

ADDENDUM NO. 2

COUNTY OF KAUA'I
DEPARTMENT OF WATER

PLANS, PROPOSAL, SPECIFICATIONS
CONTRACT AND BOND
FOR

**JOB NO. 23-05, H-05
WEKE, ANAE, MAHIMAHI AND HE'E ROADS
6" AND 8" MAIN REPLACEMENT
HANALEI, KAUA'I, HAWAII**

NOTICE TO PROSPECTIVE PROPOSERS

This addendum is hereby made a part of the PLANS, PROPOSAL, SPECIFICATIONS, CONTRACT AND BOND for the subject project and it shall amend the said contract documents in the following respects:

Item 1

Unlocked Signed Plans.

End of Addendum No. 2

If there are any questions, please contact Jason Kagimoto at (808) 245-5417 or email at jkagimoto@kauaiwater.org.



Joseph E. "Joe" Tait
Manager and Chief Engineer
January 25, 2024

ACKNOWLEDGEMENT OF RECEIPT OF ADDENDUM NO. 2

Receipt Acknowledged:

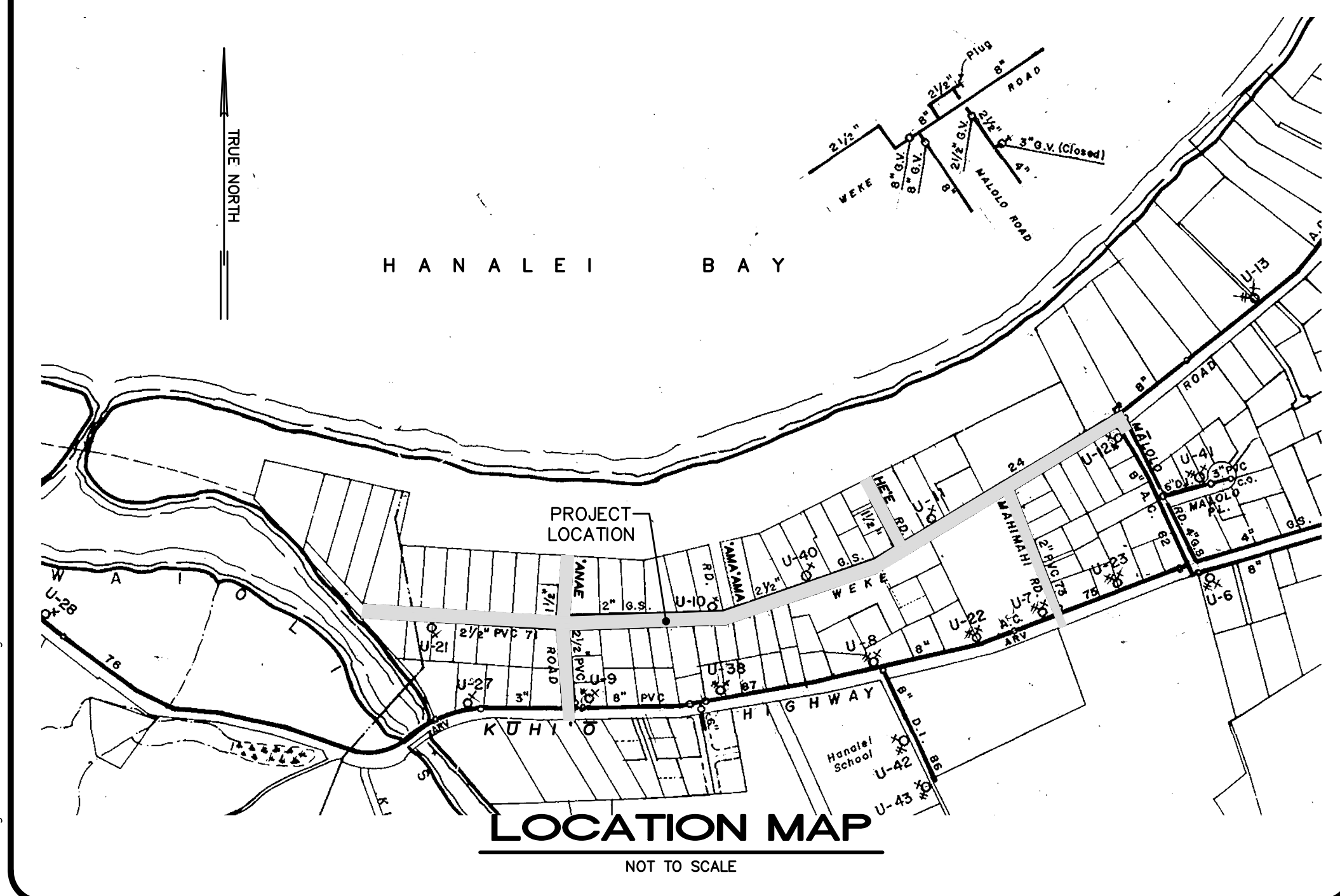
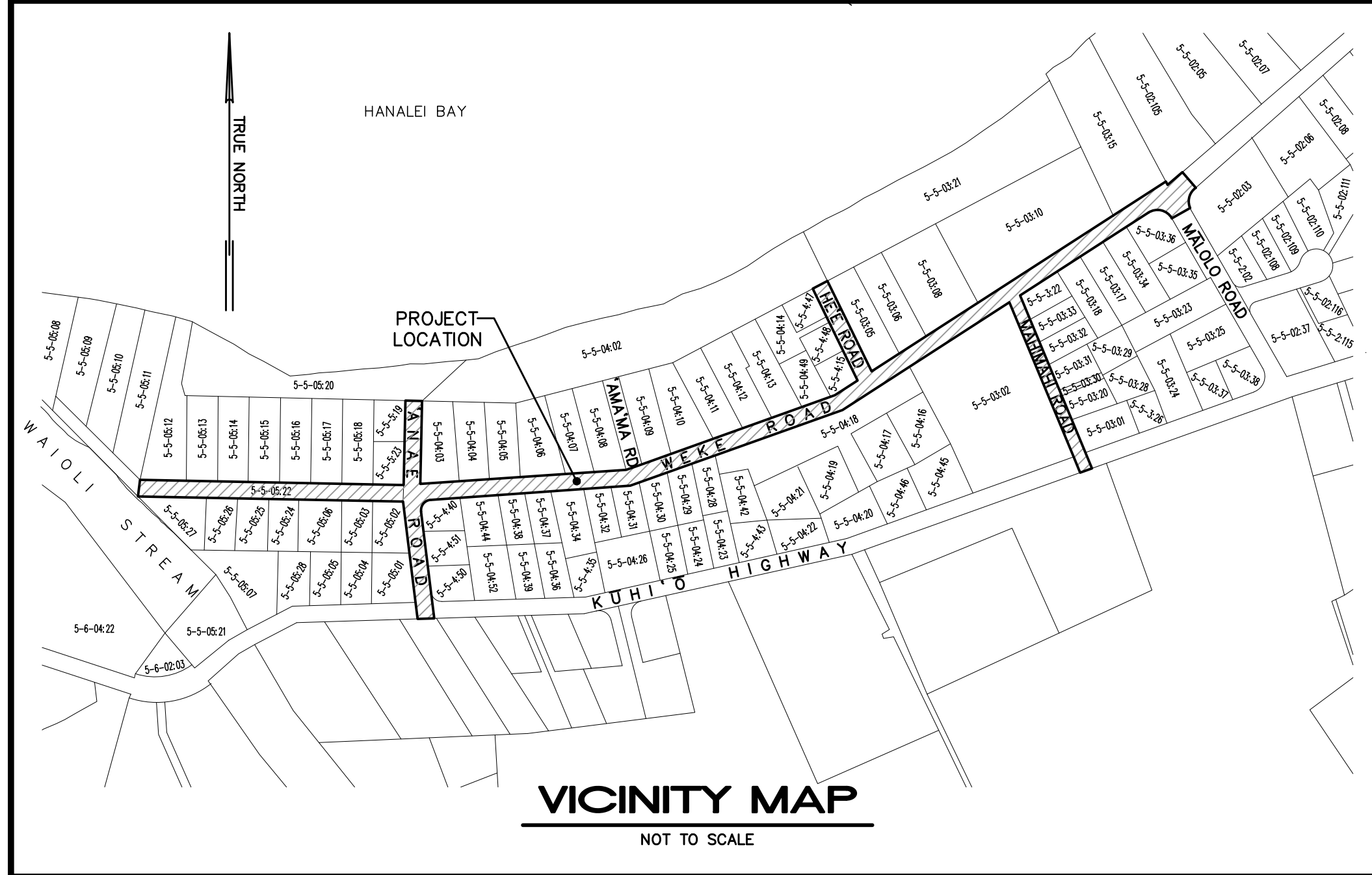
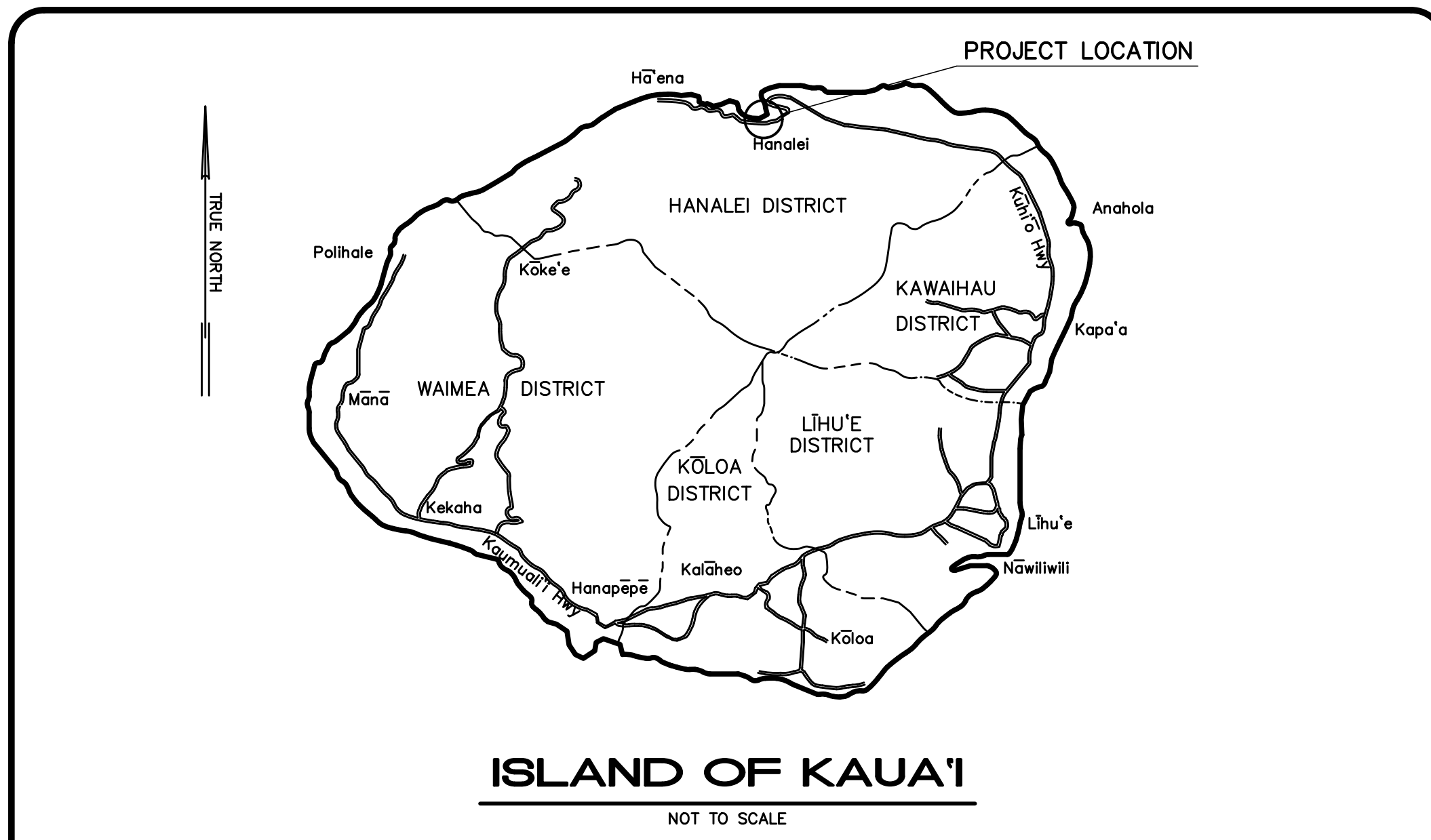
Organization

Received by

Date

Title

(Please email your signed acknowledgement to cerorita@kauaiwater.org.)



DEPARTMENT OF WATER
COUNTY OF KAUA'I

JOB NO. 23-05, WATER PLAN JOB NO. H-05

**CONSTRUCTION PLANS FOR
PIPELINE REPLACEMENT ALONG
WEKE, 'ANAE, MAHIMAHI,
AND HE'E ROADS
HANALEI WATER LINE IMPROVEMENTS**

Hanalei, Kaua'i, Hawai'i

TAX MAP KEY: (4) 5-5-003, (4) 5-5-004 and (4) 5-5-005

PREPARED BY:

ESAKI SURVEYING AND MAPPING, INC.

LĪHU'E, KAUA'I, HAWAII 96766

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APPROVED:

N/A	DATE
DIRECTOR, PLANNING DEPARTMENT COUNTY OF KAUA'I	
<i>Michael Moule</i> Michael Moule (Jan 10, 2024 12:18 HST)	
for COUNTY ENGINEER, DEPT. OF PUBLIC WORKS COUNTY OF KAUA'I (FOR WORK WITHIN COUNTY RIGHT-OF-WAY)	DATE
<i>Jason Kagimoto</i>	Jan 4, 2024
for MANAGER & CHIEF ENGINEER, DEPT. OF WATER COUNTY OF KAUA'I	DATE
N/A	DATE
CHIEF, ENVIRONMENTAL MANAGEMENT DIVISION, DEPARTMENT OF HEALTH STATE OF HAWAII	
<i>Michael Moule</i>	
	Jan 2, 2024
ADMINISTRATOR, HIGHWAYS DIVISION, DEPARTMENT OF TRANSPORTATION STATE OF HAWAII (FOR WORK WITHIN STATE RIGHT-OF-WAY)	DATE
<i>Jason Kagimoto</i>	
	Jan 4, 2024
K.I.U.C.	DATE
N/A	DATE
HAWAIIAN TELCOM	
N/A	DATE
OCEANIC TIME WARNER CABLE	

NOTES FOR GENERAL CONSTRUCTION

(Revised July 26, 2022)

- All construction work is to be constructed in accordance with the current versions of the publications "Hawaii Standard Specifications for Road and Bridge Construction", the "Hawaii Department of Transportation Highways Division Standard Plans", and the "Standard Details for Public Works Construction, City and County of Honolulu, and the Counties of Kauai, Maui, and Hawaii". The standard details are available at the County of Kauai clerk's office.
- Approval by the County shall in no way relieve the design engineer of their responsibilities and professional obligations. They shall be held responsible for the adequacy of the design and accuracy and completeness of the plans and specifications. Changes or revisions to correct any deficiencies shall be made by and at the expense of the designer. Such changes and revisions shall require approval by the County.
- No grading between 7 P.M. to 7 A.M. on any given day or on Saturdays, Sundays, and Holidays without written permission from the County Engineer and the State Department of Health.
- Contractor to notify Public Works Department five (5) business days prior to commencing any grading work. When completed and ready for final inspection, notify Public Works Department Inspection Section.
- Construction plans are valid for a period of one year from the date of approval. If construction does not commence within the one-year time from the date of approval, the construction plans shall be resubmitted to all reviewing and approving agencies for review, approval, and recertification of the plan.
- All grading, grubbing and stockpiling work shall be performed in accordance with the County of Kauai ordinance no. 808.
- After each rainfall event, the Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways, and other areas. The cost incurred for any necessary remedial action by the County Engineer shall be payable by the Contractor.
- During cleaning operations, the Contractor shall supply a water truck for dust control purposes until the vegetation had re-established itself. Excess water, including silt and dirt, shall not be allowed to run-off the property.
- Benchmarks that are disturbed or destroyed shall be restored under a licensed land surveyor's direction. Copies of field notes, descriptions and new values of the new benchmark shall be sent to the Department of Public Works Survey Section for review and approval prior to final acceptance of the project.
- The Contractor shall be responsible for all overtime and/or night work payments for the County's staff and personal including consultants, when the contract requires overtime or night work to be performed, or directs the contractor to work additional shifts or overtime for County's convenience.
- Best Management Practices (BMP's) shall be employed at all times to the maximum extent practicable to prevent damage by sedimentation, erosion or dust to streams, watercourses, natural areas and the property of others.
- Surveys, and all construction stake out for mass grading, final roadway and shoulder improvements, and utilities (sewer, drain, water, electrical, etc.) shall be done under the supervision of a land surveyor licensed in the State of Hawaii. If the Contractor elects to perform the survey and construction stake outs without the supervision of a land surveyor, the Contractor shall submit final as-built plans certified by a land surveyor that all utilities and all grading work for final road and shoulder elevations were constructed in the location and elevations (included but not limited to top and inverts for utilities) as shown on the as-built plans and certified by the design engineer that the as-built location and elevations for the improvements meets minimum design standards and regulatory requirements.
- If system conditions require non-emergency nighttime work during the autumn seabird fall season (September 15 through December 15), use of lighting shall be restricted between 9:00 P.M. to 4:30 A.M. If lighting of the work area is required in such situation, all lights shall be shielded (minimum light spill towards the sky) and directed downwards to the maximum extent practicable. Minimum requirements for lighting by HIOSH and OSHA shall be provided and assured by the Contractor. The Contractor shall train all employees working at night (records retained by the Contractor) on how to handle any retrieved downed birds and shall have appropriate equipment as approved by Save Our Shearwaters (SOS) on site to hold and transport any retrieved birds to an SOS facility. This requirement does not allow lighting as may be restricted by other government agencies.
- Prior to starting any excavation activities, the Contractor shall contact the Hawaii One Call Center at 1-866-423-7287.
- Prior to installation of any new sewer lines, drain lines, manholes, and structures that will be transferred to the County or required for the Subdivision of the property, the Contractor shall have all improvements (mains, pipes, appurtenances and structures) surveyed and staked out by a Licensed Professional Land Surveyor and the Contractor shall expose, verify, and backfill all existing underground utilities and structures in close proximity to crossings and connections prior to excavation of pipeline trench. Contractor shall provide the licensed surveyor cut sheet and probing information to the Public Works Engineering construction engineer for review and approval before moving forward with installation via the submittal review process.
- Prior to installation of final roadway improvements (subgrade, base course, and final concrete or AC pavement, curbs, gutters, sidewalk, etc.) and/or any new right of way improvements that will be transferred to the County or required for the subdivision of the property, the Contractor shall have all improvements surveyed and staked out by a Licensed Professional Land Surveyor and the Contractor shall expose, verify, and backfill all existing underground utilities and structures in close proximity to connections prior to establishing road subgrade. Contractor shall provide the licensed surveyor road centerline (and/or curb offsets) cut sheet of final subgrade to the Public Works Engineering construction engineer for review and approval before moving forward with the installation via the submittal review process.
- The Department of Public Works shall be provided twenty (20) working days for all submittal reviews from the time of submission by the Contractor.
- The Department of Public Works shall have access to the work at all times during construction and shall be furnished with every reasonable facility (including but not limited to layout under the supervision of a land surveyor licensed in the State of Hawaii) for ascertaining that the materials used and the workmanship are in accordance with the requirements of the Chapter 9 Subdivision Ordinance; Ordinance No. 808, Article 7, Grading, Grubbing and Stockpiling; and the standards established by the Department of Public Works.
- For grading work exceeding one (1) acre, with embankments in excess of five hundred (500) cubic yards, and with a depth of more than four (4) feet, the Contractor shall retain the services of a Geotechnical Engineer for quality control. Certification from the Geotechnical Engineer shall be submitted to the Department of Public Works at the completion of the grading work. The Geotechnical Engineer shall certify that the grading work meets the requirements of the "Hawaii Standard Specifications for Road and Bridge Construction, 2005" and its amendments; the "Standard Details for Public Works Construction, County of Kauai, City and County of Honolulu, County of Maui, and the County of Hawaii" dated September 1984" or as amended; Ordinance No. 808, Article 7, Grading, Grubbing and Stockpiling; and the approved construction plans. The Geotechnical Engineer shall also submit test results as requested by the Department of Public Works.
- Upon Completion of construction, the Contractor will prepare and certify as-built drawings that represent all changes to the original approved construction plans. The owner's licensed design engineer will certify that all of the changes shown on the as-built drawings have been approved by the design engineer and meet minimum standards in accordance with the requirements of the original approved construction plans. The Department of Public Works may require every reasonable facility to verify any improvement on the final as-built plans prior to the certification by the owner's engineer, including but not limited to having a land surveyor licensed in the State of Hawaii confirm and certify the final location and elevations.

NOTES FOR CONSTRUCTION WITHIN COUNTY RIGHT-OF-WAY

(Revised July 26, 2022)

- All damaged pavement shall be restored to its original condition in accordance with the most current versions of the "Hawaii Standard Specifications for Road and Bridge Construction" and the "Standard Details for Public Works Construction, September 1984", the "Standard Details For Public Works Construction, City and County of Honolulu, and the Counties of Kauai, Maui, and Hawaii", with 2" minimum hot mix asphalt concrete pavement (State Design Mix V) and 8" minimum base course.
- The Contractor shall provide, install, and maintain all necessary signs, lights, flares, barricades, markers, cones and other protective facilities and shall take all necessary precautions for the protection and for the convenience and safety of the public traffic. All such protective facilities and precautions to be taken shall conform with the rules and regulations governing the use of traffic control devices at work sites on or adjacent to public streets and highways adopted by the Highway Safety Coordinator and U.S. Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways dated 2009 and its amendments.
- The Contractor shall, whenever necessary, properly sheet and brace all excavations to render it secure and shall remove all such sheeting and bracing before completion of the backfill for water mains. The minimum cover requirements (from top of pipe to finished grade over pipe) is three (3) feet.
- A. A permit shall be obtained by the Contractor from the Department of Public Works, County of Kauai before work on a public street or highway may begin. Permit fees shall be at the Contractor's expense.
B. Driveways shall be kept open unless owners of the abutting lots using these right-of-way are otherwise provided for satisfactorily.
C. All work including repair of damaged pavement and shoulders shall be inspected and approved by the Department of Public Works. All unapproved work shall be considered unacceptable and shall be reworked and corrected as directed by the Department of Public Works, at the Contractor's expense.
D. Damaged shoulders shall be restored to a condition equal to or better than existing condition.
E. Work on a public street area may be performed only between the hours of 8:00 A.M. to 3:30 P.M. Monday through Friday, except on holidays recognized by the County of Kauai, unless otherwise permitted in writing by the County Engineer.
F. During non-working hours, all trenches shall be covered with a safe non-skid bridging material and all lanes shall be opened to public vehicular and pedestrian traffic.
G. No material and/or equipment shall be stockpiled or otherwise stored within County right-of-way except at locations designated in writing and approved by the County Engineer.
H. The Contractor shall conduct his operations so as to offer the least possible obstructions and inconvenience to the public and he shall have under construction no greater length or amount of work that he can execute properly with due regard to the rights of the public.
I. All existing drainage flow conditions shall be maintained.
- The Contractor shall retain the services of a Geotechnical Engineer for quality control. Certification from the Geotechnical Engineer shall be submitted to the Department of Public Works at the completion of the construction work. The Geotechnical Engineer shall certify that the construction work meets the "Standard Specifications". The Geotechnical Engineer shall also submit test results as requested by the Department of Public Works.
- The Contractor shall hold a preconstruction meeting with the Construction-Design Sections of the Department of Public Works before commencing any work.
- The Contractor shall exercise extreme caution to preserve benchmarks (survey monuments) whenever the center of a survey monument is less than three (3) feet from the edge of construction. The Contractor shall retain a Licensed Surveyor to reference the location of said survey monument.
- Benchmarks that are disturbed or destroyed shall be restored under a Licensed Land Surveyor's direction. Copies of field notes, descriptions and new values of the new benchmark shall be sent to the Department of Public Works Survey Section for review and approval prior to final acceptance of the project.
- The Contractor shall be responsible for all overtime or night work payments for County's staff and inspection personnel including consultants when the Contract requires overtime or night work to be performed, or directs the Contractor to work additional shifts or overtime for County's convenience.
- If system conditions require non-emergency nighttime work during the autumn seabird fall season (September 15 through December 15), use of lighting shall be restricted between 9:00 P.M. to 4:30 A.M. If lighting of the work area is required in such situation, all lights shall be shielded (minimum light spill towards the sky) and directed downwards to the maximum extent practicable. Minimum requirements for lighting by HIOSH and OSHA shall be provided and assured by the Contractor. The Contractor shall train all employees working at night (records retained by the Contractor) on how to handle any retrieved downed birds and shall have appropriate equipment as approved by Save Our Shearwaters (SOS) on site to hold and transport any retrieved birds to an SOS facility. This requirement does not allow lighting as may be restricted by other government agencies.

PAVEMENT AND TRENCH RESTORATION NOTES

(Revised July 26, 2022)

- Trench repaving shall be a minimum 8-inches thick base course and 2-inches minimum asphalt concrete (State Mix V). If the existing pavement structure is greater in thickness and quality, the repaving shall match the existing pavement structure.
- Pavement resurfacing work shall include 2-inch thickness of existing A.C. to be cold planed and construction of a minimum of 2-inch of new A.C. (State Mix V) layer.
- Road restoration for trenches aligned along the longitudinal direction shall include pavement resurfacing as follows:
A. Roads with pavement widths of less than 12 feet wide shall be repaved the entire width.
B. Roadways between 12 feet and 28 feet wide with no striping shall be paved for half of the roadway.
C. Roadways with no striping and pavement widths greater than 28 feet shall have a 12-foot-wide travel way resurfaced.
- Road restoration for trenches aligned perpendicular to the roadway shall include road resurfacing for a minimum of 6 inches beyond the trench edges.
- The entire road intersection shall be resurfaced wherever trench repaving is required within any portion of an intersection. The limits of resurfacing shall be the curve returns of the roadways of the intersections.
- All existing pavement striping disturbed by this project shall be restored. The striping materials shall be thermoplastic tape or thermoplastic extrusion. Painting is not acceptable.
- The limits of road restoration work may be revised by the engineering division of the County Department of Public Works during processing of road permits for this project.

ENVIRONMENTAL NOTES

(Revised July 26, 2022)

- In accordance with Chapter 11-60.1, AIR POLLUTION CONTROL, Title 11, Hawaii Administrative Rules, the Contractor shall be responsible for ensuring that effective control measures are provided to minimize or prevent any visible dust emission caused by the construction work from impacting the surrounding areas including the off-site roadways used to enter/exit the project. These measures include but are not limited to the use of water wagons, sprinkler systems, dust fences, etc.
- In accordance with Chapter 11-55, WATER POLLUTION CONTROL and Chapter 11-54, WATER QUALITY STANDARDS, Title 11, Hawaii Administrative Rules, the Contractor shall be responsible for ensuring that the Best Management Practice (BMP) to minimize or prevent the discharge of sediments, debris and other water pollutant into State waters are provided at all times.
- In accordance with Chapter 11-58, SOLID WASTE MANAGEMENT CONTROL, Title 11, Hawaii Administrative Rules, the Contractor shall be responsible for ensuring that grub material, demolition waste and construction waste generated by the project are disposed of in a manner or at a site approved by the State Department of Health. Disposal of any of these wastes by burning is prohibited.
- The Contractor shall be responsible for obtaining and paying for all applicable permits from the Department of Health including but not limited to National Pollutant Discharge Elimination System (NPDES), Notice of Intent and General Permit for storm water, hydrostatic test and dewatering discharges prior to commencing construction. NPDES permit shall be required prior to grading or grubbing work over an area of one acre or more.
- After each rainfall event, the Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas; the cost incurred for any necessary remedial action by the County Engineer shall be payable by the Contractor.
- Best Management Practices (BMP's) shall be employed at all times to the maximum extent practicable to prevent damage by sedimentation, erosion or dust to streams, watercourse, natural areas and the property of others.
- The Contractor shall obtain and comply with National Pollutant Discharge Elimination System (NPDES) Permit requirements for all projects which will disturb one (1) acre or more of land. The Contractor shall not start construction until Notice of General Permit Coverage (NGPC) is received from the Department of Health, State of Hawaii and has satisfied any other applicable requirements of the NPDES permit program.
- In accordance with Chapter 11-46, COMMUNITY NOISE, Hawaii Administrative Rules, the Contractor shall be responsible for providing effective control measures to minimize or prevent construction related noise from impacting the residents in the immediate area. If required, noise reduction measures shall be implemented by the Contractor during the construction work.
- The property may harbor rodents which will be dispersed to the surrounding areas when the site is cleared. In accordance with Chapter 11-26, entitled VECTOR CONTROL of Title 11, HAR, the applicant shall ascertain the presence or absence of rodents on the property. Should the presence of rodents be determined, the applicant shall eradicate the rodents prior to clearing the site.
- A copy of the plans, construction schedule and/or written measures that is required to be submitted by the Contractor (Dust Control Measures/Plans) should also be sent to the Department of Health for monitoring purposes.

HISTORICAL PRESERVATION NOTES

(Revised May 30, 2013)

- Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work shall cease immediately in the immediate vicinity of the find and the find shall be protected from further damage. The Contractor shall cordon off the area and immediately notify the Planning Department at (808) 241-4050 and the State Historic Preservation Division at (808) 692-8015, which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary. In addition, if human burials are found, the Contractor shall immediately notify the County of Kauai Police Department.

