

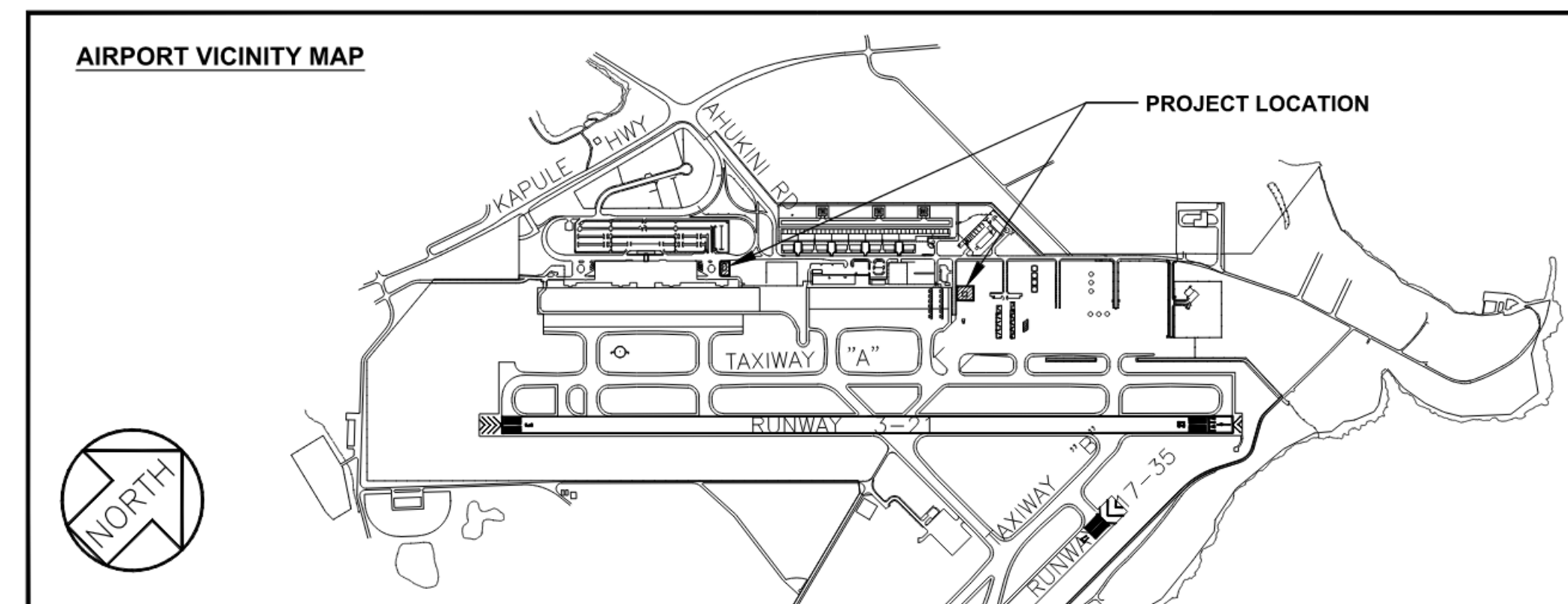
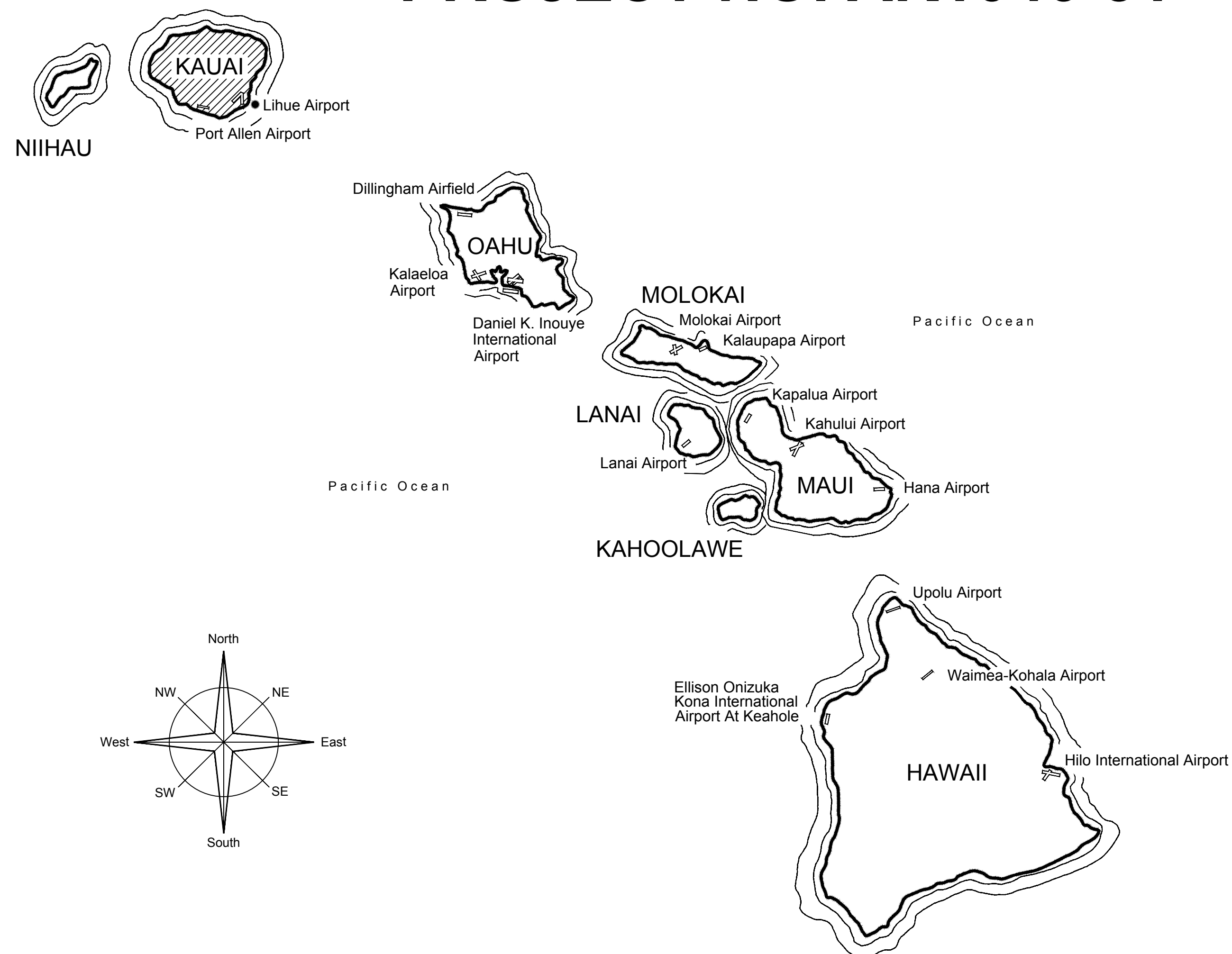
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

PLANS FOR

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT

LIHUE AIRPORT LIHUE, KAUAI, HAWAII PROJECT NO. AK1046-31



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04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
JCS	JCS	KFC	KFC

NO.	DATE	REVISIONS
CONSTRUCTION DOCUMENTS		
MARCH 11, 2024 DATE		

PROJECT TITLE :
UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
**LIHUE AIRPORT
LIHUE, KAUAI, HAWAII**

PROJECT NO.:
AK1046-31

SHEET TITLE:

**COVER SHEET,
AIRPORT VICINITY
MAP AND PROJECT
TEAM**

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:
Nathan Kaneshige for 03/20/2024

DIRECTOR OF TRANSPORTATION DATE

DATE : MAR 2024	DWG. NO. G-001
SHEET : 1 OF 30 SHEETS	

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GENERAL NOTES

- THE ENTIRE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE STATE OF HAWAII'S CODES, COUNTY OF KAUAI'S CODES, AND ALL AGENCIES HAVING JURISDICTION.

STATE OF HAWAII'S CODES BUILDING CODE (IBC 2018) PLUMBING CODE (UPC 2018) ENERGY CODE (IECC 2018) FIRE CODE (NFPA 1 2018) ELECTRICAL CODE (NFPA 70 2020)	COUNTY OF KAUAI'S CODES BUILDING CODE (IBC 2018) PLUMBING CODE (UPC 2018) ENERGY CODE (IECC 2018) FIRE CODE (NFPA 1 2018) ELECTRICAL CODE (NFPA 70 2017)
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- PENETRATIONS OF FIRE-RESISTANCE-RATED WALLS, PARTITIONS, FLOORS, FLOOR/CEILING ASSEMBLIES, ROOF/CEILING ASSEMBLIES, OR SHAFT ENCLOSURES SHALL BE FIRE-STOPPED/SEALED TO MAINTAIN FIRE-RATING REQUIREMENTS IN ACCORDANCE WITH SECTION 714 - PENETRATIONS OF 2018 IBC.
- 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 ENGINEER OF DISCREPANCIES OR MAJOR DEVIATIONS FROM THE PLANS DUE TO UNFORESEEN OR VARYING FIELD CONDITIONS WHICH PREVENT THE TERMS OF THE CONTRACT FROM BEING FULFILLED. COORDINATE THE WORK AMONG THE VARIOUS TRADES AS NECESSARY TO AVOID CONFLICTS AND TO ENSURE THE INSTALLATION OF WORK WITHIN THE AVAILABLE SPACE.
- OBTAIN AND PAY FOR ALL APPLICABLE PERMITS, FEES, CERTIFICATES AND INSPECTIONS.
- DIMENSIONS SHOWN ON DESIGN DRAWINGS ARE BASED ON A COMBINATION OF FIELD MEASUREMENTS AND ORIGINAL/REVISION PRINT REFERENCE DRAWINGS (PROJECT TITLE: RELOCATION OF GENERATOR BUILDING AND UTILITY IMPROVEMENTS AT LIHUE AIRPORT COMPLEX, TMK:3-5-01:PORTION 8, STATE PROJECT NO. AK1046-17, DATED: JANUARY 26, 1990 AND PROJECT TITLE: REPLACEMENT OF UNDERGROUND STORAGE TANKS AT LIHUE AIRPORT, STATE PROJECT NO. CK1802-43, DATED: NOVEMBER 1997). FIELD VERIFY ALL CONDITIONS AND DIMENSIONS RELATED TO THE PROJECT BEFORE ORDERING MATERIALS OR COMMENCING WITH THE REQUIRED WORK.
- FURNISH AND INSTALL ALL MATERIALS 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.

GENERAL NOTES (CONTINUATION)

- PATCH ALL SURFACES EXPOSED FROM CUTTING AND/OR REMOVAL WORK. PATCHING SHALL MATCH THE FINISH AND QUALITY OF ADJACENT SURFACES TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
- "REPLACE" MEANS REMOVE EXISTING WORK AND PROVIDE NEW WORK AS DETAILED OR NOTED ON THE DRAWINGS.
- ALL WORK INDICATED SHALL BE NEW WORK UNLESS OTHERWISE INDICATED "EXISTING".
- 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 REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
- ALL WASTE MATERIALS SHALL BE PROMPTLY REMOVED AND DISPOSED OF OUTSIDE THE LIMITS OF THE STATE'S PROPERTY.
- PROVIDE TEMPORARY ACCESSIBLE ROUTES AROUND CONSTRUCTION IN ACCORDANCE WITH ADAAG 402.
- ALL OVERHEAD WORK SHALL BE A MINIMUM OF 80-INCHES ABOVE FINISHED FLOOR IN ACCORDANCE WITH ADAAG 307.4.
- PAINT ALL EXPOSED MECHANICAL WORK TO MATCH EXISTING.

DEMOLITION/CONSTRUCTION PHASING NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS IN ORDER TO COMPLETE THE PROJECT. CONTRACTOR SHALL SUBMIT DEMOLITION/ CONSTRUCTION PHASING PLAN FOR APPROVAL REGARDLESS OF WHETHER HE CHOOSES TO FOLLOW THE PHASING PLAN DESCRIBED BELOW, OR TO DEVELOP HIS OWN. PHASING PLAN SHALL INCLUDE, BUT NOT BE LIMITED TO PLANNED UTILITY OUTAGES, DISRUPTION OF FUEL SERVICE AND TEMPORARY DISRUPTION OF NORMAL FACILITY OPERATIONS. PHASING PLAN SHALL BE APPROVED A MINIMUM OF THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF ON-SITE WORK.
- SEE DRAWINGS AND SPECIFICATIONS FOR COMPLETE SCOPE OF WORK.
- DO NOT DISRUPT NORMAL FACILITY FUNCTIONS. OBTAIN SCHEDULES AND AN EVENT CALENDAR PRIOR TO DEVELOPING PHASING PLAN. COORDINATE, SCHEDULE AND PERFORM WORK IN SUCH A MANNER AS TO MINIMIZE INCONVENIENCES, HAZARDS, AND DISTURBANCES UPON THE FACILITY'S OPERATORS TO ENSURE THEIR SAFETY AND TO ACCOMMODATE THE FACILITY'S DAILY OPERATIONS AND ACTIVITIES. NO ADDITIONAL COMPENSATION OR TIME WILL BE MADE FOR FAILURE TO ACKNOWLEDGE AND ACCOUNT FOR THE PROJECT REQUIREMENTS IN THE BID.
- COORDINATE SCHEDULE FOR ALL WORK (REMOVAL, INSTALLATION, TESTING AND BALANCING) WITH THE STATE AND THE ENGINEER.
- VERIFY LOCATION OF EXISTING UTILITIES IN THE PROJECT AREA PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY UTILITIES IN THE EVENT OF DAMAGE CAUSED BY HIS WORK.
- TEST EXISTING STANDBY GENERATOR FOR PROPER OPERATION PRIOR TO START OF FUEL SYSTEM WORK AND INCLUDE ALL DISCREPANCIES AND TEST FINDINGS IN REPORT TO BE SUBMITTED TO ENGINEER. FUEL SYSTEM WORK SHALL NOT COMMENCE PRIOR TO ENGINEER'S REVIEW AND APPROVAL OF TEST REPORT.
- FURNISH AND INSTALL TEMPORARY STAND-IN FOR BACKUP POWER (E.G. TEMPORARY FUEL SYSTEM OR TEMPORARY GENERATOR) FOR THE ENTIRE DURATION OF EXISTING FUEL SYSTEM BEING REPLACED AS NECESSARY. TEMPORARY STAND-IN BACKUP POWER CAPACITY SHALL BE EQUIVALENT TO OR GREATER THAN EXISTING. BACKUP POWER DISRUPTION CAUSED BY SWITCHOVER BETWEEN PERMANENT AND TEMPORARY BACKUP POWER SHALL BE MINIMIZED. SWITCHOVER SHALL BE EXECUTED BASED ON AN APPROVED BACKUP POWER SWITCHOVER PLAN, WHICH SHALL INCLUDE PROCEDURES TO KEEP GENERATOR SERVICE AREAS OF A POWER OUTAGE. SUBMIT BACKUP POWER SWITCHOVER PLAN WITHIN THIRTY (30) DAYS OF CONSTRUCTION NOTICE TO PROCEED. BACKUP POWER SWITCHOVER PLAN SHALL BE APPROVED PRIOR TO COMMENCING SWITCHOVER.
- DISRUPTIONS TO UTILITIES WILL NOT BE ALLOWED DURING NORMAL BUSINESS HOURS. NO EXCEPTIONS. CONTRACTOR SHALL SCHEDULE INTERRUPTION OF UTILITY SERVICE A MINIMUM OF THIRTY (30) DAYS IN ADVANCE OF INTERRUPTION.
- CONTACT ENGINEER IMMEDIATELY SHOULD AN UNPLANNED UTILITY OUTAGE OCCUR.
- NOT ALL EXISTING UTILITIES INCLUDING PLUMBING, ELECTRICAL CONDUITS, CABLES, ETC. ARE SHOWN. PROTECT EXISTING UTILITIES IN PLACE.

DEMOLITION/CONSTRUCTION PHASING NOTES (CONTINUATION)

STORAGE / DELIVERY / PROTECTION NOTES

- COORDINATE ON-SITE PARKING WITH THE ENGINEER. ON-SITE STORAGE AND STAGING AREAS WILL BE LIMITED IF MADE AVAILABLE. ALL COSTS SHALL BE CONSIDERED INCIDENTAL TO BID.
- PROTECT ALL EXISTING ITEMS DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR OR REPLACE ALL ITEMS DAMAGED DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE STATE. CONTRACTOR SHALL BE RESPONSIBLE FOR MOVING ALL ITEMS IN THE WORK AREAS AS NEEDED TO PERFORM HIS WORK. ALL MOVING COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IT IS RECOMMENDED THAT THE CONTRACTOR PERFORM A PHOTOGRAPH INVENTORY OF EXISTING ITEMS PRIOR TO PROCEEDING WITH WORK IN THE PUMP STATION.

PIPE NOTES

- PIPE SUPPORT SPACING FOR ALL NEW AND EXISTING PIPING WITHIN THE PROJECT LIMITS SHALL NOT EXCEED SUPPORT SPACING SPECIFIED IN THE TECHNICAL SPECIFICATIONS DURING ALL PHASES OF CONSTRUCTION.

ACCESS NOTES

- MAINTAIN UNOBSTRUCTED ACCESS TO DRIVEWAYS, PARKING STRUCTURE, PARKING LOT, SIDEWALKS, ELEVATORS, STAIRWAYS AND TWO (2) MEANS OF EMERGENCY EGRESS DURING NORMAL FACILITY HOURS.

HAZMAT NOTES

- HANDLING, REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS INCLUDING ACM, LCP, AND LBP SHALL BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

RESTORATION NOTES

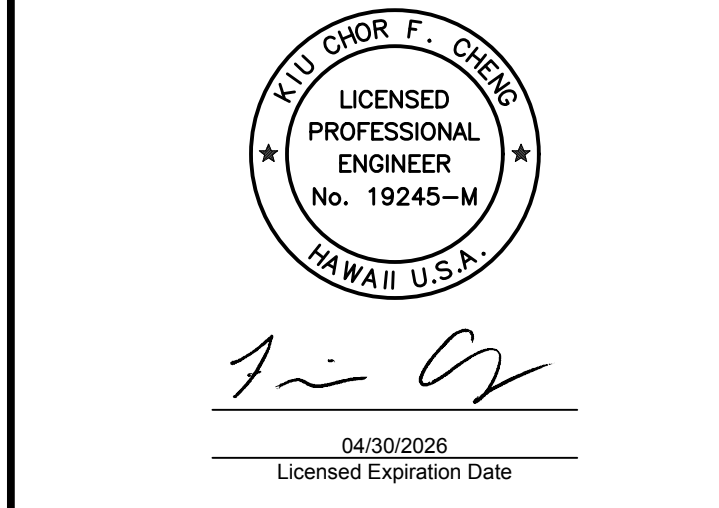
- RESTORE TO THEIR ORIGINAL CONDITION ALL IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION, INCLUDING PAVEMENT, EMBANKMENTS, CURBS, SIDEWALKS, SIGNS, LANDSCAPING, STRUCTURES, UTILITIES, WALLS, FENCES, ETC. DEMOLITION AND RESTORATION OF EXISTING ITEMS SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE BID.

FIRE SAFETY NOTE

16.1.1 STRUCTURES UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION OPERATIONS, INCLUDING THOSE IN UNDERGROUND LOCATIONS, SHALL COMPLY WITH NFPA 241, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS, AND THIS CHAPTER. 2018 NFPA 1.

FIRE SAFETY DURING ALTERATION NOTES

- 16.4.3.1.1 A WATER SUPPLY FOR FIRE PROTECTION, EITHER TEMPORARY OR PERMANENT, SHALL BE MADE AVAILABLE AS SOON AS COMBUSTIBLE MATERIAL ACCUMULATES.
- 16.4.4.1 WHERE THE BUILDING IS PROTECTED BY FIRE PROTECTION SYSTEMS, SUCH SYSTEMS SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES DURING ALTERATION.
- 16.4.4.2 WHERE ALTERATION REQUIRES MODIFICATION OF A PORTION OF THE FIRE PROTECTION SYSTEM, THE REMAINDER OF THE SYSTEM SHALL BE KEPT IN SERVICE AND THE FIRE DEPARTMENT SHALL BE NOTIFIED.
- 16.4.4.3 WHEN IT IS NECESSARY TO SHUT DOWN THE SYSTEM, THE AHJ SHALL HAVE THE AUTHORITY TO REQUIRE ALTERNATE MEASURES OF PROTECTION UNTIL THE SYSTEM IS RETURNED TO SERVICE.
- 16.4.4.4 THE FIRE DEPARTMENT SHALL BE NOTIFIED WHEN THE SYSTEM IS SHUT DOWN AND WHEN THE SYSTEM IS RETURNED TO SERVICE.
- 10.7.1.1 AS NECESSARY DURING EMERGENCIES, MAINTENANCE, DRILLS, PRESCRIBED TESTING, ALTERATIONS, OR RENOVATIONS, PORTABLE OR FIXED FIRE-EXTINGUISHING SYSTEMS OR DEVICES OR ANY FIRE-WARNING SYSTEM SHALL BE PERMITTED TO BE MADE INOPERATIVE OR INACCESSIBLE.
- 13.1.9 WHENEVER IMPAIRMENTS, CRITICAL DEFICIENCIES, OR NON-CRITICAL DEFICIENCIES ARE IDENTIFIED IN WATER-BASED FIRE PROTECTION SYSTEMS MAINTAINED IN ACCORDANCE WITH NFPA 25, THEY SHALL BE CORRECTED IN A TIME FRAME APPROVED BY THE AHJ.
- 13.1.10 THE AHJ SHALL BE NOTIFIED WHEN ANY FIRE PROTECTION SYSTEM IS OUT OF SERVICE AND ON RESTORATION OF SERVICE.



DSGN.	DRWN.	CHKD.	APPD.
JCS	JCS	KFC	KFC

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

INDEX OF DRAWINGS AND NOTES

DATE :	DWG. NO.
MAR 2024	G-002
SHEET :	
2 OF 30 SHEETS	

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PROJECT SEQUENCE

1. INSTALL STORM DRAIN INLET PROTECTION AND PERIMETER CONTROL (BIOFILTER SOCKS).
2. RELOCATE, RECONSTRUCT AND MAINTAIN BMPS AS NEEDED TO KEEP THEM EFFECTIVE AT ALL TIMES. INITIATE TEMPORARY STABILIZATION IMMEDIATELY ONCE GRADING IS COMPLETED.
3. PROCEED WITH CONSTRUCTION WITH LEAST POSSIBLE DISTURBANCE OF VEGETATIVE AREAS TEMPORARY STRUCTURES.
4. PRACTICE GOOD HOUSEKEEPING MEASURES THROUGHOUT THE DURATION OF CONSTRUCTION.
5. INSPECTIONS SHALL BE PERFORMED ONCE EVERY MONTH BY THE ESCP COORDINATOR.

RAIN RESPONSE PLAN

1. THE FOLLOWING SHALL BE PERFORMED WHEN HEAVY RAINS, TROPICAL STORM OR HURRICANE IS IMMINENT OR IS FORECASTED IN THE NEXT 48 HOURS:
 - A. TEMPORARY SUSPENSION OF ACTIVE GRADING, GRUBBING, AND TRENCHING.
 - B. INSPECT ALL SEDIMENT BASINS AND PERIMETER CONTROLS, AND MAINTAIN AS NEEDED. REINSTALL ANY PERIMETER CONTROLS THAT WERE REMOVED DUE TO ACTIVE WORK IN THE AREA.
 - C. COVER OR RELOCATE MATERIAL STOCKPILES AND LIQUID MATERIAL CONTAINERS TO AVOID CONTACT WITH RAINWATER.
 - D. PLACE SPILL PANS OR OIL-ONLY SPILL PADS UNDER CONSTRUCTION VEHICLES TO PREVENT RUNOFF FROM CONTACTING ANY SPILLED PETROLEUM PRODUCTS. PROPERLY DISPOSE OF ANY ACCUMULATED OILY WATER AFTER THE RAIN EVENT.
2. RE-INSPECT AFTER THE APPROACHING HEAVY RAINS, TROPICAL STORM OR HURRICANE AND REPLACE OR MAINTAIN BMPS AS NEEDED.

GOOD HOUSEKEEPING BMPS

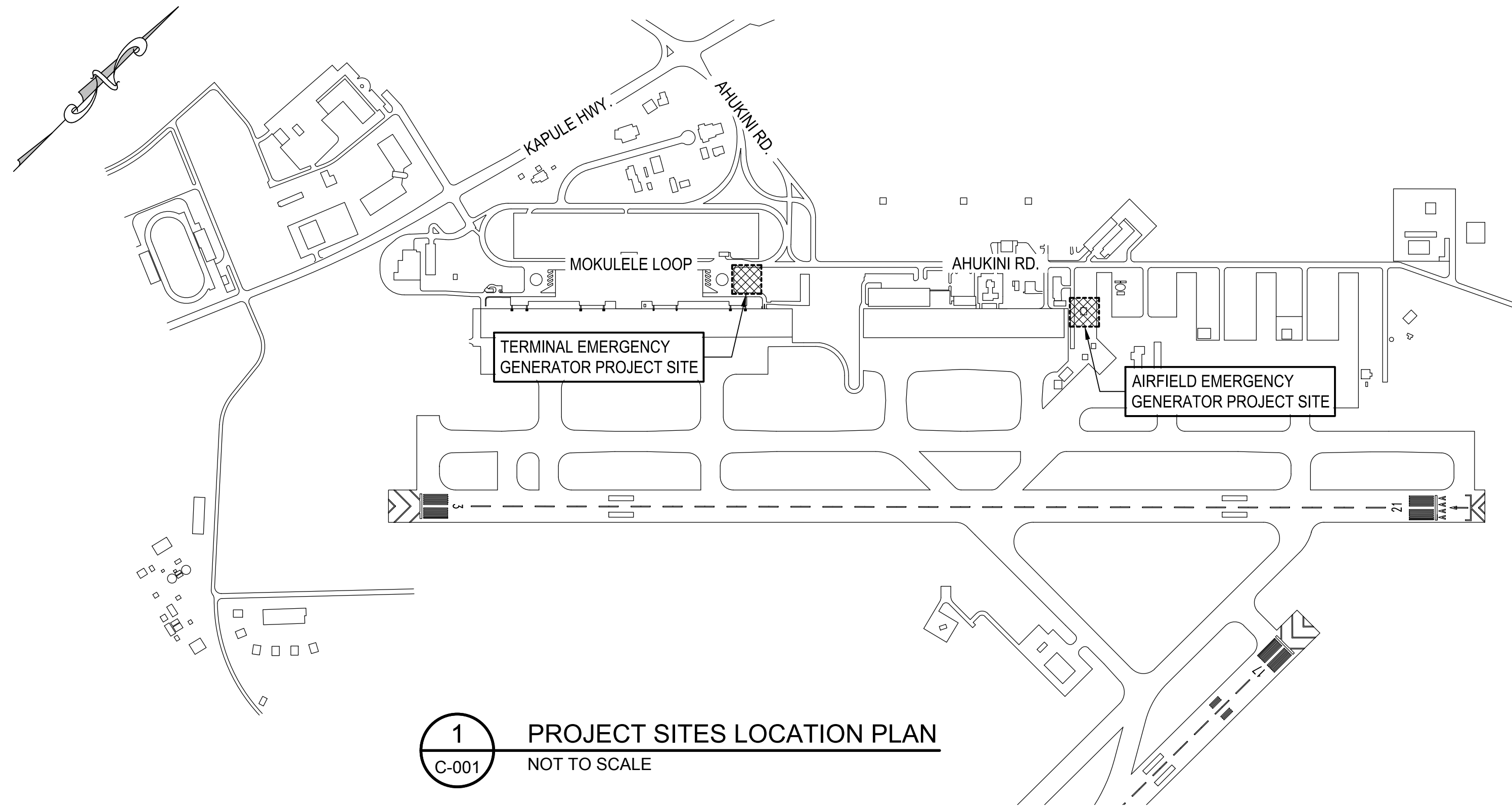
1. STREET SWEEPING AND VACUUMING. ALL POLLUTANTS DISCHARGED FROM CONSTRUCTION SITE TO OFF-SITE AREAS MUST BE SWEEPED OR VACUUMED EACH DAY BEFORE LEAVING THE JOB SITE.
2. MATERIALS DELIVERY, STORAGE AND USE MANAGEMENT. PREVENT, REDUCE, OR ELIMINATE THE DISCHARGE OF POLLUTANTS FROM MATERIAL DELIVERY, STORAGE, AND USE TO THE STORM WATER SYSTEM OR WATERCOURSED BY MINIMIZING THE STORAGE OF HAZARDOUS MATERIALS ONSITE, STORING MATERIALS IN A DESIGNATED AREA, AND INSTALLING SECONDARY CONTAINMENT. CONSTRUCTION MATERIALS, WASTE, TOXIC AND HAZARDOUS SUBSTANCES, STOCKPILES AND OTHER SOURCES OF POLLUTION SHALL NOT BE STORED IN BUFFER AREAS, NEAR AREAS OF CONCENTRATED FLOW, OR AREAS ABUTTING THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4), RECEIVING WATERS, OR DRAINAGE IMPROVEMENTS THAT DISCHARGE OFF-SITE. PRIMARY AND SECONDARY CONTAINMENT CONTROLS AND COVERS SHALL BE IMPLEMENTED TO THE MEP.
3. SPILL PREVENTION AND CONTROL. CREATE AND IMPLEMENT SPILL PREVENTION AND RESPONSE PLANS TO ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO THE MS4 AND RECEIVING WATERS FROM LEAKS AND SPILLS BY REDUCING THE CHANCE FOR SPILLS, ABSORBING, CONTAINING, AND CLEANING UP SPILLS AND PROPERLY DISPOSING OF SPILL MATERIALS. AT A MINIMUM, ALL PROJECTS SHALL CLEAN UP ALL LEAKS AND SPILLS IMMEDIATELY.
 - A. FOR ALL SPILL, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE AIRPORT DUTY MANAGER (CODE 22), THE HDOT SPM, AND DOTA AIR-EE.
 - B. THE CONTRACTOR SHALL REFERENCE AND COMPLY WITH THE HNL SPILL REPORTING FACT SHEET FOR THE DANIEL K. INOUE INTERNATIONAL AIRPORT FOR ADDITIONAL INFORMATION, INSTRUCTIONS AND REQUIREMENTS. THE FACT SHEET CAN BE FOUND AT: [HTTP://HIDOT.HAWAII.GOV/AIRPORTS/FILES/2021/05/HNL-SPILL-REPORTING-FACT-SHEET-V5.PDF](http://hidot.hawaii.gov/airports/files/2021/05/HNL-SPILL-REPORTING-FACT-SHEET-V5.PDF).
4. VEHICLE AND EQUIPMENT CLEANING. ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT CLEANING OPERATIONS BY USING OFF-SITE FACILITIES AND ELIMINATING DISCHARGES TO THE STORM DRAIN SYSTEM BY EVAPORATING AND/OR TREATING WASH WATER, AS APPROPRIATE OR INFILTRATING WASH WATER FOR EXTERIOR CLEANING ACTIVITIES THAT USE WATER ONLY.
5. VEHICLE AND EQUIPMENT FUELING. PREVENT FUEL SPILLS AND LEAKS BY USING OFF-SITE FACILITIES, ENCLOSING OR COVERING STORED FUEL, AND IMPLEMENTING SPILL CONTROLS SUCH AS SECONDARY CONTAINMENT AND ACTIVE MEASURES USING SPILL RESPONSE KITS.
6. VEHICLE AND EQUIPMENT MAINTENANCE. ELIMINATE AND MINIMIZE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM VEHICLE AND EQUIPMENT MAINTENANCE OPERATIONS BY USING OFF-SITE FACILITIES, USING SPILL PADS UNDER VEHICLES AND EQUIPMENT, CHECKING FOR LEAKS AND SPILLS, AND CONTAINING AND CLEANING UP SPILLS IMMEDIATELY.
7. SOLID WASTE MANAGEMENT. PREVENT OR REDUCE DISCHARGE OF POLLUTANTS TO THE LAND, GROUNDWATER, AND IN STORM WATER FROM SOLID WASTE OR CONSTRUCTION AND DEMOLITION WASTE BY PROVIDING DESIGNATED WASTE COLLECTION AREAS, COLLECT SITE TRASH DAILY, AND ENSURING THAT CONSTRUCTION WASTE IS COLLECTED, REMOVED, AND DISPOSED OF ONLY AT AUTHORIZED DISPOSAL AREAS.

GOOD HOUSEKEEPING BMPS (CONT.)

