Notice of Request for Information
for a
HOTEL AT HILO INTERNATIONAL AIRPORT
State of Hawaii, Department of Transportation

The State of Hawaii, Department of Transportation ("STATE") issues this Notice of Request for Information ("RFI") from all interested individuals and legally-registered business entities in the State of Hawaii (hereinafter referred to as "Business Entity" or "Business Entities") for the development of a hotel at Hilo International Airport ("ITO"), Island of Hawaii, State of Hawaii.

ITO is a commercial service airport, owned and operated by the STATE. ITO has been selected as the first airport for the potential development of a hotel by the STATE. The RFI will be used to evaluate the desirability and feasibility of development of hotels for the traveling public at ITO and other airports in the State of Hawaii.

The STATE is seeking information about the type of hotel needed or desired by the market, which information may include optimal number of rooms, appropriate level of hotel star rating system (including service, amenities, and price), and other amenities and services which may be desirable and expected by travelers.

The STATE is interested in responses from developers with established experience in hotel development, and information from developers who have specific experience in airport-situated hotels. Additionally, responses from developers who have experience in projects in the State of Hawaii (including islands other than Oahu) are welcome.

The RFI documents shall include the following items: (1) the Request for Information for an Airport Hotel, (2) the Narrative for Request for Information for an Airport Hotel, and (3) Site A and B Maps and related attachments. The RFI documents may be examined and/or obtained from the Property and Business Development office, located at the Daniel K. Inouye International Airport, 400 Rodgers Boulevard, Suite 700, Honolulu, Hawaii, or downloaded at www.hawaii.gov/dot/airports/doing-business/concession-notices under "Other Offerings" without charge.

An RFI Site Viewing will be conducted by the STATE on Friday, April 17, 2026, commencing at 10:00 a.m. Hawaii Standard Time ("HST"), to familiarize developers with the two proposed hotel site locations at ITO. Please contact the Airport District Manager, Tiffinie Smith at (808) 961-9302, or email her at tiffinie.c.smith@hawaii.gov, or Property Manager Ululani Stephenson at (808) 961-9303, or email her at ululani.p.stephenson@hawaii.gov to confirm your attendance.

The deadline to submit all written questions for the RFI is 4:30 p.m. HST on Thursday, April 30, 2026. The STATE will post the final written responses to all written questions by Friday, May 15, 2026, at www.hawaii.gov/dot/airports/doing-business/concession-notices under "Other Offerings".

Please submit your responses to the RFI via email to Abby Lareau of the Property and Business Development office at lillian.a.lareau@hawaii.gov by 4:30 p.m. HST on Friday, May 29, 2026. If you have any questions, you may contact her at (808) 838-8676.

The RFI is for informational purposes only, and no contract will be awarded as a result. In the second half of 2026, based upon the information provided by the RFI as well as other information, the STATE intends to issue a request for proposal, or other appropriate solicitation, from developers for the development of such a hotel.

EDWIN H. SNIFFEN
Director of Transportation

To be advertised: Honolulu Star-Advertiser
Hawaii Tribune-Herald
March 31, 2026

NARRATIVE FOR REQUEST FOR INFORMATION (RFI) FOR AN AIRPORT HOTEL AT HILO INTERNATIONAL AIRPORT (ITO)

General Information on Proposed Hotel Sites at ITO

For this RFI, the proposed hotel site alternatives (Site A and Site B) are located southeast of the ITO terminal building as shown on the attached ***Figure 1 – Vicinity Map***.

ITO is zoned Urban under the State Land Use Classification and zoned Limited Industrial (ML-20) under County of Hawaii (County) zoning. The maximum building height per county zoning is 45 feet. While a discussion of a zoning variance with the County needs to occur, HDOT would support a zoning height variance up to 120 feet. The proposed hotel sites are on TMK (3) 2-1-012:009 and are within the 55-65 Day Night Level Contours of the Future (2018) ITO Noise Exposure Map. Attached as ***Figure 4*** is a copy of the Noise Exposure Map and accompanying State of Hawaii, Land Use Compatibility Guidelines. Developers will be required to incorporate noise level reduction measures into the design and construction of the proposed facility. Additionally, the ITO Airport Layout Plan update is in process, with anticipated Federal Aviation Administration conditional approval in 3rd quarter CY 2026.

General Information on Infrastructure Anticipated for Hotel

The following general information on electrical, water, wastewater, telecommunication, and gas infrastructure at the vicinity of the proposed hotel sites is provided. For reference, existing utilities in addition to storm drainage features are shown on ***Figures 1, 2, and 3***. As-built drawings and ongoing projects under design are attached as ***Figure 5***.

The proposed hotel will require new infrastructure for its operations. This narrative covers only basic information such as electric, water, wastewater, telecommunication, and gas infrastructure that is anticipated for this project. Please note that no fuel lines (neither underground nor above-ground) were found in the vicinity of the proposed hotel sites.

HDOT expects that the electrical, telecommunication, and infrastructure for this project shall be separate from the current ITO airport infrastructure. In general, use of the water, wastewater, and drainage systems may be available for use for the developer, under the stipulation that the infrastructure still maintains capacity for future growth of airport terminal facilities, beyond the opening of the hotel. The developer shall be responsible for requesting, obtaining, and verifying available utility as-built information from utility service providers. Also, coordination with different agencies, design, construction, and funding of such infrastructure required for the hotel project shall be performed by the developer.

The following provides prospective developers with initial contact information of agencies in Hilo, Hawaii, from which developers might require services.

A. Electrical

The Hawaii Electric Light Company (HELCO) is the electric utility provider for Hawaii Island, and it generates over a billion kilowatt-hours annually. At the beginning stage of the project, it is best to go through HELCO's Customer Interconnection Tool (CIT) and send a General Inquiry Request which will include simple interconnection questions to facilitate the start of the design process. The website is https://www.hawaiianelectric.com/electrical-services/upgrade-modify-or-install-service

B. Water

The County of Hawaii Department of Water Supply (DWS) is the primary provider of municipal water for Hilo. As a semi-autonomous agency, the DWS manages water service infrastructure for businesses in the area. For this project, developers should be initially communicating with Mr. Keith Okamoto, Chief Engineer, County of Hawaii, Department of Water at 345 Kekuanaoa Street, Hilo, HI 96720.

C. Wastewater

The Hawaii County (County) Department of Environmental Services (DEM) handles municipal wastewater operations, maintenance, and wastewater treatment in Hilo. For new projects such as this project, developers shall initially communicate with the Hawaii County Department of Environmental Services, 345 Kekuanaoa Street, Suite 41, Hilo, HI 96720 to request services. Currently ITO has its own wastewater treatment plant servicing the airport. HDOT has been contemplating installing a 12-inch force main connecting to the County system. The design of a County force main line is still in the preliminary design stages, but a proposed design is reflected on ***Figures 1 and 3***.

D. Telecommunications

Hawaiian Telcom and Spectrum are both servicing Hilo. Both companies could provide telephone services, internet data and video, and other services. Initial inquiries to Hawaiian Telcom can be directed to Mr. Gordon Hsia, Enterprise & Government Account Manager, Hawaiian Telcom Tel 808 4975954 and email Gordon.hsia@hawaiiantel.com. For Spectrum, request for services can be directed to Ms. Shirley Cheung at Shirley.cheung@charter.com.

E. Hawaii Gas

Hawaii Gas Operates in Hilo and provides propane and synthetic natural gas services that include utility, tank, and bottle gas for commercial customers. They are a major provider on the island and maintain service options. Assistance for future projects that may require gas service may be directed to the Key Account Executive, Sharon Shigemoto, 515 Kamakee Street, Honolulu, Hawaii 96814, Mobile 808 351-7522, sshigemo@hawaiigas.com.

Additional Project Requirements (Without Limitation)

- Compliance with Hawaii Revised Statutes (HRS) Chapter 343 Hawaii Environmental Policy Act (HEPA) Environmental Review. This includes any supporting studies such as traffic, biological, or others that would support a Finding of No Significant Impact (FONSI) of an Environmental Assessment or Acceptance of a Final Environmental Impact Statement
- Compliance with HRS Chapter 6E (Historic Preservation)
- Implementing any mitigation measures identified in the environmental review process

Attachments: Figures 1-5

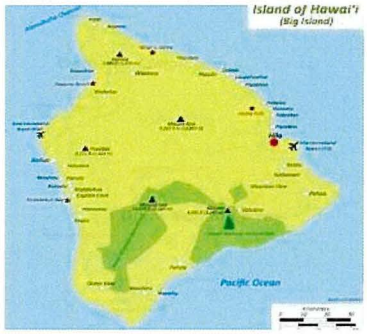
Request for Information For

AN AIRPORT HOTEL
AT HILO INTERNATIONAL AIRPORT

State of Hawaii, Department of Transportation
March 31, 2026

1. RFI OVERVIEW

The State of Hawaii, Department of Transportation (HDOT), issues this Request for Information (RFI) for development of a hotel to be located at Hilo International Airport (ITO) located in Hilo, Island of Hawaii, State of Hawaii. HDOT is anticipating development of the hotel through a private developer who will design, construct, and manage the hotel, as further described below.



Island of Hawaii

HDOT is seeking information about the type of hotel needed or desired by the market which information may include optimal number of rooms, appropriate level of hotel star-rating system (including service, amenities, and price), other amenities and services which might be desirable, and expected duration of stay. In the second half of 2026, based upon the information provided by the RFI as well as other information, HDOT intends to issue a request for proposal (RFP), or other appropriate solicitation, from developers for development of such a hotel. The development may be through a lease arrangement whereby the developer will be charged with all aspects of the development, including the design, construction, operation, maintenance of the hotel and financing the development.

Please note that this RFI is for informational purposes only, and no contract will be awarded as a result. A response to the RFI—or lack thereof—will have no impact on the evaluation of responses to any subsequent RFP, or other appropriate solicitation. Responses to this RFI will be used solely for information and planning purposes. Respondents should be aware of or make themselves aware of state and federal legal requirements including those of the Federal Aviation Administration regarding the ownership and operation of airports, including limitations on land use, development, procurements, and contracting including required and prohibited terms and conditions.

Please note that all responses will be public record. **Do not submit confidential information in your response.** All materials submitted in response to this RFI shall become the property of HDOT and will not be returned. HDOT has the right to use

any or all of the ideas presented in any response to this RFI regardless of whether or not the respondent participates in a future solicitation or becomes the developer of any hotel at any airport owned or operated by HDOT.

1.1. RFI Contact

HDOT has designated the following individual to serve as the official point of contact for this RFI. This individual is the only authorized contact permitted to communicate on behalf of HDOT about this RFI.

Contact information for RFI point of contact at HDOT:

Lillian Lareau, Property Manager Supervisor
State of Hawaii, Department of Transportation, Airports
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96919
Email: **lillian.a.lareau@hawaii.gov**
Phone: (808) 838-8678

1.2. Submission Details

Please submit your responses to this RFI via email to the RFI point of contact before the due date identified below in Section 1.3. When submitting your response, please have the email subject line read *"[your name] Response to 2026 RFI for ITO Airport Hotel*".

Physical (paper) copies of RFI responses are optional. Physical copies must be delivered to the address identified for the RFI contact before the due date identified below in Section 1.3.

If you have any questions about this RFI, please direct them to the RFI contact during the appropriate period identified below in Section 1.3.

1.3 RFI Timeline

Please review the RFI timeline below. Dates may be modified or amended by HDOT, which will post an amendment to this RFI on the HDOT's website under "Other Offerings" (**www.hawaii.gov/dot/airports/doing-business/concession-notices**) notifying prospective respondents of any change.

- RFI Released: March 31, 2026
- RFI Site Viewing: April 17, 2026, 10 a.m. Hawaiian Standard Time (HST)
- Deadline for Questions to HDOT: April 30, 2026, 4:30 p.m. HST

- HDOT Answers to Questions Posted: May 15, 2026
- RFI Responses Due to HDOT: May 29, 2026, 4:30 p.m. HST

1.4. RFI Site Viewing

An optional Site Viewing for this RFI at ITO is scheduled at the date set forth in Section 1.3 above to view the two proposed hotel site locations. The Site Viewing is intended to provide prospective respondents an opportunity to view the proposed sites. Please note that HDOT staff will NOT take questions from prospective respondents during the Site Viewing. Any questions from prospective respondents regarding this RFI may be submitted and answers will be posted as provided in the RFI timeline in Section 1.3 above. The check-in location for the Site Viewing can be confirmed at the time your attendance is confirmed as specified in the Notice of RFI published on March 31, 2026.

2. BACKGROUND INFORMATION

2.1 Goals and Outcomes

HDOT desires to develop a hotel at ITO in order to provide a lodging alternative available for business travelers (including airline crews and state and other employees traveling for work) and leisure travelers that has easy access to the passenger terminal at ITO and also is convenient for general aviation users. HDOT believes the presence of a hotel at ITO will enhance the attractiveness of ITO for further air service development.

2.2 Background

ITO is a commercial service airport owned and operated by HDOT. It served approximately 1,400,000 commercial passengers in 2025, a 3% increase over 2024. ITO has been selected as the first airport for the potential development of hotels by HDOT at HDOT airports.

Hilo, Hawaii, is largest city on the island of Hawaii and is home to active volcanoes, orchid farms, waterfalls, and a rugged coastline. Please see Section 5 below for Hilo "Tourism" Features which describes Hilo's appeal as a visitor destination.

3. INFORMATION REQUESTED

3.1 Who We're Looking For:

HDOT is interested in responses from developers with established experience in hotel development. HDOT is especially interested in information from developers having specific experience in airport-sited hotels. Additionally, responses from developers who have experience in projects in the State of Hawaii (including on islands other than Oahu) are welcome.

3.2 What We're Looking For:

Respondents may include additional attachments with their response document.

Among other items, HDOT hopes to receive the following information from this RFI for each proposed hotel site described in the attached Narrative Sheet:

(a) If one site is preferable over the other, which site is preferable and why?
(b) If another site at ITO is preferable over the two described in the Narrative Sheet, what site is that and why?
(c) What is the current number of hotel rooms that can be developed?
(d) What is the optimal number of hotel rooms that could be developed?
(e) What is the optimal level of hotel star-rating for a hotel?
(f) What other services or amenities besides those required by the optimal hotel star-rating would you consider appropriate or feasible for a hotel at ITO?
(g) What range of development costs is projected?
(h) What timeline for development and completion is projected?
(i) What information would be useful for potential developers to assess as part of an RFP or RFQ/RFP process, or other appropriate solicitation, that is not attached to or referenced in this RFI, or is not otherwise publicly available?
(j) What sustainability and resiliency initiatives are feasible, including alternative power sources?

Respondents are invited to provide additional information on the following subjects of interest to HDOT:

- Current market conditions for development of a hotel in the Hilo area;
- If a hotel is not feasible at this time, what conditions would need to change for a hotel to be feasible;
- Discussion of risks or barriers to success that you have experienced in other hotel projects in Hawaii or at other airports and how were or could they be mitigated for this project;
- Proposed contract structure (lease, predevelopment agreement with a long-term lease, predevelopment agreement with another type of long-term agreement, or another structure or type of contract) assuming that the site will be leased to the developer for no more than 35 years; and/or

- Proposed structure for compensation to HDOT that complies with HDOT's legal obligations to, at a minimum, to obtain fair market value for the property and maximize its revenue.

4. APPENDIX (Narrative)

Attached is a Narrative with certain information regarding the two proposed hotel sites, Site A and Site B, at ITO.

5. HILO "TOURISM" FEATURES

Downtown Hilo Courtesy of Vecteezy.com

Hilo Farmers Market Courtesy of Vecteezy.com

Merrie Monarch Festival

Hawai'i Volcanoes National Park

Hilo ("Hee-low") is located on the eastern side of the island of Hawai'i (aka the "Big Island") and offers a unique experience to visitors who can shop at the Hilo Farmers Market that features locally grown exotic tropical fruit and flowers, locally harvested coffee and unique Hawaiian treats like butter mochi ("moe-chee"). Hilo is home to the 30-acre lush Lili'uokalani ("Lee-lee-oo-oh-kah-lah-nee") Gardens and Wailuku ("Why-loo-koo") River State Park that features the beautiful Rainbow Falls (Waianuenue ("Why-ah-noo-eh-noo-eh") or "rainbow water") and the Boiling Pots (pools of turbulent water carved into lava rock). The nation's only rainforest zoo can be found at the Pana'ewa ("Pah-nah-eh-vah") Rainforest Zoo where exotic plants and animals can be seen. Every year the week-long Merrie Monarch Festival features premier hula dancers and chanters from across the State of Hawaii captivating audiences around the world.

The Big Island also features Hawai'i Volcanoes National Park and active volcanic eruptions. Hilo is a convenient stop on the way to view active and dormant volcanic calderas, lava fields, underground lava tubes and the stark Devastation Trail. The Big Island is also home to Parker Ranch, established in 1847, and home to the Paniolo ("Pah-nee-oh-low") or Hawaiian cowboy. Waimea ("Why-may-ah") town, located halfway between Hilo and Kona ("Koh-nah") on the island's north coast, sits among rolling pasture lands and Parker Ranch. At the southern point of the Big Island is the tiny town of Waiohinu ("Why-oh-hee-noo" or sparkling water) and the Mark Twain Monkey Pod Tree where lore has it that Twain sheltered from the weather over 150 years ago!

The Hilo International Airport, nestled in charming and quaint Hilo town with its museums, art galleries, shops and restaurants, provides a fascinating gateway to all that the Big Island has to offer.

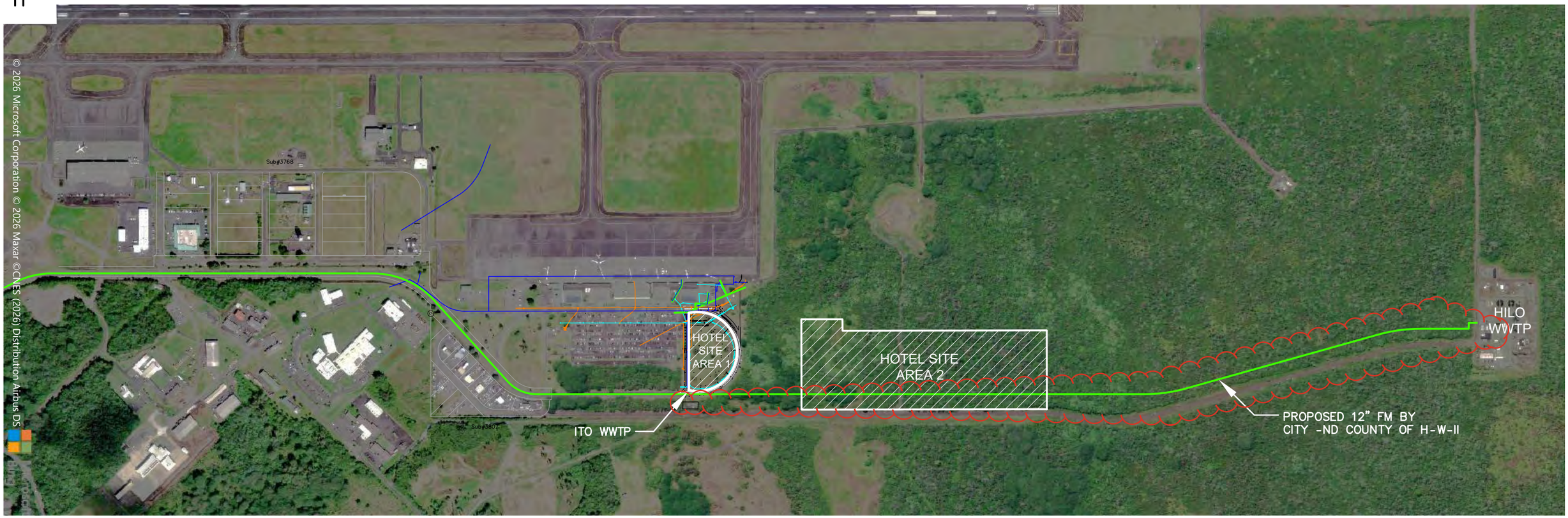
LEGEND

W-TER

(PROPOSED) SEWER FORCE M-IN

STORM DR-IN

ELECTRIC



800 0 800' 1600'

SCALE: 1" = 800'

HILO INTERNATIONAL AIRPORT
HOTEL SITE DEVELOPMENT

PROJECT NO.
HILO, ISLAND OF HAWAII

WRSA
Wesley R. Segawa and Associates, Inc.
Committed to Quality Performance & Value

FIGURE

1

VICINITY MAP

LEGEND

WATER	W
SEWER	S
STORM DRAIN	SD
ELECTRIC	E

NOTES:

1. THE TOPOGRAPHIC MAP SHOWN WAS OBTAINED FROM DOT–A.
2. EXISTING UTILITIES SHOWN ARE NOT EXACT AND WERE APPROXIMATED FROM AS–BUILTS WITH EXCEPTION TO NOTE 4* WHICH IS A (PROPOSED PLAN). A UTILITY SURVEY WILL BE NEEDED BEFORE FINAL DESIGN.
3. PLAN REFERENCE FOR WATER SYSTEM:
   STATE PROJECT NUMBER: H–91–2(1)R
   PROJECT TITLE:
   NEW PASSENGER TERMINAL GENERAL LYMAN FIELD

   STATE PROJECT NUMBER: H–91–1(2)R
   PROJECT TITLE:
   GRADING, PAVING & UTILITIES GENERAL LYMAN FIELD
4. PLAN REFERENCE FOR SEWER SYSTEM:
   *STATE PROJECT NUMBER: AH1041–23
   PROJECT TITLE:
   HILO INTERNATIONAL AIRPORT SEWER CONNECTION TO COUNTY OF HAWAII (PROPOSED)

   STATE PROJECT NUMBER: H–91–2(1)R
   PROJECT TITLE:
   NEW PASSENGER TERMINAL GENERAL LYMAN FIELD
5. PLAN REFERENCE FOR ELECTRICAL SYSTEM:
   STATE PROJECT NUMBER: H–91–2(1)R
   PROJECT TITLE:
   NEW PASSENGER TERMINAL GENERAL LYMAN FIELD

   STATE PROJECT NUMBER: CH1504–53
   AIP PROJECT NO. 3–15–0004–20
   PROJECT TITLE:
   UPGRADE ELECTRICAL SYSTEM
6. PLAN REFERENCE FOR DRAINAGE SYSTEM:
   STATE PROJECT NUMBER: H–91–2(1)R
   PROJECT TITLE:
   NEW PASSENGER TERMINAL GENERAL LYMAN FIELD

N

60' 0 60' 120'

SCALE: 1" = 60'–0"

HILO INTERNATIONAL AIRPORT
HOTEL SITE DEVELOPMENT

PROJECT NO.
HILO, ISLAND OF HAWAII

WRSA
Wesley R. Segawa and Associates, Inc.
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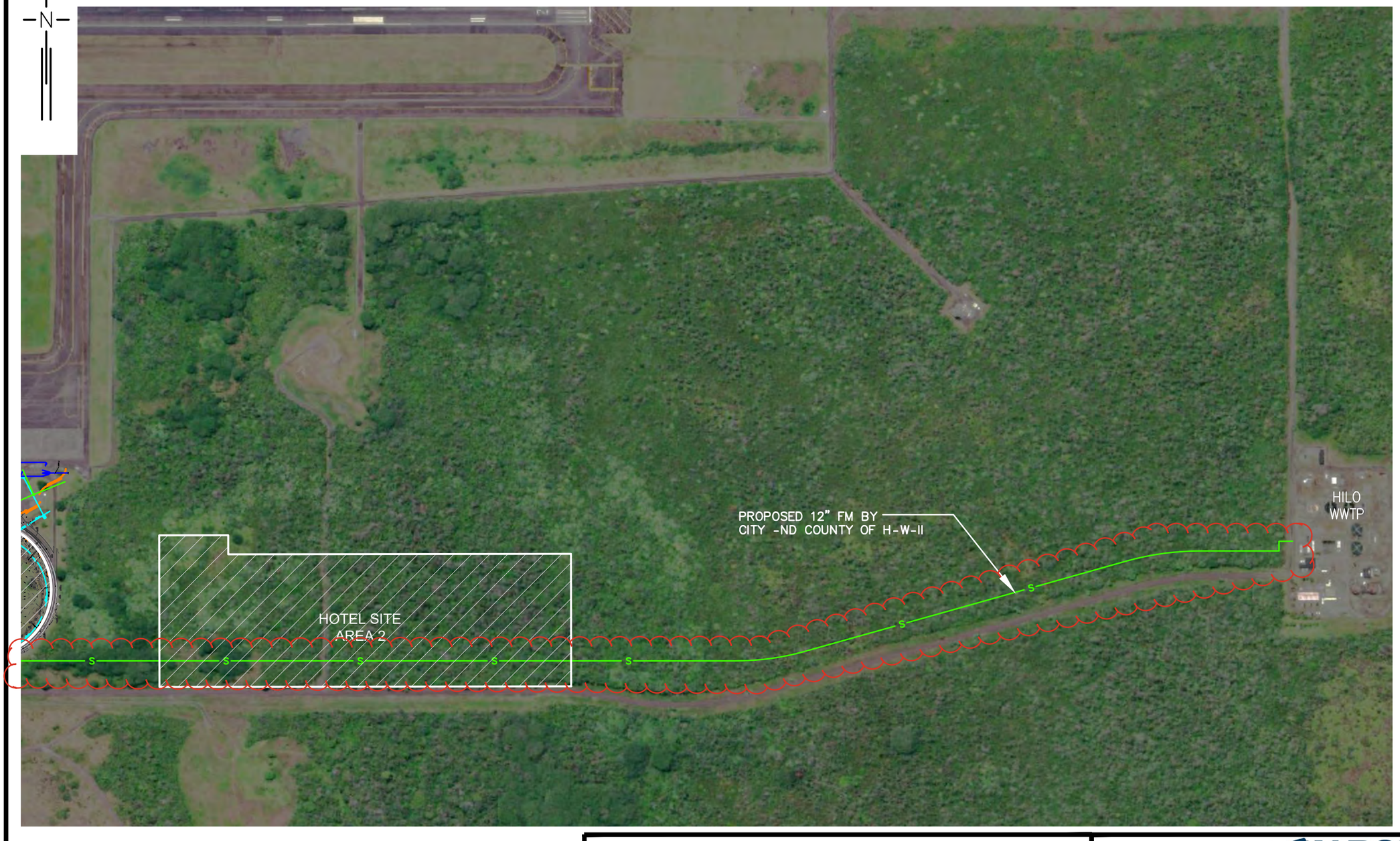
FIGURE

EXISTING UTILITIES

2



LEGEND

W-TER — W

SEWER — S

STORM DR-IN — SD

ELECTRIC — E

NOTES:

1. THE TOPOGR-PHIC M-P SHOWN W-S OBT-INED FROM DOT--.

2. EXISTING UTILITIES SHOWN -RE NOT EX-CT -ND WERE -PPROXIM-TED FROM -S-BUILTS WITH EXCEPTION TO NOTE 4* WHICH IS - (PROPOSED PL-N). - UTILITY SURVEY WILL BE NEEDED BEFORE FIN-L DESIGN.

3. PL-N REFERENCE FOR W-TER SYSTEM:
   ST-TE PROJECT NUMBER: H-91-2(1)R
   PROJECT TITLE:
   NEW P-SSENGER TERMIN-L GENER-L LYM-N FIELD

   ST-TE PROJECT NUMBER: H-91-1(2)R
   PROJECT TITLE:
   GR-DING, P-VING & UTILITIES GENER-L LYM-N FIELD

4. PL-N REFERENCE FOR SEWER SYSTEM:
   *ST-TE PROJECT NUMBER: -H1041-23
   PROJECT TITLE:
   HILO INTERN-TION-L -IRPORT SEWER CONNECTION TO COUNTY OF H-W-II (PROPOSED)

   ST-TE PROJECT NUMBER: H-91-2(1)R
   PROJECT TITLE:
   NEW P-SSENGER TERMIN-L GENER-L LYM-N FIELD

5. PL-N REFERENCE FOR ELECTRIC-L SYSTEM:
   ST-TE PROJECT NUMBER: H-91-2(1)R
   PROJECT TITLE:
   NEW P-SSENGER TERMIN-L GENER-L LYM-N FIELD

   ST-TE PROJECT NUMBER: CH1504-53
   -IP PROJECT NO. 3-15-0004-20
   PROJECT TITLE:
   UPGR-DE ELECTRIC-L SYSTEM

6. PL-N REFERENCE FOR DR-IN-GE SYSTEM:
   ST-TE PROJECT NUMBER: H-91-2(1)R
   PROJECT TITLE:
   NEW P-SSENGER TERMIN-L GENER-L LYM-N FIELD

500' 0 500' 1000

SC-LE: 1" = 500'-0"

HILO INTERNATIONAL AIRPORT
HOTEL SITE DEVELOPMENT

PROJECT NO.
HILO, ISLAND OF HAWAII

WRSA
Wesley R. Segawa and Associates, Inc.
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EXISTING UTILITIES

FIGURE
3

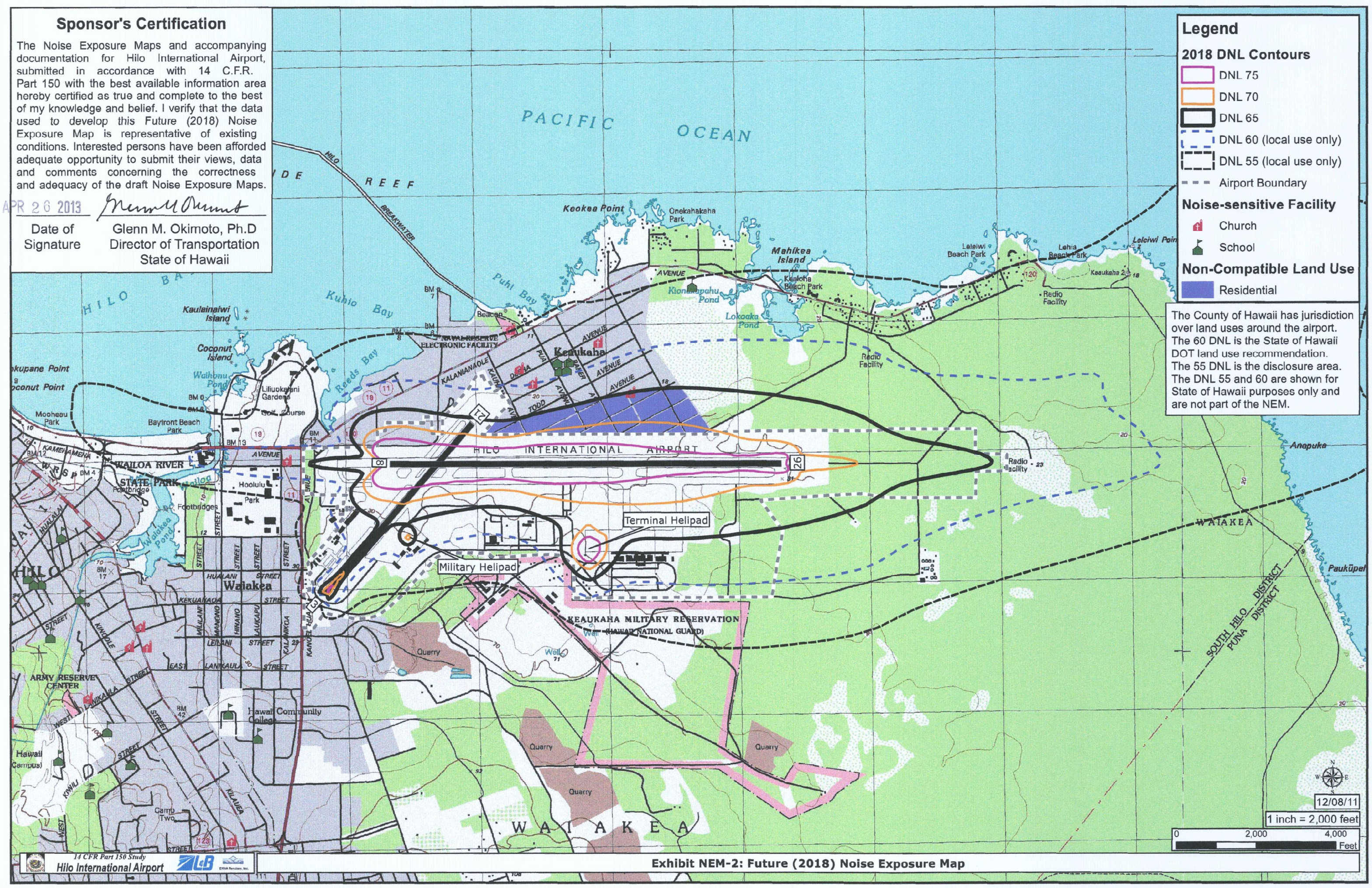

Sponsor's Certification
The Noise Exposure Maps and accompanying documentation for Hilo International Airport, submitted in accordance with 14 C.F.R. Part 150 with the best available information area hereby certified as true and complete to the best of my knowledge and belief. I verify that the data used to develop this Future (2018) Noise Exposure Map is representative of existing conditions. Interested persons have been afforded adequate opportunity to submit their views, data and comments concerning the correctness and adequacy of the draft Noise Exposure Maps.
APR 26 2013
Date of Signature
Glenn M. Okimoto, Ph.D
Director of Transportation
State of Hawaii
Legend
2018 DNL Contours
DNL 75
DNL 70
DNL 65
DNL 60 (local use only)
DNL 55 (local use only)
Airport Boundary
Noise-sensitive Facility
Church
School
Non-Compatible Land Use
Residential
The County of Hawaii has jurisdiction over land uses around the airport. The 60 DNL is the State of Hawaii DOT land use recommendation. The 55 DNL is the disclosure area. The DNL 55 and 60 are shown for State of Hawaii purposes only and are not part of the NEM.
PACIFIC OCEAN
HILO INTERNATIONAL AIRPORT
Terminal Helipad
Military Helipad
KEAUKAHA MILITARY RESERVATION
(HAWAII NATIONAL GUARD)
Keaukaha
Waiakea
WAIAKEA
Hawaii Community College
ARMY RESERVE CENTER
WAILOA RIVER STATE PARK
Kuhio Bay
Puhi Bay
Reeds Bay
Coconut Island
Keokea Point
Mahikea Island
Radio Facility
Quarry
SOUTH HILO DISTRICT
PUNA DISTRICT
12/08/11
1 inch = 2,000 feet
0 2,000 4,000 Feet
14 CFR Part 150 Study
Hilo International Airport
Exhibit NEM-2: Future (2018) Noise Exposure Map

FIGURE 4

Table A-3
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS

LAND USE	YEARLY DAY-NIGHT AVERAGE SOUND LEVEL					
	<60	60-65	65-70	70-75	75-80	80-85
Residential						
Low density residential, resorts, and hotels with extensive outdoor use	Y(a)	N(b)	N	N	N	N
Low density apartment with moderate outdoor use	Y	N(b)	N	N	N	N
High density apartment with limited outdoor use	Y	N(b)	N(b)	N	N	N
Transient lodgings with limited outdoor use	Y	N(b)	N(b)	N	N	N
Public Use						
Schools, day-care centers, libraries, and churches	Y	N(c)	N(c)	N(c)	N	N
Hospitals, nursing homes, clinics, and health facilities	Y	Y(d)	Y(d)	Y(d)	N	N
Indoor auditoriums and concert halls	Y(c)	Y(c)	N	N	N	N
Government service and office buildings serving the general public	Y	Y	Y(d)	Y(d)	N	N
Transportation and parking	Y	Y	Y(d)	Y(d)	Y(d)	Y(d)
Commercial and Government Use						
Offices - government, business, and professional	Y	Y	Y(d)	Y(d)	N	N
Wholesale and retail - building materials, hardware and heavy equip.	Y	Y	Y(d)	Y(d)	Y(d)	Y(d)
Airport businesses - car rental, tours, lei stands, ticket offices, etc.	Y	Y	Y(d)	Y(d)	N	N
Retail trade, restaurants, shopping centers, financial institutions, etc.	Y	Y	Y(d)	Y(d)	N	N
Power plants, sewage treatment plants, and base yards	Y	Y	Y(d)	Y(d)	Y(d)	N
Studios without outdoor sets, broadcasting, production facilities, etc.	Y(c)	Y(c)	N	N	N	N
Manufacturing, Production and Storage						
Manufacturing, general	Y	Y	Y(d)	Y(d)	Y(d)	N
Photographic and optical	Y	Y	Y(d)	Y(d)	N	N
Agriculture (except livestock) and forestry	Y	Y(e)	Y(e)	Y(e)	Y(e)	Y(e)
Livestock farming and breeding	Y	Y(e)	Y(e)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y(f)	Y(f)	N	N	N
Outdoor music shells, amphitheaters	Y(f)	N	N	N	N	N
Nature exhibits and zoos, neighborhood parks	Y	Y	Y	N	N	N
Amusements, beach parks, active playground, etc.	Y	Y	Y	Y	N	N
Public golf courses, riding stables, cemeteries, gardens, etc.	Y	Y	N	N	N	N
Professional/resort sport facilities, locations of media events, etc.	Y(f)	N	N	N	N	N
Extensive natural wildlife and recreation areas	Y(f)	N	N	N	N	N

Key to Table A-3

Y (Yes) Land Use and related structures compatible without restrictions.

