

### **3. PLANS**







DRAWING NAME: I:\201705-DHHL-ANAHOLA\_PHIL\_WATER\_SYSTEM\_IMPROVEMENTS\DRAWINGS\CONTRACT DOCUMENTS\05\_FINAL -- BID DOCUMENTS\PHASE I -- WA  
EDIT TIME: 03-23-18, 11:40 AM  
EDITED BY: GTOKUMI

- NOTES FOR GENERAL CONSTRUCTION:

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FOR ENTRY BY PERSONNEL, INCLUDING INSPECTORS, INTO A PERMIT REQUIRED CONFINED SPACE AS DEFINED IN 29 CFR PART 1910.146(b), THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING:

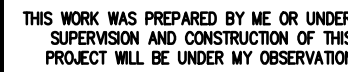
I. ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:

1. ALL DAMAGED PAVEMENT SHALL BE RESTORED TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2005)" AND ITS AMENDMENTS AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984", AS AMENDED BY THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII, WITH 2" MINIMUM HOT MIXED ASPHALT CONCRETE PAVEMENT (STATE DESIGN MIX V) AND 8" MINIMUM BASE COURSE.
2. THE CONTRACTOR SHALL PROVIDE, INSTALL 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.
3. 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.
4. A. PERMIT SHALL BE OBTAINED BY THE CONTRACTOR FROM THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF KAUAI BEFORE WORK ON A PUBLIC STREET OR HIGHWAY MAY BEGIN. PERMIT FEES SHALL BE AT THE CONTRACTOR'S EXPENSE.  
B. DRIVEWAYS SHALL BE KEPT OPEN UNLESS OWNERS OF THE ABUTTING LOTS USING THESE RIGHT-OF-WAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY.  
C. ALL WORK INCLUDING REPAIR OF DAMAGED PAVEMENT AND SHOULDERS SHALL BE INSPECTED AND APPROVED BY THE DEPARTMENT OF PUBLIC WORKS. ALL UNAPPROVED WORK SHALL BE CONSIDERED UNACCEPTABLE AND SHALL BE REWORKED AND CORRECTED AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS, AT THE CONTRACTOR'S EXPENSE.  
D. DAMAGED SHOULDERS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITION.  
E. WORK ON A PUBLIC STREET AREA MAY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:00 A.M. TO 3:30 P.M. MONDAY THROUGH FRIDAY, EXCEPT ON HOLIDAYS RECOGNIZED BY THE COUNTY OF KAUAI, UNLESS OTHERWISE PERMITTED IN WRITING BY THE COUNTY ENGINEER.  
F. DURING NON-WORKING HOURS, ALL TRENCHED 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.
5. 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 "STANDARD SPECIFICATIONS". THE GEOTECHNICAL ENGINEER SHALL ALSO SUBMIT TEST RESULTS AS REQUESTED BY THE DEPARTMENT OF PUBLIC WORKS.
6. THE CONTRACTOR SHALL HOLD A PRECONSTRUCTION MEETING WITH THE CONSTRUCTION - DESIGN SECTIONS OF THE DEPARTMENT OF PUBLIC WORKS BEFORE COMMENCING ANY WORK.
7. 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.
8. BENCHMARKS THAT ARE DISTURBED OR DESTROYED SHALL BE RESTORED UNDER

1. 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, WHO 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.

COUNTY ENGINEER, DEPARTMENT OF PUBLIC  
WORKS COUNTY OF KAUAI (FOR WORK WITHIN  
COUNTY MAINTAINED ROADS)

DATE \_\_\_\_\_



Signature \_\_\_\_\_ Expiration Date \_\_\_\_\_  
of the License \_\_\_\_\_

[illegible]DEPARTMENT OF  
HAWAIIAN HOME LANDS

915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

# ANAHOLA FARM LOTS

## Water Line Replacement Anahola, Island of Kauaʻi

TMK:  
4-8-005:039, 4-8-018:027  
& 4-8-021:032

## NOTES

DESIGNED BY: <u>JM</u>	DRAWING NO. <b>T-2</b>
DRAWN BY: <u>GT</u>	
CHECKED BY: <u>JM</u>	DATE: <u>APR. 2018</u>
SURVEYED BY: <u>PS</u>	
SHEET NO. 2 OF 30	



## WATER POLLUTION AND EROSION CONTROL NOTES (CONT'D)

#### 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<br>DETERGENTS    | FERTILIZERS<br>PETROLEUM BASED |
| PRODUCTS                  |                                |
| PAINTS (ENAMEL AND LATEX) | CLEANING SOLVENTS              |
| METAL STUDS               | WOOD                           |
| TAR                       | MASONRY BLOCK                  |
- b. MATERIAL MANAGEMENT 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 THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
- b. ORIGINAL LABELS AND MATERIALS 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 PRODUCTS SPECIFIC PLANS:

### C. ONSITE AND OFFSITE PRODUCTS SPECIFIC PLANS:

- THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ONSITE:
- a. PETROLEUM BASED PRODUCTS: ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE 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 FERTILIZER 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 IN A COVERED SHED.
  - 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: WASH OUT OR DISCHARGE CONCRETE TRUCK DRUM WASH WATER ONLY AT A DESIGNATED SITE. DO NOT DISCHARGE WATER IN ROADWAY DRAINAGE SYSTEM OR WATERS OF THE UNITED STATES. CONTACT DRINKING WATER BRANCH, DEPARTMENT OF HEALTH AT (808)586-4258 TO RECEIVE PERMISSION TO DESIGNATE A DISPOSAL SITE. CLEAN DISPOSAL SITE AS REQUIRED OR AS REQUESTED BY THE OWNER'S REPRESENTATIVE.

D. SPILL CONTROL PLAN:

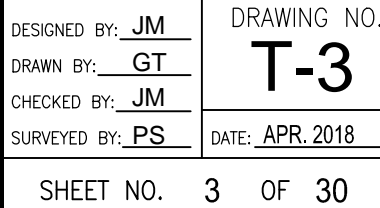
- a. POST A SPILL PREVENTION PLAN TO INCLUDE MEASURES TO PREVENT AND CLEAN UP EACH SPILLWAY.
- b. THE CONTRACTOR SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. DESIGNATE AT LEAST THREE SITE PERSONNEL WHO SHALL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS SHALL EACH BECOME 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 MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP IN THE MATERIAL STORAGE AREA ONSITE.
- e. CLEANUP ALL SPILLS IMMEDIATELY AFTER DISCOVERY.

## ENVIRONMENTAL NOTES

1. 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 SYSTEM, DUST FENCES, ETC.
2. IN ACCORDANCE WITH CHAPTER 11-55, WATER POLLUTION CONTROL AND CHAPTER 11-54, WATER QUALITY STANDARDS, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE PROPERTY OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT THE BEST MANAGEMENT PRACTICES (BMP) TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENTS, DEBRIS AND OTHER WATER POLLUTANT INTO STATE WATERS IS PROVIDED AT ALL TIMES.
3. IN ACCORDANCE WITH CHAPTER 11-58, SOLID WASTE MANAGEMENT CONTROL, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT GARBAGE 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.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL APPLICABLE PERMITS FROM THE DEPARTMENT OF HEALTH INCLUDING BUT NOT LIMITED TO NATIONAL POLLUTION 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.
5. AFTER EACH RAINFALL EVENT, THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM THIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
6. 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, WATER COURSES, NATURAL AREAS AND THE PROPERTY OF OTHERS.
7. 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 PERMITTING REQUIREMENTS OF THE NPDES PERMIT PROGRAM.
8. IN ACCORDANCE WITH CHAPTER 11-46, COMMUNITY NOISE, HAWAII ADMINISTRATIVE RULES, THE CONTRACTOR AND THE PROPERTY OWNER/DEVELOPER 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.
9. 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.
10. 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.

APPROVED

DATE \_\_\_\_\_





2. 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 KAUAI, INCLUDING ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
3. ALL REQUIRED PROJECT SUBMITTALS (MATERIALS, SHOP DRAWINGS, CHLORINATION PLAN, ETC.) SHALL BE APPROVED BY DHHL BEFORE A PRE-CONSTRUCTION CONFERENCE CAN BE SCHEDULED. ONCE ALL PROJECT SUBMITTALS HAVE BEEN APPROVED BY THE DHHL CONSTRUCTION ENGINEER, THE DHHL CONSTRUCTION ENGINEER WILL NOTIFY THE CONTRACTOR THAT A PRECONSTRUCTION CONFERENCE CAN BE ARRANGED. THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE AT LEAST TEN (10) CALENDAR DAYS BEFORE CONSTRUCTION AND SHALL NOTIFY DHHL AT LEAST THREE (3) WORKING DAYS PRIOR TO START OF CONSTRUCTION.
4. 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.
5. THE CONTRACTOR SHALL NOTIFY DHHL AT LEAST 24 HOURS PRIOR TO ANY TRENCHING, PIPE LAYING, BACKFILLING, TESTING OR DISINFECTION ACTIVITIES TO ENSURE THAT INSPECTION SERVICES WILL BE AVAILABLE.
6. 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 DHHL FOR REVIEW AND APPROVAL PRIOR TO ITS APPLICATION.
7. 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.
8. THE CONTRACTOR SHALL PROVIDE UNOBSTRUCTED ACCESS TO EXISTING HYDRANTS, VALVES AND WATER METERS AT ALL TIMES.
9. THE CONTRACTOR SHALL SECURE ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REGULATIONS.
10. 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.
11. TRENCH EXCAVATION, BACKFILLING IN LIFTS, AND REPAVING SHALL CONFORM TO THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AS AMENDED. BACKFILL MATERIAL SHALL BE PER "WATER SYSTEM STANDARDS, 2002." 209.04 UNLESS OTHERWISE SPECIFIED. BACKFILL MATERIAL SHALL BE EVALUATED FOR SUITABILITY BY CONTRACTOR'S GEOTECHNICAL ENGINEER AND APPROVED FOR USE BY THE ENGINEER.
12. 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.
13. 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."
14. UNLESS OTHERWISE DIRECTED, PRIOR TO THE CONNECTION OF ANY PIPELINES AND/OR LATERALS TO THE EXISTING MAIN, THE PIPELINES/LATERALS 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 HAWAII 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 DHHL.

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.

15. POLYURETHANE FOAM "PIGS" SHALL BE "PUSHED" THROUGH THE LENGTH OF THE INSTALLED PIPELINE USING PRESSURIZED WATER.

16. ALL CONNECTIONS SHALL BE SCHEDULED IN COORDINATION WITH DHHL.

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. 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.

17. IN ORDER TO PREVENT DAMAGE TO THE POLYETHYLENE ENCASEMENT FROM EXCESSIVE HANDLING, THE POLYWRAP 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.

18. 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 DHHL, STATE HIGHWAYS DIVISION (FOR WORK DONE WITHIN STATE 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.

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 IS PROHIBITED FOR DHHL 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 (AC) WATERLINES TO BE CONNECTED. CONTRACTOR SHALL VERIFY USE OF PROPER GASKETS PRIOR TO CONNECTION. AC PIPE AND GASKET INFORMATION SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.

23. 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 DHHL FOR REVIEW AND APPROVAL PRIOR TO CONDUCTING THE WORK.
26. ALL CONNECTIONS TO EXISTING AC PIPE SHALL BE AT THE NEAREST AC PIPE JOINT. AC PIPE SHALL BE REMOVED BY ENTIRE LENGTH(S) TO FACILITATE THE CONNECTION. CUTTING OF AC 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. DHHL 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 DHHL CONSTRUCTION ENGINEER FOR REVIEW AND APPROVAL BEFORE MOVING FORWARD WITH INSTALLATION VIA THE SUBMITTAL REVIEW PROCESS.
31. DHHL SHALL BE PROVIDED TWENTY (20) WORKING DAYS FOR ALL SUBMITTAL REVIEWS FROM THE TIME OF SUBMISSION BY THE CONTRACTOR.
- SPECIAL NOTES FOR DHHL OPERATED & MAINTAINED WATER SYSTEM:**
1. THE CONTRACTOR SHALL NOTIFY AQUA ENGINEERS (808-332-7381) AND DHHL LESSEES AND DHHL DESIGN & CONSTRUCTION BRANCH ONE WEEK PRIOR TO TURNING OFF WATER IN THE EXISTING SYSTEM.
2. THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF THE EXISTING TREES (IF NECESSARY) BY THE LESSEE. COORDINATION SHALL PERMIT ADEQUATE TIME TO ALLOW TREE REMOVAL BY THE LESSEE.
- CHLORINATION OF WATER SYSTEMS:**
1. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD FOR DISINFECTING WATER MAINS, ANSI/AWWA C651-99, SECTION 4.4.3, CONTINUOUS FEED METHOD.
2. LIQUID CHLORINE OR CALCIUM HYPOCHLORITE THAT HAS BEEN TESTED AND CERTIFIED AS MEETING THE SPECIFICATIONS OF ANSI/NSF STANDARD 60, DRINKING WATER TREATMENT CHEMICALS-HEALTH EFFECTS, SHALL BE USED FOR THE CHLORINATION OF THE WATER MAINS.
3. PRIOR TO CHLORINATION, THE WATER MAINS SHALL BE THOROUGHLY FLUSHED.
4. THE INTERIOR SURFACES OF THE WATER MAINS SHALL BE EXPOSED TO THE CHLORINATING SOLUTION, BY COMPLETELY FILLING THE MAIN TO REMOVE ALL AIR POCKETS, FOR A MINIMUM OF 24 HOURS AND THE FREE CHLORINE RESIDUAL SHALL NOT BE LESS THAN 10 PPM AFTER SUCH TIME.
5. SHOULD CALCIUM HYPOCHLORITE BE USED, NO SOLID AND/OR UNDISSOLVED PORTION OF THE COMPOUND SHALL BE INTRODUCED INTO ANY SECTION OF THE WATER MAINS TO BE CHLORINATED.
6. AT THE END OF THE 24 HOUR DISINFECTION PERIOD, REPRESENTATIVE SAMPLES SHALL BE TAKEN AND ANALYZED TO ASSURE A FREE CHLORINE RESIDUAL OF AT LEAST 10 PPM.
7. SHOULD THE FREE CHLORINE RESIDUAL RESULTS INDICATE ADEQUATE CHLORINATION, THE WATER MAINS SHALL BE THOROUGHLY FLUSHED AND FILLED WITH WATER FROM THE EXISTING SYSTEM AND AGAIN TESTED FOR FREE CHLORINE RESIDUAL. THE FLUSHING SHALL BE CONSIDERED ADEQUATE IF THE FREE CHLORINE RESIDUAL TEST RESULTS INDICATE THAT THE WATER IN THE WATER MAINS HAVE A COMPARABLE CHLORINE RESIDUAL AS THE WATER IN THE EXISTING SYSTEM.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF CHLORINATED WATER TO SAFEGUARD PUBLIC HEALTH AND ENVIRONMENT IN ACCORDANCE WITH APPLICABLE STATE DEPARTMENT OF HEALTH REQUIREMENTS. A NEUTRALIZING CHEMICAL SHALL BE APPLIED TO THE WATER TO BE WASTED TO THOROUGHLY NEUTRALIZE THE CHLORINE RESIDUAL REMAINING IN THE WATER IN ACCORDANCE WITH AWWA C651-99, SECTION 4.5.2, AND APPENDIX C.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH, PRIOR TO THE START OF CONSTRUCTION FOR THE DISPOSAL OF WATER USED FOR HYDROTESTING AND CHLORINATION.
11. FOLLOWING THE ACCEPTABLE FLUSHING OF THE WATER MAINS, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES, TAKEN AT LEAST 24 HOURS APART FROM REPRESENTATIVE POINTS, SHALL BE SUBJECTED TO MICROBIOLOGICAL TESTS (TOTAL AND FECAL COLIFORM). FOR WATERLINES, AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED FROM EVERY 1,200 FEET OF THE NEW WATER MAIN, PLUS ONE FROM THE END OF THE LINE AND AT LEAST ONE SET FROM EACH BRANCH. POSITIVE OR INVALID TEST RESULTS WILL NOT BE ACCEPTABLE AND THE PROCESS WILL BE REPEATED.
12. ALL MEASUREMENTS FOR CHLORINE RESIDUAL SHALL BE ANALYZED USING E.P.A. APPROVED METHODS FOR DRINKING WATER.
13. ALL MICROBIOLOGICAL TEST SHALL BE PERFORMED BY A LABORATORY APPROVED BY THE DEPARTMENT OF HEALTH, STATE OF HAWAII.
14. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ALL OF THE FOREGOING.
15. SEE ANSI/AWWA C651-99, SECTION 4.3.6 FOR SWABBING CHLORINATION PROCEDURES.

THE GENERAL CONTRACTOR/DEVELOPER/OWNER OF THE PROJECT SHALL OBTAIN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT COVERAGE(S) FOR THE FOLLOWING:

1. STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES THAT DISTURB ONE (1) ACRE OR MORE, AND
2. DISCHARGES OF HYDROTESTING EFFLUENT, DEWATERING EFFLUENT, AND WELL DRILLING EFFLUENT TO STATE WATERS.

