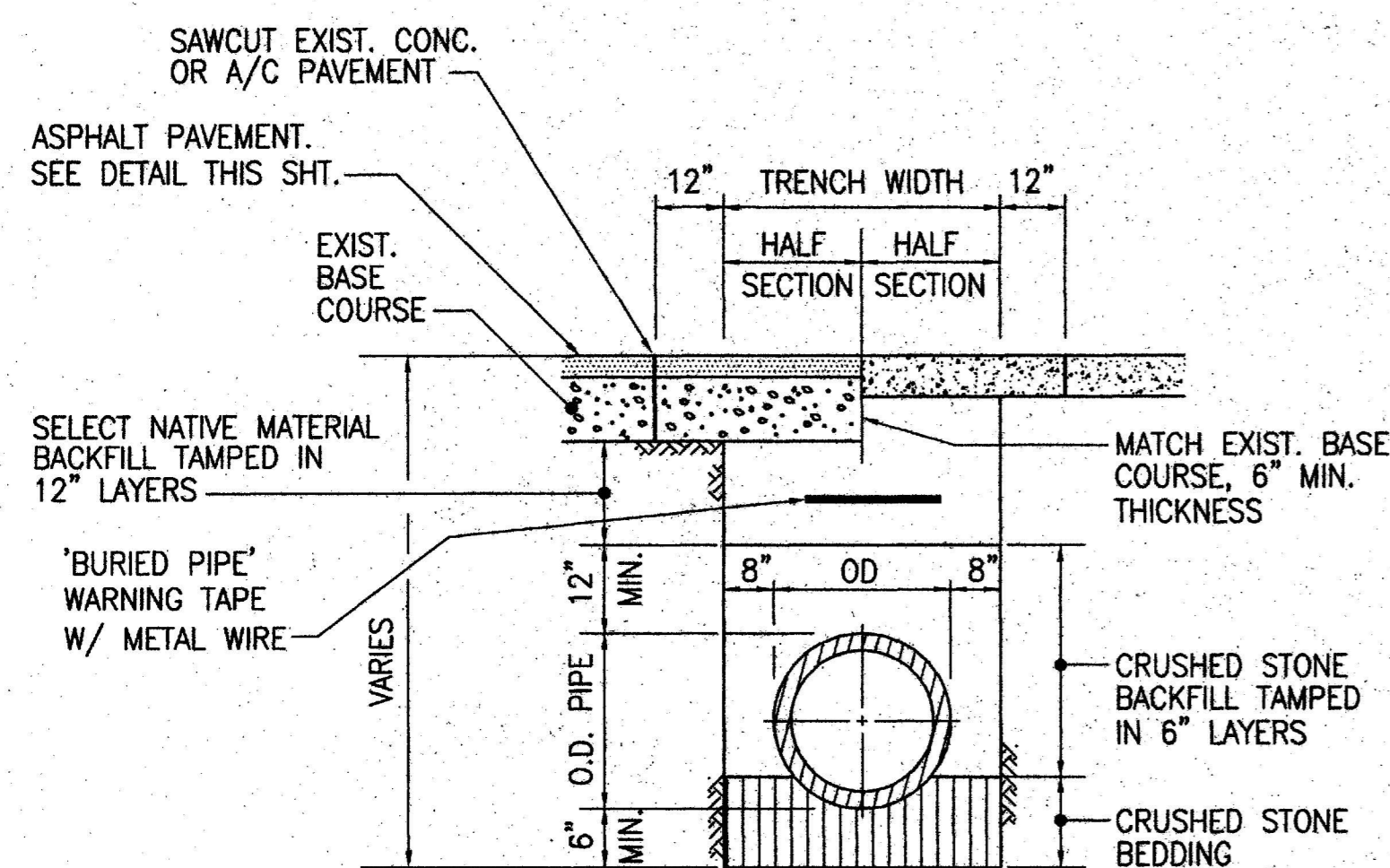
REVISION	DATE	SHT. NO.	APPROVED
DEPARTMENT OF DESIGN & CONSTRUCTION CITY & COUNTY OF HONOLULU			
800 MHz RADIO COVERAGE IMPROVEMENTS, PHASE I LUALUALEI, 242 RESERVOIR			
MECHANICAL GENERAL NOTES, FM-200 FIRE PROTECTION NOTES, ENERGY NOTE, LEGEND, MECHANICAL PLAN			
DESIGN	L. KOYANAGI	AS BUILT <i>T. L. Koyanagi 6/14/01</i>	M-1 SHEET 3 OF 6 SHEETS
DRAWN	L. KOYANAGI		
CHECKED	L. KOYANAGI		
DATE	NOV. 1998		
PROJECT NO. 14-81-99-C		FILE 10 DRAW 16 FOLDER 7	



* ROOF OPENING SIZE AS REQUIRED BY FAN MANUFACTURER

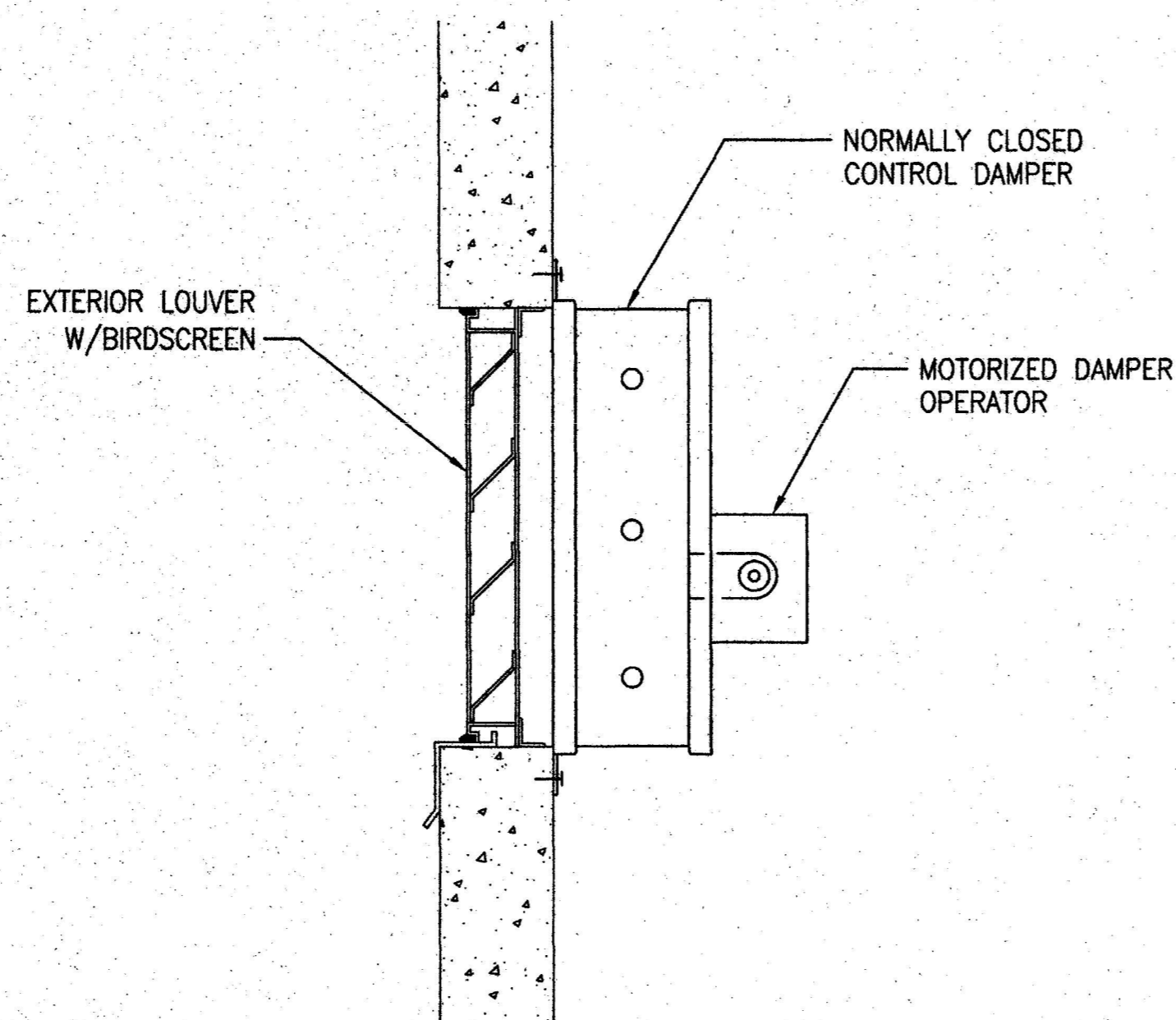
EXHAUST FAN DETAIL

NTS



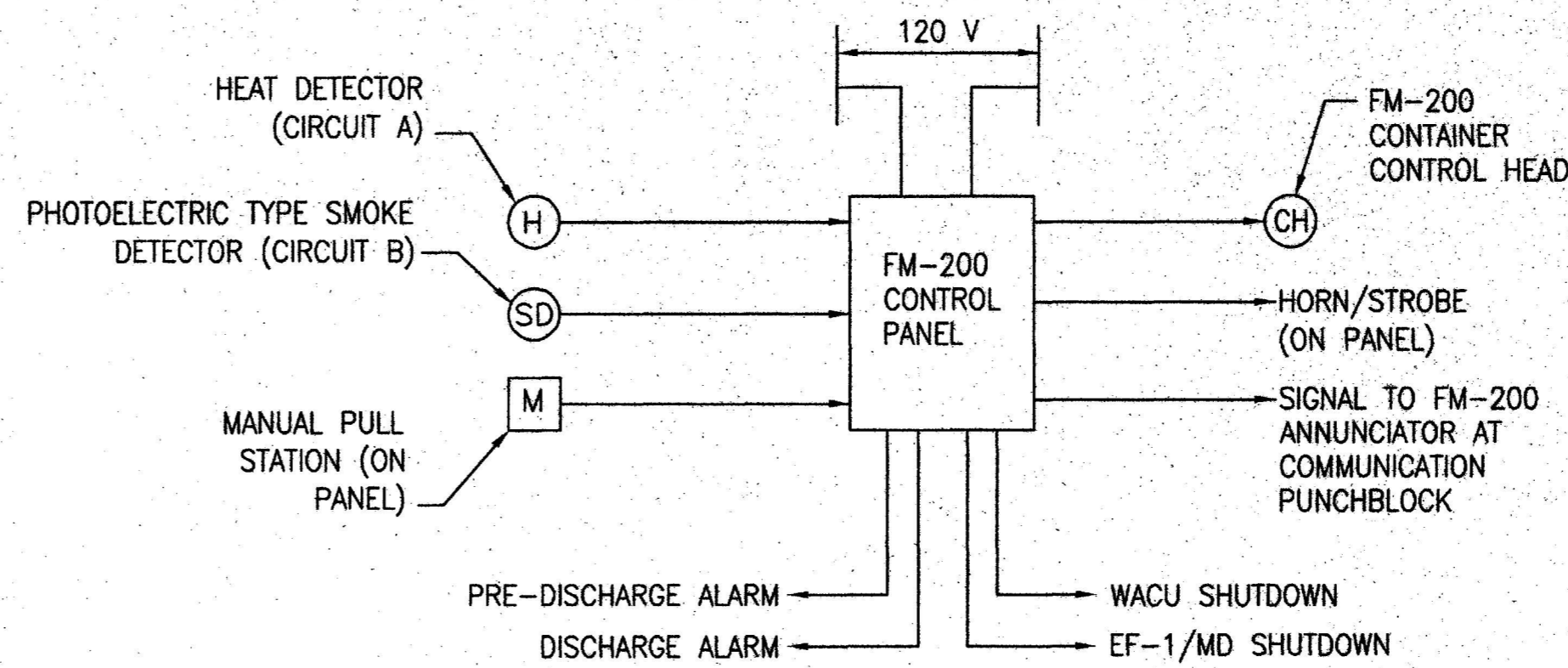
PIPE TRENCH DETAIL

NTS



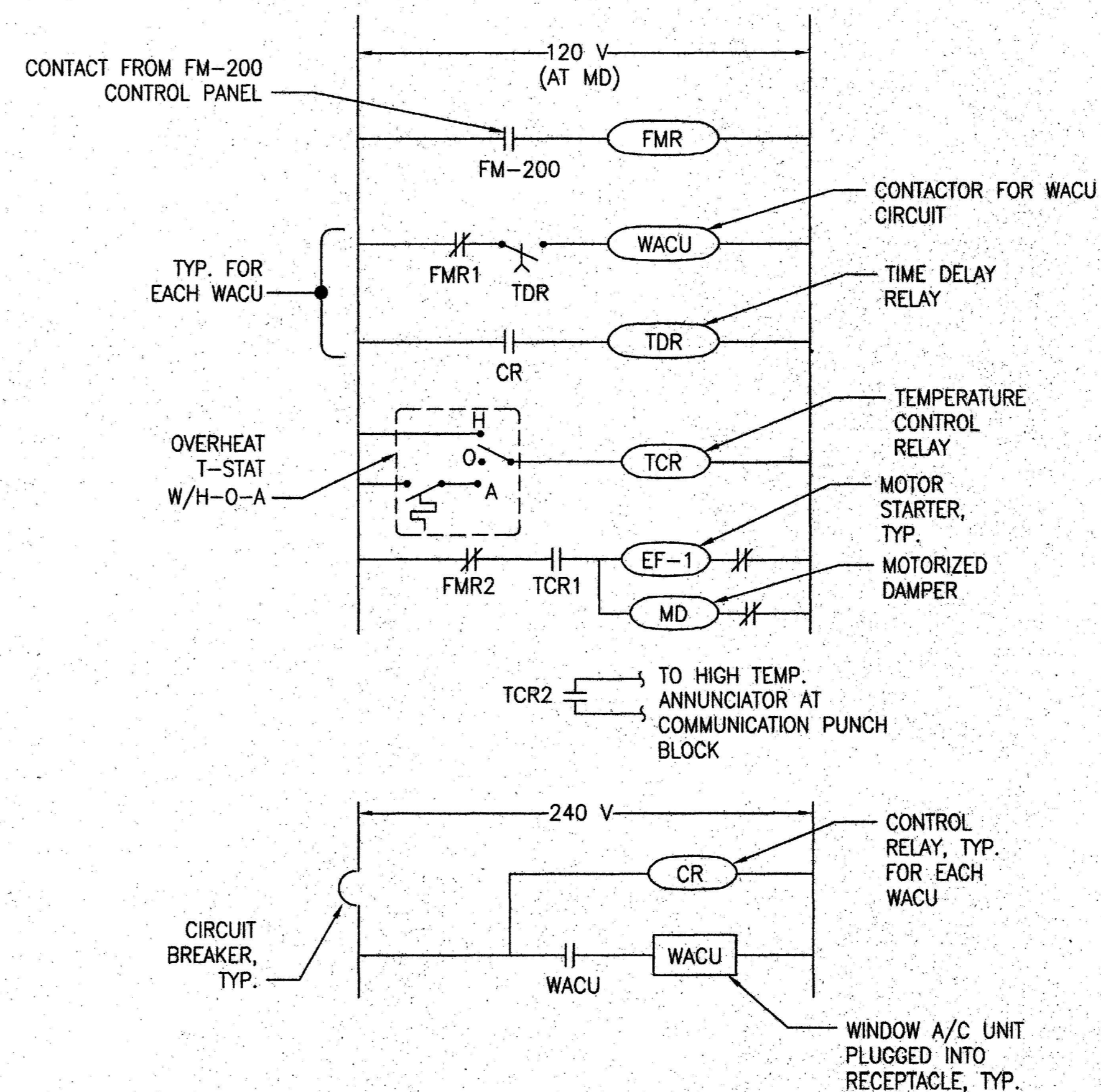
MOTORIZED DAMPER DETAIL

NTS



FM-200 SCHEMATIC SYSTEM DIAGRAM

NTS



A/C & VENTILATION CONTROL DIAGRAM

NTS

FM-200 SYSTEM SEQUENCE OF OPERATION:

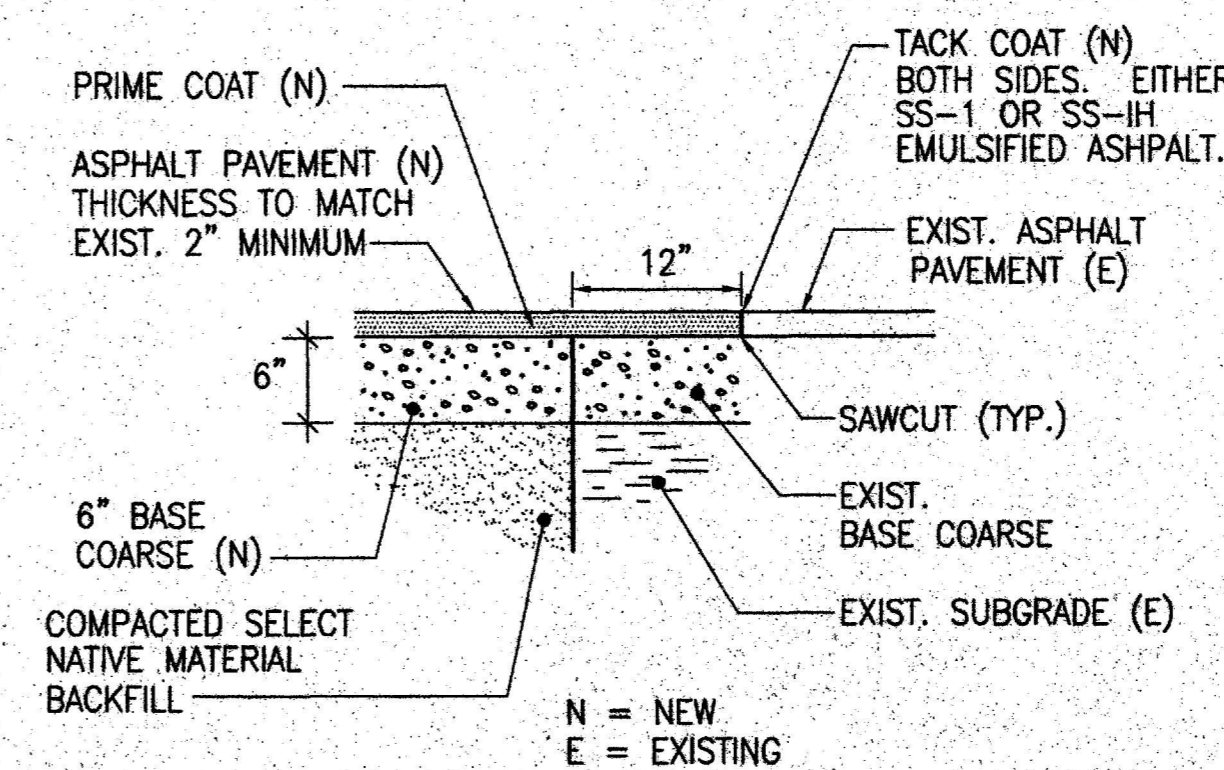
1. THE FM-200 SYSTEM SHALL BE AUTOMATICALLY ACTIVATED WHEN ONE (1) DETECTOR ON EACH CIRCUIT IS IN ALARM AT THE SAME TIME.
2. UPON ACTIVATION OF THE FIRST DETECTOR, THE FOLLOWING ACTIONS SHALL TAKE PLACE (PRE-ALARM MODE):
 - A. A LOCAL PRE-DISCHARGE AUDIBLE AND VISUAL ALARM SHALL BE SOUNDED IN THE AFFECTED AREA.
 - B. THE WACU'S SHALL BE SHUTDOWN.
 - C. EF-1 AND THE MOTORIZED DAMPER SHALL BE SHUTDOWN.
 - D. AN ALARM SIGNAL SHALL BE TRANSMITTED TO AN ANNUNCIATOR AT THE COMMUNICATIONS BACKBOARD PUNCHBLOCK.
3. UPON ACTIVATION OF THE SECOND DETECTOR, THE FOLLOWING ACTIONS SHALL OCCUR (PRE-DISCHARGE MODE):
 - A. A LOCAL DISCHARGE AUDIBLE AND VISUAL FIRE ALARM SHALL BE SOUNDED.
 - B. A 30 SECOND TIME DELAY RELAY SHALL START. AT THE END OF THE TIME DELAY THE FOLLOWING SHALL TAKE PLACE (DISCHARGE MODE):
 - A. A RELEASE SIGNAL SHALL BE SENT TO THE FM-200 CONTAINER CONTROL HEAD.
5. THE FM-200 SYSTEM SHALL ALSO BE ACTIVATED BY A MANUAL PUSH BUTTON STATION WHICH SHALL ACTIVATE THE DISCHARGE MODE SEQUENCE.
6. PROVIDE MANUAL EMERGENCY STOP PUSH BUTTON STATION AT THE FM-200 CONTROL PANEL TO PREVENT THE DISCHARGE MODE SEQUENCE BY MANUAL OVERRIDE.

HVAC SEQUENCE OF OPERATION:

1. WACU-1 & WACU-2 SHALL OPERATE CONTINUOUSLY 24 HOURS A DAY WITH EF-1 OFF AND THE MOTORIZED DAMPER CLOSED. THE INTEGRAL T-STATS FOR WACU-1 & WACU-2 SHALL BE SET TO 72 DEGREES F.
2. THE OVERHEAT T-STAT SHALL BE SET TO 82 DEGREES F. WHEN THE TEMPERATURE RISES ABOVE THE SETPOINT, A RELAY SHALL BE ENERGIZED WHICH DOES THE FOLLOWING:
 - A. START UP EF-1
 - B. OPEN THE MOTORIZED DAMPER.
 - C. SEND A SIGNAL TO A HIGH TEMPERATURE ANNUNCIATOR AT THE COMM. BACKBOARD PUNCHBLOCK.
3. UPON ACTIVATION OF THE FM-200 SYSTEM, A SIGNAL SHALL BE SENT FROM THE FM-200 CONTROL PANEL TO DO THE FOLLOWING:
 - A. SHUTDOWN WACU-1 & WACU-2
 - B. SHUTDOWN EF-1
 - C. CLOSE THE MOTORIZED DAMPER.
4. CONTACTORS SHALL BE PROVIDED FOR EACH WACU. A CONTROL RELAY ON THE WACU POWER CIRCUIT SHALL BE ENERGIZED IF POWER IS AVAILABLE, AND SHALL START A TIME DELAY RELAY, WHICH IS IN SERIES WITH THE WACU CONTACTOR, TO PREVENT IMMEDIATE START UP OF THE WACUS. THE TIME DELAY RELAY SHALL BE SET TO 2 MINUTES TO PREVENT SHORT CYCLING OF THE WACUS.

WINDOW AIR CONDITIONING UNIT SCHEDULE												
UNIT	AREA SERVED	SA CFM	OA CFM	TOTAL MBH	ELECTRICAL					MIN. EER	MFG & MODEL OR APPROVED EQUAL	REMARKS
					WATTS	AMPS	V	PH	HZ			
WACU-1	EQUIPMENT ROOM	560	0	23.0	2,610	12.0	230	1	60	9.2	FRIEDRICH SL24J30A	PROVIDE W/ WALL SUPPORT
WACU-2	EQUIPMENT ROOM	560	0	23.0	2,610	12.0	230	1	60	9.2	FRIEDRICH SL24J30A	PROVIDE W/ WALL SUPPORT

EXHAUST FAN SCHEDULE												
UNIT	AREA SERVED	TYPE	CFM	EXT. SP (INCH WG)	FAN RPM	BHP	ELECTRICAL				MAKE & MODEL OR APPROVED EQUAL	REMARKS
							MOTOR HP	V	PH	HZ		
EF-1	EQUIPMENT ROOM	CENT. ROOF EXHAUSTER	4,100	0.250	1000	0.75	1	230	1	60	GREENHECK GB-180-10	PROVIDE W/ INTEGRAL WEATHERPROOF DISCONNECT



ASPHALT PAVEMENT REPAIR DETAIL

NTS

REVISION	DATE	SHT. NO.	APPROVED
DEPARTMENT OF DESIGN & CONSTRUCTION CITY & COUNTY OF HONOLULU			
800 MHz RADIO COVERAGE IMPROVEMENTS, PHASE I LUALUALEI, 242 RESERVOIR			
DETAILS, SCHEDULES, CONTROL DIAGRAMS, SEQUENCE OF OPERATION			
DESIGN	L. KOYANAGI	AS BUILT <i>T. Gu...</i>	
DRAWN	L. KOYANAGI		
CHECKED	L. KOYANAGI		
DATE	NOV. 1998		
PROJECT NO. 14-31-99-C		FILE 10	DRAW 16 FOLDER 7

EXHIBIT 3

DLNR CORRESPONDENCE OA 25-181

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
Office of Conservation and Coastal Lands
P.O. BOX 621
HONOLULU, HAWAII 96809

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
RYAN K.P. KANAKA'OLE
FIRST DEPUTY
CIARA W.K. KAHAHANE
DEPUTY DIRECTOR - WATER
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

REF:OCCL:AA

Correspondence: OA 25-181

Jun 3, 2025

Isaiah T.K. Sato
R.M. Towill Corporation
2024 N King Street, Suite 200
Honolulu, Hawai'i 96819

SUBJECT: Permit Determination for Lualualei Communication Tower located in por. of Maili Lands, Waianae, O'ahu, Tax Map Key: (1) 8-7-006:022

Dear Isaiah T.K. Sato,

The Office of Conservation and Coastal Lands has reviewed your correspondence regarding the above noted subject matter. According to the letter, R.M. Towill, representing the City and County of Honolulu, Department of Transportation Services (DTS) is proposing broadband communications upgrades. The parcel lies within the General subzone of the State Land Use Conservation District.

The project plans to provide new wiring connecting from an existing equipment room to an existing antenna pole. The wiring will be installed inside of an existing conduit from the equipment room to the base of the pole. At the pole, a new conduit and antenna will be installed. On June 13, 1997, the Board of Land and Natural Resources (BLNR) approved Conservation District Use Permit (CDUP) OA-2849 which authorized a telecommunications tower and equipment on the south facing side of the parcel.

According to the recently submitted construction plans and cursory review of the parcel, there is an existing telecommunications tower on the northeastern side of the property that DTS would like to collocate with. According to OCCL files, there is no record of the authorization for the construction of this tower. As-built plans provided by R.M. Towill confirm construction to be between 1999-2001.

To resolve these matters, the OCCL is requesting that the applicant apply for an After-The-Fact (ATF) CDUA submittal for the existing site. Within the CDUA, please include the new construction plans that are proposed to collocate with the existing tower.

This project could be exempt from requiring an Environmental Assessment (EA) pursuant to Hawai'i Administrative Rules (HAR) §11-200.1-15 General types of actions eligible for exemption (c)(3) *Construction and location of single, new, small facilities or structures and the alteration and modification of the facilities or structures and installation of new, small equipment*

or facilities and the alteration and modification of the equipment or facilities. Further, the exemption list for the Department of Land and Natural Resources under Exemption Class 3, Part 1, No. 14 Construction or placement of utilities (telecommunications, electrical, solar panels, drainage, waterlines, sewers) and related equipment (such as transformers, poles, cables, wires, pipes) accessory to existing facilities.

The rules and regulations of the Conservation District notes as HAR Chapter 13-5 and applications can be found on our website at: <https://dlnr.hawaii.gov/occl/>. Should you have any questions regarding this correspondence, contact Alyssa Accardo of our office at alyssa.m.accardo@hawaii.gov or at (808) 587-0048.

Sincerely,

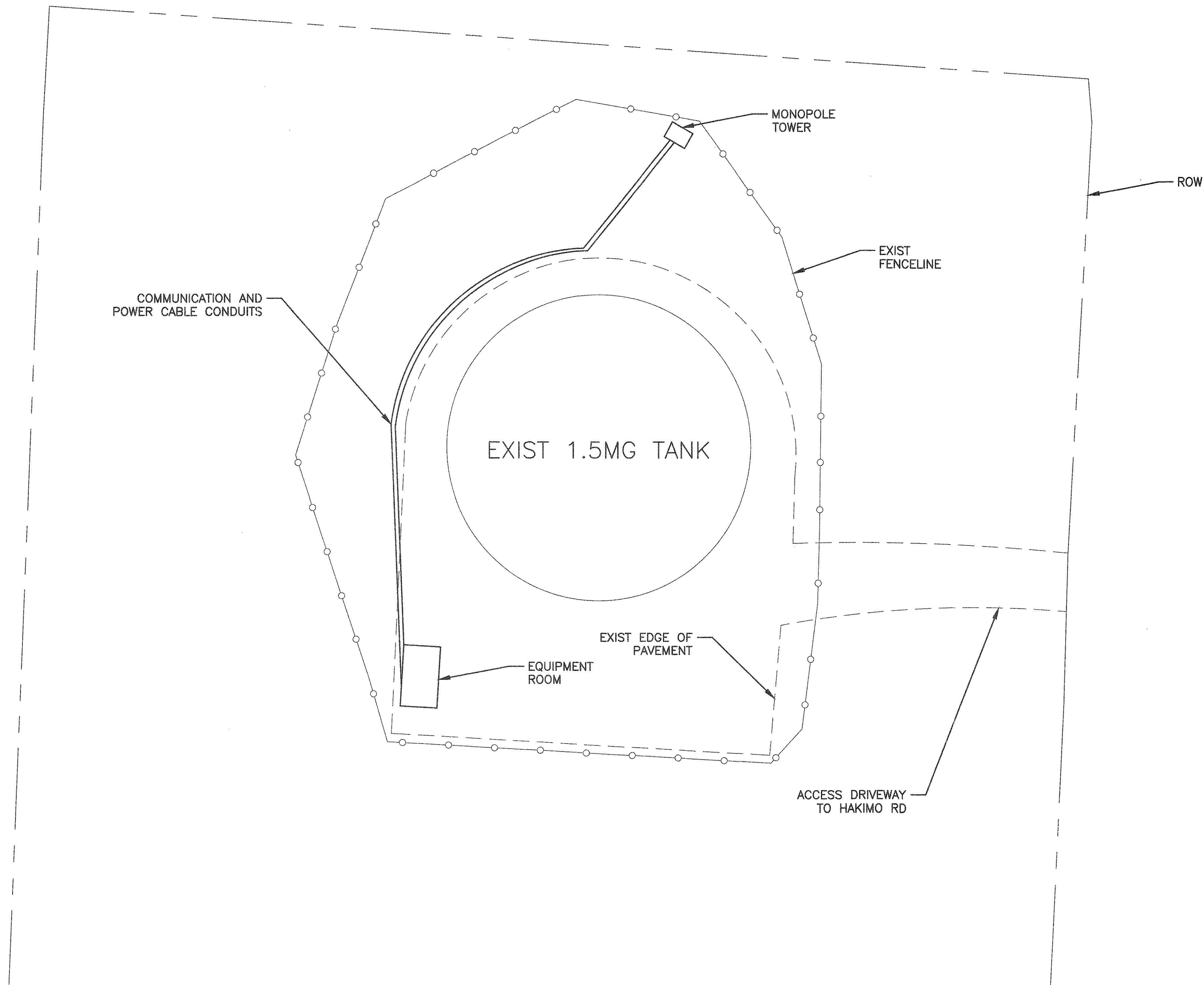
S. Michael Cain

S. Michael Cain, Administrator
Office of Conservation and Coastal Lands

CC: ODLO
City and County of Honolulu, DPP

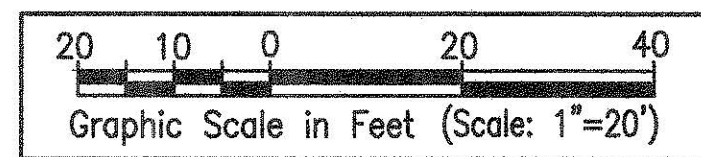
EXHIBIT 4
PROJECT DRAWINGS

C:\Users\Zey Tong (ICX)\Desktop\Broadband Assorted\2025 April Submittal\CAD\1-Lualualei Tower\C-2 SITE PLAN.dwg Plotted:4/2/2025 4:11 PM

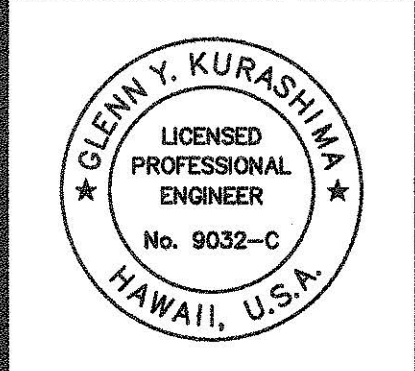


TRUE NORTH
SCALE: 1" = 20'

SITE PLAN
SCALE 1" = 20'



REVISION	DATE	DESCRIPTION	SHT. NO.	APPROVED



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION
Glenn Y. Kurashima
 4/2/2025

DESIGN BY: GK DRAWN BY: ZT
 CHECKED BY: GK DATE: 4/4/2025
 ACCEPTED:
 Chief, Transportation Technology Division
 Department of Transportation Services

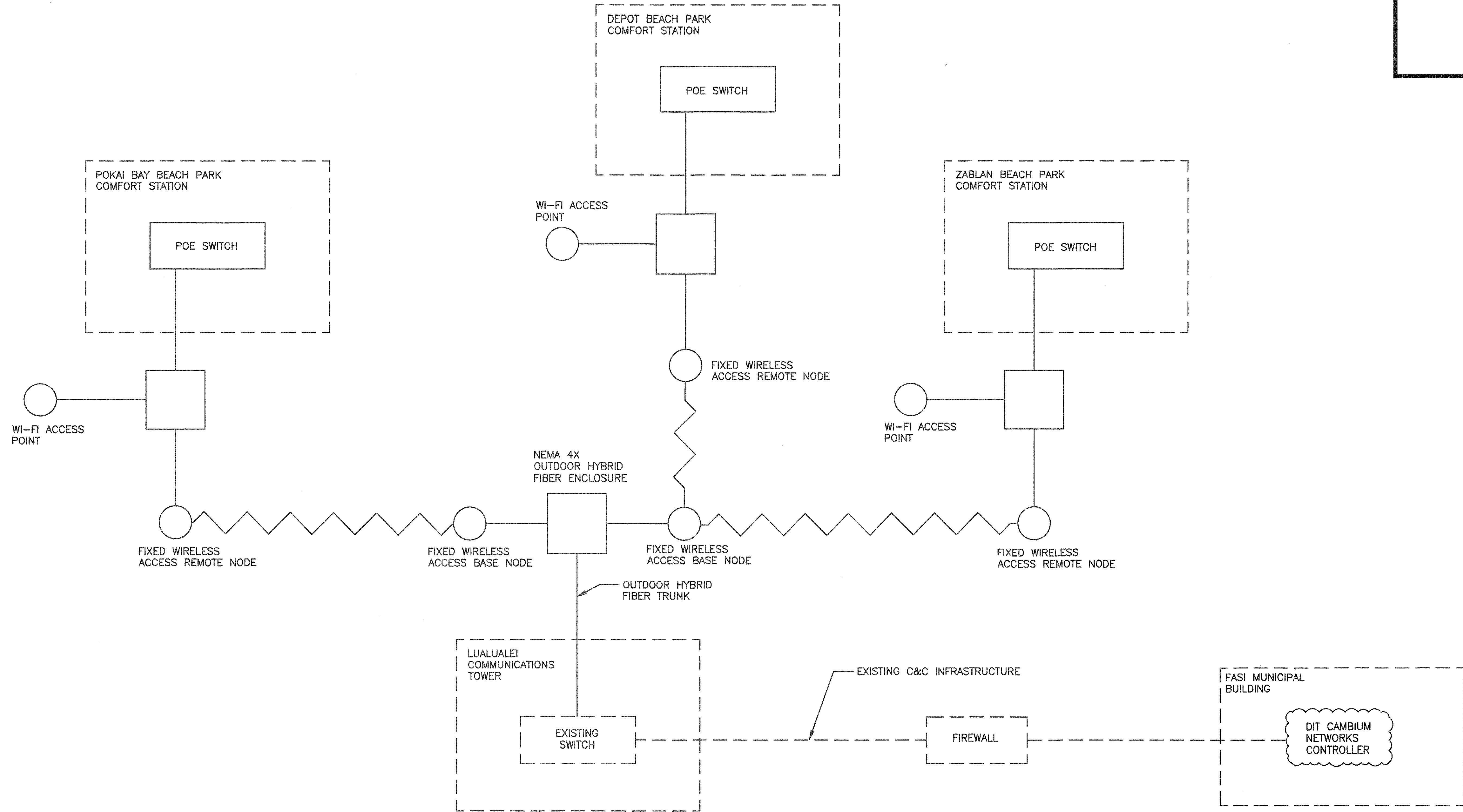
DEPARTMENT OF TRANSPORTATION SERVICES
 CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALUALEI COMMUNICATION TOWER
 8-7-008022
 SITE PLAN

