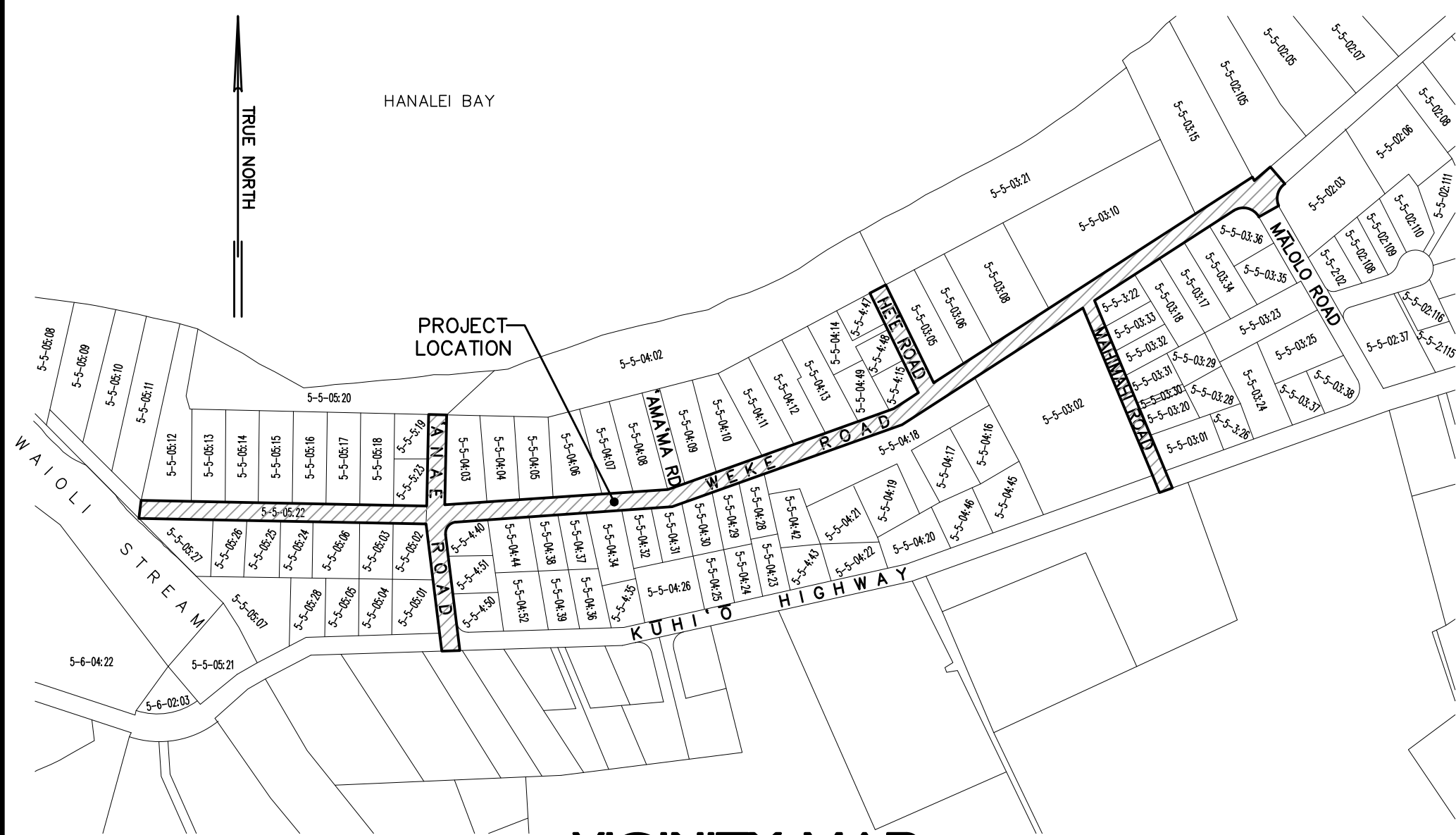
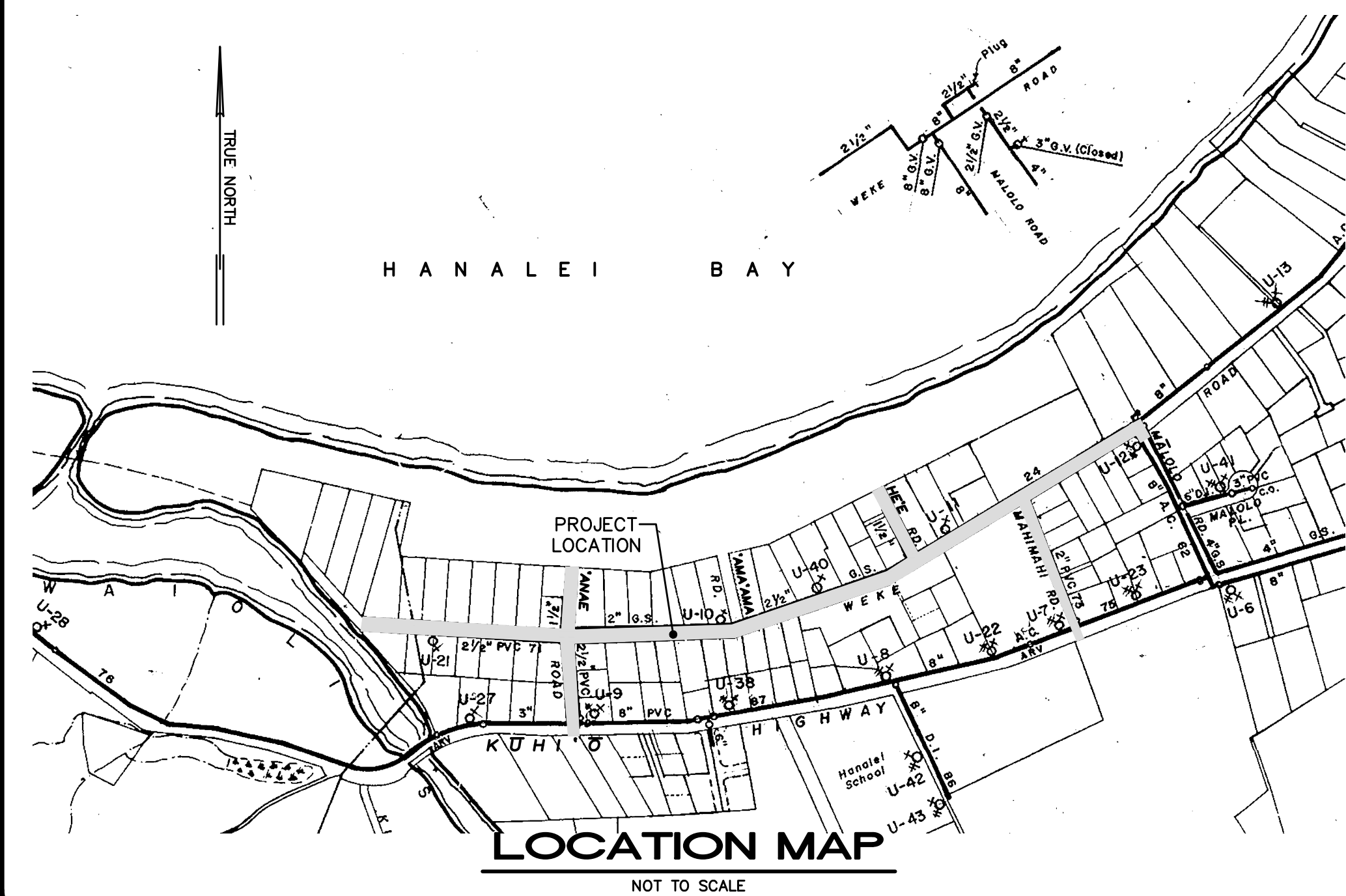


ISLAND OF KAUA'I
NOT TO SCALE



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

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, HAWAI'I 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	

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

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 satisfactory.
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.

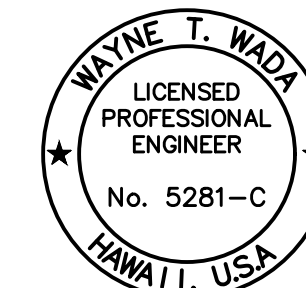
ESAKI
SURVEYING AND
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• CIVIL ENGINEERS • SURVEYORS • PLANNERS

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 12/28/1971)
for COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W) DATE
Jessie Kaganas Jan 4, 2024
for MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

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

WATER POLLUTION AND EROSION CONTROL NOTES (COUNTY)

(Revised July 26, 2022)

1. GENERAL:

- A. The Contractor is reminded of the requirements of Section 209 – WATER POLLUTION AND EROSION CONTROL and Section 620 – DUST CONTROL in the "Hawai'i Standard Specifications for Road and Bridge Construction 2005," and its amendments. Section 209 describes but is not limited to submittal requirements, scheduling of a Water Pollution and Erosion Control conference with the County, construction requirements; method of measurement; and basis of payment. No work shall commence without a BMP plan approved by the Department of Health.
- B. The Contractor shall follow the guidelines in the "Interim Best Management Practices Manual for Construction Sites for the County of Kaua'i, April 2004" in developing, installing and maintaining the Best Management Practices (BMP's) for the project. The Contractor may submit alternate methods to the County for acceptance.
- C. The Contractor shall keep a copy of the approved BMP Plan, NOI, etc. on the project site. The BMP Plan shall be updated to reflect any changes made during the course of construction for the duration of the project.
- D. The Engineer may assess liquidated damages of up to \$27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209, for every day on non-compliance. There is no maximum limit on the amount assessed per day.
- E. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor/Owner shall reimburse the State and/or County for the full amount of the outstanding cost incurred by the State and/or County.

2. WASTE DISPOSAL:

- A. Waste materials: All waste materials shall be collected and stored in a securely lidded metal dumpster that does not leak. The dumpster shall meet all local and State Solid Waste Management Regulations. All trash and construction debris from the site shall be deposited in the dumpster. The dumpster shall be emptied at a minimum of twice per week or as often as is deemed necessary. No construction waste material shall be buried onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the office trailer and the Contractor shall be responsible for seeing that these procedures are followed.
- B. Hazardous waste: All hazardous waste materials shall be disposed of in the manner specified by local or state regulations or by the manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.
- C. Sanitary waste: All sanitary waste shall be collected from the portable units a minimum of once per week, or as required.

3. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

- A. All control measures shall be inspected at least once each week and within 24 hours following any rainfall event of 0.5 inches or greater.
- B. All measures shall be maintained in good working order. If repair is necessary, it shall be initiated within 24 hours after the inspection.
- C. Built up sediment shall be removed from silt fence when it has reached one-third the height of the fence.
- D. Silt screen or fence shall be inspected for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground.
- E. Temporary and permanent seeding and planting shall be inspected for bare spots, wash outs and healthy growth.
- F. The Contractor shall submit to the County a maintenance inspection report promptly after each weekly inspection.
- G. The Contractor shall select a minimum of three personnel who shall be responsible for inspection, maintenance and repair activities and filling out the inspection and maintenance report.
- H. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.
- I. All slopes and exposed areas shall be grassed as final grades have been established. Grading to final grade shall be continuous, and any area in which work has been interrupted or delayed or exposed for more than 15 days shall be grassed in order to prevent dust emission, erosion and silt runoff. Areas with imported soils shall be grassed not more than 5 working days after final grades have been established.
- J. Temporary erosion control shall not be removed before permanent erosion controls are in-place and established.

4. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

A. MATERIALS POLLUTION PREVENTION PLAN:

- a. Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory of the Construction Contractor's site-specific BMP plan.

Concrete	Fertilizers
Detergents	Petroleum based products
Paints (Enamel and Latex)	Cleaning solvents
Metal Studs	Wood
Tar	Masonry Block
- b. Material management practices shall be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. An effort shall be made to store only enough products as is required to do the job.
- c. All materials stored onsite shall be stored in a neat, orderly manner in their appropriate containers and if possible, under a roof or other enclosure.
- d. Products shall be kept in their original containers with the original manufacturer's label.
- e. Substances shall not be mixed with one another unless recommended by the manufacturer.
- f. A product shall be used up completely before disposing of the container.
- g. Manufacturer's recommendations for proper use and disposal shall be followed.
- h. The Contractor shall conduct a daily inspection to ensure proper use and disposal of materials onsite.

B. HAZARDOUS MATERIAL POLLUTION PREVENTION PLAN:

- a. Products shall be kept in original containers unless they are not resealable.
- b. Original labels and material safety data sheets (MSDS) shall be retained and made available to the County upon request.
- c. Surplus products shall be disposed of according to manufacturer's instructions or local and State recommended regulations.

C. ONSITE AND OFFSITE PRODUCT SPECIFIC PLANS:

The following product specific practices shall be followed onsite:

- a. Petroleum based products: All onsite vehicles shall be monitored for leaks and received regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite shall be applied according to the manufacturer's recommendation.
- b. Fertilizers: Apply fertilizers used only in the minimum amounts recommended by the manufacturer. Once applied, work fertilizer into the soil to limit exposure to storm water. Storage shall be kept in a covered shed. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.
- c. Paints: Seal and store all containers when not required for use. Do not discharge excess paint to the roadway drainage system. Dispose properly according to manufacturer's instruction or state and local regulations.
- d. Concrete Trucks: Washout or discharge concrete truck drum wash water only at a designated site. Do not discharge water in the roadway drainage system or waters of the United States. Contact Drinking Water Branch, Department of Health at (808) 586-4309 to receive permission to designate a disposal site. Clean disposal site as required or as represented by the Owner's representative.

D. SPILL CONTROL PLAN:

- a. Post a spill prevention plan to include measures to prevent and clean up each spill.
- b. The Contractor shall be the prevention and clean-up coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area and in the office trailer onsite.
- c. Clearly post manufacturer's recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of information and cleanup supplies.
- d. Keep material and equipment necessary for spill cleanup in the material storage area onsite.
- e. Clean up all spills immediately after discovery.
- f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with hazardous substances.
- g. Report spills of toxic hazardous material to the appropriate state or local government agency, regardless of size.

5. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS:

- A. The Contractor shall apply for, obtain and comply with the National Pollutant Discharge Elimination System (NPDES) requirements for Kaua'i District permit projects. This is available at the Kaua'i District Office at 3040 Umi Street, Suite 205. Due to potential costs and impacts, the Contractor needs to be aware of these requirements.
- B. 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 Hawai'i and has satisfied any other applicable requirements of the NPDES permit program.
- C. The Contractor shall complete and submit a Contractor's certification of NPDES compliance, including completion of the Best Management Practice (BMP) checklist and submittal of a written BMP Plan and drawings, prior to issuance of the permit to perform work upon County roadways.

WATER CONSTRUCTION NOTES

(revised March 15, 2023)

- 1. Unless otherwise specified, all materials and construction of water facilities and appurtenances shall be in accordance with the "Water System Standards, 2002", as adopted by the Department of Water, County of Kaua'i, including all subsequent amendments and additions.
- 2. All required project submittals (materials, shop drawings, etc.) shall be approved by the DOW's project management section before a pre-construction conference can be scheduled. Once all project submittals have been approved by DOW construction engineer, the DOW construction engineer will notify the Contractor that a pre-construction conference can be arranged. The Contractor shall arrange a pre-construction conference at least ten (10) calendar days before construction and shall notify the Department of Water at least three (3) working days prior to start of construction.
- 3. The Contractor shall submit the names and telephone numbers of its authorized job superintendent and at least three (3) additional persons to contact in case of an emergency during non-working hours.
- 4. The Contractor shall notify the Department of Water at least 24 hours prior to any trenching, pipe laying, backfilling, testing or disinfection activities to ensure that inspection services will be available.
- 5. All materials (pipe, lubricants, paints, sealants, form oil, concrete admixtures, etc.) in direct contact with the potable water shall have National Sanitation Foundation (NSF) certifications. The Contractor shall submit these certifications to the Department of Water for review and approval prior to its application.
- 6. The location of existing water mains and appurtenances shown on the plans are approximate only. The Contractor shall verify the exact locations in the field. Excavation around any existing water main shall be done by hand.
- 7. The Contractor shall provide unobstructed access to existing hydrants, valves and water meters at all times.
- 8. The Contractor shall secure all excavations in accordance with OSHA regulations.
- 9. There shall be no physical connection between a public or private potable water system and a non-potable water system, sewer, or appurtenance thereto which could permit the passage of any sewage or polluted water into the potable water supply.
- 10. Trench excavation, backfilling in lifts, and repaving shall conform to the "Hawai'i Standard Specifications for Road and Bridge Construction, 2005" as amended.
- 11. Warning tape shall be in accordance with Division 200, Section 212.08 of the "Water System Standards". The warning tape shall be four mil thick, non-metallic, acid and alkali resistant polyethylene and 6-inches wide with minimum strength of 1750 psi lengthwise and 1500 psi crosswise. Tape color shall be "Safety Precaution Blue" and shall bear a continuous printed inscription "Caution Water Line Buried Below". Inscription shall be 2-inches high, black text.
- 12. All hydrants shall receive a minimum SSPC SP3 surface preparation and coated in accordance with Division 200, Section 206.01 of the "Water System Standards."
- 13. Unless otherwise directed, prior to the connection of any pipelines to the existing main, the pipelines installed shall be cleaned, pressure tested, chlorinated, flushed, and sampled in accordance with Division 300, Sections 302.27 to 302.29 of the "Water System Standards." Water samples shall be tested for total coliforms by a laboratory certified by the State of Hawai'i to perform coliform analysis. Presence of coliform bacteria is unacceptable. In addition to the test for coliforms, a separate test for heterotrophic plate count (HPC) shall be conducted. The HPC count shall be less than 300 CFU/ML. Prior to chlorination, a water chlorination and sanitation contractor with a C-37D license shall submit a chlorination plan with water source, injection points, sampling points and procedure clearly defined for approval by the DOW thirty (30) calendar days prior to starting anticipated chlorination operations. The chlorination plan must be approved by the DOW's project management section prior to starting chlorination operations. All chlorination plans will be approved based on the current DOW requirements at the time of chlorination plan submittal. The tested pipelines must be connected to the existing DOW system within 14 calendar days of pulling the first disinfection sample tested by a certified laboratory. The Department of Water will require the Contractor to redo the cleaning, pressure testing, and/or disinfection of the pipelines and/or laterals at the Contractor's expense if the connection is not completed within these 14 calendar days. For disinfection of water laterals (service and fire) that are to be connected directly to existing DOW water lines, service and fire laterals shall be disinfected with a 1% (minimum) free chlorine (liquid sodium hypochlorite) solution by swabbing and/or soaking, unless otherwise approved by the engineer. For reservoirs, Section 303.10 Subsection B.3.e.2 is replaced with "total bacterial count is less than 300 CFU/ML."
- 14. Polyurethane foam "pigs" shall be "pushed" through the length of the installed pipeline using pressurized water.
- 15. All connections shall be scheduled in coordination with the Department of Water.
 - a. An advance deposit is required for operating valves, flushing lines and notifying consumers affected by a water shutdown during connections. The Contractor will be charged the actual cost.
 - b. The Contractor shall place the deposit prior to scheduling the connection date.
 - c. Shutdown connections shall be scheduled on Tuesdays through Thursdays. No connections shall be scheduled on Mondays, Fridays, weekends and holidays, or from December 18 – January 8 of each year.
 - d. All materials shall be on hand and approved by the Engineer prior to scheduling the connection date.
 - e. Pumps used to de-water the connection area shall be operated in the presence of the Engineer prior to scheduling the connection date.
 - f. All connections shall be performed in the presence of the Engineer.
 - g. No live taps shall be scheduled from December 24 – December 31 of each year.
- 16. In order to prevent damage to the polyethylene encasement from excessive handling, the polyethylene encasement shall be installed around the barrel of the ductile iron pipe at its final location along the trenchline. The polyethylene encased pipe shall be lifted using a fabric type sling or a suitably padded cable or chain to prevent damage to the polyethylene.
- 17. The Contractor shall take all necessary compaction tests while the waterline trench is being backfilled and while the subbase/basecourse is being placed. If the test results indicate that additional compaction is required, the corrective work shall be completed before any additional trench excavation or placing of subbase/basecourse is allowed. The Contractor shall retain the services of a registered geotechnical engineer for quality control. The compaction test results shall be certified by the Geotechnical Engineer and submitted to the Department of Water, State Highways Division (for work done within County R/W) and the Department of Public Works (for work done within County R/W). The Geotechnical Engineer shall certify that the compaction results meet the requirements of the current standard specifications for road and bridge construction.
- 18. The Contractor shall connect all existing consumer piping to the new service laterals. The Department of Water will transfer the existing water meters only.
- 19. All fittings shall be mechanical joint (MJ) at each end unless otherwise noted. "Megalug" retainer glands shall be used with all mechanical joint fittings and valves used in connecting new water mains to existing water mains unless otherwise noted.
- 20. All water valves that will be abandoned in place shall be placed in the "closed" position. Remove top section of valve box and concrete settlement slab. Fill remainder of valve box with concrete. Place backfill and repair pavement section to applicable state or county standards. Backfill to finish grade in road shoulder area.

- 21. The Contractor shall obtain all applicable Department of Health permits prior to the start of construction. Permits include, but are not limited to, National Pollution Discharge Elimination System (NPDES) permits for storm water, hydrostatic test, dewatering, and for construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The Contractor shall be responsible for the proper disposal of storm water discharges and effluent associated with construction activities, including hydrotesting and disinfection operations, to safeguard public health and safety in accordance with applicable Department of Health requirements. All permits and licenses for storm water and construction water disposal, including all application, charges, fees, and taxes, are the responsibility of the Contractor.
- 22. The Contractor is responsible for dewatering trench as necessary where groundwater is encountered. All associated costs for dewatering shall be borne by the Contractor.
- 23. The use of known sewer pump trucks are prohibited for DOW projects for any use, including but not limited to dewatering and testing of new facilities.
- 24. The Contractor shall verify outside diameter of all existing asbestos-cement (A.C.) waterlines to be connected. Contractor shall verify use of proper gaskets prior to connection. A.C. pipe and gasket information shall be submitted to Engineer for approval.
- 25. All removal, disposal and connection work that involves asbestos pipe/material shall be done in the presence of or by a licensed asbestos contractor. The licensed asbestos contractor shall submit their plan for all associated removal, disposal and connection work for the project to DOW for review and approval prior to conducting the work.
- 26. All connections to existing A.C. pipe shall be at the nearest A.C. pipe joint. A.C. pipe shall be removed by entire length(s) to facilitate the connection. Cutting of A.C. pipe is prohibited.
- 27. The Contractor shall follow all applicable OSHA, HIOSH and federal regulations in handling and disposal of asbestos-cement pipe. Disposal of the pipe shall be at an approved asbestos material disposal site.
- 28. All waterworks brass fittings shall be in compliance with the amended Section 1417 of Safe Drinking Water Act (SDWA) which takes effect on January 4, 2014. The amendment includes a change to the definition of "lead-free" by reducing lead content from 8% to a weighted average of not more than 0.25% in the wetted surface material. All waterworks brass fittings installed for potable water service on January 4, 2014 and beyond shall conform to the amended definition of "lead-free." As indicated in Section 211 of Water System Standards – Brass Products, all brass fittings shall conform to NSF Standard 61 and Section 1417 of the Safe Drinking Water Act (SDWA). In addition, all brass fittings shall conform to NSF Standard 372.
- 29. Contractor shall install water facilities only after reaching final subgrade or higher. The Department of Water will not allow installation of any water facilities until the final subgrade layer at minimum has been achieved.
- 30. Prior to installation of new water lines and/or facilities, the Contractor shall have all facilities surveyed and staked out by a licensed 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 the probing information to the DOW construction engineer for review and approval before moving forward with installation via the submittal review process.
- 31. The department shall be provided twenty (20) working days for all submittal reviews from the time of submission by the Contractor.
- 32. Unless otherwise specified, all ductile iron pipes, valves, and fittings, shall be encased in one layer of 8 mil minimum thickness polyethylene material in accordance with ANSI A-21.5 and AWWA C105. The polyethylene encasement film shall be manufactured from virgin polyethylene and shall consist of three layers of co-extruded linear low-density polyethylene (LLDPE), fused into a single thickness of not less than 8 mils. The inside surface of the polyethylene wrap to be in contact with the pipe exterior shall be infused with a blend of an antimicrobial to mitigate microbially influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion. Polyethylene material shall have permanent markings per AWWA C105. Copper service laterals shall be encased with polyethylene wrap from the connection to the water main to the angle ball valve located in the water meter box.