N (No) Land Use and related structures are not compatible and should be prohibited.

(a) A noise level of 60 DNL does not eliminate all risks of adverse noise impacts from aircraft noise. However, the 60 DNL planning level has been selected by the State Airports Division as an appropriate compromise between the minimal risk level of 55 DNL and the significant risk level of 65 DNL.
(b) Where the community determines that these uses must be allowed, Noise Level Reduction (NLR) measures to achieve interior levels of 45 DNL or less should be incorporated into building codes and be considered in individual approvals. Normal local construction employing natural ventilation can be expected to provide an average NLR of approximately 9 dB. Total closure plus air conditioning may be required to provide additional outdoor to indoor NLR, and will not eliminate outdoor noise problems.
(c) Because the DNL noise descriptor system represents a 24-hour average of individual aircraft noise events, each of which can be unique in respect to amplitude, duration, and tonal content, the NLR requirements should be evaluated for the specific land use, interior acoustical requirements, and properties of the aircraft noise events. NLR requirements should not be based solely upon the exterior DNL exposure level.
(d) Measures to achieve required NLR must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
(e) Residential buildings require NLR. Residential buildings should not be located where noise is greater than 65 DNL.
(f) Impact of amplitude, duration, frequency, and tonal content of aircraft noise events should be evaluated.

This table has been adapted from the Federal Aviation Administration Land Use Compatibility Table, Advisory Circular 150/5020-1 (dated August 5, 1983). This table is for land use planning purposes only.

A.3.6 STATE OF HAWAII LAND USE CONTROLS

Land Use on the island of Hawaii is controlled by the State of Hawaii, through the State Land Use Commission, and the County of Hawaii, through its Planning Department.

State Land Use. The State Land Use Commission was established by Hawaii Revised Statutes (HRS), Chapter 105. The State Land Use Commission is composed of nine members, one appointed from each of the counties and the remainder appointed at-large. Pursuant to the authority granted to it by Chapter 105, HRS, the Land Use Commission has classified all land in the State as within one of four land districts. The four land districts are Agricultural, Rural, Urban and Conservation. The County of Hawaii has jurisdiction of uses within the Urban district, and may permit uses within the Rural and Agricultural districts. Uses within the Conservation district are under the jurisdiction of the State of Hawaii, Department of Land and Natural Resources.

Hawaii County Planning. The planning within the County of Hawaii is regulated by the County's General Plan and Zoning powers. The County's General Plan was adopted in 1989 and revised in February 2005, and adopted by Ordinance 05-25.

FIGURE 5

Airports Division

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

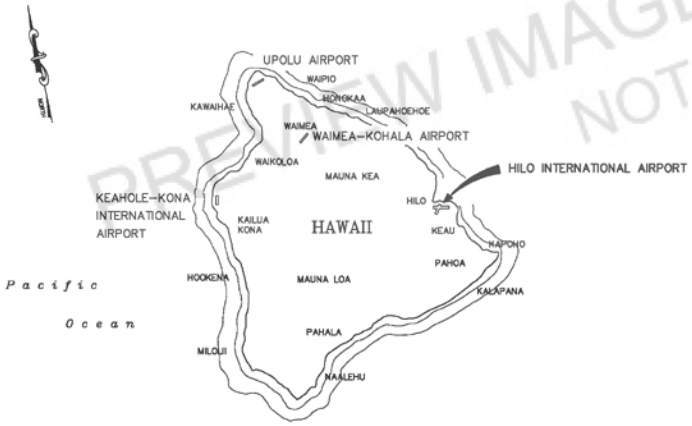
PROPOSED PLANS (NON AS-BUILTS)

PLANS FOR

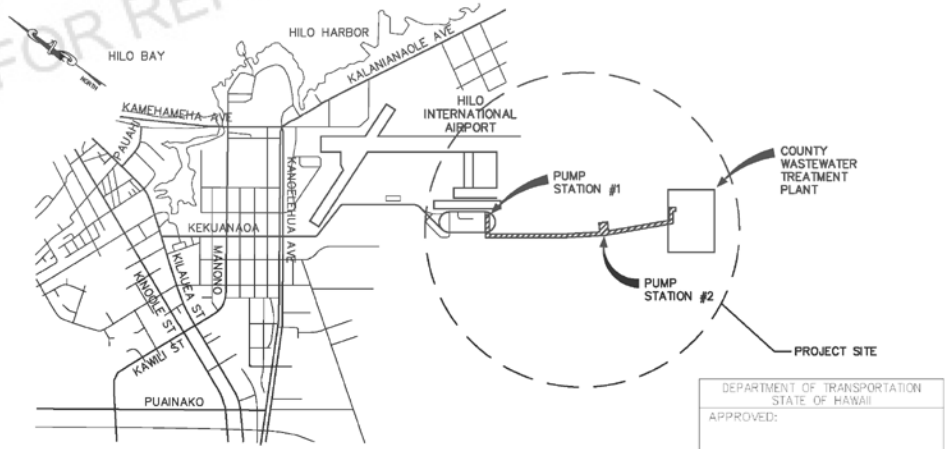
SEWER CONNECTION TO COUNTY OF HAWAII

HILO INTERNATIONAL AIRPORT

HILO, HAWAII
T.M.K. THIRD DIVISION 2-1-12:09, 2-1-13:02, 2-1-13:04
STATE PROJECT NO. AH1041-23



LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
APPROVED:
DIRECTOR OF TRANSPORTATION DATE

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KNOCK
LICENSED PROFESSIONAL ENGINEER
No. 1885-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :
Hilo International Airport Sewer Connection to County of Hawaii

PROJECT NO. :
AH 1041 - 23

SHEET TITLE :
TITLE SHEET

DATE:
6 DECEMBER 2001

DWG. NO.:
T-1

SHEET 1 OF 43 SHEETS

INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	DESCRIPTION
1	T-1	TITLE SHEET
2	I-1	INDEX OF DRAWINGS
3	C-1	LOCATION PLAN
4	C-2	PLAN AND PROFILE, STA. 0+00 TO STA. 9+00
5	C-3	PLAN AND PROFILE, STA. 9+00 TO STA. 18+00
6	C-4	PLAN AND PROFILE, STA. 18+00 TO STA. 28+00
7	C-5	PLAN AND PROFILE, STA. 28+00 TO STA. 38+00
8	C-6	PLAN AND PROFILE, STA. 38+00 TO STA. 47+00
9	C-7	PLAN AND PROFILE, STA. 47+00 TO STA. 57+00
10	C-8	PLAN AND PROFILE, STA. 57+00 TO STA. 66+00
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12	C-10	PLAN AND PROFILE, STA. 74+00 TO END
13	C-11	PUMP STATION SITE AND GRADING PLANS
14	C-12	PUMP STATION DETAILS
15	C-13	VALVE BOX AND METER BOX DETAILS
16	C-14	DRIVEWAY AND MISCELLANEOUS DETAILS
17	C-15	SEWER TRENCH AND MANHOLE DETAILS
18	C-16	CHAIN LINK FENCE DETAIL
19	C-17	CONNECTION TO WWTP
20	C-18	BORING LOGS
21	C-19	BORING LOGS
22	C-20	TRAFFIC CONTROL PLAN
23	A-1	PUMP STATION BUILDING'S #1 AND #2 FLOOR PLAN, ROOF PLAN AND BUILDING SECTION
24	A-2	PUMP STATION BUILDING'S #1 AND #2 EXT. ELEVATIONS, TYP. WALL SECTION, GENERAL NOTES
25	A-3	PUMP STATION BUILDING'S #1 AND #2 ELEVATIONS, DOOR AND LOUVER TYPES, DETAILS AND COLOR FINISH SCHEDULE
26	S-1	GENERAL NOTES AND DETAILS
27	S-2	PUMP STATION BUILDING'S #1 AND #2 FOUNDATION PLAN AND ROOF FRAMING PLANS
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36	E-2	ENLARGED ELECTRICAL SITE PLAN, ELECTRICAL PLAN – EXISTING ELECTRICAL EQUIPMENT BLDG., SINGLE LINE DIAGRAM – PUMP STATION NO. 1 AND DUCT SECTION
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39	E-5	ELECTRICAL SITE PLAN
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41	EI-1	PUMP STATION #1 AND #2 CONTROL WIRING DIAGRAM
42	EI-2	PUMP STATION #1 AND #2 CONTROL WIRING DIAGRAM
43	EI-3	SYSTEM BLOCK DIAGRAM AND ADMINISTRATION BUILDING LAYOUT

BENCHMARK

REFERRED TO TBM (SPIKE IN CONC.)
30' O/S (LEFT) STA. 19+62.06
ELEV.=49.12
(HILO WASTEWATER TREATMENT AND CONVEYANCE PROJECT, ACCESS ROAD AND OFFSITE UTILITIES PLAN & PROFILE, SHEET 6.)

LEGEND:

A.C.	ASPHALT CONCRETE	ELEC.	HAWAIIAN ELECTRIC COMPANY
ARV	AIR RELIEF VALVE	HTCo.	HAWAIIAN TELEDGE PAVT.HONE COMPANY
B	BOTTOM	ICV	IRRIGATION CONTROL VALVE
BC	BOTTOM CURB	INV	INVERT
BFP	BACK FLOW PREVENTOR	MH	MANHOLE
BW	BOTTOM WALL	OH	OVERHEAD ELECTRIC LINE
CB	CATCH BASIN	S	SEWER OR SPREAD (TREE)
CL	CHAIN LINK	SDMH	STORM DRAIN MANHOLE
CMU	CONCRETE MASONRY UNIT	SL	STREET LIGHT
CO	CLEAN OUT	SMH	SEWER MANHOLE
CONC.	CONCRETE	SPK	SPRINKLER
CRM	CONCRETE RUBBLE MASONRY	T	TOP
D	DIAMETER OR DRAIN	TC	TOP CURB
D.I.	DRAIN INLET	TP	TOP PIPE
E/ELEC.	ELECTRIC	TS	TOP STEM
EMH	ELECTRIC MANHOLE	TW	TOP WALL
EDGE PAVT.	EDGE PAVEMENT	UG	UNDERGROUND
FH	FIRE HYDRANT	UP	UTILITY POLE
FM	FORCE MAIN	W	WATER
G.I.	GRATE INLET	WD	WOOD, WOODEN
GND.	GROUND	WM	WATER METER
GW	GUY WIRE	WMH	WATER MANHOLE
H	HEIGHT	WV	WATER VALVE
HB	HOSE BIBB		

PROPOSED PLANS (NON AS-BUILTS)

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

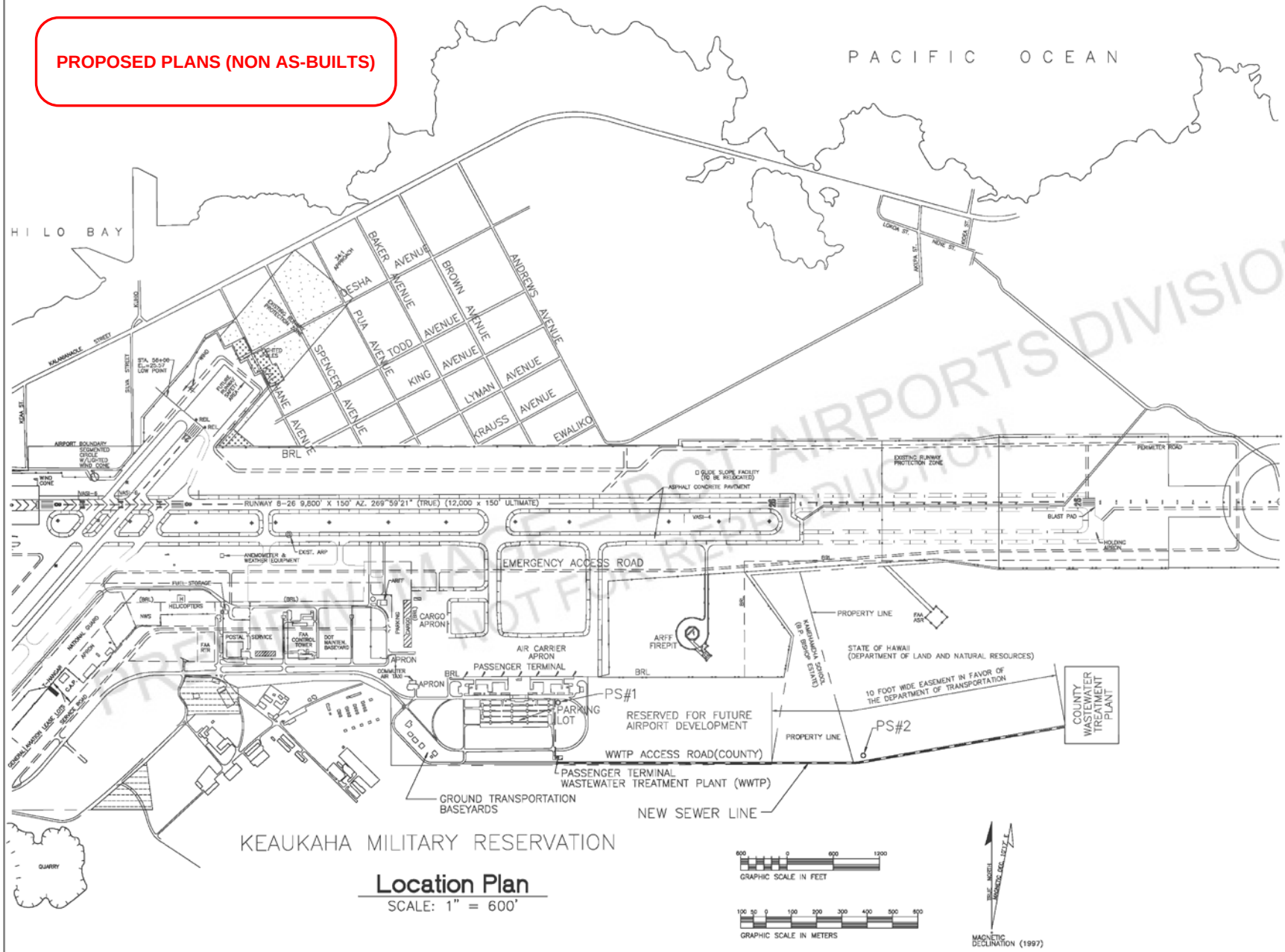
Index of Drawings

DATE:
6 DECEMBER 2001

DWG. NO.:
I-1

SHEET 2 OF
43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)



Location Plan
SCALE: 1" = 600'

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KNOCK
LICENSED PROFESSIONAL ENGINEER
No. 1885-C
HAWAII, USA

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KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

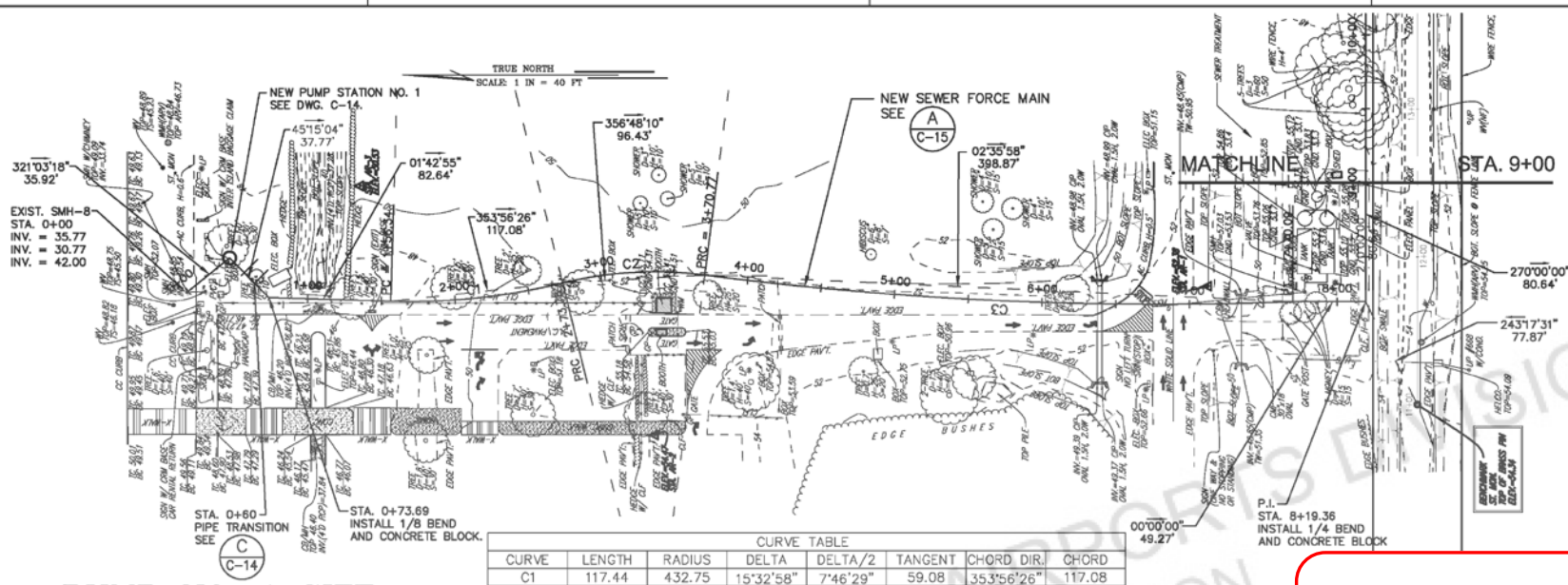
SHEET TITLE :

Location Plan

DATE:
6 DECEMBER 2001

DWG. NO.:
C-1

SHEET 3 OF 43 SHEETS

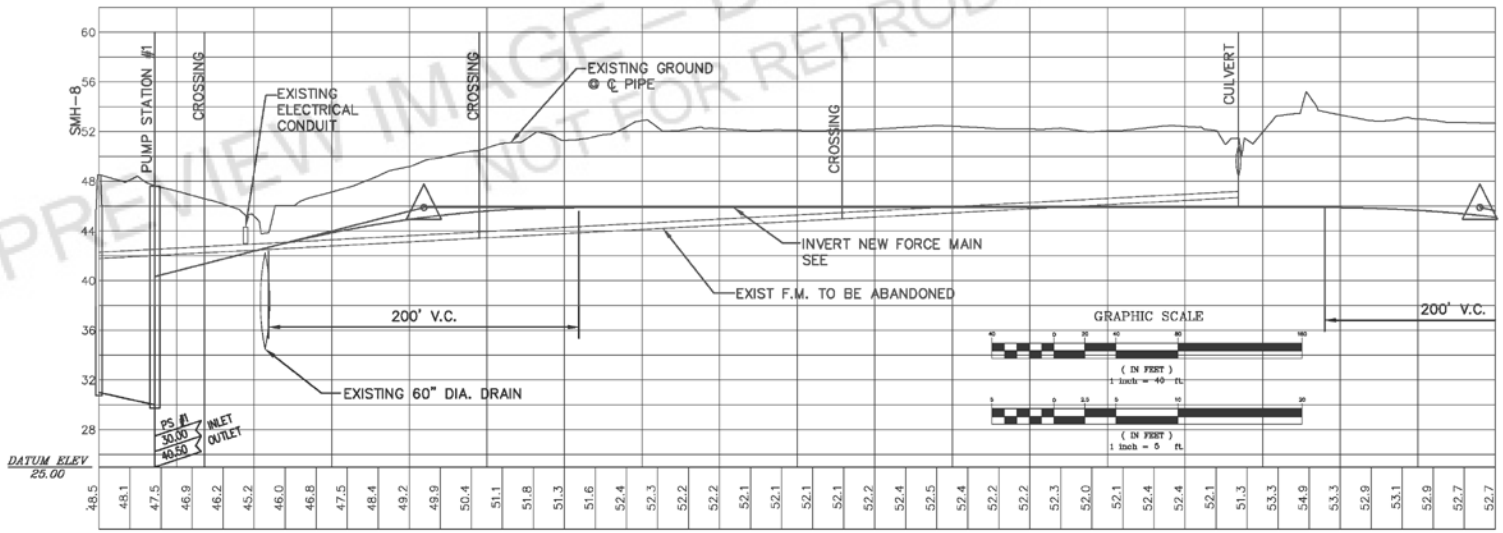


PUMP NO. 1 SITE

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	DELTA/2	TANGENT	CHORD DIR.	CHORD
C1	117.44	432.75	15°32'58"	7°46'29"	59.08	353°56'26"	117.08
C2	96.99	261.21	21°16'25"	10°38'13"	49.06	176°48'10"	96.43
C3	399.32	2416.68	9°28'02"	4°44'01"	200.12	02°35'58"	398.87

PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

PROPOSED PLANS (NON AS-BUILTS)

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

Plan and Profile
Sta 0+00 to Sta. 9+00

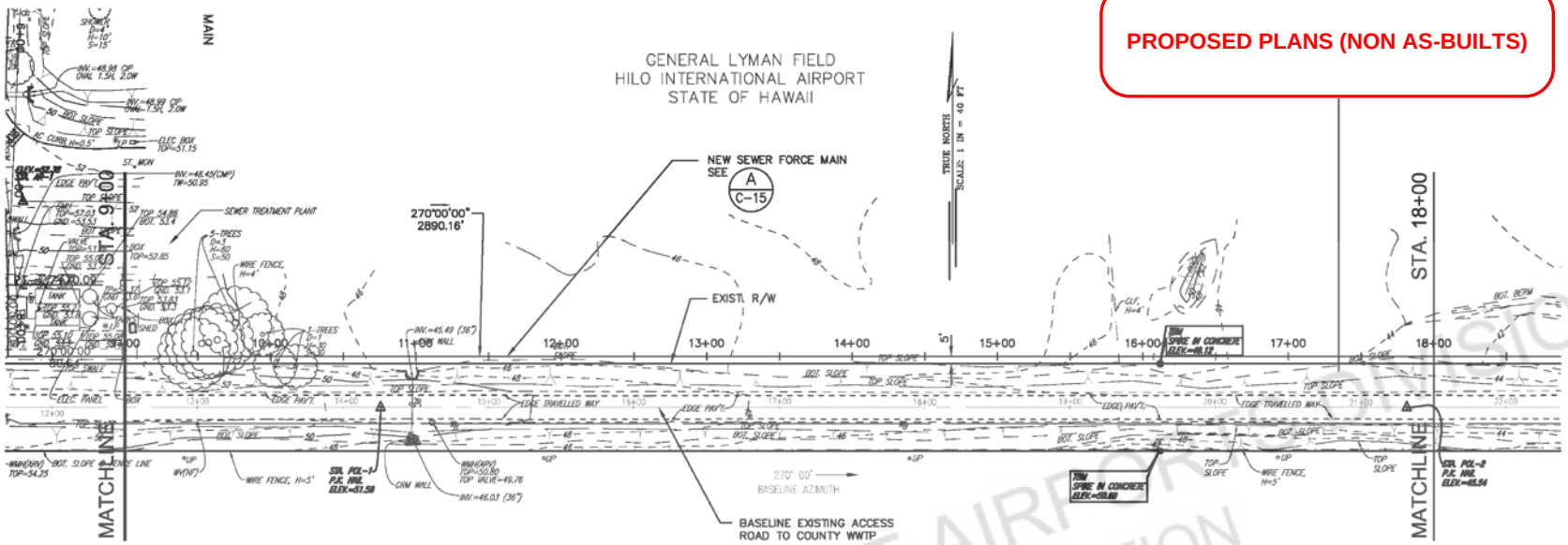
DATE:
6 DECEMBER 2001

DWG. NO.:
C-2

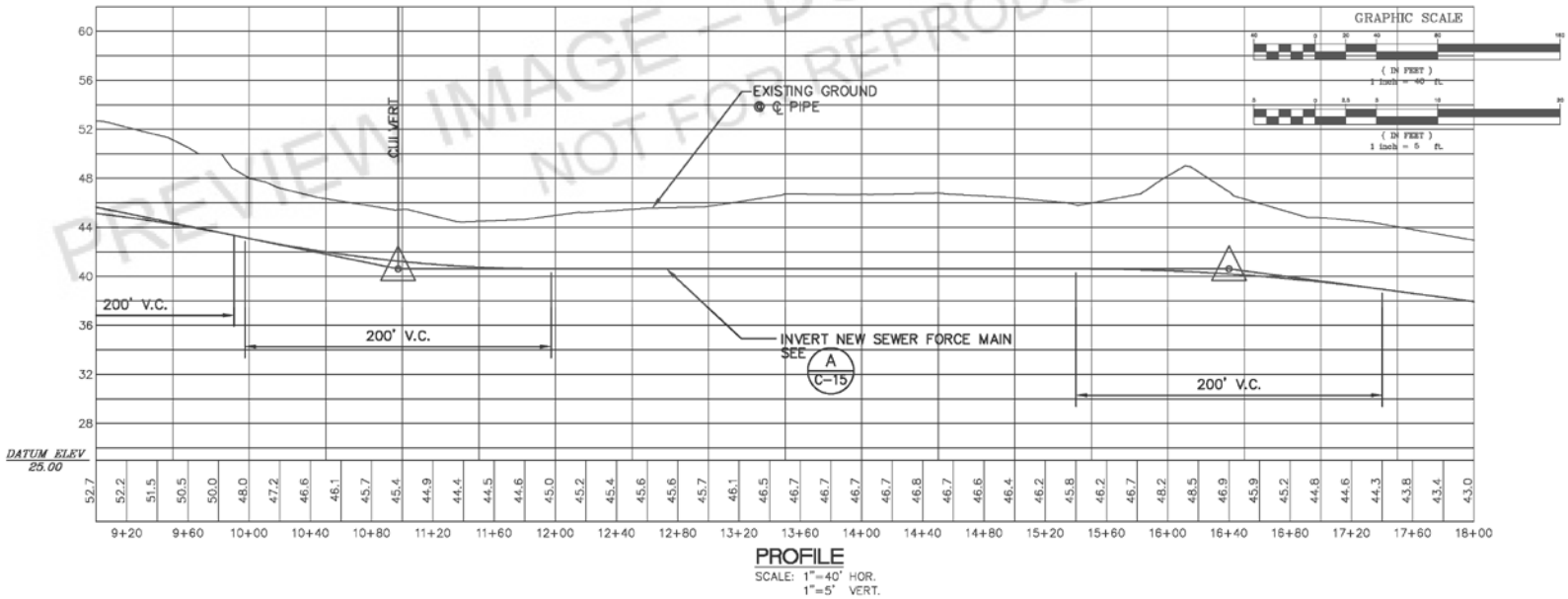
SHEET 4 OF
43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)

GENERAL LYMAN FIELD
HILO INTERNATIONAL AIRPORT
STATE OF HAWAII



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
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KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