PROJECT NO.: CB-1B1-24

DRAWING NO.:
C-2

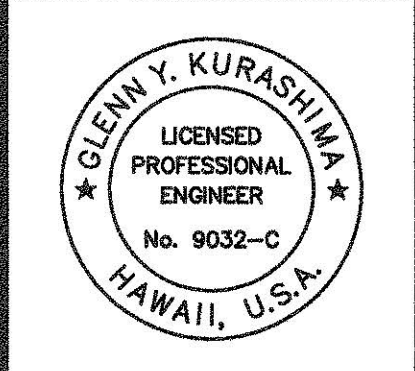
SHEET NO.
4 OF 64

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SYSTEM BLOCK DIAGRAM
SCALE: NTS

DATE	BY	DESCRIPTION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

Glenn Y. Kurashima
Professional Engineer

DESIGN BY: GK DRAWN BY: ZT
CHECKED BY: GK DATE: 4/14/2025
ACCEPTED: _____
Chief, Transportation Technology Division
Department of Transportation Services

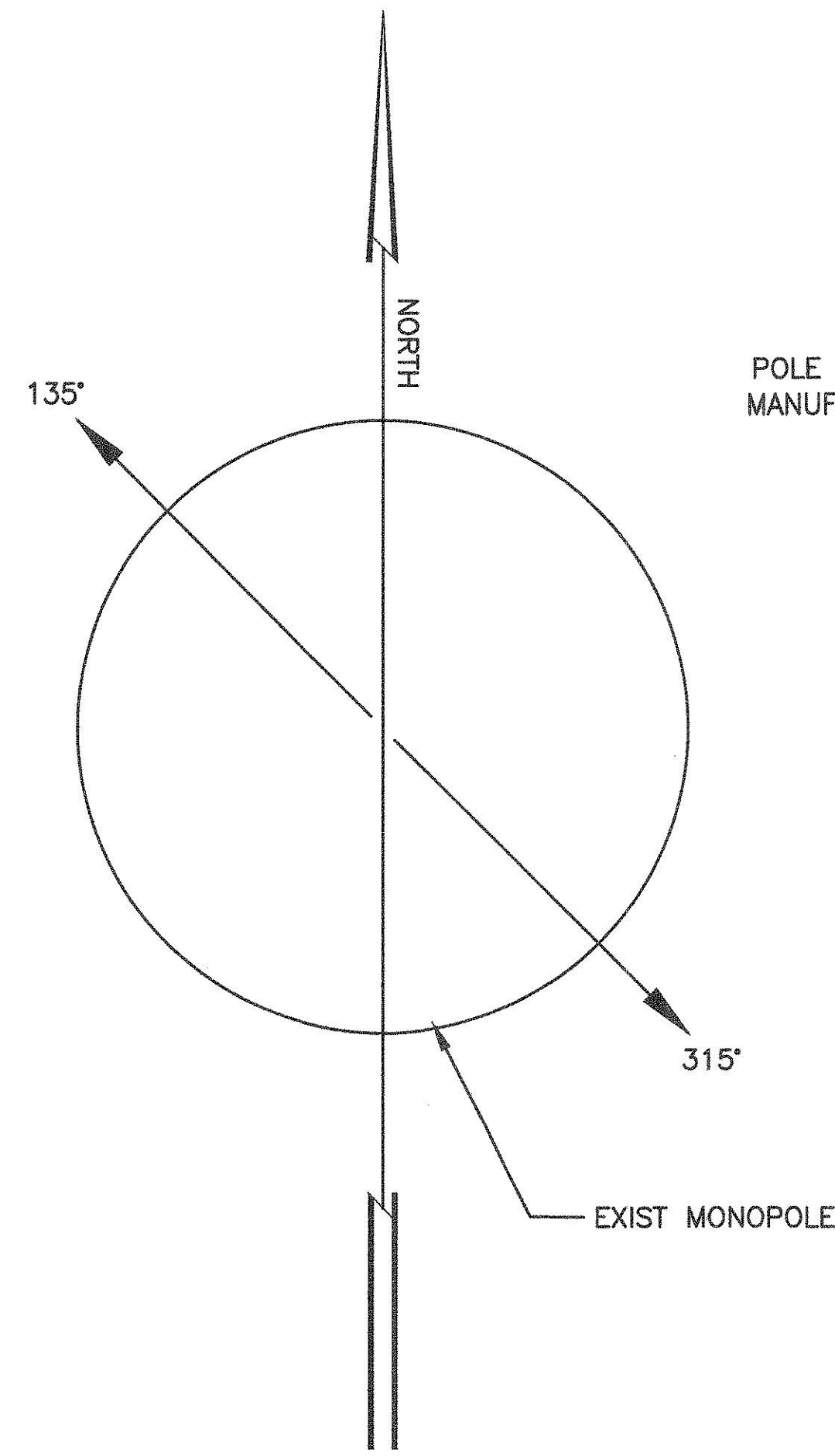
DEPARTMENT OF TRANSPORTATION SERVICES
CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALUALEI COMMUNICATION TOWER
8-7-006022
SYSTEM MAP

PROJECT NO.: CB-1B1-24

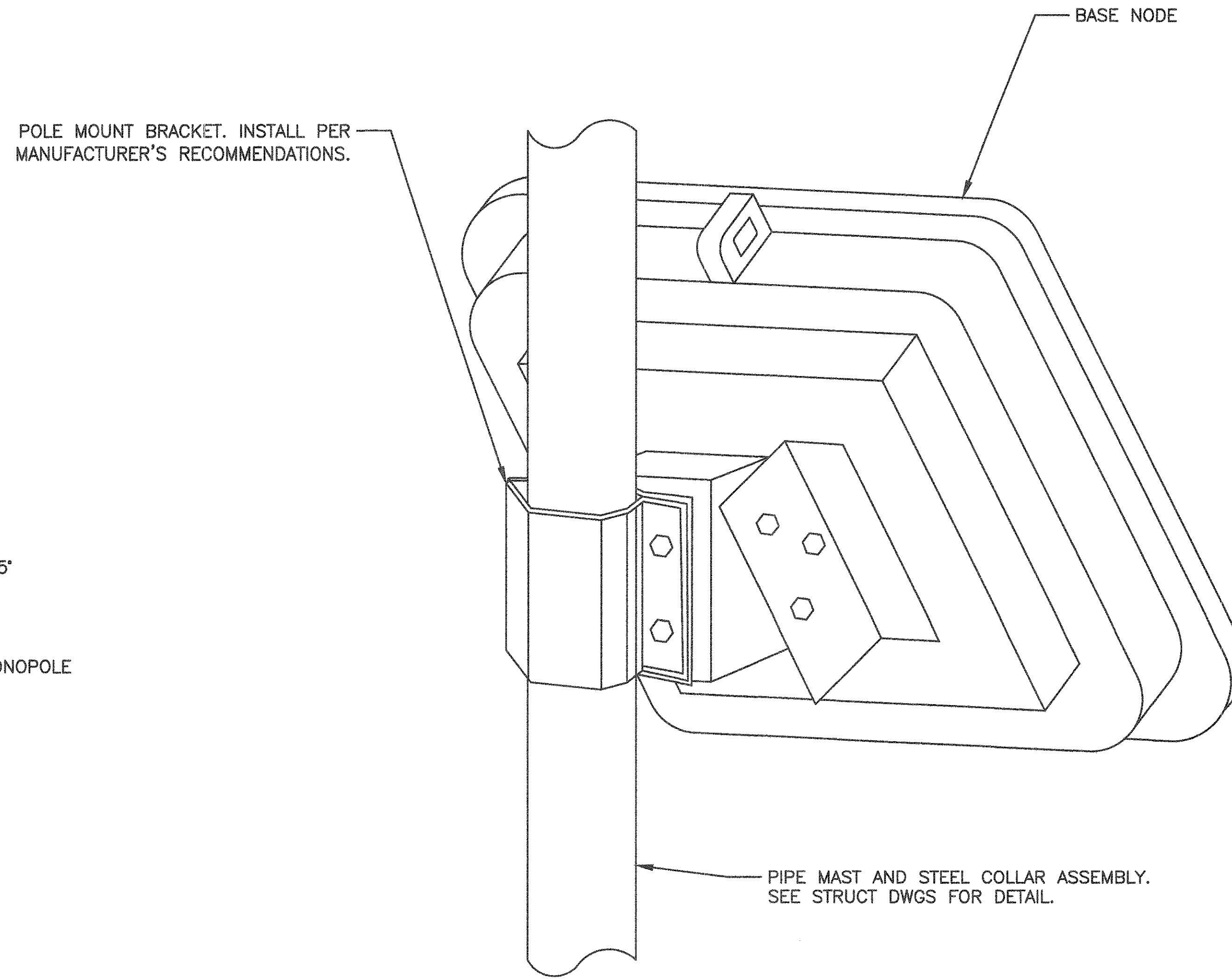
DRAWING NO.:

C-3

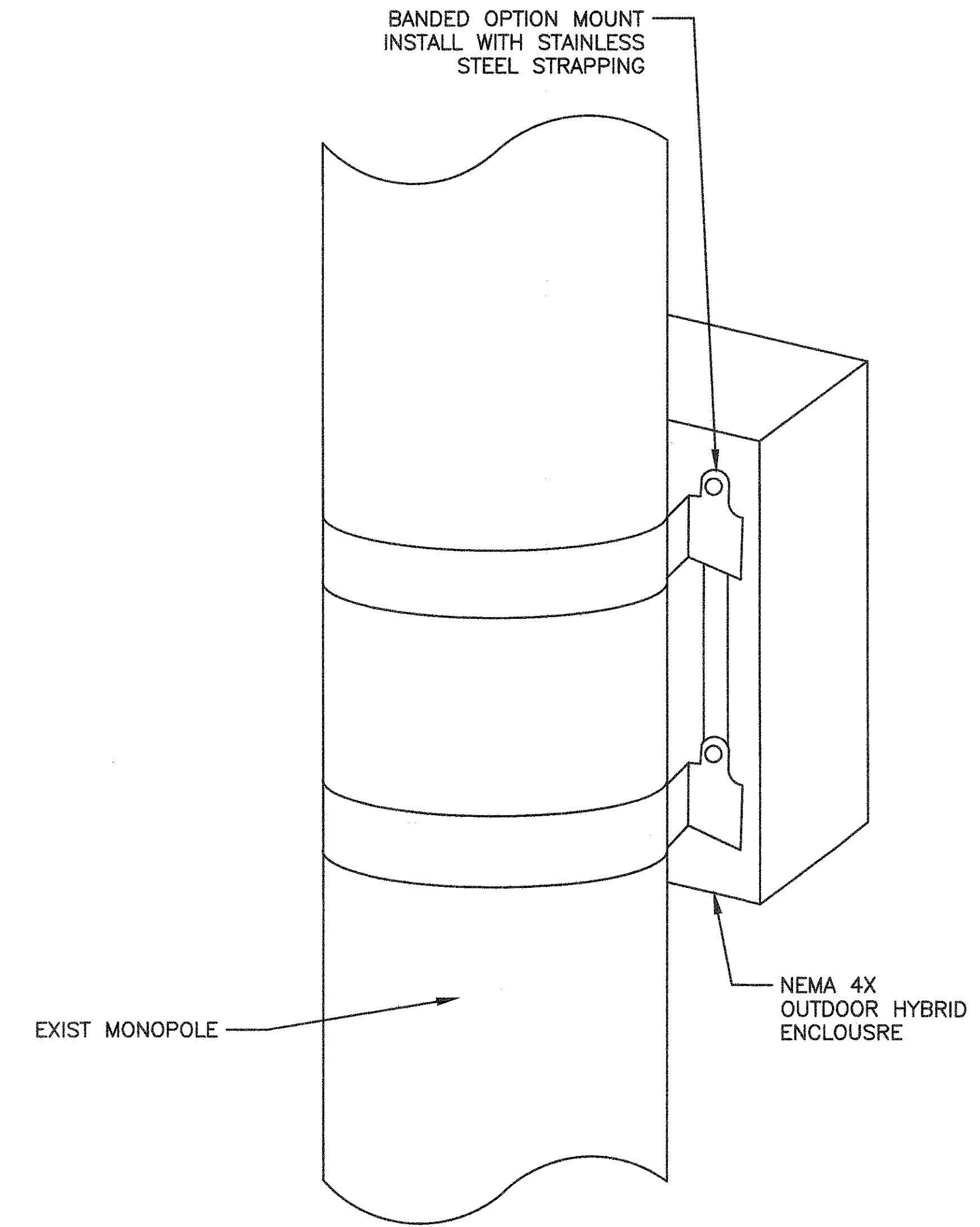
SHEET NO.
5 OF 64



BASE NODE ORIENTATION DETAIL
SCALE: NTS

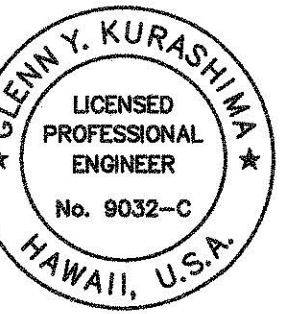


BASE NODE INSTALLATION DETAIL
SCALE: NTS



OUTDOOR HYBRID ENCLOSURE INSTALLATION DETAIL
SCALE: NTS

DATE	BY	DESCRIPTION	APPROVED



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DESIGN BY: GK DRAWN BY: ZT
 CHECKED BY: GK DATE: 4/14/2025
 ACCEPTED: *[Signature]*
 Chief, Transportation Technology Division
 Department of Transportation Services

DEPARTMENT OF TRANSPORTATION SERVICES
 CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALUALEI COMMUNICATION TOWER
 8-7-008-022
 EQUIPMENT DETAIL

PROJECT NO.: CB-1B1-24

DRAWING NO.:

C-4

SHEET NO.
6 OF 64

GENERAL:

- A. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE STATE BUILDING CODE OF HAWAII (IBC, 2018 EDITION AS AMENDED BY THE CITY COUNTY OF HONOLULU). HOWEVER, WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
- B. THE CONTRACTOR SHALL COMPARE ALL THE CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO THE ARCHITECT ALL INCONSISTENCIES AND OMISSIONS.
- C. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO THE ARCHITECT ALL INCONSISTENCIES AND OMISSIONS.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.
- E. CONSTRUCTION LOADING SHALL NOT EXCEED DESIGN LIVE LOAD UNLESS SPECIAL SHORING IS PROVIDED. ALLOWABLE LOADS SHALL BE REDUCED IN AREAS WHERE THE STRUCTURE HAS NOT ATTAINED FULL DESIGN STRENGTH.
- F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE ADJACENT PROPERTIES, STRUCTURES, STREETS AND UTILITIES DURING THE CONSTRUCTION PERIOD.
- G. DETAILS NOTED AS TYPICAL ON THE STRUCTURAL DRAWINGS SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED.
- H. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS MUST SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS.