INSTALLATION NOTES:

- 1. The right-of-way and relevant property corners or easements at the proposed water meter location(s) shall be surveyed by a licensed surveyor prior to construction. The surveyed points shall be preserved throughout the project's construction.
- 2. The new service lateral piping may be tapped and installed horizontally from the existing water line if there are no concrete encased utility ducts to clear at the property line.

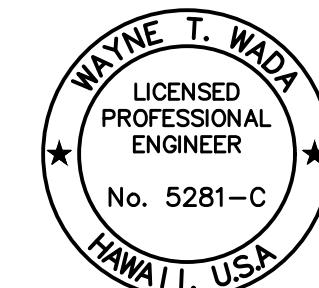
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Lhu'e, Kaua'i, Hawai'i 96766
Ph. (808) 246-0625 Fax (808) 246-0229

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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, 'ANA'E,
MAHIMAHAI AND HEE ROADS
HANA'ALE 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**

CONSTRUCTION NOTES

APPROVED:

Wayne T. Wade

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

Joann Kaganova

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

DATE
Jan 4, 2024

DESIGNED BY: *SW*

DRAWN BY: *MA, CB, BF*

DATE: 12/28/23

SHEET

G-3

3 OF 21 SHEETS

**NOTES FOR CONSTRUCTION
WITHIN STATE RIGHT-OF-WAY**
(revised April 20, 2023)

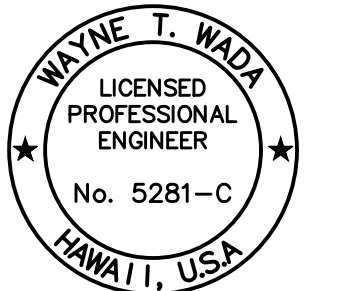
1. Approval of permit construction plans shall be valid for a period of one year thereof from the date of notification of approval to the applicant. In the event construction does not commence within this one-year period, the applicant will be required to resubmit his construction plans for Division's review and approval.
2. Cutting of highway pavement is not allowed within one year of the final acceptance of the pavement installation.
3. 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).
4. The Contractor shall notify the State Highways Division, Kaaui District Office, Construction Engineer two (2) weeks prior to commencing work.
5. 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.
6. 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.
7. 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.
8. Work may be performed from 7:00 am Monday to 5:30 pm Friday, except State Holidays, unless otherwise permitted by the District Engineer.
9. Night work shall not be performed during the period from September 15 to December 31 of each year.
10. 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.
11. The Contractor shall comply with the attached traffic control plans and sign spacing table.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. 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.
19. All regulatory, guide and construction signs and barricades shall be of high intensity reflective sheeting.
20. Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, and tools to maintain flow.
21. The minimum pavement structure shall consist of:
 - a. Commercial Driveways, Side roads and Utility Installations on State Highways
 - i. 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.
 - ii. 6" of Class "A" concrete reinforced with 6"x6" - 6/8 wire mesh over 12" aggregate subbase, if deemed necessary by the Engineer.
 - b. Residential Driveways
 - i. 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.
 - ii. 4" of Class "A" concrete reinforced with 6"x6" - 6/8 wire mesh over 12" aggregate subbase, if deemed necessary by the Engineer.
22. Compaction tests shall be taken in accordance with the Specifications for Installation of Miscellaneous Improvements Within State Highways, as follows:
 - a. Subbase: one (1) compaction test(s) per lift, for every 300 lineal feet of travel way.
 - b. Base Course: one (1) compaction test(s) per lift, for every 300 lineal feet of travel way.
 - c. One (1) compaction test(s) per lift, for each 300 lineal feet of trench.
 - d. Copy of all test results shall be provided to the Construction Engineer for review and acceptance.
23. 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.
24. 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.
25. 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.
26. No trench shall be opened more than 200 feet in advance of the installed and tested pipe and/or duct line.
27. 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.
28. Pavement striping and marking shall be performed by Contractor at no cost to the State. Thermoplastic extrusion only is acceptable for striping.
29. 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.
30. 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.
31. 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.
32. 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.
33. The permit to perform work upon State highways may be revoked because of default in any of the following:
 - a. Work performed before or after permitted hours;
 - b. Failure to maintain roadway surfaces in a smooth and safe condition;
 - c. Failure to clean up construction debris generated from project work;
 - d. Failure to provide proper traffic control;
 - e. Failure to replace damaged pavement markers, markings, and signs.

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

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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".
7. Contractor shall remove cold mix patch and provide permanent hot mix trench patch within 14 calendar days of final trench backfill.
8. Pavement Joint Adhesive on Joints
 - a. Use on all asphalt pavement construction where joints are formed at such locations but not limited to the following:
 - i. Adjacent asphalt pavements, e.g., trafficked lanes, shoulders, etc.
 - ii. 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.
 - iii. 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.
 - iv. 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.
 - b. 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.
 - c. 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.

REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



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

Wayne T. Wade

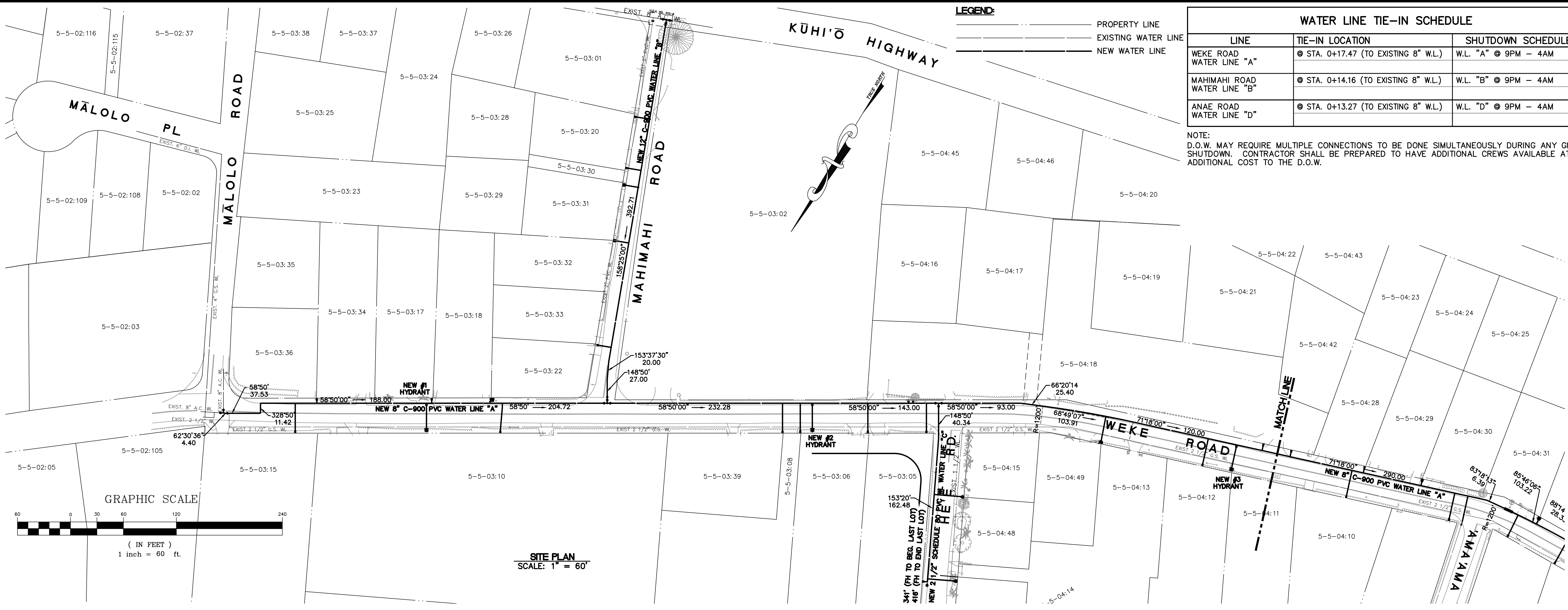
PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
REPLACEMENT ALONG WEKE, 'ANA'E,
MAHIMAHU AND HEE ROADS
HANAIE WATER LINE IMPROVEMENTS**
Tax Map Key: (4) 5-5-003,
(4) 5-5-004, and (4) 5-5-005
Hanalei, Kaaui, Hawaii

CLIENT:
**DEPARTMENT OF WATER
COUNTY OF KAAUI**

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

APPROVED:
Michael Meade
Michael Meade Lic# 50, 2024 12 28 1971
for COUNTY ENGINEER, DEPT. OF PUBLIC WORKS, COUNTY OF KAAUI (FOR WORK WITHIN COUNTY R/W) DATE
Jeanne Kuyper Jan 4, 2024
for MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAAUI

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



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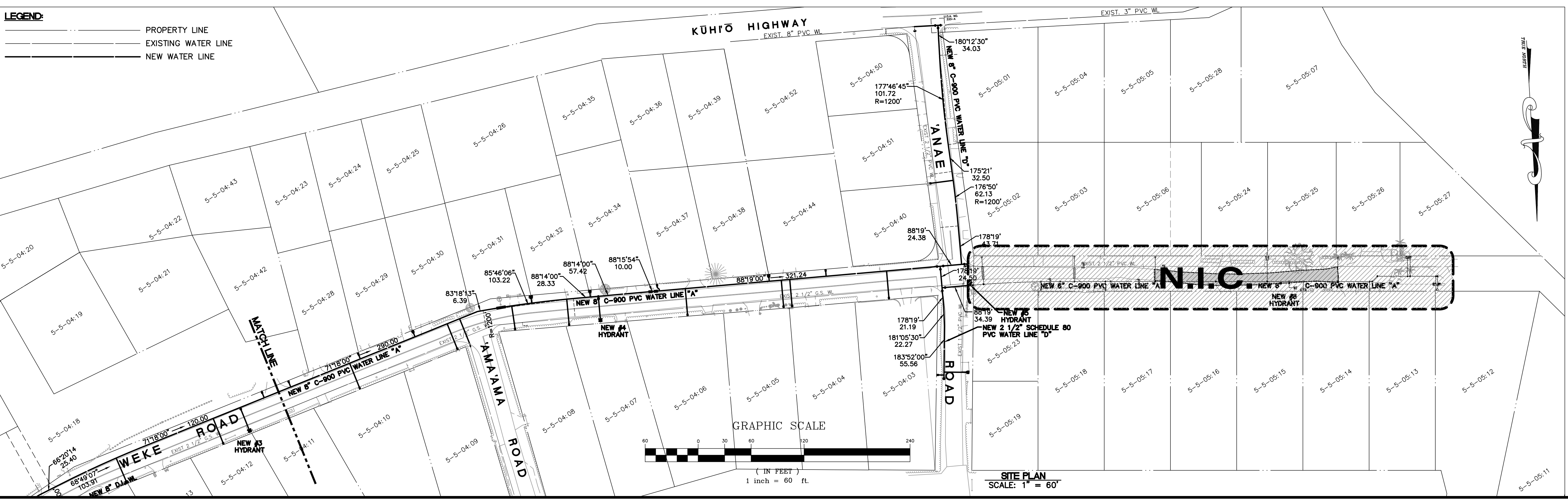
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REVISION	DATE	DESCRIPTION	BY	APPROVED
REVISIONS				

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

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, MAHIMAHI AND HANAIE 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

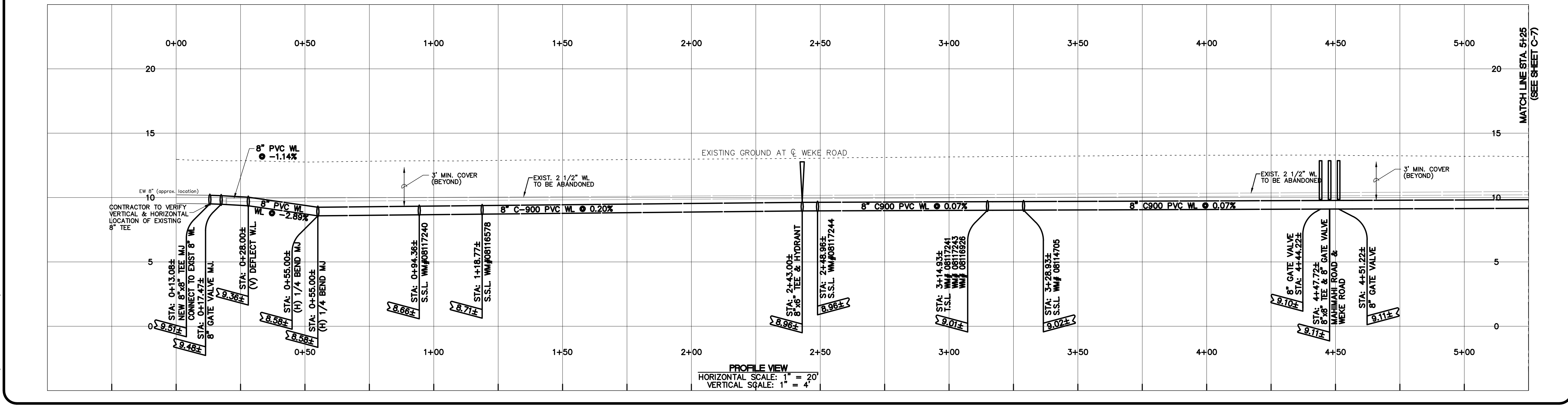
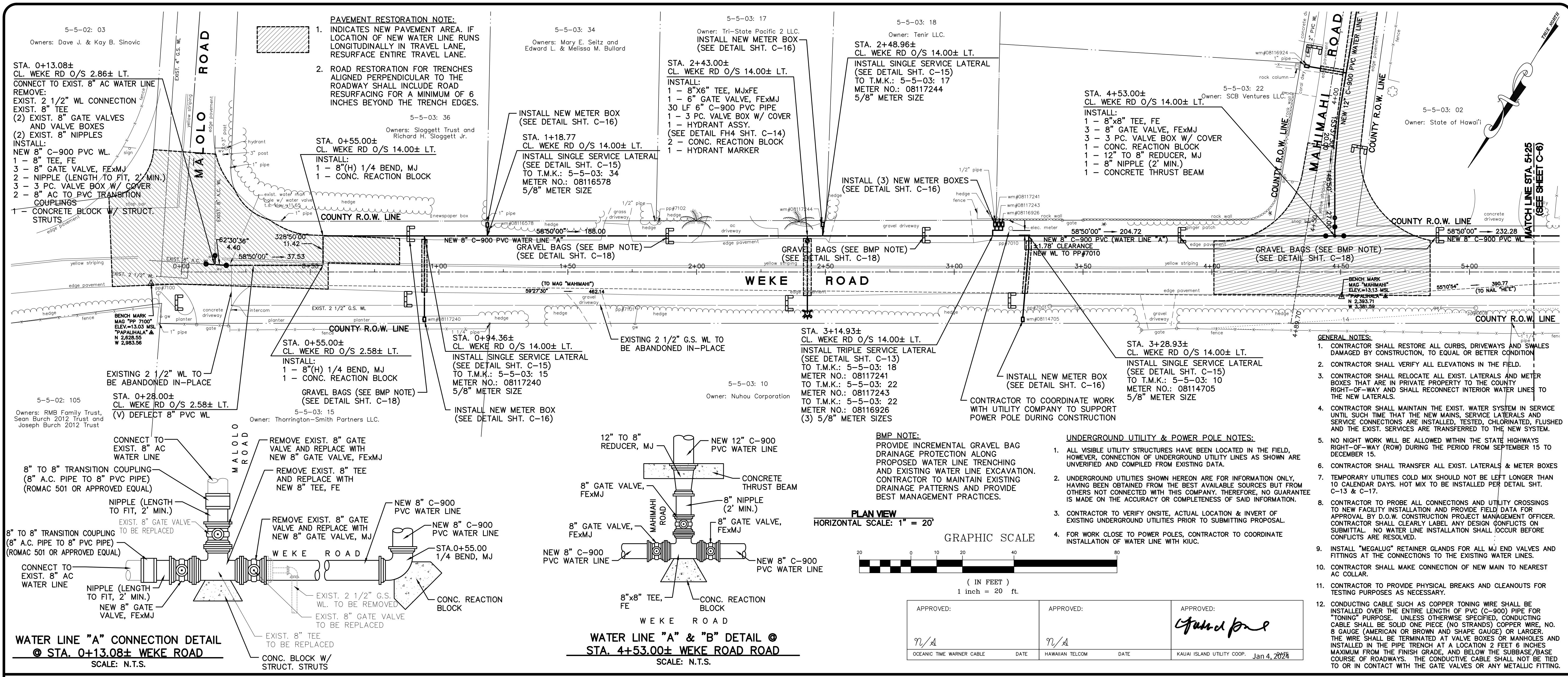
SITE PLAN

APPROVED:

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

DESIGNED BY: *SW* SHEET
 DRAWN BY: *MA, CB, BF* SHEET
 DATE: 12/28/23 5 OF 21 SHEETS

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.
- 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.
- 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.
- 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.
- INSTALL "MEGALUG" RETAINER GLANDS FOR ALL MJ END VALVES AND FITTINGS AT THE CONNECTIONS TO THE EXISTING WATER LINES.
- 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.

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.

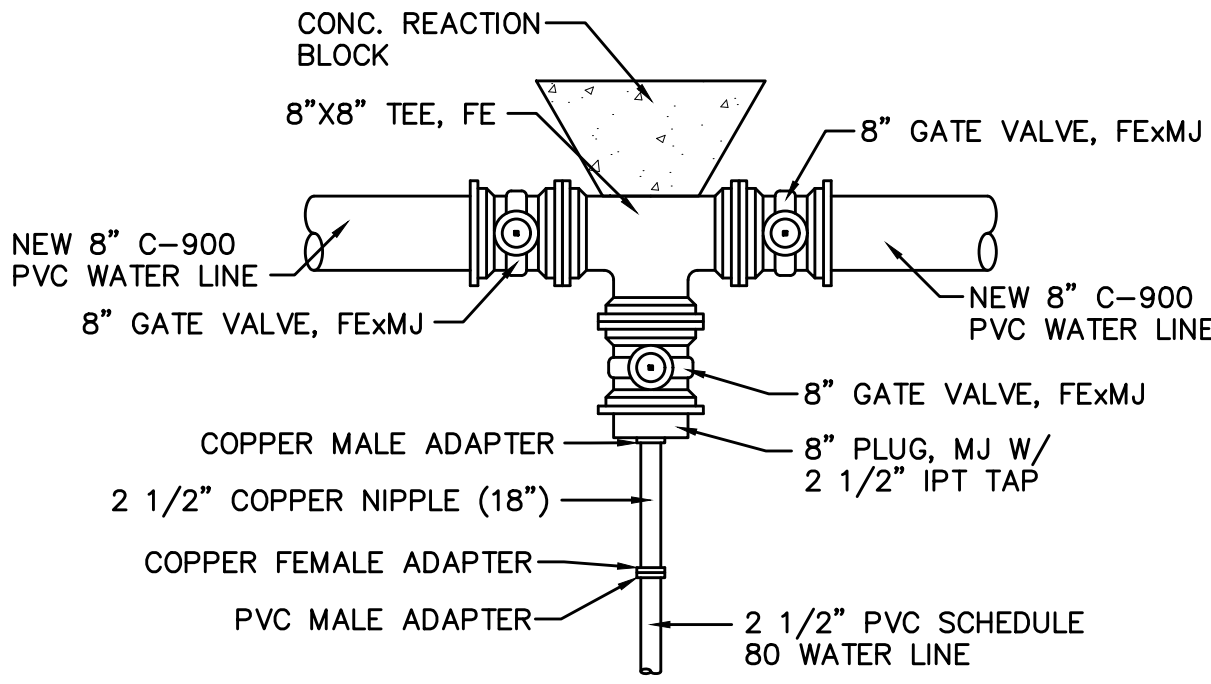
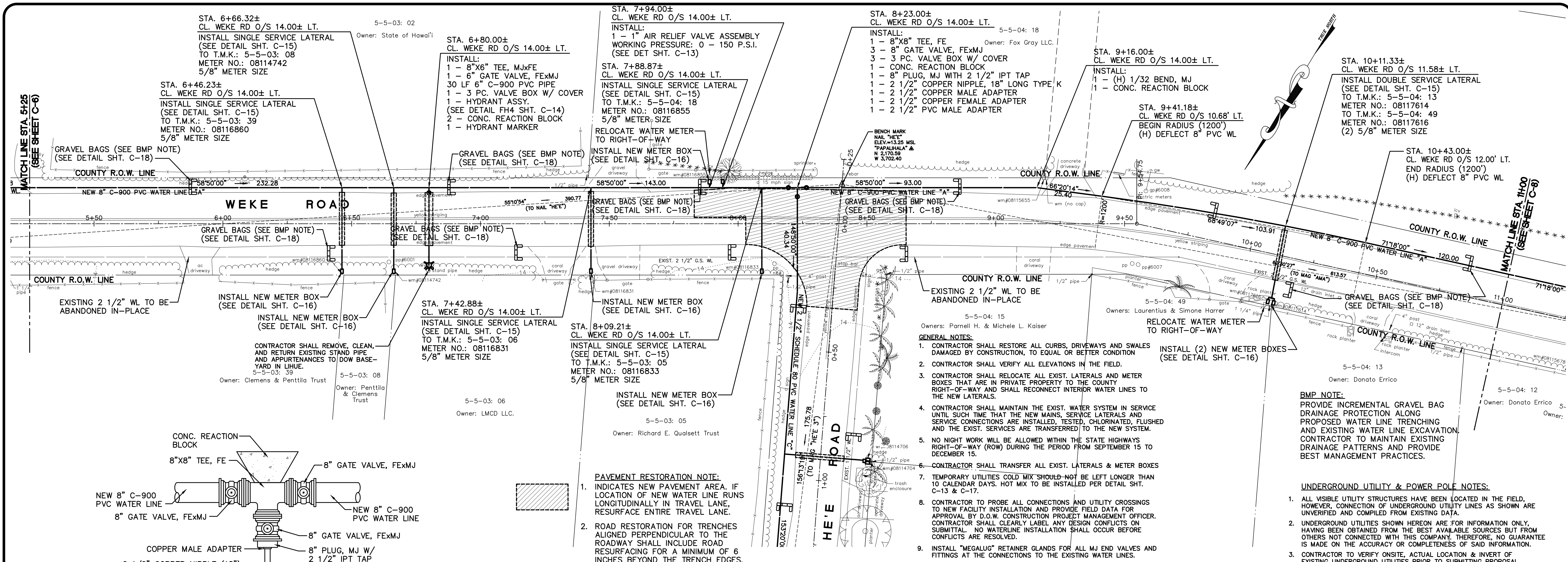
APPROVED:
Wayne T. Wada
Wayne T. Wada
LICENSED PROFESSIONAL ENGINEER
No. 5281-C
HAWAII, USA
EXPIRES: APRIL 30, 2024
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

PROJECT: CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, ANAE, 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, Kaua'i, Hawai'i

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

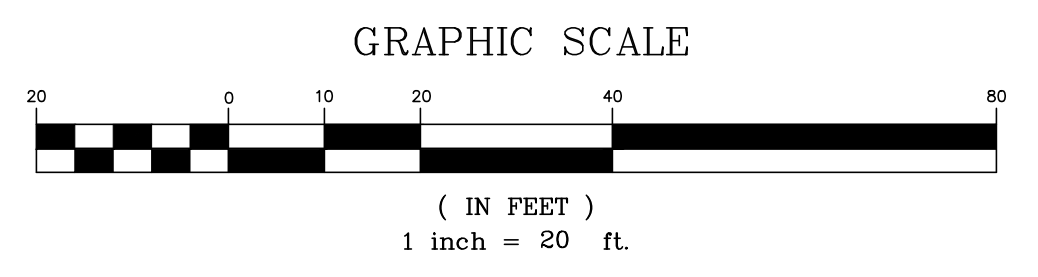
APPROVED:
[Signature]
DATE: Jan 4, 2024
FOR MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI

DESIGNED BY: *WW*
DRAWN BY: *Ma, Cb, BF*
DATE: 12/28/23
SHEET: **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'

- 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.
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 - CONTRACTOR SHALL TRANSFER ALL EXIST. LATERALS & METER BOXES
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 - 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 WATERLINE INSTALLATION SHALL OCCUR BEFORE CONFLICTS ARE RESOLVED.
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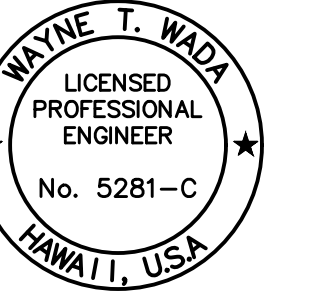
APPROVED: <i>N/A</i> OCEANIC TIME WARNER CABLE	APPROVED: <i>N/A</i> HAWAIIAN TELCOM	APPROVED: <i>[Signature]</i> KAUAI ISLAND UTILITY COOP. Jan 4, 2024
--	--	---

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.