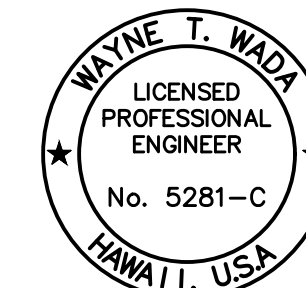
ESAKI SURVEYING AND MAPPING, INC.

1610 Halekuna Street
Lihue, Kauai, Hawaii 96766
Ph. (808) 246-0625 Fax (808) 246-0229

• CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED
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REVISIONS



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wade

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHAI AND HEE ROADS HANAIE WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003,
(4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

CONSTRUCTION NOTES

APPROVED:
Michael Meade
Michael Meade (Exp. 30, 2024 12/28/1071)
for COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE
Jessie Kaganis Jan 4, 2024
for MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE

DESIGNED BY: <i>SW</i>	SHEET
DRAWN BY: <i>Ma, Cb, BF</i>	
DATE: 12/28/23	2 OF 21 SHEETS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS

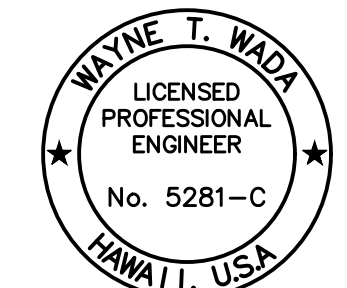
**NOTES FOR CONSTRUCTION
WITHIN STATE RIGHT-OF-WAY**

(revised April 20, 2023)

- Approval of permit construction plans shall be valid for a period of one year thereof from the date of notification of approval to the applicant. In the event construction does not commence within this one-year period, the applicant will be required to resubmit his construction plans for Division's review and approval.
- Cutting of highway pavement is not allowed within one year of the final acceptance of the pavement installation.
- No construction within the state highway right-of-way shall commence until an application for a "Permit to Perform Work Upon State Highways" has been completed, and permit issued to the agency, and/or, its contractor. <https://hidot.hawaii.gov/highways/home/doing-business/guide-to-permits/> (ph. 808-241-3000).
- The Contractor shall notify the State Highways Division, Kauai District Office, Construction Engineer two (2) weeks prior to commencing work.
- Construction and restoration of all existing highway facilities within State right-of-way shall be done in accordance with all applicable sections of the current "Hawaii Standard Specifications for Road and Bridge Construction 2005," and the "Specification for Installation of Miscellaneous Improvements Within State Highways" of the State Highway Division.
- At the end of each day's work, the Contractor shall remove all equipment and other obstruction to permit free passage of public traffic and pedestrians.
- All lanes shall be open to traffic during the morning peak hours from 6:30 a.m. to 8:30 a.m., and during the afternoon peak hours from 3:00 p.m. to 6:00 p.m., and during off work hours.
- Work may be performed from 7:00 am Monday to 5:30 pm Friday, except State Holidays, unless otherwise permitted by the District Engineer.
- Night work shall not be performed during the period from September 15 to December 31 of each year.
- Contractor shall complete and submit a Weekly Lane Closure Request Form to the State Highways Office at least 14 days prior to any roadwork on State highways.
- The Contractor shall comply with the attached traffic control plans and sign spacing table.
- All workers within the State 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/SEA 107-2004. "Workers" is defined as people on foot whose duties place them within the State Right-Of-Way such as but not limited to construction and maintenance forces, equipment operators, survey crews, utility crews, responders to incidents (e.g. EMT and firemen) and law enforcement personnel directing traffic, investigating accidents, and handling lane closures and obstructed roadways.
- No material and/or equipment shall be stockpiled or otherwise stored within highway rights-of-way except at locations designed in writing and approved by the Construction Engineer.
- Prior to construction, the Contractor shall contact the various agencies for location of existing utilities within the project limits. The Contractor shall locate and protect all existing utilities whether or not shown on the plans. Any costs incurred by damages to existing utilities will be borne by the Contractor. Contractor shall request toning of utilities from One-Call Center, Phone: 1-866-423-7287. The Contractor shall also call the County of Kauai Department of Water, Phone 245-5411 and the Wastewater Division, Phone 241-6642 for toning of waterlines and sewer lines, respectively.
- The Contractor shall provide for access to and from all existing driveways, sidewalks and ADA access routes, and side streets and cross streets at all times.
- The Contractor shall reference to the satisfaction of the District Engineer, all existing traffic signs, posts, and pavement markings prior to the commencement of construction. The Contractor shall replace or repair all traffic signs, posts, and pavement markings disturbed by his activities unless directed otherwise by the District Engineer or his representative.
- Contractor shall implement Best Management Practices (BMP) for erosion and silt control for work within the State R/W. Site-specific BMP plan shall be submitted to the Construction Engineer for review and acceptance.
- The Contractor shall provide, install, and maintain all necessary signs, light, flares, barricades, markers, cones, and other protective facilities and shall take all necessary precautions for the protection and for the convenience and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the "Administrative Rules of Hawaii Governing the Use of Traffic Control Devices at Work Sites On or Adjacent to Public Streets and Highways" adopted by the Director of Transportation, and the current U.S. Federal Highway Administration Manual on Uniform Traffic Control devices for Streets and Highways, Part VI - Traffic Control for Highway Construction and Maintenance Operations". If lane closures are required during construction, a traffic control plan shall be incorporated into the construction plans and must be approved by the Division prior to the issuance of the permit.
- All regulatory, guide and construction signs and barricades shall be of high intensity reflective sheeting.
- Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, and tools to maintain flow.
- The minimum pavement structure shall consist of:
 - Commercial Driveways, Side roads and Utility Installations on State Highways
 - 4" HMA pavement, Mix No. IV over 8" aggregate base over 12" aggregate subbase; or 4" HMA pavement Mix No. IV over 8" asphalt concrete base or HMA pavement Mix No. IV.
 - 6" of Class "A" concrete reinforced with 6"x6" - 6/8 wire mesh over 12" aggregate subbase, if deemed necessary by the Engineer.
 - Residential Driveways
 - 2" HMA pavement, Mix No. IV over 6" aggregate base; or 2" HMA pavement Mix No. IV over 2-1/2" asphalt concrete base or HMA pavement Mix No. IV.
 - 4" of Class "A" concrete reinforced with 6"x6" - 6/8 wire mesh over 12" aggregate subbase, if deemed necessary by the Engineer.
- Compaction tests shall be taken in accordance with the Specifications for Installation of Miscellaneous Improvements Within State Highways, as follows:
 - Subbase: one (1) compaction test(s) per lift, for every 300 lineal feet of travel way.
 - Base Course: one (1) compaction test(s) per lift, for every 300 lineal feet of travel way.
 - One (1) compaction test(s) per lift, for each 300 lineal feet of trench.
 - Copy of all test results shall be provided to the Construction Engineer for review and acceptance.
- Smooth riding connections shall be constructed at all limits of new pavement, including the beginning and end of project, connecting approaches, side streets, and driveways as shown on the plans.
- Prior to commencing trench excavation work, the Contractor shall take a profile along the new centerline of utility trench and that such information shall be used in the verification of restoring the roadway to its original condition. A copy of the profile shall be submitted to the Construction Engineer.
- The Contractor shall be required to provide adequate, safe, nonskid bridging material over the trench, including shoring, when trenching in pavement areas to handle all types of vehicular traffic.
- No trench shall be opened more than 200 feet in advance of the installed and tested pipe and/or duct line.
- The Contractor shall exercise care when excavating in areas with utilities, streetlights, signals, etc. Damage to these existing facilities shall be immediately reported to the respective utility companies, county, or state agency. The repair work shall be done at the Contractor's expense.
- Pavement striping and marking shall be performed by Contractor at no cost to the State. Thermoplastic extrusion only is acceptable for striping.
- The Contractor shall make every effort to minimize the use and duration of steel plates. All steel plates shall have a non-skid surface. The State may require the backfilling and patching of the trench due to the excessive use of steel plates. When permitted, only one steel plate will be used within the travel way at any time.
- Any work that disrupts, damages, or destroys existing traffic loop detectors shall be followed with re-establishment of the traffic loops before reopening the lanes to traffic. The Contractor may also use temporary pole mounted presence detectors to replace any loops taken out of service. The cost for the temporary detectors shall be borne by the Contractor.
- Benchmarks that are disturbed or destroyed shall be restored under a Licensed Land Surveyor's direction. Copies of field notes, descriptions and new values of the new benchmark shall be sent to the State Highways Division for review and approval prior to final acceptance of the project.
- The contractor shall provide the District Engineer with as-built plans upon completion of the work done in the State right of way. This shall be done prior to the Department's release of the performance bond.
- The permit to perform work upon State highways may be revoked because of default in any of the following:
 - Work performed before or after permitted hours;
 - Failure to maintain roadway surfaces in a smooth and safe condition;
 - Failure to clean up construction debris generated from project work;
 - Failure to provide proper traffic control;
 - Failure to replace damaged pavement markers, markings, and signs.

**TRENCH RESTORATION NOTES FOR
WORK WITHIN STATE RIGHT-OF-WAY**

- For trenches aligned along longitudinal direction of the roadway or skewed at angle of less than 45 degrees to the longitudinal direction of the roadway, restore the pavement in a manner that does not result in longitudinal paving joints between the lane markings or on the paved shoulders.
- For trenches located less than 2 feet from the edge of pavement, curb, or gutter, restore the pavement to the edge of pavement, curb, or gutter.
- Placing the repaving joint at the centerline of the existing lane markings is acceptable. Provide a minimum of two inch thickness for the new pavement layer. Removal of the existing markings and installation of new pavement markings shall be included. Provide plans for the installation of the new pavement markings.
- For trenches aligned transverse to the longitudinal direction of the roadway or skewed at angles of 45 degrees or greater to the longitudinal direction of the roadway, restore the pavement for a minimum distance of 6 feet away from the edges of the trench. For trenches less than 30 feet apart, repave the entire area between the trenches.
- For trenches within any portion of an intersection, restore the pavement for the entire intersection. The limits of restoration shall be the curve returns of the roadways of the intersections.
- Smoothness of paved surfaces: The distance from the paved surface to the testing edge of a ten-foot straight edge between the two points of contact shall not exceed 3/16".
- Contractor shall remove cold mix patch and provide permanent hot mix trench patch within 14 calendar days of final trench backfill.
- Pavement Joint Adhesive on Joints
 - Use on all asphalt pavement construction where joints are formed at such locations but not limited to the following:
 - Adjacent asphalt pavements, e.g., trafficked lanes, shoulders, etc.
 - Asphalt pavement and adjacent concrete pavement or curb and gutter or any other surface where the bonding of the asphalt pavement and concrete surface is desired.
 - Transverse joints between asphalt pavements not placed at the same time or if the pavement's temperature on one side of the joint is below the minimum temperature the mix can be at, during asphalt pavement compaction or installation.
 - Cut face of an existing pavement where it will have new HMA pavement placed against it, e.g., utility trenches, partial or full depth repairs, etc.
 - Pavement joint adhesive is not required on a longitudinal construction joint between adjacent hot mix asphalt pavements formed by echelon paving. Echelon paving is defined as paving multiple lanes side-by-side with adjacent pavers slightly offset at the same time.
 - A longitudinal construction joint between one shift's work and another shall have pavement joint adhesive applied at the joint. Any longitudinal construction joint formed, with the temperature on one side of the joint that is below the minimum temperature the mix can be when compacted to contract requirements during asphalt pavement installation, shall have pavement joint adhesive applied at the joint.



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wade

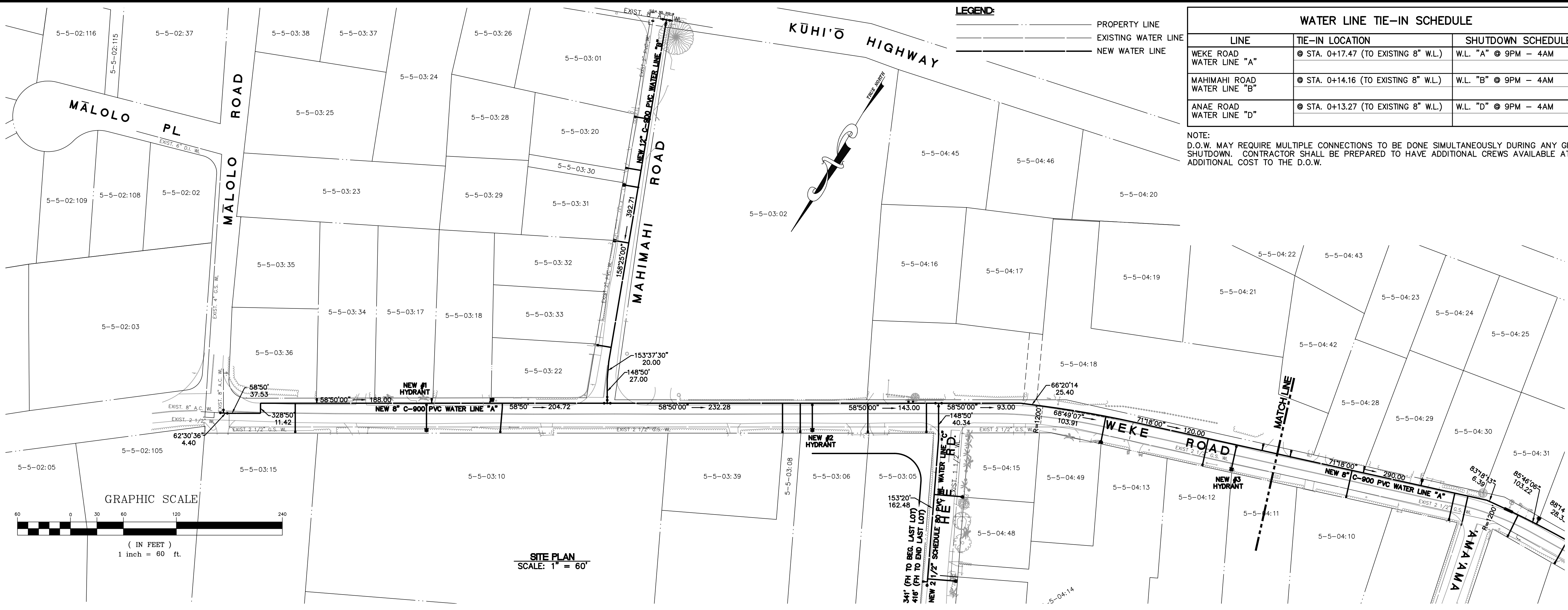
PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
REPLACEMENT ALONG WEKE, 'ANA'E,
MAHIMAHU AND HEE ROADS
HANAIE WATER LINE IMPROVEMENTS**
Tax Map Key: (4) 5-5-003,
(4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

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

**CONSTRUCTION
NOTES
(STATE R/W)**

APPROVED:
Michael Meade
Michael Meade (Lic. No. 2024 12 28 1971)
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE
Jeanne Kuyper Jan 4, 2024
MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

DESIGNED BY: *SWW* SHEET
DRAWN BY: *MA, CB, BF* **C-4**
DATE: 12/28/23 4 OF 21 SHEETS



ESAKI SURVEYING AND MAPPING, INC.

1610 Haleukana Street
Lihu'e, Kaua'i, Hawai'i 96766
Ph. (808) 246-0625 Fax (808) 246-0229

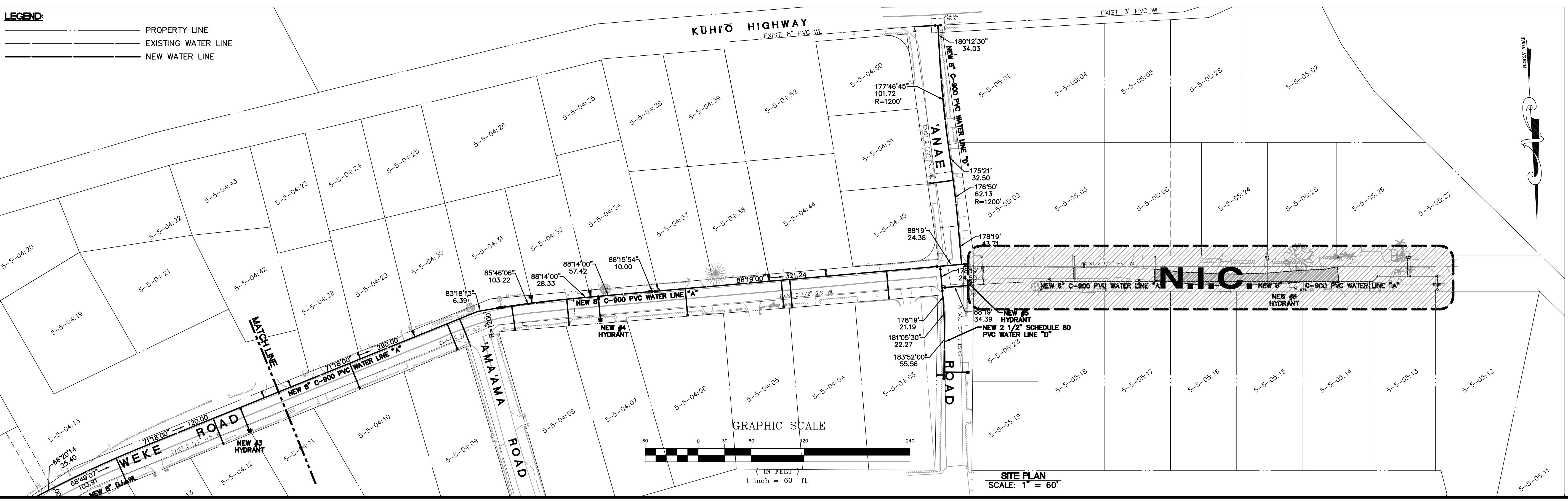
• CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED
REVISIONS				

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

EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada



PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHI AND HEE ROADS HANALEI WATER LINE IMPROVEMENTS
 Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kaua'i, Hawai'i

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

SITE PLAN

APPROVED:

John Pagan
 COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE: Jan 4, 2024

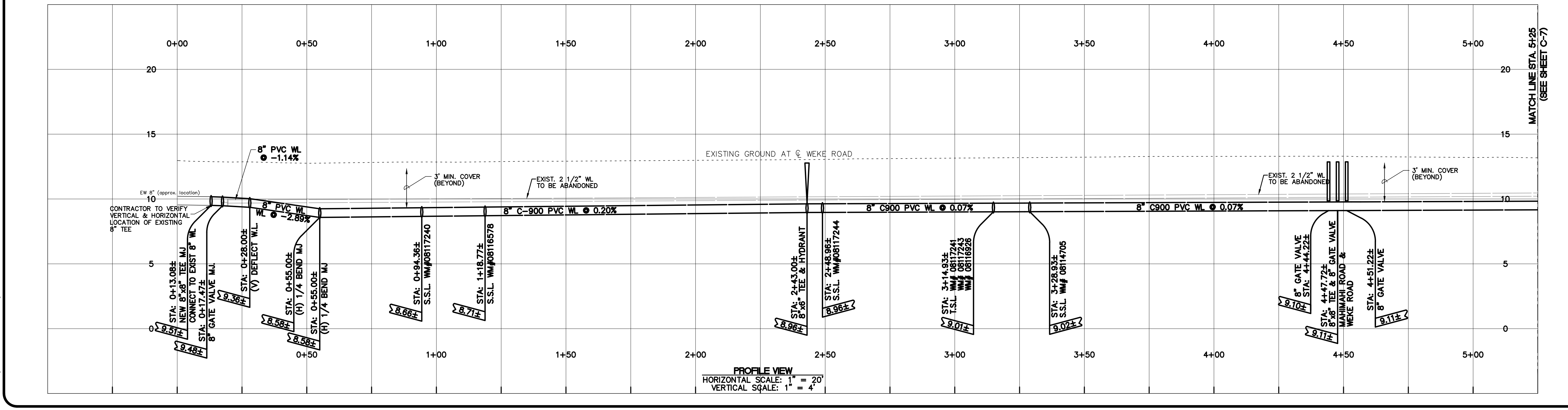
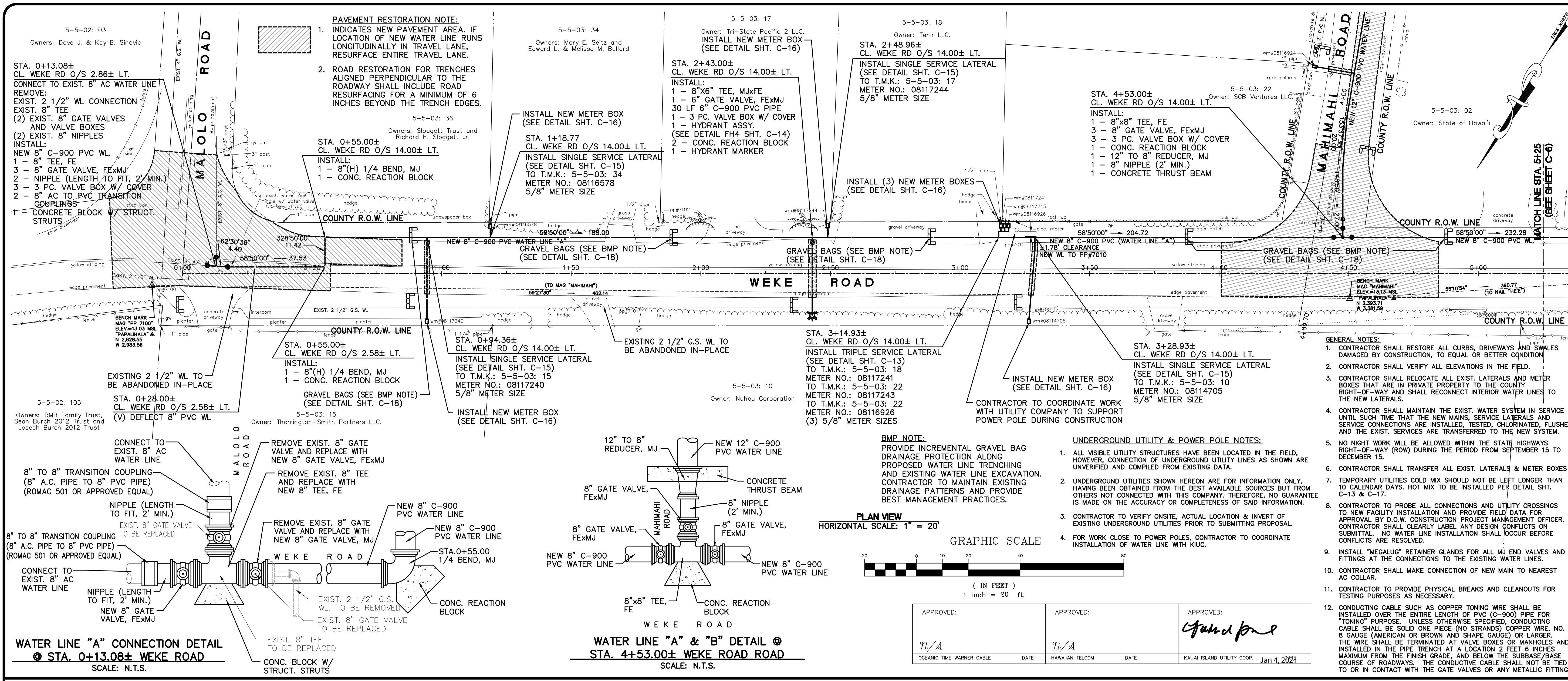
John Pagan
 MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE:

DESIGNED BY: *SW* SHEET: **C-5**

DRAWN BY: *MA, CB, BF* 5 OF 21 SHEETS

DATE: 12/28/23

Project No.: 12-43
Drawing File: 12-43CON17.dwg



REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS

GENERAL 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.
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APPROVED: *Wayne T. Wada*

PROJECT: CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHĪ AND HEE ROADS HANAĪE WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kaua'i, Hawai'i

CLIENT: DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE WEKE ROAD STA. 0+00 TO 5+25 WATER LINE "A"

APPROVED: *[Signature]*

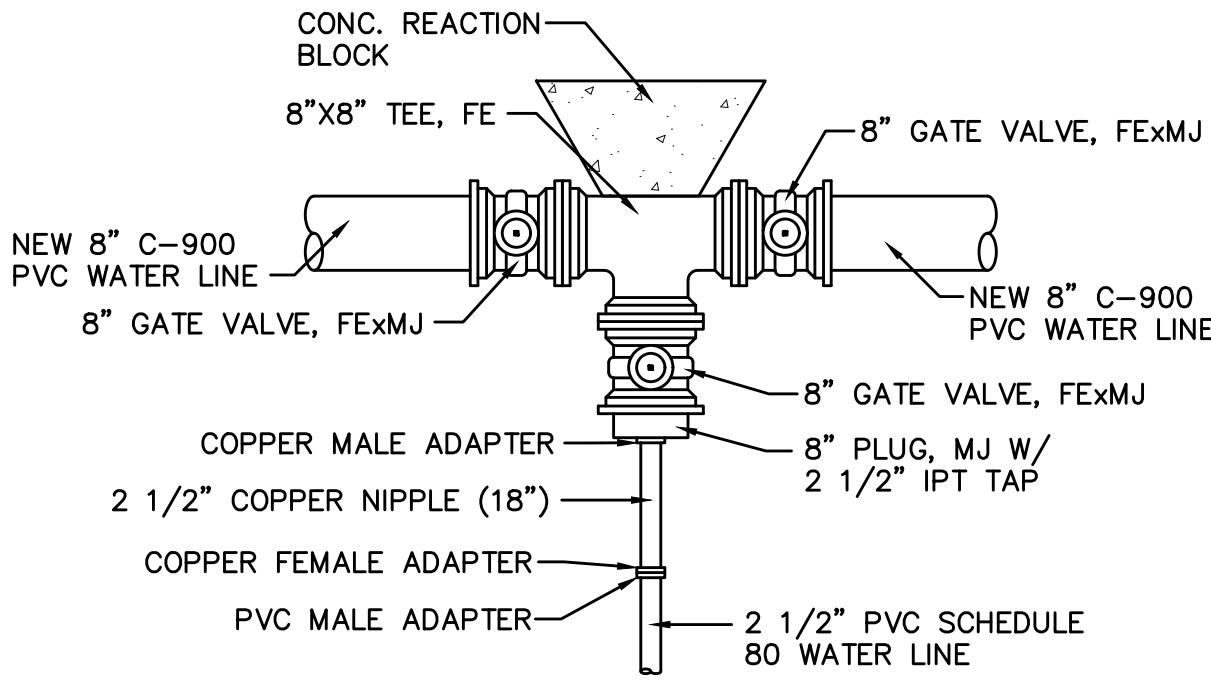
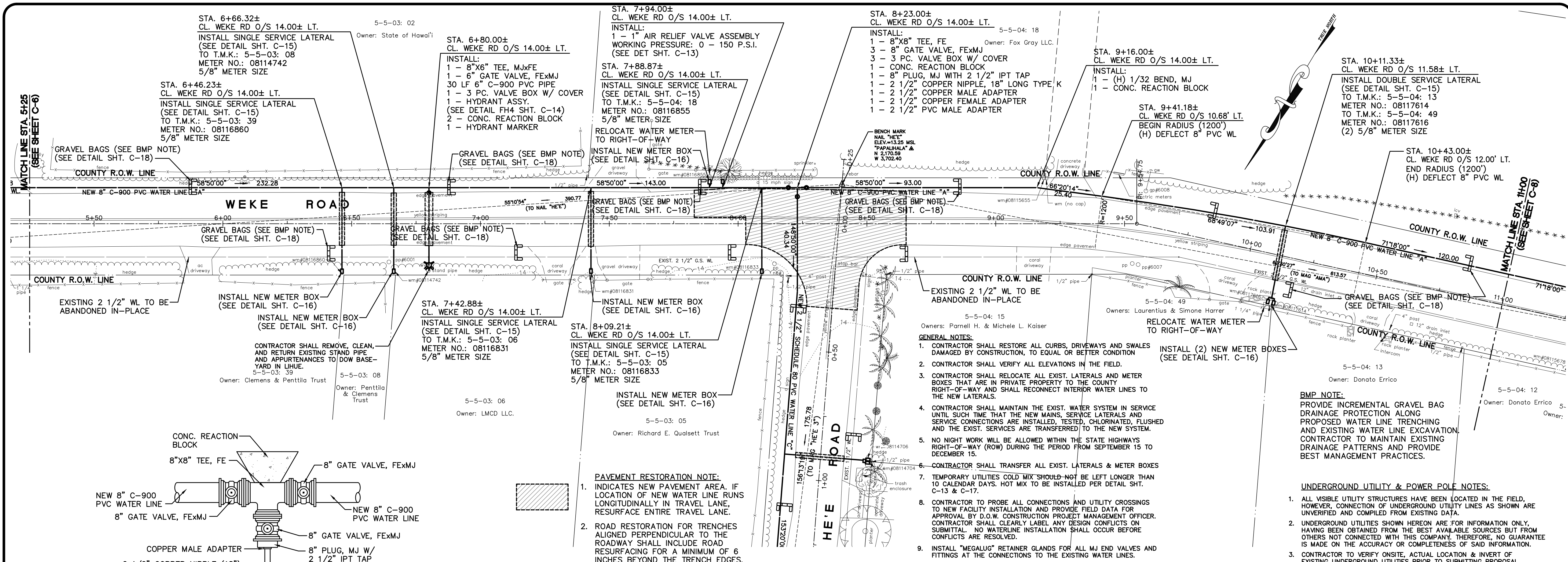
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE: Jan 4, 2024

MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE: Jan 4, 2024

DESIGNED BY: *WW* SHEET: **C-6**

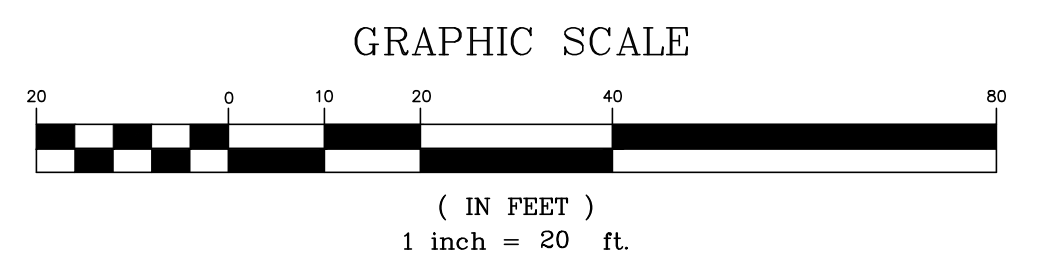
DRAWN BY: *Ma, Ce, BF*

DATE: 12/28/23 6 OF 21 SHEETS



WATER LINE "A" & "C" DETAIL
© STA. 8+23.00± WEKE ROAD & HE'E ROAD
SCALE: N.T.S.