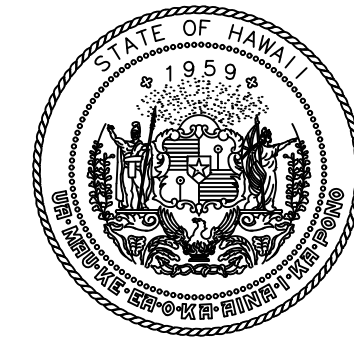
8. SANITARY/SEPTIC WASTE MANAGEMENT. TEMPORARY AND PORTABLE SANITARY AND SEPTIC WASTE SYSTEMS SHALL BE MOUNTED OR STAKED IN, WELL-MAINTAINED AND SCHEDULED FOR REGULAR WASTE DISPOSAL AND SERVICING. SOURCES OF SANITARY AND/OR SEPTIC WASTE SHALL NOT BE SORTED NEAR THE MS4 OR RECEIVING WATERS.
9. STOCKPILE MANAGEMENT. STOCKPILES SHALL NOT BE LOCATED IN DRAINAGE WAYS, WITHIN 50 FEET FROM AREAS OF CONCENTRATED FLOWS, AND ARE NOT ALLOWED IN THE CITY RIGHT-OF-WAY. SEDIMENT BARRIERS OR SILT FENCES SHALL BE USED AROUND THE BASE OF ALL STOCKPILES. STOCKPILES SHALL NOT EXCEED 15 FEET IN HEIGHT. STOCKPILES GREATER THAN 15 FEET IN HEIGHT SHALL REQUIRE 8 FOOT WIDE BENCHING IN ACCORDANCE WITH ROH CHAPTER 14, ARTICLE 15. STOCKPILES MUST BE COVERED WITH PLASTIC SHEETING OR A COMPARABLE MATERIAL WHENEVER THE STOCKPILE IS INACTIVE OR BY THE END OF THE WORK SHIFT, WHICHEVER IS SOONER.
10. LIQUID WASTE MANAGEMENT. LIQUID WASTE SHALL BE CONTAINED IN A CONTROLLED AREA SUCH AS A HOLDING PIT, SEDIMENT BASIN, ROLL-OFF BIN, OR PORTABLE TANK OF SUFFICIENT VOLUME AND TO CONTAIN THE LIQUID WASTES GENERATED. CONTAINMENT AREAS OR DEVICES MUST BE IMPERMEABLE AND LEAK FREE AND SHOULD NOT BE LOCATED WHERE ACCIDENTAL RELEASE OF THE CONTAINED LIQUID CAN DISCHARGE TO WATER BODIES, CHANNELS, OR STORM DRAINS.
11. CONCRETE WASTE MANAGEMENT. PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORMWATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE.
12. CONTAMINATED SOIL MANAGEMENT. CONTAMINATED SOIL SHOULD BE DISPOSED OF PROPERLY IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. WHEN STOCKPILING CONTAMINATED OR POTENTIALLY CONTAMINATED SOIL, THE STOCKPILE SHALL BE PLACED ON AN IMPERMEABLE LINER OR DEVICE, SURROUNDED WITH AN IMPERMEABLE LINED BERM, AND FULLY COVERED WITH PLASTIC SHEETING OR OTHER SIMILAR IMPERMEABLE DEVICES.
13. MEASURES TO CONTROL EROSION AND OTHER POLLUTANTS AS REFLECTED ON PLANS SHALL BE IN PLACE BEFORE ANY WORK IS INITIATED. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
14. ALL CONTROL MEASURES SHALL BE CHECKED DAILY AND REPAIRED AS NECESSARY.
15. CONTRACTOR SHALL OBSERVE AND COMPLY WITH THE STATE DEPARTMENT OF HEALTH REGULATIONS REGARDING STORM WATER DISCHARGE.
16. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREAS AND SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES: CHAPTER 11-60.1 "AIR POLLUTION CONTROL".
17. 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 TIRES WITH WATER WILL NOT BE ACCEPTABLE UNLESS THE RUNOFF IS CONTAINED AND DOES NOT ENTER THE STORM DRAIN SYSTEM.

ABBREVIATIONS

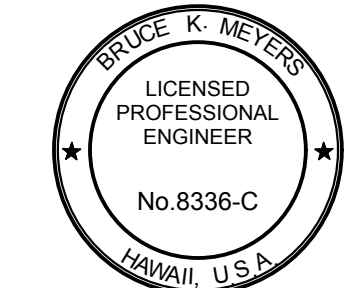
AC	ASPHALT CONCRETE
APPROX.	APPROXIMATE
CLSM	CONTROLLED LOW-STRENGTH MATERIAL
CMU	CONCRETE MASONRY UNIT
CONT.	CONTINUED
CRM	CONCRETE RUBBLE MASONRY
C.Y.	CUBIC YARD
Ø	DIAMETER
DWGS.	DRAWINGS
ELEV.	ELEVATION
EXIST.	EXISTING
EW	EACH WAY
FT.	FOOT, FEET
L.F.	LINEAR FEET
INV.	MINIMUM
O.C.	ON CENTER
PSI	POUNDS PER SQUARE INCH
S.F.	SQUARE FEET
TOC	TOP OF CONCRETE
STA.	TYPICAL
TOW	TOP OF WALL



1 PROJECT SITES LOCATION PLAN
C-001 NOT TO SCALE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



Bruce K. Meyers
04/30/2026
Licensed Expiration Date

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RDL	RDL	BKM	BKM

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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

CIVIL NOTES AND ABBREVIATIONS, PROJECT SITES LOCATION PLAN

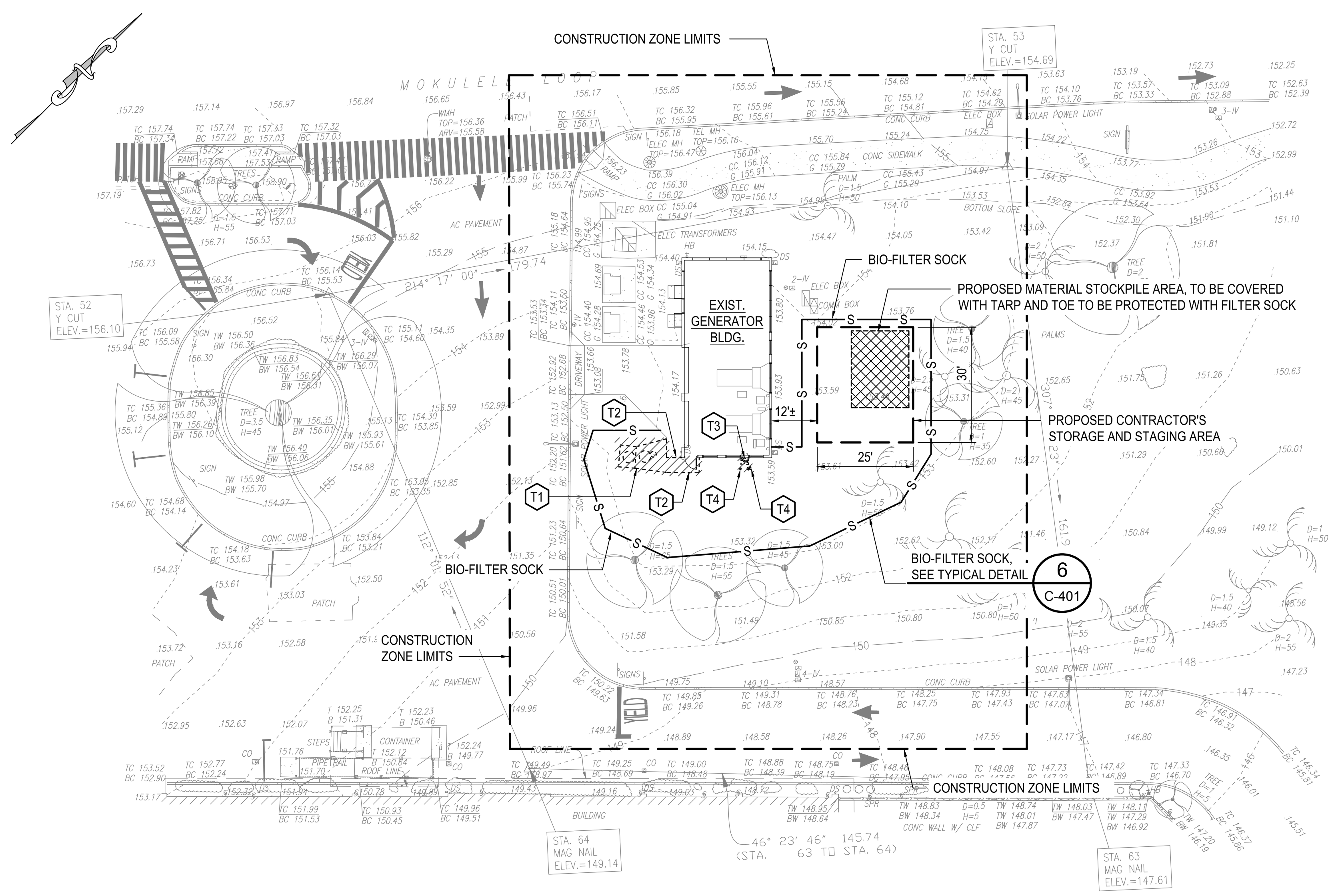
DATE :	DWG. NO.
MAR 2024	C-001
SHEET :	
3 OF 30 SHEETS	

EROSION PREVENTION/SEDIMENT CONTROL NOTES

- ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH HDOT'S LIH SWMPP, INCLUDING, BUT NOT LIMITED TO, THE HDOT'S CONSTRUCTION ACTIVITIES BMP FIELD MANUAL.
- PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL THEIR TEMPORARY BMP MEASURES. NO WORK SHALL BE PERFORMED, EXCEPT FOR THE CONSTRUCTION ACTIVITIES THAT ARE NECESSARY FOR THE IMPLEMENTATION OF THE TEMPORARY BMP MEASURES.
- UPON COMPLETION OF THE INSTALLATION OF THE TEMPORARY BMP MEASURES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO SCHEDULE A PRE-CONSTRUCTION BMP INSPECTION WITH HDOT AIR-EE. THIS INSPECTION SHALL BE SUBJECT TO THE AVAILABILITY AND SCHEDULE OF THE AIR-EE INSPECTOR. NO CONSTRUCTION ACTIVITIES SHALL BE PERFORMED UNTIL ALL DEFICIENCIES THAT ARE OBSERVED BY AIR-EE INSPECTOR DURING THE PRE-CONSTRUCTION BMP INSPECTION HAVE BEEN CORRECTED AND ADDRESSED TO THE ACCEPTANCE OF HDOT AIR-EE.
- DURING THE CONSTRUCTION OF THIS PROJECT, THE AIR-EE INSPECTOR WILL BE CONDUCTING MONTHLY BMP INSPECTIONS OF THE PROJECT SITE. THESE INSPECTIONS SHALL BE ATTENDED BY THE CONTRACTOR'S AUTHORIZED REPRESENTATIVE. ALL DEFICIENCIES THAT ARE OBSERVED BY THE AIR-EE INSPECTOR DURING THESE INSPECTIONS MUST BE CORRECTED AND ADDRESSED TO THE ACCEPTANCE OF HDOT AIR-EE WITHIN THE TIME FRAME THAT IS PRESCRIBED BY THE AIR-EE INSPECTOR.
- PRIOR TO THE REMOVAL OF ANY TEMPORARY BMP MEASURES, A FINAL BMP INSPECTION MUST BE CONDUCTED BY THE HDOT AIR-EE INSPECTOR. PRIOR TO THE FINAL BMP INSPECTION, THE DISTURBED AREAS OF THE PROJECT MUST BE PERMANENTLY STABILIZED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO SCHEDULE THE FINAL BMP INSPECTION WITH HDOT AIR-EE. THIS INSPECTION SHALL BE SUBJECT TO THE AVAILABILITY AND SCHEDULE OF THE AIR-EE INSPECTOR. THE TEMPORARY BMP MEASURES SHALL NOT BE REMOVED UNTIL ALL DEFICIENCIES THAT ARE OBSERVED BY AIR-EE INSPECTOR DURING THIS INSPECTION HAVE BEEN CORRECTED AND ADDRESSED TO THE ACCEPTANCE OF HDOT AIR-EE.
- SLOPE PROTECTION IS REQUIRED ON AREAS WITH SLOPES GREATER THAN 15% AND ON AREAS OF MODERATE SLOPE THAT ARE PRONE TO EROSION UNLESS THEY ARE BEING ACTIVELY WORKED. USE DIVERSION UPSTREAM OF SLOPE (DIKES, SWALES, SLOPE DRAINS) TO DIVERT WATER AROUND THE SLOPE. PROVIDE A 10-FT BUFFER ZONE AT THE TOE OF SLOPE. ONLY 5 ACRES MAY BE DISTURBED AT ANYTIME ON SLOPES GREATER THAN 15%.
- TEMPORARY STABILIZATION IS REQUIRED ON DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHEN THE DISTURBED AREA WILL NOT BE WORKED FOR 14 CONSECUTIVE DAYS OR MORE. THE TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 14 CALENDAR DAYS.
- ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED USING VEGETATIVE COVERING, PAVEMENT, OR EQUIVALENT, PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES SHALL BE IMMEDIATELY AND PERMANENTLY STABILIZED.
- MINIMIZE SOIL COMPACTION. AREAS WHERE FINAL STABILIZATION OR INFILTRATION PRACTICES WILL BE INSTALLED SHALL BE PROTECTED FROM EXCESSIVE COMPACTION DURING CONSTRUCTION. VEHICLE AND EQUIPMENT USE SHALL BE RESTRICTED OR TECHNIQUES TO CONDITION THE SOILS TO SUPPORT VEGETATION SHALL BE IMPLEMENTED IN THE AREAS THAT HAVE BEEN COMPACTED AND ARE DESIGNATED TO REMAIN VEGETATIVE OR POST-CONSTRUCTION INFILTRATION AREAS. CLEARLY MARK THE AREAS TO BE AVOIDED WITH FLAGS OR TEMPORARY FENCING. WHERE TEMPORARY FENCING IS USED, FENCING MUST BE ADEQUATELY SUPPORTED BY POSTS AND MAINTAINED IN AN UPRIGHT POSITION.
- PERIMETER CONTROLS ARE REQUIRED DOWN SLOPE OF ALL DISTURBED AREAS. MAINTAIN DOWNSTREAM VEGETATED AREA.
- SEDIMENT BARRIERS AND FENCES:

SEDIMENT FENCES OR BARRIERS SHALL BE USED DOWN SLOPE OF ALL DISTURBED AREAS. UNTIL SLOPES ARE STABILIZED A SEDIMENT FENCE OR BARRIER SHALL BE INSTALLED AT THE TOE OF THE SLOPE AND ON CONTOURS AT THE FOLLOWING SPACING:

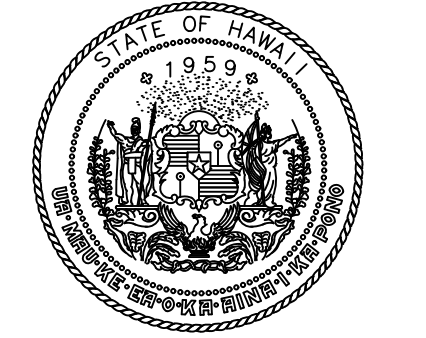
SLOPE ≥ 2:1	10 FEET SPACING
SLOPE ≥ 4:1 AND < 2:1	15 FEET SPACING
SLOPE < 4:1	20 FEET SPACING
- TRACKING CONTROL:
 - MINIMIZE SEDIMENT TRACK-OUT ONTO OFF-SITE STREETS, OTHER PAVED AREAS, AND SIDEWALKS FROM VEHICLES EXITING THE CONSTRUCTION SITE BY RESTRICTING VEHICLE TRAFFIC TO PROPERLY DESIGNATED AREAS AND USING ADDITIONAL CONTROLS TO REMOVE SEDIMENT FROM VEHICLE TIRES PRIOR TO EXITING THE SITE.
 - VEHICULAR PARKING AND MOVEMENT ON PROJECT SITE MUST BE CONFINED TO PREDEFINED PARKING AREAS AND VEHICLE PATHS, WHICH SHALL BE MARKED WITH FLAGS OR BOUNDARY FENCING. CONTRACTOR SHALL COORDINATE WITH ENGINEER.
 - ALL POLLUTANTS AND MATERIALS THAT ARE DROPPED, WASHED, TRACKED, SPILLED, OR OTHERWISE DISCHARGED FROM A PROJECT SITE TO OFF-SITE STREETS, SIDEWALKS MUST BE CLEANED USING DRY METHODS SUCH AS SWEEPING OR VACUUMING.
 - WASHING POLLUTANTS AND MATERIALS THAT ARE DISCHARGED FROM THE PROJECT SITE IS PROHIBITED UNLESS THE MATERIAL IS SEDIMENT AND IS DIRECTED TO A SEDIMENT BASIN OR SEDIMENT TRAP.
- THE FINAL LIFT OF EACH DAY'S WORK SHALL BE COMPACTED TO PREVENT EROSION OF FILL MATERIAL.



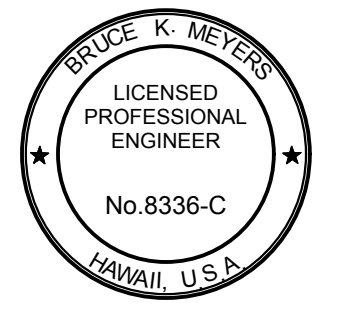
1 TERMINAL EMERGENCY GENERATOR DEMOLITION AND EROSION CONTROL SITE PLAN
 SCALE: 1" = 20'

DEMOLITION CALLOUTS:

- T1** DEMOLISH AND REMOVE EXISTING CONCRETE SLAB OVER EXISTING UNDERGROUND FUEL STORAGE TANK. REMOVE EXISTING ACCESS MANHOLES AND COVERS. REFER TO MECHANICAL DRAWINGS FOR DETAILED DEMOLITION OF THE UNDERGROUND TANK AND FUEL SYSTEM APPURTENANCES.
- T2** SAWCUT AND REMOVE PORTION OF EXISTING CONCRETE WALKWAY TO ACCOMMODATE UNDERGROUND FUEL TANK DEMOLITION, PROTECT IN-PLACE PORTION OF EXISTING CONCRETE WALKWAY INDICATED TO REMAIN.
- T3** DEMOLISH AND REMOVE EXISTING CONCRETE SLAB AT FUEL PIPING AND ELECTRICAL CONDUIT RISERS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR DETAILED RESPECTIVE DEMOLITION WORK IN THIS AREA.
- T4** DEMOLISH AND REMOVE EXISTING PIPE BOLLARD AND FOUNDATION.



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 AIRPORTS



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 Licensed Professional Engineer
 No. 8336-C
 HAWAII, USA
 04/30/2026
 Licensed Expiration Date

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CONSTRUCTION DOCUMENTS
 MARCH 11, 2024
 DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
 LIHUE AIRPORT
 LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

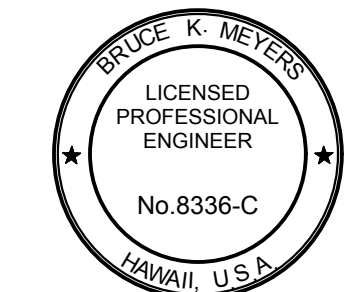
TERMINAL EMERGENCY GENERATOR SITE DEMOLITION AND EROSION CONTROL PLAN, NOTES

DATE :	DWG. NO.
MAR 2024	C-101
SHEET :	
4 OF 30 SHEETS	

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AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

AIRFIELD EMERGENCY GENERATOR SITE DEMOLITION AND SEDIMENT CONTROL PLAN

DATE :

MAR 2024

SHEET :

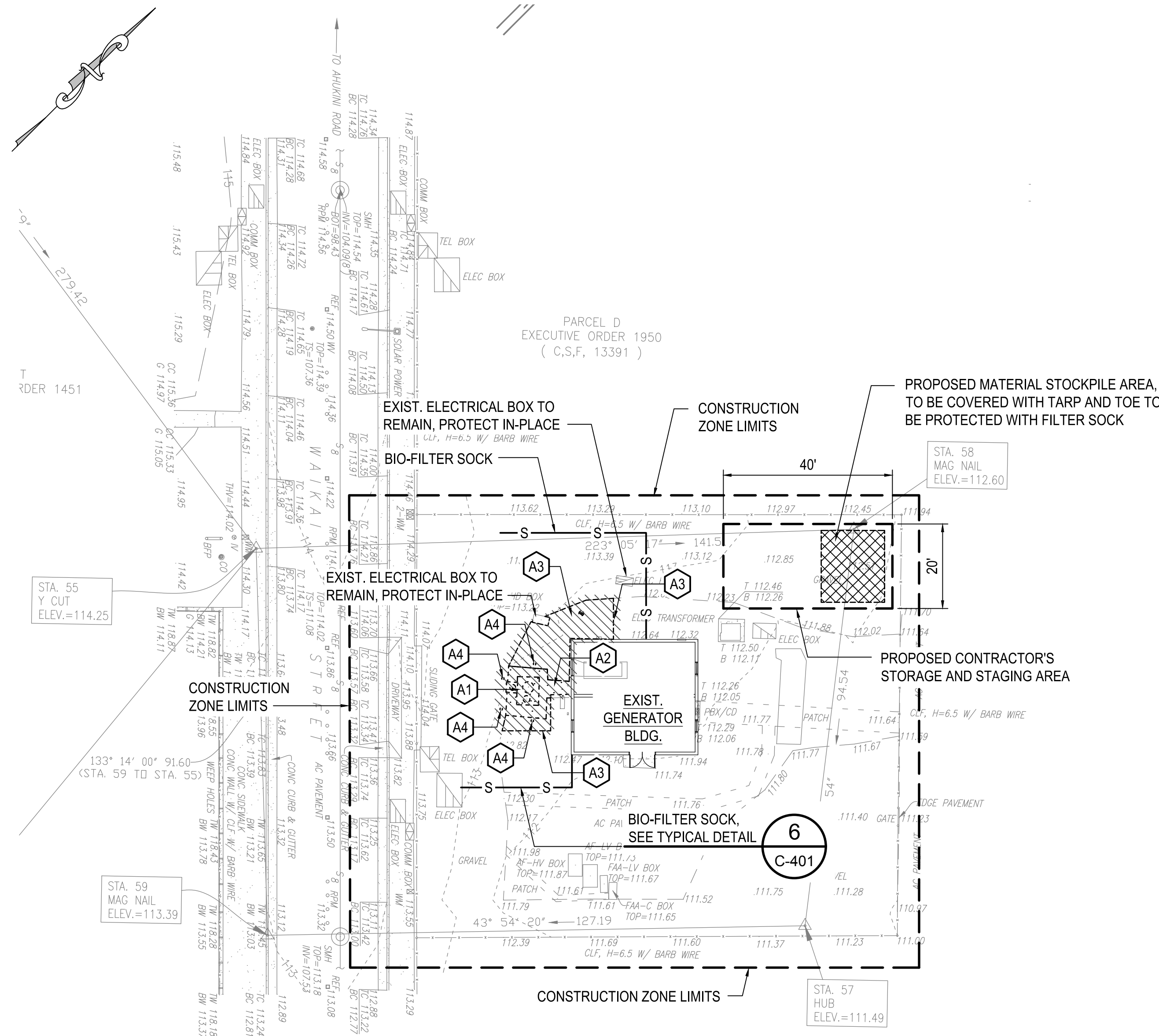
5 OF 30 SHEETS

DWG. NO.

C-102

DEMOLITION CALLOUTS:

- A1** DEMOLISH AND REMOVE EXISTING CONCRETE SLAB OVER EXISTING UNDERGROUND FUEL STORAGE TANK. REMOVE EXISTING ACCESS MANHOLES AND COVERS. REFER TO MECHANICAL DRAWINGS FOR DETAILED DEMOLITION OF THE UNDERGROUND TANK AND FUEL SYSTEM APPURTENANCES.
- A2** DEMOLISH AND REMOVE EXISTING CONCRETE PAVEMENT AND BASE COURSE TO ACCOMMODATE INSTALLATION OF NEW ASPHALT PAVEMENT.
- A3** SAWCUT AND REMOVE PORTION OF EXISTING ASPHALT PAVEMENT TO ACCOMMODATE NEW CONCRETE EQUIPMENT SLAB. PROTECT IN-PLACE EXISTING PAVEMENT TO REMAIN.
- A4** DEMOLISH AND REMOVE EXISTING PIPE BOLLARD AND FOUNDATION.



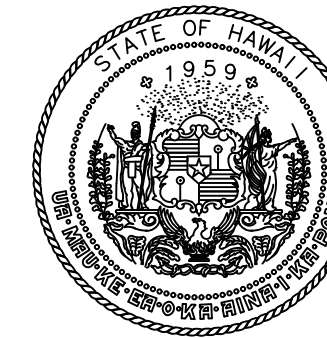
1 AIRFIELD EMERGENCY GENERATOR DEMOLITION AND SEDIMENT CONTROL SITE PLAN
C-102 SCALE: 1" = 20'

GRAPHIC SCALE:

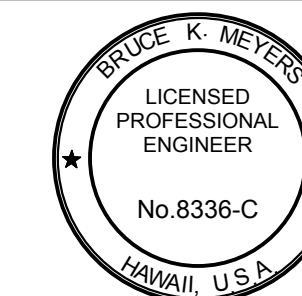


SCALE:
1" = 20'

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LIHUE AIRPORT
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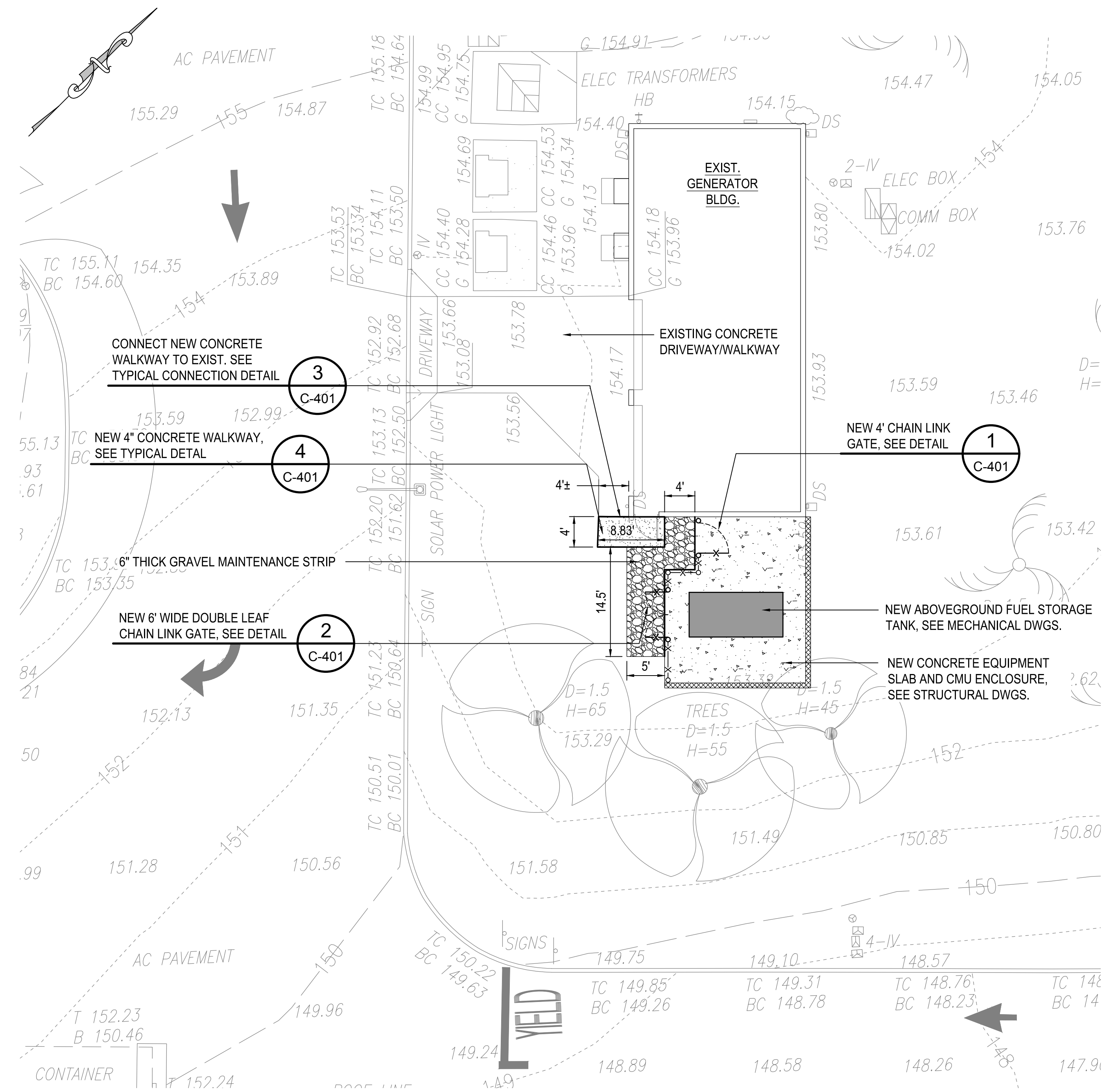
PROJECT NO.:

AK1046-31

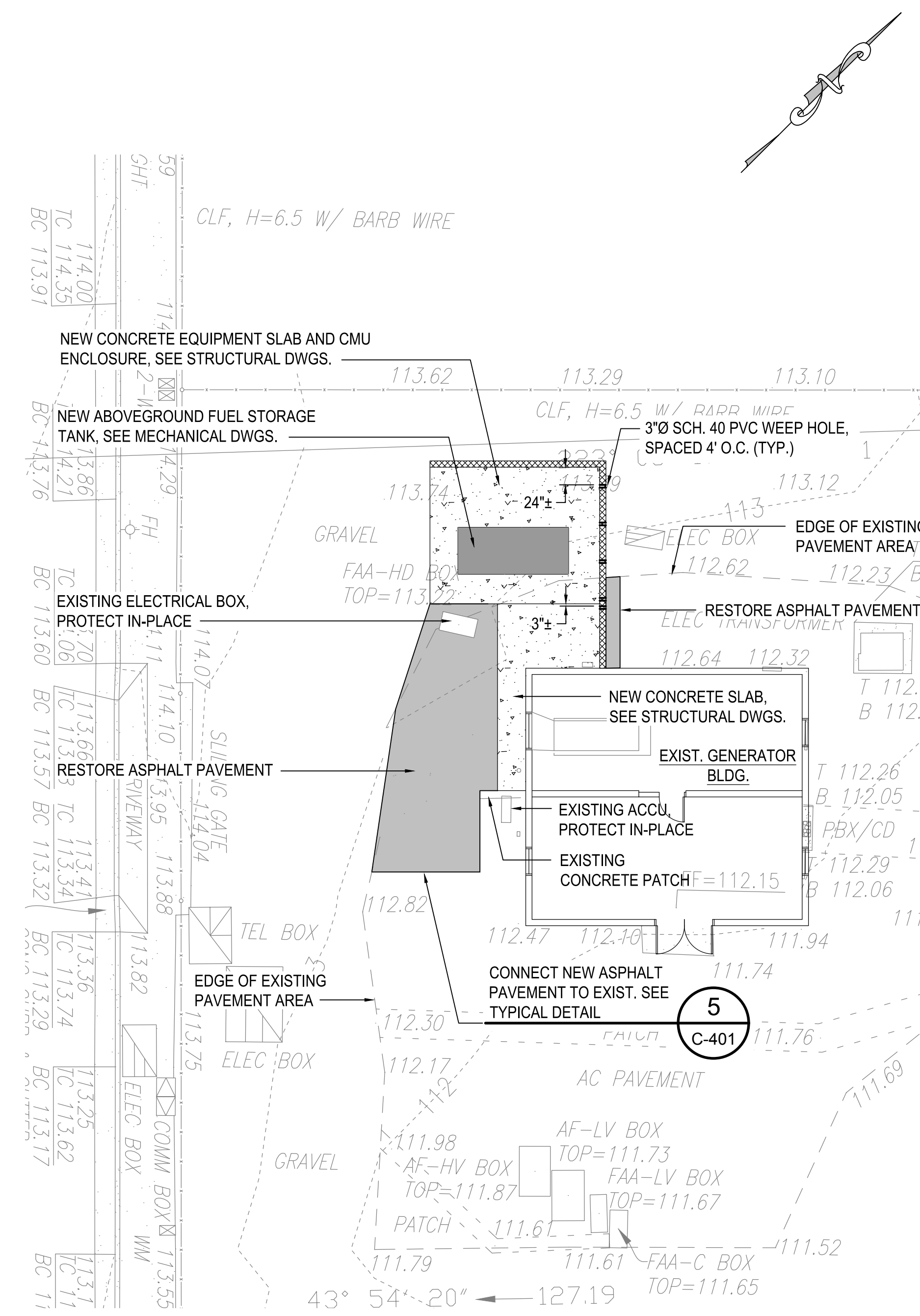
SHEET TITLE:

TERMINAL AND AIRFIELD EMERGENCY GENERATOR NEW SITE PLANS

DATE :	DWG. NO.
MAR 2024	C-201
SHEET :	
6 OF 30 SHEETS	

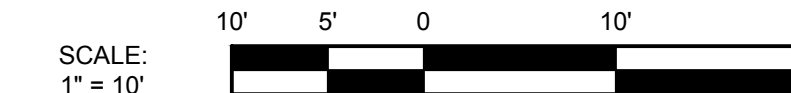


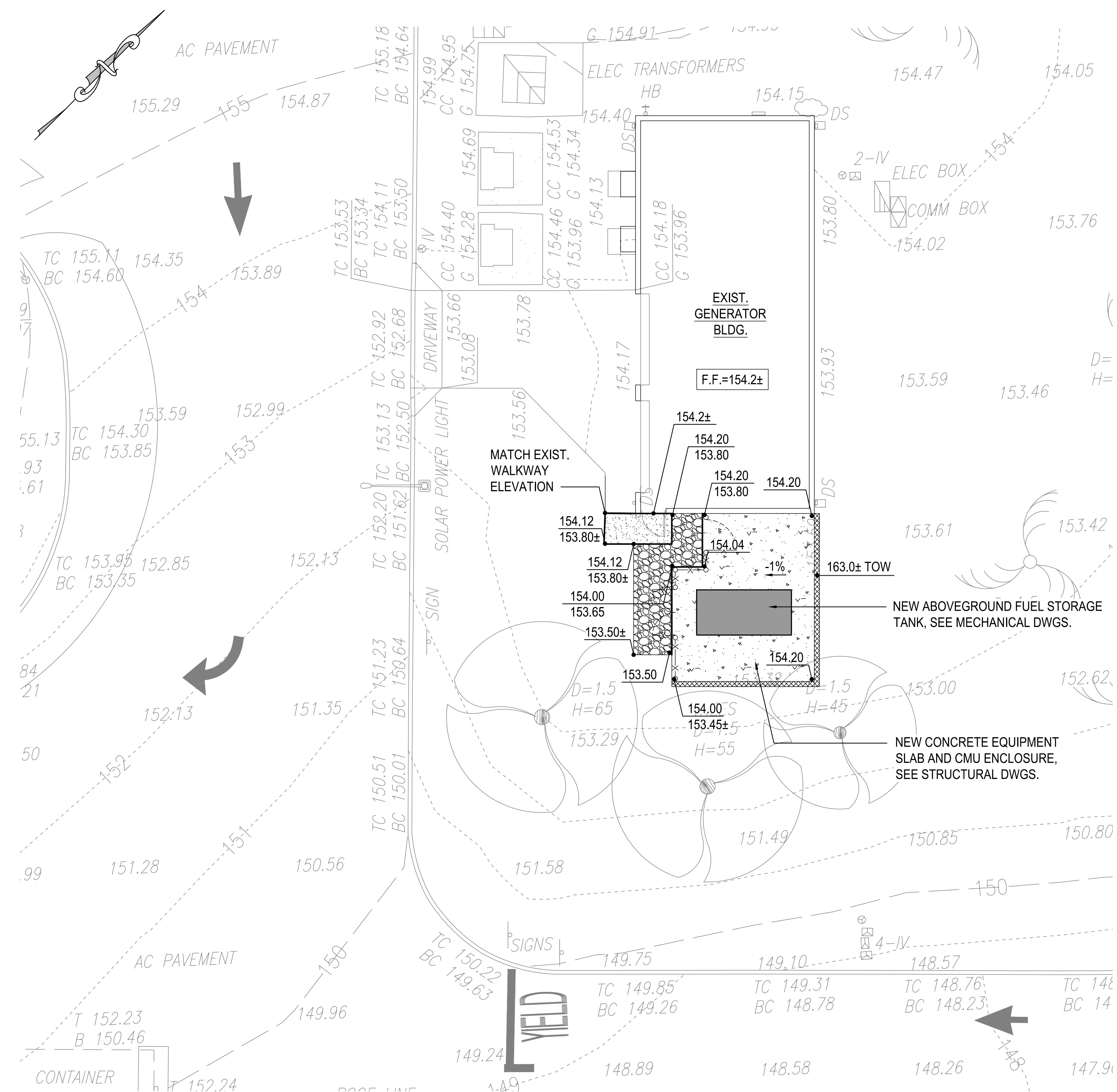
1 TERMINAL EMERGENCY GENERATOR NEW SITE PLAN
C-201 SCALE: 1" = 10'



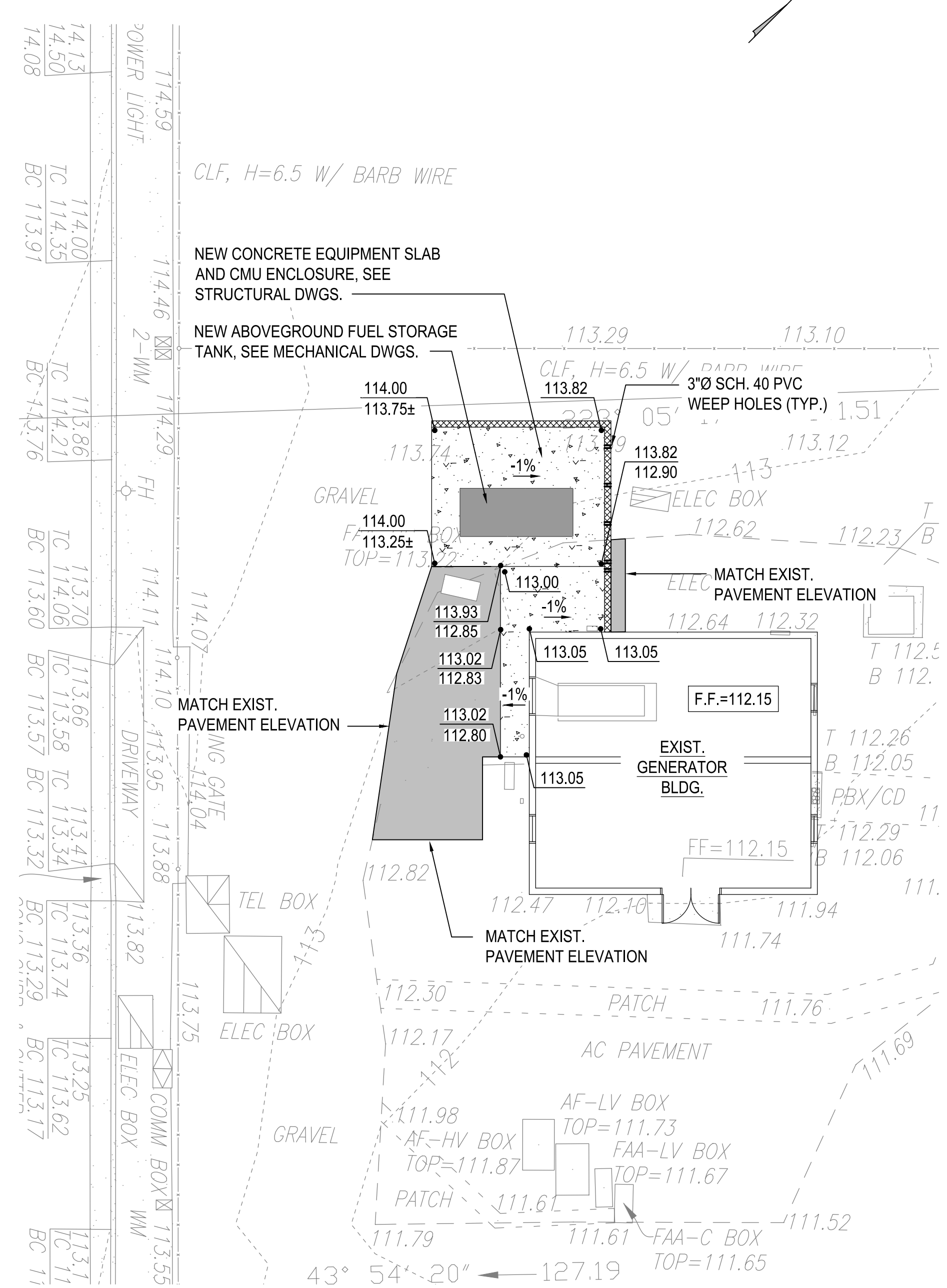
2 AIRFIELD EMERGENCY GENERATOR NEW SITE PLAN
C-201 SCALE: 1" = 10'

GRAPHIC SCALE:

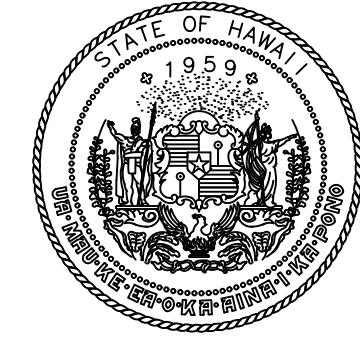
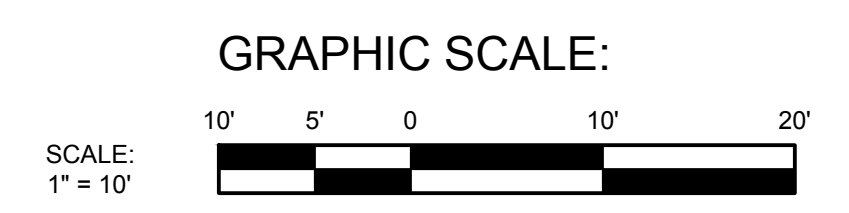




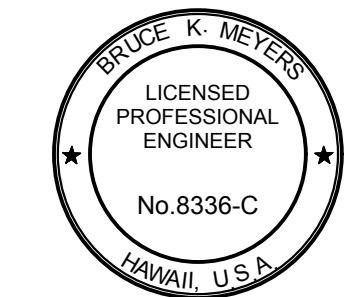
1 TERMINAL EMERGENCY GENERATOR DETAIL GRADING PLAN
 C-301 SCALE: 1" = 10'



2 AIRFIELD EMERGENCY GENERATOR DETAIL GRADING PLAN
 C-301 SCALE: 1" = 10'



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PROJECT NO.:

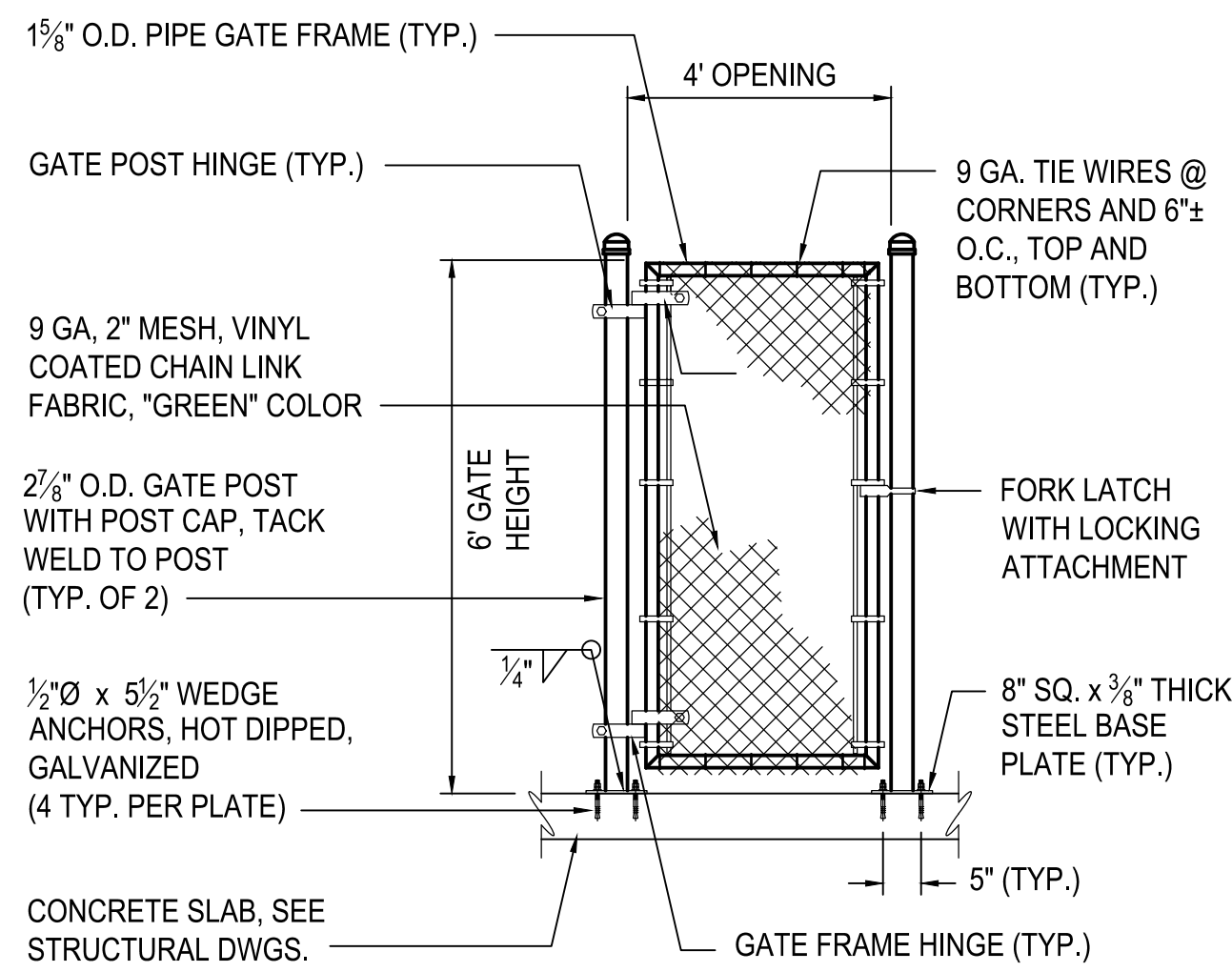
AK1046-31

SHEET TITLE:

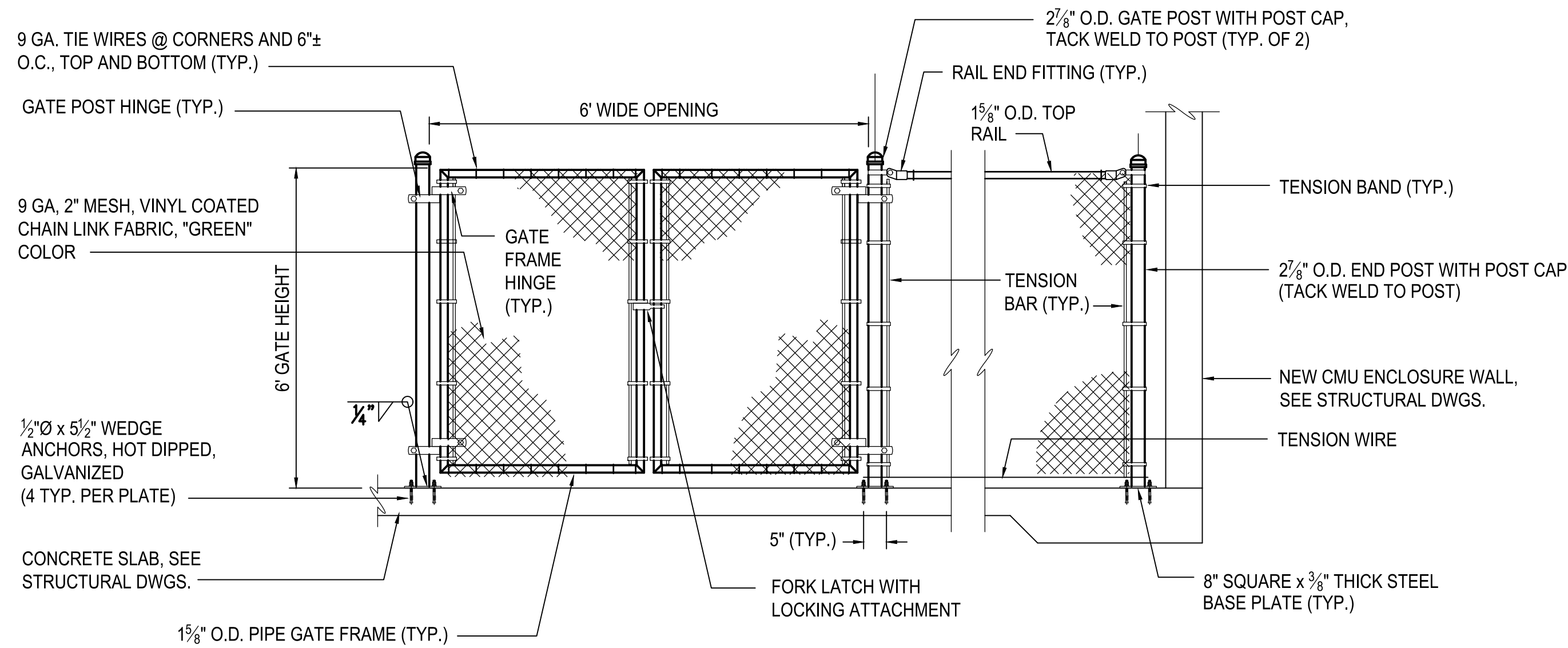
TERMINAL AND AIRFIELD EMERGENCY GENERATOR DETAIL GRADING PLANS

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MAR 2024	C-301
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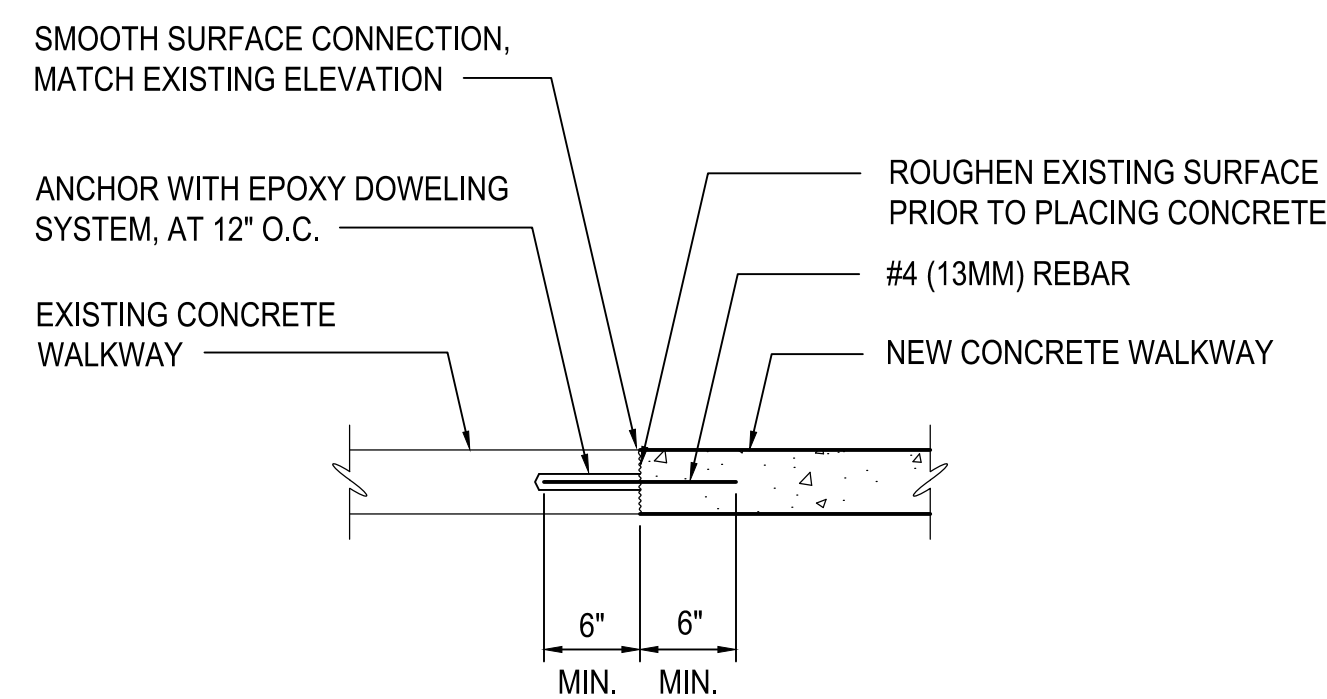
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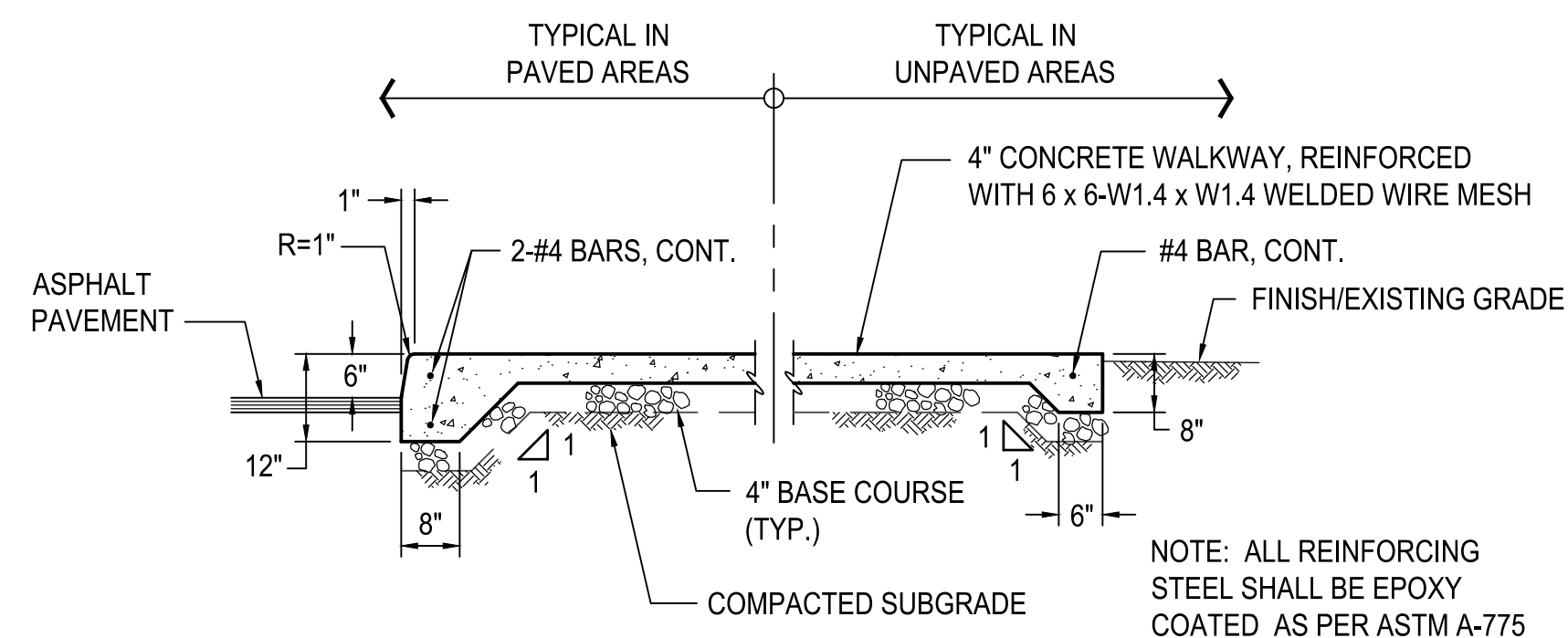
1 4' CHAIN LINK GATE DETAIL
C-401 NOT TO SCALE



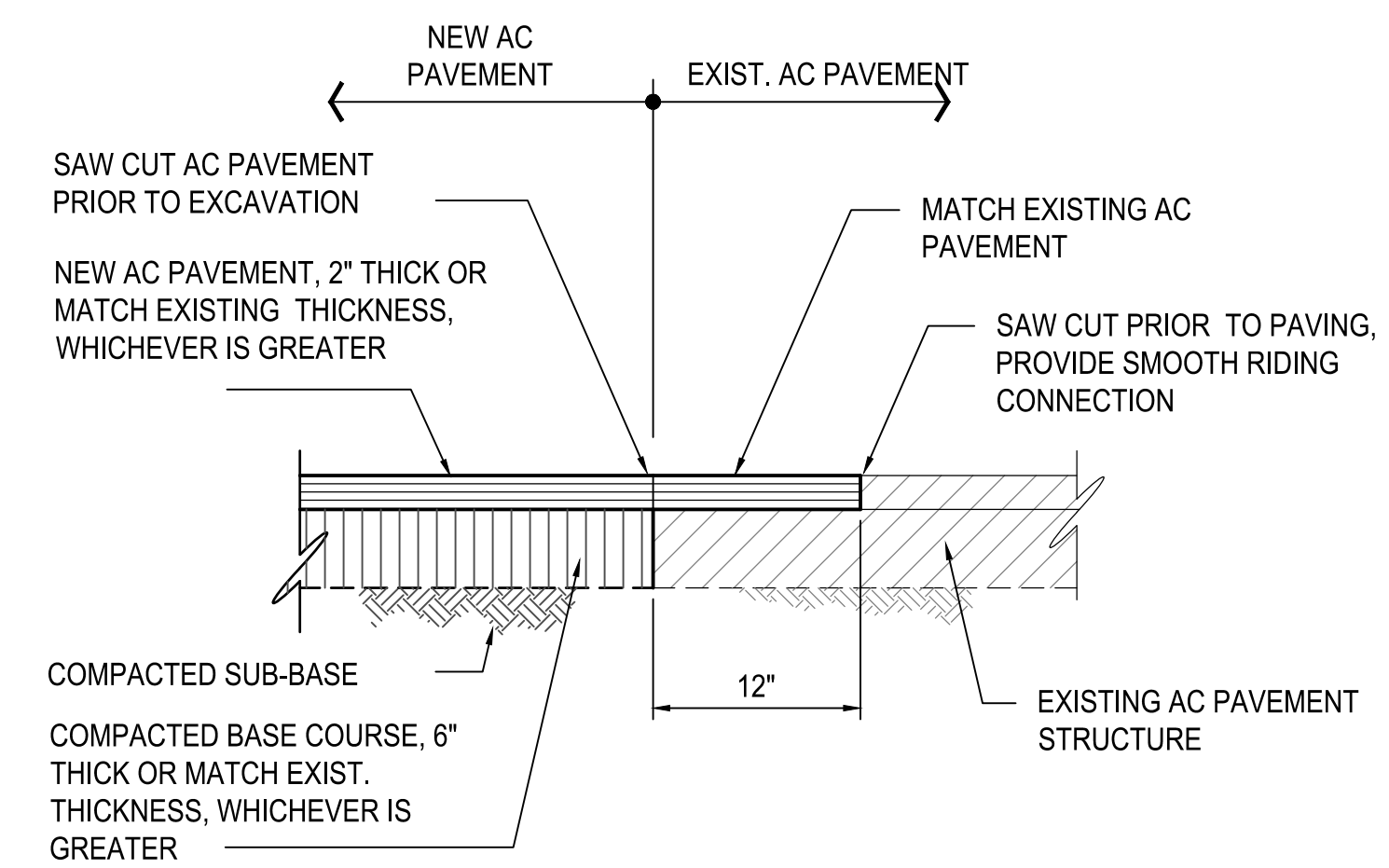
2 6' DOUBLE LEAF CHAIN LINK GATE DETAIL
C-401 NOT TO SCALE



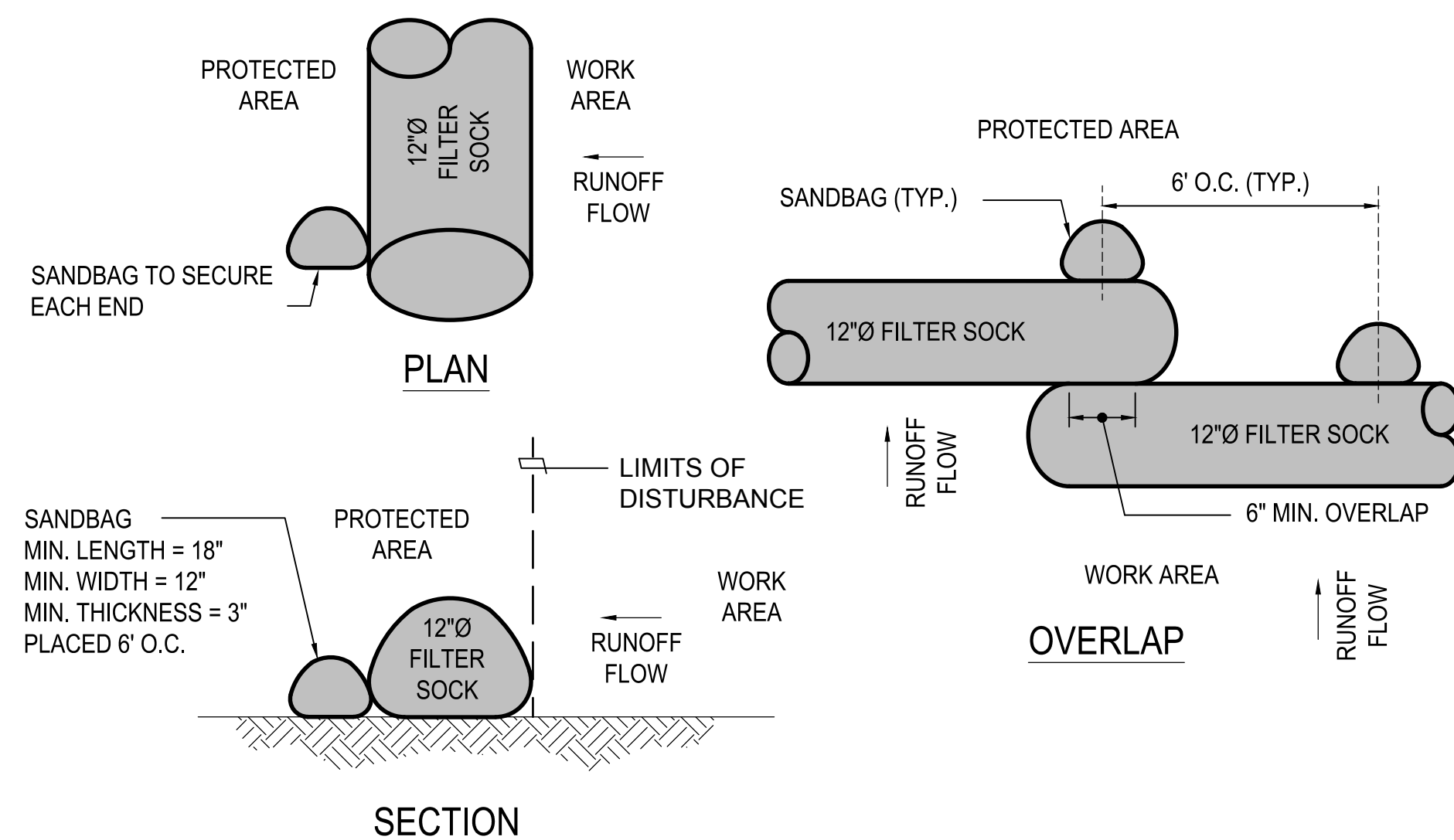
3 TYPICAL CONCRETE WALKWAY CONNECTION DETAIL
C-401 NOT TO SCALE



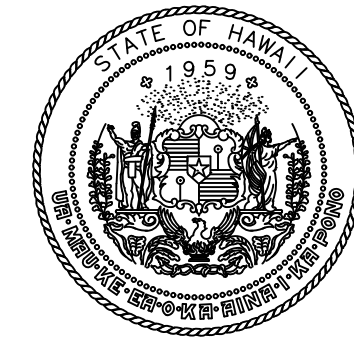
4 TYPICAL CONCRETE WALKWAY DETAIL SECTION
C-401 NOT TO SCALE



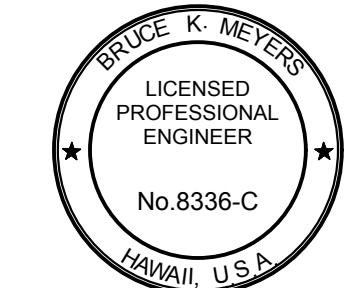
5 ASPHALT PAVEMENT RETORATION TYPICAL DETAIL
C-401 NOT TO SCALE



6 BIO-FILTER SOCK DETAILS
C-401 NOT TO SCALE



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CIVIL DETAILS

DATE :	DWG. NO.
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GENERAL:

- A. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE BUILDING CODE AS STATED BELOW. HOWEVER, WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
 - 1. STATE OF HAWAII: AMENDED IBC, 2018.
- B. THE CONTRACTOR SHALL COMPARE ALL THE CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO DOT-A ALL INCONSISTENCIES AND OMISSIONS.
- C. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO DOT-A ALL INCONSISTENCIES AND OMISSIONS.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY.
- E. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.

