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DEC 08 2013

Water has no substitute.....Conserve it

REC'D
OFC. OF ENVIRONMENTAL QUALITY CONTROL
13 NOV 22 12:54

November 20, 2013

Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, Hawaii 96813

SUBJECT: PIPELINE REPLACEMENT ALONG WEKE, 'ANAE, MAHIMAHI, AND HE'E ROADS, TMK: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
DRAFT ENVIRONMENTAL ASSESSMENT

Gentlemen:

The County of Kaua'i, Department of Water hereby transmits the Draft Environmental Assessment and Anticipated Finding Of No Significant Impact (DEA-AFONSI) for the Pipeline Replacement along Weke, 'Aanae, Mahimahi, and He'e Roads, situated at Tax Map Key (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05, in the Hanalei District on the Island of Kaua'i, for publication in the next available edition of the Environmental Notice.

Enclosed are the following: (1) A completed OEQC Publication Form; (2) Two copies of the DEA-AFONSI; (3) An Adobe Acrobat PDF file of the same; and (4) An electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

If you have any questions, please contact our consultant, Wayne Wada of Esaki Surveying and Mapping, Inc., at (808) 246-0625.

Sincerely,

Kirk Saiki, P.E.
Acting Manager and Chief Engineer

Enclosures (4)

/ce

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10/DEQ/02/033

AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM (FEBRUARY 2013 REVISION)

Project Name: Pipeline replacement along Weke, 'Anae, Mahimahi, and He'e Roads
Island: Kauai
District: Hanalei
TMK: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
Permits: Department of Health - NPDES (Hydrotesting water)
D.O.T. (Highways Division) - Road Construction for Right-of-Way
County Of Kauai (Public Works) - Road Construction for Right-of-Way

Proposing/Determination Agency: Department of Water, County of Kauai
(Address, Contact Person, Telephone) 4398 Pua Loke Street, Lihue, HI 96766
Keith Aoki - 808-245-5411

Accepting Authority:
(for EIS submittals only)

Consultant: Esaki Surveying and Mapping, Inc.
(Address, Contact Person, Telephone) 1610 Haleukana Street, Lihue, HI 96766
Maren Arismendez-Herrera - 808-246-0625

Status (check one only):

- DEA-AFNSI Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.
FEA-FONSI Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
FEA-EISPN Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.
Act 172-12 EISPN Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
DEIS The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
FEIS The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqchawaii@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
Section 11-200-23 Determination The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.
Section 11-200-27 Determination The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.
Withdrawal (explain)

DEPARTMENT OF ENVIRONMENTAL QUALITY
13 NOV 22 P 1:01
RECEIVED

The County of Kauai, Department of Water proposes to replace waterlines along Weke, `Aanae, Mahimahi, and He`e Roads. The immediate impact is temporary traffic inconvenience and interruption in service during the transfer as well as equipment noise, emissions and fugitive dust from construction. Mufflers, water sprinkling and restricted time of work will be implemented. The direct impact will be reliable water service to the homes; indirect input is better fire protection for the surrounding area. Long term effect is improvement quality of life.

DRAFT
ENVIRONMENTAL ASSESSMENT
AND
ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT (AFONSI)

PIPELINE REPLACEMENT ALONG WEKE, `ANAE, MAHIMAHI,
AND HE`E ROADS

HANALEI, KAUA`I, HAWAII

Submitted in Accordance with
Requirements for Chapter 343, HRS and
Chapter 200 of Title II, Administrative Rules
Department of Health, State of Hawai`i

Prepared for the

Department of Water
County of Kaua`i

By

Esaki Surveying and Mapping, Inc.

November 2013

DRAFT ENVIRONMENTAL ASSESSMENT

Proposed Action: PIPELINE REPLACEMENT ALONG WEKE, `ANAHE, MAHIMAHI, AND HE`E ROADS

Applicant: DEPARTMENT OF WATER
COUNTY OF KAUAI

Location: HANAHEI, KAUAI, HAWAII
TMK: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05

Determination: EIS REQUIRED _____ EIS NOT REQUIRED X

.....
Agencies and Organizations Consulted or Contacted
in Preparing this Assessment
Under the early consultation provision under HAR 11-200-9(a)(1)

County : Department of Public Works
(no written comments received)
Department of Water
(no written comments received)

Others : Scientific Consultant Services, Inc.
(received written report, see Appendix A)

.....
Possible Permits Required

Federal : N/A

State : Department of Health – NPDES (Hydrotesting water)
D.O.T. (Highways Division) – Road Construction for
Right-of-Way

County : Public Works – Road Construction for Right-of-Way

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SECTION I

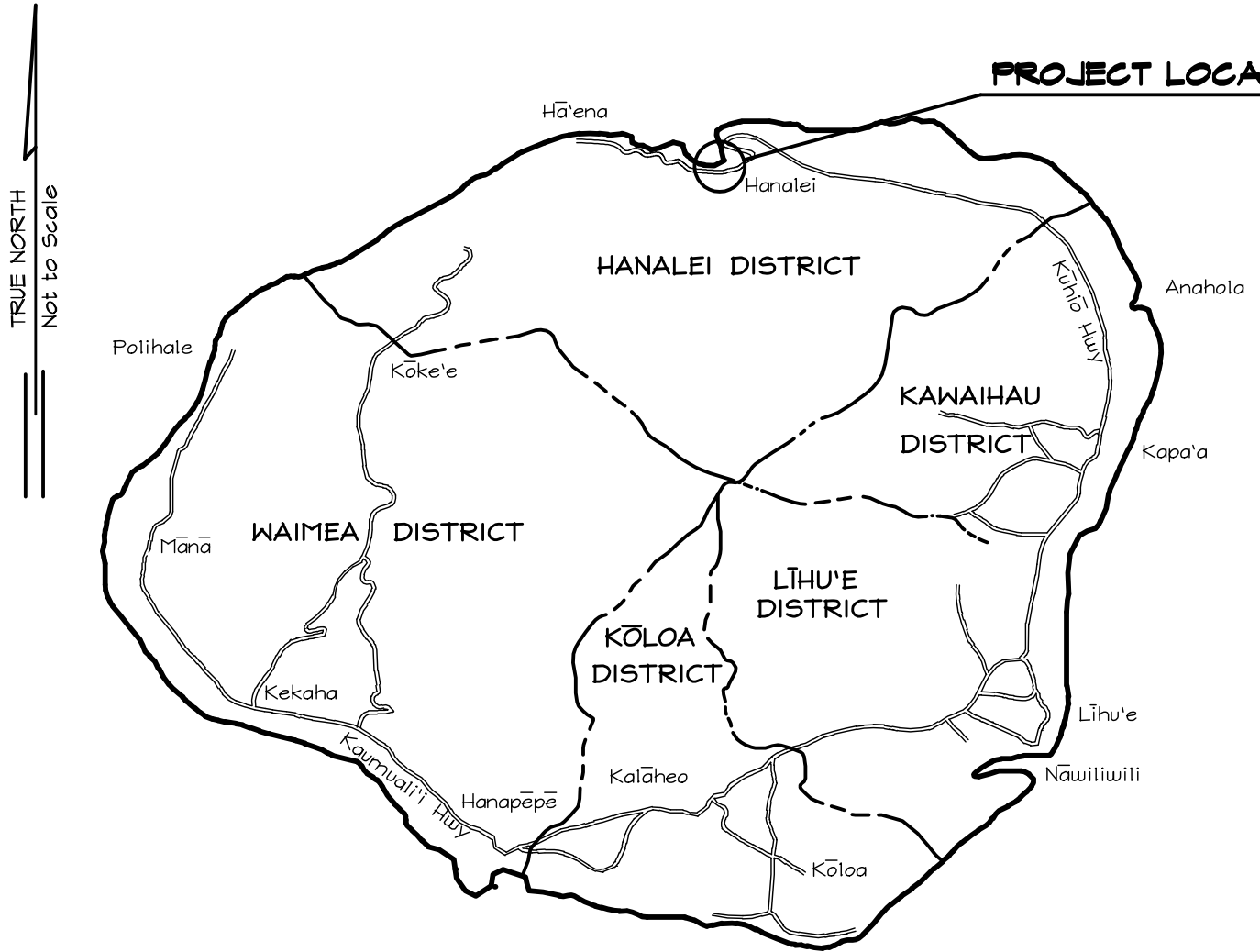
DESCRIPTION OF THE PROPOSED PROJECT

The County of Kaua`i, Department of Water proposes to develop waterline replacements in Hanalei, Kaua`i in the State of Hawai`i (see Figure 1), located along Weke, `Anae, Mahimahi, and He`e Roads.

The project's purpose is to improve water distribution and fire protection within a portion of the Hanalei service area (see Figures 2 and 3), more specifically for the properties identified by tax map key as (zone 4) 5-5-03, (zone 4) 5-5-04 and (zone 4) 5-5-05 (see Figure 4). The project is bordered by State and private properties in the Waioli area, including the Waipa & Waioli Beach Lots and Sanborn Subdivision. Existing land uses within the immediate area of the project area include a mix of uses comprised of residences, vacation rentals and public facilities including the Waioli Stream and Waioli Beach Park.

The primary access to the project is Kūhi`ō Highway. The Weke Road section of the project starts off of the intersection with Malolo Road and extends approximately 500 feet past the intersection with `Anae Road. `Anae Road and Mahimahi Road are located off of Kūhi`ō Highway, and He`e Road is located off of Weke Road. The `Anae, Mahimahi, and He`e Road sections of the project cover approximately the entire length of the roadway.

PROJECT LOCATION

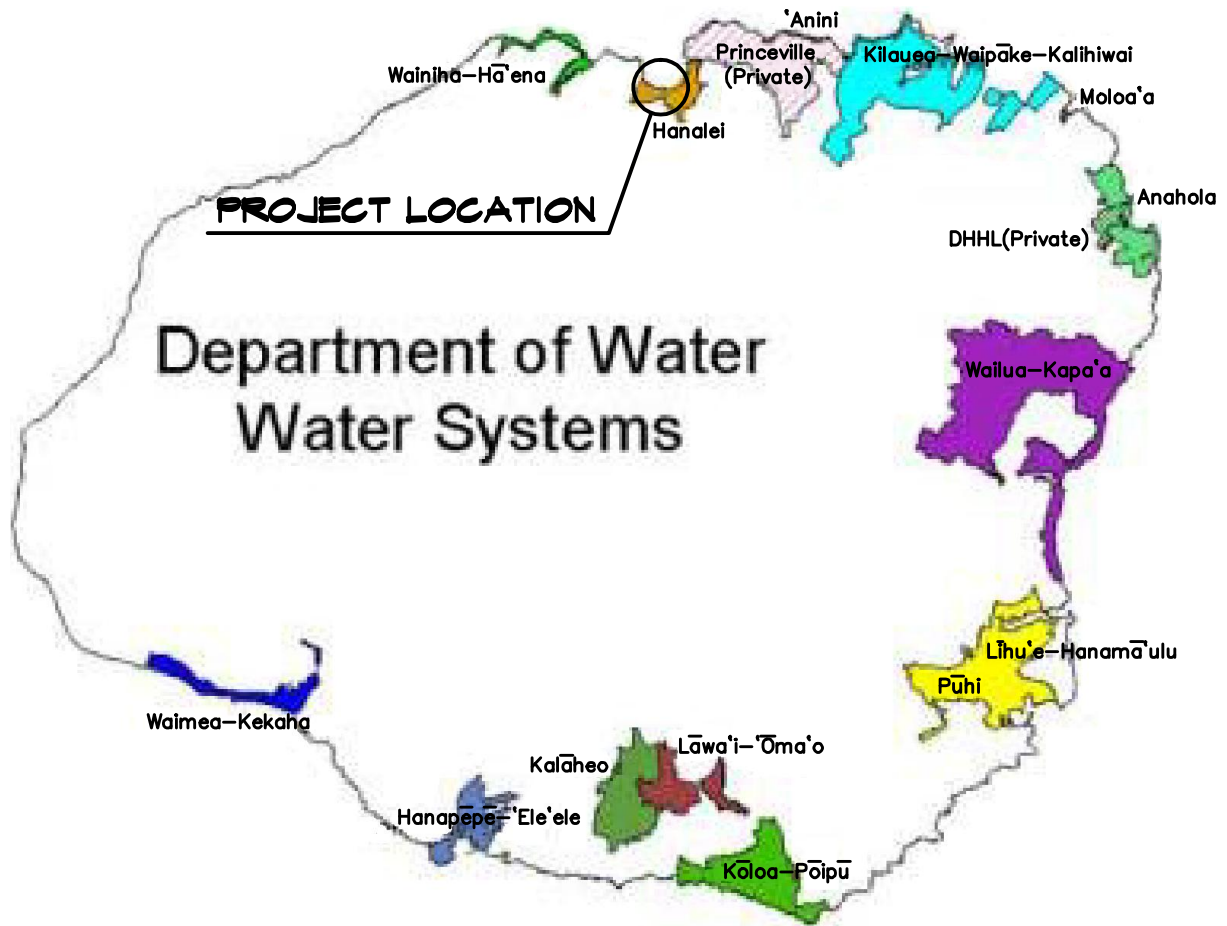


ESAKI SURVEYING AND MAPPING, INC.

Engineers, Land Surveyors & Planners
1610 Haleukana Street
Līhu'e, Kaua'i, Hawai'i

**FIGURE I
ISLAND OF KAUA'I**

PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHU,
AND HE'E ROADS
JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kaua'i, Hawai'i



Source: Water Plan 2020

ESAKI SURVEYING AND MAPPING, INC.

Engineers, Land Surveyors & Planners
1610 Haleukana Street
Līhu'e, Kauai, Hawaii'i

FIGURE 2
DOW SERVICE AREAS MAP
PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHU,
AND HE'E ROADS

JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kauai, Hawaii'i

Service Area	Description
Waimea-Kekaha	The service area is comprised of two relatively compact small towns. Waimea is the civic center of the West Side, home to the high school, hospital, and other community facilities as well as a variety of restaurants and retail stores. Kekaha includes a residential community that supports diversified agricultural and a small industrial area that was occupied by the former Kekaha Sugar Plantation. The area also supports the nearby Pacific Missile Range Facility and west side State parks.
Hanapepe-Eleele	The service area includes Kauai's second commercial harbor, Port Allen, the island's major electrical power generating station, and other industrial uses. Across the highway are Hanapepe Town and the residential community of Hanapepe Heights. Eleele has a small business area and residential communities.
Kalaheo	Kalaheo has small-town commercial uses concentrated along the highway and along Papalina Road.
Lawai-Omao	The west side has three small-town/rural service areas: Lawai-Omao, Kalaheo, and Waimea-Kekaha. The Kalaheo and Lawai-Omao service areas consist primarily of agricultural homestead lands that have been subdivided and developed at various densities of residential use.
Koloa-Poipu	The service area consists of a concentration of resorts along the coast, with residential communities clustered near the coast and around Koloa Town. Poipu is Kauai's fastest-growing resort destination, and the service area includes several projects yet to be constructed.
Puhi-Lihue-Hanamaulu	The most diverse customer base. The area includes Kauai's major airport and commercial harbor, the largest concentration of industrial uses, Wilcox Hospital, hotels, a broad range of government and business uses, and residential neighborhoods.
Wailua-Kapaa	The service area has hotel and business uses clustered along the coastal highway. Schools, hospitals, and urban residential neighborhoods are located along the highway, as well as along two major roads that extend inland towards the mountains at the north and south ends of the Wailua-Kapaa basin – Kuamoo Road and Kawaihau Road. The central part of the basin is comprised of old agricultural homesteads that are gradually transitioning to residential use.
Anahola	In Anahola, the major landowner is the Department of Hawaiian Homelands (DHHL), which develops residential lots and agricultural homesteads for lease to native Hawaiians. The Anahola service area also includes privately owned residential and agricultural lots in and around Anahola Valley. Portions of the water system are owned by either the DOW or DHHL. DOW operates the system in partnership with DHHL.
Moloaa	These east side rural communities include Moloaa and Anahola. Moloaa is the DOW's smallest service area consisting of two small clusters of residences. Water is purchased from a state well that is currently operated by a private landowner in the area. Water from this source also supplies the agricultural activities in the area.
Kilauea-Waipake-Kalihiwai	The service area is comprised of Kilauea Town and a number of non-contiguous agricultural subdivisions that extend towards the mountains or the coast on either side of the highway. While Kilauea Town is a compact node of urban-density residential use and neighborhood businesses, the largest part of the service area consists primarily of low-density residential use, mixed with small farms.
Anini	The service area consists of a narrow strip of beach residences. The water is purchased from Princeville Utilities
Hanalei	The service area consists of residences and small-town business uses. Narrow roadways and one-lane bridges limit development in these areas.
Wainiha-Haena	The system serves residences along the coast and in Wainiha Valley.

Source: Water Plan 2020

ESAKI SURVEYING AND MAPPING, INC.

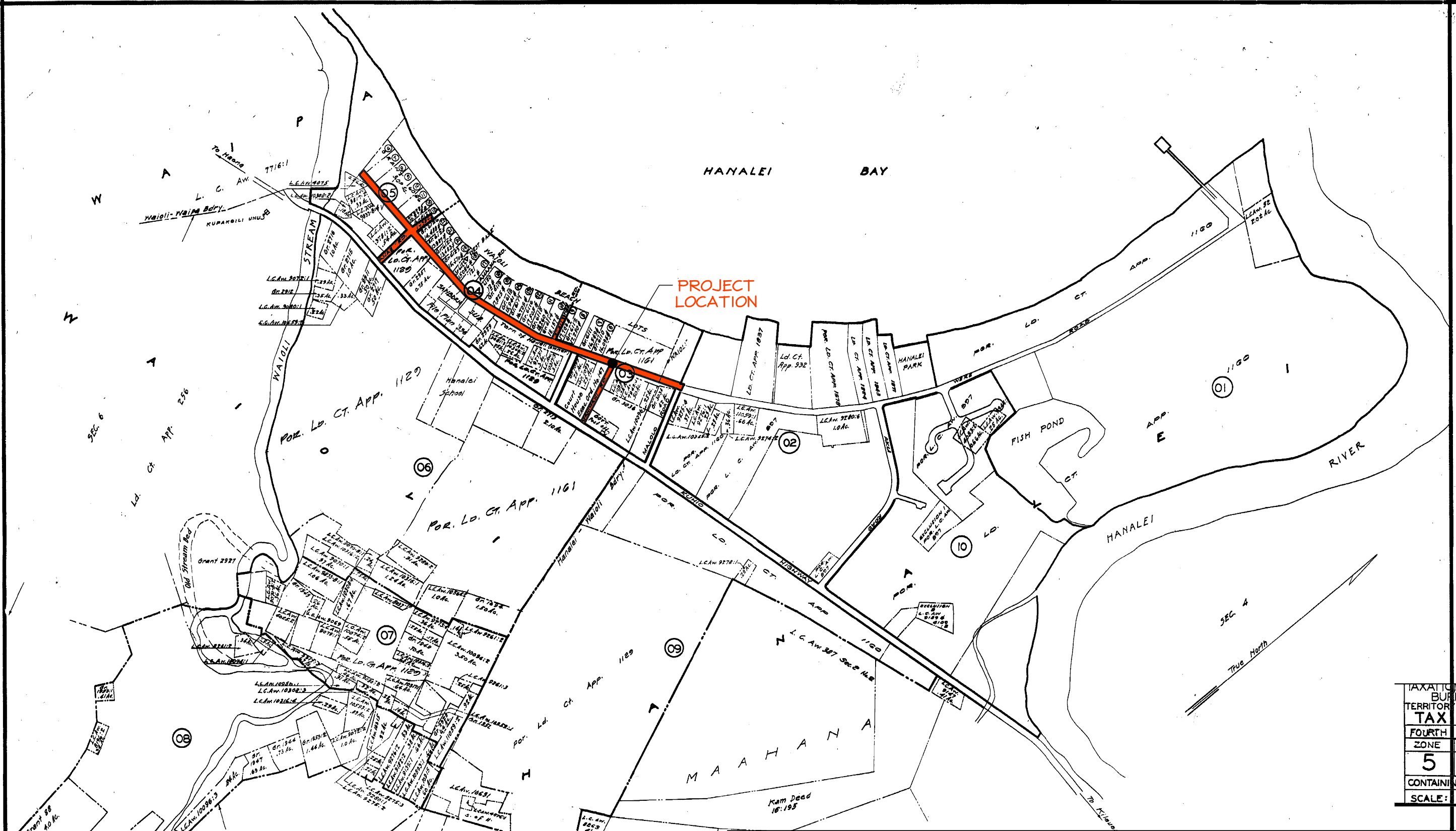
Engineers, Land Surveyors & Planners
1610 Haleukana Street
Līhu'e, Kaua'i, Hawai'i

**FIGURE 3
DOW SERVICE AREAS TABLE**

PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHU,
AND HE'E ROADS

JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kaua'i, Hawai'i

1973
JUN 2 3 1977



TAXATION MAPS	
BUREAU OF TERRITORY OF HAWAII	
TAX MAP	
FOURTH ZONE	DIVISION SEC.
5	5
CONTAINING PLATS	
SCALE: 1 in. = 300 ft	

Div. No. 1063
By: G.B. 11/82
Source: Tax. Maps Bureau

ESAKI SURVEYING AND MAPPING, INC.
Engineers, Land Surveyors & Planners
1610 Haleukana Street
Lihue, Kauai, Hawaii

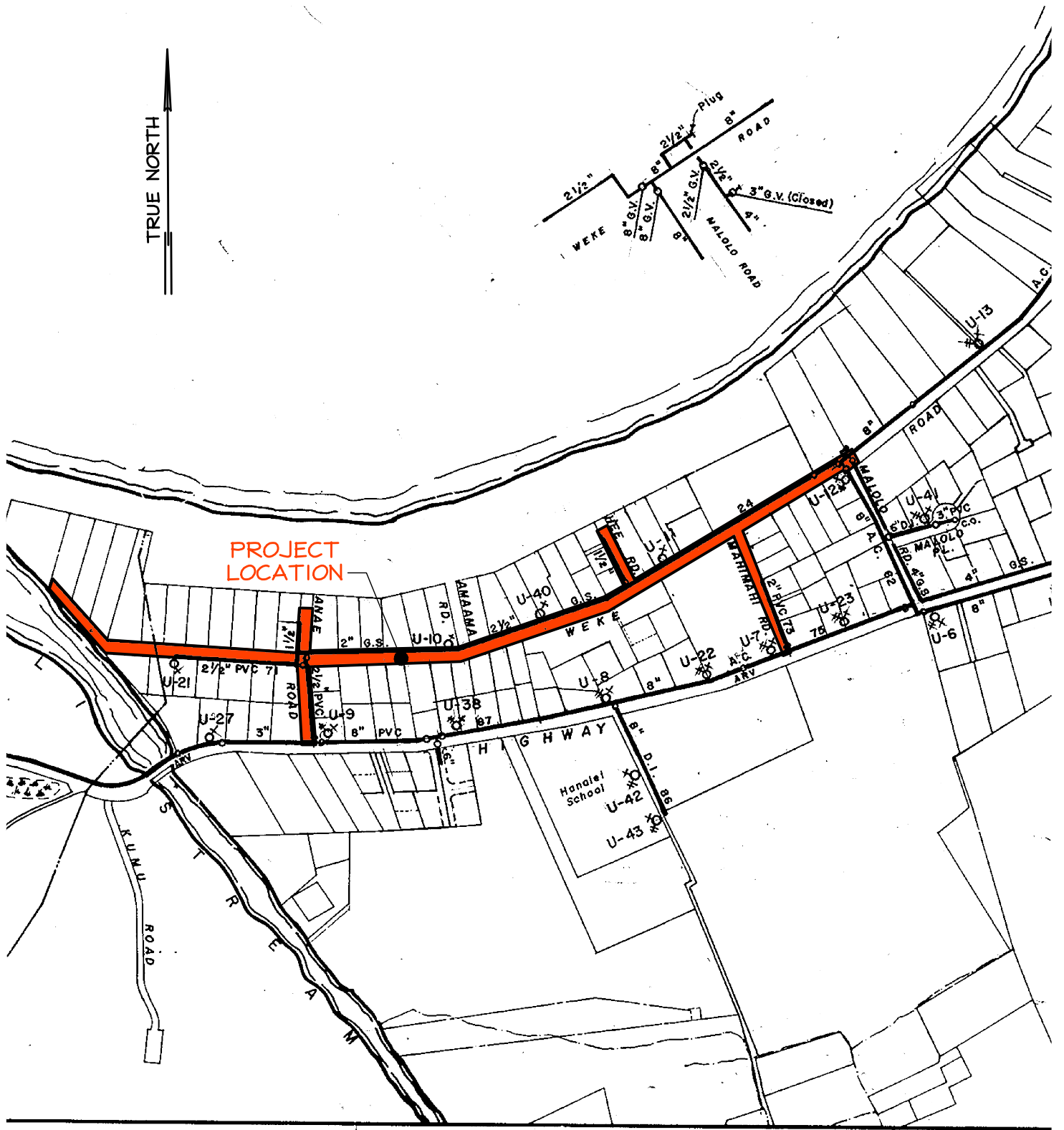
**FIGURE 4
LOCATION MAP**
PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHU,
AND HE'E ROADS
JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kauai, Hawaii

As shown in Figure 5 there are existing water lines along Weke, `Anae, Mahimahi, and He`e Roads. As part of this waterline replacement project, all existing water lines will be removed and new waterlines will be installed.