DESIGN CRITERIA:

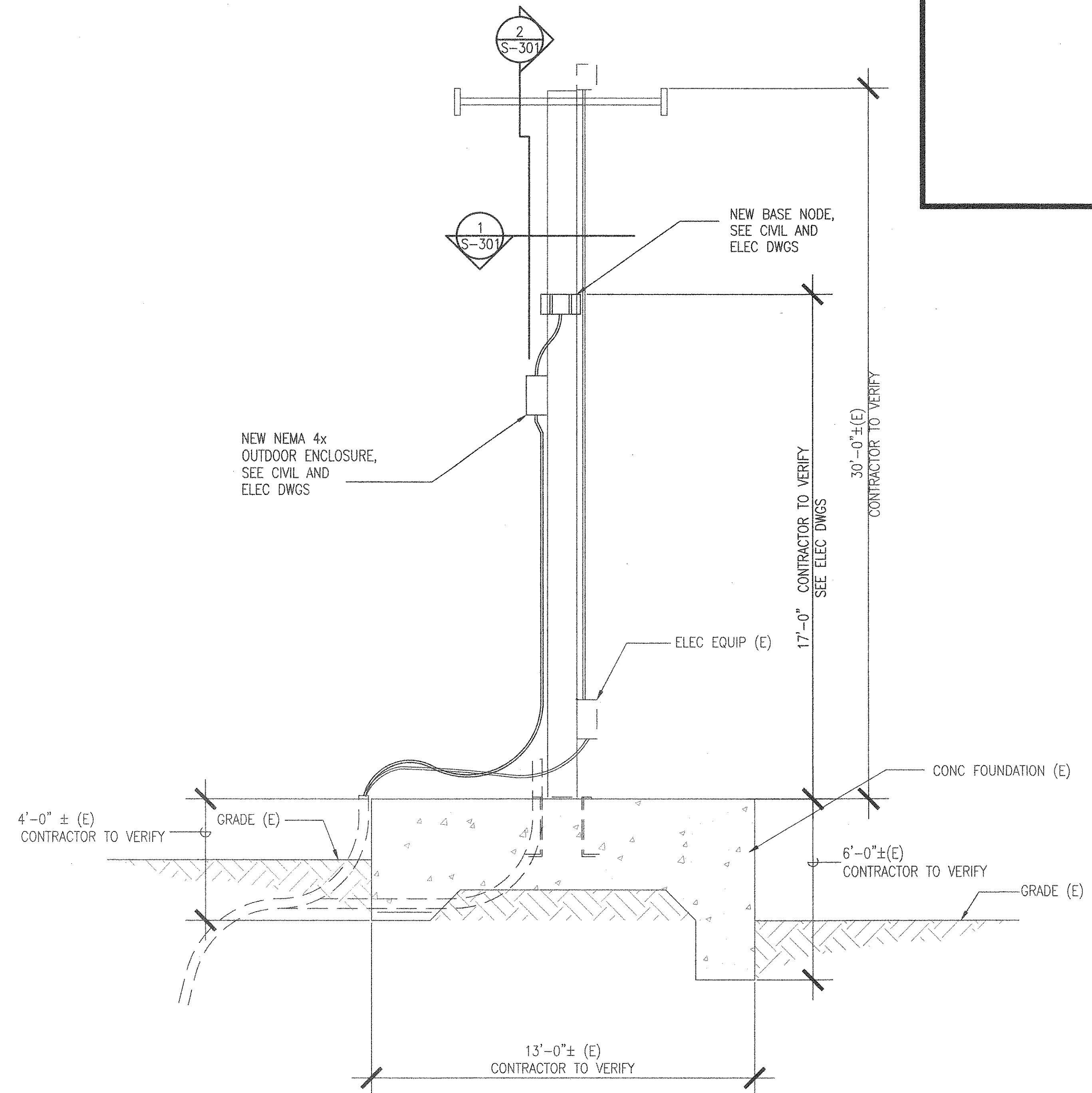
- A. RISK CATEGORY _____ II
- B. SEISMIC
 - a. SEISMIC IMPORTANCE FACTOR: _____ 1.25
 - b. MAPPED SPECTRAL RESPONSE ACCELERATIONS:
 - A. SS _____ 0.537
 - B. S1 _____ 0.147
 - c. SPECTRAL RESPONSE COEFFICIENTS:
 - A. SDS _____ 0.491
 - B. SD1 _____ 0.226
 - d. SEISMIC DESIGN CATEGORY: _____ D
- C. WIND
 - A. BASIC WIND SPEED - 3 SECOND GUST _____ 150 MPH
 - B. WIND EXPOSURE CATEGORY _____ C
 - C. WIND DIRECTIONALITY FACTOR, Kd _____ 0.85
 - D. WIND TOPOGRAPHIC FACTOR, Kzt _____ 1.0
 - E. GROUND ELEVATION FACTOR, Ke _____ 1.0
 - F. COMPONENTS & CLADDING _____ 72 PSF

STRUCTURAL STEEL:

- A. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION, FIFTEENTH EDITION.
- B. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE NOTED.
- C. STEEL PIPES SHALL CONFORM TO ASTM A252, GRADE B.
- D. STEEL TUBES SHALL CONFORM TO ASTM A500, GRADE B
- E. BOLTS FOR STRUCTURAL STEEL TO STRUCTURAL STEEL CONNECTIONS SHALL CONFORM TO ASTM A307, GRADE A UNLESS OTHERWISE NOTED.
- F. WELDS AND WELDING PROCEDURES SHALL CONFORM TO THE STRUCTURAL WELDING CODE AWS D1.1 OF THE AMERICAN WELDING SOCIETY.
- G. WELDING SHALL BE PERFORMED BY WELDERS PREQUALIFIED FOR WELDING PROCEDURES TO BE USED.
- H. WELDING ELECTRODES SHALL BE E70XX.
- I. ALL STEEL SHALL BE PRIME PAINTED IN THE SHOP.
- J. EXPOSED STEEL SHALL BE HOT-DIPPED GALVANIZED.
- K. THE FOLLOWING SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW:
 - a. SHOP DRAWINGS DETAILING FABRICATION OF STRUCTURAL STEEL COMPONENTS INCLUDING DETAILS OF CUTS, CONNECTIONS, HOLES; WELDS; TYPE, SIZE AND LENGTH OF BOLTS; AND OTHER PERTINENT DATA.
 - b. CURRENT WELDER'S CERTIFICATION OF EACH INDIVIDUAL PERFORMING WELDING WORK.
 - c. MILL TEST REPORTS SIGNED BY MANUFACTURERS CERTIFYING THAT STRUCTURAL STEEL, BOLTS, AND OTHER COMPONENTS COMPLY WITH

SPECIAL INSPECTION:

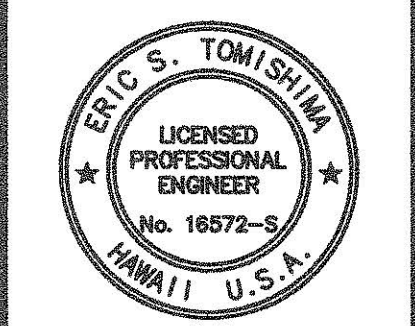
- A. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SPECIAL INSPECTION OF PORTIONS OF THE WORK, AS REQUIRED BY THE BUILDING CODE OF THE CITY & COUNTY OF HONOLULU, IS MADE AT THE APPROPRIATE TIME. THE CONTRACTOR SHALL GIVE TIMELY NOTICE OF WHEN AND WHERE INSPECTIONS ARE TO BE MADE AND PROVIDE ACCESS FOR THE INSPECTOR. THE CONTRACTOR SHALL CORRECT DEFECTIVE WORK AT NO ADDITIONAL COST TO THE STATE AND PAY FOR RE-INSPECTION.
- B. GENERAL. WHERE APPLICATION IS MADE FOR CONSTRUCTION AS DESCRIBED IN THIS SECTION, THE CONTRACTOR SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER IBC SECTION 1704. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE IBC SECTION 109.
 - A. STATEMENT OF SPECIAL INSPECTIONS. THE PERMIT APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH THE IBC SECTION 106.1 AS A CONDITION FOR PERMIT ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH IBC SECTION 1705.
 - B. REPORT REQUIREMENT. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
- C. STEEL CONSTRUCTION. SPECIAL INSPECTIONS AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360.
- D. SPECIAL INSPECTIONS FOR WIND RESISTANCE.
- E. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.



EXIST COMMUNICATION TOWER RETROFIT ELEVATION

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

NO.	DATE	DESCRIPTION	REVISION	APPROVED



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
 Eric S. Tomshim
 4-30-28

DESIGN BY: ET
 DRAWN BY: JG
 CHECKED BY: ET
 DATE: 4/4/2025
 ACCEPTED:
 Chief, Facilities Division

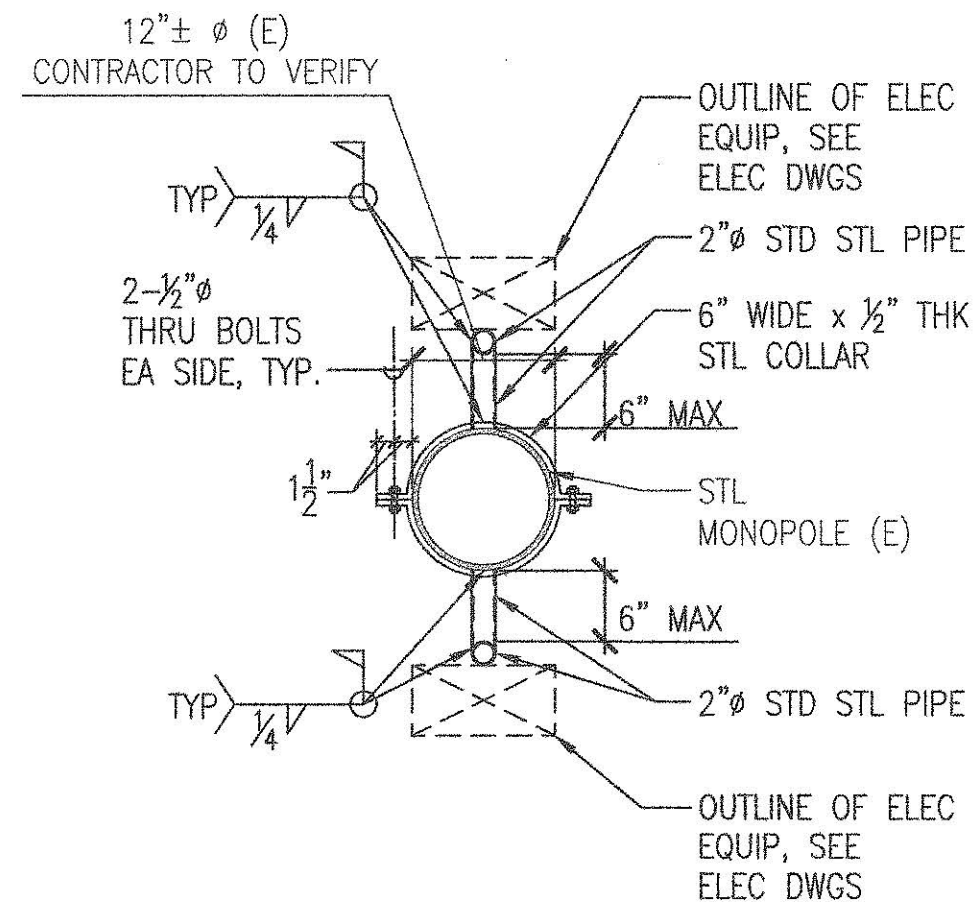
DEPARTMENT OF DESIGN AND CONSTRUCTION
 CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALUALEI COMMUNICATION TOWER
 8-7-008022
 GENERAL NOTES AND EXIST COMM TOWER RETROFIT ELEV

PROJECT NO.: CB-1B1-24
 DRAWING NO.:

S-001

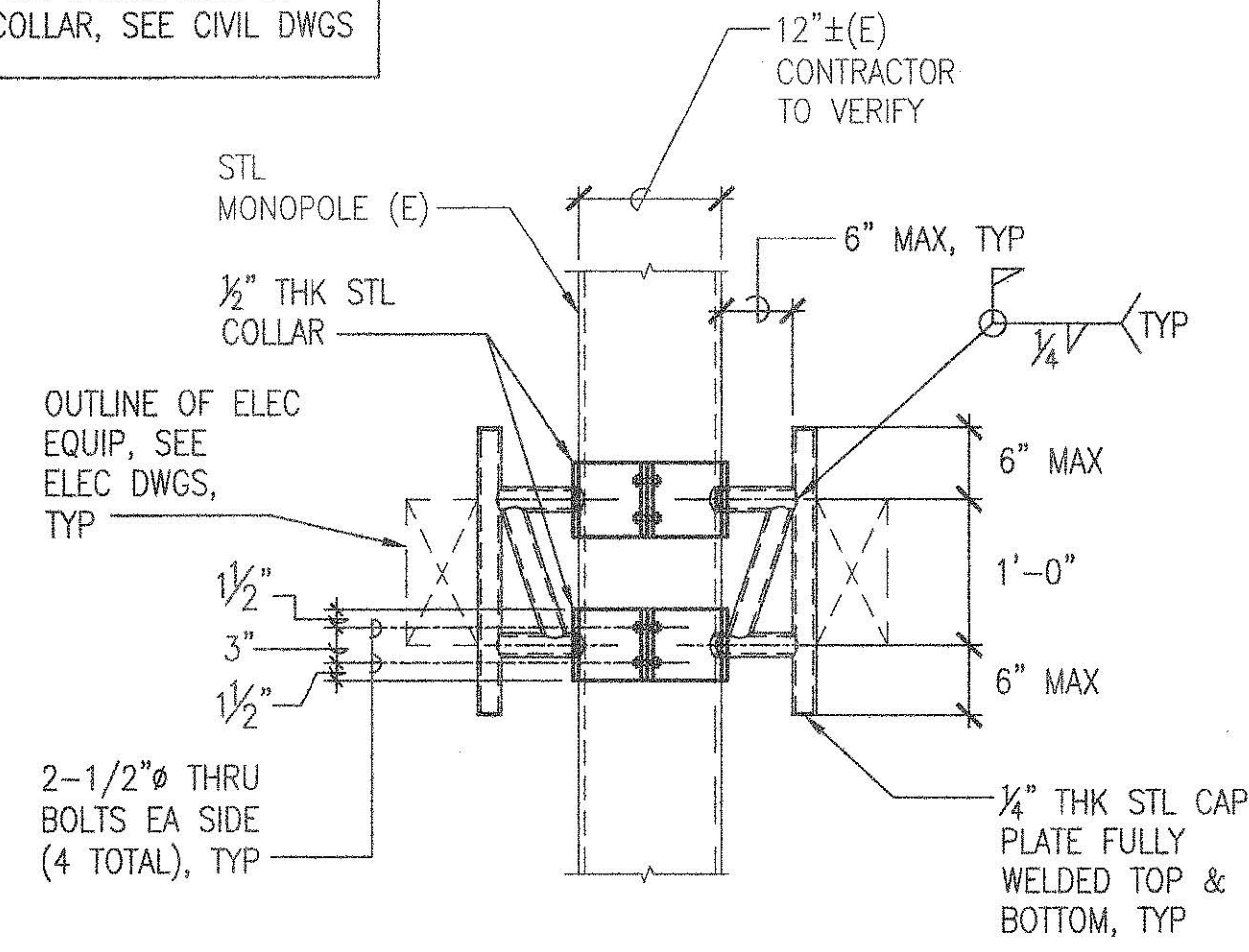
SHEET NO.
7 OF 64

NOTE: FOR ORIENTATION OF COLLAR, SEE CIVIL DWGS



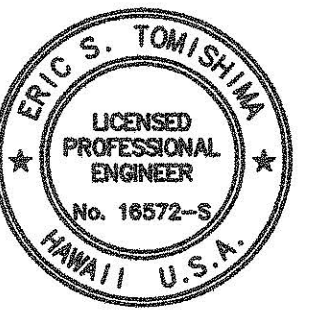
1 SECTION
S-301 SCALE: 3/4" = 1'-0"

NOTE: FOR ORIENTATION OF COLLAR, SEE CIVIL DWGS



2 SECTION
S-301 SCALE: 3/4" = 1'-0"

REVISION	DATE	DESCRIPTION	APPROVED



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
Signature: *[Signature]* Date: 4-30-28

DESIGN BY: JG
DRAWN BY: ET
DATE: 4/4/2025
CHECKED BY: ET
ACCEPTED: *[Signature]*
Chief Facilities Design

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUUALALEI COMMUNICATION TOWER
8-7-006022

PROJECT NO.: CB-1B1-24
DRAWING NO.:
S-301
SHEET NO.
8 OF 64

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXIST STREET LIGHT		ELECTRICAL METER
	EXIST. ELECTRICAL POLE		EXIST. ELECTRICAL PANELBOARD
	EXIST. GUY LINE		ELECTRICAL PANELBOARD
	EXIST. OVERHEAD ELECTRICAL LINES		DUPLEX RECEPTACLE, ARC FAULT INTERRUPTER TYPE, 125V, NEMA 5-20R, WALL MTD, SEE ARCH DWGS WHERE NOTED, OTHERWISE, 12" AFF
	EXIST. OVERHEAD TELECOM LINES		DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER TYPE, 125V, NEMA 5-20R, WALL MTD, SEE ARCH DWGS WHERE NOTED, OTHERWISE, 12" AFF
	EXIST. OVERHEAD CATV LINES		JUNCTION BOX, 4" SQ. MIN., WALL/CEILING MTD RESPECTIVELY
	EXIST. OVERHEAD STREET LIGHTING LINES		LARGE JUNCTION BOX, SIZE AS NOTED, WALL/CEILING MTD RESPECTIVELY
	EXIST. OVERHEAD ELECTRICAL LINES TO BE REMOVED BY HECO		ELECTRICAL CONNECTION
	EXIST. OVERHEAD TELECOM LINES TO BE REMOVED BY HTCO		TELECOM EQUIPMENT CONNECTION
	EXIST. OVERHEAD CATV LINES TO BE REMOVED BY OTWC		
	EXIST. OVERHEAD STREET LIGHTING LINES TO BE REMOVED		
	EXIST 10 POLE TOP TRANSFORMER		
	ELECTRICAL DUCTLINES WITH DESIGNATORS; INDICATES TYPE "A" DUCT SECTION WITH "2-2E" DUCTS. SEE SHEET E301 FOR DUCT SECTIONS AND CONDUIT SCHEDULE.		
	(E-ELECTRICAL, T-TELECOM, V-CATV, L-STREET LIGHTING, TS-TRAFFIC SIGNAL)		
	NOTE SYMBOL, SEE PLAN FOR NOTES		

ABBREVIATIONS

SYMBOL	DESCRIPTION
AFF	DENOTES "ABOVE FINISHED FLOOR"
BKR	DENOTES "BREAKER"
CKT	DENOTES "CIRCUIT"
DISC	DENOTES "DISCONNECT"
EF	DENOTES "EXHAUST FAN"
EQUIP	DENOTES "EQUIPMENT"
EXIST	DENOTES "EXISTING"
AFCI	DENOTES "ARC FAULT CIRCUIT INTERRUPTER"
GFCI	DENOTES "GROUND FAULT CIRCUIT INTERRUPTER"
HECO	DENOTES "HAWAIIAN ELECTRIC COMPANY"
HT	DENOTES "HAWAIIAN TELCOM"
MTD	DENOTES "MOUNTED"
SS	DENOTES "STAINLESS STEEL"
SW	DENOTES "SWITCH"
WP	DENOTES "WEATHERPROOF"
AHJ	DENOTES "AUTHORITY HAVING JURISDICTION"
HH	DENOTES "HANDHOLE"
JB	DENOTES "JUNCTION BOX"
TYP.	DENOTES "TYPICAL"
XFMR	DENOTES "TRANSFORMER"

NEW/EXISTING LEGEND*

SYMBOL	DESCRIPTION
	EXISTING WORK OR CURRENT PHASE (BOLD)
	NEW WORK OR CURRENT PHASE (BOLD)
	DEMOLISHED WORK

* LEGEND APPLIES TO ALL PLAN SHEETS.