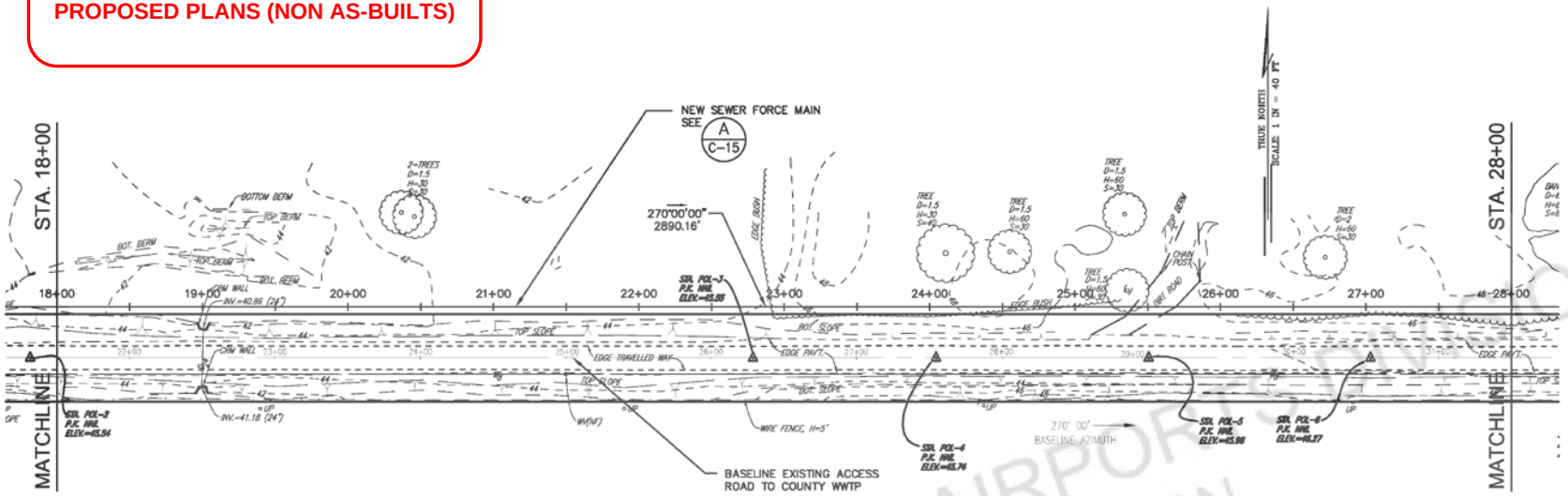
Plan and Profile
Sta 9+00 to Sta. 18+00

DATE:
6 DECEMBER 2001

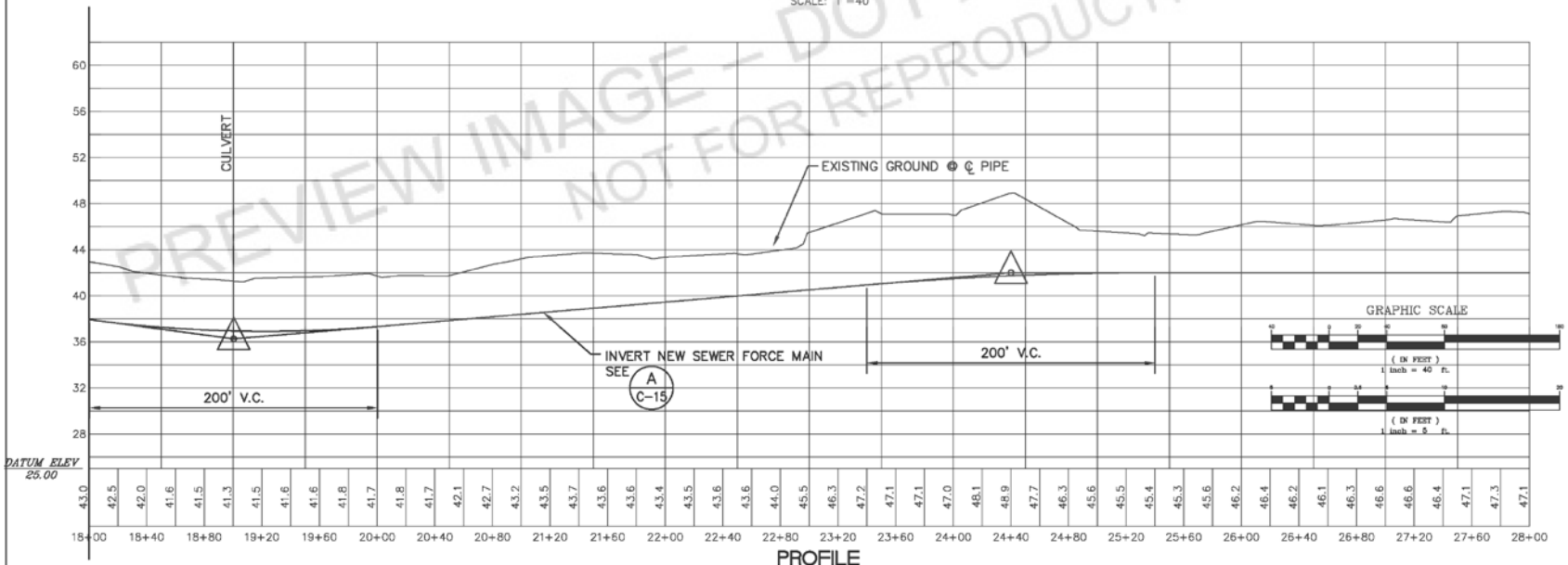
DWG. NO.:
C-3

SHEET 5 OF
43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
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No. 1895-C
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KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

Plan and Profile
Sta 18+00 to Sta. 28+00

DATE:
6 DECEMBER 2001

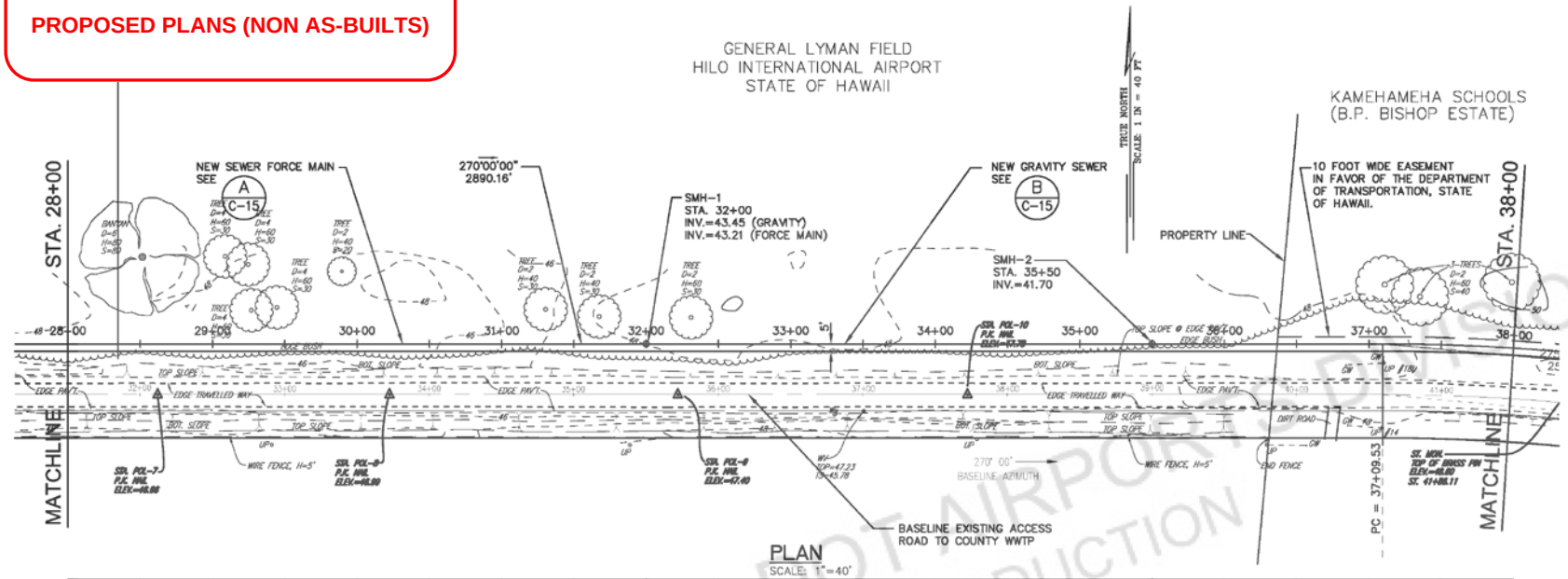
DWG. NO.:
C-4

SHEET 6 OF
43 SHEETS

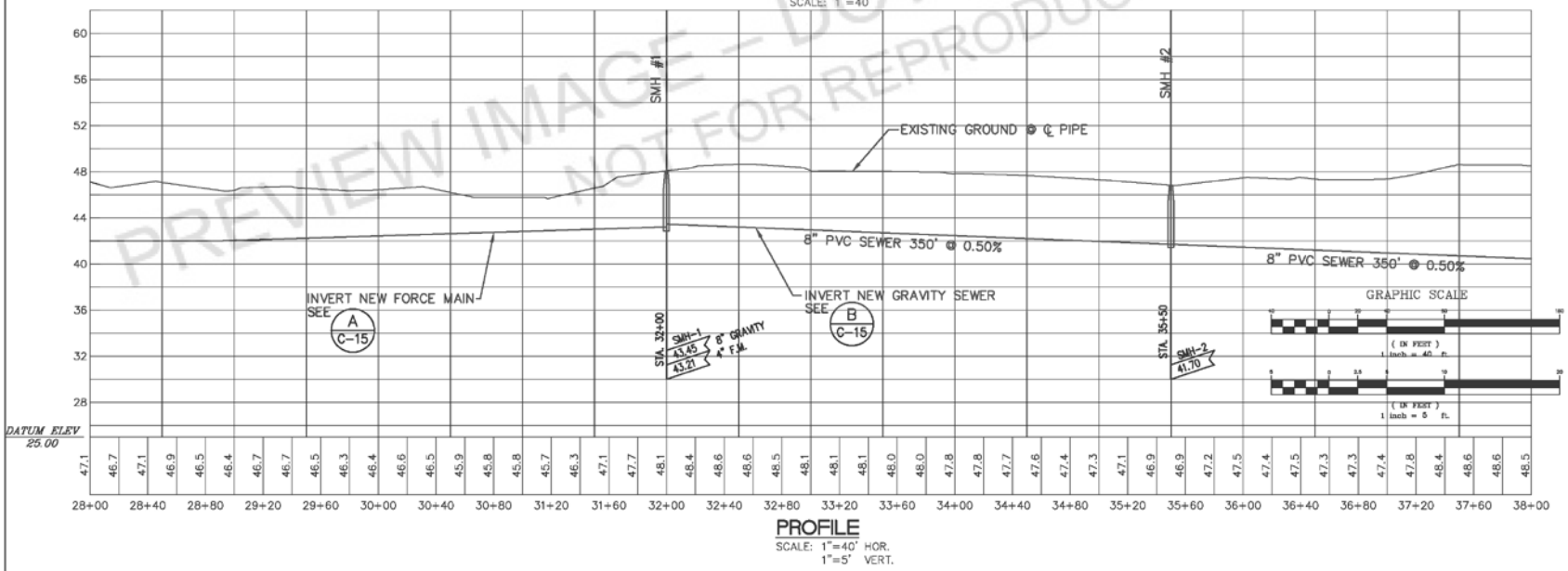
PROPOSED PLANS (NON AS-BUILTS)

GENERAL LYMAN FIELD
HILO INTERNATIONAL AIRPORT
STATE OF HAWAII

KAMEHAMEHA SCHOOLS
(B.P. BISHOP ESTATE)



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

Plan and Profile
Sta 28+00 to Sta. 38+00

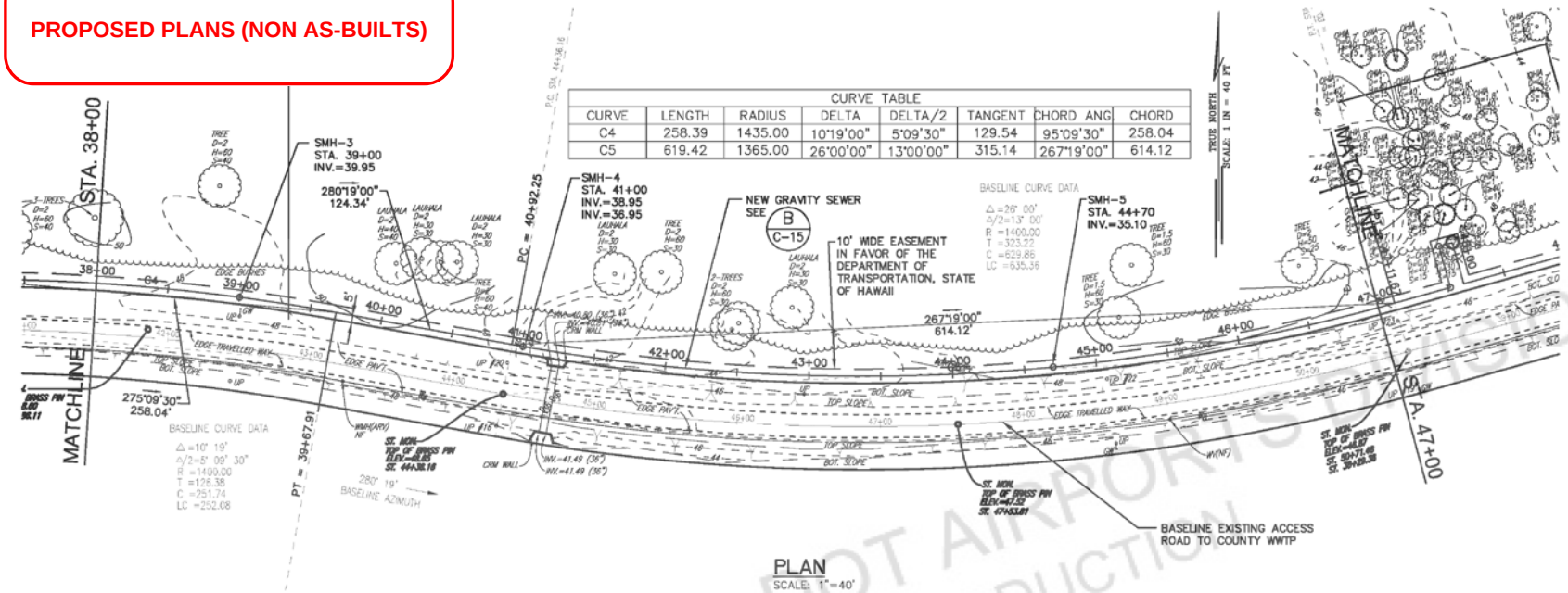
DATE:
6 DECEMBER 2001

DWG. NO.:
C-5

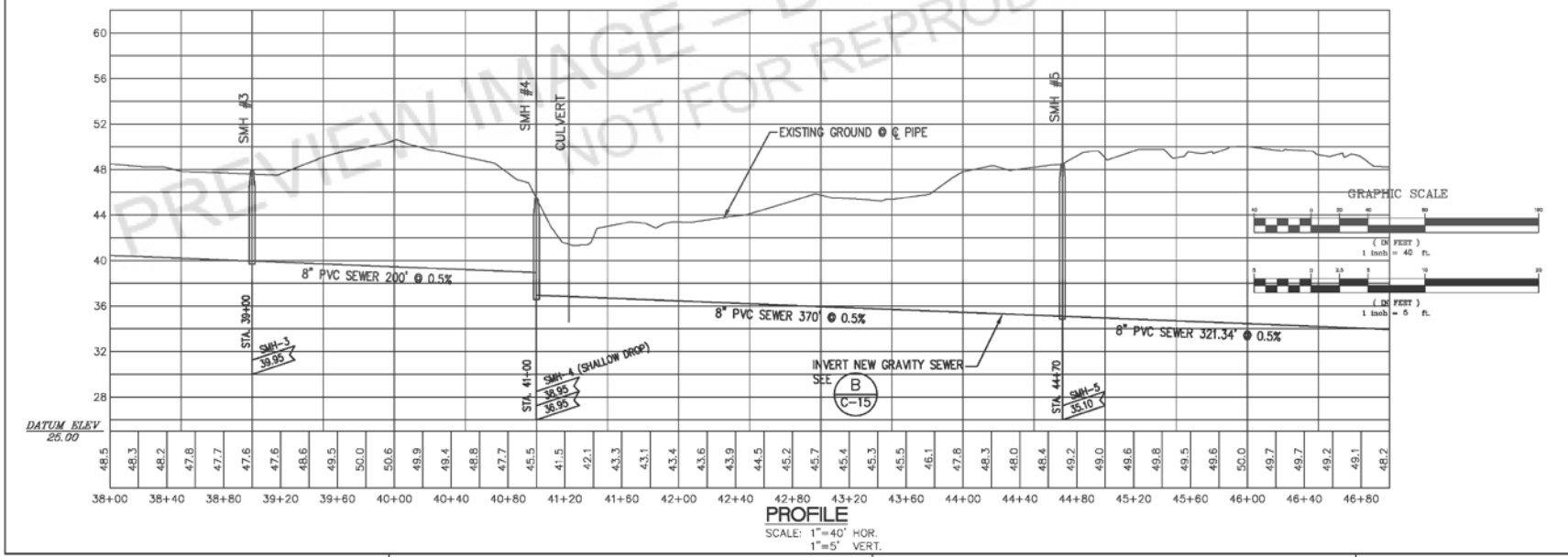
SHEET 7 OF
43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)

CURVE TABLE							
CURVE	LENGTH	RADIUS	DELTA	DELTA/2	TANGENT	CHORD ANG.	CHORD
C4	258.39	1435.00	10°19'00"	5°09'30"	129.54	95°09'30"	258.04
C5	619.42	1365.00	26°00'00"	13°00'00"	315.14	267°19'00"	614.12



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

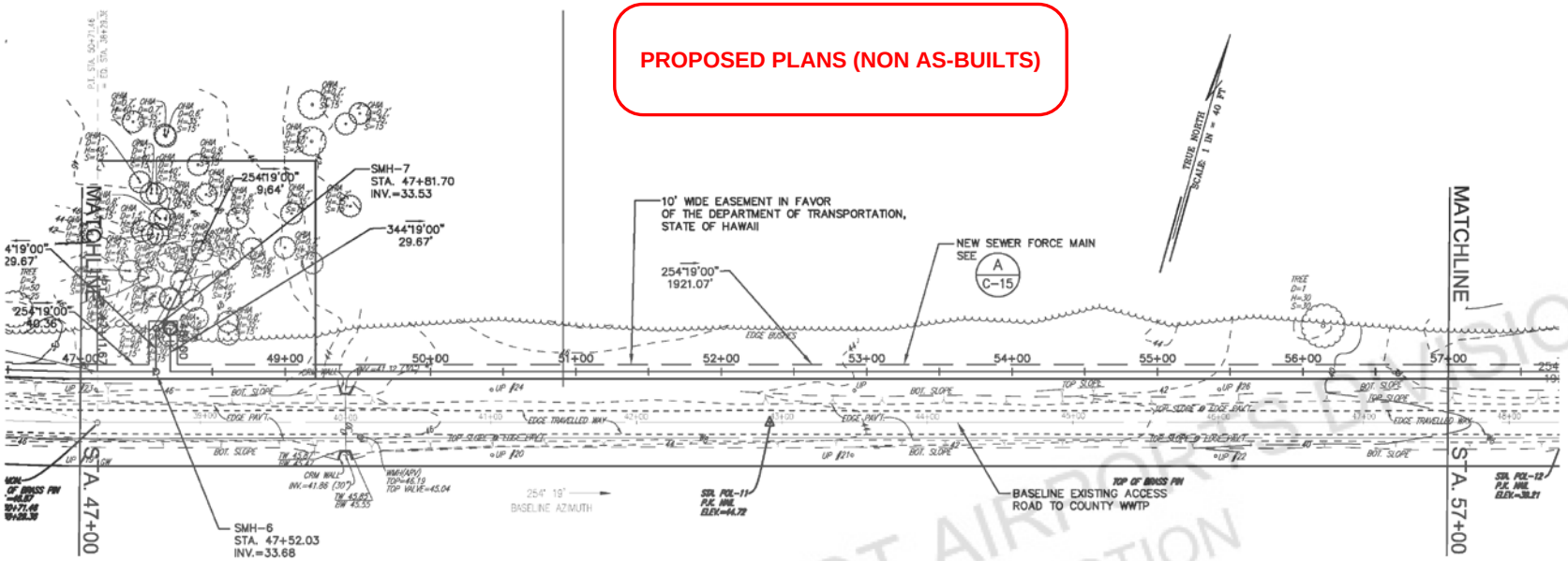
Plan and Profile
Sta 38+00 to Sta. 47+00

DATE:
6 DECEMBER 2001

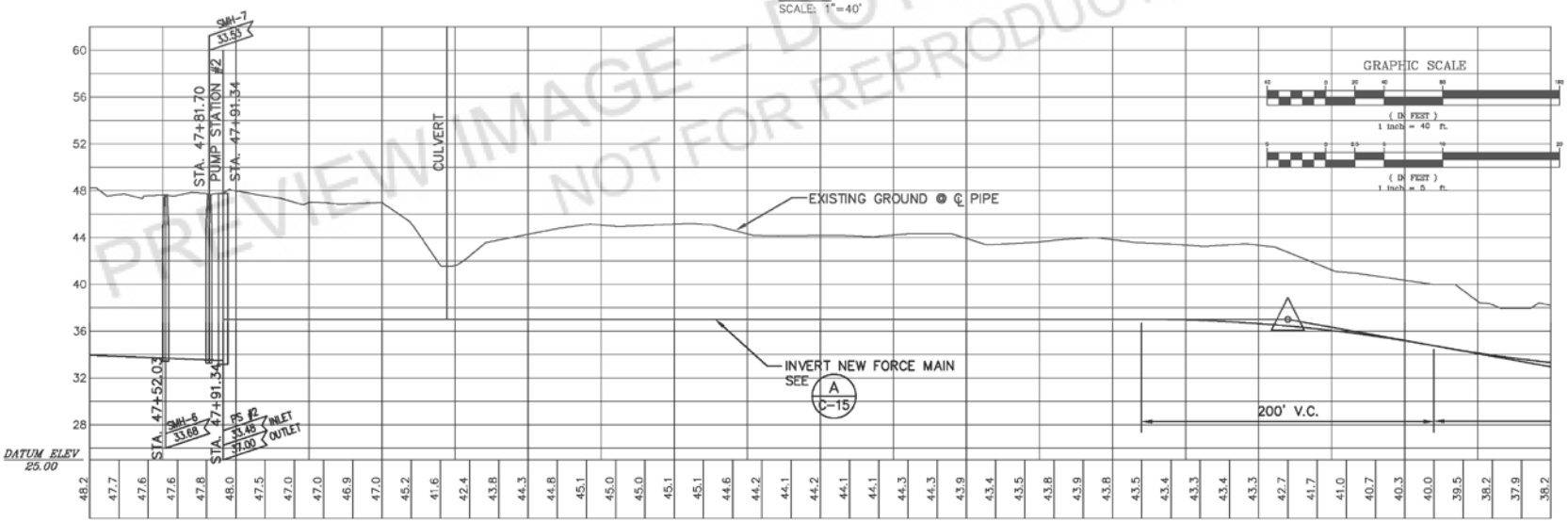
DWG. NO.:
C-6

SHEET 8 OF 43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
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No. 1895-C
HAWAII, USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

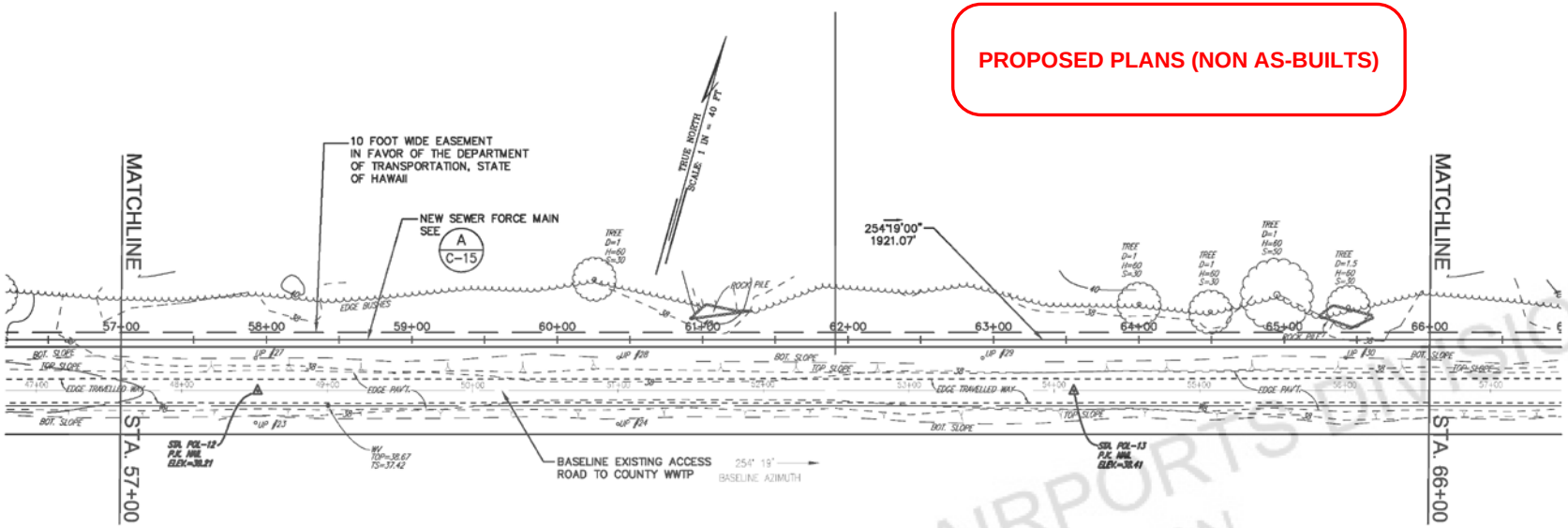
Plan and Profile
Sta 47+00 to Sta. 57+00

DATE:
6 DECEMBER 2001

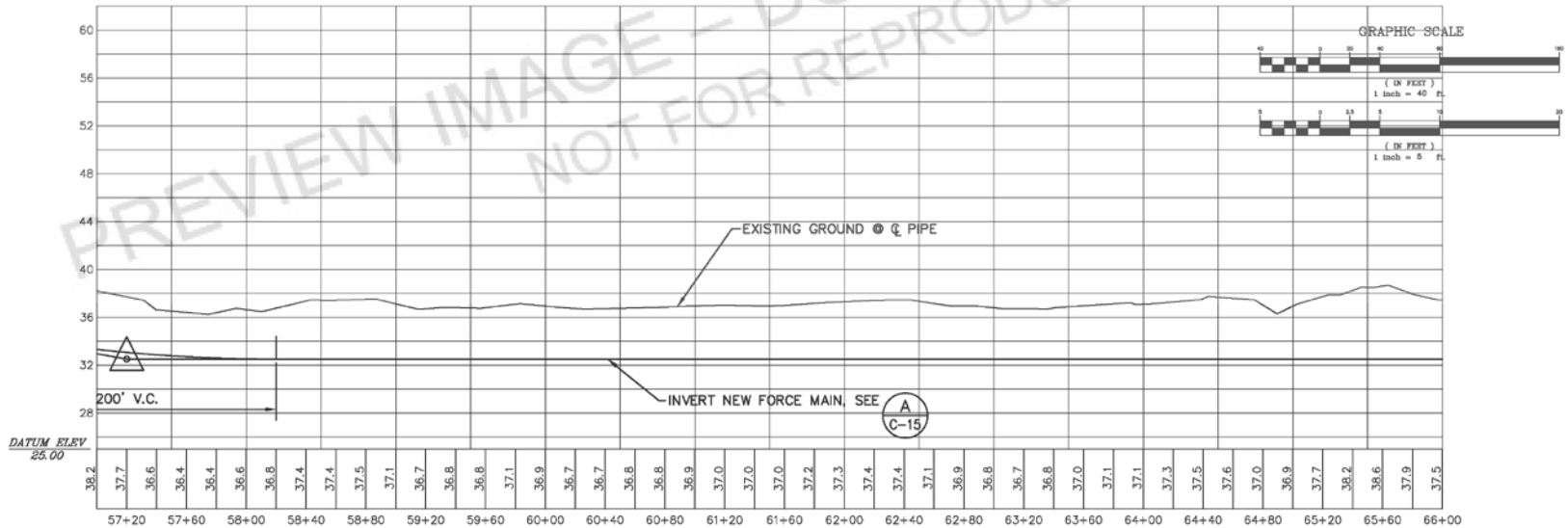
DWG. NO.:
C-7

SHEET 9 OF
43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
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No. 1895-C
HAWAII, USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

Plan and Profile
Sta 57+00 to Sta. 66+00

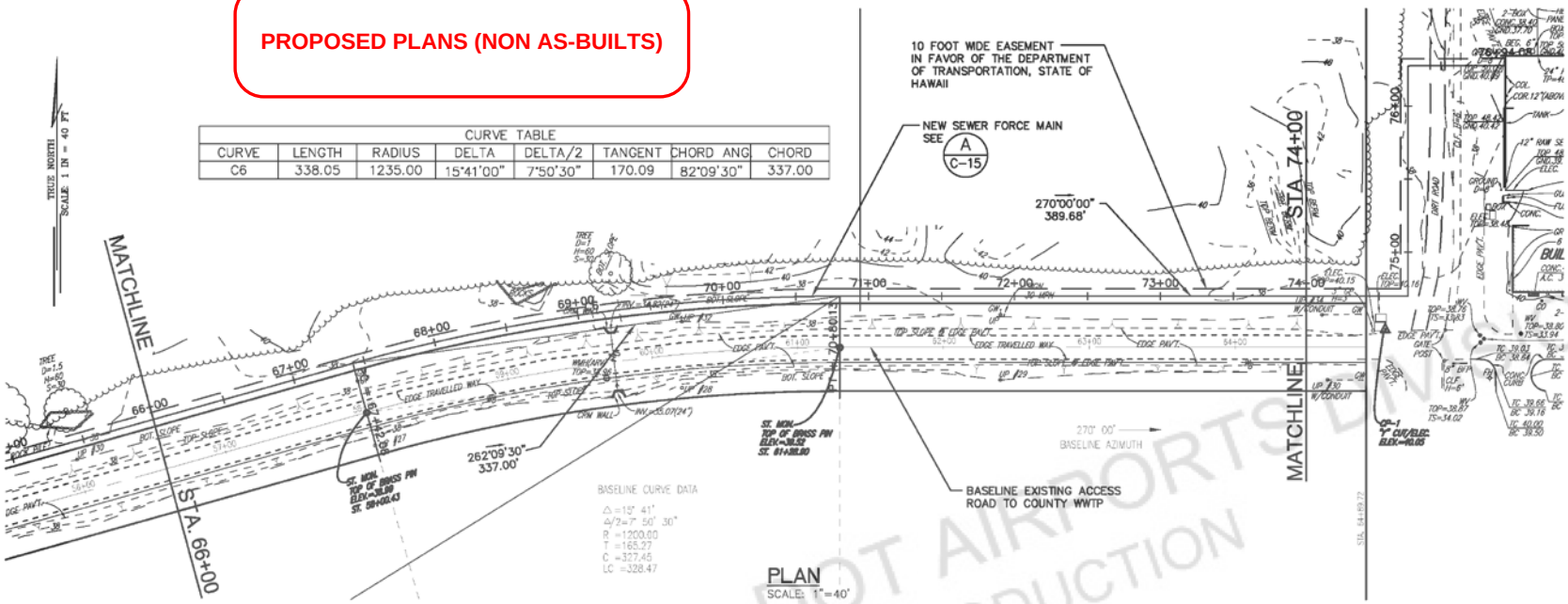
DATE:
6 DECEMBER 2001

DWG. NO.:
C-8

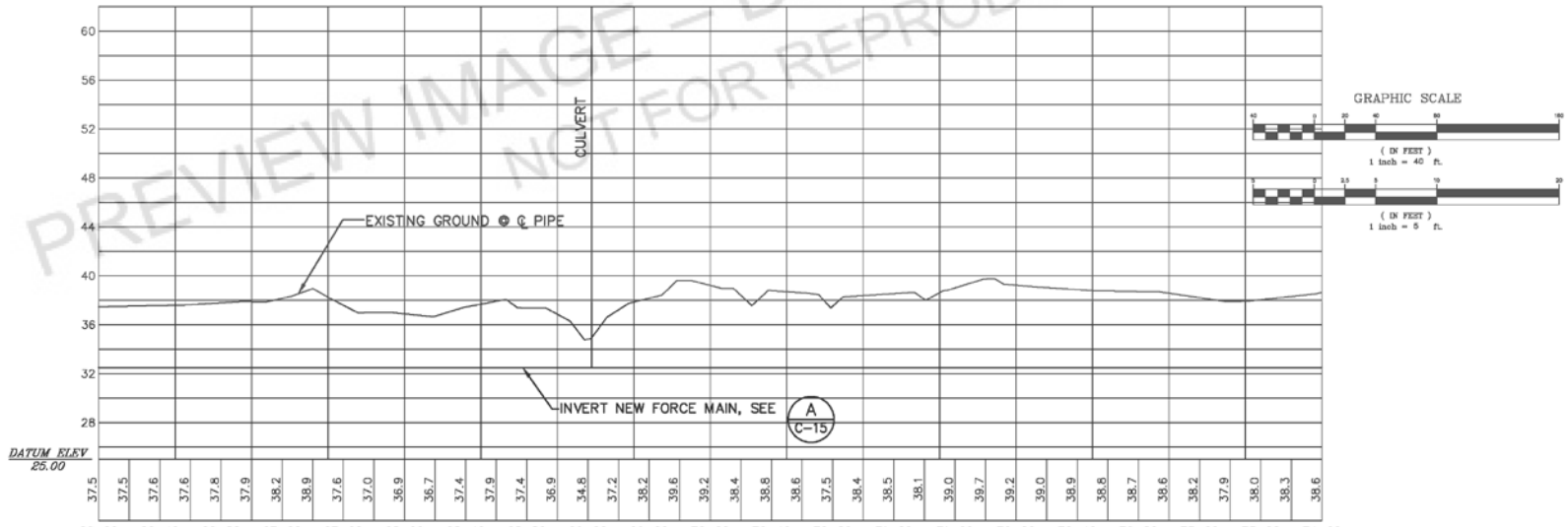
SHEET 10 OF 43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)

CURVE TABLE							
CURVE	LENGTH	RADIUS	DELTA	DELTA/2	TANGENT	CHORD ANG	CHORD
C6	338.05	1235.00	15°41'00"	7°50'30"	170.09	82°09'30"	337.00



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.
(IN FEET)
1 inch = 5 ft.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

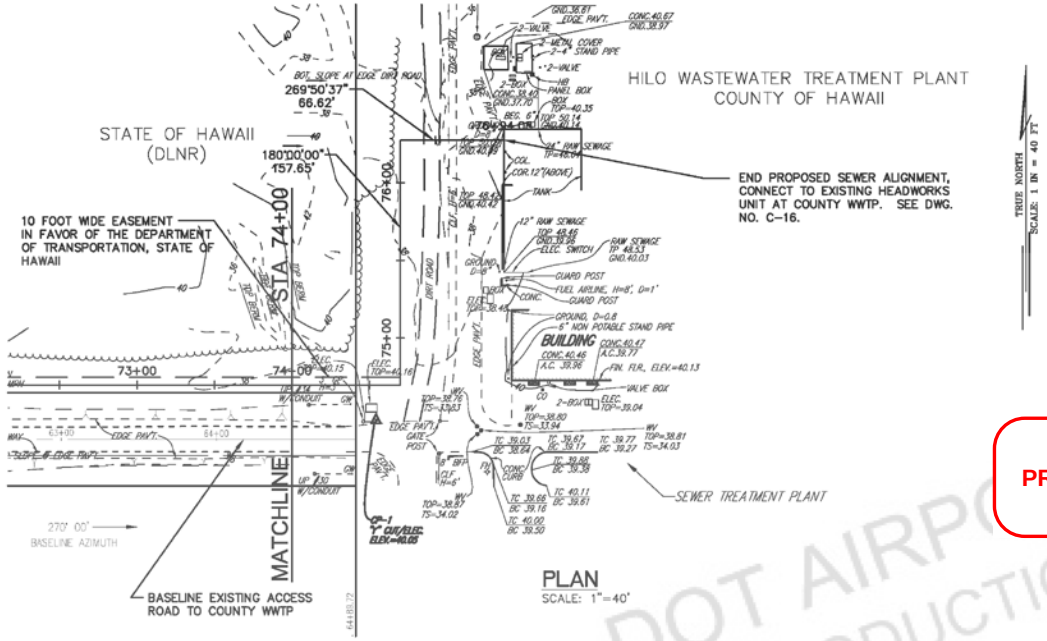
SHEET TITLE :

Plan and Profile
Sta 66+00 to Sta. 74+00

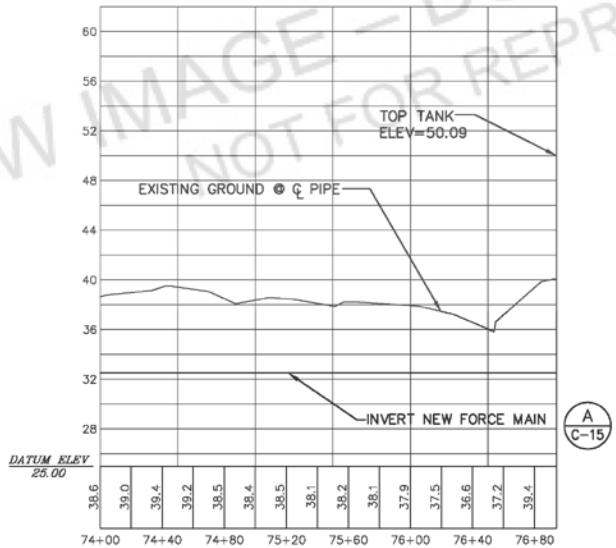
DATE:
6 DECEMBER 2001

DWG. NO.:
C-9

SHEET 11 OF 43 SHEETS



PLAN
SCALE: 1"=40'



PROFILE
SCALE: 1"=40' HOR.
1"=5' VERT.