DESIGN CRITERIA:

- A. FUEL TANK (EMPTY): 12000 LBS
- B. FUEL TANK (FULL): 26281 LBS
- C. WIND DESIGN DATA
 - 1. BASIC WIND SPEED (3-SECOND GUST, ULTIMATE): 130 MPH
 - 2. EFFECTIVE NOMINAL DESIGN WIND SPEED (3-SECOND GUST, VEFF-ASD):
 - 3. RISK CATEGORY: II
 - 4. EXPOSURE CATEGORY: C
- D. EARTHQUAKE DESIGN DATA:
 - 1. RISK CATEGORY: II
 - 2. IMPORTANCE FACTOR: 1.0
 - 3. MAPPED SPECTRAL RESPONSE ACCELERATIONS
 - a. SHORT PERIOD: 0.221g
 - b. 1-SEC PERIOD: 0.064g
 - 4. SPECTRAL RESPONSE COEFFICIENTS
 - a. SHORT PERIOD: 0.242
 - b. 1-SEC PERIOD: 0.103
 - 6. DESIGN CATEGORY: B
- C. SOILS (ASSUMED)
 - 1. SITE CLASS: D
 - 2. ALLOWABLE BEARING CAPACITY: 1500 PSF

SPECIAL INSPECTIONS:

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SPECIAL INSPECTION OF PORTIONS OF THE WORK AS REQUIRED BY THE BUILDING CODE IS MADE AT THE APPROPRIATE TIME. THE CONTRACTOR SHALL SUBMIT STATEMENT OF RESPONSIBILITY TO THE CONTRACTING OFFICER AND BUILDING DEPARTMENT PRIOR TO THE COMMENCEMENT OF WORK. THE CONTRACTOR SHALL GIVE TIMELY NOTICE OF WHEN AND WHERE INSPECTIONS ARE TO BE MADE AND PROVIDE ACCESS FOR THE INSPECTOR. FREQUENCY OF INSPECTION IS DEFINED IN THE IBC, SECTION 1705 TABLES, AS AMENDED BY THE STATE. THE CONTRACTOR SHALL CORRECT DEFECTIVE WORK AT NO ADDITIONAL COST TO THE STATE AND PAY FOR RE-INSPECTION AS REQUIRED.
- B. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE WITH APPROVED CONSTRUCTION DOCUMENTS. THE INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO DOT-A AND LICENSED ENGINEER WHO IN TURN SHALL SUBMIT A WRITTEN STATEMENT TO THE STATE CERTIFYING RECEIPT OF THE FINAL INSPECTION LETTER AND DOCUMENTING THAT THERE ARE NO KNOWN UNRESOLVED CODE REQUIREMENTS.
- C. THE FOLLOWING TYPE OF WORK LISTED IN THE IBC, SECTION 1705, AS AMENDED BY THE STATE, REQUIRES SPECIAL INSPECTION:
 - 1. CONCRETE CONSTRUCTION
 - a. PLACEMENT OF REINFORCING STEEL INCLUDING PRESTRESSING TENDONS (INCLUDING STRESSING OF TENDONS)
 - b. BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE.
 - c. PLACEMENT OF CONCRETE
 - d. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.
 - e. POST INSTALLED CONCRETE BOLTS.
 - 2. MASONRY CONSTRUCTION
 - a. PLACEMENT OF REINFORCING STEEL INCLUDING PRESTRESSING TENDONS.
 - b. MORTAR AND MORTAR JOINTS
 - c. PLACEMENT OF GROUT

FOUNDATION:

- A. FOUNDATION DESIGN IS BASED ON ASSUMED VALUES.
- B. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATION FROM SURFACE WATER, GROUND WATER OR SEEPAGE.
- C. EXCAVATIONS FOR ANY PURPOSE SHALL NOT REMOVE LATERAL SUPPORT FROM ANY FOOTING OR FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOOTING OR FOUNDATION AGAINST SETTLEMENT OR LATERAL TRANSLATION.
- D. FOOTINGS SHALL BEAR ON UNDISTURBED IN-SITU FIRM SOILS. BOTTOM OF FOOTINGS SHALL BE COMPACTED TO PROVIDE A RELATIVELY FIRM AND SMOOTH BEARING SURFACE PRIOR TO PLACEMENT OF REINFORCING STEEL AND CONCRETE. IF SOFT AND/OR LOOSE MATERIALS ARE ENCOUNTERED AT THE BOTTOM OF FOOTING EXCAVATIONS, THEY SHALL BE OVER-EXCAVATED TO EXPOSE THE UNDERLYING FIRM MATERIALS. THE OVER-EXCAVATION SHALL BE BACKFILLED WITH SELECT GRANULAR MATERIAL COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION OR THE FOOTING BOTTOM MAY BE EXTENDED DOWN TO THE UNDERLYING COMPETENT MATERIAL.
- E. UNLESS NOTED OTHERWISE, THE MINIMUM DEPTH OF FOOTINGS BELOW THE UNDISTURBED GROUND SURFACE SHALL BE 12 INCHES.
- F. EXCAVATIONS FOR FOUNDATIONS SHALL BE MONITORED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF CONCRETE AND REINFORCING STEEL TO CONFIRM FOUNDATION BEARING CONDITIONS AND REQUIRED EMBEDMENT DEPTHS. GEOTECHNICAL ENGINEER SHALL SUBMIT LETTER OF COMPLIANCE TO THE CONTRACTING OFFICER.
- G. CONTRACTOR SHALL BRACE OR PROTECT ALL WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED THEIR FULL DESIGN STRENGTH.
- H. UNLESS NOTED OTHERWISE, WALLS OR PORTIONS THEREOF THAT RETAIN EARTH, AND ENCLOSE INTERIOR SPACES AND FLOORS BELOW GRADE SHALL BE WATERPROOFED AND DAMPPROOFED.
- I. JOINTS IN WALLS AND FLOOR, JOINTS BETWEEN THE WALL AND FLOOR AND PENETRATIONS IN THE WALL AND FLOOR SHALL BE MADE WATERTIGHT UTILIZING APPROVED METHODS AND MATERIALS.

MASONRY:

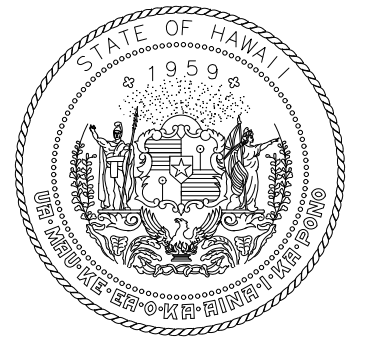
- A. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 FOR LOAD-BEARING CONCRETE MASONRY UNITS NORMAL WEIGHT WITH A UNIT COMPRESSIVE STRENGTH OF 2150 PSI.
- B. SECOND-HAND MASONRY UNITS SHALL NOT BE REUSED UNLESS THEY CONFORM TO THE REQUIREMENTS OF NEW UNITS. THE UNITS SHALL BE OF WHOLE, SOUND MATERIALS AND FREE FROM CRACKS AND OTHER DEFECTS THAT WILL INTERFERE WITH PROPER LAYING AND USE. OLD MORTAR SHALL BE CLEANED FROM THE UNIT BEFORE REUSE.
- C. MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL CONFORM TO ASTM C270 WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI UNUSED MORTAR SHALL BE DISCARDED WITHIN 2 HOURS AFTER INITIAL MIXING. MORTAR FOR MASONRY SHALL BE TYPE M.
- D. GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.
- E. ALL CELLS AND BOND COURSES WITH REINFORCEMENT AND INSERTS SHALL BE SOLID GROUTED. CLEANOUTS SHALL BE PROVIDED FOR ALL GROUT POURS OVER 5 -4 IN HEIGHT.
- F. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1 1/2 INCHES BELOW THE TOP OF THE UPPERMOST UNIT.
- G. THE CONTRACTOR SHALL LOCATE CONSTRUCTION JOINTS SO AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE AND TO MINIMIZE SHRINKAGE STRESSES. SUBMIT LOCATION OF CONSTRUCTION JOINTS TO THE CONTRACTING OFFICER FOR APPROVAL, UNLESS OTHERWISE NOTED. MAXIMUM SPACING BETWEEN CONSTRUCTION JOINTS SHALL NOT EXCEED THE LESSER OF LENGTH TO HEIGHT RATIO OF 1.5 OR 25 FEET.
- H. WALLS SHALL BE CONSTRUCTED IN CONVENTIONAL RUNNING BOND, UNLESS OTHERWISE NOTED.
- I. SEE ARCHITECTURAL DRAWINGS FOR LAYING PATTERN, HEIGHT OF UNITS, SURFACE TEXTURE, AND JOINT TYPE.
- J. OPEN-ENDED BLOCKS MAY BE SUBSTITUTED FOR STANDARD CONCRETE MASONRY UNITS.

CONCRETE:

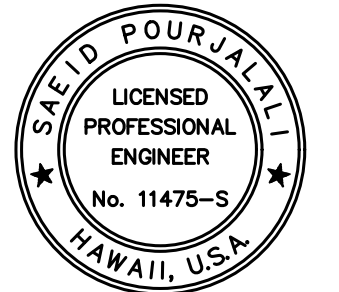
- A. CONCRETE CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE ACI 318
- B. CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK CONCRETE AND SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:
 - 1. SLAB-ON-GRADE: 4,000 PSI
- C. CONCRETE DELIVERY TICKETS SHALL RECORD ALL FREE WATER IN THE MIX: AT BATCHING BY PLANT, FOR CONSISTENCY BY DRIVER, AND ANY ADDITIONAL REQUEST BY CONTRACTOR IF PERMITTED BY THE MIX DESIGN.
- D. WATER USED IN MIXING CONCRETE SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNTS OF OILS, ACIDS, ALKALIS, SALTS, ORGANIC MATERIALS OR OTHER SUBSTANCES THAT ARE DELETERIOUS TO CONCRETE OR STEEL REINFORCEMENT.
- E. FREQUENCY OF CONDUCTING STRENGTH TESTS SHALL BE AS FOLLOWS:
 - 1. SAMPLES FOR STRENGTH OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS.
 - 2. IF THE TOTAL VOLUME OF CONCRETE IS SUCH THAT THE FREQUENCY OF TESTING WOULD PROVIDE LESS THAN FIVE STRENGTH TESTS FOR A GIVEN CLASS OF CONCRETE, TESTS SHALL BE MADE FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE BATCHES ARE USED.
- F. ALL INSERTS, ANCHOR BOLTS, PLATES, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO ASTM A163 UNLESS OTHERWISE NOTED.
- G. REINFORCING BARS, ANCHOR BOLTS, INSERTS, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT OF CONCRETE.
- K. THE CONTRACTOR SHALL LOCATE CONSTRUCTION JOINTS SO AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE AND TO MINIMIZE SHRINKAGE STRESSES. SUBMIT LOCATION OF CONSTRUCTION JOINTS TO THE CONTRACTING OFFICER FOR APPROVAL, UNLESS OTHERWISE NOTED.
- L. NON-SHRINK GROUT SHALL BE A PREMIXED NON-METALLIC FORMULA, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI IN 1 DAY AND 5,000 PSI IN 28 DAYS.

REINFORCING STEEL:

- A. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
- B. CLEAR CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
 - 1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3".
 - 2. CONCRETE FORMED AND EXPOSED TO EARTH OF WEATHER:
 - a. NO. 5 BAR AND SMALLER: 1.5"
- C. CLEAR DISTANCE BETWEEN THE SURFACE OF A BAR AND ANY SURFACE OF A MASONRY UNIT SHALL BE NOT LESS THAN 1/2 INCH, UNLESS OTHERWISE NOTED.
- D. REINFORCING STEEL SHALL BE SPLICED WHERE INDICATED ON PLANS. PROVIDE LAP SPLICE LENGTH PER TYPICAL DETAILS AND SCHEDULE, UNLESS OTHERWISE NOTED.
- E. STANDARD HOOKS ON REINFORCING BARS USED SHALL COMPLY WITH ACI 318.
- F. MINIMUM REINFORCEMENT BEND DIAMETERS SHALL COMPLY WITH ACI 318.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



Saeid Pourjalali
04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
CS	CS	SP	SP

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

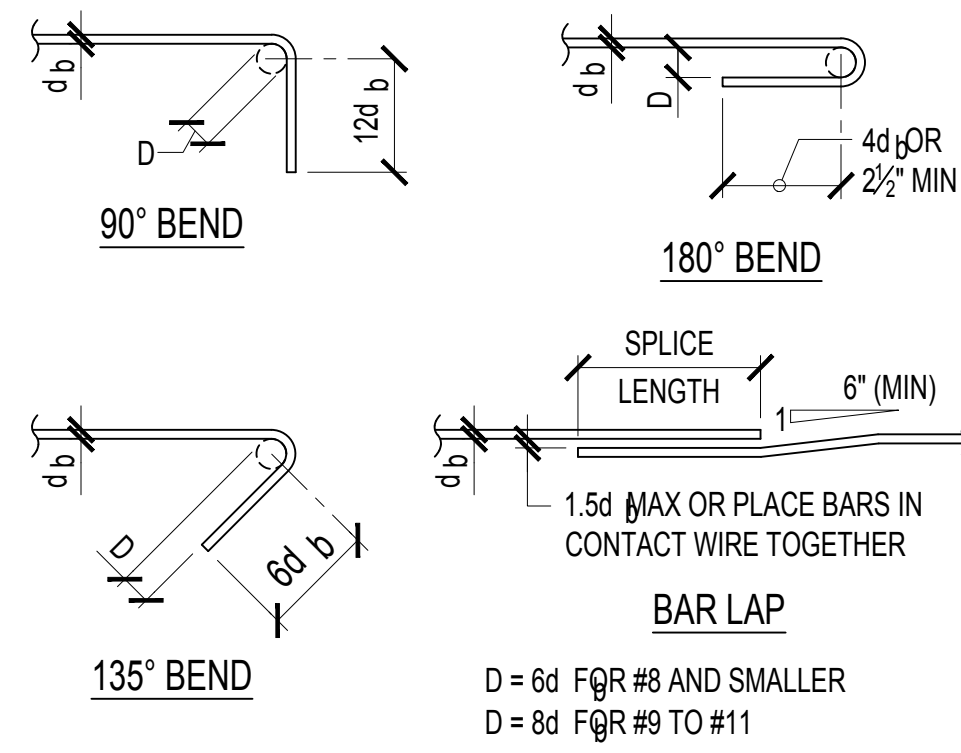
AK1046-31

SHEET TITLE:

STRUCTURAL NOTES

DATE :	DWG. NO.
MAR 2024	S-001
SHEET :	
9 OF 30 SHEETS	

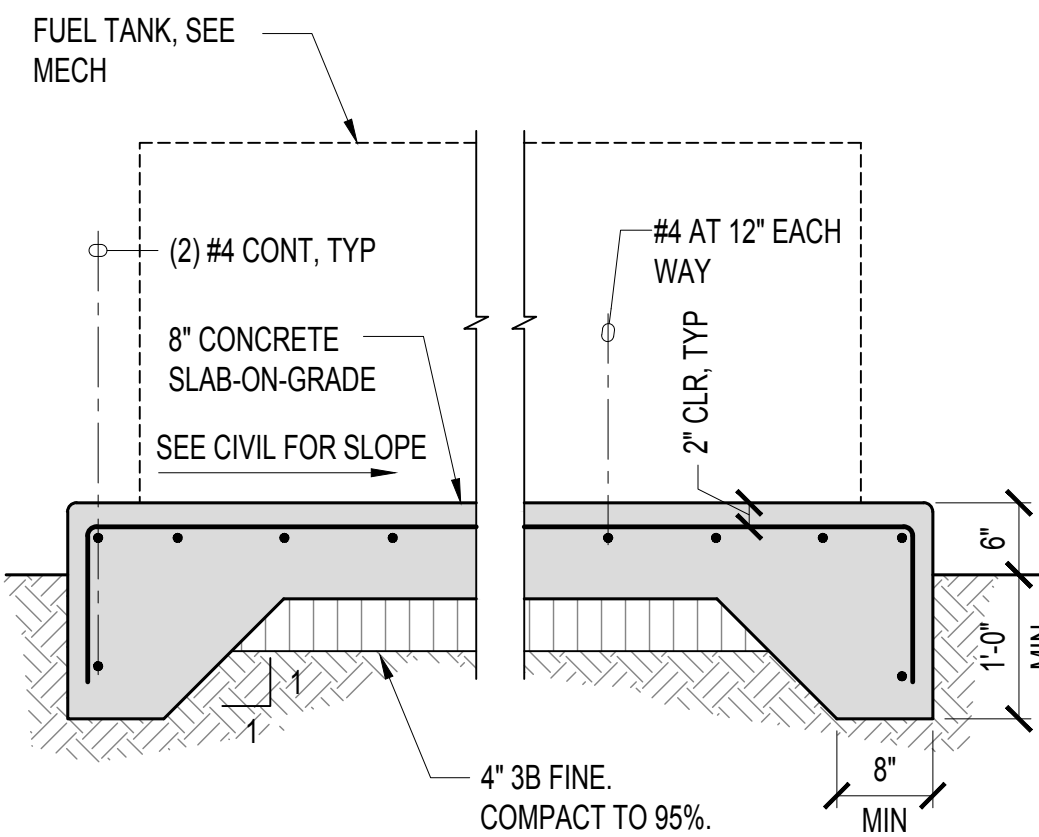
MINIMUM SPLICE AND DEVELOPMENT LENGTHS					
BAR SIZE	CONCRETE STRENGTH = 4,000 PSI				
	LAP SPLICE		DEVELOPMENT		
	TOP BARS	OTHER BARS	STRAIGHT TOP BARS	STRAIGHT OTHER BARS	WITH STANDARD HOOK
#3	26"	20"	20"	16"	6"
#4	34"	26"	26"	20"	8"
#5	42"	32"	32"	24"	10"
#6	50"	38"	38"	30"	12"
#7	72"	54"	54"	42"	14"
#8	82"	62"	62"	48"	16"
#9	92"	70"	70"	54"	19"
#10	102"	80"	80"	62"	22"
#11	114"	88"	88"	68"	24"



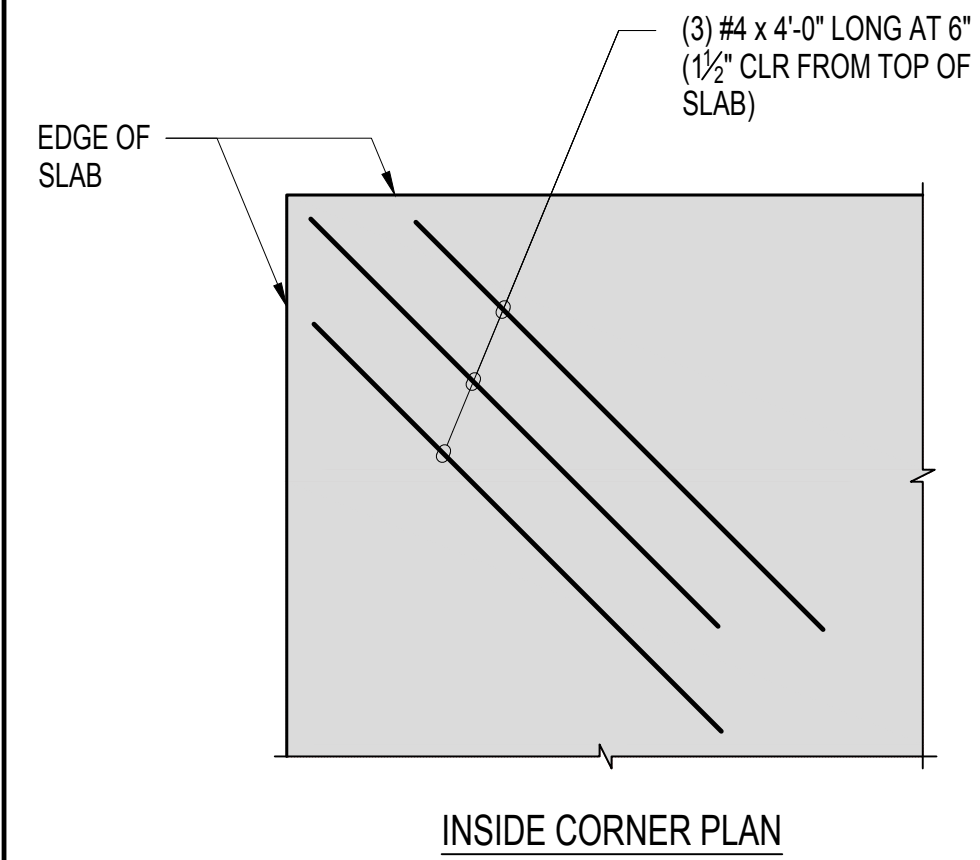
NOTES:
 1. IF CONCRETE COVER IS NOT GREATER THAN THE DIAMETER OF THE BAR OR THE CENTER-TO-CENTER SPACING IS NOT GREATER THAN 3 BAR DIAMETERS THEN VALUES SHALL BE INCREASED BY 50%.
 2. *TOP BARS* ARE HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE CAST BELOW.

TYPICAL CONCRETE REBAR SPLICE AND DEVELOPMENT LENGTH SCHEDULE

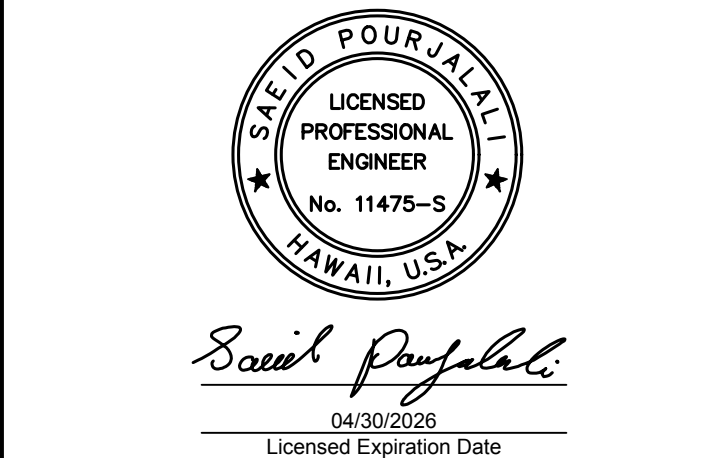
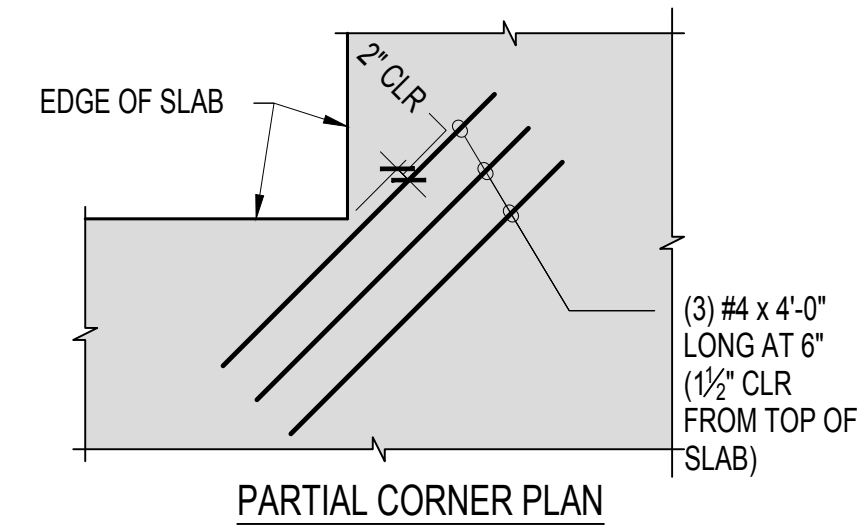
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S-002 NOT TO SCALE



2
S-002 NOT TO SCALE

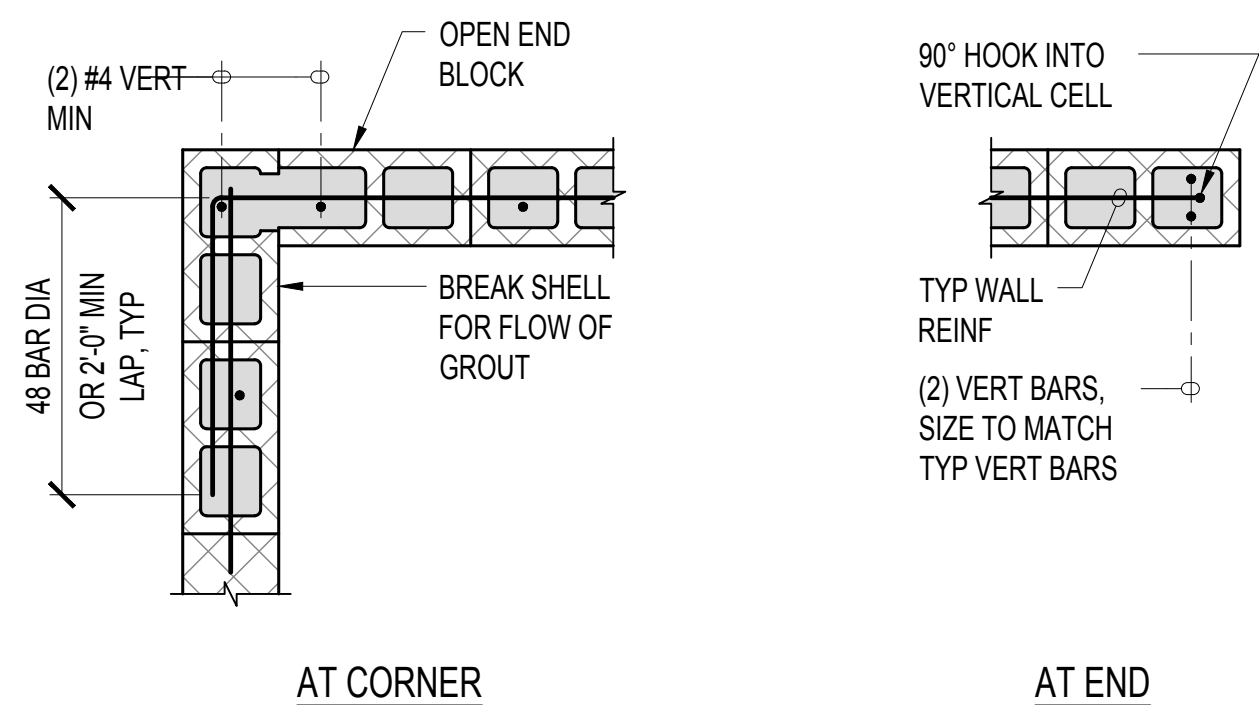


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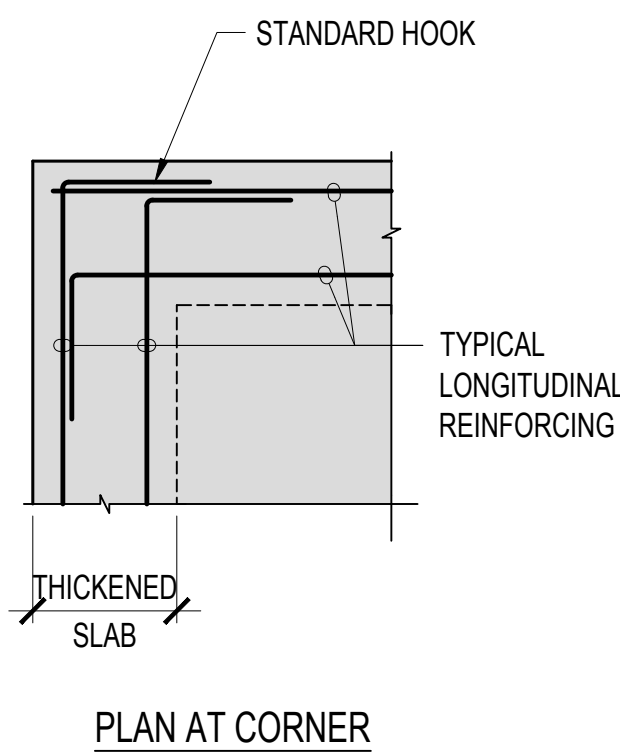


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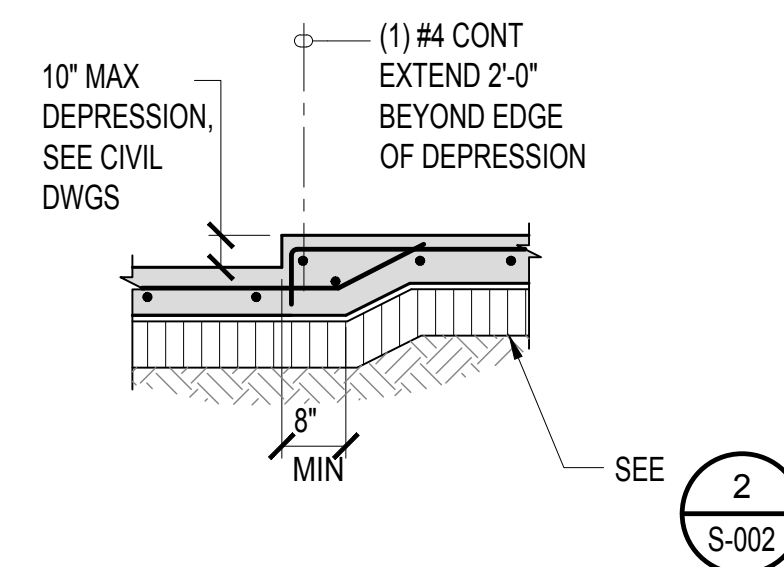
DSGN.	DRWN.	CHKD.	APPD.
CS	CS	SP	SP



4
S-002 NOT TO SCALE

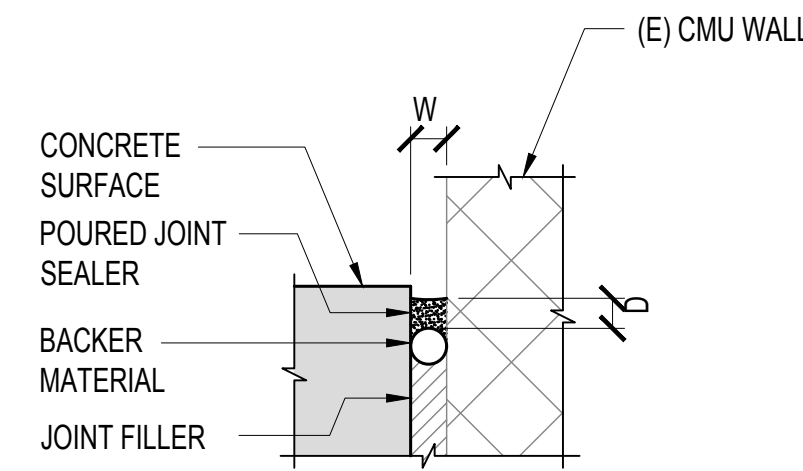


5
S-002 NOT TO SCALE



6
S-002 NOT TO SCALE

SLAB ON GRADE NOTES:
 1. THICKNESS OF SLAB-ON-GRADE SHOWN IS MINIMUM AND SHALL BE MAINTAINED AT ALL SLOPED AND DEPRESSED AREAS.
 2. FOR FLOOR ELEVATIONS, DEPRESSED SLABS LOCATIONS, SLOPES TO DRAIN, AND EQUIPMENT PAD AND CURB LOCATIONS SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS.



LEGEND:
 W = WIDTH OF SEALANT RESERVOIR = 1/2"
 D = DEPTH OF SEALANT = 1/2"
 T = DEPTH OF INITIAL SAWCUT OR INSERT TYPE JOINT FORMER (CONTRACTION JOINT) = 1/4 SLAB THICKNESS
 NOTE:
 TOP OF SEALANT WILL BE 1/8" TO 1/4" BELOW TOP OF CONCRETE.

