

FINAL CONSTRUCTION PLANS FOR:

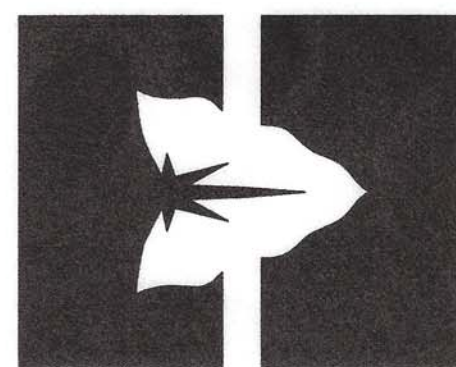
ANAHOLA FARM LOTS WATER PROJECT

PHASE II- WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

PUBLIC WATER SYSTEM NO. 432, ANAHOLA, ISLAND OF KAUAI

TMK: 4-8-001:001; 4-8-005:037 & 039

PREPARED FOR:



DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 KAPOLEI PARKWAY
KAPOLEI, HAWAI'I 96707

PREPARED BY:



828 FORT STREET MALL, SUITE 600
HONOLULU, HAWAI'I 96813

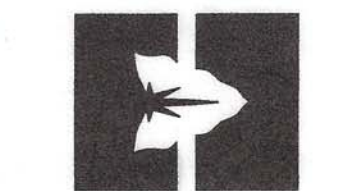


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: *Dayananda H. Vithanala*
4/26/20
Expiration Date of the License



REVISION	DATE	DESCRIPTION	APPROVED



DEPARTMENT OF HAWAIIAN HOME LANDS

91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai

TMK:
4-8-001:001; 4-8-005:037 & 039

TITLE SHEET

DESIGNED BY: AK
DRAWN BY: AK
CHECKED BY: JIM
SURVEYED BY: WT
DATE: AUG. 2018

DRAWING NO. T-1

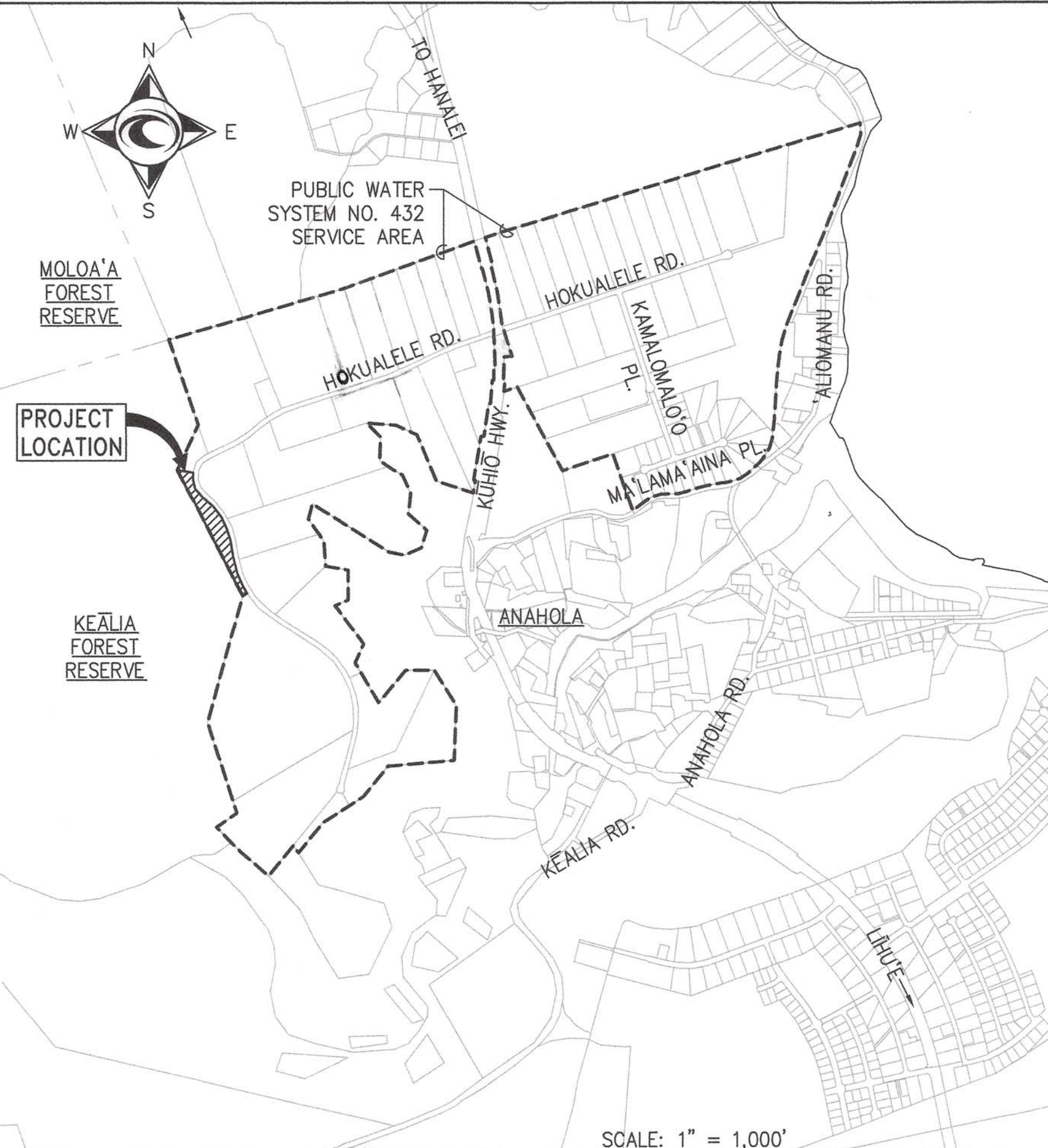
SHEET NO. 1 OF 79

VICINITY MAP



ISLAND OF KAUAI
NOT TO SCALE

LOCATION MAP



SCALE: 1" = 1,000'

APPROVED

Wing Tsang
CHAIRMAN, DEPARTMENT OF HAWAIIAN HOME LANDS
STATE OF HAWAII
DATE: 8/15/18

Ann J. Zane
CHIEF, ENVIRONMENTAL MANAGEMENT DIVISION
DEPARTMENT OF HEALTH
STATE OF HAWAII
DATE: 7/25/18

Ime Q. Lee
CHAIRPERSON,
BOARD OF LAND AND NATURAL RESOURCES
STATE OF HAWAII
DATE: 8/15/18

WATER POLLUTION AND EROSION CONTROL NOTES

- 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 "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" 2005 AS AMENDED. SECTION 209 DESCRIBES BUT IS NOT LIMITED TO: SUBMITTAL REQUIREMENTS; SCHEDULING OF A WATER POLLUTION AND EROSION CONTROL CONFERENCE WITH THE OFFICER-IN-CHARGE; 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 COUNTY OF KAUAI" APRIL 2004 IN DEVELOPING, INSTALLING AND MAINTAINING THE BEST MANAGEMENT PRACTICES (BMPs) FOR THE PROJECT. THE CONTRACTOR MAY SUBMIT ALTERNATE METHODS TO THE ENGINEER 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 OFFICER-IN-CHARGE MAY ASSESS LIQUIDATED DAMAGES OF UP TO \$27,500 FOR NONCOMPLIANCE OF EACH BMP REQUIREMENT AND EACH REQUIREMENT STATED IN SECTION 209, FOR EVERY DAY OF NON-COMPLIANCE. THERE IS NO MAXIMUM LIMIT ON THE AMOUNT ASSESSED PER DAY.
E. THE OFFICER-IN-CHARGE MAY 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 A MINIMUM OF TWICE PER WEEK OR AS OFTEN AS IS DEEMED NECESSARY. NO CONSTRUCTION WASTE MATERIALS 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 MATERIAL 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 FENCE IS SECURELY ATTACHED TO THE FENCE POST OR CONCRETE SLAB AND TO VERIFY THAT THE FENCE POST 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 OFFICER-IN-CHARGE A MAINTENANCE INSPECTION REPORT PROMPTLY AFTER EACH WEEKLY INSPECTION.
G. THE CONTRACTOR SHALL SELECT A MINIMUM OF THREE PERSONNEL WHO SHALL BE RESPONSIBLE FOR INSPECTIONS, 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 CONDITIONS.
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 THE FINAL GRADES HAVE BEEN ESTABLISHED.
J. TEMPORARY EROSION CONTROLS SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN PLACE AND ESTABLISHED.

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 DETERGENTS PRODUCTS
PAINTS (ENAMEL AND LATEX) METAL STUDS TAR
FERTILIZERS PETROLEUM BASED
CLEANING SOLVENTS WOOD 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 OFFICER IN CHARGE 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:
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.

WATER POLLUTION AND EROSION CONTROL NOTES (CONT'D)

- e. CLEANUP 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 SUBSTANCE.
g. REPORT SPILLS OF TOXIC HAZARDOUS MATERIAL TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
5. NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS:
A. THE CONTRACTOR SHALL APPLY FOR, OBTAIN AND COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR KAUAI DISTRICT PERMIT PROJECTS. THIS IS AVAILABLE AT THE KAUAI DISTRICT OFFICE AT 3040 UMI STREET, SUITE 205. DUE TO POTENTIAL COST IMPACTS, THE CONTRACTOR NEEDS TO BE AWARE OF THESE REQUIREMENTS.
B. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH NATIONAL POLLUTION 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.
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.

PUBLIC HEALTH AND CONVENIENCE NOTES

- 1. CONTRACTOR SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS REQUIRED FOR THE PROTECTION OF PUBLIC HEALTH, SAFETY AND ENVIRONMENTAL QUALITY.
2. THE CONTRACTOR AT HIS/HER EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM RUBBISH, DUST, NOISE, EROSION, ETC. THE WORK SHALL BE DONE IN CONFORMANCE WITH THE AIR AND WATER POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
3. NO CONTRACTOR SHALL PERFORM ANY CONSTRUCTION OPERATION SO AS TO CAUSE FALLING ROCKS, SILT OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATION OCCUR, THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS AS NECESSARY AND THE COSTS INCURRED FOR ANY REMEDIAL ACTION SHALL BE PAYABLE BY THE CONTRACTOR.
4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO CHAPTER 46, PUBLIC HEALTH REGULATIONS, DEPARTMENT OF HEALTH, STATE OF HAWAII, "COMMUNITY NOISE CONTROL," IN WHICH MAXIMUM PERMISSIBLE NOISE LEVELS HAVE BEEN SET. IF THE CONSTRUCTION WORK REQUIRES A PERMIT FROM THE DIRECTOR OF HEALTH, THE CONTRACTOR SHALL OBTAIN A COPY OF CHAPTER 46 AND BECOME FAMILIAR WITH THE NOISE LEVEL RESTRICTIONS AND THE PROCEDURES FOR OBTAINING A PERMIT FOR THE CONSTRUCTION ACTIVITIES. APPLICATION AND INFORMATION ON VARIANCES ARE AVAILABLE FROM THE ENVIRONMENTAL HEALTH SERVICES DIVISION, 1250 PUNCHBOWL ST., HONOLULU, HI 96813 OR BY TELEPHONE (586-4700).
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 54, WATER QUALITY STANDARDS, AND CHAPTER 55, WATER POLLUTION CONTROL, OF TITLE 11, ADMINISTRATIVE RULES OF THE STATE DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF THE BEST MANAGEMENT PRACTICES (BMP) PLAN FOR THE PROJECT.

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 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.
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 POLLUTION 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.

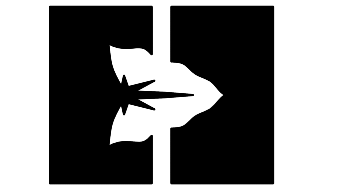


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: Dayananda H. Vitranale, License No. C-9348, State of Hawaii



Table with 4 columns: REVISION, DATE, DESCRIPTION, APPROVED BY. Contains revision history entries.



DEPARTMENT OF HAWAIIAN HOME LANDS

91-5420 Kapolei Parkway, Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr., Anahola, Island of Kauai

TMK: 4-8-001:001; 4-8-005:037 & 039

GENERAL NOTES

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHII-WATER-SYSTEM-IMPROVEMENTS\0-GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05_BID_DOCS\PHASE II - WATER TANK\03_NOTES.DWG, EDIT TIME: 08-17-18, 10:28 AM, EDITED BY: AREANE

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-DHHL-ANAHOLA-Phase II - WATER TANK\US_NOTES.DWG EDIT TIME: 08-17-18, 10:28 AM EDITED BY: AREANE

TRENCHING NOTES

- 1. 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.
2. 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.
3. OPEN-CUT TRENCHES SHALL BE COVERED DURING NON-WORKING HOURS TO SAFELY SUPPORT AND MAINTAIN LEGAL VEHICULAR TRAFFIC LOADS.
4. 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.
5. 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.
6. 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.
7. 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.
8. KEEP A COPY OF THE PLANS IN THE HANDS OF THE WORKING CREW FOR EXHIBIT UPON REQUEST OF ANY AUTHORIZED REPRESENTATIVE.
9. SUBMIT AS-BUILT DRAWINGS TO THE ENGINEER SHOWING THE ACTUAL CONSTRUCTION PERFORMED.

DEMOLITION NOTES

- 1. ALL DEMOLITION SHALL BE DONE IN ACCORDANCE WITH APPLICABLE FEDERAL AND LOCAL LAWS AND DEMOLITION REGULATIONS AND ALL APPLICABLE PERMITS.
2. NO CONTRACTOR SHALL PERFORM ANY DEMOLITION OPERATION SO AS TO CAUSE FALLING ROCKS, SOIL OR DEBRIS IN ANY FORM TO FALL, SLIDE OR FLOW ONTO ADJOINING PROPERTIES, STREETS OR NATURAL WATERCOURSES. SHOULD SUCH VIOLATIONS OCCUR, THE CONTRACTOR MAY BE CITED AND THE CONTRACTOR SHALL IMMEDIATELY MAKE ALL REMEDIAL ACTIONS NECESSARY.
3. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF OWNER FOR CLARIFICATION.
4. THE CONTRACTOR SHALL BRING ANY CONFLICTS AND/OR ANY QUESTIONS TO THE ATTENTION OF THE OWNER PRIOR TO THE START OF DEMOLITION. ANY REMEDIAL WORK RESULTING FROM THE CONTRACTOR'S FAILURE TO DO SO SHALL BE PAID FOR BY THE CONTRACTOR AT NO COST TO THE OWNER. ALL RESTORATION WORK SHALL BE PAID FOR BY THE CONTRACTOR.
5. ALL EXISTING IMPROVEMENTS AND UTILITIES THAT ARE TO REMAIN WITHIN THE DEMOLITION AND CONSTRUCTION AREAS SHALL BE PROTECTED AND MAINTAINED BY THE CONTRACTOR DURING HIS OPERATIONS, UNLESS OTHERWISE NOTED. ANY REMEDIAL WORK RESULTING FROM THE CONTRACTOR'S FAILURE TO DO SO SHALL BE PAID FOR BY THE CONTRACTOR AT NO COST TO THE CITY.
6. BACKFILL AND COMPACT ALL VOIDS, HOLES, PITS, TRENCHES AND DEPRESSIONS CAUSED BY DEMOLITION OPERATIONS WITH TOPSOIL.
7. THE CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OFFSITE OF ALL DEMOLITION MATERIALS AT NO ADDITIONAL COST TO THE OWNER.
8. AFTER COMPLETION OF THE DEMOLITION WORK, THE CONTRACTOR SHALL CLEAN THE PROJECT LIMITS OF ALL DEMOLISHED MATERIALS, RUBBISH AND ALL OTHER DEBRIS WHICH SHALL THEN BE TRANSPORTED TO A LEGAL OFFSITE DISPOSAL SITE.
9. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO DEMOLITION WORK AS SHOWN ON THE EXISTING SITE, DEMOLITION AND EROSION CONTROL PLAN, SHT. C-1.

HISTORICAL NOTES

- 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.

GRADING NOTES

TEMPORARY DUST CONTROL MEASURES FOR GRADING

- 1. THE GRADED OR PROJECT SITE THAT IS CLEARED OF VEGETATION SHALL BE KEPT DAMP WITH WATER CONTINUOUSLY FOR SEVEN (7) DAYS A WEEK AT THE END OF EACH DAY, THE SITE SHALL BE SUFFICIENTLY DAMPENED WITH WATER ON A CONTINUAL BASIS SO THAT THE SITE WILL REMAIN MOISTENED DURING THE NIGHT.
2. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO THAT EXCAVATION, EMBANKMENT, AND IMPORTED MATERIAL SHALL BE DAMPENED WITH WATER ON A CONTINUAL BASIS TO PREVENT DUST PROBLEMS.
3. IN APPLYING FOR A GRADING PERMIT, THE CONTRACTOR SHALL SUBMIT PLANS, SCHEDULES AND/OR WRITTEN MEASURES WHICH PROVIDES FOR DUST CONTROL. THE DUST CONTROL MEASURES SHALL CONTAIN POSITIVE STATEMENTS WHICH REQUIRE ACTIONS OR WORK THAT PREVENT DUST PROBLEMS. NO PERMITS WILL BE ISSUED UNLESS THE COUNTY IS ASSURED THAT DUST PROBLEMS WILL BE MINIMIZED.

TEMPORARY EROSION CONTROL MEASURES FOR GRADING

- 1. TEMPORARY VEGETATIVE COVER SHALL BE PLANTED WITHIN A PERIOD OF 30 CALENDAR DAYS AFTER THE SITE HAS BEEN GRADED OR BARED OF VEGETATION OR IF THE SITE WILL BE SUSPENDED FOR MORE THAN 30 CALENDAR DAYS.
2. TEMPORARY VEGETATIVE COVER SHALL CONSIST OF 40 LBS. COMMON RYE GRASS SEED PER ACRE, 400 LBS. PER ACRE 10-10-10 OR EQUIVALENT FERTILIZER WORKED INTO THE SEED BED BEFORE PLANTING. TEMPORARY SPRINKLER SYSTEM IS TO BE INSTALLED CONCURRENTLY WITH ALL PLANTINGS AND MAINTENANCE OF GRASS SHALL CONFORM TO THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS.

PERMANENT EROSION CONTROL MEASURES FOR GRADING

- 1. THE CONTRACTOR SHALL GRASS THE ENTIRE PROJECT SITE, EXCEPT PAVED AREAS WITH BERMUDA GRASS SPRIGS. THE GRASS SHALL BE PLANTED, FERTILIZED, AND MAINTAINED IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS.
2. THE CONTRACTOR SHALL GRASS ALL EXPOSED AREAS THAT HAVE BEEN CONSTRUCTED TO FINAL GRADES WITHIN A PERIOD OF 30 CALENDAR DAYS.
3. IN LIEU OF GRASS SPRIGS (NOTE 1), THE CONTRACTOR MAY USE HYDROMULCH WITH SEEDINGS AND IRRIGATION SPRINKLER SYSTEM.

GRADING PHASES

- 1. WHEN GRADING WORK IS DONE IN PHASES, THE OFFICER-IN-CHARGE MUST ACCEPT THE COMPLETED PHASE PRIOR TO START OF WORK ON THE NEXT PHASE. EVEN AFTER A COMPLETED PHASE HAS BEEN ACCEPTED, THE GRASSING OR OTHER MEANS OF STABILIZATION MUST BE MAINTAINED UNTIL PROJECT COMPLETION.

GEOTECHNICAL NOTES

- 1. A GEOTECHNICAL ENGINEERING ANALYSIS ENTITLED "GEOTECHNICAL ENGINEERING EXPLORATION ANAHOLA FARM LOTS WATER SYSTEM IMPROVEMENTS. ANAHOLA, KAUAI, HAWAII" DATED OCTOBER 2017 HAS BEEN PREPARED BY GEOLABS, INC. A COPY OF THE REPORT IS ON FILE AT THE DHHL OFFICE FOR REVIEW BY THE CONTRACTOR.

KAUA'I ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION NOTES

UNDERGROUND CONSTRUCTION NOTES AND REQUIREMENTS

- 1. THE LOCATION OF EXISTING KAUA'I ISLAND UTILITIES COOPERATIVE FACILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD.
2. THE CONTRACTOR SHALL CALL BEFORE YOU DIG NUMBER AT 1-866-423-7287 FOR UNDERGROUND UTILITY LOCATES TEN DAYS BEFORE START OF CONSTRUCTION.
3. MAINTAIN MINIMUM 5'-0" HORIZONTAL CLEARANCE BETWEEN WATERLINES AND KIUC POLES.
4. WATERLINE SHALL NOT RUN DIRECTLY UNDER OVERHANGING POWERLINES.
5. THE CONTRACTOR SHALL NOTIFY THE KIUC'S CONSTRUCTION COORDINATOR AT (808) 246-4343 AT LEAST FIVE DAYS IN ADVANCE, IF KIUC FACILITIES WILL BE AFFECTED.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST TO ADJUST OR RELOCATE KIUC'S FACILITIES AND TO TEMPORARILY SUPPORT FACILITIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO KIUC FACILITIES. ANY DAMAGES SHALL BE REPORTED IMMEDIATELY TO KIUC TROUBLE CALL AT (808) 246-8200.
8. A MINIMUM OF 15 FEET RADIAL CLEARANCE IS REQUIRED WHEN WORKING WITHIN THE VICINITY OF ENERGIZED OVERHEAD ELECTRICAL LINES.
9. 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.
10. CONTRACTOR SHALL CONTACT KAUA'I 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).

KAUA'I ISLAND UTILITY COOPERATIVE (KIUC) CONSTRUCTION NOTES

- 1. 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.
2. 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.
3. 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.
4. 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)
5. FOR ALL CONDUIT OTHER THAN SERVICES, REFER TO CONDUIT SCHEDULE ON DRAWINGS.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. CHAIRS SHALL BE INSTALLED AND SPACED AT A MAXIMUM OF 5 FEET SEPARATION WHEN CONCRETE ENCASING CONDUITS.
12. ALL CONDUITS SHALL ENTER BOXES AT A 90 DEGREE ANGLE, PERPENDICULAR AND FLUSH TO THE WALL WITH BELL ENDS TO PREVENT CABLE DAMAGE.
13. 90 DEGREE CONDUIT BENDS SHALL BE FACTORY-MADE WITH A MINIMUM RADIUS OF 3 FEET IN TRENCH RUNS.
14. CONDUIT BENDS EXCEEDING 90 DEGREES WILL NOT BE ACCEPTED
15. 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.
16. 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.
17. 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)
18. UNLESS OTHERWISE NOTED, THE TOP OF ALL CONDUITS SHALL BE AT A DEPTH OF 24 INCHES.
19. 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.
20. 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}
21. 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.
22. 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: Dayananda H. Vitranabe, License No. C-9348, Date of Issue



Table with columns: REVISION, DATE, DESCRIPTION, MADE BY, APPROVED



DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr. Anahola, Island of Kauai

TMK: 4-8-001:001; 4-8-005:037 & 039

GENERAL NOTES

DESIGNED BY: JM, DRAWING NO.: T-5
DRAWN BY: GT
CHECKED BY: JM
SURVEYED BY: WT, DATE: AUG. 2018
SHEET NO. 5 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-04\PHI_WATER_SYSTEM_IMPROVEMENTS\DRAWINGS\CONTRACT DOCUMENTS\05_BID_DOCS\PHASE II - WATER TANK\07_BORING_LOGS.DWG EDIT TIME: 08-17-18, 10:29 AM EDITED BY: AKEANE

G		GEOLABS, INC.		ANAHOLA FARM LOTS WATER SYSTEM IMPROVEMENTS ANAHOLA, KAUAI, HAWAII		Log of Boring 1	
Laboratory		Field		Approximate Ground Surface Elevation (feet MSL): 351.5 *			
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)
	46	75		13	2.5		0-2
LL=78 PI=45	53			7			2-5
Consol.	42	72		15			5-10
	45			12			10-15
Sieve #200 = 74.5%	44	72		37	3.5		15-20
Sieve #200 = 31.4%	15		67	0	52/6" +34/2" Ref.		20-25
	29		89	0	34/6" +25/3" Ref.		25-30
	27		83	15	103/6"		30-35
Date Started: July 10, 2017		Water Level: ∇ Not Encountered		Plate			
Date Completed: July 10, 2017		Drill Rig: MOBILE B-80 (Energy Transfer Ratio = 44.9%)		A - 1.1			
Logged By: N. Vaiana		Drilling Method: 4" Solid Stem Auger & HQ Coring		Work Order: 7534-00			
Total Depth: 102 feet		Driving Energy: 140 lb. wt., 30 in. drop					

G		GEOLABS, INC.		ANAHOLA FARM LOTS WATER SYSTEM IMPROVEMENTS ANAHOLA, KAUAI, HAWAII		Log of Boring 1	
Laboratory		Field		(Continued from previous plate)			
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)
							75-80
							80-85
							85-90
							90-95
							95-100
							100-102
Date Started: July 10, 2017		Water Level: ∇ Not Encountered		Plate			
Date Completed: July 10, 2017		Drill Rig: MOBILE B-80 (Energy Transfer Ratio = 44.9%)		A - 1.3			
Logged By: N. Vaiana		Drilling Method: 4" Solid Stem Auger & HQ Coring		Work Order: 7534-00			
Total Depth: 102 feet		Driving Energy: 140 lb. wt., 30 in. drop					

G		GEOLABS, INC.		ANAHOLA FARM LOTS WATER SYSTEM IMPROVEMENTS ANAHOLA, KAUAI, HAWAII		Log of Boring 3	
Laboratory		Field		Approximate Ground Surface Elevation (feet MSL): 345.5 *			
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)
	21	82		34			0-5
	32			15			5-10
TXUU S _v =3.9 ksf	36	83		33	4.3		10-15
	45			9			15-20
	36	74		49	2.8		20-25
LL=106 PI=72	42			13			25-30
	29	80		27			30-35
	39			17			35-40
Date Started: July 13, 2017		Water Level: ∇ Not Encountered		Plate			
Date Completed: July 13, 2017		Drill Rig: MOBILE B-80 (Energy Transfer Ratio = 44.9%)		A - 3			
Logged By: N. Vaiana		Drilling Method: 4" Solid Stem Auger		Work Order: 7534-00			
Total Depth: 31.5 feet		Driving Energy: 140 lb. wt., 30 in. drop					

G		GEOLABS, INC.		ANAHOLA FARM LOTS WATER SYSTEM IMPROVEMENTS ANAHOLA, KAUAI, HAWAII		Log of Boring 1	
Laboratory		Field		(Continued from previous plate)			
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)
UC=2110 psi			95	23			40-45
UC=1120 psi			100	83			45-50
			100	75			50-55
			100	92			55-60
			100	50			60-65
			100	75			65-70
			100	67			70-75
Date Started: July 10, 2017		Water Level: ∇ Not Encountered		Plate			
Date Completed: July 10, 2017		Drill Rig: MOBILE B-80 (Energy Transfer Ratio = 44.9%)		A - 1.2			
Logged By: N. Vaiana		Drilling Method: 4" Solid Stem Auger & HQ Coring		Work Order: 7534-00			
Total Depth: 102 feet		Driving Energy: 140 lb. wt., 30 in. drop					

G		GEOLABS, INC.		ANAHOLA FARM LOTS WATER SYSTEM IMPROVEMENTS ANAHOLA, KAUAI, HAWAII		Log of Boring 2	
Laboratory		Field		Approximate Ground Surface Elevation (feet MSL): 350 *			
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)
Sieve #200 = 80.7%	43	72		17	3.0		0-5
Direct Shear	37	70		12	2.3		5-10
LL=90 PI=48	51			9			10-15
	46	67		25	2.5		15-20
Date Started: July 13, 2017		Water Level: ∇ Not Encountered		Plate			
Date Completed: July 13, 2017		Drill Rig: MOBILE B-80 (Energy Transfer Ratio = 44.9%)		A - 2			
Logged By: N. Vaiana		Drilling Method: 4" Solid Stem Auger		Work Order: 7534-00			
Total Depth: 16.5 feet		Driving Energy: 140 lb. wt., 30 in. drop					

BORING NOTES:

- THE INFORMATION FOR THE BORING LOGS WERE TAKEN FROM A GEOTECHNICAL ENGINEERING EXPLORATION REPORT PREPARED FOR THE PROJECT BY GEOLABS, INC., DATED OCTOBER 25, 2017.
- SEE SHEET C-1 FOR APPROXIMATE BORING LOCATIONS.
- THE BORING LOGS INDICATED THE APPROXIMATE SUBSURFACE SOIL CONDITION ENCOUNTERED ONLY AT THOSE TIMES AND LOCATIONS WHERE THE BORINGS WERE MADE, AND MAY NOT REPRESENT CONDITIONS AT OTHER TIMES AND LOCATIONS.
- IF ANY DISCREPANCIES BETWEEN THESE PLANS AND THE GEOTECHNICAL ENGINEERING EXPLORATION REPORT ARE FOUND, THE REPORT SHALL TAKE PRECEDENCE.



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

Signature: Dayananda H. Vitthala
Date: August 2018



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED



DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

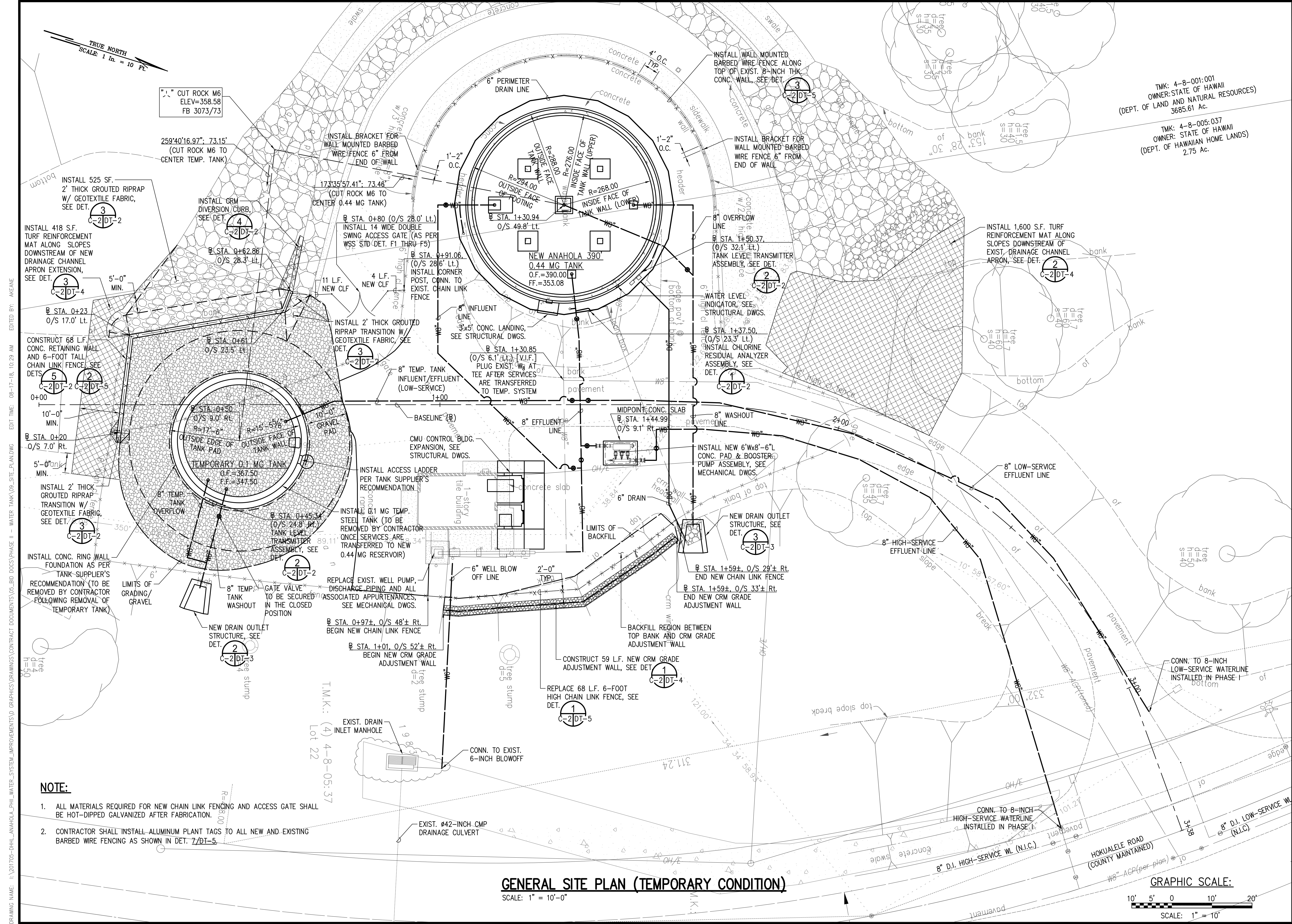
ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai
TMK: 4-8-001:001; 4-8-005:037 & 039

BORING LOGS AND NOTES

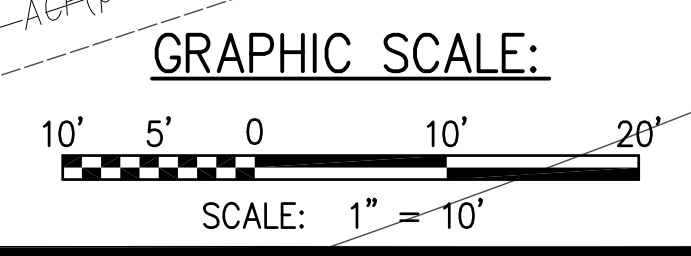
DESIGNED BY: _____	DRAWING NO. G-1
DRAWN BY: _____	
CHECKED BY: _____	
SURVEYED BY: WT	DATE: AUG. 2018
SHEET NO. 7 OF 79	

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



- NOTE:**
1. ALL MATERIALS REQUIRED FOR NEW CHAIN LINK FENCING AND ACCESS GATE SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
 2. CONTRACTOR SHALL INSTALL ALUMINUM PLANT TAGS TO ALL NEW AND EXISTING BARBED WIRE FENCING AS SHOWN IN DET. 7/DT-5.

GENERAL SITE PLAN (TEMPORARY CONDITION)
SCALE: 1" = 10'-0"



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REVISION	DATE	DESCRIPTION	APPROVED



DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai
TMK: 4-8-001:001; 4-8-005:037 & 039

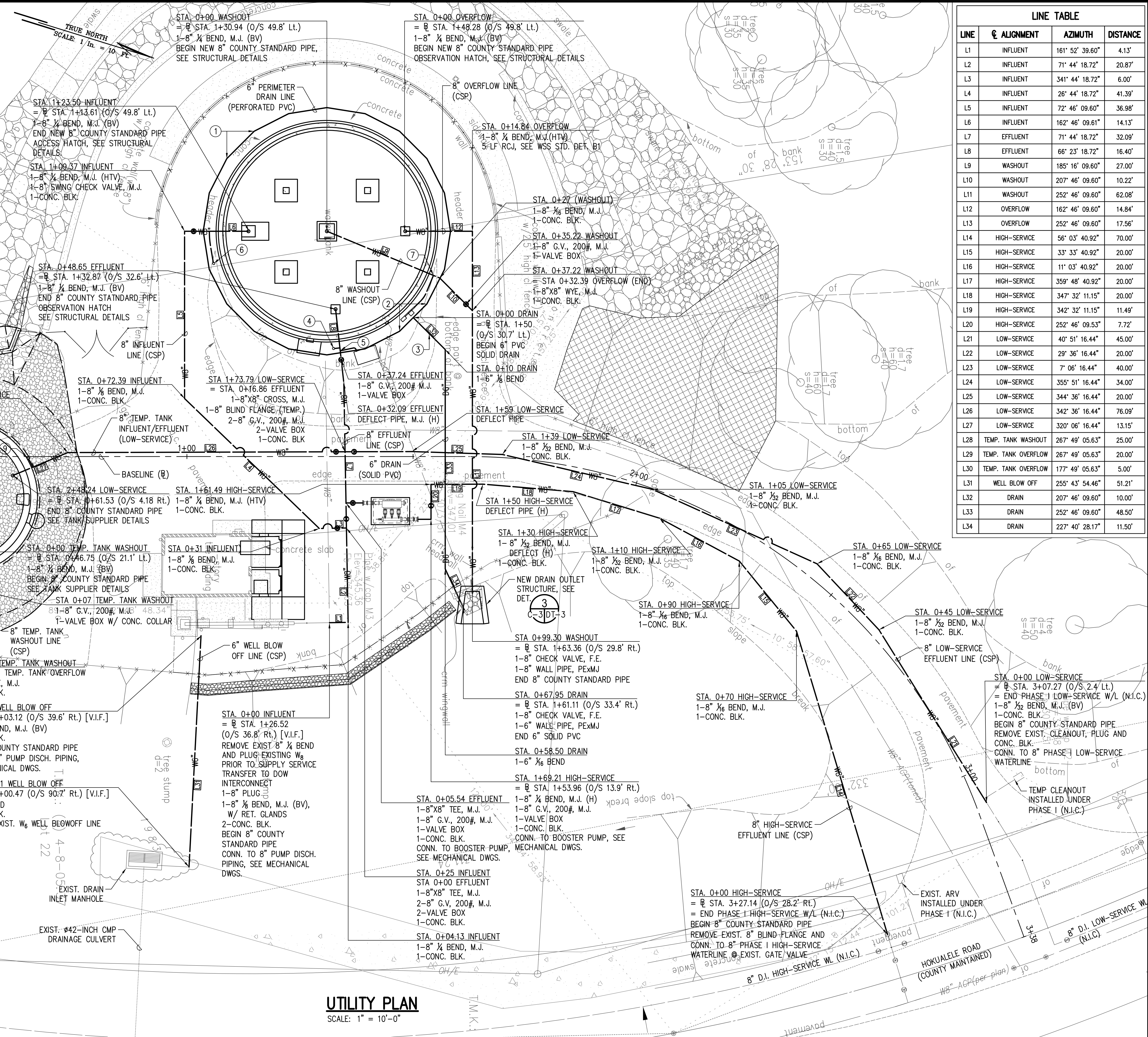
GENERAL SITE PLAN (TEMPORARY CONDITION)

DESIGNED BY: JM, AK
DRAWN BY: AK
CHECKED BY: JM
SURVEYED BY: WT
DATE: AUG. 2018
SHEET NO. 9 OF 79

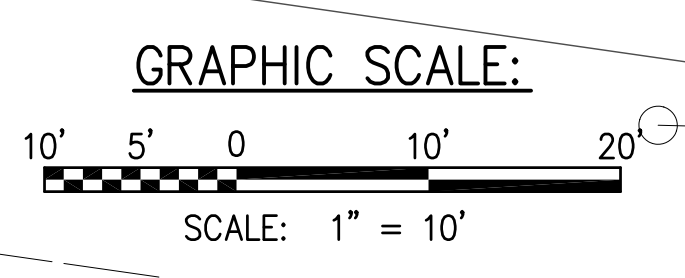
DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER-SYSTEM-IMPROVEMENTS\0-GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05-BID DOCS\PHASE II - WATER TANK\09_SIT PLAN\DWG EDITED BY: AKANE DATE: 08-17-18, 10:29 AM

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

- 1 6" PERIMETER DRAIN HIGH POINT - PIPE INV. ELEV.=347.83
- 2 6" PERIMETER DRAIN LOW POINT - PIPE INV. ELEV.=347.06
- 3 STA. 0+05 DRAIN PROVIDE 4" DIA. OBSERVATION PORT, SEE DET. 1/DT-3
- 4 WATER SAMPLING STATION ON RESERVOIR EFFLUENT, SEE DET. 4/DT-3
- 5 STA. 0+39.23 EFFLUENT, CHLORINE RESIDUAL ANALYZER 3/4" SUPPLY LINE CONN. TO 8" EFFLUENT LINE, 1-3/4" BRONZE BALL CORP. STOP & NECESSARY 3/4" TYPE K COPPER TUBING, SEE DET. 1/DT-2
- 6 WATER SAMPLING STATION ON RESERVOIR INFLUENT, SEE DET. 4/DT-3
- 7 STA. 0+25.50 WASHOUT, TANK LEVEL TRANSMITTER 1" SUPPLY LINE CONN. TO 8" WASHOUT LINE & NECESSARY 1" TYPE K COPPER TUBING, SEE DET. 2/DT-2
- 8 STA. 0+03 TEMP. TANK WASHOUT, TANK LEVEL TRANSMITTER 1" SUPPLY LINE CONN. TO 8" WASHOUT LINE & NECESSARY 1" TYPE K COPPER TUBING, SEE DET. 2/DT-2
- 9 WATER SAMPLING STATION ON TEMP. TANK INFLUENT/EFFLUENT, SEE DET. 4/DT-3



LINE TABLE			
LINE	ALIGNMENT	AZIMUTH	DISTANCE
L1	INFLUENT	161° 52' 39.60"	4.13'
L2	INFLUENT	71° 44' 18.72"	20.87'
L3	INFLUENT	341° 44' 18.72"	6.00'
L4	INFLUENT	26° 44' 18.72"	41.39'
L5	INFLUENT	72° 46' 09.60"	36.98'
L6	INFLUENT	162° 46' 09.61"	14.13'
L7	EFFLUENT	71° 44' 18.72"	32.09'
L8	EFFLUENT	66° 23' 18.72"	16.40'
L9	WASHOUT	185° 16' 09.60"	27.00'
L10	WASHOUT	207° 46' 09.60"	10.22'
L11	WASHOUT	252° 46' 09.60"	62.08'
L12	OVERFLOW	162° 46' 09.60"	14.84'
L13	OVERFLOW	252° 46' 09.60"	17.56'
L14	HIGH-SERVICE	56° 03' 40.92"	70.00'
L15	HIGH-SERVICE	33° 33' 40.92"	20.00'
L16	HIGH-SERVICE	11° 03' 40.92"	20.00'
L17	HIGH-SERVICE	359° 48' 40.92"	20.00'
L18	HIGH-SERVICE	347° 32' 11.15"	20.00'
L19	HIGH-SERVICE	342° 32' 11.15"	11.49'
L20	HIGH-SERVICE	252° 46' 09.53"	7.72'
L21	LOW-SERVICE	40° 51' 16.44"	45.00'
L22	LOW-SERVICE	29° 36' 16.44"	20.00'
L23	LOW-SERVICE	7° 06' 16.44"	40.00'
L24	LOW-SERVICE	355° 51' 16.44"	34.00'
L25	LOW-SERVICE	344° 36' 16.44"	20.00'
L26	LOW-SERVICE	342° 36' 16.44"	76.09'
L27	LOW-SERVICE	320° 06' 16.44"	13.15'
L28	TEMP. TANK WASHOUT	267° 49' 05.63"	25.00'
L29	TEMP. TANK OVERFLOW	267° 49' 05.63"	20.00'
L30	TEMP. TANK OVERFLOW	177° 49' 05.63"	5.00'
L31	WELL BLOW OFF	255° 43' 54.46"	51.21'
L32	DRAIN	207° 46' 09.60"	10.00'
L33	DRAIN	252° 46' 09.60"	48.50'
L34	DRAIN	227° 40' 28.17"	11.50'



UTILITY PLAN
SCALE: 1" = 10'-0"

DESIGNED BY: JM DRAWING NO. **C-3**
 DRAWN BY: JM
 CHECKED BY: AK
 SURVEYED BY: WT DATE: AUG. 2018
 SHEET NO. 10 OF 79

DEPARTMENT OF HAWAIIAN HOME LANDS
 91-5420 Kapolei Parkway
 Kapolei, Hawaii 96707