Weke, `Anae, Mahimahi, and He`e Roads are all paved public roadways. There are no existing provisions for fire protection along `Anae, Mahimahi, and He`e Roads.

The proposed project calls for the installation of 1,748 linear feet of 8" ductile iron waterline along Weke Road from the intersection with Malolo Road to the intersection with `Anae Road, 526 linear feet of 6" ductile iron waterline along Weke Road from the intersection with `Anae Road to the end of the line near Waioli Stream, 298 linear feet of 8" ductile iron waterline along `Anae Road from the intersection with Kūhi`ō Highway to the intersection with Weke Road, 116 linear feet of 2 1/2" PVC waterline along `Anae Road from the intersection with Weke Road to the end of the line near Waioli Beach Park, 184 linear feet of 2 1/2" PVC waterline along He`e Road from the intersection with Weke Road to the end of the line near Waioli Beach Park, and 465 linear feet of 12" ductile iron waterline along Mahimahi Road from the intersection with Kuhio Highway to the intersection with Weke Road. In conjunction with the proposed waterlines, the existing stand pipes along Weke Road will be removed and replaced with fire hydrants, additional fire hydrants will also be placed along Weke Road.

The total budget for the development is \$1.3 M. Funding will be by the Department of Water. Construction is projected to start in August of 2014 and should be completed in April of 2015.



ESAKI SURVEYING AND MAPPING, INC.

Engineers, Land Surveyors & Planners
 1610 Haleukana Street
 Līhu'e, Kaua'i, Hawai'i

**FIGURE 5
 Water Facility Map**

PIPELINE REPLACEMENT ALONG
 WEKE, 'ANAE, MAHIMAHU,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kaua'i, Hawai'i

SECTION II

DESCRIPTION OF THE AFFECTED ENVIRONMENT

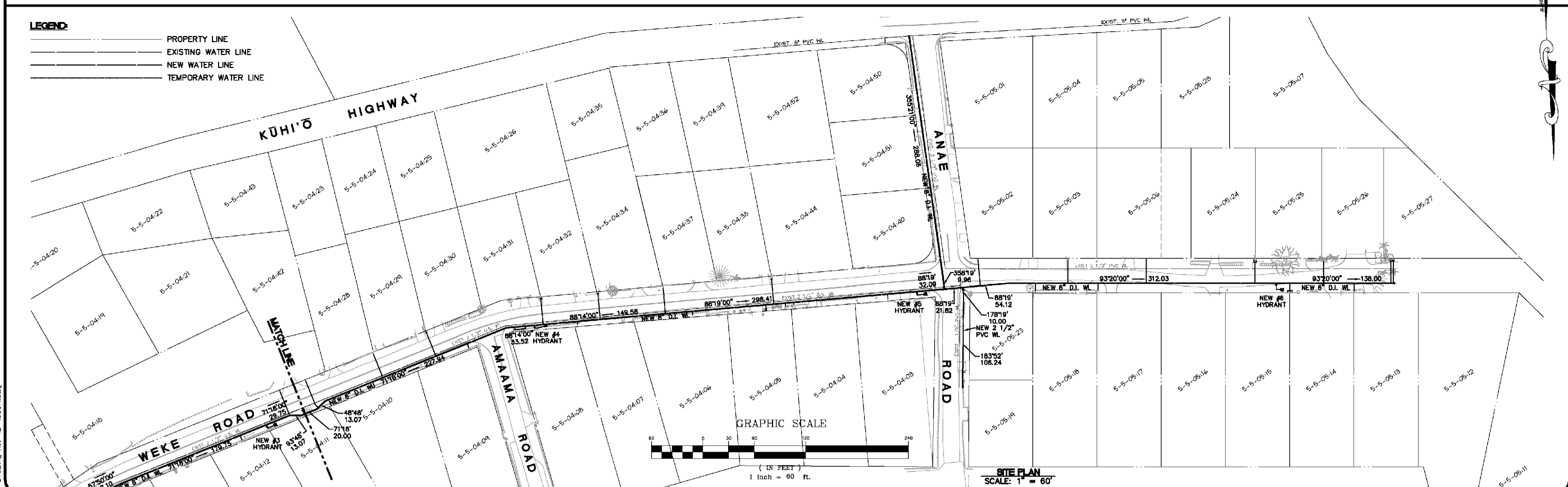
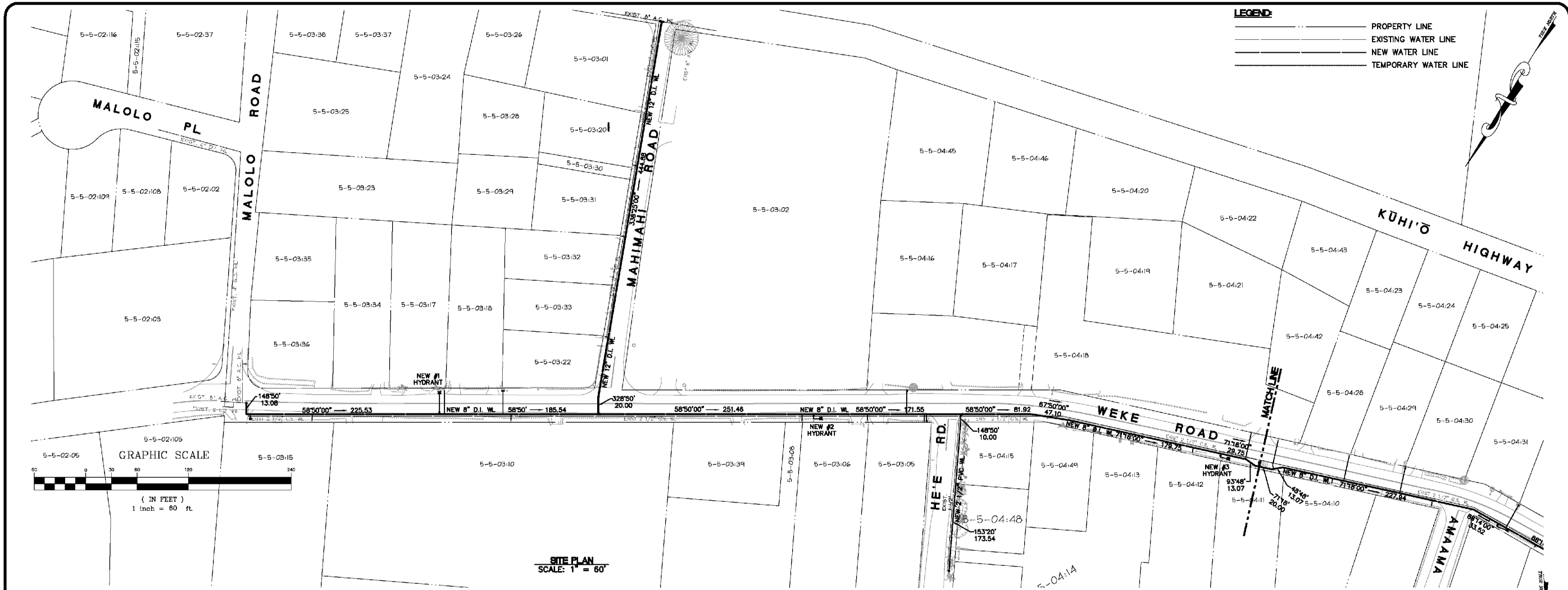
AND POTENTIAL ENVIRONMENT IMPACTS

A. USES

Existing Conditions: Weke Road is a paved, two-lane County roadway that forms intersections with Pilikoa Street, Aku Road, Malolo Road, Mahimahi Road, He`e Road, Amaama Road, and `Anae Road. `Anae Road is a paved, two-lane, County roadway that forms a T-intersection with Kūhi`ō Highway and a 4-way intersection with Weke Road and ends at Waioli Beach Park. He`e Road is a paved, two-lane, dead end County roadway that forms a T-intersection with Weke Road. Mahimahi Road is a paved, two-lane, County roadway that forms a T-intersection with Kūhi`ō Highway and with Weke Road. Within the project area, there are 50 parcels and 49 existing water meters along Weke Road, 8 parcels and 4 existing water meters along `Anae Road, 5 parcels and 3 existing water meters along He`e Road, 8 parcels and 3 existing water meters along Mahimahi Road. The connections to the water meters are through Department of Water mains, see Figures 6 to 14 for existing water line and water meter locations.

Proposed Actions: See Section I, Description of the proposed project.

Potential Impacts and Mitigative Measures: Replacement of waterline requires excavating along the roadways causing temporary traffic impacts during construction. See Figures 15 and 16 for Traffic Control Plan.



LEGEND:
 - - - - - PROPERTY LINE
 - - - - - EXISTING WATER LINE
 - - - - - NEW WATER LINE
 - - - - - TEMPORARY WATER LINE

SAKI SURVEYING AND MAPPING, INC.
 1810 Halekuna Street
 Lihue, Kauai, Hawaii 96766
 Ph. (808) 246-0625 Fax (808) 246-0229

• CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED
REVISIONS				



EXPIRES: APRIL 30, 2014
 THIS WORK WAS PREPARED
 BY ME OR UNDER MY SUPERVISION

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAHI AND HE'E ROADS
 Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
 Hanalei, Kauai, Hawaii

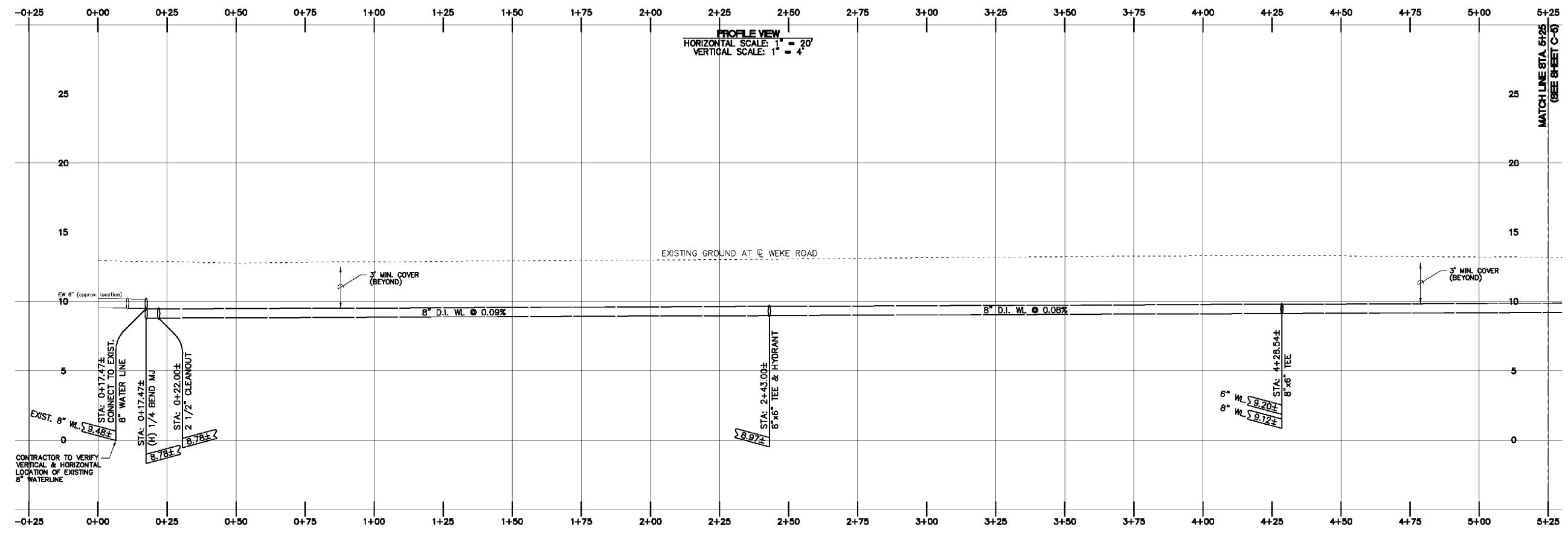
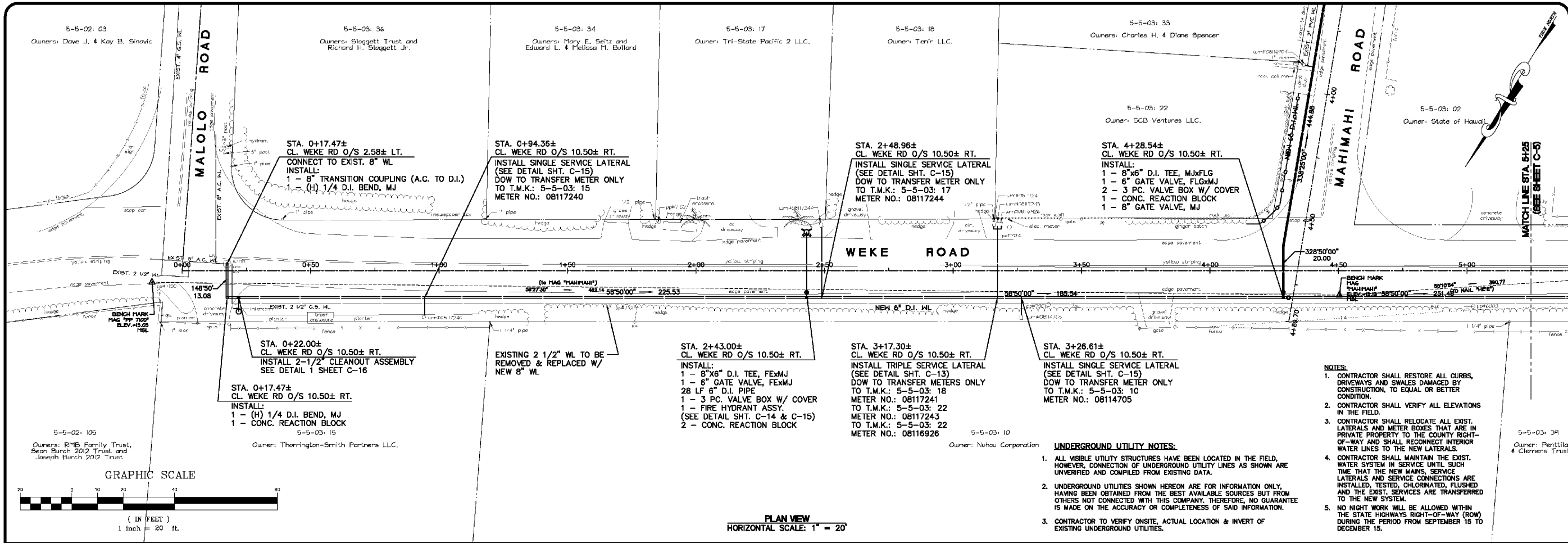
CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

SITE PLAN

APPROVED
 COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: WW SHEET
 DRAWN BY: MA, CG C-4
 DATE: 10/18/13 4 OF 19 SHEETS



SAKI SURVEYING AND MAPPING, INC.
1810 Halekua Street
Lihue, Kauai, Hawaii 96766
Ph. (808) 246-0625 Fax (808) 246-0229

• CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED
REVISIONS				

WAYNE T. WADA
LICENSED PROFESSIONAL ENGINEER
No. 5281-C
HAWAII, U.S.A.

EXPIRES: APRIL 30, 2014
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PROJECT: CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAH-I AND HE'E ROADS
Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
Hanalei, Kauai, Hawaii

CLIENT: DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE WEKE ROAD STA. 0+00 TO 5+25

APPROVED:

COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE _____

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE _____

DESIGNED BY: WW SHEET: C-5
DRAWN BY: MA, CG
DATE: 10/18/13 5 OF 19 SHEETS

UNDERGROUND UTILITY NOTES:

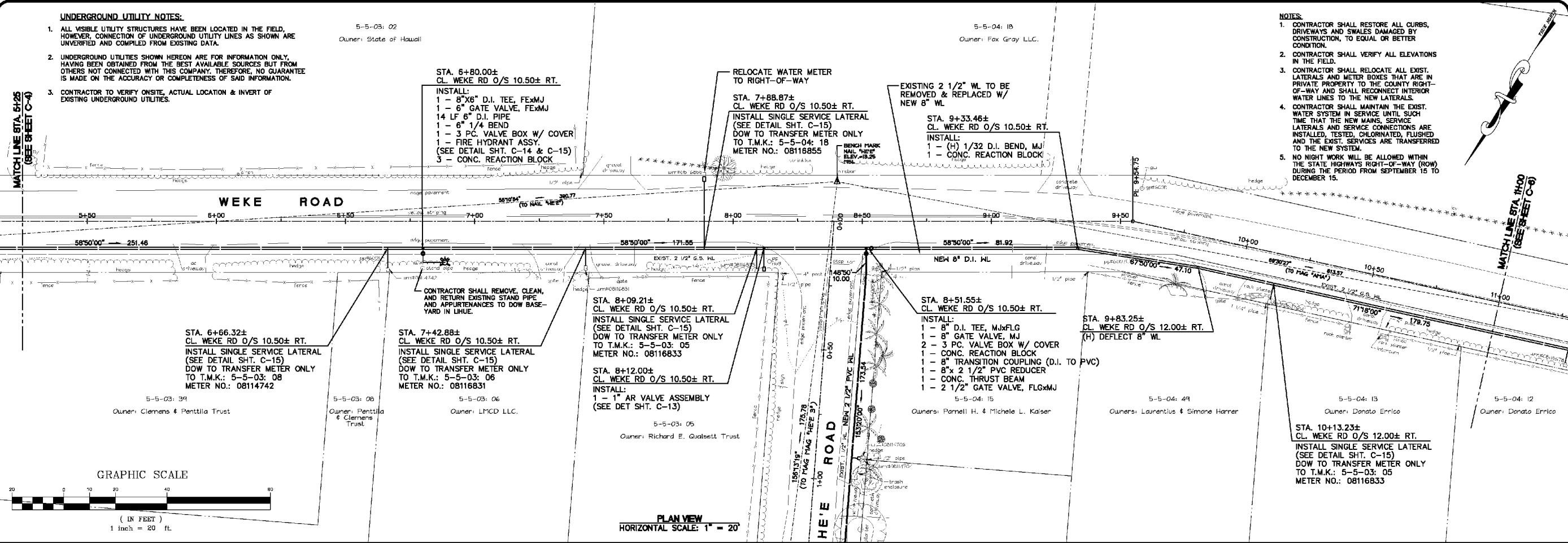
- ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD. HOWEVER, CONNECTION OF UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA.
- UNDERGROUND UTILITIES SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES BUT FROM OTHERS NOT CONNECTED WITH THIS COMPANY. THEREFORE, NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.
- CONTRACTOR TO VERIFY ONSITE, ACTUAL LOCATION & INVERT OF EXISTING UNDERGROUND UTILITIES.