7
S-002 NOT TO SCALE

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
 MARCH 11, 2024
 DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
 LIHUE AIRPORT
 LIHUE, KAUAI, HAWAII

PROJECT NO.:

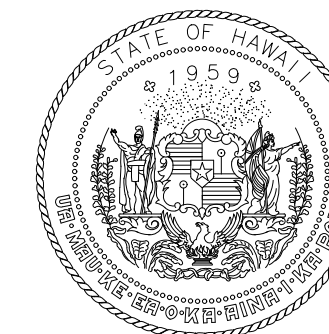
AK1046-31

SHEET TITLE:

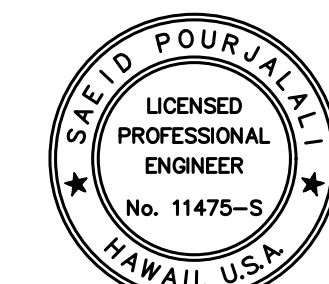
TYPICAL DETAILS

DATE:	DWG. NO.
MAR 2024	S-002
SHEET:	
10 OF 30 SHEETS	

P:\6401-64010419 DOT-HA AND LIHUE AIRPORTS, UST REMOVAL & REPLACEMENT\050 DRAWINGS\STRUCTURAL\AD - FORMATS\2024-03-12_0419 LIHUE_FINAL\0419_S-002 TYPICAL DETAILS.rvt



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



Saad Pourjalali
04/30/2026
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CS	CS	SP	SP

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS

MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

TERMINAL EMERGENCY GENERATOR FOUNDATION PLAN

DATE :

MAR 2024

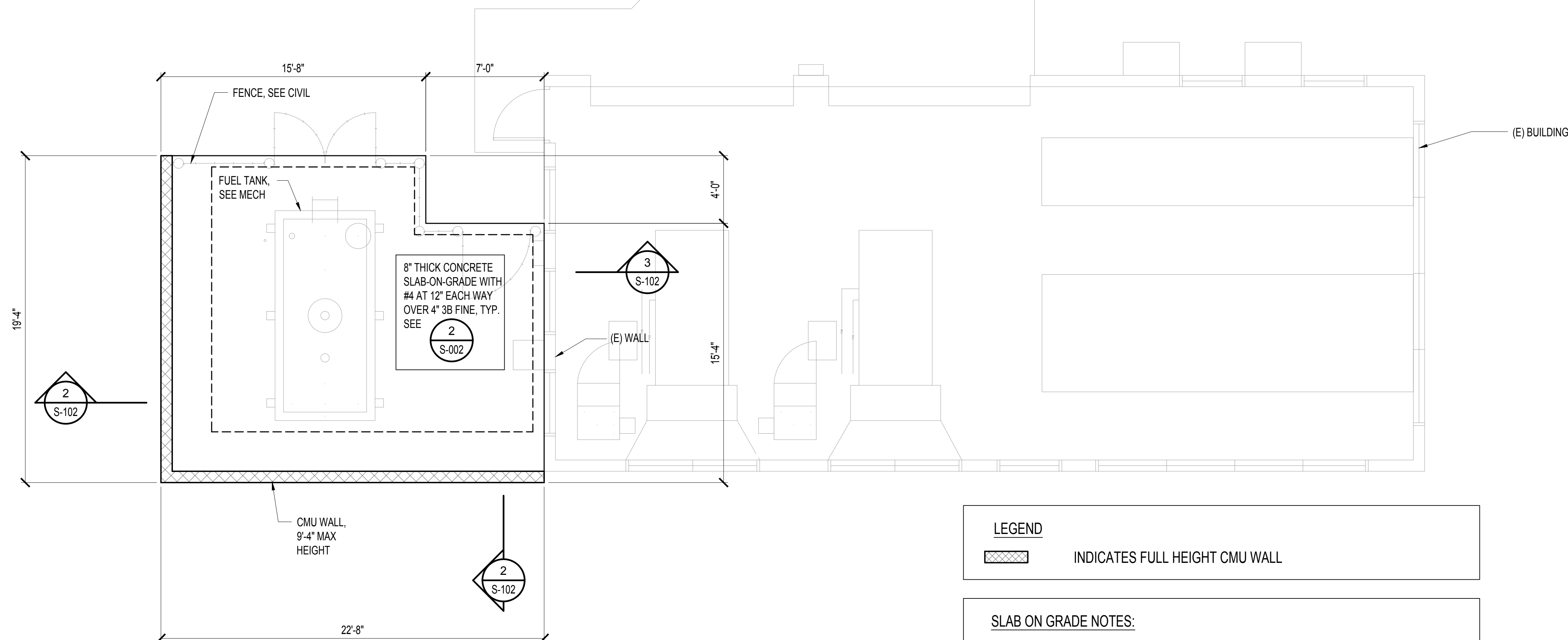
SHEET :

11 OF 30 SHEETS

DWG. NO.

S-101

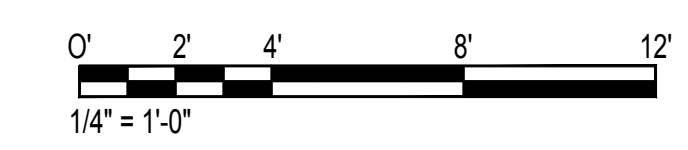
TRUE NORTH
SCALE: 1/4" = 1'-0"



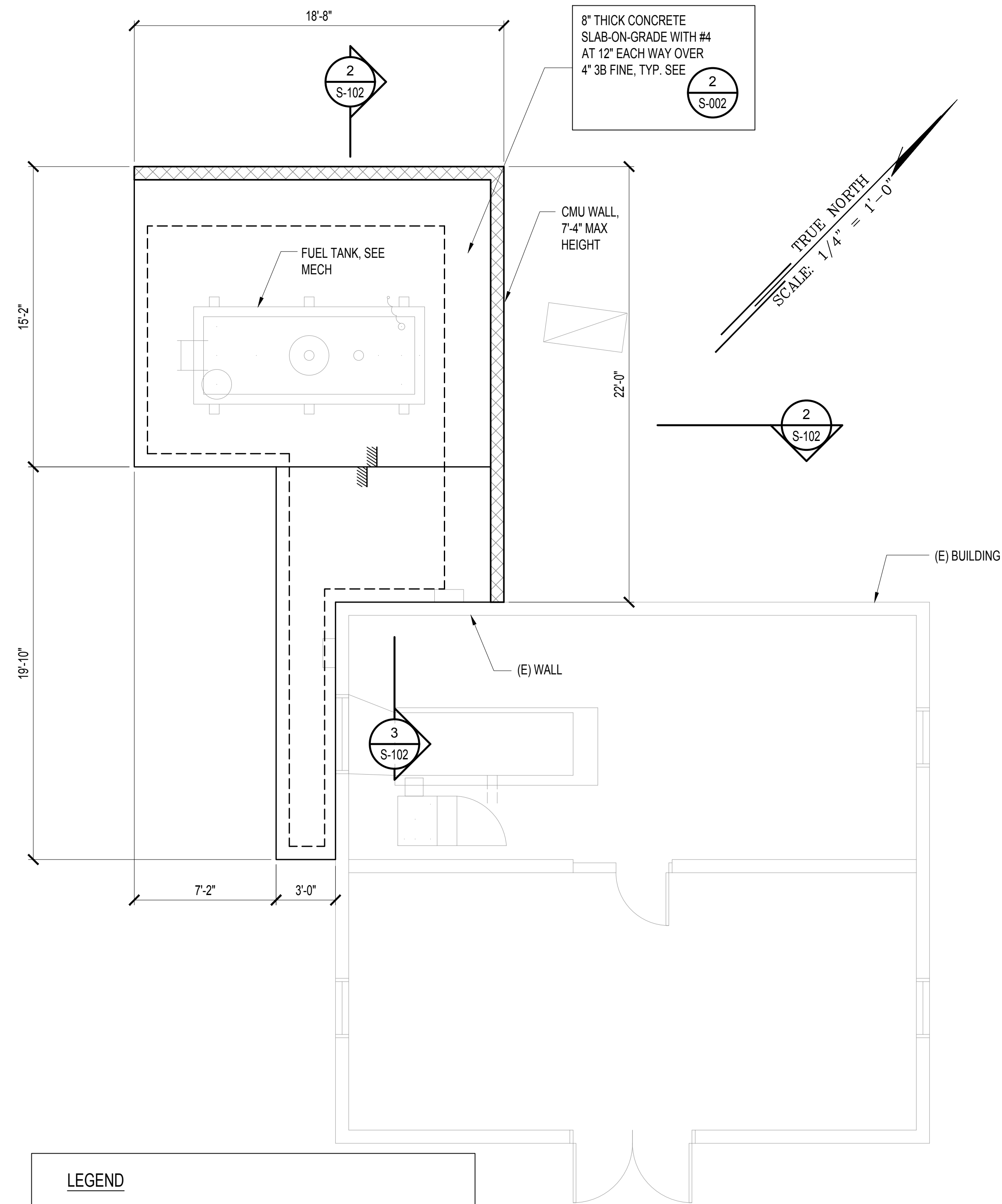
LEGEND
 INDICATES FULL HEIGHT CMU WALL

SLAB ON GRADE NOTES:

- THICKNESS OF SLAB-ON-GRADE SHOWN ARE MINIMUM AND SHALL BE MAINTAINED AT ALL SLOPED AND DEPRESSED AREAS.
- SLABS SHALL BE POURED WITH A MINIMUM TWENTY ONE (21) DAYS LAPSED TIME BETWEEN ADJACENT POURS.



P:\6401-6400\6419 DOT-HA AND LIHUE AIRPORTS, UST REMOVAL & REPLACEMENT\DRAWINGS\STRUCTURAL\AUT\AD_FORMAT\2024-03-12_6419 LIHUE_FINAL\6419_S-101 FOUNDATION PLAN.DWG



LEGEND

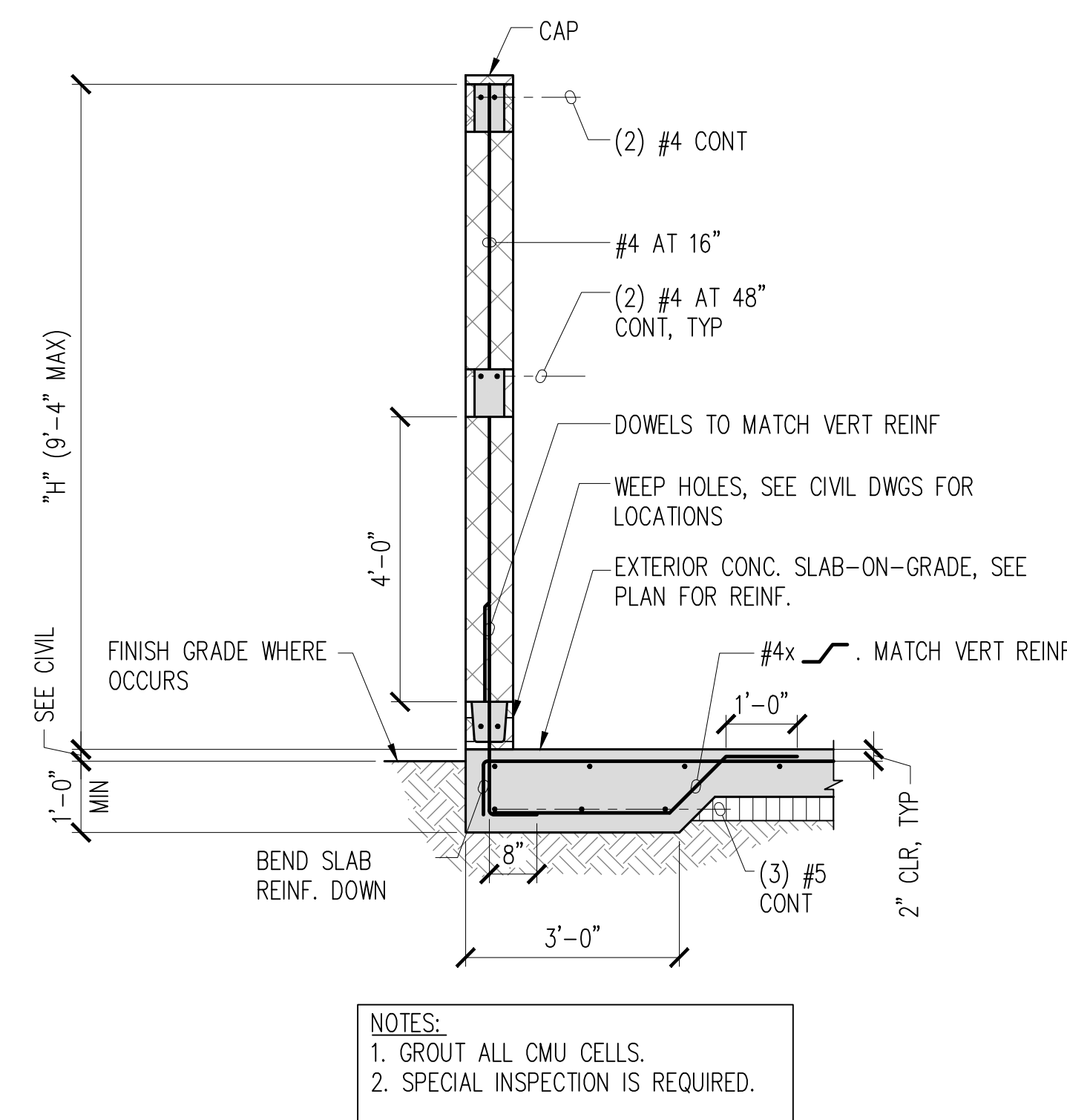
INDICATES CHANGE IN ELEVATION

INDICATES FULL HEIGHT CMU WALL

SLAB ON GRADE NOTES:

- THICKNESS OF SLAB-ON-GRADE SHOWN ARE MINIMUM AND SHALL BE MAINTAINED AT ALL SLOPED AND DEPRESSED AREAS.
- FOR FLOOR DEPRESSED SLABS LOCATIONS, SEE CIVIL DRAWINGS.
- SLABS SHALL BE Poured WITH A MINIMUM TWENTY ONE (21) DAYS LAPSED TIME BETWEEN ADJACENT POURS.

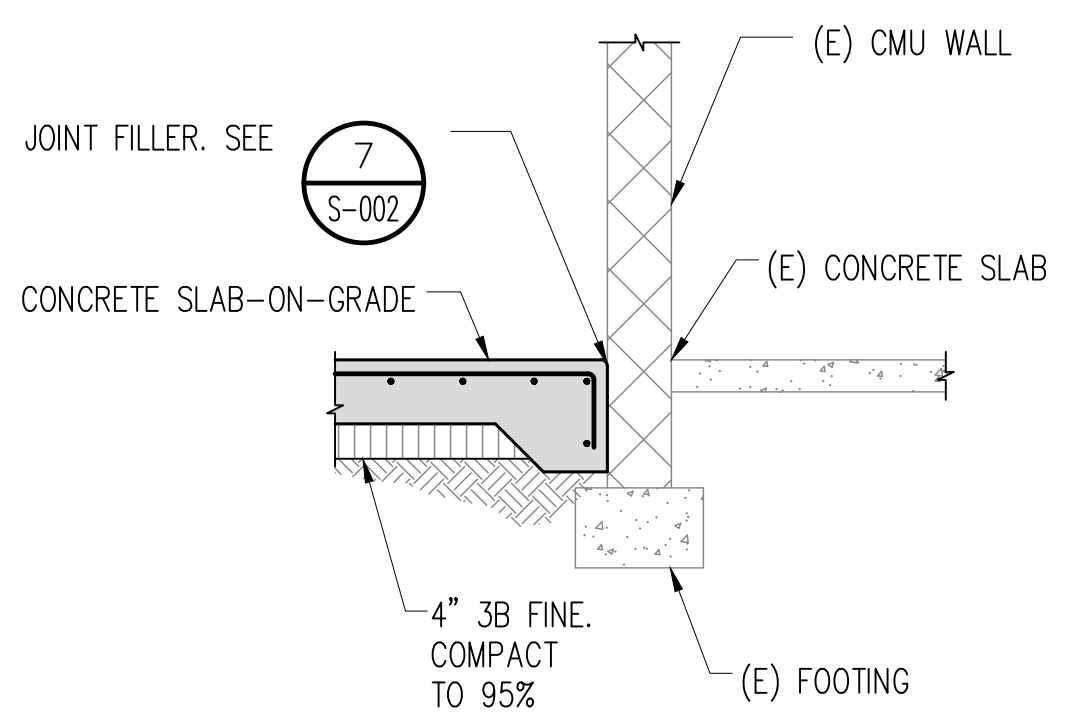
1 S-102 AIRFIELD EMERGENCY GENERATOR FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



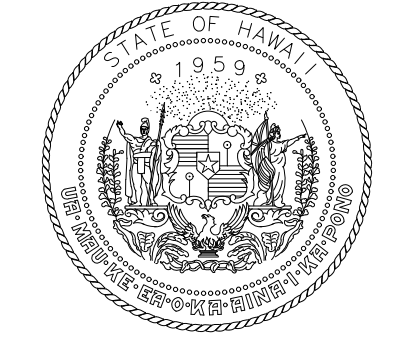
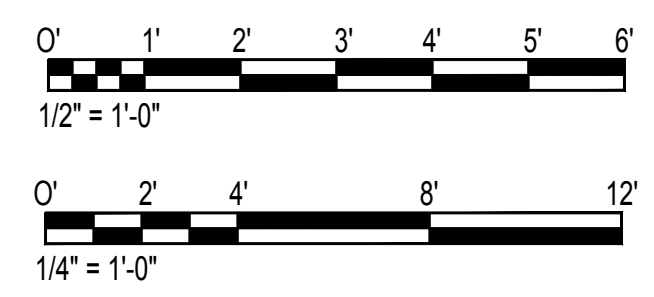
NOTES:

- GROUT ALL CMU CELLS.
- SPECIAL INSPECTION IS REQUIRED.

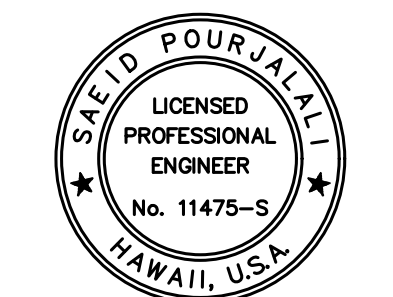
2 S-102 CMU WALL SECTION
SCALE: 1/2" = 1'-0"



3 S-102 SECTION AT EXISTING WALL
SCALE: 1/2" = 1'-0"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



Saad Pourjalali
04/30/2026
Licensed Expiration Date

This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
CS	CS	SP	SP

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

AIRFIELD EMERGENCY GENERATOR FOUNDATION PLAN AND SECTIONS

DATE :	DWG. NO.
MAR 2024	S-102
SHEET :	
12 OF 30 SHEETS	

P:\6401-6400\6419 DOT-HA AND LIHUE AIRPORTS, UST REMOVAL & REPLACEMENT\DRAWINGS\STRUCTURAL\AD, FORMAT\2024-03-12_6419 LIHUE_FINAL\6419_S-102 FOUNDATION PLAN.DWG

MECHANICAL LEGEND

SYMBOL	ABBR.	DESCRIPTION
————		EXISTING TO REMAIN
————		NEW MECHANICAL WORK
	(E)	EXISTING
	(N)	NEW
////		EXISTING TO BE REMOVED
-----	V	VENT
— FOS —	FOS	FUEL OIL SUPPLY
— FOR —	FOR	FUEL OIL RETURN
— E —	E	ELECTRICAL CONDUIT/WIRE
— —		GATE VALVE
— —		BALL VALVE
— —		SOLENOID VALVE
— —		UNION
— —		CHECK VALVE
— —		FLEX CONNECTION
— —		FUEL TANK LEVEL GAUGE
— —		STRAINER
	AST	ABOVEGROUND STORAGE TANK
	FL	FUEL FILTER
	DT	DAY TANK
	PO	FUEL POLISHER
⊕	FE	FIRE EXTINGUISHER

MECHANICAL EQUIPMENT SCHEDULE

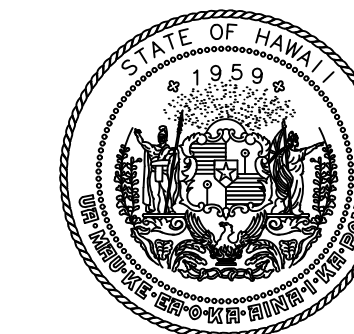
SYMBOL	DESCRIPTION	REMARKS*
AST 1	<p>PROTECTED ABOVEGROUND FUEL STORAGE TANK:</p> <p>RECTANGULAR ABOVEGROUND STORAGE TANK</p> <p>SECONDARY CONTAINMENT TANK SYSTEM UL 2085 RATED</p> <p>TANK CAPACITY: 2,000 GALLON</p> <p>WEIGHT: 26,218 LBS</p> <p>TANK DIM.: 12'-5" LENGTH X 5'-11" WIDTH X 5'-0" HEIGHT</p> <p>FURNISH FUEL TANK WITH MANWAY, MANWAY LADDER INSIDE OF TANK, 12-INCH HIGH I-BEAM SUPPORT AND SURFACE MOUNTED EXTERIOR LADDER OUTSIDE OF TANK</p>	DESIGN BASED ON MODERN WELDING COMPANY MODEL FIREGUARD TANK
AST 2	<p>PROTECTED ABOVEGROUND FUEL STORAGE TANK:</p> <p>RECTANGULAR ABOVEGROUND STORAGE TANK</p> <p>SECONDARY CONTAINMENT TANK SYSTEM UL 2085 RATED</p> <p>TANK CAPACITY: 550 GALLON</p> <p>WEIGHT: 8,910 LBS</p> <p>TANK DIM.: 11'-8" LENGTH X 4'-11" WIDTH X 3'-0" HEIGHT</p> <p>FURNISH FUEL TANK WITH MANWAY, MANWAY LADDER INSIDE OF TANK, 12-INCH HIGH I-BEAM SUPPORT AND SURFACE MOUNTED EXTERIOR LADDER OUTSIDE OF TANK</p>	DESIGN BASED ON MODERN WELDING COMPANY MODEL FIREGUARD TANK
FL 1	<p>FUEL FILTER/COALESCE/WATER SEPARATOR:</p> <p>INLINE FUEL FILTER WITH COALESCE/SEPARATOR FILTER</p> <p>MAXIMUM FLOW RATE: 20 GPM MAXIMUM PRESSURE: 150 PSI MAXIMUM TEMPERATURE: 160°F MINIMUM MICRON RATING: 10 PORT CONNECTION 1-1/2" DIA. WEIGHT: 15 LBS</p> <p>FURNISH FUEL FILTER WITH MOUNTING BRACKET, DIFFERENTIAL PRESSURE GAUGE, SIGHT GLASS AND DRAIN VALVE</p>	DESIGN BASED ON RACOR MODEL FB0-10-DPL WITH COALESCE/SEPARATOR FILTER
FL 2		
FL 3		
DT 1	<p>DAY TANK WITH DUPLEX SUPPLY PUMP AND RETURN PUMP:</p> <p>UL 142 RATED, DOUBLE WALL, FLOOR MOUNTED DAY TANK WITH PUMP STATUS/CONTROLLER, FUEL LEVEL ALARMS, FLOW SWITCH FOR EACH PUMP, EMERGENCY VENT CAP, HAND PUMP TO BE FIELD INSTALLED AND PUMP COVERS</p> <p>TANK CAPACITY: 100 GALLON</p> <p>ELECTRICAL: 115V/1φ/60HZ (CONTROL PANEL)</p> <p>FUEL OIL DUPLEX SUPPLY PUMPS FLOW RATE: 2 GPM PER PUMP PRESSURE DROP: 14.5 FEET HEAD ELECTRICAL: 115V/1φ/60HZ (EACH SUPPLY PUMP) HORSEPOWER: 1/3 HP RPM: 1,800 RPM</p> <p>FUEL OIL RETURN PUMP MAX FLOW RATE: 7 GPM PRESSURE DROP: 13 FEET HEAD ELECTRICAL: 115V/1φ/60HZ HORSEPOWER: 1/3 HP RPM: 1,800 RPM</p>	DESIGN BASED ON SIMPLEX DAYTANK MODEL STS100 WITH SUPER XL PUMPS

* LISTED DESIGN "BASED ON" EQUIPMENT MANUFACTURER/MODELS ARE NOT INTENDED TO LIMIT CHOICES OF MANUFACTURERS/MODELS (I.E., SUBJECT TO APPROVAL VIA SUBMITTALS/SUBSTITUTION REQUESTS, OTHER MANUFACTURERS/MODELS THAT MEET BIDDING REQUIREMENTS ARE ACCEPTABLE).

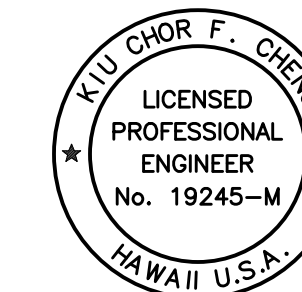
MECHANICAL EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	REMARKS*
DT 2	<p>DAY TANK WITH DUPLEX SUPPLY PUMP AND RETURN PUMP:</p> <p>UL 142 RATED, DOUBLE WALL, FLOOR MOUNTED DAY TANK WITH PUMP STATUS/CONTROLLER, FUEL LEVEL ALARMS, FLOW SWITCH FOR EACH PUMP, EMERGENCY VENT CAP, HAND PUMP TO BE FIELD INSTALLED AND PUMP COVERS</p> <p>TANK CAPACITY: 100 GALLON</p> <p>ELECTRICAL: 115V/1φ/60HZ (CONTROL PANEL)</p> <p>FUEL OIL DUPLEX SUPPLY PUMPS FLOW RATE: 2 GPM PER PUMP PRESSURE DROP: 14.5 FEET HEAD ELECTRICAL: 115V/1φ/60HZ (EACH SUPPLY PUMP) HORSEPOWER: 1/3 HP RPM: 1,800 RPM</p> <p>FUEL OIL RETURN PUMP MAX FLOW RATE: 7 GPM PRESSURE DROP: 13 FEET HEAD ELECTRICAL: 115V/1φ/60HZ HORSEPOWER: 1/3 HP RPM: 1,800 RPM</p>	DESIGN BASED ON SIMPLEX DAYTANK MODEL STS100 WITH SUPER XL PUMPS
DT 3	<p>DAY TANK WITH DUPLEX SUPPLY PUMP AND RETURN PUMP:</p> <p>UL 142 RATED, DOUBLE WALL, FLOOR MOUNTED DAY TANK WITH PUMP STATUS/CONTROLLER, FUEL LEVEL ALARMS, FLOW SWITCH FOR EACH PUMP, EMERGENCY VENT CAP, HAND PUMP TO BE FIELD INSTALLED AND PUMP COVERS</p> <p>TANK CAPACITY: 60 GALLON</p> <p>ELECTRICAL: 115V/1φ/60HZ (CONTROL PANEL)</p> <p>FUEL OIL DUPLEX SUPPLY PUMPS FLOW RATE: 2 GPM PER PUMP PRESSURE DROP: 13.5 FEET HEAD ELECTRICAL: 115V/1φ/60HZ (EACH SUPPLY PUMP) HORSEPOWER: 1/3 HP RPM: 1,800 RPM</p> <p>FUEL OIL RETURN PUMP MAX FLOW RATE: 7 GPM PRESSURE DROP: 9 FEET HEAD ELECTRICAL: 115V/1φ/60HZ HORSEPOWER: 1/3 HP RPM: 1,800 RPM</p>	DESIGN BASED ON SIMPLEX DAYTANK MODEL STS60 WITH SUPER XL PUMPS
PO 1	<p>FUEL POLISHER:</p> <p>TYPE NEMA 4X STAINLESS STEEL PUMP CABINET, PUMP CONTROL SWITCH, TOUCH SCREEN DIGITAL INTERFACE WITH INTERFACE COVER, TIMER, SINGLE PUMP, FUEL PUMP CONTROLLER WITH HIGH-INTENSITY STACK-LIGHT ALARM, MOUNTING LEGS WITH HIGH-EFFICIENCY FUEL FILTER AND COALESCE</p> <p>ELECTRICAL: 120 V/1φ/60HZ</p> <p>FLOW RATE: 6 GPM HORSEPOWER: 1/3 HP</p> <p>WEIGHT: 510 LBS</p>	DESIGN BASED ON RCI TECHNOLOGIES MODEL FRS+ 6
PO 2		

* LISTED DESIGN "BASED ON" EQUIPMENT MANUFACTURER/MODELS ARE NOT INTENDED TO LIMIT CHOICES OF MANUFACTURERS/MODELS (I.E., SUBJECT TO APPROVAL VIA SUBMITTALS/SUBSTITUTION REQUESTS, OTHER MANUFACTURERS/MODELS THAT MEET BIDDING REQUIREMENTS ARE ACCEPTABLE).



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



JUI CHOR F. CHENG
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04/30/2026
Licensed Expiration Date

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DSGN.	DRWN.	CHKD.	APPD.
JCS	JCS	KFC	KFC

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS

MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

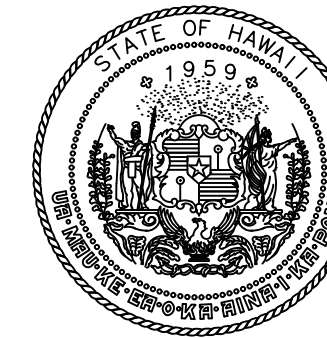
PROJECT NO.:

AK1046-31

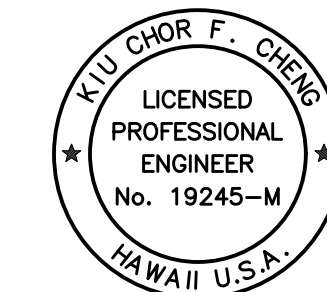
SHEET TITLE:

MECHANICAL LEGEND AND SCHEDULES

DATE :	DWG. NO.
MAR 2024	M-001
SHEET :	
13 OF 30 SHEETS	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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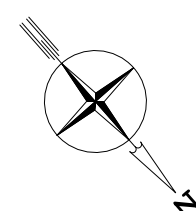
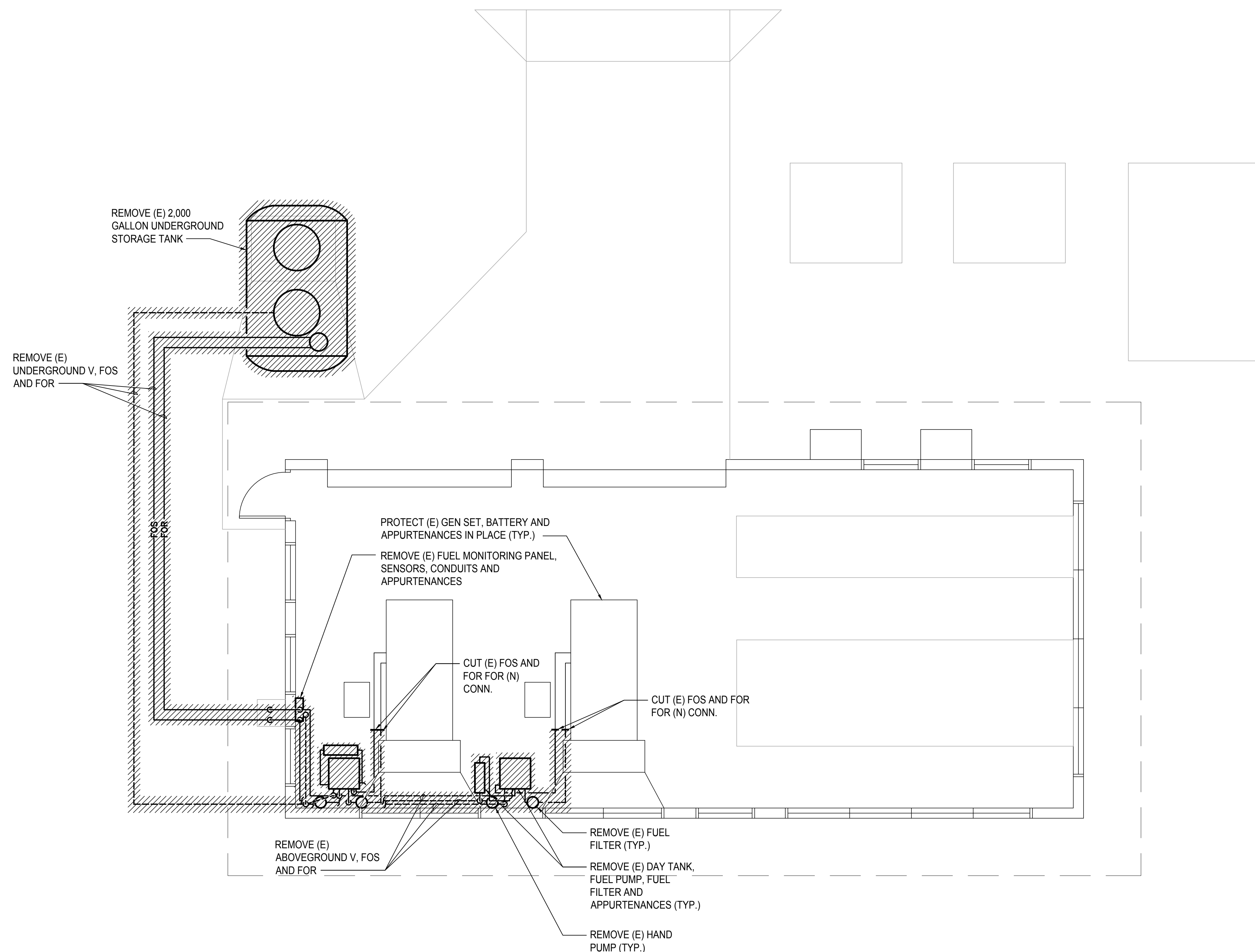


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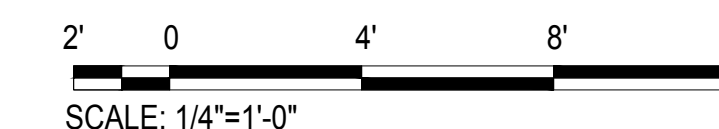
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JCS	JCS	KFC	KFC



1
M-101

1 TERMINAL EMERGENCY GENERATOR MECHANICAL DEMOLITION PLAN

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



NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS

MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

TERMINAL EMERGENCY GENERATOR MECHANICAL DEMOLITION PLAN

DATE :

MAR 2024

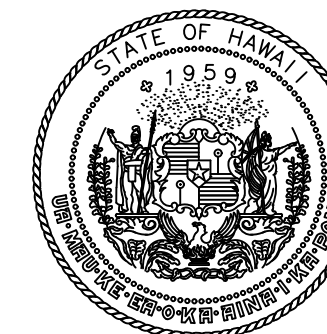
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14 OF 30 SHEETS

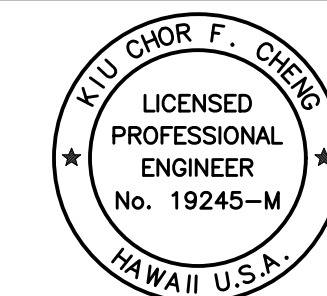
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M-101

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ABOVEGROUND FUEL STORAGE TANK
3-FEET CLEARANCE

AST ENCLOSURE GATE AND FENCE.
SEE CIVIL DWGS

12" HEIGHT TANK SUPPORT BY TANK
MANUFACTURER (TYP. OF 3)

FUEL FILL PORT. SEE **5**
M-401

AST TANK LADDER

MECHANICAL FUEL LEVEL CLOCK
GAUGE FOR 2,000 GALLON CAPACITY
TANK. FURNISH AND INSTALL WITH
STANDARD FLOAT.