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REVISION	DATE	DESCRIPTION	BY	APPROVED



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

Wayne T. Wade

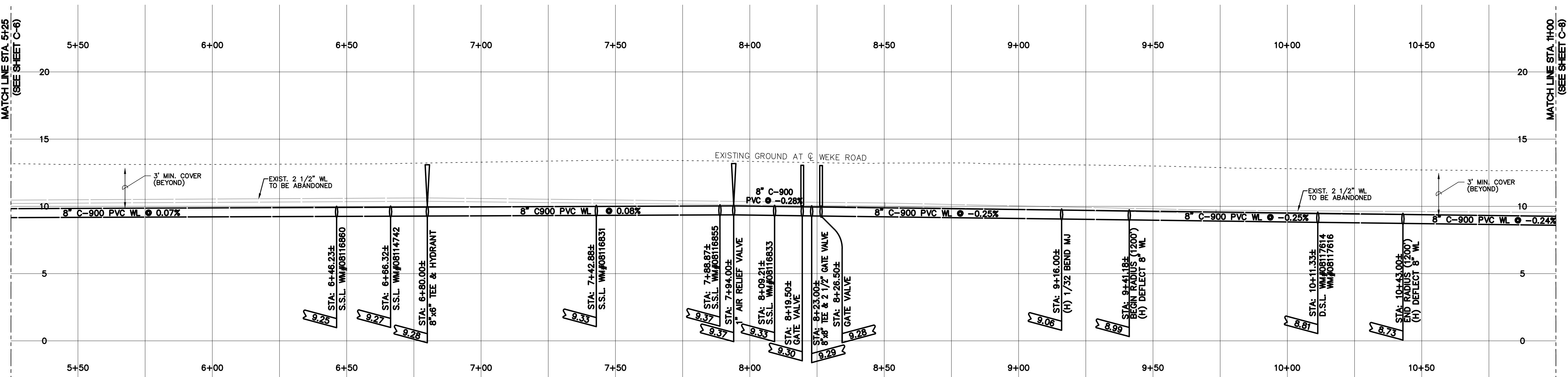
PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAHIM AND HE'E ROADS
HANA'ALEI WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kaua'i, Hawai'i

CLIENT:
DEPARTMENT OF WATER
COUNTY OF KAUAI

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

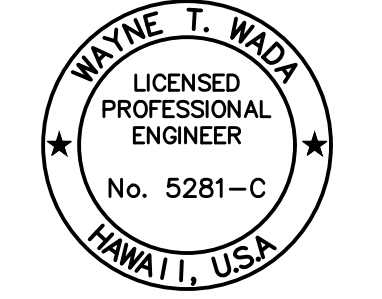
APPROVED:
[Signature]
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS,
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W)
DATE: Jan 4, 2024
FOR MANAGER & CHIEF ENGINEER, DEPT. OF WATER,
COUNTY OF KAUAI

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



REVISION	DATE	DESCRIPTION	BY	APPROVED

REVISIONS



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

Wayne T. Wada

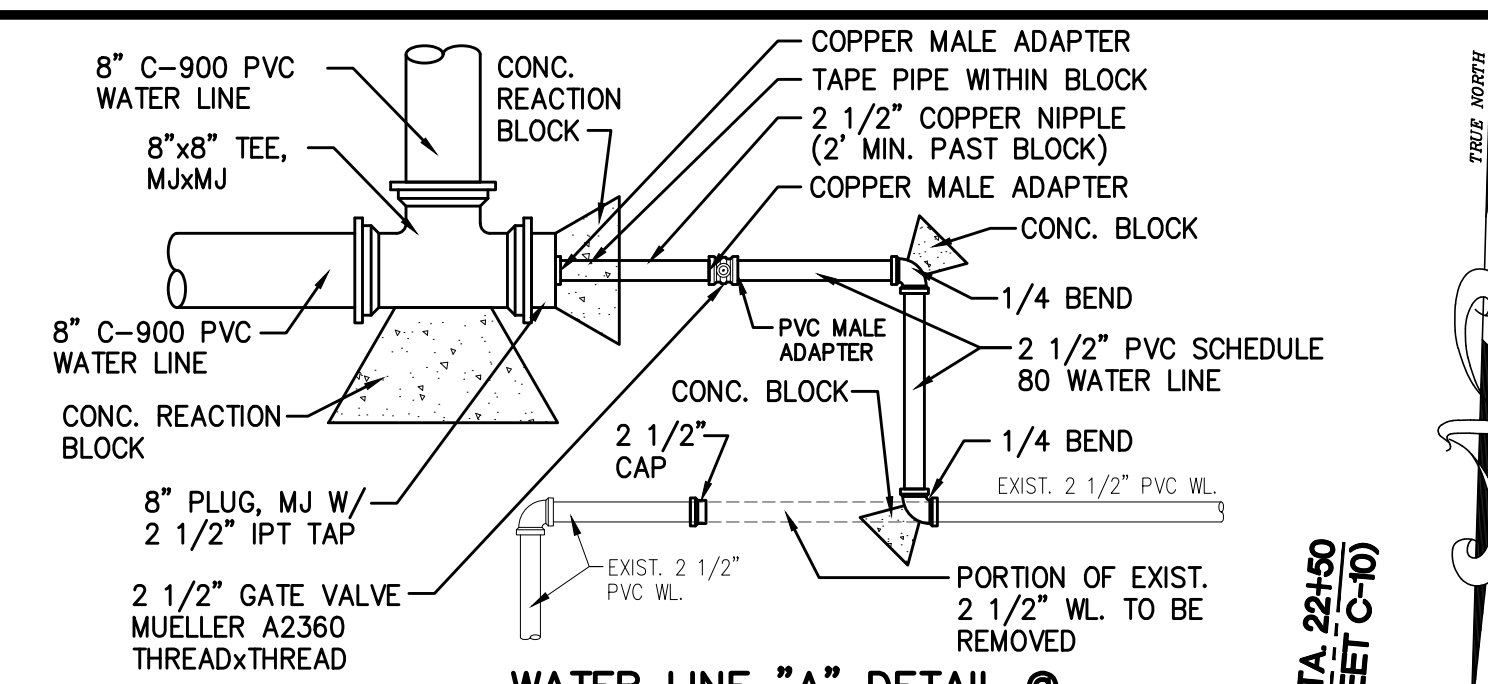
PROJECT: CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAH'I AND HEE ROADS HANAIE WATER LINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005 Hanalei, Kauai, Hawaii

CLIENT: DEPARTMENT OF WATER COUNTY OF KAUAI

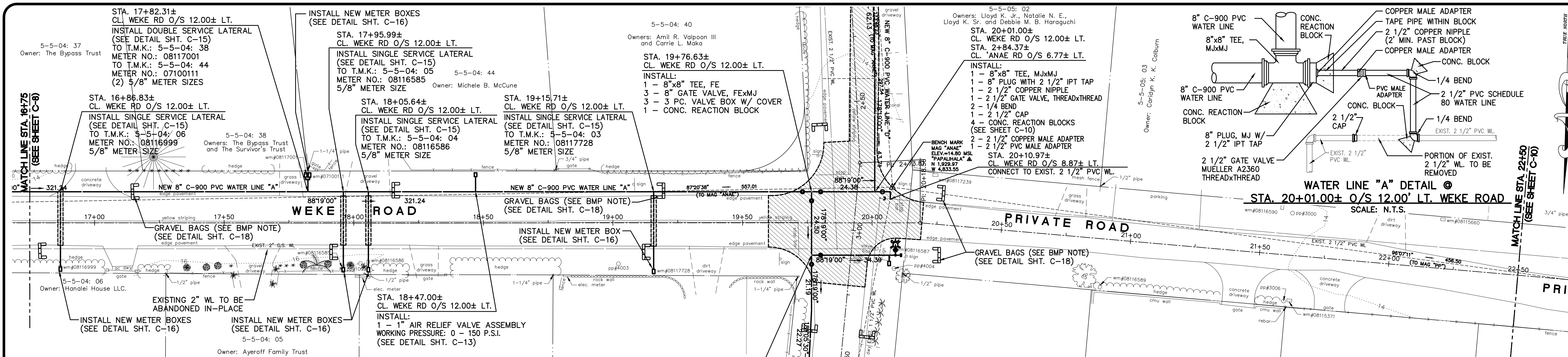
PLAN AND PROFILE WEKE ROAD STA. 16+75 TO 22+50 WATER LINE "A"

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

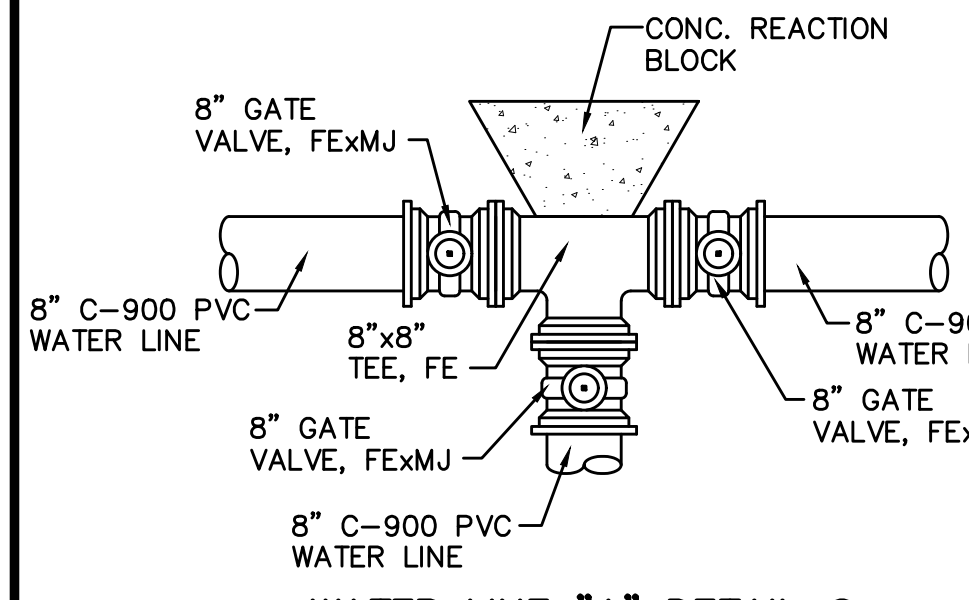
DESIGNED BY: *SW* SHEET
DRAWN BY: *Md, Cb, Bf* 9 OF 21 SHEETS
DATE: 12/28/23



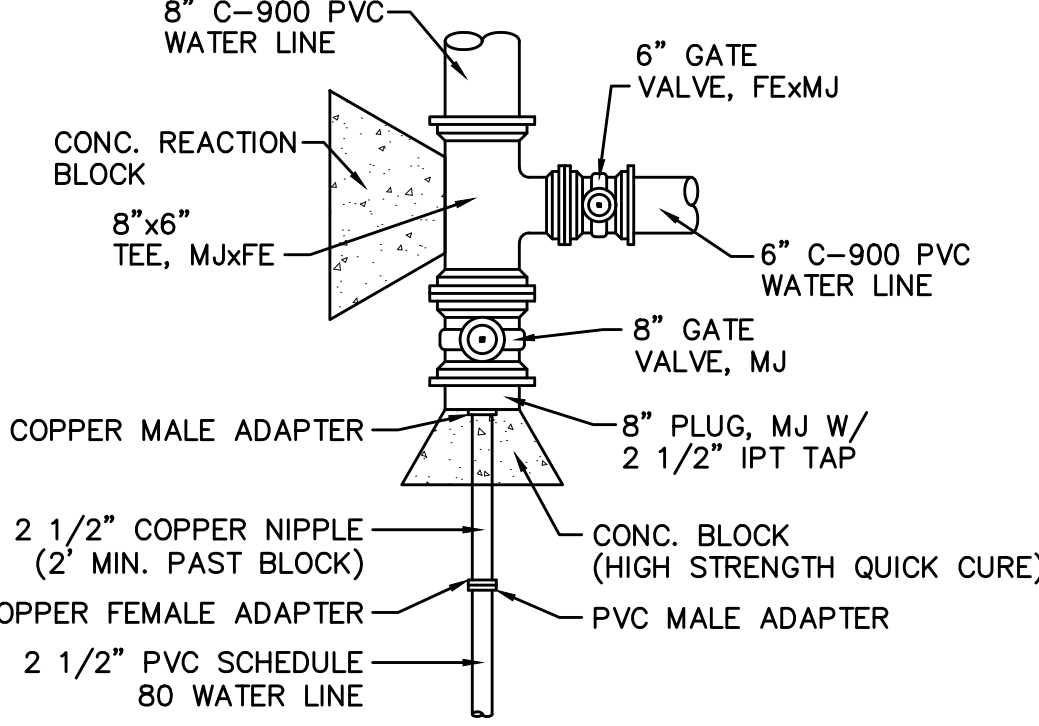
WATER LINE "A" DETAIL
STA. 20+01.00± O/S 12.00' LT. WEKE ROAD
SCALE: N.T.S.



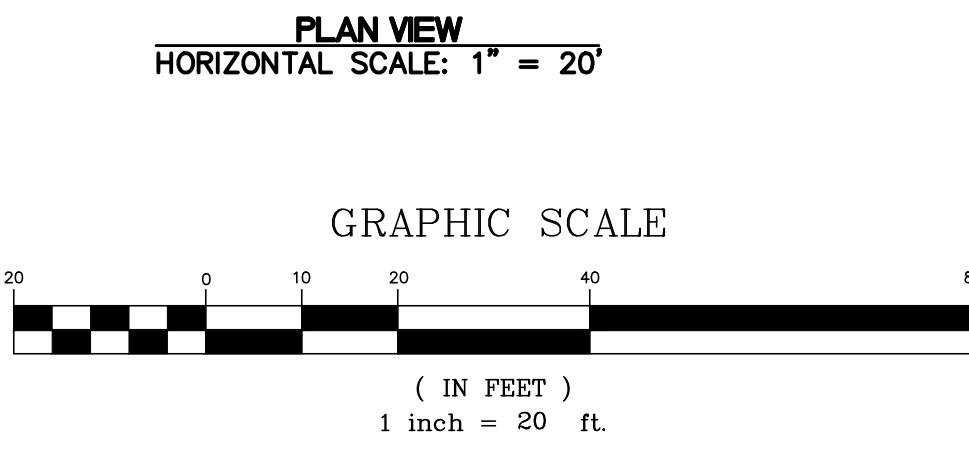
PAVEMENT RESTORATION NOTE:
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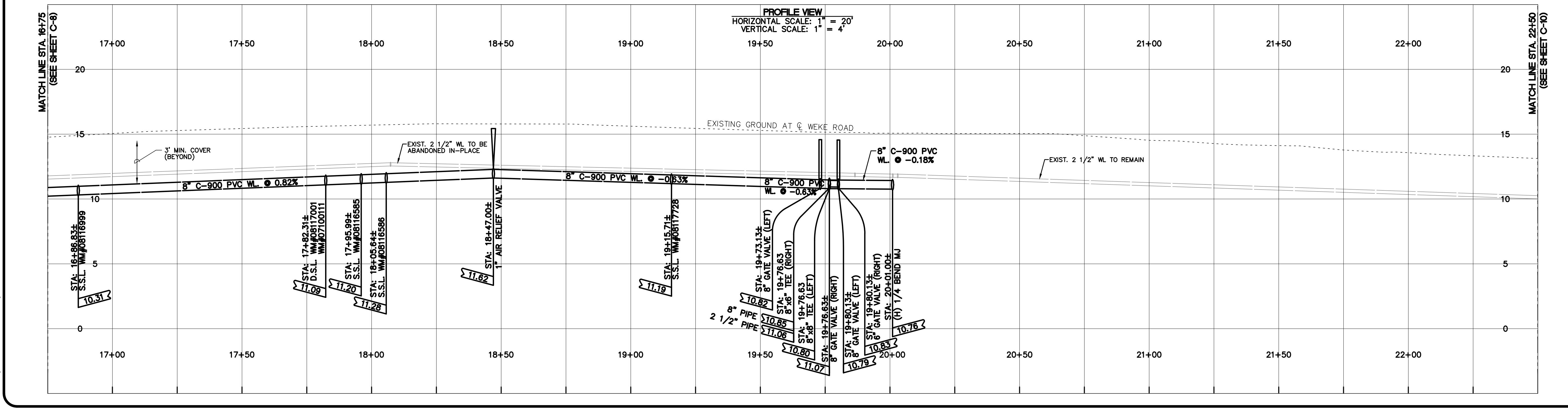
WATER LINE "A" DETAIL
STA. 19+76.63± O/S 12.00' LT. WEKE ROAD
SCALE: N.T.S.



WATER LINE "A" DETAIL
STA. 19+76.63± O/S 12.50' RT. WEKE ROAD
SCALE: N.T.S.



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



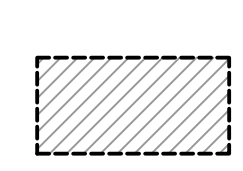
Owners: Ronald H. Silva Trust and Silva Trust
5-5-05: 06

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.



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BMP NOTE:
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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.

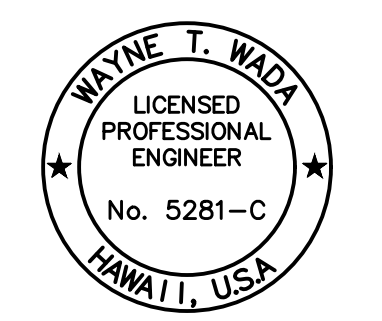
ESAKI SURVEYING AND MAPPING, INC.

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, MAHIMAHAI AND HEE ROADS HANAIE WATERLINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanaie, 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
DRAWN BY: *CB* **C-10**
DATE: 4/29/16 10 OF 21 SHEETS

MATCH LINE STA. 22+50 (SEE SHEET C-9)

PRIVATE ROAD

STA. 22+88.00±
CL. WEKE RD O/S 9.00± RT.
(V) DEFLECT 6" PVC WL

STA. 23+71.00±
CL. WEKE RD O/S 9.00± RT.
INSTALL:
1 - 6" TEE, MJxFE
1 - 6" GATE VALVE, FExMJ
14 LF 6" C-900 PVC PIPE
1 - 6" 1/4 BEND, MJ
1 - 3 PC. VALVE BOX W/ COVER
1 - HYDRANT ASSY.
(SEE DETAIL SHT. C-14 & C-15)
3 - CONC. REACTION BLOCK
1 - HYDRANT MARKER

INSTALL (3) NEW METER BOXES (SEE DETAIL SHT. C-16)

STA. 23+87.00±
CL. WEKE RD O/S 9.00± RT.
INSTALL TRIPLE SERVICE LATERAL (SEE DETAIL SHT. C-13)
TO T.M.K.: 5-5-05: 16
METER NO.: 08115369
TO T.M.K.: 5-5-05: 15
METER NO.: 09100800
TO T.M.K.: 5-5-05: 14
METER NO.: 08115367
(3) 5/8" METER SIZES

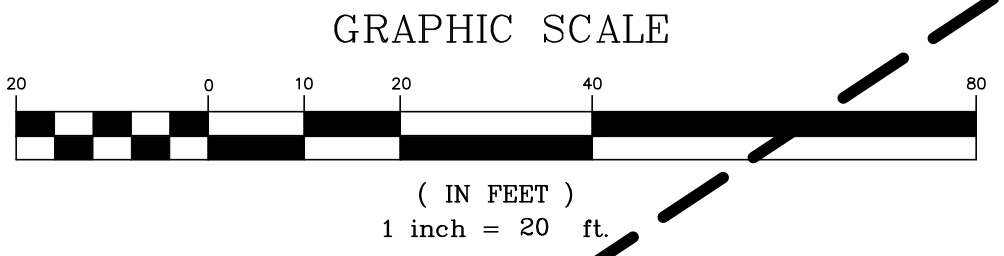
STA. 24+65.08±
CL. WEKE RD O/S 9.00± RT.
INSTALL:
1 - 6" (H) 1/8 BEND, MJ
1 - CONC. REACTION BLOCK

STA. 24+62.08±
CL. WEKE RD O/S 9.00± RT.
INSTALL SINGLE SERVICE LATERAL (SEE DETAIL SHT. C-15)
TO T.M.K.: 5-5-05: 13
METER NO.: 08116879
5/8" METER SIZE

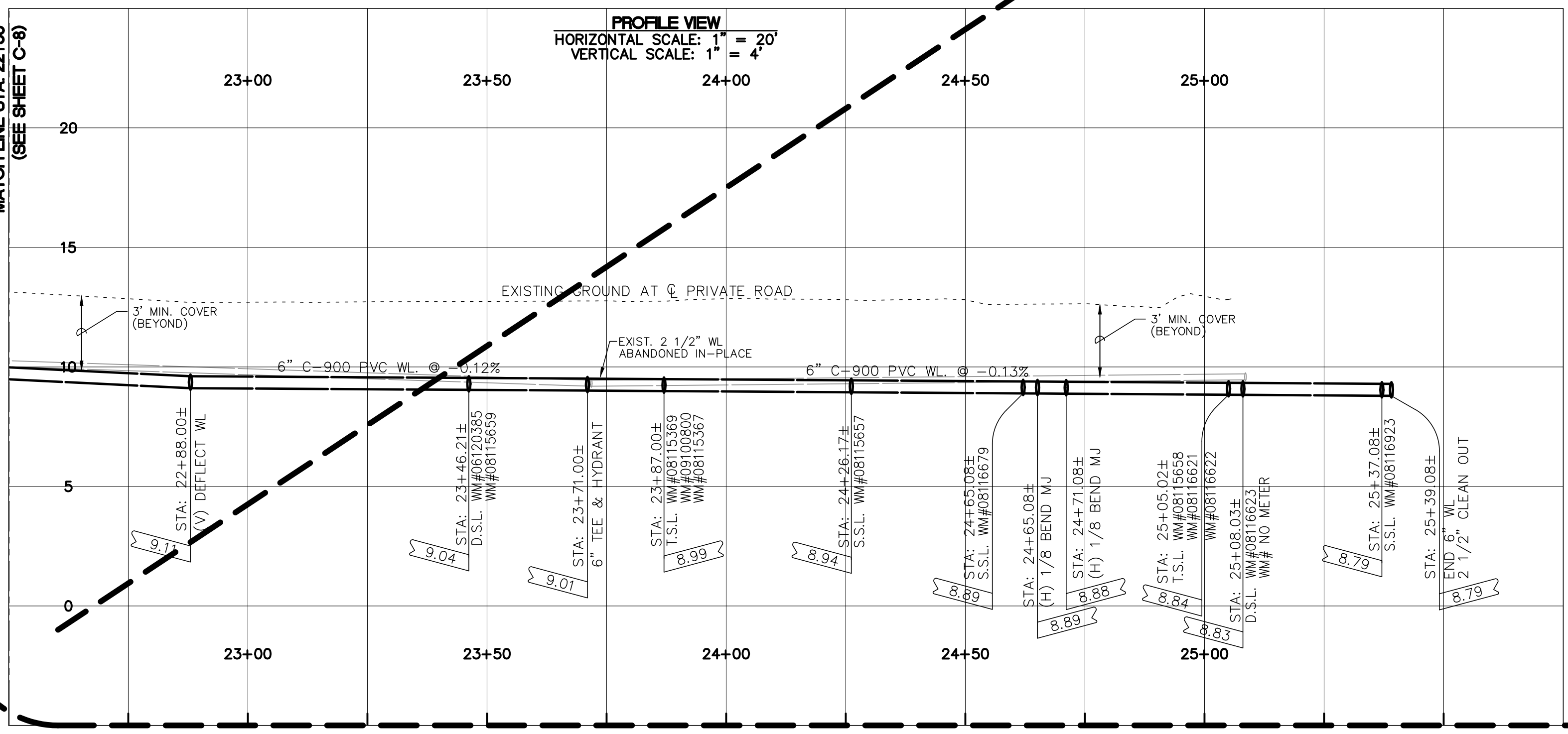
INSTALL NEW METER BOX (SEE DETAIL SHT. C-16)

STA. 25+08.03±
CL. WEKE RD O/S 3.00± RT.
INSTALL DOUBLE SERVICE LATERAL (SEE DETAIL SHT. C-15)
TO T.M.K.: 5-5-05: 13
METER NO.: N/A
TO T.M.K.: 5-5-05: 12
METER NO.: 08116623
5/8" METER SIZES