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

(IN FEET)
1 inch = 5 ft.

PROPOSED PLANS (NON AS-BUILTS)

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

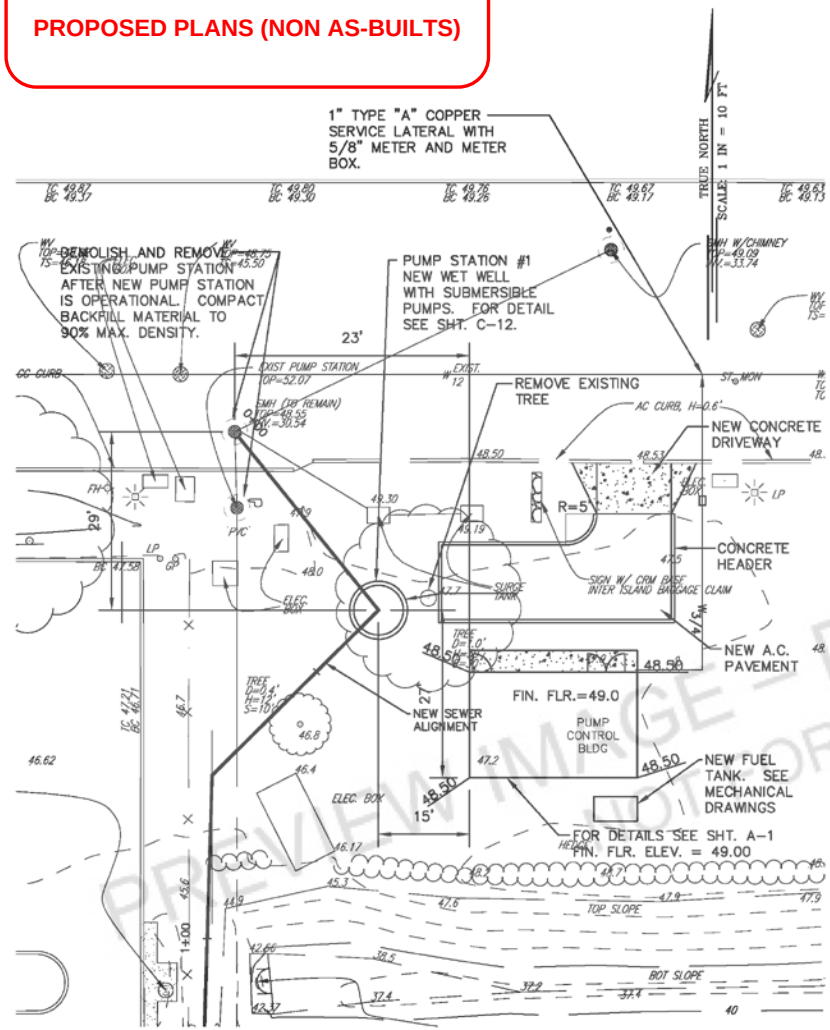
Plan and Profile
Sta 74+00 to End

DATE:
6 DECEMBER 2001

DWG. NO.:
C-10

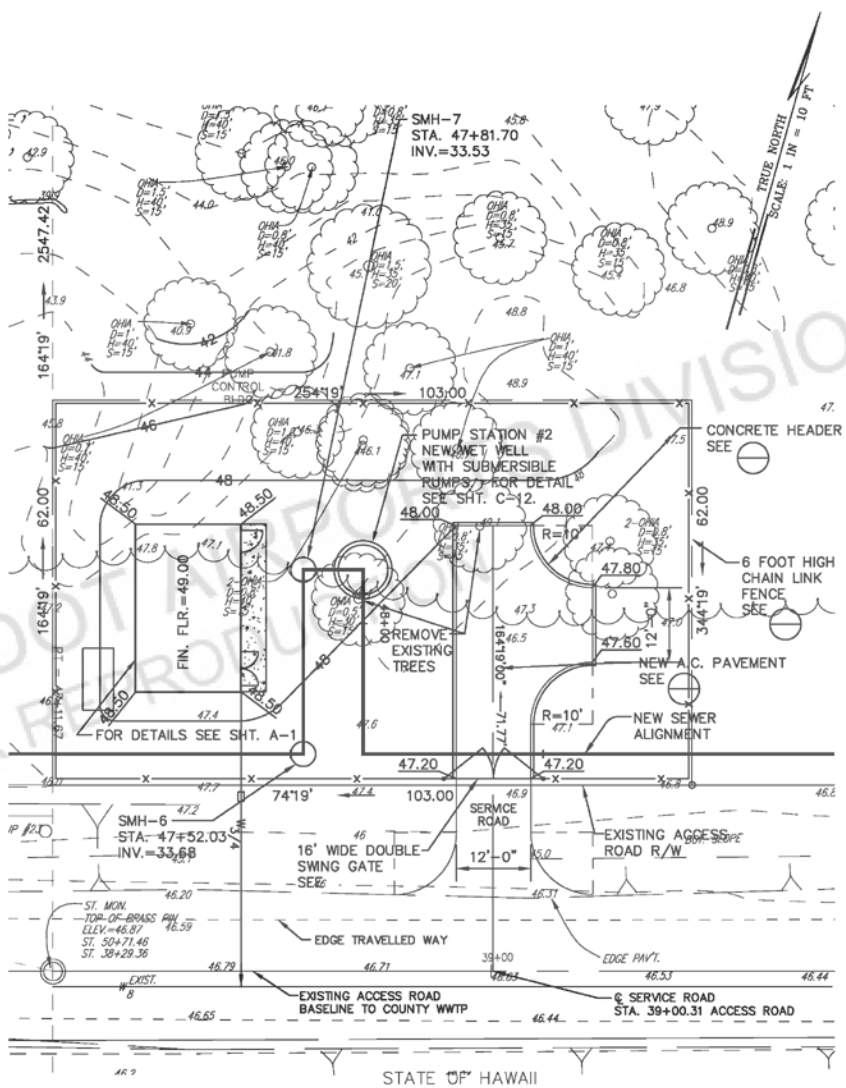
SHEET 12 OF
43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)



GENERAL LYMAN FIELD
HILO INTERNATIONAL AIRPORT
STATE OF HAWAII

PUMP STATION #1
SCALE: 1"=10'



STATE OF HAWAII
(DLNR)

PUMP STATION #2
SCALE: 1"=10'

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

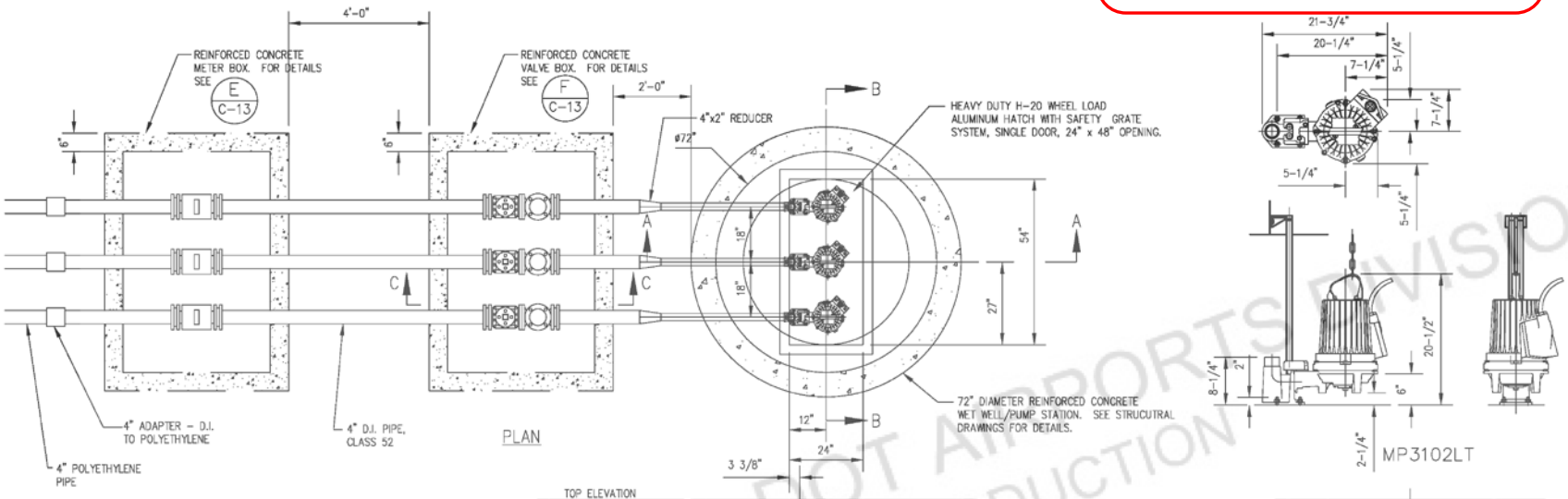
SHEET TITLE :

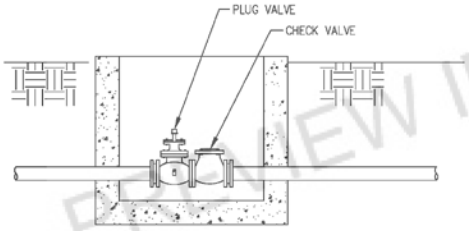
Pump Station Site
and Grading Plans

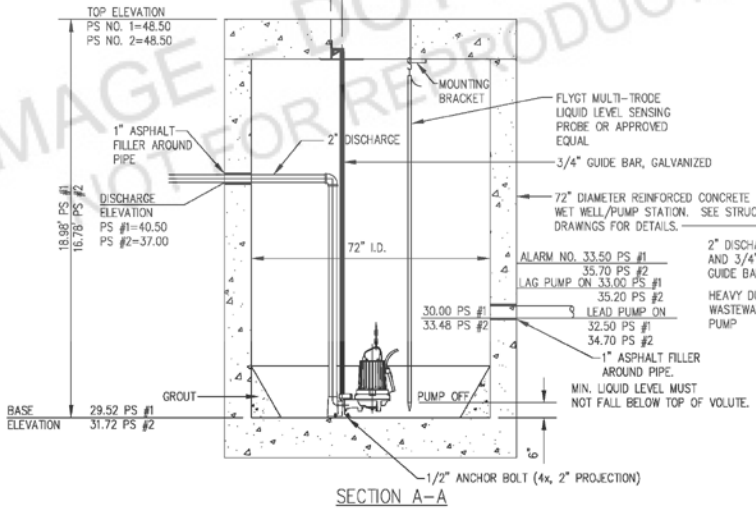
DATE:
6 DECEMBER 2001
DWG. NO.:
C-11

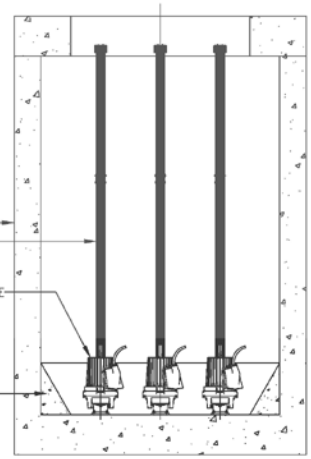
SHEET 13 OF
43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)









PUMP STATION DETAILS

NOT TO SCALE

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

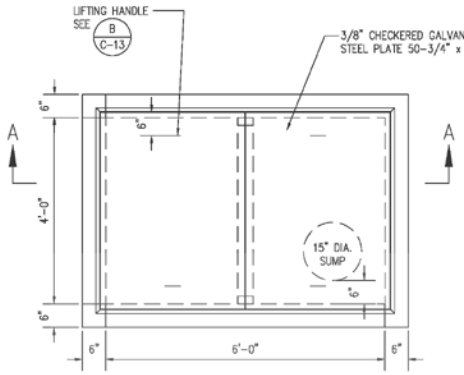
SHEET TITLE :

Pump Station Details

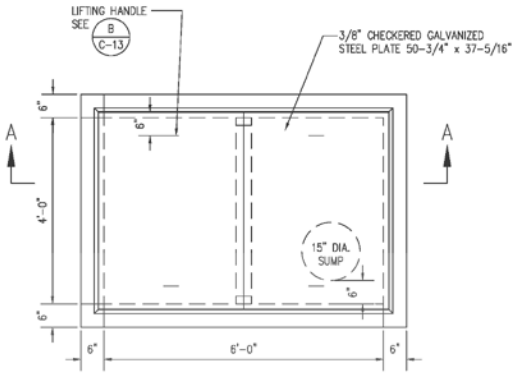
DATE:
6 DECEMBER 2001

DWG. NO.:
C-12

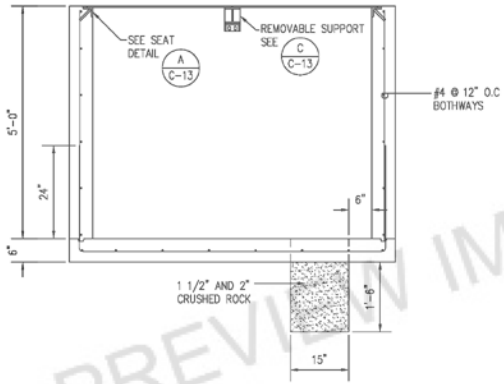
SHEET 14 OF 43 SHEETS



PLAN

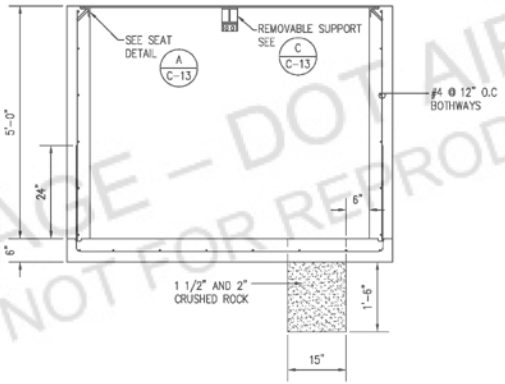


PLAN



SECTION A–A

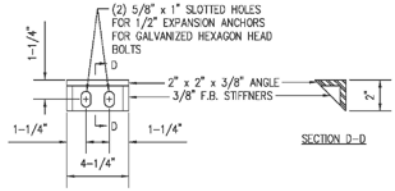
METER BOX DETAIL E C-13
SCALE: 3/4" = 1'-0"



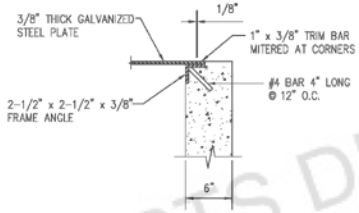
SECTION A–A

VALVE BOX DETAIL F C-13
SCALE: 3/4" = 1'-0"

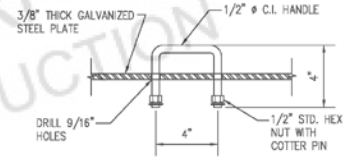
PROPOSED PLANS (NON AS-BUILTS)



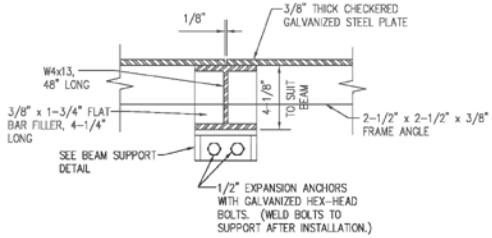
BEAM SUPPORT DETAIL D C-13
SCALE: 3" = 1'-0"



SEAT DETAIL A C-13
SCALE: 1-1/2" = 1'-0"



LIFTING HANDLE DETAIL B C-13
SCALE: 3" = 1'-0"



REMOVABLE SUPPORT DETAIL C C-13
SCALE: 3" = 1'-0"

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KNOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

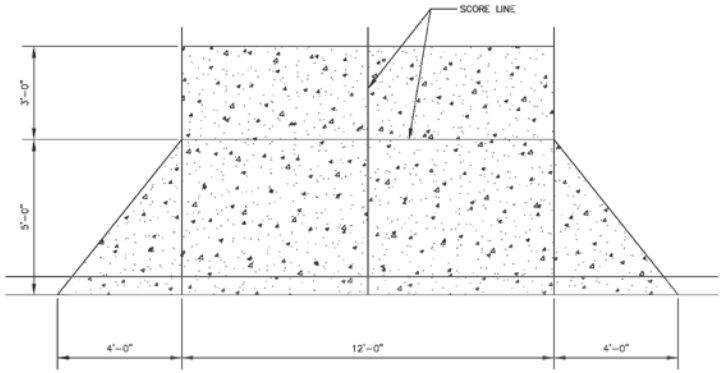
Valve Box and
Meter Box Details

DATE:
6 DECEMBER 2001

DWG. NO.:
C-13

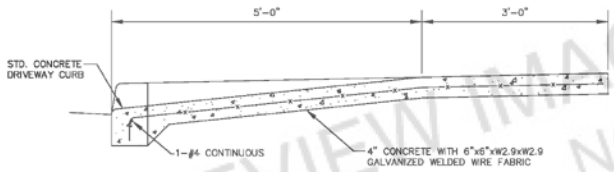
SHEET 15 OF 43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)



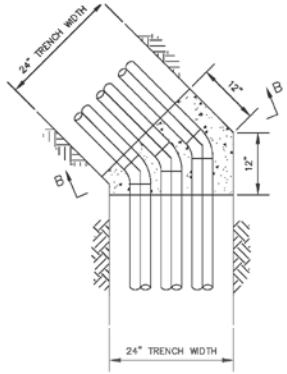
PLAN
SCALE: 1/2"=1'-0"

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

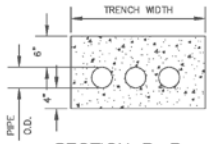


SECTION A-A
SCALE: 1"=1'-0"

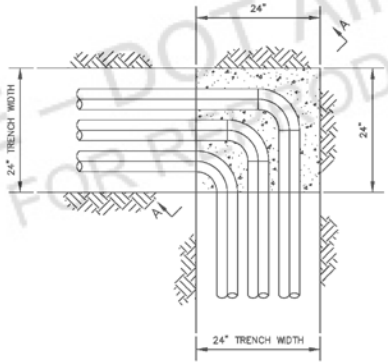
CONCRETE DRIVEWAY DETAIL (A / C-14)
SCALE: AS NOTED



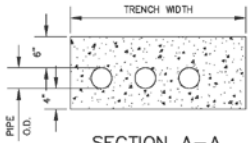
PLAN – 1/8 BEND
SCALE: 1"=1'-0"



SECTION B-B
SCALE: 1"=1'-0"

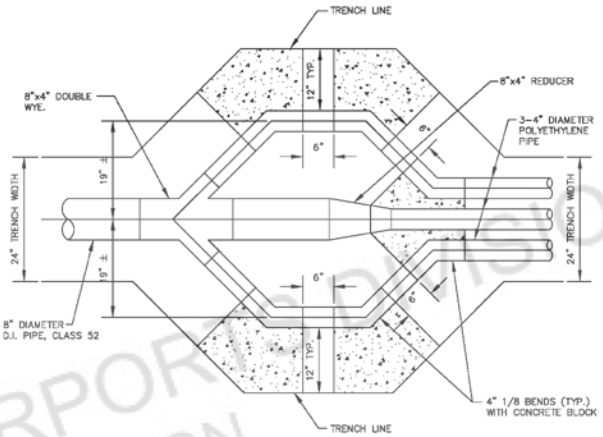


PLAN – 1/4 BEND
SCALE: 1"=1'-0"

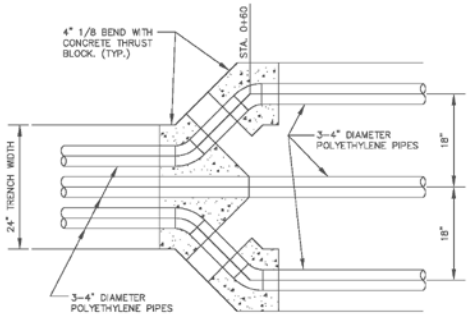


SECTION A-A
SCALE: 1"=1'-0"

CONCRETE BLOCK DETAIL (B / C-14)
SCALE: AS NOTED



PIPE TRANSITION AT STA. 76+50 (D / C-14)
SCALE: 1"=1'-0"



PIPE TRANSITION AT STA. 0+60 (C / C-14)
SCALE: 1"=1'-0"

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

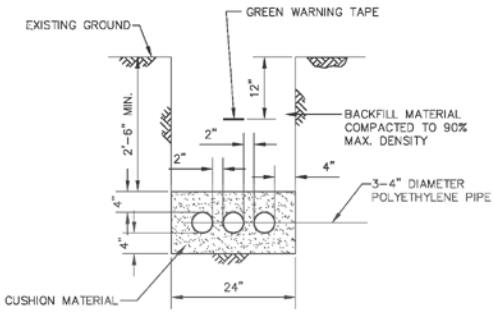
SHEET TITLE :

Driveway and Miscellaneous Details

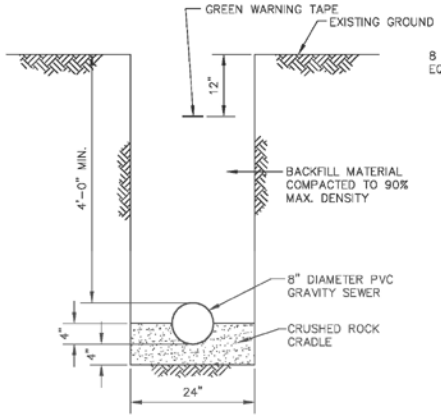
DATE:
6 DECEMBER 2001

DWG. NO.:
C-14

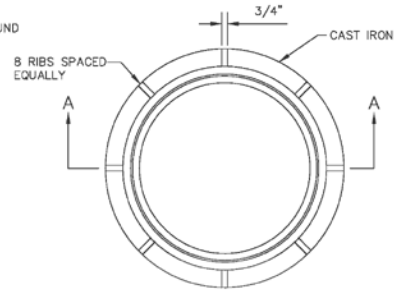
SHEET 16 OF 43 SHEETS

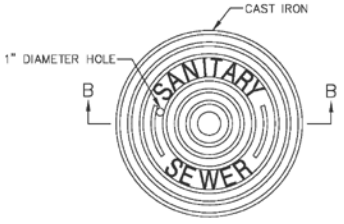


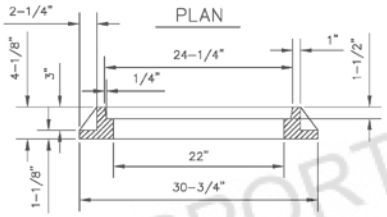
TYPICAL FORCE MAIN TRENCH SECTION (A / C-15)
SCALE: 1" = 1'-0"



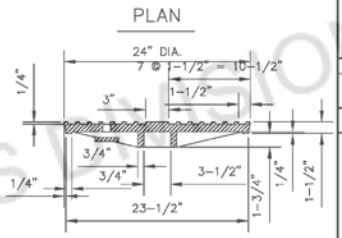
TYPICAL GRAVITY SEWER TRENCH SECTION (B / C-15)
SCALE: 1" = 1'-0"

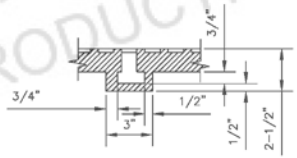






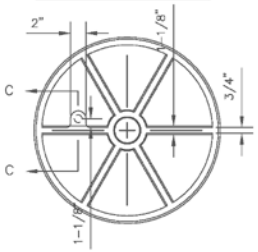
SECTION A–A



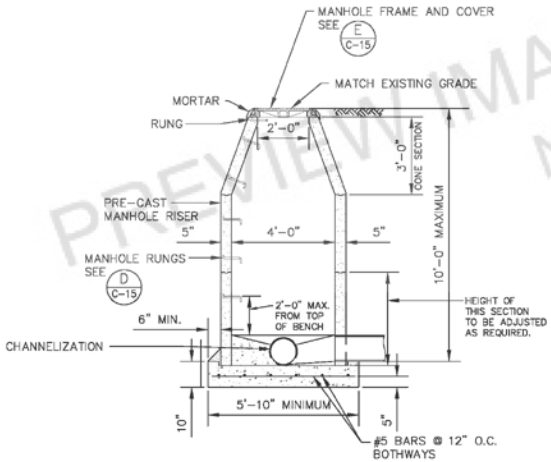


SECTION C–C
NOT TO SCALE

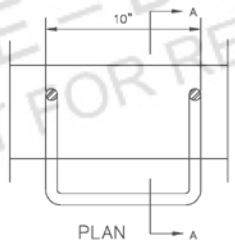
SECTION B–B



MANHOLE FRAME AND COVER (E / C-15)
NOT TO SCALE



SEWER MANHOLE DETAIL (C / C-15)
NOT TO SCALE



SECTION A–A

MANHOLE RUNG DETAIL (D / C-15)
NOT TO SCALE

3/4" STAINLESS STEEL ROD SHAPED AS SHOWN.