IN ACCORDANCE WITH STATE LAW, ALL DISCHARGES RELATED TO PROJECT CONSTRUCTION OR OPERATION ARE REQUIRED TO COMPLY WITH STATE WATER QUALITY STANDARDS (HAWAII ADMINISTRATIVE RULES, CHAPTER 11- 54). BEST MANAGEMENT PRACTICES SHALL BE USED TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENT, DEBRIS, AND OTHER POLLUTANTS TO STATE WATERS. PERMIT COVERAGE IS AVAILABLE FROM THE DEPARTMENT OF HEALTH, CLEAN WATER BRANCH AT:  
<http://health.hawaii.gov/cwb/>

THE GENERAL CONTRACTOR/DEVELOPER/OWNER IS RESPONSIBLE FOR OBTAINING OTHER  
FEDERAL, STATE, OR LOCAL AUTHORIZATIONS AS REQUIRED BY LAW.

1. ALL MATERIALS (PIPE, PIPE LUBRICANTS, PAINTS, SEALANTS, FORM OIL, CONCRETE ADMIXTURES, ETC.) IN DIRECT CONTACT WITH THE POTABLE WATER SHALL HAVE NATIONAL SANITATION FOUNDATIONS (NSF) APPROVALS. THE CONTRACTOR SHALL SUBMIT THESE APPROVALS TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ITS APPLICATION.

DESIGNED BY: <b>JM</b>	DRAWING NO. <b>T-4</b>
DRAWN BY: <b>GT</b>	
CHECKED BY: <b>JM</b>	
APPROVED BY: <b>PS</b>	
DATE: <b>APR. 2018</b>	
SHEET NO. <b>4</b> OF <b>30</b>	



DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHIL-WATER\_SYSTEM\_IMPROVEMENTS\0 GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\PHASE I - WA EDIT TIME: 03-23-18, 11:40 AM EDITED BY: GTOKUMI

TRENCHING NOTES:

- PERFORM ALL WORK IN A NEAT AND WORKMANLIKE MANNER AND IN CONFORMITY WITH THE PROVISIONS OF CHAPTER 14, REVISED ORDINANCE OF HONOLULU 1990, AS AMENDED, OR AS MANY BE SUBSEQUENTLY AMENDED.
- BEFORE PAVEMENT RESTORATION MAY COMMENCE, NOTIFY THE ENGINEER AND FURNISH DATA ON TESTS PERFORMED UNDER THE SUPERVISION OF A REGISTERED CIVIL ENGINEER SUBSTANTIATING THAT THE BACKFILL HAS BEEN COMPACTED TO THE DENSITY SPECIFIED IN THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION FOR ALL TRENCHES THAT ARE OVER 2 FEET IN DEPTH IN MAJOR AND SECONDARY STREETS AND FOR ALL TRENCHES OVER FIFTY FEET IN LENGTH AND OVER 2 FEET IN DEPTH IN MINOR AND DEAD END STREETS. THE DIRECTOR MAY ALSO REQUIRE COMPACTION TESTS OF BACKFILL FOR HOLES AND FOR TRENCHES OF LESS THAN 2 FEET IN DEPTH AND ADDITIONAL COMPACTION TESTS ON TRENCHES FOR WHICH THE PERMITTEE HAS FURNISHED TEST DATA.
- OPEN-CUT TRENCHES SHALL BE COVERED DURING NON-WORKING HOURS TO SAFELY SUPPORT AND MAINTAIN LEGAL VEHICULAR TRAFFIC LOADS.
- ACCOMPLISH EMERGENCY WORK INCLUDING BUT NOT LIMITED TO PATCHING HOLES, REPAIRING TEMPORARY TRENCH COVERS AND INSTALLATION OF WARNING LIGHTS OR BARRICADES WHEN THE "CONTACT FOR EMERGENCY REPAIRS" FURNISHED BY THE APPLICANT IS NOTIFIED. IF THE EMERGENCY WORK IS NOT MADE IN A REASONABLE TIME WHEN NOTIFIED OR UPON FAILURE OF THE "CONTACT FOR EMERGENCY REPAIRS," RESPOND AND PAY THE COST OF THE EMERGENCY WORK MADE BY THE DEPARTMENT OF FACILITY MAINTENANCE, DIVISION OF ROAD MAINTENANCE.
- UNDERTAKE, FOR A PERIOD OF ONE (1) YEAR AFTER THE SATISFACTORY COMPLETION AND APPROVAL OF RESTORATION WORK, ANY NECESSARY REPAIRS TO THE RESTORED WORK OR FACILITIES DISTURBED AND/OR BY THE WORK PERFORMED UNDER THIS PERMIT.
- REMOVE, RELOCATE, REPLACE, RECONSTRUCT OR ADJUST, AT HIS/HER OWN EXPENSE, ANY OF HIS/HER FACILITIES THAT MAY EXIST ON OR UNDER THE RIGHT-OF-WAY WHENEVER AND AS OFTEN AS MAY BE REQUIRED BY THE DIRECTOR OR AN AUTHORIZED REPRESENTATIVE IN ORDER TO UNDERTAKE THE CONSTRUCTION, RECONSTRUCTION OR MAINTENANCE OF SAID RIGHT-OF-WAY.
- KEEP ALL FACILITIES INSTALLED IN GOOD REPAIR SO THAT THE PRESENCE OF SUCH FACILITY ON OR UNDER THE RIGHT-OF-WAY WILL IN NO WAY IMPAIR THE USE OR USEFULNESS OF ANY IMPROVEMENT WHICH MAY NOW EXIST OR HEREAFTER COME INTO EXISTENCE.
- KEEP A COPY OF THE PLANS IN THE HANDS OF THE WORKING CREW FOR EXHIBIT UPON REQUEST OF ANY AUTHORIZED REPRESENTATIVE.
- SUBMIT AS-BUILT DRAWINGS TO THE ENGINEER SHOWING THE ACTUAL CONSTRUCTION PERFORMED.

SANDWICH ISLES COMMUNICATIONS (SIC) NOTES

- THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL EXERCISE CAUTION AND SHALL MAINTAIN PROPER CLEARANCES WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY TO SANDWICH ISLES COMMUNICATIONS, INC. (SIC) FACILITIES.
- PRIOR TO EXCAVATING AND DRILLING OPERATIONS, THE CONTRACTOR SHALL CALL INTO HAWAII'S ONE CALL CENTER AND SHALL COMPLY WITH HAWAII REVISED STATUTES CHAPTER 269C. CONTACT HAWAII ONE CALL AT 1-866-423-7287.
- IF REQUIRED, ADJUSTMENTS SHALL BE MADE TO NEW CONSTRUCTION TO PROVIDE REQUIRED CLEARANCES FROM SIC FACILITIES.
- A SIC INSPECTOR OR DESIGNATED REPRESENTATIVE IS REQUIRED TO BE PRESENT DURING HORIZONTAL DIRECTIONAL DRILLING OPERATIONS WHICH CROSS ANY STRUCTURE OR CONDUIT SYSTEM THAT CONTAIN SIC FACILITIES. TEMPORARY DUCT OR CABLE SUPPORT SHALL BE PROVIDED WHEREVER NECESSARY OR REQUIRED BY SIC INSPECTOR.
- THE CONTRACTOR SHALL NOTIFY SIC AT LEAST 72 HOURS PRIOR TO EXCAVATION, BRACING, BACKFILLING OR CROSSING OF SIC FACILITIES. TO SCHEDULE AN INSPECTOR, CONTACT SIC PROJECT MANAGER, LILY DURAN, AT 808-284-3683 OR SIC CUSTOMER SERVICE AT 1-888-995-7274. ON OAHU CALL 540-5754.
- WHEN EXCAVATION IS ADJACENT TO, ABOVE OR BELOW SIC FACILITIES, THE CONTRACTOR SHALL:
  - SHEET AND/OR BRACE THE EXCAVATION TO PREVENT SLIDES, CAVE-INS, OR SETTLEMENTS TO ENSURE NO MOVEMENT OR IMPACT TO SIC FACILITIES.
  - SUPPORT EXISTING STRUCTURES AND/OR FACILITIES WITH BEAMS, STRUTS, OR UNDERPINNING WHILE EXCAVATING AROUND OR BENEATH THEM TO PREVENT ANY MOVEMENT OR IMPACT TO SIC FACILITIES.

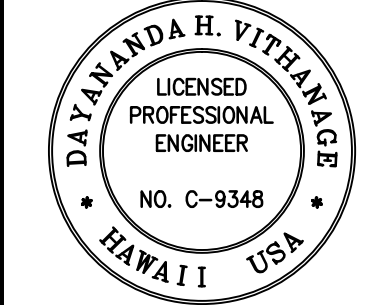
KAUA'I ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION NOTES

UNDERGROUND CONSTRUCTION NOTES AND REQUIREMENTS

- THESE NOTES ARE NOT INTENDED TO BE USED IN PLACE OF THE SERVICE INSTALLATION MANUAL, PLEASE REFER TO SERVICE INSTALLATION MANUAL FOR ALL SERVICE ISSUES.
- CONTRACTOR SHALL CONTACT KAUAI ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION COORDINATOR/INSPECTOR PRIOR TO START OF WORK ON KIUC FACILITIES AND FOR SCHEDULING SITE INSPECTIONS. (WESTSIDE: 246-2323; EASTSIDE: 246-4343)
- CONTRACTOR SHALL CONTACT KIUC'S DISTRIBUTION PLANNING COORDINATOR @ 246-2373 FOR DESIGN APPROVALS, STANDARD DETAIL DRAWINGS, AND ANY ITEMS NOT ADDRESSED IN THESE NOTES OR DRAWINGS.
- ALL CONTRACTORS ENTERING KIUC FACILITIES MUST BE APPROVED BY KIUC AND MUST HAVE PROPER LICENSING AND INSURANCE COVERAGE. CONTACT KIUC LEGAL COORDINATOR @ 246-4369 FOR DETAILS.
- ALL TRENCHES AND PULLBOXES MUST BE INSPECTED BY KIUC PRIOR TO BACKFILLING AND CONCRETE-ENCASING OPERATIONS. FOR DETAILED TRENCHING AND BACKFILLING REQUIREMENTS REFER TO KIUC'S SERVICE INSTALLATION MANUAL.
- THE CONTRACTOR SHALL PROVIDE A POLY-LINE 200 LB. TEST LINE OR EQUIVALENT AS A PULLING WIRE IN ALL 1 INCH, 2 INCH, 3 INCH AND 4 INCH CONDUITS. IN 5 INCH AND 6 INCH CONDUITS, THE CONTRACTOR SHALL INSTALL NEPTCO WP1800 MULETAPE AS A PULLING LINE.
- ALL CONDUITS, PULLBOXES, HANDHOLES &' MANHOLES SHALL BE CLEANED AND FREE FROM OBJECTIONABLE MATERIALS. CONDUIT ENDS SHALL BE ADEQUATELY COVERED UNTIL THE CONDUCTOR IS INSTALLED BY THE ELECTRIC COMPANY. (COVERS SHALL BE CARLON PLUG WITH PULL TAB SERIES P25B EQUIVALENT OR BETTER)
- FOR ALL CONDUIT OTHER THAN SERVICES, REFER TO CONDUIT SCHEDULE ON DRAWINGS.
- FOR ALL SERVICES WHERE THE CONDUCTOR IS 1/0 OR LESS, THE DISTANCE FROM KIUC'S HANDHOLE AND CUSTOMER'S METER IS LESS THAN 125 FEET, AND NOT CROSSING ANY DRIVEWAYS OR ROADS THE CONDUIT SHALL BE 2 INCH SCHEDULE 40 PVC. FOR SERVICES GREATER THAN 125 FEET, CONTACT KIUC PLANNER FOR FIELD VERIFICATION AND UNDERGROUND SERVICE REQUIREMENTS. ANY DEVIATIONS WILL REQUIRE KIUC WRITTEN APPROVAL.
- PRIMARY AND SECONDARY CONDUITS FOR NEW LINE EXTENSIONS SHALL BE SCHEDULE 40 PVC. (CARLON P&C DUCT TYPE DB EQUIVALENT OR BETTER.) UNDER DRIVEWAYS AND ROADWAYS, THE CONDUITS SHALL BE ENCASED IN A MINIMUM OF 3 INCH CONCRETE JACKET EXTENDING 12 INCHES OUTSIDE THE EDGE OF THE PAVEMENT.
- SCHEDULE 80 PVC CONDUIT MAY BE SUBSTITUTED FOR THE CONCRETE ENCASED SCHEDULE 40 PVC FOR SERVICE CONDUIT ONLY CROSSING UNDER UNPAVED PRIVATE DRIVEWAYS AND ROADWAYS FROM KIUC POLE/HANDHOLE TO CUSTOMER'S METER. IF CONCRETE DRIVEWAY WILL BE BUILT OVER SERVICE CONDUIT IMMEDIATELY AFTER CONDUIT IS INSTALLED, THEN SCHEDULE 40 PVC MAY BE USED PROVIDED THAT IT MEETS WITH RULE NO. 21.
- ALL PRIMARY AND SECONDARY CONDUITS WHICH ARE CROSSING STATE OR COUNTY ROADWAYS SHALL BE SCHEDULE 40 PVC ENCASED IN A MINIMUM 3 INCH CONCRETE JACKET, WHICH SHALL EXTEND A MINIMUM OF 12 INCHES OUTSIDE OF THE EDGE OF PAVEMENT.
- ELECTRICAL SUPPLY DUCTS, WHEN INSTALLED NEAR COMMUNICATION CABLES, SHALL BE SEPARATED FROM COMMUNICATION DUCT SYSTEMS AND BURIED COMMUNICATION CABLES OR CONDUCTORS BY NOT LESS THAN 3 INCHES OF CONCRETE OR 12 INCHES OF EARTH WHEN PARALLELING OR CROSSING.
- CHAIRS SHALL BE INSTALLED AND SPACED AT A MAXIMUM OF 5 FEET SEPARATION WHEN CONCRETE ENCASING CONDUITS.
- ALL CONDUITS SHALL ENTER BOXES AT A 90 DEGREE ANGLE, PERPENDICULAR AND FLUSH TO THE WALL WITH BELL ENDS TO PREVENT CABLE DAMAGE.
- 90 DEGREE CONDUIT BENDS SHALL BE FACTORY-MADE WITH A MINIMUM RADIUS OF 3 FEET IN TRENCH RUNS.
- CONDUIT BENDS EXCEEDING 90 DEGREES WILL NOT BE ACCEPTED
- A 36 INCH MINIMUM HORIZONTAL CLEARANCE SHALL BE MAINTAINED WHEN RUNNING KIUC CONDUITS PARALLEL TO WATER &' SEWER LINES. IF CLEARANCE IS LESS THAN 36 INCHES, KIUC CONDUIT SHALL BE CONCRETE ENCASED.
- NO FOREIGN PULL BOXES, HANDHOLES, MANHOLES, CONCRETE SLABS/BOXES, STRUCTURES, ETC. ARE TO BE INSTALLED OVER KIUC FACILITIES WITH THE EXCEPTION OF HAWAIIAN TELCOM, CA TV OR WATERLINE CONDUIT CROSSINGS. SUCH CROSSING MUST BE APPROVED BY KIUC'S SERVICE ASSURANCE DEPARTMENT AND KIUC CONDUIT TO BE CONCRETE ENCASED. CONCRETE ENCASEMENT MUST BE MINIMUM OF 3 INCH ENCASEMENT AND EXTEND A MINIMUM OF 1 FOOT BEYOND CROSSING CONDUIT OR PIPE.

KAUA'I ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION NOTES

- YELLOW MARKER TAPE TO BE PLACED 1 FOOT ABOVE ELECTRICAL CONDUITS IN THE TRENCH DURING BACKFILLING. (E-Z CODE WBT 6 INCH WIDE 4 MIL POLYETHYLENE PROTECT-A-LINE WARNING TAPE NA-0708 "ELECTRIC LINE" IN YELLOW, EQUIVALENT OR BETTER}
- UNLESS OTHERWISE NOTED, THE TOP OF ALL CONDUITS SHALL BE AT A DEPTH OF 24 INCHES.
- ALL HANDHOLES, PULLBOXES, AND MANHOLES SHALL BE WALKER INDUSTRIES TYPE OR APPROVED EQUAL. CONTACT KIUC PRIOR TO ORDERING UNDERGROUND BOXES FOR VENDOR APPROVAL. CUSTOMER TO SUBMIT MANUFACTURER'S SHOP DRAWINGS IF SUBSTITUTING FROM WALKER INDUSTRIES TYPE.
- TYPICALLY, THE TOP OF ALL ELECTRICAL UTILITY BOXES SHALL BE 1 INCH ABOVE FINISH GRADE, SINGLE PHASE TRANSFORMER PADS SHALL BE 2 INCHES ABOVE FINISH GRADE, AND THREE PHASE TRANSFORMER PADS SHALL BE 4 INCHES ABOVE FINISH GRADE. UNLESS OTHERWISE NOTED {SPECIAL CONDITIONS MAY APPLY TO SIDEWALKS, ROADWAYS, ETC., SEE SPECIFIC LOCATION NOTATION}
- AT NO TIME SHALL CEMENT MORTAR, WOOD, OR ANY OTHER MATERIAL BE USED BETWEEN PRE-CAST SECTIONS OF KIUC PULLBOXES, HANDHOLES, OR MANHOLES. THE PERMANENT INSTALLATION OF WOODEN WEDGES TO LEVEL OR RAISE THE PRE-CAST SECTIONS SHALL NOT BE PERMITTED.
- A MINIMUM OF 6 INCHES OF #3 CRUSHED ROCK BACKFILL SHALL BE PLACED LOOSELY BENEATH THE BOTTOM SECTION OF HANDHOLES AND PULLBOXES. CRUSHED ROCK OR OTHER FOREIGN MATERIALS ARE NOT TO BE PLACED INSIDE HANDHOLES AND PULLBOXES.