GROUNDING WIRE AND
GROUNDING ROD. SEE **2**
M-401

CONCRETE PAD. SEE
STRUCTURAL DWGS

FIRE EXTINGUISHER
IN SURFACE
MOUNTED CABINET

CMU WALL. SEE
STRUCTURAL DWGS

SOUNDING ROD
PORT. SEE **7**
M-401

WALL MOUNTED FUEL
POLISHER CONTROLLER

SOLENOID VALVE, SV-3
(ANTI-SIPHONING)

FUEL POLISHER SUPPLY
CONNECTION, SEE **6**
M-402

AST
1

PO (WALL
MOUNTED)
1

PRIMARY 6" EMERGENCY VENT

24" ACCESS MANWAY W/
LADDER INSIDE OF TANK

SECONDARY 6"
EMERGENCY VENT

FUEL POLISHER RETURN
CONNECTION, SEE **7**
M-402

2" V, SEE **1**
M-401

FOS AND FOR.
SEE **1**
M-402

TANK INVENTORY
SENSOR, SEE **4**
M-401

INTERSTITIAL
MONITOR, SEE **3**
M-401

JUNCTION BOX
FOS AND FOR.
SEE **1**
M-402

CONTROL WIRING IN CONDUIT

FL **2**
1 M-402

FL **2**
2 M-402

SOLENOID VALVE, SV-1
(ANTI-SIPHONING)

SOLENOID VALVE, SV-2
(ANTI-SIPHONING)

AUDIO/VISUAL ALARM DEVICE FOR
ABOVEGROUND FUEL STORAGE TANK. TIE
INTO ABOVEGROUND STORAGE TANK FUEL
MONITORING AND LEAK DETECTION PANEL.

ABOVEGROUND FUEL STORAGE TANK
MONITORING AND LEAK DETECTION
PANEL. INSTALL PANEL INSIDE OF A
PREFABRICATED NEMA 4X TYPE 316
STAINLESS STEEL ENCLOSURE WITH A
DISPLAY VIEW FOR FUEL MONITORING
PANEL DISPLAY.

PROTECT (E) GEN SET, BATTERY AND
APPURTENANCES IN PLACE (TYP.)

CONN. (N)
FOS AND
FOR TO (E)

HAND FUEL PUMP (FIELD
INSTALLED) (TYP.)

CONN. (N) FOS AND
FOR TO (E)

FLEX CONNECTION
(TYP.)

BALL
VALVE
(TYP.)

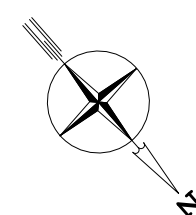
DT
1

DT
2

2" V WITH CAP.
TERMINATE ABOVE
ROOF OVERHANG

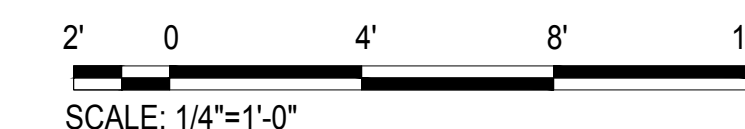
1 TERMINAL EMERGENCY GENERATOR MECHANICAL PLAN

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



NOTE:

1. ALL CONNECTIONS TO ABOVEGROUND FUEL STORAGE TANK, FUEL FILTER AND DAY TANK SHALL BE THREADED OR FLANGED. ALL OTHER PIPE CONNECTIONS SHALL BE WELDED.
2. ALL PIPING AND SUPPORTS SHALL BE INSTALLED TO MAINTAIN THE NECESSARY MANUFACTURER'S RECOMMENDED CLEARANCES FOR ALL EQUIPMENT.
3. CONTRACTOR SHALL COORDINATE ABOVEGROUND FUEL STORAGE TANK PORT CONNECTIONS FOR ALL NECESSARY EQUIPMENT WITH TANK MANUFACTURER.
4. TONE AND POTHOLE FOR EXISTING UNDERGROUND UTILITIES PRIOR TO TRENCHING OR EXCAVATION. INFORM ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE ENCOUNTERED.
5. DO NOT INSTALL ABOVEGROUND FUEL STORAGE TANK ABOVE EXISTING UNDERGROUND UTILITIES. INFORM ENGINEER IMMEDIATELY IF ANY UTILITIES ARE IDENTIFIED.



NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS

MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

TERMINAL EMERGENCY GENERATOR MECHANICAL PLAN

DATE :

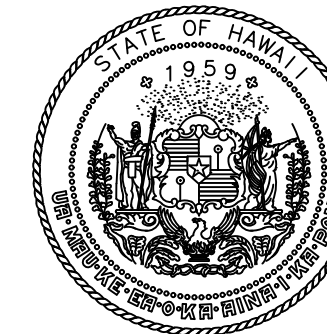
MAR 2024

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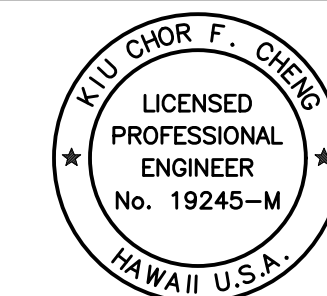
15 OF 30 SHEETS

DWG. NO.

M-102



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS

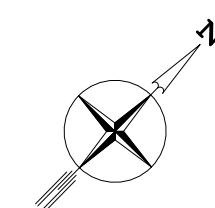
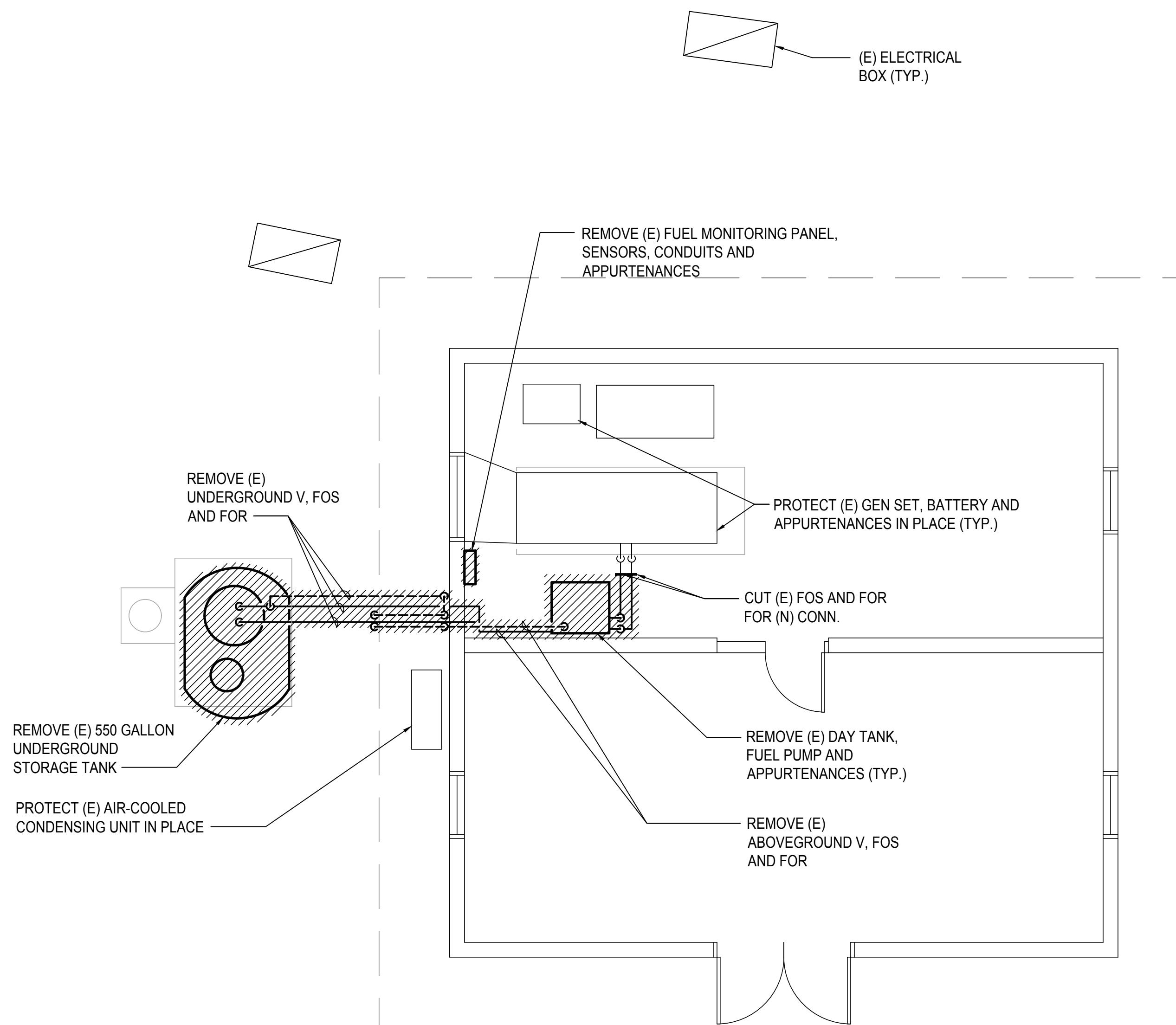


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04/30/2026
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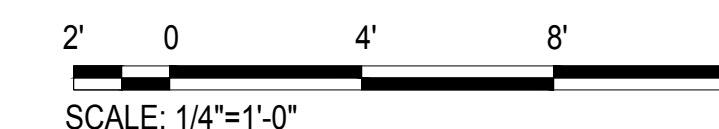
DSGN.	DRWN.	CHKD.	APPD.
JCS	JCS	KFC	KFC



1
M-201

AIRFIELD EMERGENCY GENERATOR MECHANICAL DEMOLITION PLAN

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



NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS

MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

AIRFIELD EMERGENCY GENERATOR MECHANICAL DEMOLITION PLAN

DATE :

MAR 2024

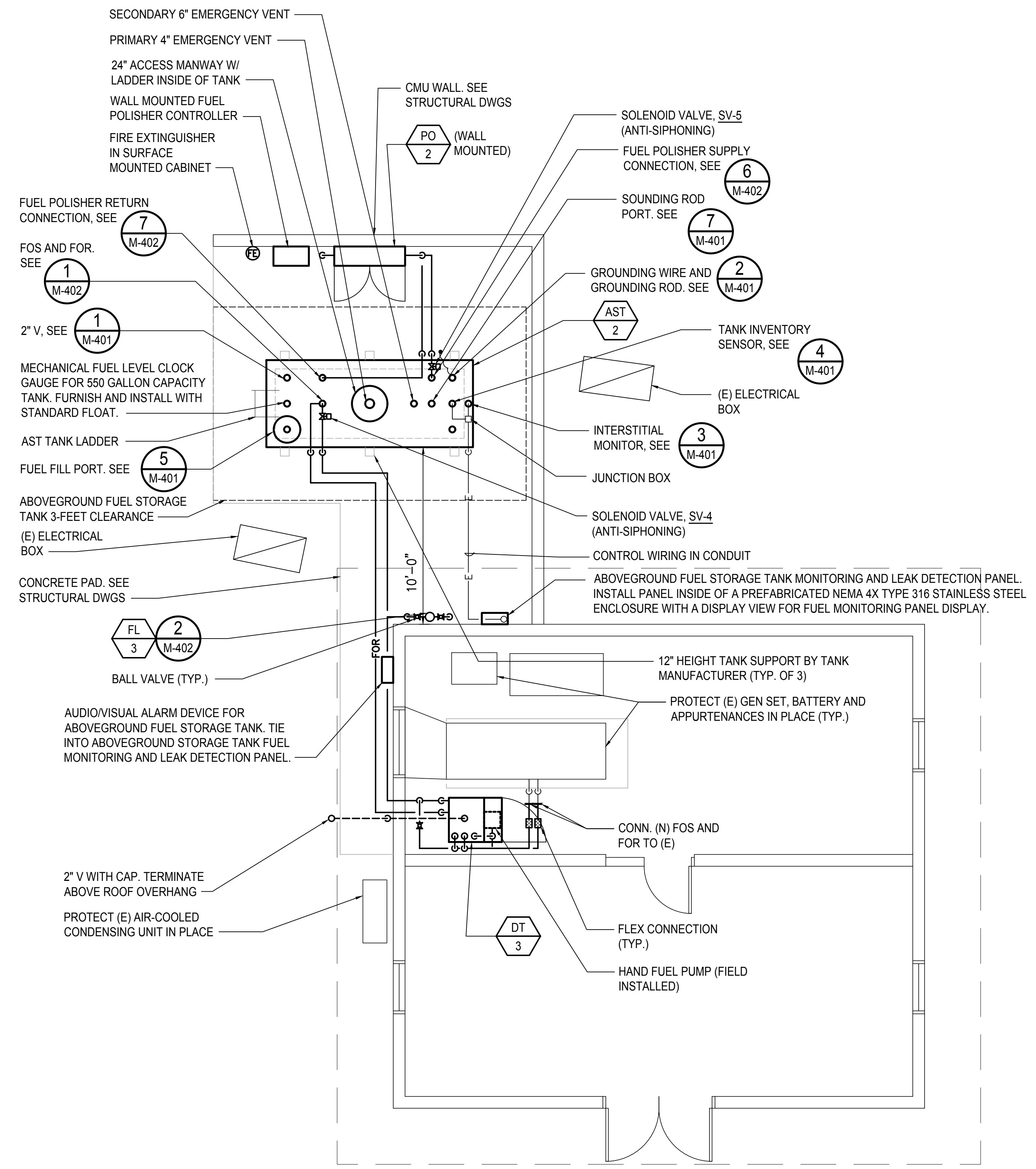
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16 OF 30 SHEETS

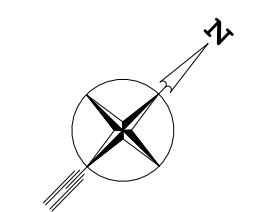
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M-201

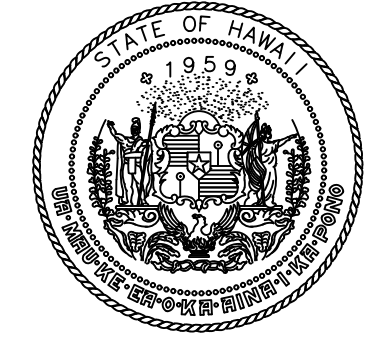
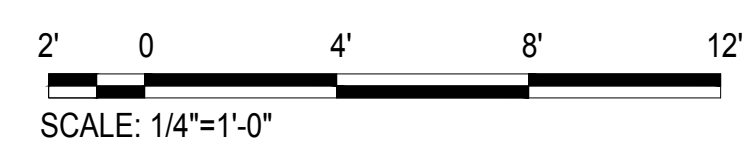
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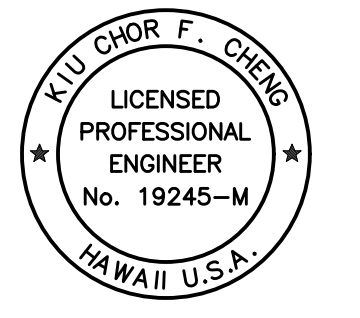
- NOTE:**
1. ALL CONNECTIONS TO ABOVEGROUND FUEL STORAGE TANK, FUEL FILTER AND DAY TANK SHALL BE THREADED OR FLANGED. ALL OTHER PIPE CONNECTIONS SHALL BE WELDED.
 2. ALL PIPING AND SUPPORTS SHALL BE INSTALLED TO MAINTAIN THE NECESSARY MANUFACTURER'S RECOMMENDED CLEARANCES FOR ALL EQUIPMENT.
 3. CONTRACTOR SHALL COORDINATE ABOVEGROUND FUEL STORAGE TANK PORT CONNECTIONS FOR ALL NECESSARY EQUIPMENT WITH TANK MANUFACTURER.
 4. TONE AND POTHOLE FOR EXISTING UNDERGROUND UTILITIES PRIOR TO TRENCHING OR EXCAVATION. INFORM ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE ENCOUNTERED.
 5. DO NOT INSTALL ABOVEGROUND FUEL STORAGE TANK ABOVE EXISTING UNDERGROUND UTILITIES. INFORM ENGINEER IMMEDIATELY IF ANY UTILITIES ARE IDENTIFIED.



1 AIRFIELD EMERGENCY GENERATOR MECHANICAL PLAN
 M-202 SCALE: 1/4" = 1'-0"



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 04/30/2026
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JCS	JCS	KFC	KFC

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CONSTRUCTION DOCUMENTS
 MARCH 11, 2024
 DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
 LIHUE AIRPORT
 LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

AIRFIELD EMERGENCY GENERATOR MECHANICAL PLAN

DATE :

MAR 2024

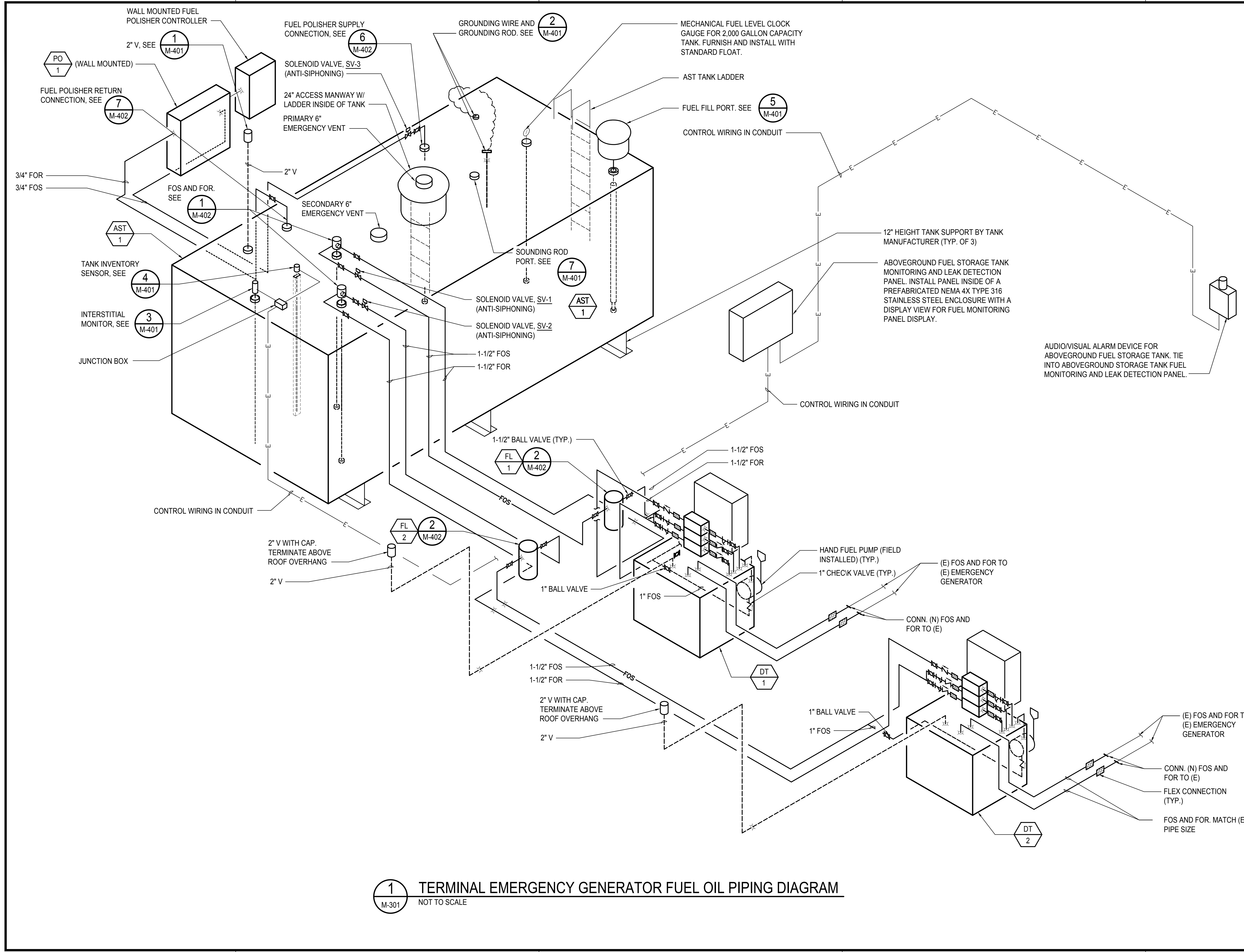
SHEET :

17 OF 30 SHEETS

DWG. NO.

M-202

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1 TERMINAL EMERGENCY GENERATOR FUEL OIL PIPING DIAGRAM
 M-301 NOT TO SCALE

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CONSTRUCTION DOCUMENTS		
MARCH 11, 2024 DATE		

PROJECT TITLE :
UST REMOVALS AND REPLACEMENTS WITH ASTS

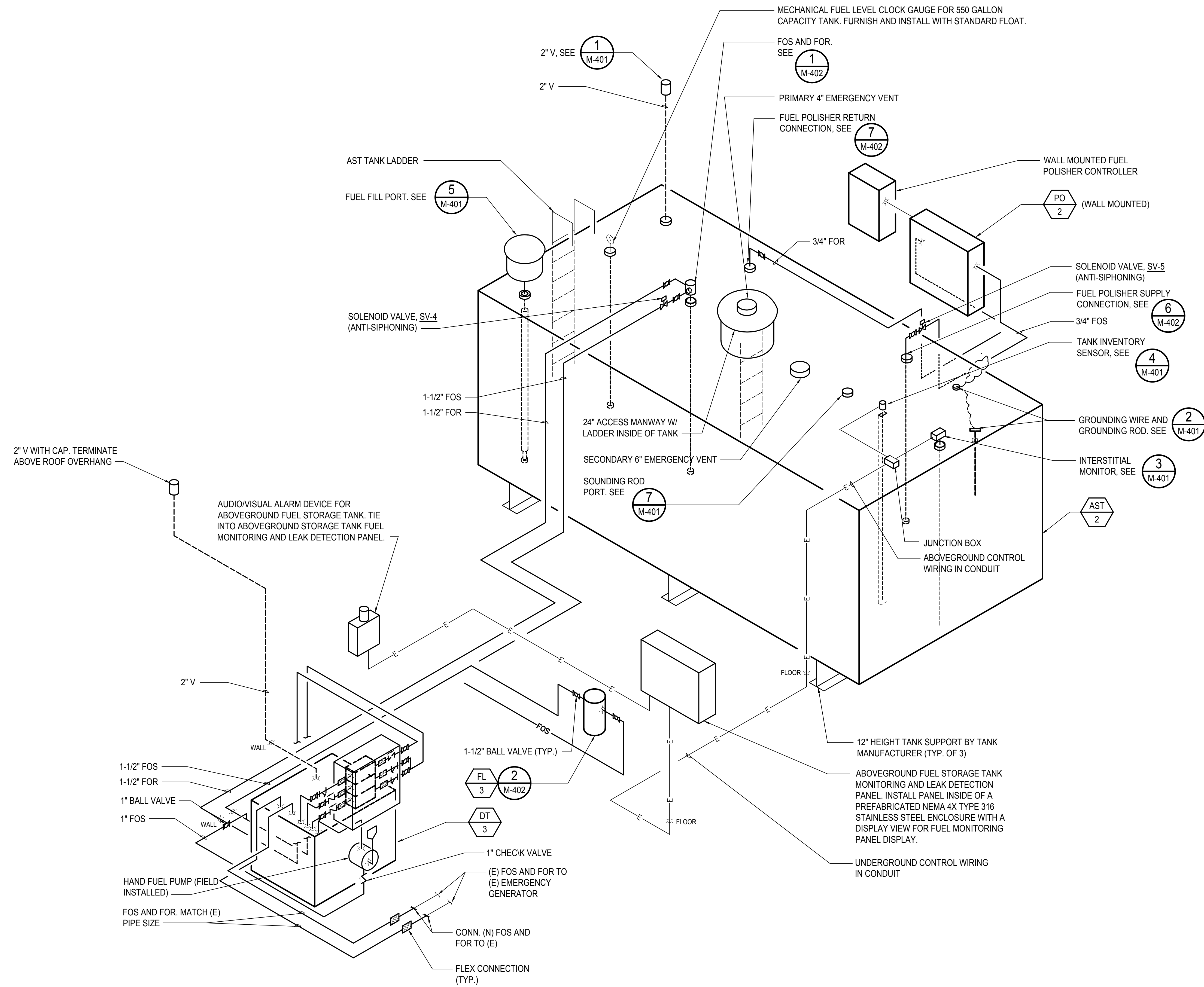
AT
 LIHUE AIRPORT
 LIHUE, KAUAI, HAWAII

PROJECT NO. :
AK1046-31

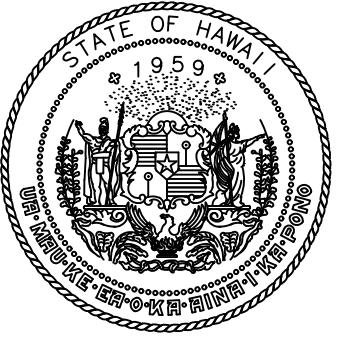
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TERMINAL EMERGENCY GENERATOR FUEL OIL PIPING DIAGRAM

DATE :	DWG. NO.
MAR 2024	M-301
SHEET :	
18 OF 30 SHEETS	

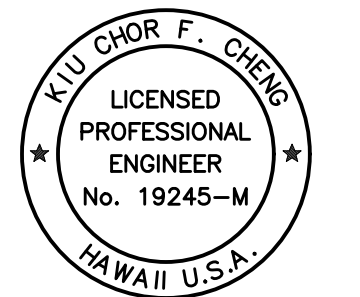
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1 AIRFIELD EMERGENCY GENERATOR FUEL OIL PIPING DIAGRAM
 M-302 NOT TO SCALE



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CONSTRUCTION DOCUMENTS

MARCH 11, 2024
 DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
 LIHUE AIRPORT
 LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

AIRFIELD EMERGENCY GENERATOR FUEL OIL PIPING DIAGRAM

DATE :

MAR 2024

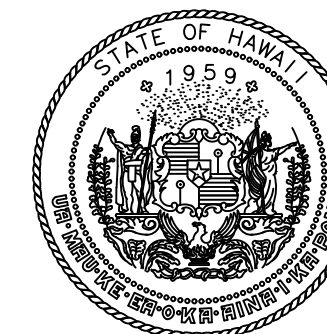
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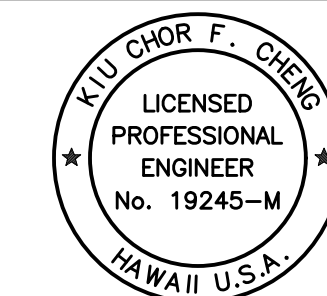
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M-302

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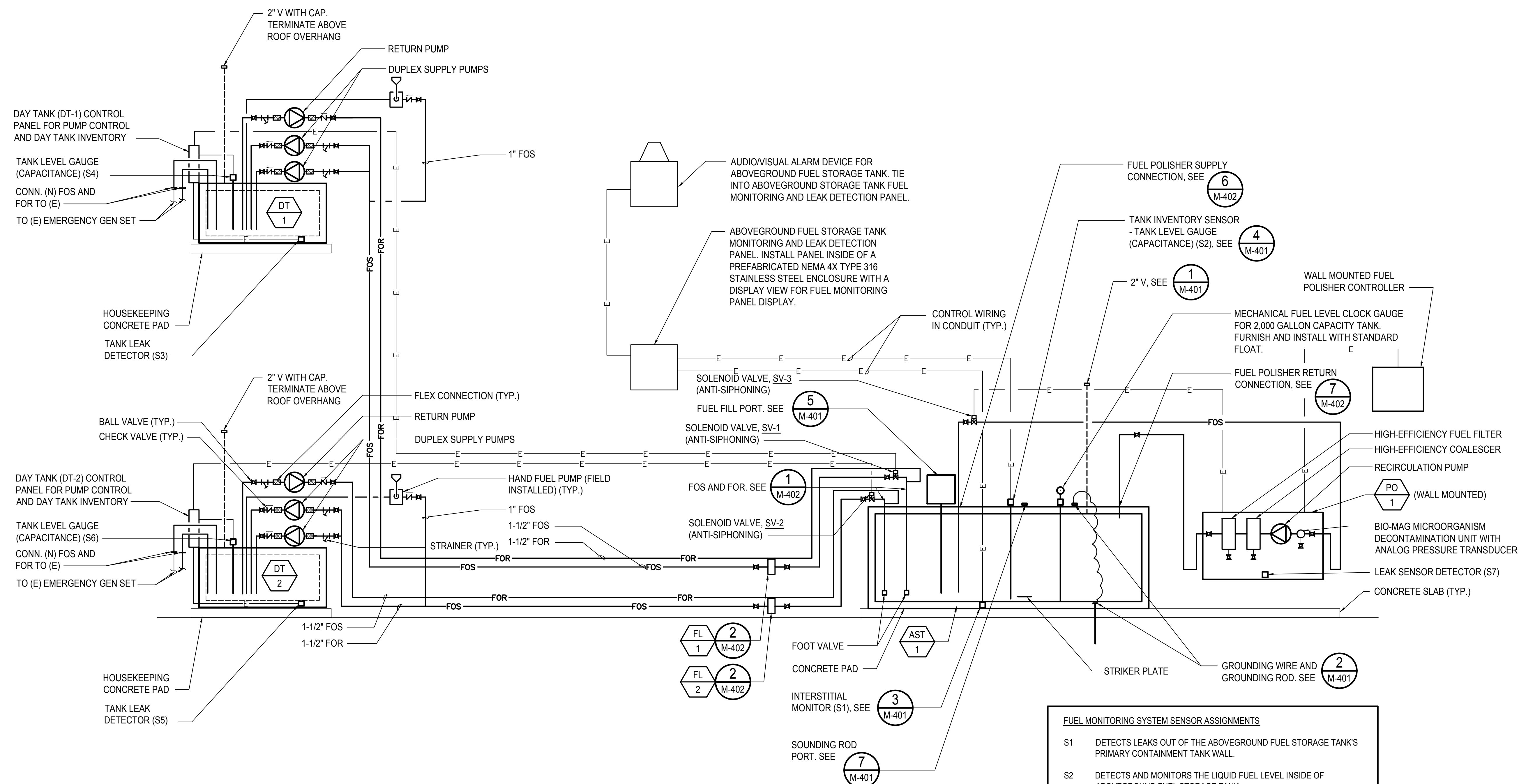


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04/30/2026
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JCS	JCS	KFC	KFC



FUEL MONITORING SYSTEM SENSOR ASSIGNMENTS

S1	DETECTS LEAKS OUT OF THE ABOVEGROUND FUEL STORAGE TANK'S PRIMARY CONTAINMENT TANK WALL.
S2	DETECTS AND MONITORS THE LIQUID FUEL LEVEL INSIDE OF ABOVEGROUND FUEL STORAGE TANK.
S3	DETECTS LEAKS OUT OF THE PRIMARY CONTAINMENT TANK WALL OF THE DAY TANK (DT-1).
S4	DETECTS AND MONITORS THE LIQUID FUEL LEVEL INSIDE OF THE DAY TANK (DT-1).
S5	DETECTS LEAKS OUT OF THE PRIMARY CONTAINMENT TANK WALL OF THE DAY TANK (DT-2).
S6	DETECTS AND MONITORS THE LIQUID FUEL LEVEL INSIDE OF THE DAY TANK (DT-2).
S7	DETECTS FUEL LEAK AT BASIN OF FUEL POLISHER.