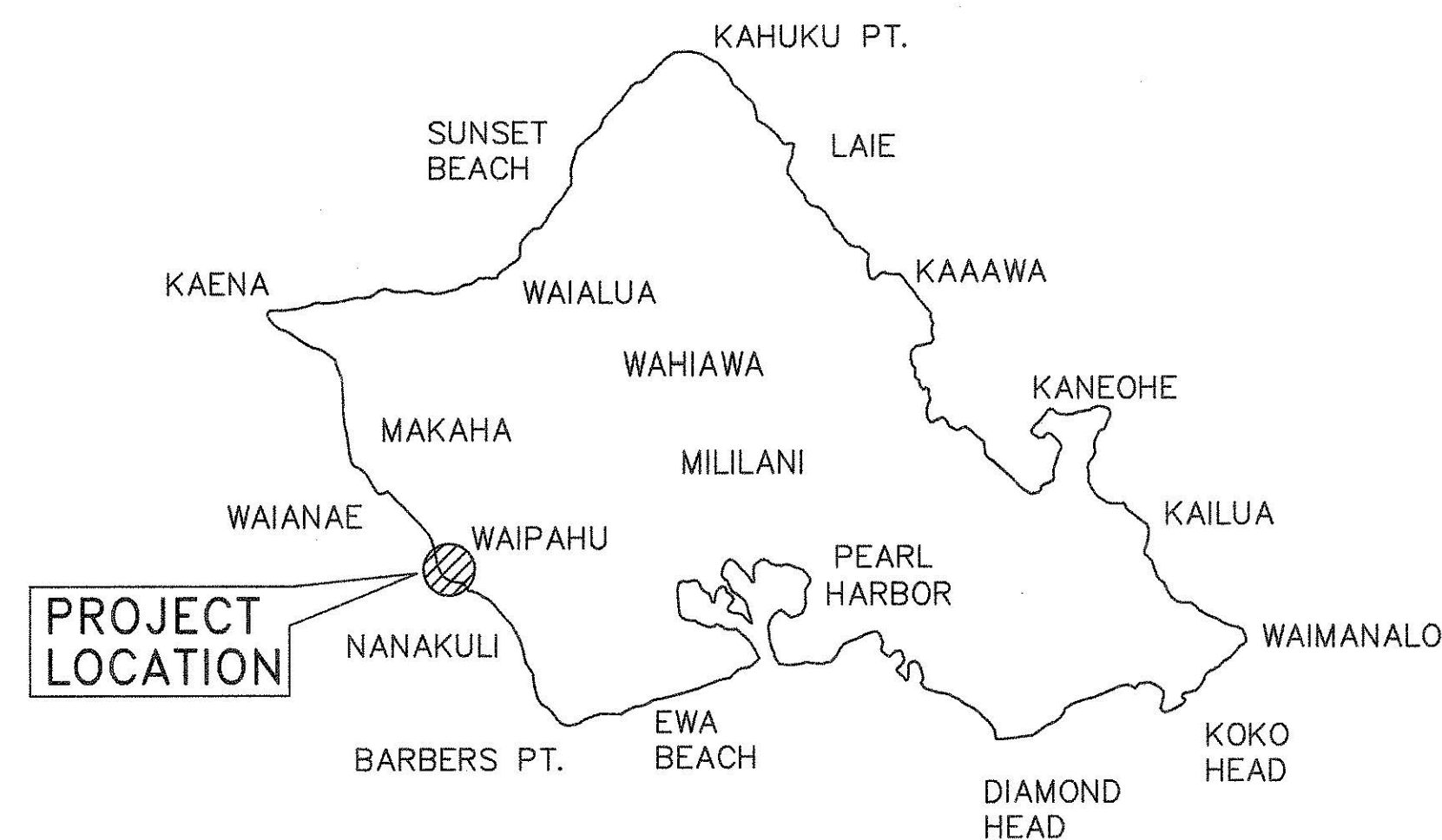
MINIMUM CONDUIT SIZE SHALL BE 3/4". ANY CIRCUIT W/ NO FUTHER DESIGNATION INDICATES A TWO (2) WIRE CIRCUIT. CIRCUITS W/ ADDITIONAL WIRE ARE INDICATED AS FOLLOWS: --- 3 WIRES, --- 4 WIRES, ETC. MINIMUM CONDUCTOR SIZE SHALL BE #12. ALTHOUGH NOT INDICATED, A SEPARATE GREEN GROUND CONDUCTOR SIZED PER THE N.E.C. SHALL BE INSTALLED IN ALL BRANCH CIRCUIT CONDUITS.

GENERAL ELECTRICAL NOTES

- A. THE LOCATION OF OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN PROXIMITY OF UNDERGROUND LINES AND SHALL MAINTAIN ADEQUATE CLEARANCE WHEN OPERATING EQUIPMENT UNDER ANY OVERHEAD LINES.
- B. THE CONTRACTOR IS TO COMPLY WITH THE DIRECTIONS OF THE STATE OF HAWAII OCCUPATIONAL SAFETY AND HEALTH LAW (DOSH).
- C. WHEN TRENCH EXCAVATION IS ADJACENT TO EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SHEETING AND BRACING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE FROM POSSIBLE SLIDES, CAVE-INS AND SETTLEMENT, AND FOR PROPERLY SUPPORTING EXISTING STRUCTURES AND FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING TO FULLY PROTECT IT FROM DAMAGE.
- D. AS REQUIRED BY THE CITY AND COUNTY OF HONOLULU, THE CONTRACTOR SHALL PROVIDE OFF-DUTY POLICE OFFICERS TO CONTROL THE FLOW OF TRAFFIC.
- E. WHERE PEDESTRIAN WALKWAYS EXIST, SUCH WALKWAYS SHALL BE MAINTAINED IN PASSABLE CONDITION OR OTHER FACILITIES FOR PEDESTRIANS SHALL BE PROVIDED. PASSAGE BETWEEN WALKWAYS AT INTERSECTIONS SHALL LIKEWISE BE PROVIDED.
- F. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THESE RIGHT-OF-WAYS ARE OTHERWISE PROVIDED FOR SATISFACTORILY.
- G. THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN BY THE ENGINEER TO EXIST FROM HIS SEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE FACILITIES AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES ARE SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS TO VERIFY THEIR LOCATIONS AND DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES.

DEPARTMENT OF DESIGN & CONSTRUCTION MECHANICAL/ELECTRICAL DIVISION NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE MECHANICAL/ELECTRICAL DIVISION, DEPARTMENT OF DESIGN AND CONSTRUCTION TWO (2) WEEKS IN ADVANCE OF ANY RELOCATION OF UTILITY POLE(S) THAT MAY BE NECESSARY. (1-808-768-8431).
2. THE CONTRACTOR SHALL NOTIFY THE MECHANICAL/ELECTRICAL DIVISION, DEPARTMENT OF DESIGN AND CONSTRUCTION, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE STREET LIGHT SYSTEM. (1-808-768-8431).
3. THE STREET LIGHTING SYSTEM SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE MECHANICAL/ELECTRICAL DIVISION AND PAID FOR BY THE CONTRACTOR.
4. THE LOCATIONS OF THE EXISTING UNDERGROUND STREET LIGHT FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING PLANS AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY TO THE EXISTING STREET LIGHT FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING STREET LIGHT FACILITIES. ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE CITY'S EXISTING COMMUNICATIONS FIBER OPTIC CABLE SYSTEM. ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.
6. SALVAGE AND DELIVER EXISTING STREET LIGHT STANDARD TO THE DEPARTMENT OF FACILITY MAINTENANCE BASEYARD AT MANANA AS DIRECTED BY THE STREET LIGHT INSPECTOR. CONTACT 1-808-768-5310 A MINIMUM OF TWO DAYS PRIOR TO DELIVERY.

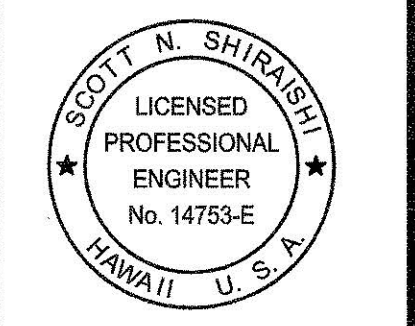


VICINITY MAP
ISLAND OF OAHU
 NOT TO SCALE



LOCATION MAP
 NOT TO SCALE

BY	DATE	DESCRIPTION	REVISION	DATE	DESCRIPTION	REVISION	DATE	DESCRIPTION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.
Signature: [Signature] Date: 4/17/26

DESIGN BY: CAD
 CHECKED BY: SS
 DATE: 4/4/2025
 ACCEPTED: [Signature]
 Program Administrator, Mechanical/Electrical Division

DEPARTMENT OF DESIGN AND CONSTRUCTION
 CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALAIEI COMMUNICATION TOWER
 8-7-006022
 ELECTRICAL SYMBOLS, LOCATION MAP, AND VICINITY MAP

PROJECT NO.: CB-1B1-24
 DRAWING NO.:
E-100
 SHEET NO.
9 OF **64**

1. LOCATION OF HAWAIIAN ELECTRIC FACILITIES

THE LOCATION OF HAWAIIAN ELECTRIC'S OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATIONS OF THE FACILITIES AND SHALL EXERCISE PROPER CARE IN EXCAVATING AND WORKING IN THE AREA WHEREVER CONNECTIONS OF NEW UTILITIES TO EXISTING UTILITIES AND UTILITY CROSSINGS ARE SHOWN. THE CONTRACTOR SHALL EXPOSE THE EXISTING LINES AT THE PROPOSED CONNECTIONS AND CROSSINGS TO VERIFY THE DEPTHS PRIOR TO EXCAVATION FOR THE NEW LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES WHETHER SHOWN OR NOT SHOWN ON THE PLANS.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS

THE CONTRACTOR SHALL COMPLY WITH THE STATE OF HAWAII'S OCCUPATIONAL SAFETY AND HEALTH LAWS AND REGULATIONS, INCLUDING WITHOUT LIMITATION, THOSE RELATED TO WORKING ON OR NEAR EXPOSED OR ENERGIZED ELECTRICAL LINES AND EQUIPMENT.

3. EXCAVATION CLEARANCE

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION CLEARANCE FROM HAWAIIAN ELECTRIC'S PLANNING AND DESIGN SECTION OF THE TRANSMISSION & DISTRIBUTION ENGINEERING DEPARTMENT (543-5654) LOCATED AT 820 WARD AVENUE, 4TH FLOOR, A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO STARTING CONSTRUCTION.

4. CAUTION: ELECTRICAL HAZARD!!

EXISTING HAWAIIAN ELECTRIC OVERHEAD AND UNDERGROUND LINES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS PRIOR SPECIAL ARRANGEMENTS HAVE BEEN MADE WITH HAWAIIAN ELECTRIC. ONLY HAWAIIAN ELECTRIC PERSONNEL ARE TO HANDLE THESE ENERGIZED LINES AND ERECT TEMPORARY GUARDS TO PROTECT THESE LINES FROM DAMAGE. THE CONTRACTOR SHALL WORK CAUTIOUSLY AT ALL TIMES TO AVOID ACCIDENTS AND DAMAGE TO EXISTING HAWAIIAN ELECTRIC FACILITIES, WHICH CAN RESULT IN ELECTROCUTION.

5. OVERHEAD LINES

STATE LAW (OSHA) REQUIRES THAT A WORKER AND THE LONGEST OBJECT HE OR SHE MAY CONTACT CANNOT COME CLOSER THAN A SPECIFIED MINIMUM RADIAL CLEARANCE WHEN WORKING CLOSE TO OR UNDER ANY OVERHEAD LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE INFORMED OF AND COMPLY WITH THE LAW.

AT ANY TIME SHOULD THE CONTRACTOR ANTICIPATE THAT HIS WORK WILL RESULT IN THE NEED TO ENCRoACH WITHIN THE MINIMUM REQUIRED CLEARANCE AS STATED IN THE LAW, THE CONTRACTOR SHALL NOTIFY HAWAIIAN ELECTRIC AT LEAST THREE (3) MONTHS PRIOR TO THE PLANNED ENCROACHMENT SO THAT, IF FEASIBLE, THE NECESSARY PROTECTIONS (E.G. RELOCATE OR DE-ENERGIZE HAWAIIAN ELECTRIC LINES) CAN BE INVESTIGATED. HAWAIIAN ELECTRIC MAY ALSO BE ABLE TO BLANKET ITS DISTRIBUTION (12KV AND BELOW) LINES TO PROVIDE A VISUAL AID IN PREVENTING ACCIDENTAL CONTACT. HAWAIIAN ELECTRIC'S COST OF SAFEGUARDING OR IDENTIFYING ITS LINES WILL BE CHARGED TO THE CONTRACTOR.

CONTACT HAWAIIAN ELECTRIC'S CUSTOMER RELATIONS AT 543-7070 FOR ASSISTANCE IN IDENTIFYING AND SAFEGUARDING OVERHEAD POWER LINES.

6. POLE BRACING

a) CONTRACTOR SHALL NOT EXCAVATE WITHIN 10 FEET OF HAWAIIAN ELECTRIC'S UTILITY POLES OR ANY ANCHOR SYSTEM SUPPORTING THE UTILITY POLE. IF CONTRACTOR MUST EXCAVATE AN AREA MORE THAN 12 INCHES DEEP BY 12 INCHES WIDE, AND CLOSER THAN 10 FEET FROM A UTILITY POLE OR ITS ANCHOR SYSTEM, EXCEPT WHEN EXCAVATING FOR RISERS IN A SINGLE TRENCH NOT WIDER THAN 12 INCHES AND NOT DEEPER THAN 3 FEET, CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING, SUPPORTING, SECURING AND TAKING ALL PRECAUTIONS TO PREVENT DAMAGE TO OR LEANING OF EXISTING POLES. BEFORE COMMENCING SUCH EXCAVATION, CONTRACTOR MUST NOTIFY HAWAIIAN ELECTRIC WHICH MAY LEAD TO IMPLEMENTING POLE BRACING REQUIREMENTS. HAWAIIAN ELECTRIC REQUIRES A MINIMUM OF TEN (10) WORKING DAYS TO CONDUCT THE REVIEW OF CONTRACTOR'S SUBMITTAL. CONTRACTOR SHALL SUBMIT ITS BRACING CALCULATIONS AND DRAWINGS, PREPARED AND STAMPED BY A LICENSED STRUCTURAL ENGINEER, TO HAWAIIAN ELECTRIC'S CUSTOMER RELATIONS (543-7070) FOR REVIEW. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF THE TEMPORARY POLE BRACING SYSTEM, AS WELL AS ALL COSTS INCURRED BY HAWAIIAN ELECTRIC TO REVIEW CONTRACTOR'S DRAWINGS AND TO REPAIR OR STRAIGHTEN POLES IMPACTED BY CONTRACTOR'S ACTIVITIES, INCLUDING RESPONSE AND RESTORATION COSTS INCURRED BY HAWAIIAN ELECTRIC ARISING OUT OF OR RELATED TO OUTAGES CAUSED BY CONTRACTOR'S FAILURE TO MEET THE FOREGOING REQUIREMENTS. HAWAIIAN ELECTRIC'S RECEIPT OF POLE BRACING CALCULATION OR DRAWING SUBMITTALS OF ANY CONTRACTOR, INCLUDING WORK PROCEDURE, SHALL NOT RELIEVE CONTRACTOR FROM ANY LIABILITY RESULTING FROM CONTRACTOR'S EXCAVATION NEAR OR AROUND HAWAIIAN ELECTRIC'S UTILITY POLES.

b) HAWAIIAN ELECTRIC MAY PROVIDE TO THE CUSTOMER INFORMATION RELATED TO POLE BRACING, INCLUDING CALCULATIONS AND OTHER BASIC ENGINEERING. HOWEVER, HAWAIIAN ELECTRIC PROVIDES THIS INFORMATION FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT WARRANT ANY OF THE INFORMATION PROVIDED TO CUSTOMER. HAWAIIAN ELECTRIC HEREBY DISCLAIMS ANY LIABILITY ASSOCIATED WITH THE CUSTOMER'S USE OF INFORMATION PROVIDED TO THE CUSTOMER FROM HAWAIIAN ELECTRIC. IT IS THE CUSTOMER'S DUTY TO OBTAIN ENGINEERING FROM ITS OWN ENGINEER OR CONTRACTOR IN ORDER TO BRACE POLES AND THE USE OF HAWAIIAN ELECTRIC'S INFORMATION DOES NOT EXCUSE THE CUSTOMER FROM PERFORMING ITS OWN EVALUATION OF THE BRACING NEEDS. SHOULD THE CUSTOMER INSTALL BRACING AT ANY POLE LOCATION, CUSTOMER SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS HAWAIIAN ELECTRIC FROM ANY THIRD PARTY CLAIMS ASSOCIATED WITH THE CUSTOMER'S BRACING OF A POLE. SHOULD THE WORK CUSTOMER PERFORM AT OR NEAR THE POLE LOCATION COMPROMISE THE POLE OR ITS SURROUNDINGS IN ANY WAY, CUSTOMER SHALL RESTORE OR REPLACE THE POLE SO THAT IT IS NO LONGER COMPROMISED.