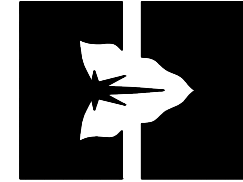


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *[Signature]* Expiration Date of the License: 4/30/20



					APPROVED
					MADE BY
					DESCRIPTION
					DATE
					REVISION



DEPARTMENT OF HAWAIIAN HOME LANDS  
915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

ANAHOLA FARM LOTS

Water Line Replacement  
Anahola, Island of Kaua'i  
TMK:  
4-8-005:039, 4-8-018:027  
& 4-8-021:032

NOTES

DESIGNED BY: <u>JM</u>	DRAWING NO. <u>T-5</u>
DRAWN BY: <u>GT</u>	
CHECKED BY: <u>JM</u>	
SURVEYED BY: <u>PS</u>	DATE: <u>APR. 2018</u>
SHEET NO. <u>5</u>	OF <u>30</u>

FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT



DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI\WATER\_SYSTEM\_IMPROVEMENTS\05-FINAL - BID DOCUMENTS\PHASE I - WA EDIT TIME: 03-23-18, 11:40 AM EDITED BY: GTOKUMI

ABBREVIATIONS:

AC ASPHALT CONCRETE  
ACP ASBESTOS CONCRETE PIPE  
AD AMERICANS WITH DISABILITIES ACT  
AL ALUMINUM  
& AND  
APPROX APPROXIMATE  
ARV AIR RELIEF VALVE  
® AT  
AWWA AMERICAN WATERWORKS ASSOCIATION

BC AGGREGATE BASE COURSE  
® BASELINE  
BB BOTTOM BANK  
BFP BACKFLOW PREVENTER  
BLDG BUILDING  
BLK BLOCK  
BM BENCH MARK  
BMP BEST MANAGEMENT PRACTICES  
BOT BOTTOM  
BV BOTTOM VERTICAL  
BVC BEGIN VERTICAL CURVE  
BW BOTTOM WALL

Ch CHORD  
© CENTERLINE  
CA CENTRAL ANGLE  
CB CATCH BASIN  
CC CORP COCK  
CF CUBIC FEET  
CFS CUBIC FEET PER SECOND  
CH CHORD LENGTH (CURVE)  
CI CAST IRON  
CLF CHAIN LINK FENCE  
CM COMMUNICATION MANHOLE  
CMP CORRUGATED METAL PIPE  
CMU CONCRETE MASONRY UNIT  
CNO "CANNOT OPEN"  
CO CLEAN OUT  
CONC CONCRETE  
CONN CONNECT  
CONSTR CONSTRUCTION  
CONT CONTINUOUS, CONTINUATION  
CONT'D CONTINUED  
CP CONTROL POINT, CONCRETE POST  
CRM CONCRETE RUBBLE MASONRY  
CSP COUNTY STANDARD PIPE  
CU COPPER  
CY CUBIC YARD

D= APPROXIMATE DIAMETER  
ø, DIA DIAMETER  
DET DETAIL  
DIP DUCTILE IRON PIPE  
DL DRAINLINE  
DMH DRAIN MANHOLE  
DPW DEPARTMENT OF PUBLIC WORKS  
DWG(S) DRAWING(S)  
DW DRIVEWAY  
DY DOUBLE YELLOW LINE

E EAST, EASTING  
EA EACH  
EC END CURVE  
ECP EDGE OF CONCRETE PAVEMENT  
EF EACH FACE  
EG EXISTING GROUND  
ELEC ELECTRIC, ELECTRICAL  
ELEV, EL ELEVATION  
EMB EMBANKMENT  
EMH ELECTRIC MANHOLE  
EOW EDGE OF WATER  
EP EDGE OF PAVEMENT  
EPB ELECTRIC PULLBOX  
ER EDGE OF ROAD  
EVC END VERTICAL CURVE  
EW EACH WAY  
EXC EXCAVATION  
EXIST, EX EXISTING  
EXP JT EXPANSION JOINT  
EQ EQUAL

FB FIELD BOOK  
FE FLANGE END  
FG FINISH GROUND  
FH FIRE HYDRANT  
FIN FINISH  
FL FLOW LINE  
FS FINISHED SURFACE  
FT FEET

G,GR,GRD GRADE, GROUND  
GI GALVANIZED IRON

GALV GALVANIZED  
GB GRADE BREAK  
GMH GAS MANHOLE  
GP GATE POST  
GRND GROUND  
GRP GROUTED RUBBLE PAVING  
GRVL GRAVEL  
GS GALVANIZED STEEL  
GUY GUY WIRE ANCHOR

H HEIGHT, HIGH, HORIZONTAL  
H= APPROXIMATE HEIGHT  
HBV HORIZONTAL BOTTOM VERTICAL  
HDWL HEADWALL  
HDPE HIGH DENSITY POLYETHYLENE  
HOR, HORIZ HORIZONTAL  
HP HIGH POINT  
HR HOUR  
HTV HORIZONTAL TOP VERTICAL  
HTW HOLLOW TILE WALL

ID INSIDE DIAMETER  
IE THAT IS  
IN INCH (ES)  
INV INVERT  
IP IRON PIPE  
IPT INTERNAL PIPE THREAD

K RATE OF CURVATURE  
KV KILO-VOLT

L LEFT, LENGTH  
LB POUND  
Lc LENGTH OF CURVE (CURVE LENGTH)  
LF LINEAR FEET  
LP LOW POINT  
Lt LEFT

M&O MAINTENANCE AND OPERATION  
MAX MAXIMUM  
MB METER BOX  
MHHW MEAN HIGHER HIGH WATER  
MIN MINIMUM  
MJ MECHANICAL JOINT  
MLLW MEAN LOWER LOW WATER  
MON MONUMENT  
MPT MALE END PIPE THREAD  
MRP MORTARED RUBBLE PAVING  
MSL MEAN SEA LEVEL

N NORTHING  
NIC NOT IN CONTRACT  
NTS NOT TO SCALE

OC ON CENTER  
OD OUTSIDE DIAMETER  
OH OVERHEAD  
OS, O/S OFFSET

PAV'T PAVEMENT  
PC, POC POINT OF CURVATURE  
PCC POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE  
PE PLAIN END  
PFC POUNDS PER CUBIC FOOT  
% PERCENT  
PH PHONE  
PI POINT OF INTERSECTION  
PK PARKER-KALON FASTENER  
PL PLATE  
PL PROPERTY LINE  
PM POST MERIDIAN  
PNE PINE  
PNRS PROJECT NOTIFICATION & REVIEW SYSTEM  
PP POWER POLE  
PRC POINT OF REVERSE CURVE  
PRV PRESSURE REDUCING VALVE  
PRVC POINT OF REVERSE VERTICAL CURVE  
PT POINT OF TANGENCY, POINT  
PVI POINT OF VERTICAL INTERSECTION  
PVC POLYVINYL CHLORIDE, POINT ON VERTICAL CURVE  
PSF POUNDS PER SQUARE FOOT  
PSI POUNDS PER SQUARE INCH

R RADIUS  
RC REINFORCED CONCRETE  
RCJ REINFORCED CONCRETE JACKET  
RCP REINFORCED CONCRETE PIPE  
RD ROAD  
REINF REINFORCEMENT  
REF REFERENCE  
REQD REQUIRED  
RP ROYAL PALM

RPM RAISED PAVEMENT MARKER  
Rt RIGHT  
ROW RIGHT-OF-WAY

S= APPROXIMATE SIZE, SLOPE  
SCHD SCHEDULE  
SE SCREWED END  
SF SQUARE FEET (FOOT)  
SHLDR SHOULDER  
SHT(S) SHEET(S)  
SLP, S SLOPE  
SIM SIMILAR  
SMH SEWER MANHOLE  
SSL SINGLE SERVICE LATERAL  
STD STANDARD  
STA STATION  
SWL SWALE  
SW SIDEWALK  
SY SQUARE YARD  
SYMM SYMMETRICAL

T TANGENT, TELEPHONE  
TB TOP BANK  
TC TOP CONCRETE  
TCP TRAFFIC CONTROL PLAN  
TEL TELEPHONE  
THK THICK  
THRD, THD THREAD  
TMH TELEPHONE MANHOLE  
TP TOP PAVEMENT  
TR TOP RIPRAP  
TS= TOP STEM=  
TV= TOP VALVE=  
TV TOP VERTICAL  
TW TOP WALL  
TYP TYPICAL

UON UNLESS OTHERWISE NOTED  
UP UTILITY POLE  
US UNITED STATES

VAR. VARIABLE, VARIOUS  
VIF VERIFY IN FIELD  
V,VER,VERT VERTICAL  
VC VERTICAL CURVE  
VPC,VPI,VPT VERTICAL POINT OF CURVATURE, INTERSECTION, TANGENCY

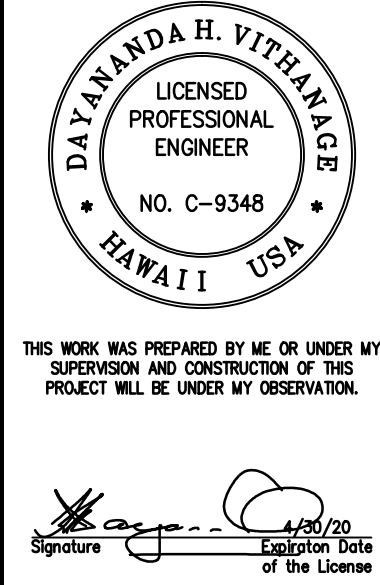
W WIDTH  
W/ WITH  
W/L WATERLINE  
WL WHITE LINE  
WMB WATER METER BOX  
WMH WATER MANHOLE  
W/O WITHOUT  
WP WORK POINT, WOOD POST  
WSS WATER SYSTEM STANDARDS, STATE OF HAWAII, DATED 2002 (AS AMENDED)  
WV WATER VALVE  
W/W WALKWAY

VB VALVE BOX

LEGEND:

--- W<sub>6</sub>(PER-PLAN) --- EXIST. WATER LINE  
⊗ EXIST. WATER VALVE  
⊗ EXIST. FIRE HYDRANT  
⊗ EXIST. BACKFLOW PREVENTER  
⊗ EXIST. SERVICE LATERAL & METER BOX  
--- W<sub>8</sub> --- NEW WATER LINE  
⊗ NEW WATER VALVE  
⊗ NEW FIRE HYDRANT  
⊗ NEW BACKFLOW PREVENTER  
⊗ NEW SERVICE LATERAL & METER BOX  
○ UTILITY POLE  
△ STREET SIGN  
--- --- PROPERTY LINE  
--- ○ --- CHAIN LINK FENCE

||||| A.C. REPAVE  
||||| CONCRETE  
☀ ☀ ☀ VARIOUS TREES



					APPROVED
					MADE BY
					DESCRIPTION
					DATE
					REVISION

  
DEPARTMENT OF  
HAWAIIAN HOME LANDS  
915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

ANAHOLA  
FARM LOTS

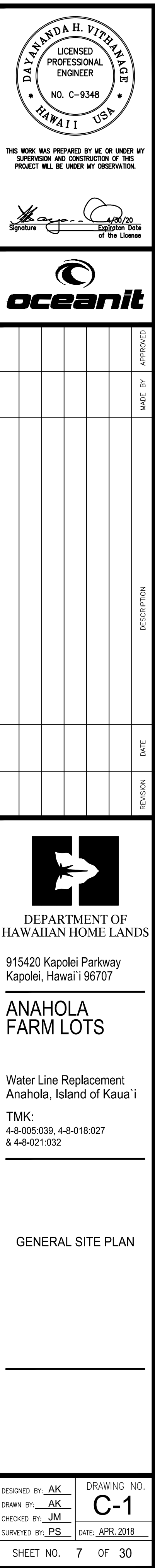
Water Line Replacement  
Anahola, Island of Kaua'i  
TMK:  
4-8-005:039, 4-8-018:027  
& 4-8-021:032

ABBREVIATIONS  
& LEGEND

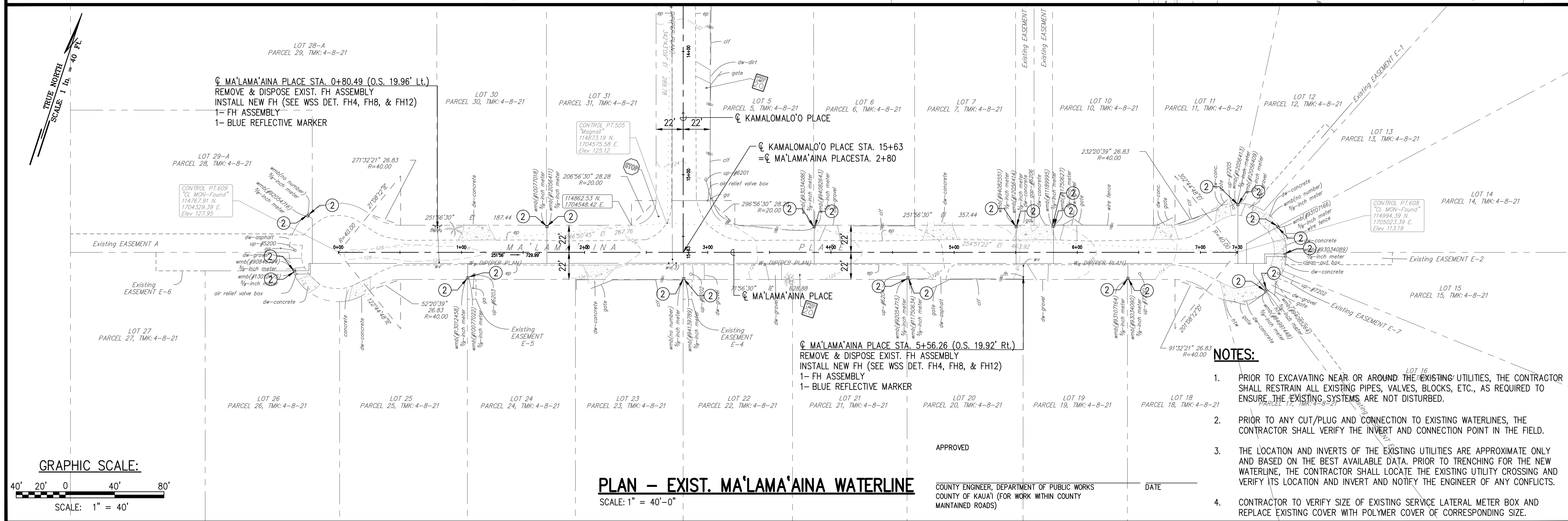
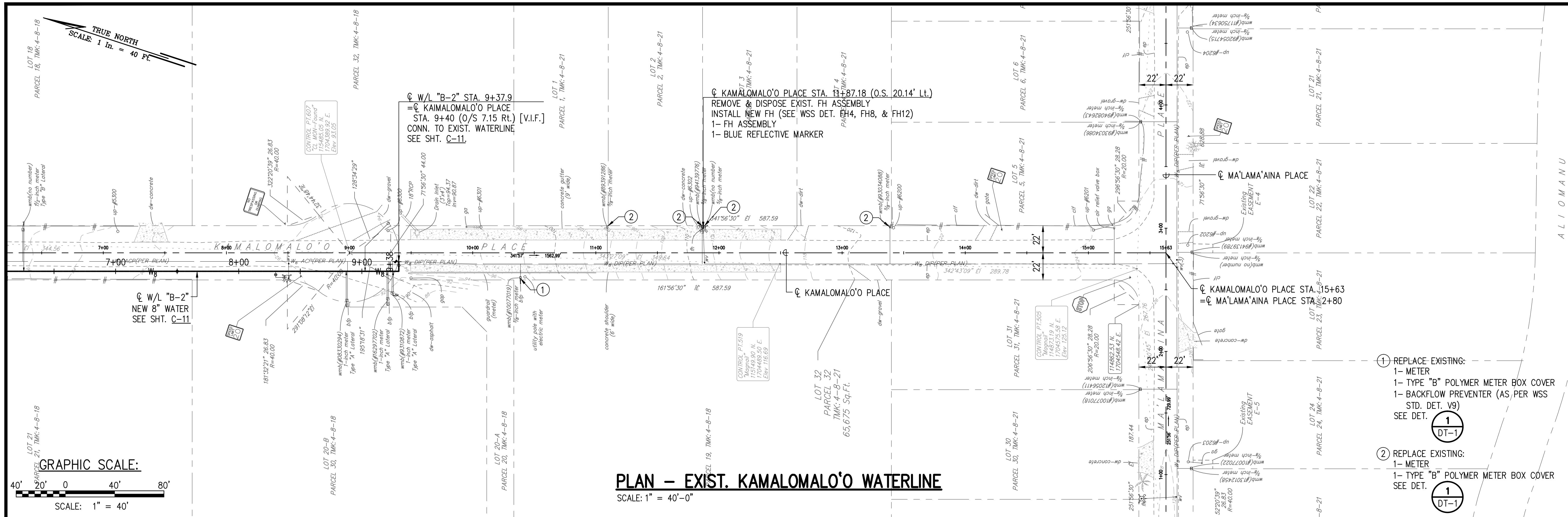
DESIGNED BY: JM	DRAWING NO.
DRAWN BY: GT	T-6
CHECKED BY: JM	DATE: APR. 2018
SURVEYED BY: PS	
SHEET NO. 6	OF 30

FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT



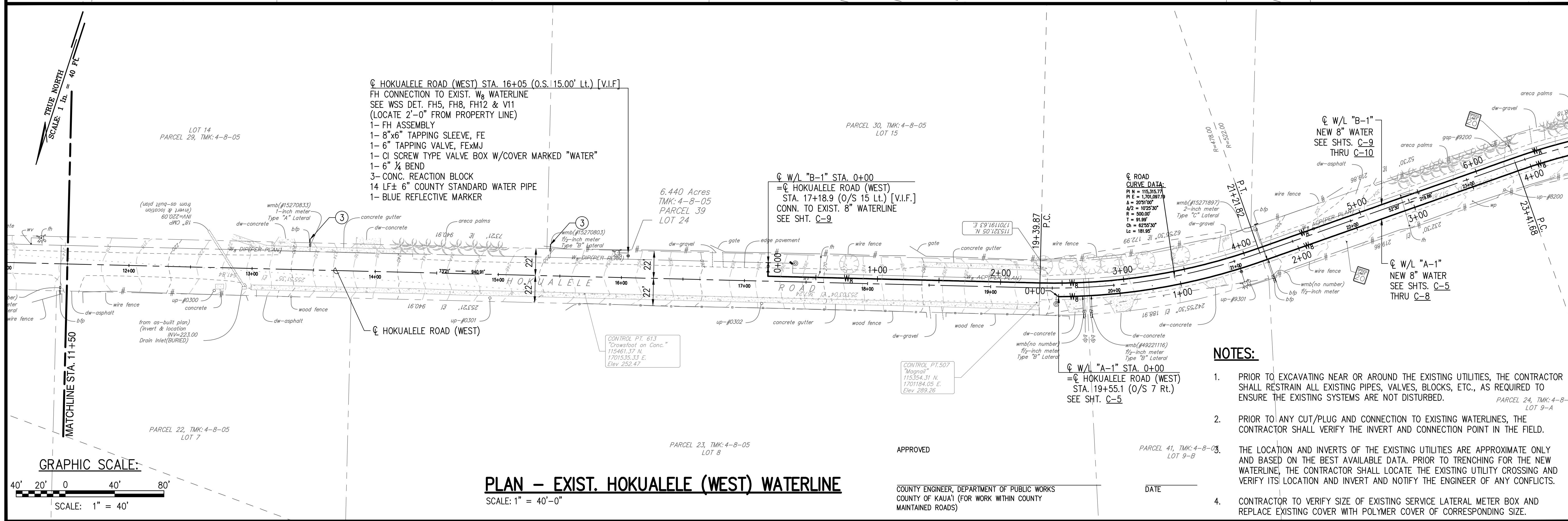
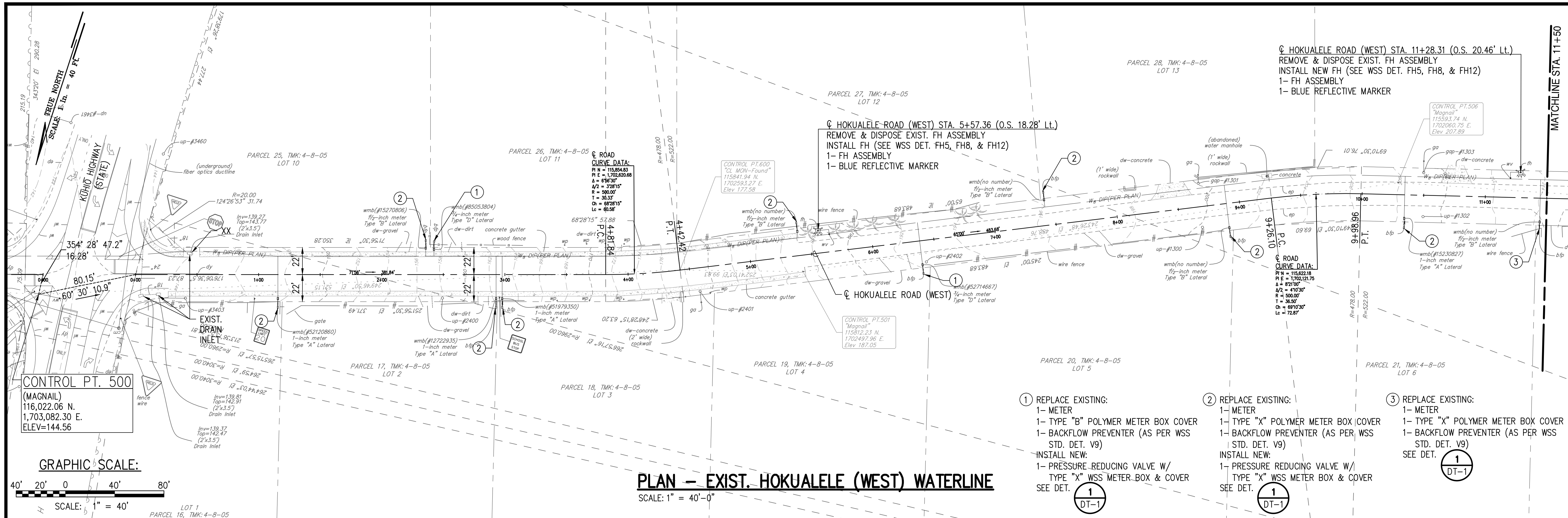






 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  <div style="display: flex; justify-content: space-between;"> <span><i>[Signature]</i></span> <span>APR 20 / 20</span> </div> <p style="font-size: small;">_____ Signature                  Expiration Date of the License</p>									
									REVISION
									DATE
									DESCRIPTION
									MADE BY
									APPROVED
<div style="text-align: center;">   <b>DEPARTMENT OF HAWAIIAN HOME LANDS</b> </div> <hr/> 915420 Kapolei Parkway Kapolei, Hawai'i 96707									
<div style="position: absolute; top: -40px; left: 50%; transform: translateX(-50%);"><b>ANA'OLA FARM LOTS</b></div> <div style="position: absolute; bottom: 0; right: 0; width: 100%;">             Water Line Replacement              Anahola, Island of Kauai           </div>									
TMK: 4-8-005:039, 4-8-018:027 & 4-8-021:032									
<b>EXISTING WATERLINE IMPROVEMENTS:</b> KAMALOMALO'O PLACE & MA'LAMA'AINA PLACE									
<small>DESIGNED BY:</small> AK <small>DRAWN BY:</small> JM <small>CHECKED BY:</small> JM <small>SURVEYED BY:</small> PS					<small>DRAWING NO.</small> <h2 style="margin: 0;">C-2</h2> <small>DATE:</small> APR. 2018				
<div style="display: flex; justify-content: space-around;"> <span>SHEET NO.</span> <span>8</span> <span>OF</span> <span>30</span> </div>									



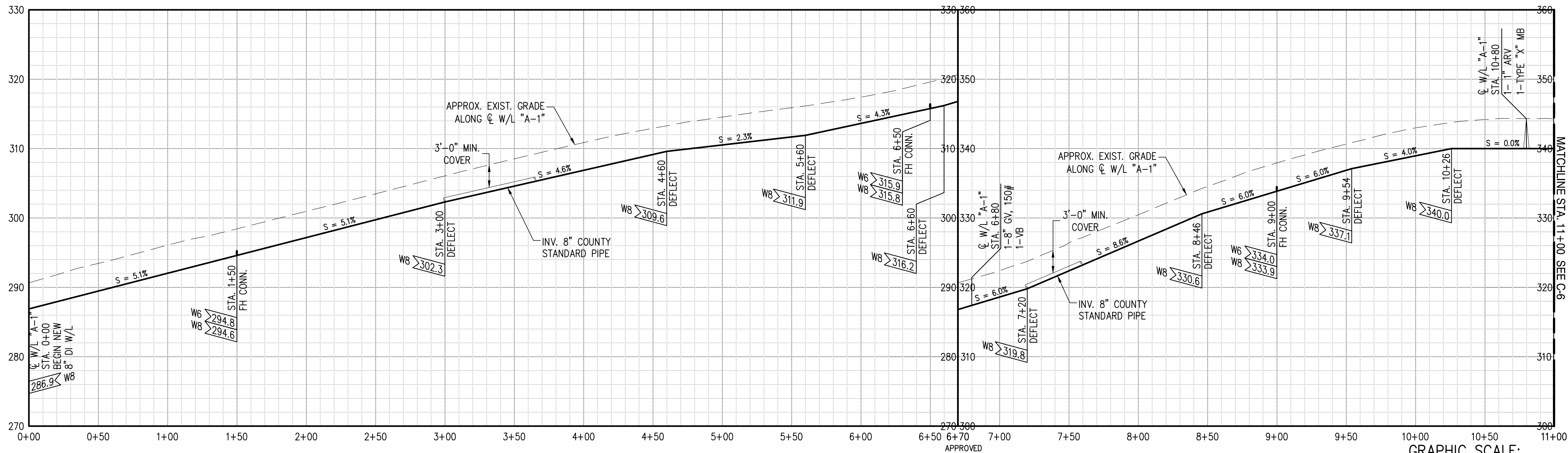
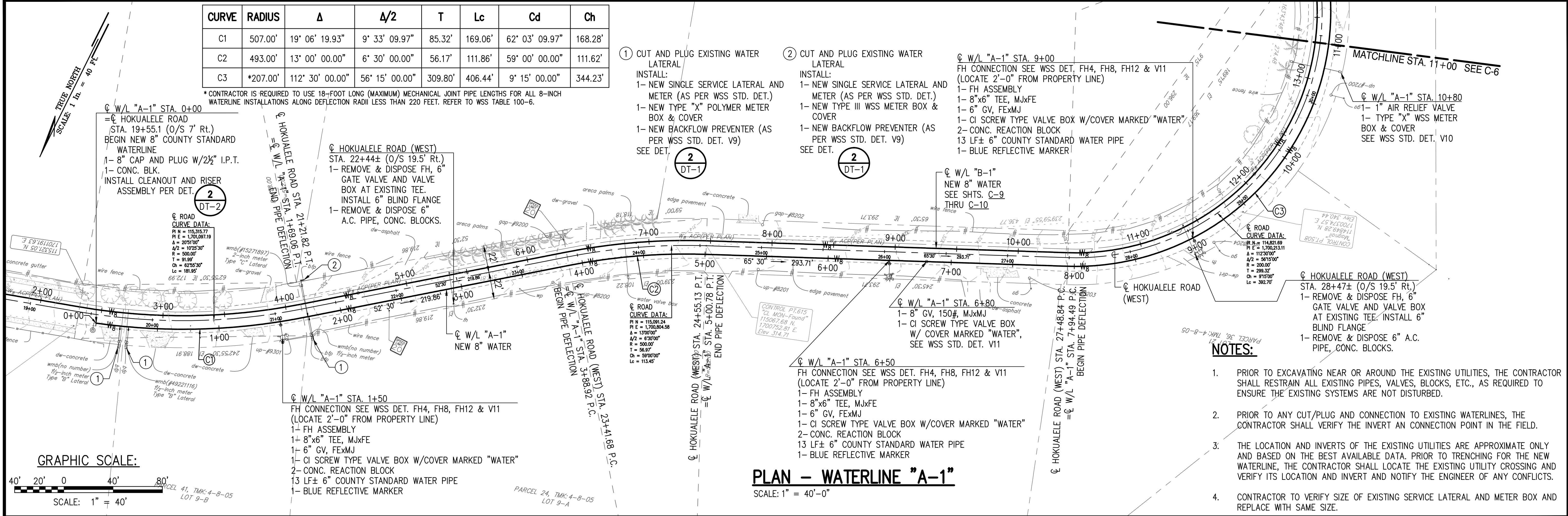




DATE \_\_\_\_\_



DRAWING NAME: I:\201705-DHHL-ANAHOLA-Phil\_Water\_System\_Improvements\05-FINAL - BID DOCUMENTS\PHASE I - WA  
EDIT TIME: 03-23-18, 11:41 AM  
EDT BY: GTOKUMI















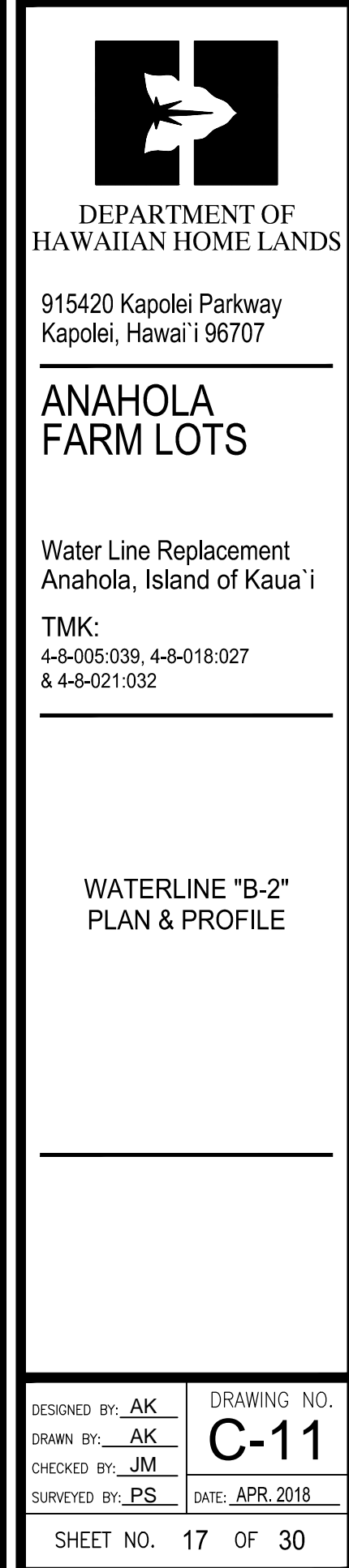
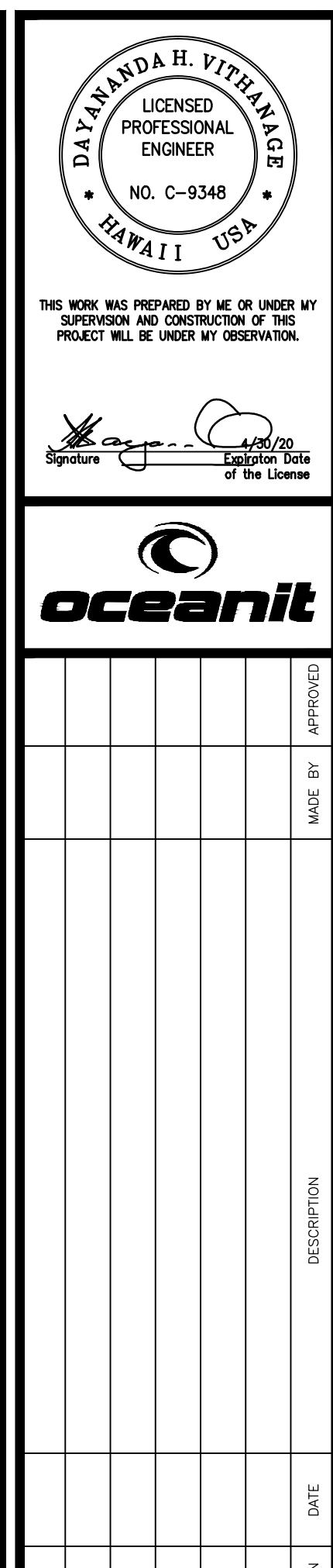