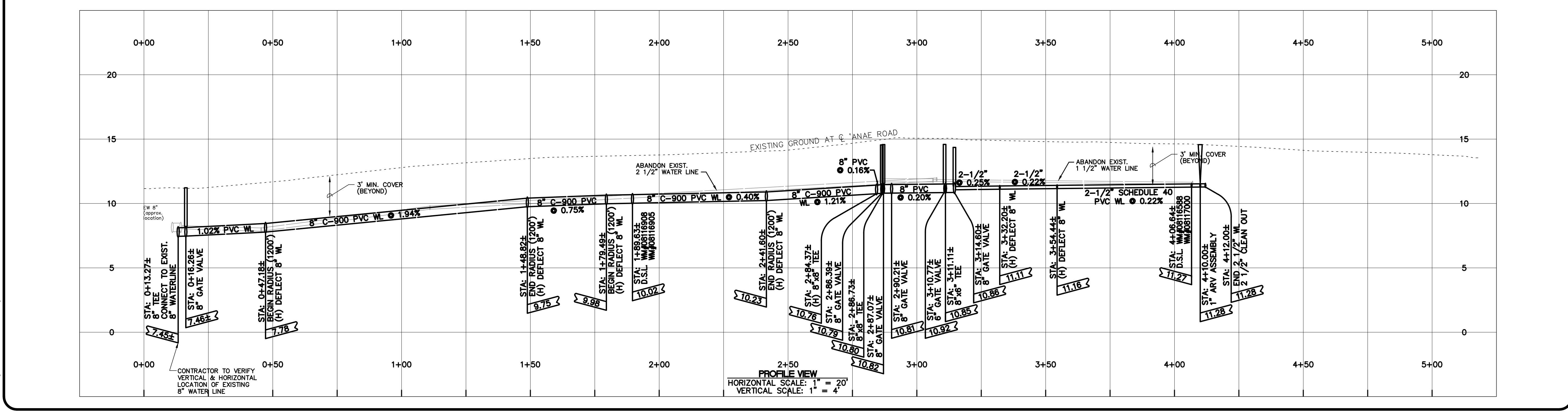
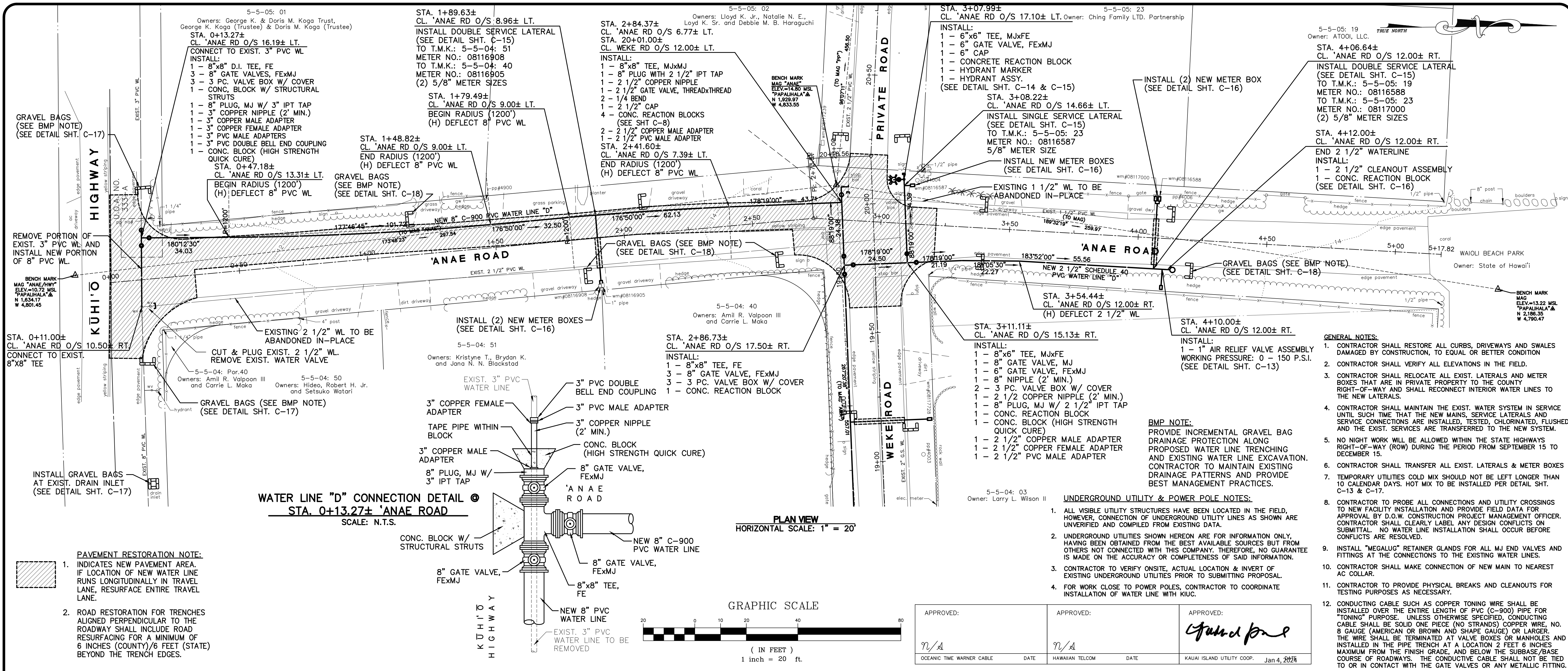
STA. 25+05.02±
CL. WEKE RD O/S 3.00± RT.
INSTALL TRIPLE SERVICE LATERAL (SEE DETAIL SHT. C-15)
TO T.M.K.: 5-5-05: 13
METER NO.: 08115658
TO T.M.K.: 5-5-05: 008
METER NO.: 08116622
(3) 5/8" METER SIZES



MATCH LINE STA. 22+50 (SEE SHEET C-8)



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



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

• CIVIL ENGINEERS • SURVEYORS • PLANNERS

REVISION	DATE	DESCRIPTION	BY	APPROVED

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, 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, Kauai, Hawaii

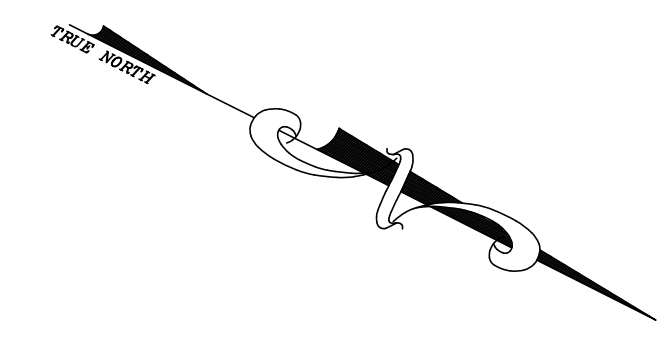
CLIENT: DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE ANAE ROAD WATER LINE "D"

APPROVED: *[Signature]*
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

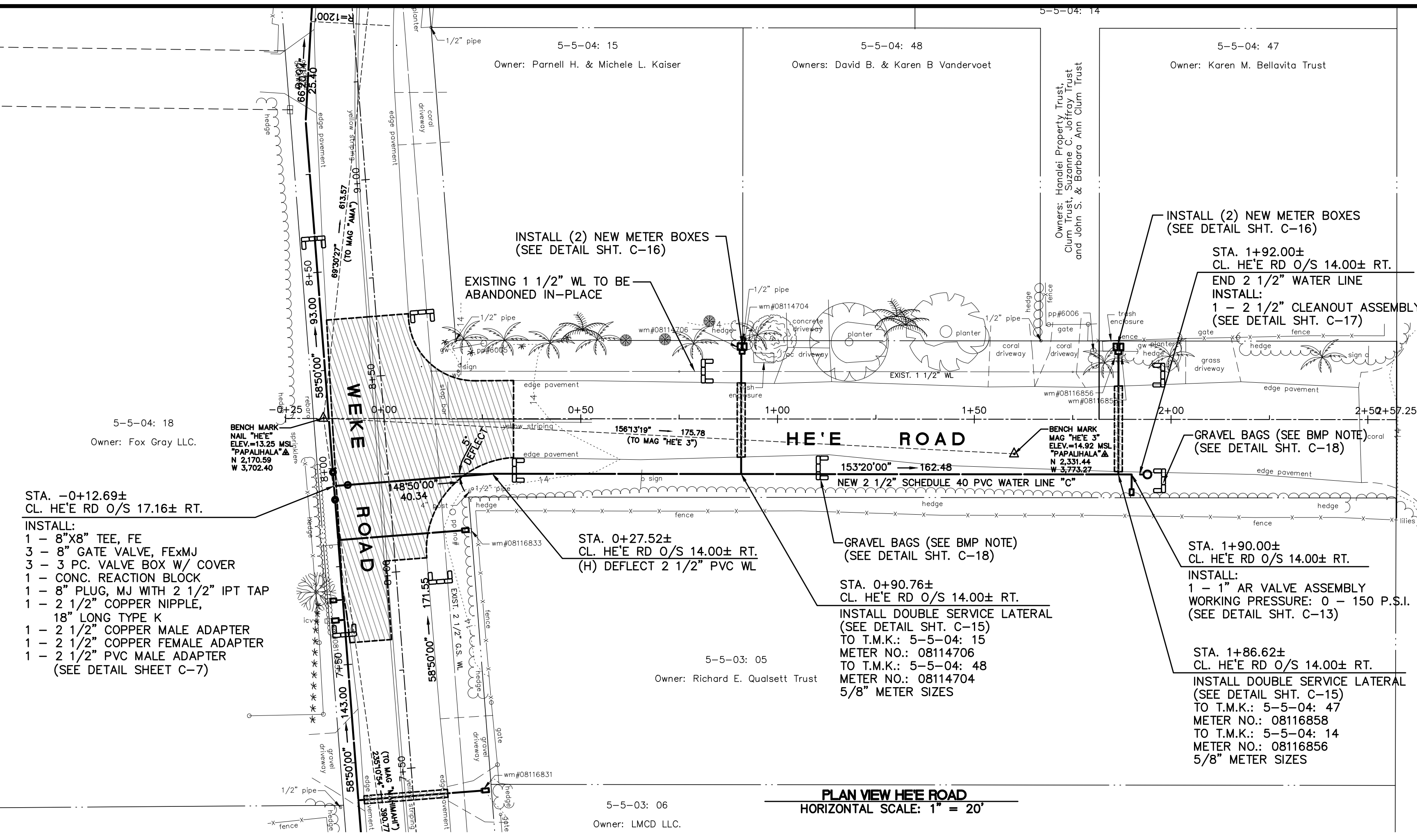


PAVEMENT RESTORATION NOTE:
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2. CONTRACTOR SHALL VERIFY ALL ELEVATIONS IN THE FIELD.
3. CONTRACTOR SHALL RELOCATE ALL EXIST. LATERALS AND METER BOXES THAT ARE IN PRIVATE PROPERTY TO THE COUNTY RIGHT-OF-WAY AND SHALL RECONNECT INTERIOR WATER LINES TO 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.



STA. -0+12.69±
CL. HE'E RD O/S 17.16± RT.
INSTALL:
1 - 8"X8" TEE, FE
3 - 8" GATE VALVE, FEMJ
3 - 3 PC. VALVE BOX W/ COVER
1 - CONC. REACTION BLOCK
1 - 8" PLUG, MJ WITH 2 1/2" IPT TAP
1 - 2 1/2" COPPER NIPPLE,
1 - 18" LONG TYPE K
1 - 2 1/2" COPPER MALE ADAPTER
1 - 2 1/2" COPPER FEMALE ADAPTER
1 - 2 1/2" PVC MALE ADAPTER
(SEE DETAIL SHEET C-7)

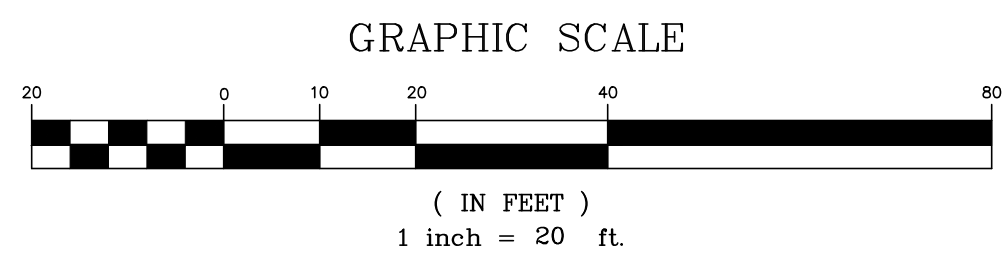
STA. 0+27.52±
CL. HE'E RD O/S 14.00± RT.
(H) DEFLECT 2 1/2" PVC WL

GRAVEL BAGS (SEE BMP NOTE)
(SEE DETAIL SHT. C-18)

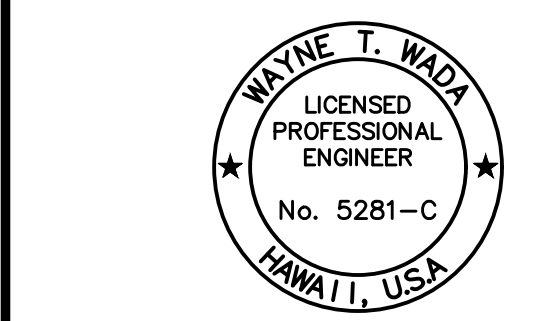
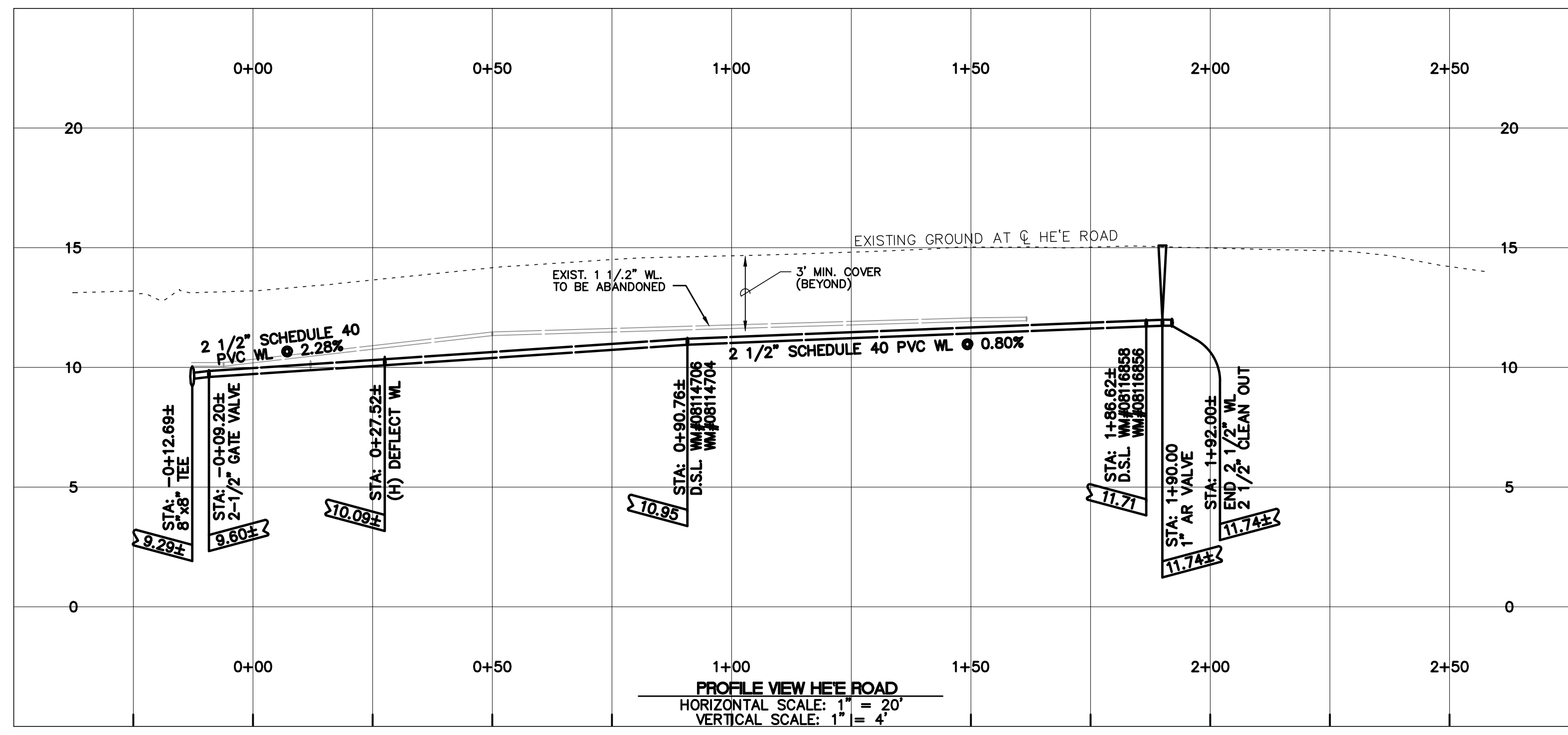
STA. 0+90.76±
CL. HE'E RD O/S 14.00± RT.
INSTALL DOUBLE SERVICE LATERAL
(SEE DETAIL SHT. C-15)
TO T.M.K.: 5-5-04: 15
METER NO.: 08114706
TO T.M.K.: 5-5-04: 48
METER NO.: 08114704
5/8" METER SIZES

STA. 1+90.00±
CL. HE'E RD O/S 14.00± RT.
INSTALL:
1 - 1" AR VALVE ASSEMBLY
WORKING PRESSURE: 0 - 150 P.S.I.
(SEE DETAIL SHT. C-13)

STA. 1+86.62±
CL. HE'E RD O/S 14.00± RT.
INSTALL DOUBLE SERVICE LATERAL
(SEE DETAIL SHT. C-15)
TO T.M.K.: 5-5-04: 47
METER NO.: 08116858
TO T.M.K.: 5-5-04: 14
METER NO.: 08116856
5/8" METER SIZES



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



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

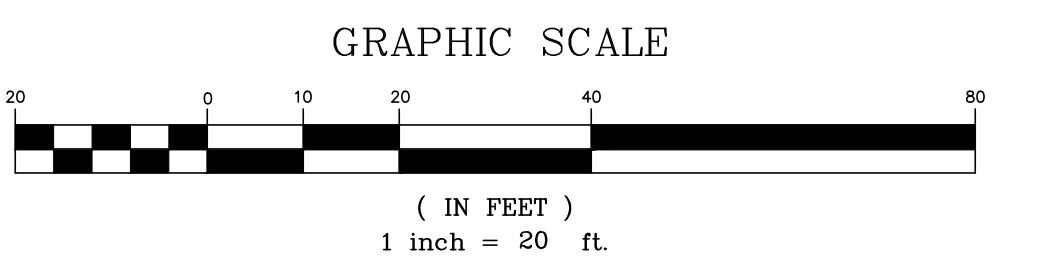
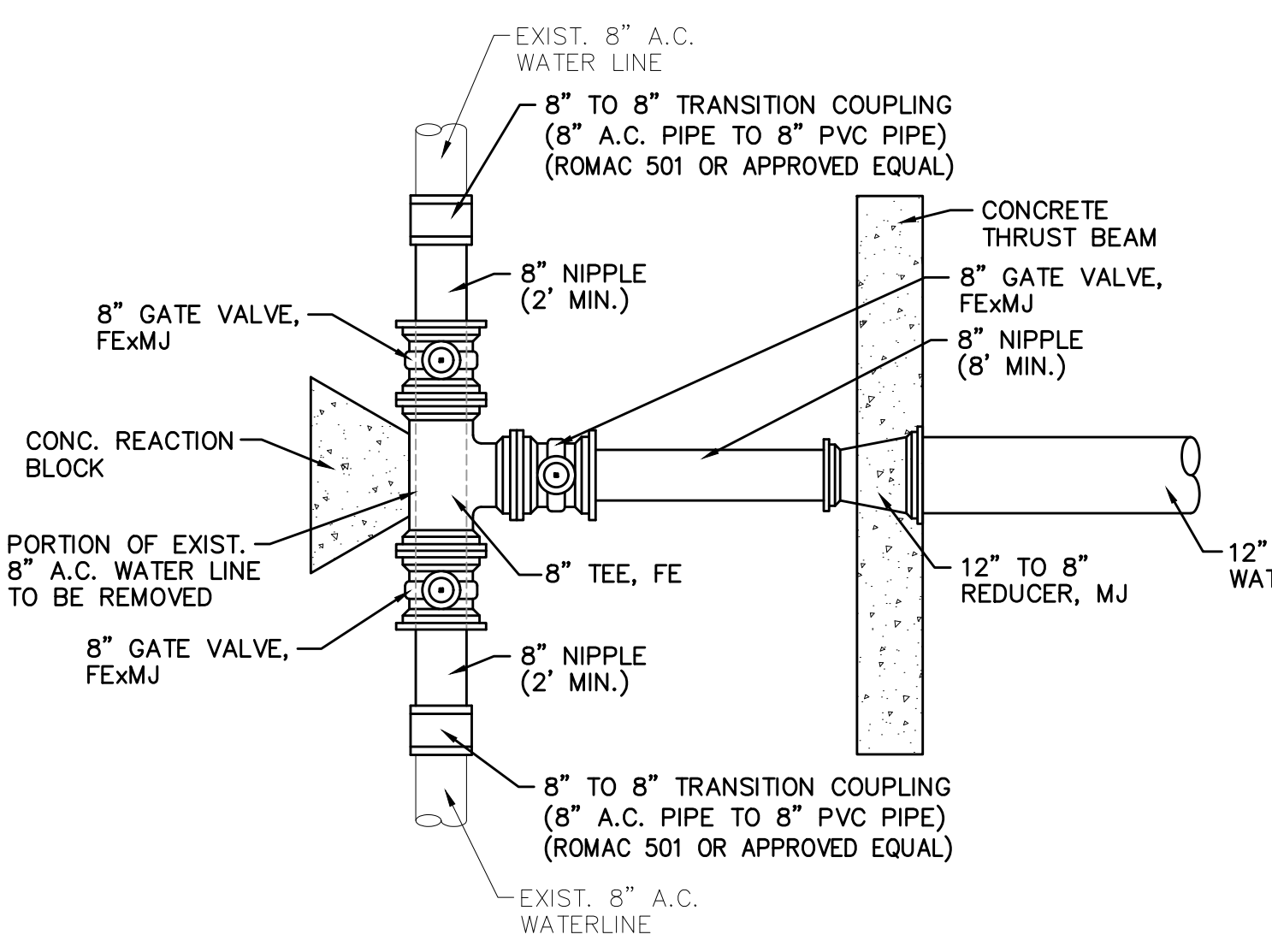
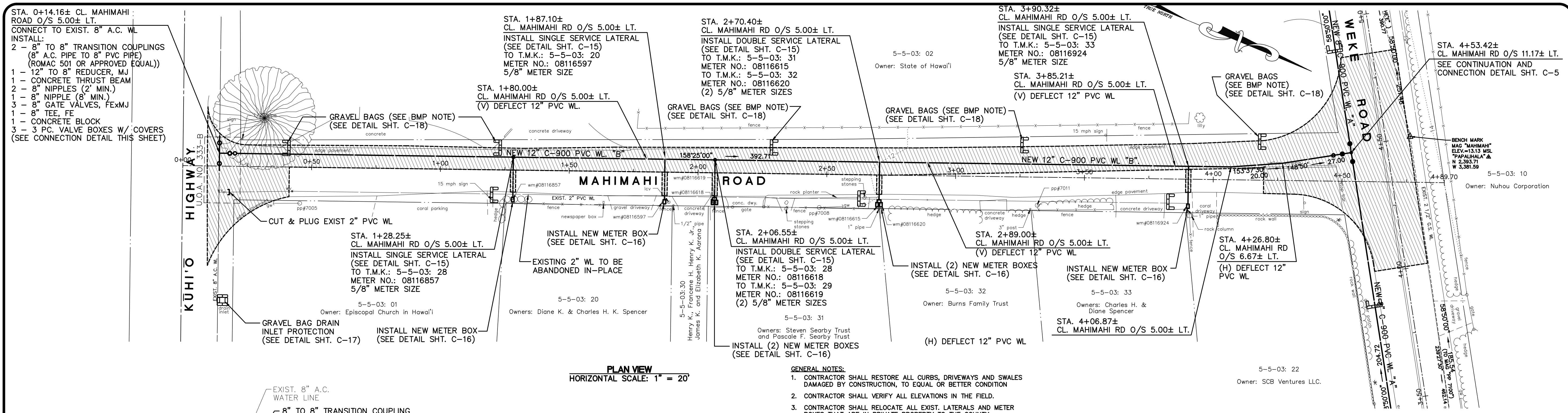
Wayne T. Wade

PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIMAH'I AND 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



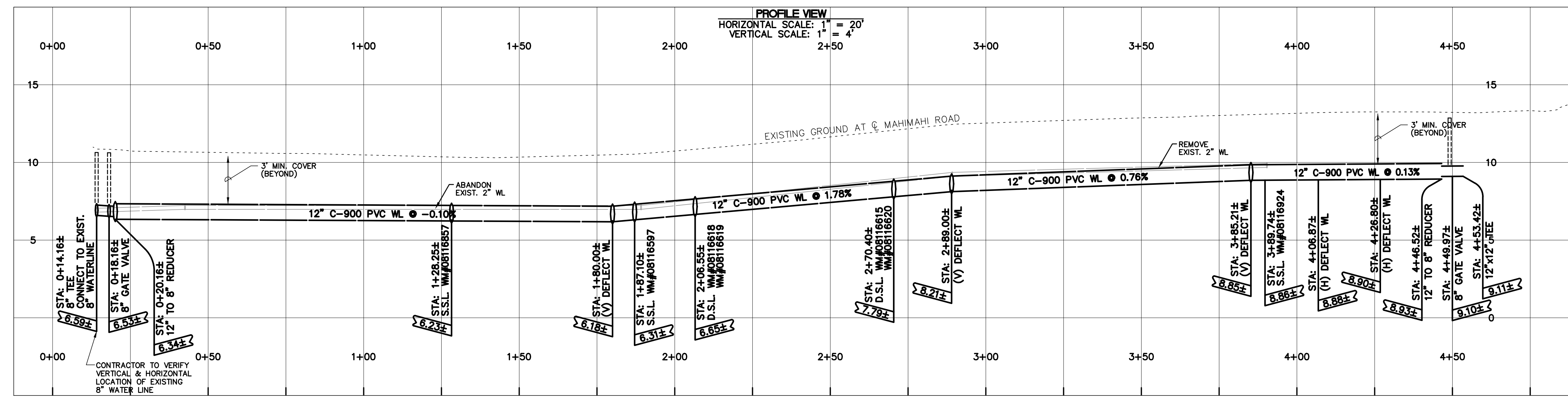
- GENERAL NOTES:**
- CONTRACTOR SHALL RESTORE ALL CURBS, DRIVEWAYS AND SWALES DAMAGED BY CONSTRUCTION, TO EQUAL OR BETTER CONDITION.
 - CONTRACTOR SHALL VERIFY ALL ELEVATIONS IN THE FIELD.
 - CONTRACTOR SHALL RELOCATE ALL EXIST. LATERALS AND METER BOXES THAT ARE IN PRIVATE PROPERTY TO THE COUNTY RIGHT-OF-WAY 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 KUC.