5-5-03: 02
Owner: State of Hawaii

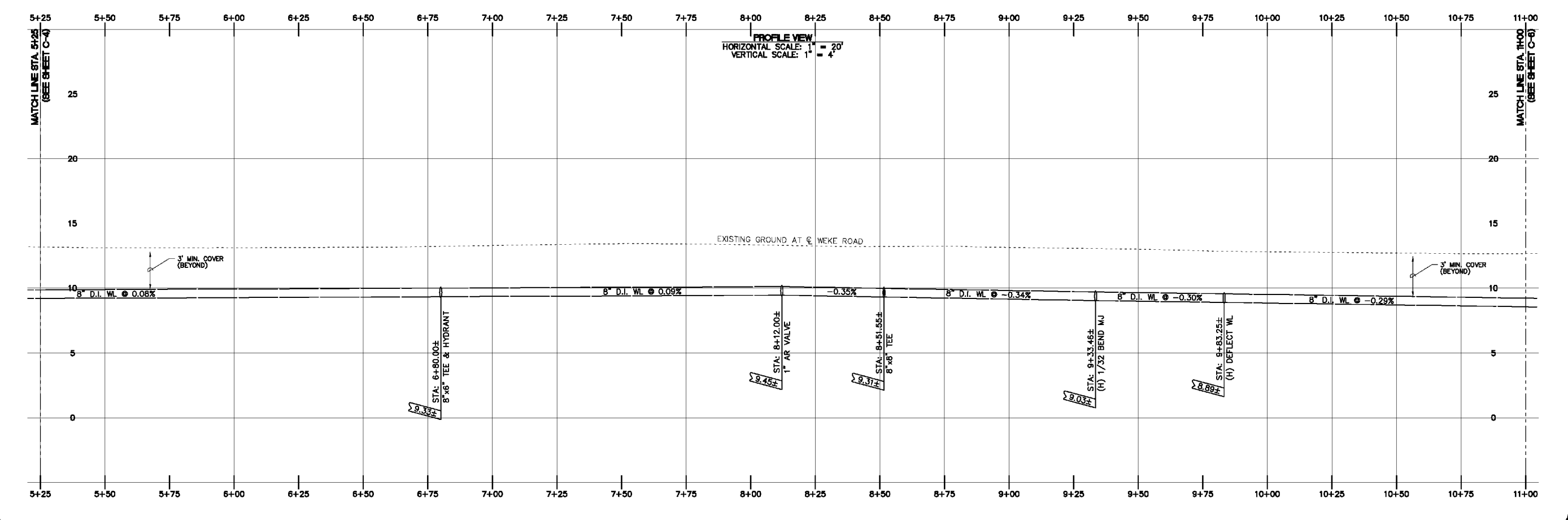
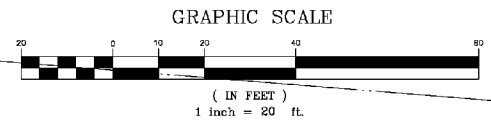
5-5-04: 18
Owner: Fox Gray LLC.

NOTES:

- CONTRACTOR SHALL RESTORE ALL CURBS, DRIVEWAYS AND SWALES DAMAGED BY CONSTRUCTION TO EQUAL OR BETTER CONDITION.
- CONTRACTOR SHALL VERIFY ALL ELEVATIONS IN THE FIELD.
- CONTRACTOR SHALL RELOCATE ALL EXIST. LATERALS AND METER BOXES THAT ARE IN PRIVATE PROPERTY TO THE COUNTY RIGHT-OF-WAY AND SHALL RECONNECT INTERIOR WATER LINES TO THE NEW LATERALS.
- CONTRACTOR SHALL MAINTAIN THE EXIST. WATER SYSTEM IN SERVICE UNTIL SUCH TIME THAT THE NEW MAINS, SERVICE LATERALS AND SERVICE CONNECTIONS ARE INSTALLED, TESTED, CHLORINATED, FLUSHED AND THE EXIST. SERVICES ARE TRANSFERRED TO THE NEW SYSTEM.
- NO NIGHT WORK WILL BE ALLOWED WITHIN THE STATE HIGHWAYS RIGHT-OF-WAY (ROW) DURING THE PERIOD FROM SEPTEMBER 15 TO DECEMBER 15.



PLAN VIEW
HORIZONTAL SCALE: 1" = 20'



PROFILE VIEW
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

SAKI SURVEYING AND MAPPING, INC.

1810 Halekuna Street
Lihue, Kauai, Hawaii 96768
Ph. (808) 246-0625 Fax (808) 246-0229

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REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2014
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE
REPLACEMENT ALONG WEKE, ANAE,
MAHIMAHU AND HE'E ROADS
Tax Map Key: (4) 5-5-03,
(4) 5-5-04, and (4) 5-5-05
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER
COUNTY OF KAUAI

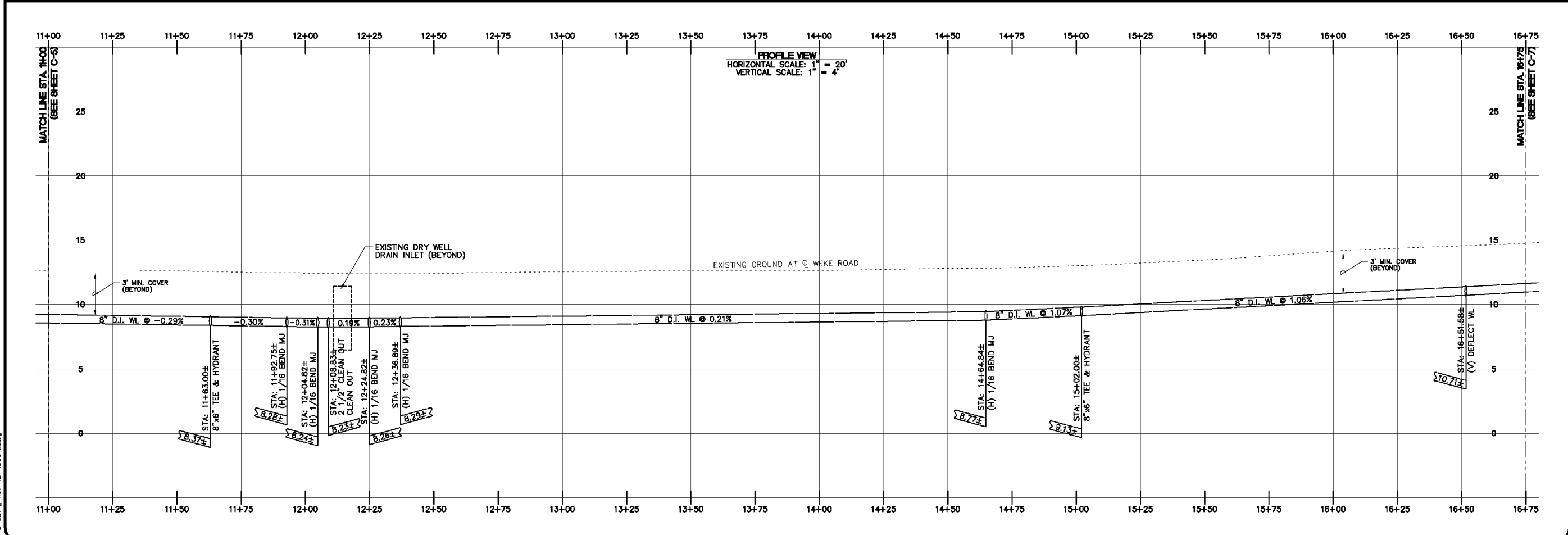
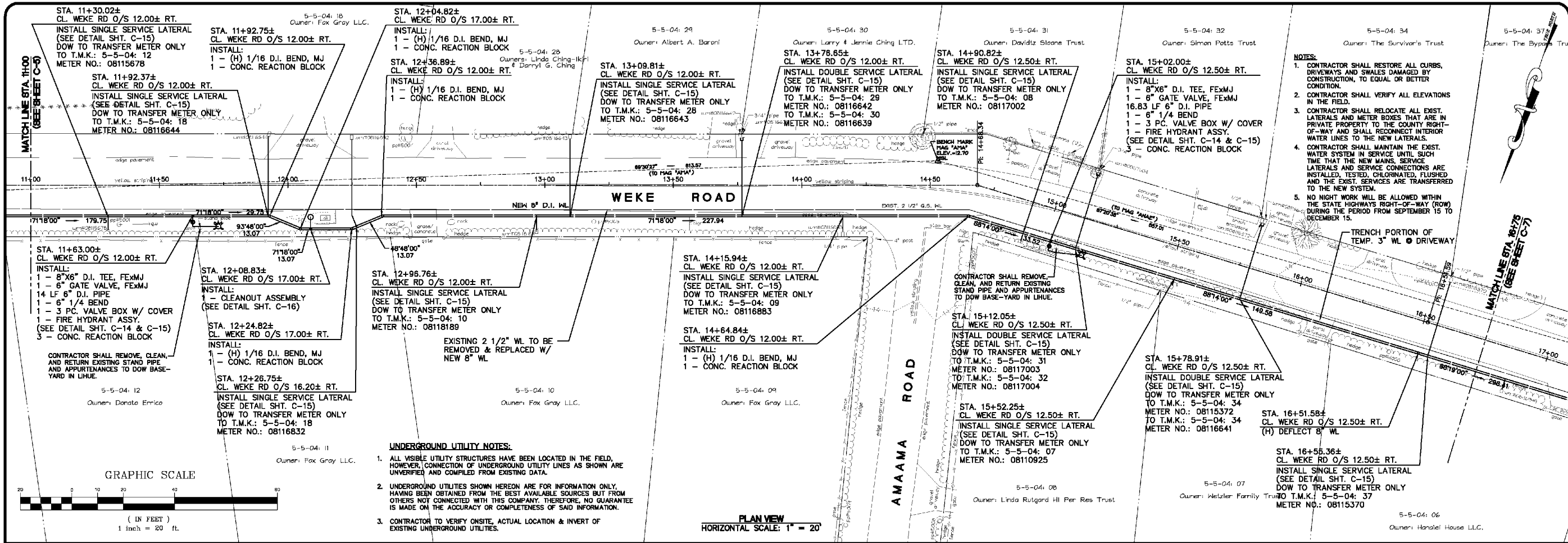
**PLAN AND PROFILE
WEKE ROAD
STA. 5+25 TO 11+00**

APPROVED

COUNTY ENGINEER, DEPT. OF PUBLIC WORKS,
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER,
COUNTY OF KAUAI DATE

DESIGNED BY: WW	SHEET
DRAWN BY: MA, CG	C-6
DATE: 10/18/13	6 OF 19 SHEETS



SAKI SURVEYING AND MAPPING, INC.

1810 Halekuna Street
 Lihue, Kauai, Hawaii 96766
 Ph. (808) 246-0625 Fax (808) 246-0229

CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED
REVISIONS				



EXPIRES: APRIL 30, 2014
 THIS WORK WAS PREPARED
 BY ME OR UNDER MY SUPERVISION

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHU AND HE'E ROADS
 Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
 Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

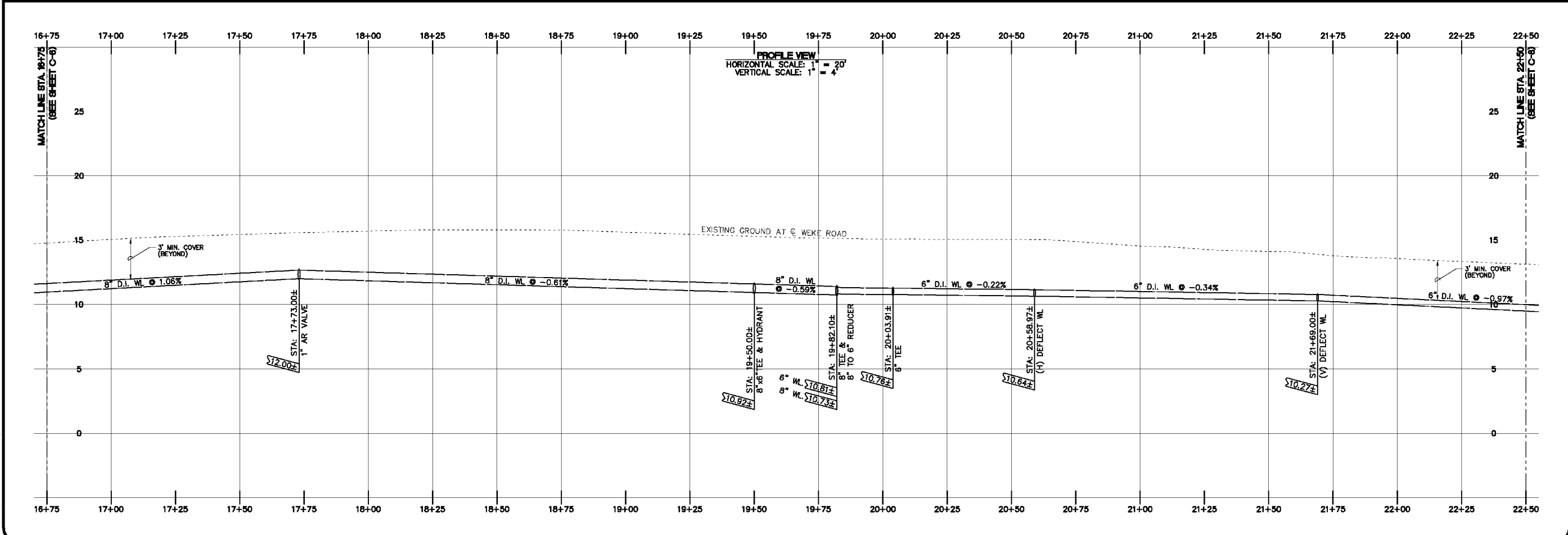
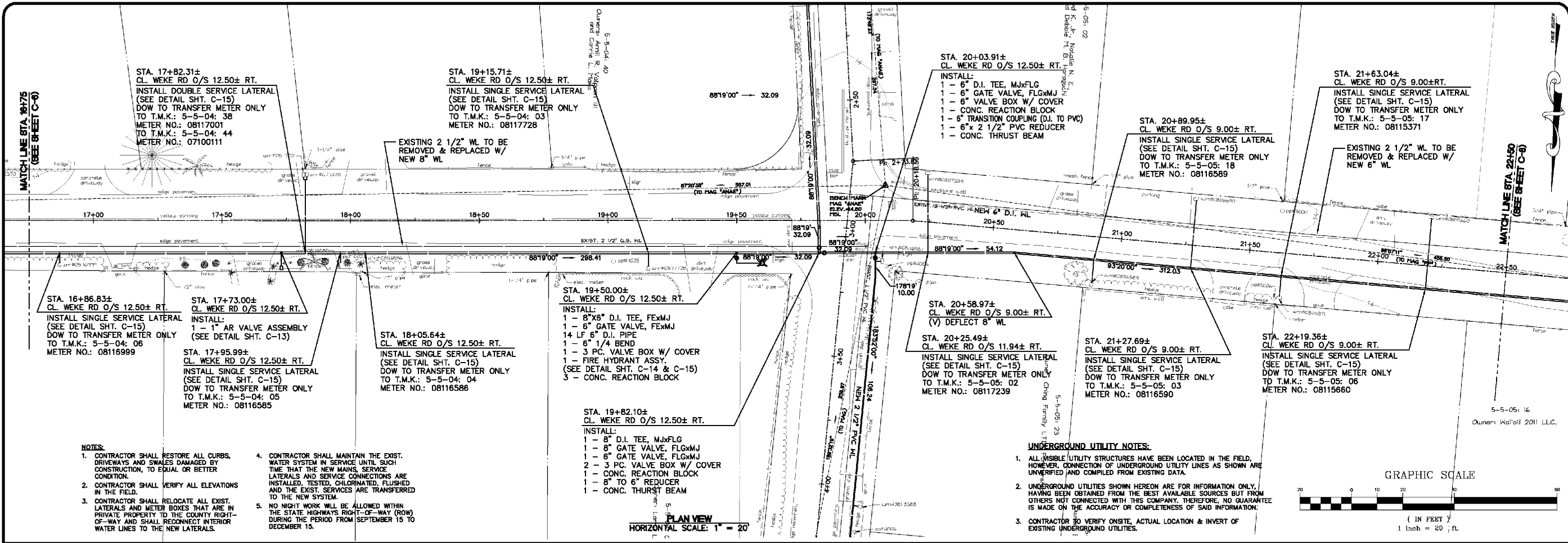
PLAN AND PROFILE WEKE ROAD STA. 11+00 TO 16+75

APPROVED

COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

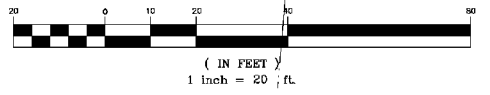
DESIGNED BY: WW	SHEET
DRAWN BY: MA, CG	C-7
DATE: 10/18/13	7 OF 19 SHEETS



REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS

GRAPHIC SCALE



EXPIRES: APRIL 30, 2014
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PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHU AND HE'E ROADS
Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE WEKE ROAD STA. 16+75 TO 22+50

APPROVED

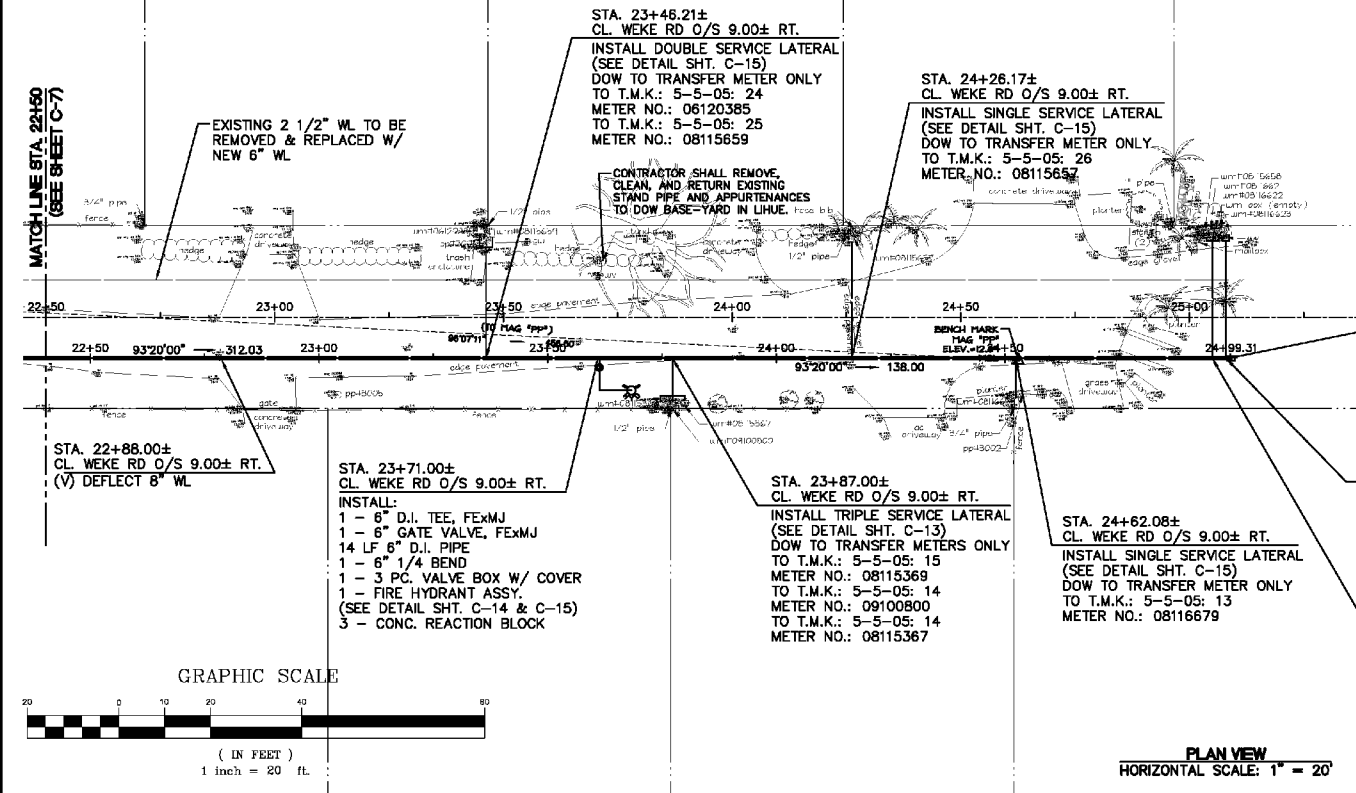
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: WW SHEET
DRAWN BY: MA, CG C-8
DATE: 10/18/13 B OF 19 SHEETS

5-5-06: 06
 Owners: Ronald H. Silva Sr. Trust and Jean P. Silva Trust

MATCH LINE STA. 22+50
 (SEE SHEET C-7)



PLAN VIEW
 HORIZONTAL SCALE: 1" = 20'

STA. 25+09.00±
 CL. WEKE RD O/S 9.00± RT.
 INSTALL:
 1 - 6" NIPPLE CAP & PLUG
 1 - 2-1/2" COPPER MALE ADAPTER
 1 - CONCRETE REACTION BLOCK
 1 - 2-1/2" CLEANOUT
 1 - TYPE X BOX AND COVER
 (SEE DETAIL SHT. C-16)

STA. 25+08.02±
 CL. WEKE RD O/S 9.00± RT.
 INSTALL DOUBLE SERVICE LATERAL
 (SEE DETAIL SHT. C-15)
 DOW TO TRANSFER METER ONLY
 TO T.M.K.: 5-5-05: 27
 METER NO.: N/A
 TO T.M.K.: 5-5-05: 27
 METER NO.: 08116623

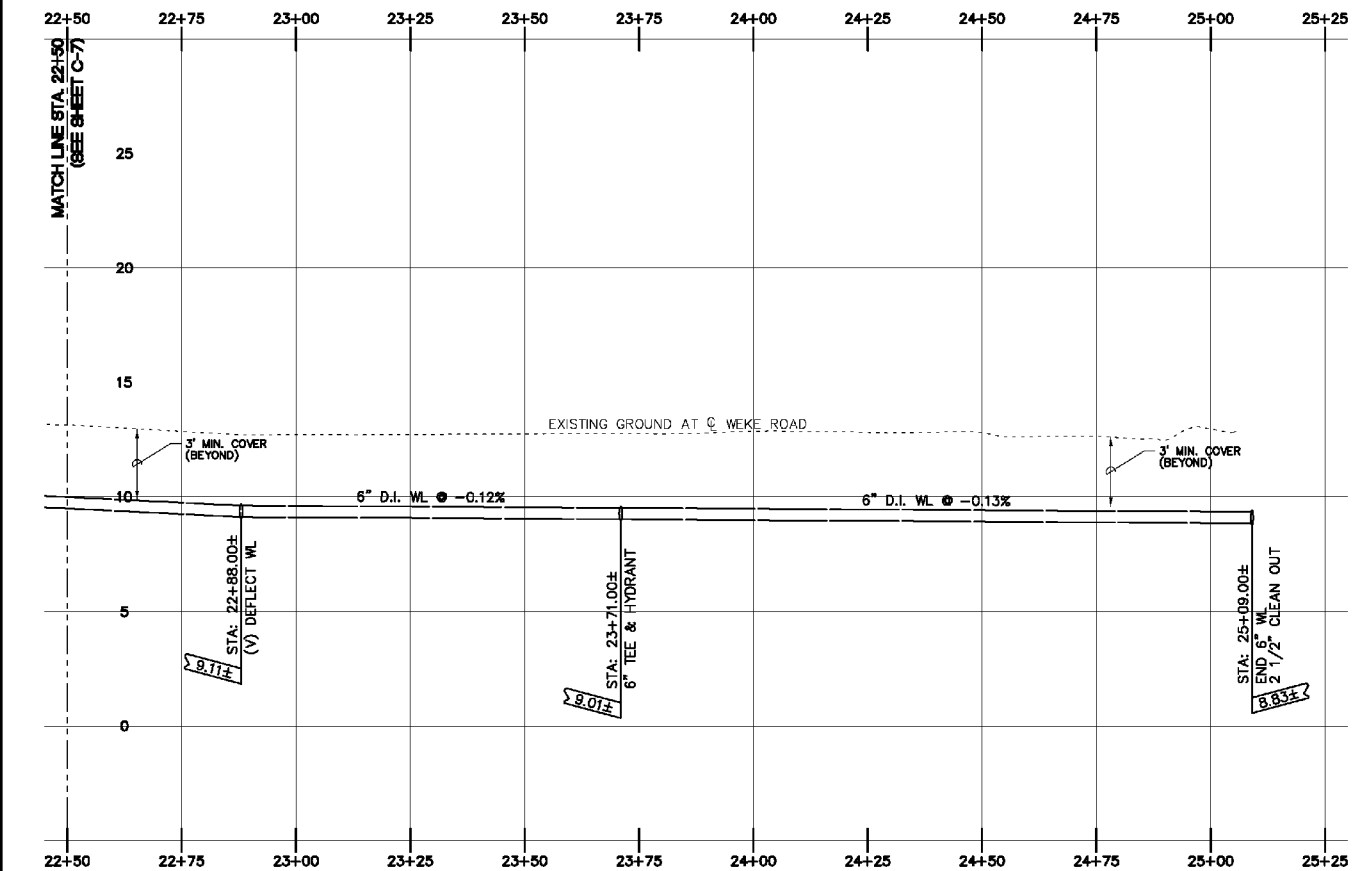
STA. 25+05.02±
 CL. WEKE RD O/S 9.00± RT.
 INSTALL TRIPLE SERVICE LATERAL
 (SEE DETAIL SHT. C-13)
 DOW TO TRANSFER METER ONLY
 TO T.M.K.: 5-5-05: 27
 METER NO.: 08116658
 TO T.M.K.: 5-5-05: 27
 METER NO.: 08116621
 TO T.M.K.: 5-5-05: 27
 METER NO.: 08116622

UNDERGROUND UTILITY NOTES:

- ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD, HOWEVER, CONNECTION OF UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA.
- UNDERGROUND UTILITIES SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES BUT FROM OTHERS NOT CONNECTED WITH THIS COMPANY, THEREFORE, NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.
- CONTRACTOR TO VERIFY ONSITE, ACTUAL LOCATION & INVERT OF EXISTING UNDERGROUND UTILITIES.