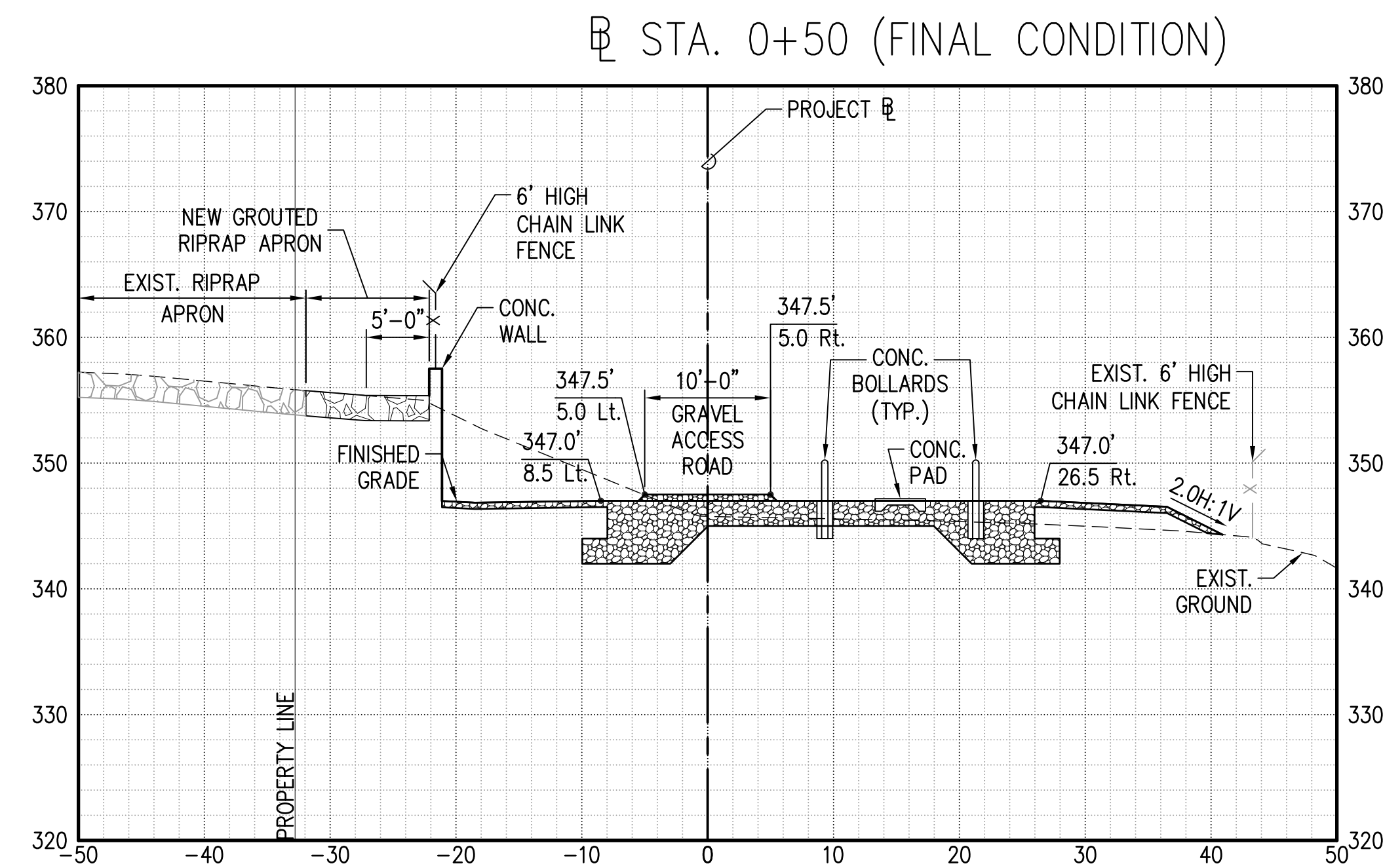
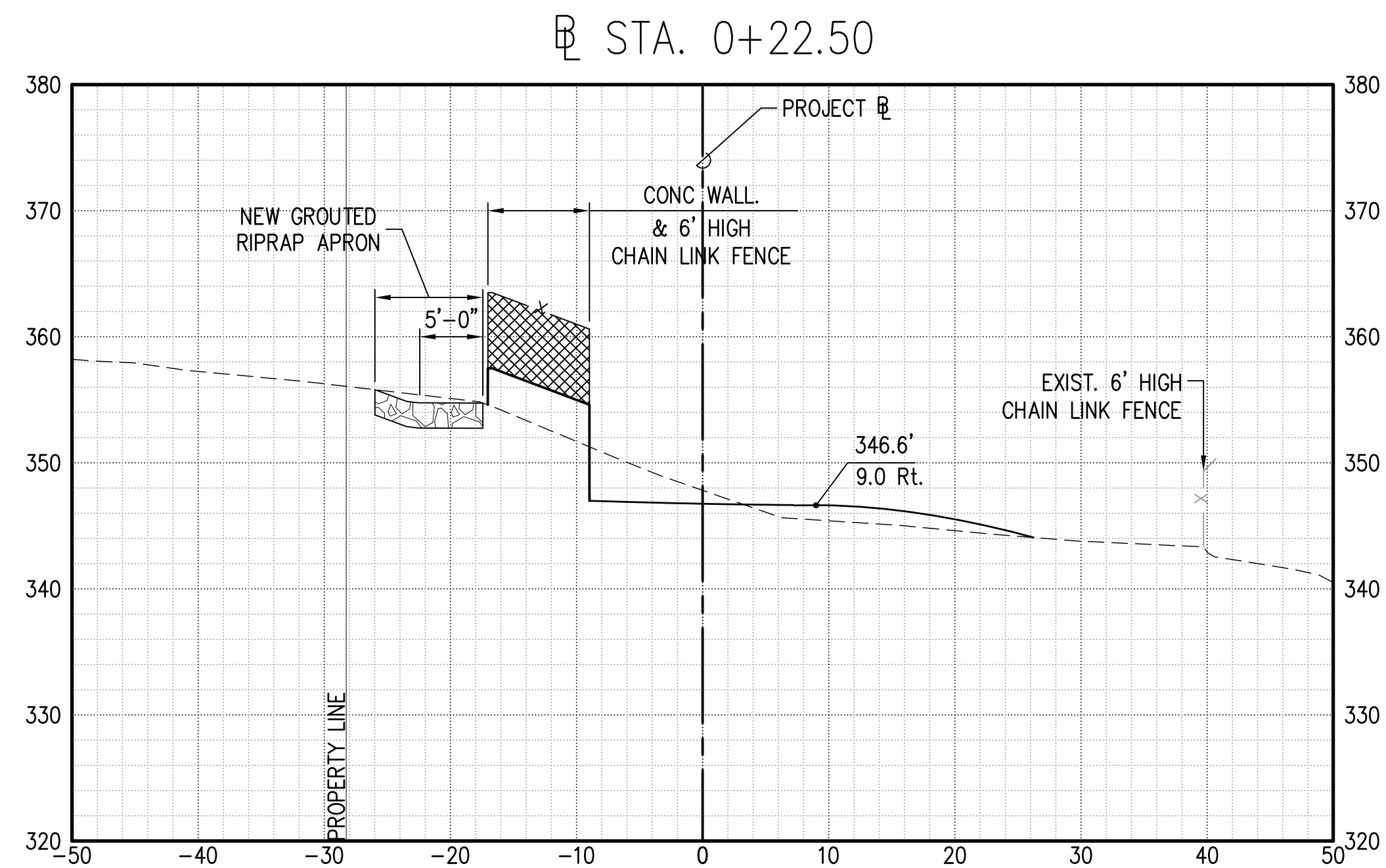
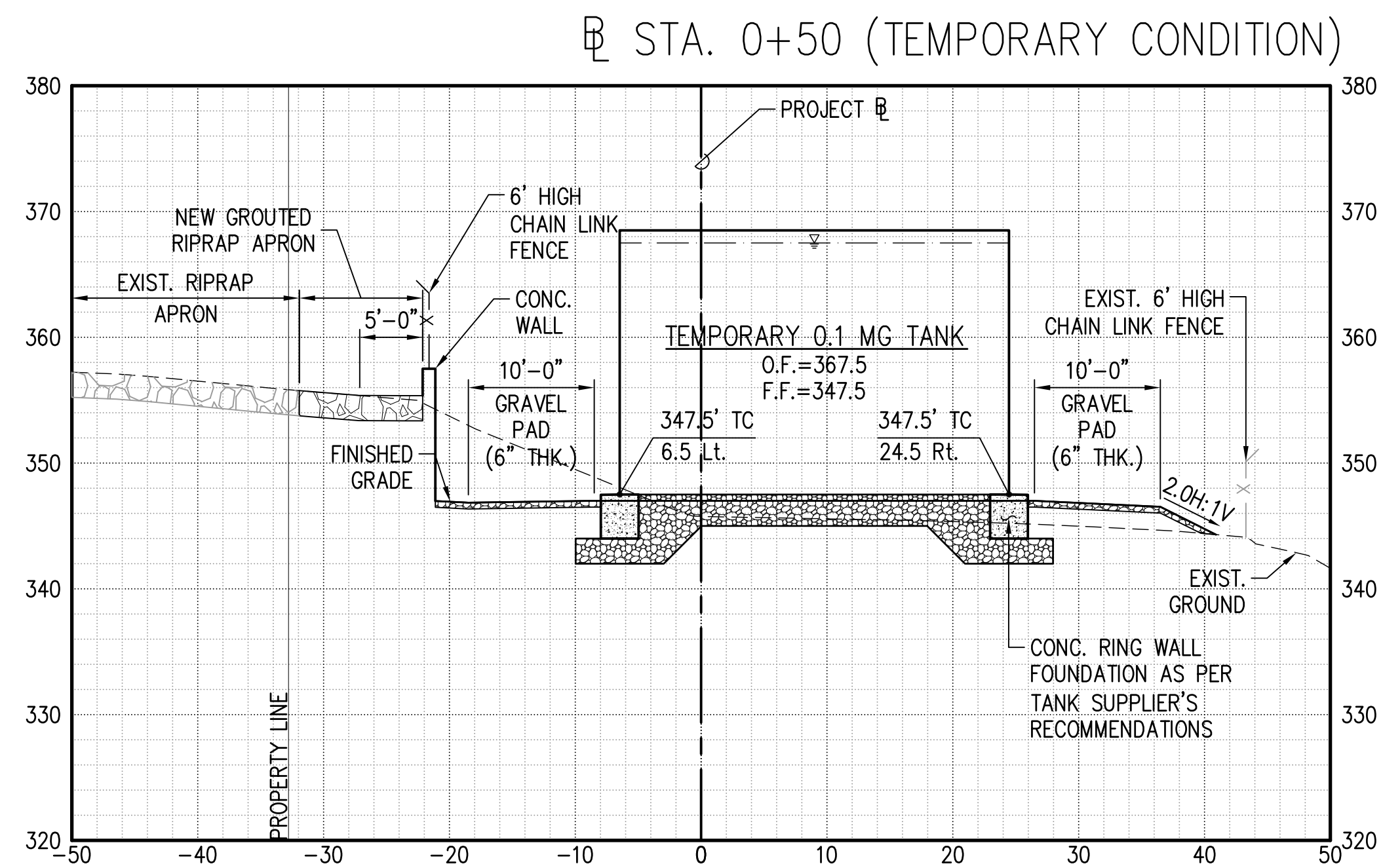
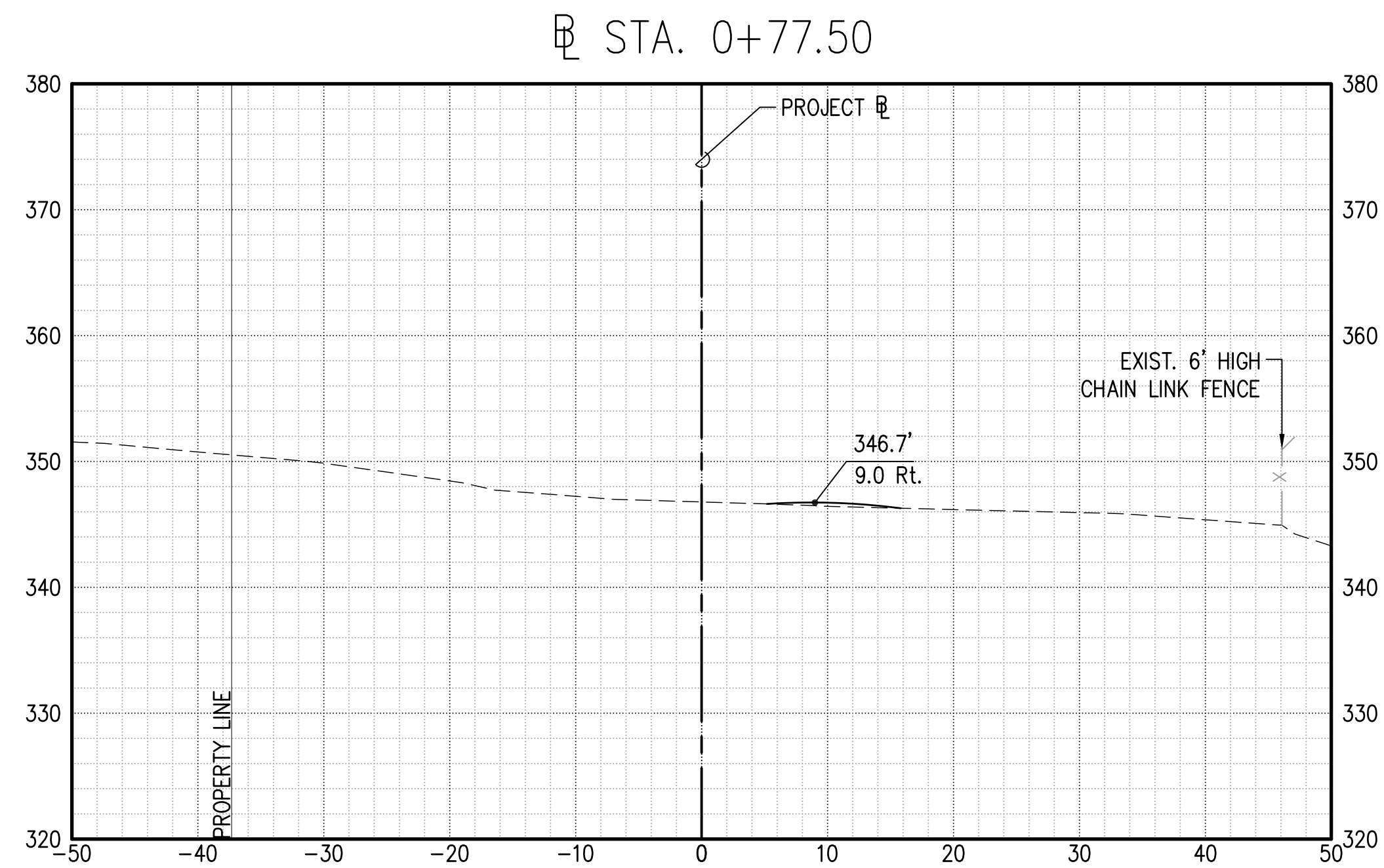
ANAHOLA FARM LOTS WATER PROJECT
 Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kauai

TMK:
 4-8-001:001; 4-8-005:037 & 039

UTILITY PLAN

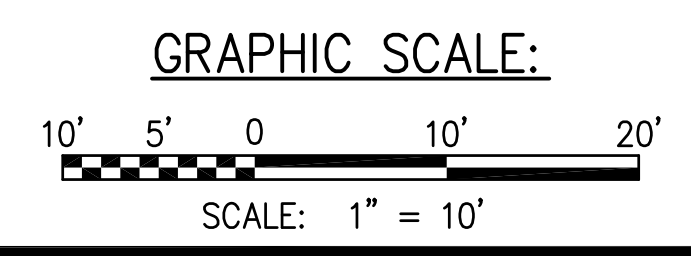
FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER_SYSTEM_IMPROVEMENTS\0-GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05-BID DOCS\PHASE II - WATER TANK\1-CROSS SECTION.DWG EDIT TIME: 08-17-18, 10:30 AM EDITED BY: AREANE



CROSS SECTIONS - TEMPORARY TANK

SCALE: HOR.: 1" = 10'-0"
VER.: 1" = 10'-0"



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ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kaua'i

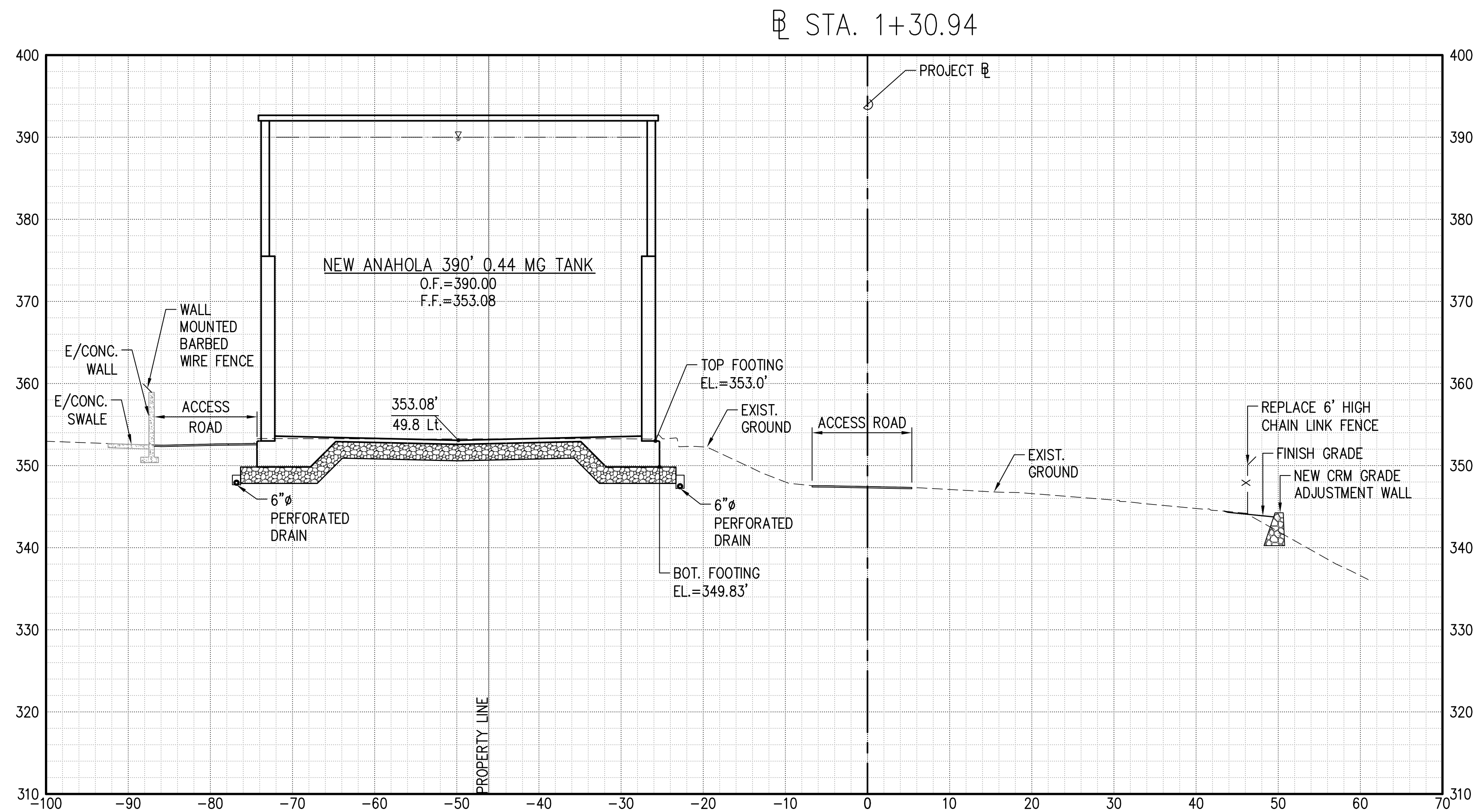
TMK: 4-8-001:001; 4-8-005:037 & 039

CROSS SECTIONS TEMPORARY TANK

DESIGNED BY: AK	DRAWING NO. C-7
DRAWN BY: AK	
CHECKED BY: JM	
SURVEYED BY: WT	DATE: AUG. 2018
SHEET NO. 14 OF 79	

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PII-WATER_SYSTEM_IMPROVEMENTS\05_BID_DOCS\PHASE II - WATER TANK\15_GROSS_SECTION_TANK.DWG EDIT TIME: 08-17-18, 10:30 AM EDITED BY: AKANE



CROSS SECTION - NEW CONCRETE WATER TANK

SCALE: HOR.: 1" = 10'-0"
VER.: 1" = 10'-0"

GRAPHIC SCALE:



SCALE: 1" = 10'

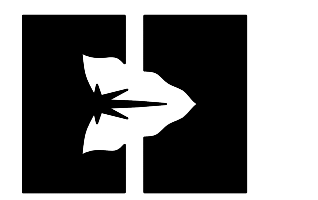


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Signature: Day Amanda H. Vitran
Date: 8/17/18
Expiration Date of the License



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91-5420 Kapolei Parkway
Kapolei, Hawai'i 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr. Anahola, Island of Kaua'i

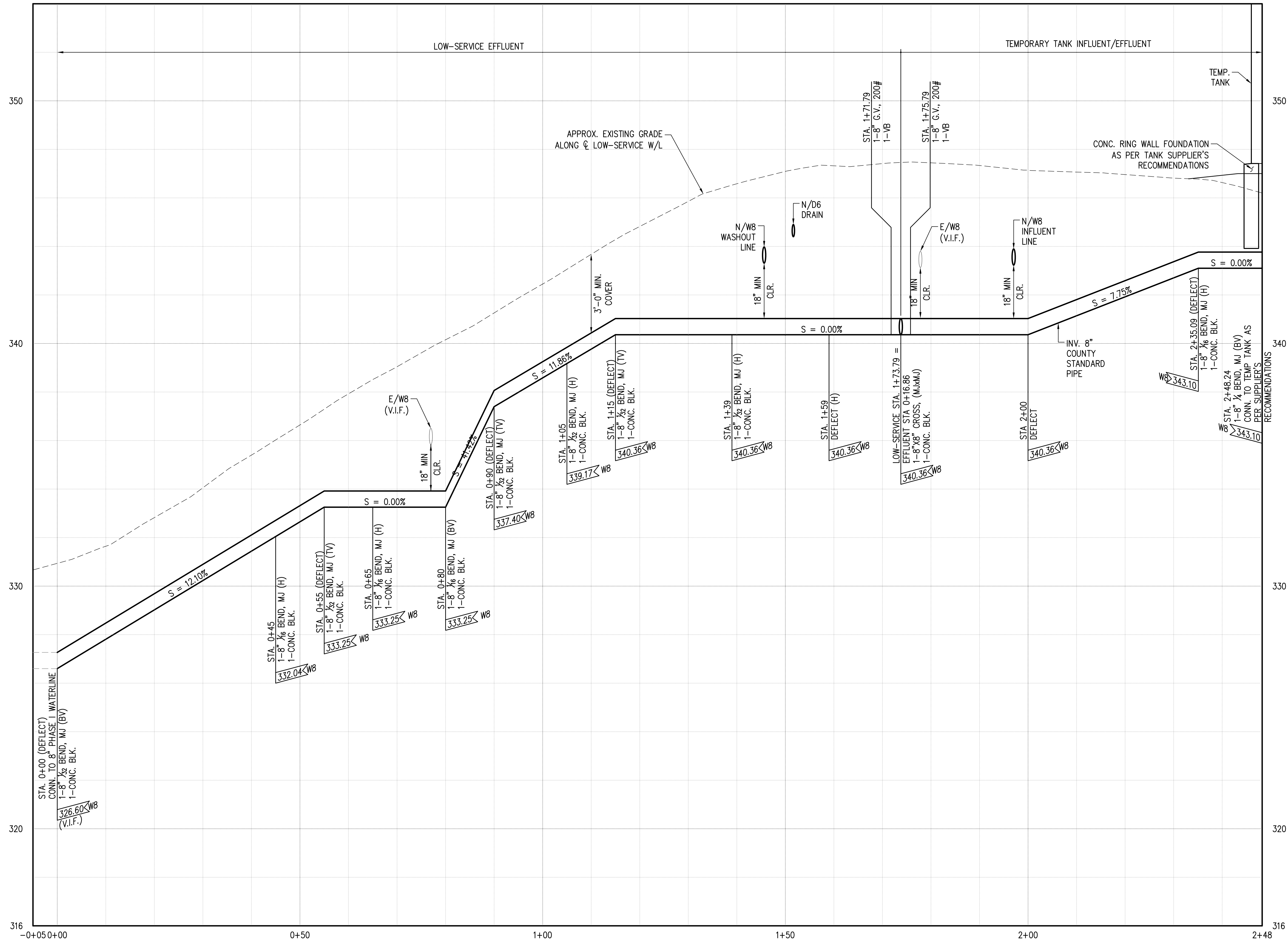
TMK: 4-8-001:001; 4-8-005:037 & 039

CROSS SECTION NEW CONCRETE WATER TANK

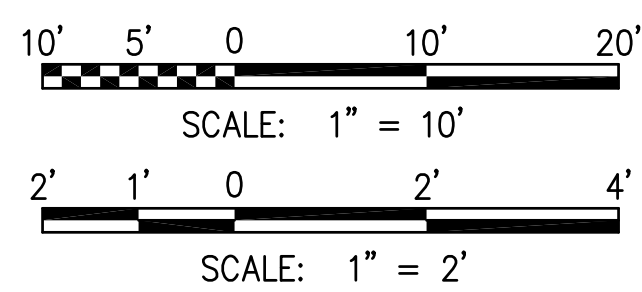
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CHECKED BY: JM
SURVEYED BY: WT
DATE: AUG. 2018
DRAWING NO.: C-8
SHEET NO. 15 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHII-WATER_SYSTEM_IMPROVEMENTS\05_BID_DOCS\PHASE II - WATER TANK\18_PROFILE 3.DWG EDIT TIME: 08-17-18, 10:30 AM EDITED BY: AK/ANE

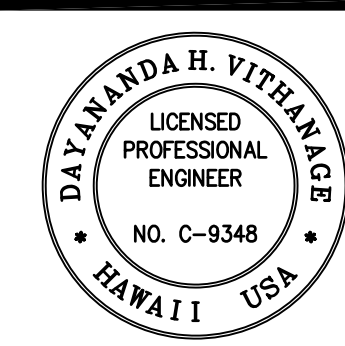


GRAPHIC SCALE:



PROFILE - 8" LOW-SERVICE LINE

SCALE: HOR.: 1" = 10'-0"
VER.: 1" = 2'-0"



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Signature: Day Amanda H. Vitran, License No. C-9348



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ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai

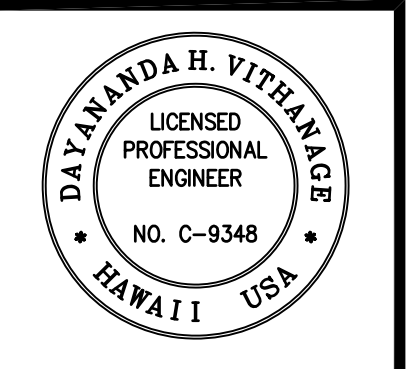
TMK: 4-8-001:001; 4-8-005:037 & 039

PROFILES - 3

DESIGNED BY: AK
DRAWN BY: AK
CHECKED BY: JM
SURVEYED BY: WT
DATE: AUG. 2018
DRAWING NO.: C-11
SHEET NO. 18 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER_SYSTEM_IMPROVEMENTS\0 GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05_BID_DOCS\PHASE II - WATER TANK\19_PROFILE 4.DWG EDIT TIME: 08-17-18, 10:31 AM EDITED BY: AK/EANE



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Signature: Dayananda H. Vithanage
 License No. C-9348
 State of Hawaii



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 Kapolei, Hawaii 96707

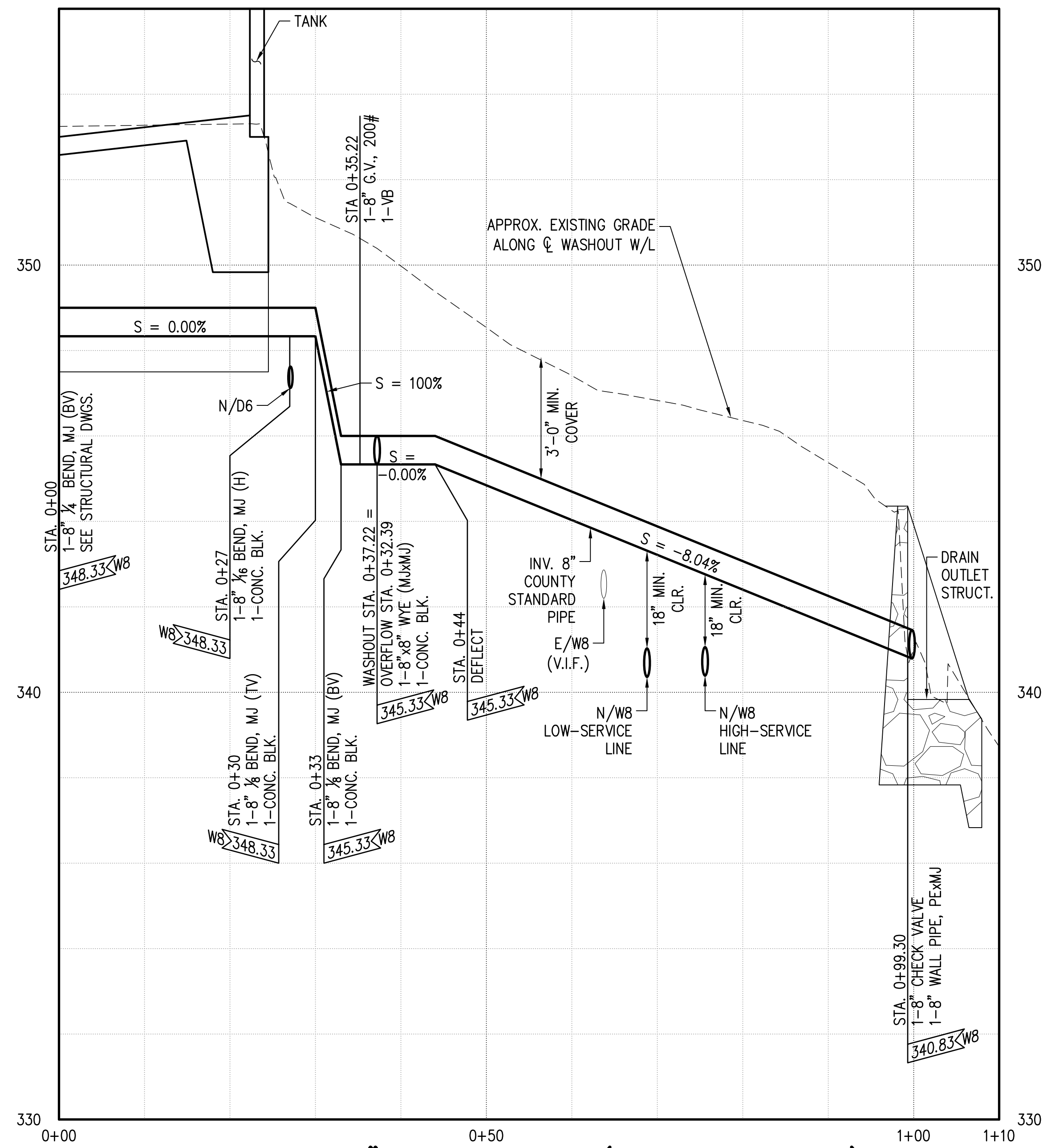
ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kaua'i

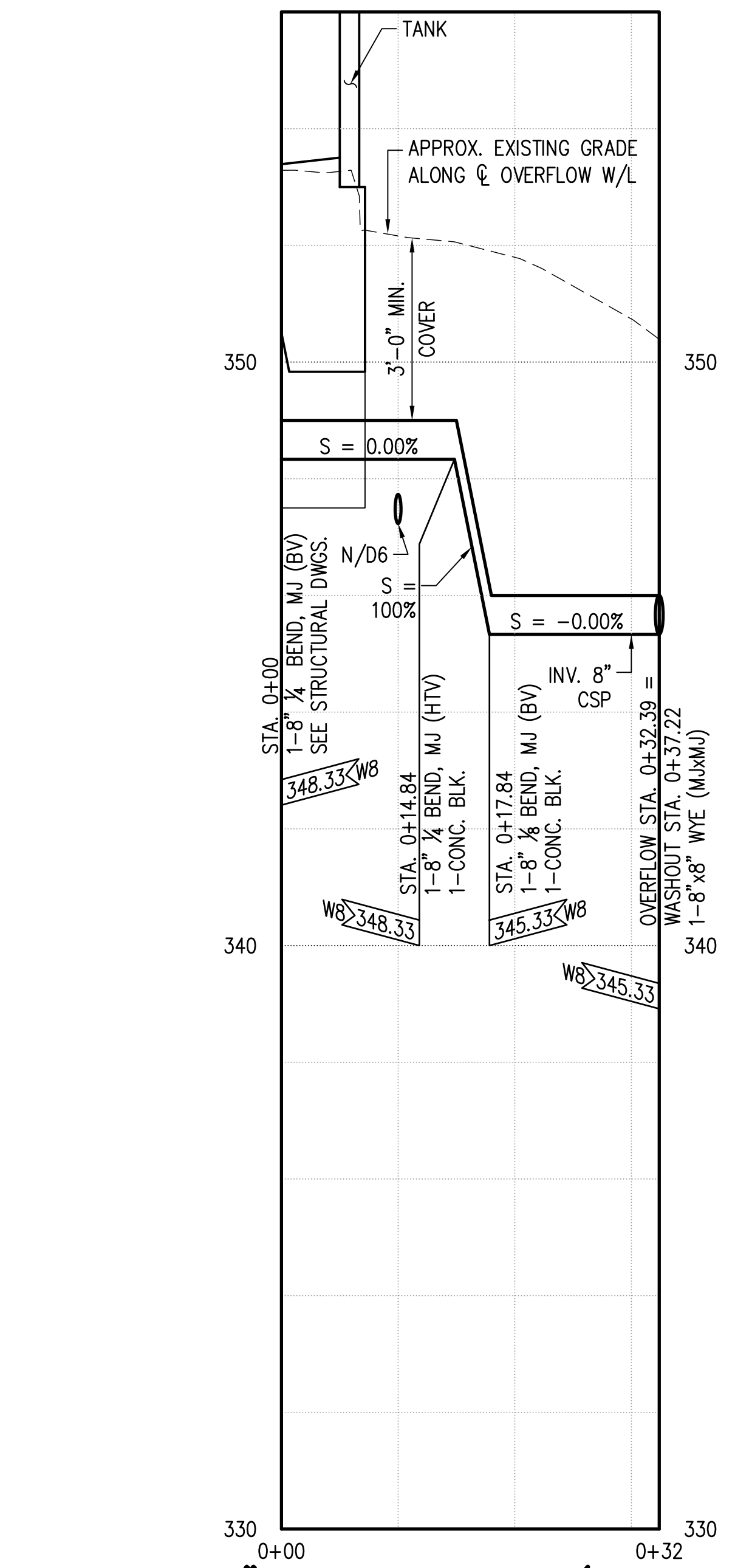
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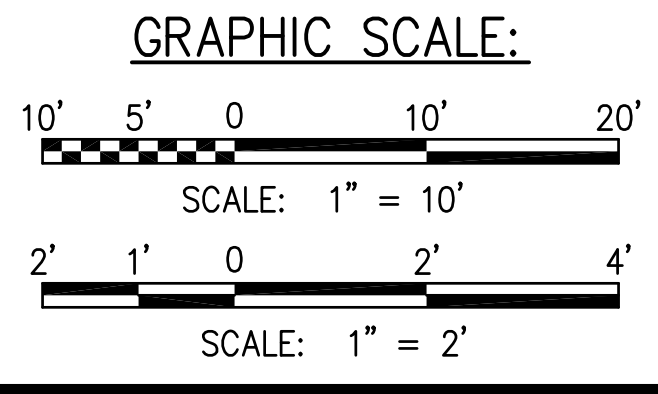
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DRAWN BY: AK	CHECKED BY: JM
SURVEYED BY: WT	DATE: AUG. 2018
SHEET NO. 19 OF 79	



PROFILE - 8" WASHOUT LINE (PERMANENT TANK)
 SCALE: HOR.: 1" = 10'-0"
 VER.: 1" = 2'-0"

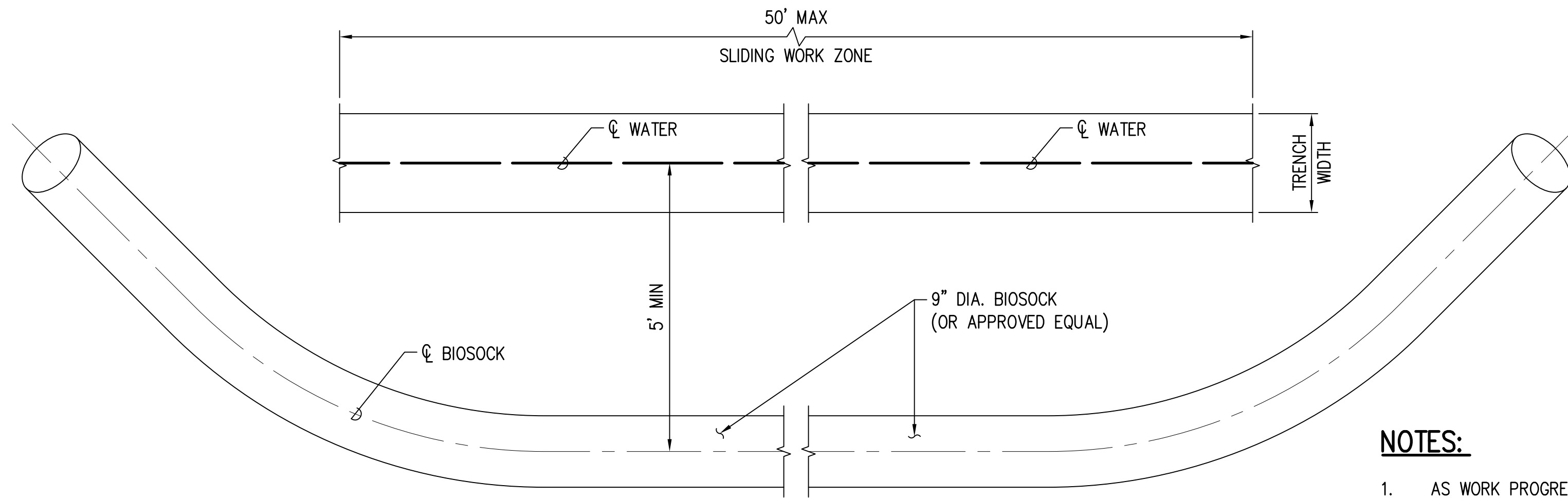


PROFILE - 8" OVERFLOW LINE (PERMANENT TANK)
 SCALE: HOR.: 1" = 10'-0"
 VER.: 1" = 2'-0"



FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHII-WATER_SYSTEM_IMPROVEMENTS\0 GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05-BID DOCS\PHASE II - WATER TANK\26-BMP-DETAIL.DWG EDIT TIME: 08-17-18, 10:31 AM EDITED BY: AKEANE



OPEN TRENCH SEDIMENT BARRIER
NOT TO SCALE

EROSION CONTROL NOTES AND BEST MANAGEMENT PRACTICES (BMPs):

- MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS SHALL BE IN PLACE BEFORE ANY TRENCHING WORK IS INITIATED. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND SHALL REMAIN IN PLACE UNTIL THE PERMANENT GROUND COVER IS FULLY ESTABLISHED.
- THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN TEMPORARY FIBER ROLL BARRIER AS INDICATED ON THIS SHEET. FIBER ROLL ALIGNMENT AND LENGTH SHOWN ARE APPROXIMATE. CONTRACTOR SHALL ADJUST ACTUAL LOCATIONS TO ACCOMMODATE HIS/HER CONSTRUCTION METHODS AND RETAIN SILT ON-SITE.
- CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF CLEARED SURFACE AREA. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN TWENTY (20) CALENDAR DAYS PRIOR TO SITE DISTURBANCE.
- TEMPORARY STOCKPILING OF EXCAVATED MATERIAL SHALL NOT BE PERMITTED AT THE PROJECT SITE. ALL EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE DAILY.
- GOOD HOUSEKEEPING SHALL BE UTILIZED TO ENSURE PROTECTION OF ROADWAYS FROM MUD, DIRT AND DEBRIS.
- THE CONTRACTOR SHALL ENSURE THAT ALL TIRES OF CONSTRUCTION VEHICLES ARE SUFFICIENTLY CLEANED OFF SO THAT DIRT OR DEBRIS IS NOT TRACKED OFF THE CONSTRUCTION SITE. WASHING OFF TIRE WILL NOT BE ACCEPTABLE UNLESS THE RUNOFF IS CONTAINED AND DOES NOT ENTER THE STORM DRAIN SYSTEM.
- AT THE END OF TRENCHING OPERATIONS AND AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL INSPECT ALL CATCH BASIN, DRAIN INLET AND DRAIN MANHOLE SURROUNDING THE PROJECT SITE. ANY ACCUMULATED SEDIMENT AND DEBRIS FOUND IN THE STORM DRAIN STRUCTURES SHALL BE REMOVED. FLUSHING INTO THE DRAIN STRUCTURES IS PROHIBITED.
- ANY DIRT OR GRASSED AREA DISTURBED SHALL BE RESTORED BY RE-GRASSING THE AREA OR BY SEEDING HYDROMULCH. THE GRASS SHALL BE FULLY ESTABLISHED AT COMPLETION OF THE PROJECT.
- STORM WATER FLOWING TOWARD THE CONSTRUCTION AREA SHALL BE DIVERTED BY USING APPROPRIATE CONTROL MEASURES AS PRACTICAL. ADDITIONALLY, STORM WATER SHALL NOT BE PERMITTED TO SHEETFLOW OVER THE OPEN DRILL PITS.
- REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS.

MAINTENANCE:

- INSPECT AND FIBER ROLL DAILY AND IMMEDIATELY AFTER EACH RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- SHOULD THE FABRIC ON A FIBER ROLL DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FIBER ROLL SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT. SEDIMENT SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FIBER ROLL IS NO LONGER REQUIRED SHALL BE REMOVED BY THE CONTRACTOR.

FILTER SOCK NOTES:

- COMPOST FILTER SOCKS SHOULD BE EITHER PREFABRICATED OR ASSEMBLED AT SITE.
- COMPOST USED FOR FILTER SOCK FILLER MATERIAL SHALL NOT CONTAIN ANY BIOSOLIDS AND SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL GUIDELINES.
- FILTER SOCK MATERIALS ARE:
 - HIGH DENSITY POLYETHYLENE (HDPE) EXPANDABLE, TUBULAR, BIODEGRADABLE OR PHOTODEGRADABLE;
 - POLYESTER KNITTED MESH NETTING FABRIC SOCK; OR
 - COMPOSITE TWO LAYERED COMPOST SOCK CAN BE CONSTRUCTED USING A POLYESTER KNITTED MESH NETTING FABRIC SOCK AS THE OUTERMOST LAYER AND HDPE EXPANDABLE, TUBULAR, BIODEGRADABLE OR PHOTODEGRADABLE NETTING AS THE INNERMOST LAYER.
- LOCATE COMPOST FILTER SOCKS ON LEVEL CONTOURS SPACED AS FOLLOWS:
 - SLOPE INCLINATION OF 4:1 (H:V) OR FLATTER: COMPOST FILTER SOCKS AND/OR BERMS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 20 FT.
 - SLOPE INCLINATION BETWEEN 4:1 AND 2:1 (H:V): COMPOST FILTER SOCKS (USE OF BERMS NOT RECOMMENDED) SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 15 FT. (A CLOSER SPACING IS MORE EFFECTIVE).
 - SLOPE INCLINATION OF 2:1 (H:V) OR GREATER: COMPOST FILTER SOCKS SHOULD BE PLACED AT MAXIMUM INTERVAL OF 10 FT.
- TURN THE ENDS OF THE COMPOST FILTER SOCKS UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
- STAKE COMPOST FILTER SOCKS WITH STAKES WITH A MINIMUM LENGTH OF 14 IN AND SPACED 4 FT ON CENTER.
- IF MORE THAN ONE COMPOST FILTER SOCKS IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED A MINIMUM OF 6 INCHES, NOT ABUTTED.
- A SANDBAG SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE FILTER SOCK BARRIER AT A SPACING OF 6 FEET ON CENTER AND AT EACH OVERLAP.
- THE OUTERMOST LAYER OF THE FILTER SOCK SHALL HAVE AN APPARENT OPENING SIZE NO GREATER THAN 3/8".
- SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT. SEDIMENT SHALL BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER SOCK IS NO LONGER REQUIRED SHALL BE REMOVED BY THE CONTRACTOR.

NOTES:

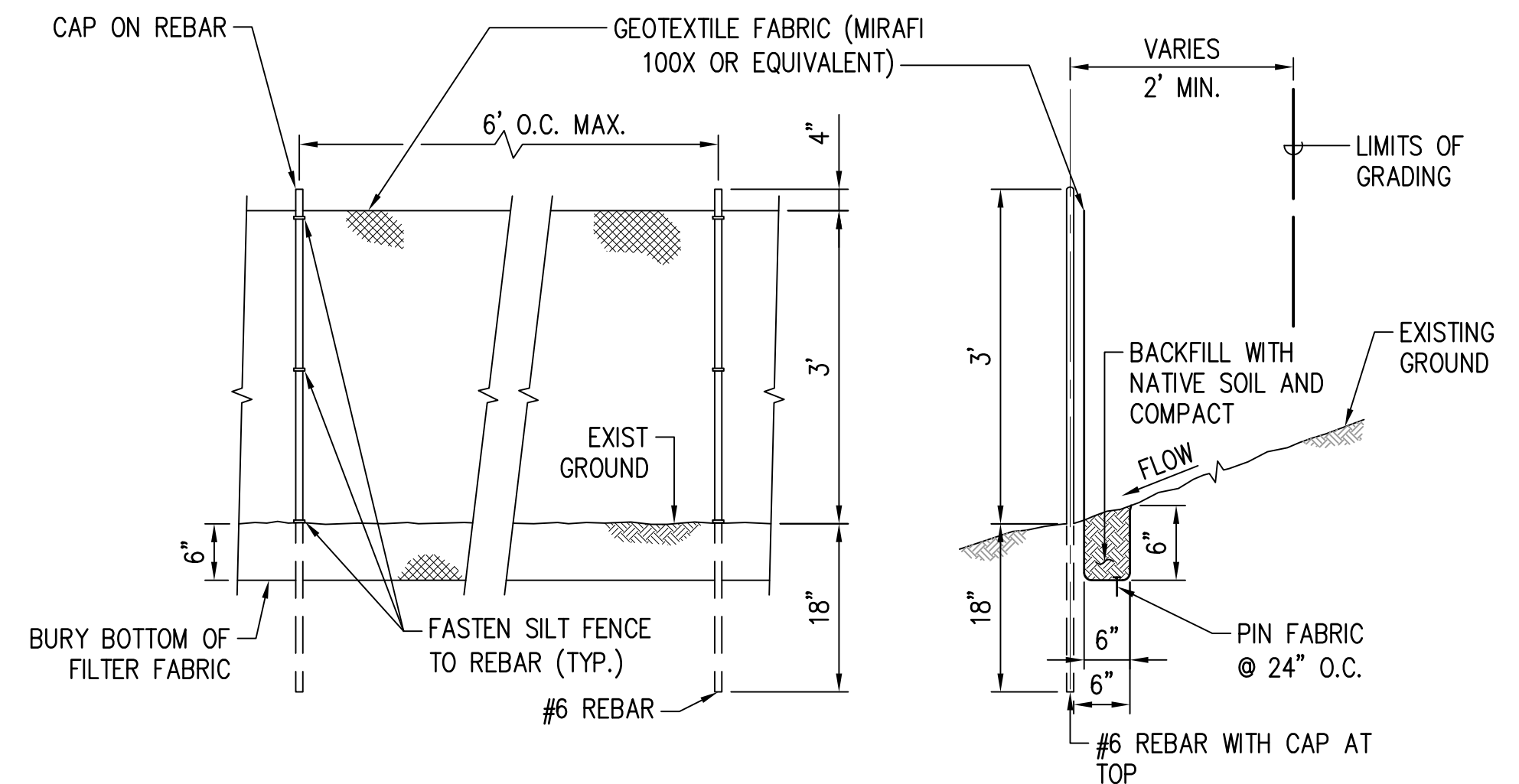
- AS WORK PROGRESSES, FIBER ROLLS SHALL BE RELOCATED AROUND THE WORK AREA IN A CONFIGURATION THAT WILL BEST CAPTURE RUNOFF POLLUTANTS.
- FIBER ROLLS LOCATED ON GROUND WITH STEEPER THAN A 4:1 GRADE SHALL REQUIRE ANCHORING.