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



ESAKI SURVEYING AND MAPPING, INC.
1610 Haleukana Street
Lihue, 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, '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, Kaua'i, Hawai'i

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAUAI

PLAN AND PROFILE MAHIMAHĪ ROAD WATER LINE "B"

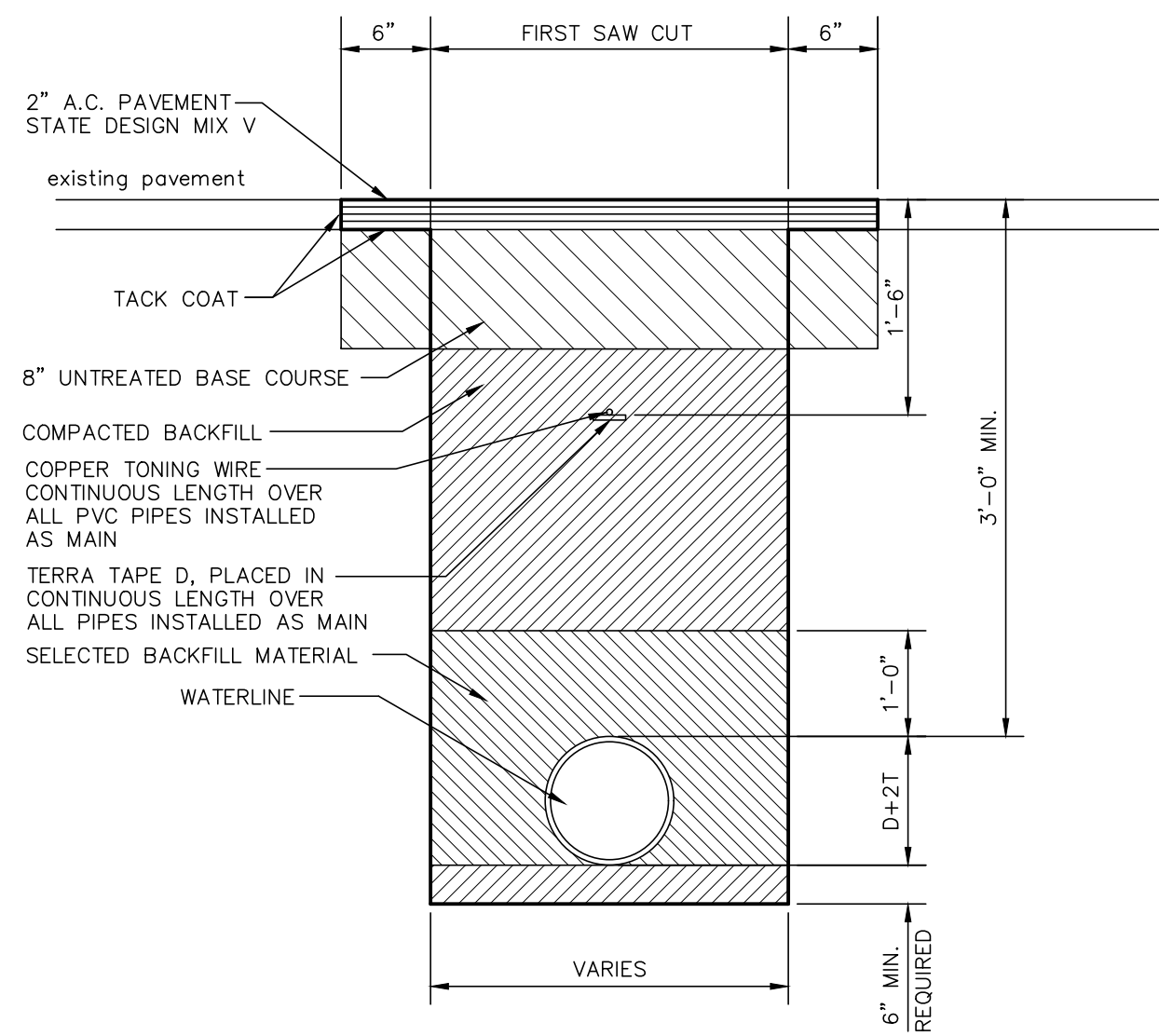
APPROVED:
Guadalupe

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

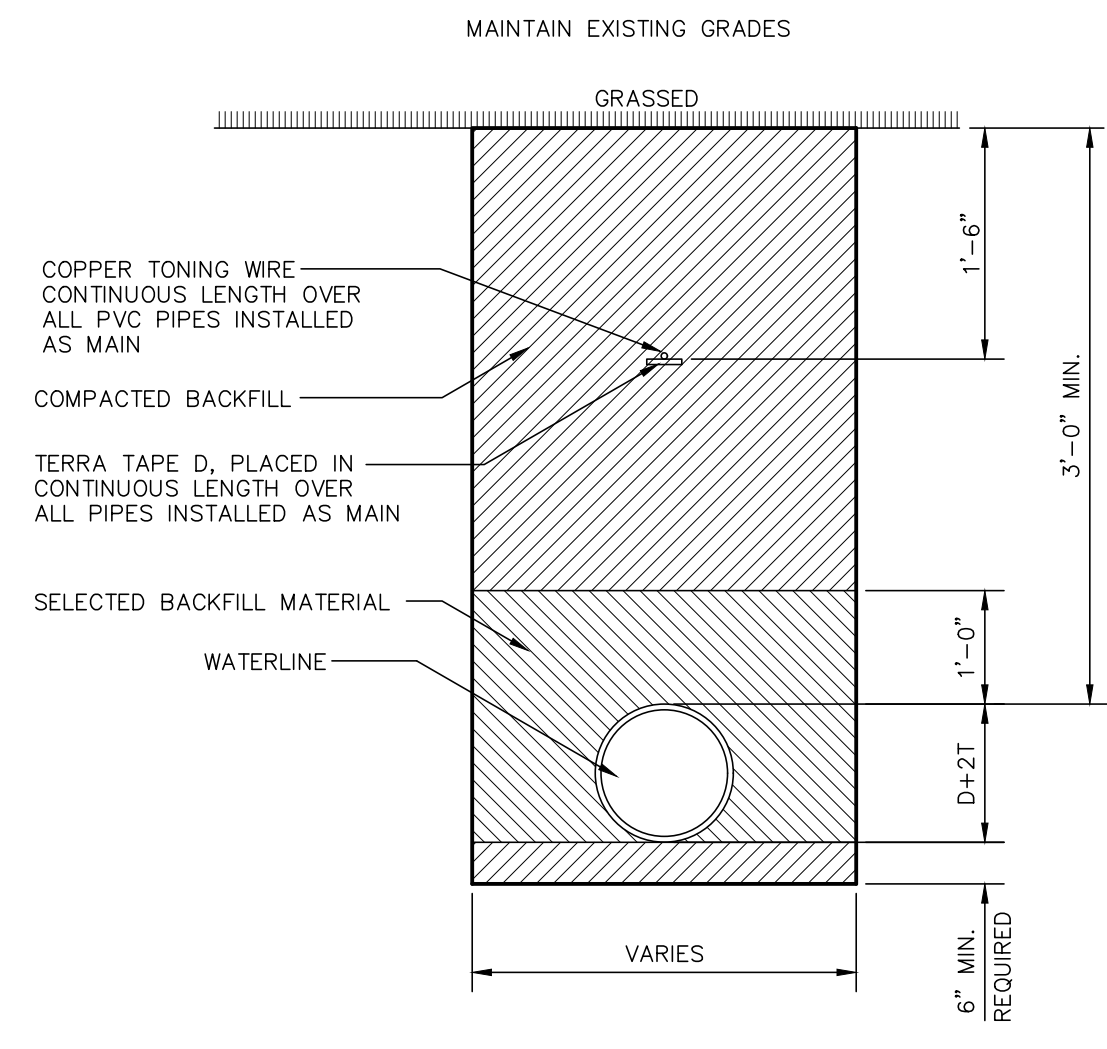
MANAGER & CHIEF ENGINEER, DEPT. OF WATER, COUNTY OF KAUAI
DATE:

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

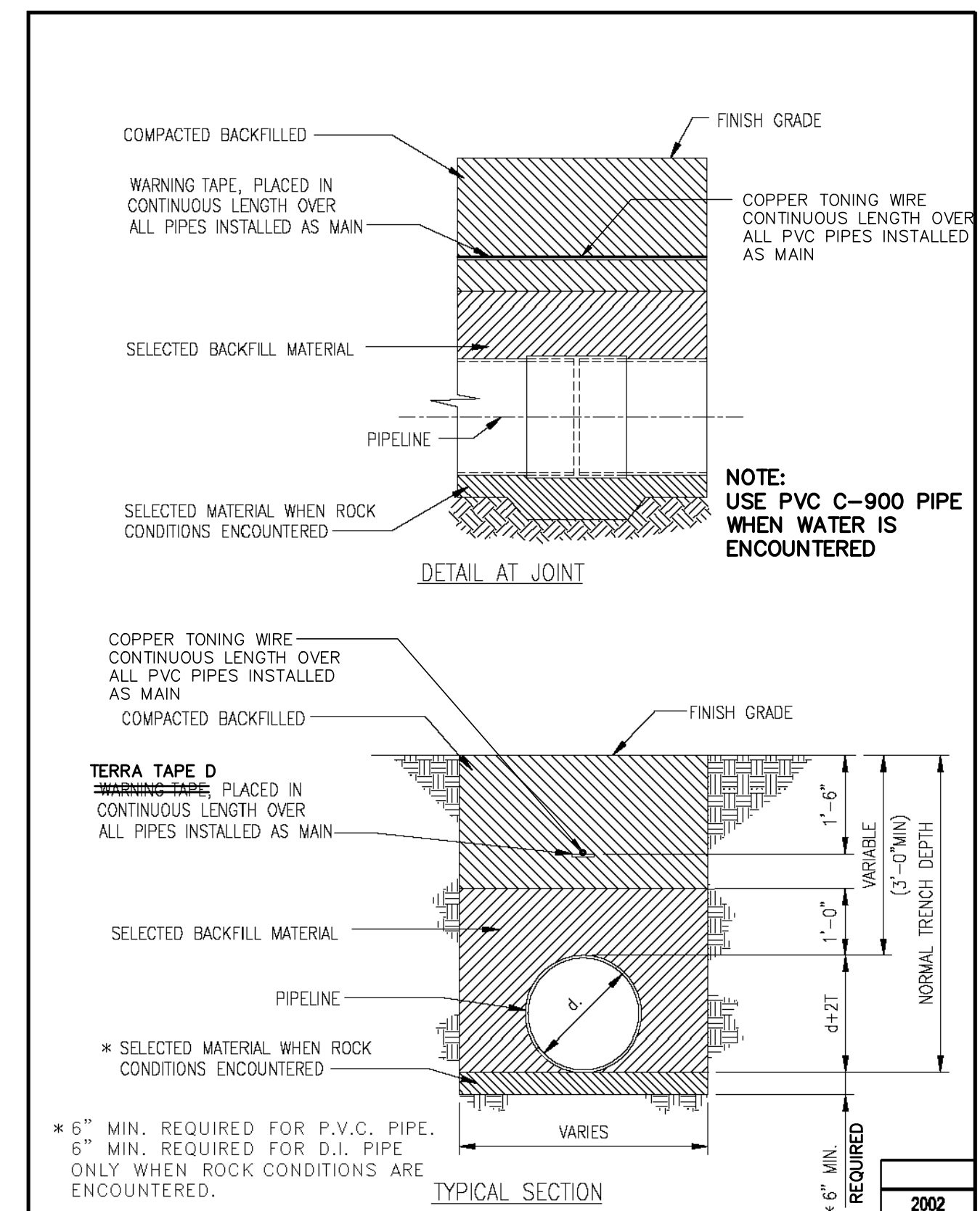
Project No.: 12-43
Drawing File: 12-43CON17.dwg



PAVEMENT REPAIR DETAIL FOR COUNTY ROAD
NTS



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

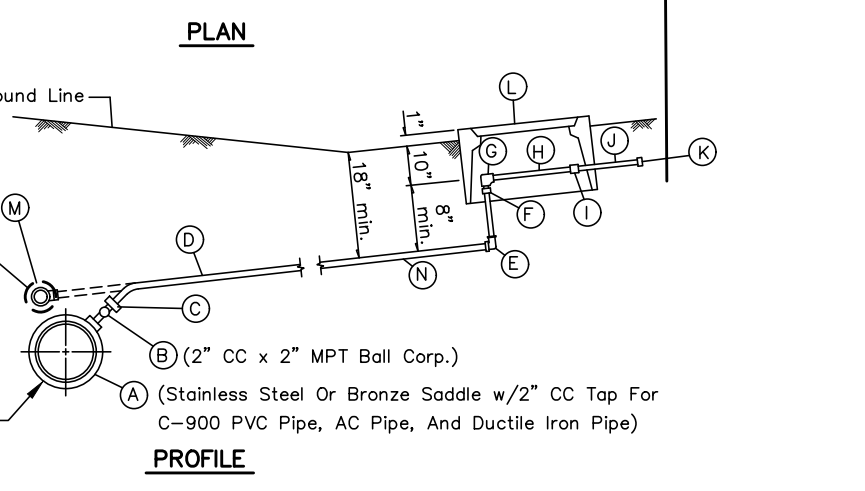
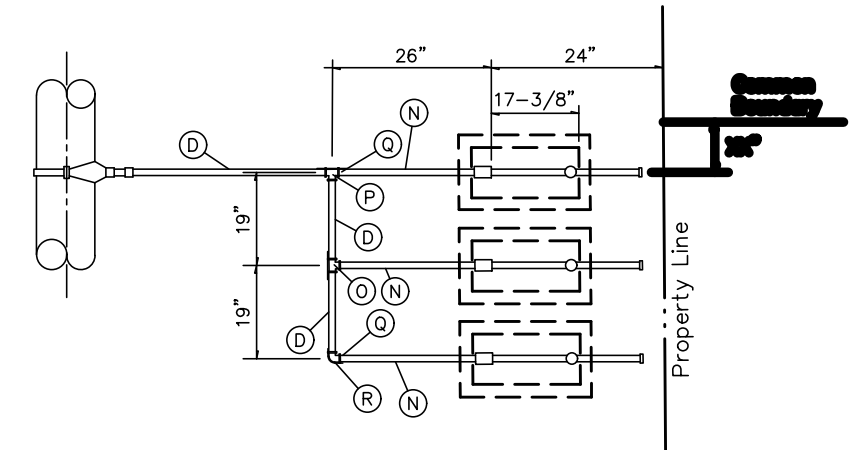


WATERLINE TRENCH DETAILS MISCELLANEOUS DETAILS
SCALE: NTS

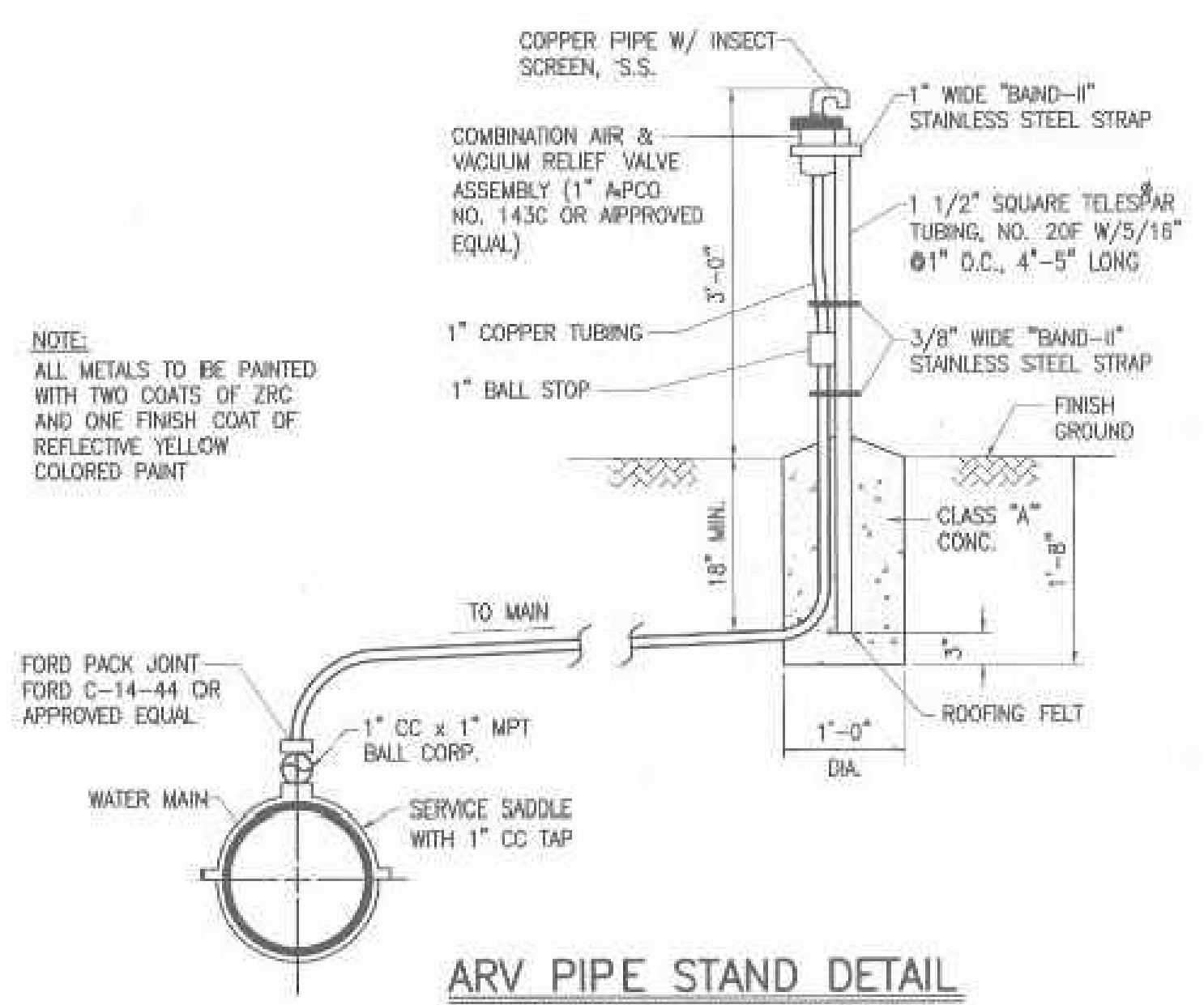
TRIPLE SERVICE DETAIL - SCHEDULE OF FITTINGS

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

- NOTES:**
- In sidewalk and paved areas, top of meter box to be flush w/finish grade.
 - 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.



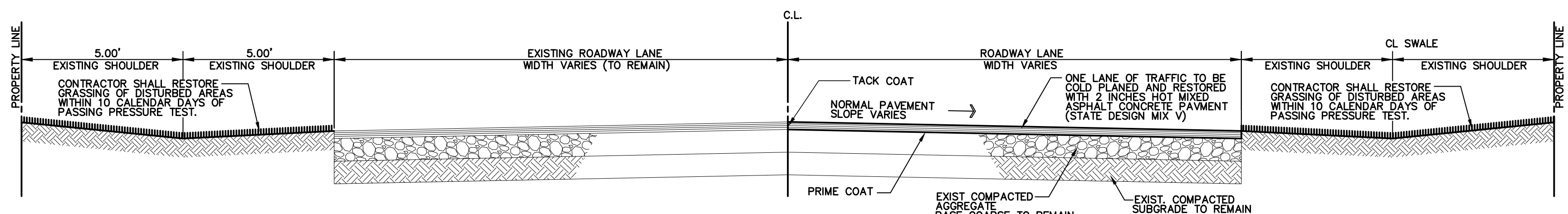
TRIPLE SERVICE LATERAL
NOT TO SCALE
ESM REV. 3/23/23



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

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

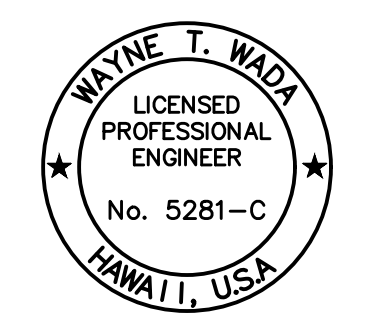
- Trench repaving shall be a minimum 8-inches thick base course and 2-inches minimum asphalt concrete (State Mix V). If the existing pavement structure is greater in thickness and quality, the repaving shall match the existing pavement structure.
- Pavement resurfacing work shall include 2-inch thickness 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, MAHIAHIA 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

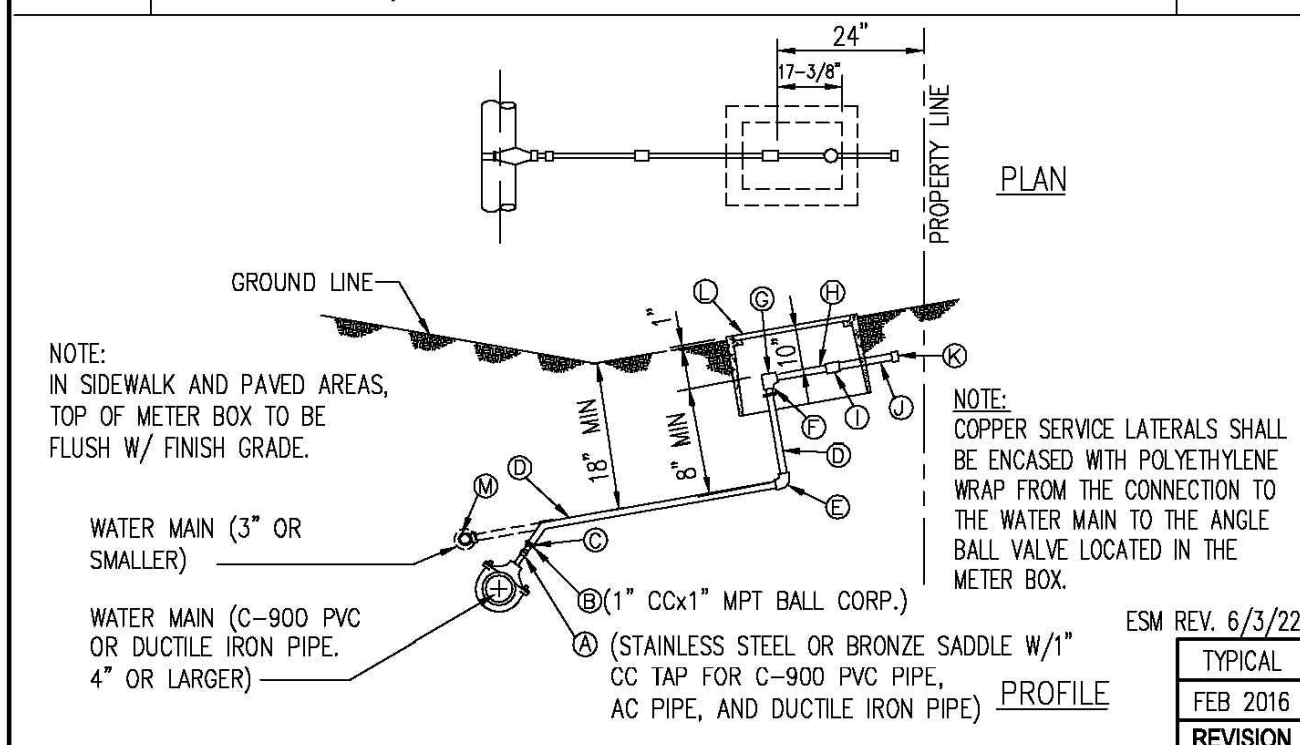
APPROVED:
Wayne T. Wade
COUNTY ENGINEER, DEPT. OF PUBLIC WORKS,
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY R/W)
DATE: Jan 4, 2024

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.