1 TERMINAL EMERGENCY GENERATOR FUEL OIL PIPING SCHEMATIC
M-303 NOT TO SCALE

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

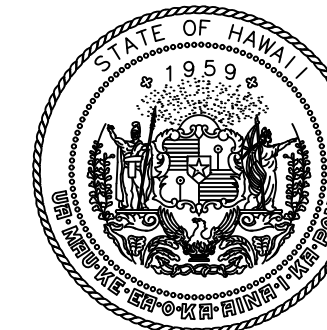
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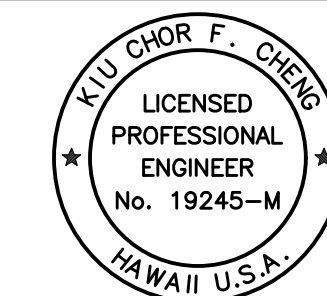
TERMINAL EMERGENCY GENERATOR FUEL OIL PIPING SCHEMATIC

DATE :	DWG. NO.
MAR 2024	M-303
SHEET :	
20 OF 30 SHEETS	

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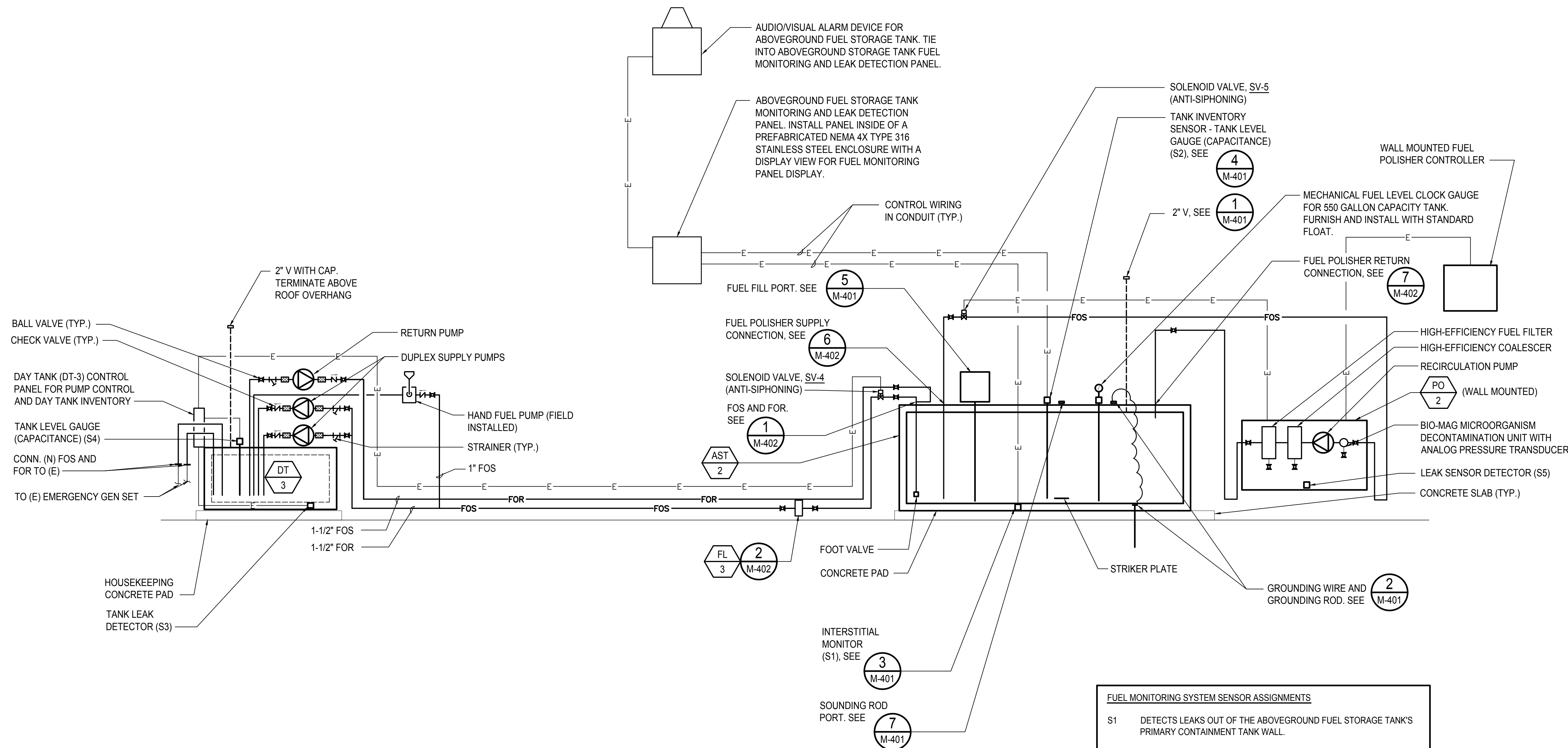
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DEPARTMENT OF TRANSPORTATION
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04/30/2026
Licensed Expiration Date

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JCS	JCS	KFC	KFC



S1	DETECTS LEAKS OUT OF THE ABOVEGROUND FUEL STORAGE TANK'S PRIMARY CONTAINMENT TANK WALL.
S2	DETECTS AND MONITORS THE LIQUID FUEL LEVEL INSIDE OF ABOVEGROUND STORAGE TANK.
S3	DETECTS LEAKS OUT OF THE PRIMARY CONTAINMENT TANK WALL OF THE DAY TANK (DT-3).
S4	DETECTS AND MONITORS THE LIQUID FUEL LEVEL INSIDE OF THE DAY TANK (DT-3).
S5	DETECTS FUEL LEAK AT BASIN OF FUEL POLISHER.

1 AIRFIELD EMERGENCY GENERATOR FUEL OIL PIPING SCHEMATIC
M-304 NOT TO SCALE

NO. DATE REVISIONS

CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

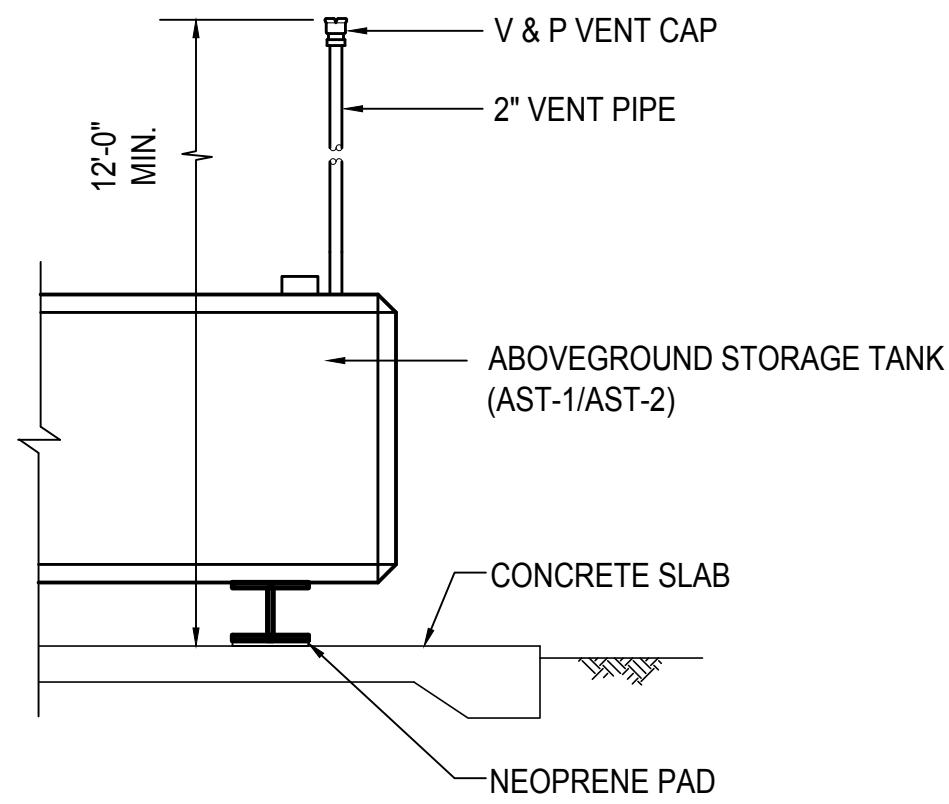
PROJECT TITLE :
UST REMOVALS AND REPLACEMENTS WITH ASTS
AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:
AK1046-31

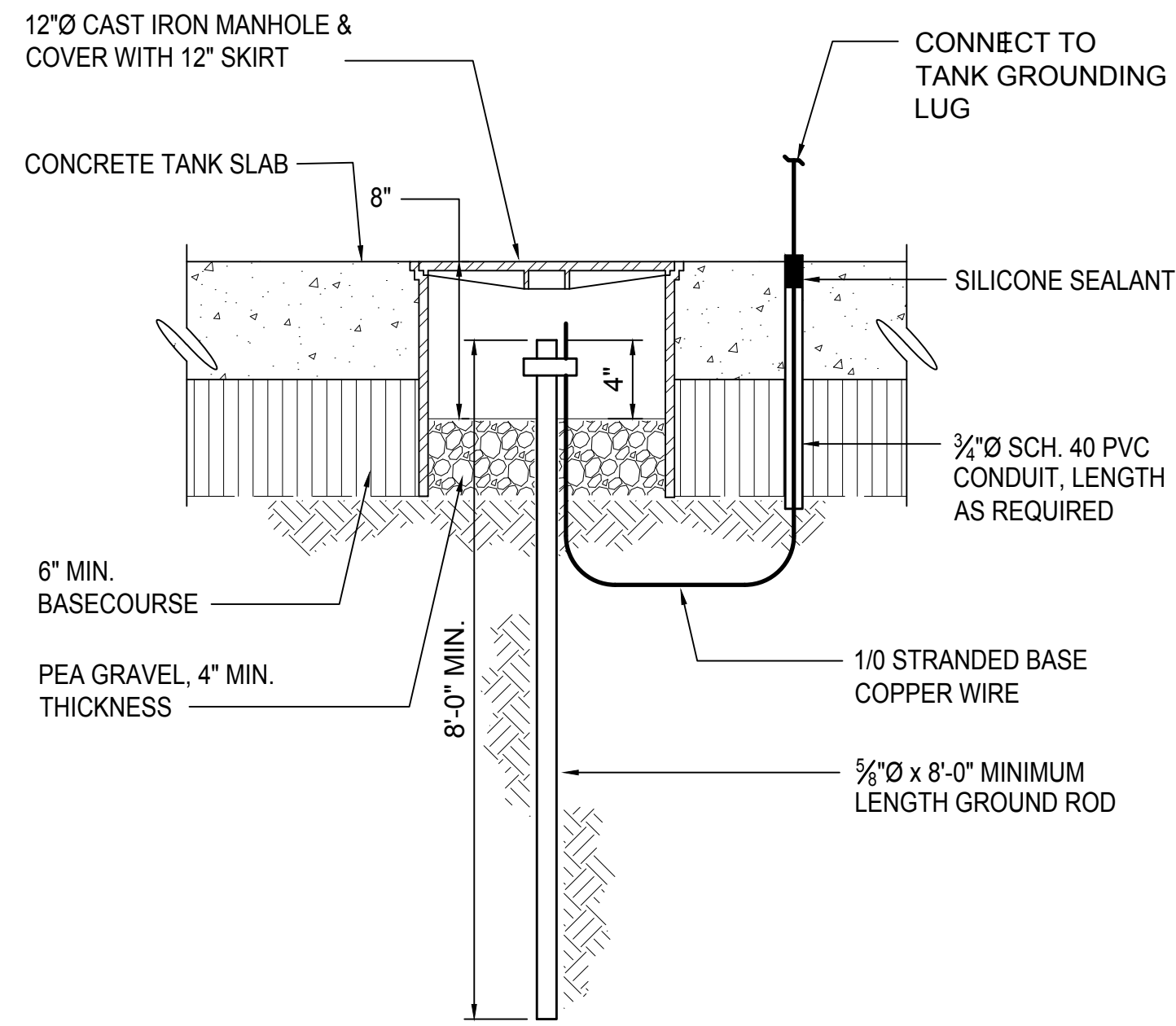
SHEET TITLE:
AIRFIELD EMERGENCY GENERATOR FUEL OIL PIPING SCHEMATIC

DATE :	DWG. NO.
MAR 2024	M-304
SHEET :	
21 OF 30 SHEETS	

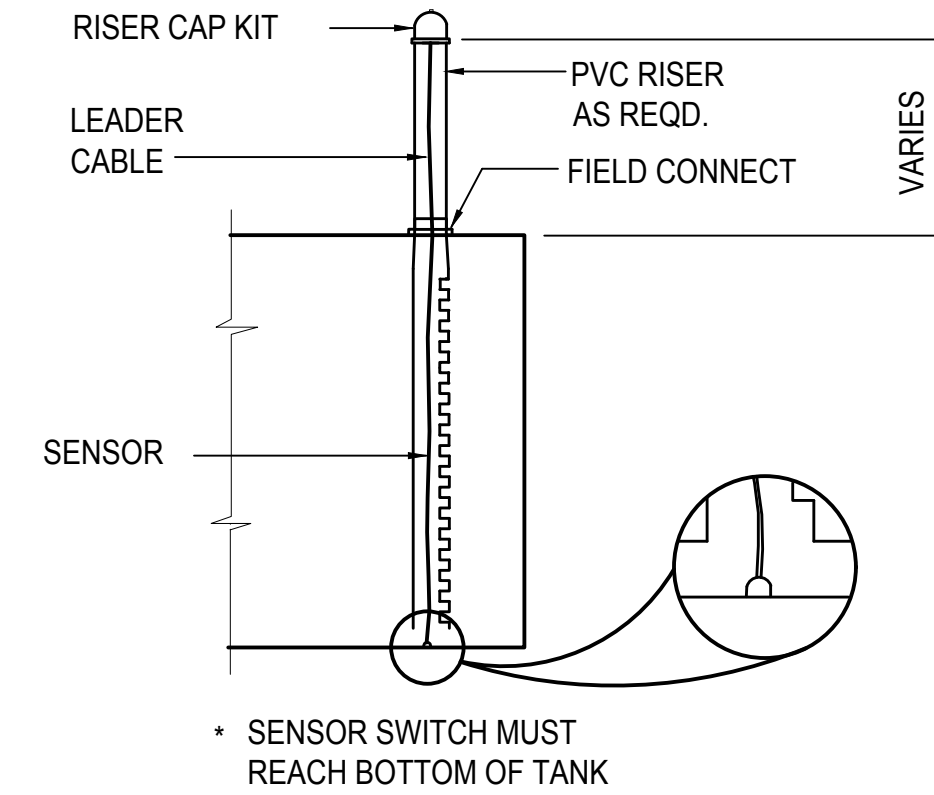
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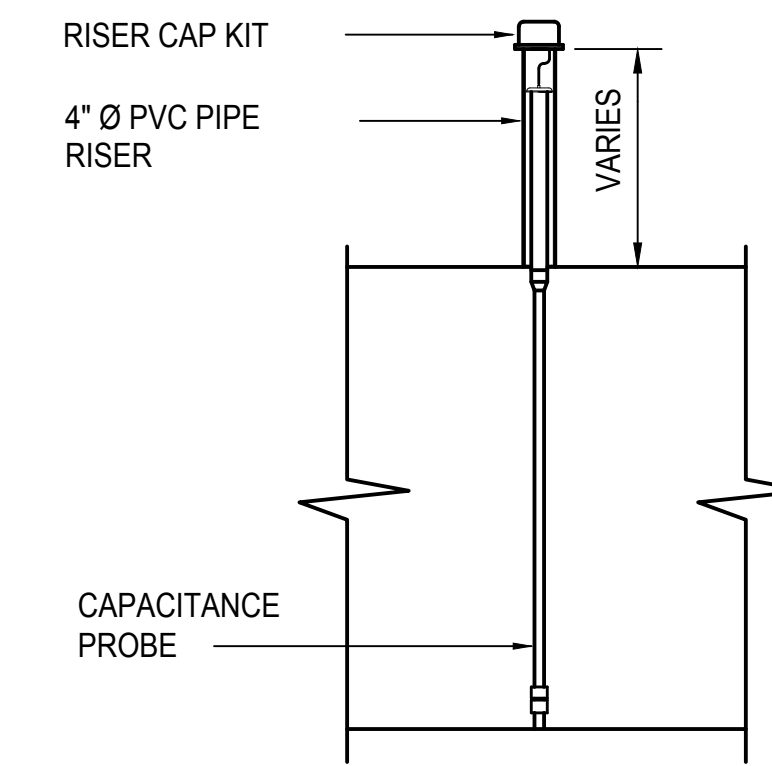
1 VENT DETAIL
M-401 NOT TO SCALE



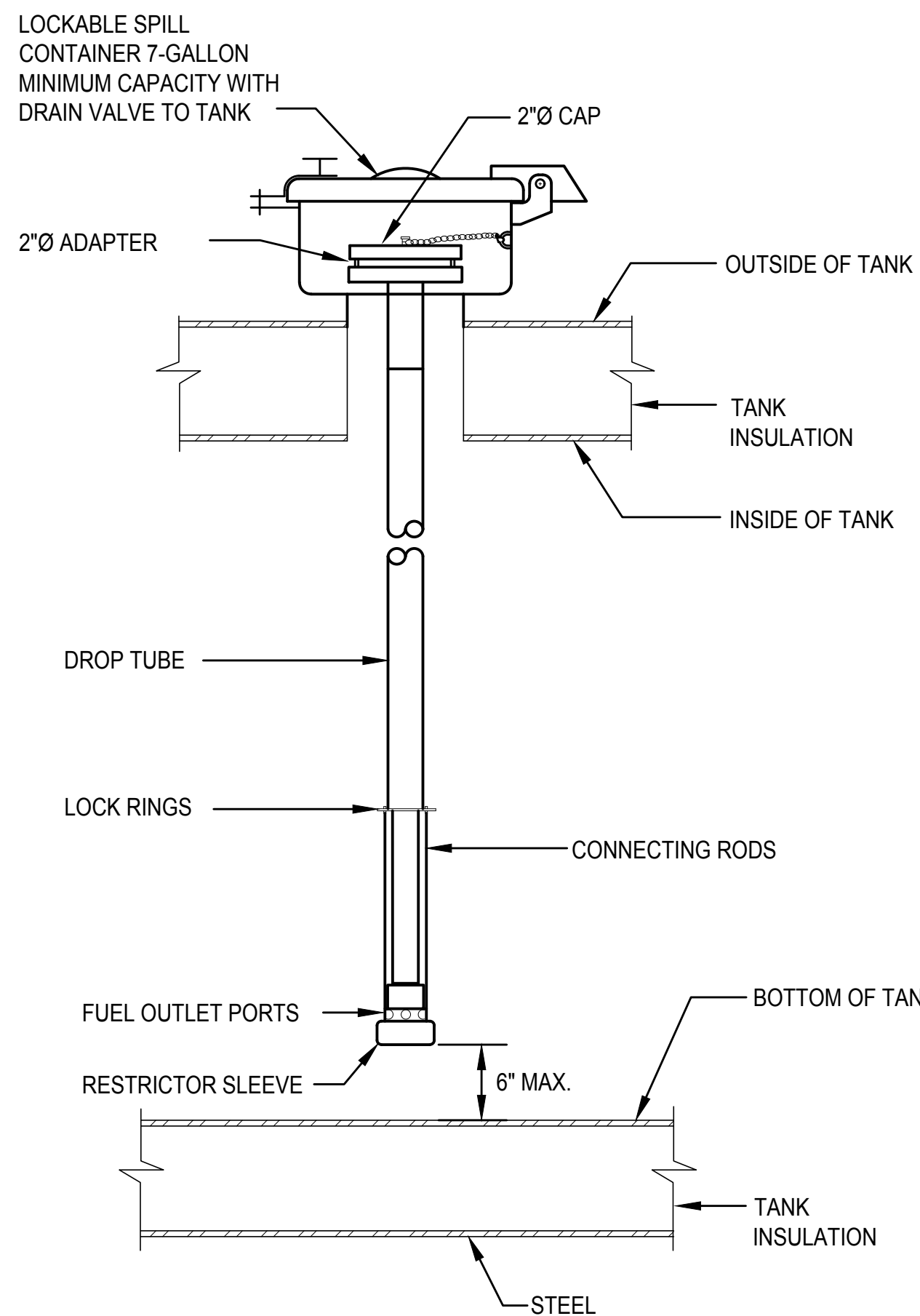
2 GROUNDING WIRE DETAIL
M-401 NOT TO SCALE



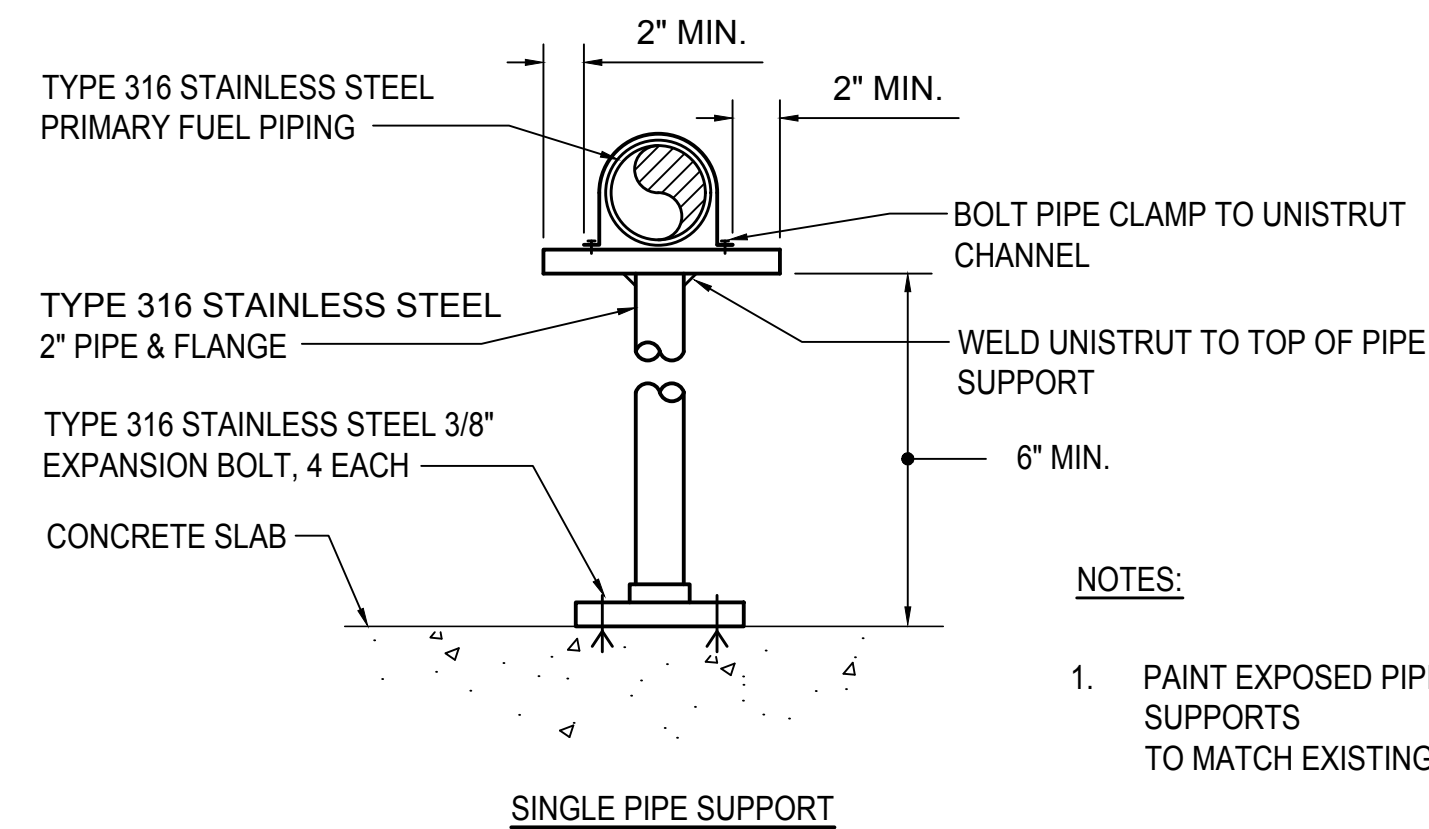
3 INTERSTITIAL MONITOR DETAIL
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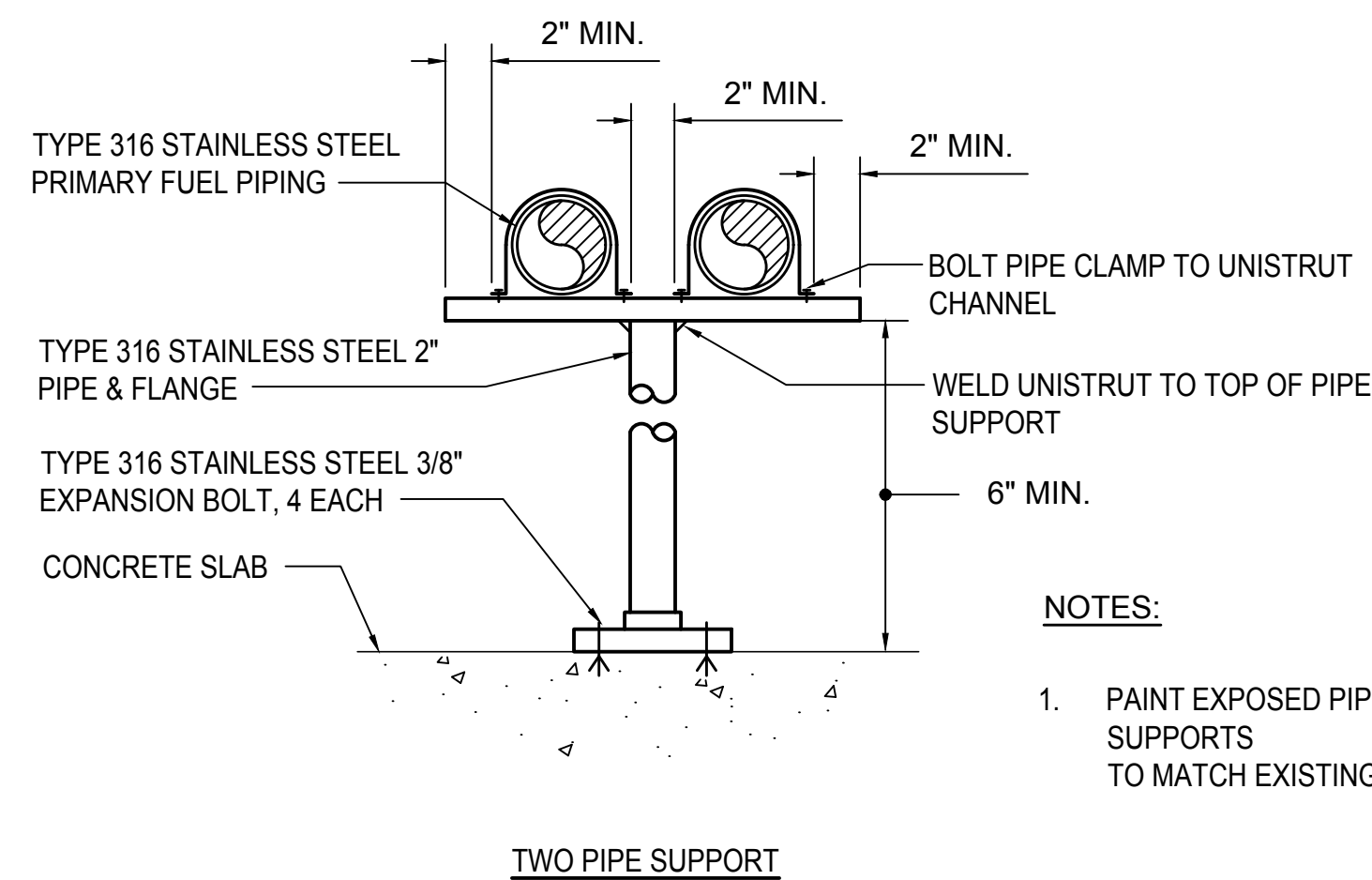
4 INVENTORY SENSOR DETAIL
M-401 NOT TO SCALE



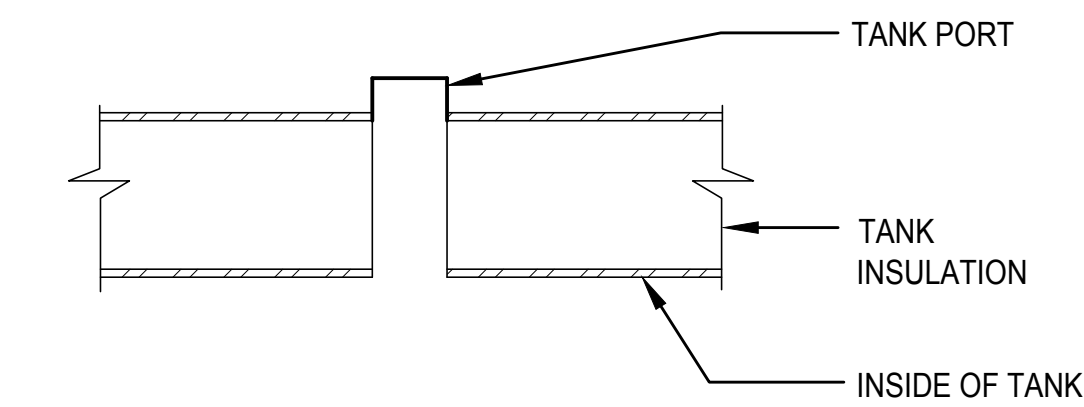
5 FILL & OVERFLOW DETAIL
M-401 NOT TO SCALE



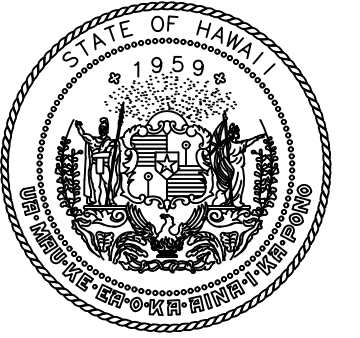
NOTES:
1. PAINT EXPOSED PIPING AND SUPPORTS TO MATCH EXISTING.



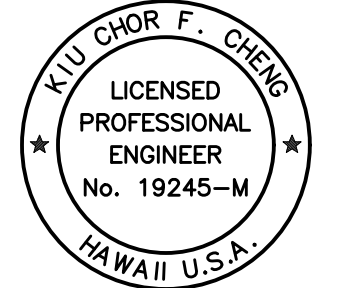
NOTES:
1. PAINT EXPOSED PIPING AND SUPPORTS TO MATCH EXISTING.