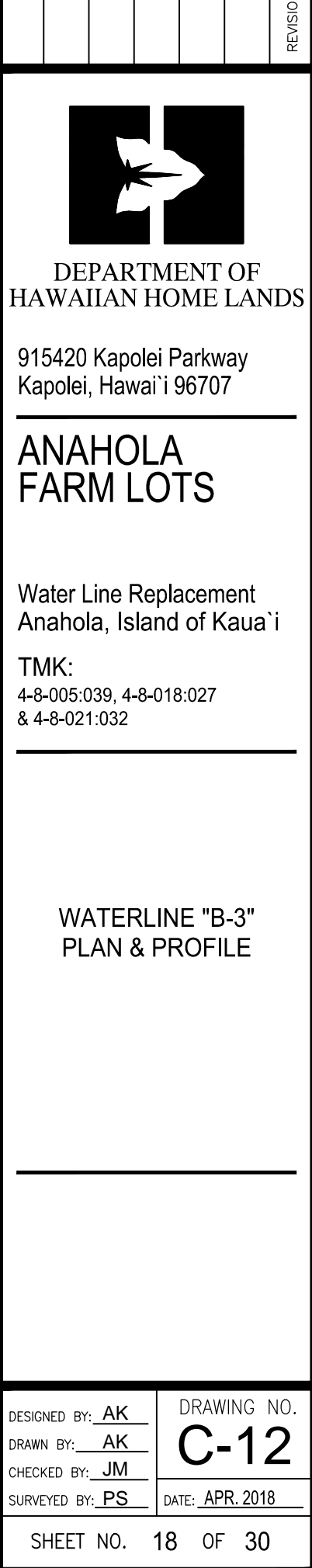
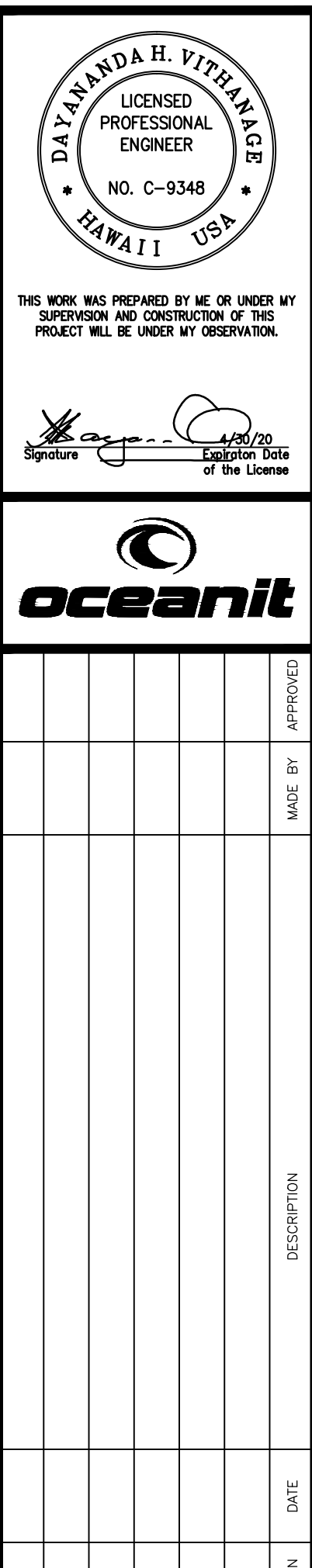




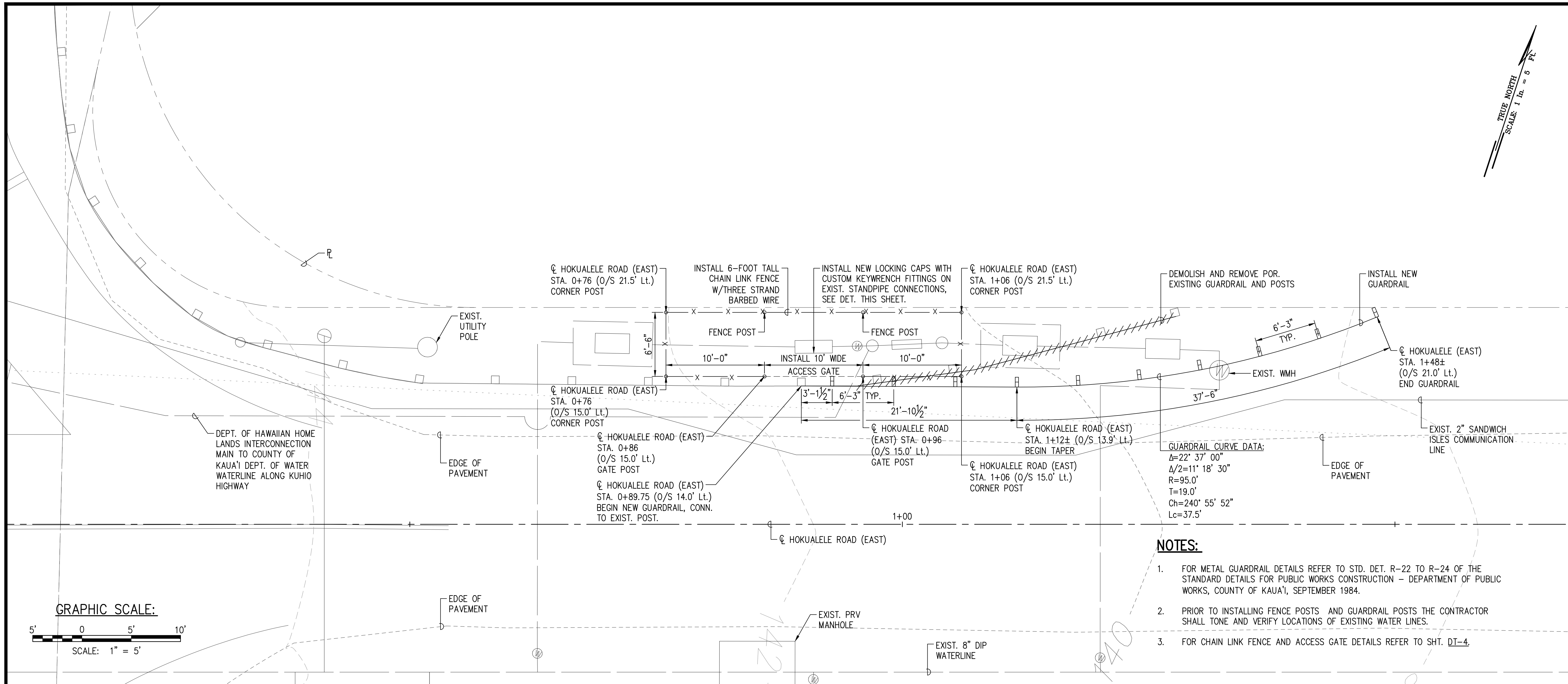






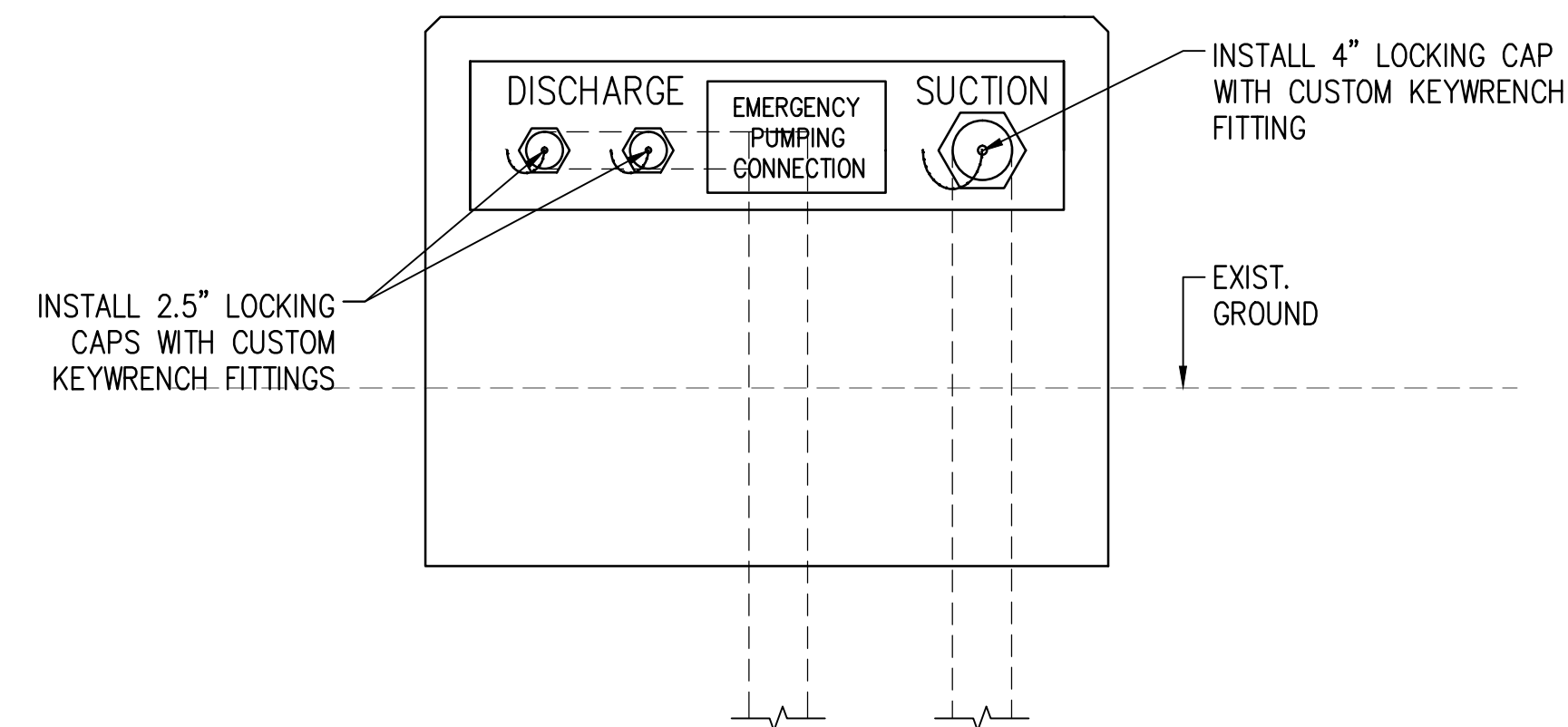






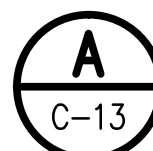
## INTERCONNECTION STATION FENCING PLAN

SCALE: 1" = 5'-0"



## WATERLINE INTERCONNECTION ELEVATION TYPICAL LOCKING CAP INSTALLATION

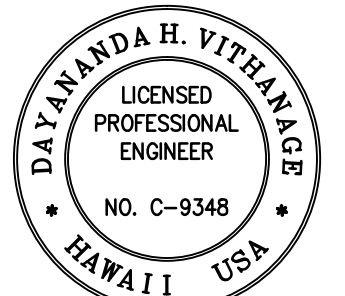
SCALE: NOT TO SCALE



APPROVED

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS  
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY  
MAINTAINED ROADS)

DATE \_\_\_\_\_



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

Signature [Signature] Expiration Date of the License 4/30/20

[illegible]DEPARTMENT OF  
AWAIIAN HOME LANDS

15420 Kapolei Parkway  
Kapolei, Hawai'i 96707

## ANAHOLA FARM LOTS

## Water Line Replacement Anahola, Island of Kaua'i

TMK:  
4-8-005:039, 4-8-018:027  
4-8-021:032

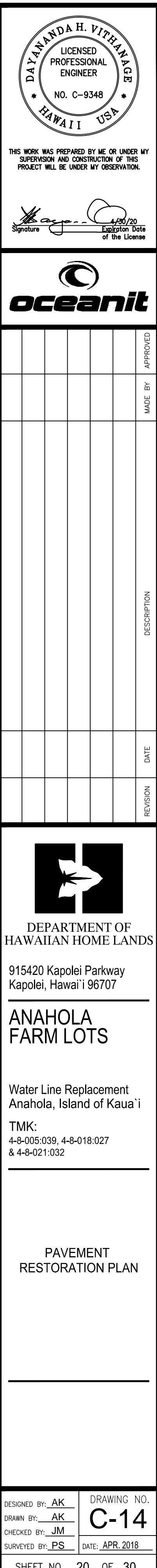
### INTERCONNECTION STATION FENCING PLAN