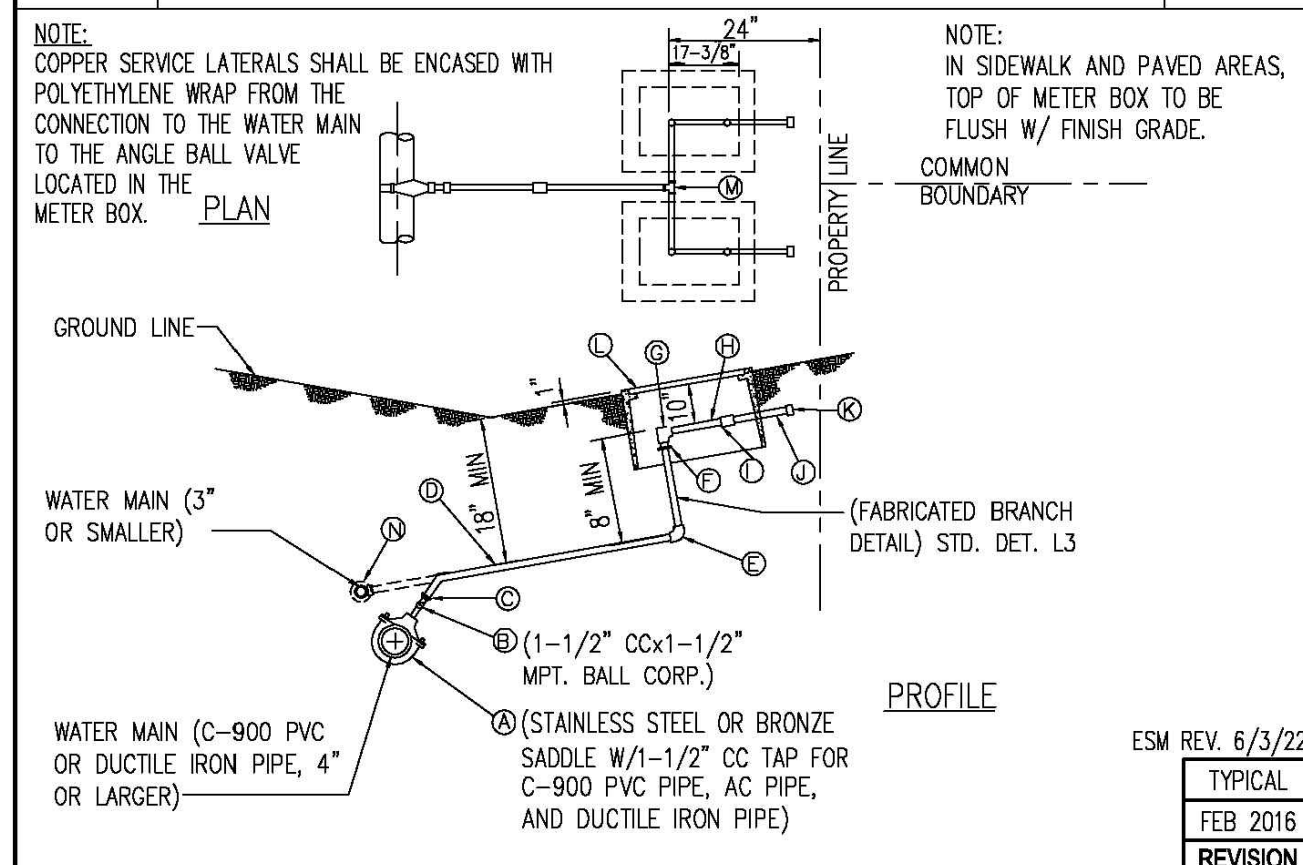
		2002
		REVISION
KAUAI	HYDRANT CONNECTION NOTES SCALE: NTS	STANDARD DETAILS FHB

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

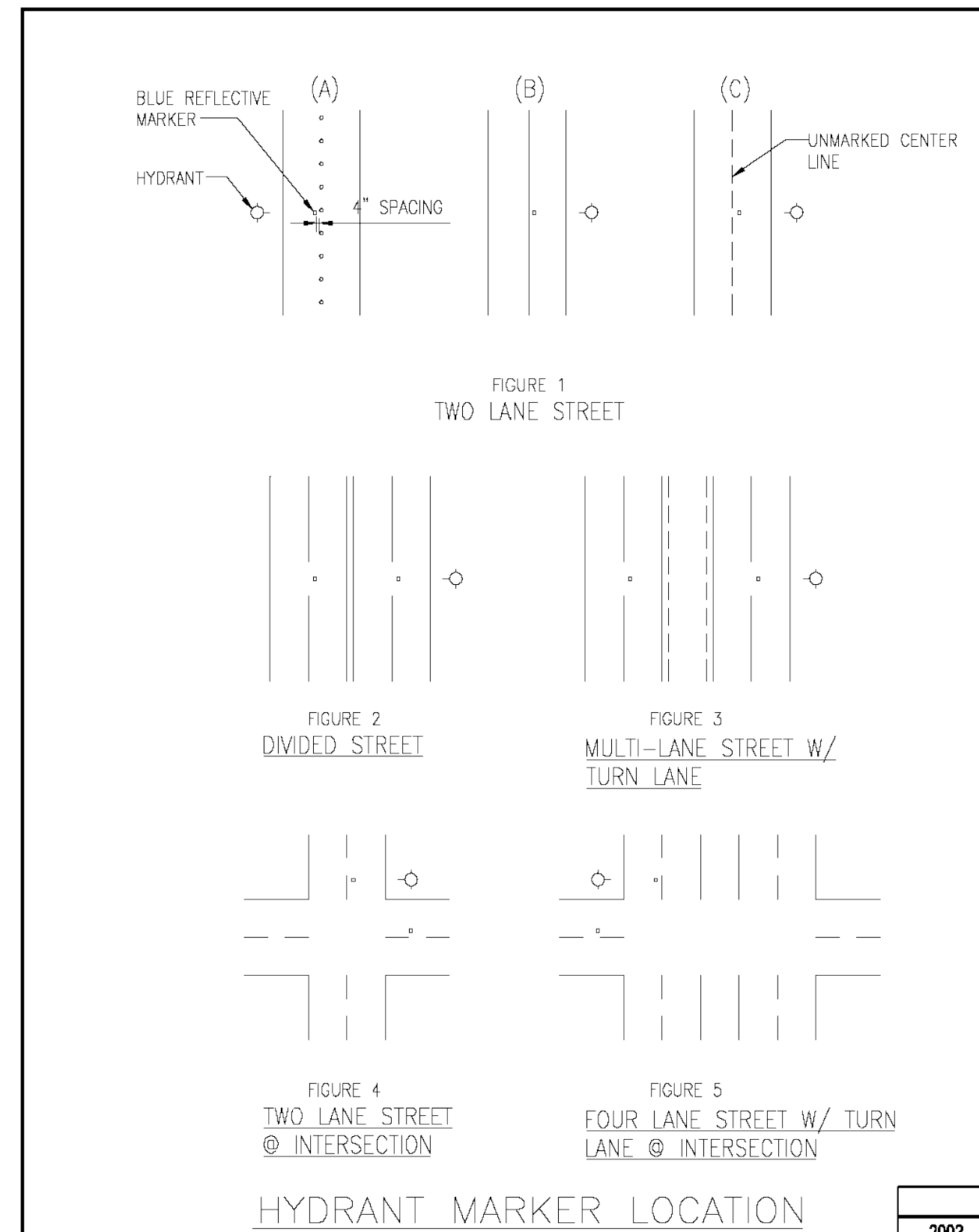


KAUAI	SINGLE SERVICE LATERAL PLAN, PROFILE & MATERIAL LIST SCALE: NTS	STANDARD DETAILS	L1
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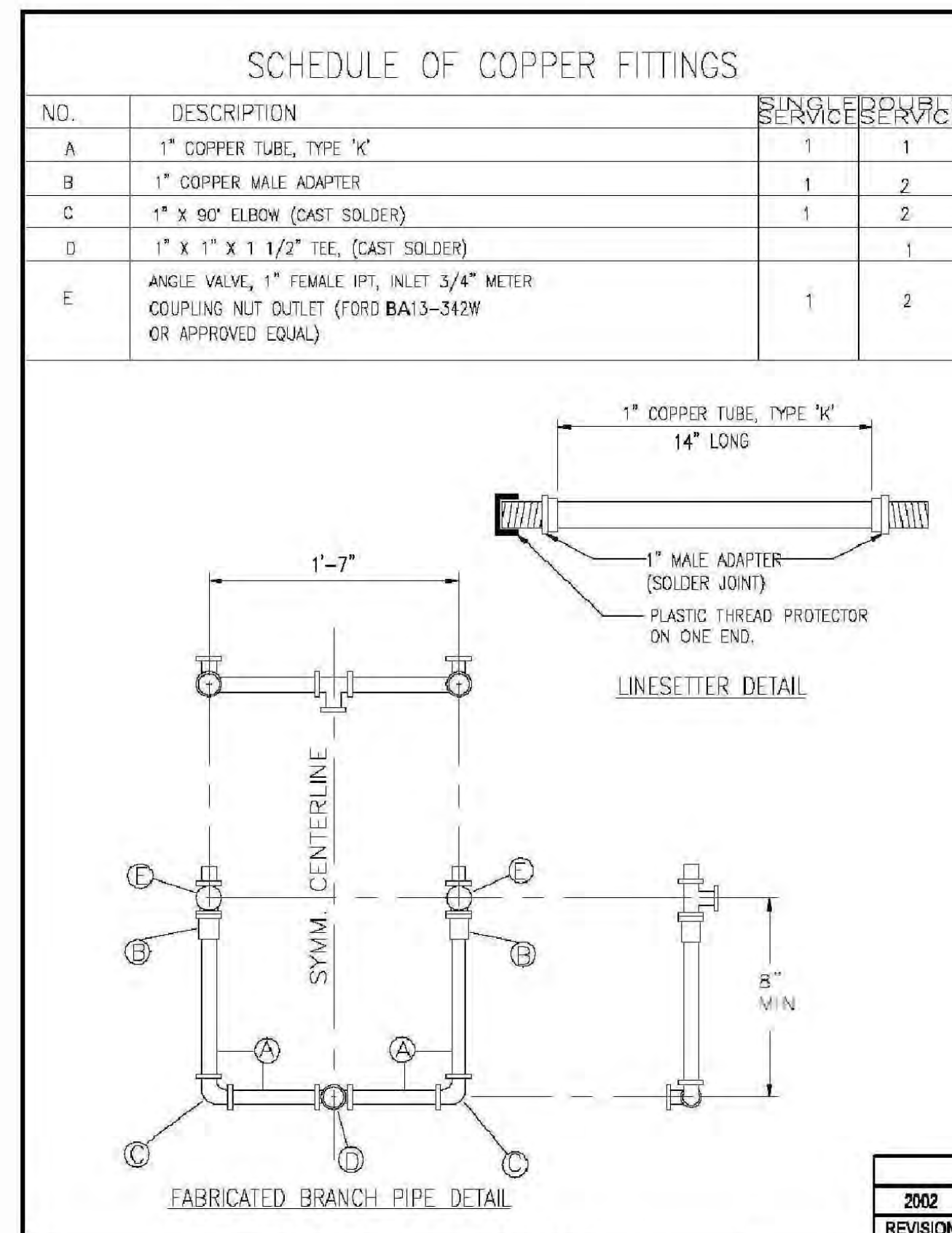
SCHEDULE OF FITTINGS		
ITEM	DESCRIPTION	DOUBLE SERVICE
A	STAINLESS STEEL OR BRONZE SADDLE W/ 1-1/2" CC TAP FOR C-900 PVC PIPE AND DUCTILE IRON PIPE	1
B	1-1/2" CC x 1-1/2" MPT BALL CORPORATION	1
C	PACK JOINT COUPLING (FORD C14-66 OR APPROVED EQUAL)	1
D	1-1/2" COPPER TUBE, TYPE "K" SOFT	1
E	1" 90° COPPER 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



KAUAI	DOUBLE SERVICE LATERAL PLAN, PROFILE & MATERIAL LIST SCALE: NTS	STANDARD DETAILS	L2
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KAUAI OAHU MAUI	HYDRANT MARKER LOCATION FOR STREETS SCALE: NTS	STANDARD DETAILS	FH12
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KAUAI	FABRICATED BRANCH PIPE AND LINESETTER DETAIL SCALE: NTS	STANDARD DETAILS	L3
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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. Wada

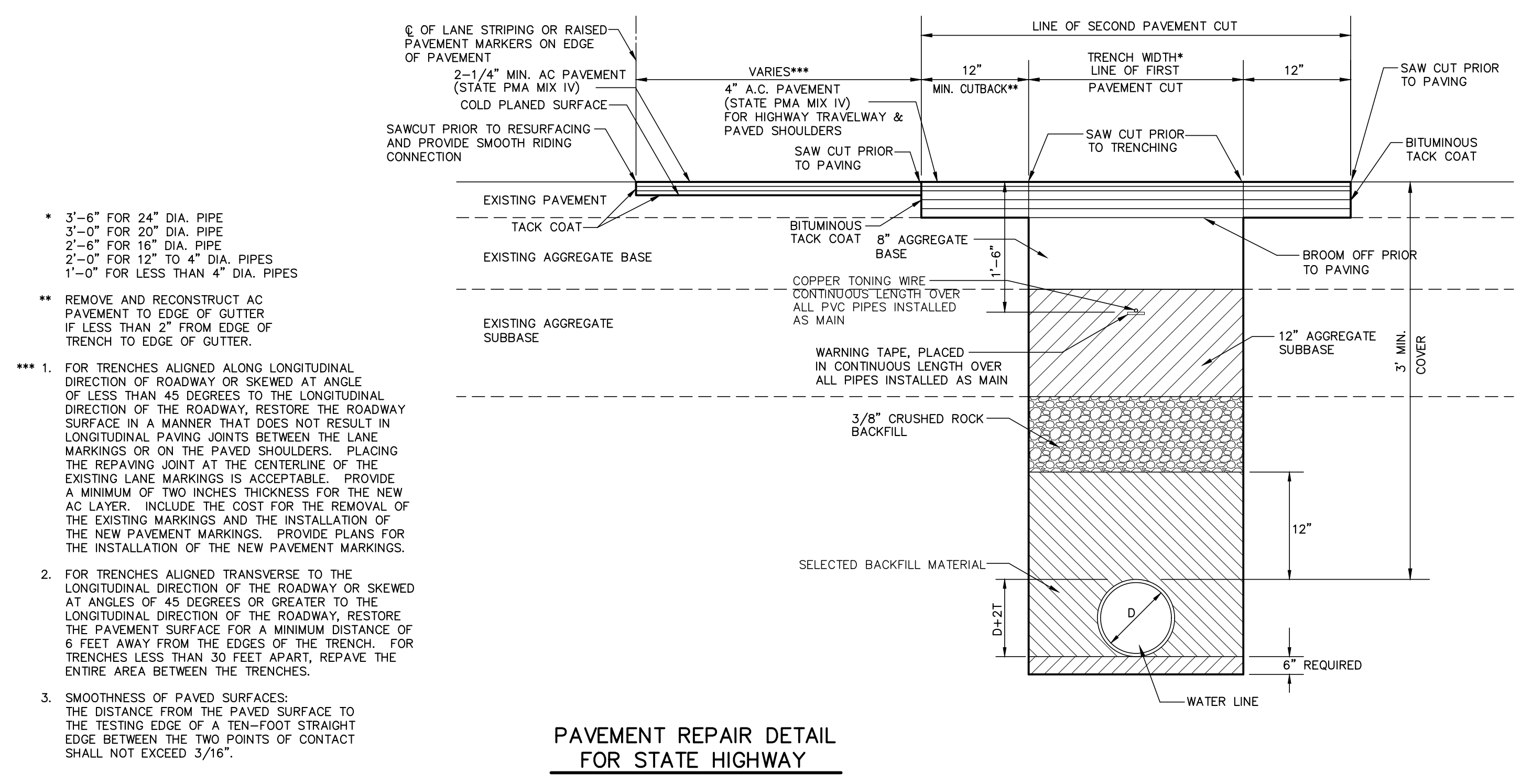
PROJECT:
CONSTRUCTION PLANS FOR PIPELINE REPLACEMENT ALONG WEKE, 'ANA'E, MAHIAHI AND HEE ROADS HANAIE WATERLINE IMPROVEMENTS
Tax Map Key: (4) 5-5-003, (4) 5-5-004, and (4) 5-5-005
Hanalei, Kaaui, Hawai'i

CLIENT:
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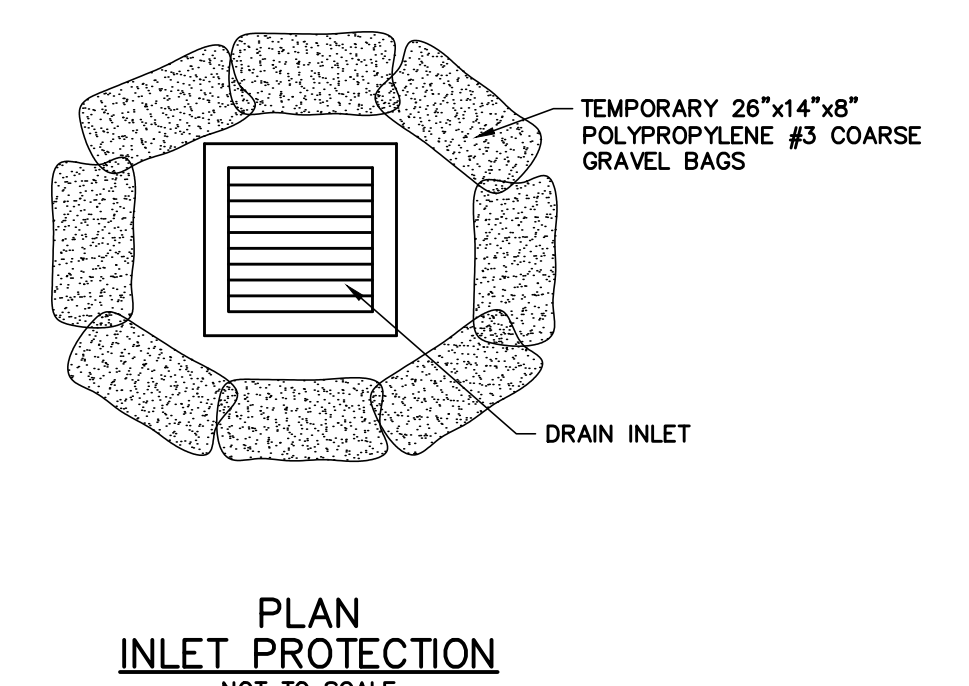
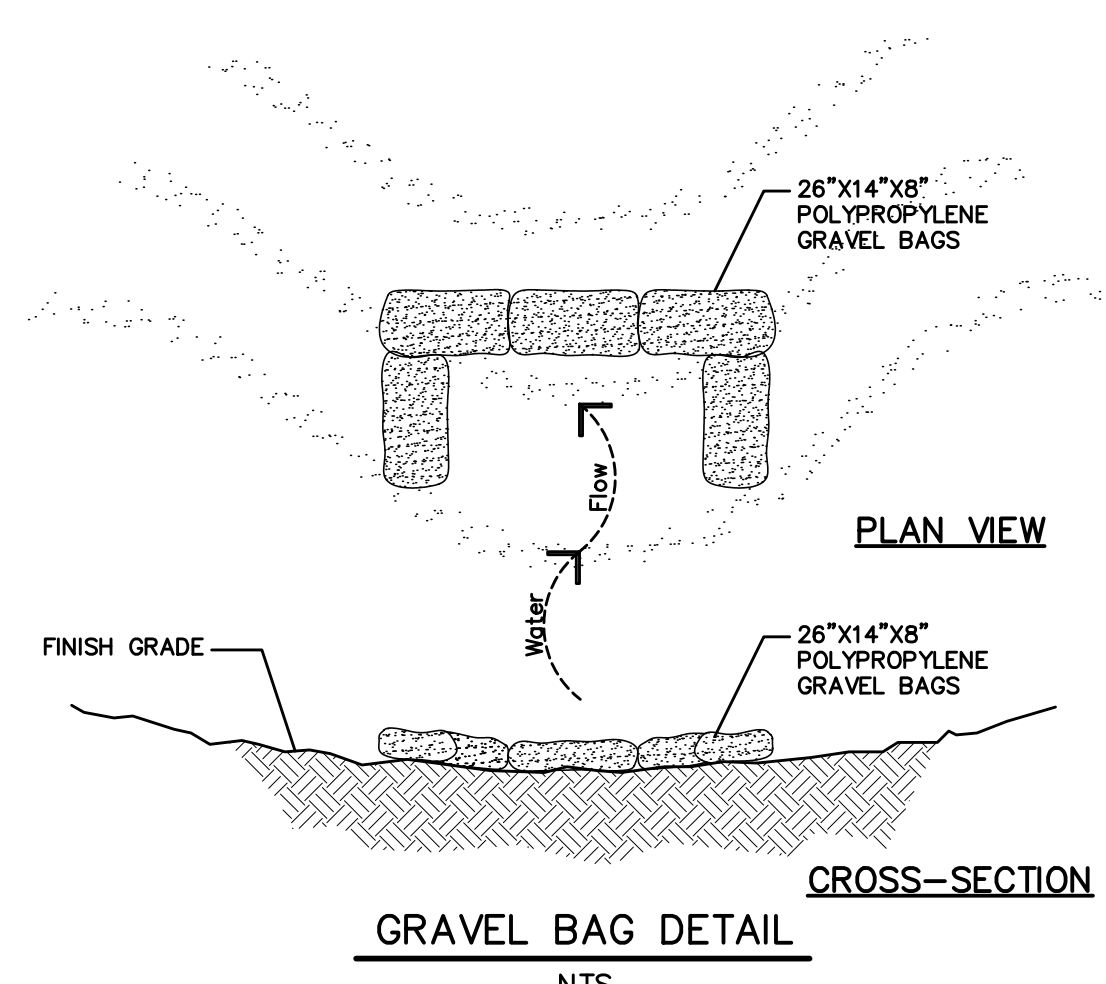
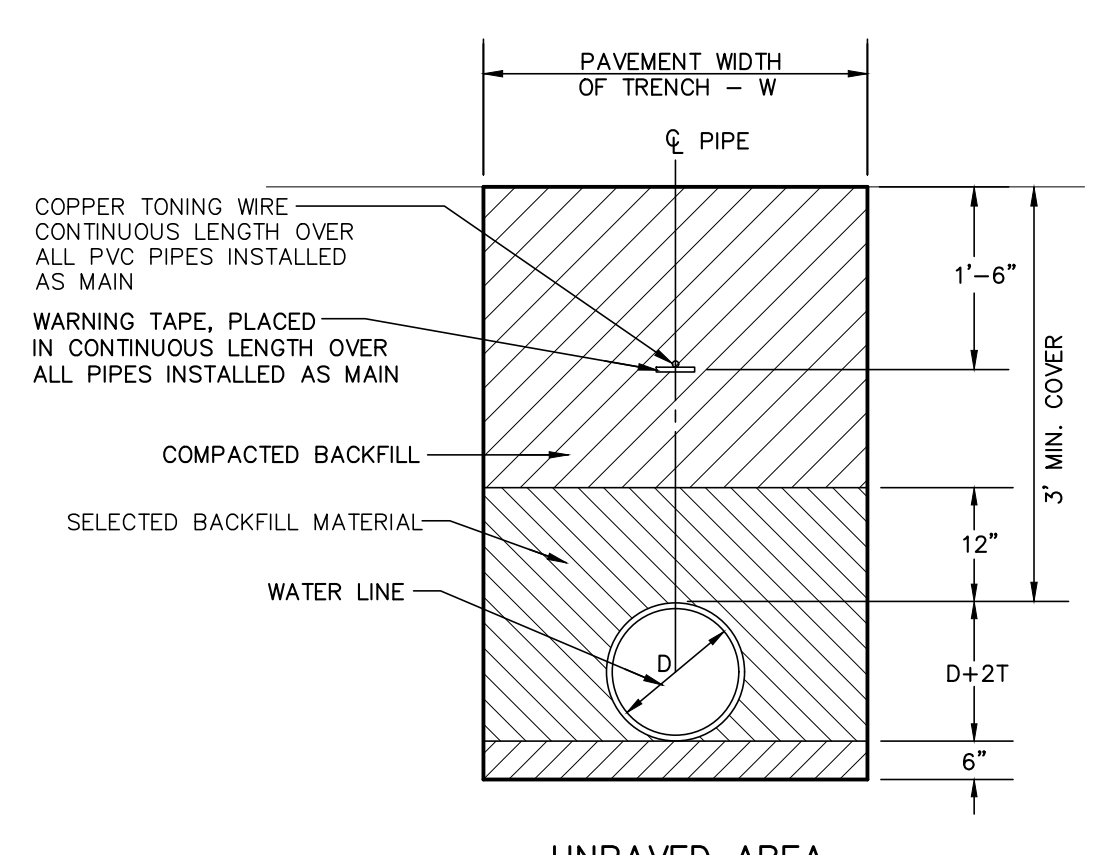
MISCELLANEOUS DETAILS

APPROVED:
W/W
DATE: Jan 4, 2024

DESIGNED BY: *W/W* SHEET
DRAWN BY: *Md, Cb, BF* **C-16**
DATE: 12/28/23 16 OF 21 SHEETS

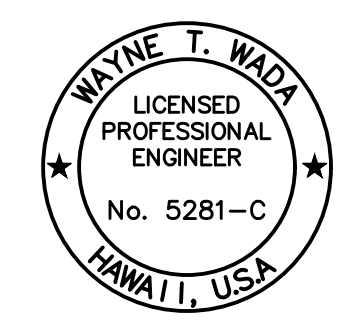


- * 3'-6" FOR 24" DIA. PIPE
3'-0" FOR 20" DIA. PIPE
2'-6" FOR 16" DIA. PIPE
2'-0" FOR 12" TO 4" DIA. PIPES
1'-0" FOR LESS THAN 4" DIA. PIPES
- ** REMOVE AND RECONSTRUCT AC PAVEMENT TO EDGE OF GUTTER IF LESS THAN 2' FROM EDGE OF TRENCH TO EDGE OF GUTTER.
- *** 1. FOR TRENCHES ALIGNED ALONG LONGITUDINAL 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".