SILT FENCE NOTES:

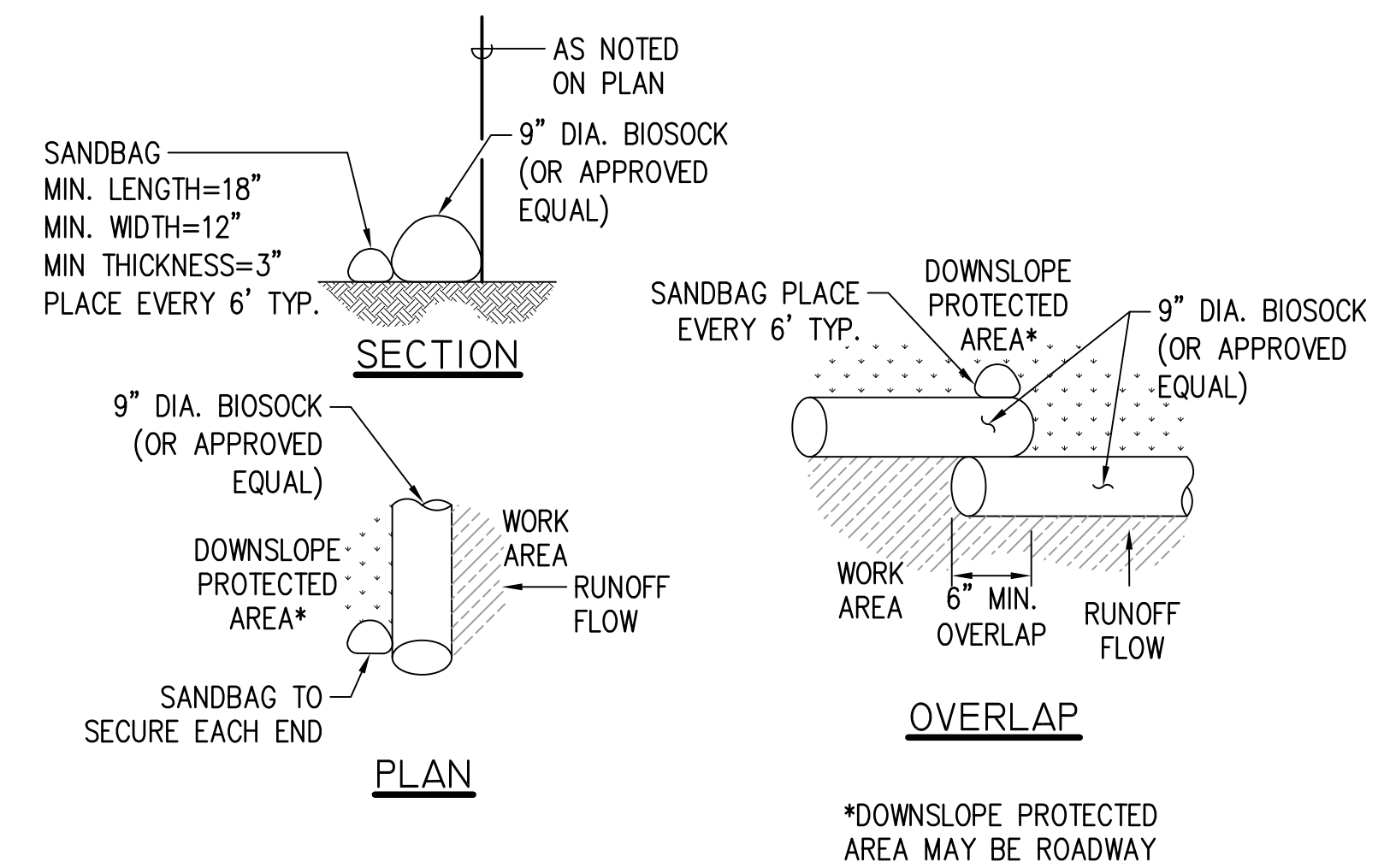
- THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.
- POSTS SHALL BE #6 REBAR SPACED A MAXIMUM OF 6 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 18 INCHES).
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 18 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH AS A LINER. THE TRENCH SHALL BE BACK FILLED WITH AN 6-INCH THICK LAYER OF NATIVE SAND. THE FABRIC SHALL NOT EXTEND MORE THAN 24 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- SILT FENCES SHALL BE NOT BE REMOVED UNTIL THE COMPLETION OF CONSTRUCTION ACTIVITIES AND THE SITE HAS BEEN RESTORED TO THE SATISFACTION OF THE OWNER.
- FILTER FABRIC SHALL BE MIRAFI SILT FENCE, AMOCO SILT STOP (WIDTH 4'- 6") #1380 OR APPROVED EQUAL.

PERMANENT EROSION CONTROL NOTES:

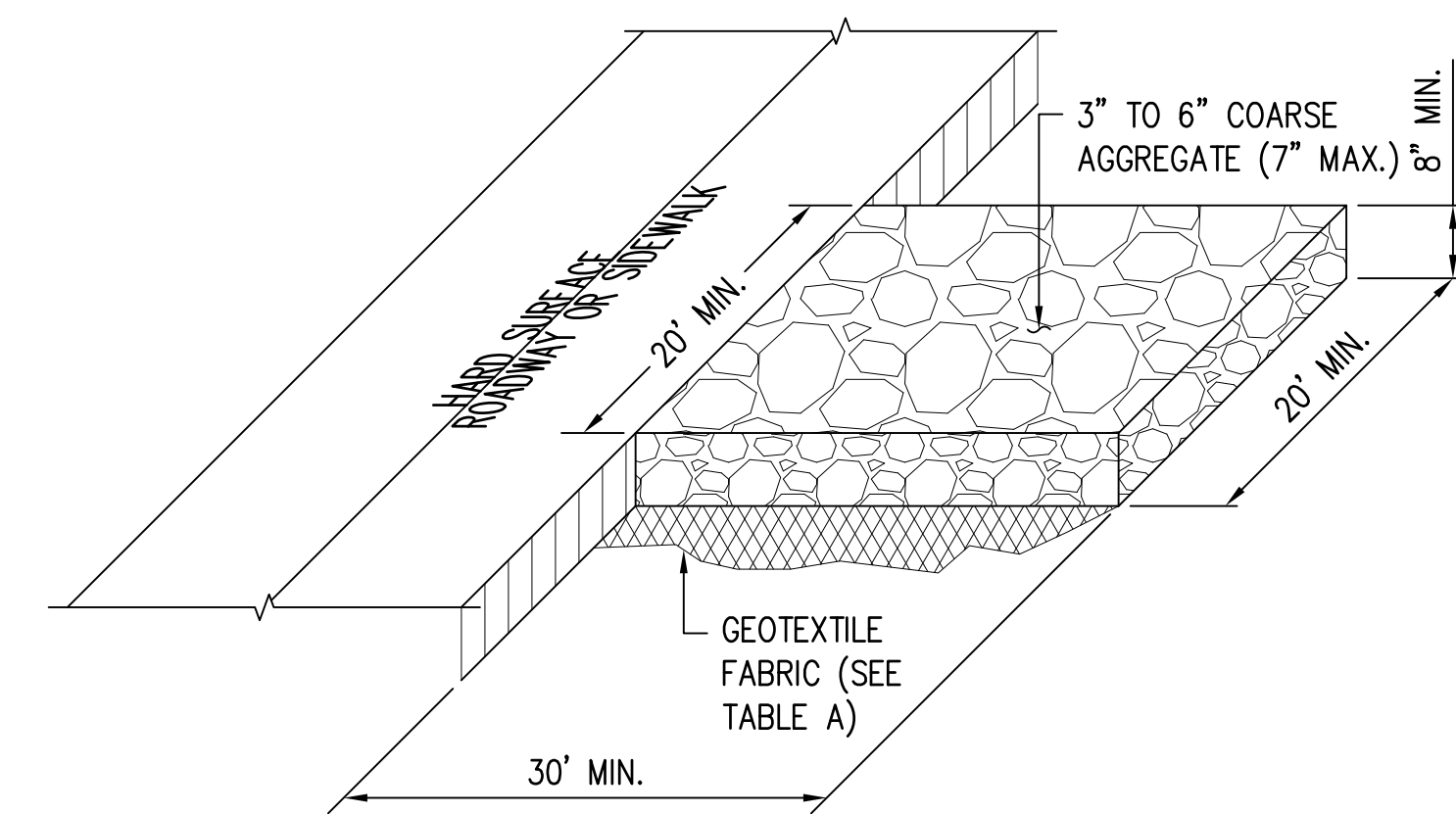
- THE CONTRACTOR SHALL GRASS THE ENTIRE PROJECT SITE, EXCEPT PAVED AND GRAVEL AREAS, WITH BERMUDA GRASS SPRIGS. THE GRASS SHALL BE PLANTED, FERTILIZED, AND MAINTAINED IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS.
- THE CONTRACTOR SHALL GRASS ALL EXPOSED AREAS THAT HAVE BEEN CONSTRUCTED TO FINAL GRADES WITHIN A PERIOD OF 30 CALENDAR DAYS.
- IN LIEU OF GRASS SPRIGS (NOTE 1), THE CONTRACTOR MAY USE HYDROMULCH AND IRRIGATION SPRINKLER SYSTEM.



3 SILT FENCE DETAIL
C-1 DT-6 NOT TO SCALE



2 FILTER SOCK DETAIL
C-1 DT-6 NOT TO SCALE



NOTE: REFER TO BMP FACT SHEET TR-1.

TABLE A GEOTEXTILE REQUIREMENTS	
PHYSICAL PROPERTY	REQUIREMENTS
GRAB TENSILE STRENGTH	220 LB (ASTM D1682)
ELONGATION FAILURE	60% (ASTM D1682)
MULLEN BURST STRENGTH	430 LB (ASTM D3768)
PUNCTURE STRENGTH	125 LB (ASTM D751, MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (U.S. STD SIEVE, CW-02215)

1 STABILIZED CONSTRUCTION ENTRANCE
C-1 DT-6 NOT TO SCALE



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Signature: Dayananda H. Vithanage
Date: 8/17/18



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91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

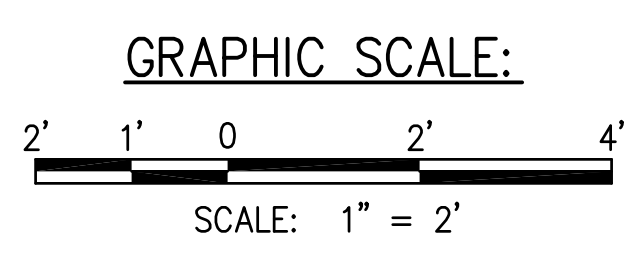
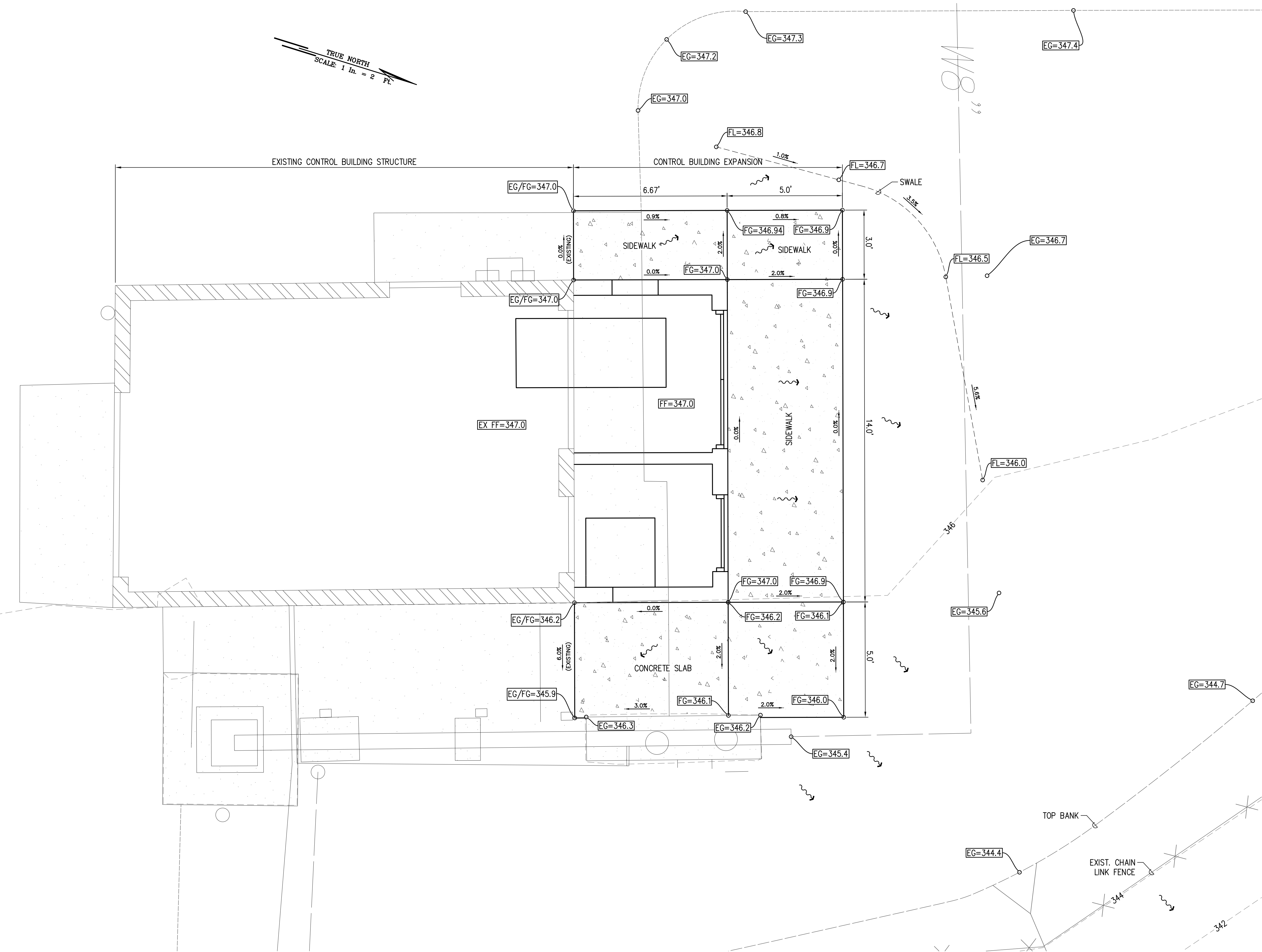
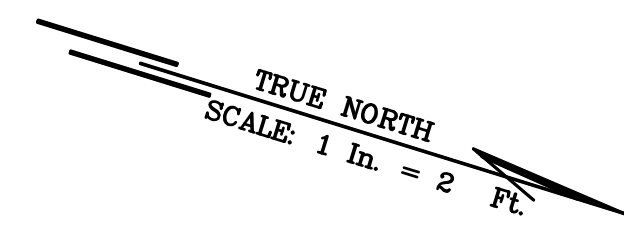
Phase II - Water Tank Replacement & Facility Impr. Anahola, Island of Kauai
TMK: 4-8-001:001; 4-8-005:037 & 039

EROSION CONTROL TYPICAL DETAILS

DESIGNED BY: AK	DRAWING NO. DT-6
DRAWN BY: AK	
CHECKED BY: JM	
SURVEYED BY: WT	DATE: AUG. 2018
SHEET NO. 26 OF 79	

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: I:\201705-DHHL-ANAHOLA-PHI-WATER_SYSTEM_IMPROVEMENTS\0 GRAPHICS\DRAWINGS\CONTRACT DOCUMENTS\05-BID DOCS\PHASE II - WATER TANK\27_SIDEWALK GRADING DETAIL.DWG EDIT TIME: 08-17-18, 10:31 AM EDITED BY: AKEANE



CONTROL BUILDING EXTERIOR BUILDING SIDEWALK AND CONCRETE SLAB DETAIL
C-4 DT-7 SCALE: 1" = 2'-0"

NOTE:
SEE STRUCTURAL DRAWINGS FOR DESIGN OF SIDEWALK AND CONTROL BUILDING FOUNDATION AND FLOOR PLAN.



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Signature: [Signature] License No. C-9348



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91-5420 Kapolei Parkway
Kapolei, Hawai'i 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kaua'i

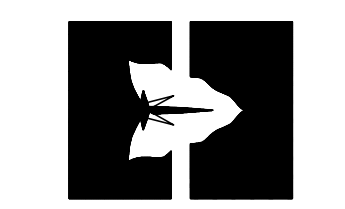
TMK: 4-8-001:001; 4-8-005:037 & 039

EQUIPMENT BUILDING EXTERIOR SIDEWALK AND CONCRETE SLAB DETAIL

DESIGNED BY: GT	DRAWING NO. DT-7
DRAWN BY: GT	
CHECKED BY: JM	
SURVEYED BY: WT	DATE: AUG. 2018
SHEET NO. 27	OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

REVISION	DATE	DESCRIPTION	APPROVED	MADE BY



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 Kapolei, Hawaii 96707

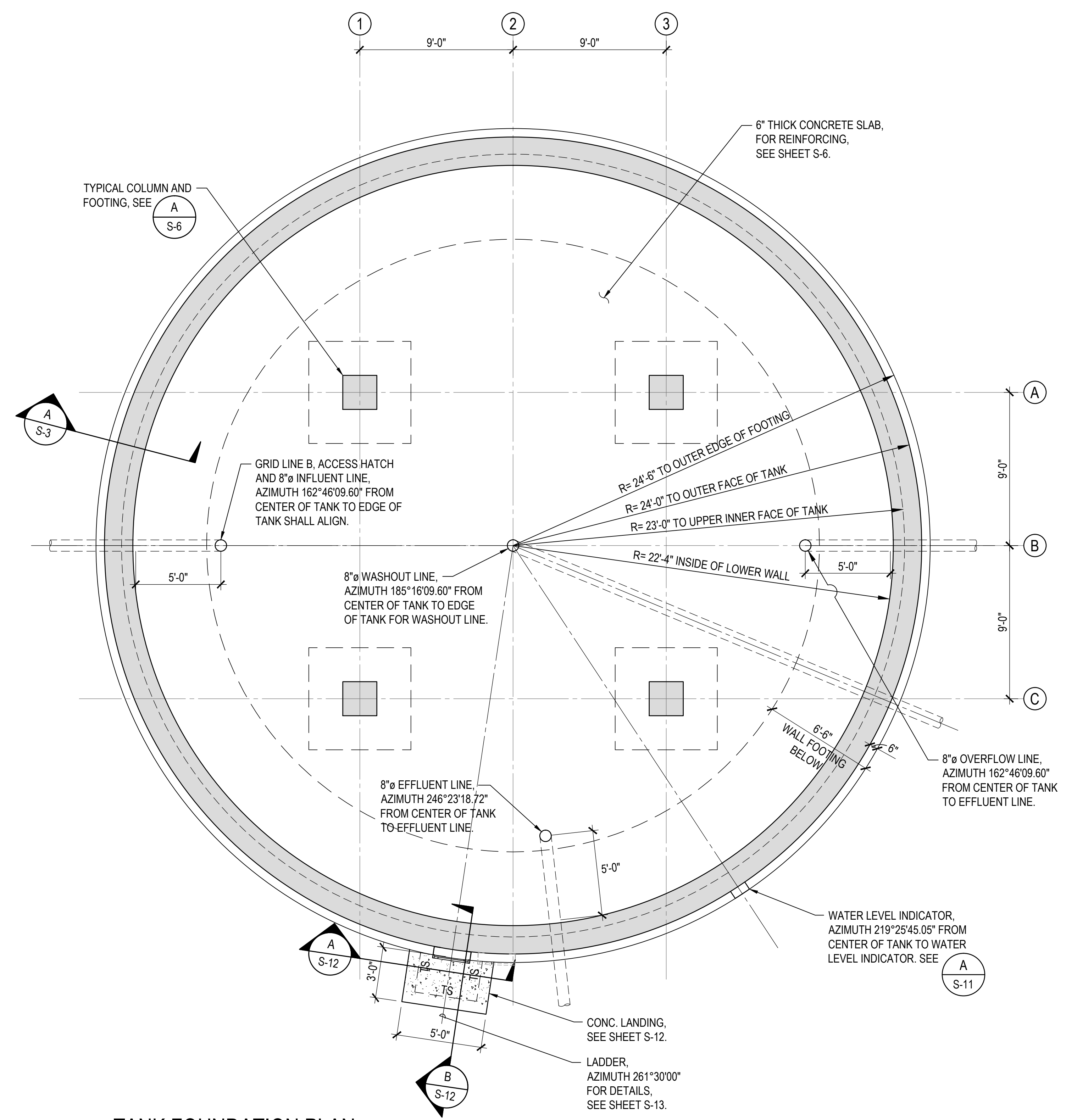
ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kauai

TMK:
 4-8-001:001; 4-8-005:037 & 039

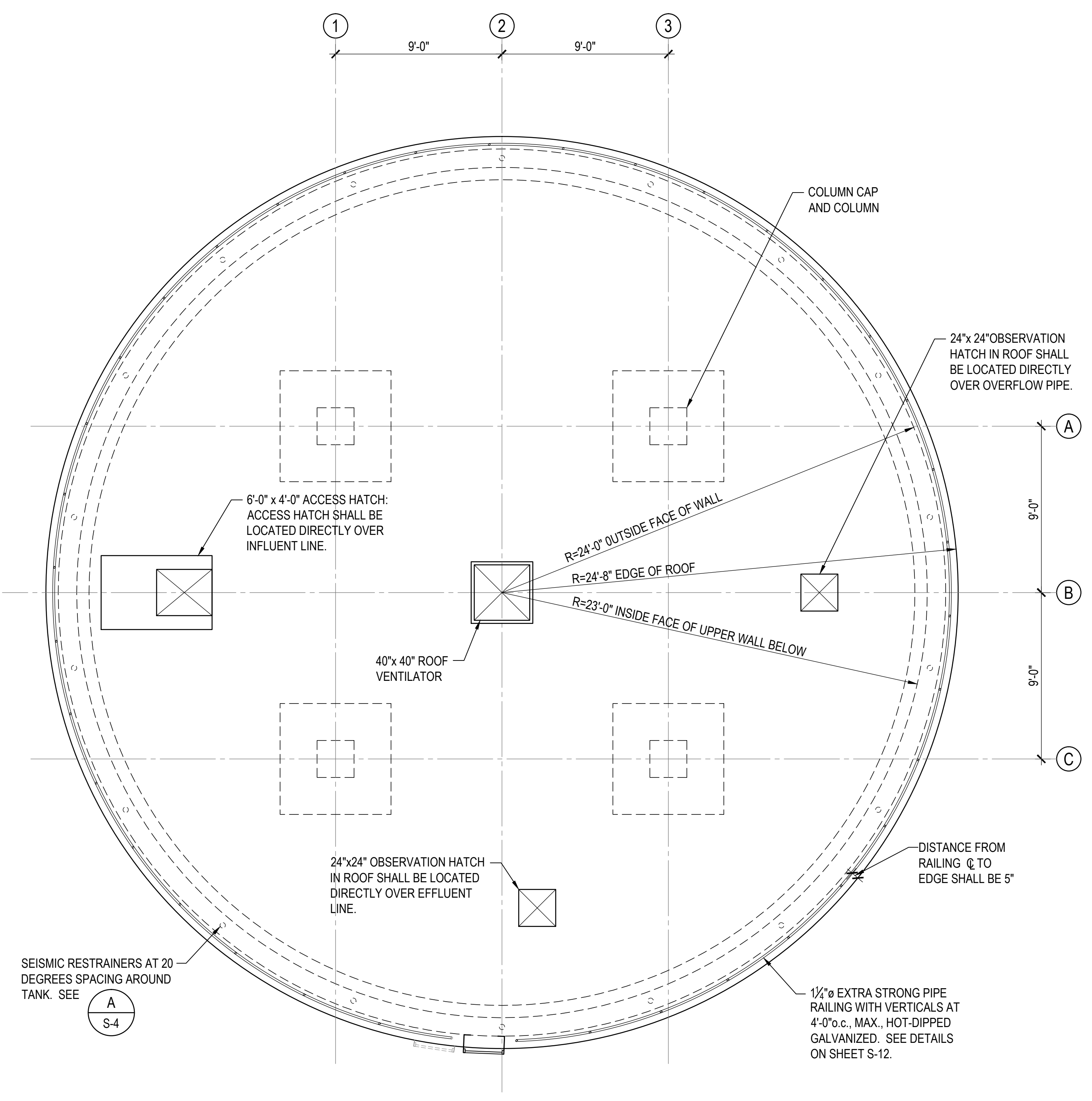
FLOOR AND ROOF PLANS

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



TANK FOUNDATION PLAN

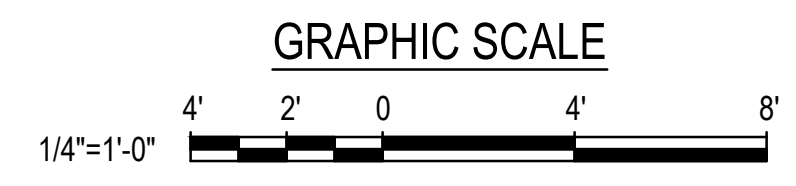
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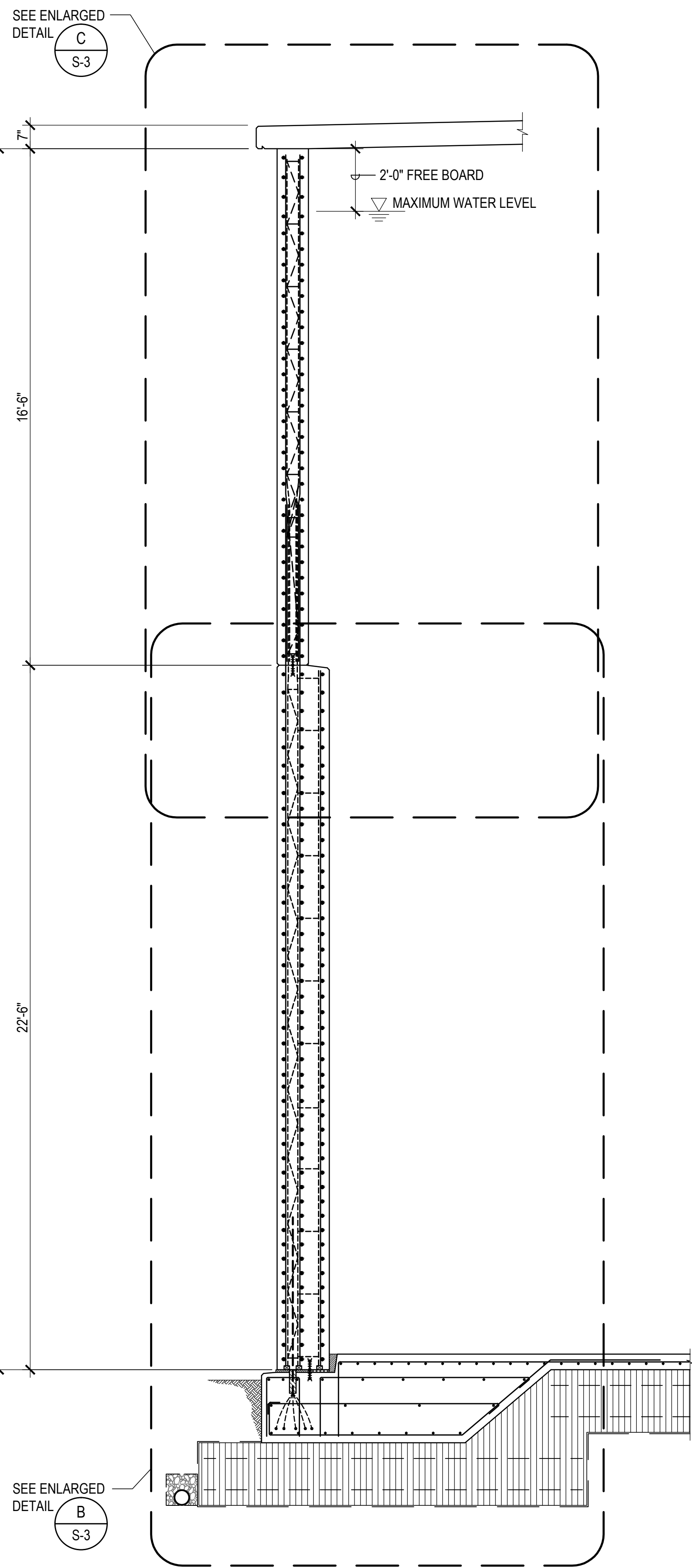


TANK ROOF PLAN

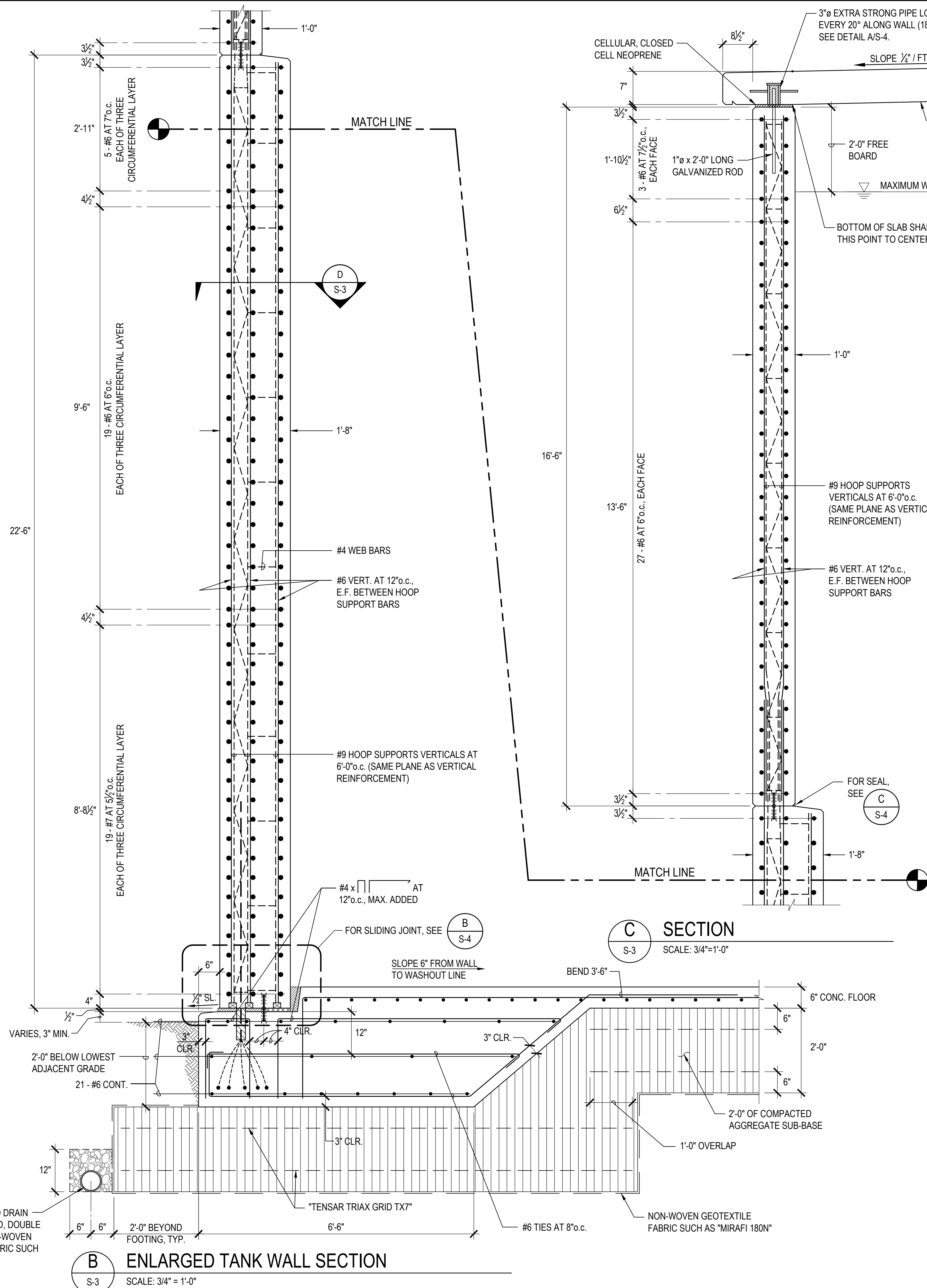
SCALE: 1/4" = 1'-0"

- ALL INTERSECTIONS AND SPLICES OF RUBBER WATERSTOPS TO BE JOINED BY VULCANIZING OR OTHER APPROVED MEANS TO FORM A WATERTIGHT CONNECTION.
- APPLY SIKAGUARD 75 COAT TO ALL INTERIOR SURFACES AS REQUIRED TO PATCH & REPAIR ALL IMPERFECTIONS INCLUDING HONEYCOMBS, ETC. CHIP OUT ALL LOOSE CONCRETE BEFORE PATCHING REPAIRS.
- ONCE THE RESERVOIR FLOOR IS POURED, 6" MIN. OF WATER SHALL BE MAINTAINED IN THE RESERVOIR FOR THE REMAINDER OF THE PROJECT.
- TESTING OF CYLINDERS SHALL BE PAID FOR BY THE CONTRACTOR, AND SHALL BE DONE BY AN INDEPENDENT TESTING LABORATORY APPROVED BY THE DHHL. SIX (6) CYLINDERS PER POUR - APPROXIMATELY 30 CYLINDERS REQUIRED.
- EXTERIOR WALL SURFACE: COLOR "KAUAI GREEN"
 - PRIMER: ICI DEVCO COATING 4030 TRU GLAZE-WB WATERBORNE EPOXY PRIMER AT 200-270 SF/GAL (4.0-8.0 MILS WET, 2.0-4.0 MILS DFT) OR APPROVED EQUAL.
 - FINISH: (2 COATS) 2406 DULUX PROFESSIONAL EXTERIOR 100% ACRYLIC SEMI-GLOSS FINISH AT 300-400 SF/GAL (4.1-5.4 MILS WET, 1.5-2.0 MILS DFT) PER COAT OR APPROVED EQUAL.
- PROVIDE REINFORCEMENT, BOLTS, REGLETS, DOWELS, WATERSTOP, AND OTHER ITEMS AS SHOWN ON PLAN. ALL ITEMS TO BE CAST IN CONCRETE SHALL BE POSITIVELY SECURED IN PLACE TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT.
- CONTRACTOR SHALL LOCATE AND ENCASE ALL PROPERTY PINS IN CONCRETE.
- LEAKAGE TEST TO BE PERFORMED AFTER THE INSTALLATION OF THE INTERIOR PERIMETER SEAL AND PRIOR TO THE INTERIOR TANK EPOXY COATING.
- INTERIOR WALL, COLUMNS AND FLOOR SURFACE (DO NOT COAT BOTTOM OF ROOF):
 - INTERIOR COATINGS: RAVEN "AQUATAPOXY A-6", 2 - COMPONENT EPOXY, 90 MIL. DFT OR APPROVED EQUAL.

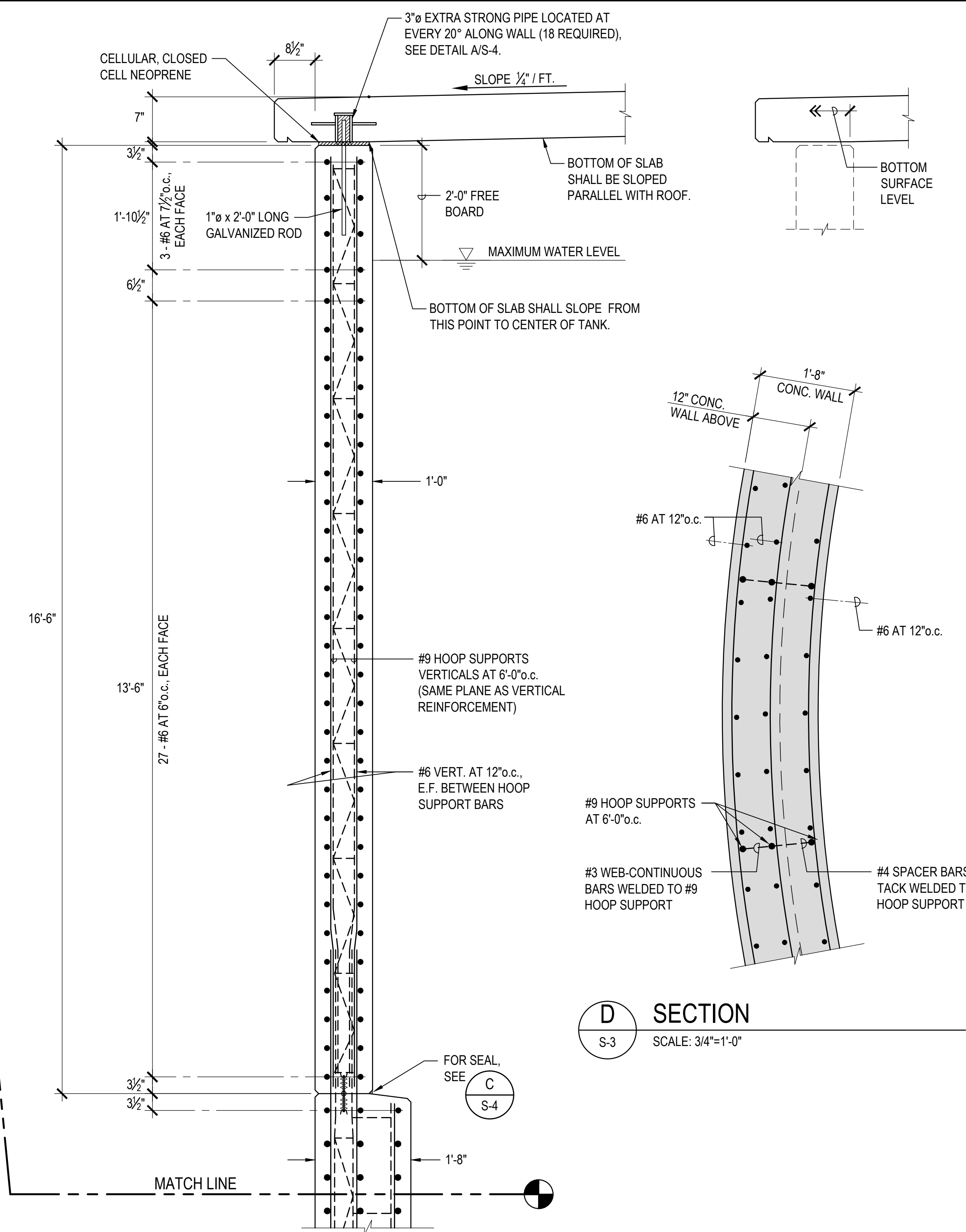




A TYPICAL TANK WALL SECTION
S-3 SCALE: 3/8" = 1'-0"

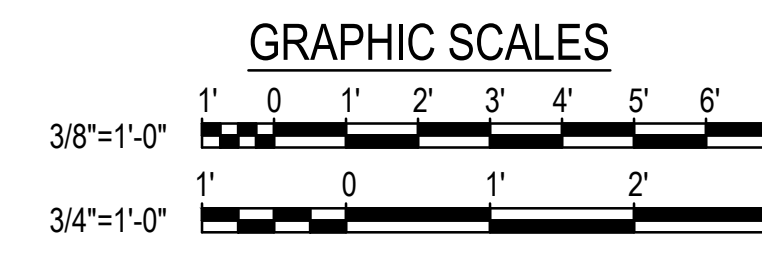
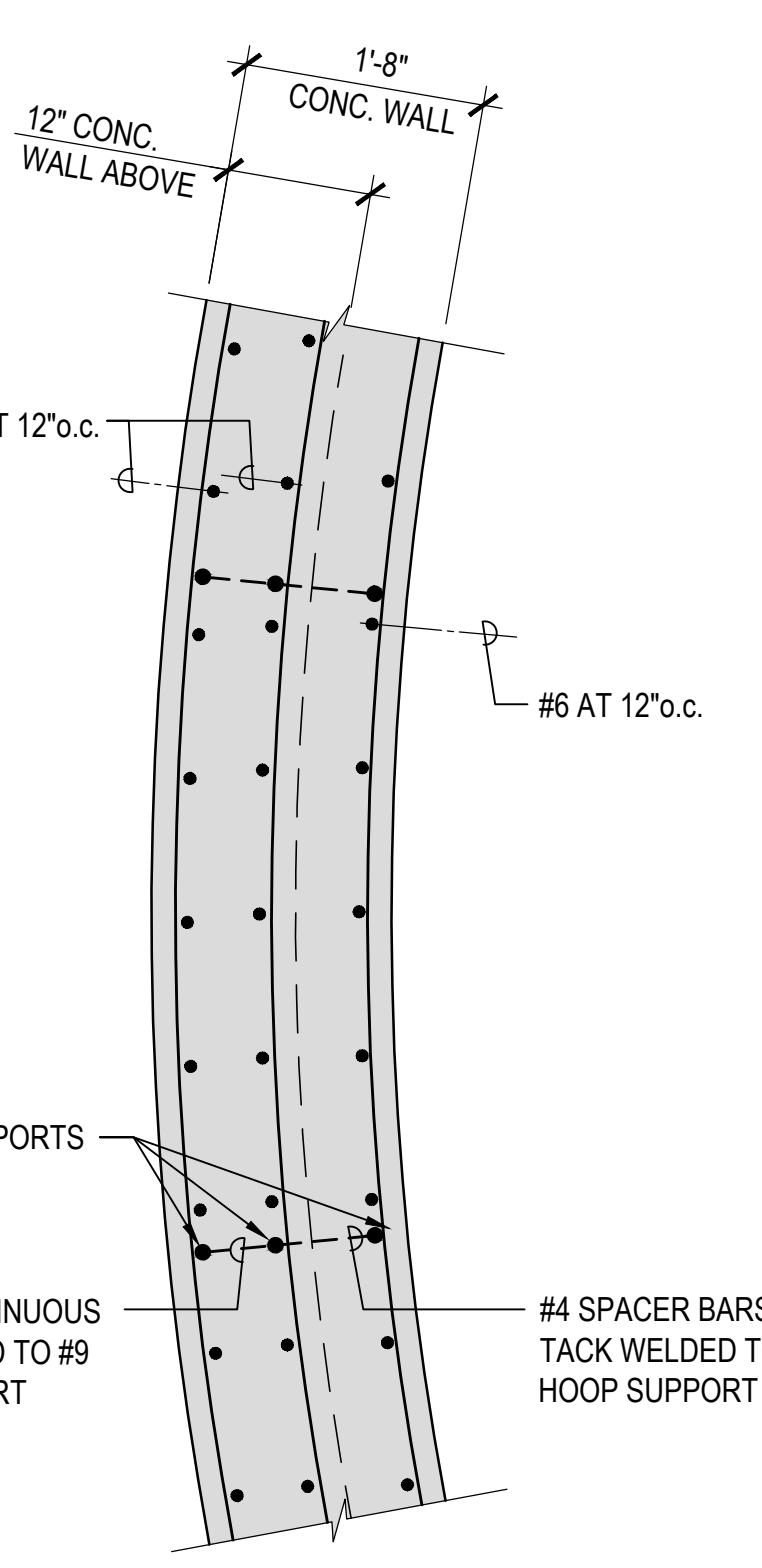


B ENLARGED TANK WALL SECTION
S-3 SCALE: 3/4" = 1'-0"

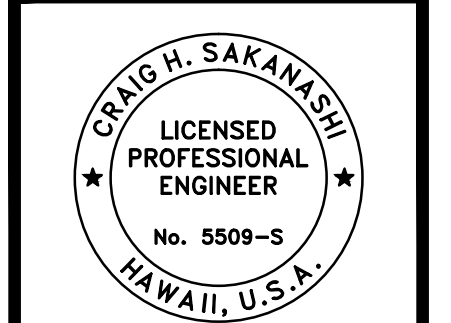


C SECTION
S-3 SCALE: 3/4" = 1'-0"

D SECTION
S-3 SCALE: 3/4" = 1'-0"



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 0:\2017\17A059_Anahola\0.5 MG Water Tank\CAD_Files\31_S-3 Typ Wall Sect.dwg



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 Signature
 LICENSE EXPIRATION DATE: 04/30/20

REVISION	DATE	DESCRIPTION	APPROVED	MADE BY



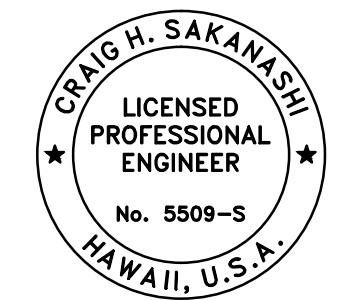
DEPARTMENT OF HAWAIIAN HOME LANDS
 91-5420 Kapolei Parkway
 Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT
 Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kauai
 TMK:
 4-8-001:001; 4-8-005:037 & 039

TANK WALL SECTIONS

DESIGNED BY: CS
 DRAWN BY: MM
 CHECKED BY: CS
 SURVEYED BY: WT
 DATE: AUG. 2018
 SHEET NO. 31 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