- PAVEMENT RESTORATION NOTE:**
- INDICATES NEW PAVEMENT AREA. IF LOCATION OF NEW WATER LINE RUNS LONGITUDINALLY IN TRAVEL LANE, RESURFACE ENTIRE TRAVEL LANE.
 - ROAD RESTORATION FOR TRENCHES ALIGNED PERPENDICULAR TO THE ROADWAY SHALL INCLUDE ROAD RESURFACING FOR A MINIMUM OF 6 INCHES BEYOND THE TRENCH EDGES.



PLAN VIEW
HORIZONTAL SCALE: 1" = 20'

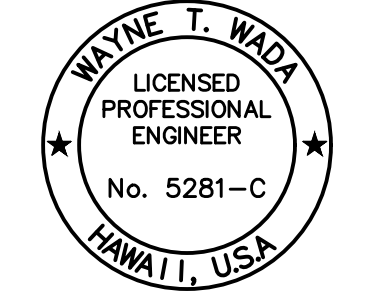
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APPROVED: <i>N/A</i> OCEANIC TIME WARNER CABLE	APPROVED: <i>N/A</i> HAWAIIAN TELCOM	APPROVED: <i>[Signature]</i> KAUAI ISLAND UTILITY COOP. Jan 4, 2024
--	--	---

BMP NOTE:
PROVIDE INCREMENTAL GRAVEL BAG DRAINAGE PROTECTION ALONG PROPOSED WATER LINE TRENCHING AND EXISTING WATER LINE EXCAVATION. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS AND PROVIDE BEST MANAGEMENT PRACTICES.

UNDERGROUND UTILITY & POWER POLE 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 PRIOR TO SUBMITTING PROPOSAL.
- FOR WORK CLOSE TO POWER POLES, CONTRACTOR TO COORDINATE INSTALLATION OF WATER LINE WITH KIUC.



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

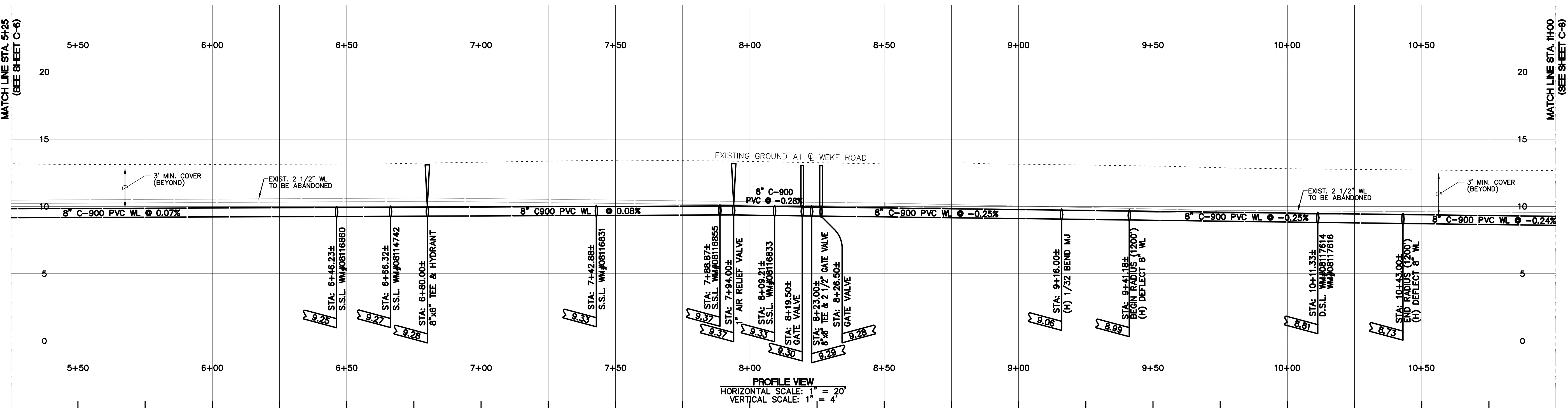
Wayne T. Wada

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAHIM AND HE'E ROADS HANA'ALEI WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kaua'i, Hawai'i

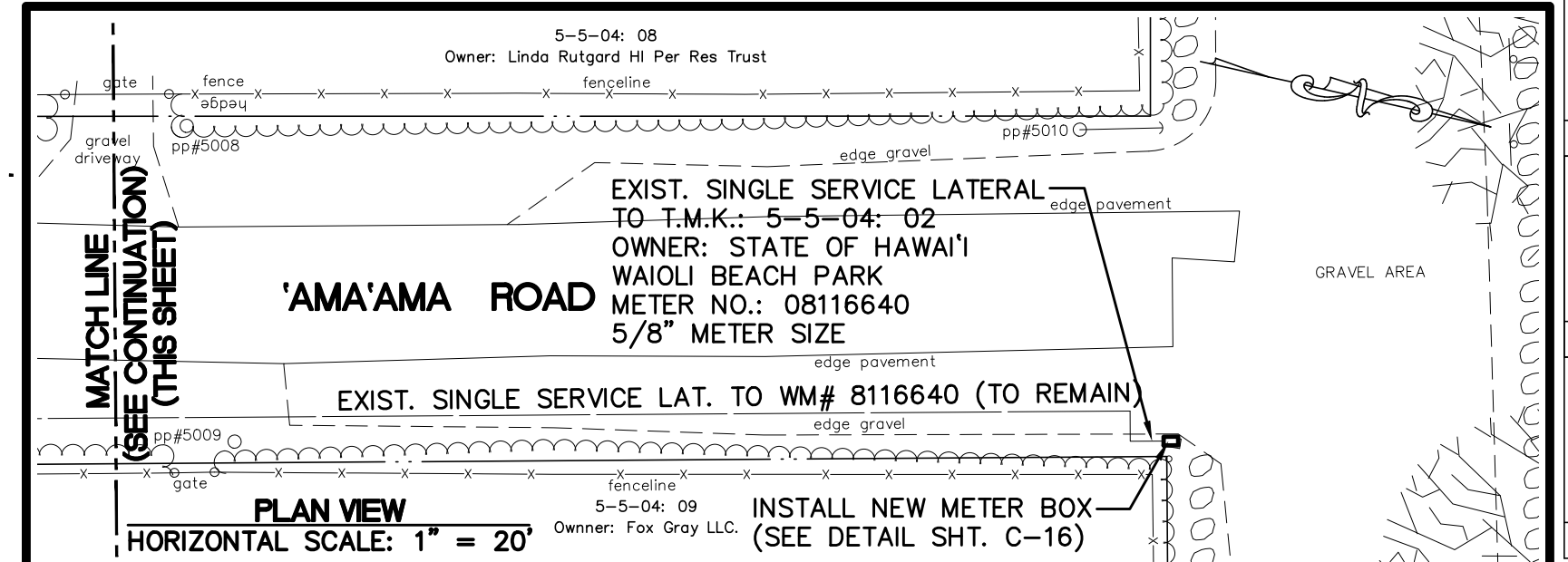
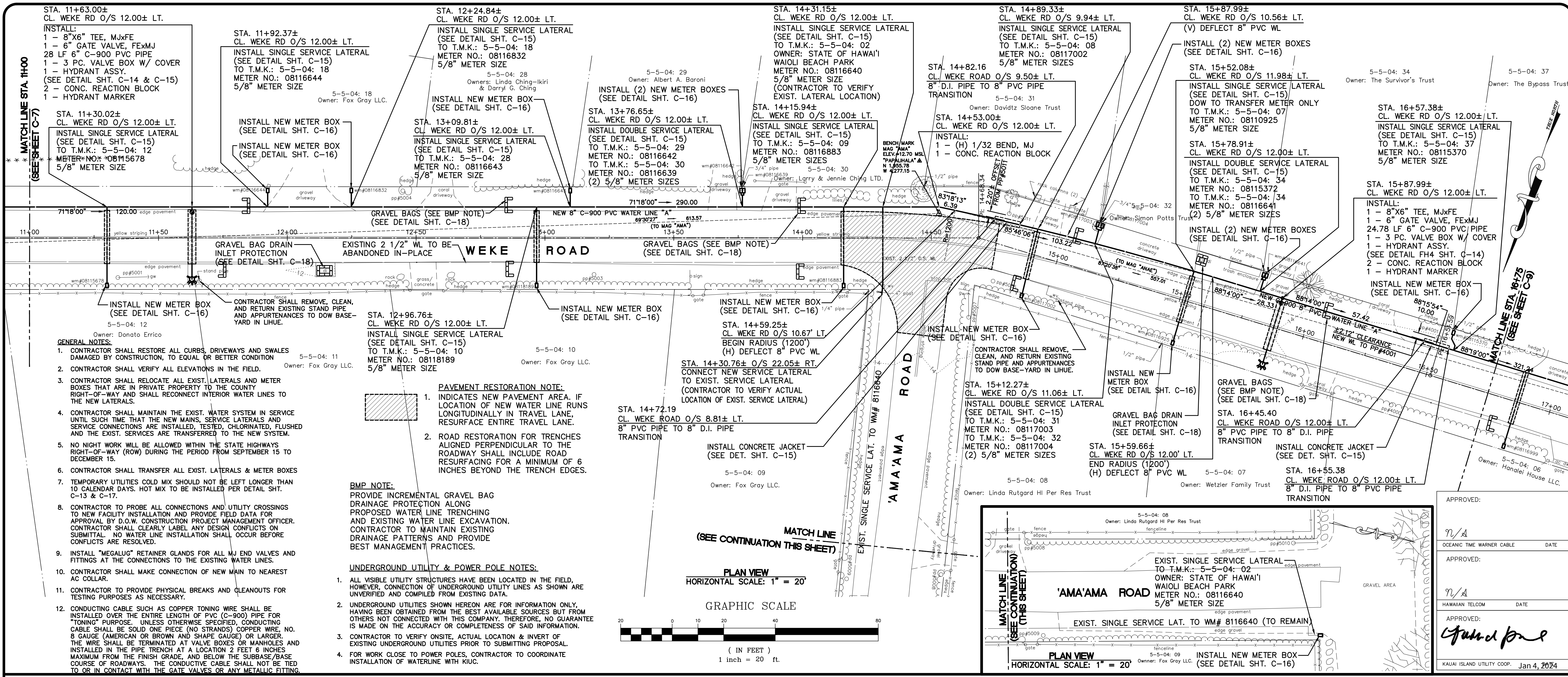
CLIENT:
DEPARTMENT OF WATER
COUNTY OF KAUAI

PLAN AND PROFILE WEKE ROAD STA. 5+25 TO 11+00 WATER LINE "A"

APPROVED:
[Signature]
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W)
DATE: Jan 4, 2024
FOR MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI



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

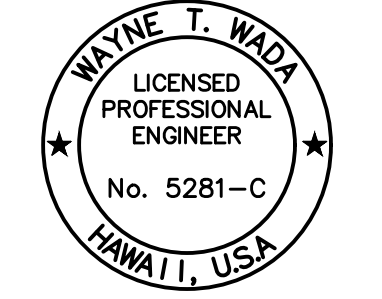


APPROVED: _____
OCEANIC TIME WARNER CABLE DATE _____

APPROVED: _____
HAWAIIAN TELCOM DATE _____

APPROVED: *Guadalupe*
KAUIA ISLAND UTILITY COOP. Jan 4, 2024

REVISION	DATE	DESCRIPTION	BY	APPROVED



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wade

PROJECT: CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAH'I AND HEE ROADS HANAIE WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kauai, Hawaii

CLIENT: DEPARTMENT OF WATER COUNTY OF KAUAI

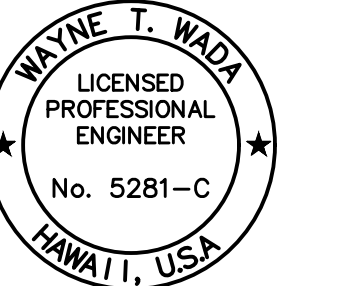
PLAN AND PROFILE
WEKE ROAD
STA. 11+00 TO 16+75
WATER LINE "A"

APPROVED: _____
DATE: Jan 4, 2024

DATE: 12/28/23

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
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BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

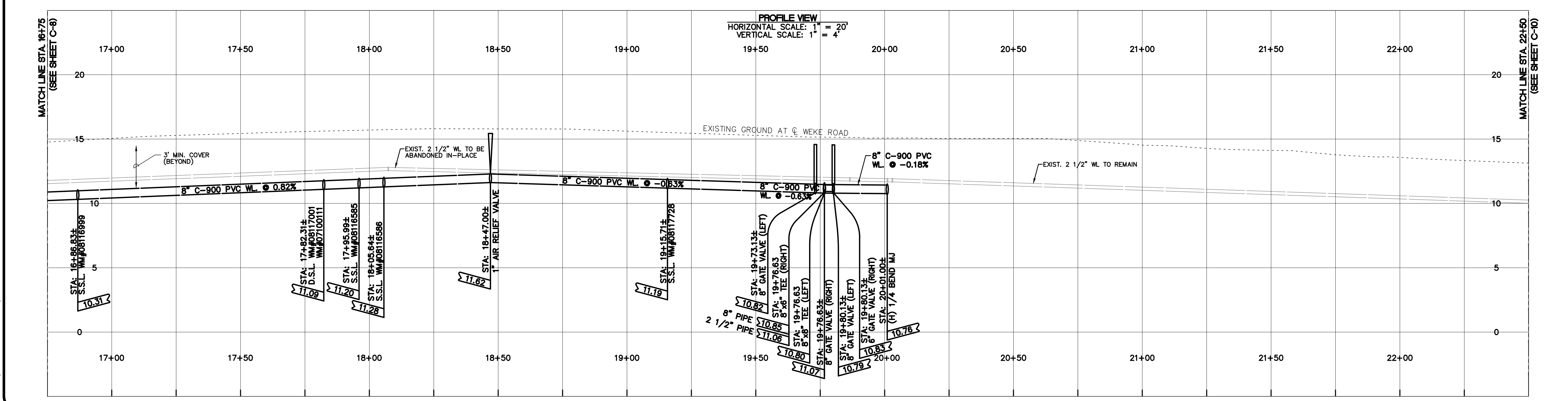
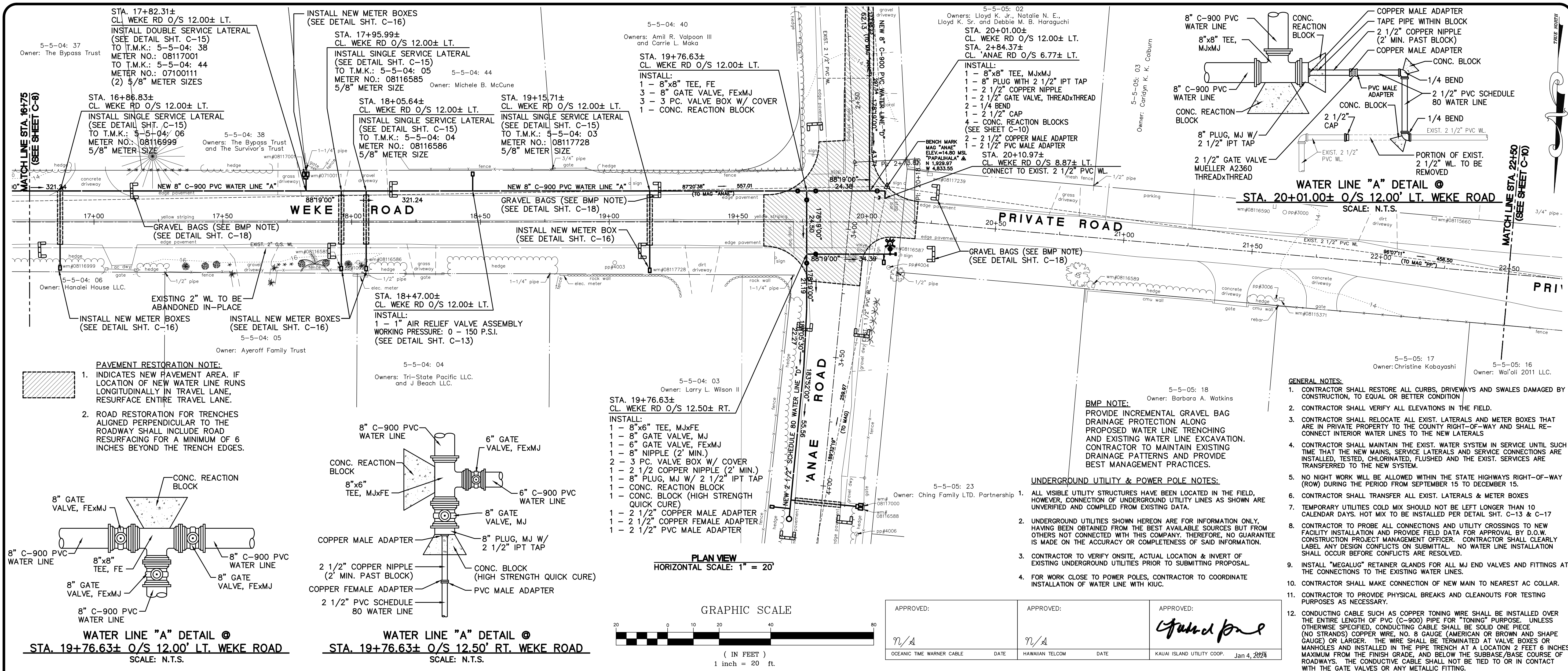
PROJECT: **CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIAHI AND HEE ROADS HANAIE WATER LINE IMPROVEMENTS**
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kaua'i, Hawai'i

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

PLAN AND PROFILE WEKE ROAD STA. 16+75 TO 22+50 WATER LINE "A"

APPROVED:
[Signature]
DATE: Jan 4, 2024
FOR MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

DESIGNED BY: *WW* SHEET
DRAWN BY: *Md, Cb, Bf*
DATE: 12/28/23 9 OF 21 SHEETS



Project No.: 12-43
Drawing File: 12-43CON17.dwg

Owners: Ronald H. Silva Trust and Silva Trust
5-5-05: 06

5-5-05: 24
Owners: Thomas W. & Carol A. Fullerton

5-5-05: 25
Owner: Rogan Family Trust

5-5-05: 26
Owner: Rhonda Bassett-Spiers

5-5-05: 27
Owner: Fankhauser Holding Company LLC.



- PAVEMENT RESTORATION NOTE:**
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BMP NOTE:
PROVIDE INCREMENTAL GRAVEL BAG DRAINAGE PROTECTION ALONG PROPOSED WATERLINE TRENCHING AND EXISTING WATER LINE EXCAVATION. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS AND PROVIDE BEST MANAGEMENT PRACTICES.

ELECTRICAL CONDUITS NOTES:

- CONTRACTOR TO LOCATE CONDUIT LOCATION AND VERIFY IF THE LATERAL WILL CROSS OVER OR ON TOP OF THE EXISTING CONDUIT BEFORE THE MAIN IS TAPPED. IF THE DEPTH OF THE CONDUIT IS LESS THAN 28 INCHES, THE PROPOSED LATERAL SHOULD CROSS BELOW THE CONDUIT.
- THE CLEARANCE BETWEEN THE CONDUIT CONCRETE JACKET AND THE PROPOSED WATERLINE SHOULD NOT BE LESS THAN 8 INCHES.
- IF THE ELECTRICAL/CONDUIT DUCT SECTION IS NOT CONCRETE JACKETED, CONCRETE JACKET THE DUCT SECTION A MINIMUM OF 3 L.F. ON BOTH SIDES OF THE WATERLINE CROSSING.

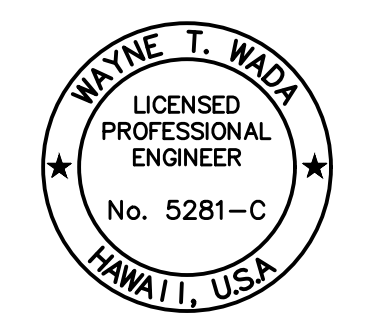
ESAKI SURVEYING AND MAPPING, INC.

1610 Haleukana Street
Lhu'e, Kaula, Hawai'i 96766
Ph. (808) 246-0625 Fax (808) 246-0229

CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

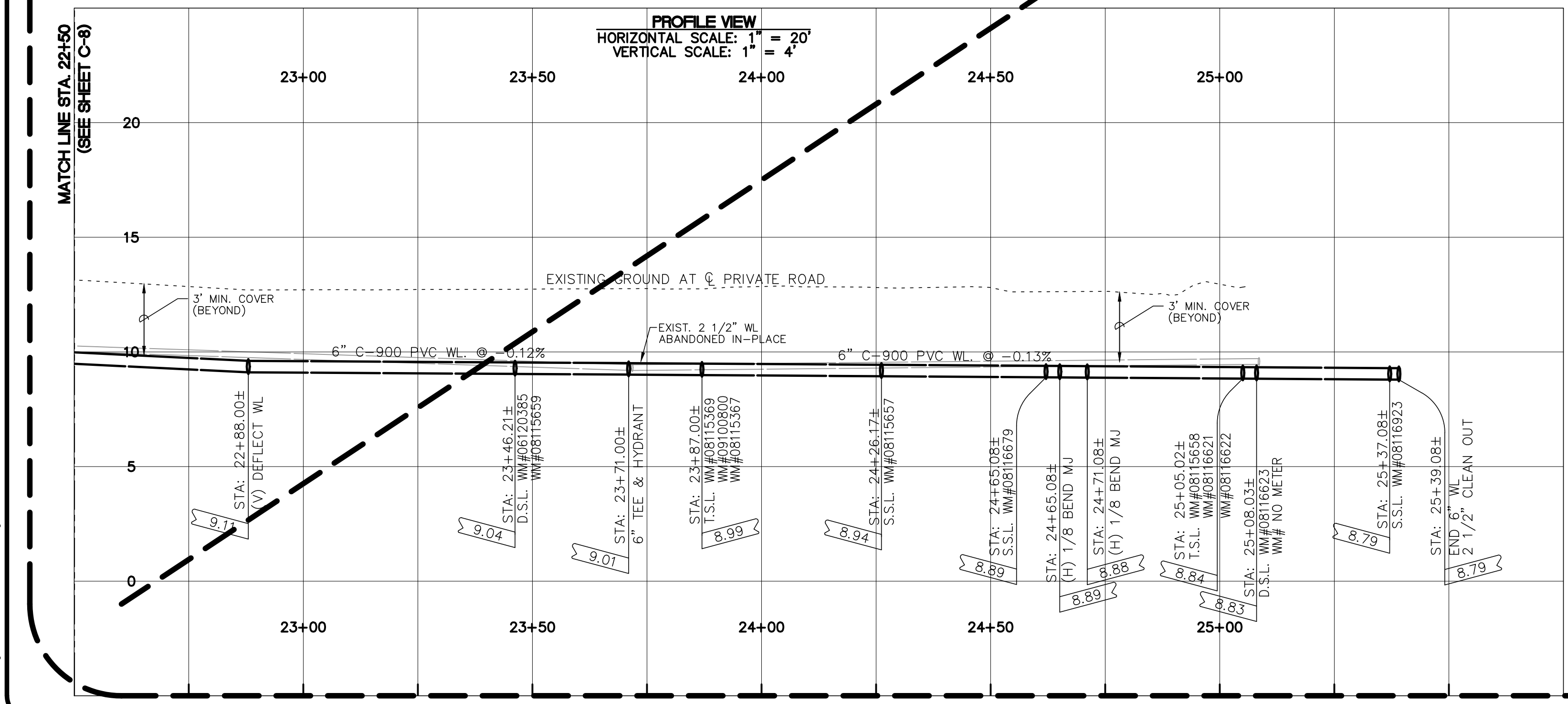
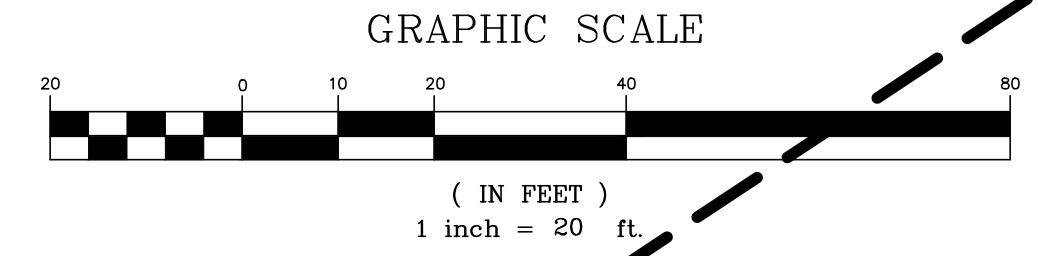
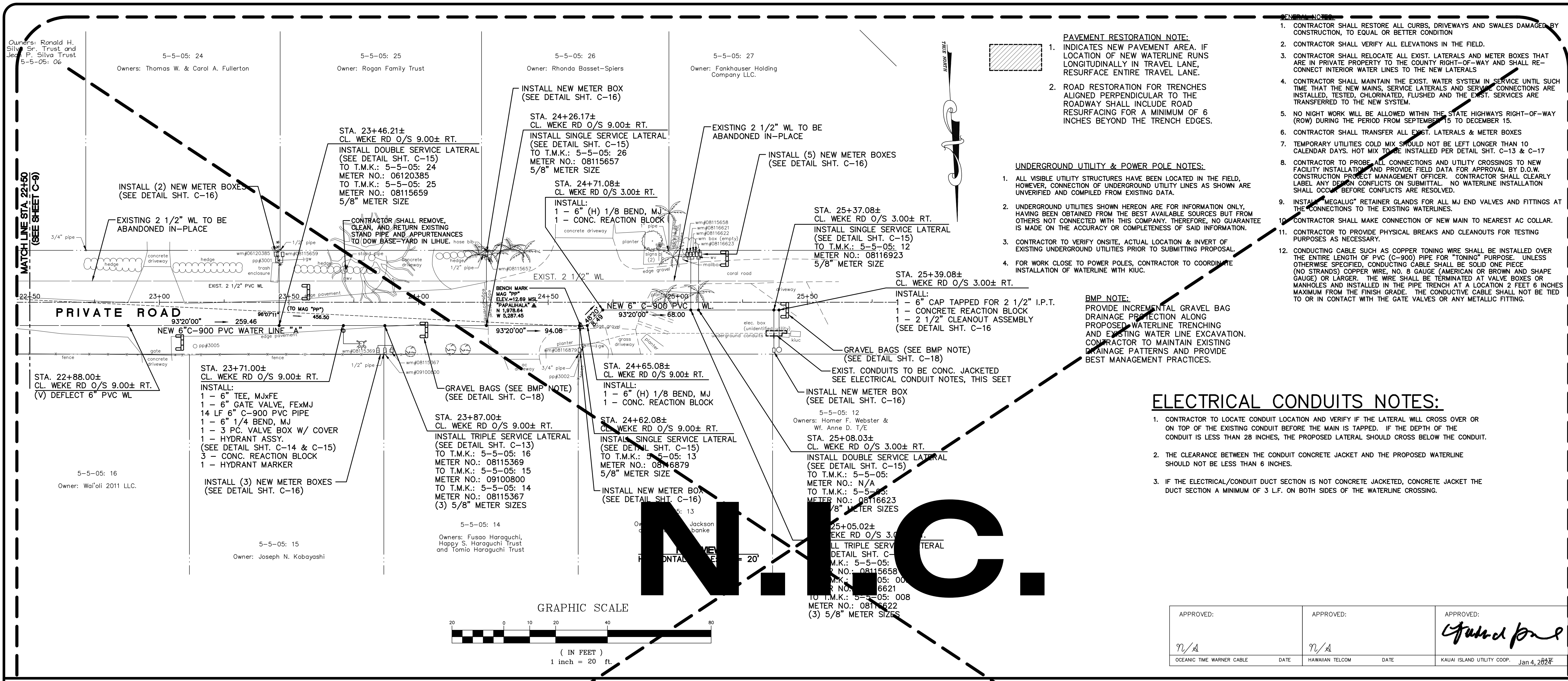
PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIMAHIA AND HEE ROADS HANAIE WATERLINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kaula, Hawai'i