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 'ANAE, MAHIMAHIMAHI 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

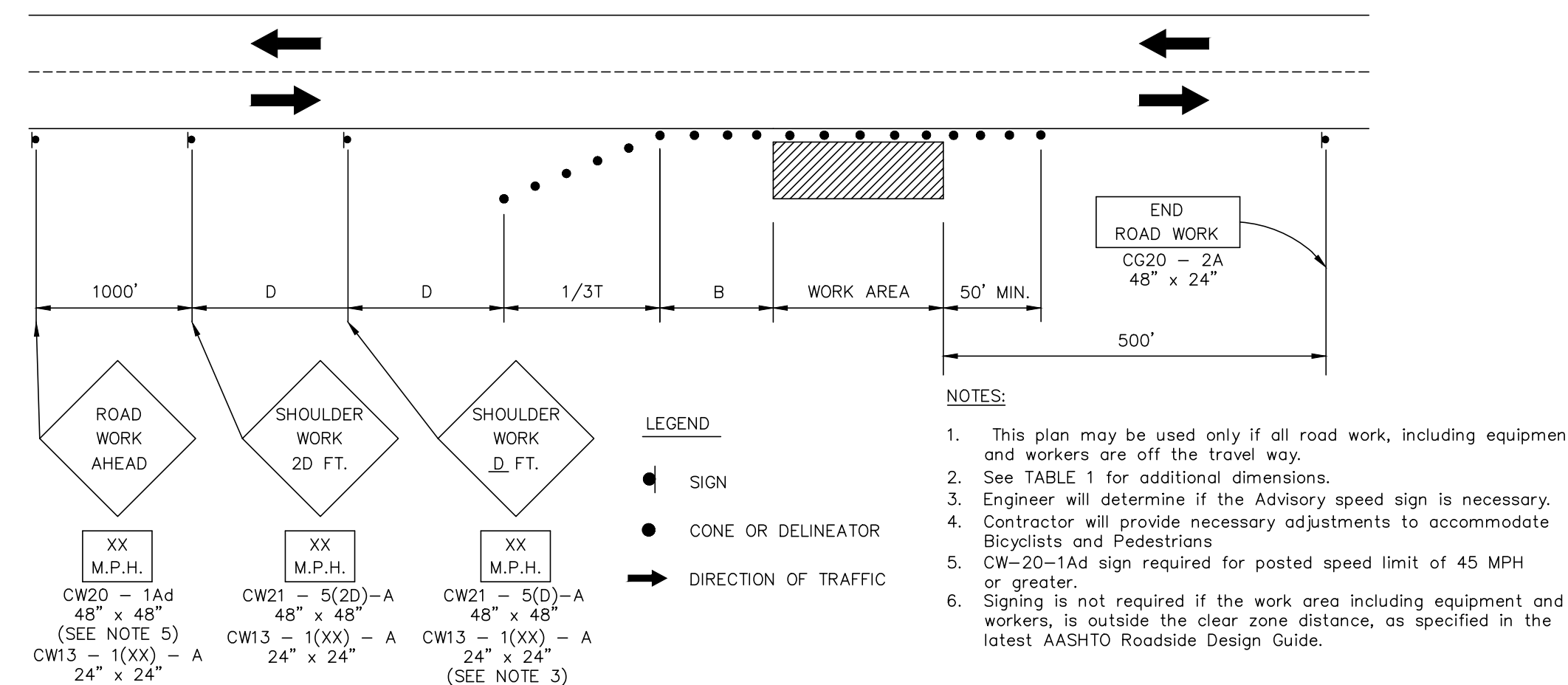
NOTES:
W = WIDTH OF LANE, SHOULDER, OR OFFSET
*USE ADVISORY SPEEDS WHEN POSTED
**NOT APPLICABLE FOR TWO-LANE HIGHWAYS

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

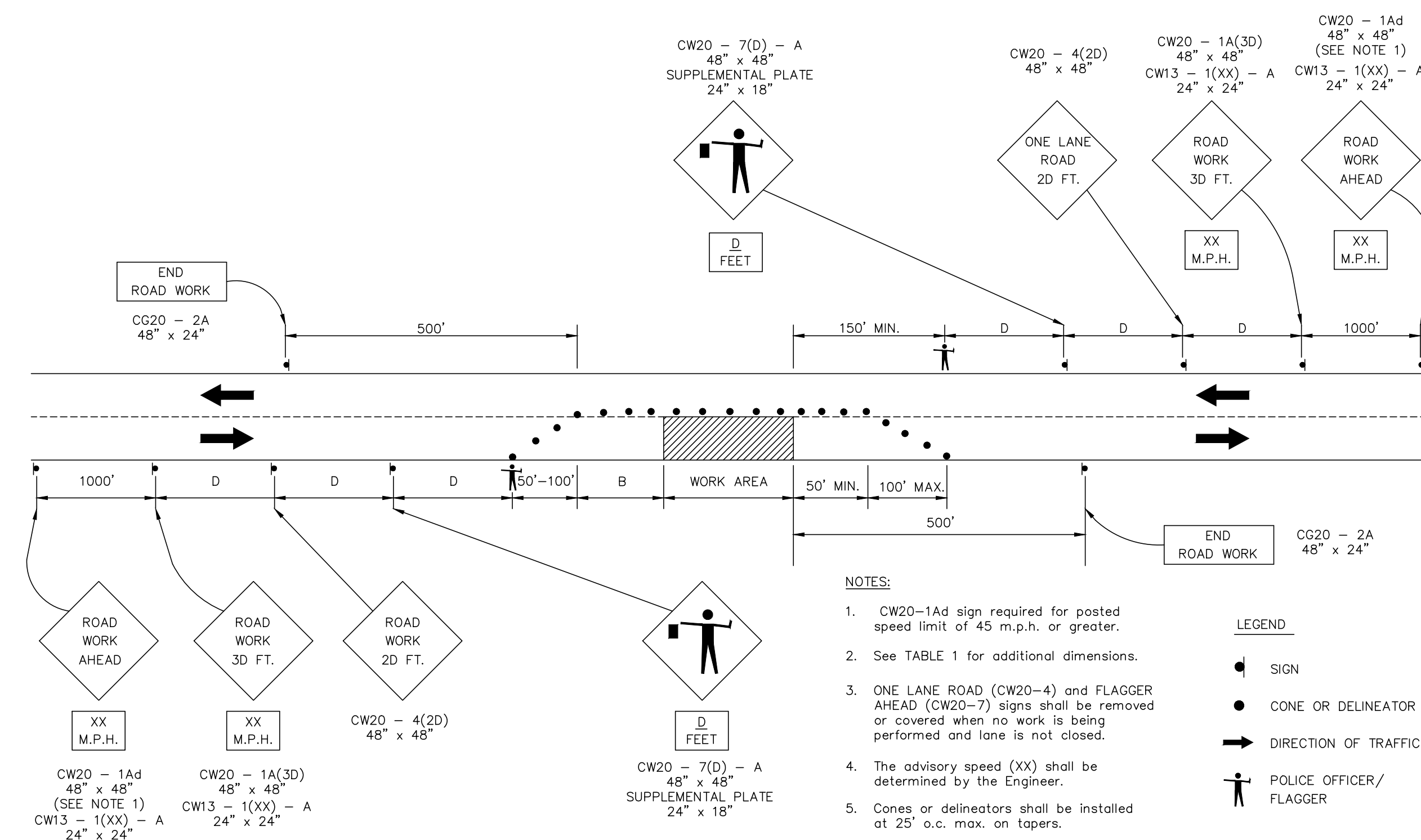
- The permittee shall make adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
- Cones or delineators shall be extended to a point where they are visible to approaching traffic.
- Traffic control devices shall be installed such that the sign or device farthest 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).



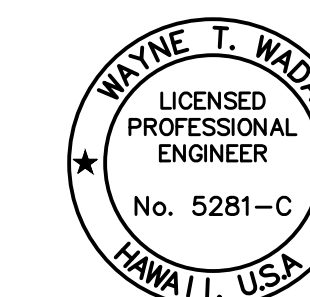
WORKING ON SHOULDER OR ROADSIDE
FIGURE 1 — TRAFFIC CONTROL PLAN



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
BY ME OR UNDER MY SUPERVISION

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, Kaula, Hawaii

CLIENT:
DEPARTMENT OF WATER COUNTY OF KAULAI

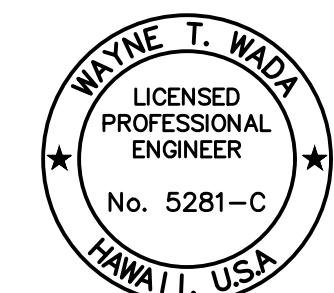
TRAFFIC CONTROL PLAN

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

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

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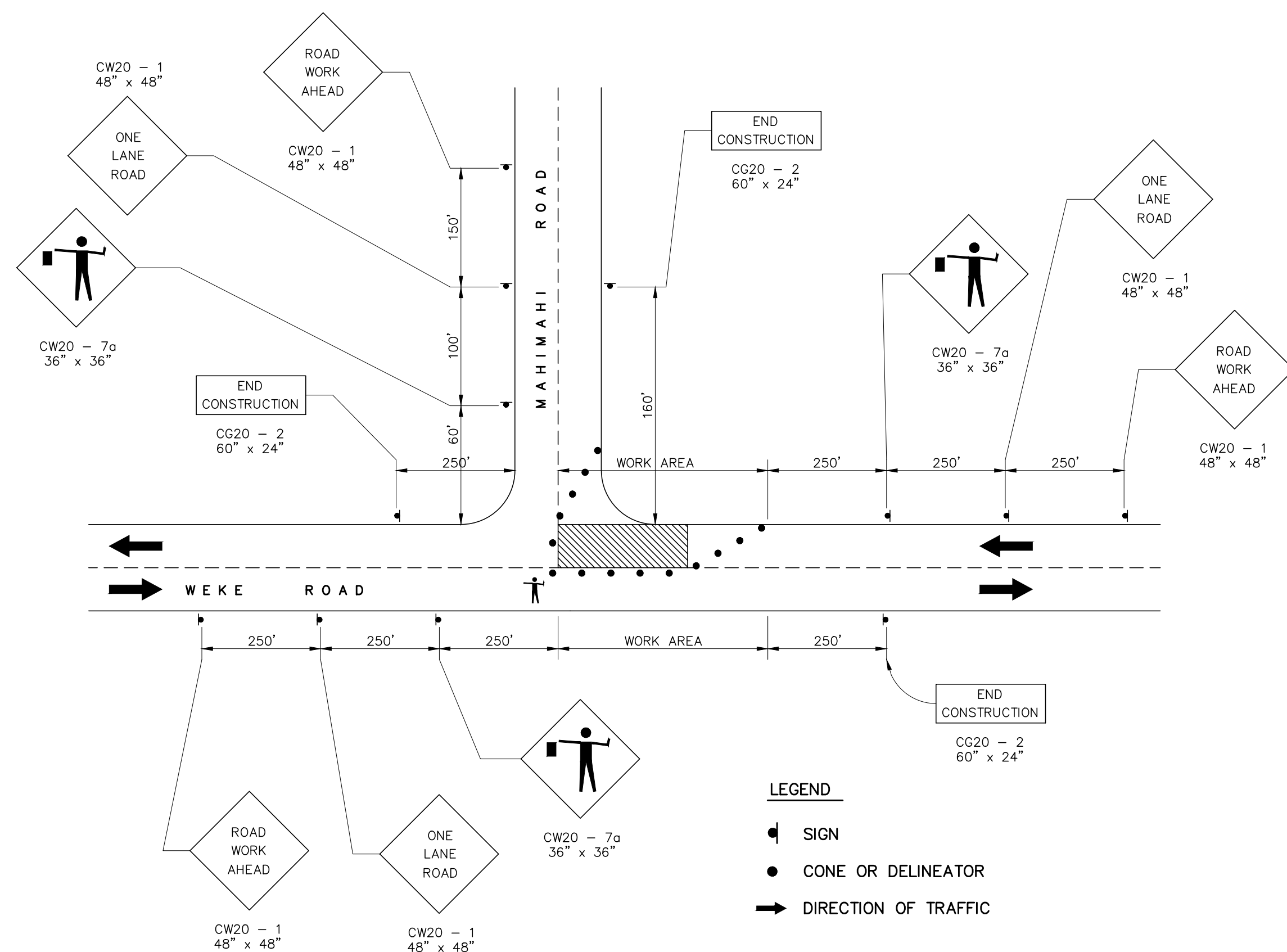
PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
REPLACEMENT ALONG WEKE, 'ANA'E,
MAHIMAH'I AND HE'E ROADS
HANA'LEI WATERLINE IMPROVEMENTS**
Tax Map Key: (4) 5-5-003,
(4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

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

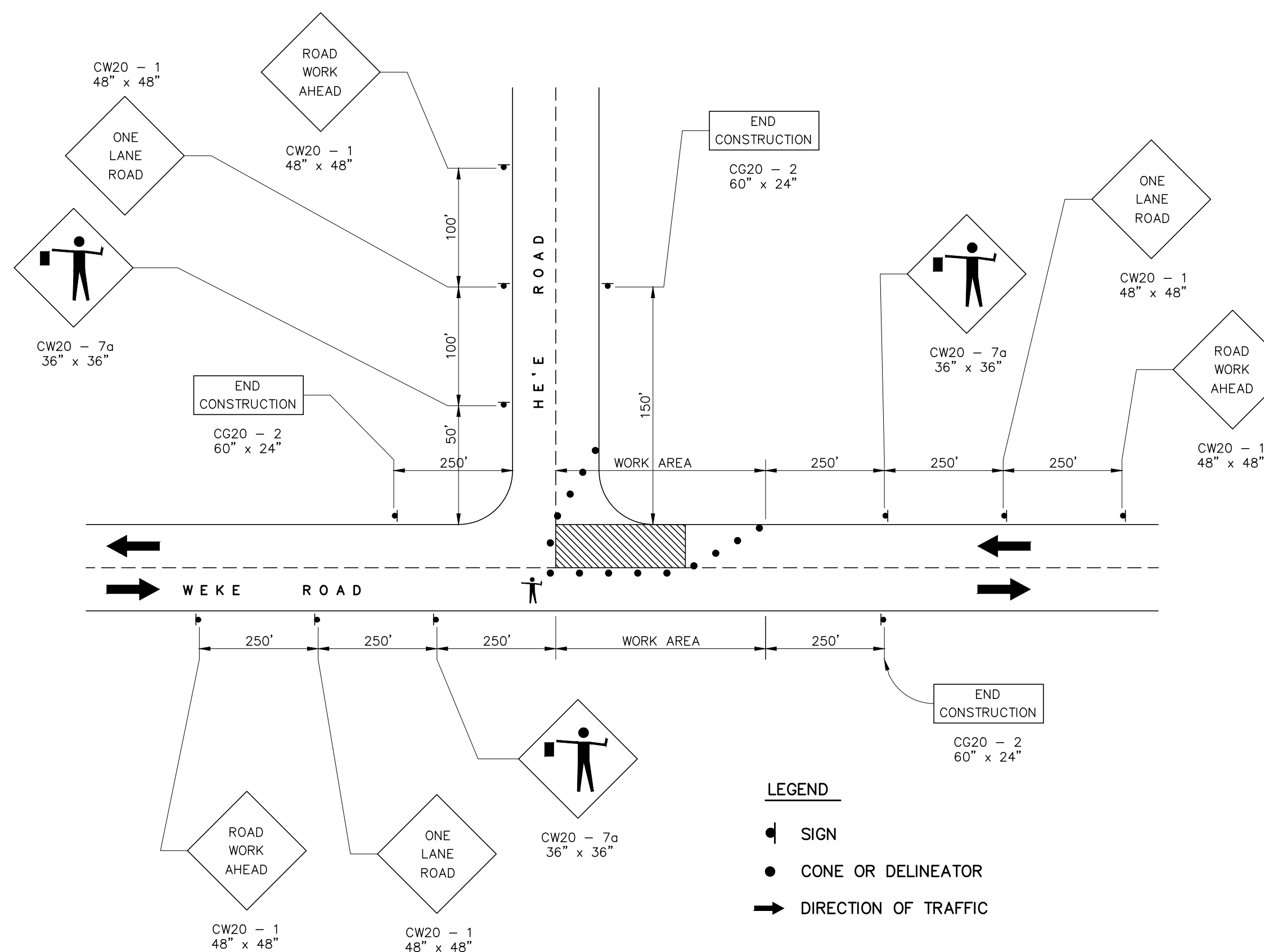
TRAFFIC CONTROL PLAN

APPROVED:
[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

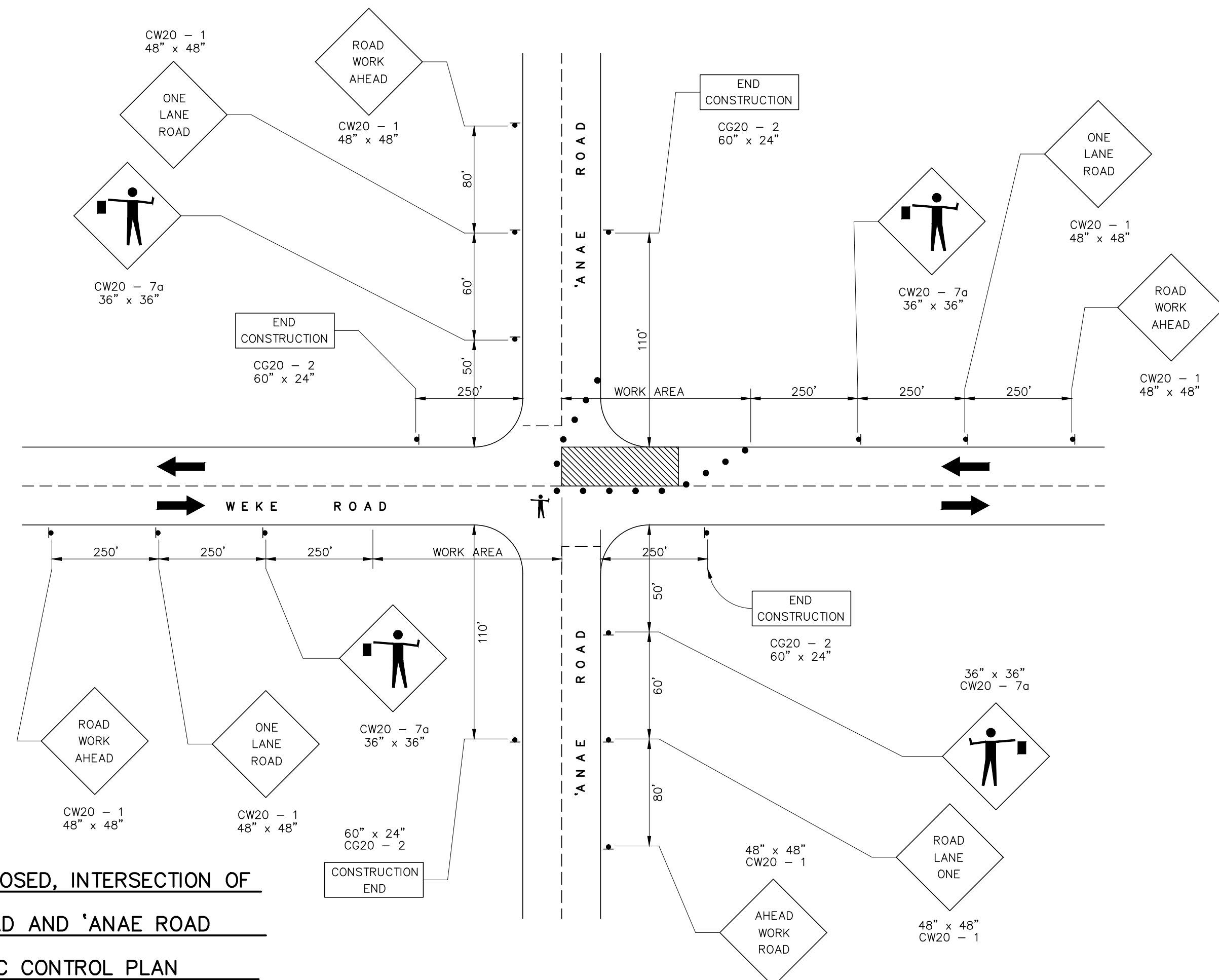
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DRAWN BY: *Ma, Cb, BF* **G-20**
DATE: 12/28/23 20 OF 21 SHEETS