7. UNDERGROUND LINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND LINES. HAWAIIAN ELECTRIC'S EXISTING ELECTRICAL CABLES ARE ENERGIZED AND WILL REMAIN ENERGIZED DURING CONSTRUCTION. ONLY HAWAIIAN ELECTRIC PERSONNEL ARE TO BREAK INTO EXISTING HAWAIIAN ELECTRIC FACILITIES, HANDLE THESE CABLES, AND ERECT TEMPORARY GUARDS TO PROTECT THESE CABLES FROM DAMAGE. THE COST OF HAWAIIAN ELECTRIC'S ASSISTANCE IN PROVIDING PROPER SUPPORT AND PROTECTION OF ITS UNDERGROUND LINES WILL BE CHARGED TO THE CONTRACTOR. FOR ASSISTANCE/COORDINATION IN PROVIDING PROPER SUPPORT AND PROTECTION OF THESE LINES, THE CONTRACTOR SHALL CALL HAWAIIAN

ELECTRIC'S CUSTOMER RELATIONS AT 543-7070 A MINIMUM OF TEN (10) WORKING DAYS IN ADVANCE.

SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HAWAIIAN ELECTRIC'S 138KV OR 46KV UNDERGROUND LINES (SEE HAWAIIAN ELECTRIC INSTRUCTIONS TO CONSULTANTS/CONTRACTORS ON "EXCAVATION NEAR HAWAIIAN ELECTRIC'S UNDERGROUND 138KV AND/OR 46KV LINES" FOR DETAILED REQUIREMENTS).

FOR VERIFICATION OF UNDERGROUND LINES, THE CONTRACTOR SHALL CALL THE HAWAII ONE CALL CENTER AT 866-423-7287 MINIMUM OF FIVE (5) WORKING DAYS IN ADVANCE.

8. UNDERGROUND FUEL PIPELINES

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF HAWAIIAN ELECTRIC'S UNDERGROUND FUEL OIL PIPELINES. SPECIAL PRECAUTIONS ARE REQUIRED WHEN EXCAVATING NEAR HAWAIIAN ELECTRIC'S UNDERGROUND FUEL OIL PIPELINES (SEE HAWAIIAN ELECTRIC'S SPECIFIC FUEL PIPELINE "GUIDELINES" TO CONSULTANTS/CONTRACTORS ON EXCAVATION NEAR HAWAIIAN ELECTRIC'S UNDERGROUND FUEL PIPELINES FOR DETAILED REQUIREMENTS).

9. EXCAVATIONS

WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HAWAIIAN ELECTRIC'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:

- a) ARRANGING FOR HAWAIIAN ELECTRIC STANDBY PERSONNEL TO OBSERVE WORK AT CONTRACTOR'S COST.
- b) SHEETING, BRACING, OR OTHERWISE SUPPORTING THE EXCAVATION AND STABILIZING THE EXISTING GROUND TO RENDER IT SAFE AND SECURE AND TO PREVENT POSSIBLE SLIDES, CAVE-INS, AND SETTLEMENTS.
- c) PROPERLY SUPPORTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS, UNDER-PINNINGS, OR OTHER NECESSARY METHODS TO FULLY PROTECT IT FROM DAMAGE.
- d) BACKFILLING WITH PROPER BACKFILL MATERIAL INCLUDING SPECIAL THERMAL BACKFILL WHERE EXISTING (REFER TO ENGINEERING DIVISION FOR THERMAL BACKFILL SPECIFICATIONS).

10. RELOCATION OF HAWAIIAN ELECTRIC FACILITIES

ANY WORK REQUIRED TO RELOCATE OR MODIFY HAWAIIAN ELECTRIC FACILITIES SHALL BE DONE BY HAWAIIAN ELECTRIC, OR BY THE CONTRACTOR UNDER HAWAIIAN ELECTRIC'S SUPERVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND SHALL PROVIDE NECESSARY SUPPORT FOR HAWAIIAN ELECTRIC'S WORK, WHICH MAY INCLUDE, BUT NOT BE LIMITED TO, STAKING OF POLE/ANCHOR LOCATIONS, IDENTIFYING RIGHT OF WAY AND PROPERTY LINES, EXCAVATION AND BACKFILL, PERMITS AND TRAFFIC CONTROL, BARRICADING, AND RESTORATION OF PAVEMENT, SIDEWALKS, AND OTHER FACILITIES.

ALL COSTS ASSOCIATED WITH ANY RELOCATION OR MODIFICATION (EITHER TEMPORARY OR PERMANENT) FOR THE CONVENIENCE OF THE CONTRACTOR, OR TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS SHALL BE BORNE BY THE CONTRACTOR.

11. CONFLICTS

ANY REDESIGN OR RELOCATION OF HAWAIIAN ELECTRIC'S FACILITIES NOT SHOWN ON THE PLANS MAY BE CAUSE FOR LENGTHY DELAYS. THE CONTRACTOR ACKNOWLEDGES THAT HAWAIIAN ELECTRIC IS NOT RESPONSIBLE FOR ANY DELAY OR DAMAGE THAT MAY ARISE AS A RESULT OF ANY CONFLICTS DISCOVERED OR IDENTIFIED WITH RESPECT TO THE LOCATION OR CONSTRUCTION OF HAWAIIAN ELECTRIC'S ELECTRICAL FACILITIES IN THE FIELD, REGARDLESS OF WHETHER THE CONTRACTOR HAS MET THE REQUESTED MINIMUM ADVANCE NOTICES. IN ORDER TO MINIMIZE ANY DELAY OR IMPACT ARISING FROM SUCH CONFLICTS, HAWAIIAN ELECTRIC SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OR IDENTIFICATION OF SUCH CONFLICT.

12. DAMAGE TO HAWAIIAN ELECTRIC FACILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL HAWAIIAN ELECTRIC SURFACE AND SUBSURFACE UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES AS A RESULT OF HIS OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REPORT SUCH DAMAGES OR ANY HAZARDOUS CONDITIONS RELATED TO HAWAIIAN ELECTRIC'S LINES TO HAWAIIAN ELECTRIC'S TROUBLE DISPATCHER AT 548-7961. REPAIR WORK SHALL BE DONE BY HAWAIIAN ELECTRIC OR BY THE CONTRACTOR UNDER HAWAIIAN ELECTRIC'S SUPERVISION. COSTS FOR DAMAGES TO HAWAIIAN ELECTRIC'S FACILITIES SHALL BE BORNE BY THE CONTRACTOR.

IN CASE OF DAMAGE OR SUSPECTED DAMAGE TO HAWAIIAN ELECTRIC'S FUEL PIPELINE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY HAWAIIAN ELECTRIC'S SECURITY COMMAND CENTER AT 543-7685 (A 24-HOUR NUMBER) SO HAWAIIAN ELECTRIC PERSONNEL CAN SECURE THE DAMAGED SECTION AND REPORT ANY OIL SPILLS TO THE PROPER AUTHORITIES. ALL COSTS ASSOCIATED WITH THE DAMAGE, REPAIR, AND OIL SPILL CLEANUP SHALL BE BORNE BY THE CONTRACTOR.

13. HAWAIIAN ELECTRIC STANDBY PERSONNEL

THE CONTRACTOR MAY REQUEST HAWAIIAN ELECTRIC TO PROVIDE AN INSPECTOR TO STAND-BY DURING CONSTRUCTION NEAR HAWAIIAN ELECTRIC'S FACILITIES. THE COST OF SUCH INSPECTION WILL BE CHARGED TO THE CONTRACTOR.

THE CONTRACTOR SHALL CALL HAWAIIAN ELECTRIC'S CUSTOMER RELATIONS AT 543-7070 A MINIMUM OF THREE (3) MONTHS IN ADVANCE TO ARRANGE FOR HAWAIIAN ELECTRIC STANDBY PERSONNEL.

14. CLEARANCES

THE FOLLOWING CLEARANCES SHALL BE MAINTAINED BETWEEN HAWAIIAN ELECTRIC'S DUCTLINE AND ALL ADJACENT STRUCTURES (CHARTED AND UNCHARTED) IN THE TRENCH:

GUIDELINES FOR MINIMUM HORIZONTAL (PARALLEL) CLEARANCES BETWEEN HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES				
UNDERGROUND UTILITY	HAWAIIAN ELECTRIC DIRECT BURIED CABLE	HAWAIIAN ELECTRIC DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	HAWAIIAN ELECTRIC 3" (MINIMUM) CONCRETE ENCASEMENT	APPLICABLE NOTES:
HAWAIIAN ELECTRIC DB CONDUITS	12"	3"	0"	
HAWAIIAN ELECTRIC 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	5
TRAFFIC SIGNAL	12"	12"	12"	
WATER DB (BWS OWNED)	36"	36"	36"	1, 4
CUSTOMER OWNED WATER SERVICE LATERALS	12"	12"	12"	
WATER (CONCRETE JACKETED) (BWS OWNED)	36"	36"	36"	1, 4
GAS DB	12"	12"	12"	1
GAS (CONCRETE JACKETED)	12"	12"	12"	1
SEWER DB	36"	36"	36"	1, 2
SEWER (CONCRETE JACKETED)	36"	36"	36"	1, 2
DRAIN	12"	12"	12"	1
FUEL PIPELINES				3

NOTES:

- WHERE SPACE IS AVAILABLE, PARALLEL CLEARANCE TO OTHER UTILITIES, OR FOREIGN STRUCTURES OTHER THAN COMMUNICATION OR TRAFFIC SIGNAL SHALL BE 36"
- IF 36" CLEARANCE CANNOT BE MET:
 - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HAWAIIAN ELECTRIC'S STD. 30-1030) FOR A DISTANCE OF 5' PLUS PIPE DIAMETER.
 - IF CLEARANCE IS BETWEEN 12" AND 36", JACKET SEWER LINE WITH PLAIN CONCRETE.
- ALL FUEL PIPELINE CROSSINGS SHALL BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT.
- 5 FEET CLEAR TO WATER MAINS 16" OR LARGER.
- FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED.
- CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES. WHENEVER CONCRETE JACKETS ARE INVOLVED, CLEARANCES SHALL BE TOTAL CLEAR DISTANCE BETWEEN THE CONCRETE JACKET AND UTILITY CONCERNED.

GUIDELINES FOR MINIMUM VERTICAL (CROSSING) CLEARANCES HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES				
UNDERGROUND UTILITY	HAWAIIAN ELECTRIC DIRECT BURIED CABLE	HAWAIIAN ELECTRIC DIRECT BURIED IN CONDUIT (NO CONCRETE ENCASEMENT)	HAWAIIAN ELECTRIC 3" (MINIMUM) CONCRETE ENCASEMENT	APPLICABLE NOTES:
HAWAIIAN ELECTRIC DB CONDUITS	6"	3"	0"	
HAWAIIAN ELECTRIC 3" ENCASEMENT	0"	0"	0"	
TELEPHONE/CATV DB	12"	12"	6"	
TELEPHONE/CATV DB DUCTS	12"	12"	6"	
TELEPHONE/CATV 3" ENCASEMENT	0"	0"	0"	3
TRAFFIC SIGNAL	12"	12"	6"	
WATER DB (BWS OWNED)	12"	12"	12"	5
CUSTOMER OWNED WATER SERVICE LATERALS	6"	6"	6"	
WATER (CONCRETE JACKETED) (BWS OWNED)	12"	12"	12"	5
GAS DB	12"	12"	12"	
GAS (CONCRETE JACKETED)	12"	12"	12"	
SEWER DB	24"	24"	24"	1
SEWER (CONCRETE JACKETED)	24"	24"	24"	1
DRAIN	12"	12"	6"	
FUEL PIPELINES				2

NOTES:

- IF CLEARANCE CANNOT BE MET:
 - IF CLEARANCE IS LESS THAN 12", JACKET SEWER LINE WITH REINFORCED CONCRETE (PER HAWAIIAN ELECTRIC'S STD. 30-1030) FOR A DISTANCE OF 5' PLUS PIPE DIAMETER.
 - IF CLEARANCE IS BETWEEN 12" AND 24", JACKET SEWER LINE WITH PLAIN CONCRETE.
- ALL FUEL PIPELINE CROSSINGS SHALL BE REVIEWED AND APPROVED BY THE COMPANY THAT OWNS AND MAINTAINS IT.
- FOR SITUATIONS WITH 0" MINIMUM SEPARATION, A 6" SEPARATION IS RECOMMENDED.
- CLEARANCES MEASURED FROM OUTER EDGES OR DIAMETERS OF UTILITIES. WHENEVER CONCRETE JACKETS ARE INVOLVED, CLEARANCES SHALL BE TOTAL CLEAR DISTANCE BETWEEN THE CONCRETE JACKET AND UTILITY CONCERNED.
- 36" CLEARANCE IS REQUIRED FOR TRENCHLESS INSTALLATION WORK.

THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER & HAWAIIAN ELECTRIC OF ANY HAZARDOUS SOURCES (POWER CABLE DUCT BANK, STEAMLINE, ETC.) ENCOUNTERED THAT ARE NOT PROPERLY IDENTIFIED ON THE DRAWING.

15. INDEMNITY

THE CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS HAWAIIAN ELECTRIC FROM AND AGAINST ALL LOSSES, DAMAGES, CLAIMS, AND ACTIONS, INCLUDING BUT NOT LIMITED TO REASONABLE ATTORNEY'S FEES AND COSTS BASED UPON OR ARISING OUT OF DAMAGE TO PROPERTY OR INJURIES TO PERSONS, OR OTHER TORTIOUS ACTS CAUSED OR CONTRIBUTED TO BY CONTRACTOR OR ANYONE ACTING UNDER ITS DIRECTION OR CONTROL OR ON ITS BEHALF; PROVIDED CONTRACTOR'S INDEMNITY SHALL NOT BE APPLICABLE TO ANY LIABILITY BASED UPON THE SOLE NEGLIGENCE OF HAWAIIAN ELECTRIC.

ADDITIONAL NOTES WHEN WORK INVOLVES CONSTRUCTION OF HAWAIIAN ELECTRIC FACILITIES

16. SCHEDULE

CONTRACTOR SHALL FURNISH HIS CONSTRUCTION SCHEDULE SIX (6) MONTHS PRIOR TO STARTING WORK ON HAWAIIAN ELECTRIC FACILITIES. CONTRACTOR SHALL GIVE HAWAIIAN ELECTRIC, IN WRITING, THREE (3) MONTHS NOTICE TO PROCEED WITH HAWAIIAN ELECTRIC'S PORTION OF WORK.

17. AUTHORITY

ALL CONSTRUCTION, RESTORATION WORK, AND INSPECTION SHALL BE SUBJECT TO WHICHEVER GOVERNMENTAL AGENCY HAS AUTHORITY OVER THE WORK.

18. SPECIFICATIONS

CONSTRUCTION OF HAWAIIAN ELECTRIC'S UNDERGROUND FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISIONS OF HAWAIIAN ELECTRIC SPECIFICATIONS CS7001, CS7003, CS7202, CS9301, AND CS9401 AND APPLICABLE HAWAIIAN ELECTRIC STANDARDS.

19. CONSTRUCTION

CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PROPERLY PERFORM AND FULLY COMPLETE ALL WORK SHOWN ON THE CONTRACT, DRAWINGS, AND SPECIFICATIONS. ALL MATERIALS SHALL BE NEW AND MANUFACTURED IN THE UNITED STATES OF AMERICA. ALL MANHOLE, HANDHOLE, AND DUCTLINE INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY HAWAIIAN ELECTRIC PRIOR TO EXCAVATION AND PRIOR TO PLACING CONCRETE. CONTRACTOR SHALL NOTIFY HAWAIIAN ELECTRIC'S INSPECTION GROUP AT 543-2567 AT LEAST FIVE (5) WORKING DAYS PRIOR TO INSTALLING FACILITIES OR PLACING CONCRETE.

CONTRACTOR TO COORDINATE WORK TO BREAK INTO HAWAIIAN ELECTRIC'S EXISTING ELECTRICAL FACILITIES WITH HAWAIIAN ELECTRIC'S INSPECTION GROUP AT 543-2567 AT LEAST TEN (10) WORKING DAYS IN ADVANCE.

20. STAKEOUT

THE CONTRACTOR SHALL ARRANGE FOR TONEOUTS OF ALL UNDERGROUND FACILITIES AND SHALL STAKEOUT ALL PROPOSED HAWAIIAN ELECTRIC FACILITIES WITHIN THE PROJECT AREA SO AS TO NOT CONFLICT WITH ANY UTILITY (EXISTING OR PROPOSED) AND ANY PROPOSED CONSTRUCTION OR IMPROVEMENT WORK FOR VERIFICATION BY HAWAIIAN ELECTRIC BEFORE PROCEEDING WITH HAWAIIAN ELECTRIC WORK.

21. DUCTLINES

ALL DUCTLINE INSTALLATIONS SHALL BE PVC SCHEDULE 40 ENCASED IN CONCRETE, UNLESS OTHERWISE NOTED. ALL COMPLETED DUCTLINES SHALL BE MANDREL TESTED BY THE CONTRACTOR IN THE PRESENCE OF HAWAIIAN ELECTRIC'S INSPECTOR USING HAWAIIAN ELECTRIC'S STANDARD PRACTICE. THE CONTRACTOR SHALL INSTALL 1800# TENSILE STRENGTH MULETAPE PULL LINE IN ALL COMPLETED DUCTLINES AFTER MANDREL TESTING IS COMPLETE.