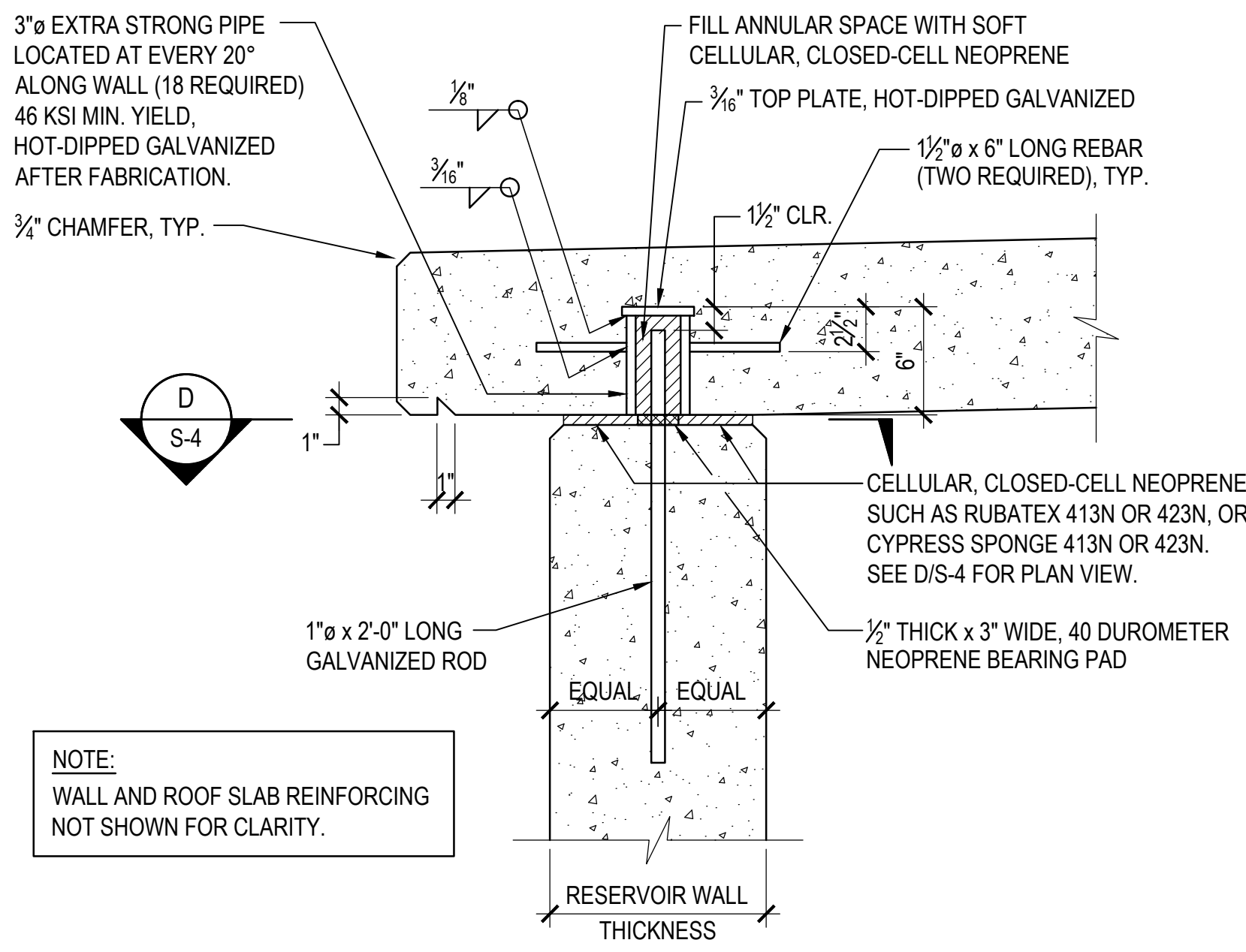


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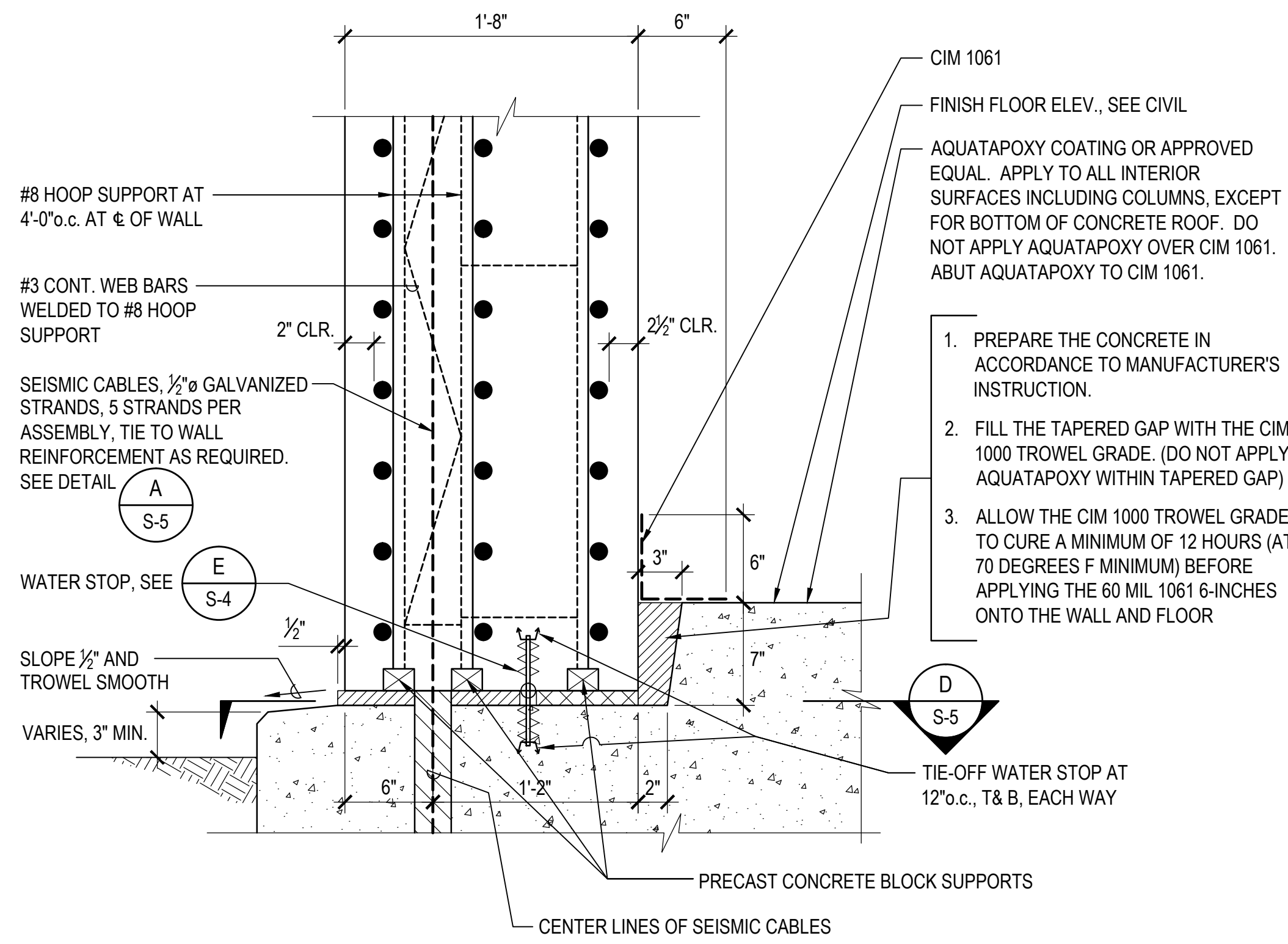
Signature
 LICENSE EXPIRATION DATE: 04/30/20



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

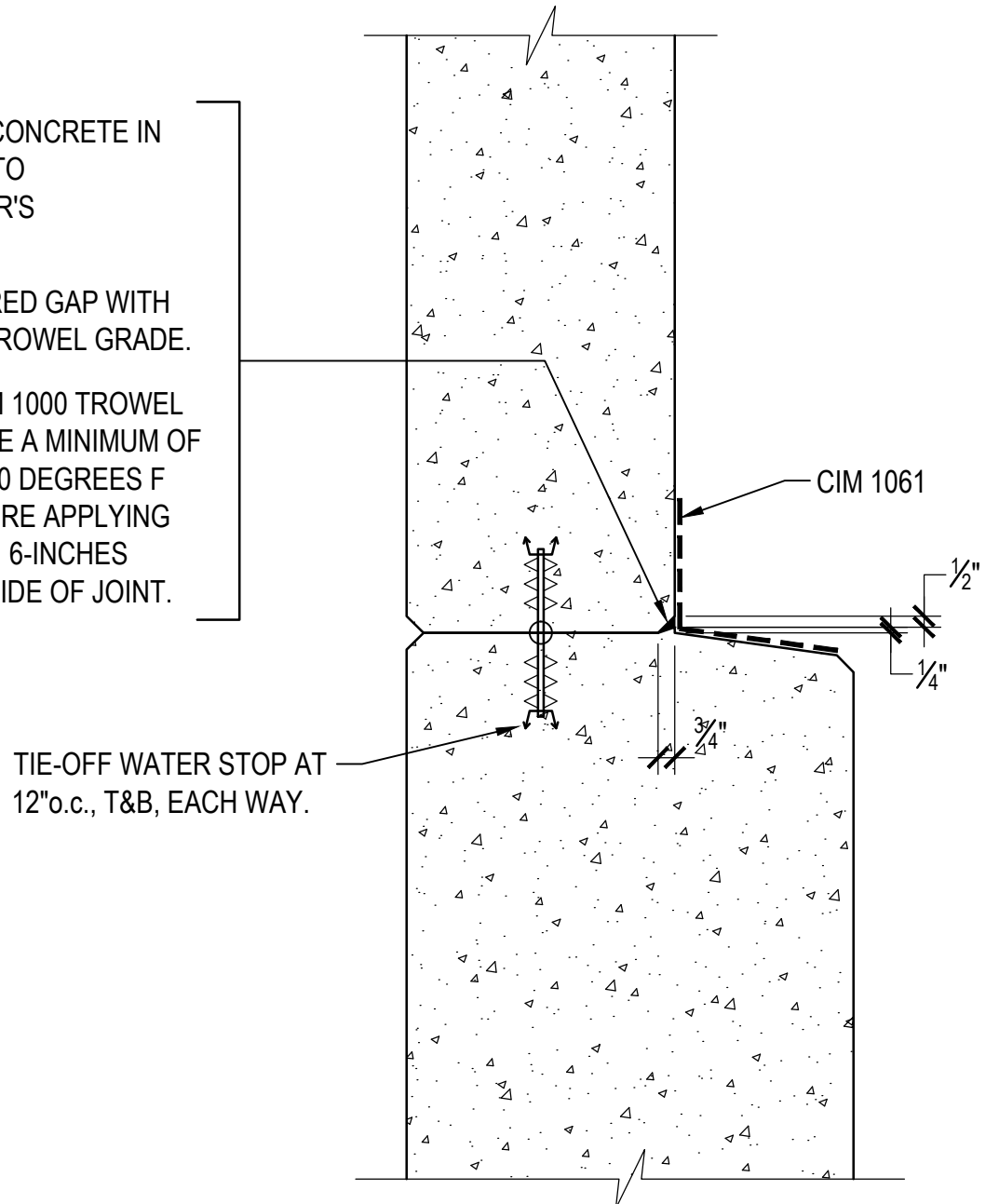


NOTE:
 WALL AND ROOF SLAB REINFORCING NOT SHOWN FOR CLARITY.



1. PREPARE THE CONCRETE IN ACCORDANCE TO MANUFACTURER'S INSTRUCTION.
2. FILL THE TAPERED GAP WITH THE CIM 1000 TROWEL GRADE. (DO NOT APPLY AQUATAPOXY WITHIN TAPERED GAP)
3. ALLOW THE CIM 1000 TROWEL GRADE TO CURE A MINIMUM OF 12 HOURS (AT 70 DEGREES F MINIMUM) BEFORE APPLYING THE 60 MIL 1061 6-INCHES ONTO THE WALL AND FLOOR

1. PREPARE THE CONCRETE IN ACCORDANCE TO MANUFACTURER'S INSTRUCTION.
2. FILL THE TAPERED GAP WITH THE CIM 1000 TROWEL GRADE.
3. ALLOW THE CIM 1000 TROWEL GRADE TO CURE A MINIMUM OF 12 HOURS (AT 70 DEGREES F MINIMUM) BEFORE APPLYING THE 60 MIL 1061 6-INCHES ONTO EITHER SIDE OF JOINT.

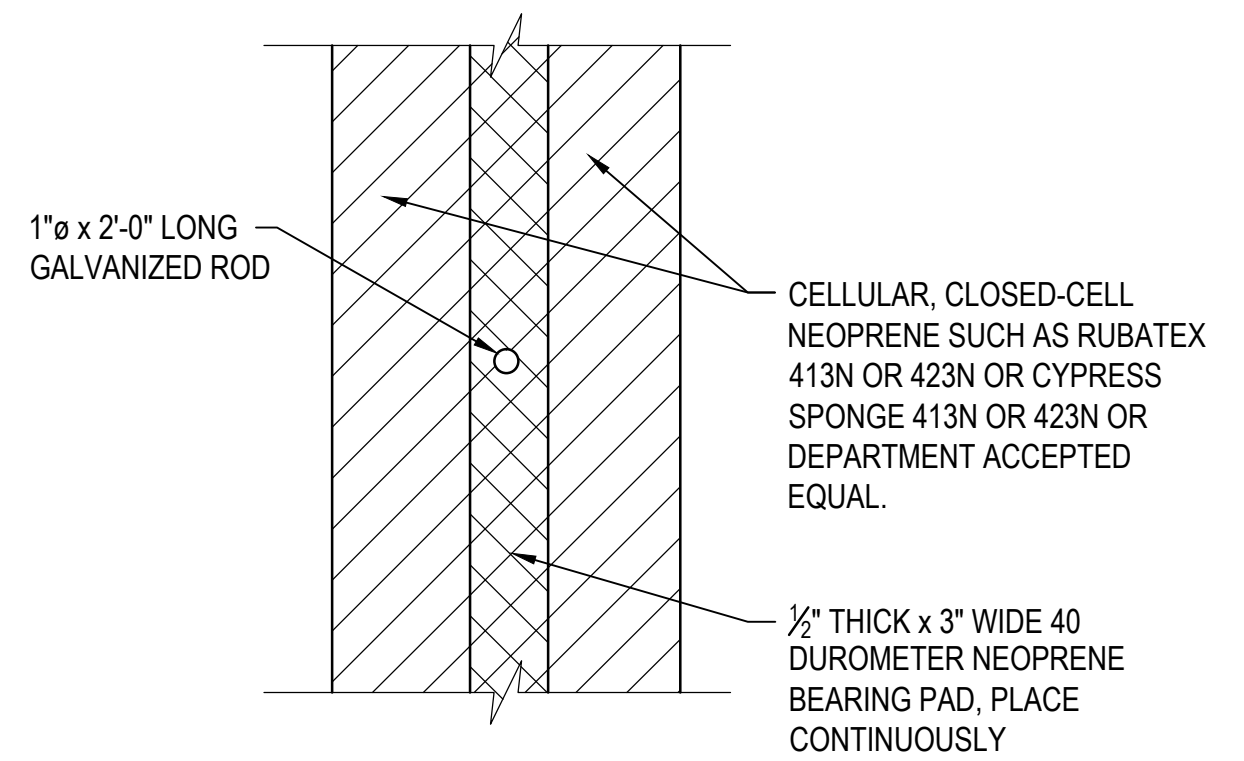


NOTE:
 REINFORCING NOT SHOWN FOR CLARITY.

A ROOF SLIDING JOINT DETAIL
 S-4 SCALE: 1 1/2" = 1'-0"

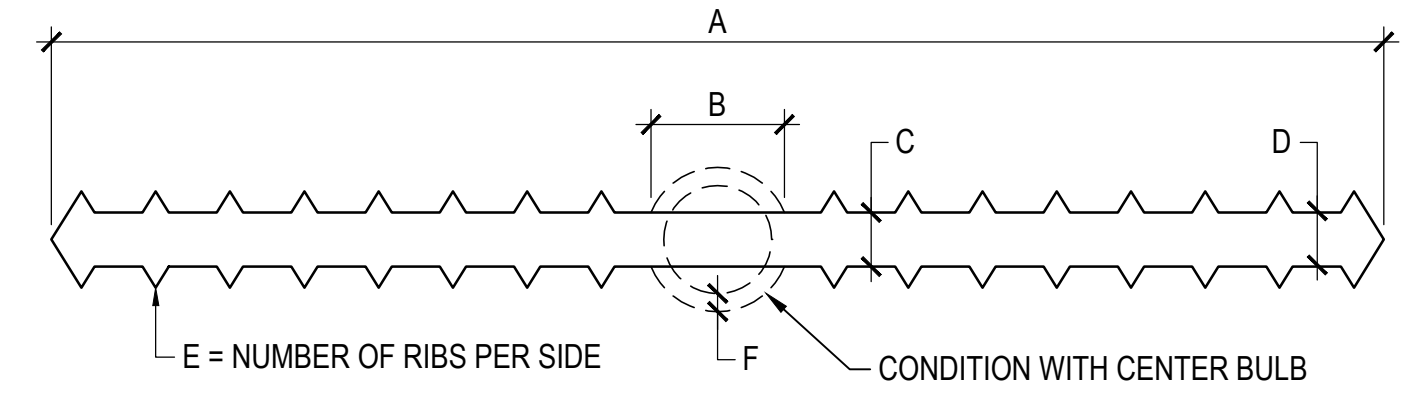
B BOTTOM OF WALL SLIDING JOINT DETAIL
 S-4 SCALE: 1 1/2" = 1'-0"

C DETAIL
 S-4 SCALE: 1 1/2" = 1'-0"



NOTE:
 GLUE ALL PADS TO TOP OF WALL WITH ADHESIVE SUCH AS "R-27780" BY "HANNA" RUBBER OR DEPARTMENT ACCEPTED EQUAL.

D PLAN VIEW OF TOP OF WALL
 S-4 SCALE: 1-1/2" = 1'-0"



JOINT LOCATION	A	B	C	D	E	F	"VINYLEX" BRAND	"GREEN STREAK" BRAND
WALL TO WALL	6"	-	3/8"	1/4" TO 3/8"	7	-	R6-38	679
WALL TO FOOTING	9"	1"	3/8"	3/8"	7 OR 8	1/4"	RB9-38H	735

- NOTES:
1. ALL SPLICES SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. SPLICE ALL JOINTS/INTERSECTIONS.
 2. WATER STOP SHALL BE TIED OF AT EACH END, IN EITHER DIRECTION AT 12" O.C. MAX.
 3. ALL PRODUCTS SHALL BE NSF 61 APPROVED.

E WATER STOP
 S-4 NOT TO SCALE

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 O:\2017\17A069_Anahola 0.5 MG Water Tank\CAD_Files\32_S-4 Sliding Joint Det.dwg



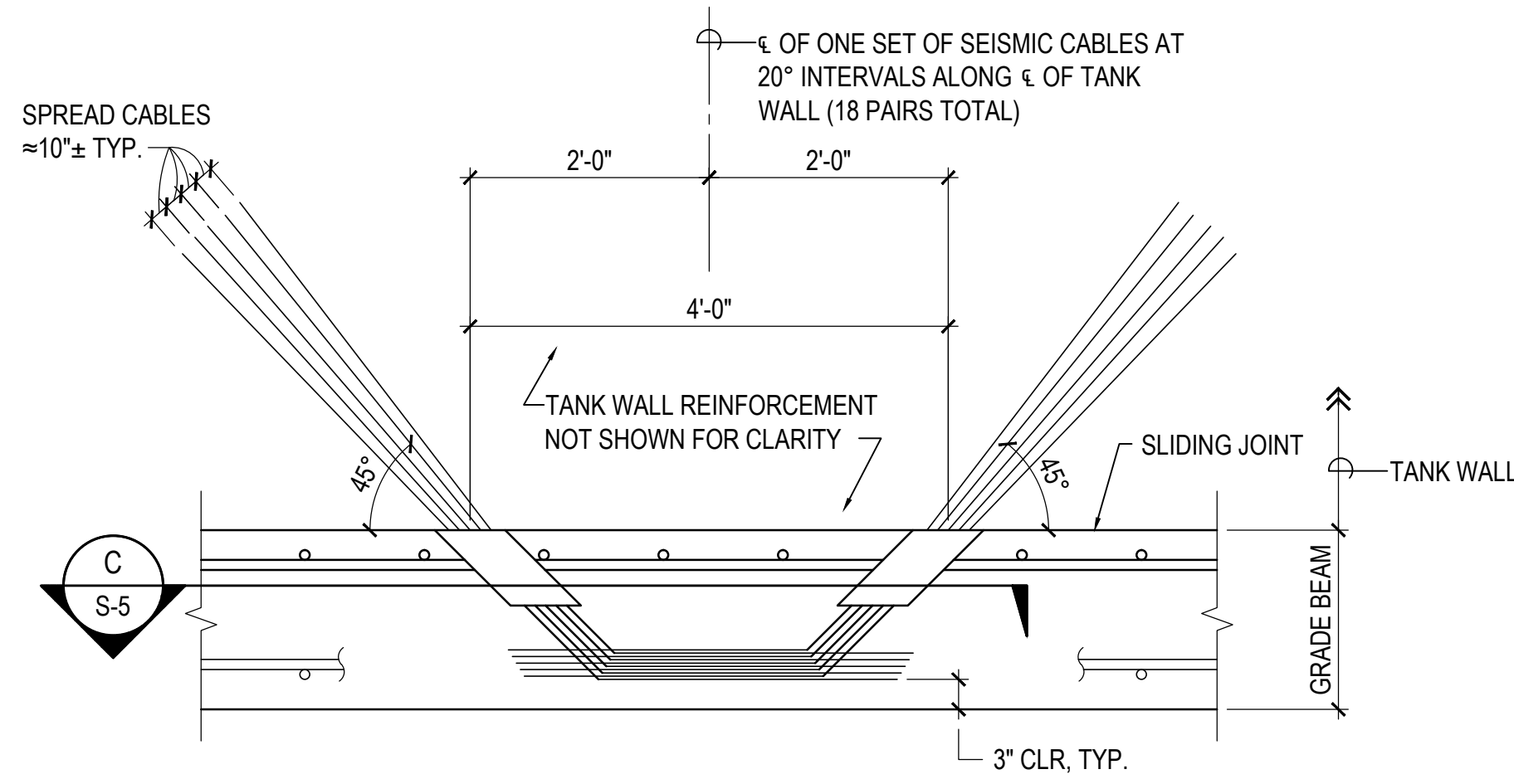
DEPARTMENT OF HAWAIIAN HOME LANDS
 91-5420 Kapolei Parkway
 Kapolei, Hawaii 196707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kauai
 TMK:
 4-8-001-001; 4-8-005-037 & 039

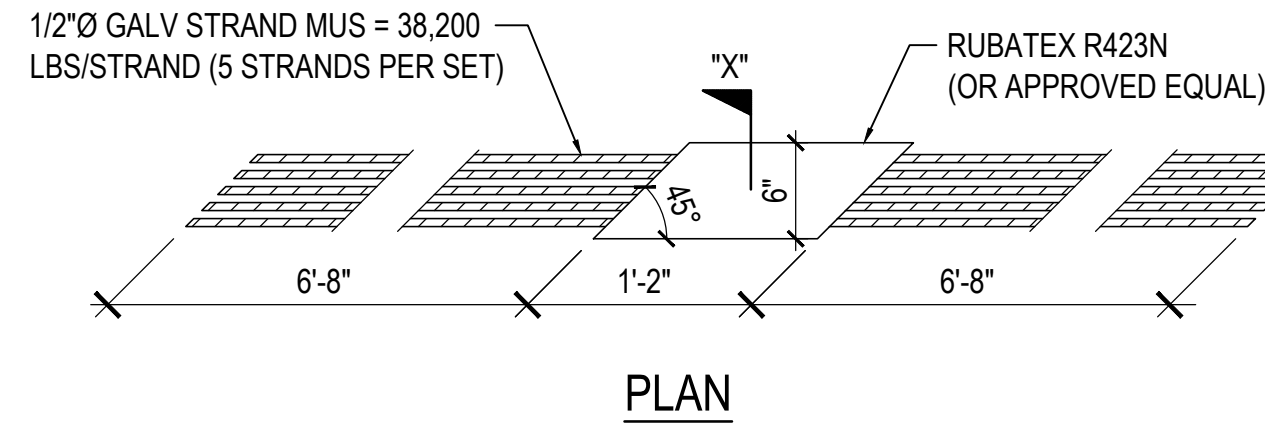
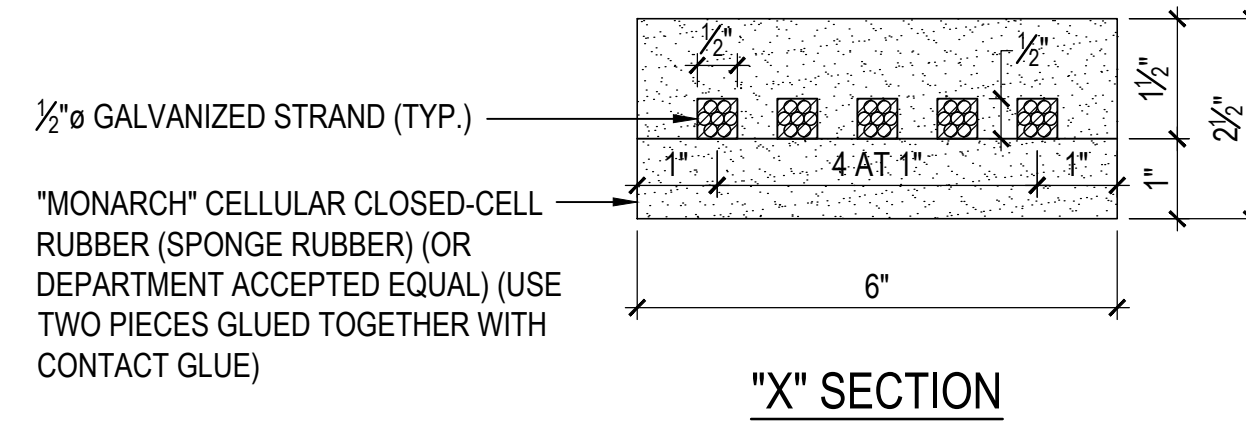
SLIDING JOINT DETAILS

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



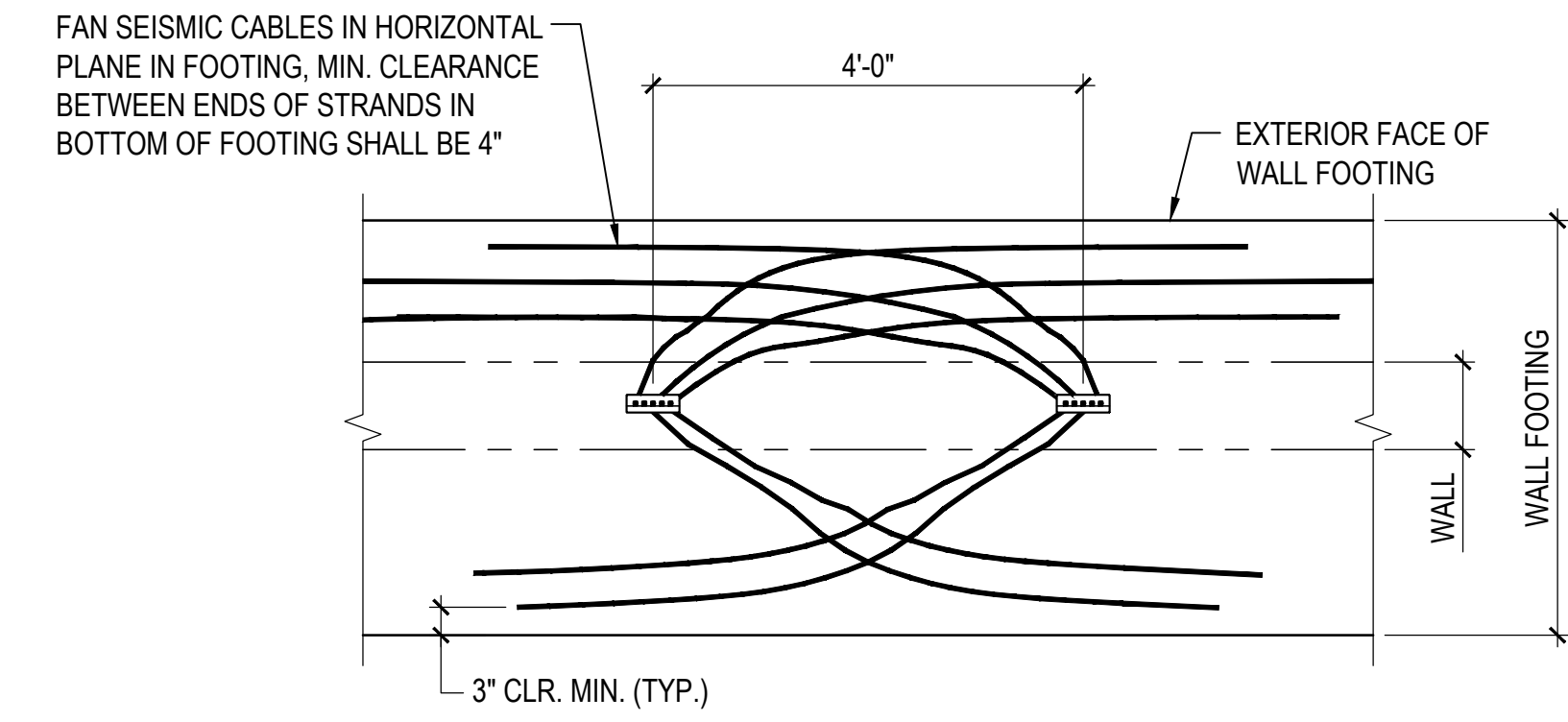
SEE B/S-5 AND C/S-5 FOR PLAN VIEW.

A DETAIL OF SEISMIC CABLE ASSEMBLY
S-5 NOT TO SCALE



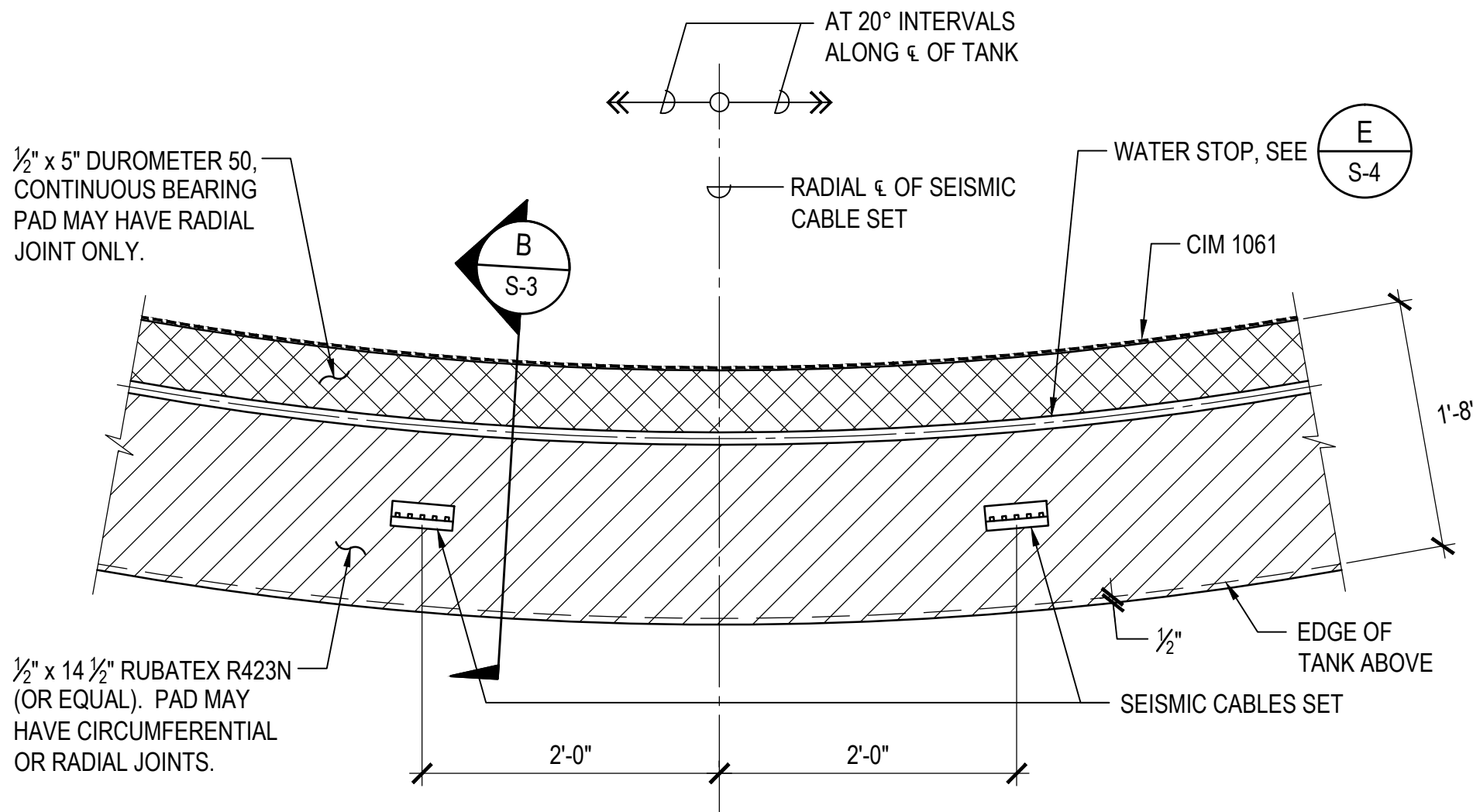
NOTES:
1. ONE SET OF SEISMIC CABLE SHALL CONSIST OF TWO SEISMIC CABLE ASSEMBLIES FACING OPPOSITE DIRECTIONS.
2. EACH SET OF SEISMIC CABLE SHALL BE PLACED AT 20° INTERVALS ALONG THE WALL. A TOTAL OF 18 (EIGHTEEN) SETS.

B TYPICAL SEISMIC CABLE ASSEMBLY
S-5 NOT TO SCALE

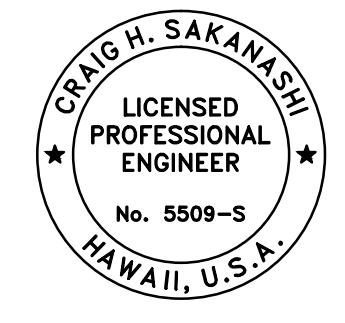


NOTE:
SEISMIC CABLE SET MAY BE PLACED ON EITHER SIDE OF CENTER OF FOOTING, 3" CLEARANCE TO EDGE OF FOOTING MUST BE MAINTAINED.

C SEISMIC CABLE SET IN WALL FOOTING
S-5 NOT TO SCALE



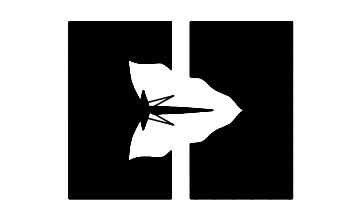
D PLAN VIEW OF SLIDING JOINT AT BASE OF WALL
S-5 NOT TO SCALE



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LICENSE EXPIRATION DATE: 04/30/20



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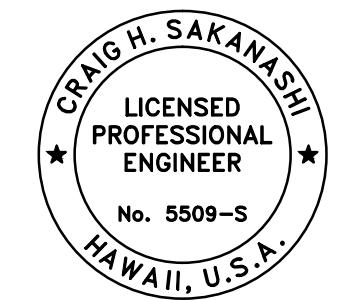
DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 196707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kaua'i
TMK:
4-8-001:001; 4-8-005:037 & 039

SEISMIC CABLE PLANS AND DETAILS

DESIGNED BY: CS
DRAWN BY: MM
CHECKED BY: CS
SURVEYED BY: WT
DATE: AUG. 2018
DRAWING NO. S-5
SHEET NO. 33 OF 79

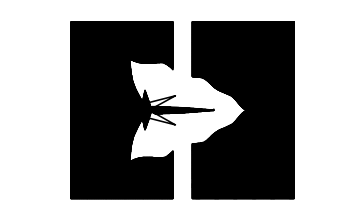


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 LICENSE EXPIRATION DATE: 04/30/20



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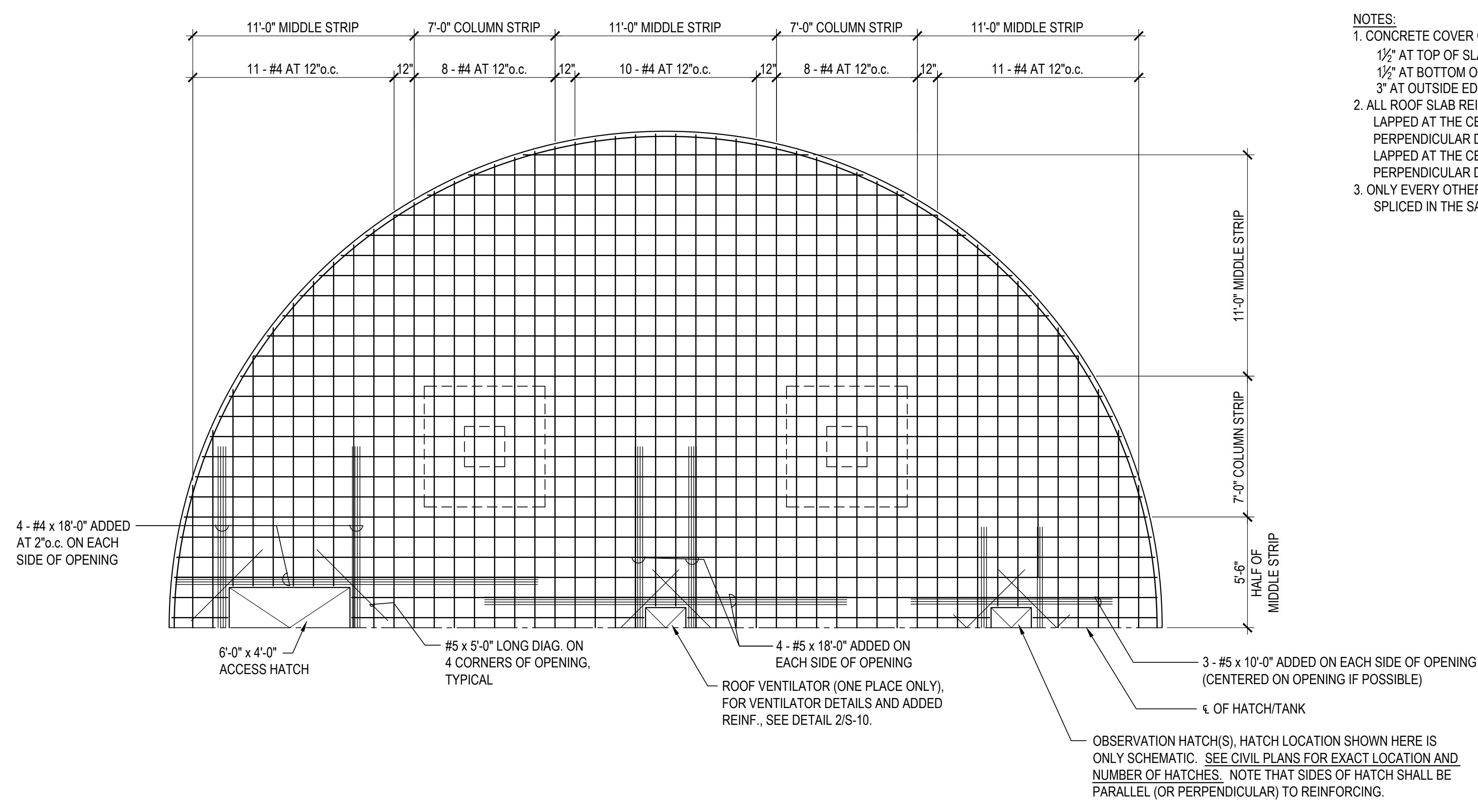
ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kauai
 TMK:
 4-8-001:001; 4-8-005:037 & 039

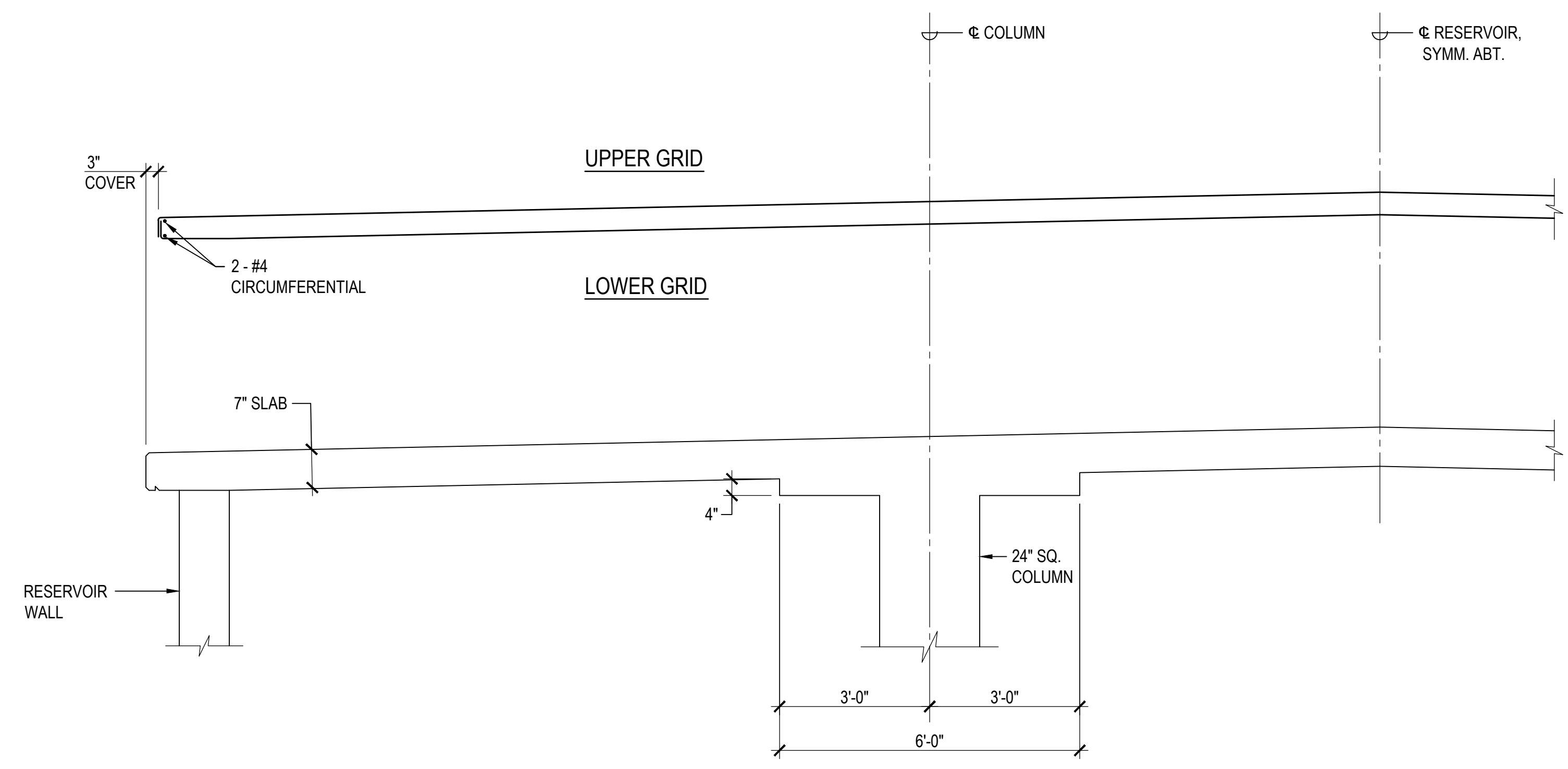
ROOF STEEL - UPPER GRID REINFORCING STEEL COLUMN STRIP

DESIGNED BY: CS
 DRAWN BY: MM
 CHECKED BY: CS
 SURVEYED BY: WT
 DATE: AUG. 2018
 DRAWING NO. S-7
 SHEET NO. 35 OF 79

- NOTES:
- CONCRETE COVER OVER REINFORCING STEEL IN ROOF SLAB:
 1 1/2" AT TOP OF SLAB
 1 1/2" AT BOTTOM OF SLAB
 3" AT OUTSIDE EDGE OF SLAB
 - ALL ROOF SLAB REINF. STEEL IN THE UPPER GRID SHALL BE LAPPED AT THE CENTER OF MIDDLE STRIP OF THE PERPENDICULAR DIRECTION AND THE LOWER GRID SHALL BE LAPPED AT THE CENTER OF COLUMN STRIP OF THE PERPENDICULAR DIRECTION.
 - ONLY EVERY OTHER ADJACENT BAR ON THE SAME LAYER MAY BE SPLICED IN THE SAME LOCATION.