NOTES:

- CONTRACTOR SHALL RESTORE ALL CURBS, DRIVEWAYS AND SWALES DAMAGED BY CONSTRUCTION, TO EQUAL OR BETTER CONDITION.
- CONTRACTOR SHALL VERIFY ALL ELEVATIONS IN THE FIELD.
- CONTRACTOR SHALL RELOCATE ALL EXIST. LATERALS AND METER BOXES THAT ARE IN PRIVATE PROPERTY TO THE COUNTY RIGHT-OF-WAY AND SHALL RECONNECT INTERIOR WATER LINES TO THE NEW LATERALS.
- CONTRACTOR SHALL MAINTAIN THE EXIST. WATER SYSTEM IN SERVICE UNTIL SUCH TIME THAT THE NEW MAINS, SERVICE LATERALS AND SERVICE CONNECTIONS ARE INSTALLED, TESTED, CHLORINATED, FLUSHED AND THE EXIST. SERVICES ARE TRANSFERRED TO THE NEW SYSTEM.
- NO NIGHT WORK WILL BE ALLOWED WITHIN THE STATE HIGHWAYS RIGHT-OF-WAY (ROW) DURING THE PERIOD FROM SEPTEMBER 15 TO DECEMBER 15.



PROFILE VIEW
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 4'

SAKI
SURVEYING AND
MAPPING, INC.

1810 Halekuna Street
 Lihue, Kauai, Hawaii 96766
 Ph. (808) 246-0625 Fax (808) 246-0229

CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2014
 THIS WORK WAS PREPARED
 BY ME OR UNDER MY SUPERVISION

PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
 REPLACEMENT ALONG WEKE, ANAE,
 MAHIMAHU AND HE'E ROADS**
 Tax Map Key: (4) 5-5-03,
 (4) 5-5-04, and (4) 5-5-05
 Hanalei, Kauai, Hawaii

CLIENT:
**DEPARTMENT OF WATER
 COUNTY OF KAUAI**

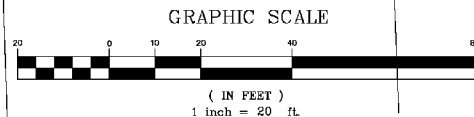
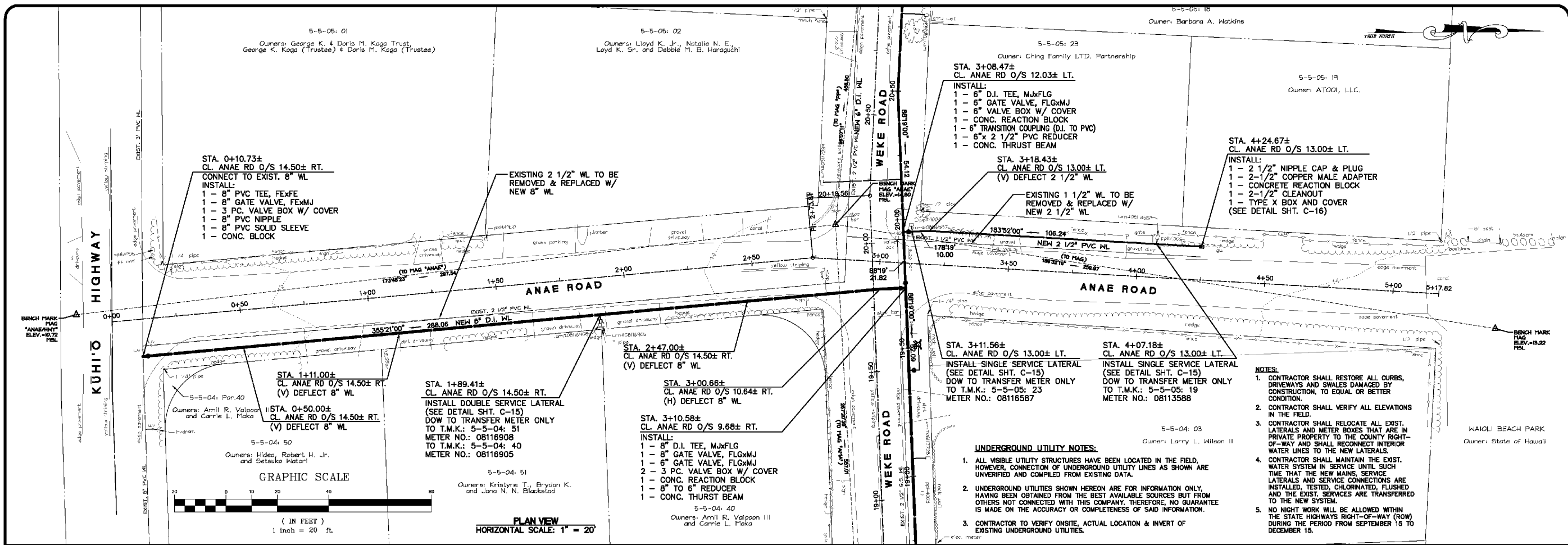
**PLAN AND PROFILE
 WEKE ROAD
 STA. 22+50 TO 25+00**

APPROVED

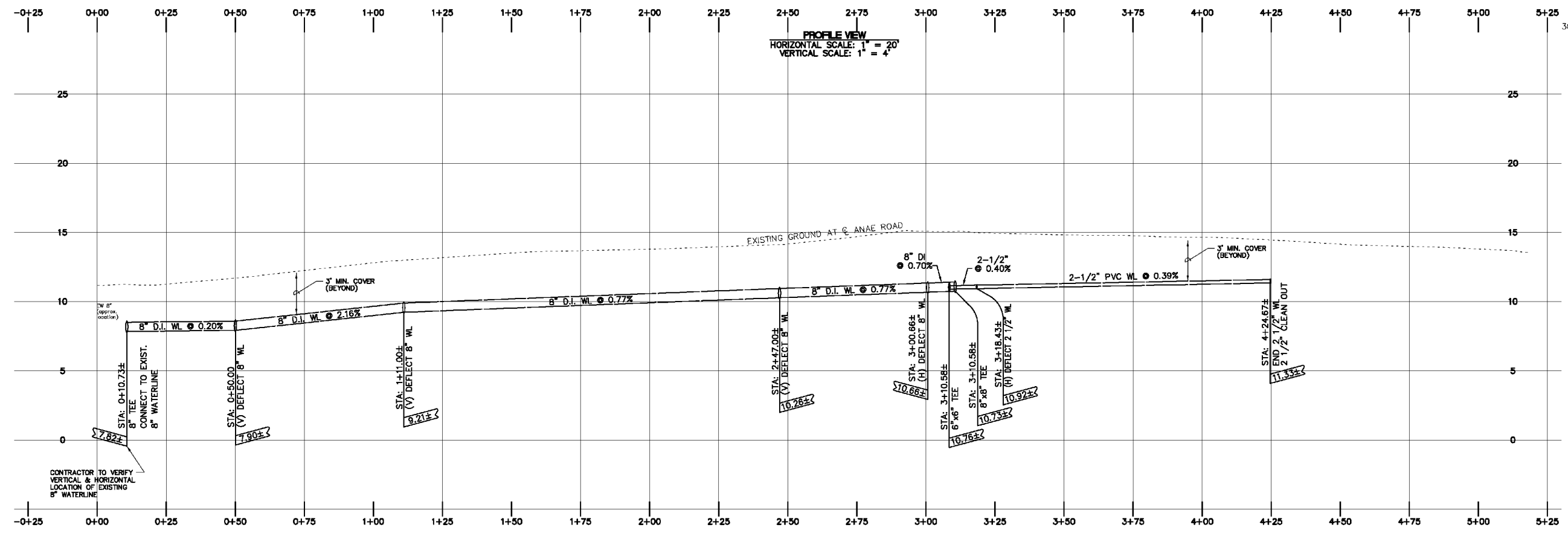
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: WW SHEET
 DRAWN BY: MA
 DATE: 10/18/13 9 OF 18 SHEETS



PLAN VIEW
HORIZONTAL SCALE: 1" = 20'



PROFILE VIEW
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

SAKI SURVEYING AND MAPPING, INC.

1810 Halekuna Street
Lihue, Kauai, Hawaii 96765
Ph. (808) 246-0625 Fax (808) 246-0229

CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2014
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANAE, MAHIMAHU AND HE'E ROADS
Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE ANAE ROAD

APPROVED

COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: WW SHEET
DRAWN BY: MA, CG **C-10**
DATE: 10/18/13 10 OF 19 SHEETS

CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2014
 THIS WORK WAS PREPARED
 BY ME OR UNDER MY SUPERVISION

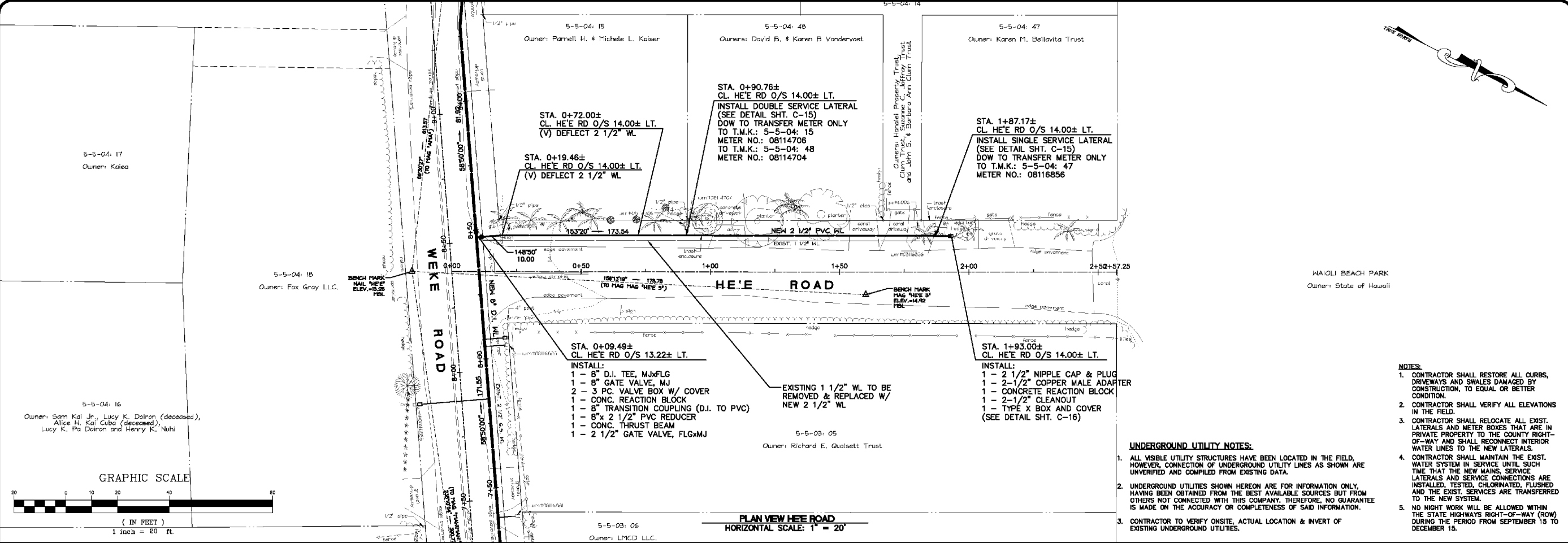
PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
 REPLACEMENT ALONG WEKE, ANAE,
 MAHIMAH AND HE'E ROADS**
 Tax Map Key: (4) 5-5-03,
 (4) 5-5-04, and (4) 5-5-05
 Hanalei, Kauai, Hawaii

CLIENT:
**DEPARTMENT OF WATER
 COUNTY OF KAUAI**

**PLAN AND PROFILE
 HE'E ROAD**

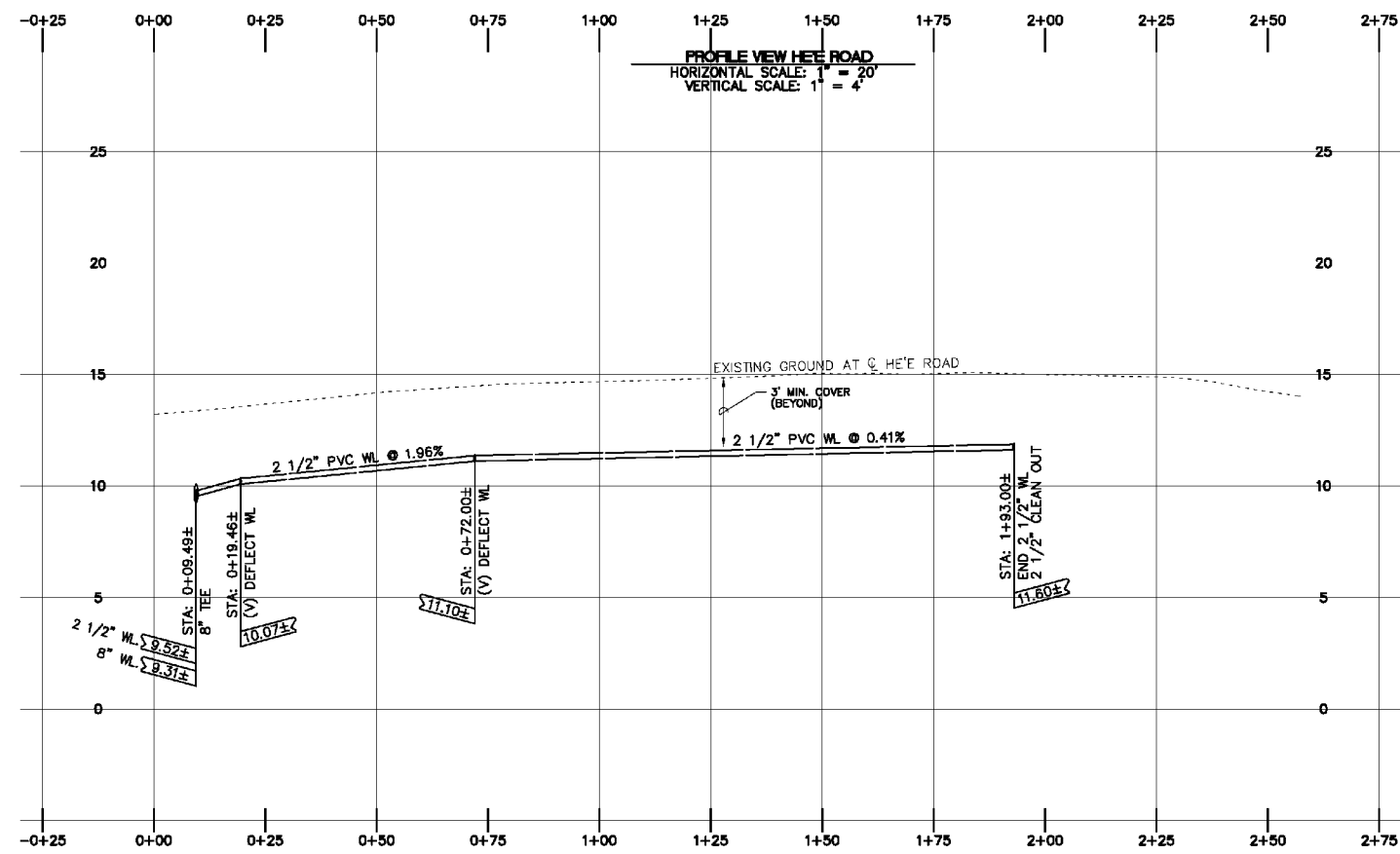
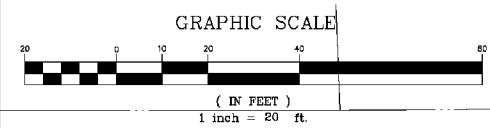
APPROVED _____
 COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE _____
 MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE _____

DESIGNED BY: WW SHEET
 DRAWN BY: MA, CG **C-11**
 DATE: 10/18/13 11 OF 19 SHEETS



- NOTES:**
- CONTRACTOR SHALL RESTORE ALL CURBS, DRIVEWAYS AND SWALES DAMAGED BY CONSTRUCTION, TO EQUAL OR BETTER CONDITION.
 - CONTRACTOR SHALL VERIFY ALL ELEVATIONS IN THE FIELD.
 - CONTRACTOR SHALL RELOCATE ALL EXIST. LATERALS AND METER BOXES THAT ARE IN PRIVATE PROPERTY TO THE COUNTY RIGHT-OF-WAY AND SHALL RECONNECT INTERIOR WATER LINES TO THE NEW LATERALS.
 - CONTRACTOR SHALL MAINTAIN THE EXIST. WATER SYSTEM IN SERVICE UNTIL SUCH TIME THAT THE NEW MAINS, SERVICE LATERALS AND SERVICE CONNECTIONS ARE INSTALLED, TESTED, CHLORINATED, FLUSHED AND THE EXIST. SERVICES ARE TRANSFERRED TO THE NEW SYSTEM.
 - NO NIGHT WORK WILL BE ALLOWED WITHIN THE STATE HIGHWAYS RIGHT-OF-WAY (ROW) DURING THE PERIOD FROM SEPTEMBER 15 TO DECEMBER 15.

- UNDERGROUND UTILITY NOTES:**
- ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD, HOWEVER, CONNECTION OF UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA.
 - UNDERGROUND UTILITIES SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES BUT FROM OTHERS NOT OBTAINED WITH THIS COMPANY, THEREFORE, NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.
 - CONTRACTOR TO VERIFY ONSITE, ACTUAL LOCATION & INVERT OF EXISTING UNDERGROUND UTILITIES.



Project No. 12-01
 Drawing No. 12-01-4B (CON) (PLAN)

UNDERGROUND UTILITY NOTES:

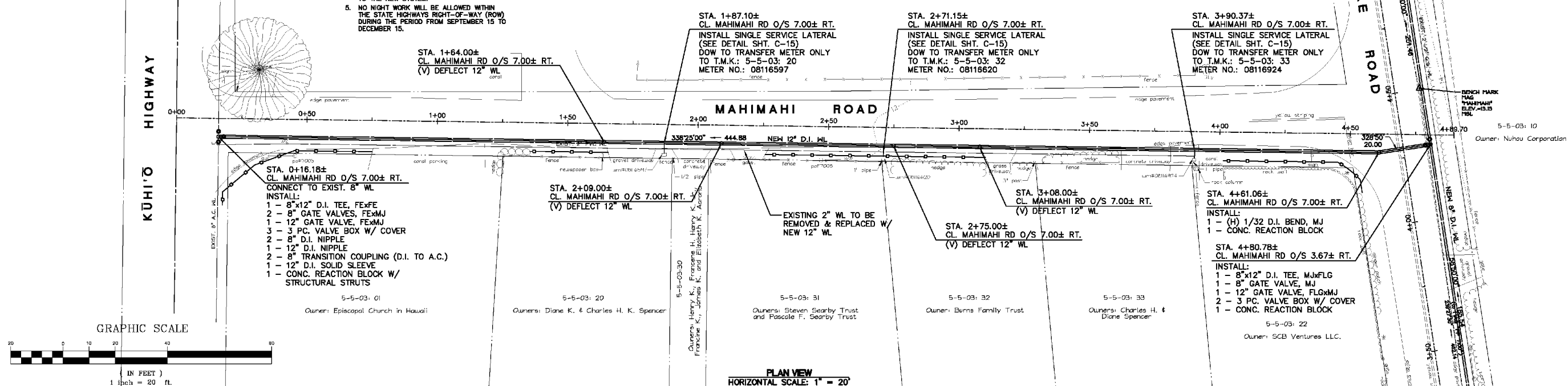
1. ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD. HOWEVER, CONNECTION OF UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA.
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3. CONTRACTOR TO VERIFY ONSITE, ACTUAL LOCATION & INVERT OF EXISTING UNDERGROUND UTILITIES.