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

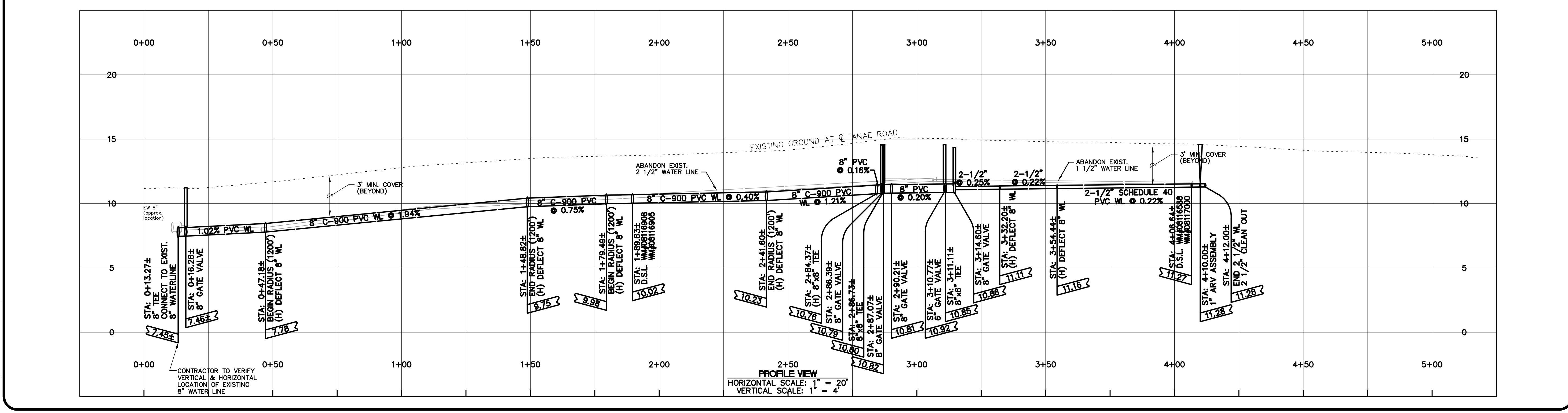
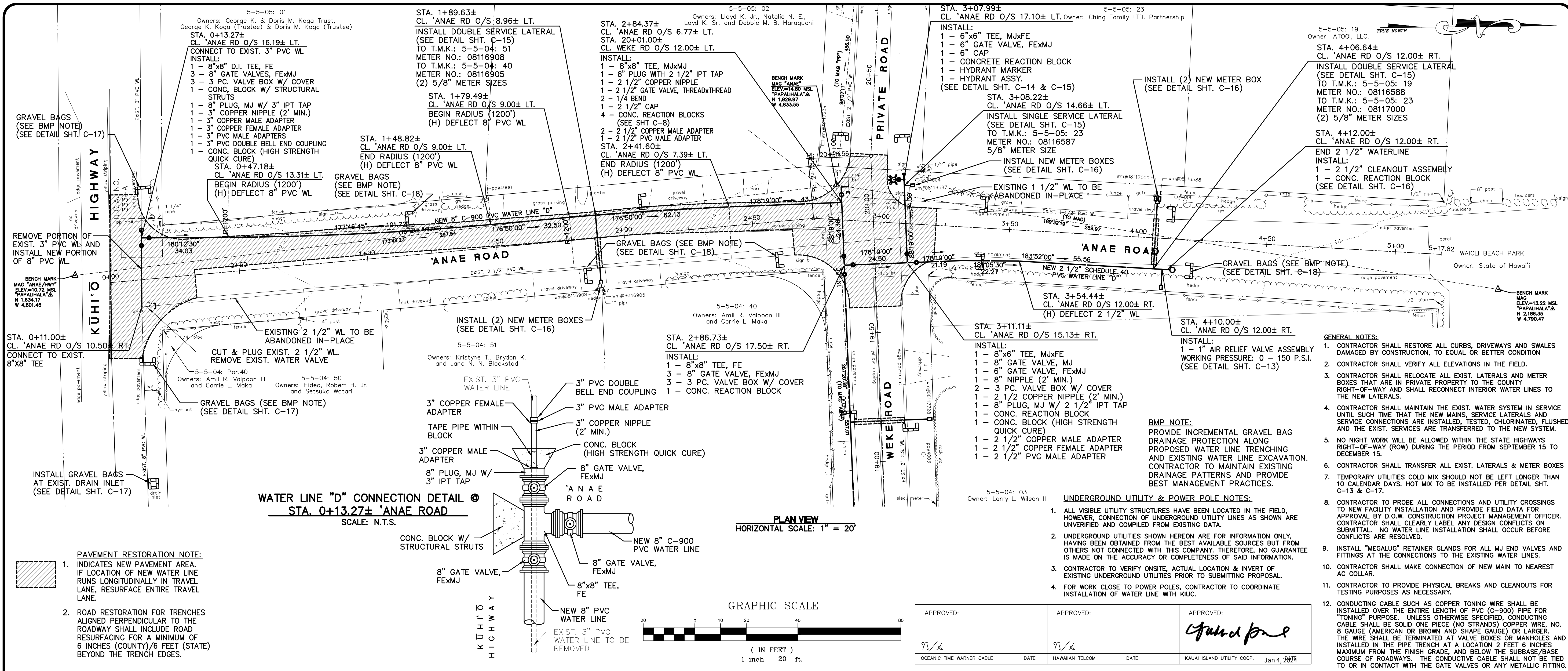
PLAN AND PROFILE WEKE ROAD STA. 22+50 TO 25+00 WATERLINE "A"

APPROVED: *[Signature]*
DATE: Jan 4, 2024
FOR COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W)
FOR MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

DESIGNED BY: *WW* SHEET: **C-10**
DRAWN BY: *CB* 10 OF 21 SHEETS
DATE: 4/29/16



Project No.: 12-43
Drawing File: 12-43CON17.dwg



ESAKI SURVEYING AND MAPPING, INC.
 1610 Halekua Street
 Lihu'e, Kaua'i, Hawai'i 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, USA

EXPIRES: APRIL 30, 2024
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

PROJECT: CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'A'NAE, MAHIMAI AND HEE ROADS HANAIE WATER LINE IMPROVEMENTS
 Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kaua'i, Hawai'i

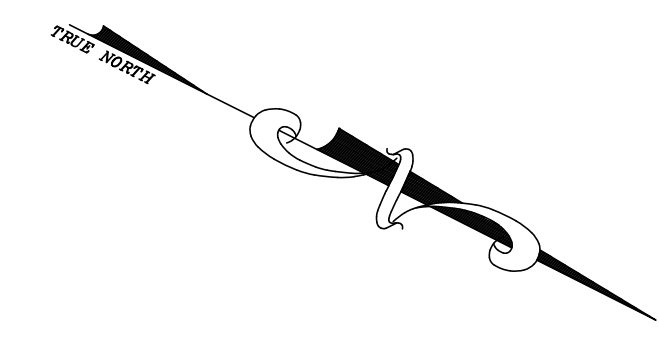
CLIENT: DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE 'A'NAE ROAD WATER LINE "D"

APPROVED: *[Signature]*
 COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE: Jan 4, 2024
 FOR MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE: Jan 4, 2024

DESIGNED BY: *SW* SHEET: **C-11**
 DRAWN BY: *Md, Cb, Bf*
 DATE: 12/28/23 11 OF 21 SHEETS

Project No.: 12-43
 Drawing File: 12-43CON17.dwg

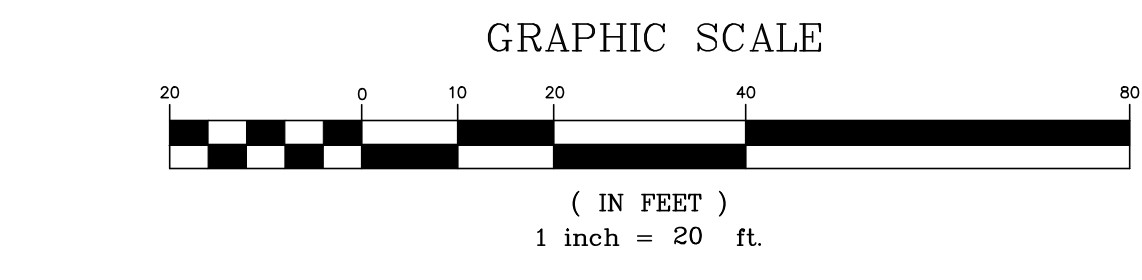
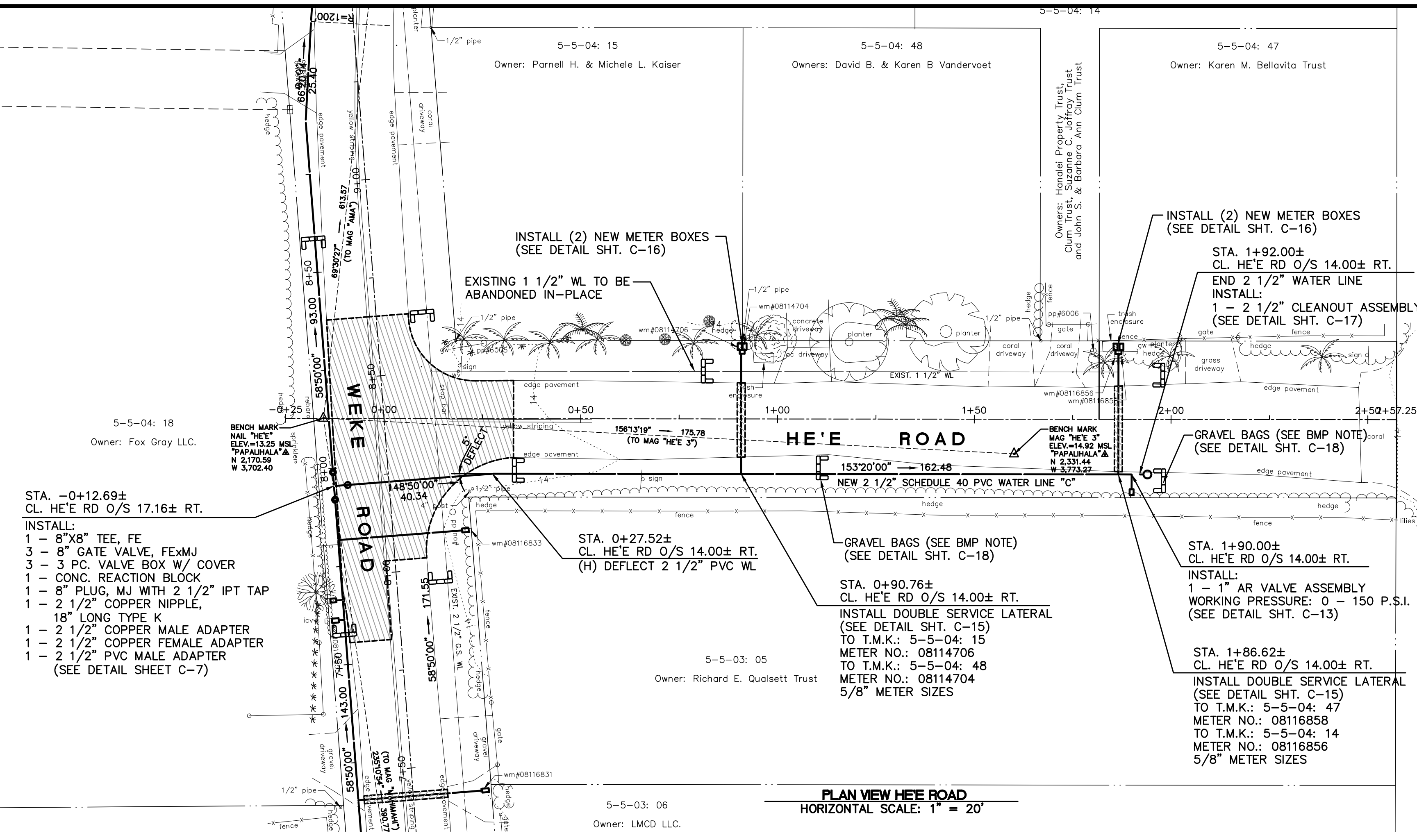


PAVEMENT RESTORATION NOTE:
1. INDICATES NEW PAVEMENT AREA. IF LOCATION OF NEW WATER LINE RUNS LONGITUDINALLY IN TRAVEL LANE, RESURFACE ENTIRE TRAVEL LANE.
2. ROAD RESTORATION FOR TRENCHES ALIGNED PERPENDICULAR TO THE ROADWAY SHALL INCLUDE ROAD RESURFACING FOR A MINIMUM OF 6 INCHES BEYOND THE TRENCH EDGES.

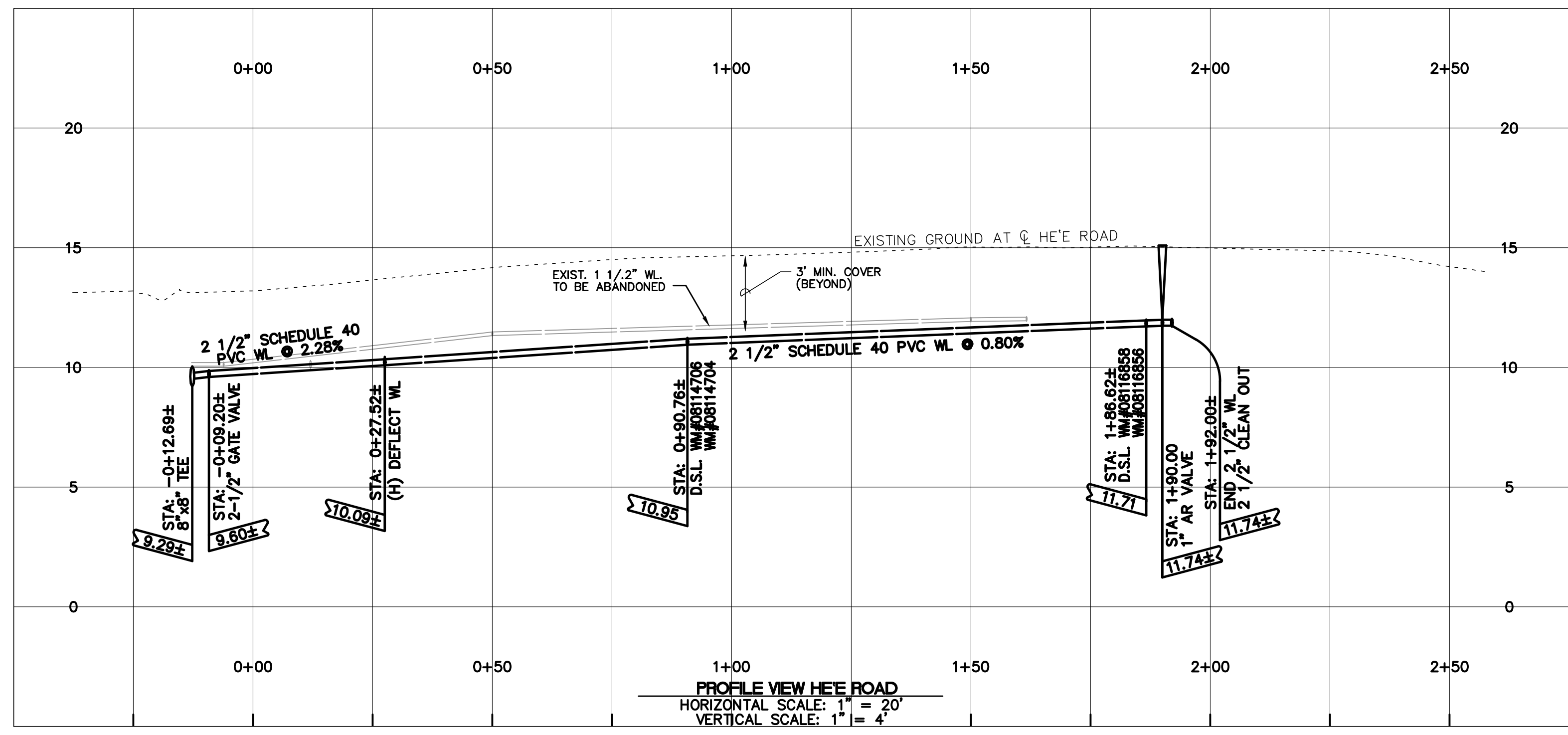
BMP NOTE:
PROVIDE INCREMENTAL GRAVEL BAG PROTECTION ALONG PROPOSED WATER LINE TRENCHING AND EXISTING WATER LINE EXCAVATION. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS AND PROVIDE BEST MANAGEMENT PRACTICES.

UNDERGROUND UTILITY & POWER POLE 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.
2. 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.
3. CONTRACTOR TO VERIFY ONSITE, PRIOR LOCATION & INVERT OF EXISTING UNDERGROUND UTILITIES BEFORE SUBMITTING PROPOSAL.
4. FOR WORK CLOSE TO POWER POLES, CONTRACTOR TO COORDINATE INSTALLATION OF WATER LINE WITH KIUC.

GENERAL NOTES:
1. CONTRACTOR SHALL RESTORE ALL CURBS, DRIVEWAYS AND SWALES DAMAGED BY CONSTRUCTION, TO EQUAL OR BETTER CONDITION.
2. CONTRACTOR SHALL VERIFY ALL ELEVATIONS IN THE FIELD.
3. 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.
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.
6. CONTRACTOR SHALL TRANSFER ALL EXIST. LATERALS & METER BOXES
7. TEMPORARY UTILITIES COLD MIX SHOULD NOT BE LEFT LONGER THAN 10 CALENDAR DAYS. HOT MIX TO BE INSTALLED PER DETAIL SHT. C-13 & C-17.
8. CONTRACTOR TO PROBE ALL CONNECTIONS AND UTILITY CROSSINGS TO NEW FACILITY INSTALLATION AND PROVIDE FIELD DATA FOR APPROVAL BY D.O.W. CONSTRUCTION PROJECT MANAGEMENT OFFICER. CONTRACTOR SHALL CLEARLY LABEL ANY DESIGN CONFLICTS ON SUBMITTAL. NO WATER LINE INSTALLATION SHALL OCCUR BEFORE CONFLICTS ARE RESOLVED.
9. INSTALL "MEGALUG" RETAINER GLANDS FOR ALL MJ END VALVES AND FITTINGS AT THE CONNECTIONS TO THE EXISTING WATER LINES.
10. CONTRACTOR SHALL MAKE CONNECTION OF NEW MAIN TO NEAREST AC COLLAR.
11. CONTRACTOR TO PROVIDE PHYSICAL BREAKS AND CLEANOUTS FOR TESTING PURPOSES AS NECESSARY.
12. CONDUCTING CABLE SUCH AS COPPER TONING WIRE SHALL BE INSTALLED OVER THE ENTIRE LENGTH OF PVC (C-900) PIPE FOR "TONING" PURPOSE. UNLESS OTHERWISE SPECIFIED, CONDUCTING CABLE SHALL BE SOLID ONE PIECE (NO STRANDS) COPPER WIRE, NO. 8 GAUGE (AMERICAN OR BROWN AND SHAPE GAUGE) OR LARGER. THE WIRE SHALL BE TERMINATED AT VALVE BOXES OR MANHOLES AND INSTALLED IN THE PIPE TRENCH AT A LOCATION 2 FEET 6 INCHES MAXIMUM FROM THE FINISH GRADE, AND BELOW THE SUBBASE/BASE COURSE OF ROADWAYS. THE CONDUCTIVE CABLE SHALL NOT BE TIED TO OR IN CONTACT WITH THE GATE VALVES OR ANY METALLIC FITTING.



APPROVED: <i>[Signature]</i> OCEANIC TIME WARNER CABLE	APPROVED: <i>[Signature]</i> HAWAIIAN TELCOM	APPROVED: <i>[Signature]</i> KAUAI ISLAND UTILITY COOP. Jan 4, 2024
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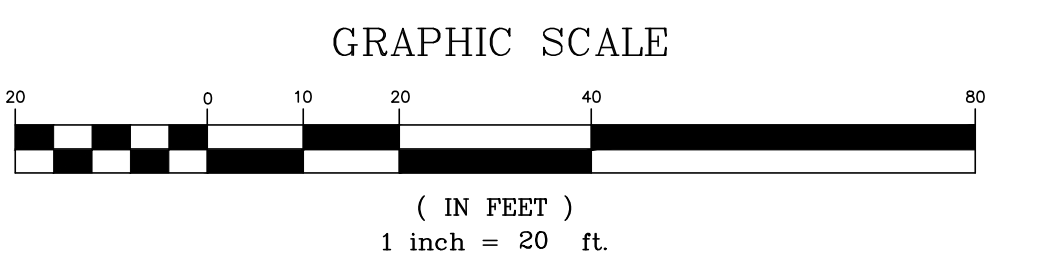
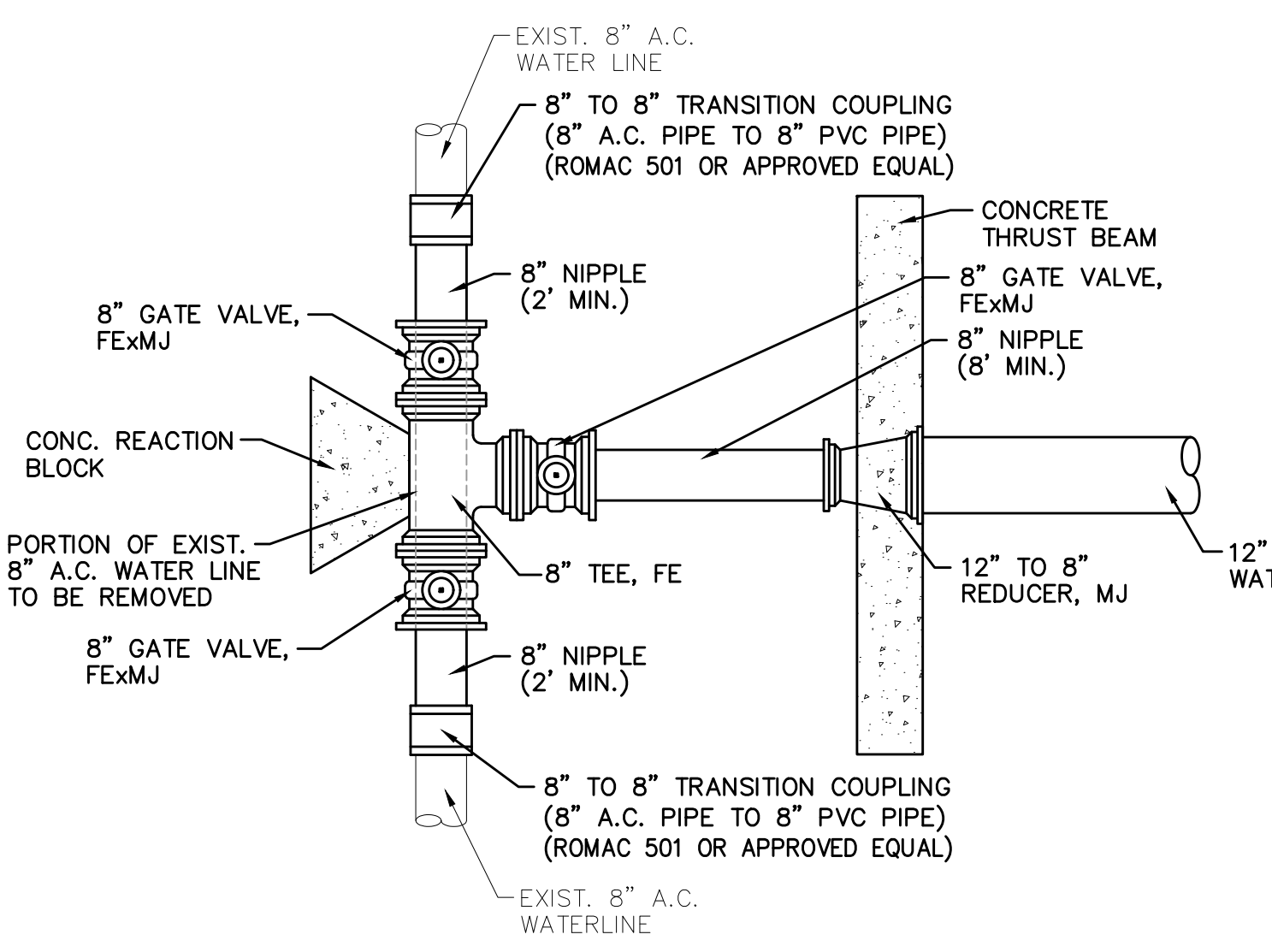
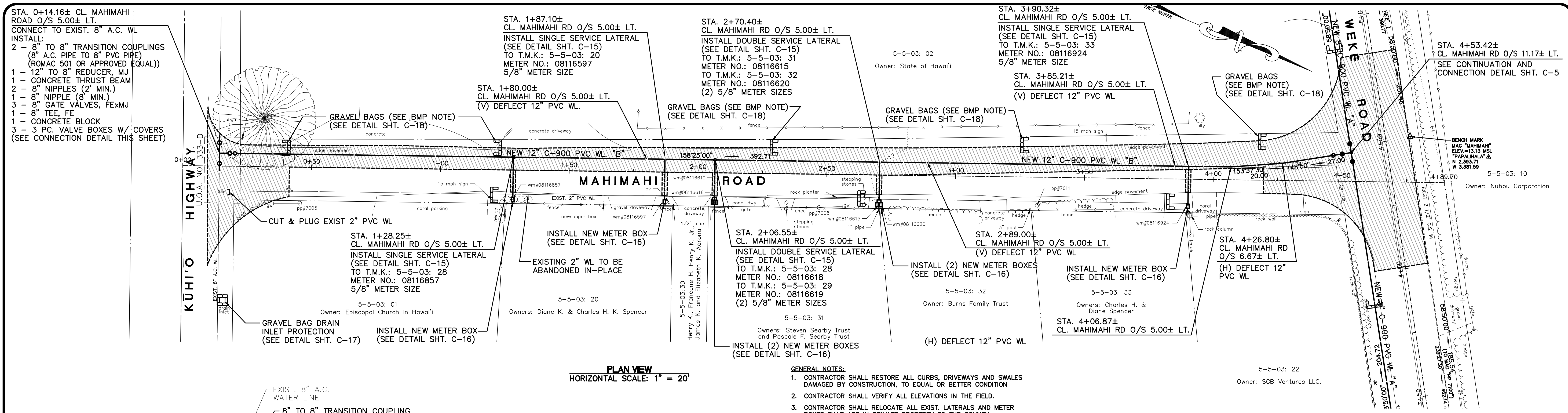


PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAH'I AND HE'E ROADS HANA'LEI WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE HE'E ROAD WATER LINE "C"

APPROVED:
[Signature]
DATE: Jan 4, 2024



- GENERAL 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.
 - CONTRACTOR SHALL TRANSFER ALL EXIST. LATERALS & METER BOXES TO NEW FACILITY INSTALLATION AND PROVIDE FIELD DATA FOR APPROVAL BY D.O.W. CONSTRUCTION PROJECT MANAGEMENT OFFICER. CONTRACTOR SHALL CLEARLY LABEL ANY DESIGN CONFLICTS ON SUBMITTAL. NO WATER LINE INSTALLATION SHALL OCCUR BEFORE CONFLICTS ARE RESOLVED.
 - CONTRACTOR SHALL MAKE CONNECTION OF NEW MAIN TO NEAREST AC COLLAR.
 - CONTRACTOR TO PROVIDE PHYSICAL BREAKS AND CLEANOUTS FOR TESTING PURPOSES AS NECESSARY.
 - CONDUCTING CABLE SUCH AS COPPER TONING WIRE SHALL BE INSTALLED OVER THE ENTIRE LENGTH OF PVC (C-900) PIPE FOR "TONING" PURPOSE. UNLESS OTHERWISE SPECIFIED, CONDUCTING CABLE SHALL BE SOLID ONE PIECE (NO STRANDS) COPPER WIRE, NO. 8 GAUGE (AMERICAN OR BROWN AND SHAPE GAUGE) OR LARGER. THE WIRE SHALL BE TERMINATED AT VALVE BOXES OR MANHOLES AND INSTALLED IN THE PIPE TRENCH AT A LOCATION 2 FEET 6 INCHES MAXIMUM FROM THE FINISH GRADE, AND BELOW THE SUBBASE/BASE COURSE OF ROADWAYS. THE CONDUCTIVE CABLE SHALL NOT BE TIED TO OR IN CONTACT WITH THE GATE VALVES OR ANY METALLIC FITTING.
 - REMOVE & DISPOSE ALL A.C. PIPE & A.C. FITTINGS THAT ARE BEING REPLACED. DISPOSAL MUST BE AT AN APPROVED ASBESTOS MATERIAL DISPOSAL SITE.