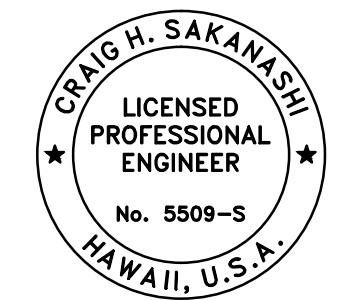
A 1/2 PLAN ROOF STEEL - UPPER GRID
 S-7 SCALE: 1/4" = 1'-0"



B REINFORCING STEEL COLUMN STRIP
 S-7 SCALE: 1/2" = 1'-0"

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FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

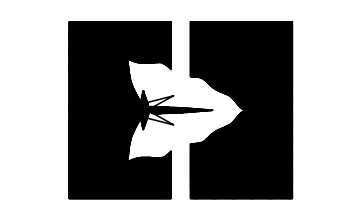


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LICENSE EXPIRATION DATE: 04/30/20



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Kapolei, Hawaii 96707

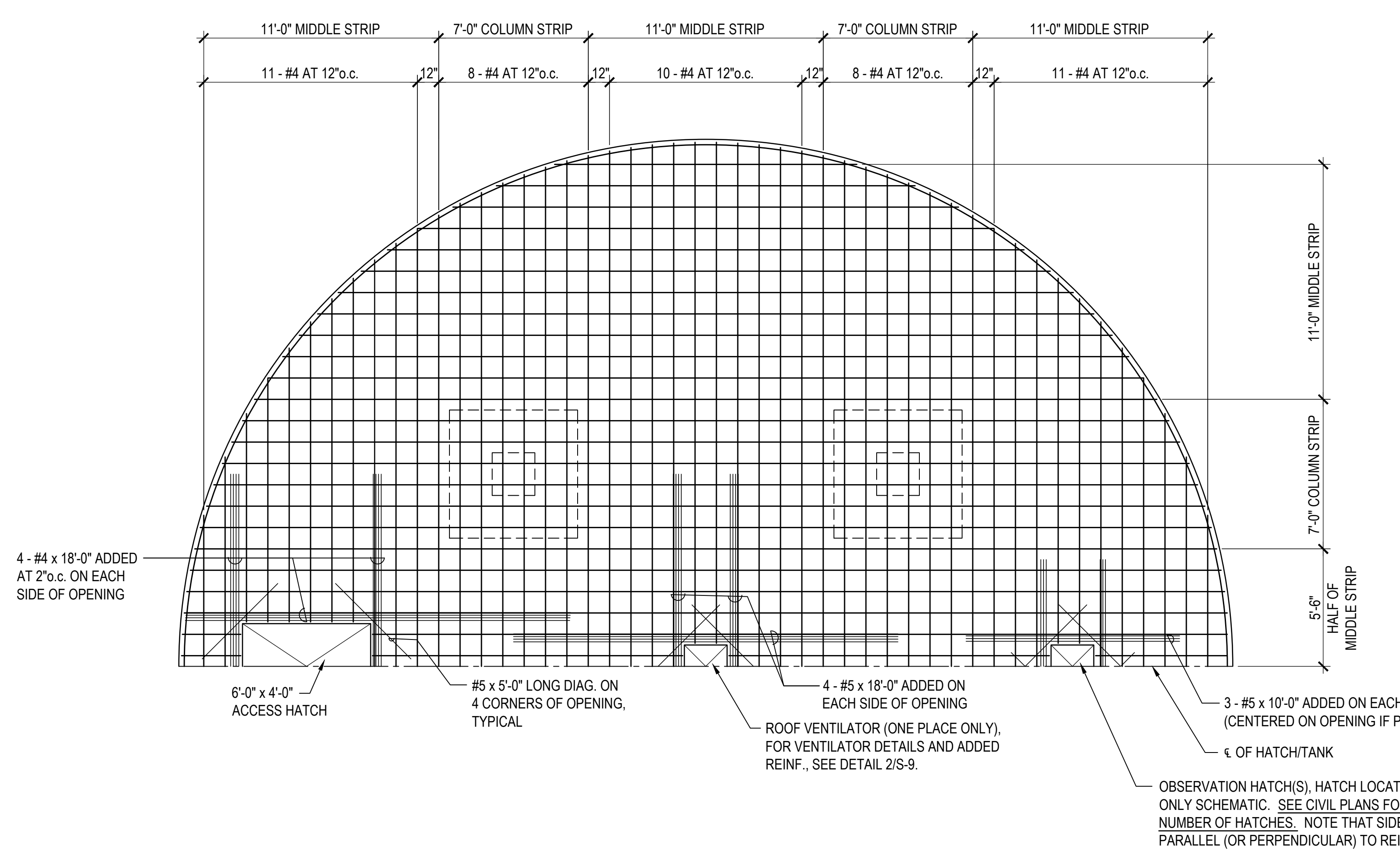
ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai
TMK: 4-8-001:001; 4-8-005:037 & 039

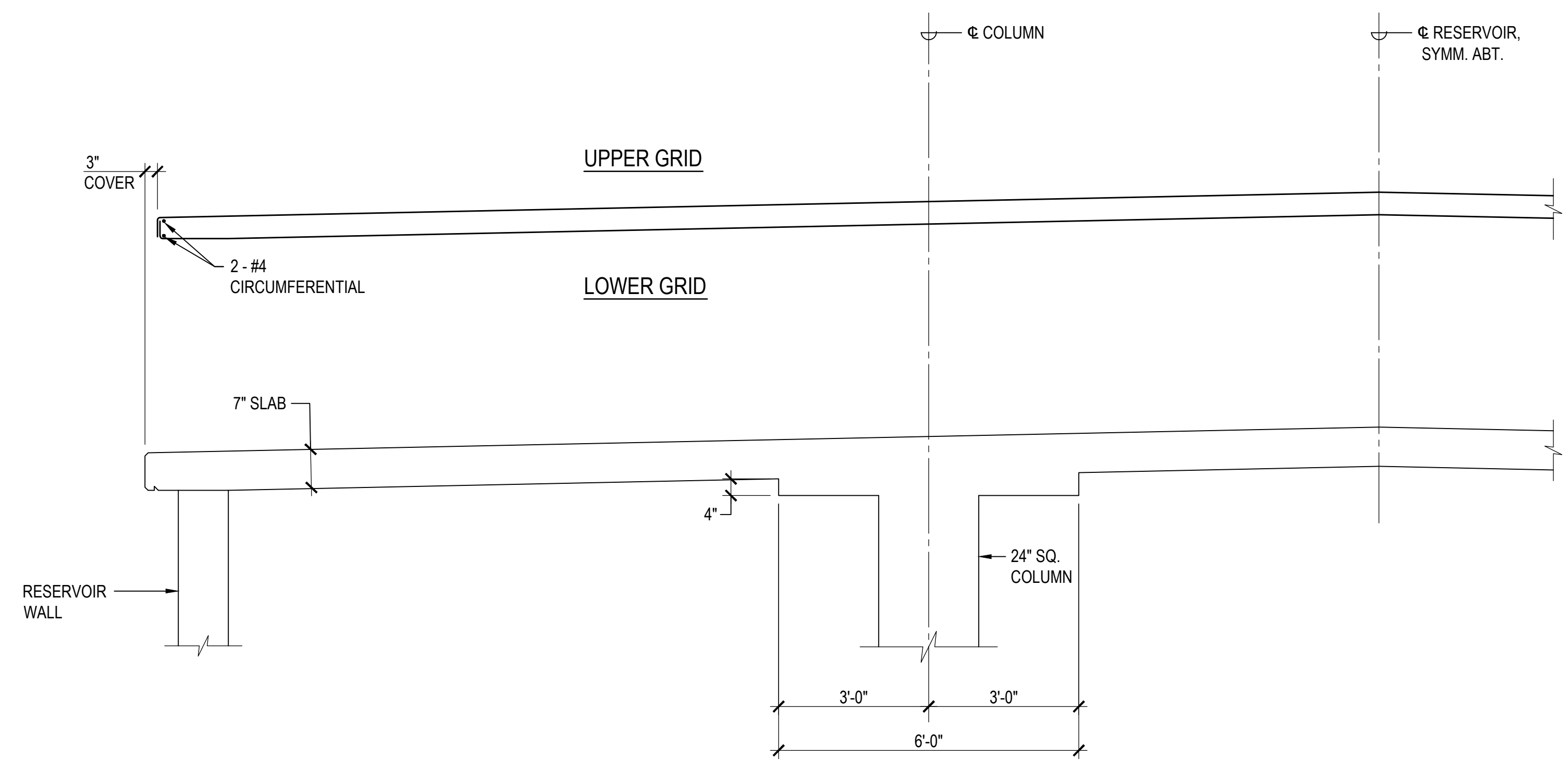
ROOF STEEL - LOWER GRID REINFORCING STEEL COLUMN STRIP

DESIGNED BY: CS	DRAWING NO. S-8
DRAWN BY: MM	
CHECKED BY: CS	
SURVEYED BY: WT	DATE: AUG. 2018
SHEET NO. 36 OF 79	

- NOTES:
- CONCRETE COVER OVER REINFORCING STEEL IN ROOF SLAB:
 - 1 1/2" AT TOP OF SLAB
 - 1 1/2" AT BOTTOM OF SLAB
 - 3" AT OUTSIDE EDGE OF SLAB
 - ALL ROOF SLAB REINF. STEEL IN THE UPPER GRID SHALL BE LAPPED AT THE CENTER OF MIDDLE STRIP OF THE PERPENDICULAR DIRECTION AND THE LOWER GRID SHALL BE LAPPED AT THE CENTER OF COLUMN STRIP OF THE PERPENDICULAR DIRECTION.
 - ONLY EVERY OTHER ADJACENT BAR ON THE SAME LAYER MAY BE SPLICED IN THE SAME LOCATION.



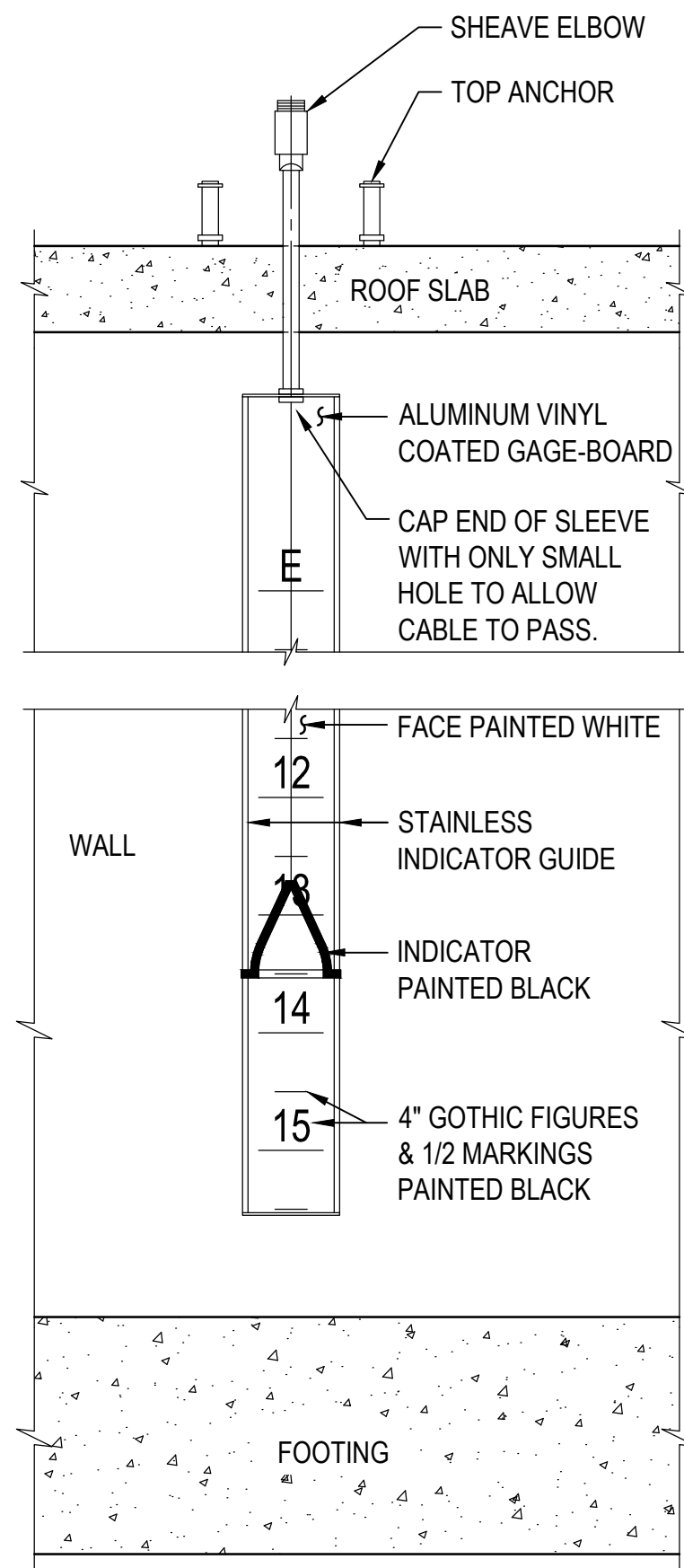
A 1/2 PLAN ROOF STEEL - LOWER GRID
S-8 SCALE: 1/4" = 1'-0"



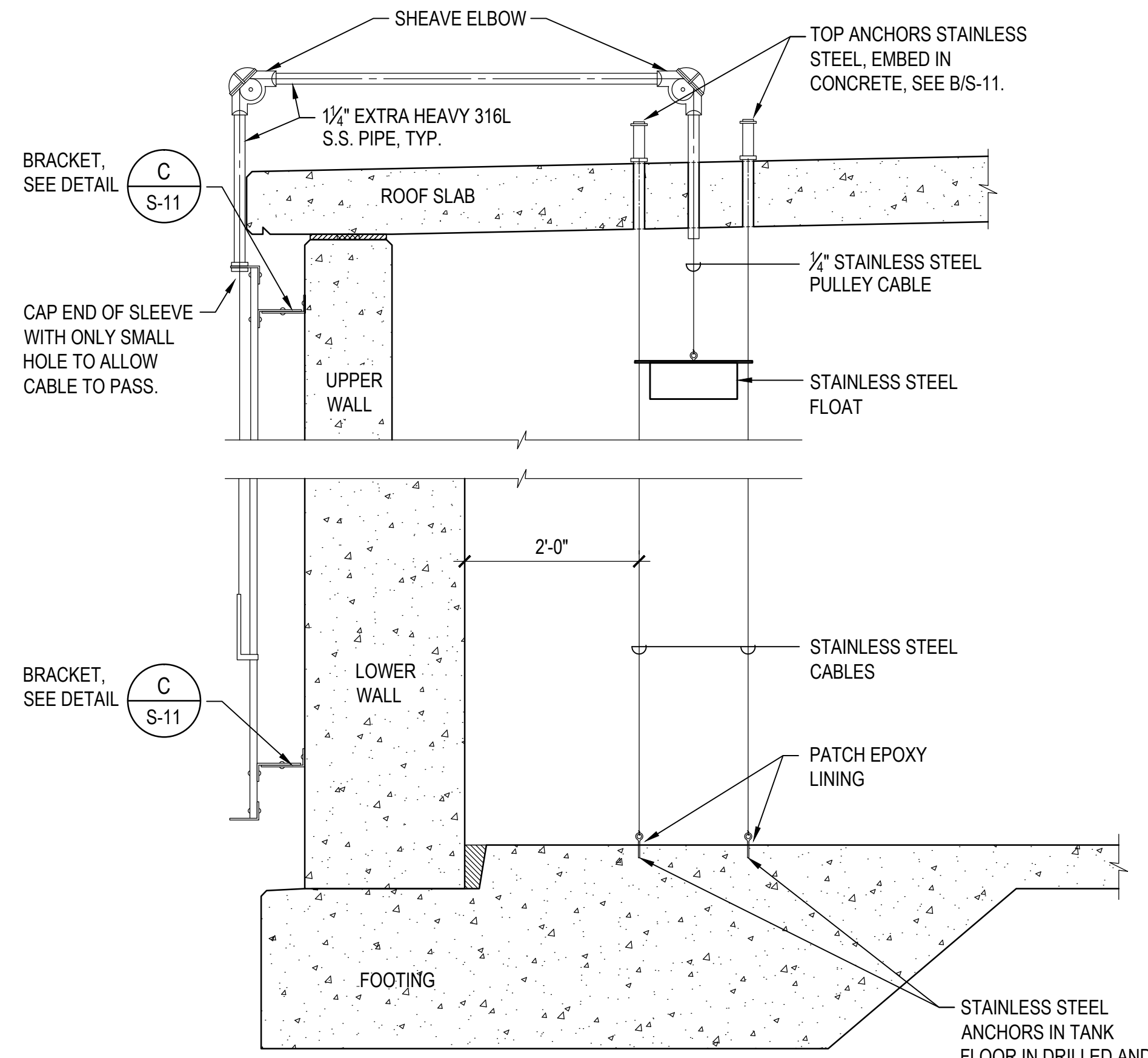
B REINFORCING STEEL COLUMN STRIP
S-8 SCALE: 1/2" = 1'-0"

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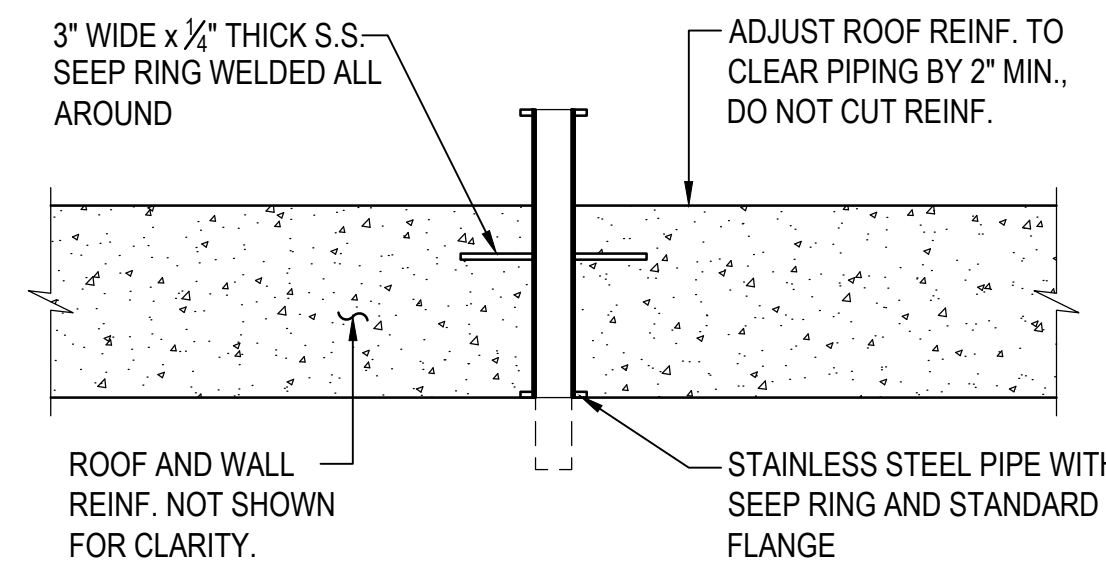
FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



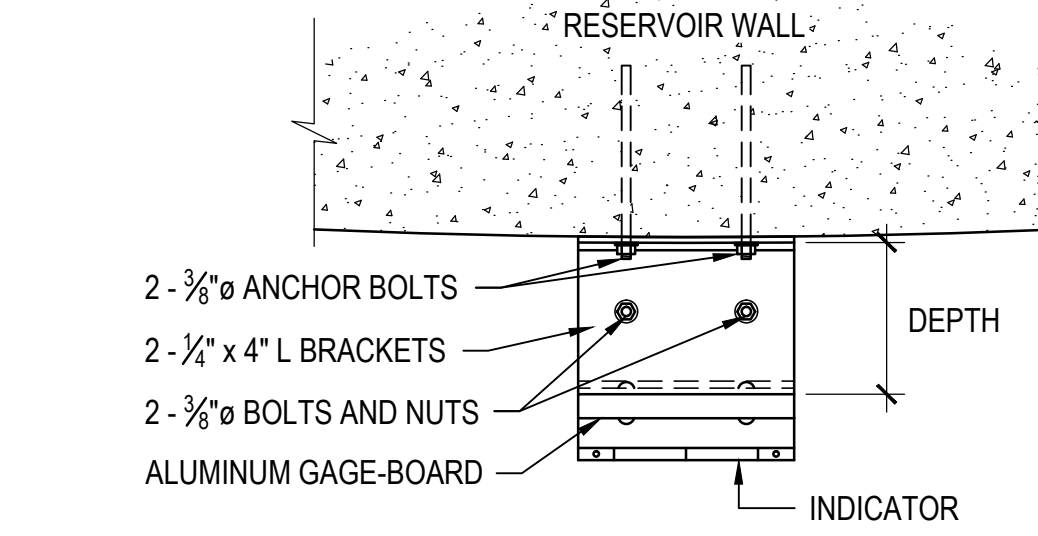
ELEVATION



SECTION



B TYP. PIPE THROUGH ROOF
S-11 NOT TO SCALE



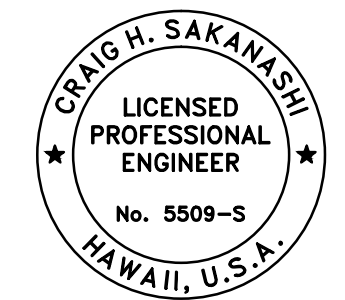
C BRACKET DETAIL
S-11 NOT TO SCALE

NOTES:

1. FOR SIZE OF INDICATOR BOARD AND BRACKET REQUIREMENTS, SEE MANUFACTURER LITERATURE.
2. BRACKETS, ANCHORS, NUTS AND BOLTS SHALL BE STAINLESS STEEL (TYPICAL).

NOTE:
WATER LEVEL INDICATOR SHALL BE "VAREC LIQUID INDICATOR", (MODEL 6700 WITH GUIDED FLOAT) OR EQUAL, AND INSTALLED AT A LOCATION THAT CAN BE SEEN FROM THE ACCESS ROAD. ALL BRACKET AND FASTENERS SHALL BE STAINLESS STEEL. WATER LEVEL INDICATOR SHALL BE LOCATED AS CLOSE TO THE ACCESS HATCH AS POSSIBLE.

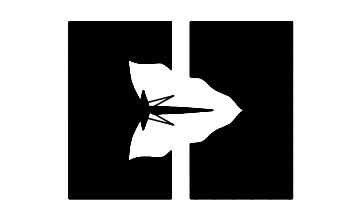
A WATER LEVEL INDICATOR
S-11 NOT TO SCALE



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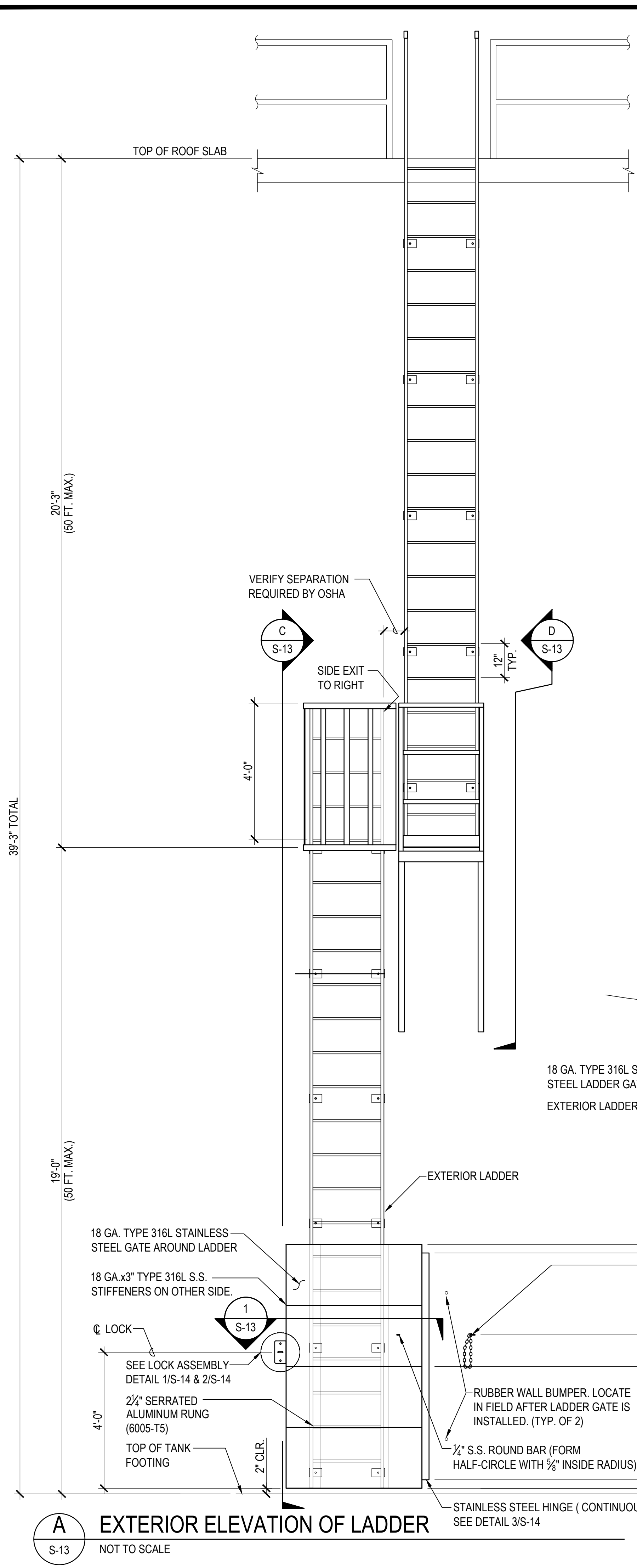
ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai
TMK:
4-8-001:001; 4-8-005:037 & 039

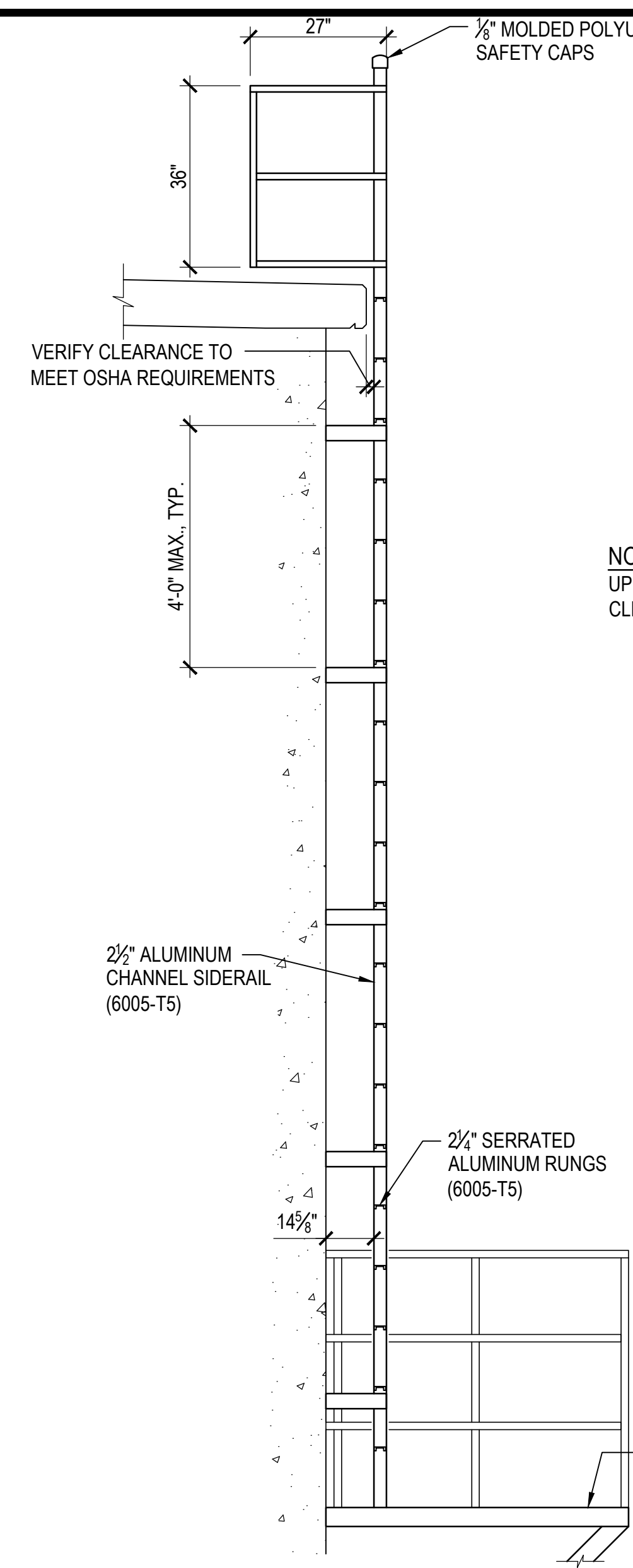
WATER LEVEL INDICATOR,
TYPICAL PIPE THROUGH
ROOF AND BRACKET
DETAILS

DESIGNED BY: CS
DRAWN BY: MM
CHECKED BY: CS
SURVEYED BY: WT
DATE: AUG. 2018
DRAWING NO. S-11
SHEET NO. 39 OF 79

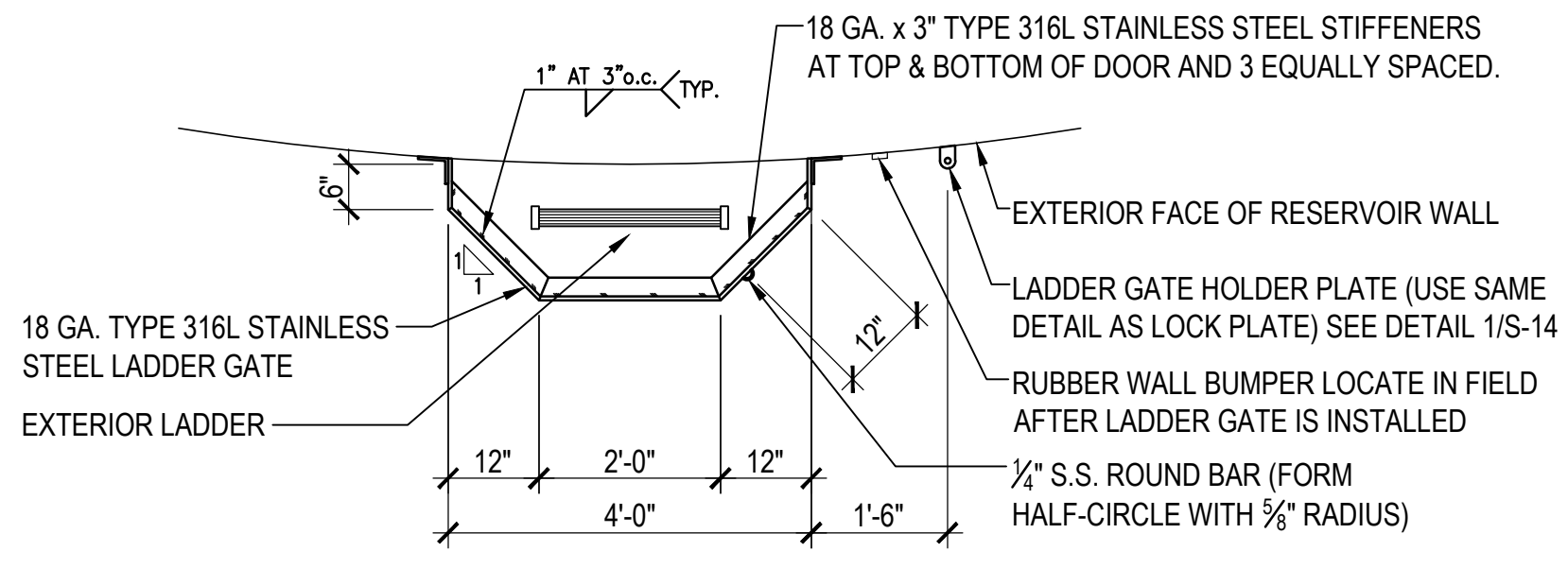
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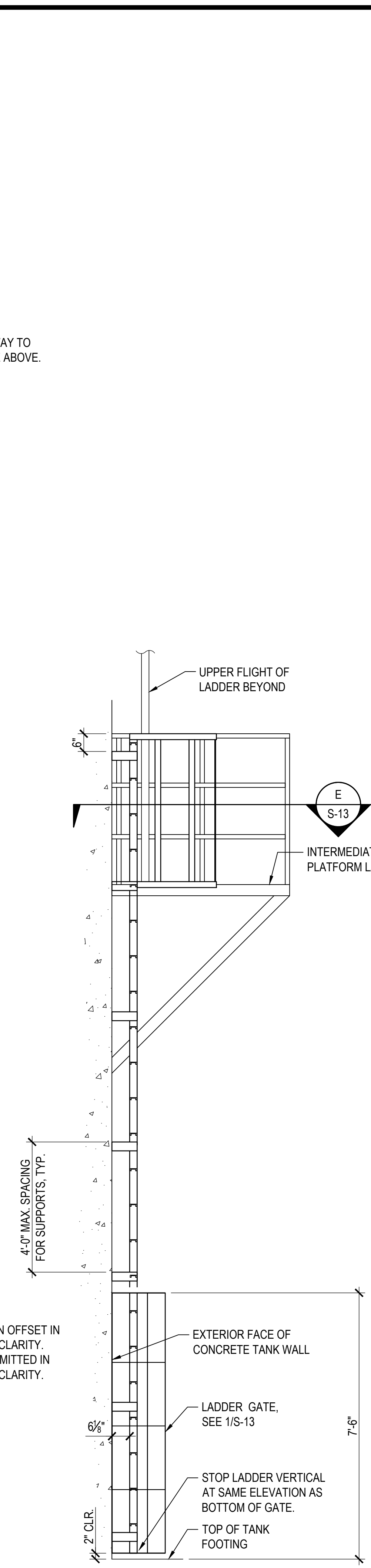
A EXTERIOR ELEVATION OF LADDER
S-13 NOT TO SCALE



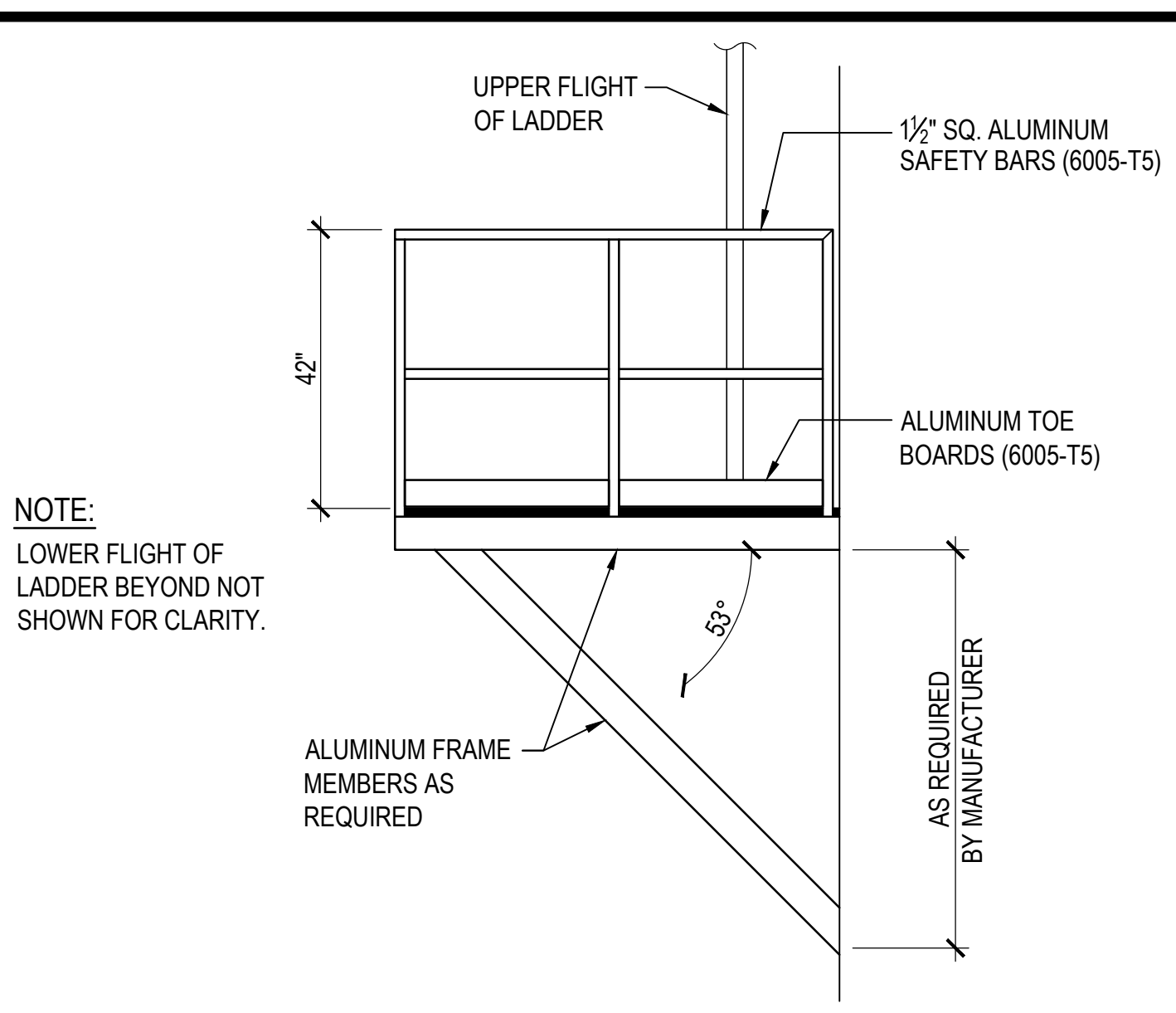
B UPPER FLIGHT
S-13 NOT TO SCALE



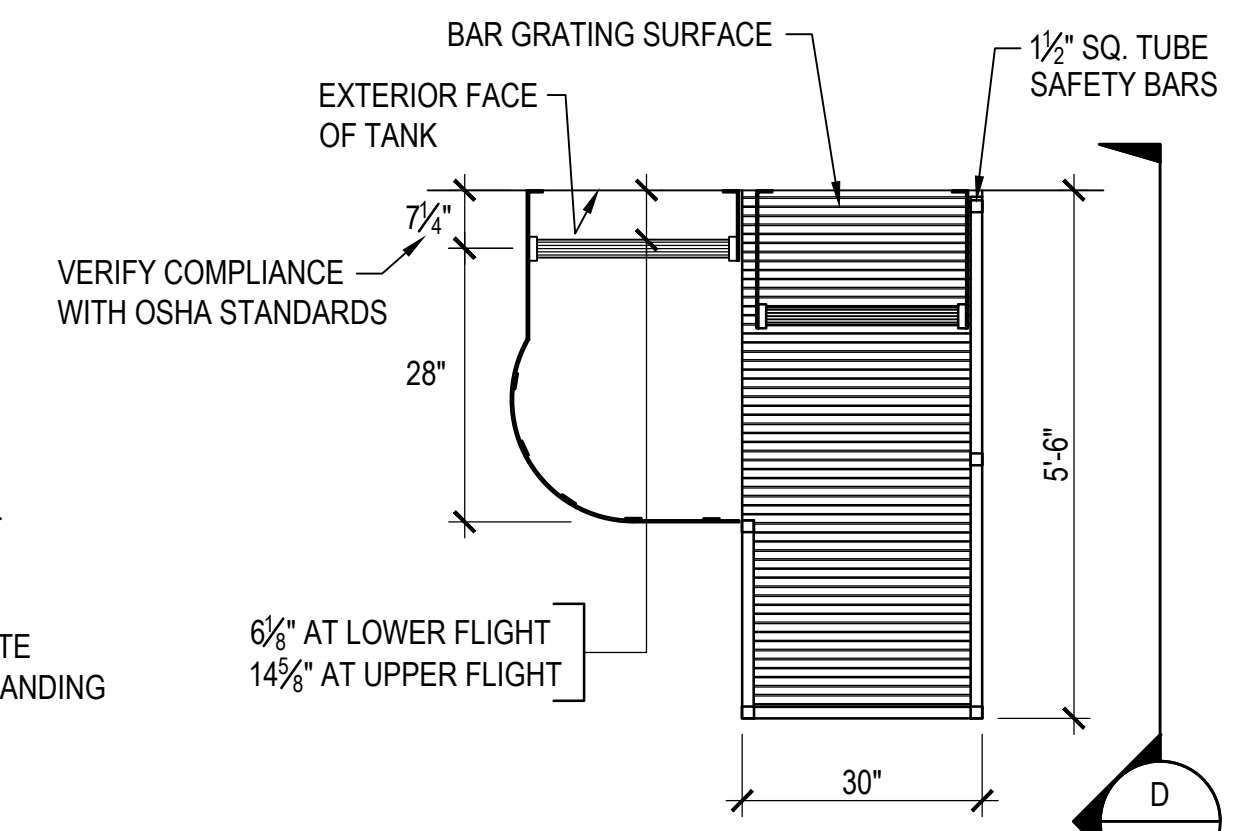
1 PLAN / SECTION
S-13 NOT TO SCALE



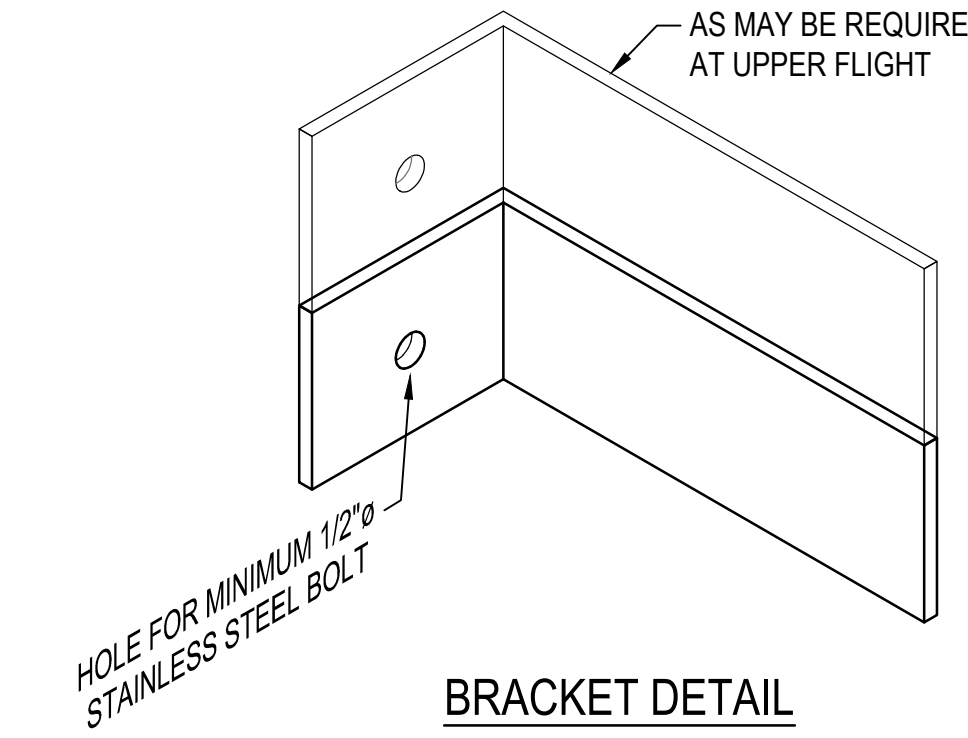
C LOWER FLIGHT
S-13 NOT TO SCALE



D INTERMEDIATE PLATFORM RIGHT SIDE ELEVATION
S-13 NOT TO SCALE



E PLATFORM PLAN
S-13 NOT TO SCALE



E CONCEPTUAL BRACKET DETAIL
S-13 NOT TO SCALE

- EXTERIOR LADDER:**
- EXTERIOR LADDER, RAILING AND INTERMEDIATE PLATFORM SHALL BE MADE OF ALUMINUM, PRE-MANUFACTURED AND ENGINEERED IN CONFORMANCE TO CURRENT OSHA REGULATIONS.
 - ALUMINUM SHALL BE TYPE 6005-T5.
 - WHEN ATTACHING LADDER TO RESERVOIR WITH 1/2" 316 STAINLESS STEEL EXPANSION BOLTS, GALVANIC ISOLATING SLEEVES AND WASHERS SHALL BE USED TO PREVENT GALVANIC CORROSION.
 - ALUMINUM BRACKETS IN DIRECT CONTACT WITH CONCRETE TANK SHALL BE PAINTED WITH BITUMINOUS COATING.
 - LADDER, GATE AND ALL APPURTENANCES SHALL BE OUT OF 316 OR 316L STAINLESS STEEL.
 - LADDER SHALL BE EQUIPPED WITH CLIMBING FALL PROTECTION DEVICE SUCH AS "MILLER VI-Go" LADDER SAFETY SYSTEM" OR "DBI SALA FALL PROTECTION SYSTEM". ALL METAL SHALL BE STAINLESS STEEL. FOUR HARNESSES SHALL BE PROVIDED TO THE OWNER BY THE MANUFACTURER.

- NOTES:**
- ALUMINUM BRACKET SHALL BE DESIGNED BY MANUFACTURER.
 - NOTE THAT UPPER FLIGHT OF LADDER IS MUCH FURTHER AWAY FROM CONC. EXTERIOR FACE OF TANK THAN LOWER FLIGHT.
 - LADDER MANUFACTURER SHALL SPECIFY THE PROPER SIZE, EMBEDMENT DEPTH OF THE 316 STAINLESS STEEL EXPANSION BOLTS BASED ON CONCRETE STRENGTH OF F'c = 4,000 PSI.

CRAIG H. SAKAMASHI
 LICENSED PROFESSIONAL ENGINEER
 No. 5509-S
 HAWAII, U.S.A.