PROPOSED PLANS (NON AS-BUILTS)

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KNOOK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

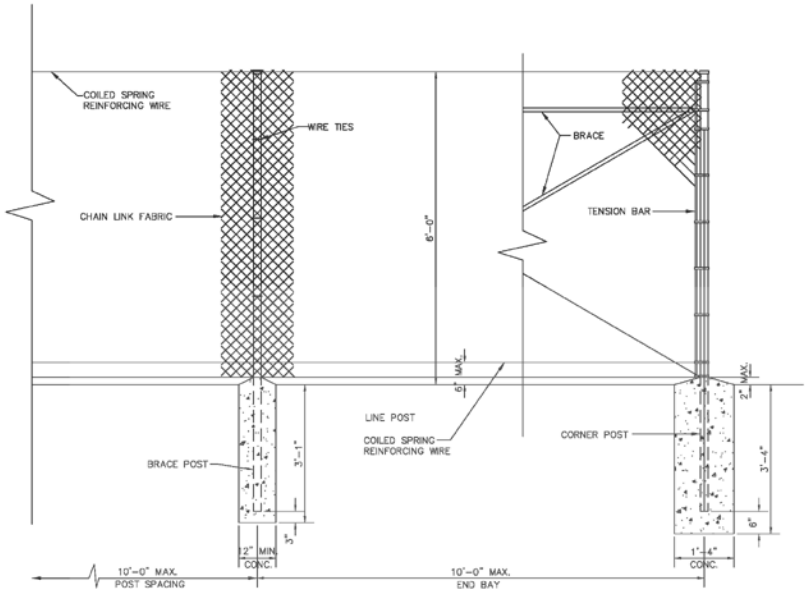
SHEET TITLE :

Sewer Trench and
Manhole Details

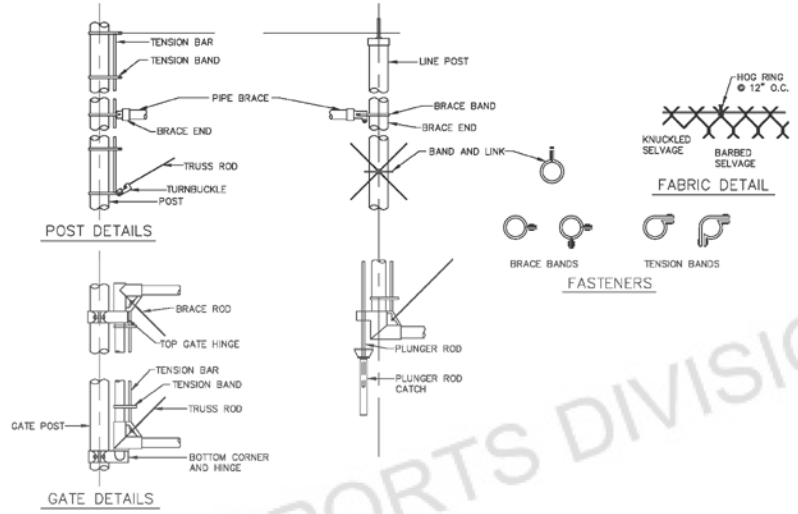
DATE:
6 DECEMBER 2001

DWG. NO.:
C-15

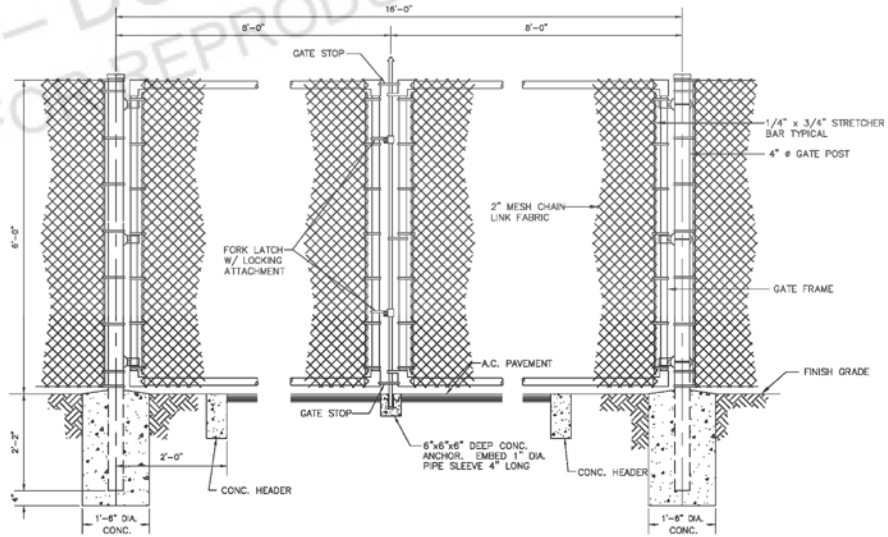
SHEET 17 OF 43 SHEETS



CHAIN LINK FENCE DETAIL (A / C-16)
NOT TO SCALE



TYPICAL DETAILS (ACCESSORIES) (B / C-16)
NOT TO SCALE



DOUBLE SWING GATE DETAIL (C / C-16)
NOT TO SCALE

PROPOSED PLANS (NON AS-BUILTS)

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

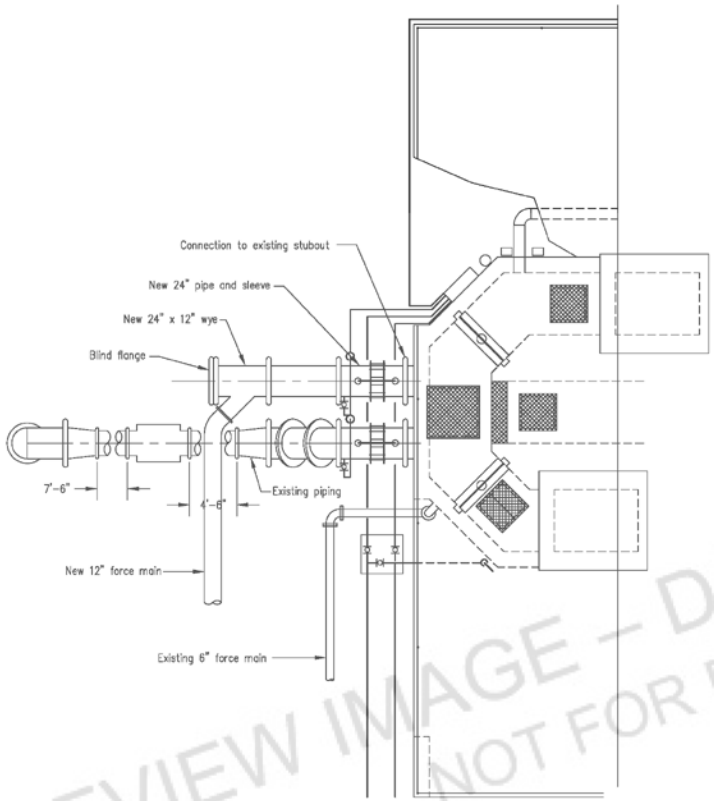
Chain Link Fence Details

DATE:
6 DECEMBER 2001

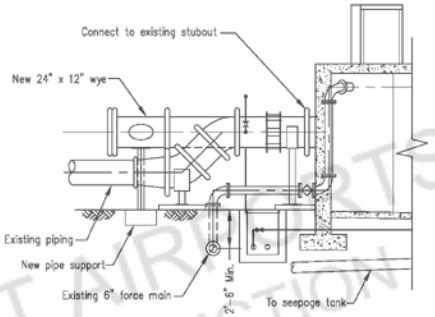
DWG. NO.:
C-16

SHEET 18 OF 43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)



PARTIAL GRIT TANK PLAN
SCALE: 1/4" = 1'-0"



PARTIAL GRIT TANK SECTION
SCALE: 1/4" = 1'-0"

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

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DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

Connection to WWTP

DATE:
6 DECEMBER 2001

DWG. NO.:
C-17

SHEET 19 OF
43 SHEETS

KENNETH K. HIRATA & ASSOCIATES, INC.
Contractual Engineering

BORING LOG

W.O. 00-3375

BORING NO. B1 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/6/00
SURFACE ELEV. 47.54* | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Silty SAND (SM) – Grayish brown, moist, medium dense, with gravel.
			56	96	11	Sandy GRAVEL (GP) – Grayish brown, slightly moist, dense.
5						MODERATELY WEATHERED BASALT (WM) – Grayish brown, vesicular, fractured, hard. Begin NX coring at 4 feet. 100% Recovery from 4 to 9 feet. RQD = 31%
10						100% Recovery from 9 to 14 feet. RQD = 48%
15						100% Recovery from 14 to 19 feet. RQD = 55%
20						100% Recovery from 19 to 24 feet. RQD = 75%
25						100% Recovery from 24 to 25 feet. RQD = 66%
						End boring at 25 feet.
						* Elevations based on Topographic Plan provided by Kwock Associates, Inc.
30						

Plate B1

KENNETH K. HIRATA & ASSOCIATES, INC.
Contractual Engineering

BORING LOG

W.O. 00-3375

BORING NO. B3 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/7/00
SURFACE ELEV. 46± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Silty SAND (SM) – Grayish brown, moist, medium dense, with gravel. Begin NX coring at 1 foot. 100% Recovery from 1 to 6 feet. RQD = 61%
5						MODERATELY WEATHERED BASALT (WM) – Gray, vesicular, fractured, hard. 85% Recovery from 6 to 11 feet. RQD = 65%
10						End boring at 11 feet.
15						
20						
25						
30						

Plate B3

KENNETH K. HIRATA & ASSOCIATES, INC.
Contractual Engineering

BORING LOG

W.O. 00-3375

BORING NO. B5 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/7/00
SURFACE ELEV. 47± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			52	82	27	Silty SAND (SM) – Grayish brown, moist, dense, with gravel.
			58	69	37	
5						MODERATELY WEATHERED BASALT (WM) – Grayish brown, vesicular, highly fragmented, medium hard. 100% Recovery from 5 to 10 feet. RQD = 58% Hard and fractured from 8 feet.
10						End boring at 10 feet.
15						
20						
25						
30						

Plate B5

KENNETH K. HIRATA & ASSOCIATES, INC.
Contractual Engineering

BORING LOG

W.O. 00-3375

BORING NO. B2 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/8/00
SURFACE ELEV. 52± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Silty SAND (SM) – Grayish brown, moist, medium dense, with gravel.
			43	63	15	Sandy GRAVEL (GP) – Grayish brown, slightly moist, dense.
			15/No Penetration			
5						MODERATELY WEATHERED BASALT (WM) – Gray, vesicular, fractured, medium hard. Begin NX coring at 4 feet. 93% Recovery from 4 to 9 feet. RQD = 24% Clinker from 5.5 to 7.5 feet. Hard from 7.5 feet.
10						End boring at 9 feet.
15						
20						
25						
30						

Plate B2

KENNETH K. HIRATA & ASSOCIATES, INC.
Contractual Engineering

BORING LOG

W.O. 00-3375

BORING NO. B4 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/7/00
SURFACE ELEV. 48± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Silty SAND (SM) – Grayish brown, moist, medium dense, with gravel.
						MODERATELY WEATHERED BASALT (WM) – Grayish brown, vesicular, fractured, hard. Begin NX coring at 1 foot. 73% Recovery from 1 to 6 feet. RQD = 25%
5						CLINKER – Grayish to reddish brown, slightly moist, dense. 100% Recovery from 6 to 11 feet. RQD = 81%
						MODERATELY WEATHERED BASALT (WM) – Grayish brown, vesicular, fractured, hard.
10						End boring at 11 feet.
15						
20						
25						
30						

Plate B4

KENNETH K. HIRATA & ASSOCIATES, INC.
Contractual Engineering

BORING LOG

W.O. 00-3375

BORING NO. B6 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/7/00
SURFACE ELEV. 48± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Silty SAND (SM) – Grayish brown, moist, medium dense, with gravel.
			63	80	18	Sandy GRAVEL (GP) – Grayish brown, slightly moist, dense.
5			15/1" 10/No Penetration			MODERATELY WEATHERED BASALT (WM) – Gray, vesicular, fractured, hard. Begin NX coring at 5 feet. 100% Recovery from 5 to 10 feet. RQD = 61% Slightly fractured from 10 feet. 100% Recovery from 10 to 15 feet. RQD = 93%
10						
15						End boring at 15 feet.
20						
25						
30						

Plate B6

PROPOSED PLANS (NON AS-BUILTS)

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

SHEET TITLE :

Boring Logs

DATE:
6 DECEMBER 2001

DWG. NO.:
C-18

SHEET 20 OF 43 SHEETS

PROPOSED PLANS (NON AS-BUILTS)

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

BORING LOG

W.O. 00-3375

BORING NO. B7 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/8/00
SURFACE ELEV. 47± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			39	84	25	Silty SAND (SM) – Grayish brown, moist, dense, with gravel.
5						Sandy GRAVEL (GP) – Grayish brown, slightly moist, dense. Begin NX coring at 4 feet. 100% Recovery from 4 to 9 feet. RQD = 60% MODERATELY WEATHERED BASALT (WM) – Gray, vesicular, fractured, hard.
10						100% Recovery from 9 to 14 feet. RQD = 66%
15						93% Recovery from 14 to 19 feet. RQD = 73% Slightly fractured from 14 feet.
20						100% Recovery from 19 to 24 feet. RQD = 76% Slightly vesicular from 19 feet.
25						100% Recovery from 24 to 25 feet. RQD = 100% End boring at 25 feet.
30						

Plate B7

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

BORING LOG

W.O. 00-3375

BORING NO. B9 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/9/00
SURFACE ELEV. 35± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			24/9"	82	13	Silty SAND (SM) – Grayish brown, moist to slightly moist, dense, with gravel. Sandy gravel at 1 foot.
5			10/No Penetration			MODERATELY WEATHERED BASALT (WM) – Gray, vesicular, fractured, hard. 80% Recovery from 2 to 7 feet. RQD = 68% Void from 3 to 4 feet.
10						100% Recovery from 7 to 10 feet. RQD = 100% End boring at 10 feet.
15						
20						
25						
30						

Plate B9

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

BORING LOG

W.O. 00-3375

BORING NO. B8 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/8/00
SURFACE ELEV. 42± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			49	103	10	Silty SAND (SM) – Grayish brown, moist, medium dense, with gravel.
						Sandy GRAVEL (GP) – Grayish brown, slightly moist, dense.
5						MODERATELY WEATHERED BASALT (WM) – Grayish brown, vesicular, fractured, hard. Begin NX coring at 3 feet. 100% Recovery from 3 to 8 feet. RQD = 78%
10						100% Recovery from 8 to 10 feet. RQD = 100% End boring at 10 feet.
15						
20						
25						
30						

Plate B8

ERNEST K. HIRATA & ASSOCIATES, INC.
Geotechnical Engineering

BORING LOG

W.O. 00-3375

BORING NO. B10 | DRIVING WT. 140 lb. | DATE OF DRILLING 11/9/00
SURFACE ELEV. 33± | DROP 30 in. | WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			33/6"	87	15	Silty SAND (SM) – Grayish brown, moist to slightly moist, dense, with gravel. Sandy gravel at 1 foot.
5			10/No Penetration			MODERATELY WEATHERED BASALT (WM) – Grayish brown, vesicular, fractured, hard. Begin NX coring at 2 feet. 100% Recovery from 2 to 7 feet. RQD = 80%
10						100% Recovery from 7 to 10 feet. RQD = 72% End boring at 10 feet.
15						
20						
25						
30						

Plate B10

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 1895-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

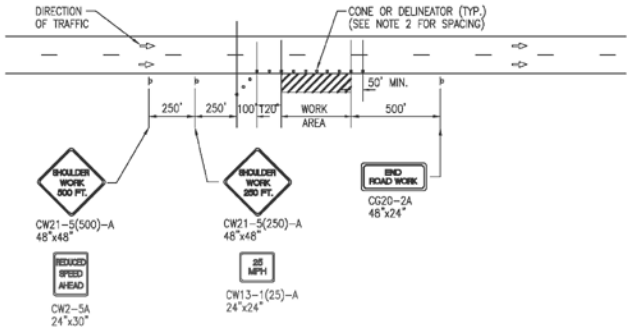
SHEET TITLE :

Boring Logs

DATE:
6 DECEMBER 2001

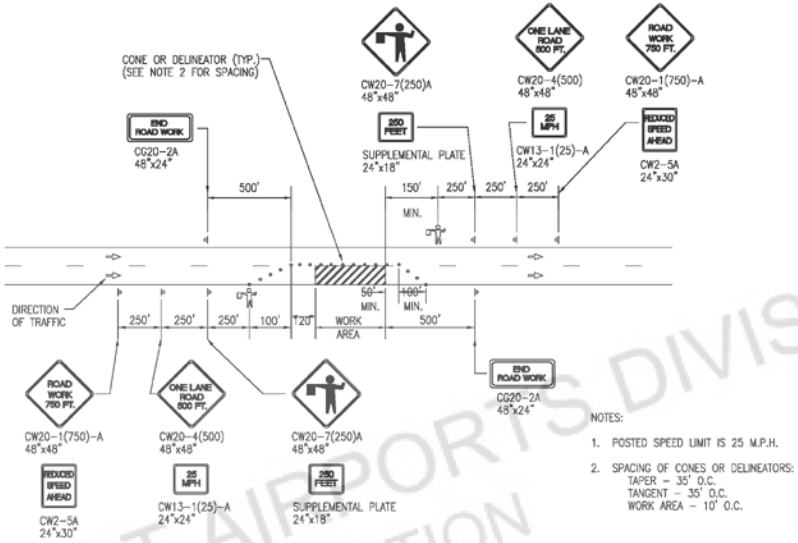
DWG. NO.:
C-19

SHEET 21 OF 43 SHEETS



WORKING ON SHOULDER OR ROADSIDE

Not to Scale



TWO-LANE HIGHWAY - ONE LANE CLOSED

Not to Scale

NOTES:

1. POSTED SPEED LIMIT IS 25 M.P.H.
2. SPACING OF CONES OR DELINEATORS:
   TAPER - 35' O.C.
   TANGENT - 35' O.C.
   WORK AREA - 10' O.C.

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. THE CONTRACTOR SHALL SUBMIT SITE SPECIFIC TRAFFIC CONTROL PLANS FOR APPROVAL. TRAFFIC CONTROL PLANS SHALL STATE THE DATE AND DURATION OF LANE CLOSURE.
2. TRAFFIC CONTROL PLAN, DATES AND DURATION OF LANE CLOSURE SHALL BE APPROVED IN ADVANCE BY THE AIRPORT MANAGER.
3. THE CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC. TO FIT FIELD CONDITIONS.
4. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
5. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK ARE SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
6. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED.
7. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATIONS AT ALL TIMES.
8. WHEN REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL INSTALL A FLASHING ARROW SIGNAL.
9. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
10. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
11. THE BACKS OF ALL SIGNS USED FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (i.e. WHEN SIGNS HAVE MESSAGES ON BOTH FACES).
12. LANE CLOSURE SHALL BE LIMITED ONLY TO THE EXTENT OF ACCOMPLISHING EACH DAY'S WORK. AS SOON AS EACH DAY'S WORK IS COMPLETED, THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION. EXISTING FADED OR OBLITERATED PAVEMENT MARKINGS THAT ARE NECESSARY FOR SAFE TRAFFIC FLOW IN THE CONSTRUCTION AREA SHALL BE REPLACED WITH TEMPORARY OR PERMANENT MARKING BEFORE OPENING THE ROADWAY TO PUBLIC TRAFFIC.
13. PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL BE REPLACED UPON COMPLETION OF EACH PHASE OF WORK.
14. CONES AND DELINEATORS SHALL BE SPACED AT A MAXIMUM DISTANCE OF 20 FEET APART. A MINIMUM OF SIX CHANNELIZING DEVICES SHALL BE USED FOR EACH TAPER LENGTH.
15. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THE RIGHT-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY. FURTHER, THE CONTRACTOR SHALL CONTROL TRAFFIC GOING IN AND OUT OF DRIVEWAYS.
16. BUFFER AND TAPER AREA ON APPROACH TO ANY WORK AREA SHALL BE KEPT CLEAR OF VEHICLES AND EQUIPMENT.
17. A HIGH LEVEL WARNING DEVICE (FLAG TREE) SHALL BE INSTALLED ON APPROACH TO ALL WORK AREAS.
18. "NO PARKING" SIGNS SHALL BE POSTED WITHIN ANY WORK AREA AND FOR THE BUFFER AND TAPER AREAS APPROACHING THE WORK AREA.
19. TRAFFIC CONTROL PLANS ARE APPROVED FOR WORK ON AIRPORT ROADS ONLY ON THE DAYS AND TIMES APPROVED BY THE AIRPORT MANAGER.

PROPOSED PLANS (NON AS-BUILTS)

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

KENNETH C. W. KWOCK
LICENSED PROFESSIONAL ENGINEER
No. 10015-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

Hilo International Airport
Sewer Connection to
County of Hawaii

PROJECT NO. :

AH 1041 - 23

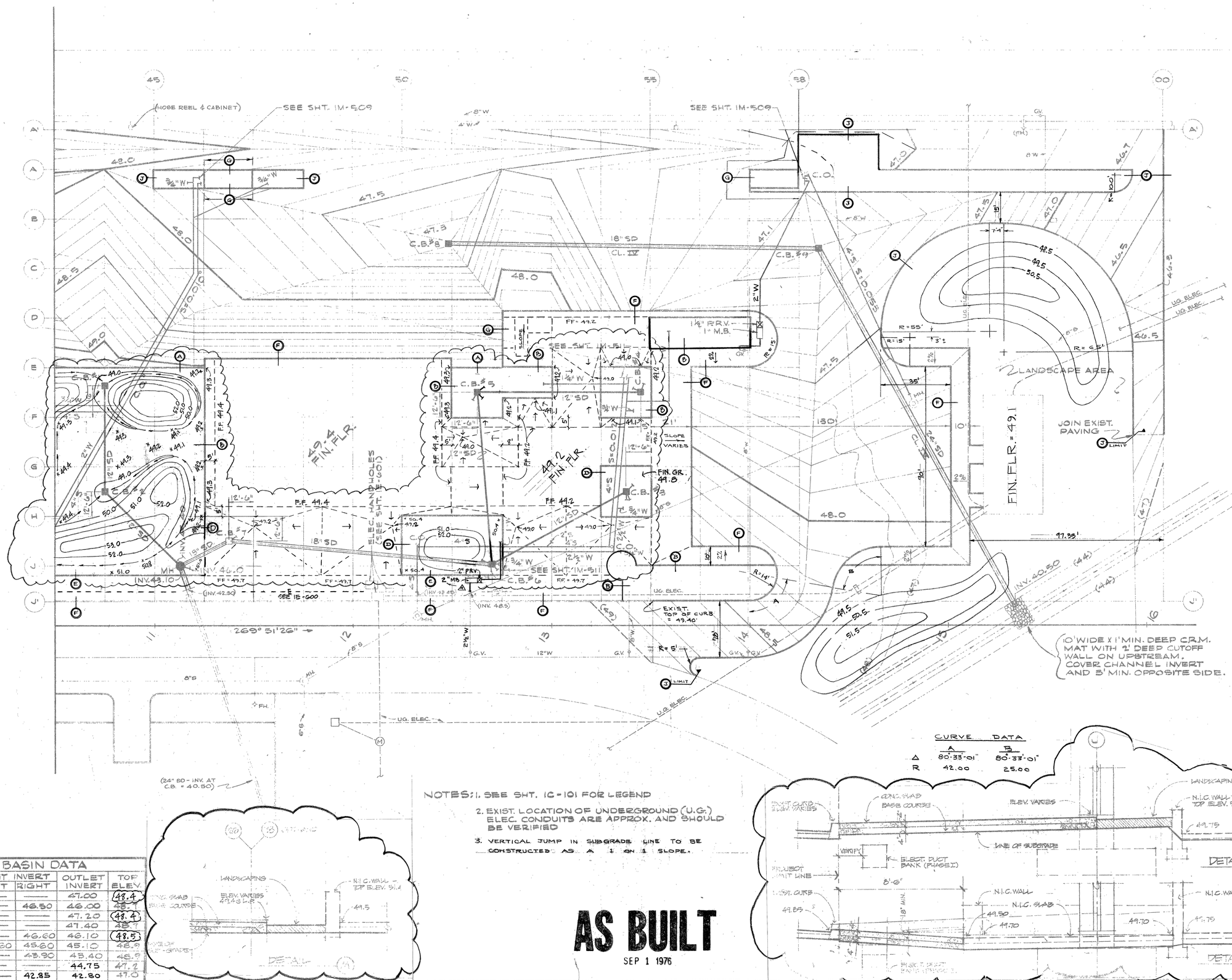
SHEET TITLE :

Traffic Control Plan and Notes

DATE:
6 DECEMBER 2001

DWG. NO.:
C-20

SHEET 22 OF 43 SHEETS



CURVE DATA

	A	B
Δ	80°-33'-01"	80°-33'-01"
R	42.00	25.00

NOTES: 1. SEE SHT. IC-101 FOR LEGEND

2. EXIST. LOCATION OF UNDERGROUND (U.G.) ELEC. CONDUITS ARE APPROX. AND SHOULD BE VERIFIED

3. VERTICAL JUMP IN SUBGRADE LINE TO BE CONSTRUCTED AS A 1 ON 1 SLOPE.

CATCH BASIN DATA

NO.	TYPE	INLET INVERT LEFT	INLET INVERT RIGHT	OUTLET INVERT	TOP ELEV.
1	A	—	—	47.00	48.4
2	A	—	46.50	46.00	48.7
3	A	—	—	47.20	48.4
4	A	—	—	47.40	48.7
5	A	—	46.60	46.10	48.5
6	A	45.60	45.60	45.10	48.9
7	A	—	43.90	43.40	48.9
8	B	—	—	44.75	47.2
9	B	—	42.85	42.80	47.0

AS BUILT
SEP 1 1976

Airports Division

NEW PASSENGER TERMINAL
GENERAL LYMAN FIELD
HILO, HAWAII STATE PROJ. NO. H-91-2(1)R

BECHTEL INCORPORATED
HONOLULU SAN FRANCISCO

McAULIFFE, OKA & ASSOC., INC.
MAKAI MEZZANINE, ALEXANDER YOUNG BUILDING
HONOLULU, HAWAII 96813 PHONE: 531-5331

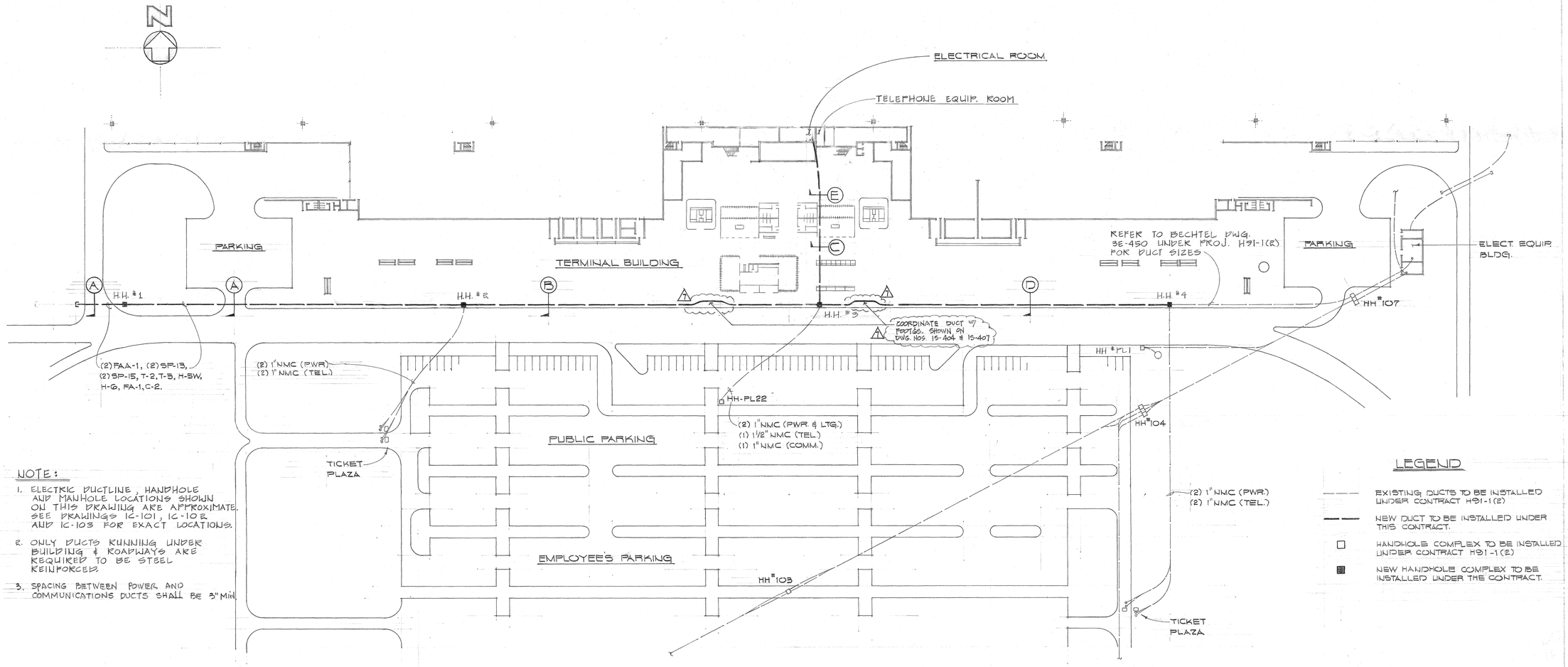
GRADING & UTILITIES
AREA "C"

PHASE I

REVISIONS
- 7 20 FEB 75 ADDED DIMENSIONS & RADIUS FOR CLARIFICATION ONLY
- 6 18 FEB 75 ADDED CURVE DATA & DIMENSIONS FOR CLARIFICATION
- 4 3 JAN 75 CHANGED "C.B. DATA" SCHEDULE, CHANGED M.B. SIZE @ 51/J.
- 3 12-30-74 GRADING CLARIFICATIONS
- 2 11-11-74 ADD #2 ADDED F.F. ELEV., LANDSCAPE GRADES,
- 11-4-74 ADD. #1 ADDED S&W, STUBOUTS, MOVED MB, PRV
- ISSUED FOR BID OCT 2 1974

DESIGN FAZ/T.M.M.	DRAWN T.M.M.
CHECKED F.A.Z.	SCALE 1" = 20'
SUBMITTED BY	DATE 4/18/75
DRAWING NO. IN REFERENCE TO IC-103	P.C.D. I-6.03
SHEET NO. 3	REVISION

SHEET NO. 3 OF 3



NOTE:

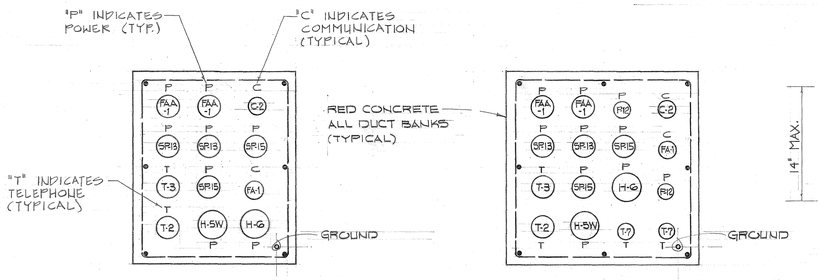
1. ELECTRIC DUCTLINE, HANDHOLE AND MANHOLE LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE. SEE DRAWINGS IC-101, IC-102 AND IC-103 FOR EXACT LOCATIONS.
2. ONLY DUCTS RUNNING UNDER BUILDING & ROADWAYS ARE REQUIRED TO BE STEEL REINFORCED.
3. SPACING BETWEEN POWER AND COMMUNICATIONS DUCTS SHALL BE 3" MIN.

LEGEND

- EXISTING DUCTS TO BE INSTALLED UNDER CONTRACT H91-1(2)
- NEW DUCT TO BE INSTALLED UNDER THIS CONTRACT.
- HANDHOLE COMPLEX TO BE INSTALLED UNDER CONTRACT H91-1(2)
- NEW HANDHOLE COMPLEX TO BE INSTALLED UNDER THE CONTRACT.