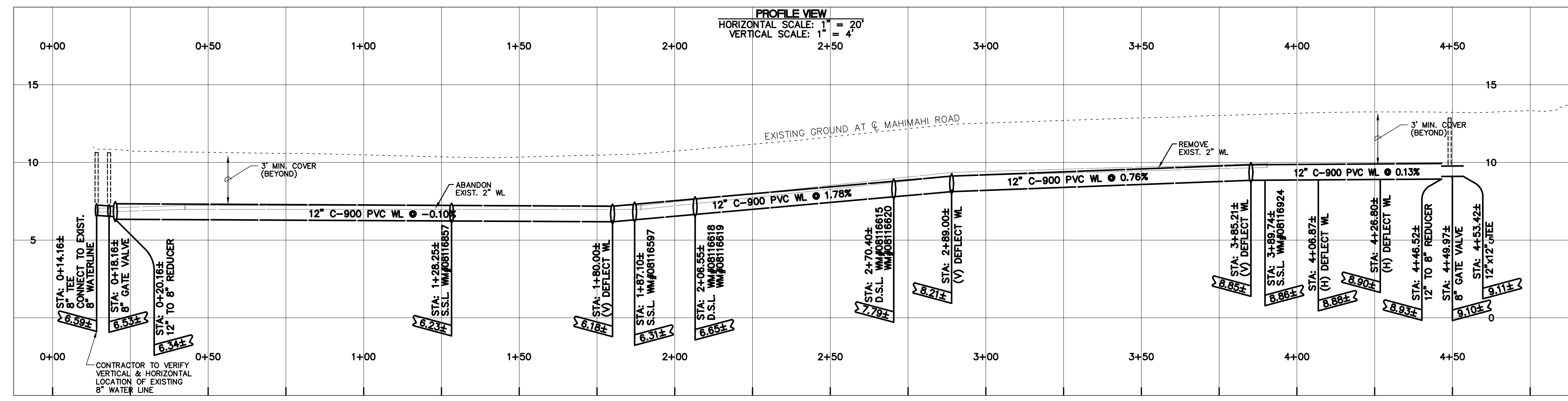
PAVEMENT RESTORATION NOTE:

- INDICATES NEW PAVEMENT AREA. IF LOCATION OF NEW WATER LINE RUNS LONGITUDINALLY IN TRAVEL LANE, RESURFACE ENTIRE TRAVEL LANE.
- ROAD RESTORATION FOR TRENCHES ALIGNED PERPENDICULAR TO THE ROADWAY SHALL INCLUDE ROAD RESURFACING FOR A MINIMUM OF 6 INCHES (COUNTY)/6 FEET (STATE) BEYOND THE TRENCH EDGES.

BMP NOTE:
PROVIDE INCREMENTAL GRAVEL BAG DRAINAGE PROTECTION ALONG PROPOSED WATER LINE TRENCHING AND EXISTING WATER LINE EXCAVATION. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE PATTERNS AND PROVIDE BEST MANAGEMENT PRACTICES.

- UNDERGROUND UTILITY & POWER POLE 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 PRIOR TO SUBMITTING PROPOSAL.
 - FOR WORK CLOSE TO POWER POLES, CONTRACTOR TO COORDINATE INSTALLATION OF WATER LINE WITH KUIC.

APPROVED: <i>N/A</i>	APPROVED: <i>N/A</i>	APPROVED: <i>Guadalupe</i>
OCEANIC TIME WARNER CABLE DATE	HAWAIIAN TELCOM DATE	KAUAI ISLAND UTILITY COOP. Jan 4, 2024



ESAKI SURVEYING AND MAPPING, INC.
1610 Haleukana 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, USA

EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAHĪ AND HEE ROADS HANAIE WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

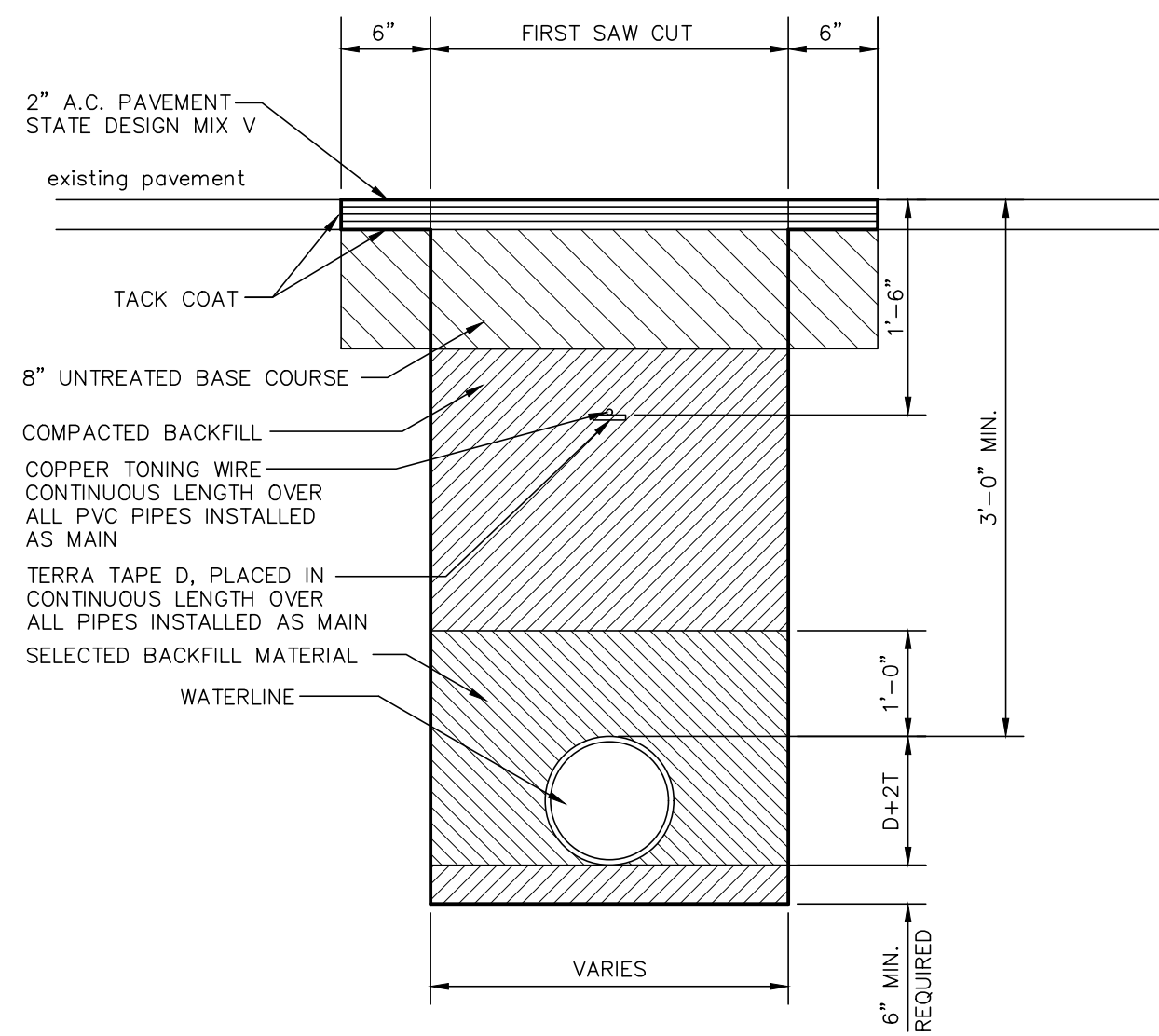
PLAN AND PROFILE MAHIMAHĪ ROAD WATER LINE "B"

APPROVED:
Guadalupe

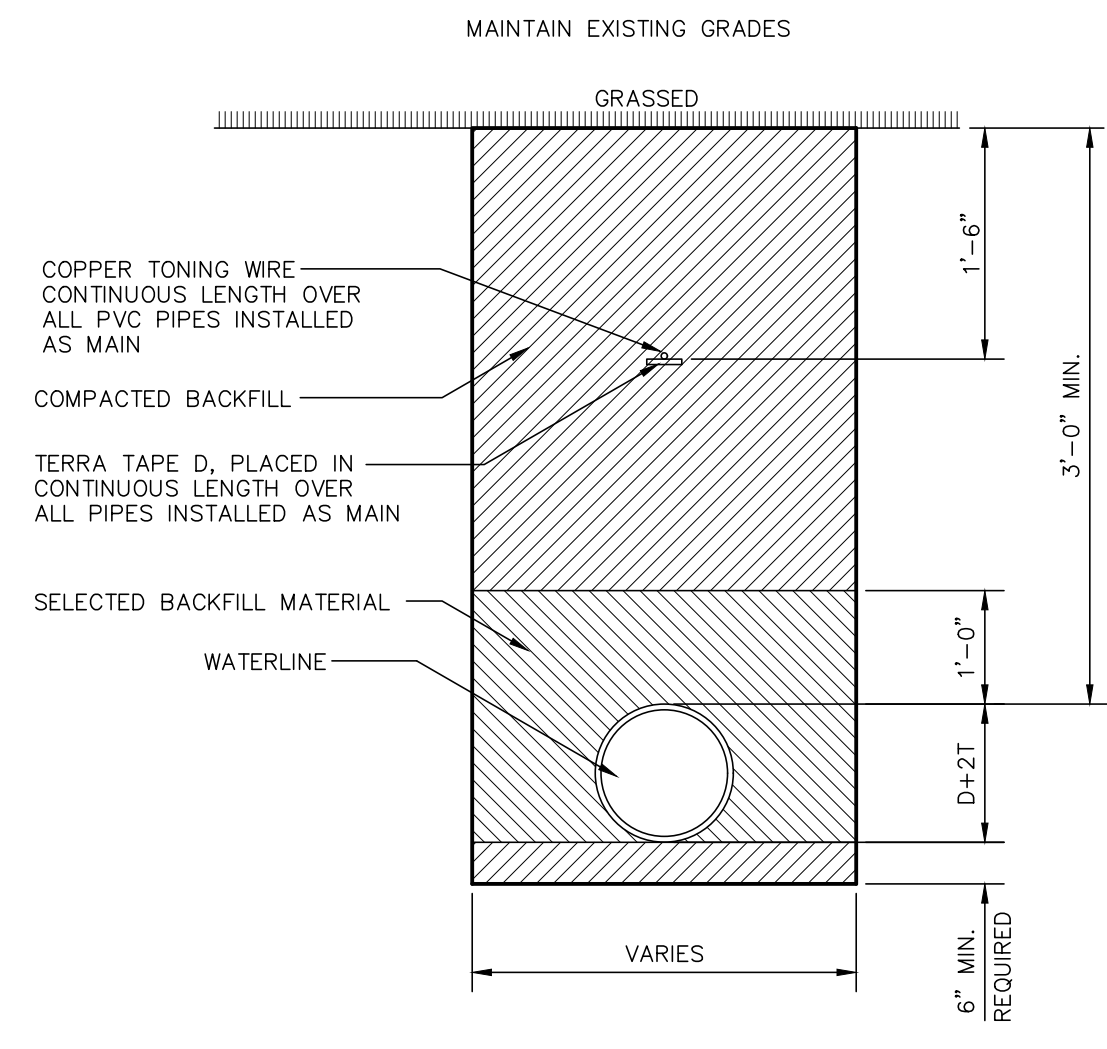
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE: Jan 4, 2024
Jesse Pagan
MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE:

DESIGNED BY: *WW* SHEET: **C-13**
DRAWN BY: *Ma, Ce, BF*
DATE: 12/28/23 13 OF 21 SHEETS

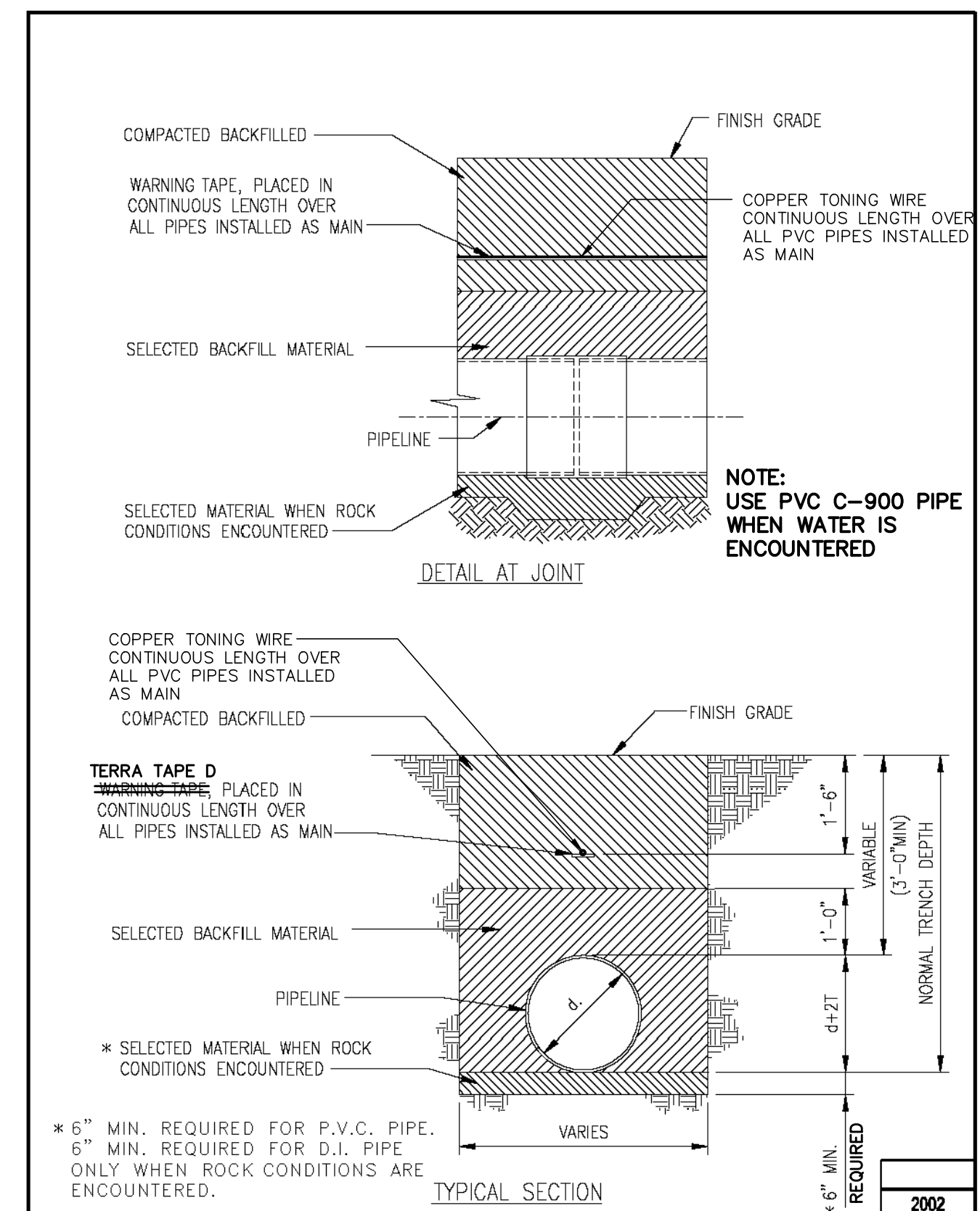
Project No.: 12-43
Drawing File: 12-43CON17.dwg



PAVEMENT REPAIR DETAIL FOR COUNTY ROAD
NTS



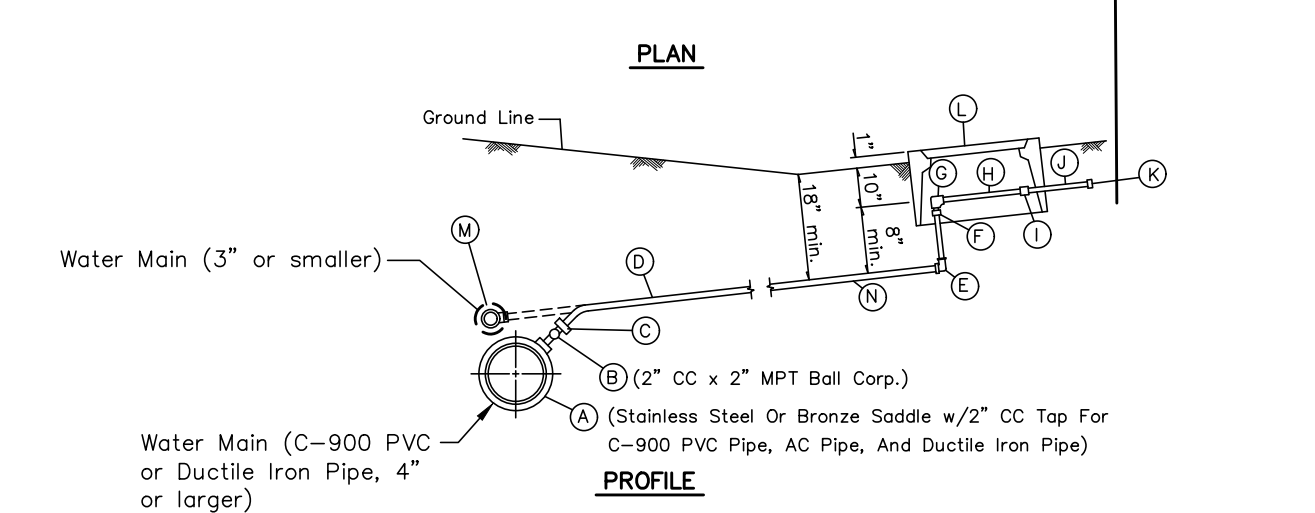
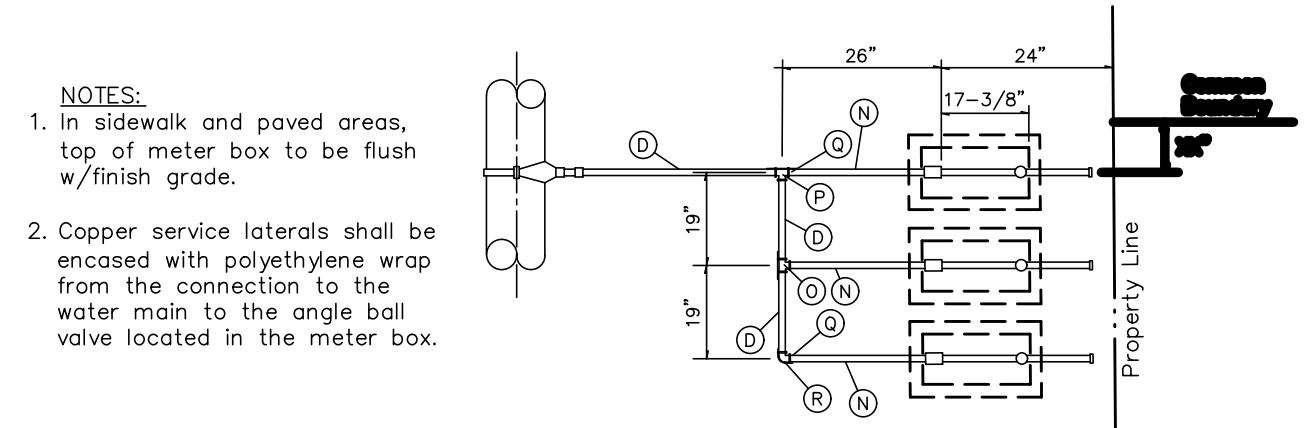
GRASSED SHOULDER FOR COUNTY RIGHT-OF-WAY
NOT TO SCALE



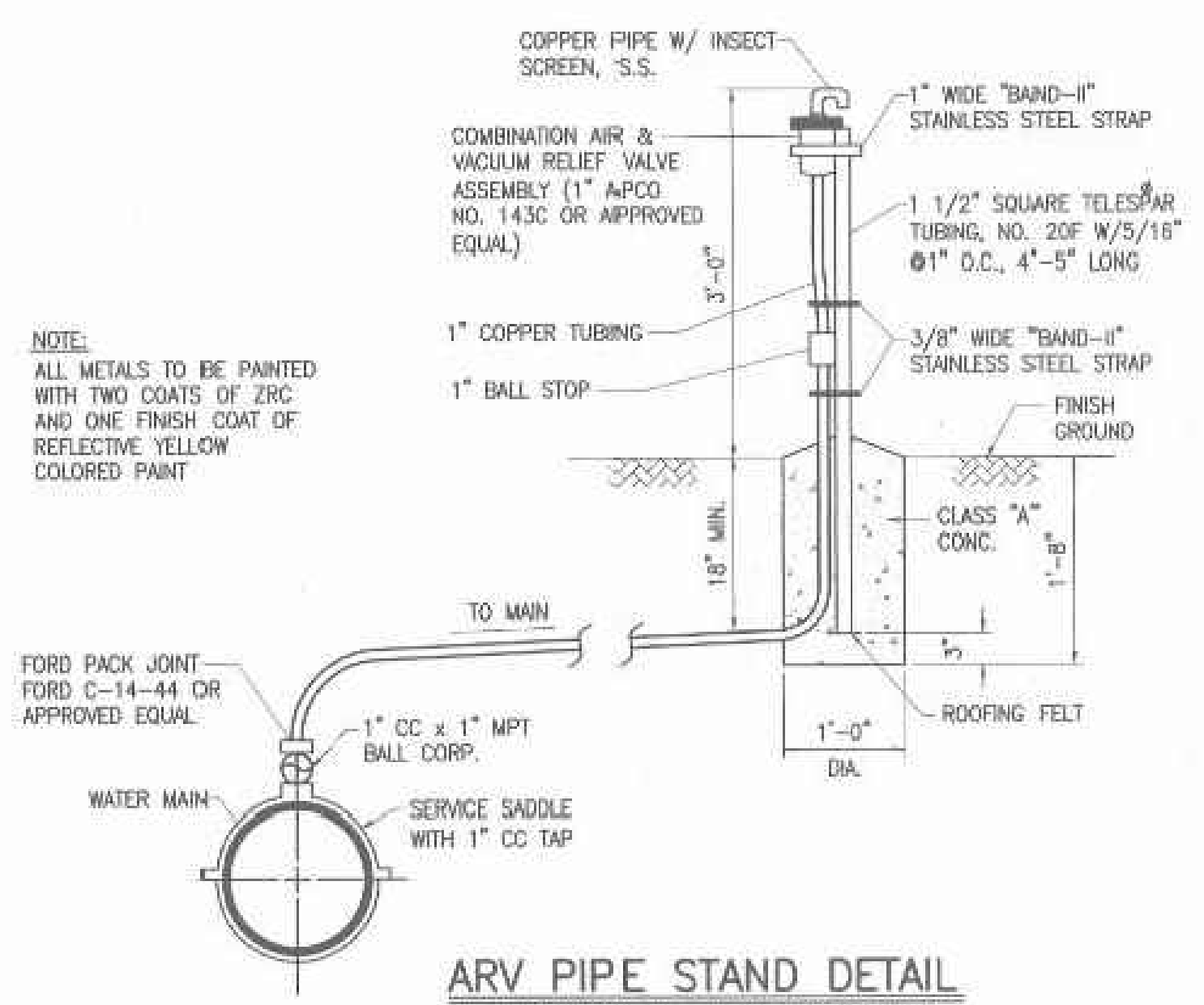
WATERLINE TRENCH DETAILS MISCELLANEOUS DETAILS
SCALE: NTS

TRIPLE SERVICE DETAIL - SCHEDULE OF FITTINGS

ITEM	DESCRIPTION	TRIPLE SERVICE
A	Stainless Steel Or Bronze Saddle w/2" CC Tap For C-900 PVC Pipe, AC Pipe, And D.I. Pipe	1
B	2" CC x 2" MPT Ball Corporation	1
C	2" Ford Pack Joint Coupling	1
D	2" Copper Tube, Type "K" Soft	3
E	1" 90° Copper Elbow, S x S	3
F	1" Copper Male Adapter, S x T	3
G	Angle Ball Valve, 1" Female IPT Inlet x 3/4" Meter Coupling Nut Outlet (Ford BA13-342W Or Approved Equal)	3
H	Meter Spacer, Supplied By Dept. Of Water And Installed By Contractor	3
I	Ball Valve w/Handle, 3/4" Meter Coupling Nut Inlet x 1" Female IPT Outlet (Ford B13-342 w/HT-34 Handle Or Approved Equal)	3
J	Linesetter, 1" Copper Tube, Type "K" Soft, 14" Long (See Std. Det. L3)	3
K	1" Plastic Thread Protector	3
L	Type "X" Polymer Box w/Polymer Cover w/4x7 Cast Iron Reader Door DFW1425C-12-1CA Or Approved Equal	3
M	Tee w/2" Bushing (When Connecting To 3" Or Smaller Pipe)	1
N	1" Copper Tube, Type "K" Soft	3
O	1" x 2" x 2" Copper Tee, S x S x S	1
P	2" x 2" x 2" Copper Tee, S x S x S	1
Q	2" x 1" Copper Reducer, S x S	2
R	2" Copper Elbow, S x S	1
		3



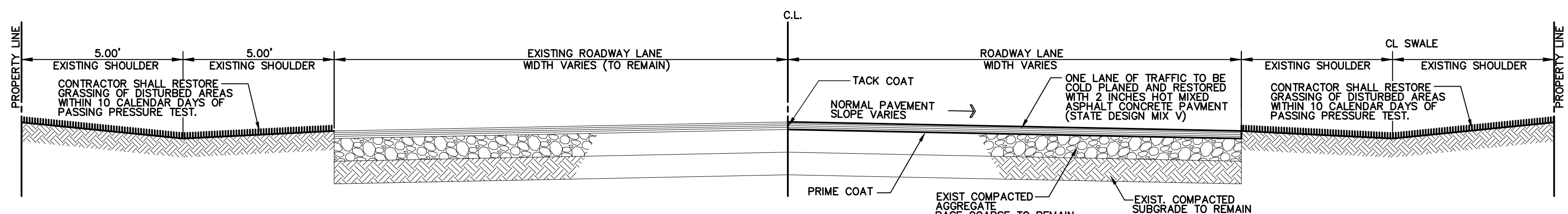
TRIPLE SERVICE LATERAL
NOT TO SCALE
ESM REV. 3/23/23



ARV PIPE STAND DETAIL
FOR COMBINATION AIR & VACUUM RELIEF VALVES
NOT TO SCALE

PAVEMENT AND TRENCH RESTORATION NOTES
(revised July 25, 2012)

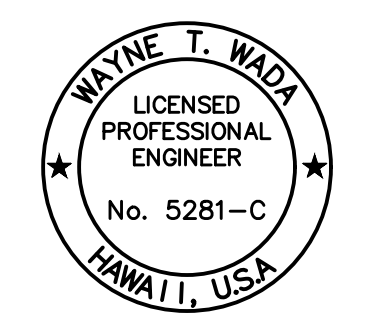
- Trench repaving shall be a minimum 8-inches thick base course and 2-inches minimum asphalt concrete (State Mix V). If the existing pavement structure is greater in thickness and quality, the repaving shall match the existing pavement structure.
- Pavement resurfacing work shall include 2-inch thickness of existing A.C. to be cold planed and construction of a minimum of 2-inch of new A.C. (State Mix V) layer.
- Road restoration for trenches aligned along the longitudinal direction shall include pavement resurfacing as follows:
 - Roads with pavement widths of less than 12 feet wide shall be repaved the entire width.
 - Roadways between 12 feet and 28 feet wide with no striping shall be paved for half of the roadway.
 - Roadways with no striping and pavement widths greater than 28 feet shall have a 12-foot wide travel way resurfaced.
- Road restoration for trenches aligned perpendicular to the roadway shall include road resurfacing for a minimum of 6 inches beyond the trench edges.
- The entire road intersection shall be resurfaced wherever trench repaving is required within any portion of an intersection. The limits of resurfacing shall be the curve returns of the roadways of the intersections.
- All existing pavement striping disturbed by this product shall be restored. The striping materials shall be thermoplastic tape or thermoplastic extrusion. Painting is not acceptable.
- The limits of road restoration work may be revised by the engineering division of the County Department of Public Works during processing of road permits for this project.
- All asphalt concrete materials from cold planing shall become the property of DOW. The Contractor shall remove and dispose of all cold plane material to a designated DOW facility. The designated facility shall be determined during the pre-bid conference.



TRAVEL LANE RESURFACE DETAIL
NTS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wade

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, MAHIAHI AND HEE ROADS HANAIE WATERLINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

MISCELLANEOUS DETAILS

APPROVED:
Wayne T. Wade
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W)
DATE: Jan 4, 2024
for MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

NOTE:
 ONLY DUCTILE IRON PIPE SHALL BE CONCRETE JACKETED (SEE NOTE #2)

NOTE:
 1. WHEREVER CONSTRUCTION JOINTS ARE REQUIRED, DWS APPROVED 6" RUBBER OR NEOPRENE WATERSTOPS OR CONCRETE BONDING AGENT APPROVED BY THE MANAGER SHALL BE INSTALLED.
 2. NO CONCRETE JACKETING OF PVC PIPE OR EXISTING 6" PIPE WILL BE ALLOWED.
 3. CONCRETE SHALL BE DWS 2500 EXCEPT UNDER RESERVOIR FLOOR SLABS WHERE IT SHALL BE DWS 3500.
 4. REINFORCING DESIGN APPLICABLE FOR STRAIGHT PIPE JACKETED SEGMENT. FOR SIPHON OR OFFSET, SUBMIT SHOP DRAWINGS.
 5. PRECAST JACKETED WATERLINE SEGMENT SHALL BE DESIGNED AND STAMPED BY A LICENSED STRUCTURAL ENGINEER AND APPROVED BY MANAGER.

FACE OF JACKET SHALL BE SET BACK FROM JOINT TO PROVIDE SUFFICIENT WORKING SPACE FOR REMOVAL OF BOLTS. (MECHANICAL JOINTS)

BELL FLUSH WITH FACE OF JACKET (SLIP JOINT)

REINFORCED CONCRETE JACKET TYPICAL DETAIL
SCALE: NTS

KAUAI OAHU MAUI HAWAII	REINFORCED CONCRETE JACKET TYPICAL DETAIL SCALE: NTS	STANDARD DETAILS	2002
			REVISION
B1			

NOTE:
 REFER TO DETAILS B3, B4 & B5 FOR THE SIZE OF REACTION BLOCKS. REACTION BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL. CONCRETE SHALL BE DWS 2500.