NOTES:

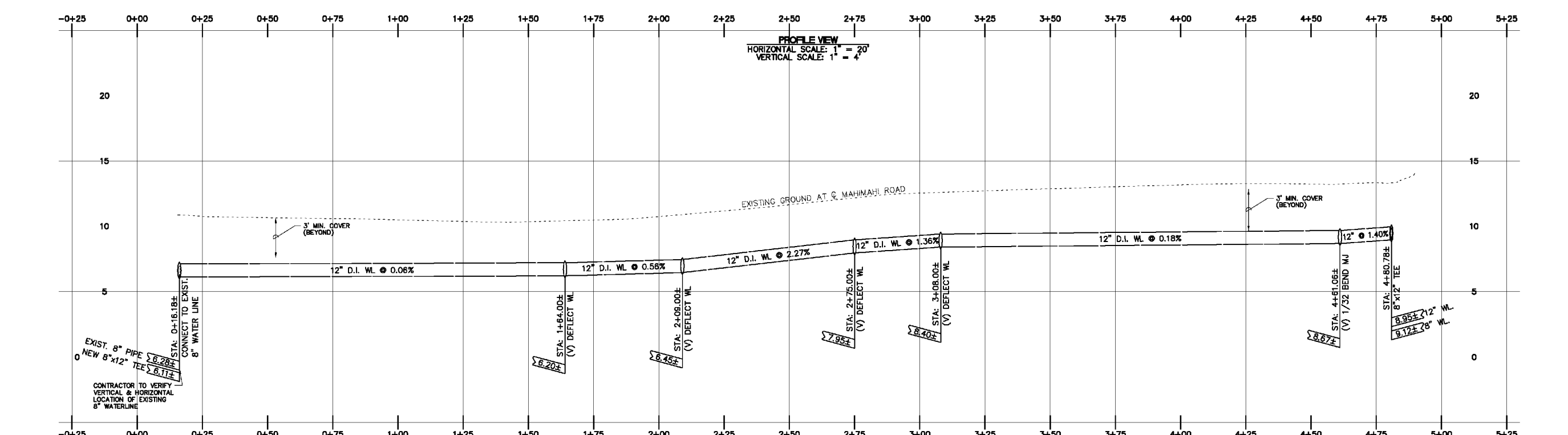
1. CONTRACTOR SHALL RESTORE ALL CURBS, DRIVEWAYS AND SWALES DAMAGED BY CONSTRUCTION, TO EQUAL OR BETTER CONDITION.
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4. CONTRACTOR SHALL MAINTAIN THE EXIST. WATER SYSTEM IN SERVICE UNTIL SUCH TIME THAT THE NEW MAINS, SERVICE LATERALS AND SERVICE CONNECTIONS ARE INSTALLED, TESTED, CHLORINATED, FLUSHED AND THE EXIST. SERVICES ARE TRANSFERRED TO THE NEW SYSTEM.
5. NO NIGHT WORK WILL BE ALLOWED WITHIN THE STATE HIGHWAYS RIGHT-OF-WAY (ROW) DURING THE PERIOD FROM SEPTEMBER 15 TO DECEMBER 15.

5-5-03: 02
Owner: State of Hawaii

5-5-03: 39
Owner: Clemens & Penttila Trust



PLAN VIEW
HORIZONTAL SCALE: 1" = 20'



PROFILE VIEW
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

SAKI SURVEYING AND MAPPING, INC.
1610 Haleukana Street
Lihue, Kauai, Hawaii 96786
Ph. (808) 246-0625 Fax (808) 246-0229

CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS

WAYNE T. WADA
LICENSED PROFESSIONAL ENGINEER
No. 5281-C
HAWAII, USA

EXPIRES: APRIL 30, 2014
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANAE, MAHIMAH AND HE'E ROADS
Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05 Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER
COUNTY OF KAUAI

PLAN AND PROFILE MAHIMAH ROAD

APPROVED

COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: WW SHEET
DRAWN BY: MA, CG C-12
DATE: 10/18/13 12 OF 19 SHEETS

POSTED SPEED (M.P.H.)*	SIGN SPACING (FEET)	TAPER LENGTH (T) (FEET)		LONGITUDINAL BUFFER SPACE (B) FEET	SPACING OF CONES OR DELINEATORS (FEET)**		
		W = 12' OR LESS	W = GREATER THAN 12'		TAPER	TANGENT	WORK AREA
20	250	200	W x 17	35	20	20	10
25	250	200	W x 17	55	25	25	10
30	250	250	W x 20	85	30	30	10
35	250	250	W x 20	120	35	35	10
40	500	350	W x 30	170	40	40	10
45	500	550	W x 45	220	45	45	10
50	1000	600	W x 50	280	50	50	10
55	1000	700	W x 55	335	55	55	10

NOTES:
W = WIDTH OF LANE, SHOULDER, OR OFFSET
*USE ADVISORY SPEEDS WHEN POSTED
**NOT APPLICABLE FOR TWO-LANE HIGHWAYS

CONSTRUCTION NOTES FOR TRAFFIC CONTROL PLAN
(revised May 26, 2013)

- The permittee shall make adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
- Cones or delineators shall be extended to a point where they are visible to approaching traffic.
- Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first. The others shall then be placed progressively toward the work area.
- Regulatory and warning signs within the construction zone that are in conflict with the Traffic Control Plans shall be removed or covered. All signs shall be restored upon completion of the work.
- Flaggers and/or police officers shall be in sight of each other or in direct communication at all times.
- When required by the issuing office, the permittee shall install a flashing arrow signal as shown on the Traffic Control Plans.
- Sign spacing (D), taper lengths (T), and spacing of cones or delineators shall be as shown in Table 1, unless otherwise noted on the Traffic Control Plans.
- All traffic lanes shall be a minimum of 10 feet wide.
- All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
- The backs of all signs shall be promptly removed or covered to preclude the display of inapplicable sign messages (i.e., when signs have messages on both faces), whenever the messages are not applicable or not in use.
- At the end of each day's work or as soon as the work is completed, the permittee 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.
- Replace permanent pavement markings and traffic signs upon completion of each phase of work.
- Police Officers/Flaggers shall be present at all times.
- Contractor to provide access and/or directional signs to reroute pedestrian traffic.
- When required by the County of Kauai, an advertisement shall be placed in the newspaper by the Contractor for any lane closure. The advertisement shall be made one (1) week before any lane closure and shall contain the following information:
A) Map of the Traffic Change Limits;
B) Notice of starting and ending dates, times and duration;
C) Map to show Lane Closure;
D) Explanation of the Lane Closure, "NOTICE TO MOTORISTS & PEDESTRIANS".
The Contractor shall be required to have any lane closure announced daily over the radio two (2) days before starting date until the work is completed. Both advertisements in the newspaper and over the radio shall be paid for by the Contractor. The Contractor shall also notify the Hospitals, police, fire and ambulatory services of the lane closure.
- All workers within the County Right of Way who are exposed to either vehicles using the roadway or to construction equipment shall wear high visibility safety apparel that meets the performance class 2 or 3 requirements of ANSI/ISEA 107-2004. "Workers" are defined as people on foot whose duties place them within the County R/W, such as but not limited to construction and maintenance forces, equipment operators, survey crew, utility crews, responders to incidents (eg. EMT and firemen), and law enforcement personnel directing traffic, investigating accidents, handling lane closures and installing water service connections (roadway construction).
- The Contractor shall make every effort to minimize the use and duration of steel plates. All steel plates shall have a non-skid surfacing. The County may require the backfilling and patching of the trench due to the excessive use of steel plates.
- The Contractor shall provide an adequate non-slip bridging material, including shoring over trenches in pavement areas. The bridging shall be able to support all types of vehicular and pedestrian traffic.
- Where pedestrian walkways exist they shall be maintained in a safe and passable condition or other facilities for pedestrians shall be provided. Passages between walkways at intersections shall likewise be provided.

REVISION	DATE	DESCRIPTION	BY	APPROVED
REVISIONS				



EXPIRES: APRIL 30, 2014
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHU AND HE'E ROADS
Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

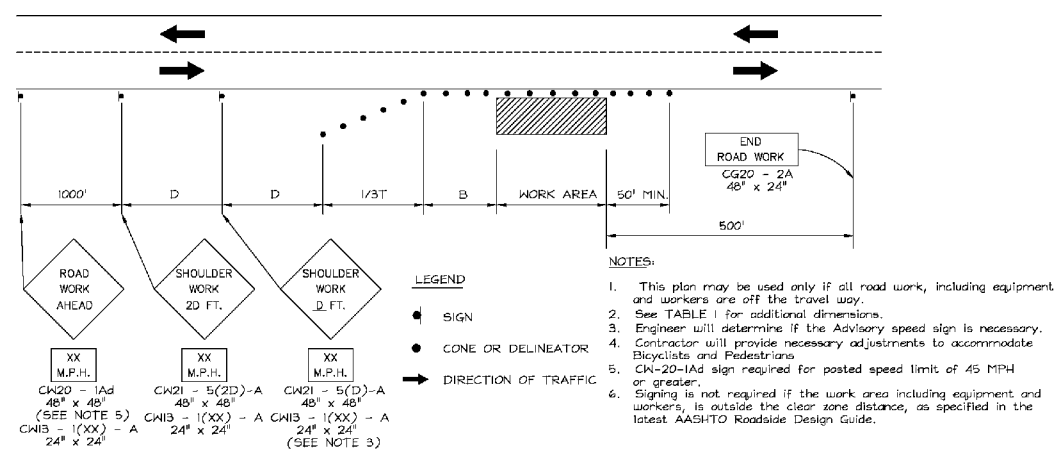
TRAFFIC CONTROL PLAN

APPROVED

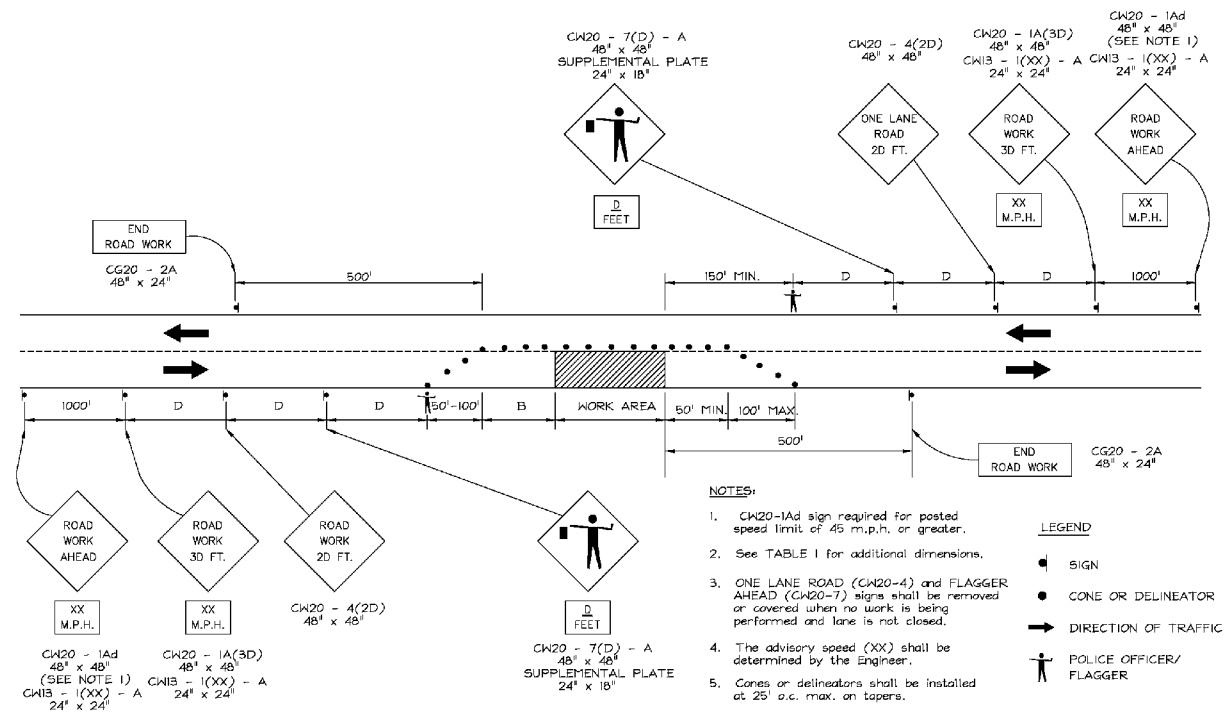
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: WW SHEET
DRAWN BY: MA, CG C-18
DATE: 10/18/13 18 OF 19 SHEETS



WORKING ON SHOULDER OR ROADSIDE
FIGURE 1 - TRAFFIC CONTROL PLAN



ONE-LANE, TWO-WAY TRAFFIC TAPER
FIGURE 2 - TRAFFIC CONTROL PLAN

Project No.: 12-43
Drawing No.: 12-43CON1.dwg

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2014
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHU AND HE'E ROADS
Tax Map Key: (4) 5-5-03, (4) 5-5-04, and (4) 5-5-05 Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

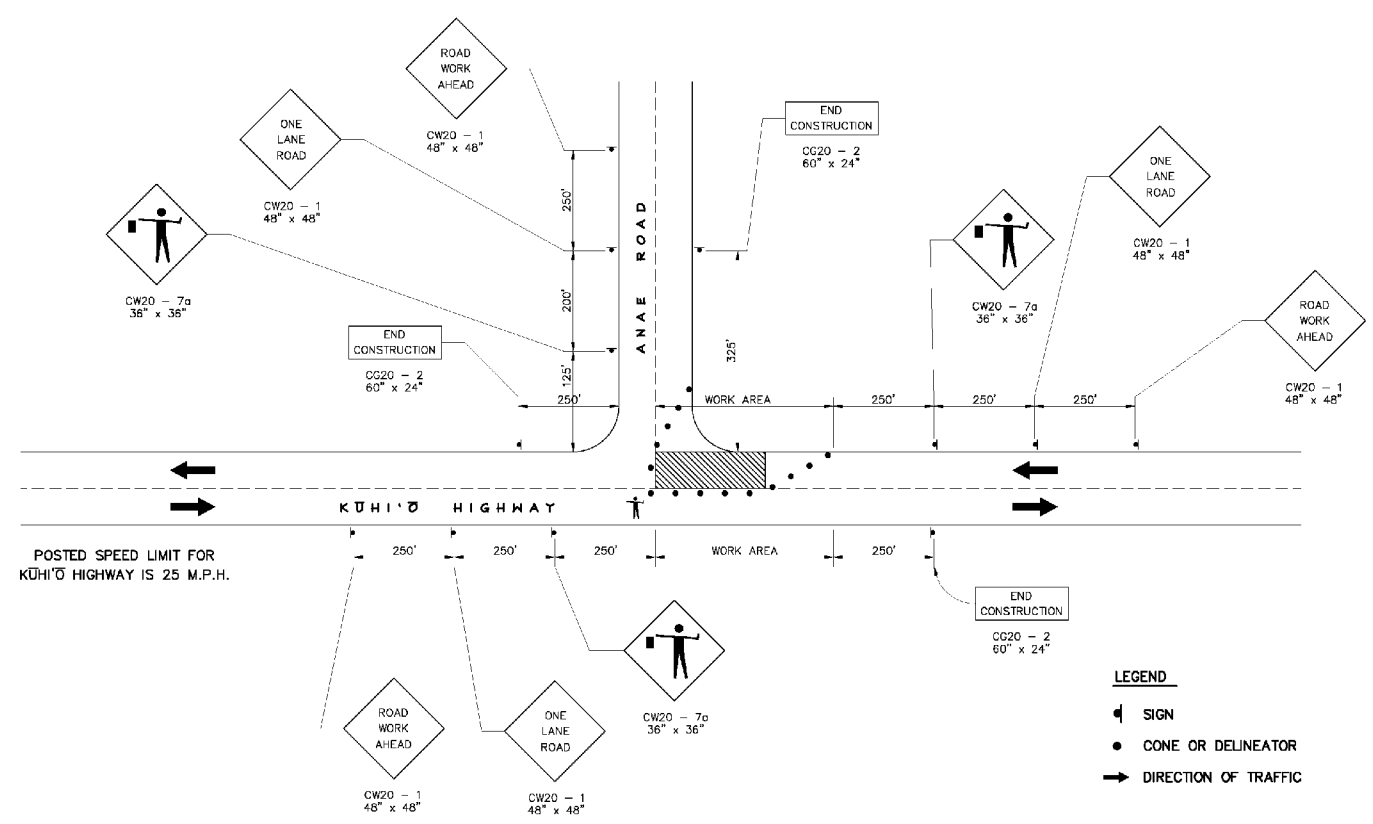
TRAFFIC CONTROL PLAN

APPROVED

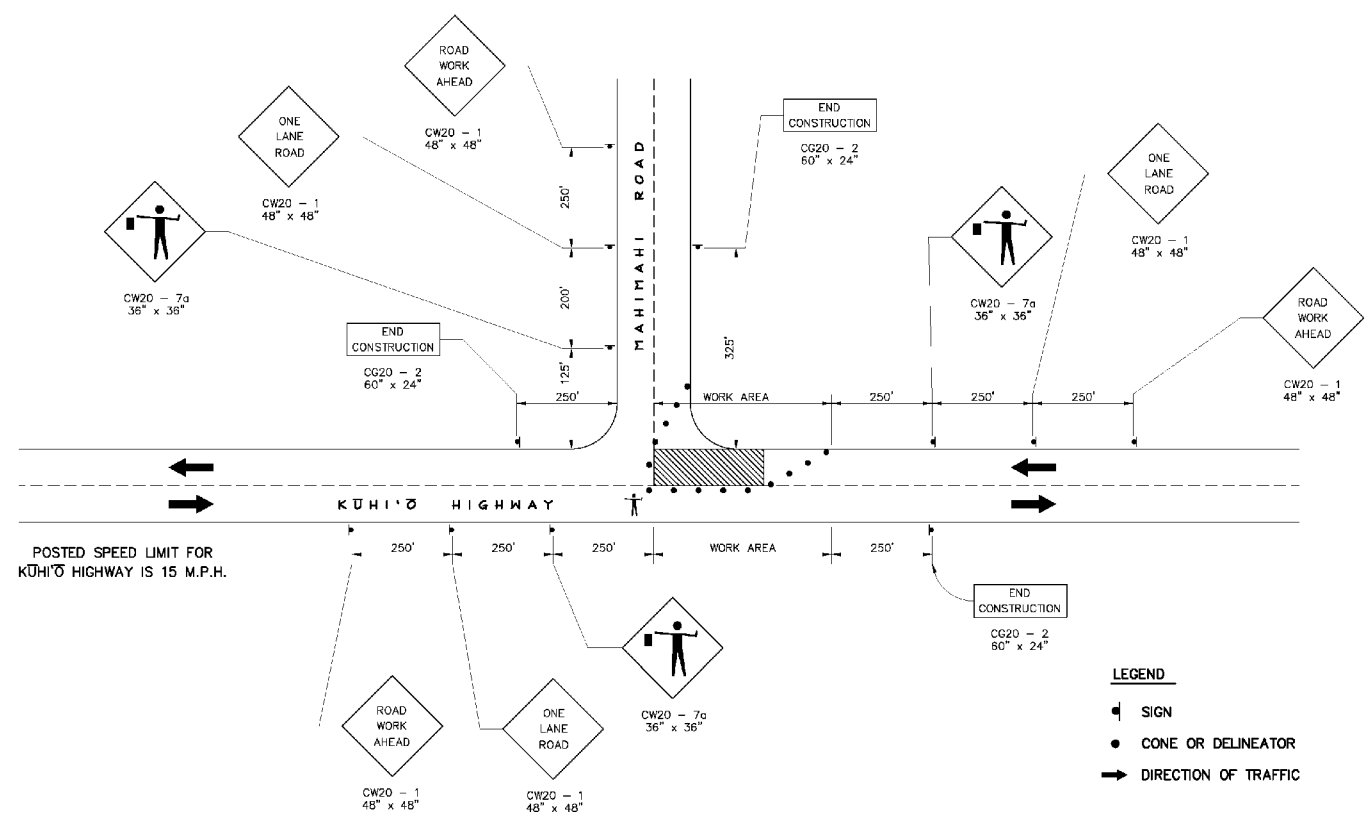
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: WW	SHEET
DRAWN BY: MA, CG	C-19
DATE: 10/18/13	19 OF 19 SHEETS



ONE-LANE CLOSED, INTERSECTION OF KŪHIʻŌ HIGHWAY AND ANAE ROAD
FIGURE 3 - TRAFFIC CONTROL PLAN



ONE-LANE CLOSED, INTERSECTION OF KŪHIʻŌ HIGHWAY AND MAHIMAHU ROAD
FIGURE 4 - TRAFFIC CONTROL PLAN

Project No.: 12-43
Drawing No.: 12-43CCN1.dwg

B. CLIMATE

Existing Conditions: Kauai has a mild, semitropical climate. Owing to the marine influence and the prevailing northeast tradewinds, there is very little diurnal or seasonal variation in temperature.