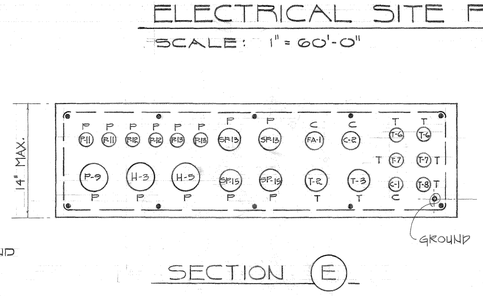
ELECTRICAL SITE PLAN

SCALE: 1" = 60'-0"



SECTION (A)

SECTION (B)



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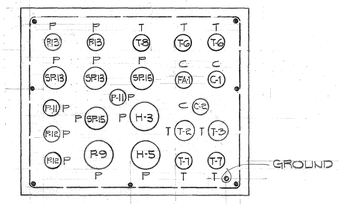
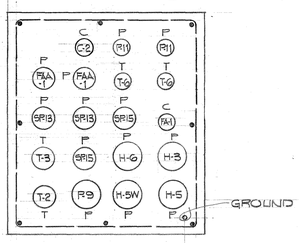
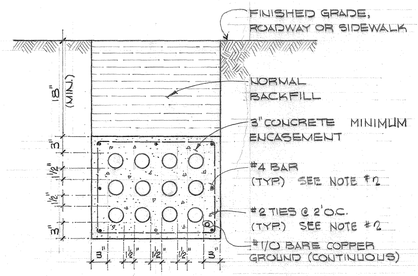


SECTION (C)



SECTION (D)



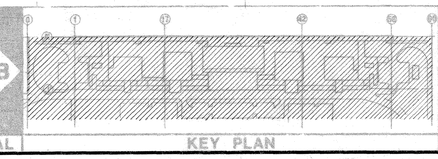
TYP. DUCT SECTION

SCALE: NONE

DUCTS SCHEDULE

CONDUIT OR CKT. NO.	VOLTAGE	APPLICATION	RUN FROM	RUN TO	CONDUIT SIZE & TYPE
H-3	13.8 KV	TERMINAL BLDG. POWER	13.8 KV SWITCHGEAR	TERMINAL BLDG.	4" NMC
H-5	13.8 KV	ALTERNATE PWR. TO TERM. BLDG.	13.8 KV SWITCHGEAR	TERMINAL BLDG.	4" NMC
H-5W					
H-6	13.8 KV	FUT. PWR. TO WEST TERM. BLDG.	13.8 KV SWITCHGEAR	OUTSIDE E.E. BLDG.	4" NMC
FA-1		FIRE ALARM SYSTEM (COMM.)	NORTH WALL E.E. BUILDING	TERMINAL BLDG.	2" NMC
FAA-1		FUTURE FAA POWER CABLES	ELEC. EQUIP. BLDG.	WEST SIDE OF TERM. AREA	(2) 3" NMC
P-9	480/277	EMERG. PNL. IN TERM. BLDG. (PWR)	NOR. & EMERG. DISTR. PANEL	TERMINAL BLDG.	4" NMC
P-11		POWER	TERMINAL ELEC. ROOM	EAST TICKET PLAZA	(2) 1" NMC
P-12		POWER	TERMINAL ELEC. ROOM	WEST TICKET PLAZA	(2) 1" NMC
P-13		POWER & LTG.	TERMINAL ELEC. ROOM	HH - PL 22	(2) 1" NMC
T-2		TELEPHONE	TELEPHONE EQUIP. RM.	TERMINAL BLDG.	3" NMC
T-3		TELEPHONE	TELEPHONE EQUIP. RM.	TERMINAL BLDG.	3" NMC
T-6		TELEPHONE	TERMINAL ELEC. ROOM	EAST TICKET PLAZA	(2) 1" NMC
T-7		TELEPHONE	TERM. ELEC. RM.	WEST TICKET PLAZA	(2) 1" NMC
T-8		TELEPHONE	TERM. ELEC. RM.	HH - PL-22	1 1/2" NMC
C-1		COMMUNICATION	TERM. ELEC. RM.	HH - PL22	1" NMC
SP-13		SPARE (POWER)	DISTRIBUTION CENTER	FUTURE TERM. BLDG.	(2) 3" NMC
SP-15		SPARE (POWER)	WEST WALL EE. BLDG.	TERMINAL BLDG.	(2) 3" NMC
C-2		COMMUNICATION (SPARE)	TERM. ELECT. RM.	BOTH ENDS OF TERM. BLDG.	2" NMC
GROUND	—	CONTINUOUS GROUND CONDUCTOR CARRIED THRU ALL DUCTS & POWER HANDHOLES			#1/0 BARE COPPER

DIRECTIONAL



KEY PLAN

NORTH

Airports Division

NEW PASSENGER TERMINAL
GENERAL LYMAN FIELD
HILO, HAWAII STATE PROJ. NO. H-91-2(1)R

V. McMAHON REGISTERED PROFESSIONAL ENGINEER No. 893 HAWAII U.S.A.

BECHTEL INCORPORATED
HONOLULU SAN FRANCISCO

McAULIFFE, OKA & ASSOC., INC.
MAKAI MEZZANINE, ALEXANDER YOUNG BUILDING
HONOLULU, HAWAII 96813 PHONE: 531-5351

AS BUILT

SEP 1 1976

ELECTRICAL SITE PLAN, DUCT SECTIONS AND SCHEDULE

PHASE I

1 12/20/76 ADDED NOTE FOR CLARIFICATION ONLY	
ISSUED FOR BID OCT 25 1974 REVISIONS	
DESIGN SMY	DRAWN DTC
CHECKED DVM	SCALE AS SHOWN
SUBMITTED BY	DATE 18 SEPT '74
DRAWING NO. IE-600	
SHEET NO.	REVISION
SHEET NO. 37 OF 38	

Airports Division

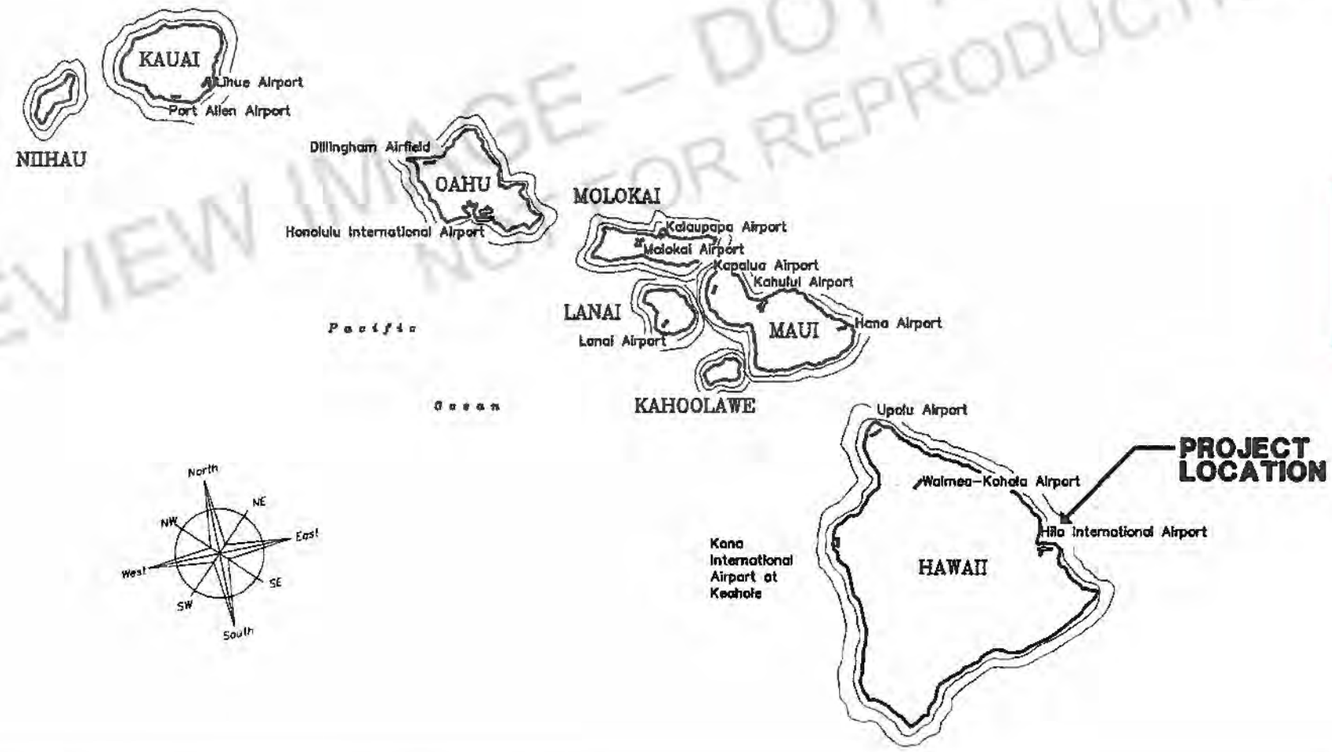
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

PLANS FOR

UPGRADE ELECTRICAL SYSTEM

AT
HILO INTERNATIONAL AIRPORT
HILO, HAWAII

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20



AS-BUILTS
ABLE ELECTRIC, INC.
DATE 3/11/2010

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
APPROVED:
DIR. OF TRANSPORTATION — DATE 5/31/05

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

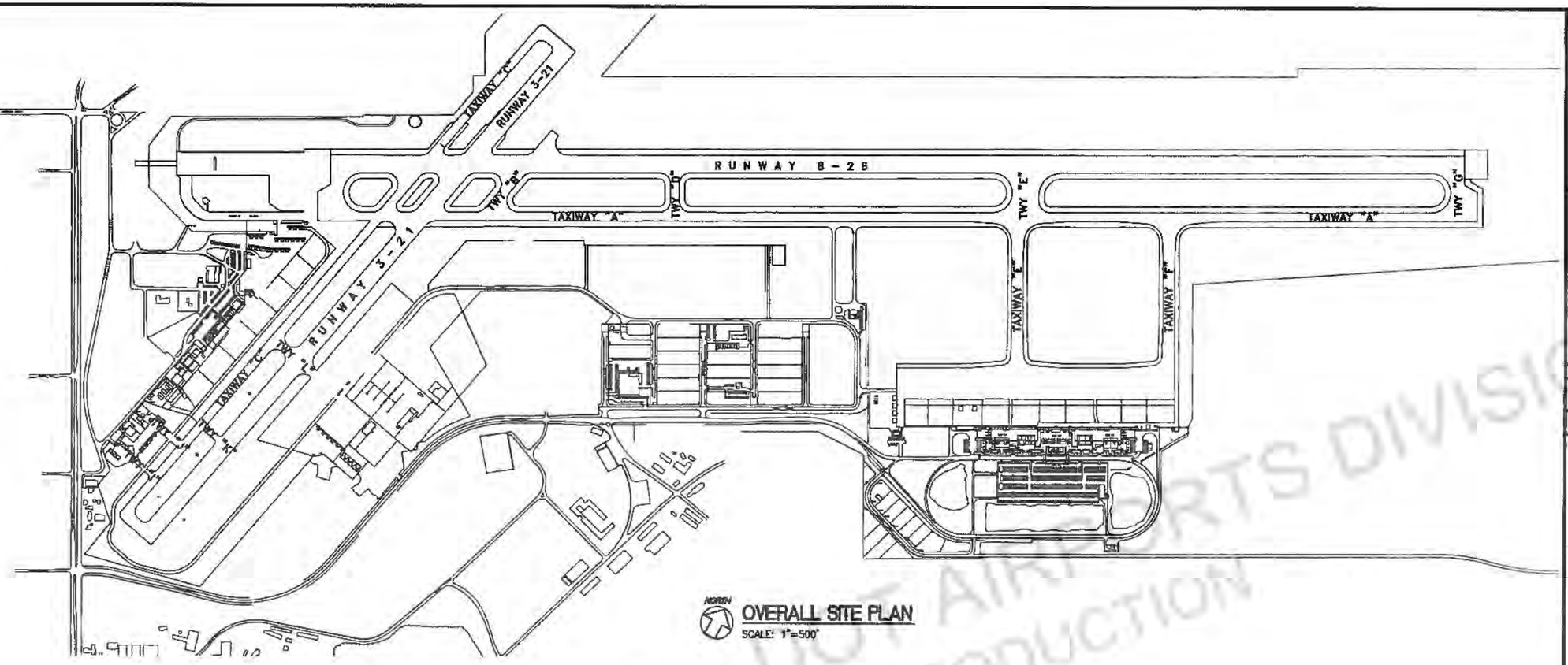
PROJECT TITLE :
UPGRADE ELECTRICAL SYSTEM
HILO INTERNATIONAL AIRPORT

PROJECT NO. :
STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :
TITLE SHEET

DATE:
MARCH 2005
DWG. NO.:

T-1
SHEET OF



NORTH

OVERALL SITE PLAN

SCALE: 1"=500'

INDEX TO DRAWINGS		
DWG NO.	SHEET NO.	DESCRIPTION
1	T-1	TITLE SHEET
2	E-1	OVERALL SITE PLAN, INDEX TO DRAWINGS
3	E-2	SITE ELECTRICAL PLAN - TERMINAL BUILDING
4	E-3	SITE ELECTRICAL PLAN - AIRFIELD VAULT
5	E-4	NOTES
6	E-5	PARTIAL ELECTRICAL PLAN
7	E-6	PARTIAL ELECTRICAL PLAN
8	E-7	PARTIAL ELECTRICAL PLAN
9	E-8	PARTIAL ELECTRICAL PLAN
10	E-9	PARTIAL ELECTRICAL PLAN
11	E-10	PARTIAL ELECTRICAL PLAN
12	E-11	SIMPLIFIED CABLING DIAGRAM
13	E-12	AIRFIELD VAULT ELECTRICAL PLAN, DETAILS
14	E-13	AIRFIELD VAULT ONE-LINE DIAGRAM, DETAILS
15	E-14	CONTROL TOWER PLANS, ALCS SCHEMATIC DIAGRAM
16	E-15	GENERATOR VAULT DEMOLITION PLAN
17	E-16	GENERATOR VAULT ELECTRICAL PLAN, DETAILS
18	E-17	EXISTING ONE-LINE DIAGRAM
19	E-18	ONE-LINE DIAGRAM
20	E-19	TERMINAL BUILDING ELECTRICAL VAULT PLAN

500 250 0 500 1000
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

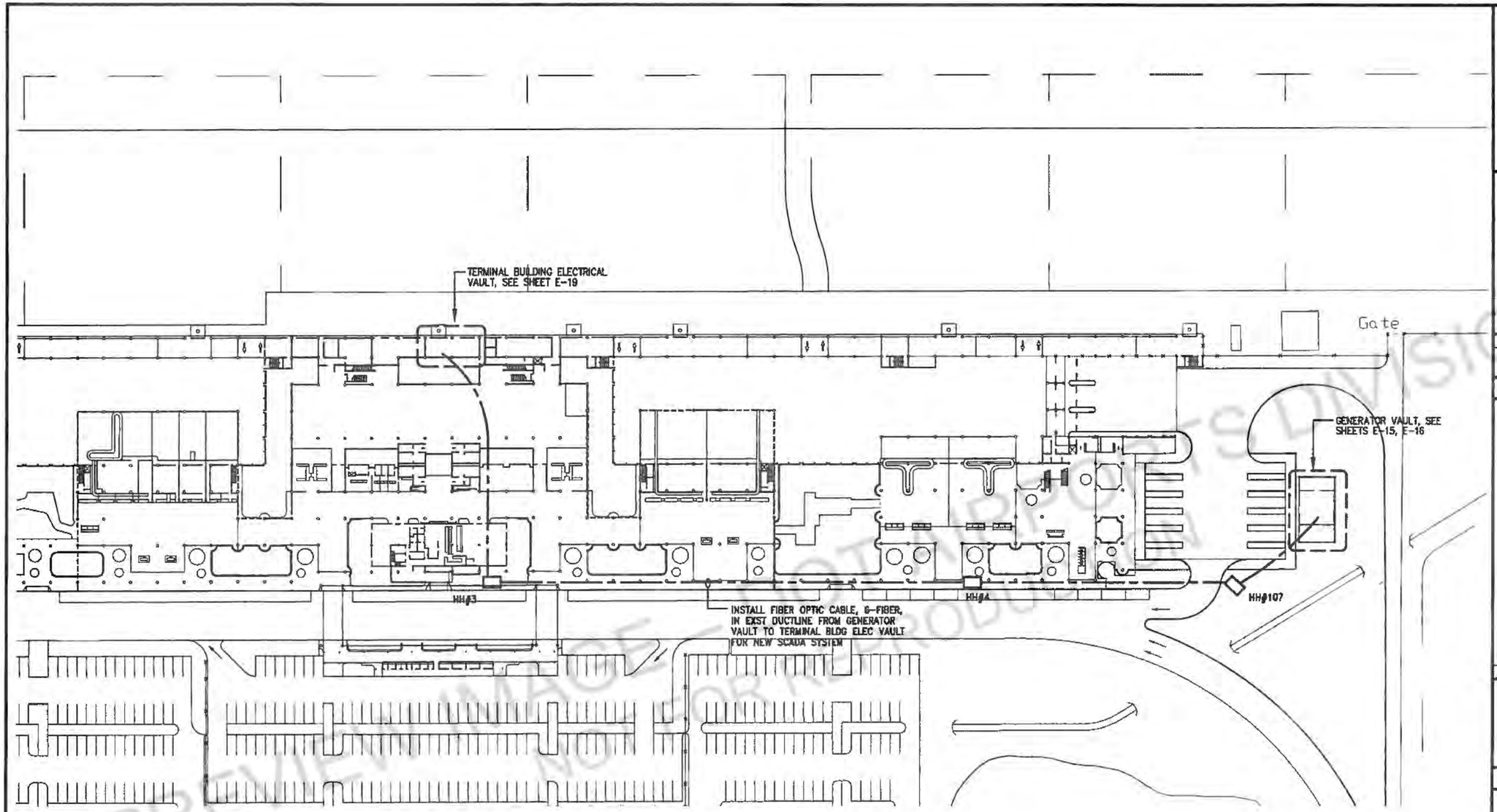
OVERALL SITE PLAN

DATE:
MARCH 2005

DWG. NO.:

E-1

SHEET OF



NORTH

SITE ELECTRICAL PLAN - TERMINAL BUILDING

SCALE: 1"=50'

50 25 0 50 100
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
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SHEET TITLE :

SITE ELECTRICAL PLAN - TERMINAL BUILDING

DATE:
MARCH 2005

DWG. NO.:

E-2

SHEET OF

SERVICE ROAD

EXST 2-3"C (1-SPARE)

AIRFIELD VAULT, SEE SHEET E-12

VEHICLE SHED

MAINTENANCE BLDG

EXST COMM HANDHOLE, TYP.

EXST 4-4"C (2-SPARE), INSTALL NEW F.O. CABLE, 6-FIBER, BETWEEN AIRFIELD VAULT AND AIR TRAFFIC CONTROL TOWER FOR AIRFIELD LIGHTING COMPUTER SYSTEM

AILOLO STREET

ROAD "A"

LELEAOA STREET

EXST 6-4"C (4-SPARE)

AIR TRAFFIC CONTROL TOWER, SEE SHEET E-14

MOKUEA STREET

NORTH

SITE ELECTRICAL PLAN - AIRFIELD VAULT

SCALE: 1"=50'

50 25 0 50 100
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
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SHEET TITLE :

SITE ELECTRICAL PLAN - AIRFIELD VAULT

DATE:
MARCH 2005

DWG. NO.:

E-3

SHEET OF

AIRFIELD LIGHTING SYSTEM NOTES

1. CONTRACTOR SHALL ENSURE CONTINUOUS OPERATION OF ALL EXISTING SYSTEMS. EXCAVATION WILL BE BY SUCH METHOD THAT WILL ENSURE CONTINUED OPERATION OF THE EXISTING SYSTEM DURING INSTALLATION AND COMPLETION OF THE NEW WORK. CUTOVER TO THE NEW SYSTEM WILL BE MADE DURING DAYLIGHT HOURS WITHIN FOUR HOURS OF POWER OUTAGE AFTER PROPER APPROVAL BY THE ENGINEER.
2. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM (INCLUDING FAA APPROVED EQUIPMENT) ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER.
3. IN CASE THE CONTRACTOR SELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTERS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATIONS, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
4. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
5. USE FAA APPROVED EQUIPMENT AS LISTED IN AC 150/5345-1.
6. A MINIMUM OF THREE COPIES OF INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATOR, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:
   (A) A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
   (B) THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
   (C) INSTALLATION INSTRUCTIONS.
   (D) START-UP INSTRUCTIONS.
   (E) PREVENTATIVE MAINTENANCE REQUIREMENTS.
   (F) CHART FOR TROUBLESHOOTING.
   (G) COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT-"BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OR THE NARRATIVE SHALL SHOW VOLTAGES/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLESHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL THE DIFFERENT MODES.
   (H) PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS, SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
7. UNLESS OTHERWISE NOTED, ALL UNDERGROUND FIELD POWER MULTIPLE AND SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED L-824 TYPE. INSULATION VOLTAGE AND SIZE SHALL BE AS SPECIFIED.
8. NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL, PAPI, ETC.
9. THE JOINTS OF THE L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1 1/2 INCHES ON EACH SIDE OF THE JOINT.
10. THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE.
11. THE ID OF THE PRIMARY L-823 FIELD ATTACHED CONNECTORS SHALL MATCH THE CABLE ID TO PROVIDE A WATERTIGHT CABLE ENTRANCE. THIS ENTRANCE SHALL BE ENCAPSULATED IN A HEAT SHRINKABLE TUBING WITH CONTINUOUS, FACTORY APPLIED INTERNAL ADHESIVE.
12. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS "A" (FACTORY MOLDED).
13. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURES AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND VASI EQUIPMENT.
14. ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPED.
15. A SLACK OF 3 FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION.
16. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
17. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I , UNLESS OTHERWISE NOTED.
18. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL HAVE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
19. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE. BASE COVER BOLTS SHALL BE FABRICATED FROM 18-8 STAINLESS STEEL.
20. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ± ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.
21. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ± ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.
22. ENTRANCES INTO L-867 BASES SHALL BE PLUGGED FROM THE INSIDE WITH DUCT SEAL.
23. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE GALVANIZING.
24. EDGE LIGHT NUMBERING SHALL BE FACING THE PAVEMENT.
25. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
26. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS.
27. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
28. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
29. CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKERS, ETC. SHALL BE 3000 PSI MIN., AIR-ENTRAINED.

GENERAL NOTES

1. DRAWINGS WERE DEVELOPED USING BEST AVAILABLE INFORMATION. HOWEVER, NO ASSURANCE IS PROVIDED THAT THE ACTUAL CONDITIONS WILL BE AS INDICATED ON THE DRAWINGS. THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND SHALL BE RESPONSIBLE FOR ANY DAMAGES AS A RESULT OF HIS OPERATIONS. ADJUSTMENTS TO THE NEW DUCTLINE ALIGNMENT, IF REQUIRED, SHALL BE MADE TO PROVIDE THE REQUIRED CLEARANCES.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DEPTHS OF THE UTILITIES AND EXERCISE PROPER CARE IN EXCAVATING IN 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.
3. CONTRACTOR SHALL VISIT JOBSITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING. SPECIAL ATTENTION SHALL BE GIVEN TO ANY HOSTILE TERRAIN, LAVA ROCK, OBSTRUCTIONS, ACCESSIBILITY TO AREAS, AND OTHER FACTORS INVOLVED IN PERFORMING THE WORK. NO EXTRA PAYMENT SHALL BE MADE ON THE BASIS THAT PLANS AND SPECS DO NOT INDICATE THE DIFFICULTY OF WORK REQUIRED.
4. PLANS AND SPECIFICATIONS COMPLEMENT EACH OTHER AND WHAT IS SPECIFIED, SCHEDULED OR MENTIONED BY ONE SHALL BE BINDING AS IF CALLED FOR BY BOTH.
5. MATERIALS AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF APPLICABLE TECHNICAL SPECIFICATIONS. MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE THE PRODUCTS OF THE MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH PRODUCTS.
6. ALL DAMAGES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT HIS OWN EXPENSE.
7. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO PERFORM ALL WORK DEFINED IN THE PLANS AND SPECIFICATIONS.
8. CONTRACTOR SHALL MINIMIZE INCONVENIENCE TO TENANTS AND THEIR CLIENTELE IN THE CONSTRUCTION AREA AND SHALL PROVIDE THE FOLLOWING FOR THESE OCCUPANTS:
   - CONTINUITY OF UTILITY SERVICE
   - MEANS OF INGRESS AND EGRESS
   - ALL MEASURES TO ENSURE THEIR SAFETY AND HEALTH
   - ALL MEASURES TO ENSURE THE REQUIRED SECURITY IN THE SECURED AREAS
9. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE STATE ENGINEER AND AIRPORT MAINTENANCE SUPERVISOR. IF RESCHEDULING OF WORK OR INTERMITTENT WORK IS REQUIRED, SUCH WORK SHALL BE PERFORMED AT NO EXTRA COST TO THE STATE.
10. CONTRACTOR SHALL TAKE PRECAUTION TO PROTECT PEOPLE AND PROPERTY FROM INJURY AND DAMAGE. CONSTRUCTION, INCLUDING BARRICADES, SHALL BE SEQUENCED TO MINIMIZE THE DURATION OF DISRUPTION AND APPROPRIATE SIGNING SHALL BE PROVIDED TO AID AIRPORT PEDESTRIAN AND VEHICLE TRAFFIC AROUND WORK AREAS. BARRICADES SHALL BE TRAFFIC CONES, SAWHORSES, PLYWOOD BARRICADES OR OTHER BARRIERS AS APPROVED BY THE ENGINEER TO EFFECTIVELY PROVIDE PROPER PROTECTION.
11. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF EQUIPMENT WITH THE STATE PRIOR TO INSTALLATION. THE PLANS INDICATE THE EXTENT AND GENERAL LOCATION AND ARRANGEMENT OF EQUIPMENT, CONDUIT AND WIRING. ELECTRICAL WORK SHALL BE LOCATED SO AS TO AVOID INTERFERENCE WITH SITE UTILITIES. ANY WIRING OR EQUIPMENT MAY BE RELOCATED WITHIN 10'-0" OF THE LOCATION SHOWN UPON DIRECTION OF THE STATE AND WITHOUT INCREASE IN CONTRACT AMOUNT.
12. AFTER THE INSTALLATION IS COMPLETED, AND AT SUCH TIME THE STATE MAY DIRECT, THE CONTRACTOR SHALL CONDUCT FIELD TESTS FOR APPROVAL.
13. ALL EXCAVATION SHALL BE APPROVED BY THE STATE BEFORE ANY DUCTS OR CONDUITS ARE PLACED, OR ANY STRUCTURES/FOUNDATIONS ARE CONSTRUCTED.
14. CURE CONCRETE AS REQUIRED TO OBTAIN NECESSARY STRENGTH BEFORE PERMITTING TRAFFIC AND/OR BACKFILLING.
15. DUCTS SHALL BE INSTALLED TO DRAIN TOWARDS PULLBOXES.
16. ALL SERVICES, METALLIC ENCLOSURES, RACEWAYS AND ELECTRICAL EQUIPMENT SHALL BE GROUNDED PER REQUIREMENTS OF NEC ARTICLE 250.
17. COORDINATE ALL REMOVAL WORK WITH RESPECTIVE UTILITY COMPANY, STATE, FAA OR TENANTS.
18. CONTRACTOR SHALL RETURN ALL SALVABLE MATERIALS, AS DETERMINED BY THE STATE, TO A SITE DESIGNATED BY THE STATE AT NO ADDITIONAL COST. DISPOSE OF UNWANTED MATERIALS IN ACCORDANCE WITH LOCAL ORDINANCES.

SPECIAL NOTES

1. THE CONTRACTOR SHALL MAINTAIN AVIATION SAFETY AT ALL TIMES DURING CONSTRUCTION ACTIVITY BY COMPLYING WITH FAA ADVISORY CIRCULAR 150/5370-2E, OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION (INCLUDED IN SPECIFICATIONS). REFER TO SPEC SECTION 01010, PARAGRAPH 1.10 FOR ADDITIONAL REQUIREMENTS.
2. IN ORDER TO MINIMIZE DISRUPTION TO AIRPORT OPERATIONS, ALL TRENCHING AND WORK INVOLVING HEAVY EQUIPMENT SHALL BE PERFORMED AT NIGHT OR DURING OFF-PEAK HOURS. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED SUCH THAT TAKEOFFS AND LANDINGS HAVE PRIORITY OVER CONSTRUCTION ACTIVITY. SCHEDULING OF CONSTRUCTION ACTIVITIES SHALL BE AGREED UPON IN DETAIL WITH THE AIRPORT MANAGER, CONSTRUCTION MANAGER AND FAA TOWER PERSONNEL. THE CONTRACTOR SHALL RELOCATE HIS PERSONNEL AND EQUIPMENT TO PROVIDE PROPER SAFETY CLEARANCES FROM AIRCRAFT.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SERVICES OF EFFICIENT, QUALIFIED PERSONNEL EQUIPPED W/ 2-WAY RADIO EQPT FOR CONTINUOUS MONITORING AND COMMUNICATIONS W/ THE CONTROL TOWER.
4. REFER TO THE SPECIFICATIONS, SECTION 8.17 OF THE AIRPORTS DIVISION SUPPLEMENT (ADS), FOR VEHICLE/PERSONNEL REQUIREMENTS IN RESTRICTED AIR OPERATIONS AND MOVEMENT AREAS.
5. ANY DAMAGES TO EXIST CABLES AND/OR UTILITY LINES, WHETHER OR NOT SHOWN, SHALL BE REPAIRED AT NO COST TO THE STATE.
6. AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL REMOVE ALL EXCAVATED MATERIALS FROM THE RUNWAY AND TAXIWAY AREAS. UNLESS REQUIRED FOR SAFETY, THE CONTRACTOR SHALL CLEAN AND REMOVE ALL DEBRIS, UNINSTALLED MATERIALS, BARRICADES, ENCLOSURES AND OTHER OBSTACLES TO NORMAL OPERATIONS.
7. USE OF STEEL PLATES TO COVER OPEN TRENCHES SHALL NOT BE ALLOWED. CONTRACTOR SHALL FILL AND COMPACT ALL TRENCHES AT THE END OF EACH WORK DAY.

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

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HILO INTERNATIONAL AIRPORT

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AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

NOTES

DATE:
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DWG. NO.:

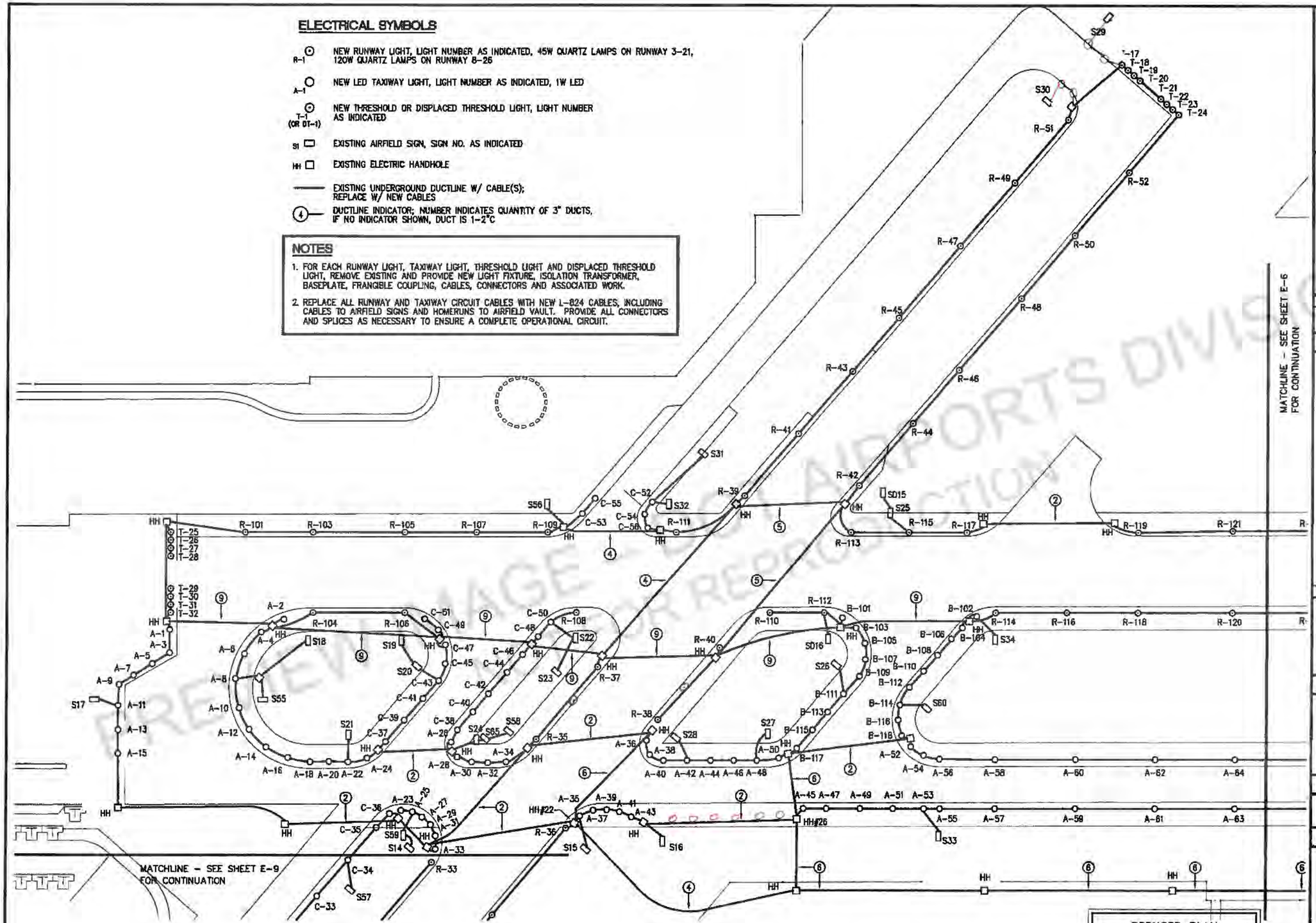
E-4
SHEET OF

ELECTRICAL SYMBOLS

- R-1 — NEW RUNWAY LIGHT, LIGHT NUMBER AS INDICATED, 45W QUARTZ LAMPS ON RUNWAY 3-21, 120W QUARTZ LAMPS ON RUNWAY 8-26
- A-1 — NEW LED TAXIWAY LIGHT, LIGHT NUMBER AS INDICATED, 1W LED
- T-1 (OR DT-1) — NEW THRESHOLD OR DISPLACED THRESHOLD LIGHT, LIGHT NUMBER AS INDICATED
- S1 — EXISTING AIRFIELD SIGN, SIGN NO. AS INDICATED
- HH — EXISTING ELECTRIC HANDHOLE
- EXISTING UNDERGROUND DUCTLINE W/ CABLE(S); REPLACE W/ NEW CABLES
- (4) — DUCTLINE INDICATOR; NUMBER INDICATES QUANTITY OF 3" DUCTS, IF NO INDICATOR SHOWN, DUCT IS 1-2"C

NOTES

1. FOR EACH RUNWAY LIGHT, TAXIWAY LIGHT, THRESHOLD LIGHT AND DISPLACED THRESHOLD LIGHT, REMOVE EXISTING AND PROVIDE NEW LIGHT FIXTURE, ISOLATION TRANSFORMER, BASEPLATE, FRANGIBLE COUPLING, CABLES, CONNECTORS AND ASSOCIATED WORK.
2. REPLACE ALL RUNWAY AND TAXIWAY CIRCUIT CABLES WITH NEW L-824 CABLES, INCLUDING CABLES TO AIRFIELD SIGNS AND HOMERUNS TO AIRFIELD VAULT. PROVIDE ALL CONNECTORS AND SPLICES AS NECESSARY TO ENSURE A COMPLETE OPERATIONAL CIRCUIT.