HORIZONTAL REACTION BLOCK FOR WATER MAINS
SCALE: NTS

KAUAI MAUI	HORIZONTAL REACTION BLOCK FOR WATER MAINS SCALE: NTS	STANDARD DETAILS	2002
			REVISION
B2			

MINIMUM BEARING AREAS (SQ. FT.) FOR HORIZONTAL THRUST BLOCKS

PIPE SIZE	PRESSURE 150 PSI							PRESSURE 200 PSI							PRESSURE 250 PSI										
	A	B	C	D	E	F	G	A	B	C	D	E	F	G	A	B	C	D	E	F	G				
4"	1/4	9.0	4.5	3.0	2.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6"	1/4	14.0	7.0	4.5	3.0	2.5	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
8"	1/4	18.0	9.0	5.5	3.5	3.0	2.5	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
12"	1/4	24.0	12.0	7.5	4.5	4.0	3.0	2.5	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

NOTE:
 1. ACTUAL FIELD CONDITIONS AND SOIL TYPE SHALL BE VERIFIED IN THE FIELD. THE SCHEDULE, DIMENSIONS AND DETAILS AS SHOWN ARE PROVIDED AS A GUIDE ONLY. THE CONTRACTOR OR ENGINEER WHO PREPARED THE PLANS SHALL SUBMIT THE FINAL DESIGN AND DETAIL THE MANAGER FOR REVIEW AND APPROVAL AFTER FIELD VERIFICATION AND PRIOR TO INSTALLATION. FOR OAHU ONLY, THE REINFORCING DESIGN AND DETAILS FOR PROJECTS AWARDED BY THE MANAGER.
 2. FOR OAHU AND MAUI, SEE PLATE B5 FOR ADDITIONAL NOTES.

HORIZONTAL THRUST BLOCK MINIMUM BEARING AREAS
SCALE: NTS

KAUAI OAHU MAUI HAWAII	HORIZONTAL THRUST BLOCK MINIMUM BEARING AREAS SCALE: NTS	STANDARD DETAILS	2002
			REVISION
B3			

CONCRETE THRUST BEAM TYPICAL DETAIL
SCALE: NTS

KAUAI OAHU MAUI HAWAII	CONCRETE THRUST BEAM TYPICAL DETAIL SCALE: NTS	STANDARD DETAILS	2002
			REVISION
B16			

WATER PRESSURE 250 PSI TYPE OF SOIL CONDITION

PIPE SIZE	TYPE OF SOIL CONDITION							TYPE OF SOIL CONDITION																		
	A	B	C	D	E	F	G	A	B	C	D	E	F	G												
4"	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50

WATER PRESSURE 200 PSI TYPE OF SOIL CONDITION

PIPE SIZE	TYPE OF SOIL CONDITION							TYPE OF SOIL CONDITION																		
	A	B	C	D	E	F	G	A	B	C	D	E	F	G												
4"	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50	2.75	3.50

CONCRETE THRUST BEAM SCHEDULE
SCALE: NTS

KAUAI OAHU MAUI HAWAII	CONCRETE THRUST BEAM SCHEDULE SCALE: NTS	STANDARD DETAILS	2002
			REVISION
B17			

CONCRETE THRUST BEAM SCHEDULE
SCALE: NTS

KAUAI OAHU MAUI HAWAII	CONCRETE THRUST BEAM SCHEDULE SCALE: NTS	STANDARD DETAILS	2002
			REVISION
B18			

HYDRANT CONNECTION STRAIGHT RUN
SCALE: NTS

KAUAI OAHU	HYDRANT CONNECTION STRAIGHT RUN SCALE: NTS	STANDARD DETAILS	2002
			REVISION
FH4			

HYDRANT CONNECTION WITH ELBOW
SCALE: NTS

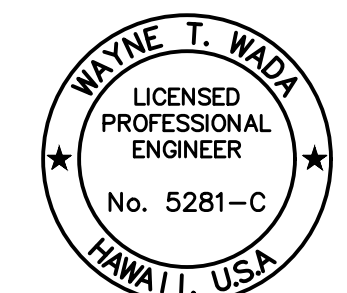
KAUAI	HYDRANT CONNECTION WITH ELBOW SCALE: NTS	STANDARD DETAILS	2002
			REVISION
FH5			

ESAKI SURVEYING AND MAPPING, INC.
 1610 Halekuna Street
 Lhu'e, Kaua'i, Hawai'i 96766
 Ph. (808) 246-0625 Fax (808) 246-0229

CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
 THIS WORK WAS PREPARED
 BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

PROJECT:
 CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHI'MAHI AND HE'E ROADS HANALEI WATERLINE IMPROVEMENTS
 Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hana'ele, Kaua'i, Hawai'i

CLIENT:
 DEPARTMENT OF WATER COUNTY OF KAUAI

MISCELLANEOUS DETAILS

APPROVED:

DATE: Jan 4, 2024

DESIGNED BY: *SW*

SHEET: **C-15**

DATE: 12/28/23

15 OF 21 SHEETS

NOTE:

1. GASKETS FOR FLANGED JOINTS SHALL BE 1/8" DUCK-INSERTED RUBBER PACKING GARLOCK NO. 19.
2. BOLTS SHALL BE BREAK-OFF TYPE, 5/8" DIA. x 3" LONG MACHINE BOLTS WITH CUT THREADS, AMERICAN STANDARD COARSE HEXAGON HEADS, HOT-DIPPED GALVANIZED STEEL OR SILICON BRONZE. INSTALL BOLT WITH THREADS FACING UP.
3. NUTS SHALL BE AMERICAN STANDARD HEAVY COLD PUNCHED HEXAGON NUTS, HOT-DIPPED GALVANIZED STEEL OR SILICON BRONZE.
4. CONCRETE SHALL BE DWS 2500.
5. REFER TO PLATE FH11 FOR HYDRANT INSTALLATION WITH CURB GUARD.
6. FLANGED OUTLET FOR THE TEE IS MANDATORY.
7. TAPPING SLEEVE WITH TAPPING VALVE ASSEMBLY MAY BE USED FOR CONNECTION TO EXIST MAIN.
8. LUBRICATE HYDRANT NOZZLE THREADS WITH NON-TOXIC GREASE.
9. INSTALL HYDRANT MARKERS. (SEE PLATES FH12 AND FH13)
10. MINIMUM DIRECT DISTANCE FROM HYDRANT TO GATE VALVE SHALL BE 8'-0".
11. THE 4-1/2" NOZZLE SHOULD FACE PERPENDICULAR TO THE CURB/ROAD.
12. ALL HYDRANTS SHALL BE BRONZE.

		2002
		REVISION
KAUAI	HYDRANT CONNECTION NOTES SCALE: NTS	STANDARD DETAILS FH8

SCHEDULE OF FITTINGS		
ITEM	DESCRIPTION	SINGLE SERVICE
A	STAINLESS STEEL OR BRONZE SADDLE W/ 1" CC TAP FOR C-900 PVC PIPE & D.I. PIPE	1
B	1" CC x 1" MPT BALL CORPORATION	1
C	PACK JOINT COUPLINGS (FORD C14-44 OR APPROVED EQUAL)	1
D	1" COPPER TUBE, TYPE "K" SOFT	1
E	1" 90° COPPER ELBOW, S x S	1
F	1" COPPER MALE ADAPTER, SXT	1
G	ANGLE BALL VALVE, 1" FEMALE IPT INLET x 3/4" METER COUPLING NUT OUTLET (FORD BA13-342W OR APPROVED EQUAL)	1
H	METER SPACER, SUPPLIED BY DEPT. OF WATER & INSTALLED BY CONTRACTOR	1
I	BALL VALVE W/ HANDLE, 3/4" METER COUPLING NUT INLET x 1" FEMALE IPT OUTLET (FORD B13-342 W/ HT-34 HANDLE OR APPROVED EQUAL)	1
J	LINESETTER, 1" COPPER TUBE, TYPE "K" SOFT, 14" LONG (SEE STD. DET. L3)	1
K	1" PLASTIC THREAD PROTECTOR	1
L	TYPE "X" POLYMER BOX W/ POLYMER COVER W/ 4x7 CAST IRON READER DOOR DFW1425C-12-1CA OR APPROVED EQUAL	1
M	TEE W/ 1" BUSHING (WHEN CONNECTING TO 3" OR SMALLER PIPE)	1

<p>PLAN</p>		<p>PROFILE</p>
<p>NOTE: IN SIDEWALK AND PAVED AREAS, TOP OF METER BOX TO BE FLUSH W/ FINISH GRADE.</p>		<p>NOTE: COPPER SERVICE LATERALS SHALL BE ENCASED WITH POLYETHYLENE WRAP FROM THE CONNECTION TO THE WATER MAIN TO THE ANGLE BALL VALVE LOCATED IN THE METER BOX.</p>
KAUAI	SINGLE SERVICE LATERAL PLAN, PROFILE & MATERIAL LIST SCALE: NTS	STANDARD DETAILS L1

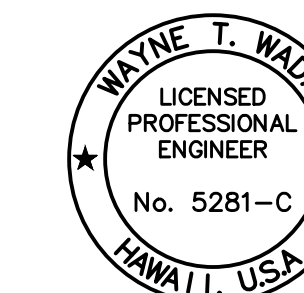
SCHEDULE OF FITTINGS		
ITEM	DESCRIPTION	DOUBLE SERVICE
A	STAINLESS STEEL OR BRONZE SADDLE W/ 1-1/2" CC TAP FOR C-900 PVC PIPE AND DUCTILE IRON PIPE	1
B	1-1/2" CC x 1-1/2" MPT BALL CORPORATION	1
C	PACK JOINT COUPLING (FORD C14-66 OR APPROVED EQUAL)	1
D	1-1/2" COPPER TUBE, TYPE "K" SOFT	1
E	1" 90° COPPER ELBOW, S x S	2
F	1" COPPER MALE ADAPTER, S x T	2
G	ANGLE BALL VALVE, 1" FEMALE IPT INLET x 3/4" METER COUPLING NUT OUTLET (FORD BA13-342W OR APPROVED EQUAL)	2
H	METER SPACER, SUPPLIED BY DEPT. OF WATER & INSTALLED BY CONTRACTOR	2
I	BALL VALVE W/ HANDLE, 3/4" METER COUPLING NUT INLET x 1" FEMALE IPT OUTLET (FORD B13-342 W/ HT-34 HANDLE OR APPROVED EQUAL)	2
J	LINESETTER, 1" COPPER TUBE, TYPE "K" SOFT, 14" LONG (SEE STD. DET. L3)	2
K	1" PLASTIC THREAD PROTECTOR	2
L	TYPE "X" POLYMER BOX W/ POLYMER COVER W/ 4x7 CAST IRON READER DOOR DFW1425C-12-1CA OR APPROVED EQUAL	2
M	1" x 1" x 1-1/2" COPPER TEE, S x S x S	1
N	TEE W/ 1-1/2" BUSHING (WHEN CONNECTING TO 3" OR SMALLER PIPE)	1

<p>PLAN</p>		<p>PROFILE</p>
<p>NOTE: COPPER SERVICE LATERALS SHALL BE ENCASED WITH POLYETHYLENE WRAP FROM THE CONNECTION TO THE WATER MAIN TO THE ANGLE BALL VALVE LOCATED IN THE METER BOX.</p>		<p>NOTE: IN SIDEWALK AND PAVED AREAS, TOP OF METER BOX TO BE FLUSH W/ FINISH GRADE.</p>
KAUAI	DOUBLE SERVICE LATERAL PLAN, PROFILE & MATERIAL LIST SCALE: NTS	STANDARD DETAILS L2

<p>FIGURE 1 TWO LANE STREET</p> <p>FIGURE 2 DIVIDED STREET</p> <p>FIGURE 3 MULTI-LANE STREET W/ TURN LANE</p> <p>FIGURE 4 TWO LANE STREET @ INTERSECTION</p> <p>FIGURE 5 FOUR LANE STREET W/ TURN LANE @ INTERSECTION</p>		2002
		REVISION
KAUAI OAHU MAUI	HYDRANT MARKER LOCATION FOR STREETS SCALE: NTS	STANDARD DETAILS FH12

SCHEDULE OF COPPER FITTINGS			
NO.	DESCRIPTION	SINGLE SERVICE	DOUBLE SERVICE
A	1" COPPER TUBE, TYPE "K"	1	1
B	1" COPPER MALE ADAPTER	1	2
C	1" x 90° ELBOW (CAST SOLDER)	1	2
D	1" x 1" x 1 1/2" TEE, (CAST SOLDER)		1
E	ANGLE VALVE, 1" FEMALE IPT, INLET 3/4" METER COUPLING NUT OUTLET (FORD BA13-342W OR APPROVED EQUAL)	1	2

<p>LINESETTER DETAIL</p>		2002
		REVISION
KAUAI	FABRICATED BRANCH PIPE AND LINESETTER DETAIL SCALE: NTS	STANDARD DETAILS L3



EXPIRES: APRIL 30, 2024
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Wayne T. Wada

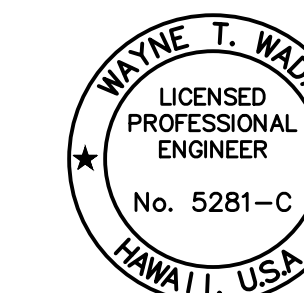
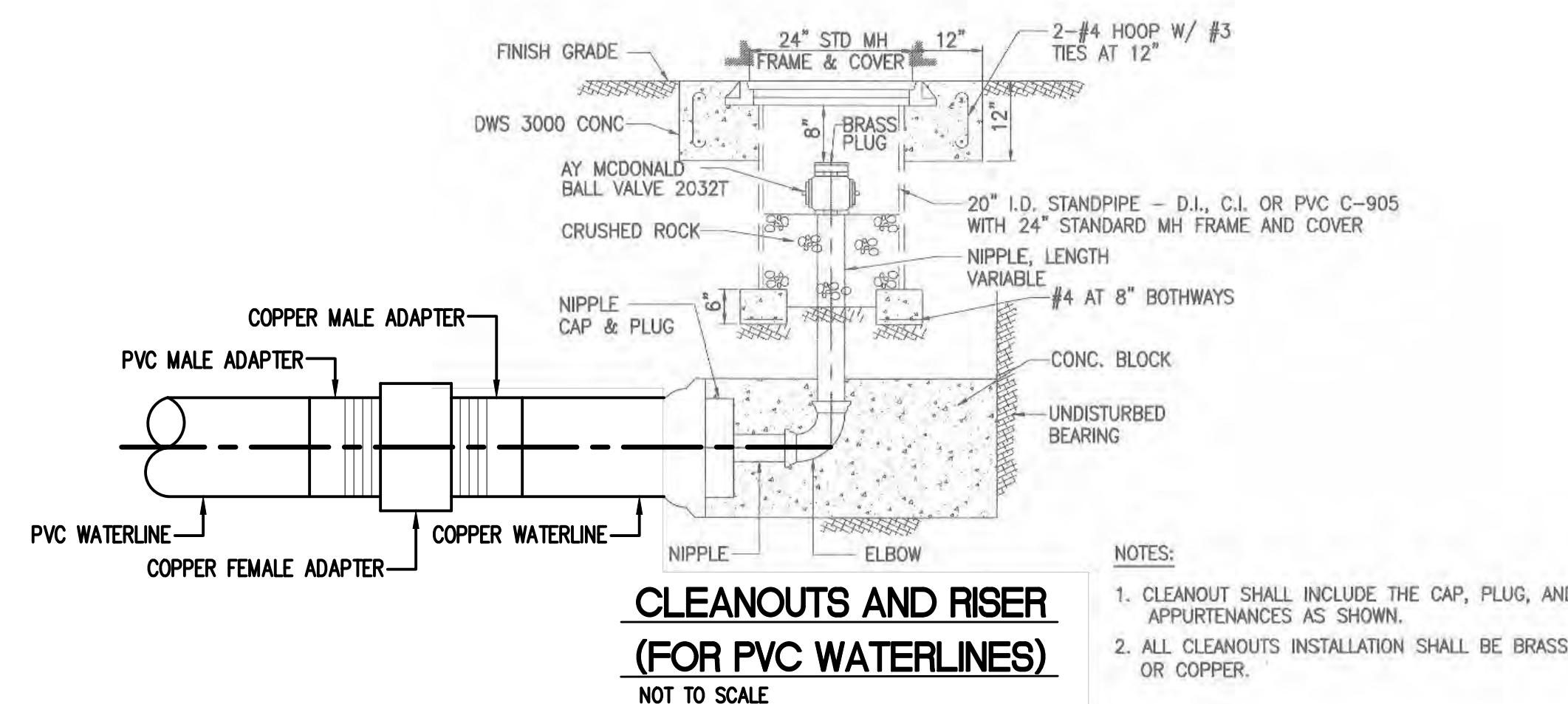
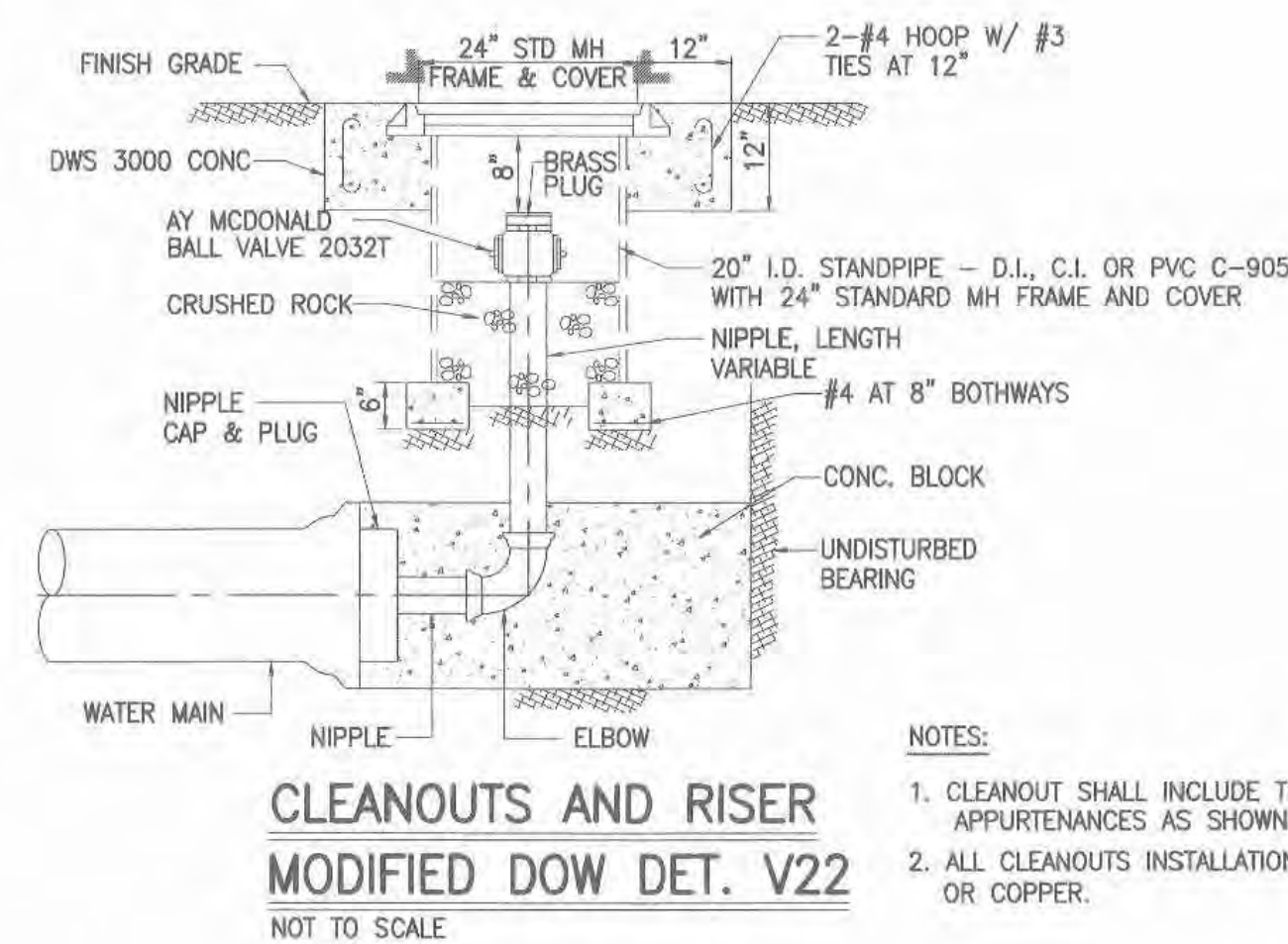
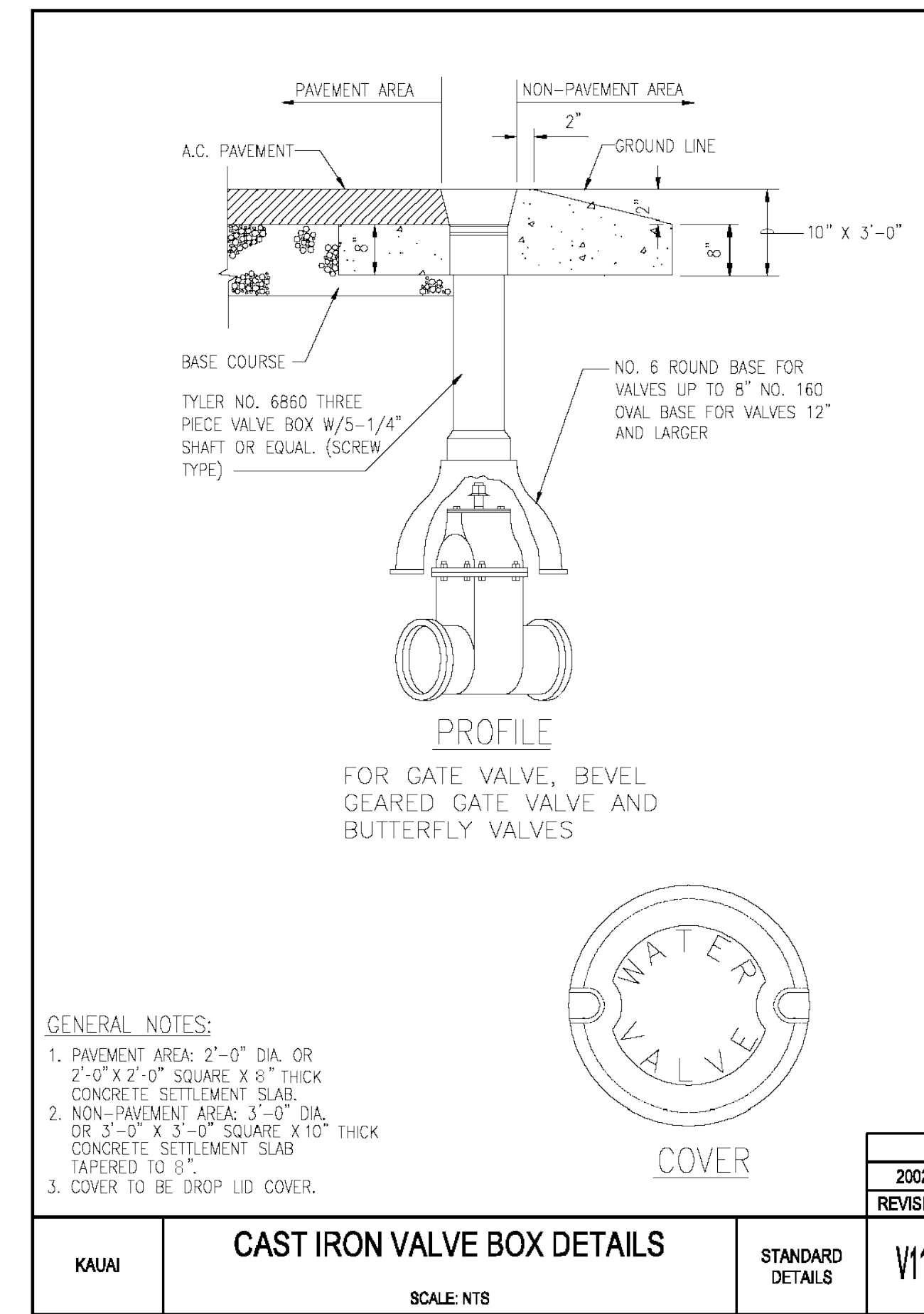
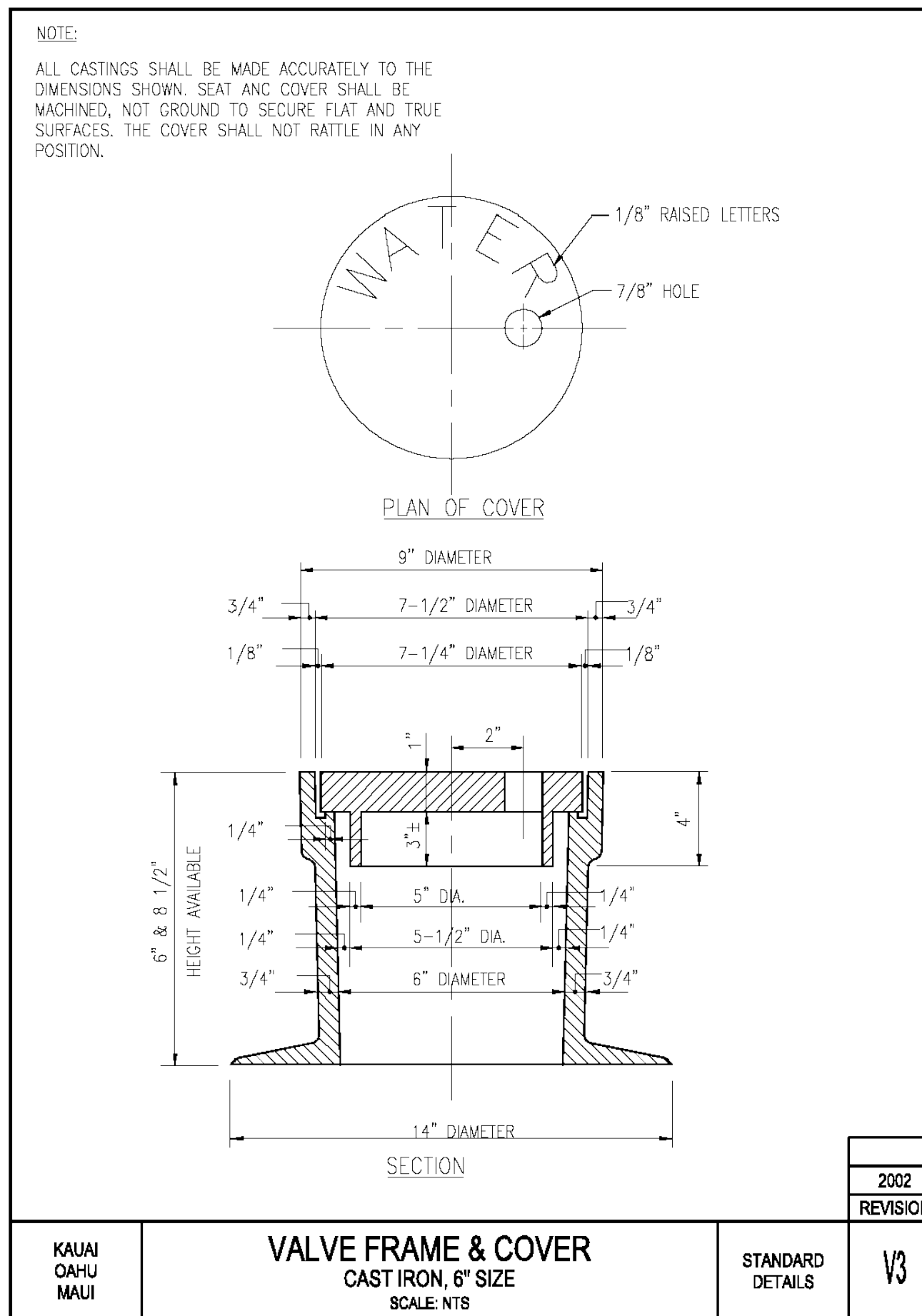
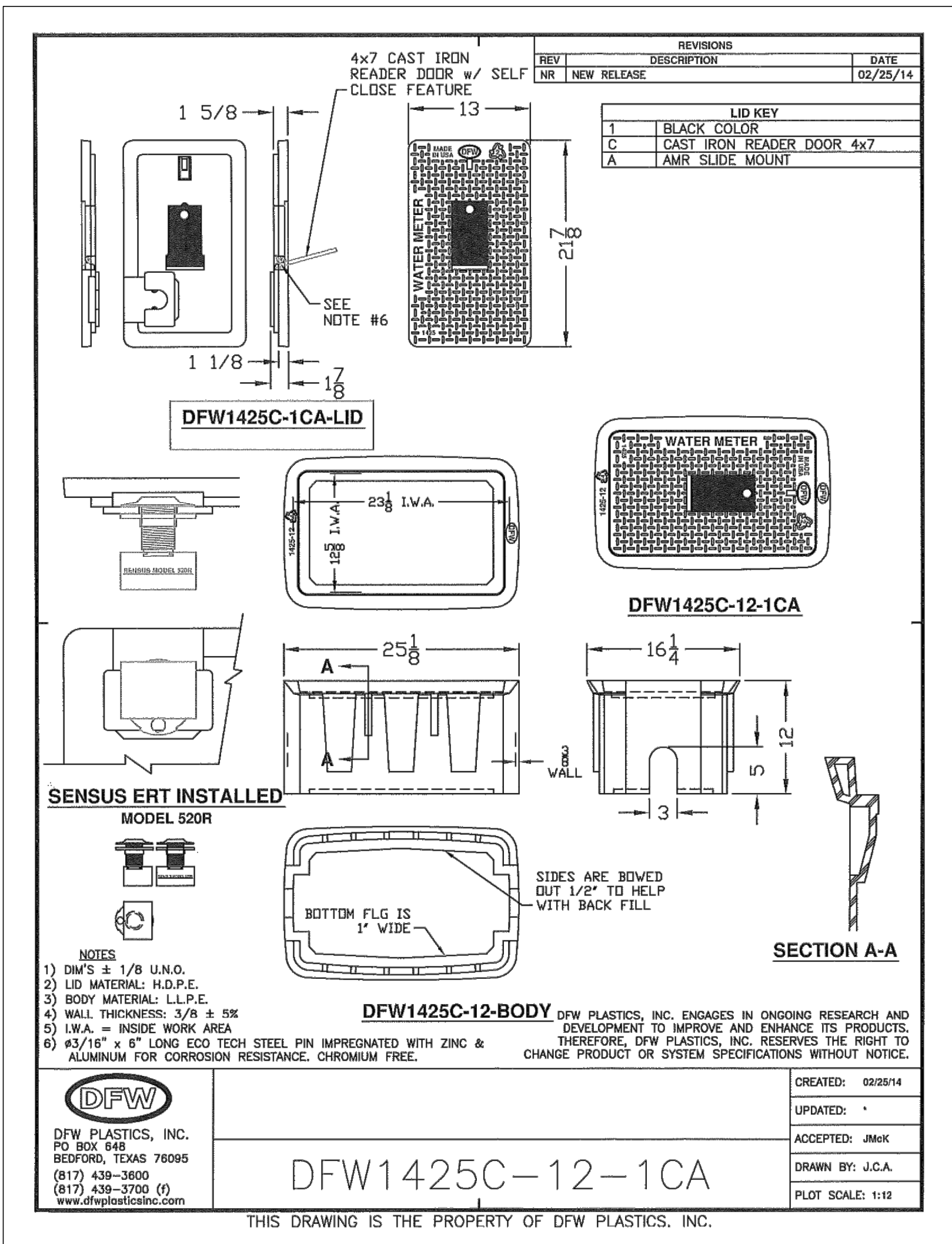
PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIAHI AND HEE ROADS HANAIE WATERLINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kaula, Hawai'i