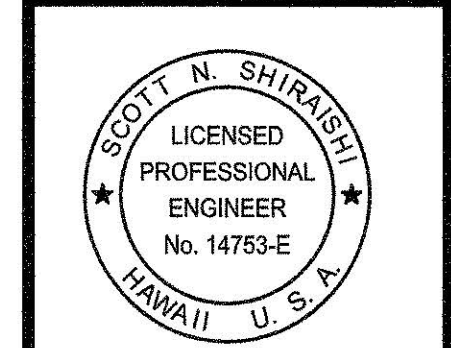
22. JOINT POLE REMOVAL

THE LAST JOINT POLE OCCUPANT OFF THE POLES SHALL REMOVE THE POLES.

23. AS-BUILT PLANS

THE CONTRACTOR SHALL PROVIDE HAWAIIAN ELECTRIC WITH A SET OF ELECTRONIC AND HARD COPY PLANS OF EACH SHEET SHOWING THE OFFSETS, STATIONING, AND VERTICAL ELEVATION OF THE DUCT LINE(S) CONSTRUCTED.

DATE	BY	DESCRIPTION	APPROVED



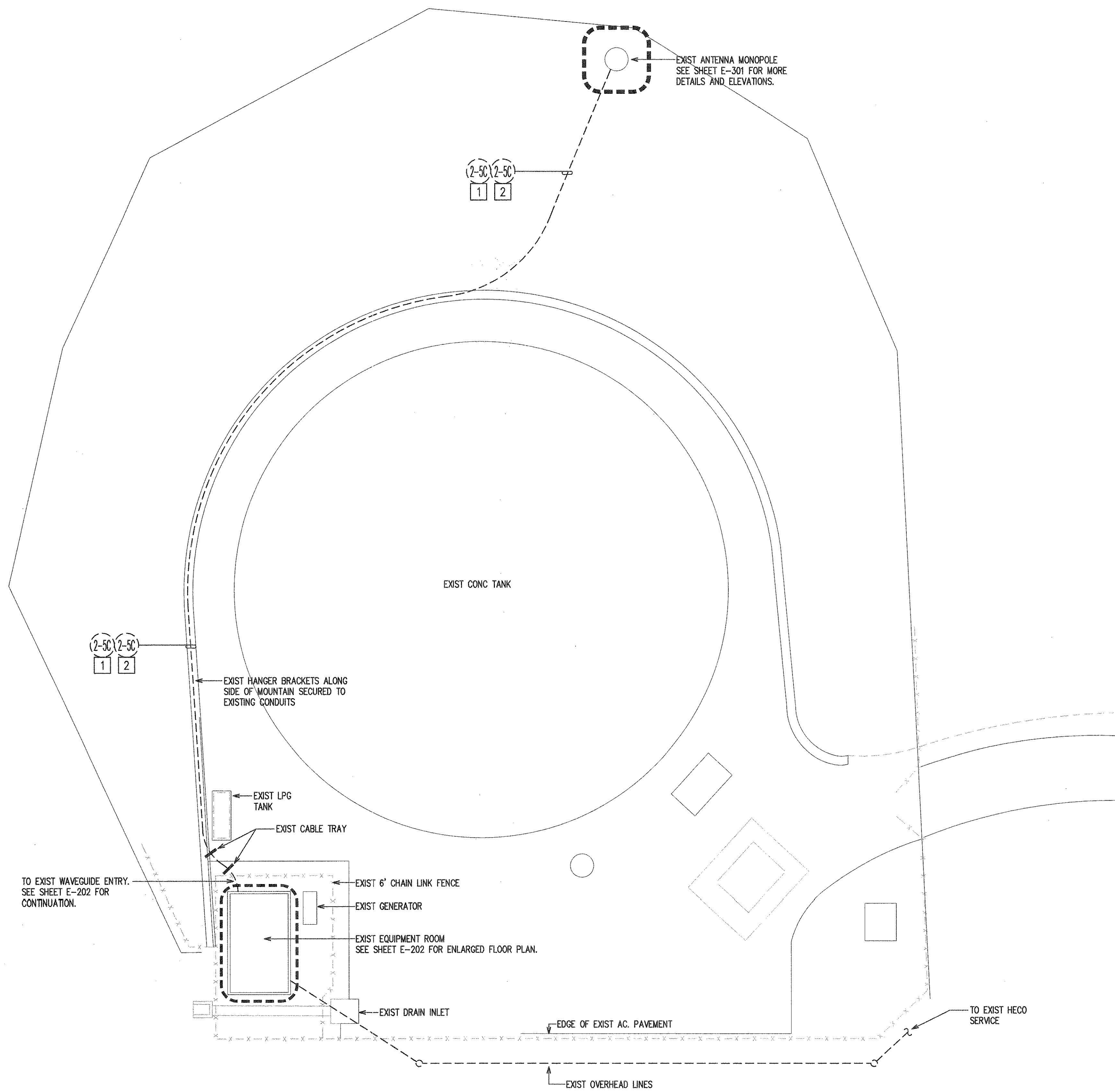
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WAS UNDER MY OBSERVATION.

DESIGN BY: CAD
 CHECKED BY: SS
 DATE: 4/4/2025
 ACCEPTED: [Signature]
 Program Administrator, Mechanical/Electrical Division

DEPARTMENT OF DESIGN AND CONSTRUCTION
 CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALAIE COMMUNICATION TOWER
 8-7-006022
 HECO NOTES

Z:\Acad\projects\222149\Phase 1B1\Lualualei Comm Tower\E-101_222149_HECO Notes.dwg Plotted:4/1/2025 12:47 PM

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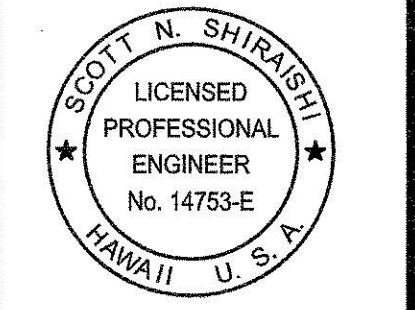
GENERAL NOTE(S):

- COORDINATE OUTAGES WITH DTS.

NOTE(S):

- ABANDONED DUCTS.
- INSTALL APPROXIMATELY 350 FEET OF NEW FIXED WIRELESS ACCESS OUTDOOR HYBRID FIBER TRUNK INSIDE EXISTING CONDUIT FROM EXISTING EQUIPMENT ROOM TO EXISTING ANTENNA MONOPOLE. SEE ICX SPECS FOR ADDITIONAL DETAILS.

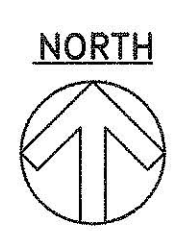
REVISION	DATE	DESCRIPTION	SHT. NO.	APPROVED



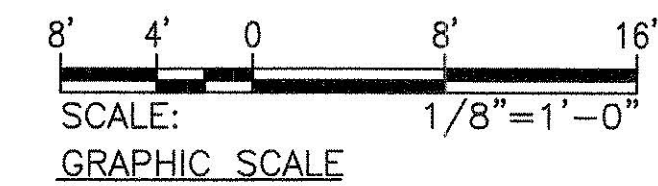
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION

DESIGN BY: SNS DRAWN BY: CAD
 CHECKED BY: SS DATE: 4/4/2025
 ACCEPTED: _____
 Program Administrator, Mechanical/Electrical Division

DEPARTMENT OF DESIGN AND CONSTRUCTION
 CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALUALEI COMMUNICATION TOWER
 8-7-006022
 LUALUALEI SITE PLAN

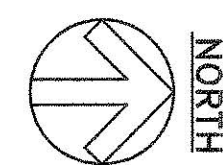
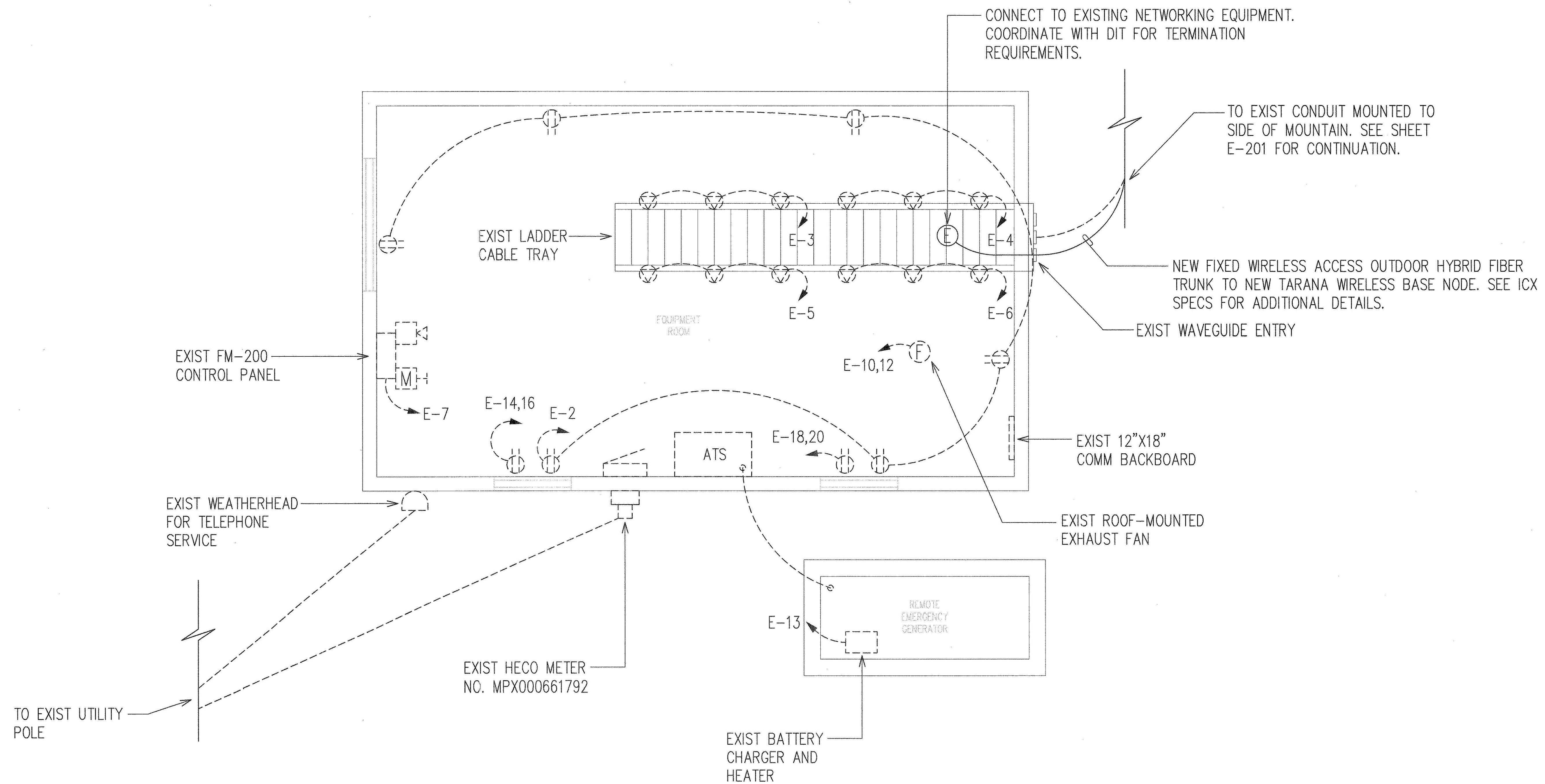


LUALUALEI COMMUNICATION TOWER
SITE PLAN
 1/8" = 1'-0"



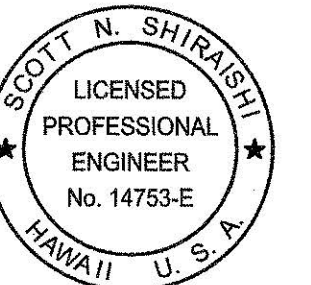
PROJECT NO.: CB-1B1-24
 DRAWING NO.: **E-201**
 SHEET NO. **11 OF 64**

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LUALUALEI COMMUNICATION TOWER
EQUIPMENT ROOM FLOOR PLAN
 1/2" = 1'-0"

REV.	DESCRIPTION	DATE	BY	APP.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *[Signature]* 4/30/25

DESIGN BY: SNS
 DRAWN BY: CAD
 CHECKED BY: SS
 DATE: 4/4/2025

ACCEPTED:

Program Administrator, Mechanical/Electrical Division

DEPARTMENT OF DESIGN AND CONSTRUCTION
 CITY & COUNTY OF HONOLULU

CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALUALEI COMMUNICATION TOWER
 8-7-006022

LUALUALEI BUILDING PLAN

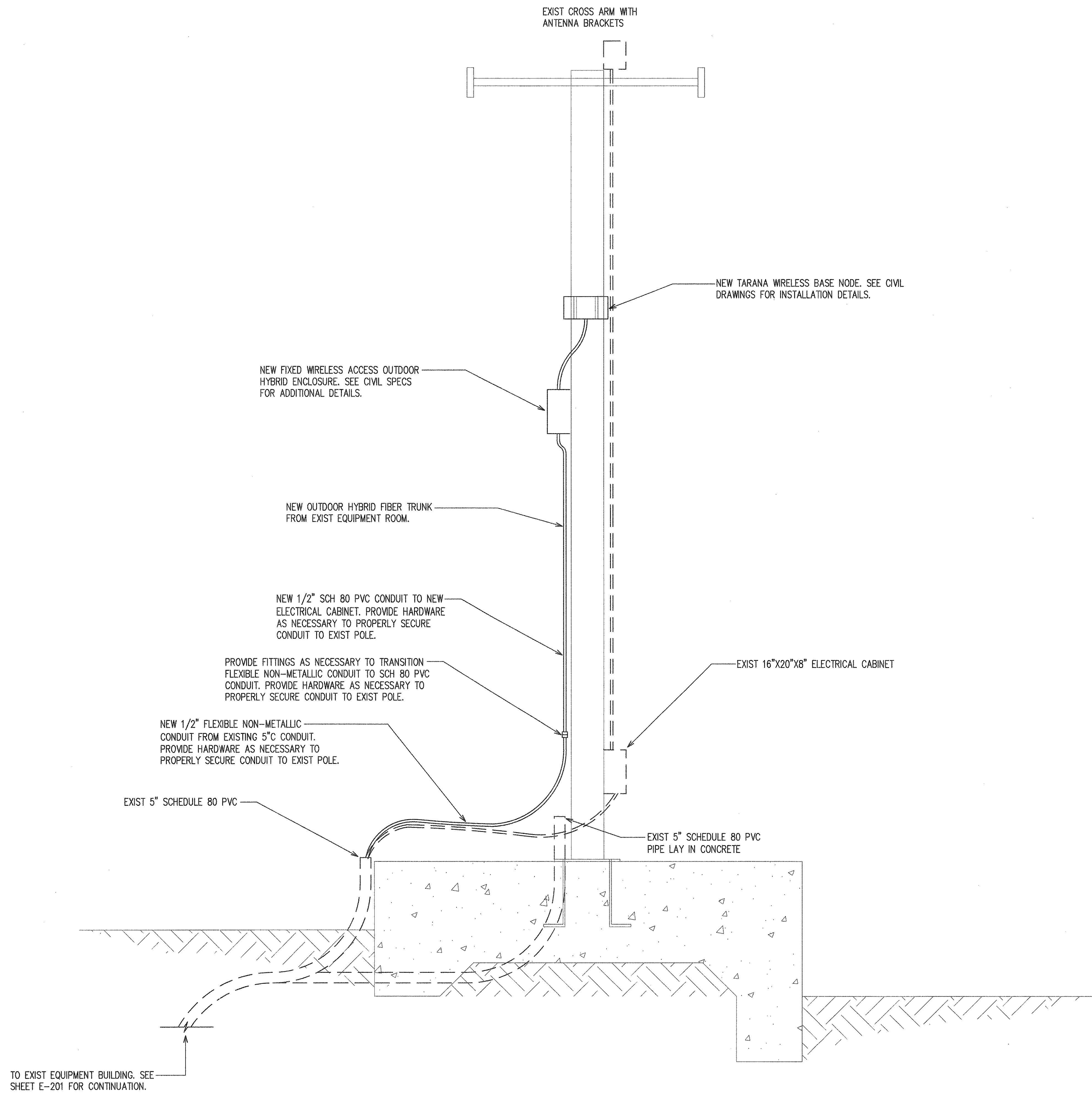
PROJECT NO.: CB-1B1-24

DRAWING NO.:

E-202

SHEET NO.
12 OF 64

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TO EXIST EQUIPMENT BUILDING. SEE SHEET E-201 FOR CONTINUATION.