NORTH

PARTIAL ELECTRICAL PLAN
SCALE: 1"=100'

100 50 0 100 200
GRAPHIC SCALE IN FEET

REDUCED PLAN (HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

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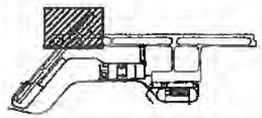

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SHEET TITLE :

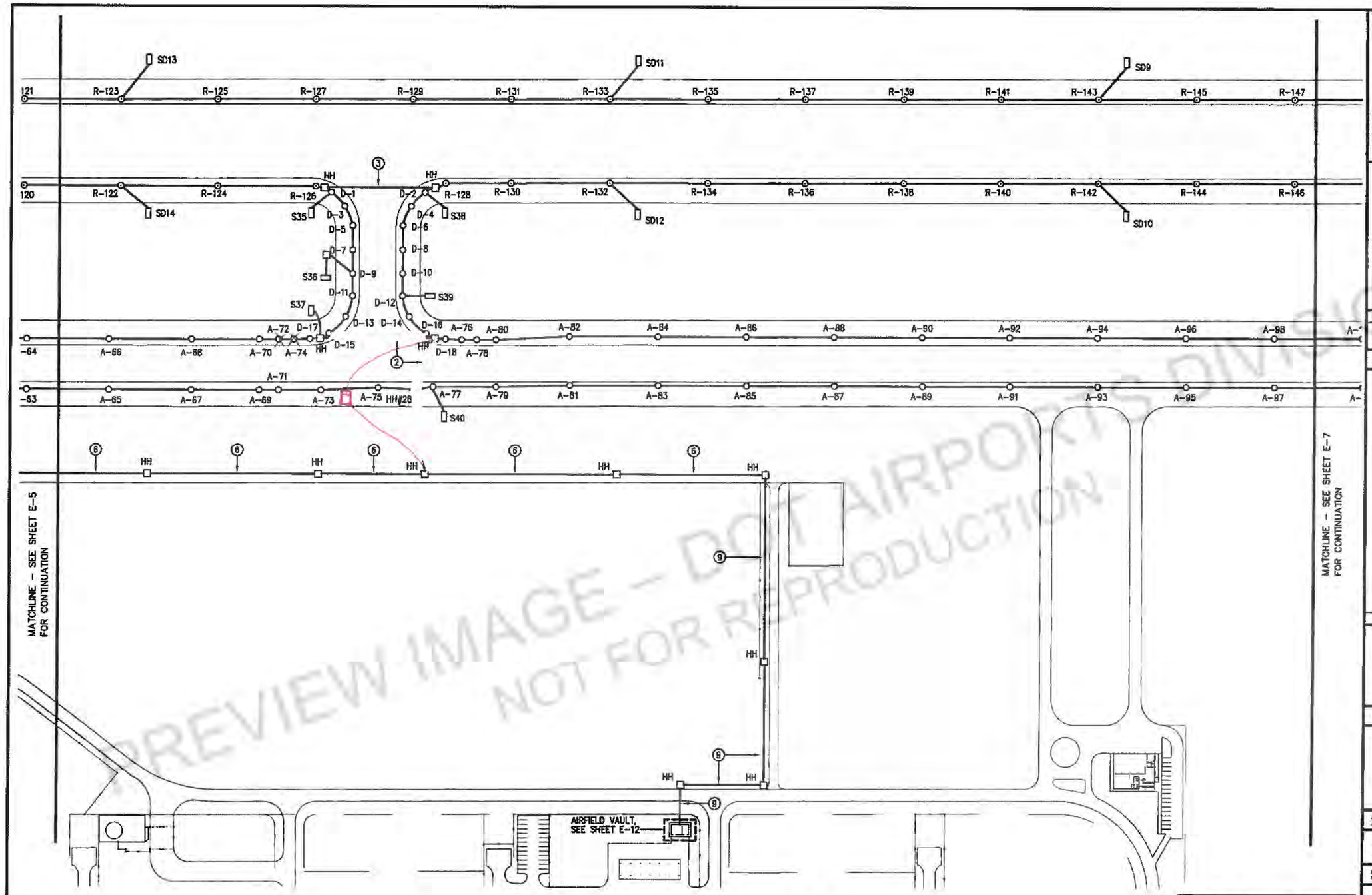
PARTIAL ELECTRICAL PLAN

DATE: MARCH 2005

DWG. NO.:

E-5

SHEET OF



NORTH

PARTIAL ELECTRICAL PLAN

SCALE: 1"=100'

100 50 0 100 200
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

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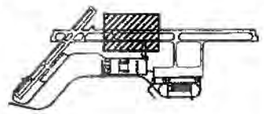

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PARTIAL ELECTRICAL PLAN

DATE:
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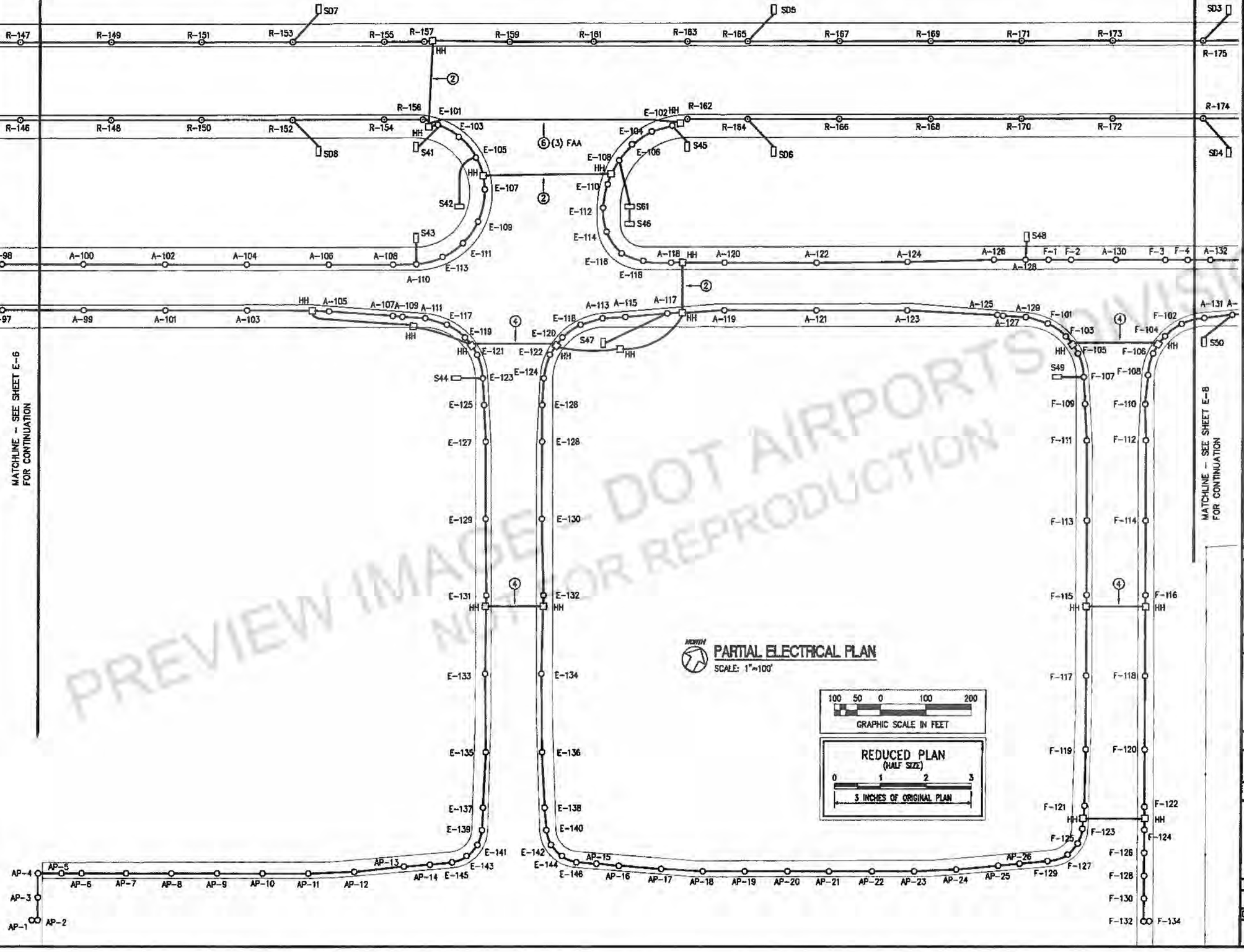
DWG. NO.:

E-6

SHEET OF



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SHEET TITLE :

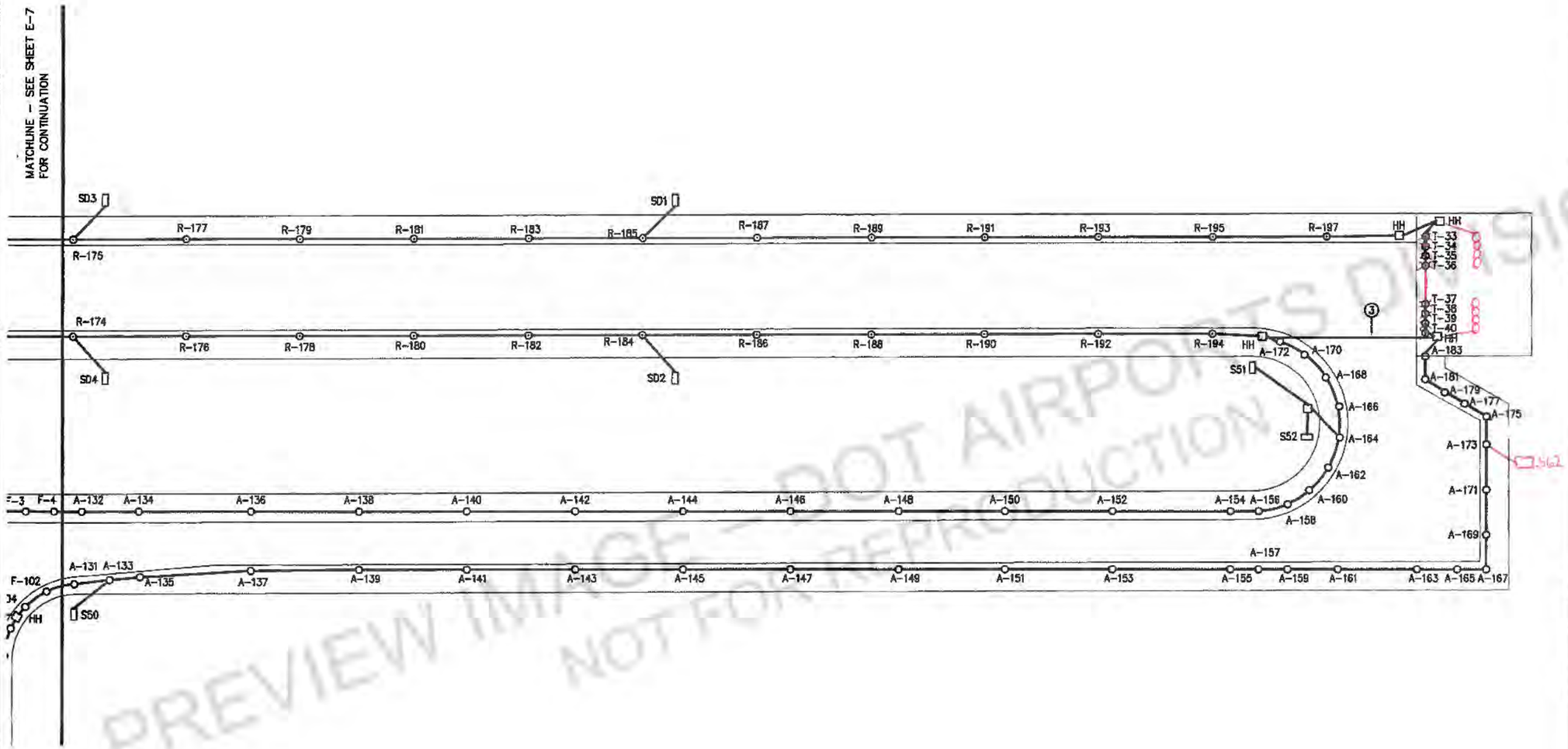
PARTIAL ELECTRICAL PLAN

DATE: MARCH 2005

DWG. NO.:

E-7

SHEET OF



PARTIAL ELECTRICAL PLAN
SCALE: 1"=100'

100 50 0 100 200
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

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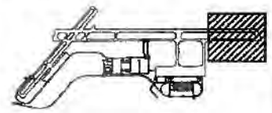
DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :



NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

PARTIAL ELECTRICAL PLAN

DATE:
MARCH 2005

DWG. NO.:

E-8

SHEET OF

NORTH

PARTIAL ELECTRICAL PLAN

SCALE: 1"=100'

100 50 0 100 200

GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)

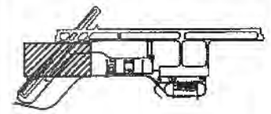
0 1 2 3

3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :



NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

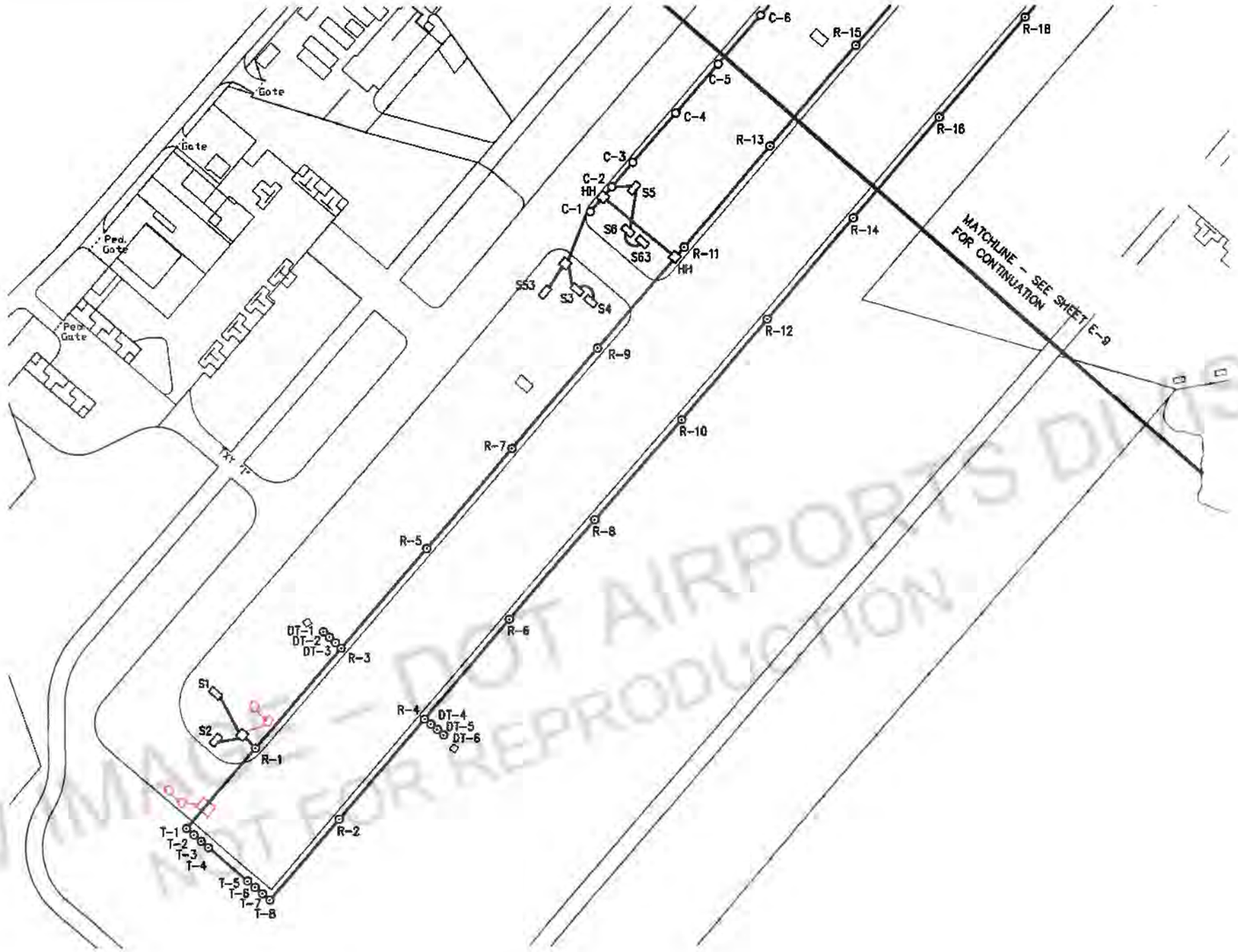
PARTIAL ELECTRICAL PLAN

DATE:
MARCH 2005

DWG. NO.:

E-9

SHEET OF



NORTH

PARTIAL ELECTRICAL PLAN

SCALE: 1"=100'

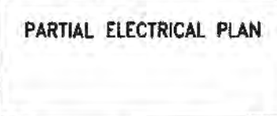
100 50 0 100 200
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :



NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

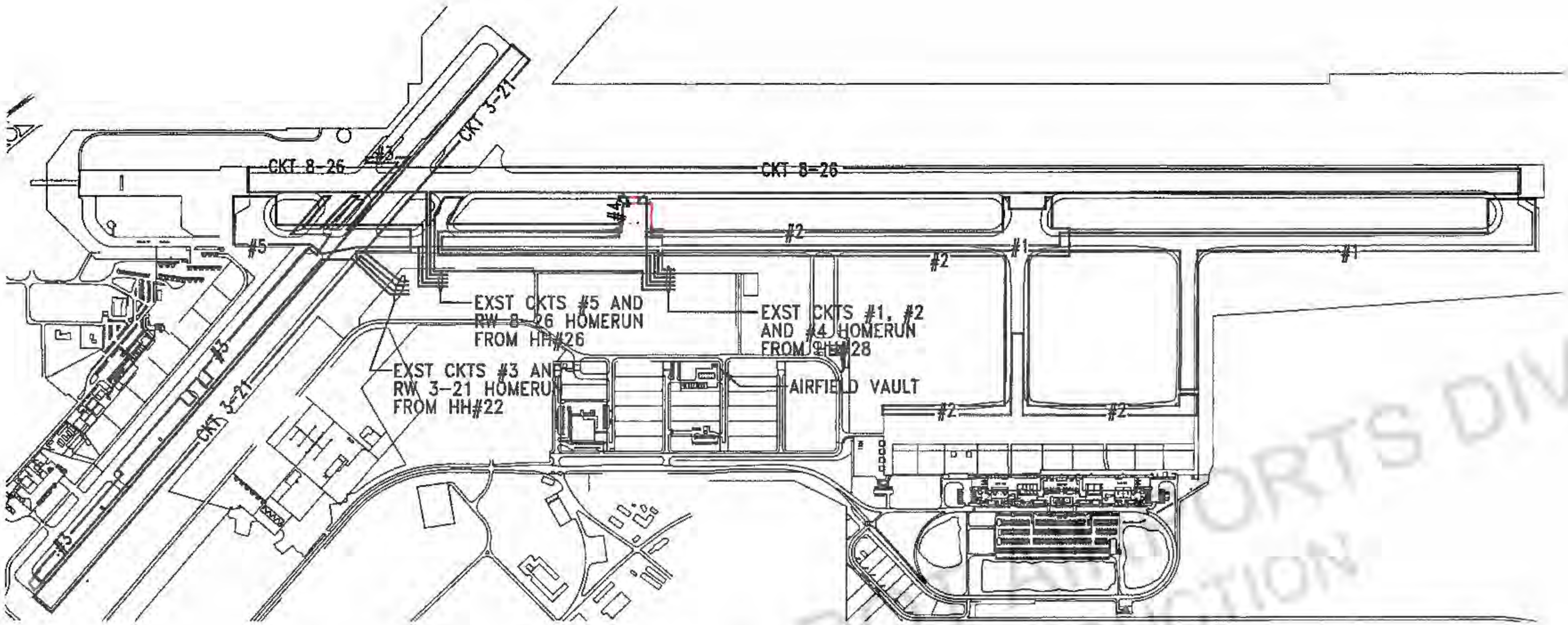
PARTIAL ELECTRICAL PLAN

DATE:
MARCH 2005

DWG. NO.:

E-10

SHEET OF



SIMPLIFIED CABLING DIAGRAM

NOT TO SCALE

NOTES:

1. CONTRACTOR SHALL REPLACE CABLES FOR ALL AIRFIELD LIGHTING CIRCUITS AS SHOWN. DIAGRAM DEPICTS ONLY GENERAL ROUTING OF EXISTING CIRCUITS.

REDUCED PLAN (HALF SIZE)

0 1 2 3

3 INCHES OF ORIGINAL PLAN

Airports Division

DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

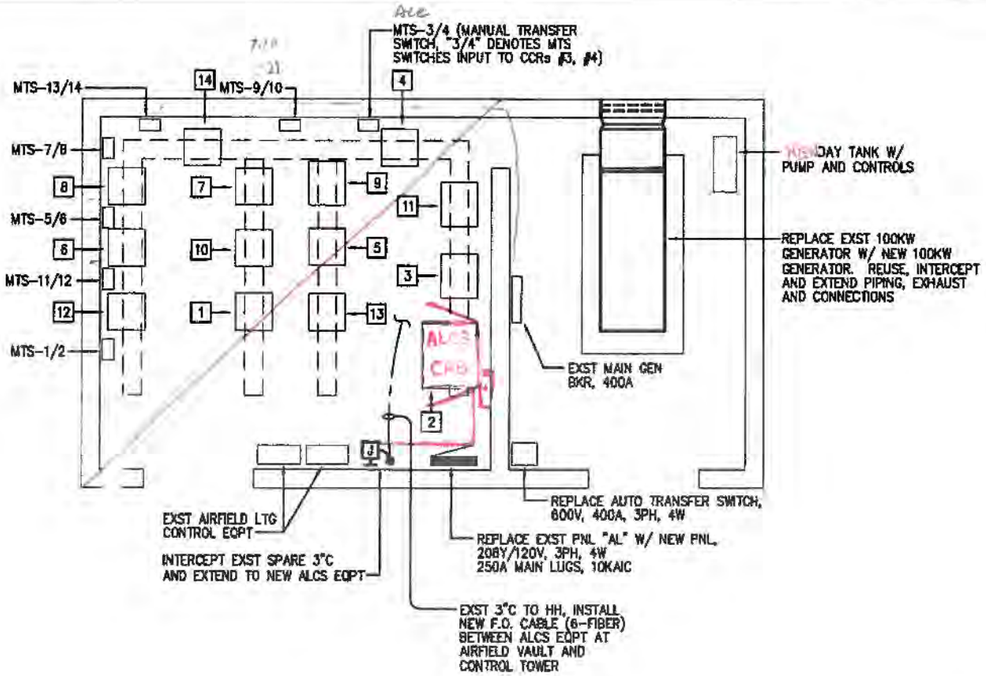
SIMPLIFIED CABLING DIAGRAM

DATE: MARCH 2005

DWG. NO.:

E-11

SHEET OF



AIRFIELD VAULT ELECTRICAL PLAN

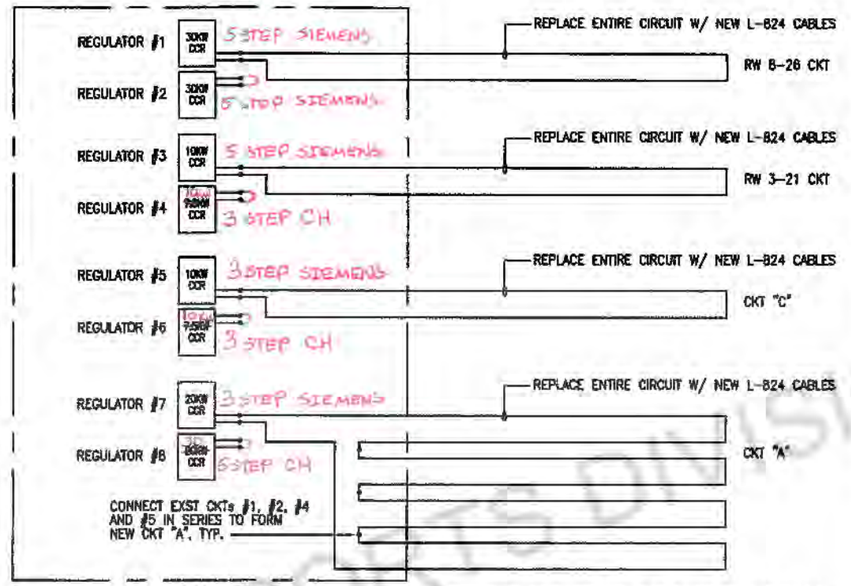
SCALE: 1/4"=1'-0"

(SEE ENLARGED PLAN)

EQUIPMENT SCHEDULE

CCR NO. DESCRIPTION

1. EXST CCR #1, CKT RW 8-26 (PRIMARY). REASSIGN TO SERVE AS CCR #2 (SECONDARY). PROVIDE NEW 30KW CCR TO SERVE AS CCR #1 (PRIMARY).
2. EXST 20KW CCR, RELOCATE AND RECIRCUIT TO SERVE AS CCR #8 (SECONDARY).
3. REMOVE EXST CCR, CKT RW 3-21 (PRIMARY). PROVIDE NEW 10KW CCR.
4. EXST CCR TO REMAIN, CKT RW 3-21 (SECONDARY).
5. REMOVE EXST CCR, CKT #5 (PRIMARY). PROVIDE NEW 10KW CCR, NEW CKT "C".
6. EXST CCR TO REMAIN, CKT #C (SECONDARY).
7. REMOVE EXST CCR, CKT #3 (PRIMARY). PROVIDE NEW 20KW CCR, NEW CKT "A".
8. REMOVE EXST CCR. RELOCATE AND RECIRCUIT EXST CCR #2 TO THIS LOCATION.
9. EXST CCR, CKT #2 (PRIMARY). DISCONNECT CABLES AND RETAIN CCR AS SPARE.
10. EXST CCR, CKT #2 (SECONDARY). DISCONNECT CABLES AND RETAIN CCR AS SPARE.
11. EXST CCR, CKT #1 (PRIMARY). DISCONNECT CABLES AND RETAIN CCR AS SPARE.
12. EXST CCR, CKT #1 (SECONDARY). DISCONNECT CABLES AND RETAIN CCR AS SPARE.
13. EXST CCR, CKT #4 (PRIMARY). DISCONNECT CABLES AND RETAIN CCR AS SPARE.
14. EXST CCR, CKT #4 (SECONDARY). DISCONNECT CABLES AND RETAIN CCR AS SPARE.



AIRFIELD LIGHTING CIRCUIT DIAGRAM

NEW PNL "AL"			208Y/120V, 3 PHASE, 4 WIRE, 400A MAIN LUGS INDUSTRIAL-BOLTED, SURFACE-MOUNTED, 10KAIC			
CKT NO.	BREAKERS POLE	AMPS	LOAD	KVA A	KVA B	KVA C
1	2	200	CCR #1	10.0	10.0	
2	2	70	CCR #3	5.0	5.0	
3	–	–	---		–	
4	–	–	---		–	
5	2	70	CCR #5	5.0		5.0
6	2	150	CCR #7	8.0		8.0
7	–	–	---	–		
8	–	–	---	–		
9	1	70	EXST CKT		6.0	
10	1	70	EXST CKT		6.0	
11	1	70	EXST CKT			6.0
12	1	70	EXST CKT			6.0
13	1	70	EXST CKT	6.0		
14	1	90	EXST CKT	7.0		
15	1	90	EXST CKT		7.0	
16	1	20	EXST CKT		1.2	
17	1	20	EXST CKT			1.2
18	1	20	EXST CKT			0.5
19	1	20	EXST CKT	0.5		
20	1	20	EXST CKT	0.5		
21	1	20	EXST CKT		0.5	
22	1	20	EXST CKT		0.5	
23	1	20	EXST CKT			1.0
24	1	20	EXST CKT			0.5
25	1	20	EXST CKT	1.2		
26	1	20	EXST CKT	1.0		
27	1	20	EXST CKT		1.0	
28	1	20	SPARE		1.0	
29	1	20	SPARE			1.0
30	1	20	SPARE			1.0
31	1	–	PFB	–		
32	1	–	PFB	–		
33	1	–	PFB		–	
34	1	–	PFB		–	
35	1	–	PFB			–
36	1	–	PFB			–
			CONNECTED LOAD PER PHASE	44.2	38.2	30.2
			TOTAL CONNECTED KVA			112.6
			DEMAND FACTOR			0.8
			TOTAL DEMAND LOAD			90.1

REDUCED PLAN (HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

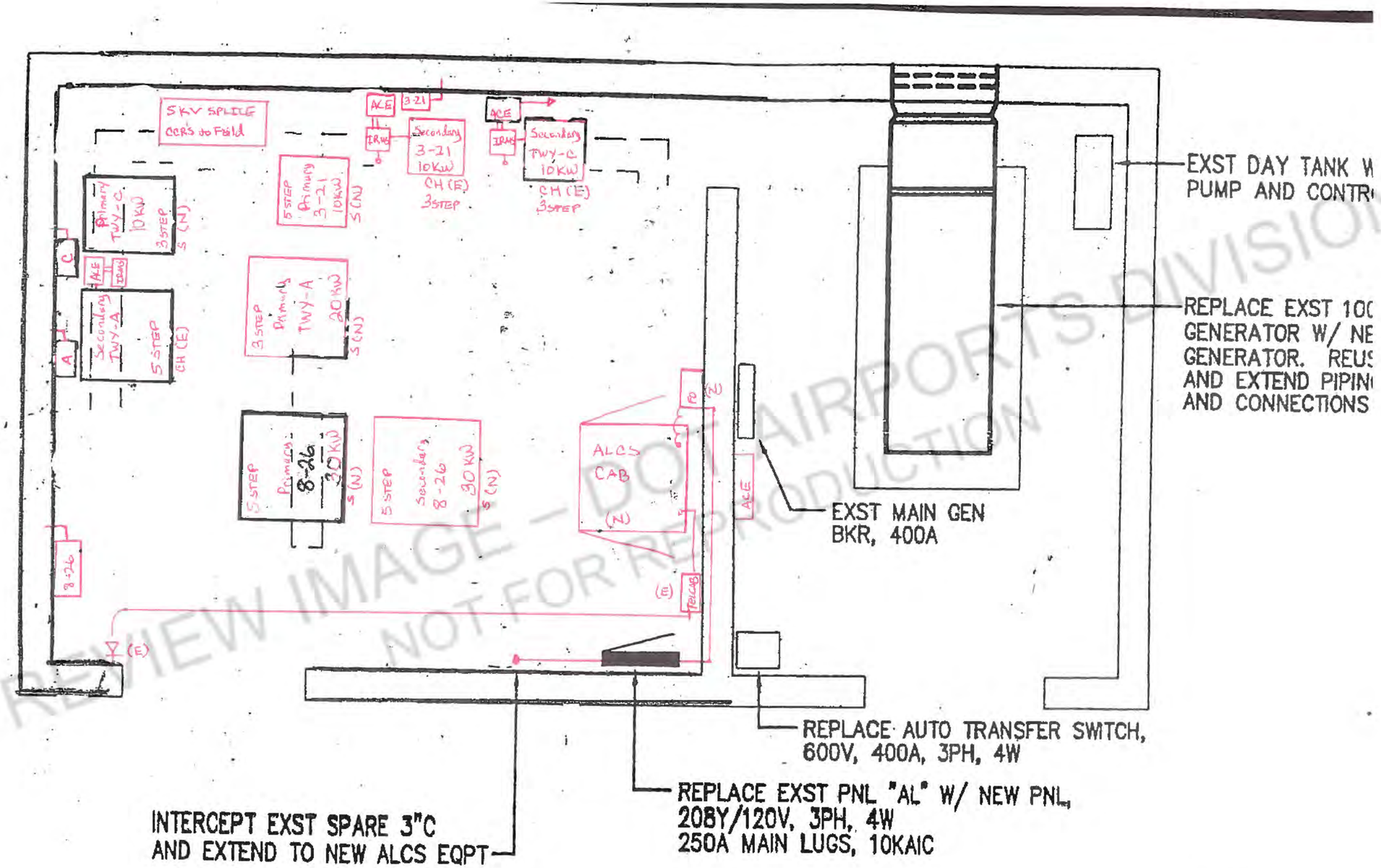
AIRFIELD VAULT ELECTRICAL PLAN, DETAILS

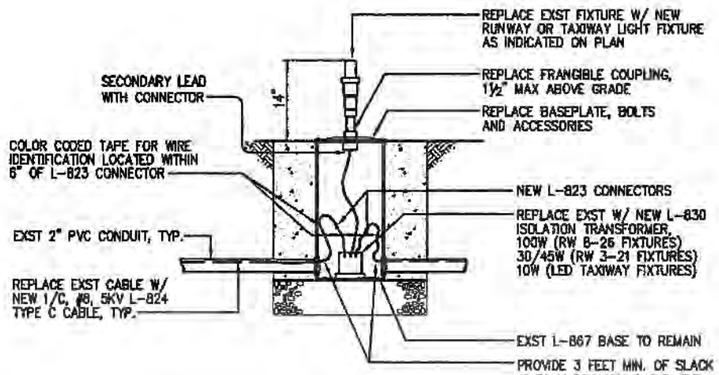
DATE: MARCH 2005

DWG. NO.:

E-12

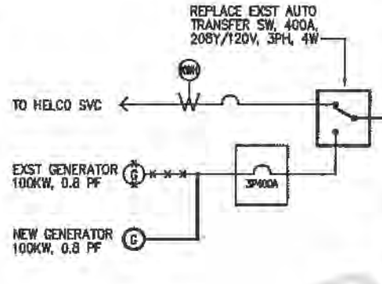
SHEET OF

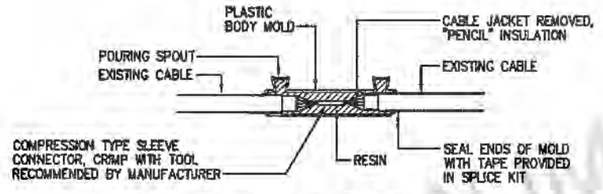




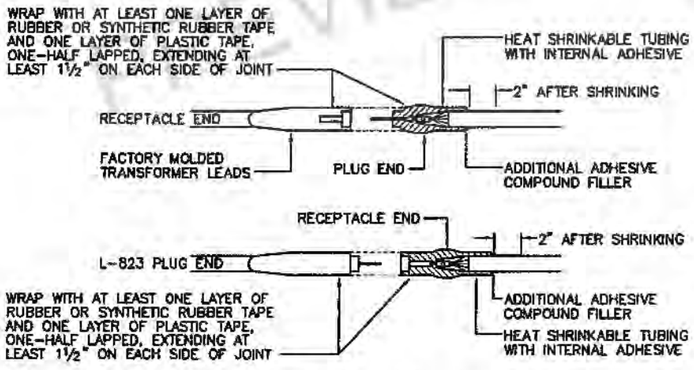
SECTION

RUNWAY/TAXIWAY LIGHT DETAILS

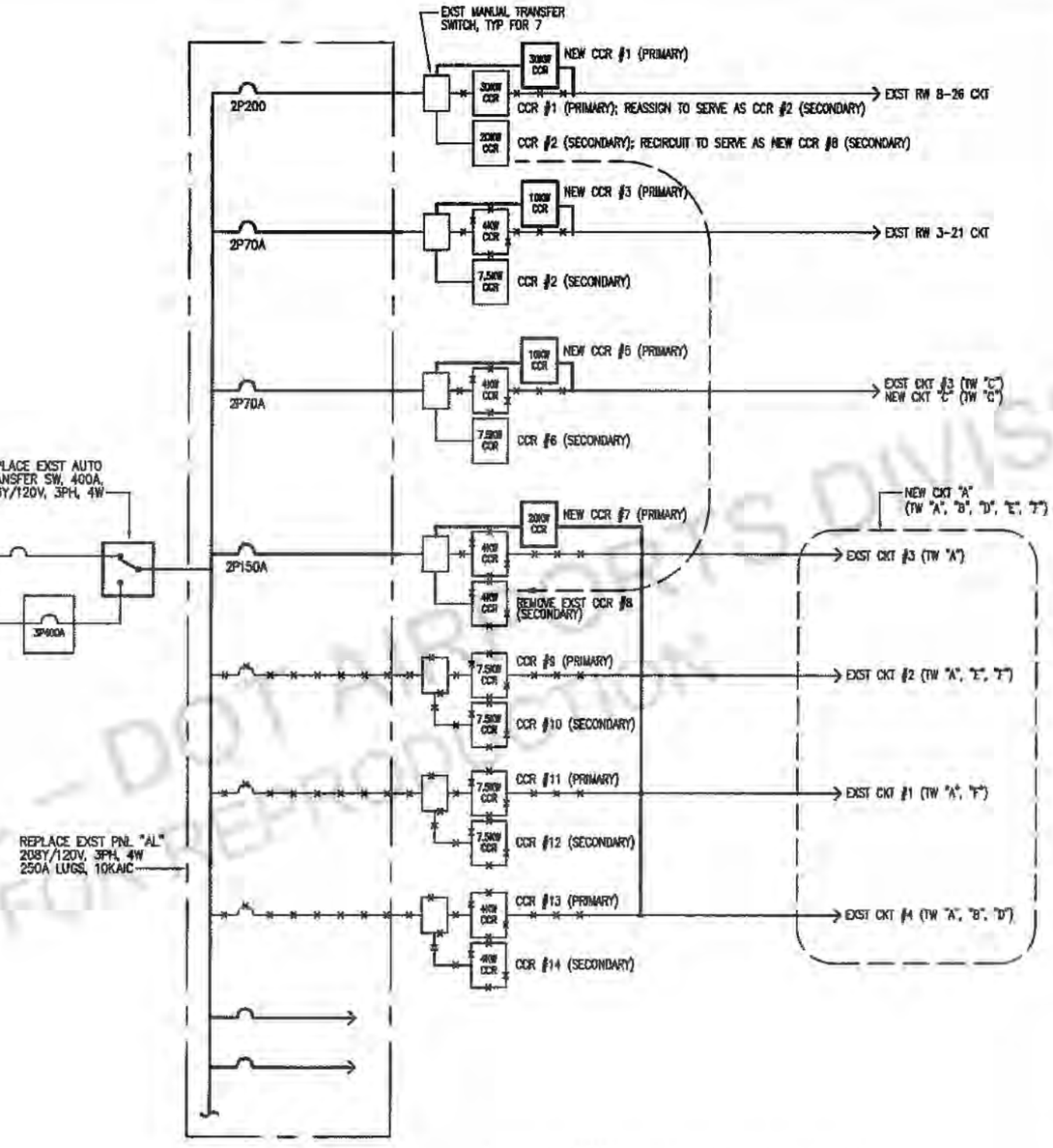




TEMPORARY SPLICE FOR EXISTING CABLE



TYPICAL SPLICE AT LIGHT CABLE SPLICES



AIRFIELD VAULT - ONE LINE DIAGRAM

REDUCED PLAN (HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

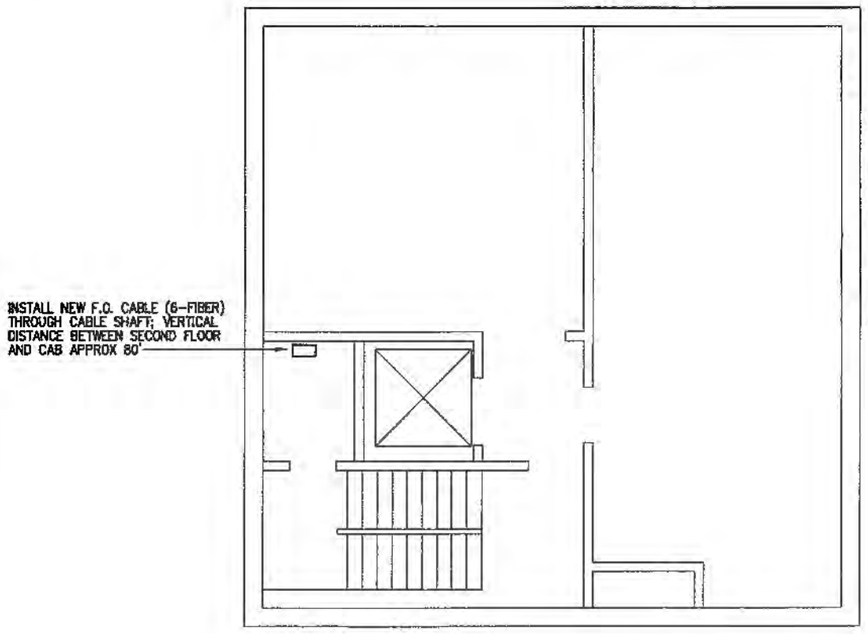
SHEET TITLE :

AIRFIELD VAULT – ONE-LINE DIAGRAM, DETAILS

DATE: MARCH 2005

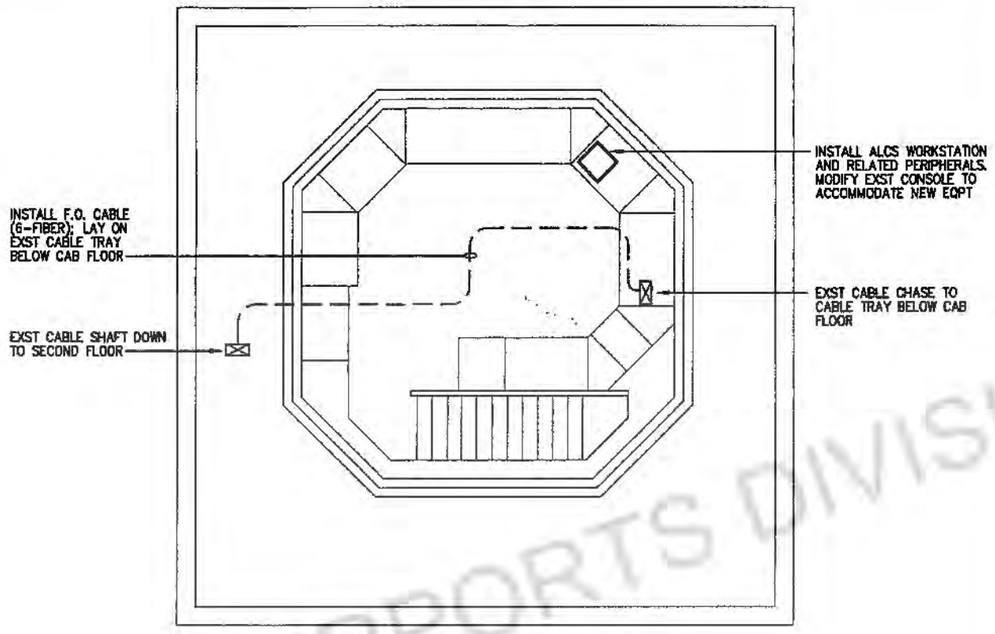
DWG. NO.: E-13

SHEET OF



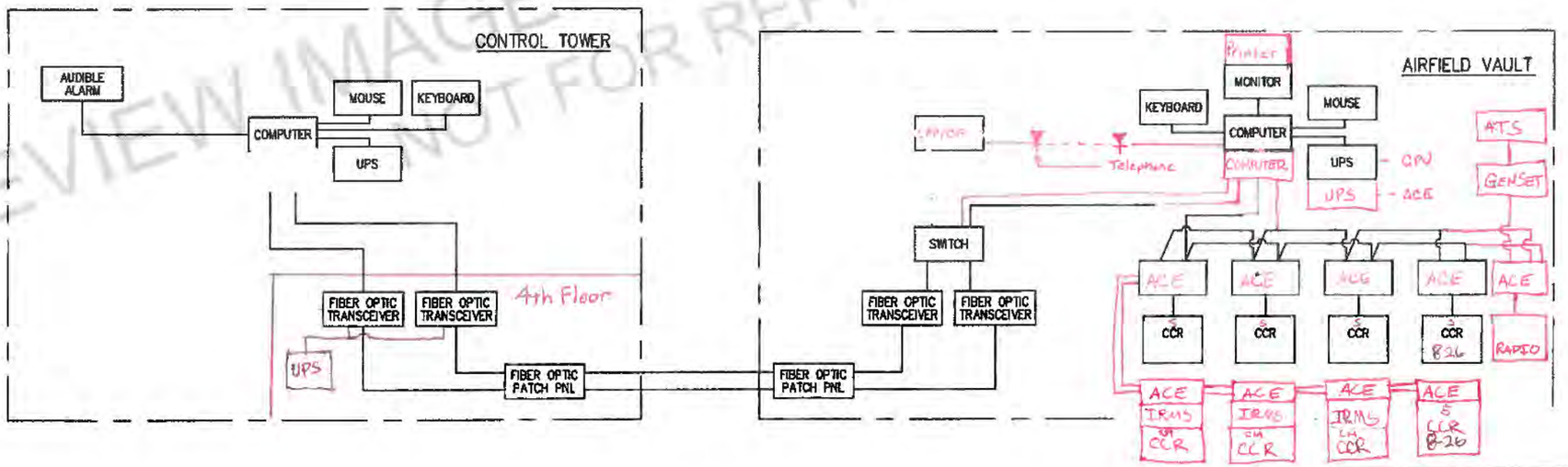
CONTROL TOWER - SECOND FLOOR PLAN

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



CONTROL TOWER - CAB FLOOR PLAN

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



AIRFIELD LIGHTING COMPUTER SYSTEM (ALCS) SCHEMATIC DIAGRAM

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

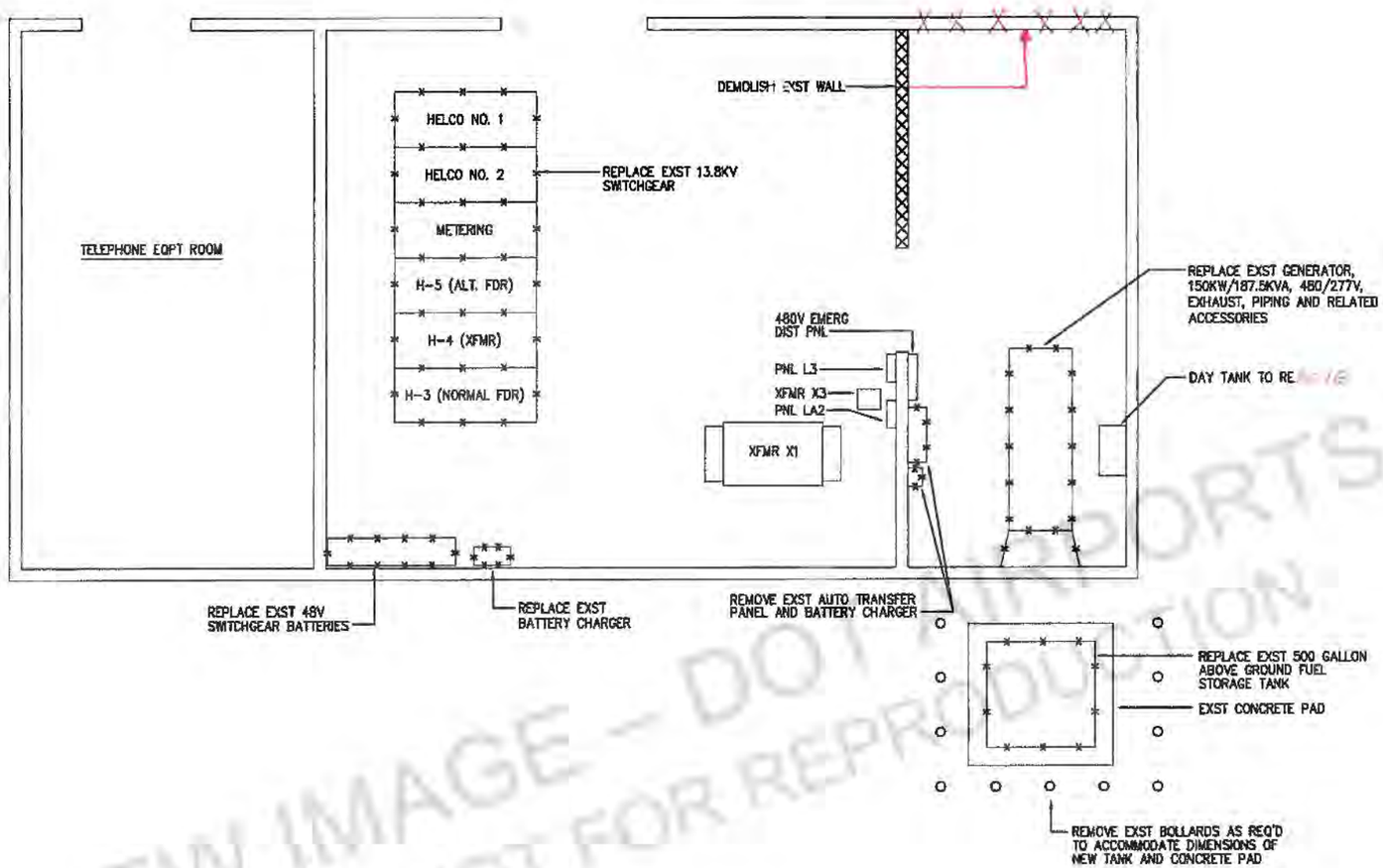
SHEET TITLE :

CONTROL TOWER PLANS, ALCS SCHEMATIC DIAGRAM

DATE: MARCH 2005

DWG. NO.: E-14

SHEET OF



GENERATOR VAULT - DEMOLITION PLAN

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

4 2 0 4 8
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

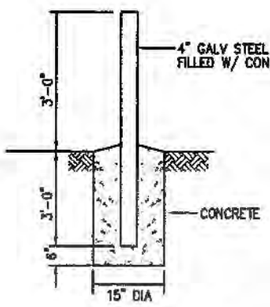
SHEET TITLE :

GENERATOR VAULT DEMOLITION PLAN

DATE: MARCH 2005

DWG. NO.: E-15

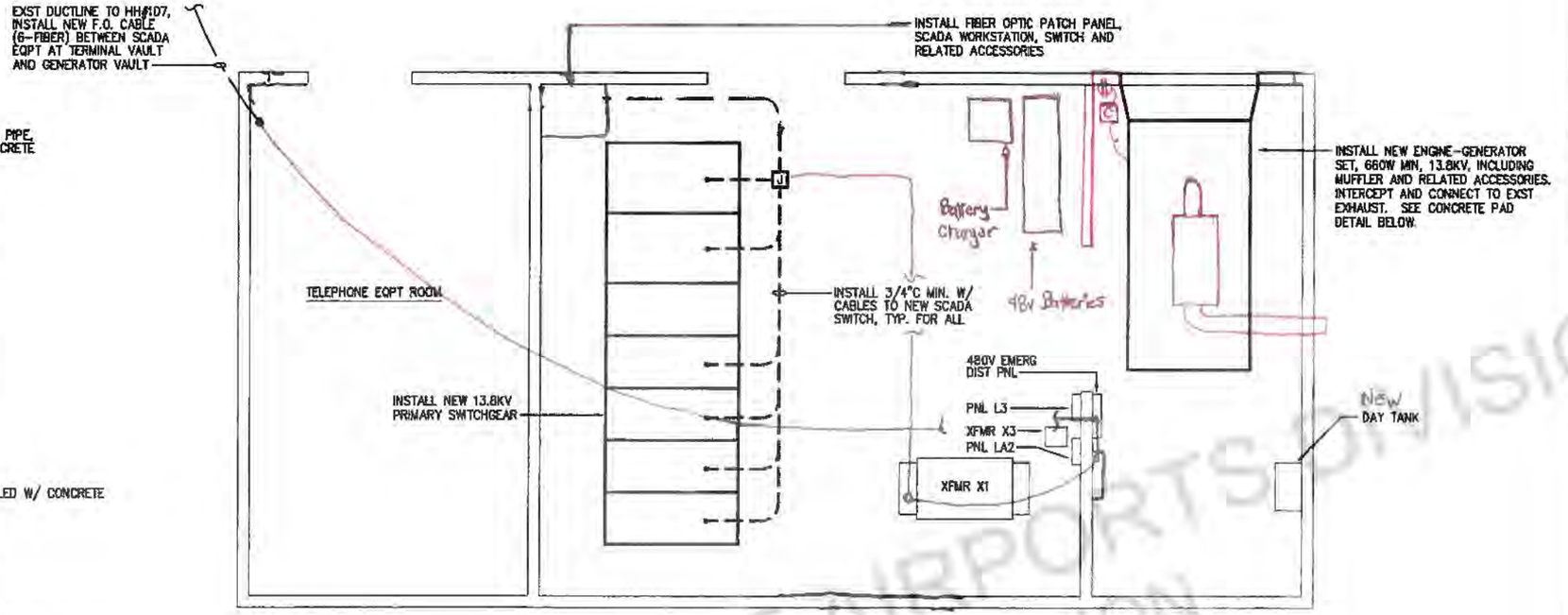
SHEET OF



BOLLARD DETAIL

NOT TO SCALE

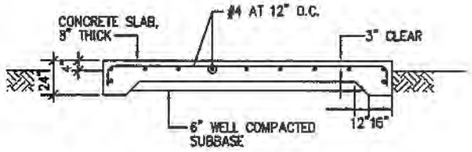
NOTES:
1. 4" GALV STEEL PIPE SHALL BE FILLED W/ CONCRETE
2. PAINT YELLOW PER OSHA STDS



GENERATOR VAULT ELECTRICAL PLAN

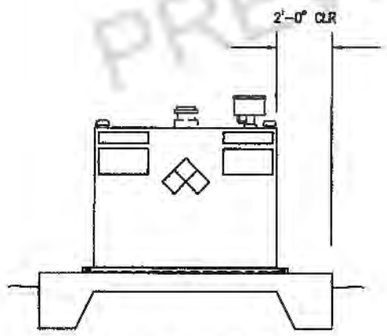
SCALE: 1/4"=1'-0"

NOTES:
1. SEE SHEET E-18 FOR ONE-LINE DIAGRAM
2. CONTRACTOR SHALL DEMOLISH AND RECONSTRUCT WALLS TO FACILITATE INSTALLATION AND REMOVAL OF EXST/NEW GENERATORS.
3. PROVIDE 18"X48" SHELF W/ MOUNTING BRACKETS FOR NEW SCADA SWITCH AND WORKSTATION, +30" AFF.



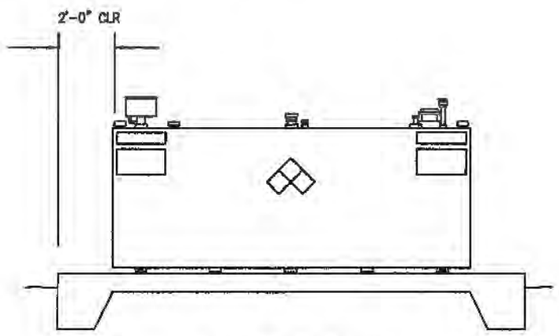
FUEL TANK CONCRETE PAD DETAIL

NOT TO SCALE



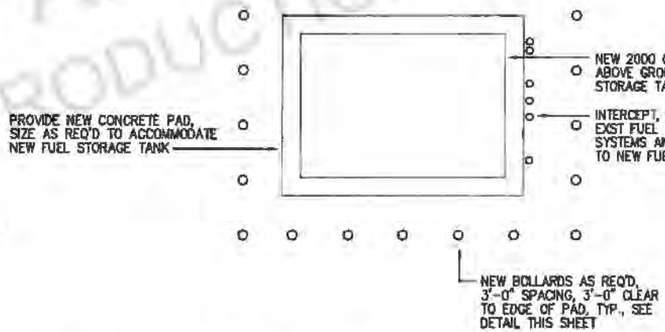
FRONT ELEVATION

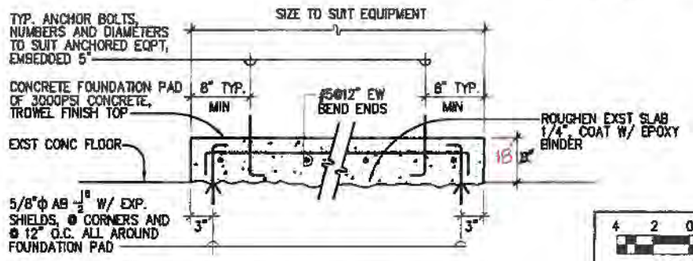
NOT TO SCALE



SIDE ELEVATION

NOT TO SCALE





GENERATOR PAD DETAIL

4 2 0 4 8
GRAPHIC SCALE IN FEET

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

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UPGRADE ELECTRICAL SYSTEM

HILO INTERNATIONAL AIRPORT

PROJECT NO. :

STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

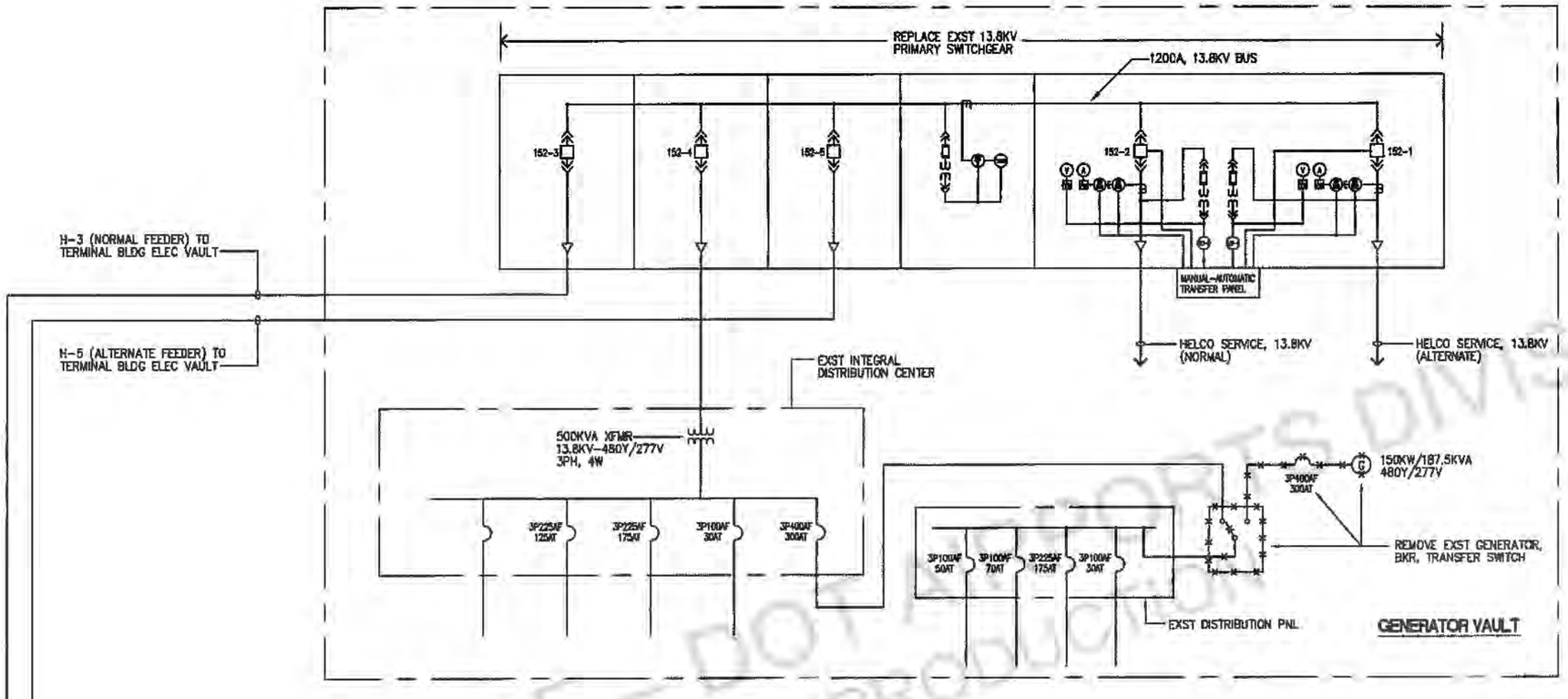
GENERATOR VAULT ELECTRICAL PLAN, DETAILS

DATE: MARCH 2005

DWG. NO.:

E-16

SHEET OF



EXISTING ONE-LINE DIAGRAM

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

UPGRADE ELECTRICAL SYSTEM

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STATE PROJECT NO. CH1504-53
AIP PROJECT NO. 3-15-0004-20

SHEET TITLE :

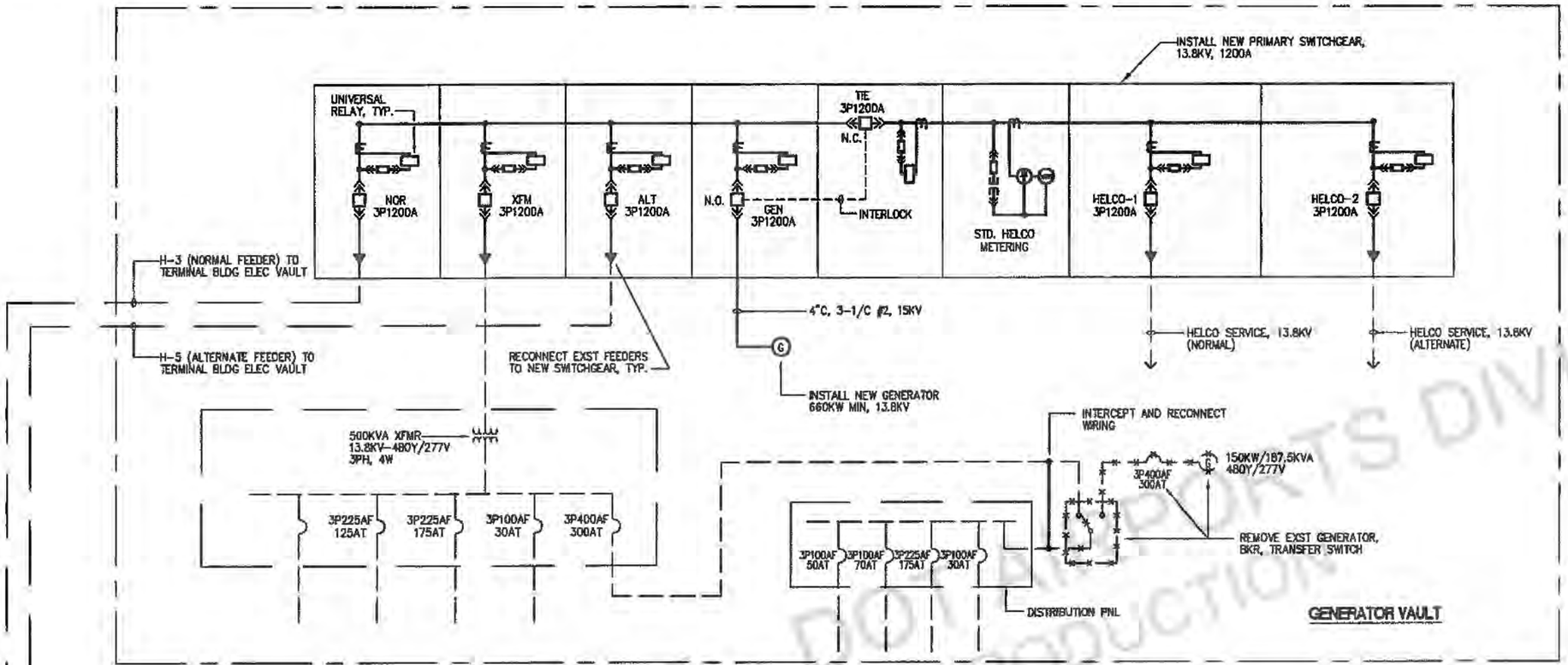
EXISTING ONE-LINE DIAGRAM

DATE:
MARCH 2005

DWG. NO.:

E-17

SHEET OF



ONE-LINE DIAGRAM

NOTE:

1. DASHED LINES DENOTE EXST CONDITION, SOLID LINES DENOTE NEW WORK.
2. SEQUENCE OF OPERATION

NORMAL CONDITION ⟶ HELCO 1 CLOSED, HELCO 2 OPEN

HELCO 1 IS OUT ⟶ IF HELCO 2 IS AVAILABLE ⟶ OPEN HELCO 1
CLOSE HELCO 2

HELCO 1 IS OUT ⟶ IF HELCO 2 IS NOT AVAILABLE ⟶ OPEN HELCO 1
OPEN HELCO 2
START GENERATOR
OPEN TIE
CLOSE GEN BKR

UPON RESTORATION ⟶ OPEN GEN BKR, SHUT DOWN GENERATOR
CLOSE HELCO 1 OR 2, WHICHEVER IS AVAILABLE
(NOTE: HELCO 1 IS PREFERRED)
CLOSE TIE

REDUCED PLAN
(HALF SIZE)
0 1 2 3
3 INCHES OF ORIGINAL PLAN

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DSGN.	DRWN.	CHKD.	APPD.

KEY PLAN / NOTES :

NO.	DATE	REVISIONS

PROJECT TITLE :

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PROJECT NO. :

STATE PROJECT NO. CH1504-53
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SHEET TITLE :

ONE-LINE DIAGRAM

DATE: MARCH 2005

DWG. NO.:

E-18

SHEET OF

For Continuation of W.L. See Sht. 2C-200.

Existing 12" Waterline to be lowered

W12"

SERVICE ROAD

True North
Scale: 1" = 100'

2 - 12" x 12" x 12" Tee
2 - 12", 1/8 Bend
2 - Conc. Blocks

AIRCRAFT APRON

8" Stub Out

12" G.V. w/ BOX

EXIST. W12"

W8"

W4"

Hose Reel and Cabinet (typ.)

Type "B" F.H. (Typ.)

2" Water Meter

W1"

1" Water Meter

1" Waterline to Aircraft Sewage Reduction Plant

E

PASSENGER TERMINAL AREA

1" Air Relief Valve

Fire Hydrant (Typ.)

Water Lateral (typ.)

W8" Gate Valve (typ.)

Sewer Manhole (typ.)

2" Water Meter w/ Box

PARKING LOT

W2"

E Elect., Tel. Handhole (typ.)

PERIPHERY ROAD

To Sewage Treatment Plant

AS BUILT

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

GRADING, PAVING & UTILITIES
GENERAL LYMAN FIELD

HILO, HAWAII

STATE PROJ. NO. H-91-1(2)R

HENRY S. HOSHIDE
REGISTERED PROFESSIONAL ENGINEER
No. 2348
U.S.A. HAWAII

BECHTEL CORPORATION
HONOLULU SAN FRANCISCO

WILSON, OKAMOTO & ASSOCIATES
ENGINEERS & ARCHITECTS
HONOLULU HAWAII

GENERAL LAYOUT WATERLINES

2 3/3/76 Revised Service Road & Water Lines

1 6/20/74 ISSUED FOR CONSTRUCTION

REVISIONS

DESIGN J.L., P.C.	DRAWN R.M.
CHECKED H.C., H.H.	SCALE 1"=100'
SUBMITTED BY	DATE MAR 27 1974
DRAWING NO. 2C-221	
SHEET NO.	REVISION

SHEET NO. 29 OF 131