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

MISCELLANEOUS DETAILS

APPROVED:
W/W
DATE: Jan 4, 2024

DESIGNED BY: *W/W* SHEET
DRAWN BY: *M.A., C.B., B.F.* **C-16**
DATE: 12/28/23 16 OF 21 SHEETS



EXPIRES: APRIL 30, 2024
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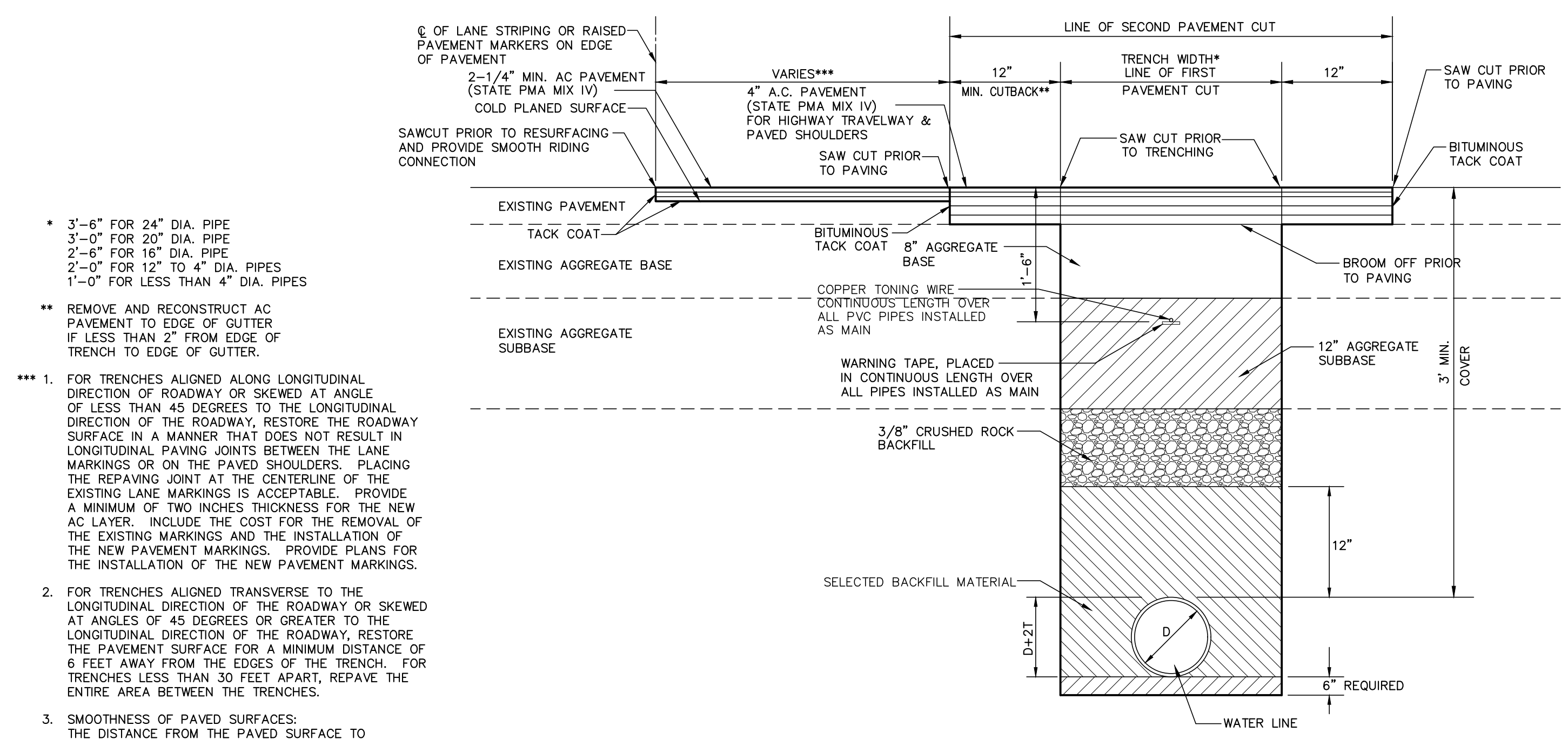
Wayne T. Wade

PROJECT:
 CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAHU AND HEE ROADS HANAIE WATERLINE IMPROVEMENTS
 Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
 Hanalei, Kaua'i, Hawai'i

CLIENT:
 DEPARTMENT OF WATER
 COUNTY OF KAUAI

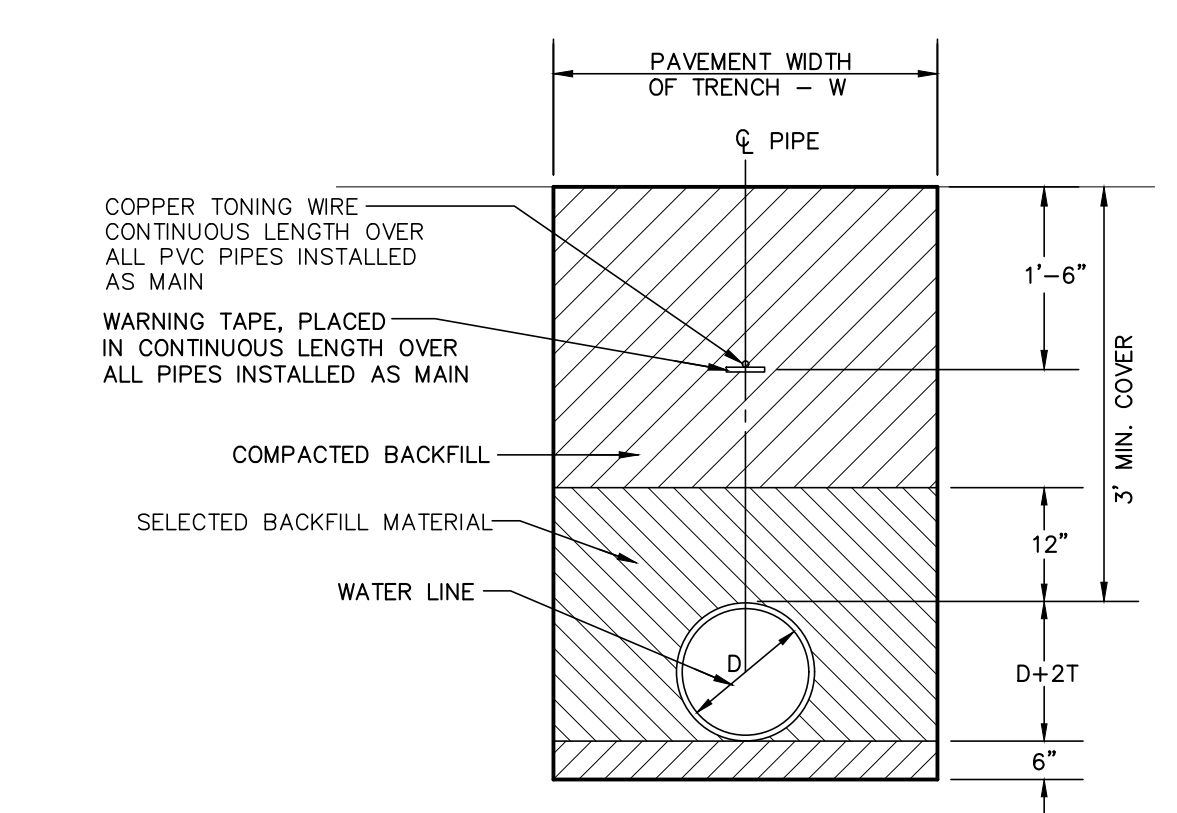
MISCELLANEOUS DETAILS

APPROVED:
N/A
 COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE
Jason Reynolds Jan 4, 2024
 MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

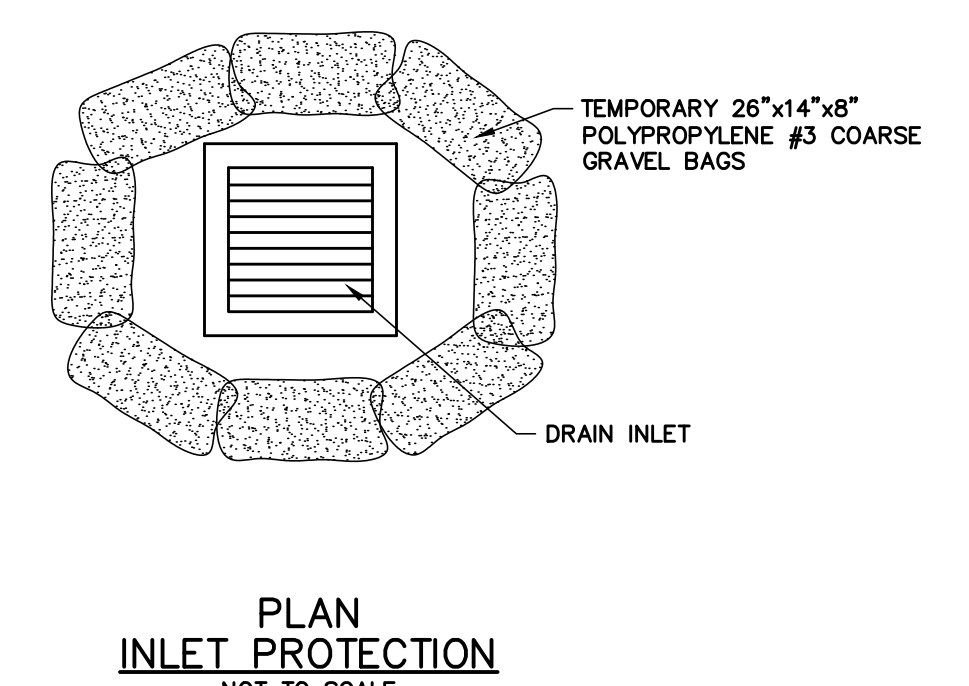
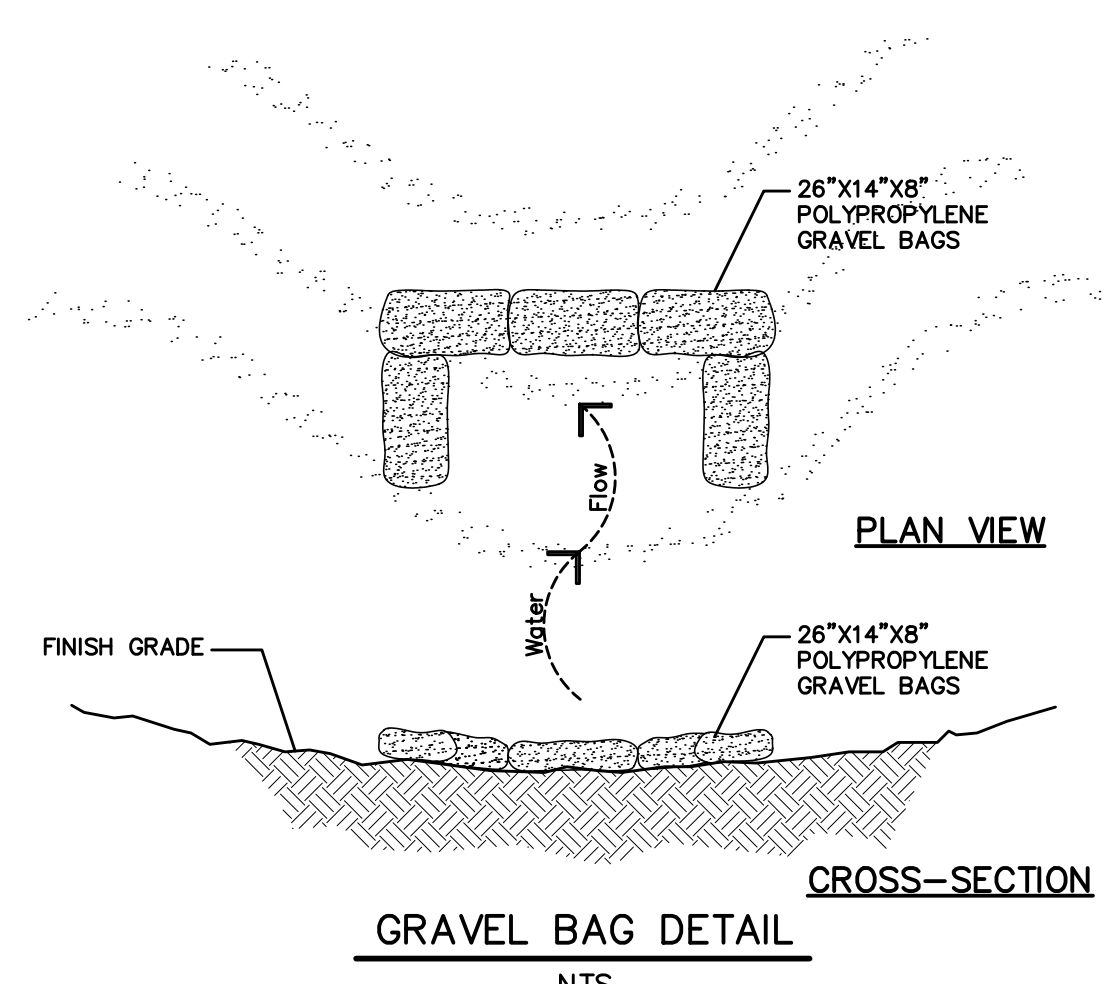


- * 3'-6" FOR 24" DIA. PIPE
3'-0" FOR 20" DIA. PIPE
2'-6" FOR 16" DIA. PIPE
2'-0" FOR 12" TO 4" DIA. PIPES
1'-0" FOR LESS THAN 4" DIA. PIPES
- ** REMOVE AND RECONSTRUCT AC PAVEMENT TO EDGE OF GUTTER IF LESS THAN 2' FROM EDGE OF TRENCH TO EDGE OF GUTTER.
- *** 1. FOR TRENCHES ALIGNED ALONG LONGITUDINAL DIRECTION OF ROADWAY OR SKEWED AT ANGLE OF LESS THAN 45 DEGREES TO THE LONGITUDINAL DIRECTION OF THE ROADWAY, RESTORE THE ROADWAY SURFACE IN A MANNER THAT DOES NOT RESULT IN LONGITUDINAL PAVING JOINTS BETWEEN THE LANE MARKINGS OR ON THE PAVED SHOULDERS. PLACING THE REPAVING JOINT AT THE CENTERLINE OF THE EXISTING LANE MARKINGS IS ACCEPTABLE. PROVIDE A MINIMUM OF TWO INCHES THICKNESS FOR THE NEW AC LAYER. INCLUDE THE COST FOR THE REMOVAL OF THE EXISTING MARKINGS AND THE INSTALLATION OF THE NEW PAVEMENT MARKINGS. PROVIDE PLANS FOR THE INSTALLATION OF THE NEW PAVEMENT MARKINGS.
- 2. FOR TRENCHES ALIGNED TRANSVERSE TO THE LONGITUDINAL DIRECTION OF THE ROADWAY OR SKEWED AT ANGLES OF 45 DEGREES OR GREATER TO THE LONGITUDINAL DIRECTION OF THE ROADWAY, RESTORE THE PAVEMENT SURFACE FOR A MINIMUM DISTANCE OF 6 FEET AWAY FROM THE EDGES OF THE TRENCH. FOR TRENCHES LESS THAN 30 FEET APART, REPAVE THE ENTIRE AREA BETWEEN THE TRENCHES.
- 3. SMOOTHNESS OF PAVED SURFACES: THE DISTANCE FROM THE PAVED SURFACE TO THE TESTING EDGE OF A TEN-FOOT STRAIGHT EDGE BETWEEN THE TWO POINTS OF CONTACT SHALL NOT EXCEED 3/16".

PAVEMENT REPAIR DETAIL FOR STATE HIGHWAY
NTS



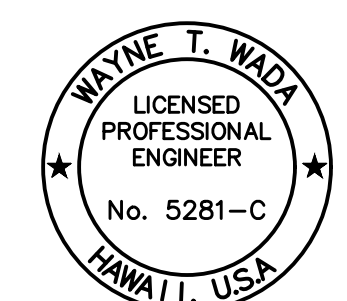
TYPICAL TRENCH RESTORATION (FOR WORK WITHIN STATE RIGHT-OF-WAY)
NTS



PLAN INLET PROTECTION
NOT TO SCALE

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
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Wayne T. Wade

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE 'ANAE, MAHIMAHU AND HEE ROADS HANAIE WATERLINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

MISCELLANEOUS DETAILS

APPROVED:
[Signature]
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE: Jan 4, 2024
[Signature]
MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI DATE:

POSTED SPEED	SIGN SPACING (D) (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

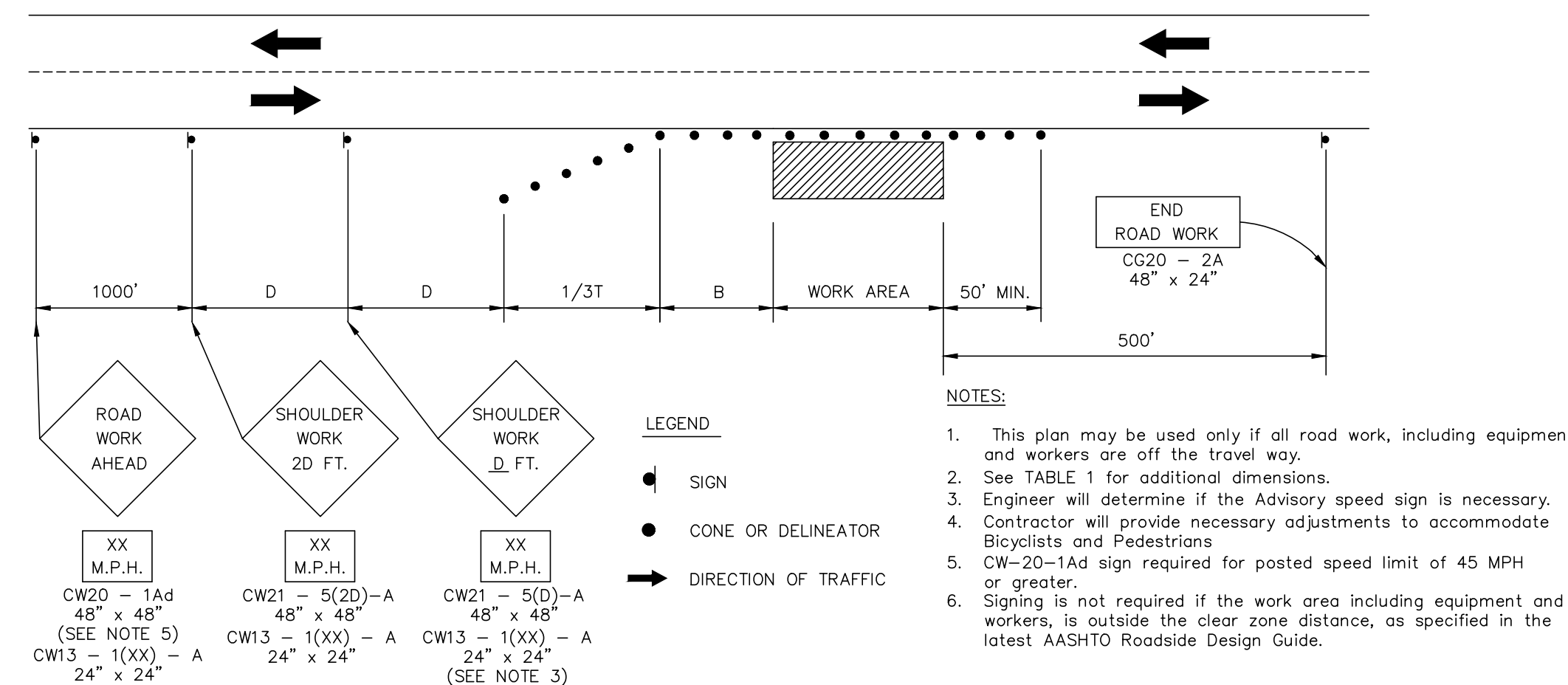
NOTES:
W = WIDTH OF LANE, SHOULDER, OR OFFSET
*USE ADVISORY SPEEDS WHEN POSTED
**NOT APPLICABLE FOR TWO-LANE HIGHWAYS

CONSTRUCTION NOTES FOR TRAFFIC CONTROL PLANS
(Revised July 26, 2022)

- 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.
- When required by the County of Kauai and/or State Highways Division, 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 Closures;
D) Explanation of the Lane Closure; "NOTICE TO MOTORISTS & PEDESTRIANS".
E) Flyer showing the changes in traffic patterns and estimated times of use. Distribute copies of the flyer to nearby businesses and residents.

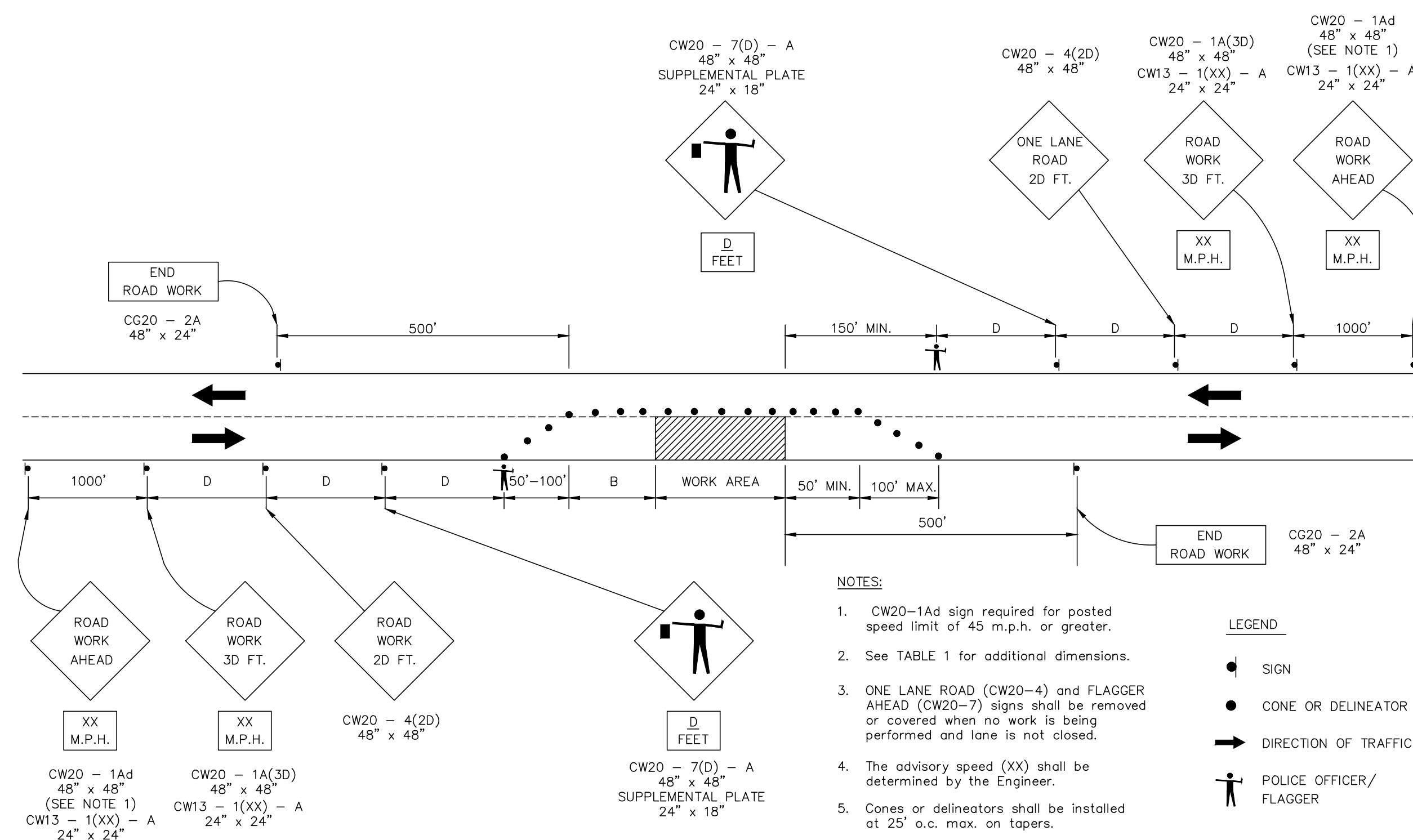
The Contractor shall be required to have any lane closure announced daily over the radio two (2) days before starting date until the work is completed. Both advertisements in the newspaper and over the radio shall be paid for by the Contractor. The Contractor shall also notify the hospitals, police, fire, and ambulatory services of the lane closures.

- All workers within the County R/W 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 road right of way, such as, but not limited to construction and maintenance forces, equipment operators, survey crew, utility crew, responders to incidents (eg. EMT and firemen), and law enforcement personnel directing traffic, investigating accidents, handling lane closures and roadway construction.
- All traffic control devices shall be reflectorized when used at night. Cones shall be equipped with reflectorized collar when used at night. Flashing lights shall be used with barricades and steady burn lights when used in a series for channelization. Flagger stations shall be adequately illuminated at night.
- Contractor to provide access and/or direction signs to reroute pedestrian traffic.
- 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.
- All implemented work zone traffic control shall comply with "Hawaii Standard Specifications for Road and Bridge Construction 2005" and the Manual on Uniform Traffic Control Devices (MUTCD).