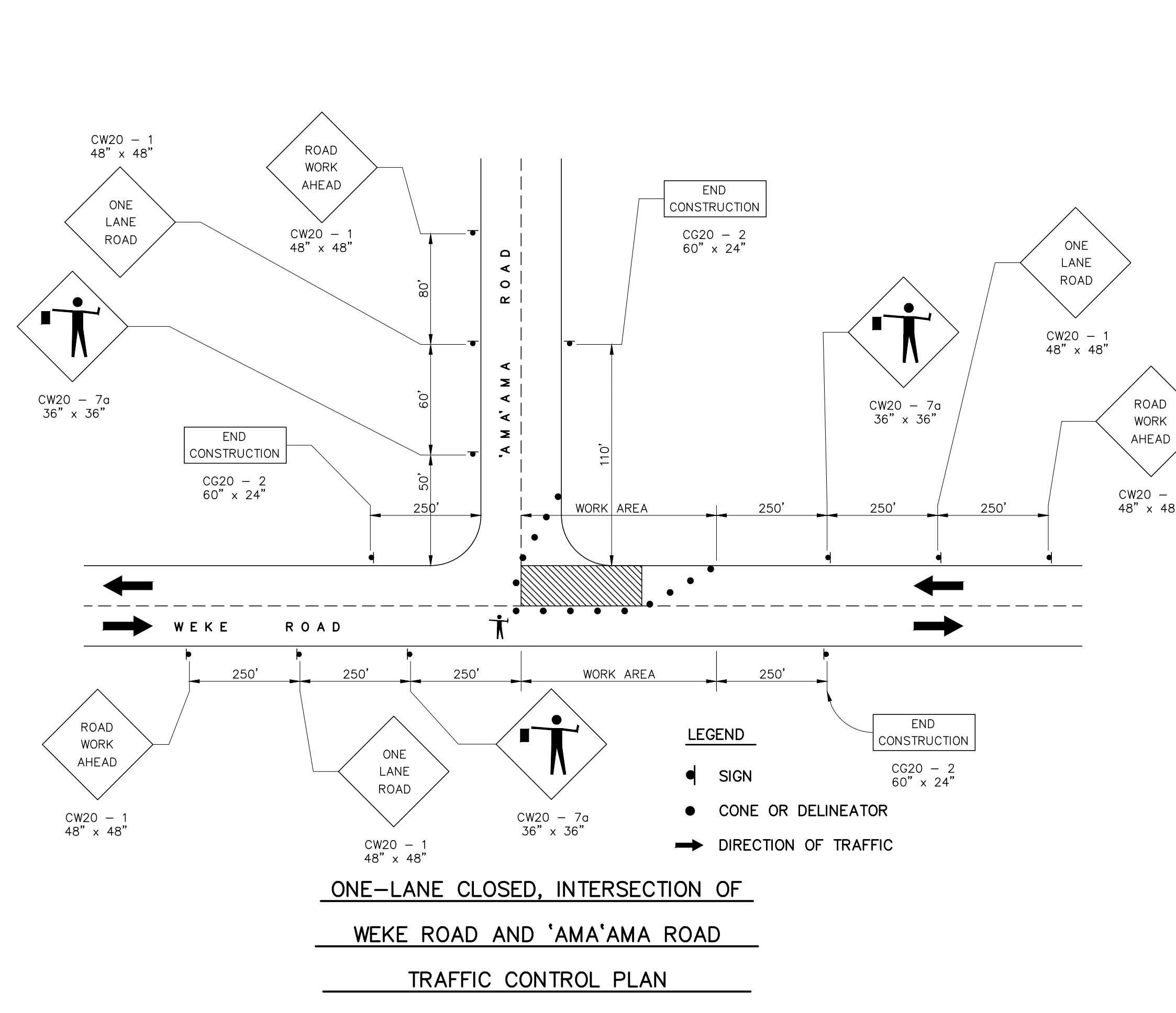
**ONE-LANE CLOSED, INTERSECTION OF
WEKE ROAD AND MAHIMAH'I ROAD
TRAFFIC CONTROL PLAN**



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



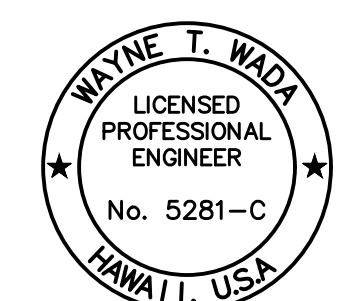
**ONE-LANE CLOSED, INTERSECTION OF
WEKE ROAD AND 'ANA'E ROAD
TRAFFIC CONTROL PLAN**



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

REVISION	DATE	DESCRIPTION	BY	APPROVED

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EXPIRES: APRIL 30, 2024
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Wayne T. Wade

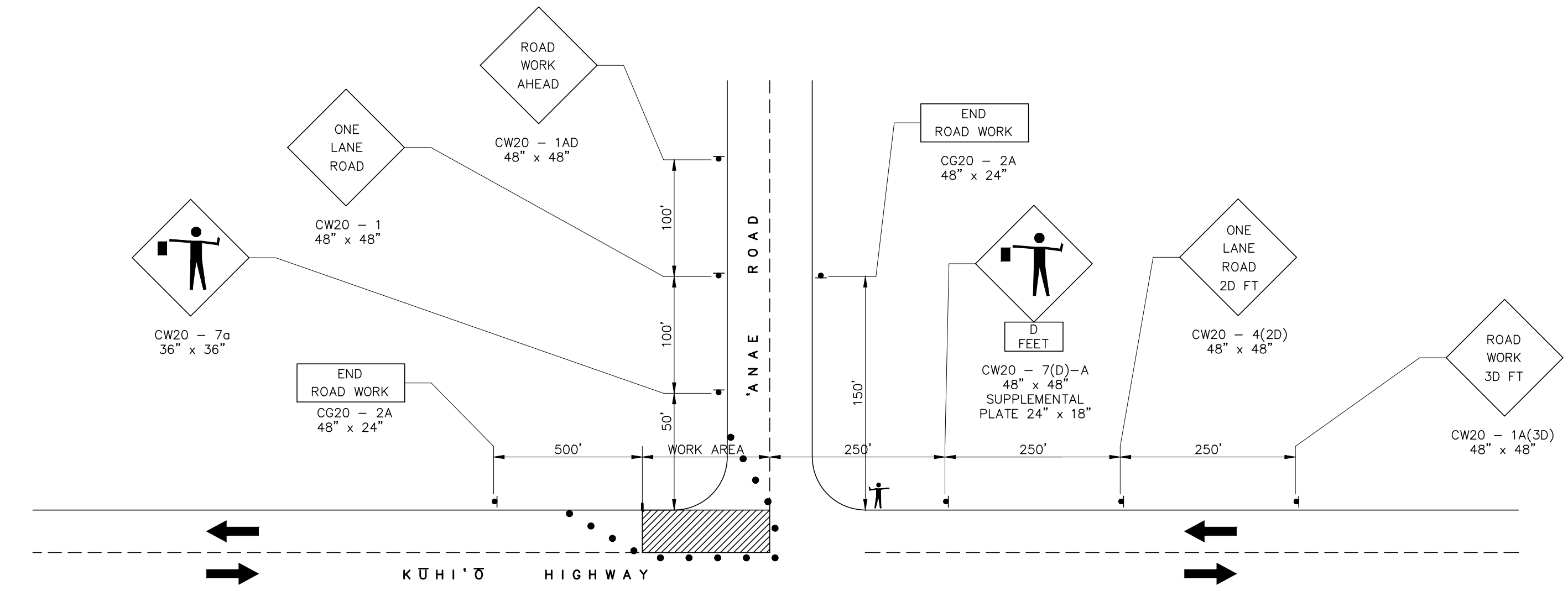
PROJECT:
**CONSTRUCTION PLANS FOR PIPELINE
REPLACEMENT ALONG WEKE, 'ANA'E,
MAHIMAHI AND HE'E ROADS
HANAIE WATERLINE IMPROVEMENTS**
Tax Map Key: (4) 5-5-003,
(4) 5-5-004, and (4) 5-5-005
Hanalei, Kauai, Hawaii

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

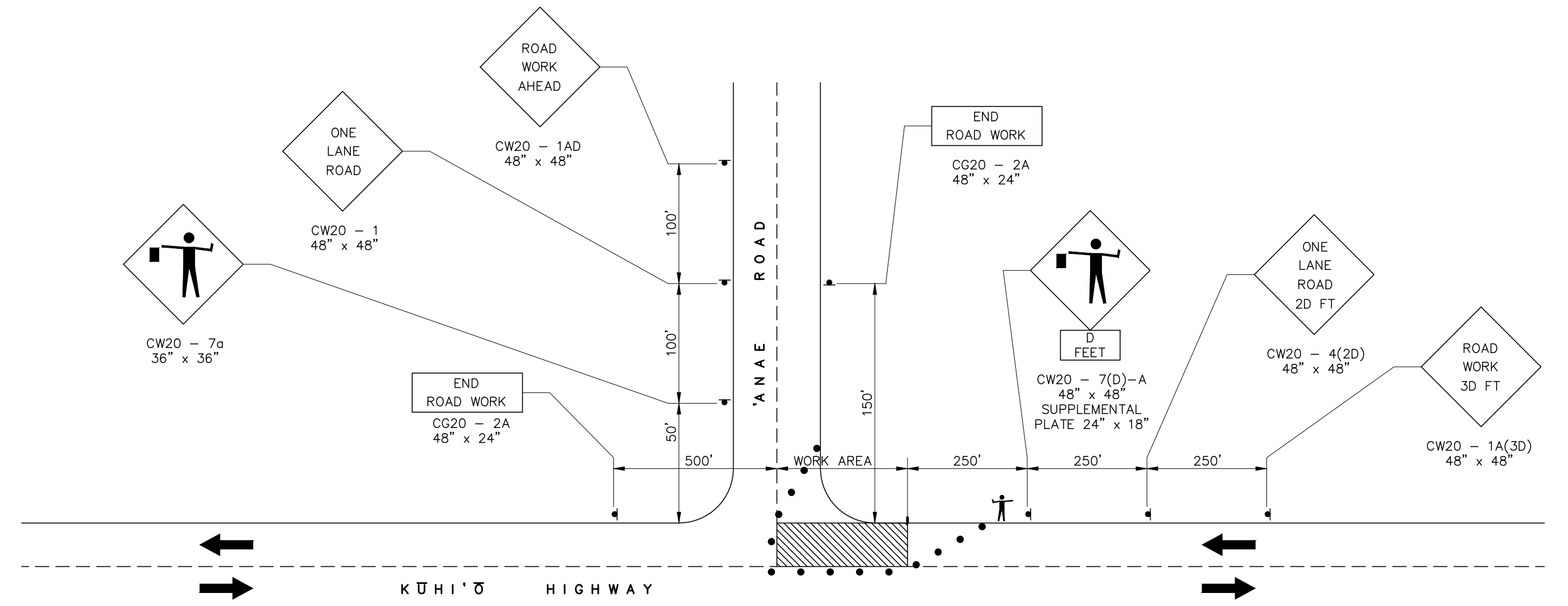
TRAFFIC CONTROL PLAN

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

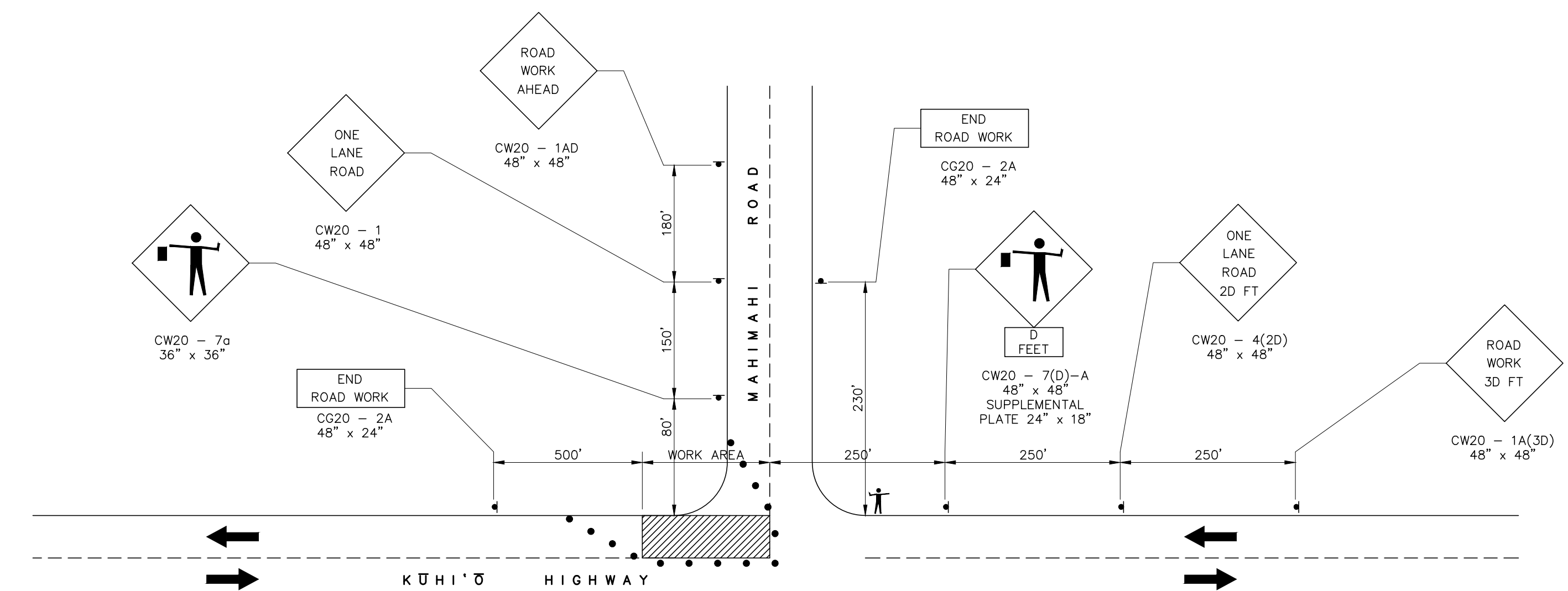
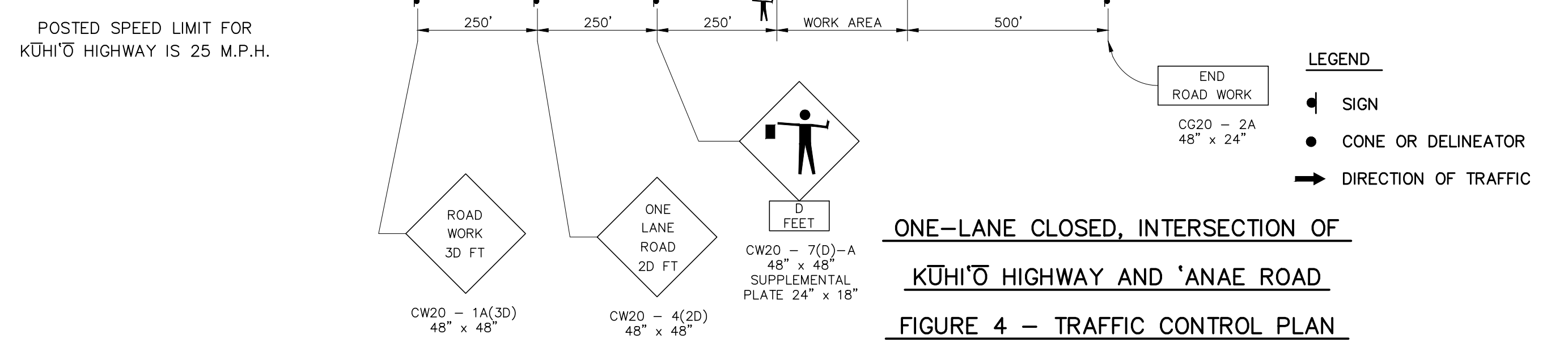
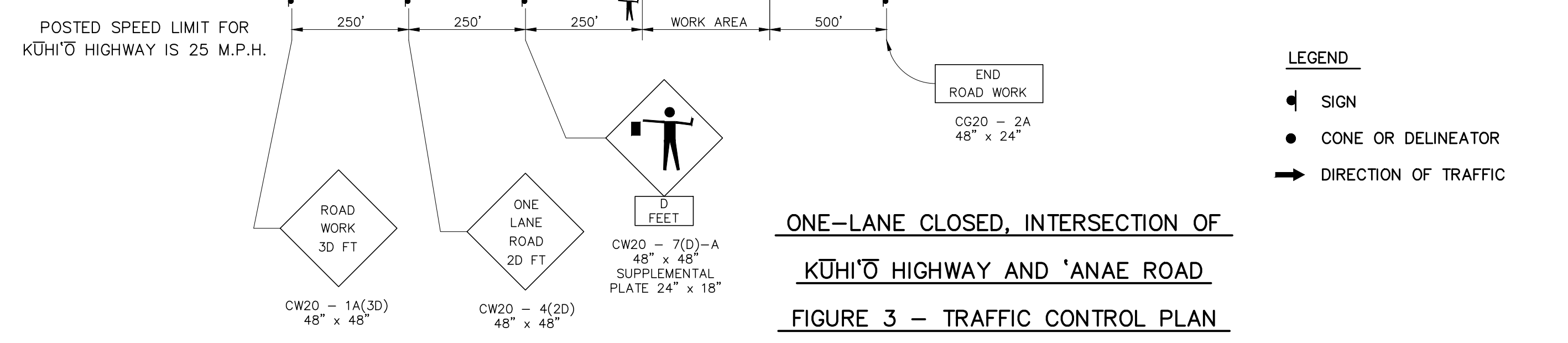
DESIGNED BY: *SW* SHEET
DRAWN BY: *MA, CB, BF* **G-21**
DATE: 12/28/23 21 OF 21 SHEETS



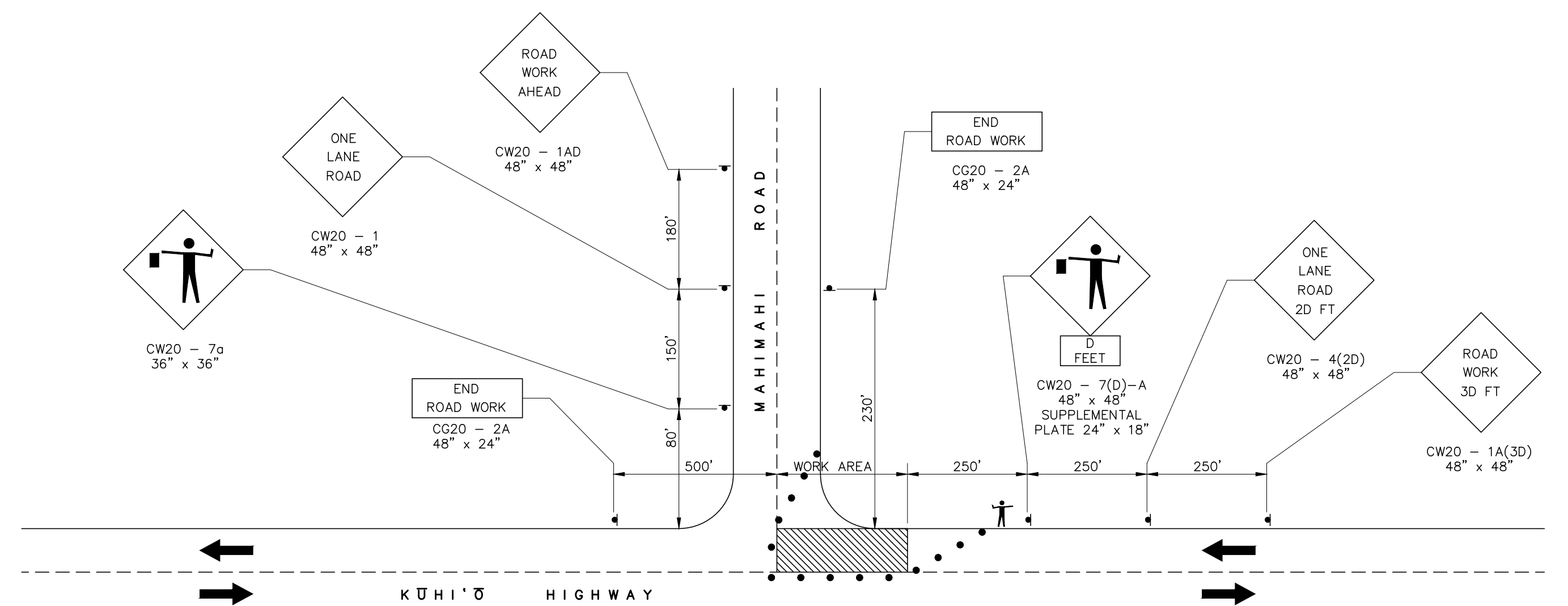
**ONE-LANE CLOSED, INTERSECTION OF
KŪHIʻŌ HIGHWAY AND 'ĀNAE ROAD
FIGURE 3 – TRAFFIC CONTROL PLAN**



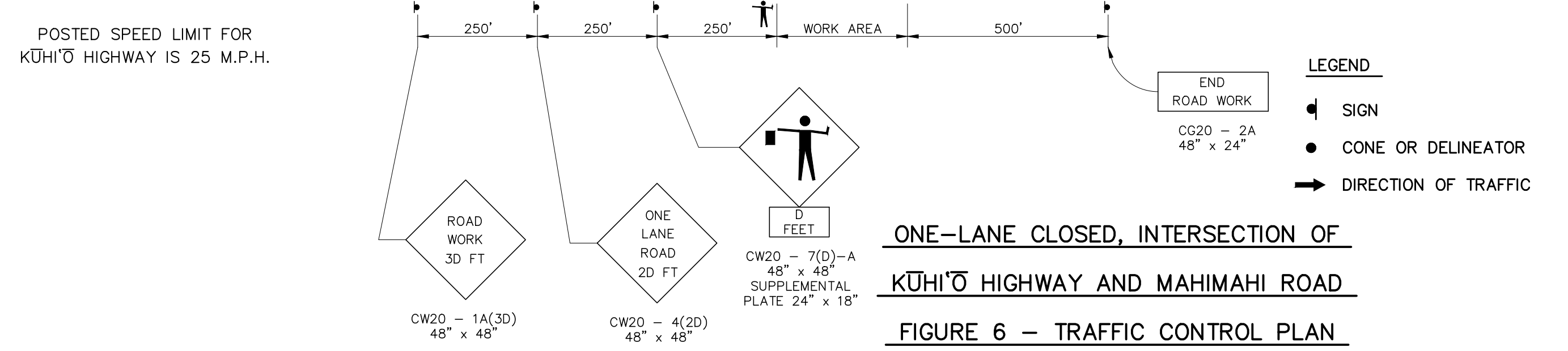
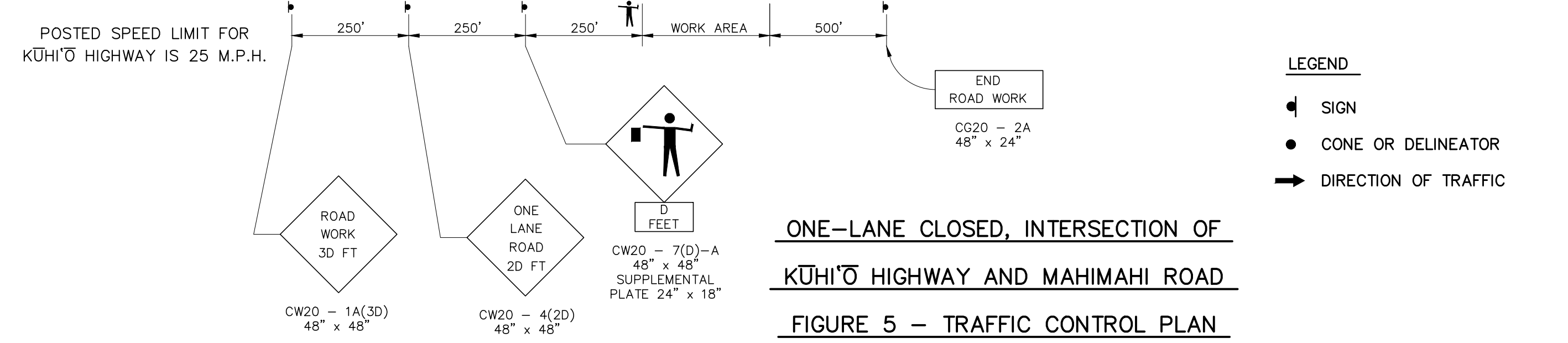
**ONE-LANE CLOSED, INTERSECTION OF
KŪHIʻŌ HIGHWAY AND 'ĀNAE ROAD
FIGURE 4 – TRAFFIC CONTROL PLAN**



**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**










12-43 CON 12-28-23


Final Audit Report

2024-01-10


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By:	john holwegner (john@esakimap.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAQMsttxoydChYuLFjMLQfwtqecn42W0Ft

"12-43 CON 12-28-23" History


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2024-01-02 - 8:01:04 PM GMT
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-  Document emailed to Scott Suga (sisuga@kauaiwater.org) for signature
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 Agreement completed.

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