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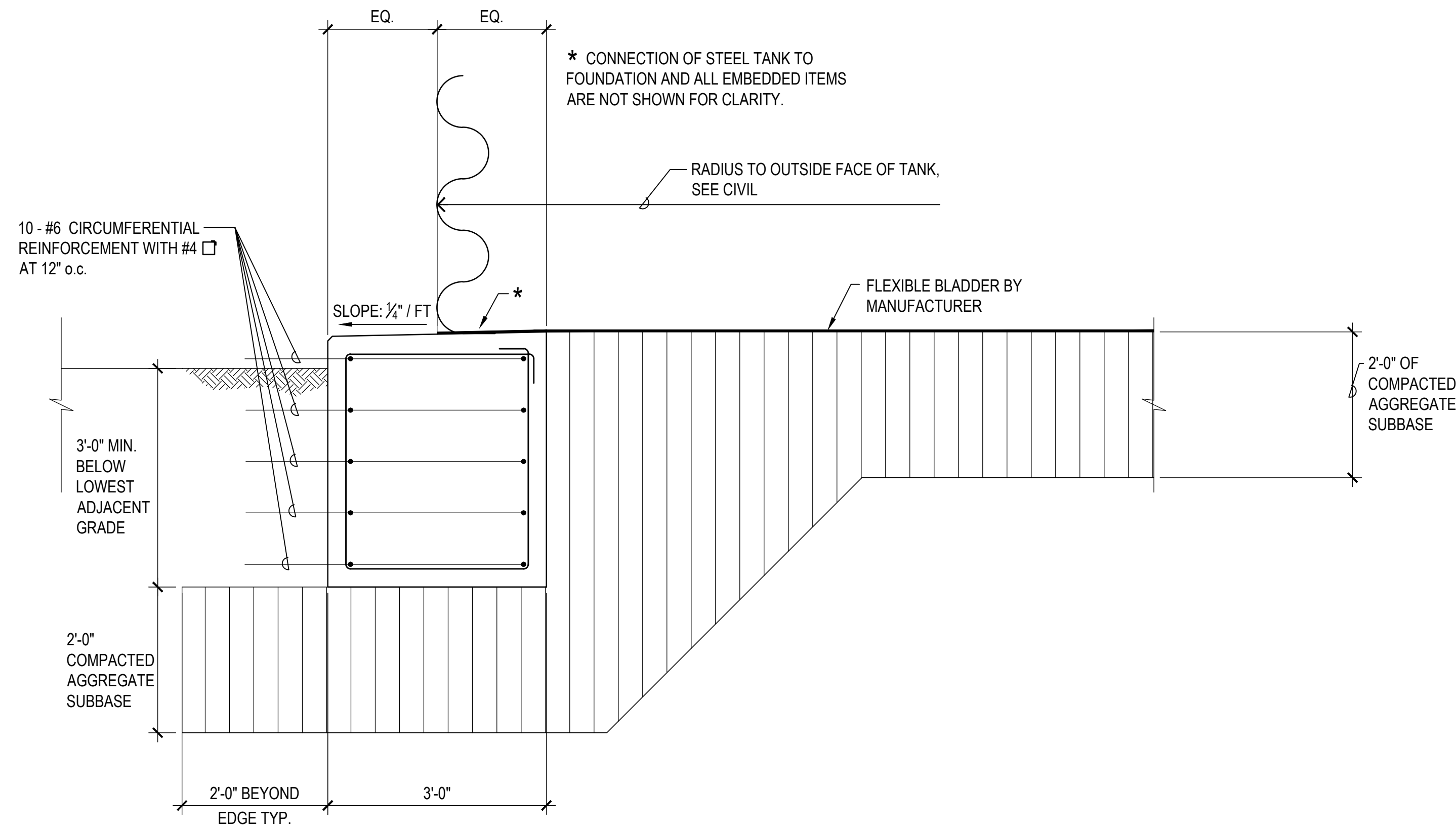
NO.	REVISION	DESCRIPTION

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 Kapolei, Hawaii 196707

ANAHOLA FARM LOTS WATER PROJECT
 Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kauai
 TMK: 4-8-001-001; 4-8-005-037 & 039

EXTERIOR LADDER AND GATE DETAILS

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



* CONNECTION OF STEEL TANK TO FOUNDATION AND ALL EMBEDDED ITEMS ARE NOT SHOWN FOR CLARITY.

RADIUS TO OUTSIDE FACE OF TANK, SEE CIVIL

FLEXIBLE BLADDER BY MANUFACTURER

2'-0" OF COMPACTED AGGREGATE SUBBASE

SLOPE: 1/4" / FT

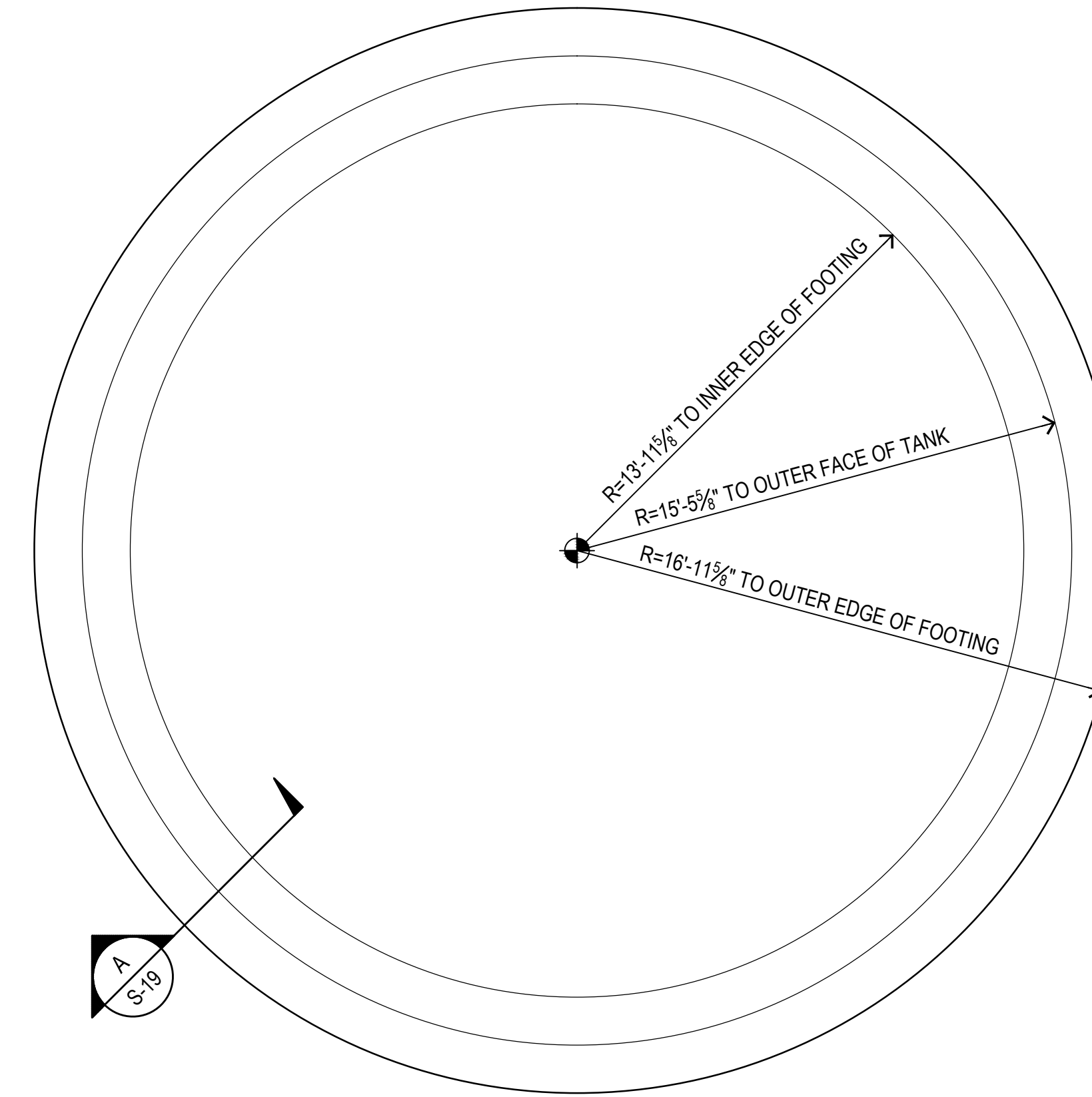
10 - #6 CIRCUMFERENTIAL REINFORCEMENT WITH #4 AT 12" o.c.

3'-0" MIN. BELOW LOWEST ADJACENT GRADE

2'-0" COMPACTED AGGREGATE SUBBASE

2'-0" BEYOND EDGE TYP. 3'-0"

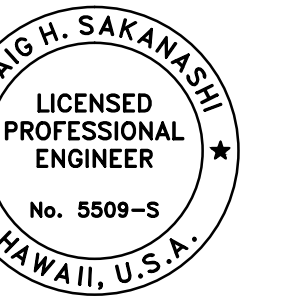
A SCHEMATIC TEMPORARY TANK FOUNDATION
S-19 SCALE: 3/4"=1'-0"



1 SCHEMATIC FOUNDATION PLAN FOR TEMPORARY STEEL TANK
S-19 SCALE: 1/4"=1'-0"

NOTES:

- FOUNDATION SHOWN IS FOR SCHEMATIC PURPOSES ONLY. THE CONCRETE RING FOUNDATION SHALL BE DESIGNED BY A STRUCTURAL ENGINEER HIRED BY THE TANK MANUFACTURER. THE STRUCTURAL ENGINEER SHALL BE REGISTERED IN THE STATE OF HAWAII. DRAWINGS AND CALCULATIONS FOR THE FOUNDATION AND ENTIRE TANK ASSEMBLY SHALL BE SEALED BY THE STRUCTURAL ENGINEER. A COPY OF THE DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR RECORD.
- PARAMETERS FOR THE DESIGN OF THE TANK CAN BE FOUND ON SHEET S-1 OF THESE CONTRACT DRAWINGS. GEOTECHNICAL RECOMMENDATIONS ARE CONTAINED IN THE GEOTECHNICAL REPORT DONE FOR THIS PROJECT. THE TANK MANUFACTURER'S STRUCTURAL ENGINEER SHALL OBTAIN A COPY OF THE REPORT AND ADHERE TO ITS RECOMMENDATIONS.
- THE STEEL TANK SHALL BE DESIGNED TO MEET THE FOLLOWING REFERENCES. IF THERE ARE CONFLICTING REQUIREMENTS, THE MORE STRINGENT SHALL APPLY:
 - 2006 INTERNATIONAL BUILDING CODE AS ADOPTED IN THE HAWAII BUILDING CODE
 - ASCE 7-05
 - AWWA 103-09
- SEE CIVIL AND SPECIFICATIONS FOR ALL APPURTENANCES THAT SHALL BE PROVIDED.
- SEE CIVIL FOR ALL PIPING BENEATH TANK.

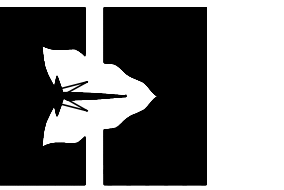


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature
LICENSE EXPIRATION DATE: 04/30/20



REVISION	DATE	DESCRIPTION	APPROVED	MADE BY



DEPARTMENT OF HAWAIIAN HOME LANDS

91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kaua'i

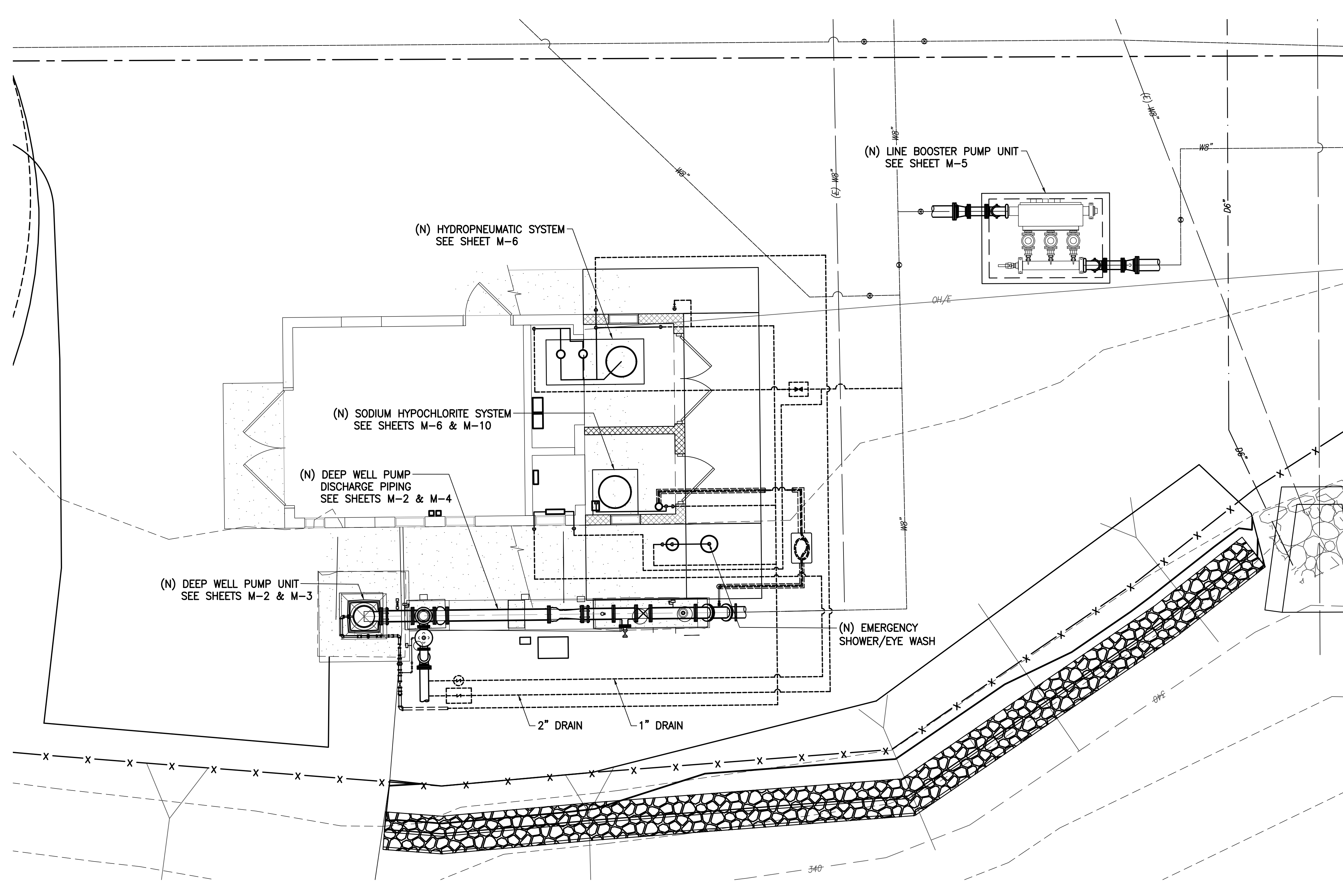
TMK:
4-8-001:001; 4-8-005:037 & 039

TEMPORARY TANK FOUNDATION PLAN AND SECTION

DESIGNED BY: CS	DRAWING NO. S-19
DRAWN BY: MM	CHECKED BY: CS
CHECKED BY: CS	SURVEYED BY: WT
SURVEYED BY: WT	DATE: AUG. 2018

SHEET NO. 47 OF 79

DRAWING NAME: G:\PROJ\2017\217-003-ANAHOLA_WTRSYS\MPR_PHS\DRAWINGS\SHEETS\M-1.DWG EDIT TIME: 07-23-18, 8:38 AM EDITED BY: SCOTT



MECHANICAL LEGEND		
SYMBOLS	ABBR.	DESCRIPTION
—		EXISTING TO REMAIN
—		NEW MECHANICAL/PLUMBING WORK
	(E)	EXISTING
	(N)	NEW
////		EXISTING TO BE REMOVED
	FOS	FUEL OIL SUPPLY
	FOR	FUEL OIL RETURN
	TYP.	TYPICAL
—	POC	POINT OF CONNECTION

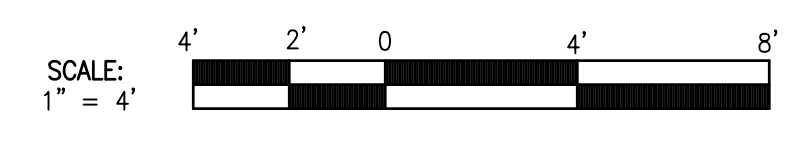
GENERAL NOTES:

- DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL FIELD CONDITIONS PERMIT. REASONABLE MODIFICATIONS TO SUIT JOB CONDITIONS SHALL NOT CONSTITUTE A BASIS FOR ADDITIONAL COMPENSATION.
- PROMPTLY NOTIFY AND COORDINATE WITH THE OWNER OF DISCREPANCIES OR MAJOR DEVIATIONS FROM THE PLANS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS WHICH PREVENT HIM FROM FULFILLING THE TERMS OF THE CONTRACT.
- VERIFY ALL CONDITIONS AND DIMENSIONS RELATED TO THE PROJECT BEFORE COMMENCING WITH THE REQUIRED WORK.
- FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT, INCLUDING CUTTING AND PATCHING AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. ALL MATERIALS SHALL BE NEW, FREE FROM DEFECTS, AND CONFORM TO CODE.
- PATCH ALL SURFACES EXPOSED FROM CUTTING AND/OR REMOVAL WORK. PATCHING SHALL MATCH THE FINISH OF THE ADJACENT SURFACES.
- ALL ITEMS AND MATERIALS TO BE REMOVED SHALL BE DONE IN SUCH A MANNER AS TO PREVENT DAMAGE TO ITEMS AND MATERIALS TO REMAIN. ALL SUCH DAMAGES SHALL BE SATISFACTORILY REPAIRED AT NO ADDITIONAL COST TO THE DHHL.
- ALL WASTE MATERIALS SHALL BE PROMPTLY REMOVED AND DISPOSED.

MECHANICAL CONSTRUCTION NOTE:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE KDOW WATER SYSTEM STANDARDS, DATED 2002, AS AMENDED.
- COORDINATE AND SCHEDULE WORK ACTIVITIES TO ENSURE THAT THE EXISTING ANAHOLA WELL & TANK FACILITY IS FREE AND CLEAR OF ANY OBSTRUCTIONS THAT WOULD PREVENT OR INTERFERE WITH ITS NORMAL OPERATION AND MAINTENANCE BY DHHL AND AQUA ENGINEERS, INC. PERSONNEL.
- INFORM DHHL IN WRITING 72 HOURS IN ADVANCE OF COMMENCING WITH THE MECHANICAL WORK.
- ALL SCHEDULED SHUT DOWNS OF THE WELL PUMP REQUIRED FOR THE PERFORMANCE OF THE CONTRACT MUST BE APPROVED IN WRITING BY THE DHHL. THE DHHL RESERVES THE RIGHT TO RESCHEDULE ANY PROPOSED SHUT DOWN WHEN IT IS DEEMED IN THE BEST INTEREST TO THE DEPARTMENT. THE CONTRACTOR SHALL UNDERSTAND THAT HE SHALL NOT BE ENTITLED TO ANY CLAIMS AGAINST THE DHHL DUE TO ANY RESCHEDULING OF SHUT DOWNS OF THE WELL PUMP.
- ALL CONNECTIONS TO EXISTING WATERLINES SHALL BE DONE BY THE CONTRACTOR UNDER DHHL SUPERVISION. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, BACKFILL, TRAFFIC CONTROL, AND PROVIDE ALL MATERIALS AND EQUIPMENT TO COMPLETE THE CONNECTIONS.
- DISINFECT WATER SYSTEM COMPONENTS IN CONTACT WITH DRINKING WATER AND PERFORM ALL ASSOCIATED TESTING. THE PERSON TO DO THE WORK SHALL BE LICENSED IN THE STATE OF HAWAII.
- ALL DISTURBED AREAS SHALL BE RESTORED TO ITS ORIGINAL CONDITION, OR BETTER. GRASSED AREAS DISTURBED BY THE CONTRACTOR'S ACTIVITIES SHALL BE REGRASSSED AND MAINTAINED UNTIL THE GRASS HAS ESTABLISHED ITSELF AND SOIL CANNOT BE DISPLACED.
- INSPECT WELL CASING UPON REMOVAL OF THE EXISTING WELL PUMP. INSPECTION SHALL BE BY VIDEO CAMERA AND A DVD COPY OF THE VIDEO-LOG SHALL BE SUBMITTED TO DHHL. THE CONTRACTOR SHALL IMMEDIATELY INFORM DHHL OF ANY DEFECTS OR DAMAGE TO THE WELL CASING.
- PREPARE AND PAINT ALL SURFACES OF PIPING, EQUIPMENT, AND APPURTENANCES IN ACCORDANCE WITH THE KDOW WATER SYSTEM STANDARDS. COLOR WILL BE AS SELECTED BY DHHL.
- ALL EXISTING WATERLINES, WATERLINE APPURTENANCES, AND OTHER EXISTING UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE LATEST RELIABLE SOURCES. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXACT LOCATION OF ALL UTILITIES AND SHALL BEAR THE COST FOR DAMAGES DONE BY HIM DURING THE CONTRACT PERIOD.
- ALL MATERIALS IN CONTACT WITH POTABLE WATER SHALL BE NSF-61, ANNEX G AND NSF-372 CERTIFIED. PROOF OF CERTIFICATION SHALL BE INCLUDED WITH THE CONTRACTOR'S SUBMITTALS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD BEFORE ORDERING COMPONENTS TO ENSURE ALL EQUIPMENT, PIPING, AND APPURTENANCES FIT PROPERLY FOR INSTALLATION AND OPERATION.
- ALL MECHANICAL EQUIPMENT SHALL BE COMMISSIONED ONSITE BY THE MANUFACTURER'S FACTORY-TRAINED REPRESENTATIVE TO ENSURE MECHANICAL EQUIPMENT OPERATES SATISFACTORILY. ONSITE TRAINING SHALL ALSO BE PROVIDED FOR DHHL AND AQUA ENGINEERS PERSONNEL.

GRAPHIC SCALE:



IF THIS SHEET IS LESS THAN 36"x24", IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

MECHANICAL SITE PLAN
SCALE: 1"=4"

OKAHARA & ASSOCIATES, INC.
CONSULTING ENGINEERS

Terrence L. Mad
Professional Engineer
No. 5683-M
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY PERSONAL SUPERVISION AND CONTROL. FOR ALL SERVICES IN SECTION 10-111-2, DEPARTMENT OF THE HAWAIIAN ADMINISTRATION, THE RULES OF THE PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

Signature: _____
Expiration Date of the License: 04-30-20



NO.	REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF HAWAIIAN HOME LANDS

91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai

TMK:
4-8-001:001; 4-8-005:037 & 039

MECHANICAL SITE PLAN

DESIGNED BY: _____	DRAWING NO. _____
DRAWN BY: _____	M-1
CHECKED BY: _____	DATE: AUG. 2018
SURVEYED BY: WT	DATE: _____

SHEET NO. 48 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

OKAHARA & ASSOCIATES, INC.
CONSULTING ENGINEERS

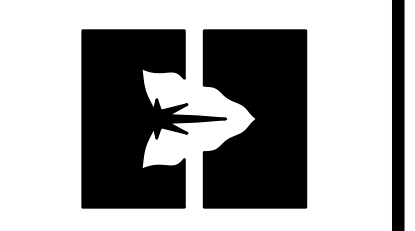
TERENCE I. MAD
Licensed Professional Engineer
No. 5683-M
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY PERSONAL SUPERVISION IN ACCORDANCE WITH ALL APPLICABLE SECTION 111-111-2, DEPARTMENTS OF THE HAWAIIAN ADMINISTRATIVE RULES OF THE PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.

Signature
Expiration Date of the License: 04-30-20



NO.	REVISION	DATE	BY	APPROVED



DEPARTMENT OF HAWAIIAN HOME LANDS

91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai

TMK:
4-8-001:001; 4-8-005:037 & 039

DEMOLITION DEEP WELL PUMP

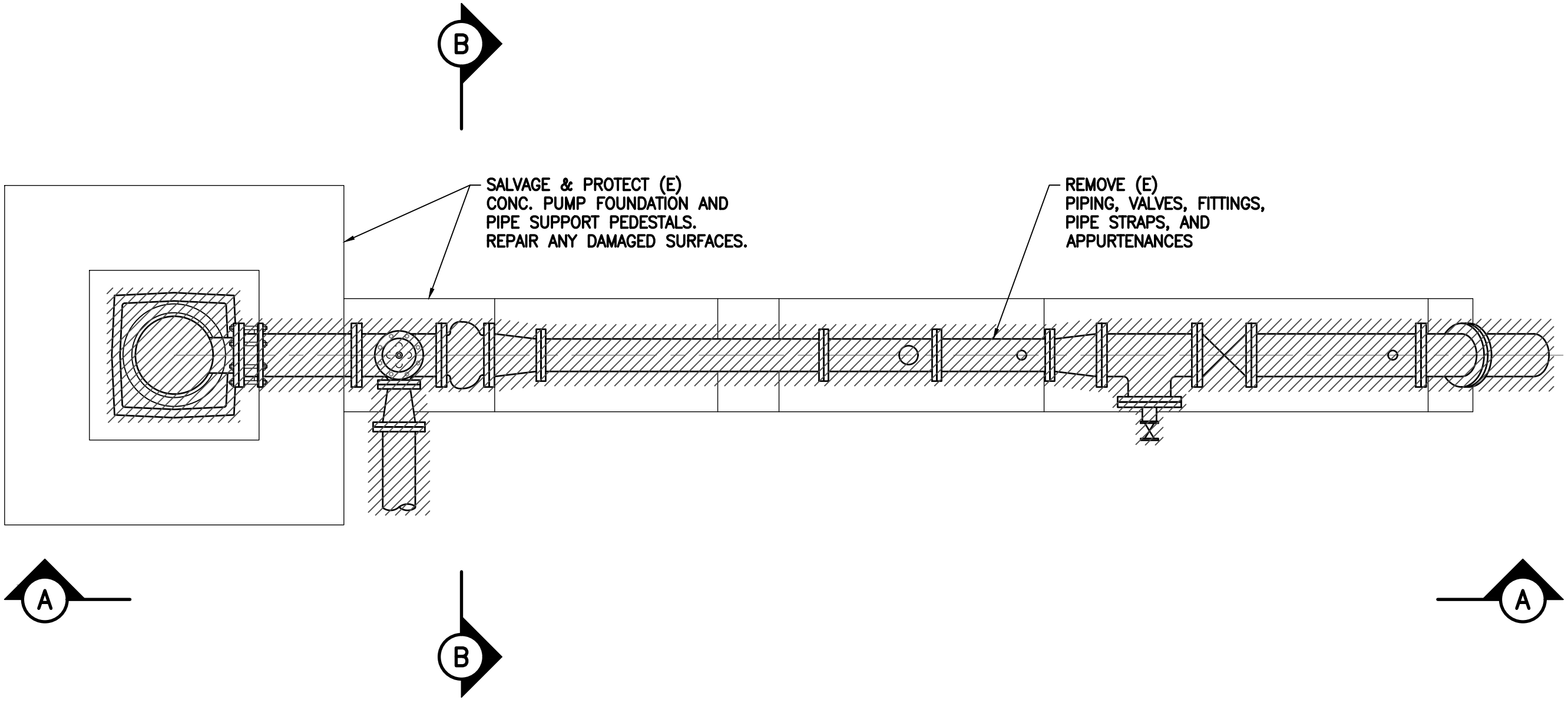
DESIGNED BY: _____ DRAWING NO. **M-2**

BRNWN BY: _____

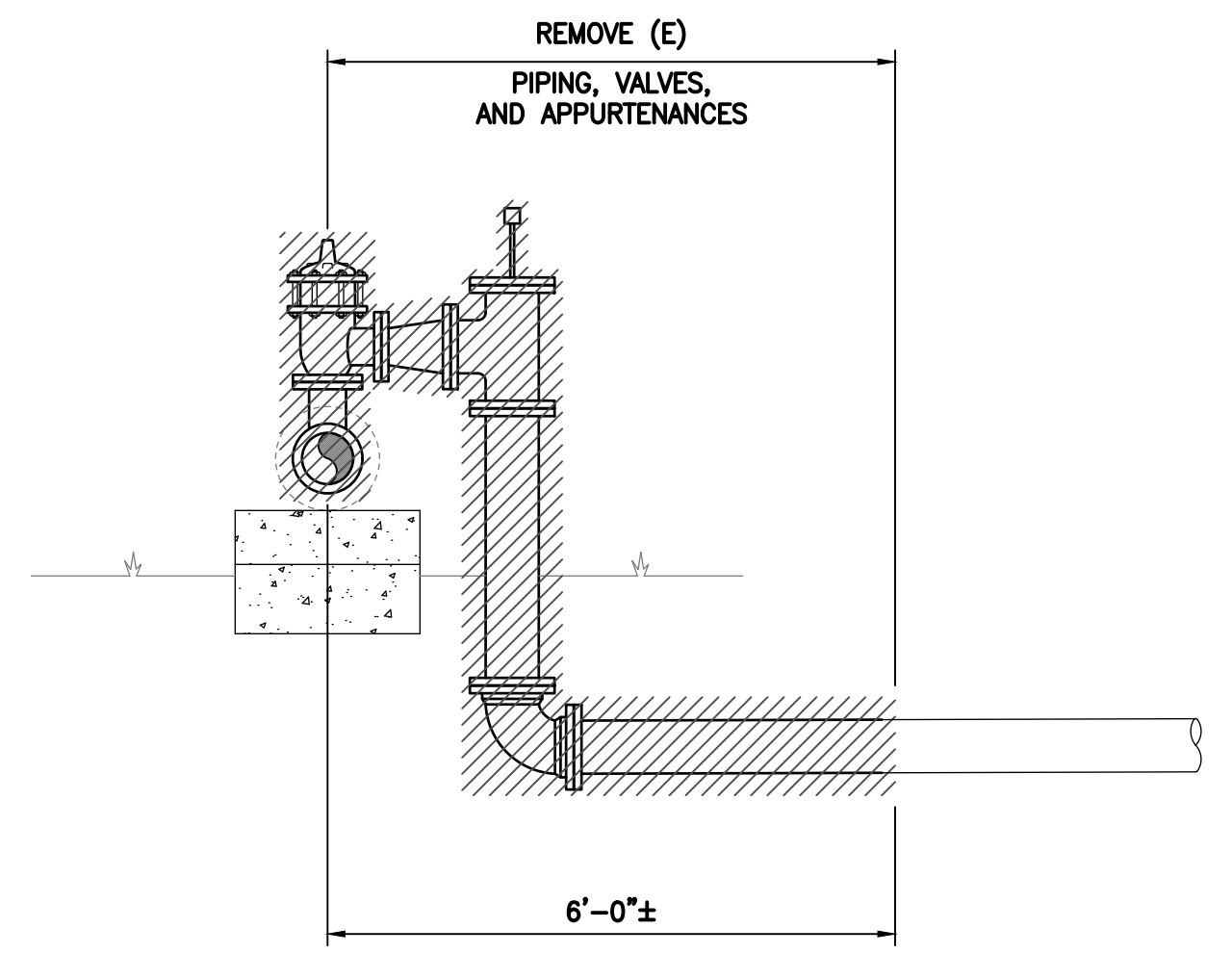
CHECKED BY: _____

SURVEYED BY: WT DATE: AUG 2018

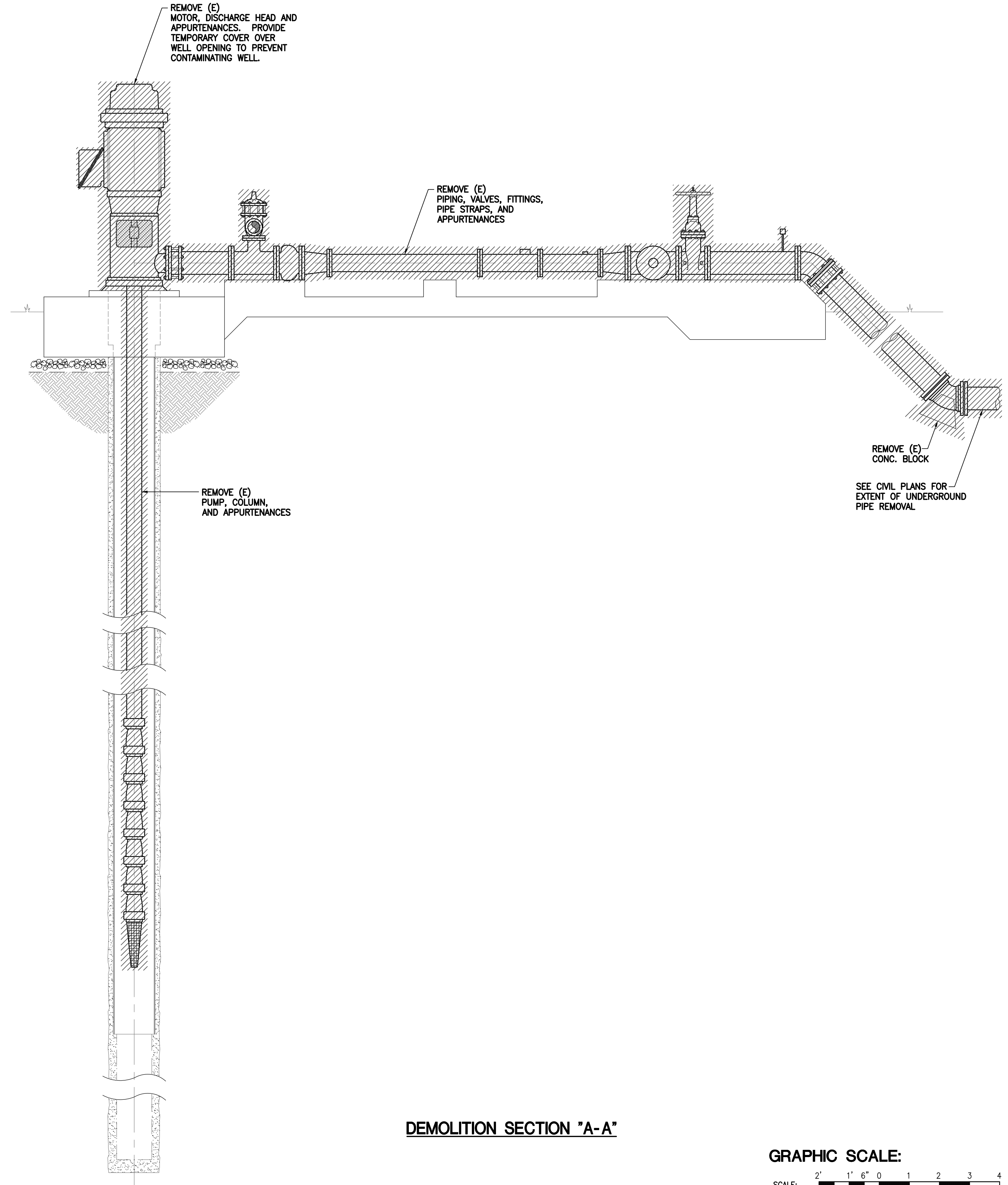
SHEET NO. 49 OF 79



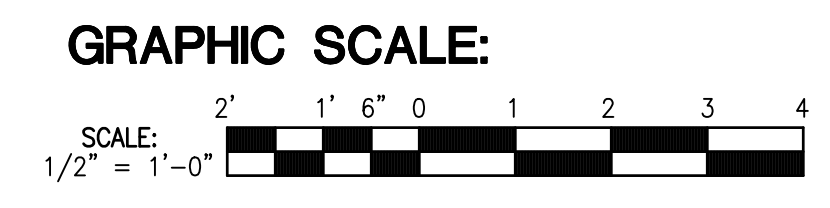
DEMOLITION PLAN



DEMOLITION SECTION "B-B"



DEMOLITION SECTION "A-A"



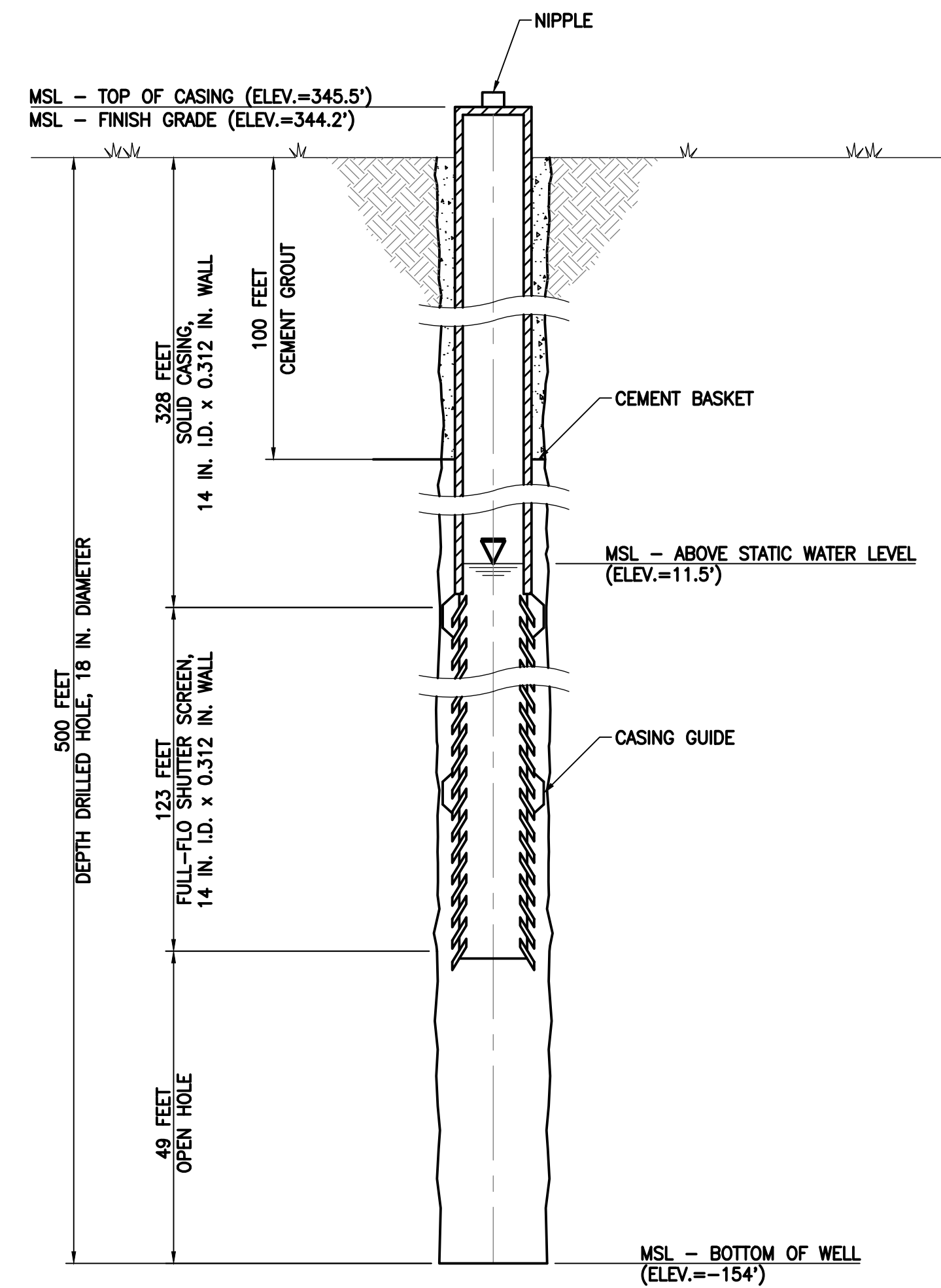
DEMOLITION DEEP WELL PUMP
SCALE: 1/2" = 1'-0"

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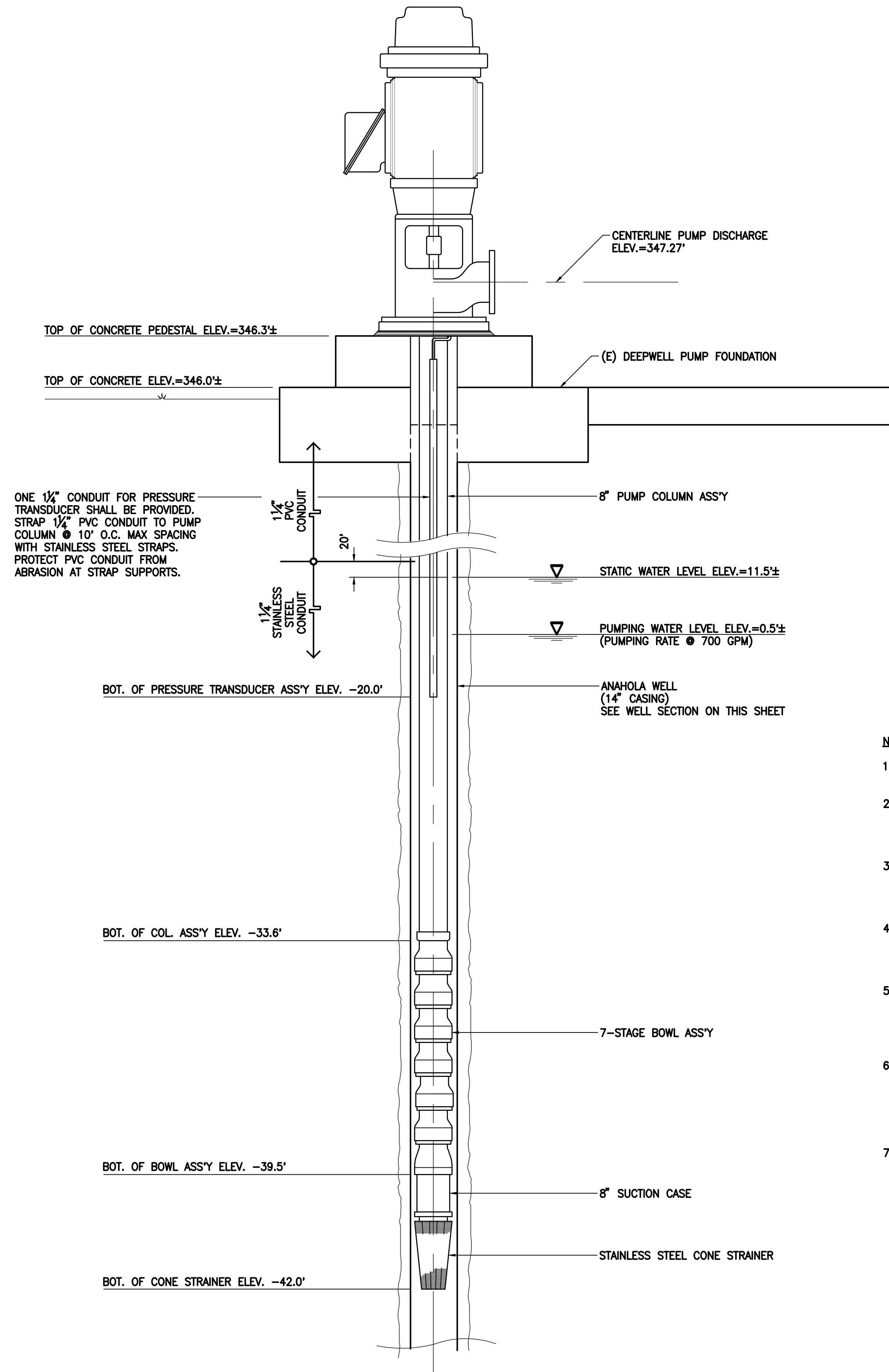
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FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DRAWING NAME: G:\PROVA\2017\217-003-ANAHOLA_WTR\DRAWINGS\SHEETS\M-3.DWG EDIT TIME: 07-23-18, 8:41 AM EDITED BY: SCOTT



SECTION THRU EXISTING ANAHOLA WELL (0919-03)
NOT TO SCALE



DEEPWELL PUMP GENERAL ARRANGEMENT
NOT TO SCALE

NOTES:

1. ALL ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL (MSL ELEV.=0.0').
2. THE PRESSURE SENSOR ASSEMBLY SHALL BE PROVIDED FOR CONTINUOUS WELL LEVEL MONITORING. THE CONTRACTOR SHALL ENSURE THE PRESSURE SENSOR CAN EASILY PASS THROUGH ANY BENDS IN THE CONDUITS.
3. CONTRACTOR TO VERIFY STATIC WATER LEVEL BEFORE PUMP INSTALLATION. LENGTH OF SUBMERGENCE FOR PRESSURE SENSOR & MONITOR TUBE ASSEMBLIES SHALL BE ADJUSTED AS NEEDED.
4. PUMP/MOTOR DESIGN:
FLOW: 700 GPM
MOTOR: 125 HP, 460 VOLTS
3 PHASE, 60 HERTZ
5. THE CONTRACTOR SHALL VIDEOLOG THE ENTIRE DEPTH OF THE EXISTING WELL PRIOR TO INSTALLING THE WELL PUMP. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OF ANY DAMAGE FOUND BY THE CONTRACTOR. A DVD COPY OF THE VIDEOLOG SHALL BE SUBMITTED TO THE DHHL.
6. THE CONTRACTOR SHALL CONDUCT A WELL ALIGNMENT AND PLUMBNESS TEST PRIOR TO INSTALLING THE WELL PUMP. THE CONTRACTOR SHALL ENSURE THE PUMP CAN BE INSTALLED TO THE ELEVATIONS SHOWN ON THE PLANS WITHOUT DAMAGING ANY COMPONENT OF THE PUMP INSTALLATION AND/OR DAMAGING THE EXISTING WELL CASING.
7. THE CONTRACTOR SHALL PROVIDE A CABLE STORAGE REEL OF ADEQUATE CAPACITY FOR THE PRESSURE SENSOR CABLE.