SIGNED By: JM  
DRAWN By: AK

SIGNED By: JM  
DRAWN By: AK

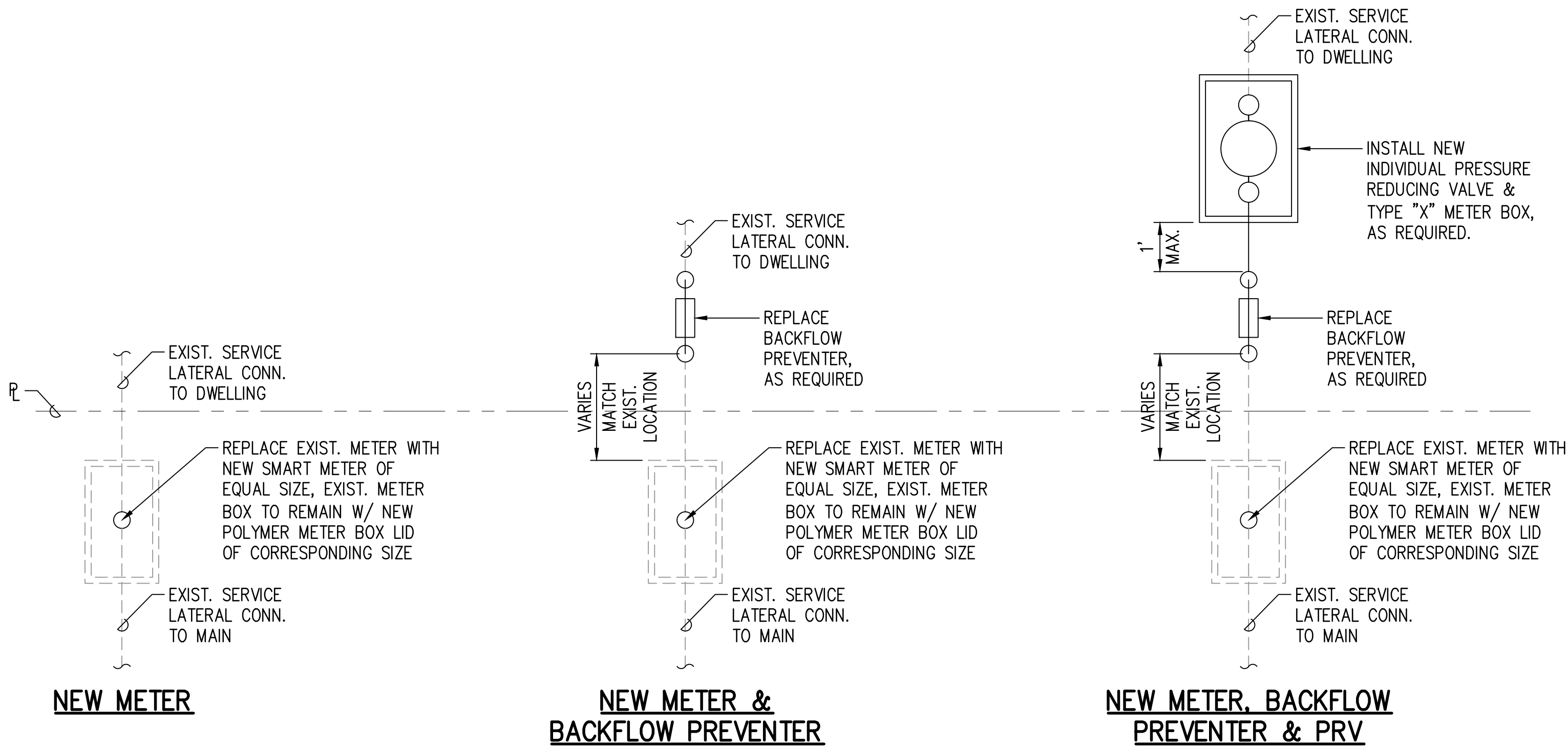
SHEET NO. 19 OF 30



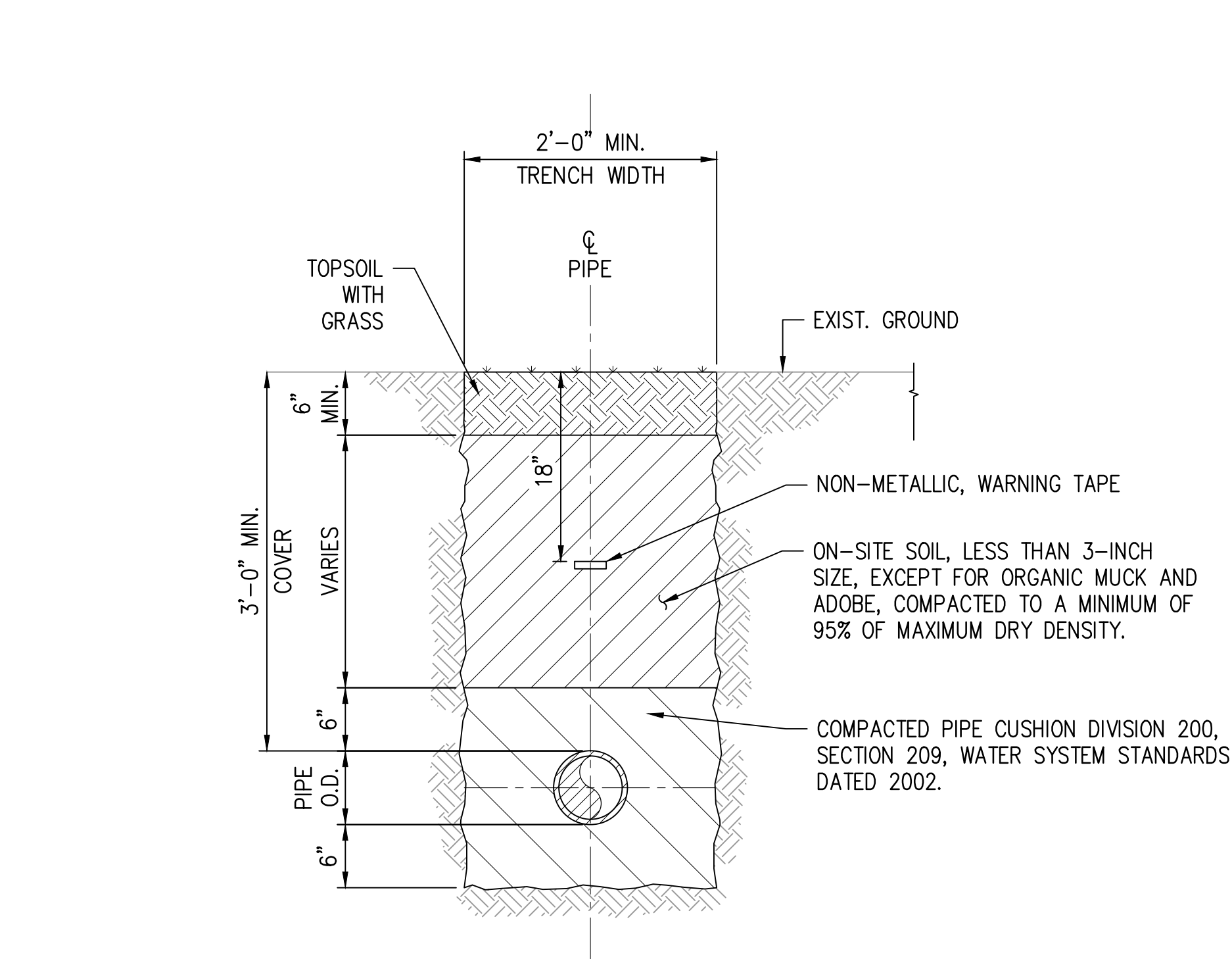




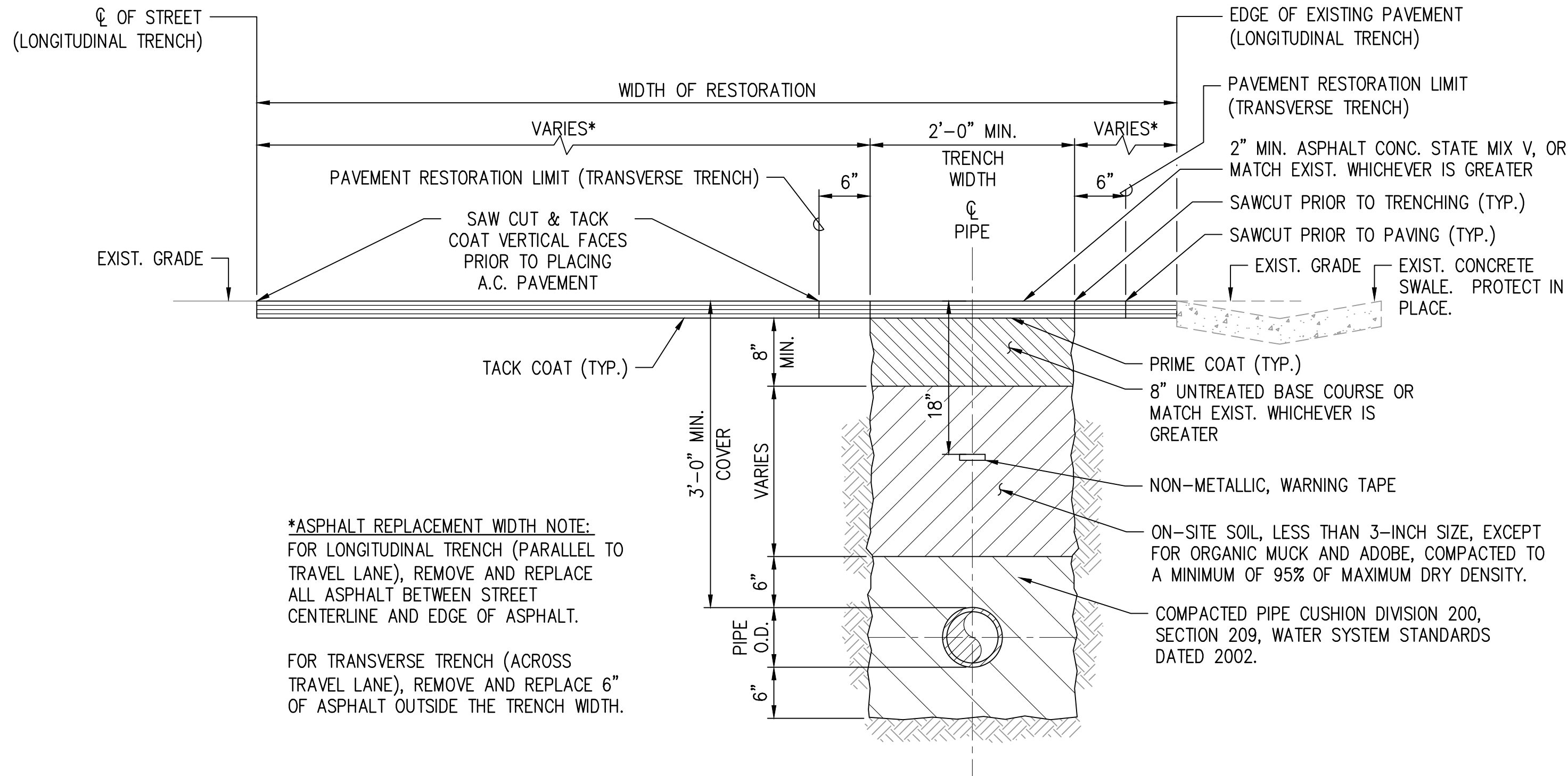
DRAWING NAME: I:\201705-DHLL-ANAHOLA-PHIL-WATER-SYSTEM-IMPROVEMENTS\05-FINAL - BID DOCUMENTS\PHASE 1 - WA EDIT TIME: 03-23-18, 11:43 AM EDITED BY: GTOKUMI



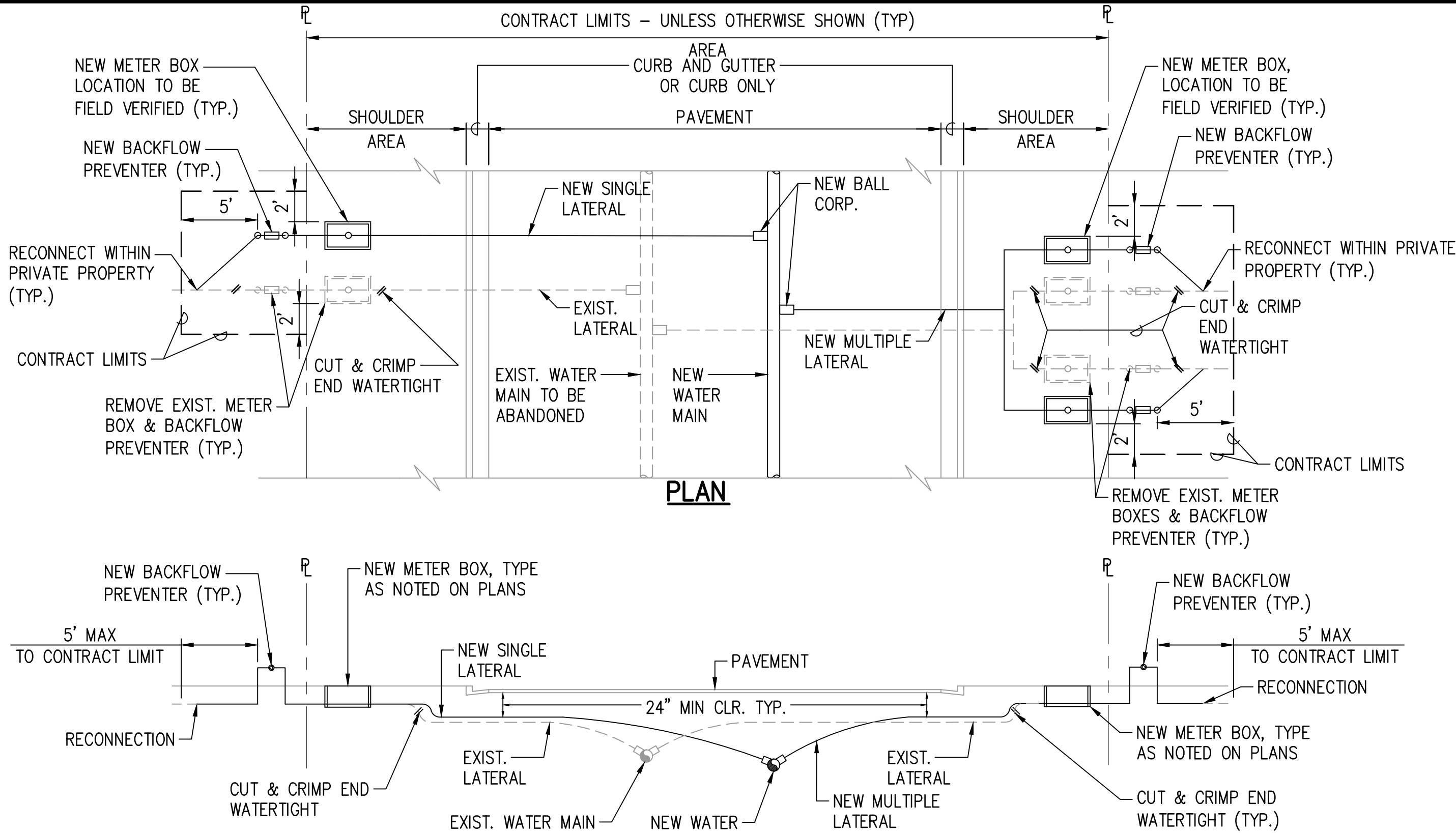
**1**  
DT-1  
**TYPICAL SERVICE LATERAL APPURTENANCE REPLACEMENT DETAILS**  
SCALE: NOT TO SCALE



**3**  
DT-1  
**TYP. WATER LINE TRENCH RESTORATION UNDER EARTH**  
SCALE: NOT TO SCALE

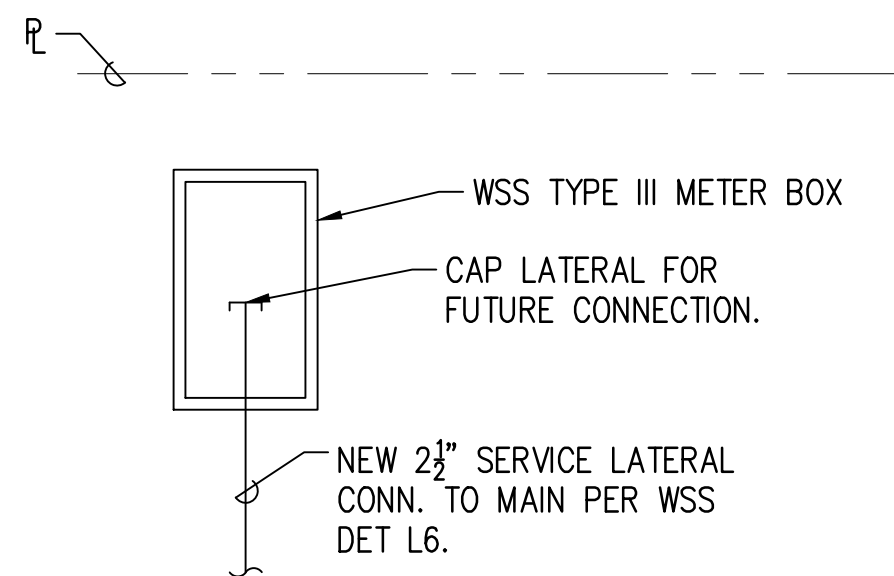


**4**  
DT-1  
**TYP. WATER LINE TRENCH RESTORATION UNDER PAVEMENT**  
SCALE: NOT TO SCALE



**2**  
DT-1  
**TYPICAL SERVICE LATERAL RECONNECTION DETAIL**  
SCALE: NOT TO SCALE

- NOTES:**
1. INSTALL ELBOWS AND PIPE EXTENSIONS BEFORE METERS TO PROVIDE 24-INCH MINIMUM COVER FOR SERVICE LATERALS, AS REQUIRED.
  2. POLYETHYLENE WRAP, 3 FT MINIMUM (TYP.) REQUIRED FOR DI PIPE AND COPPER LATERAL COMBINATION ONLY.



**5**  
DT-1  
**NEW SERVICE LATERAL WITHOUT METER**  
**TYPICAL SERVICE LATERAL WITHOUT METER**  
SCALE: NOT TO SCALE

APPROVED

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS  
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY  
MAINTAINED ROADS)

DATE

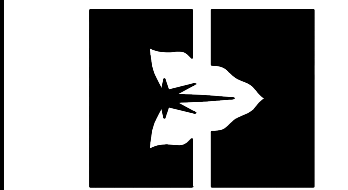


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Signature: Dayananda H. Vithanage  
Expiration Date of the License: 03/31/20



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED



DEPARTMENT OF  
HAWAIIAN HOME LANDS  
915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

**ANAHOLA FARM LOTS**

Water Line Replacement  
Anahola, Island of Kaua'i  
TMK:  
4-8-005-039, 4-8-018-027  
& 4-8-021-032

LATERAL CONNECTION  
& TRENCH RESTORATION  
DETAILS

DESIGNED BY: AK  
DRAWN BY: AK  
CHECKED BY: JM  
SURVEYED BY: PS  
DRAWING NO.: DT-1  
DATE: APR. 2018  
SHEET NO. 21 OF 30

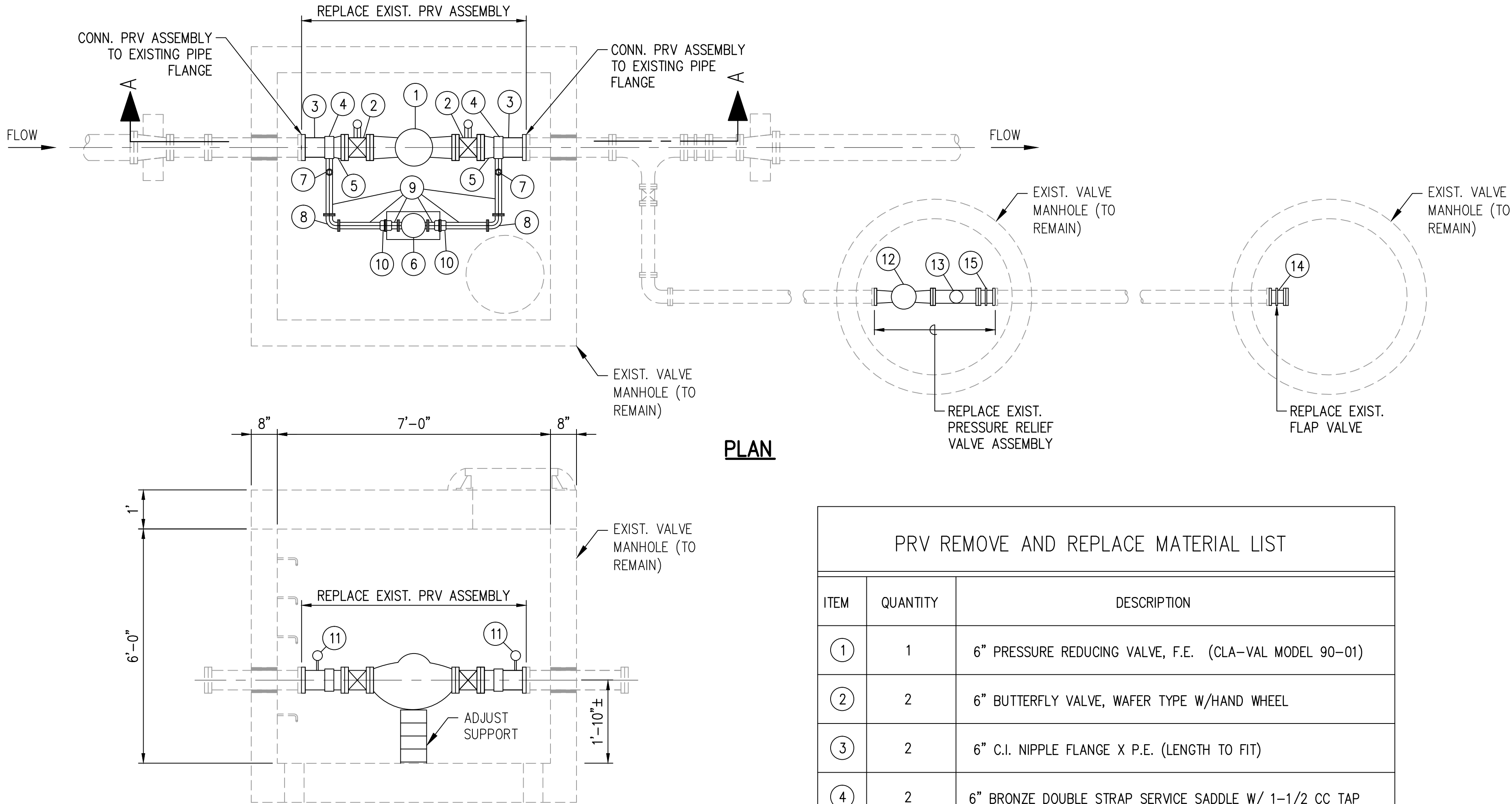
FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT



DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER-SYSTEM-IMPROVEMENTS\05-FINAL - BID DOCUMENTS\PHASE I - WA EDIT TIME: 03-23-18, 11:43 AM EDITED BY: GTOKUMI

NOTES:

1. APPROXIMATE 6" PRV SETTING = 100 / 50 PSI (TO BE VERIFIED/SET IN FIELD)
2. APPROXIMATE 2" PRV SETTING = 100 / 55 PSI (TO BE VERIFIED/SET IN FIELD)
3. APPROXIMATE 4" RELIEF VALVE SETTING = 100 PSI



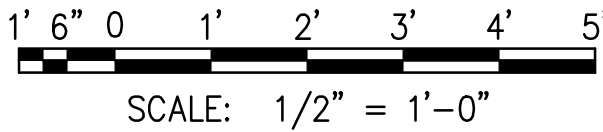
SECTION A-A

**PRESSURE REDUCING VALVE REPLACEMENT ASSEMBLY  
STA. 0+85 @ HOKUALELE ROAD (EAST)**

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

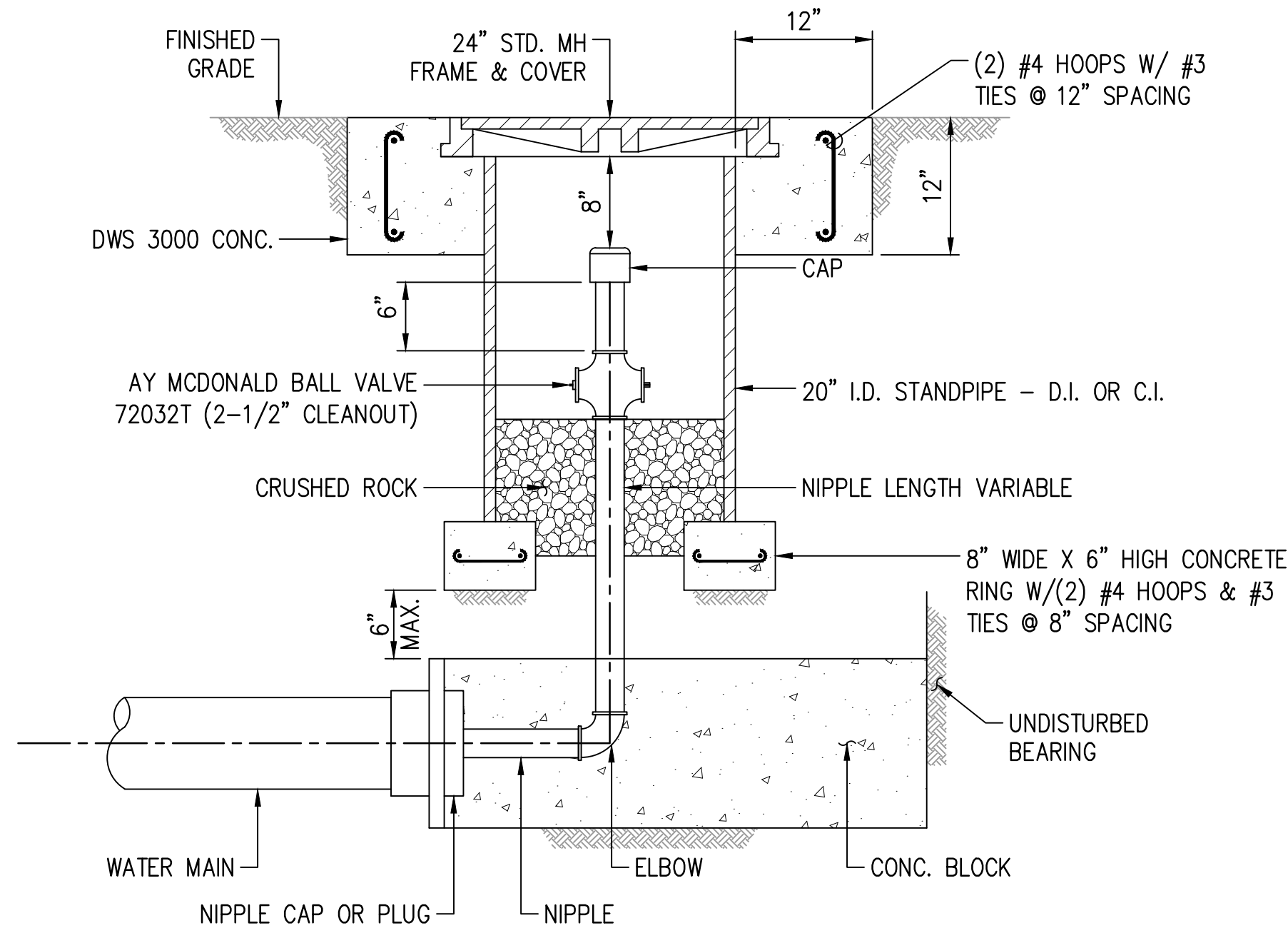
1  
DT-2

GRAPHIC SCALE:



PRV REMOVE AND REPLACE MATERIAL LIST

ITEM	QUANTITY	DESCRIPTION
①	1	6" PRESSURE REDUCING VALVE, F.E. (CLA-VAL MODEL 90-01)
②	2	6" BUTTERFLY VALVE, WAFER TYPE W/HAND WHEEL
③	2	6" C.I. NIPPLE FLANGE X P.E. (LENGTH TO FIT)
④	2	6" BRONZE DOUBLE STRAP SERVICE SADDLE W/ 1-1/2 CC TAP
⑤	3	6" CAST FLANGED COUPLING ADAPTER (ROCKWELL #912-069006-000)
⑥	1	2" PRESSURE REDUCING VALVE, S.E., W/ VALVE POSITION INDICATOR (CLAYTON 90G-01S)
⑦	2	1-1/2" CC X 2" MPT BALL CORP
⑧	2	2" BRONZE ELBOW
⑨	6	2" BRONZE NIPPLE
⑩	2	2" BRONZE UNION
⑪	2	PRESSURE GAUGE (0-160 PSI) W/STOP COCK AND SNUBBER (RAY PRESSURE SNUBBER)
⑫	1	4" CLAYTON RELIEF VALVE, F.E.
⑬	1	4" CENTERGUIDED SILENT CHECK VALVE, F.E.
⑭	1	4" C.I. NIPPLE, FLANGE X P.E. W/FLAP VALVE, F.E.
⑮	1	4" CAST FLANGED COUPLING ADAPTOR (SMITH-BLAIR MODEL 912)



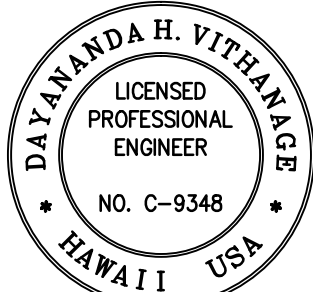
NOTES:

1. CLEANOUT SHALL INCLUDE THE CAP, PLUG AND APPURTENANCES AS SHOWN.
2. ASS CLEANOUT INSTALLATION SHALL BE BRASS OR COPPER.

2  
DT-2

**CLEANOUT AND RISER DETAIL**

SCALE: NOT TO SCALE



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Signature: [Signature] Expiration Date: 4/30/20 of the License



REVISION	DATE	DESCRIPTION	APPROVED	MADE BY



DEPARTMENT OF  
HAWAIIAN HOME LANDS

915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

**ANAHOLA  
FARM LOTS**

Water Line Replacement  
Anahola, Island of Kaua'i

TMK:  
4-8-005-039, 4-8-018-027  
& 4-8-021-032

PRESSURE REDUCING  
VALVE REPLACEMENT  
ASSEMBLY DETAILS /  
CLEANOUT DETAIL

DESIGNED BY: JM  
DRAWN BY: GT  
CHECKED BY: JM  
SURVEYED BY: PS  
DRAWING NO.:  
**DT-2**  
DATE: APR. 2018  
SHEET NO. 22 OF 30

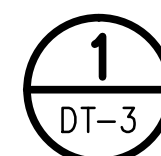
FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT



1. APPROXIMATE 6" PRV SETTING = 80 / 50 PSI
2. APPROXIMATE 2" PRV SETTING = 80 / 55 PSI



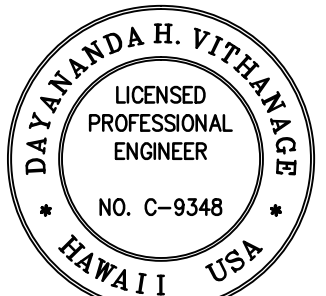
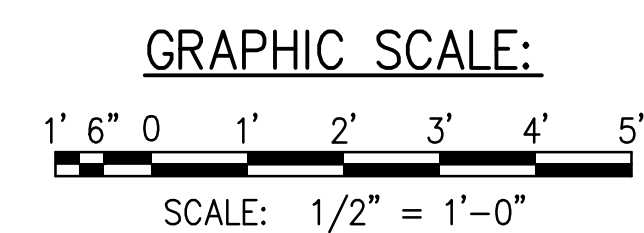
2" CLR (TYP) BETWEEN MANHOLE COVER AND REBARS



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

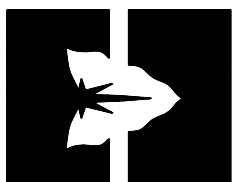
SCALE: 1/2" = 1'-0"

PRV MATERIAL LIST		
ITEM	QUANTITY	DESCRIPTION
①	1	6" PRESSURE REDUCING VALVE, F.E. (CLA-VAL MODEL 90-01)
②	2	6" BUTTERFLY VALVE, WAFER TYPE W/HAND WHEEL
③	2	PRESSURE GAUGE (0-160 PSI) W/STOP COCK AND SNUBBER (RAY PRESSURE SNUBBER)
④	2	6" C.I. NIPPLE, FLANGE X P.E. (LENGTH TO FIT)
⑤	2	6" C.I. SPOOL, FLANGE (24" LONG)
⑥	1	6" COUNTY STANDARD WATER PIPE NIPPLE, FLANGE X P.E.
⑦	2	8"X 6" COUNTY STANDARD WATER PIPE REDUCER, M.J.
⑧	2	8" BRONZE DOUBLE STRAP SERVICE SADDLE W/ 1-1/2 CC TAP
⑨	2	6" CAST FLANGED COUPLING ADAPTER (ROCKWELL #912-069006-000)
⑩	1	2" PRESSURE REDUCING VALVE, S.E., W/ VALVE POSITION INDICATOR (CLAYTON 90G-01S)
⑪	2	1-1/2" CC X 2" MPT BALL CORP
⑫	2	2" BRONZE ELBOW
⑬	6	2" BRONZE NIPPLE
⑭	2	2" BRONZE UNION



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SUPERVISION AND CONSTRUCTION OF THIS  
PROJECT WILL BE UNDER MY OBSERVATION.

Signature [Signature] Expiration Date 4/30/20  
of the License

[illegible]DEPARTMENT OF  
HAWAIIAN HOME LANDS

915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

## ANAHOLA FARM LOTS

## Water Line Replacement Anahola, Island of Kaua'i

TMK:  
4-8-005:039, 4-8-018:027  
& 4-8-021:032

PRESSURE REDUCING  
VALVE ASSEMBLY  
STA. 28+80 W/L "A-1"  
DETAILS

DESIGNED BY: <u>JM</u>	DRAWING NO.
DRAWN BY: <u>GT</u>	<b>DT-3</b>

CHECKED BY: JM  
SURVEYED BY: PS      DATE: APR. 2018

SHEET NO. 23 OF 30

FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT

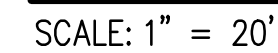
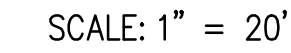
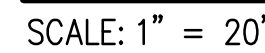
EDITED BY: GTOKUMI

EDIT TIME: 03-23-18, 11:44 AM

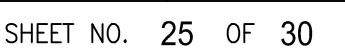
DRAWING NAME: I:\201705-DHHL-ANAHOLA\_PHIL\_WATER\_SYSTEM\_IMPROVEMENTS\D GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05\_FINAL -- BID DOCUMENTS\PHASE I -- WA







DATE \_\_\_\_\_









DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER\_SYSTEM\_IMPROVEMENTS\0 GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\PHASE I - WA EDIT TIME: 03-23-18, 11:44 AM EDITED BY: GTOKUMI

TRAFFIC CONTROL NOTES

1. THE PERMITTEE SHALL MAKE ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
  2. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
  3. 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.
  4. 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.
  5. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
  6. WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITTEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN IN THE MUTCD.
  7. 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.
  8. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
  9. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
  10. 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.
  11. 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.
  12. REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF EACH PHASE OF WORK.
  13. POLICE OFFICERS/FLAGGERS SHALL BE PRESENT AT ALL TIMES.
  14. WHEN REQUIRED BY THE COUNTY OF KAUAI, AN ADVERTISEMENT SHALL BE PLACED IN THE NEWSPAPER BY THE CONTRACTOR FOR ANY LANE CLOSURE. THE ADVERTISEMENT SHALL BE MADE ONE (1) WEEK BEFORE ANY LANE CLOSURE AND SHALL CONTAIN THE FOLLOWING INFORMATION:
    - A. MAP OF THE TRAFFIC CHANGE LIMITS;
    - B. NOTICE OF STARTING AND ENDING DATES, TIMES AND DURATION;
    - C. MAP TO SHOW LANE CLOSURE;
    - D. EXPLANATION OF LANE CLOSURE, “NOTICE TO MOTORISTS AND PEDESTRIANS”
- THE CONTRACTOR SHALL BE REQUIRED TO HAVE ANY LANE CLOSURE ANNOUNCED DAILY OVER THE RADIO TWO (2) DAYS BEFORE STARTING DATE UNTIL THE WORK IS COMPLETED. BOTH ADVERTISEMENTS IN THE NEWSPAPER AND OVER THE RADIO SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO NOTIFY THE HOSPITALS, POLICE, FIRE, AND AMBULATORY SERVICES OF THE LANE CLOSURES.
15. ALL WORKERS WITHIN THE COUNTY RIGHT OF WAY WHO ARE EXPOSED TO EITHER VEHICLES USING THE ROADWAY OR TO CONSTRUCTION EQUIPMENT SHALL WEAR HIGH VISIBILITY SAFETY APPAREL THAT MEETS THE PERFORMANCE CLASS 2 OR 3 REQUIREMENTS OF ANSI/ISEA 107-2004. “WORKERS” ARE DEFINED AS PEOPLE ON FOOT WHOSE DUTIES PLACE THEM WITHIN THE COUNTY R/W, SUCH AS, BUT NOT LIMITED TO CONSTRUCTION AND MAINTENANCE FORCES, EQUIPMENT OPERATORS, SURVEY CREW, UTILITY CREW, RESPONDERS TO INCIDENTS (EG. EMT AND FIREMEN), AND LAW ENFORCEMENT PERSONNEL DIRECTING TRAFFIC, INVESTIGATING ACCIDENTS, HANDLING LANE CLOSURES AND INSTALLING WATER SERVICE CONNECTIONS (ROADWAY CONSTRUCTION).
  16. ALL TRAFFIC CONTROL DEVICE 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.
  17. CONTRACTOR TO PROVIDE ACCESS AND/OR DIRECTION SIGNS TO REROUTE PEDESTRIAN TRAFFIC.
  18. 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.
  19. 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.
  20. 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.