WORKING ON SHOULDER OR ROADSIDE

FIGURE 1 — TRAFFIC CONTROL PLAN

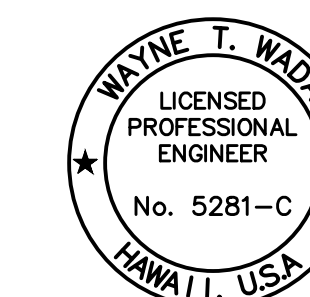


ONE-LANE, TWO-WAY TRAFFIC TAPER

FIGURE 2 — TRAFFIC CONTROL PLAN

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED
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Wayne T. Wade

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAH'I AND HEE ROADS HANA'LEI WATERLINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

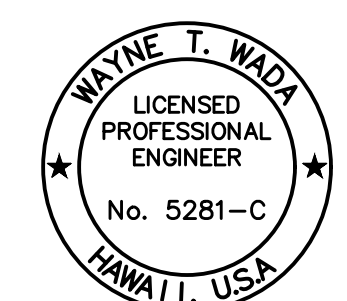
TRAFFIC CONTROL PLAN

APPROVED:
Wayne T. Wade
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE: Jan 4, 2024
Jesse Rognerson
MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

DESIGNED BY: *SW* SHEET
DRAWN BY: *MA, CB, BF* **C-19**
DATE: 12/28/23 19 OF 21 SHEETS

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wada

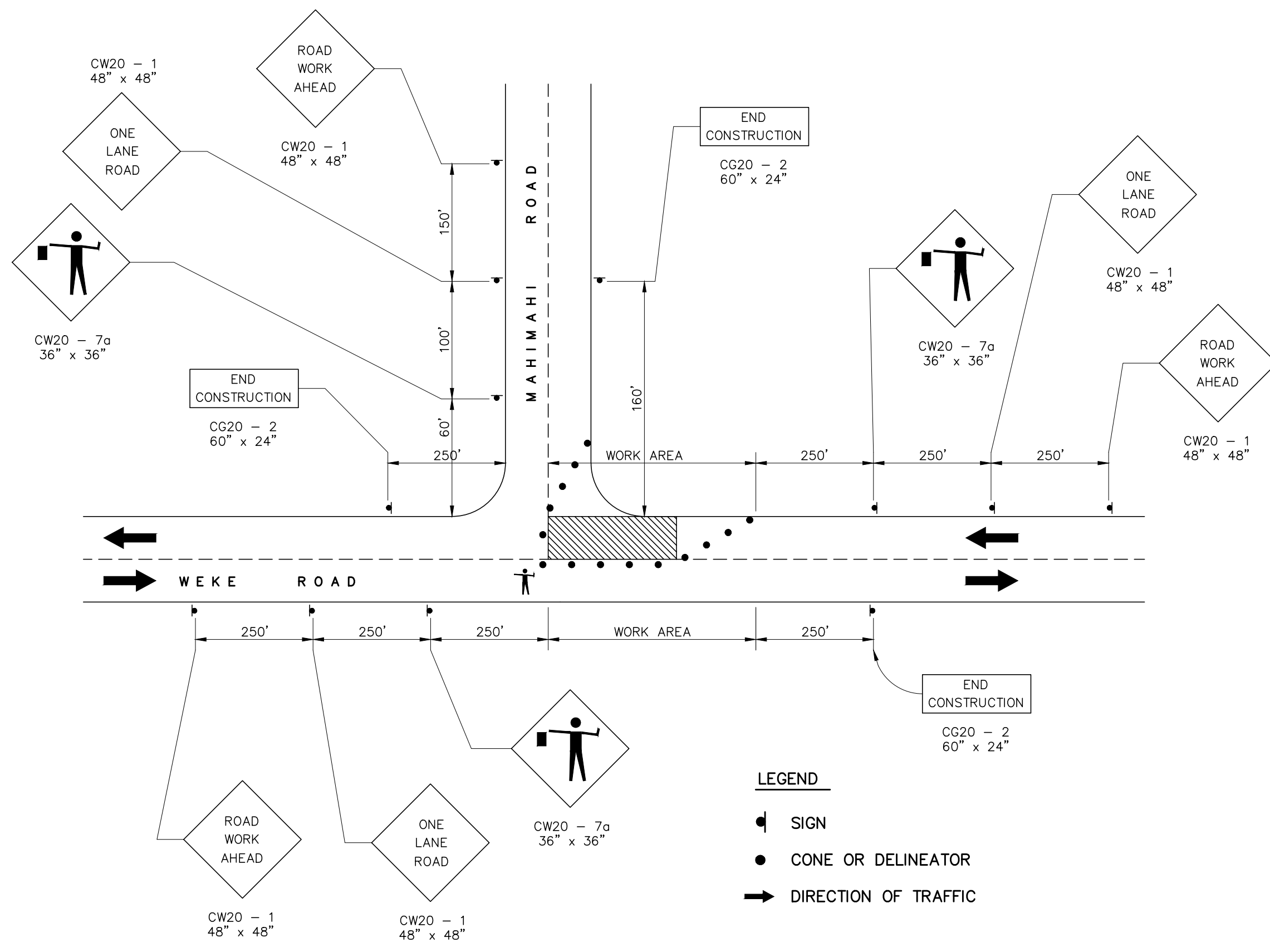
PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
REPLACEMENT ALONG WEKE, 'ANA'E,
MAHIMAHU AND HE'E ROADS
HANAIE WATERLINE IMPROVEMENTS**
Tax Map Key: (4) 5-5-003,
(4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

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

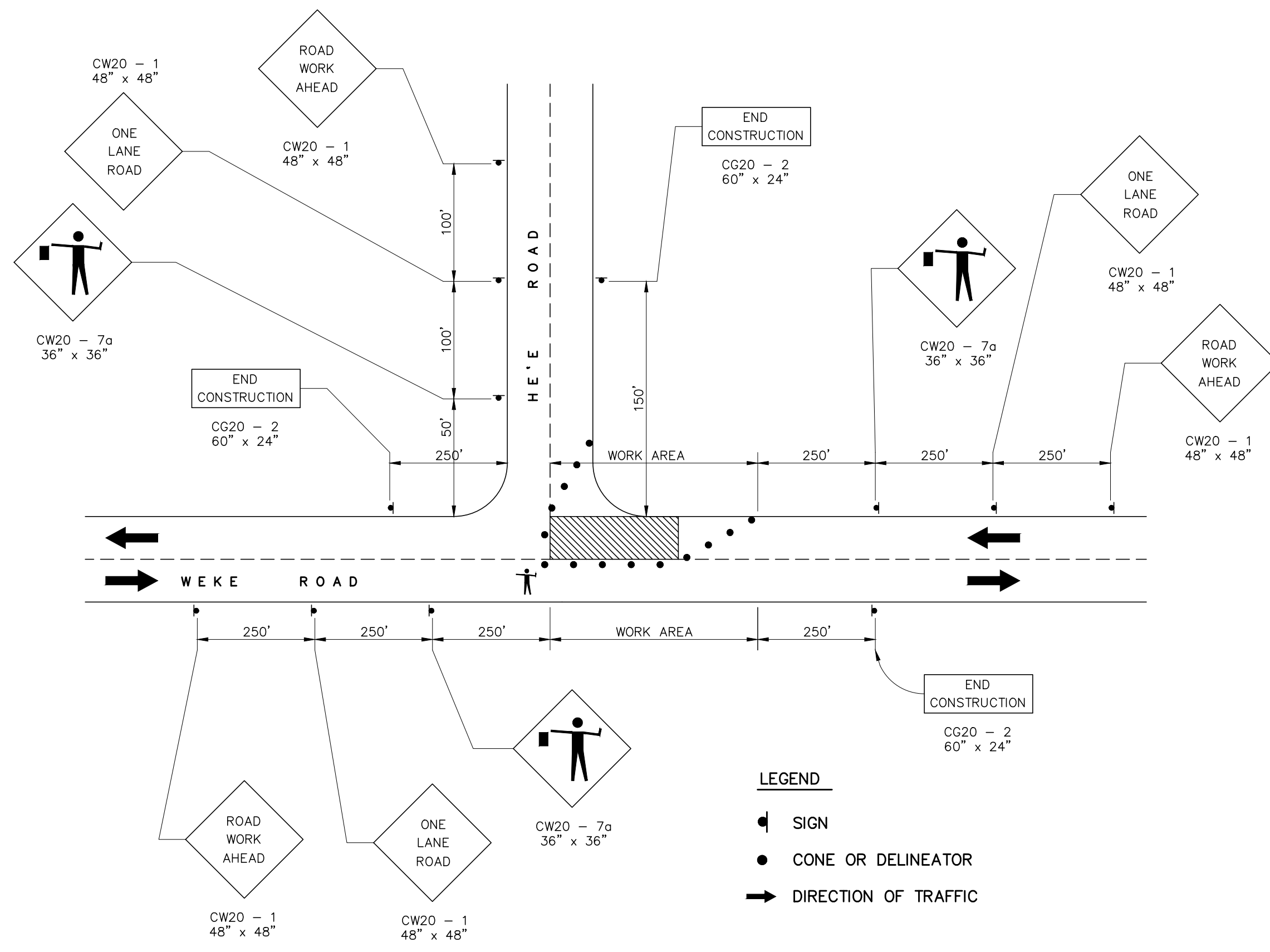
TRAFFIC CONTROL PLAN

APPROVED:
[Signature]
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS,
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE
[Signature] Jan 4, 2024
MANAGER & CHIEF ENGINEER, DEPT. OF WATER,
COUNTY OF KAUAI

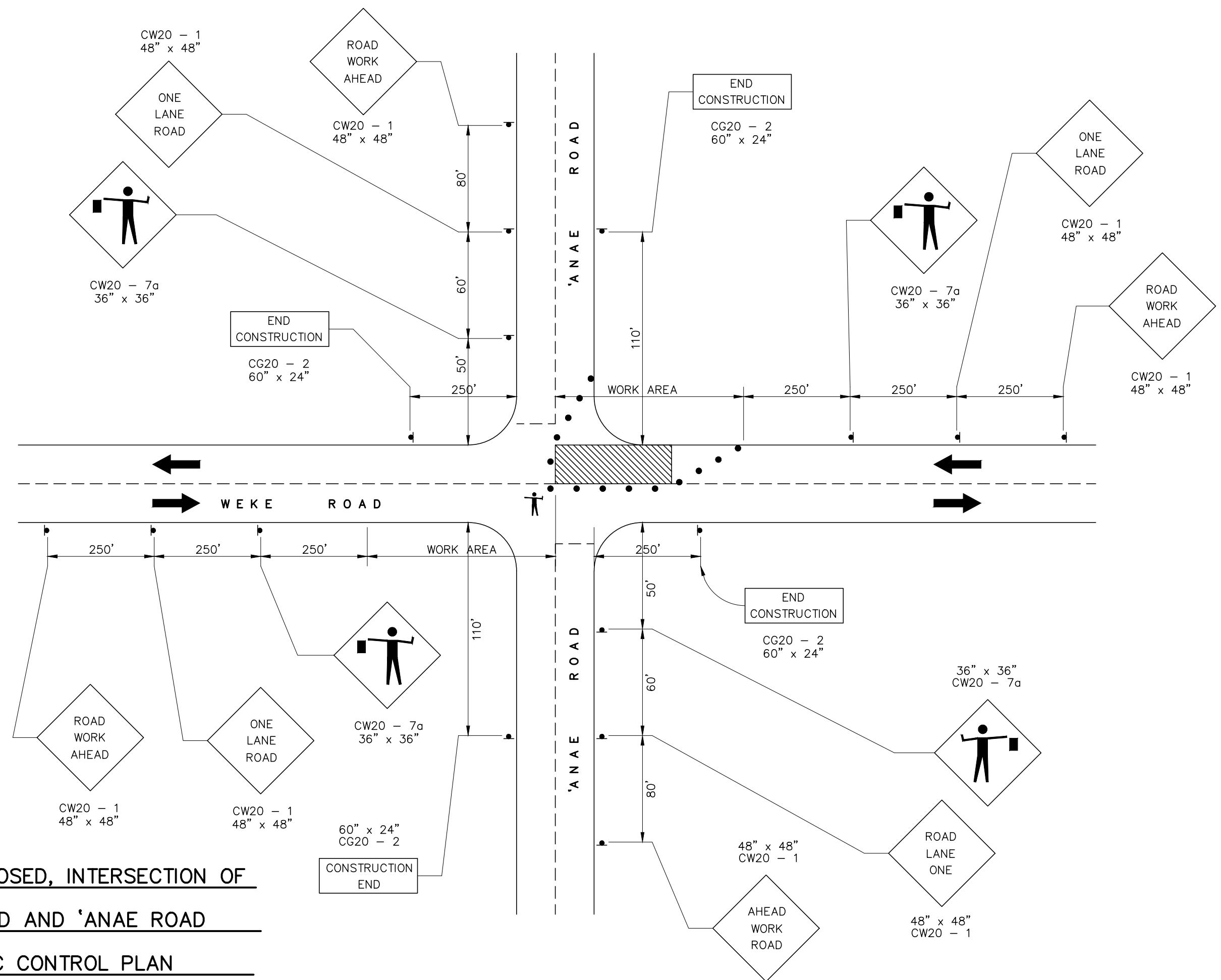
DESIGNED BY: *SW* SHEET
DRAWN BY: *Ma, Cb, BF* **G-20**
DATE: 12/28/23 20 OF 21 SHEETS



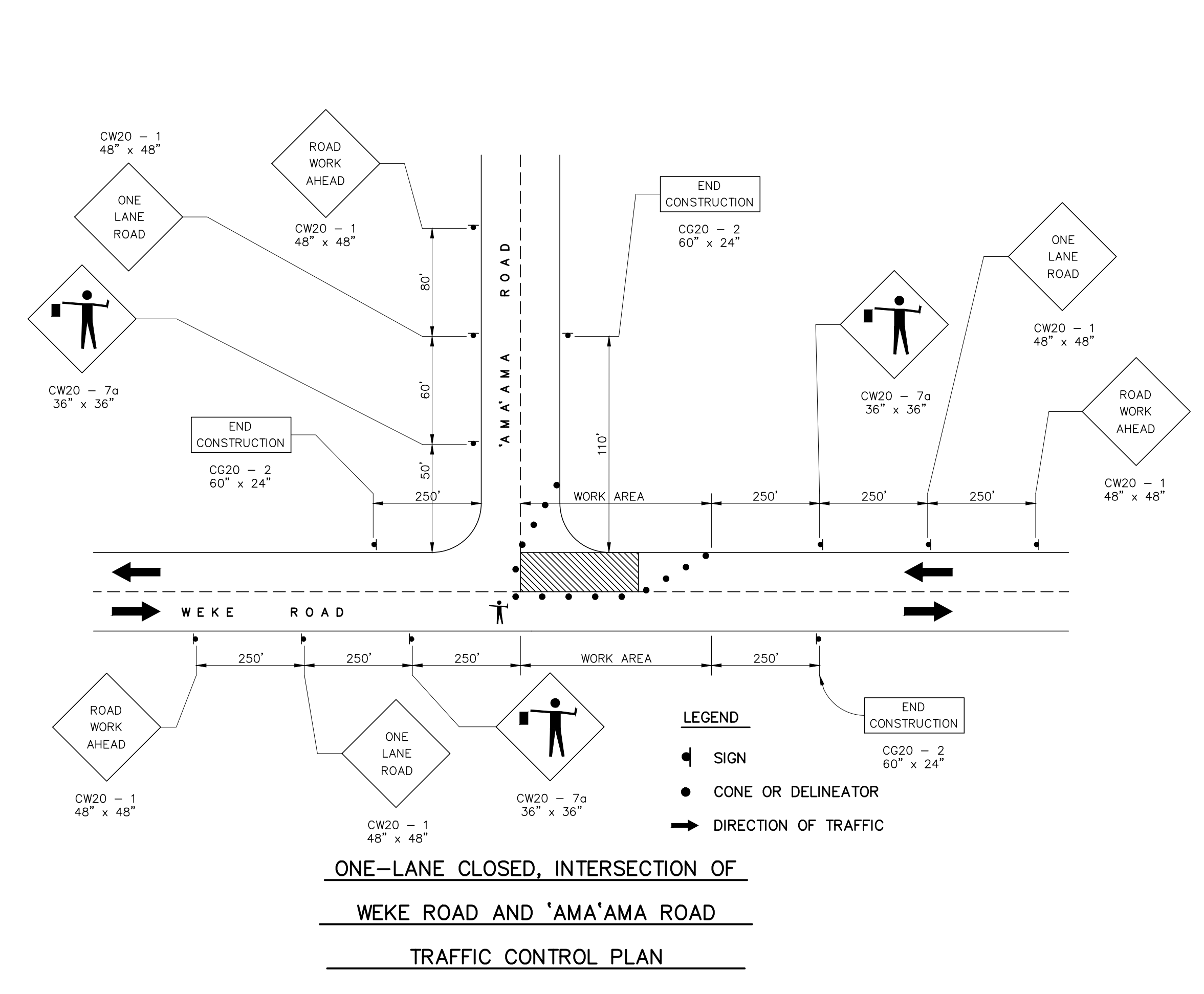
**ONE-LANE CLOSED, INTERSECTION OF
WEKE ROAD AND MAHIMAHU ROAD
TRAFFIC CONTROL PLAN**



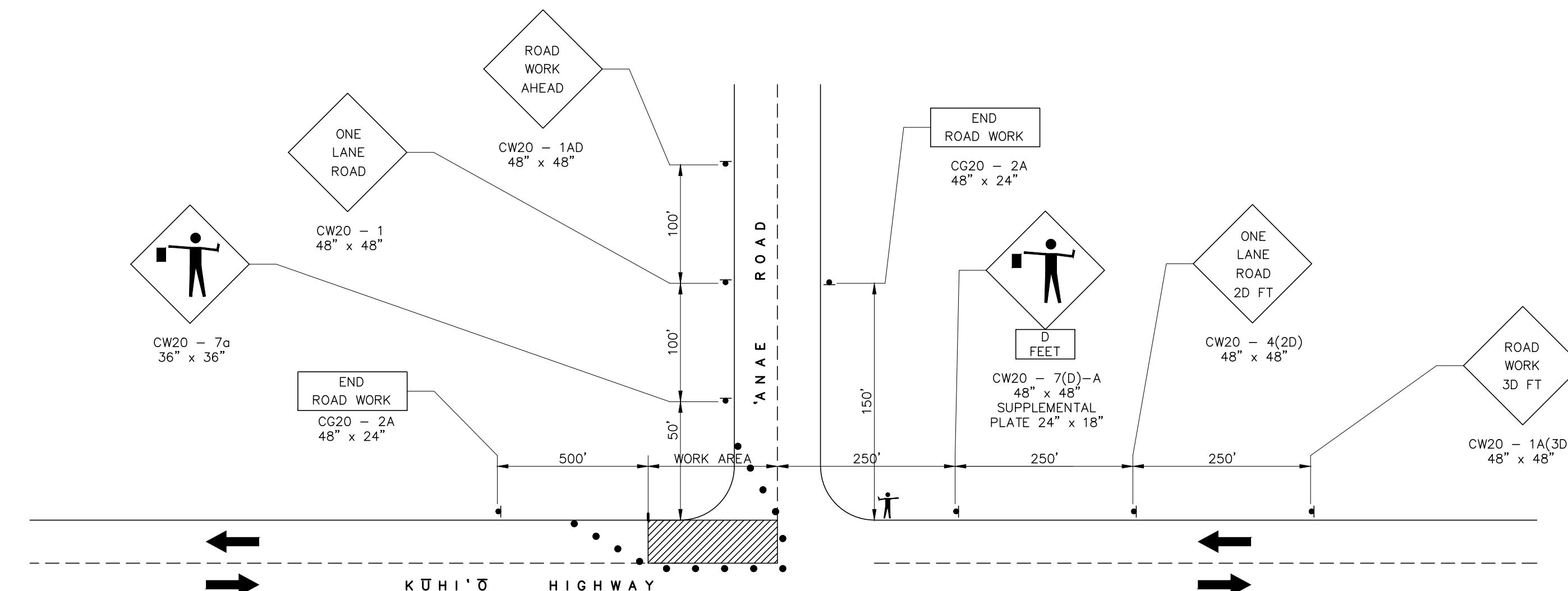
**ONE-LANE CLOSED, INTERSECTION OF
WEKE ROAD AND HE'E ROAD
TRAFFIC CONTROL PLAN**



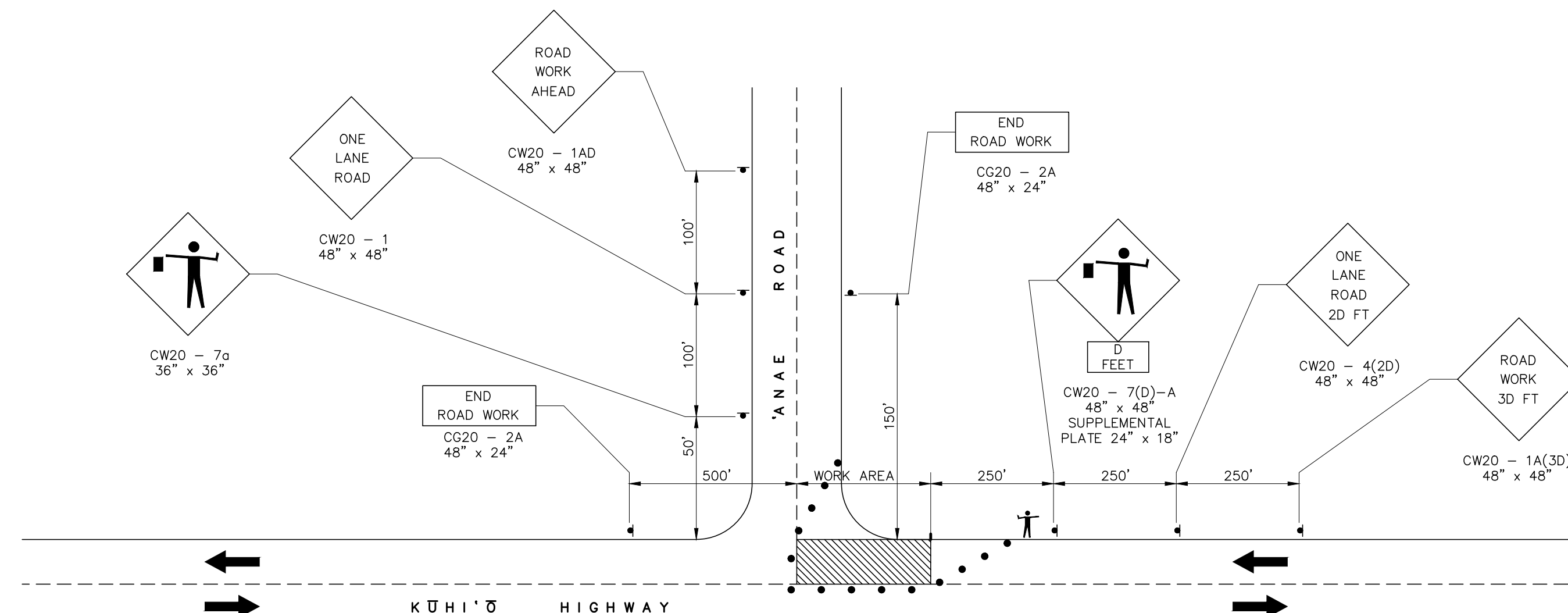
**ONE-LANE CLOSED, INTERSECTION OF
WEKE ROAD AND 'ANA'E ROAD
TRAFFIC CONTROL PLAN**



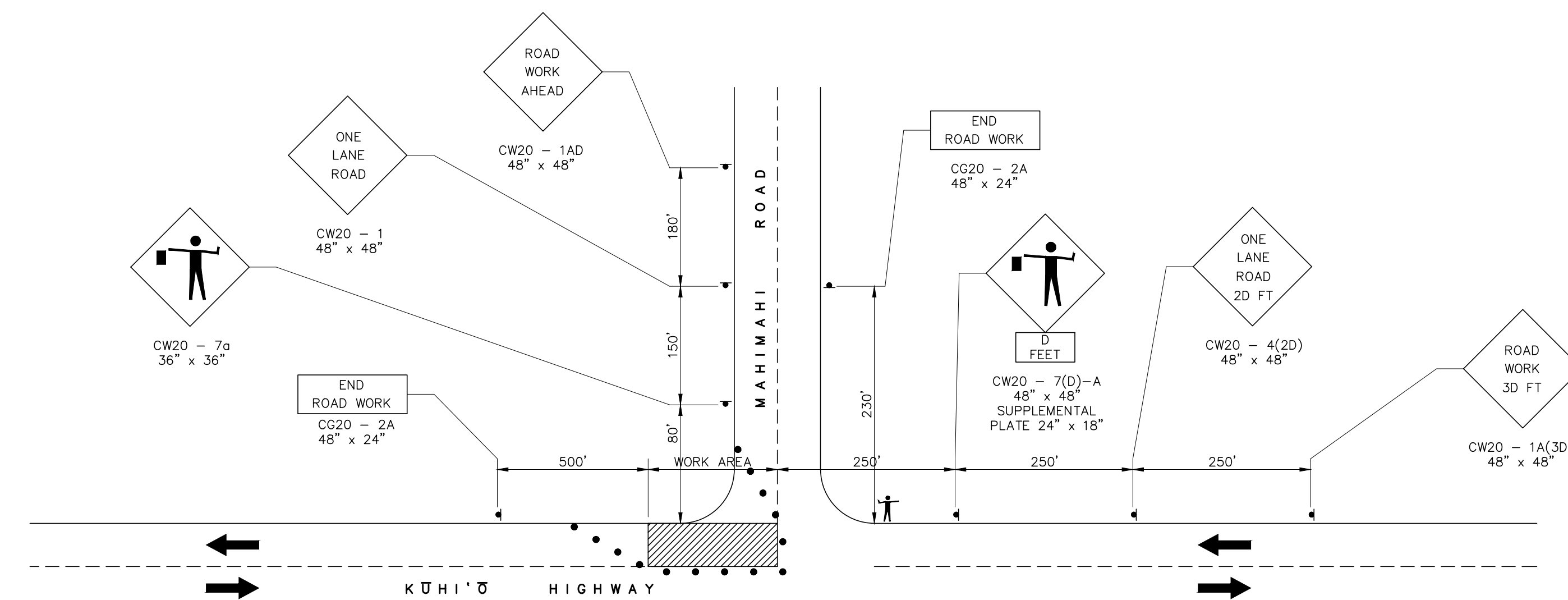
**ONE-LANE CLOSED, INTERSECTION OF
WEKE ROAD AND 'AMA'AMA ROAD
TRAFFIC CONTROL PLAN**



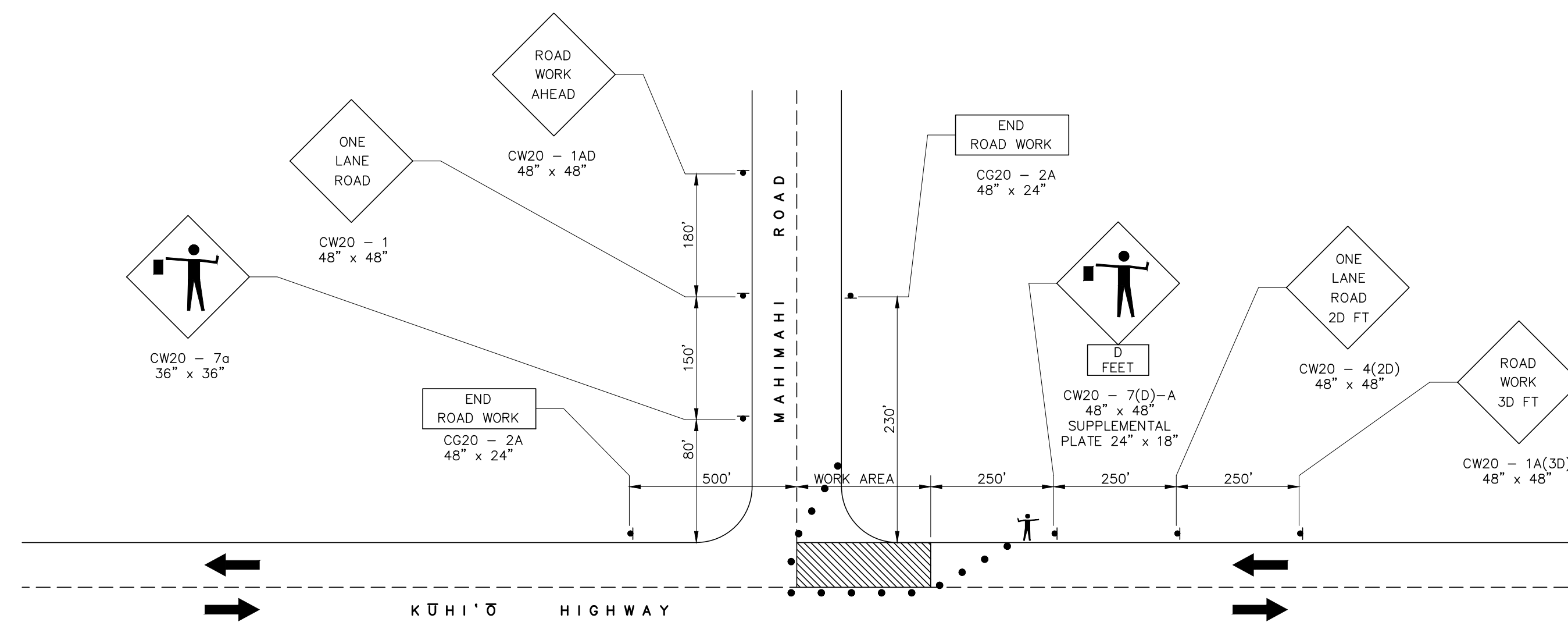
**ONE-LANE CLOSED, INTERSECTION OF
KŪHIʻŌ HIGHWAY AND ʻĀNAE ROAD
FIGURE 3 – TRAFFIC CONTROL PLAN**



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



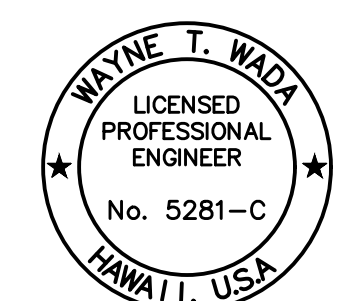
**ONE-LANE CLOSED, INTERSECTION OF
KŪHIʻŌ HIGHWAY AND MAHIMAHI ROAD
FIGURE 5 – TRAFFIC CONTROL PLAN**



**ONE-LANE CLOSED, INTERSECTION OF
KŪHIʻŌ HIGHWAY AND MAHIMAHI ROAD
FIGURE 6 – TRAFFIC CONTROL PLAN**

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

Wayne T. Wade

PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
REPLACEMENT ALONG WEKE, ʻĀNAE,
MAHIMAHI AND HEʻE ROADS
HANAIE WATERLINE IMPROVEMENTS**
Tax Map Key: (4) 5-5-003,
(4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

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

TRAFFIC CONTROL PLAN

APPROVED:
[Signature]
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS,
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE
[Signature] Jan 4, 2024
MANAGER & CHIEF ENGINEER, DEPT. OF WATER,
COUNTY OF KAUAI








12-43 CON 12-28-23


Final Audit Report

2024-01-10


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