OKAHARA & ASSOCIATES, INC.
CONSULTING ENGINEERS

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Signature: *Terence I. Mado*
Expiration Date of the License: 04-30-20



NO.	REVISION	DATE	BY	APPROVED

DEPARTMENT OF HAWAIIAN HOME LANDS

91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

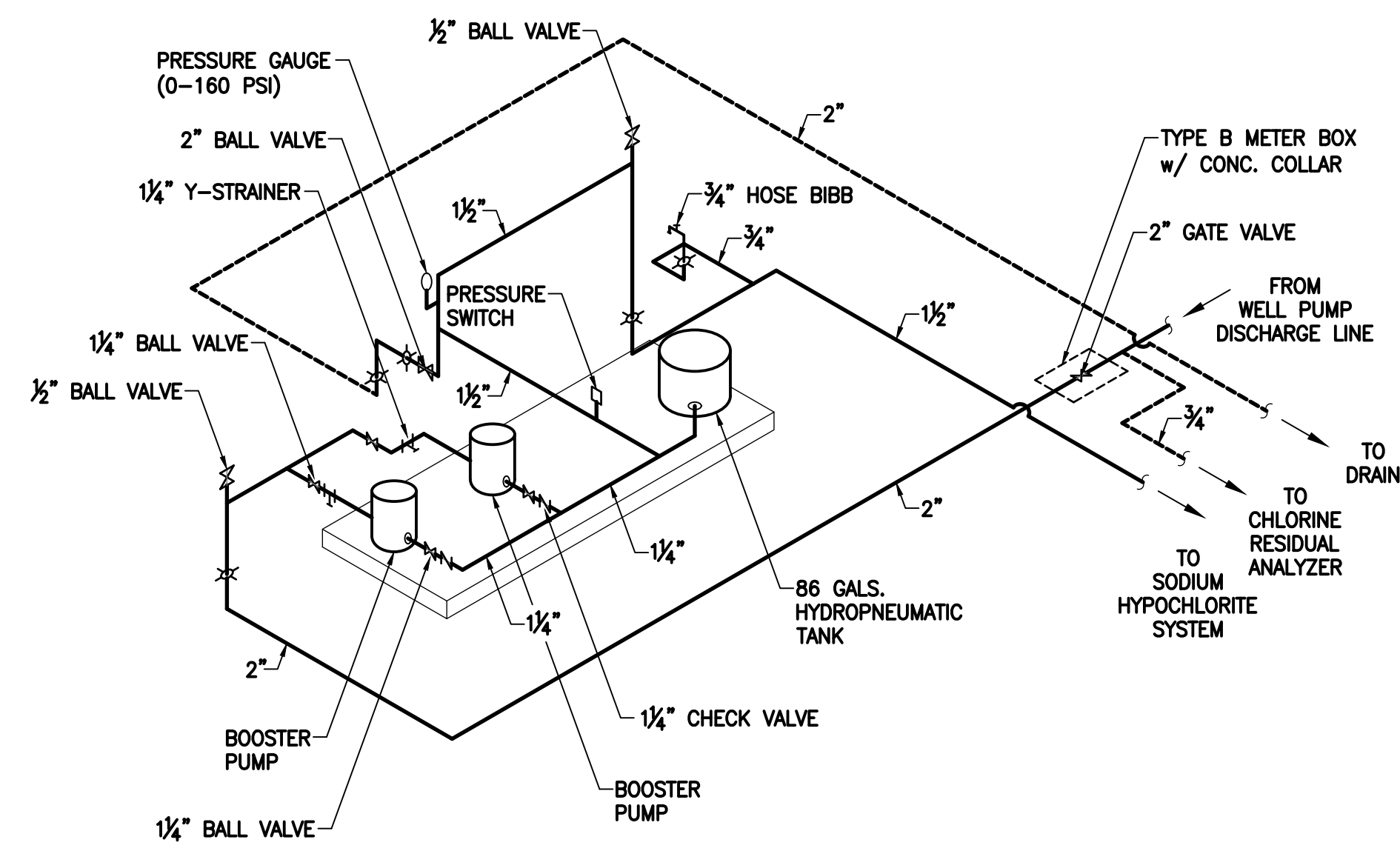
Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai

TMK:
4-8-001:001; 4-8-005:037 & 039

DEEPWELL PUMP GENERAL ARRANGEMENT & SECTION THRU EXISTING ANAHOLA WELL (0919-03)

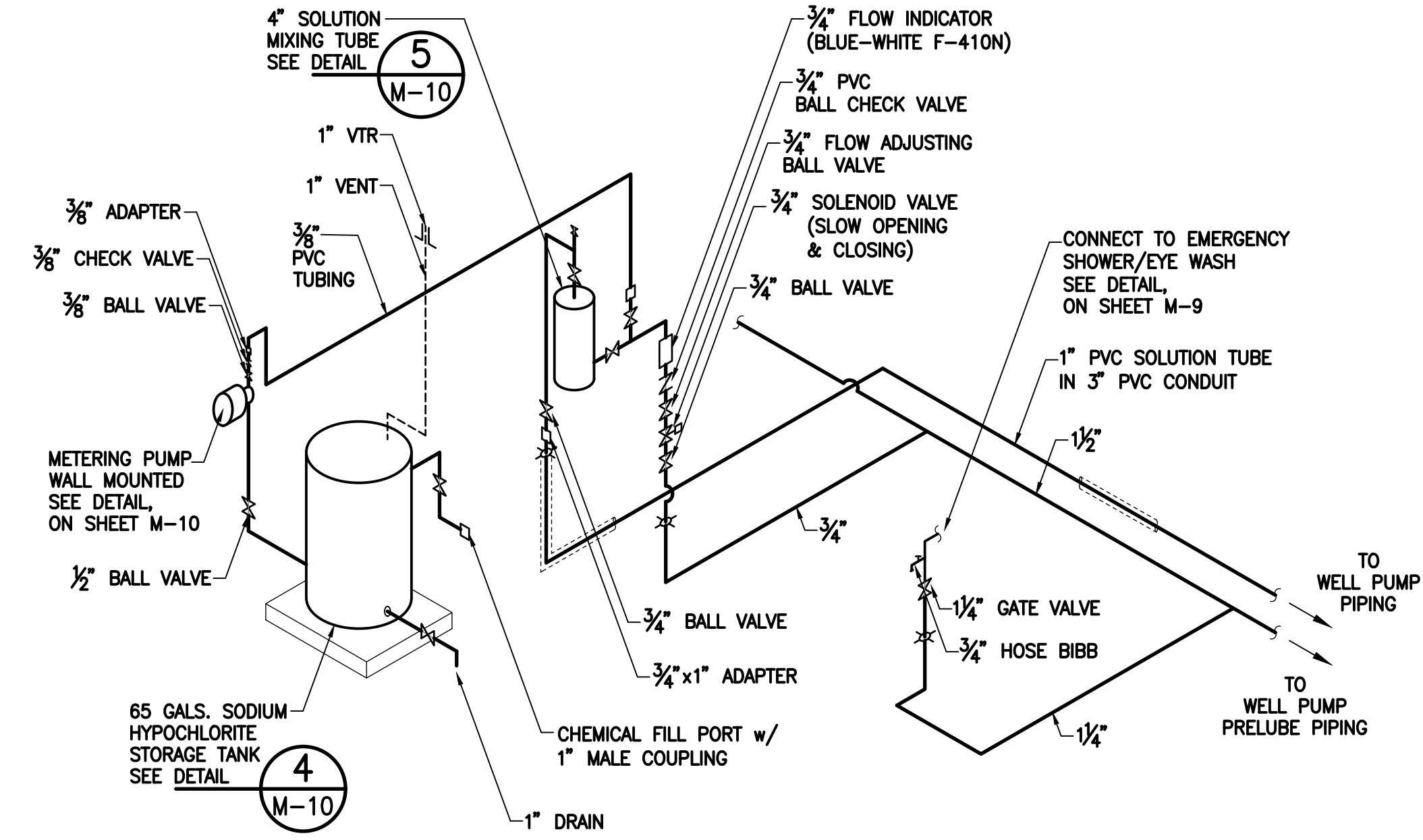
DESIGNED BY: _____	DRAWING NO. _____
DRAWN BY: _____	M-3
CHECKED BY: _____	DATE: AUG 2018
SURVEYED BY: WT	DATE: _____
SHEET NO. 50 OF 79	

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



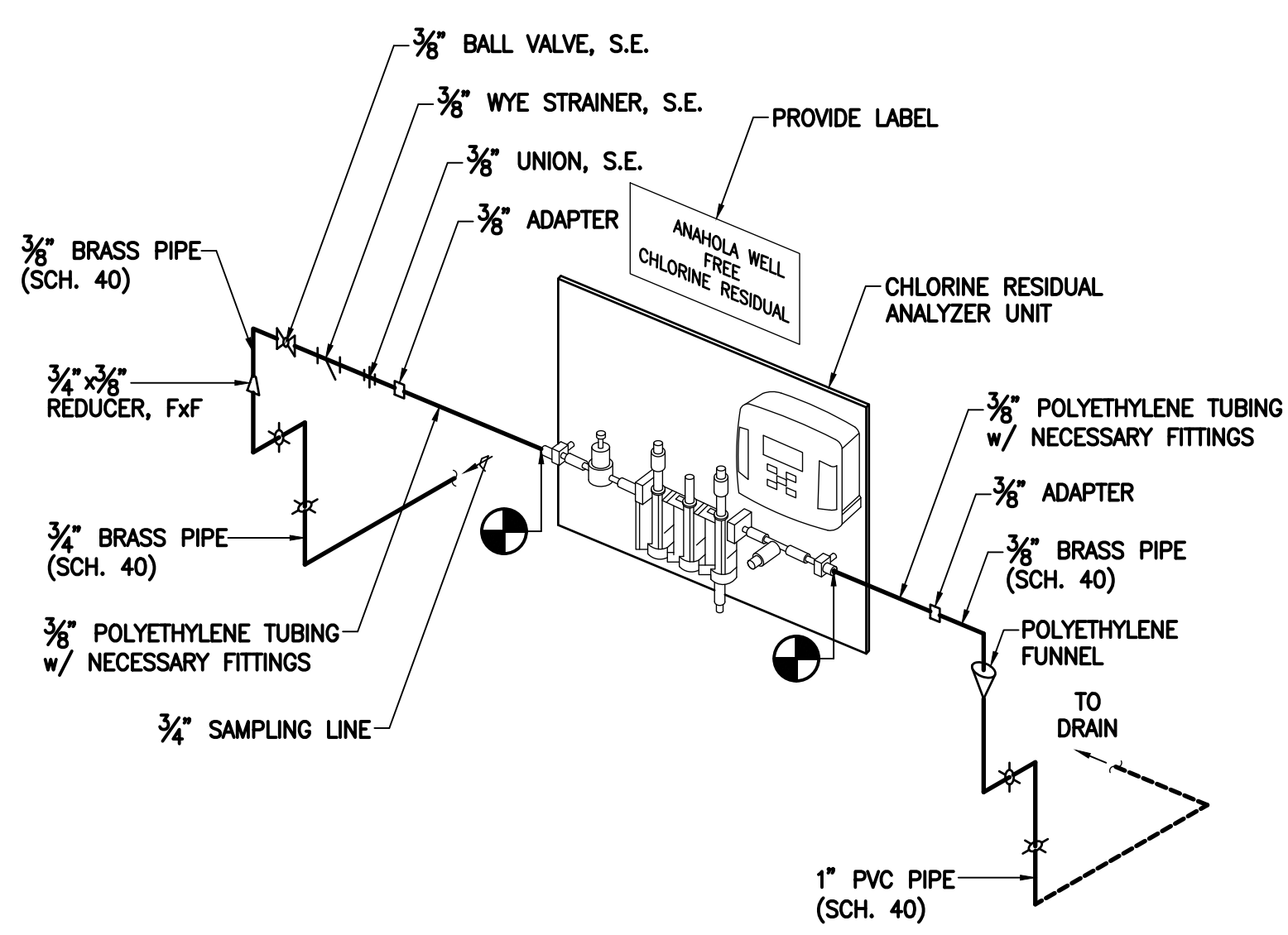
LEGEND:
 ✕ PIPE PENETRATION THROUGH WALL OR FLOOR

HYDROPNEUMATIC SYSTEM PIPING DIAGRAM
 NOT TO SCALE



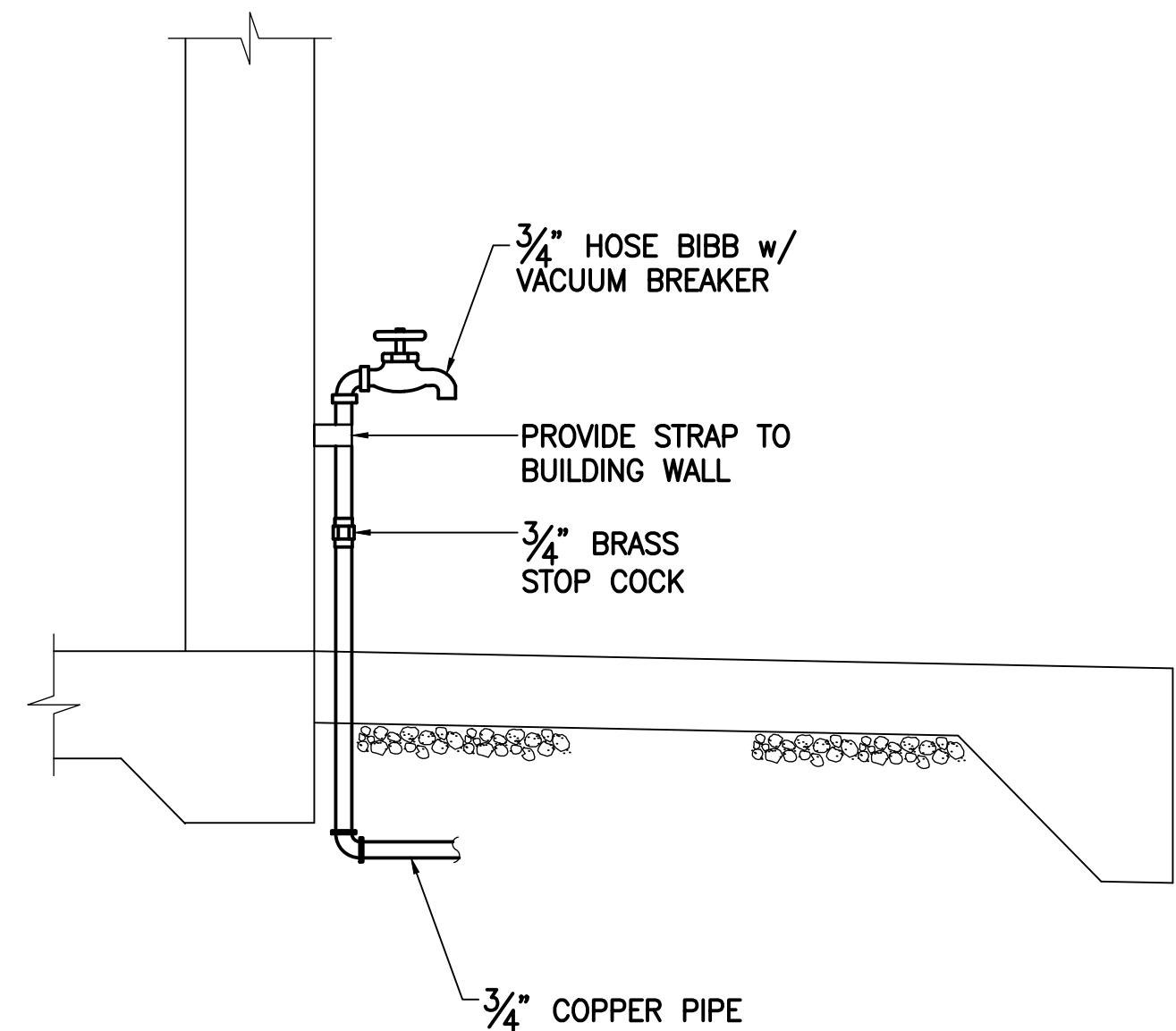
LEGEND:
 ✕ PIPE PENETRATION THROUGH WALL OR FLOOR

SODIUM HYPOCHLORITE SYSTEM PIPING DIAGRAM
 NOT TO SCALE



LEGEND
 ✕ PIPE PENETRATION THROUGH WALL OR FLOOR
 ● POINT OF CONNECTION

CHLORINE RESIDUAL ANALYZER PIPING SCHEMATIC DETAIL
 NOT TO SCALE



HOSE BIBB DETAIL
 NOT TO SCALE

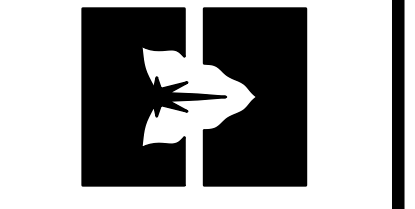
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OKAHARA & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 LICENSED PROFESSIONAL ENGINEER
 No. 5683-M
 HAWAII, U.S.A.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY PERSONAL SUPERVISION OF CONSTRUCTION FOR ALL PORTIONS OF THE PROJECT. I AM NOT PROVIDING ANY DESIGN OR CONSTRUCTION SERVICES AS AN ARCHITECT, ENGINEER, SURVEYOR, OR LANDSCAPE ARCHITECT.
 Signature: _____
 Expiration Date of the License: 04-30-20



NO.	REVISION	DATE	APPROVED



DEPARTMENT OF HAWAIIAN HOME LANDS
 91-5420 Kapolei Parkway
 Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT

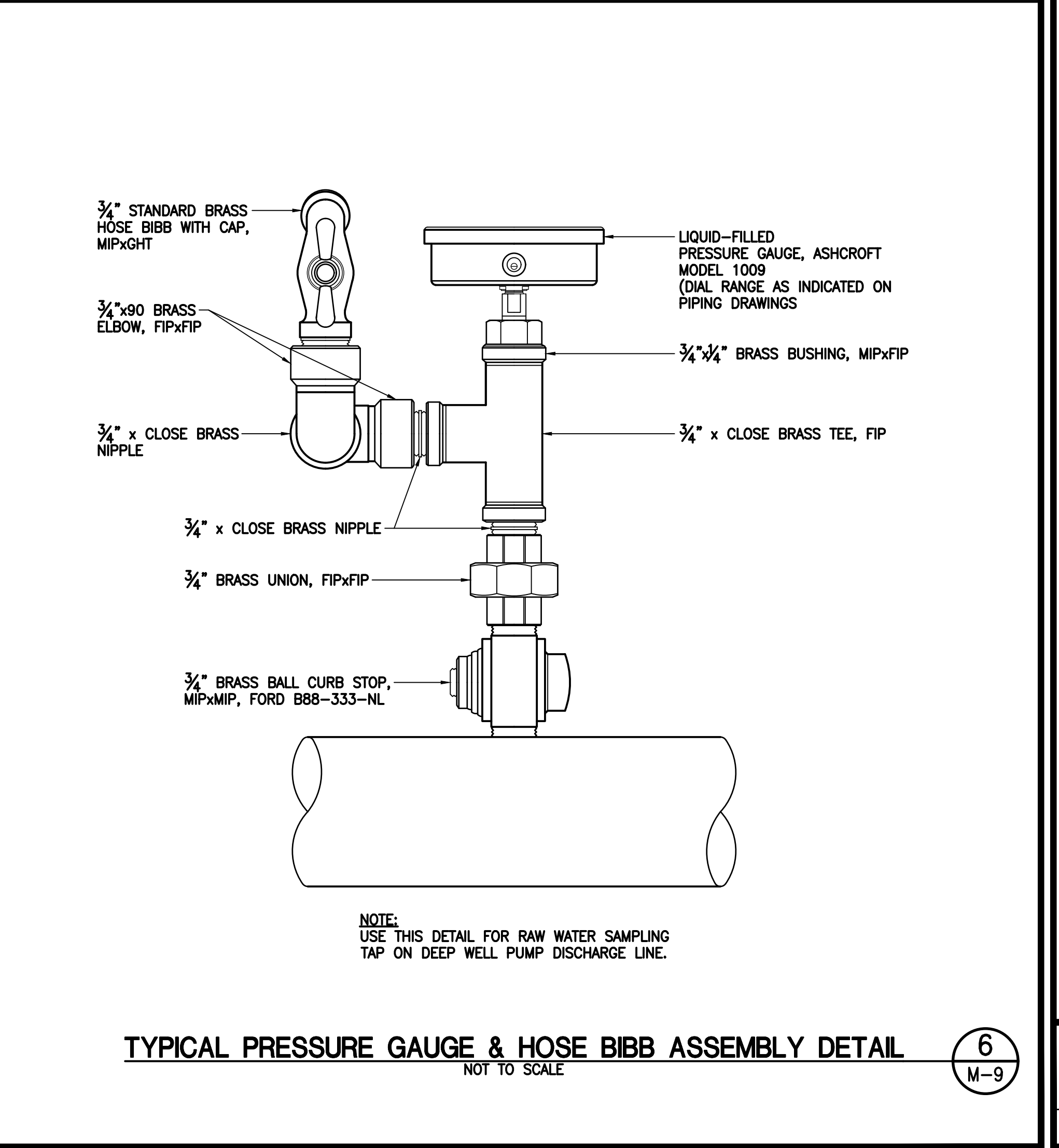
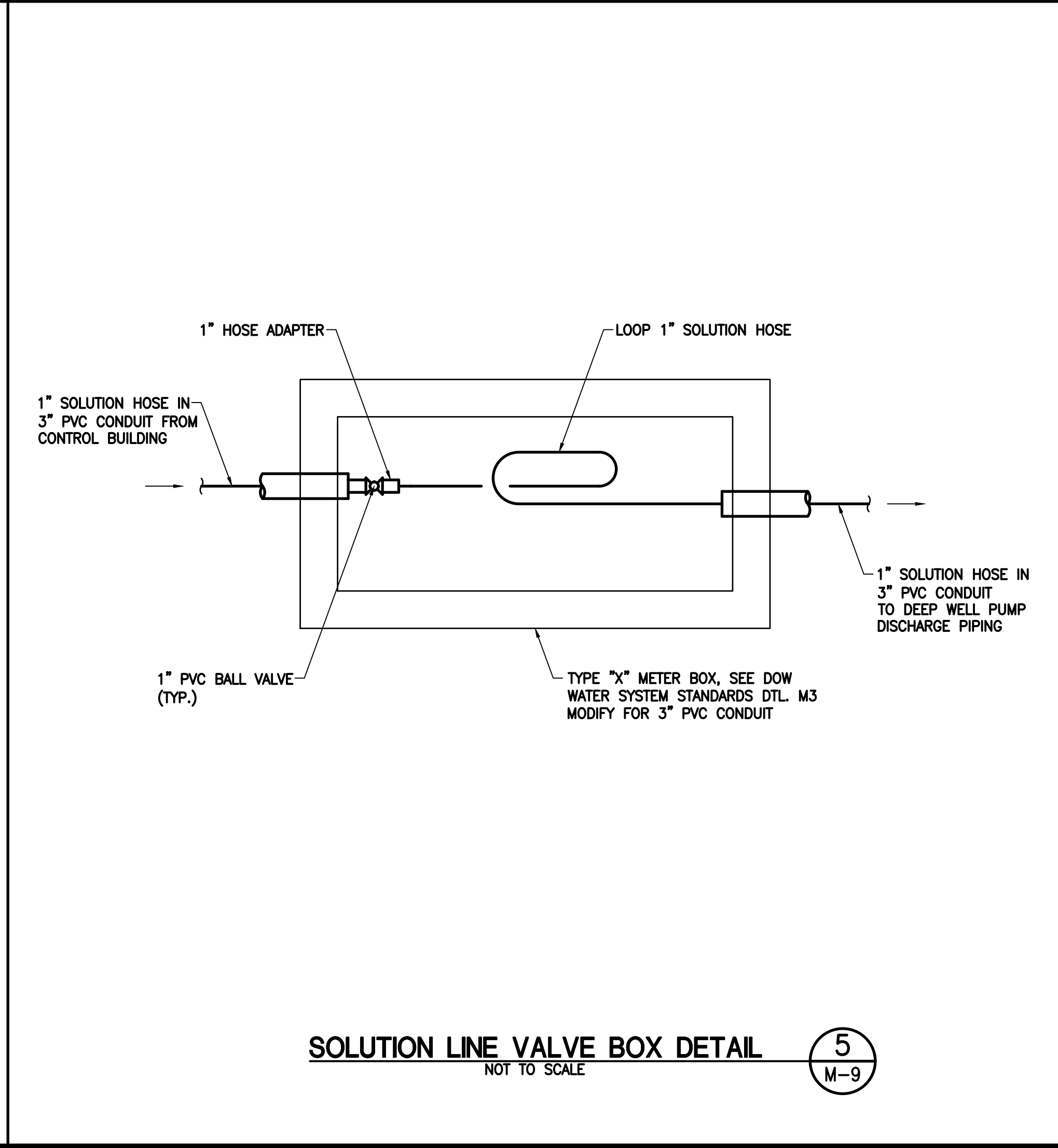
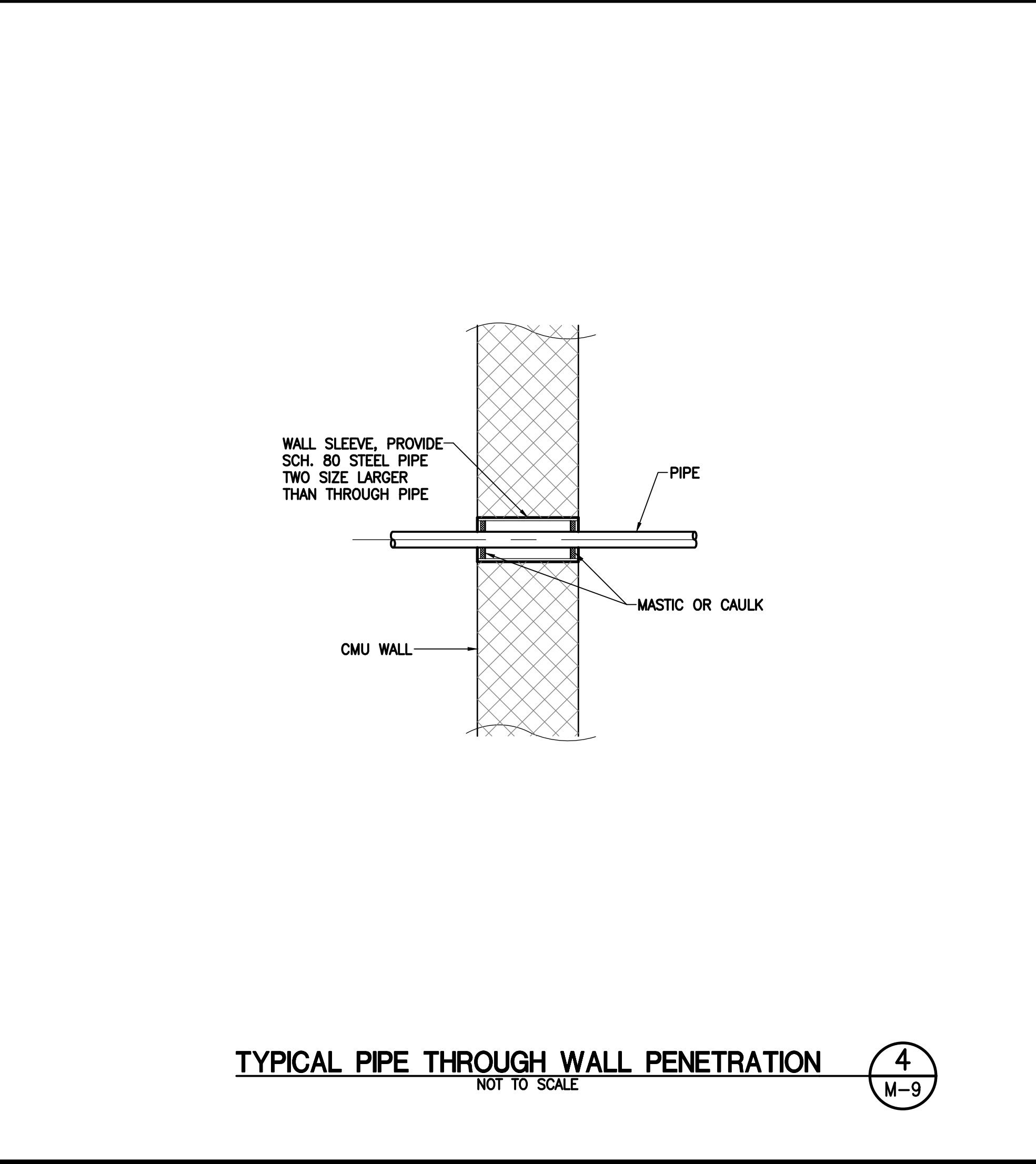
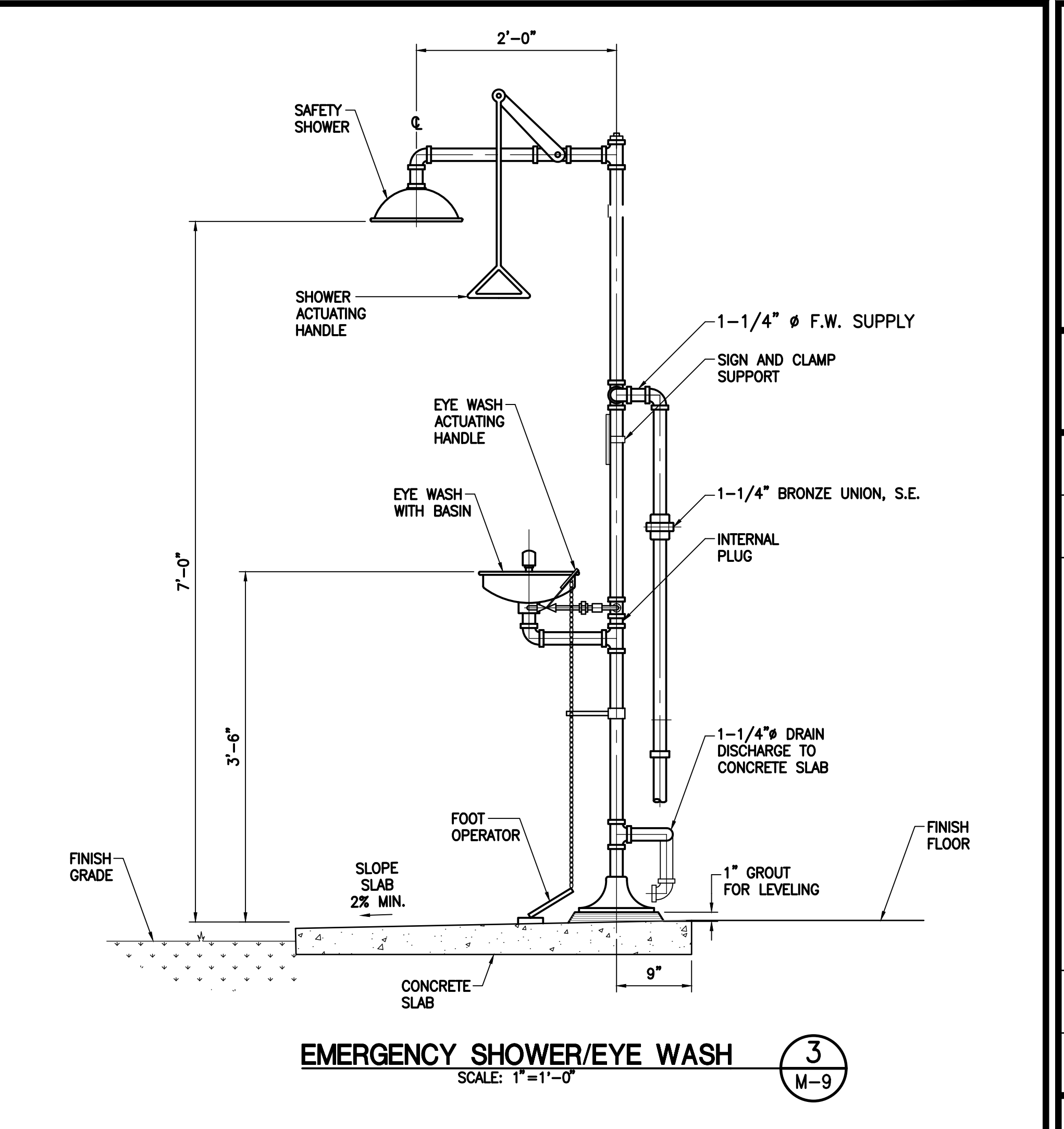
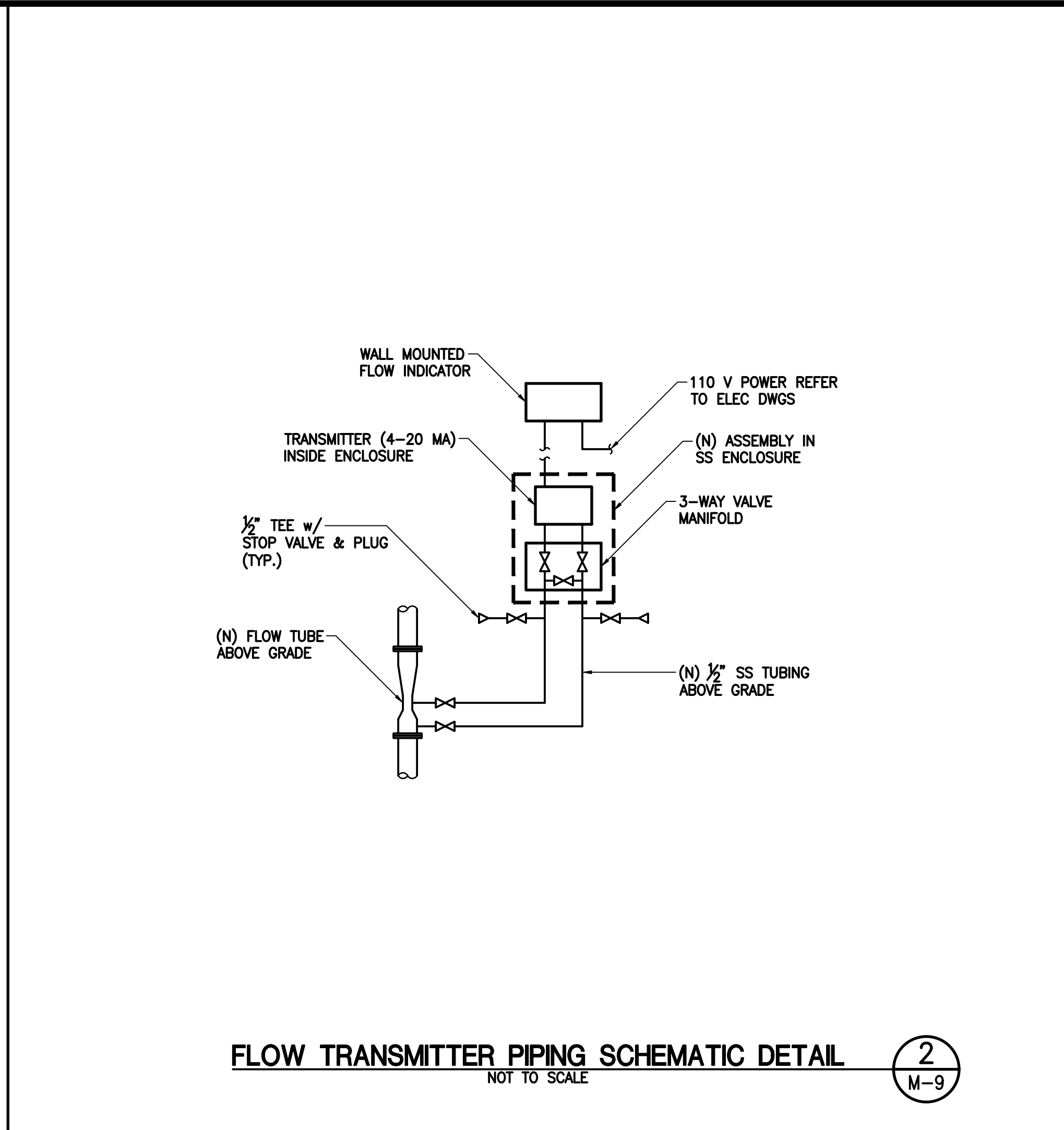
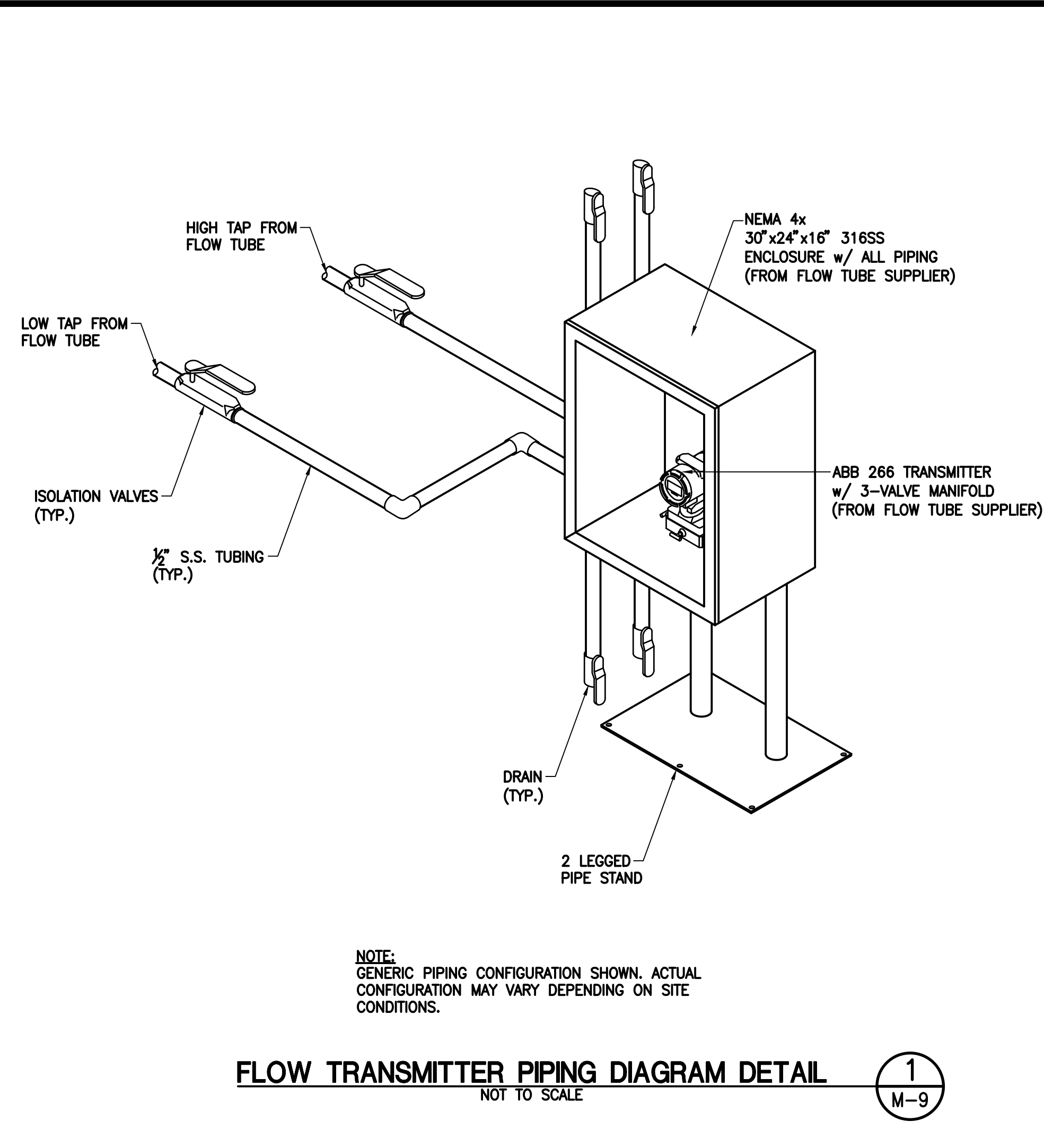
Phase II - Water Tank Replacement & Facility Impr.
 Anahola, Island of Kauai

TMK: 4-8-001:001; 4-8-005:037 & 039

MECHANICAL DIAGRAMS & SCHEMATIC DETAILS

DESIGNED BY: _____ DRAWING NO. M-7
 DRAWN BY: _____
 CHECKED BY: _____
 SURVEYED BY: WT DATE: AUG 2018
 SHEET NO. 54 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



DRAWING NAME: G:\PROJ\2017\217-003-ANAHOLA-WTRSYS\MPR_PHS\DRAWINGS\SHEETS\M-9.DWG EDIT TIME: 07-23-18, 8:49 AM EDITED BY: SCOTT

OKAHARA & ASSOCIATES, INC.
CONSULTING ENGINEERS
TERENCE I. MAD
Professional Engineer
No. 5683-M
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY PERSONAL SUPERVISION OF CONTRACTOR. FOR ALL SERVICES IN SECTION 18-118-2, DEPARTMENT OF THE HAWAIIAN ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS.
Signature
Expiration Date of the License: 04-30-20

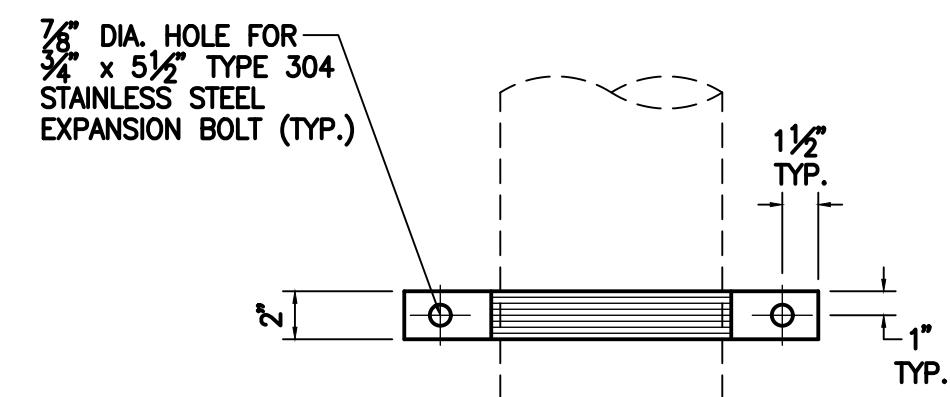
DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707
ANAHOLA FARM LOTS WATER PROJECT
Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai
TMK: 4-8-001:001; 4-8-005:037 & 039

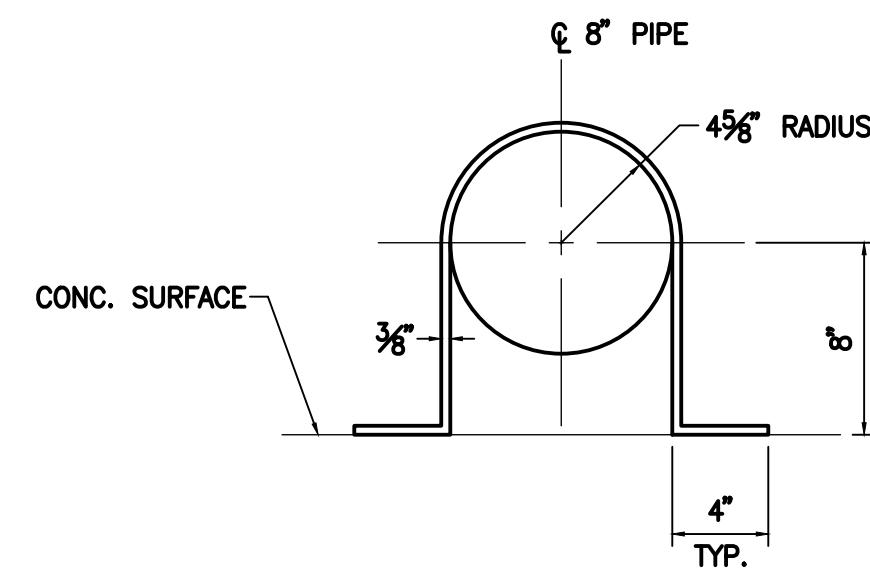
MECHANICAL DETAILS

DESIGNED BY: _____ DRAWING NO. M-9
 DRAWN BY: _____
 CHECKED BY: _____
 SURVEYED BY: WT DATE: AUG 2018
 SHEET NO. 56 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS



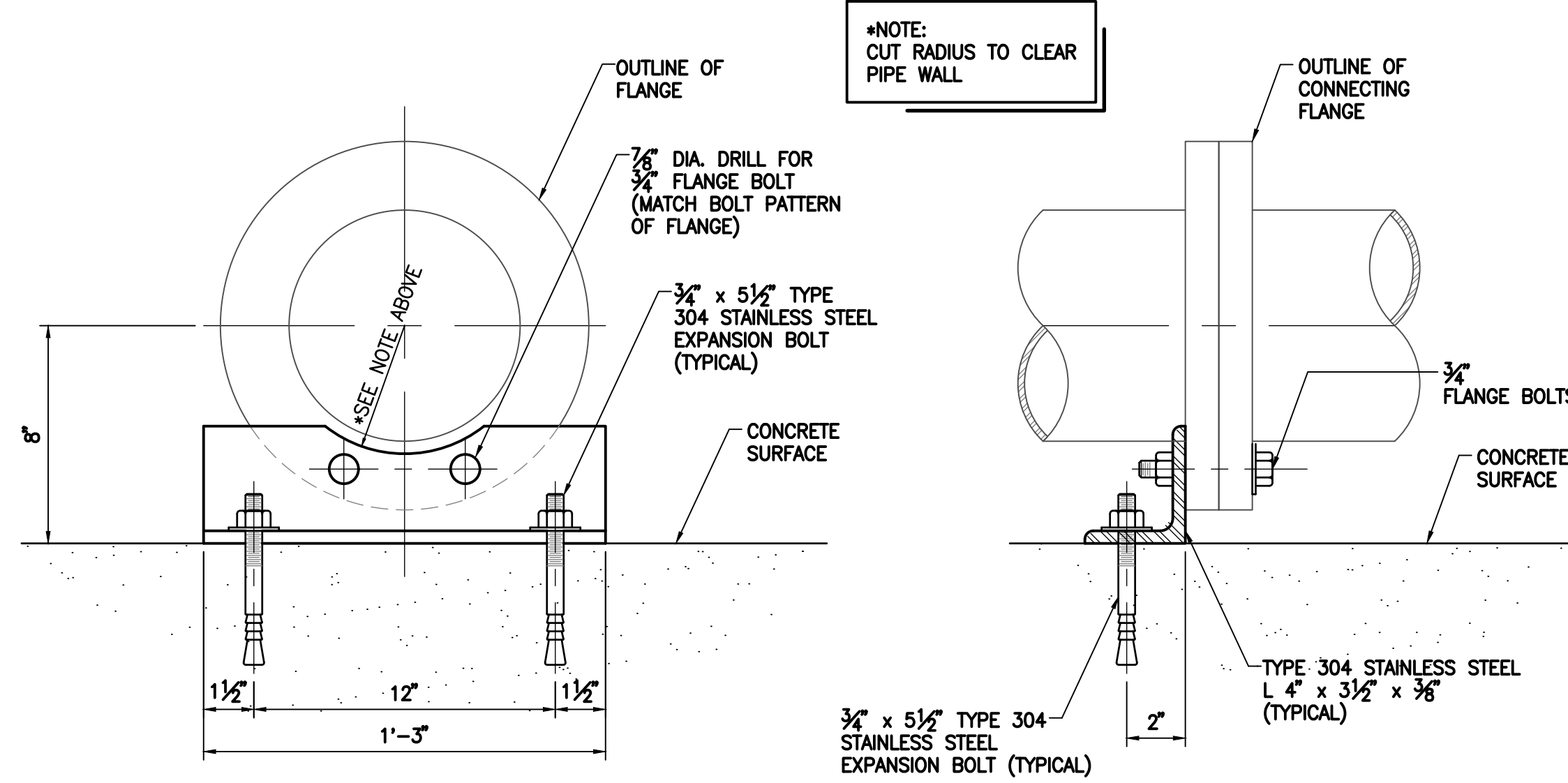
PLAN



ELEVATION

NOTE:
STRAP MATERIAL SHALL BE
TYPE 316 STAINLESS STEEL.