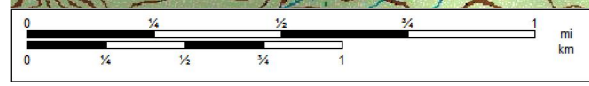
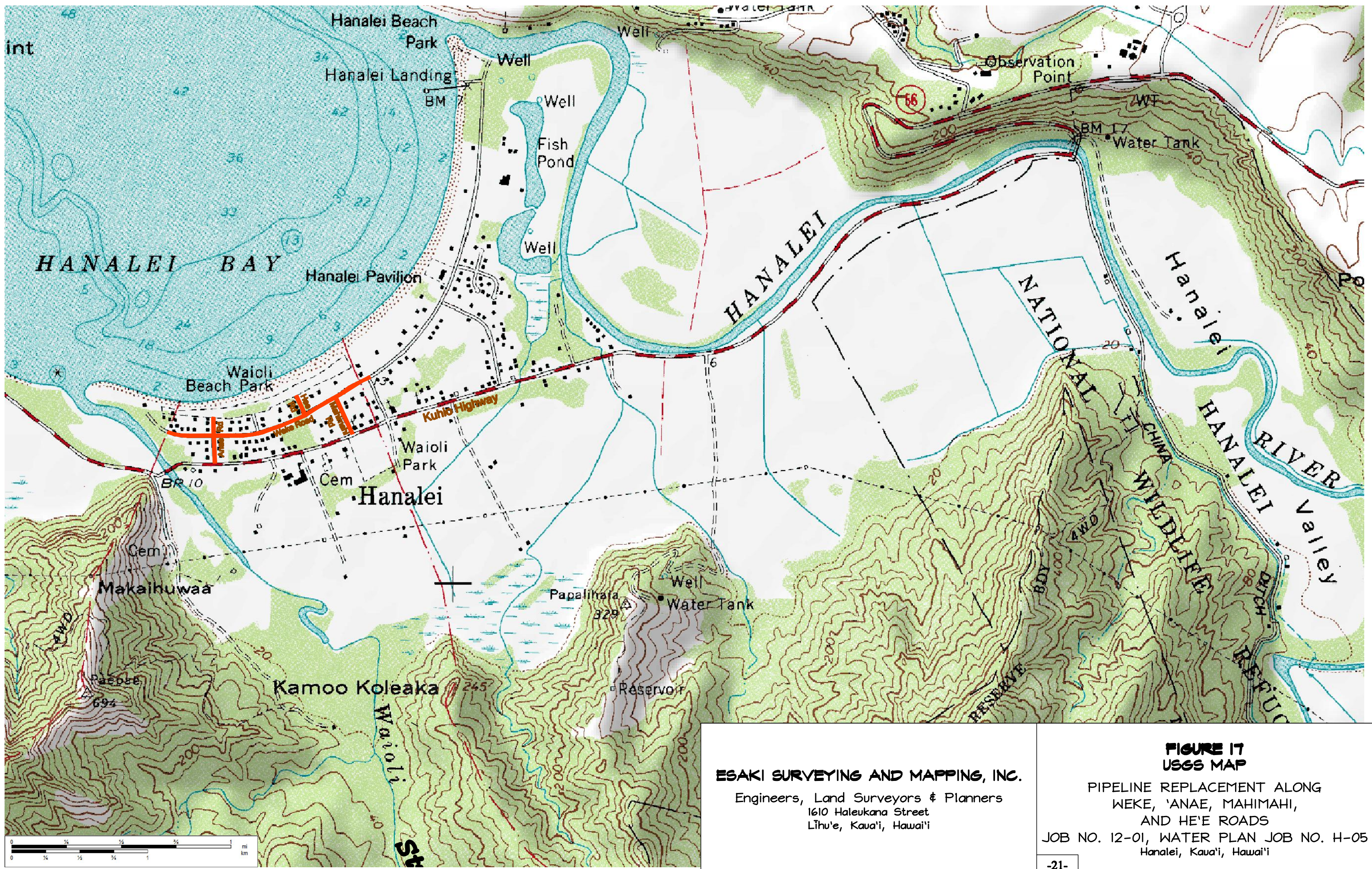
For Hanalei, the annual rainfall amounts to 37 inches, with the maximum average precipitation occurring in December. The average high temperature is about 81 degrees Fahrenheit and the average low temperature is 70 degrees Fahrenheit. On average, the warmest month is August and the average coolest month is January.

Potential Impacts and Mitigative Measures: The project will not affect macro or micro weather conditions.

C. GEOLOGY, TOPOGRAPHY AND SOILS

Existing Conditions: Kauai is the fourth largest island in the Hawaiian group and considered to be one of the oldest geologically. The island is volcanic in origin, and in general geological terms, is described as a dissected basaltic dome of a single large shield volcano. Kauai was formed by the passage of the Pacific plate over the Hawai'i hotspot, generating two major lava flows: the Waimea volcanic series and the Kōloa volcanic series. The rocks on Kaua'i are all volcanic, except for minor amounts of sediments derived from volcanic rocks by erosion, and a narrow, discontinuous fringe of calcareous reef and beach deposits.

Ground elevation ranges from a high of 14 feet to a low of 10 feet above mean sea level for the Weke, `Anae, He`e, and Mahimahi Road project sections. Cross slope is minimal. See Figure 17 for USGS Map.



ESAKI SURVEYING AND MAPPING, INC.
 Engineers, Land Surveyors & Planners
 1610 Haleukana Street
 Lihu'e, Kauai, Hawaii

FIGURE 17
USGS MAP
 PIPELINE REPLACEMENT ALONG
 WEKE, 'ANAE, MAHIMAHI,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kauai, Hawaii

The soils of Kauai have developed primarily from volcanic materials and have concentrated iron and aluminum in the profiles. The quantities of silica and bases are low, particularly in the high rainfall areas, due to the leaching of these materials. According to the U.S. Dept. of Agriculture (USDA), Natural Resources Conservation Service, the soils in the project area are made up of beach sand, Mokuleia fine sandy loam and Mokuleia clay loam (see Figure 18). The Mokuleia series consist of well drained soils that formed in recent alluvium deposited over coral sand. Mokuleia soils are on coastal plains and have slopes of 0 to 2 percent; they are well drained soils with very slow runoff and moderate permeability.

Potential Impacts and Mitigative Measures: Since the site is relatively flat and minimum grading will be required, impacts occurring on the physical terrain from development of the project site are expected to be minimal. To minimize soil erosion during the construction process, erosion control measures will be designed and implemented in accordance with applicable governmental regulations.

D. HYDROLOGY

Existing Conditions: The State Department of Land and Natural Resources (DLNR), Commission on Water Resource Management (CWRM) has established ground-water hydrologic units to provide a consistent basis for managing ground water resources. The units are primarily determined by subsurface conditions. In general, each island is divided into regions; each region is comprised of smaller sub-regions (see Figure 19). The proposed project site is located within the Hanalei region, in the Hanalei sub-region. The CWRM lists the Hanalei sub-region as having a sustainable yield of 34 million gallons per day.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 4N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Island of Kauai, Hawaii
 Survey Area Data: Version 6, Dec 31, 2006

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



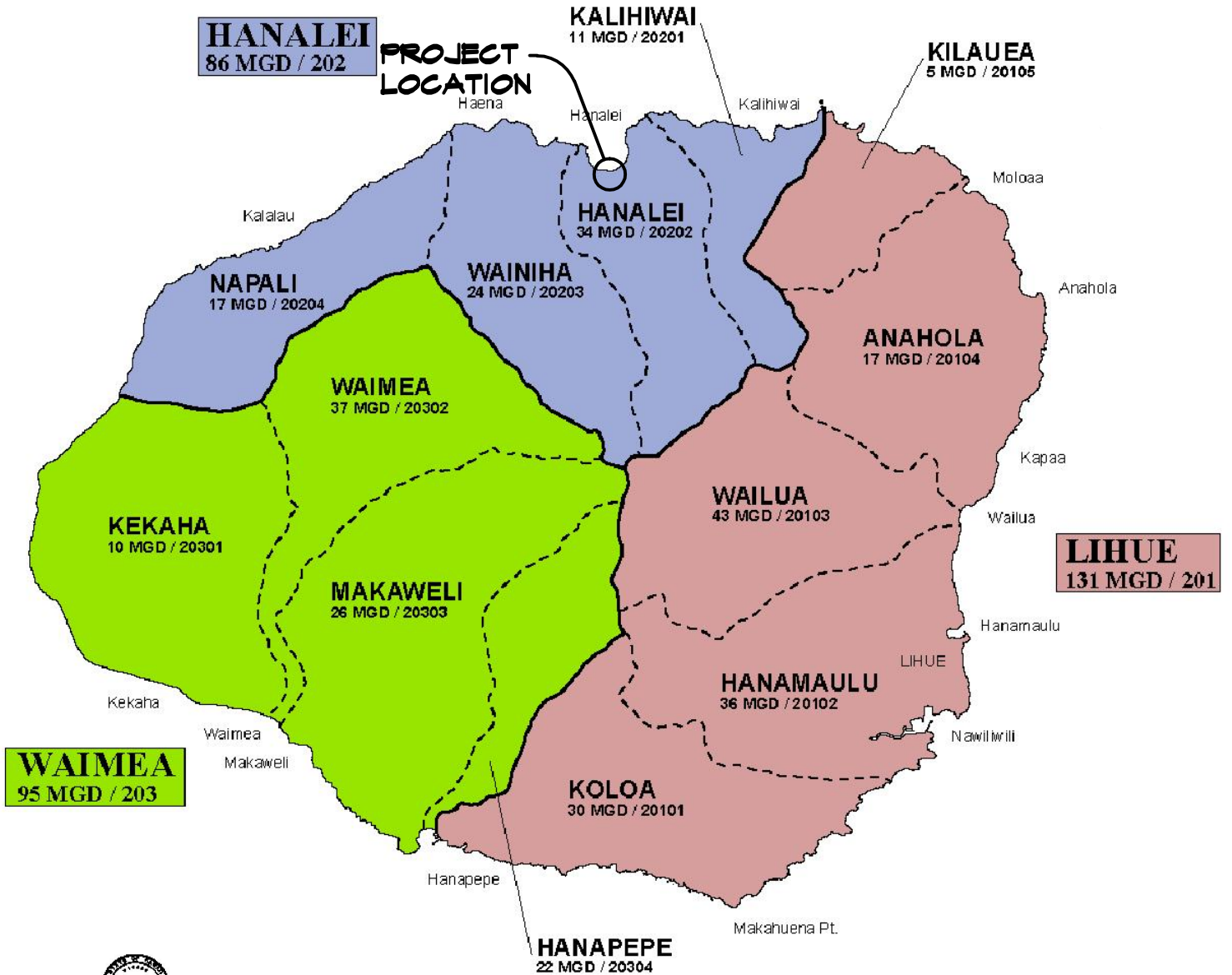
SYMBOL	DESCRIPTION
BS	Beaches
Mr	Mokuleia fine sandy loam
Mta	Mokuleia clay loam (poorly drained variant)

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**FIGURE 1B
 SOILS MAP**

PIPELINE REPLACEMENT ALONG
 WEKE, 'ANAE, MAHIMAHI,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kaua'i, Hawai'i



COMMISSION ON
WATER RESOURCE MANAGEMENT

ISLAND OF KAUAI

TOTAL = 312 MGD

HYDROLOGIC UNITS
Sustainable Yield / Aquifer Code

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FIGURE 19 GROUND WATER HYDROLOGIC UNITS

PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHU,
AND HE'E ROADS
JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kaua'i, Hawai'i

There are no wetlands within the project area (see Figure 20), but there are wetlands in the vicinity of project area which can be identified as:

- Estuarine E1UBL: estuarine system which encompasses 2.86 acres, it is a subtidal subsystem (these habitats are continuously submerged substrate) with an unconsolidated bottom and is permanently flooded with tidal water. The estuarine system describes deepwater tidal habitats and adjacent tidal wetlands that are influenced by water runoff from and often semi-enclosed by land; they are located along low-energy coastlines and they have variable salinity.
- Marine M2USP: marine system that encompasses 24.35 acres, it's an intertidal subsystem (defined as the area from extreme low water to extreme high water and associated splash zone) with an unconsolidated shore and tidal water floods the land surface less often than daily. The marine system describes open ocean and high energy coast lines with salinities exceeding 30 parts per thousand and little or no dilution except outside the mouths of estuaries.

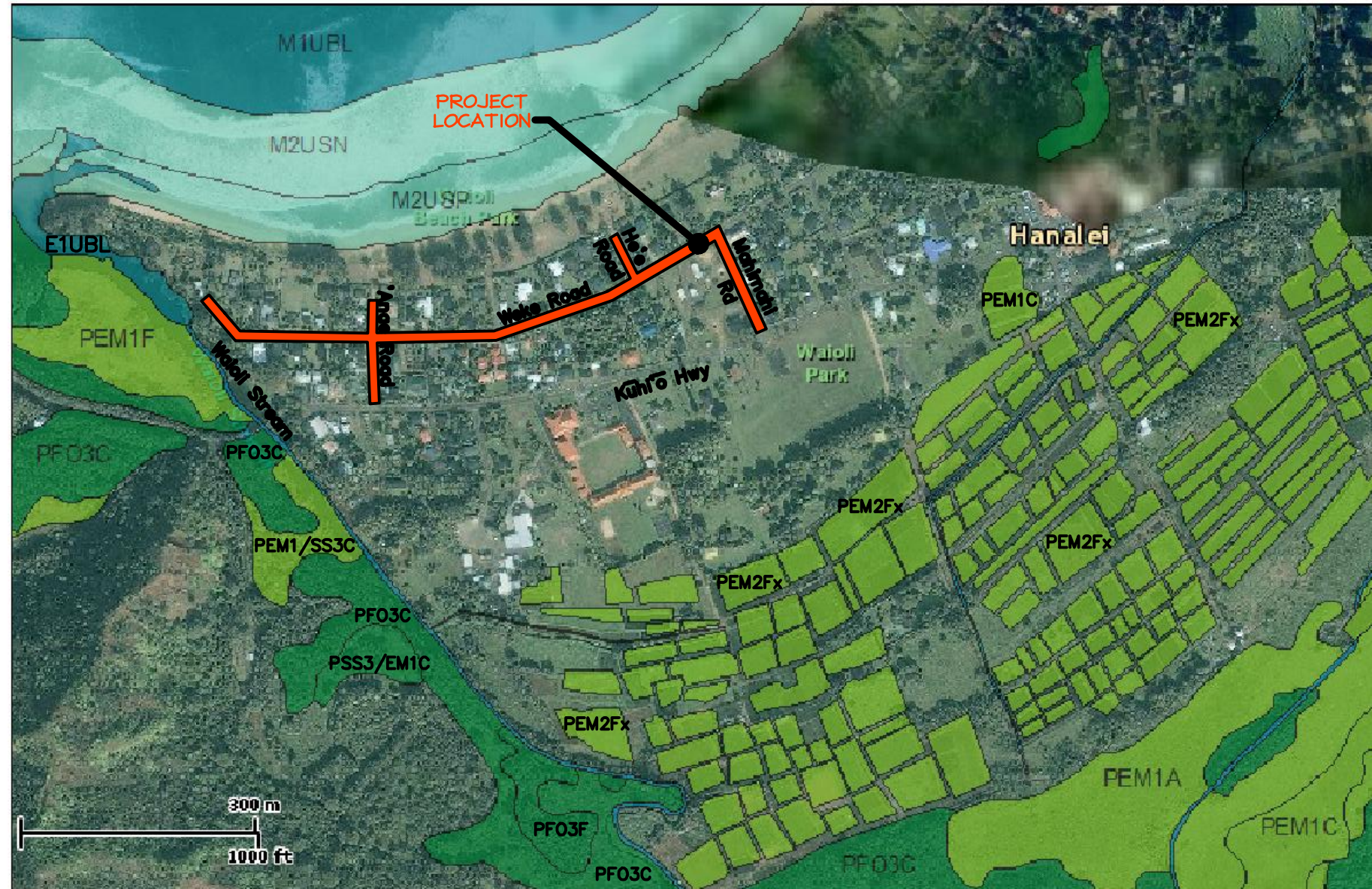
The closest marine water to the project site is Hanalei Bay, and the closest inland water is Waioli Stream. According to the State Dept. of Health, Office of Environmental Planning, these inland and marine waters are classified as:

- Hanalei Bay: is classified as Marine Water Class AA. According to the Classification of Water uses in Hawaii (HAR 11-54-3), it is the objective of Class AA waters that these waters remain in their natural pristine state as nearly as possible with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. To the extent practicable, the wilderness character of these areas shall be protected.



U.S. Fish and Wildlife Service National Wetlands Inventory

Jun 8, 2012



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

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FIGURE 20 WETLANDS MAP

PIPELINE REPLACEMENT ALONG
WEKE, 'ANA'E, MAHIMAHI,
AND HE'E ROADS

JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kauai, Hawaii

- Waioli Stream: is classified as Inland Water Class 2. According to the Classification of Water uses in Hawaii (HAR 11-54-3), the objective of Class 2 waters is to protect their use for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation. The uses to be protected in this class of waters are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters.

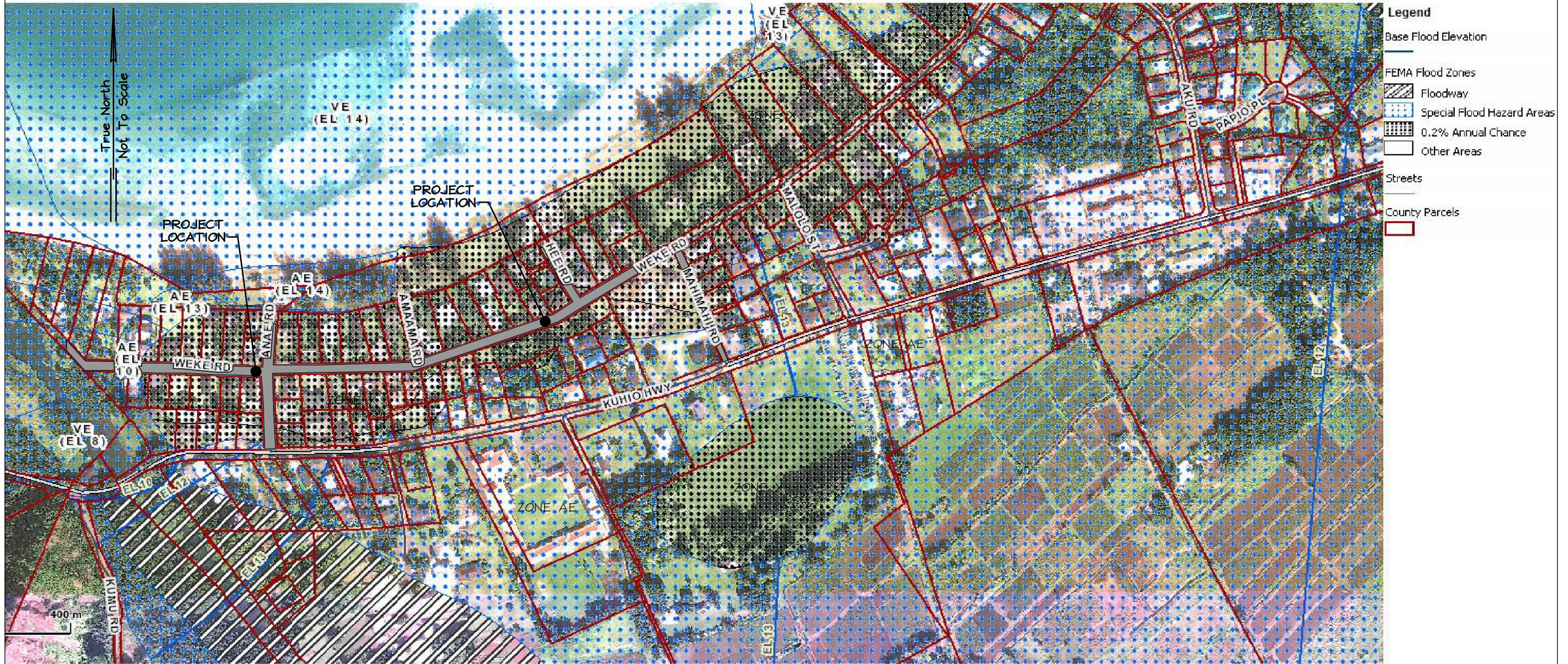
Proposed Actions: Trenching and backfilling along an existing roadway to install a pipeline. Removal of existing waterlines.

Potential Impacts and Mitigative Measures: Most of the improvements will occur within already paved areas. To minimize storm water runoff during the construction process, erosion and sediment control measures will be designed and implemented in accordance with applicable governmental regulations. As a result, no direct impacts on ground, surface and coastal waters should occur.

E. FLOOD HAZARD AND DRAINAGE

Existing Conditions: Weke, `Anae, Mahimahi, and He`e Roads are within the flood zones designated as “Zone AE” and “Zone X” on Kaua`i County’s Flood Insurance Rate Map dated September 16, 2005 (see Figure 21).

Zone AE is a special flood hazard area subject to flooding by the 1% annual chance flood. Zone X is defined as “Other flood areas” which include areas of 0.2% annual chance flood, areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 1% annual chance flood.



- Zone AE Base Flood Elevations determined.
- Zone X Other Flood Areas.
- Zone VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

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**FIGURE 21
 FLOOD ZONES MAP**

PIPELINE REPLACEMENT ALONG
 WEKE, 'ANAE, MAHIMAHI,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kauai, Hawaii

The subject property is located within the tsunami evacuation zone, see Figure 22 for the Tsunami Evacuation Zone map. The evacuation zone is a guideline and should be considered the minimum safe evacuation distance, if possible, it is recommended to remain at least 100 feet away from inland waterways and marinas connected to the ocean due to wave surges and possible flooding.

Proposed Actions: Trenching and backfilling along an existing roadway to install a pipeline. Removal of existing waterlines.

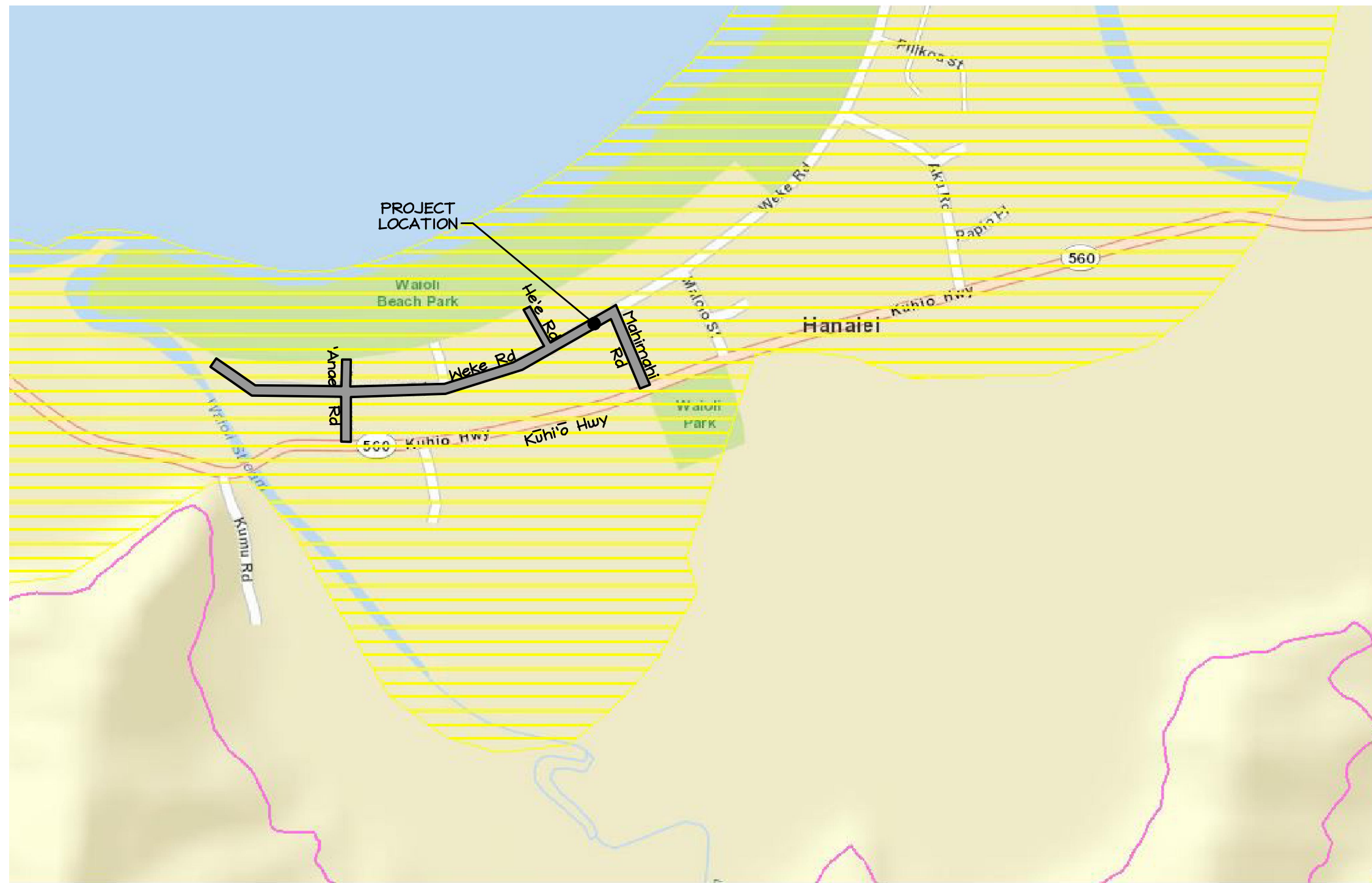
Potential Impacts and Mitigative Measures: There will be no affect the base flood elevation and no direct impacts on drainage should occur.