TABLE 1							
POSTED SPEED LIMIT (M.P.H.)	SIGN SPACING (D) (FEET)	TAPER LENGTH (T) (FEET)		LONGITUDINAL BUFFER SPACE (B) FEET	SPACING OF CONES OR DELINEATORS (FEET)		
		W=12’ OR LESS ①	W=GREATER THAN 12’ ①		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

NOTE:

① W=WIDTH OF LANE, SHOULDER, OR OFFSET.

TRAFFIC CONTROL LEGEND:

• • • • •

➔

➔

WORK AREA

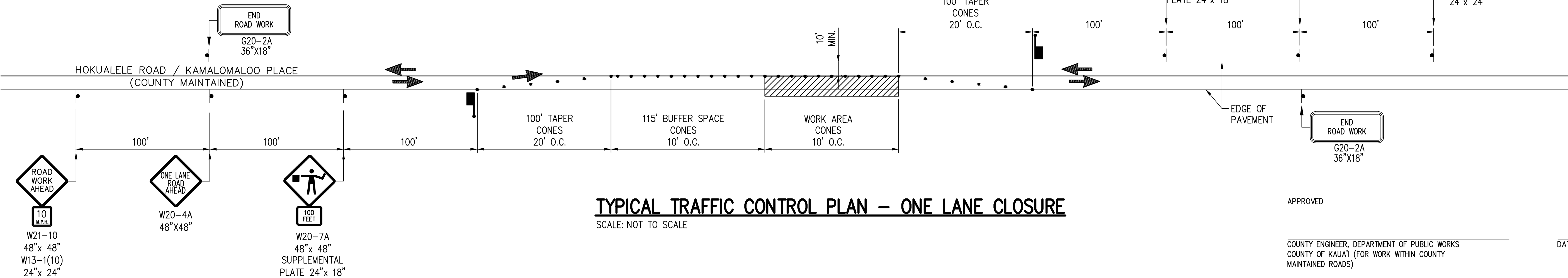
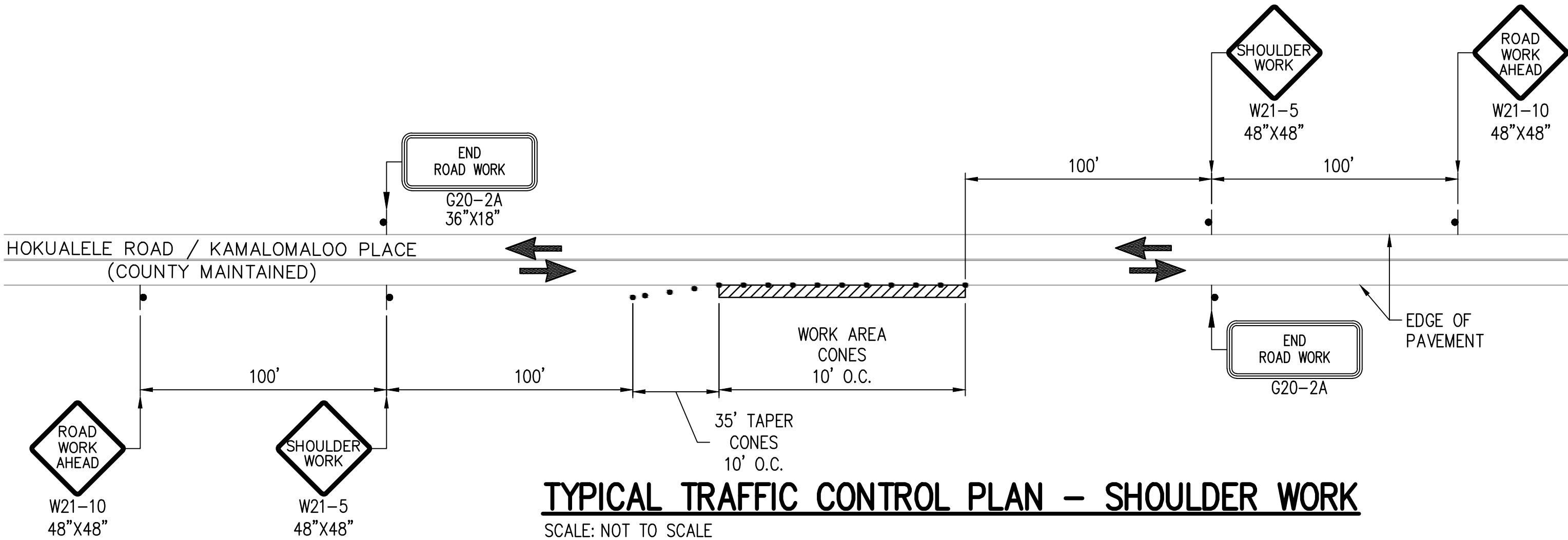
CONES OR DELINEATOR \*

SIGN

DIRECTION OF TRAFFIC

FLAGGER

\*CONE SPACING:  
10’ O.C. FOR WORK AREAS  
20’ O.C. FOR TAPERS AND BUFFERS  
10’ O.C. FOR TRANSVERSELY ALIGNED



DAYANANDA H. VITHANAGE  
LICENSED PROFESSIONAL ENGINEER  
NO. C-9348  
HAWAII USA

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

Signature

Expiration Date of the License



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF HAWAIIAN HOME LANDS

915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

ANAHOLA FARM LOTS

Water Line Replacement  
Anahola, Island of Kaua'i

TMK:  
4-8-005.039, 4-8-018.027  
& 4-8-021.032

TRAFFIC CONTROL SHEET - 1

APPROVED

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS  
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY  
MAINTAINED ROADS)

DATE

DESIGNED BY: JM  
DRAWN BY: GT  
CHECKED BY: JM  
SURVEYED BY: PS

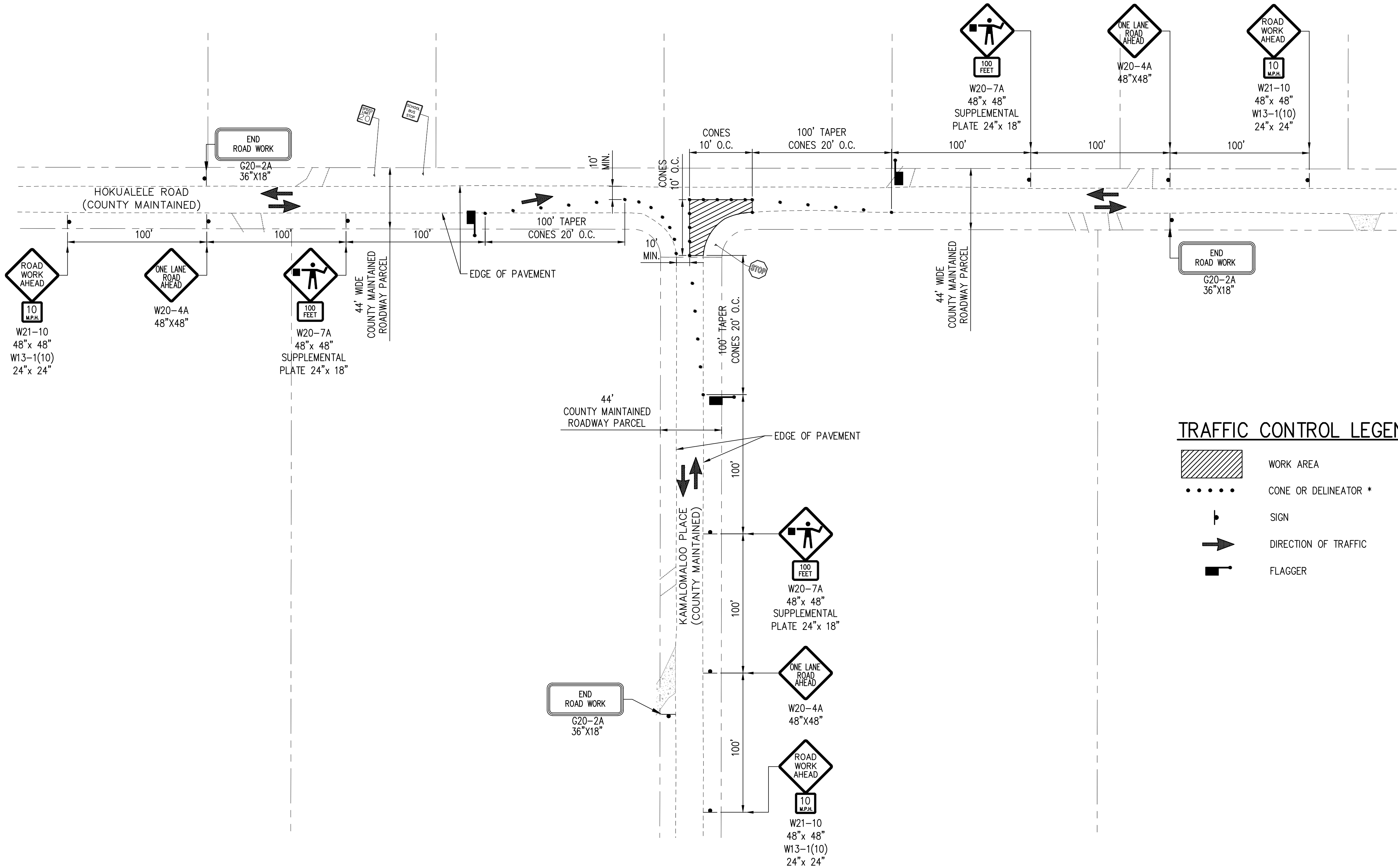
DRAWING NO.  
TC-1  
DATE: APR. 2018

SHEET NO. 28 OF 30

FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT



DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER\_SYSTEM\_IMPROVEMENTS\0 GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05\_FINAL - BID DOCUMENTS\PHASE 1 - WA EDIT TIME: 03-23-18, 11:44 AM EDITED BY: GTOKUMI



TRAFFIC CONTROL LEGEND:

- WORK AREA
  - CONE OR DELINEATOR \*
  - SIGN
  - DIRECTION OF TRAFFIC
  - FLAGGER
- \*CONE SPACING:  
10' O.C. FOR WORK AREAS  
20' O.C. FOR TAPERS AND BUFFERS  
10' O.C. FOR TRANSVERSELY ALIGNED

TRAFFIC CONTROL PLAN, HOKUALELE ROAD AND KAMALOMALO'O PLACE INTERSECTION – PHASE 1  
SCALE: NOT TO SCALE

APPROVED

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS  
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY  
MAINTAINED ROADS)

DATE

DAYANANDA H. VITHANAGE  
LICENSED  
PROFESSIONAL  
ENGINEER  
NO. C-9348  
HAWAII USA

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SUPERVISION AND CONSTRUCTION OF THE  
PROJECT WILL BE UNDER MY OBSERVATION.

Signature: [Signature] Expiration Date: 4/30/20  
of the License



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF  
HAWAIIAN HOME LANDS

915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

ANAHOLA  
FARM LOTS

Water Line Replacement  
Anahola, Island of Kaua'i

TMK:  
4-8-005.039, 4-8-018.027  
& 4-8-021.032

TRAFFIC CONTROL  
SHEET - 2

DESIGNED BY: JM  
DRAWN BY: GT  
CHECKED BY: JM  
SURVEYED BY: PS

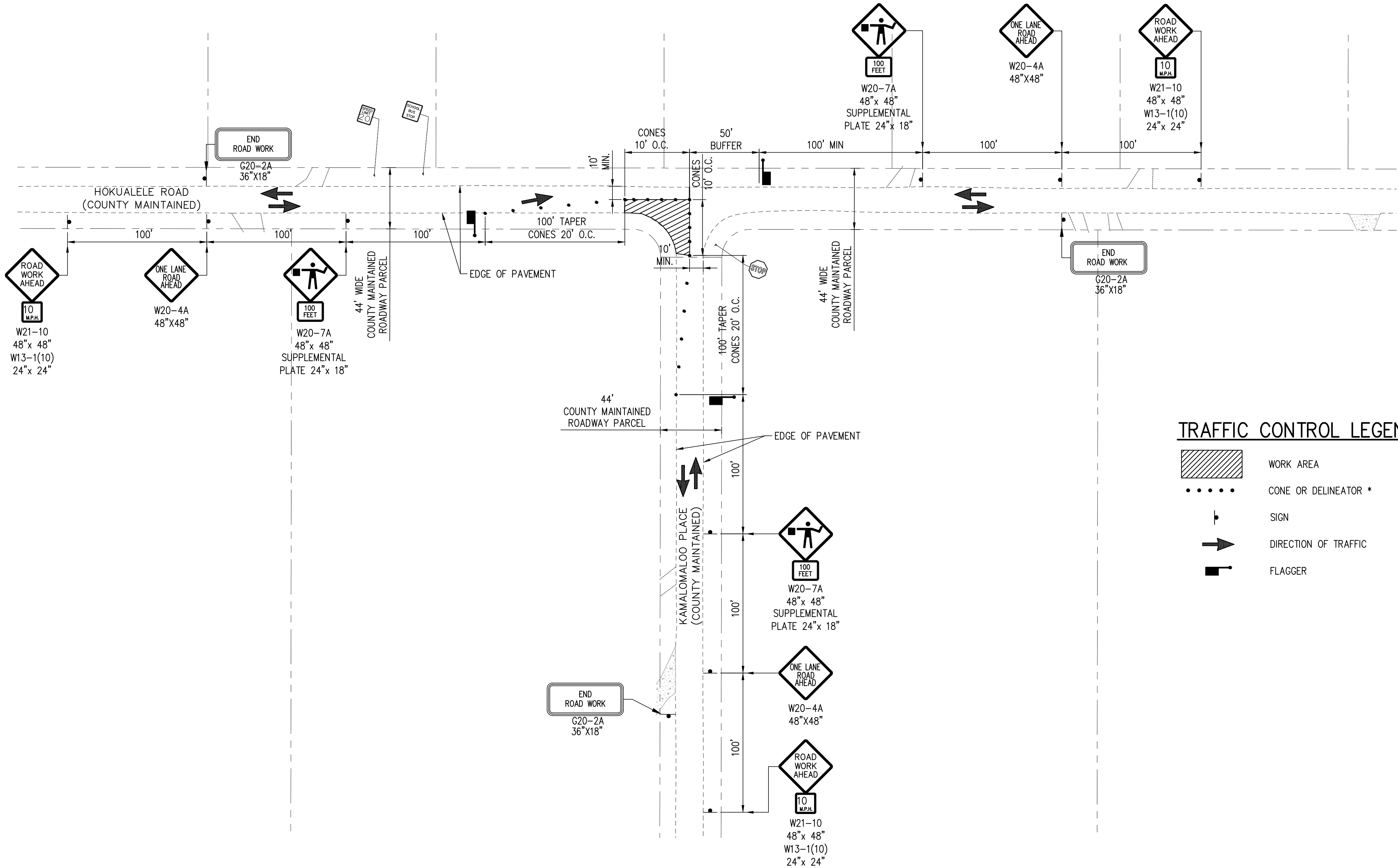
DRAWING NO.  
TC-2

DATE: APR. 2018

SHEET NO. 29 OF 30

FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER\_SYSTEM\_IMPROVEMENTS\0 GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05\_FINAL - BID DOCUMENTS\PHASE 1 - WA EDIT TIME: 03-23-18, 11:44 AM EDITED BY: GTOKUMI

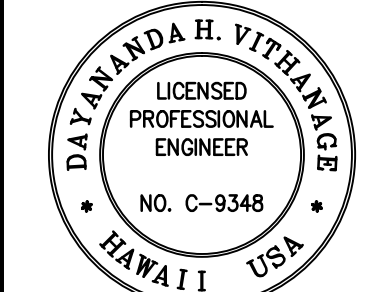


TRAFFIC CONTROL PLAN, HOKUALELE ROAD AND KAMALOMALO'O PLACE INTERSECTION – PHASE 2  
SCALE: NOT TO SCALE

APPROVED

COUNTY ENGINEER, DEPARTMENT OF PUBLIC WORKS  
COUNTY OF KAUAI (FOR WORK WITHIN COUNTY  
MAINTAINED ROADS)

DATE



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Signature: [Signature] Expiration Date: 4/30/20 of the License



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED



DEPARTMENT OF HAWAIIAN HOME LANDS  
915420 Kapolei Parkway  
Kapolei, Hawai'i 96707

ANAHOLA FARM LOTS

Water Line Replacement  
Anahola, Island of Kaua'i  
TMK:  
4-8-005.039, 4-8-018.027  
& 4-8-021.032

TRAFFIC CONTROL  
SHEET - 3

DESIGNED BY: JM	DRAWING NO. TC-3
DRAWN BY: GT	
CHECKED BY: JM	
SURVEYED BY: PS	DATE: APR. 2018

SHEET NO. 30 OF 30

FINAL PLANS: ANAHOLA FARM LOTS WATER PROJECT, PHASE I WATER LINE REPLACEMENT