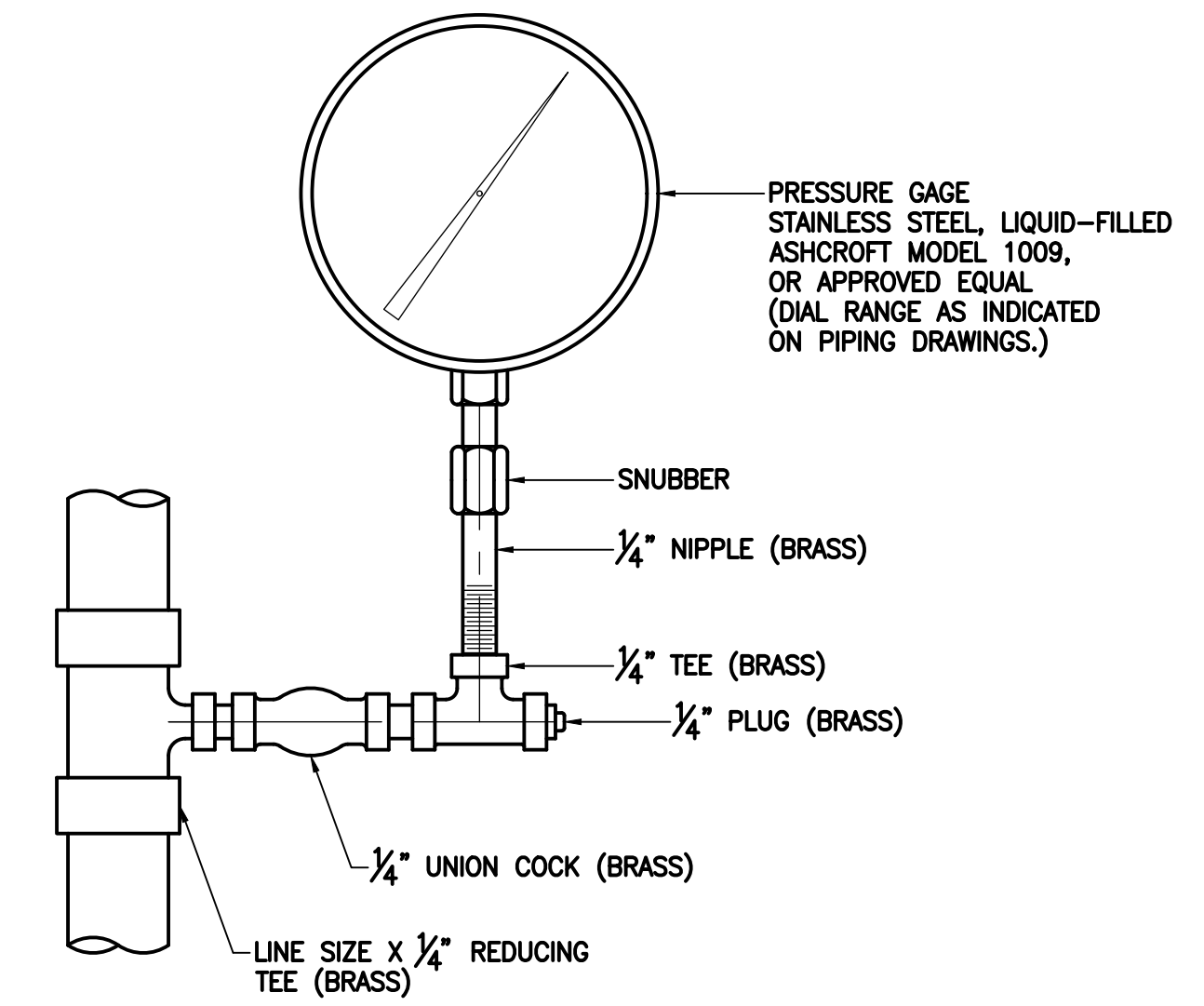
PIPE STRAP DETAIL 1
SCALE: 1 1/2" = 1'-0" M-10



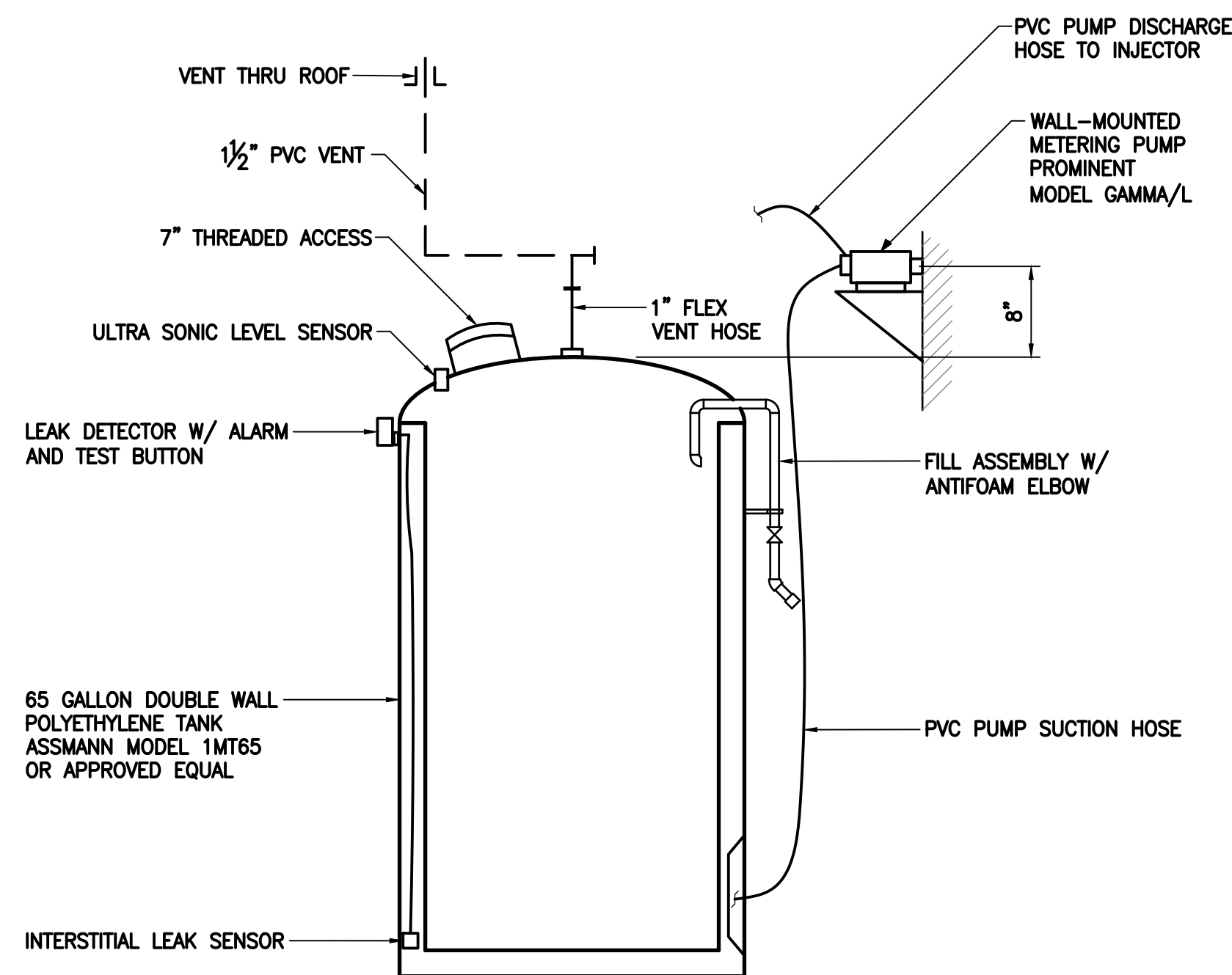
FRONT ELEVATION

SIDE ELEVATION

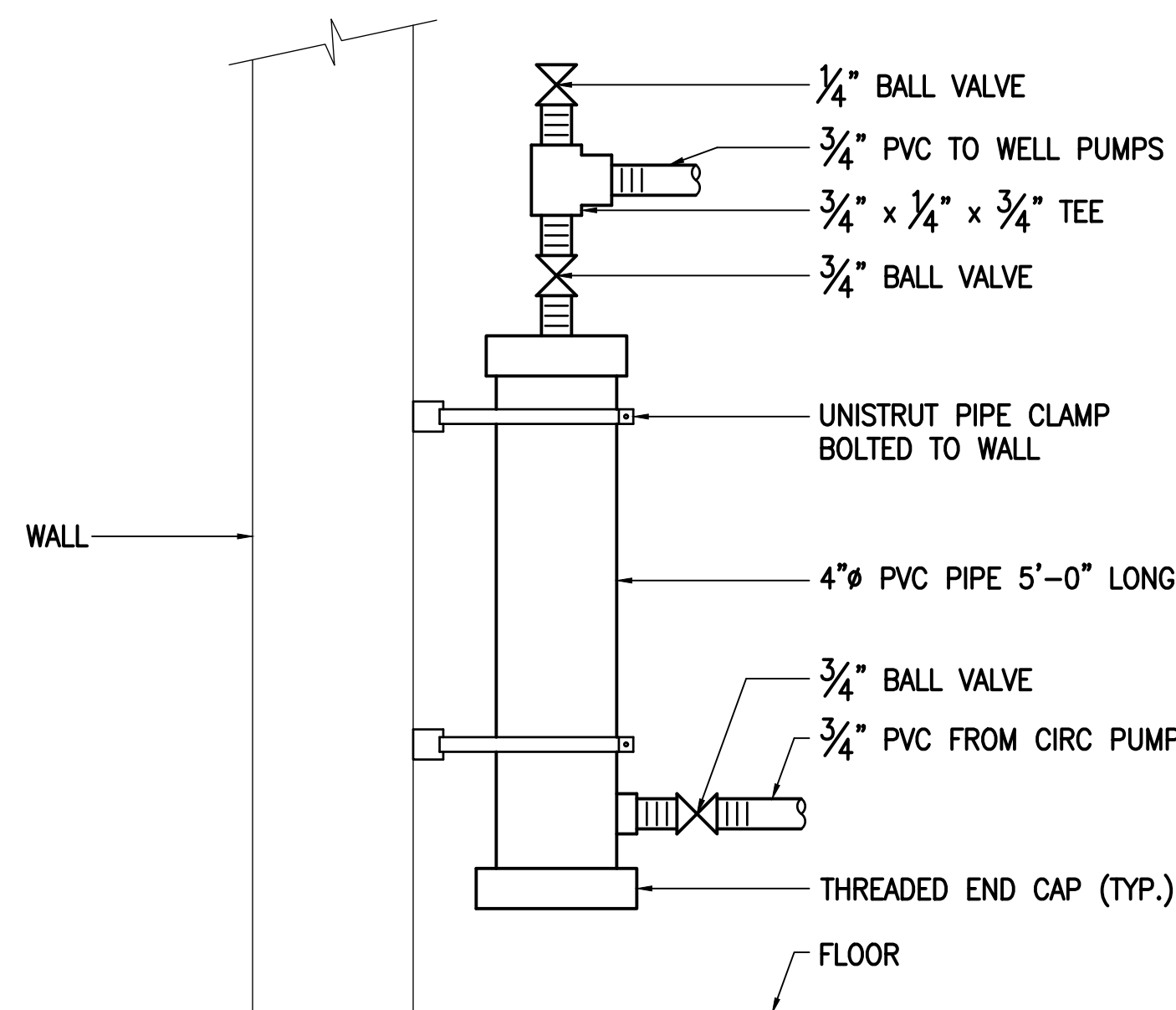
HOLD DOWN CLIP DETAIL (8" PIPE) 2
NOT TO SCALE M-10



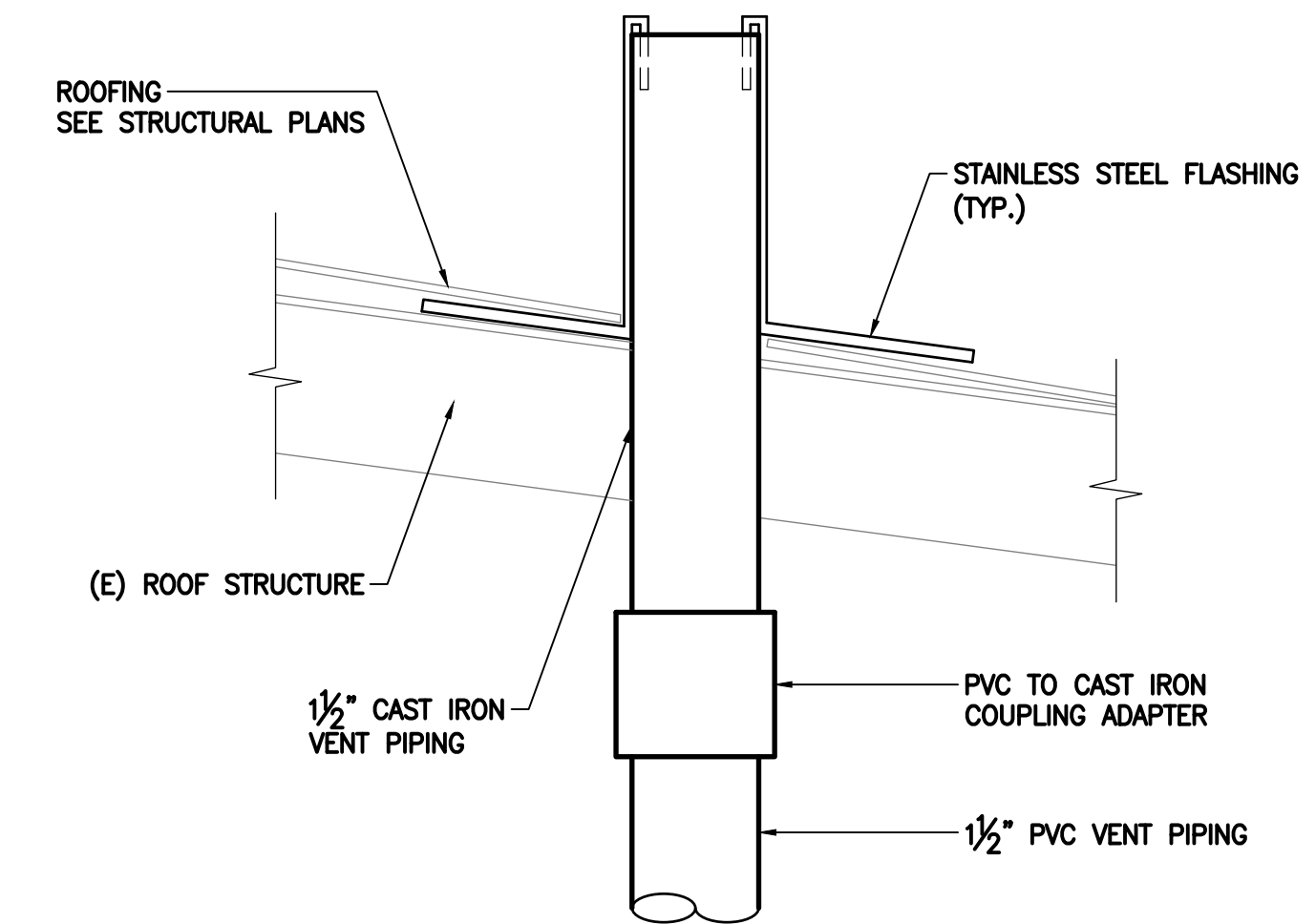
TYPICAL PRESSURE GAUGE ASSEMBLY DETAIL 3
NOT TO SCALE M-10



65 GALLON SODIUM HYPOCHLORITE TANK DETAIL 4
NOT TO SCALE M-10

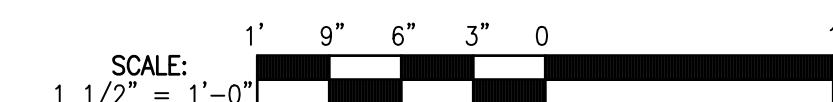


SOLUTION MIXING TUBE DETAIL 5
NOT TO SCALE M-10

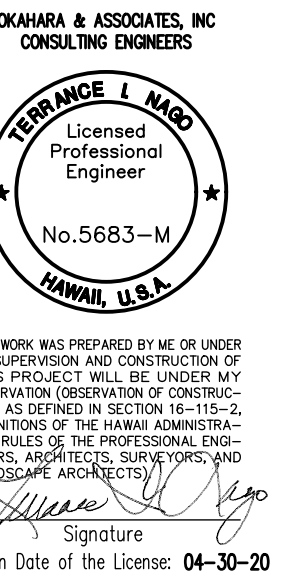


VENT THRU ROOF DETAIL 6
NOT TO SCALE M-10

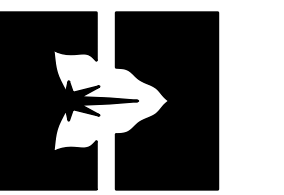
GRAPHIC SCALE:



IF THIS SHEET IS LESS THAN
36"x24", IT IS A REDUCED PRINT.
SCALE REDUCED ACCORDINGLY.



NO.	REVISION	DATE	MADE BY	APPROVED



DEPARTMENT OF
HAWAIIAN HOME LANDS

91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA
FARM LOTS
WATER PROJECT

Phase II - Water Tank
Replacement & Facility Impr.
Anahola, Island of Kauai

TMK:
4-8-001:001; 4-8-005:037 & 039

MECHANICAL
DETAILS

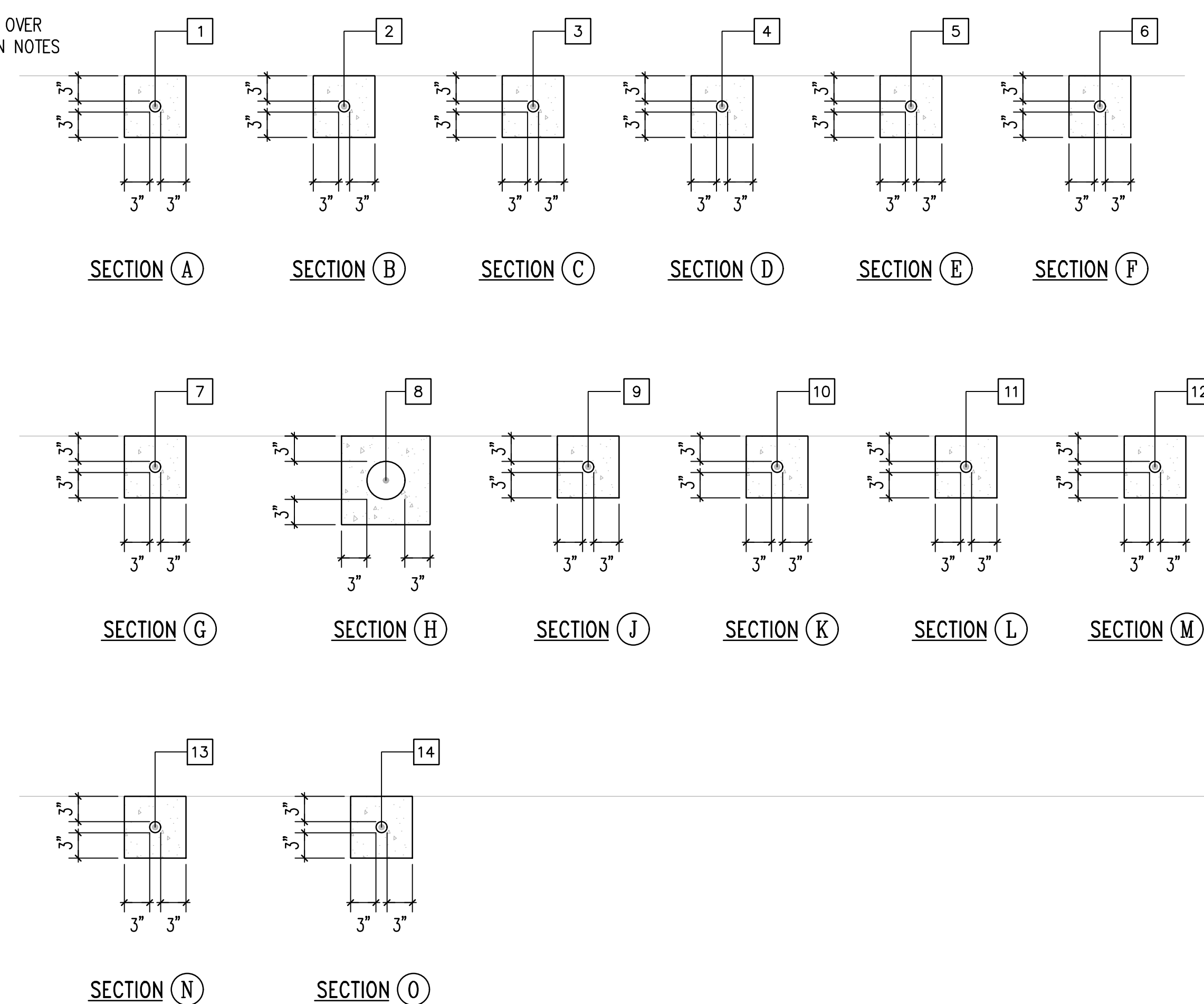
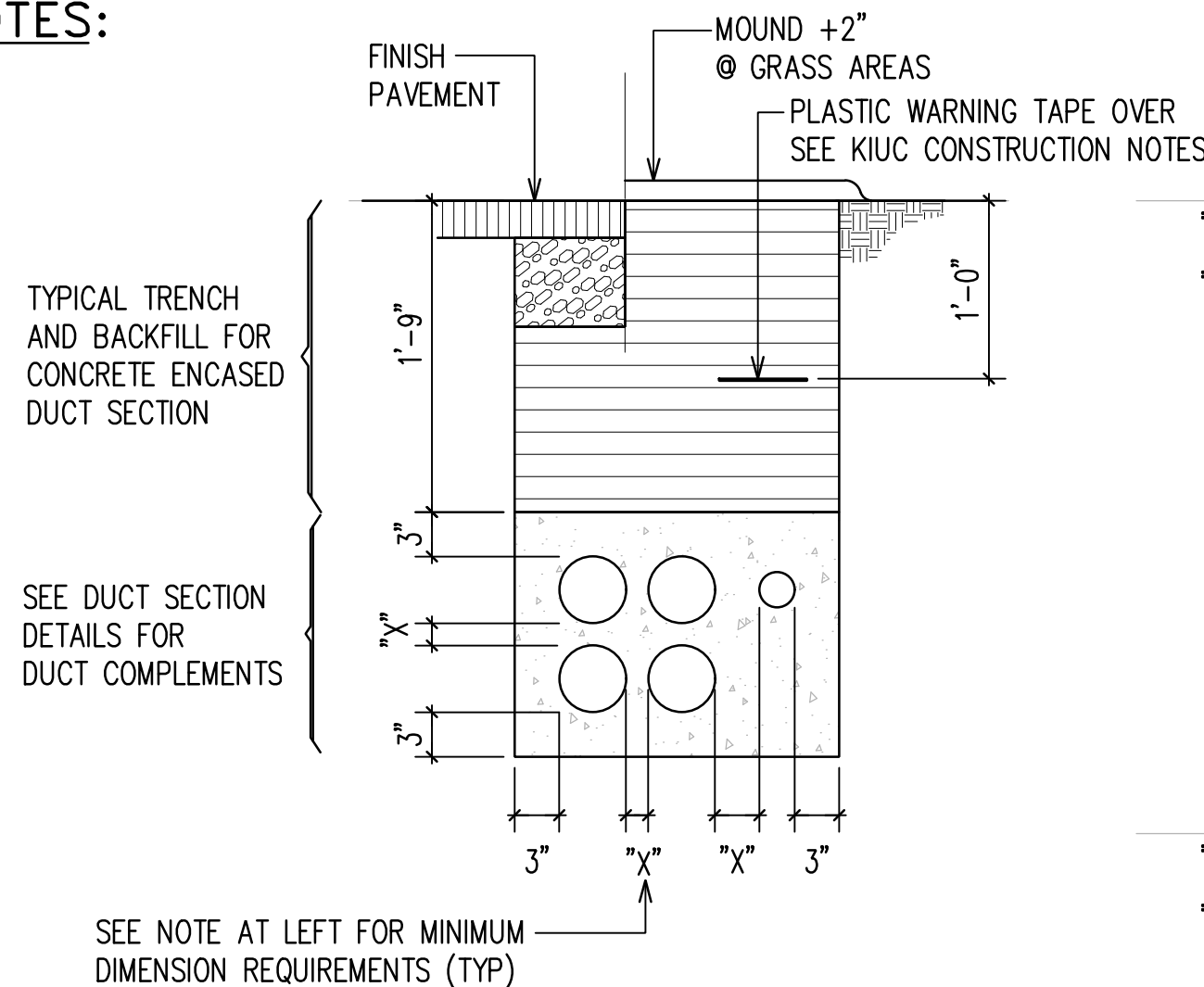
DESIGNED BY: _____ DRAWING NO. M-10
 DRAWN BY: _____
 CHECKED BY: _____
 SURVEYED BY: WT DATE: AUG 2018
 SHEET NO. 57 OF 79

DRAWING NAME: G:\PROJ\2017\217-003-ANAHOLA_WTR\SMR_PH2\DRAWINGS\SHEETS\M-10.DWG EDIT TIME: 07-23-18, 8:49 AM EDITED BY: SCOTT

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

DUCT SECTION BACKFILL NOTES:

- TYPE "A" BACKFILL - EARTH & GRAVEL. ROCK SIZE TO BE 1" MAX. & THE MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
- TYPE "B" BACKFILL - EARTH & GRAVEL. MIXTURE MUST PASS A 1/2" MESH SCREEN & CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.
- NOTE - IF NORMAL MATERIAL AT BOTTOM OF TRENCH IS NOT TYPE "B", AN ADDITIONAL 3" SHALL BE EXCAVATED & TYPE "B" BACKFILL PROVIDED.
- CONCRETE - 3" ENCASEMENT, 2500 PSI COMPRESSIVE STRENGTH @ 28 DAYS.

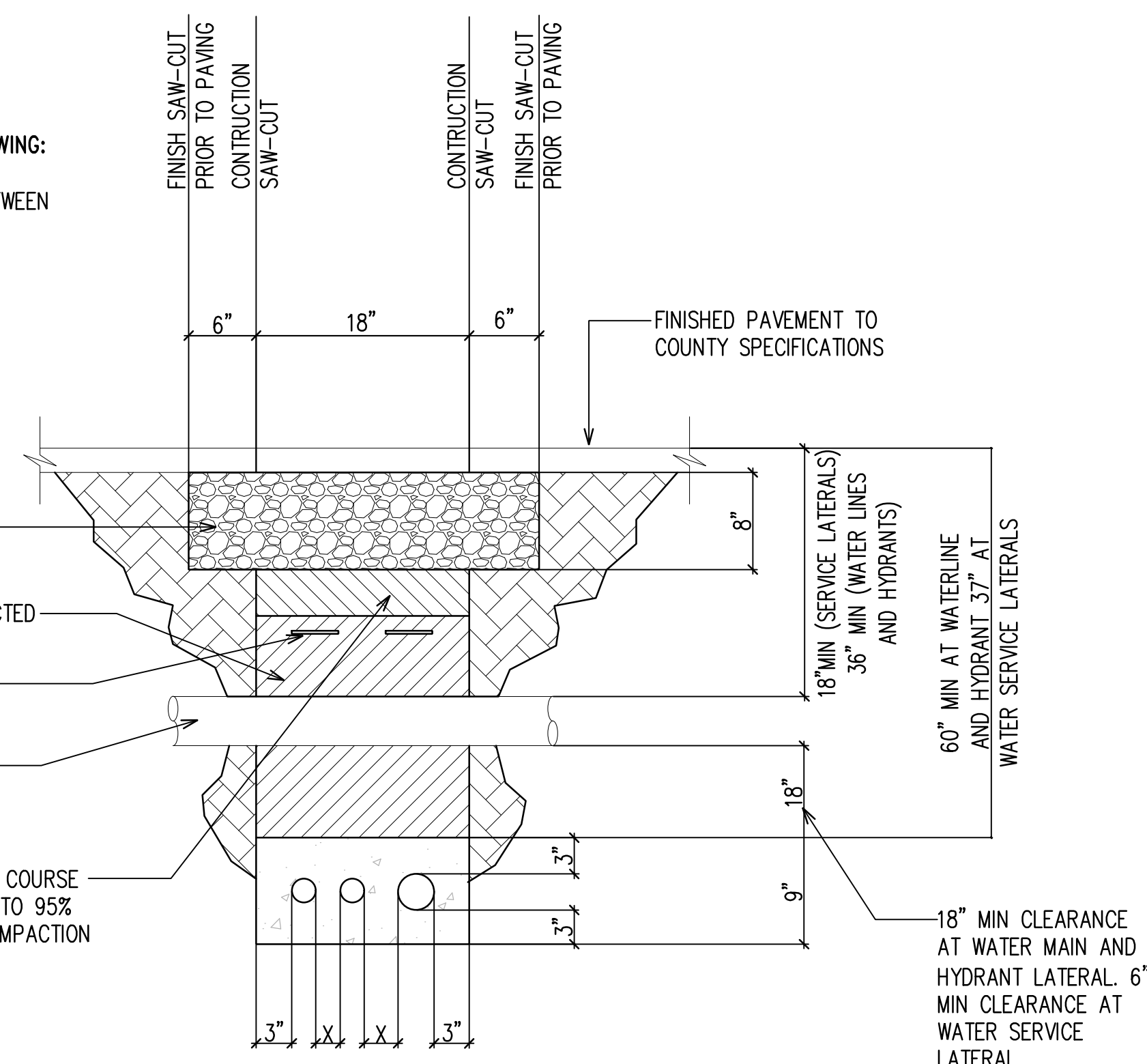


DUCT SECTION DETAILS AND REQUIREMENTS
NOT TO SCALE

WHERE DUCTLINE CROSSES OVER WATER LINE, PROVIDE THE FOLLOWING:

1. 18" MINIMUM SEPARATION BETWEEN DUCTLINES AND WATER LINE.
2. PROVIDE CONCRETE JACKET AROUND DUCTLINES.
3. PROVIDE ONLY TYPE "B" BACKFILL AROUND WATER LINE.

- 8" BASE COARSE COMPACTED TO 95% RELATIVE COMPACTION
- 95% COMPACTED BACKFILL
- PLASTIC WARNING TAPE OVER SEE KIUC CONSTRUCTION NOTES
- WATER MAIN, HYDRANT LATERAL OR WATER SERVICE LATERAL
- 6" SUBBASE COURSE COMPACTED TO 95% RELATIVE COMPACTION



TYPICAL DUCT SECTION AT WATER FACILITIES CROSSING

DUCT AND WIRE SCHEDULE

NO.	DUCT SIZE	WIRE SIZE	DESTINATION OR USE
1	1"	SEE ONE-LINE DIAGRAM	480V, 3Ø POWER TO BOOSTER PUMP
2	1"	2#12, 1#12 GND	120V, 1Ø POWER TO CHLORINATION RESIDUAL ANALYZER
3	1"	2#12 CONTROLS	GATE SECURITY CONTROLS
4	1"	4#12 CONTROLS	GATE SECURITY CONTROLS
5	1"	COMM CABLES	BOOSTER PUMP CONTROLS
6	1"	2-2/C#14 TWISTED, SHIELDED CABLES W/GND	INSTRUMENTATION CIRCUIT FROM SCADA CABINET TO TANK LEVEL TRANSMITTER AND CHLORINE RESIDUAL ANALYZER
7	1"	COMM CABLE	GENERATOR CONTROLS TO ATS
8	4"	SEE ONE-LINE DIAGRAM	GENERATOR FEEDER TO ATS
9	1"	4#12, 1#12 GND	POWER TO GENERATOR AUXILIARY CIRCUITS
10	1"	1-2/C#14 TWISTED, SHIELDED CABLES W/GND	INSTRUMENTATION CIRCUIT TO CHLORINE RESIDUAL ANALYZER
11	1"	1-2/C#14 TWISTED, SHIELDED CABLES W/GND	INSTRUMENTATION CIRCUIT TO TEMPORARY TANK LEVEL TRANSMITTER
12	1"	6#12 CONTROLS	NEW TANK HATCH SECURITY CONTROLS
13	1"	2#12 CONTROLS	TEMPORARY TANK HATCH SECURITY CONTROLS
14	1"	FUEL TANK LEVEL COMM CABLES	FUEL TANK CONTROL PANEL TO SCADA CABINET

- NOTES:**
1. ALL CONCRETE ENCASED DUCTS SHALL BE SCHEDULE 40 PVC.
 2. ALL DIRECT BURIED DUCTS SHALL BE SCHEDULE 80 PVC.
 3. PC INDICATES PROVIDE PULLCORD.

WATER NOTES:

1. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF THE EXISTING WATER FACILITIES PRIOR TO TRENCHING. EXCAVATION AROUND EXISTING WATER FACILITIES SHALL BE DONE BY HAND.
2. MATERIAL USED FOR BACK FILLING AT THE WATER FACILITIES CROSSINGS SHALL NOT CONTAIN VEGETABLE MATTER OR DEBRIS OF ANY KIND. NO "ADOBE" OR SIMILAR MATERIAL SHALL BE USED.
3. PROVIDE CONCRETE ENCASEMENT FOR THE CONDUITS AT ALL WATERLINE, SERVICE LATERAL AND HYDRANT CROSSING. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF WATER AT LEAST 24-HOURS PRIOR TO SCHEDULING BACK FILLING OPERATION AT THE WATER FACILITIES CROSSINGS.

DESIGNATION DESCRIPTIONS

- ELEC = UTILITY CO. PRIMARY OR SECONDARY ELECTRIC
- TEL = UTILITY CO. TELEPHONE
- PWR = PRIMARY OR SECONDARY ELECTRIC
- CTL = CONTROL
- SIG = INSTRUMENTATION OR ANTENNA CABLE

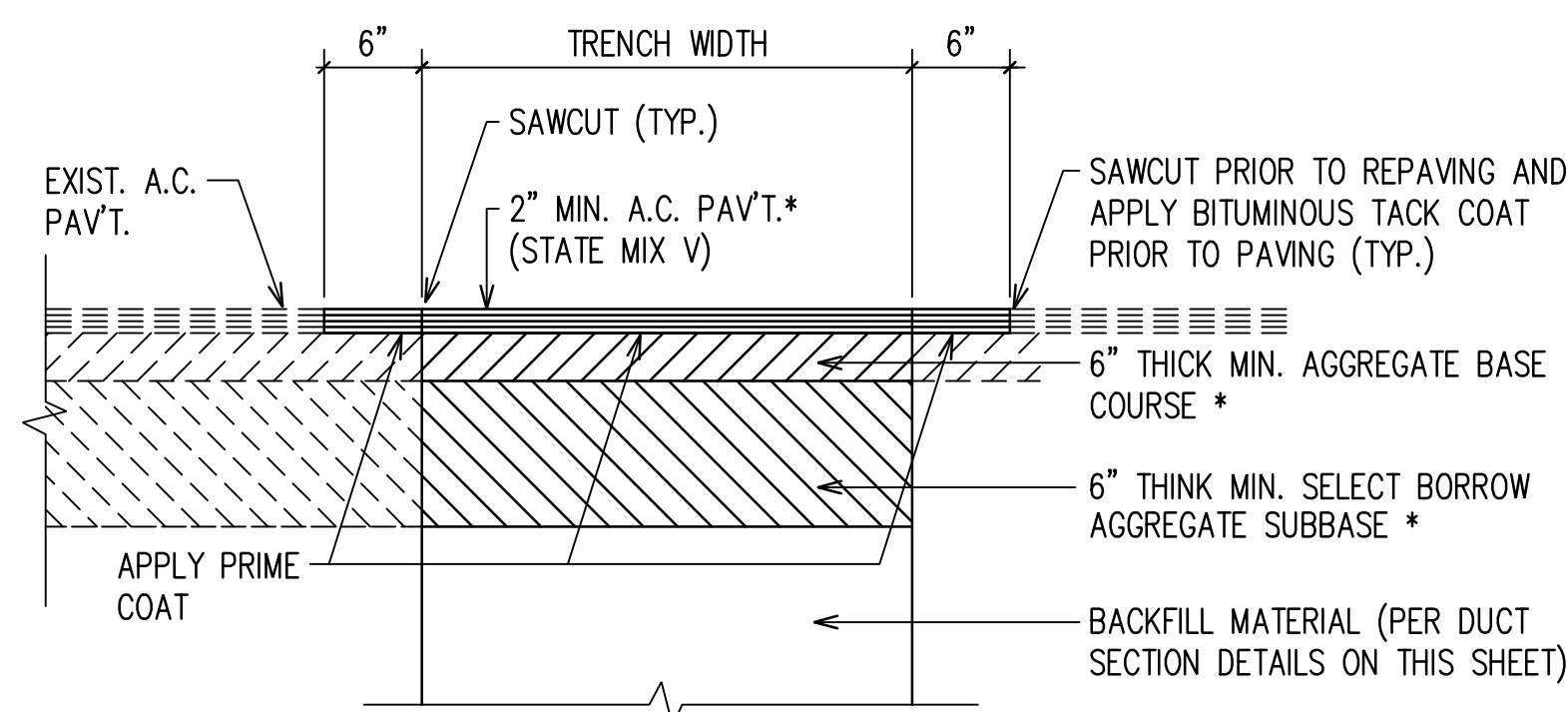
MINIMUM "X" DIMENSION DUCT SEPARATION REQUIREMENTS

- ELEC - ELEC = 1 1/2"
- ELEC - TEL = 3"
- TEL - TEL = 1 1/2"
- ELEC - CTL/SIG = 3"
- TEL - CTL/SIG = 1 1/2"
- PWR - CTL/SIG = 3"
- ELEC - PWR = 1 1/2"
- TEL - PWR = 3"
- PWR - PWR = 1 1/2"
- CTL/SIG - CTL/SIG = 1 1/2"

MINIMUM OF 3" CONCRETE ENCASEMENT AROUND DUCTBANK

WHERE DUCTLINE CROSSES OVER WATER LINE, PROVIDE THE FOLLOWING:

1. 6" MINIMUM SEPARATION BETWEEN DUCTLINES AND WATER LINE.
2. PROVIDE CONCRETE JACKET AROUND DUCTLINES.
3. PROVIDE ONLY TYPE "B" BACKFILL AROUND WATER LINE.



NOTES:

1. "*" DENOTES "OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER, INCLUDING A.C. AND/OR PORTLAND CONCRETE PAVEMENT, BASE COURSE AND SELECT BORROW".
2. **STRIPING RESTORATION:** CONTRACTOR SHALL PROVIDE RESTRIPIING OF ANY EXISTING STRIPING AFFECTED BY THE PAVEMENT RESTORATION TO MATCH THE EXISTING PAVEMENT STRIPING.

TRENCH REPAVEMENT DETAIL
NOT TO SCALE

KRAIG K. OTANI
LICENSED PROFESSIONAL ENGINEER
No. 14288-E
HAWAII, U.S.A.
2018.07.26
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY CONTROL.
APRIL 30, 2020
EXPIRATION DATE OF THE LICENSE



NO.	DESCRIPTION	DATE	REGION	APPROVED	MADE BY

DEPARTMENT OF HAWAIIAN HOME LANDS
91-5420 Kapolei Parkway
Kapolei, Hawaii 96707

ANAHOLA FARM LOTS WATER PROJECT
Phase II - Water Tank Replacement & Facility Impr.
Anahola, Island of Kauai
TMK: 4-8-001.001; 4-8-005.037 & 039

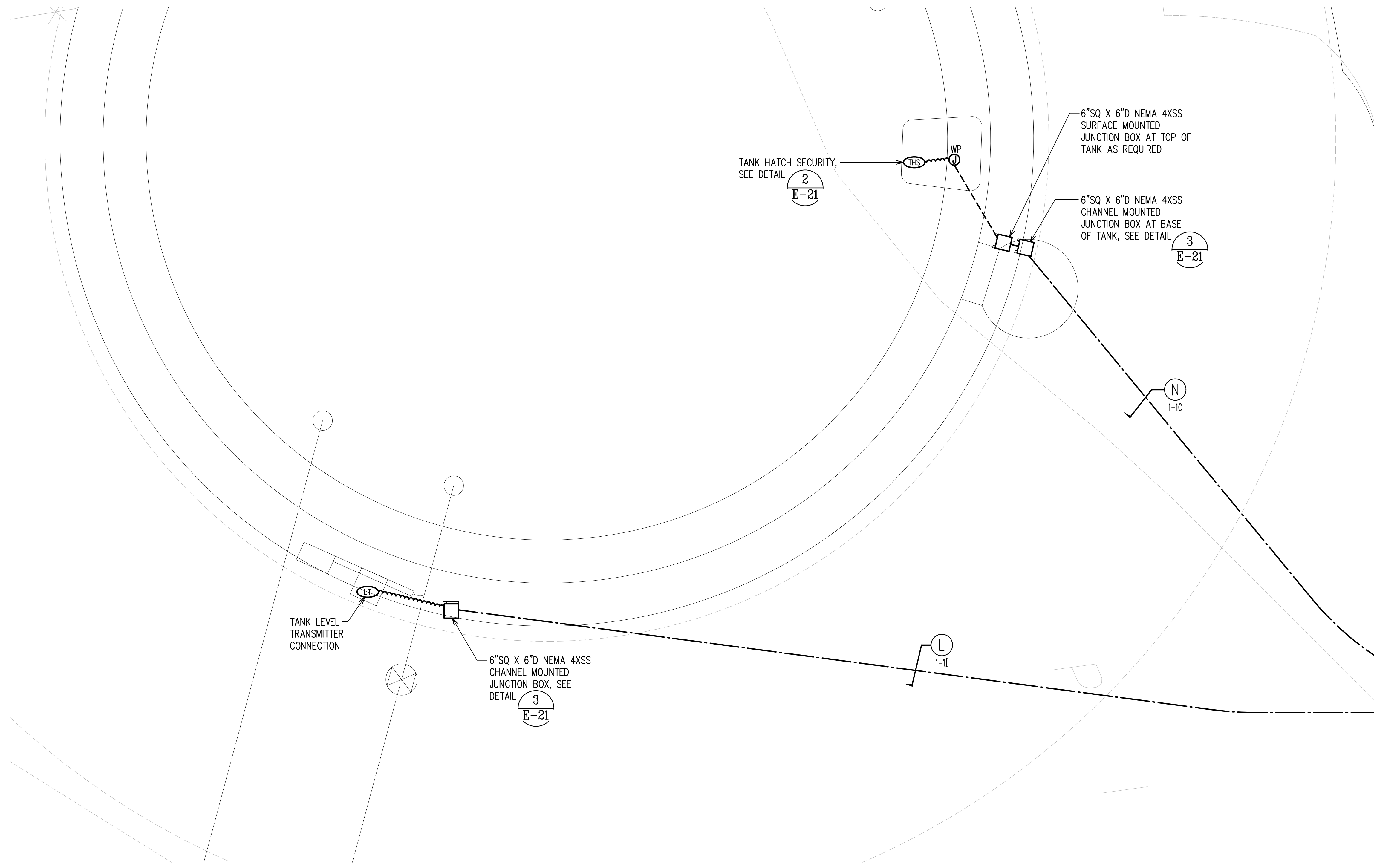
DUCT SECTION DETAILS AND REQUIREMENTS

DESIGNED BY: KKO
DRAWN BY: TNF
CHECKED BY: KKO
SURVEYED BY: _____
DATE: AUG 2018
DRAWING NO.: **E-3**
SHEET NO. 60 OF 79

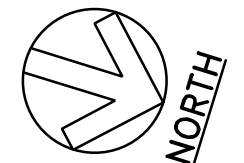
FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

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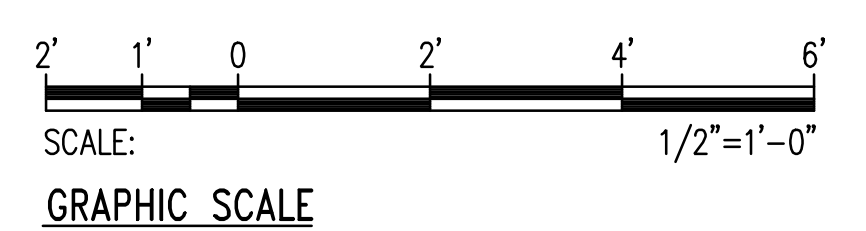
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1 TEMPORARY TANK ELECTRICAL PLAN PHASE I
 E-9 SCALE: 1/2"=1'-0"



- NOTES:
- REMOVE ALL TEMPORARY EQUIPMENT, CONDUIT, AND WIRES IN PHASE II. TEMPORARY DUCTLINES SHALL BE ABANDONED IN PLACE.



2018.07.26
 THIS WORK WAS PREPARED
 BY ME OR UNDER MY SUPERVISION
 AND CONSTRUCTION OF THIS PROJECT
 WILL BE UNDER MY OBSERVATION
 APRIL 30, 2020
 EXPIRATION DATE OF THE LICENSE



NO.	REVISION	DATE	APPROVED



DEPARTMENT OF
 HAWAIIAN HOME LANDS
 91-5420 Kapolei Parkway
 Kapolei, Hawaii 96707

**ANAHOLA
 FARM LOTS
 WATER PROJECT**

Phase II - Water Tank
 Replacement & Facility Impr.
 Anahola, Island of Kauai

TMK:
 4-8-001:001; 4-8-005:037 & 039

TEMPORARY TANK
 ELECTRICAL PLAN
 PHASE I

DESIGNED BY: KKO
 DRAWN BY: INF
 CHECKED BY: KKO
 SURVEYED BY: KKO
 DATE: AUG 2018
 DRAWING NO:
E-9
 SHEET NO. 66 OF 79

FINAL PLANS: ANAHOLA FARM LOTS - PHASE II - WATER TANK REPLACEMENT & FACILITY IMPROVEMENTS