F. FLORA AND FAUNA

Existing Conditions: The project site is an existing roadway devoid of any flora. There is vegetation along the roadway which includes the following: grassy lawns, ironwood hedges, hibiscus hedges, palm trees, coconut trees, mock orange hedges, panax hedges, ginger, ti plants, lilies, naupaka hedges, octopus trees, plumeria trees, Norfolk pines, croton, song of India, bougainvillea hedges, Poinciana trees, bottlebrush trees, sea mango trees and shower trees. There are no rare, threatened or endangered vertebrate animal species known to exist on the project site.

Proposed Actions: Trenching and backfilling along an existing roadway to install a pipeline. Removal of existing waterlines.

Potential Impacts: Adverse impacts are not anticipated. The proposed project is not expected to have a significant impact on flora or fauna as the site consists of an existing roadway located within a residential area.



Tsunami Evacuation Zone

- Yes
- 100-ft Elevation

When feasible, persons leaving the evacuation areas should proceed beyond the 100-ft elevation line.

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**FIGURE 22
 TSUNAMI EVACUATION ZONE MAP**

PIPELINE REPLACEMENT ALONG
 WEKE, 'ANAE, MAHIMAHI,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kaua'i, Hawai'i

G. HISTORIC SITES

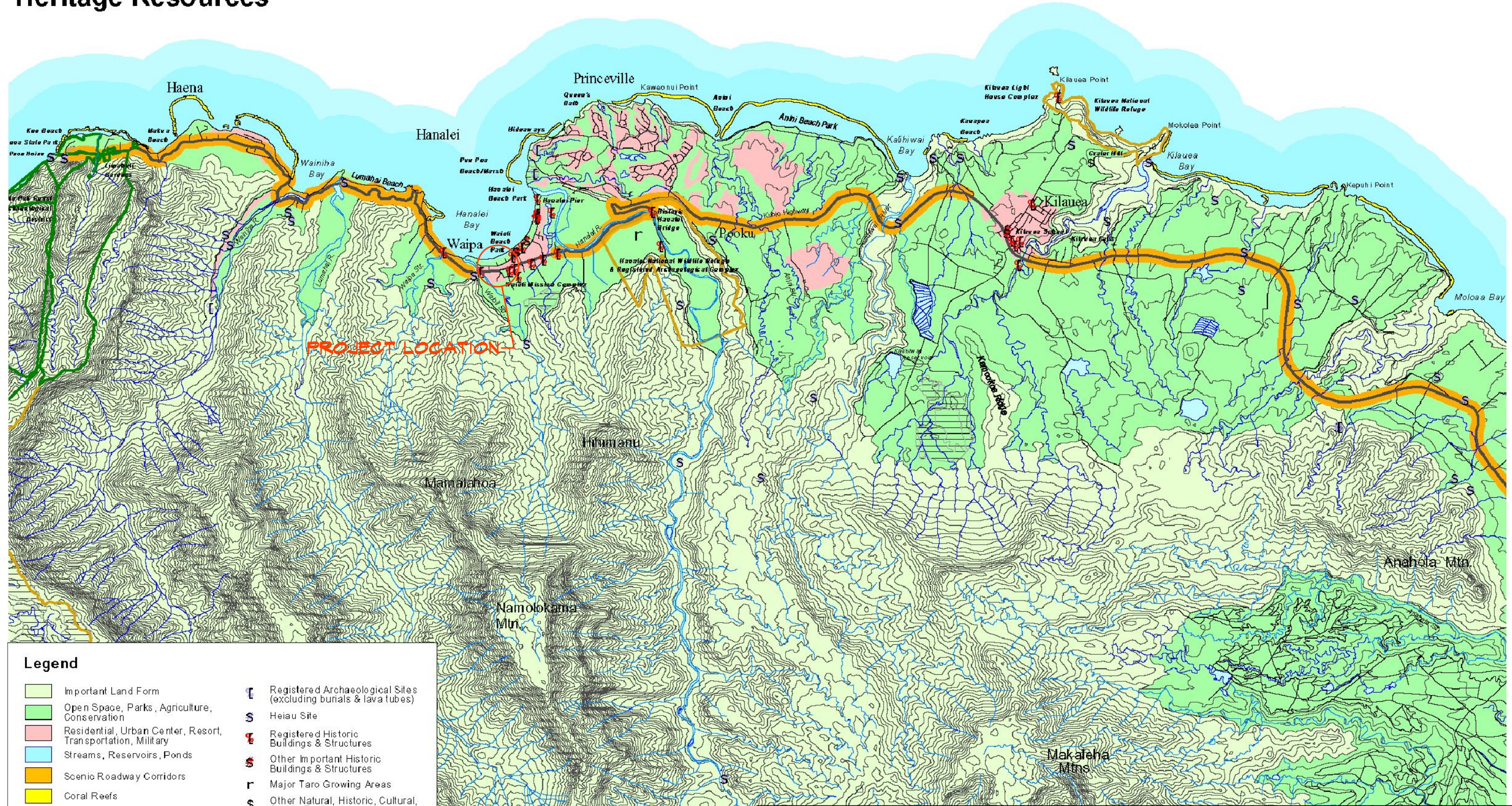
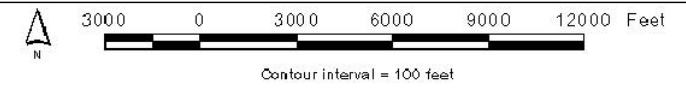
Existing Conditions: The subject site was previously excavated and a roadway constructed. An Archeological Inventory Survey of the project site was conducted, to determine the presence/absence of archaeological features or deposits within surface and subsurface contexts and if present, to evaluate their significance.

Pedestrian survey and subsurface investigations of the project area failed to yield evidence for Traditional Hawaiian cultural material, subsurface features, artifacts, or burials in the 13 trenches that were excavated. The primary reason for the absence of significant cultural materials may be related to extensive development in the area, which may have removed or severely displaced any former cultural materials in the area. Due to the results of no significant finding during the field investigation the Inventory Survey was reclassified as an Archeological Assessment document. The Archeological Assessment was prepared by Scientific Consultant Services Inc., dated November 2012 (see Section VII, Appendix A).

The Archeological Assessment did not lead to the documentation of any significant cultural materials or burials. Based on the findings of previous archaeological projects within the Hanalei area, there is strong evidence for pre-Contact and Historic-period settlement in the area and may still contain significant sites with cultural materials and/or burials.

The Kauai General Plan contains a set of Heritage Resources Maps, these maps document important natural, scenic and historic features that are important to the County of Kaua'i and that are intended to be conserved. See Figure 23 for the Heritage Resource map for the North Shore Planning District.

North Shore Planning District Heritage Resources



Legend			
	Important Land Form		Registered Archaeological Sites (excluding burials & lava tubes)
	Open Space, Parks, Agriculture, Conservation		Heiau Site
	Residential, Urban Center, Resort, Transportation, Military		Registered Historic Buildings & Structures
	Streams, Reservoirs, Ponds		Other Important Historic Buildings & Structures
	Scenic Roadway Corridors		Major Taro Growing Areas
	Coral Reefs		Other Natural, Historic, Cultural, Scenic Features
	Marshes		Special Streams
	Resource Parks & Sites		Streams
	Federal & State Natural Preserves		Small Boat Harbors/Ramps

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FIGURE 29
HERITAGE RESOURCE MAP
 PIPELINE REPLACEMENT ALONG
 WEKE, 'ANAE, MAHIMAHI,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kauai, Hawaii

Proposed Action: Re-excavation of portion of roadway to install a pipeline.

Potential Impacts and Mitigative Measures: Based on the findings, archeological monitoring will be provided during all ground altering activities associated with this project as recommended in the Archeological Assessment.

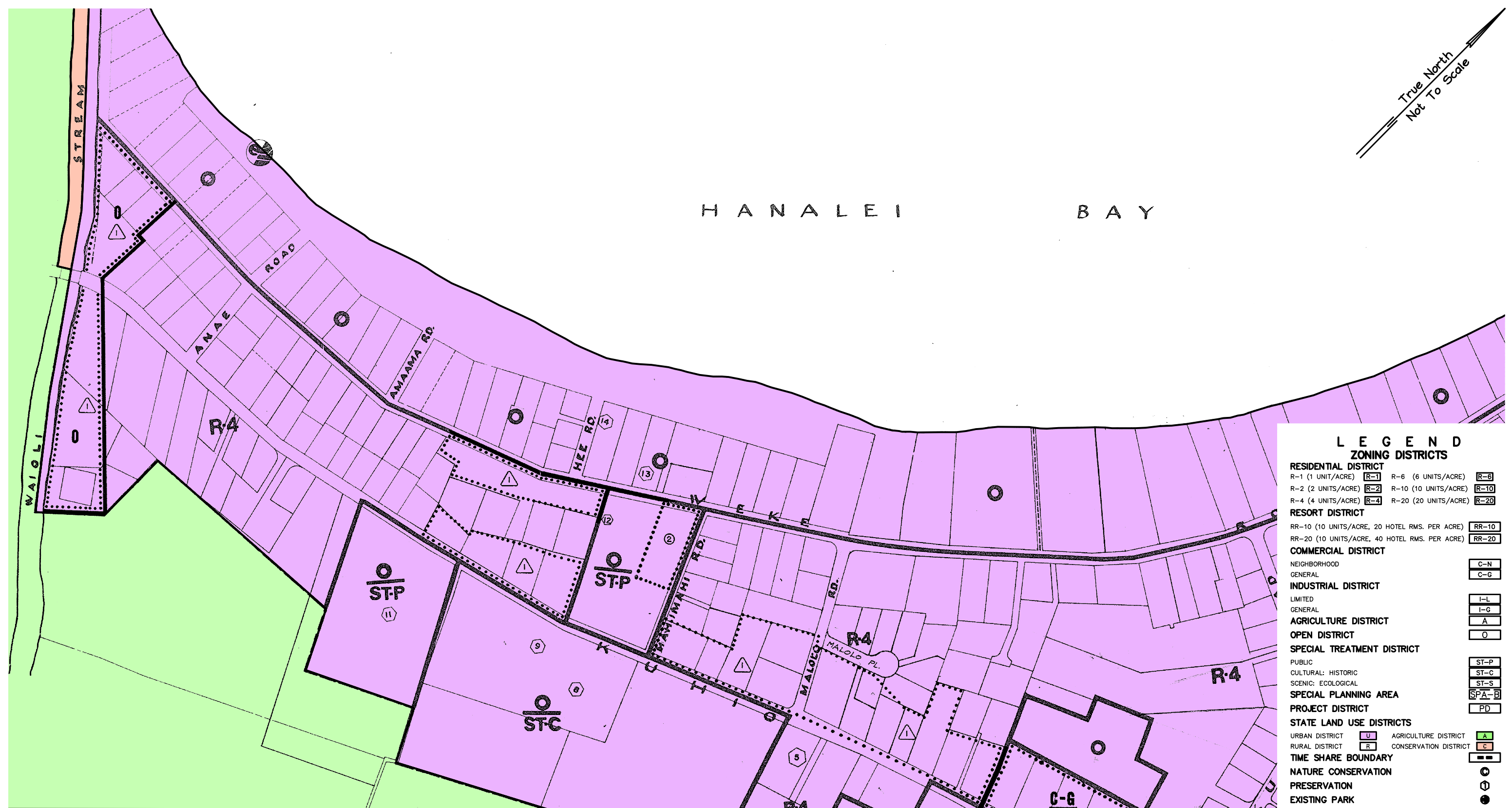
Should subsurface features or qualified burials be unearthed, work in the immediate area shall cease and the archeological monitor summoned to investigate the find. Applicant also will notify the County of Kaua'i Planning Department and the State Historic Preservation Officer. Disinterment of qualified gravesites shall comply with Chapter 6E H.R.S.

H. LAND USE CONTROLS

Existing Conditions: The property is classified as Urban by the State Land Use Commission, and is in the County Zoning Districts of Open and R-4 (see Fig. 24).

According to the State Land Use Commission, the Urban District generally includes lands characterized by “city-like” concentrations of people, structures and services. This District also includes vacant areas for future development. Jurisdiction of this district lies primarily with the respective counties. Generally, lot sizes and uses permitted in the district area are established by the respective county through ordinances or rules.

The project area is located within the Special Management Area (SMA) and is subject to the County's SMA rules and regulations. For the purpose of the County's SMA rules and regulations, the installation of an underground utility line and appurtenant aboveground fixtures (less than 4 ft.) is not considered a development and is excluded from SMA permitting. See Figure 25 for the SMA map.



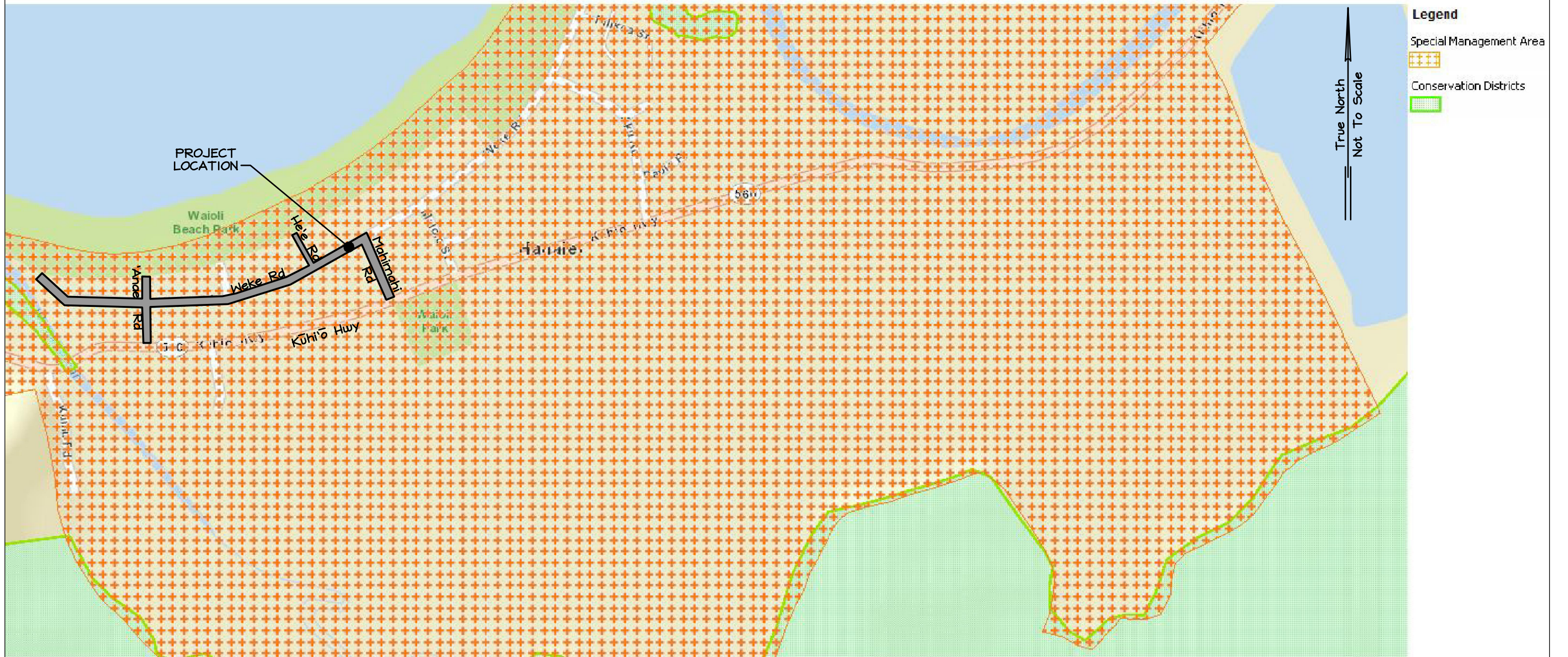
① Amended from Neighborhood Commercial(C-N) District to General Commercial (C-G) District by COUNCIL 1-10-77 Ordinance No. 297

② Amended from Tourist Commercial (T-C) District to Open/Special Treatment-Public (O/ST-P) District by COUNCIL 2-20-79 Ord. No. PM-27-79

⚠ Amendments resulting from the Adoption of the NORTH SHORE SPECIAL PLANNING AREA DEVELOPMENT PLAN by COUNCIL 6-10-85 Ord. No. 476

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FIGURE 24
ZONING MAP
 PIPELINE REPLACEMENT ALONG
 WEKE, ANAE, MAHIMAHU,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kauai, Hawaii



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**FIGURE 25
SMA MAP**

PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHI,
AND HE'E ROADS
JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kauai, Hawaii

The Kauai General Plan contains a set of Land Use maps that depict the policy for long-range land uses and future growth. See Figure 26 for the Land Use map for the North Shore Planning District.

Proposed Action: The proposed use of the property will be consistent with the conditions of the surrounding area.

Potential Impacts: The proposed use should not conflict with the zoning of nearby properties.

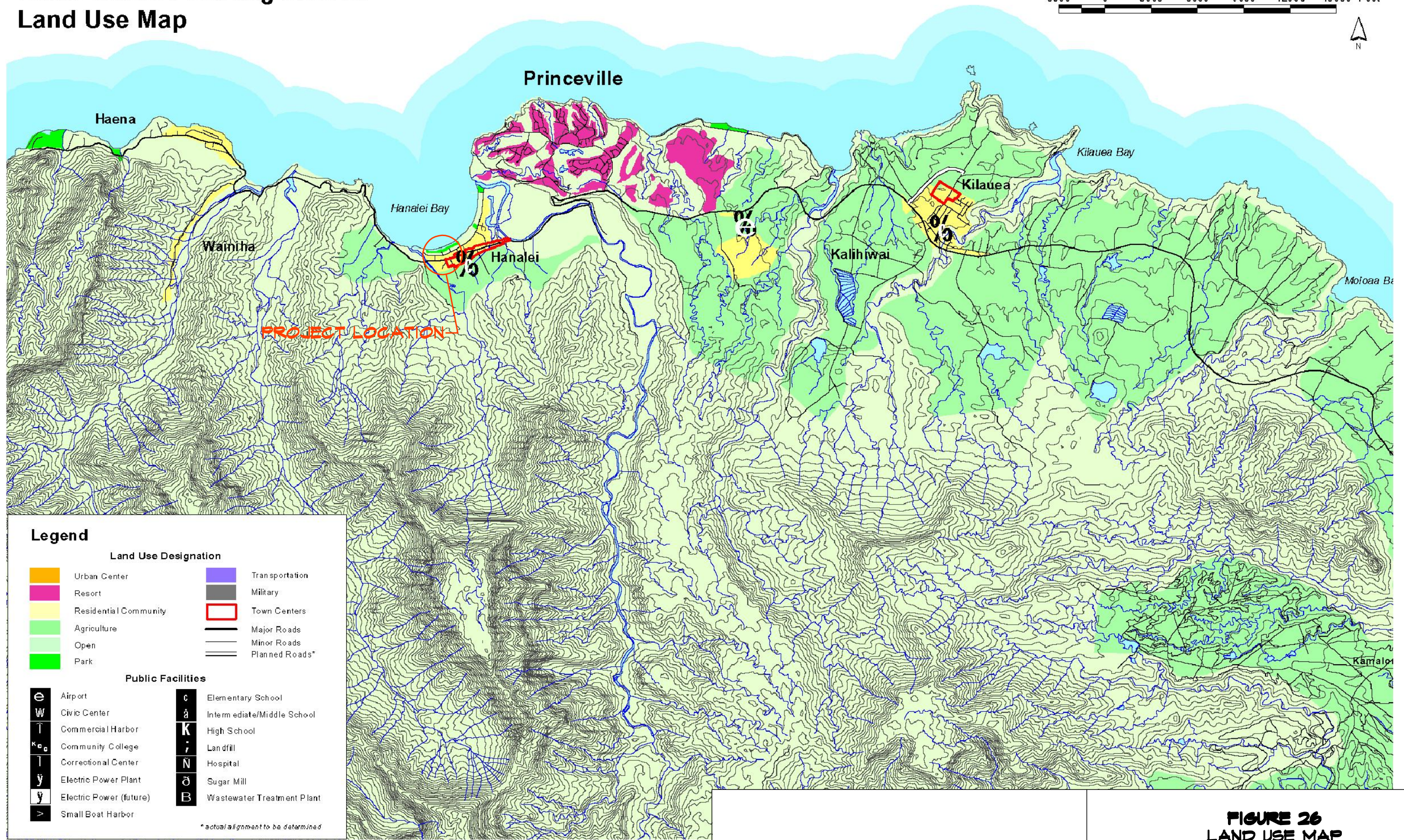
I. AIR QUALITY

Existing Conditions: Occasional dust is generated by local traffic.

Potential Impacts and Mitigative Measures: Ambient air quality may be affected by fugitive dust raised during site preparation activities and by exhaust fumes from internal combustion engines. Fugitive dust is an inevitable consequence of soil handling/movement but can be controlled by water sprinkling or application of dust suppressants. Combustion discharges from construction equipment and vehicles are not anticipated to significantly alter ambient air quality and can be minimized by proper operation and maintenance of all petroleum-fueled equipment. In addition, the prevailing winds can be expected to dilute and disperse exhaust emissions away from existing homes. All activities shall comply with Air Pollution Control Regulations (Chapter 43) of the State Department of Health and all applicable County ordinances. At completion of the project, air quality for the existing residential community will revert to pre-construction levels.