A LUALUALEI COMMUNICATION TOWER ELEVATION
 E-301 NOT TO SCALE

REVISION	DATE	DESCRIPTION	SHT. NO.	APPROVED



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

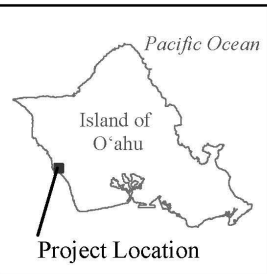
DESIGN BY: SNS
 DRAWN BY: CAD
 CHECKED BY: SS
 DATE: 4/4/2025
 ACCEPTED: [Signature]
 Program Administrator, Mechanical/Electrical Division

DEPARTMENT OF DESIGN AND CONSTRUCTION
 CITY & COUNTY OF HONOLULU
CITY BROADBAND INITIATIVE PHASE 1B1
AT LUALUALEI COMMUNICATION TOWER
 8-7-006022
 LUALUALEI TOWER ELEVATION

PROJECT NO.: CB-1B1-24
 DRAWING NO.:
E-301
 SHEET NO.
13 OF 64



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 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend

- Project Site
- State Land Use District
- Conservation (General Subzone)

0 250 500 Feet

N

Exhibit 5
State Land Use District

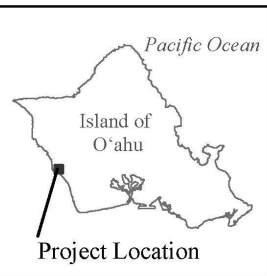
City Broadband Initiative Phase 1B1
Lualualei Communication Tower

Applicant:
 City and County of Honolulu
 Department of Transportation Services

Agent:
 R. M. TOWILL CORPORATION



Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend
 Project Site
 Tax Map Key
 (1) 8-7-006: 022

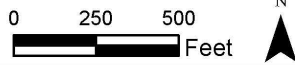
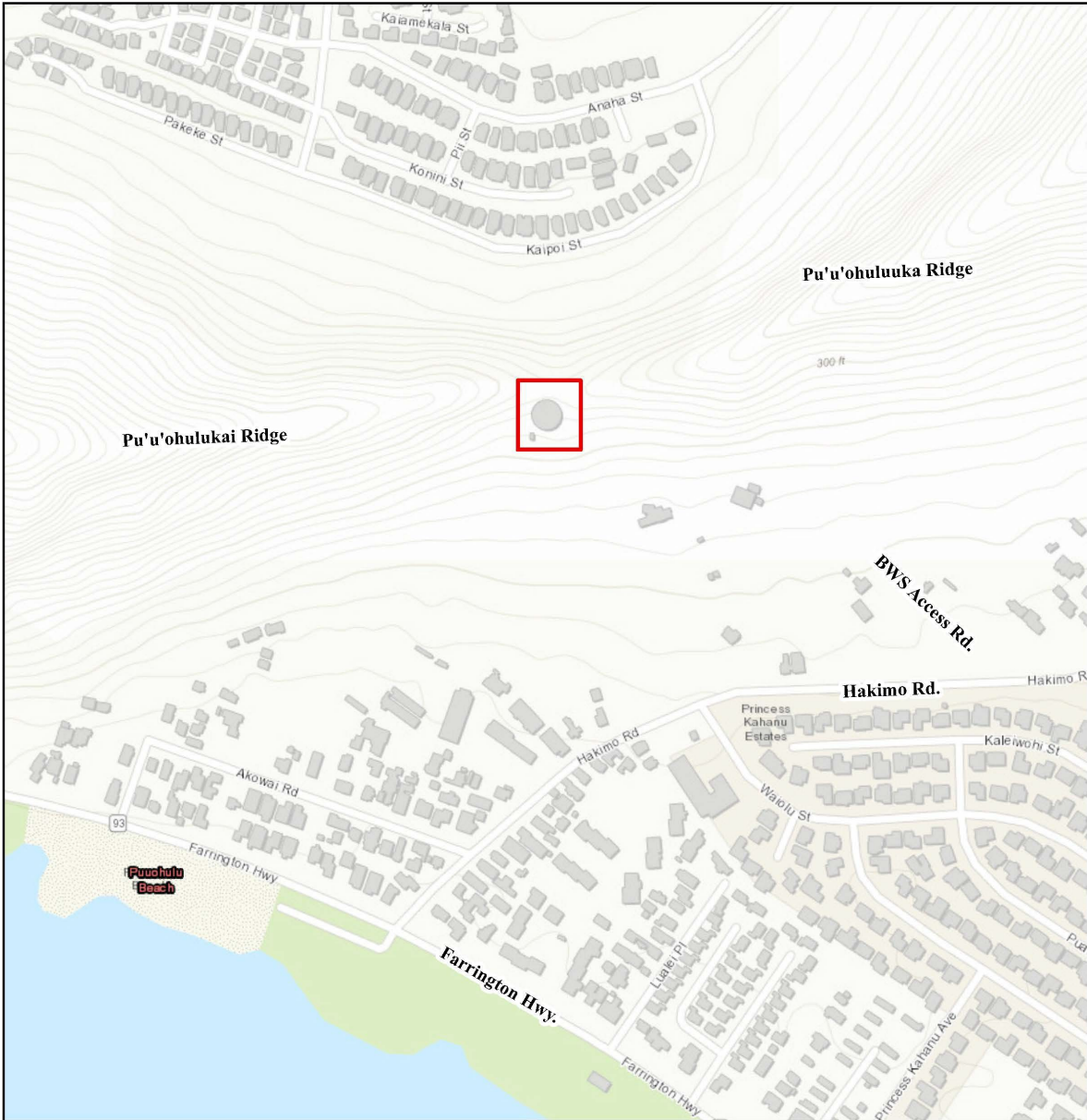


Exhibit 6
Project Location

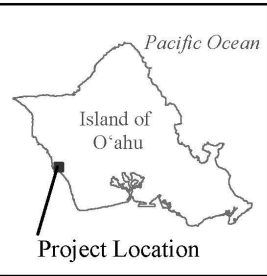
City Broadband Initiative Phase 1B1
Lualualei Communication Tower

Applicant:
 City and County of Honolulu
 Department of Transportation Services


Agent:
 R. M. TOWILL CORPORATION



Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri



Legend

 Project Site


0 250 500
 Feet

N

Exhibit 7
Topography

City Broadband Initiative Phase 1B1
Lualualei Communication Tower

Applicant:
 City and County of Honolulu
 Department of Transportation Services

Agent:
 R. M. TOWILL CORPORATION



Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

<p>Pacific Ocean</p> <p>Island of O'ahu</p> <p>Project Location</p>	<p>Legend</p> <p> Project Site</p> <p>LSB</p> <p> E - Very Poor</p> <p>0 250 500 Feet</p> <p>N</p>	<p>Exhibit 8</p> <p>Land Study Bureau Map</p> <p>City Broadband Initiative Phase 1B1</p> <p>Lualualei Communication Tower</p> <p>Applicant: City and County of Honolulu Department of Transportation Services</p> <p>Agent: R. M. TOWILL CORPORATION</p>
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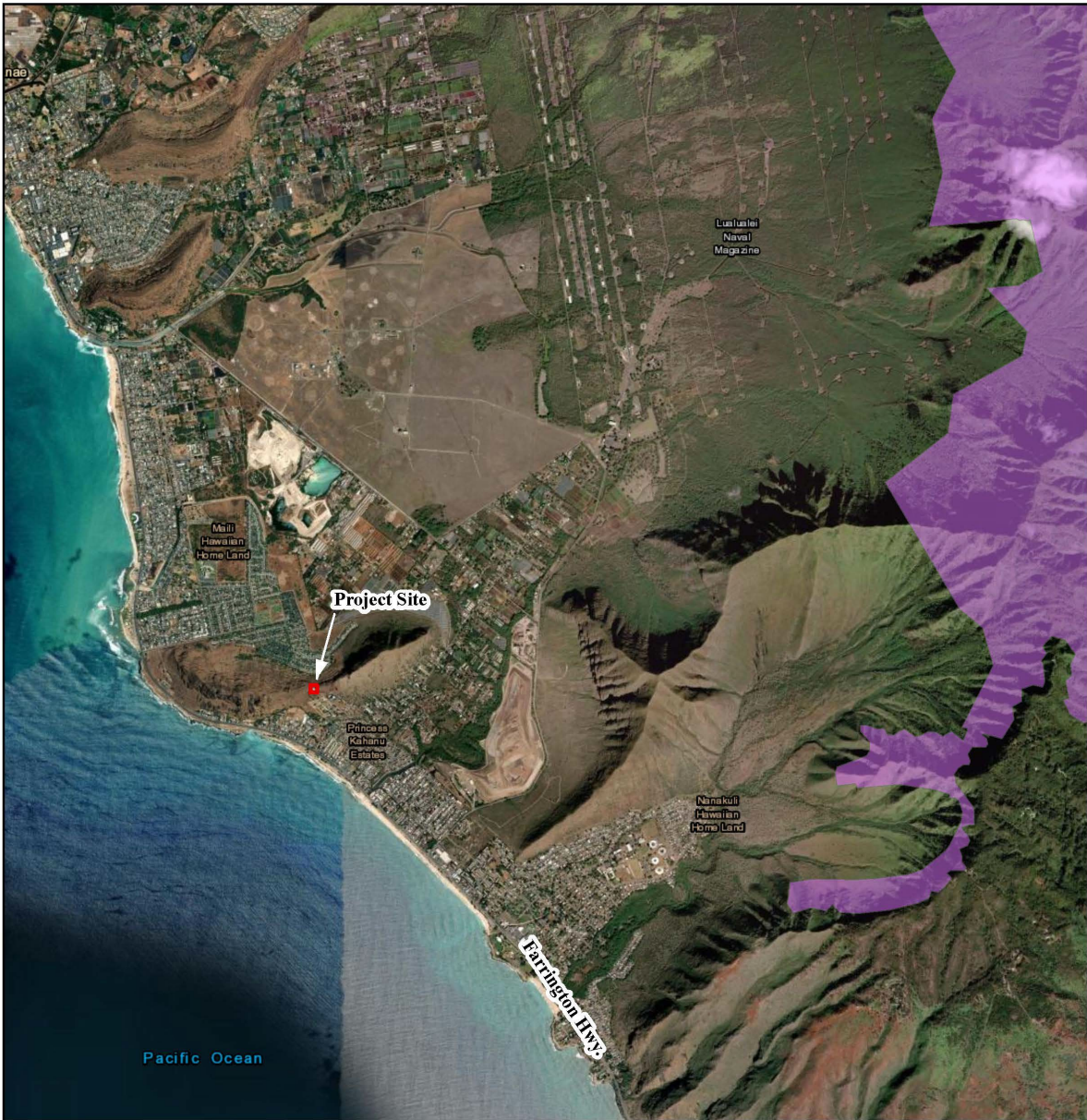
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

<p>Pacific Ocean</p> <p>Island of O'ahu</p> <p>Project Location</p>	<p>Legend</p> <p> Project Site</p> <p>Wetlands</p> <p> Riverine</p> <p> Estuarine and Marine Wetland</p> <p> Estuarine and Marine Deepwater</p> <p>0 250 500 Feet</p> <p>N</p>	<p>Exhibit 9</p> <p>Wetlands</p> <p>City Broadband Initiative Phase 1B1</p> <p>Lualualei Communication Tower</p> <p>Applicant: City and County of Honolulu Department of Transportation Services</p> <p>Agent: R. M. TOWILL CORPORATION</p>
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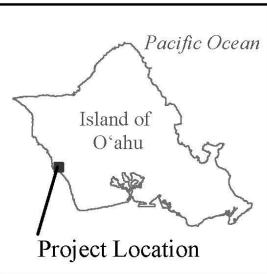


Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

<p>Pacific Ocean</p> <p>Island of O'ahu</p> <p>Project Location</p>	<p>Legend</p> <p> Project Site</p> <p>Threatened-Endangered Plants Density</p> <p> Low Concentration</p> <p> Medium Concentration</p> <p>0 250 500 Feet</p> <p>N</p>	<p>Exhibit 10</p> <p>Threatened-Endangered Plants</p> <p>City Broadband Initiative Phase 1B1</p> <p>Lualualei Communication Tower</p> <p>Applicant: City and County of Honolulu Department of Transportation Services</p> <p>Agent: R. M. TOWILL CORPORATION</p>
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 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend

- Project Site
- Critical Habitat for Threatened and Endangered Species

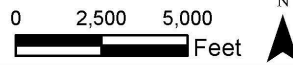
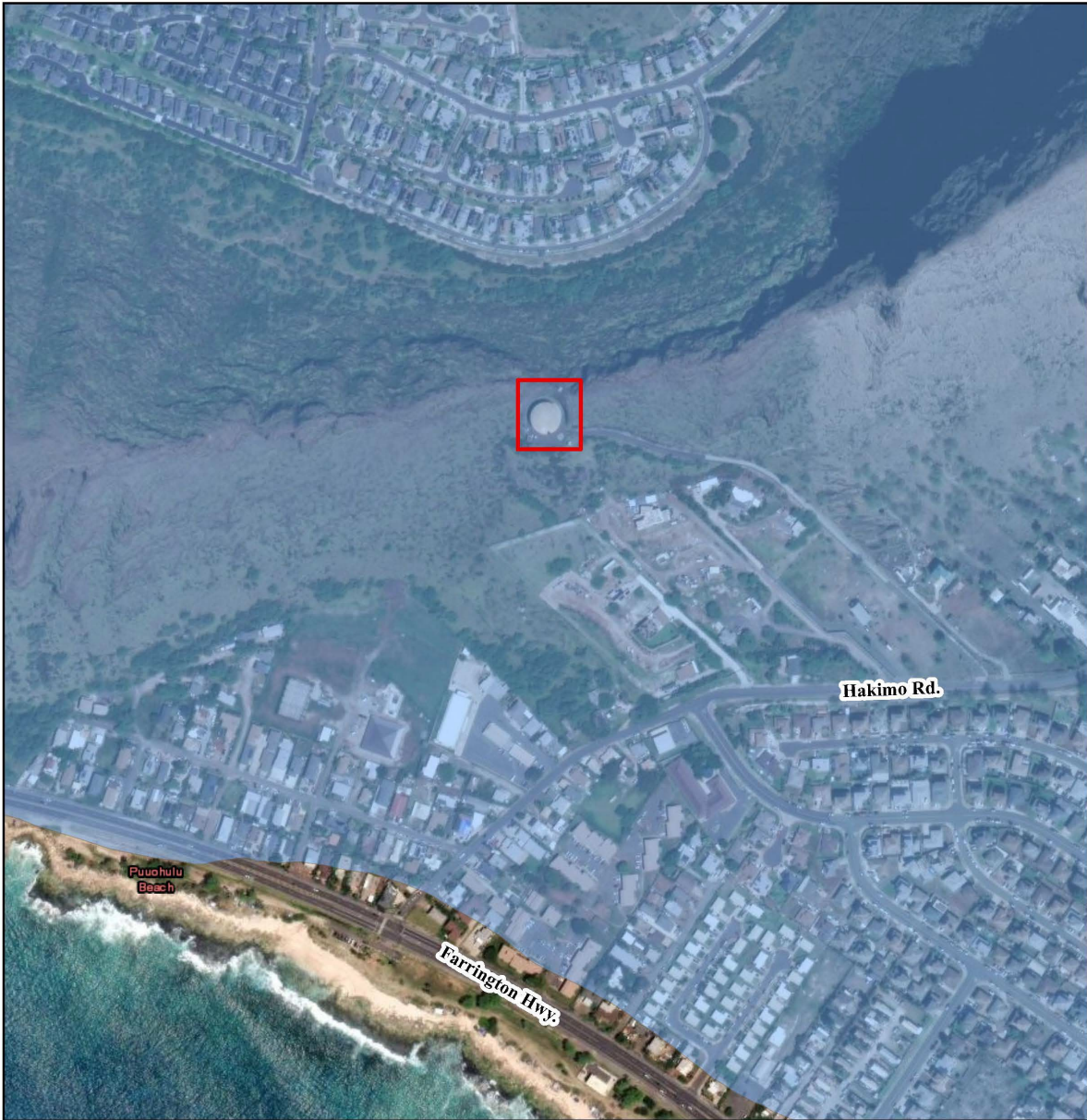


Exhibit 11
Critical Habitat

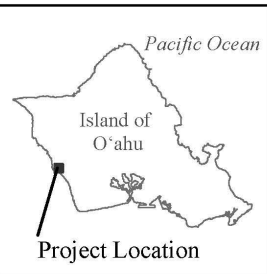
City Broadband Initiative Phase 1B1
Luaualei Communication Tower


Applicant:
 City and County of Honolulu
 Department of Transportation Services

Agent:
 R. M. TOWILL CORPORATION



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 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



Legend
 Project Site
 Flood Zone
 Zone D

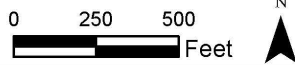



Exhibit 12
Flood Zones

City Broadband Initiative Phase 1B1
Lualualei Communication Tower

Applicant:
 City and County of Honolulu
 Department of Transportation Services

Agent:
 R. M. TOWILL CORPORATION



Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

<p>Pacific Ocean Island of O'ahu Project Location</p>	<p>Legend</p> <ul style="list-style-type: none"> Project Site Tsunami Evacuation Zone Extreme Tsunami Evacuation Zone <p style="text-align: center;">0 250 500 Feet</p> <p style="text-align: right;">N </p>	<p style="text-align: center;">Exhibit 13 Tsunami Evacuation Zones</p> <p style="text-align: center;"><u>City Broadband Initiative Phase 1B1</u> <u>Lualualei Communication Tower</u></p> <p style="text-align: center;">Applicant: City and County of Honolulu Department of Transportation Services</p> <p style="text-align: center;">Agent: R. M. TOWILL CORPORATION</p>
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 Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

<p>Pacific Ocean</p> <p>Island of O'ahu</p> <p>Project Location</p>	<p>Legend</p> <p> Project Site</p> <p> Special Management Area</p> <p>0 250 500 Feet</p> <p style="text-align: right;">N</p>	<p style="text-align: center;">Exhibit 14</p> <p style="text-align: center;">Special Management Area</p> <p style="text-align: center;"><u>City Broadband Initiative Phase 1B1</u></p> <p style="text-align: center;"><u>Lualualei Communication Tower</u></p> <p style="text-align: center;">Applicant: City and County of Honolulu Department of Transportation Services</p> <p style="text-align: center;">Agent: R. M. TOWILL CORPORATION</p>
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