North Shore Planning District Land Use Map

3000 0 3000 6000 9000 12000 15000 Feet







Legend

Land Use Designation

- | | |
|---|--|
|  Urban Center |  Transportation |
|  Resort |  Military |
|  Residential Community |  Town Centers |
|  Agriculture |  Major Roads |
|  Open |  Minor Roads |
|  Park |  Planned Roads* |

Public Facilities

- | | |
|---|--|
|  Airport |  Elementary School |
|  Civic Center |  Intermediate/Middle School |
|  Commercial Harbor |  High School |
|  Community College |  Landfill |
|  Correctional Center |  Hospital |
|  Electric Power Plant |  Sugar Mill |
|  Electric Power (future) |  Wastewater Treatment Plant |
|  Small Boat Harbor | |

*actual alignment to be determined

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FIGURE 26 LAND USE MAP

PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHI,
AND HE'E ROADS
JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kauai, Hawaii

J. NOISE

Existing Conditions: The property is currently being impacted by noise mainly from local traffic.

Proposed Actions: Noise levels are expected to increase once construction starts on the property. Maximum sound level would fall in the 85-96 dB(A) range with the latter generated by earth moving and pneumatic impact equipment. Noise should be most pronounced during site work followed by reductions in frequency and duration during actual construction and post construction phases.

Potential Impacts and Mitigative Measures: The project abuts an existing residential area and it is possible that residents may be disturbed by construction noises. Although noise cannot be eliminated entirely and may be thought of as a short-term deleterious consequence, the Contractor will be required to have his equipment equipped with mufflers. The hours of operation will also be regulated. If required, a Dept. of Health Community Noise Permit will be obtained. In the long run, it is anticipated that noises emanating from the completed project would be similar to that of the adjoining residential subdivision.

K. HOUSING

Potential Impacts and Mitigative Measures: According to the U.S. Census Bureau, Hanalei has a total of 336 housing units of which 55.4% are occupied. The median number of rooms is 4.5 and the median home value is \$1,000,000+. When completed, the proposed project will upgrade the water system in the Hanalei service area and will allow the area's landowners to have adequate storage capacity.

L. SOCIO-ECONOMIC CHARACTERISTICS

Existing Conditions: The project site is located within the Hanalei Census-Designated Place (CDP). A CDP can be described as a geographic entity within an unincorporated place identified by the United States Census Bureau for statistical purposes.

Demographic and other information was reviewed from the 2010 U.S Census; see Figure 23 for demographic characteristics. Based on the data shown in Figure 27, the Hanalei CDP has a slightly older population than the County. The median age for the Hanalei CDP was 44.9 years versus 41.3 years for the County.

The Hanalei CDP has a slightly different racial mix to the County, the White, and Asian communities do differ significantly in concentration when compared to the County. The percentages of family and nonfamily households are comparable to the County.

Potential Impacts: There will be no action that will affect the demographic characteristics of the Hanalei CDP.

M. PUBLIC UTILITIES AND SERVICES

1. Access:

Existing Conditions: Main access to the project site will be from Kūhi`ō Highway. Kūhi`ō Highway is a State Right of Way with a paved surface. There will be temporary inconvenience due to roadway excavation while installing the pipelines. This project will not have a permanent effect on the travelway access.

DEMOGRAPHIC CHARACTERISTICS				
SUBJECT	HANALEI CDP		KAUAI COUNTY	
	Number	Percent	Number	Percent
Total population	450	100.0	67,091	100.0
AGE				
Under 5 years	25	5.6	4,281	6.4
5 to 9 years	26	5.8	4,179	6.2
10 to 14 years	20	4.4	4,055	6.0
15 to 19 years	15	3.3	4,146	6.2
20 to 24 years	22	4.9	3,472	5.2
25 to 29 years	29	6.4	4,161	6.2
30 to 34 years	25	5.6	3,980	5.9
35 to 39 years	39	8.7	4,018	6.0
40 to 44 years	25	5.6	4,354	6.5
45 to 49 years	32	7.1	4,849	7.2
50 to 54 years	35	7.8	5,390	8.0
55 to 59 years	44	9.8	5,483	8.2
60 to 64 years	43	9.6	4,738	7.1
65 to 69 years	21	4.7	3,234	4.8
70 to 74 years	8	1.8	2,113	3.1
75 to 79 years	10	2.2	1,632	2.4
80 to 84 years	12	2.7	1,390	2.1
85 years and over	19	4.2	1,616	2.4
Median age (years)	44.9	(X)	41.3	(X)
RACE				
White	272	60.4	22,159	33.0
Black or African American	0	0.0	278	0.4
American Indian and Alaska Native	3	0.7	254	0.4
Asian	61	13.6	21,016	31.3
Native Hawaiian and Other Pacific Islander	34	7.6	6,060	9.0
Some Other Race	3	0.7	608	0.9
Two or More Races	77	17.1	16,716	24.9
HOUSEHOLDS BY TYPE				
Total households	186	100.0	23,240	100.0
Family households (families)*	115	61.8	16,147	69.5
Nonfamily households*	71	38.2	7,093	30.5
Average household size	2.42	(X)	2.84	(X)
Average family size*	2.87	(X)	3.31	(X)
HOUSING OCCUPANCY AND TENURE				
Total housing units	336	100.0	29,793	100.0
Owner-occupied housing units	92	27.4	13,968	46.9
Renter-occupied housing units	94	28.0	9,272	31.1
Vacant housing units	150	44.6	6,553	22.0
<p>"Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households.</p> <p>"Nonfamily households" consist of people living alone and households which do not have any members related to the householder.</p>				
Source: U.S. Census Bureau, 2010 Census.				

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**FIGURE 27
DEMOGRAPHIC CHARACTERISTICS**

PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHU,
AND HE'E ROADS

JOB NO. 12-01, WATER PLAN JOB NO. H-05
Hanalei, Kauai, Hawaii

2. Water:

Existing Conditions: The County of Kaua`i, Department of Water operates 13 water systems island wide. The project area is within the Hanalei water system which consists of residences and small-town business uses. Some of the water mains in this service area are quite old and/or undersized and pipeline replacements are necessary in order to provide adequate delivery.

Potential Impacts and Mitigative Measures: To minimize outages, existing waterlines will not be removed until the new waterlines are installed. The proposed waterline replacements will improve the water distribution and allow the Department of Water to keep up with consumer demand.

3. Wastewater:

Existing Conditions: There is no public wastewater collection and disposal system in the project area; private individual wastewater systems (cesspools or septic tanks) are currently in use.

Proposed Actions: No service improvements are planned at this time.

4. Solid Waste:

Existing Conditions: There is only one County sanitary landfill located in Kekaha, and four refuse transfer stations, the closest transfer station is the Hanalei Transfer Station. Residential refuse collection services are available at the residential homes along Weke, `Anae, He`e and Mahimahi Roads.

A typical refuse crew consists of one truck driver and two refuse collectors. Collection crews deliver refuse to the Refuse Transfer Station where refuse is loaded into high cube trailers and delivered to the Kekaha landfill.

Potential Impacts and Mitigative Measures: No changes in existing service are planned for the proposed project.

5. Fire Protection:

Existing Conditions: Fire protection service for the Hanalei area is provided by the Hanalei Fire Station which is one of eight County fire stations. Four (4) men are assigned to the station with three (3) on duty at all times with major firefighting equipment.

The Fire Department's Fire/Rescue/HazMat/Medical Response Operations program provides fire protection and suppression, rescue (ocean and land), hazmat and emergency medical services (basic life support).

Proposed Actions: New provisions for fire protection will be provided.

6. Police Protection:

Existing Conditions: There are three Patrol Service Bureaus: Hanalei District (in the north), Līhu'e District (in the southeast) and Waimea District (in the southwest). The Hanalei District provides police services from Olohena Road in Kapa`a to Ke`e Beach. The Hanlei District provides police services to the following communities: Haena, Wainiha, Hanalei, Princeville, Kilauea, Anahola, Kealia, and Kapa`a. The Hanalei Sub-Station building is located at the corner of Hanalei Plantation Road,

just north of the Princeville Shopping Center. When fully staffed, there are 26 employees assigned to the Hanalei District.

Proposed Actions: None.

7. Public Schools:

Existing Conditions: The Department of Education (DOE) has designated the entire Island of Kaua`i as a single complex area, this complex area is composed of three complexes: Waimea, Kaua`i and Kapa`a. Hanalei is within the DOE's Kapa`a complex. Member schools of the Kapa`a complex are Hanalei Elementary School, Kilauea Elementary School, Kapa`a Elementary School, Kapa`a Middle School and Kapa`a High School. The area also has a Public Charter School: Kanuikapono Public Charter School.

Proposed Action: None.

8. Utilities:

Existing Conditions: Electrical power and telephone services are available from overhead distribution lines along each road.

Proposed Actions: None.

9. VISUAL EFFECTS:

Existing Conditions: This project involves underground waterline extension. Therefore, there will be no permanent visual effect except for fire hydrants that will be visible only from the immediate vicinity due to lush vegetation on both sides of the roadway.



- Ⓐ Hanalei Refuse Transfer Station
- Ⓔ Hanalei Fire Station
- Ⓒ Hanalei Police Department
- Ⓓ Hanalei Elementary School
- Ⓕ Kilauea Elementary School
- Ⓗ Kapa'a Elementary
- Ⓖ Kapa'a Middle School
- Ⓖ Kapa'a High School
- Ⓘ Kanuikapono Public Charter School

True North
Not To Scale

FIGURE 28
PUBLIC UTILITIES AND SERVICES MAP
 PIPELINE REPLACEMENT ALONG
 WEKE, 'ANAE, MAHIMAHI,
 AND HE'E ROADS
 JOB NO. 12-01, WATER PLAN JOB NO. H-05
 Hanalei, Kauai, Hawaii

ESAKI SURVEYING AND MAPPING, INC.
 Engineers, Land Surveyors & Planners
 1610 Haleukana Street
 Lihu'e, Kauai, Hawaii

SECTION III

ALTERNATIVES TO THE PROPOSED ACTION

Alternative: No Action

A no action alternative would prevent the adjacent landowners from receiving any Fire Protection; the substandard size of existing waterline restricts adequate supply of water to consumers. Age of waterline makes it susceptible to breakage leading to contamination, damage to roadway and loss of water. Additionally, any new water service connection would require excavation along the public roadway or through neighboring private property to install private consumer piping.

SECTION IV

ASSESSMENT PROCESS AND DETERMINATION OF SIGNIFICANCE

Assessment Process

The scope of the project was discussed with the Applicant and representatives of the Department of Water. Information was collected from Scientific Consultant Services Inc. Time was spent in the field evaluating the site and observing conditions in the surrounding area.

Based on information obtained from the above references, the Environmental Assessment was prepared.

Determination of Significance and Recommendation

Chapter 200 of Title 11, Administrative Rules of the Department of Health entitled “Environmental Impact Statement Rules” established criteria for evaluating whether an action may have a significant effect on the environment. The relationship of the proposed project to these criteria are discussed below.

1. *Involves an irrevocable commitment to loss or destruction of any natural or cultural resources.*

None is anticipated. Roadway will be restored to original condition.

2. *Curtails the range of beneficial uses of the environment.*

The temporary inconvenience during construction should be offset by the improved water service.

Owing to the paucity of significant environment features and the existing zoning of the land the proposed development is considered an appropriate use.

3. *Conflicts with the State's long-term environmental policies of goals and guidelines are expressed in Chapter 344, Hawai'i Revised Statutes, and any revisions thereof and amendments thereto, court decisions, or executive orders.*

The project enriches the well being of the area residents with no damage to the environment.

4. *Substantially affects the economic or social welfare of the community or State.*

The budget for the project (\$1,300,00) will not substantially affect the economy adversely while providing a public utility. The jobs created will temporarily boost the economy.

5. *Substantially affects public health.*

The proposed project will not substantially affect economic or sociological activities. It is an implementing action that provides a public utility for a number of residents along Kuamo`o and Wailua Roads, `Ohana and Anolani Streets and Leho Lane. It is believed that a comfortable home instills psychological and sociological values, which collectively contributes to neighborhood stability and the community at large.

6. *Involves substantial secondary impacts, such as population changes or effects on public facilities.*

The number of lots, population and demand for public services and facilities will not be increased due to this project.

7. *Involves a substantial degradation of environmental quality.*

Environmental quality will remain the same.

8. *Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.*

The proposed project does not involve a commitment for larger actions in the immediate area.

9. *Substantially affects a rare, threatened, or endangered species (plant and animal) or its habitat.*

The site is devoid of rare, threatened, or endangered species (plant and animal) or its habitat as it is along existing roadways.

10. *Detrimentially affects air or water quality or ambient noise levels.*

Although fugitive dust and noises created during construction cannot be completely eliminated, such conditions can be mitigated by measures identified in this Assessment.

11. *Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.*

The project is an underground utility that will not affect any such area nor will it suffer damage.

12. *Substantially affects scenic vistas and view planes identified in County or State plans or studies.*

The project is along existing roadways and will not affect scenic vistas or view planes.

13. *Requires substantial energy consumption.*

The only energy consumption will be for construction equipment. After construction, water flow through the pipelines will be by gravity and larger waterlines will increase efficiency.

Based on the above criteria, the proposed project should not result in significant adverse environmental impacts. Potential environmental impacts are sufficiently disclosed in this Environmental Assessment and therefore it is recommended that an Environmental Impact Statement is not required.

SECTION V

NAMES OF GROUPS AND INDIVIDUALS AFFECTED

BY THE PROPOSED PROJECT

<u>Tax Map Key</u>	<u>Name and Mailing Address</u>
(4) 5-5-03: 01	Episcopal Church in Hawai`i Queen Emma Sq. Honolulu, HI 96813
(4) 5-5-03: 02	State of Hawai`i
(4) 5-5-03: 05	Richard E. Qualsett Revocable Trust P.O. Box 1568 Hanalei, HI 96714
(4) 5-5-03: 06	LMCD LLC. 623 7th St. Santa Monica, CA 90402
(4) 5-5-03: 08	Penttila & Clemens Trust P.O. Box 2235 Newport, WA 99156
(4) 5-5-03: 10	Nuhou Corporation P.O. Box 1631 Lihue, HI 96766
(4) 5-5-03: 15	Thorrington-Smith Partners LLC. 1544 Paseo del Mar Palos Verdes Estate, CA 90274
(4) 5-5-03: 17	Tri-State Pacific 2 LLC. 10960 Wilshire Blvd. Floor 5th Los Angeles, CA 90024

Tax Map Key

Names and Addresses

(4) 5-5-03: 18	Tenir LLC. 500 Ygnacio Valley Rd., Ste. 110 Walnut Creek, CA 94596
(4) 5-5-03: 20	Diane K. Spencer Charles H. K. Spencer P.O. Box 98 Hanalei, HI 96714
(4) 5-5-03: 22	Alpina Investments LLC. 1214 Lincoln St. Hood River, OR 97031 Michael White Trust 1990 S. Bundy Dr., Ste. 200 Los Angeles, CA 90025
(4) 5-5-03: 30	Francene H. Aarona Henry K. Aarona Jr. Francine K. Aarona James K. Aarona Elizabeth K. Aarona Henry K. Aarona 2001 Beckley St. Honolulu, HI 96819
(4) 5-5-03: 31	Pascale F. Searby Trust Steven Searby Trust P.O. Box 516 Hanalei, HI 96714

Tax Map Key

Names and Addresses

(4) 5-5-03: 32	Burns Family Trust 108 Ramona Rd. Menlo Park, CA 94028
(4) 5-5-03: 33	Diane Spencer Charles H. Spencer P.O. Box 98 Hanalei, HI 96714
(4) 5-5-03: 34	Edward L. Bullard Melissa M. Bullard 510 North St. Chapel Hill, NC 27514 Mary E. Seitz 320 Massol Ave. Los Gatos, CA 95030
(4) 5-5-03: 36	Richard H. Sloggett Jr. Sloggett Trust P.O. Box 844 Hanalei, HI 96714
(4) 5-5-03: 39	Penttila & Clemens Trust P.O. Box 2235 Newport, WA 99156
(4) 5-5-04: 03	Larry L. Wilson II 6474 Avendia Cresta La Jolla, CA 92037
(4) 5-5-04: 04	J Beach LLC. Tri-State Pacific LLC. C/O Nigro, Karlin, Segal & Feldstein, LLP. 10960 Wilshire Blvd., 5 th floor Los Angeles, CA 90024

Tax Map Key**Names and Addresses**

(4) 5-5-04: 05	Ayeroff Family Trust P.O. Box 5623 Beverly Hills, CA 90209
(4) 5-5-04: 06	Hanalei House LLC. 198 Churchill Ave. Woodside, CA 94062
(4) 5-5-04: 07	Wetzler Family Trust 660 Summit Ave. Mill Valley, CA 94941
(4) 5-5-04: 08	Linda Rutgard HI Per. Res. Tr. 6489 Caminito Baltusral La Jolla, CA 92037
(4) 5-5-04: 09	Fox Gray LLC. P.O. Box 1288 Hanalei, HI 96714
(4) 5-5-04: 10	Fox Gray LLC. P.O. Box 1288 Hanalei, HI 96714
(4) 5-5-04: 11	Fox Gray LLC. P.O. Box 1288 Hanalei, HI 96714
(4) 5-5-04: 12	Donato Errico P.O. Box 1288 Hanalei, HI 96714
(4) 5-5-04: 13	Donato Errico P.O. Box 1288 Hanalei, HI 96714
(4) 5-5-04: 14	Hanalei Property Trust 1060 Vista Hillsborough, CA 94010

Tax Map Key

Names and Addresses

(4) 5-5-04: 15	Michele L. Kaiser Parnell H. Kaiser P.O. Box 1373 Hanalei, HI 96714
(4) 5-5-04: 18	Fox Gray LLC. P.O. Box 1288 Hanalei, HI 96714
(4) 5-5-04: 28	Darryl G. Ching Linda Ching-Ikiri 8031 Georgetown Ave. Los Angeles, CA 90045
(4) 5-5-04: 29	Alberta A. Baroni P.O. Box 1442 Hanalei, HI 96714
(4) 5-5-04: 30	Larry & Jennie Ching LTD. P.O. Box 426 Hanalei, HI 96714
(4) 5-5-04: 31	Davidtz Sloane Trust 9100 Wilshire Blvd, Ste. 1000W Beverly Hills, CA 90212
(4) 5-5-04: 32	Simon Potts Trust P.O. Box 1094 Kialuea, HI 96754
(4) 5-5-04: 34	The Survivor's Trust 120 Kalkar Dr. Santa Cruz, CA 95060
(4) 5-5-04: 37	The Bypass Trust 120 Kalkar Dr. Santa Cruz, CA 95060

Tax Map Key

Names and Addresses

(4) 5-5-04: 38	The Bypass Trust The Survivor's Trust C/O Betsy H. Kamehiro Trustee 120 Kalkar Dr. Santa Cruz, CA 95060
(4) 5-5-04: 40	Amil R. Valpoon III Carrie L. Maka P.O. Box 1642 Hanalei, HI 96714
(4) 5-5-04: 44	Michele B. McCune 542 S.Granados Ave. Solana Beach, CA 92075
(4) 5-5-04: 47	Karen M. Bellavita Trust P.O. Box 1156 Hanalei, HI 96714
(4) 5-5-04: 48	Karen B. Vandervoet David B. Vandervoet 3172 Shakespeare Dr. Los Alamitos, CA 90720
(4) 5-5-04: 49	Simone Harrer Laurentius Harrer 6238 Bonsai Dr. Malibu, CA 90265
(4) 5-5-04: 50	Robert H. Watari Setsuko Watari Hideo Watari P.O. Box 132 Hanalei, HI 96714

Tax Map Key

Names and Addresses

(4) 5-5-04: 51	Jana N. Blackstad Brydan K. Blackstad P.O. Box 1521 Hanalei, HI 96714
(4) 5-5-05: 01	Doris M. Koga Trustee George K. Koga Trustee George K. & Doris M. Koga Trust P.O. Box 67 Hanalei, HI 96714
(4) 5-5-05: 02	Debbie M. B. Haraguchi Natalie N. E. Haraguchi Lloyd K. Haraguchi Jr. P.O. Box 893 Lihue, HI 96766 Lloyd K. Haraguchi Sr. P.O. Box 89 Hanalei, HI 96714
(4) 5-5-05: 03	Caridyn K. K. Colburn P.O. Box 45 Hanalei, HI 96714
(4) 5-5-05: 06	Jean P. Silva Trust Ronald H. Silva Sr. Trust 3221 Uluhui St. Lihue, HI 96766

Tax Map Key

Names and Addresses

(4) 5-5-05: 13	Barbara R. Banke Jess S. Jackson 1045 Alexander Mountain Rd. Geyserville, CA 95441
(4) 5-5-05: 14	Fusao Haraguchi Est. Happy S. Haraguchi Trust Tomio Haraguchi Trust P.O. Box 83 Hanalei, HI 96714
(4) 5-5-05: 15	Joseph N. Kobayashi P.O. Box 589 Kapa`a, HI 96746
(4) 5-5-05: 16	Wai`oli 2011 LLC. P.O. Box 135 Hanalei, HI 96714
(4) 5-5-05: 17	Christine Kobayashi P.O. Box 135 Hanalei, HI 96714
(4) 5-5-05: 18	Barbara A. Watkins 2877 Paradise Rd. #804 Las Vegas, NV 89109
(4) 5-5-05: 19	ATOOI LLC. 2877 Paradise Rd. #804 Las Vegas, NV 89109
(4) 5-5-05: 23	Ching Family LTD. Partnership P.O. Box 426 Hanalei, HI 96714

Tax Map Key

Names and Addresses

(4) 5-5-05: 24	Carol A. Fullerton Thomas W. Fullerton 972 Pico St. Colorado Springs, CO 80906
(4) 5-5-05: 25	Rogan Family Trust 20406 Seaboard Rd. Malibu, CA 90265
(4) 5-5-05: 26	Rhonda Basset-Spiers 1345 Valparaiso Ave. Menlo Park, CA 94025
(4) 5-5-05: 27	Fankhauser Holding Company LLC. 1819 Clinton St. Toledo, OH 43607

Names and addresses of affected groups and individuals were obtained from the County of Kaua'i Real Property Assessment and Treasury Divisions website (www.kauaipropertytax.com)

SECTION VI

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