7 SOUNDING ROD DETAIL
M-401 NOT TO SCALE



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04/30/2026
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JCS	JCS	KFC	KFC

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

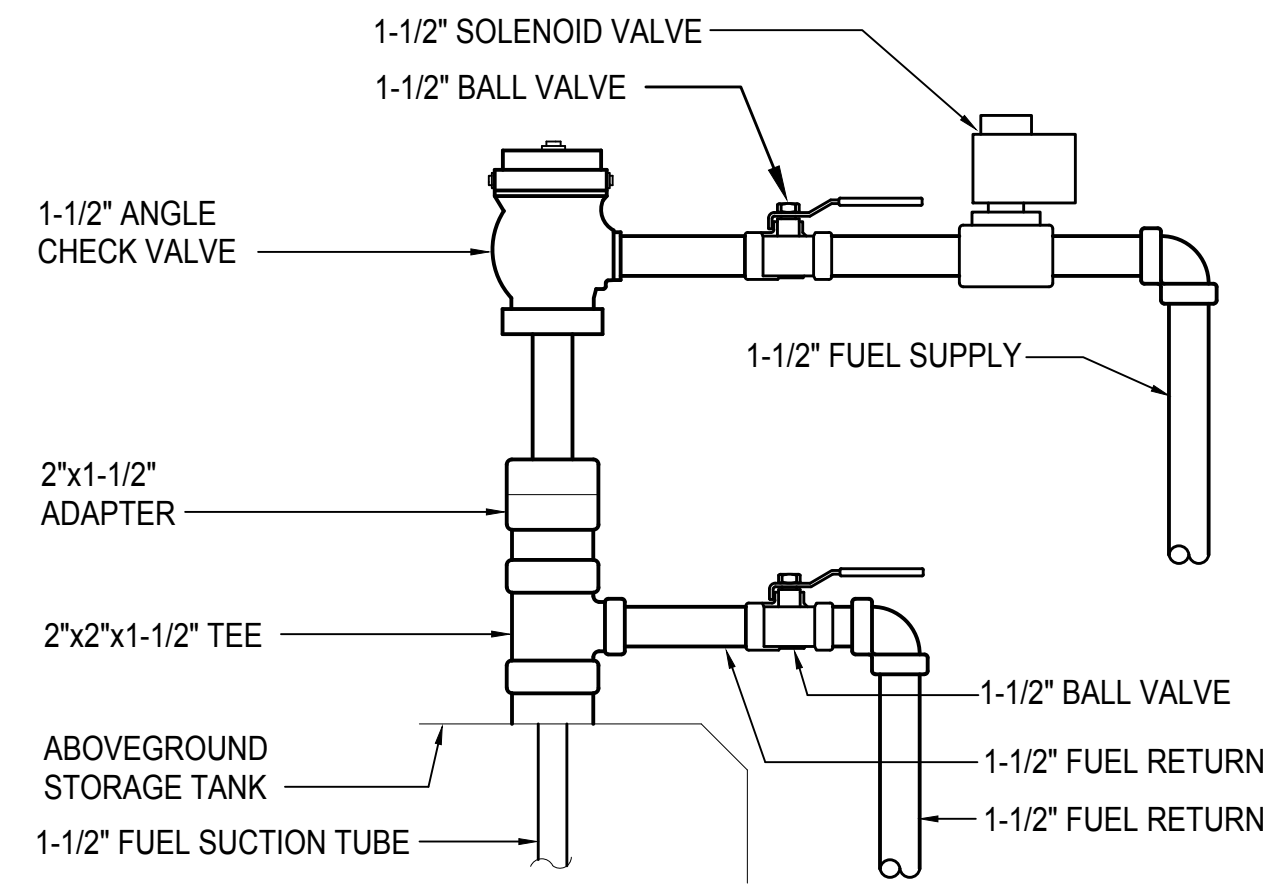
AK1046-31

SHEET TITLE:

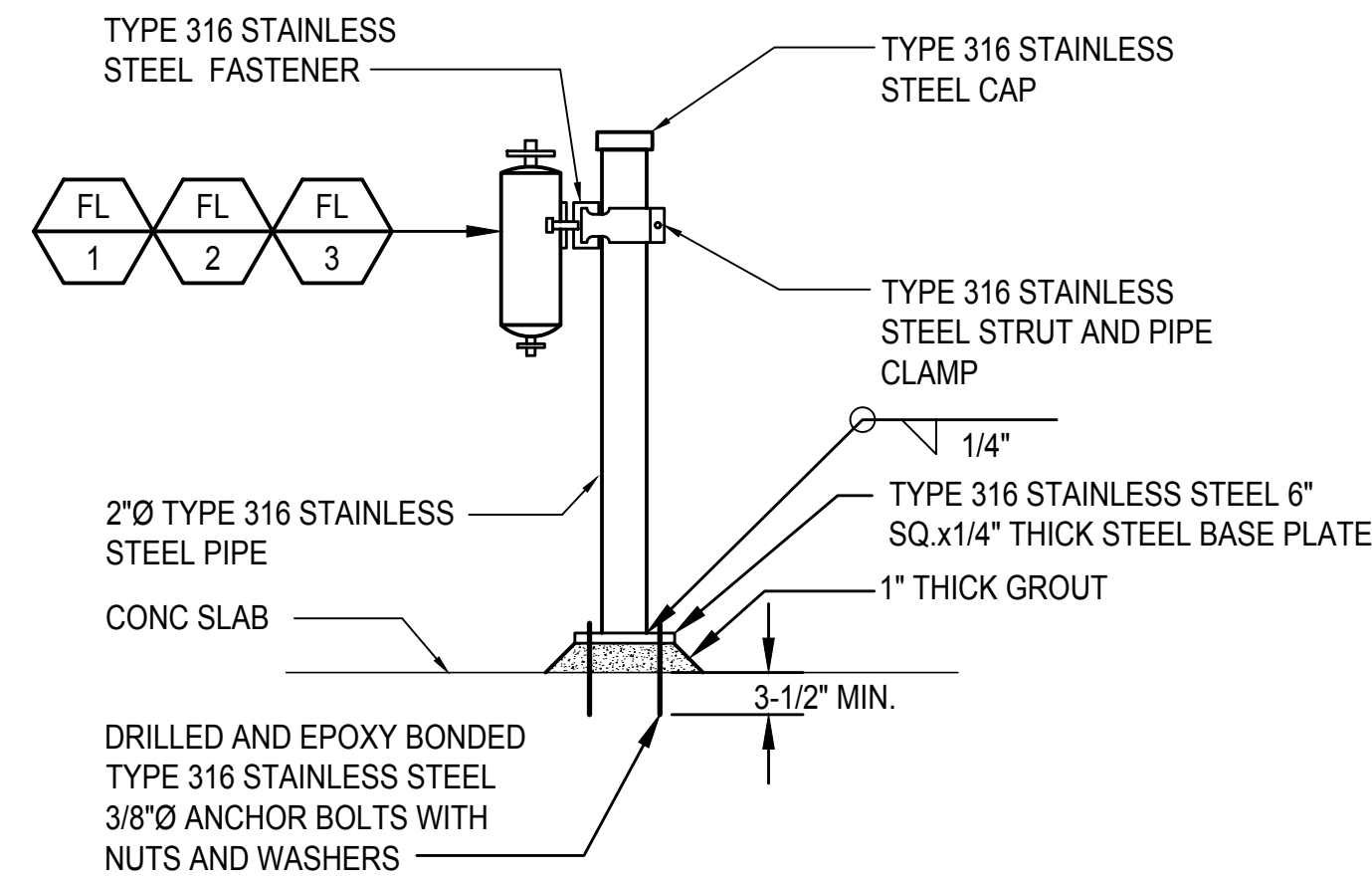
MECHANICAL DETAILS

DATE :	DWG. NO.
MAR 2024	M-401
SHEET :	
22 OF 30 SHEETS	

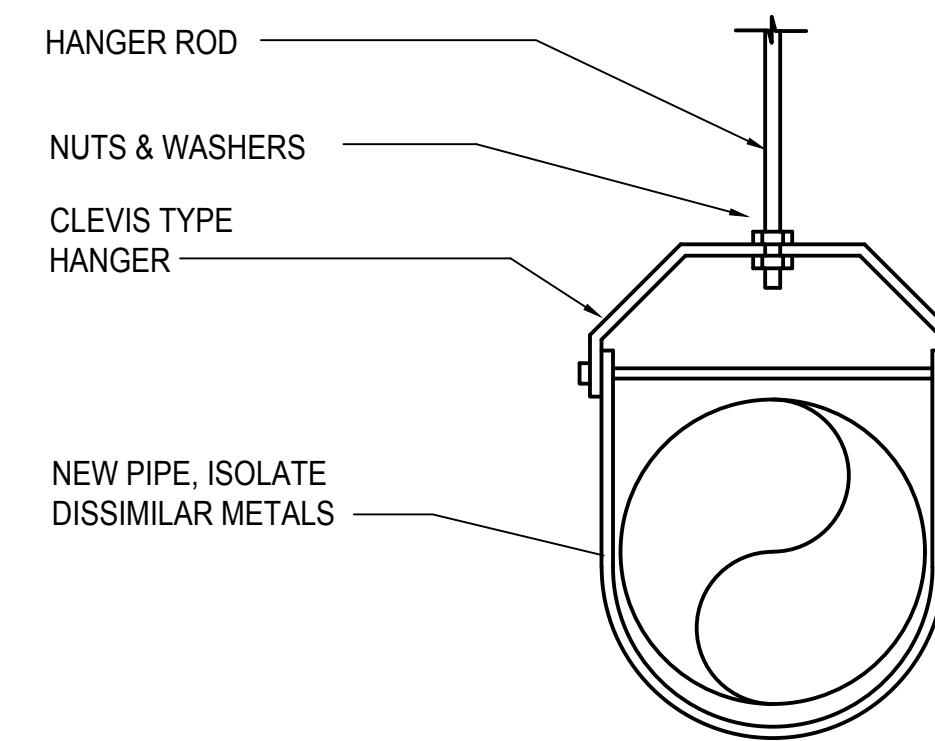
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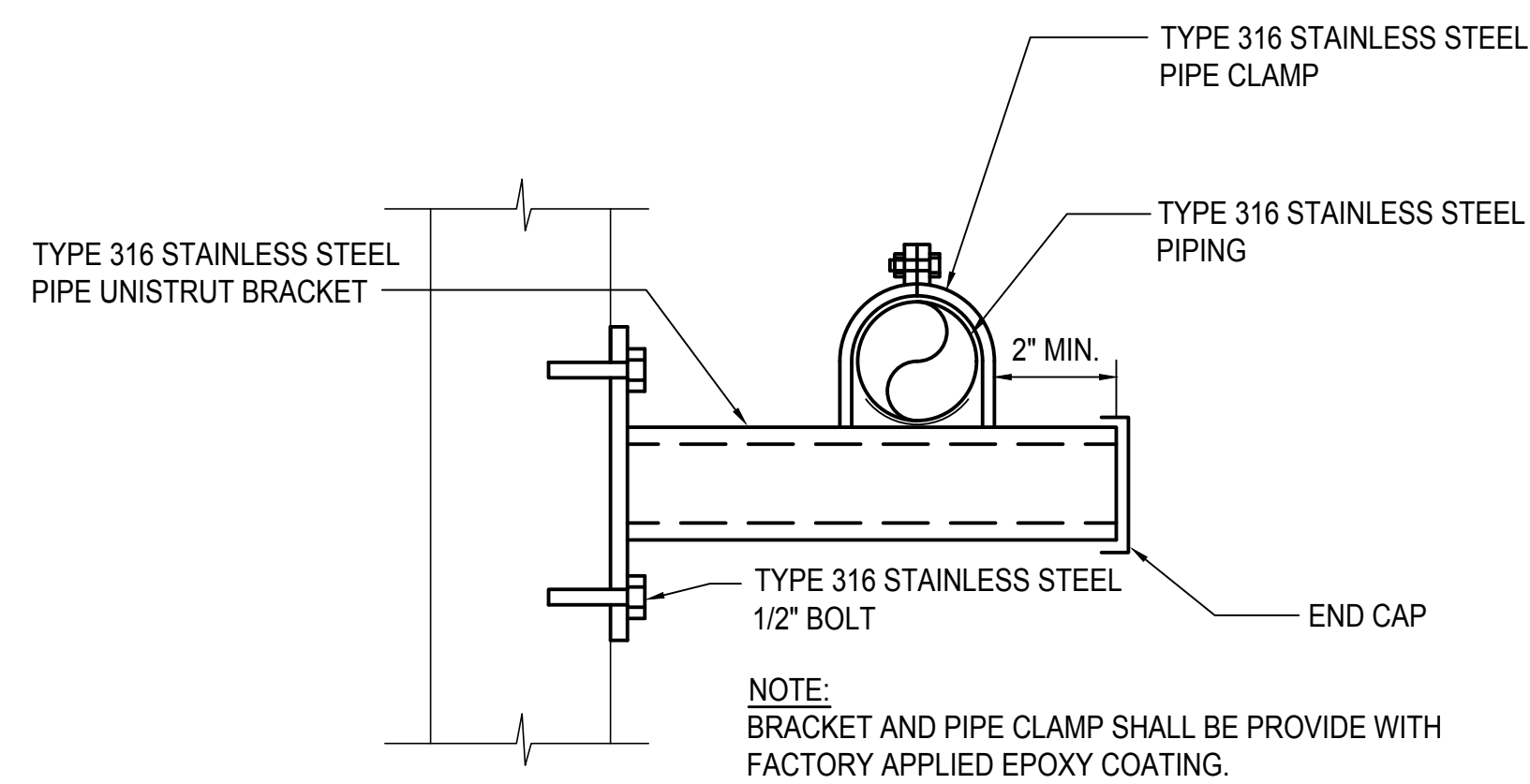
1 SUPPLY & RETURN CONNECTION DETAIL
M-402 NOT TO SCALE



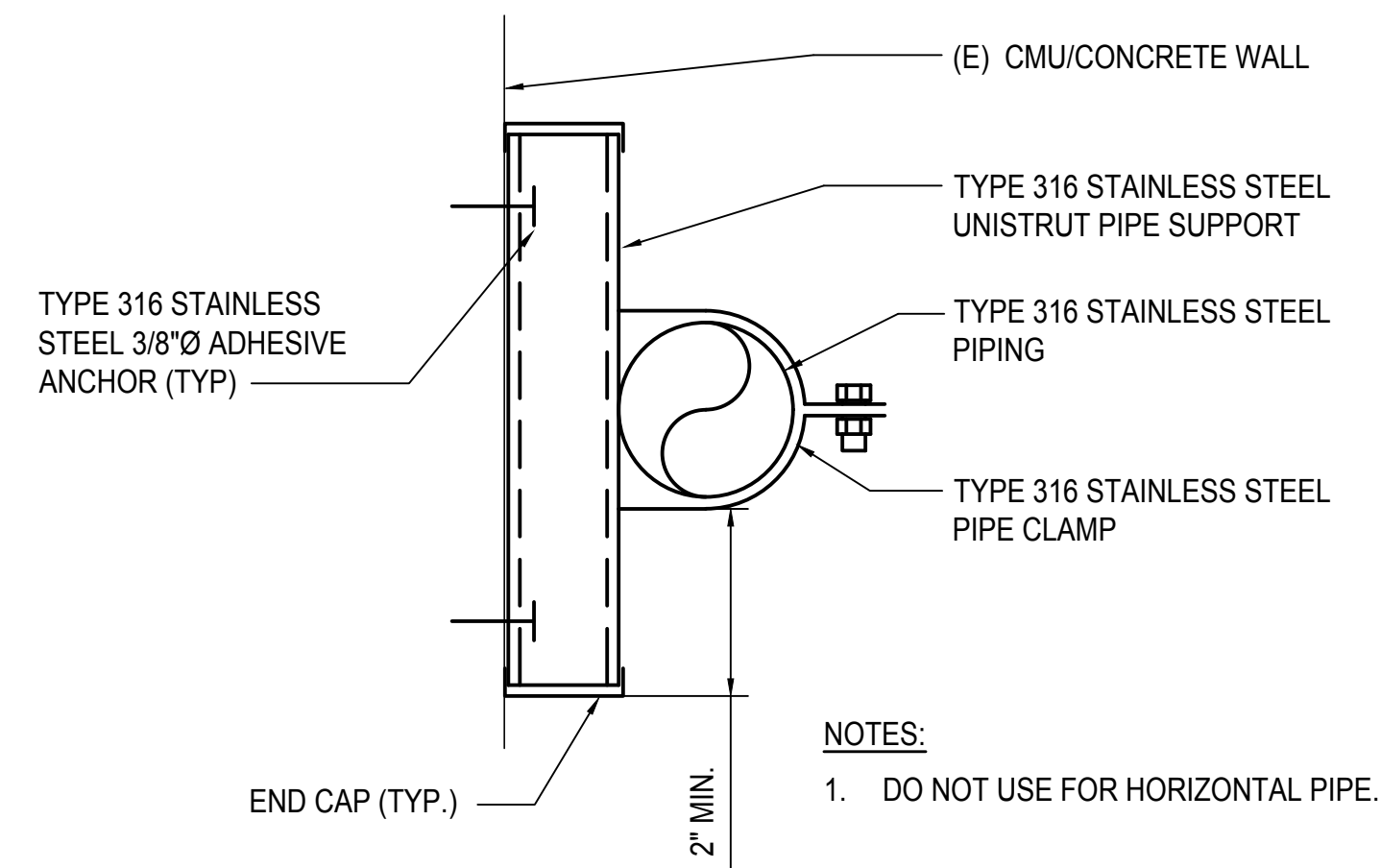
2 FUEL FILTER SUPPORT DETAIL
M-402 NOT TO SCALE



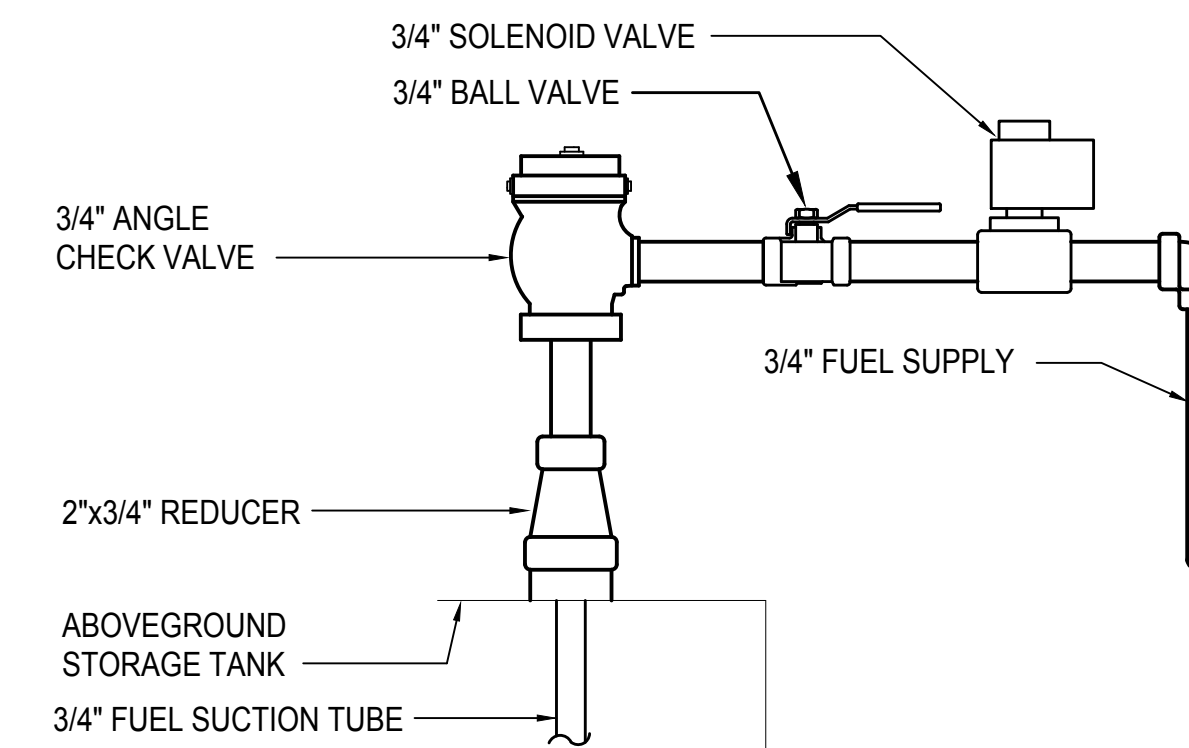
3 PIPE HANGER DETAIL
M-402 NOT TO SCALE



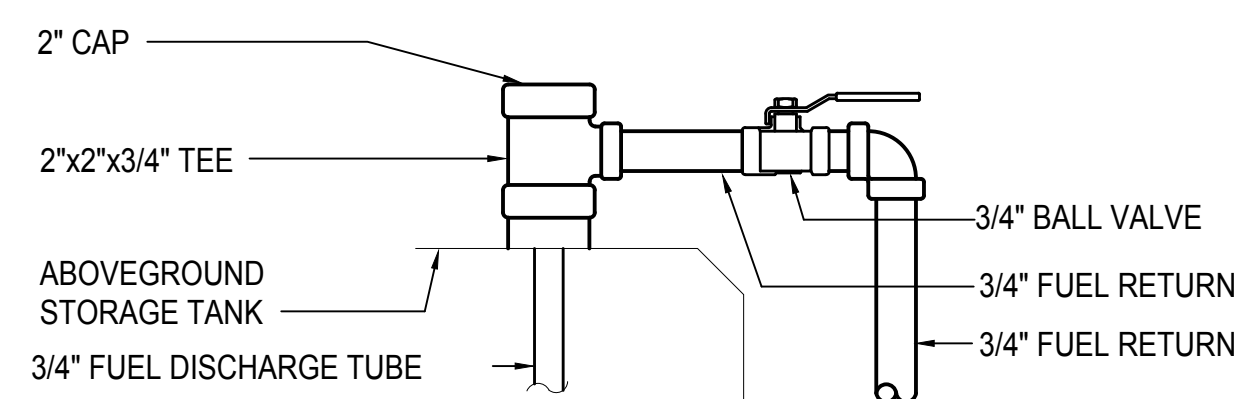
4 HORIZONTAL PIPE SUPPORT DETAIL
M-402 NOT TO SCALE



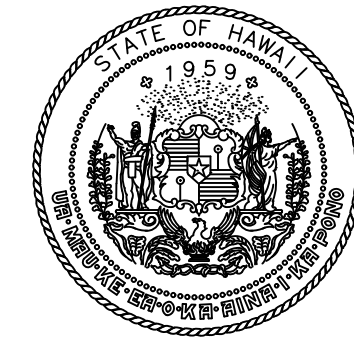
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M-402 NOT TO SCALE



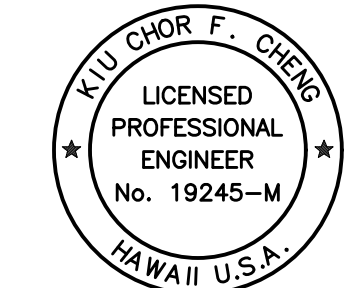
6 FUEL POLISHER SUPPLY PIPE CONNECTION DETAIL
M-402 NOT TO SCALE



7 FUEL POLISHER RETURN PIPE CONNECTION DETAIL
M-402 NOT TO SCALE



STATE OF HAWAII
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Aliu Chor F. Cheng
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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

MECHANICAL DETAILS

DATE :

MAR 2024

SHEET :

23 OF 30 SHEETS

DWG. NO.

M-402

SEQUENCE OF OPERATION

GENERAL

- COORDINATE POWER FOR NEW CONTROL PANELS WITH ELECTRICAL CONTRACTOR.
- AN ALARM CONDITION SHALL BE DISPLAYED ON CONTROL PANELS UPON FAILURE.
- SEQUENCE OF OPERATION FOR DAY TANK PUMPS AND SOLENOID VALVES (SV-1, SV-2, SV-4) SHALL BE BASED ON SIGNAL(S) FROM THEIR RESPECTIVE DAY TANK CONTROL PANELS.
- SEQUENCE OF OPERATION FOR FUEL POLISHER PUMPS AND SOLENOID VALVES (SV-3 AND SV-5) SHALL BE BASED ON SIGNALS FROM THEIR RESPECTIVE FUEL POLISHER CONTROL PANELS.

ALARMS

- DAY TANK AND ABOVEGROUND FUEL STORAGE TANK (DT-1, DT-2 AND DT-3 AND AST-1 AND AST-2)
 - FUEL LEVEL CAPACITY AT HIGH LEVEL OF 95%
 - FUEL LEVEL CAPACITY AT LOW LEVEL OF 25%
 - FUEL LEVEL CAPACITY AT LOW-LOW LEVEL OF 10%
 - FUEL LEAK INTO DOUBLE WALL TANK
- DUPLEX SUPPLY FUEL PUMPS AND RETURN PUMP MOUNTED ON DAY TANK (DT-1, DT-2 AND DT-3)
 - RUN FAILURE
 - NO FUEL FLOW
 - SOLENOID VALVE (SV-1, SV-2 AND/OR SV-4) FAILURE
- FUEL POLISHER
 - GENERAL
 - PURIFIER HIGH WATER LEVEL
 - CATCH BASIN LEAK
 - FILTER REPLACEMENT
 - SOLENOID VALVE (SV-3 AND/OR SV-5) FAILURE

DAY TANK (DT-1, DT-2, DT-3)

DUPLEX SUPPLY PUMPS

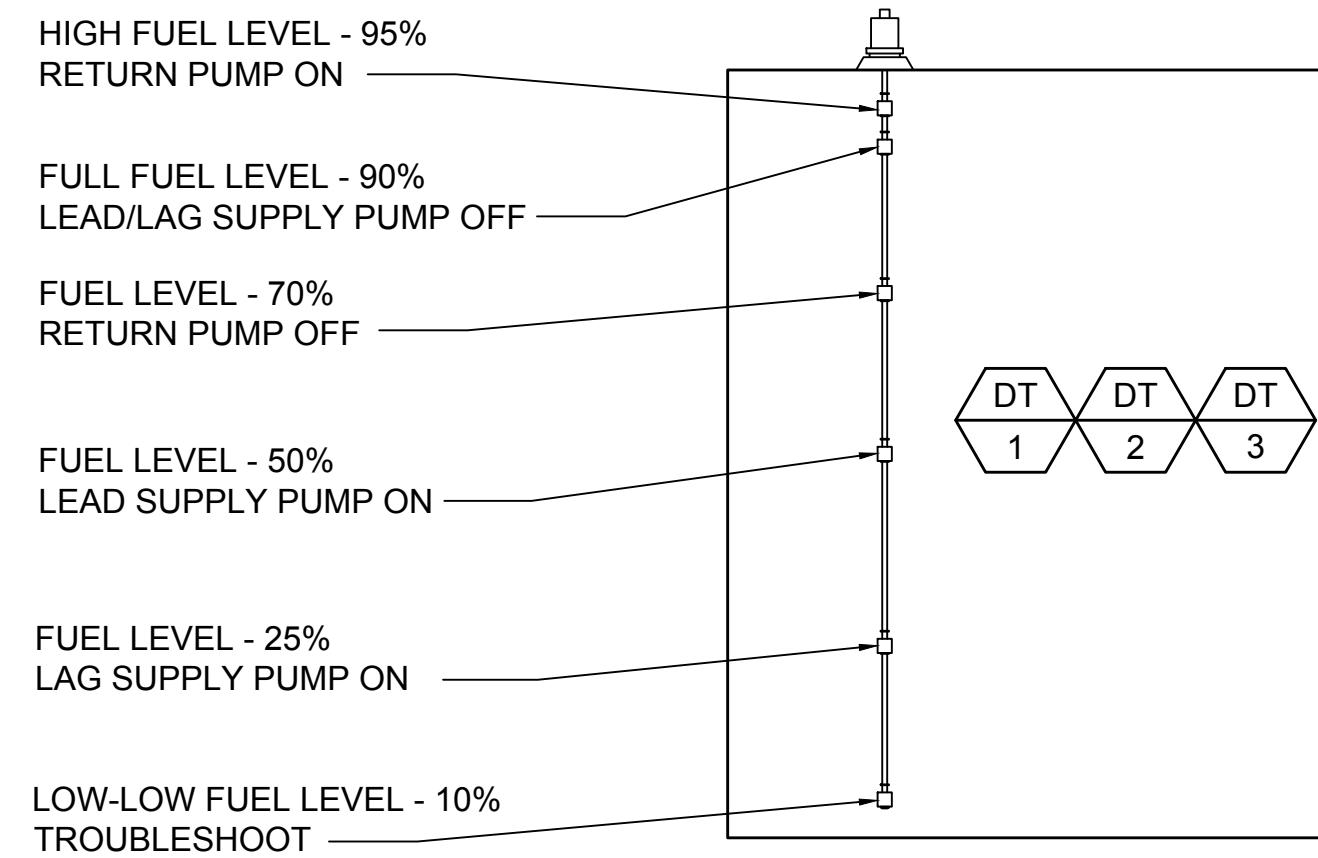
- SUPPLY FUEL PUMPS SHALL OPERATE ONE AT A TIME IN AN ALTERNATING LEAD-LAG ARRANGEMENT AND SHALL HAVE REDUNDANT POWER INPUT.
- PUMP CONTROLS SHALL HAVE REDUNDANT POWER AND SHALL ALTERNATE DUPLEX SUPPLY PUMPS EACH CYCLE.
- LEAD SUPPLY PUMP SHALL START AND SOLENOID VALVE (SV-1, SV-2 OR SV-4) SHALL OPEN WHEN DAY TANK LEVEL DROPS DOWN TO 50%.
- LAG PUMP SHALL TURN ON IF LEAD PUMP FAILS OR IF DAY TANK LEVEL DROPS DOWN TO 25%.
- SUPPLY PUMP(S) SHALL TURN OFF AND SOLENOID VALVE (SV-1, SV-2 OR SV-4) SHALL CLOSE WHEN DAY TANK LEVEL REACHES 90% OF DAY TANK CAPACITY IS MET.
- SOLENOID VALVE (SV-1, SV-2 AND SV-4) SHALL BE SECONDARILY CONTROLLED TO OPEN WHEN MANUAL SUPPLY PUMP IS USED.

RETURN PUMP

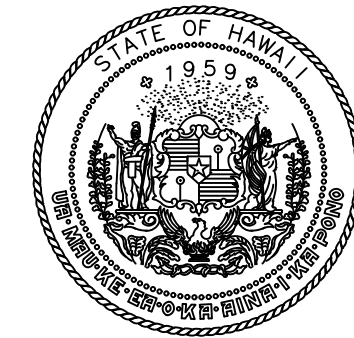
- RETURN PUMP SHALL TURN ON WHEN DAY TANK LEVEL REACHES 95% AND SHALL TURN OFF WHEN DAY TANK LEVEL DROPS DOWN TO 70%.
- RETURN PUMP SHALL NOT RUN WHILE SUPPLY PUMP IS RUNNING.

FUEL POLISHER (PO-1, PO-2)

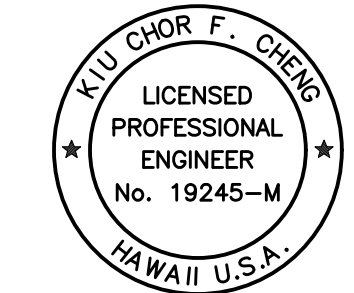
- FUEL POLISHER SHALL RE-CIRCULATE FUEL IN ABOVEGROUND FUEL STORAGE TANK (AST-1 AND AST-2).
- FUEL POLISHER (PO-1) SHALL AUTOMATICALLY OPEN SOLENOID VALVE (SV-3), RE-CIRCULATE FUEL FOR 48-MINUTES, AND THEN CLOSE SOLENOID VALVE (SV-3) DAILY. SCHEDULE SHALL BE SET ON INTEGRAL 24-HOUR, 7-DAY TIMER.
- FUEL POLISHER (PO-2) SHALL AUTOMATICALLY OPEN SOLENOID VALVE (SV-5), RE-CIRCULATE FUEL FOR 14-MINUTES, AND THEN CLOSE SOLENOID VALVE (SV-5) DAILY. SCHEDULE SHALL BE SET ON INTEGRAL 24-HOUR, 7-DAY TIMER.



1 DAY TANK FLOAT SCHEMATIC DETAIL
M-403 NOT TO SCALE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



Yu Chor F. Cheng
04/30/2026
Licensed Expiration Date

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JCS	JCS	KFC	KFC

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

MECHANICAL CONTROLS

DATE :	DWG. NO.
MAR 2024	M-403
SHEET :	
24 OF 30 SHEETS	

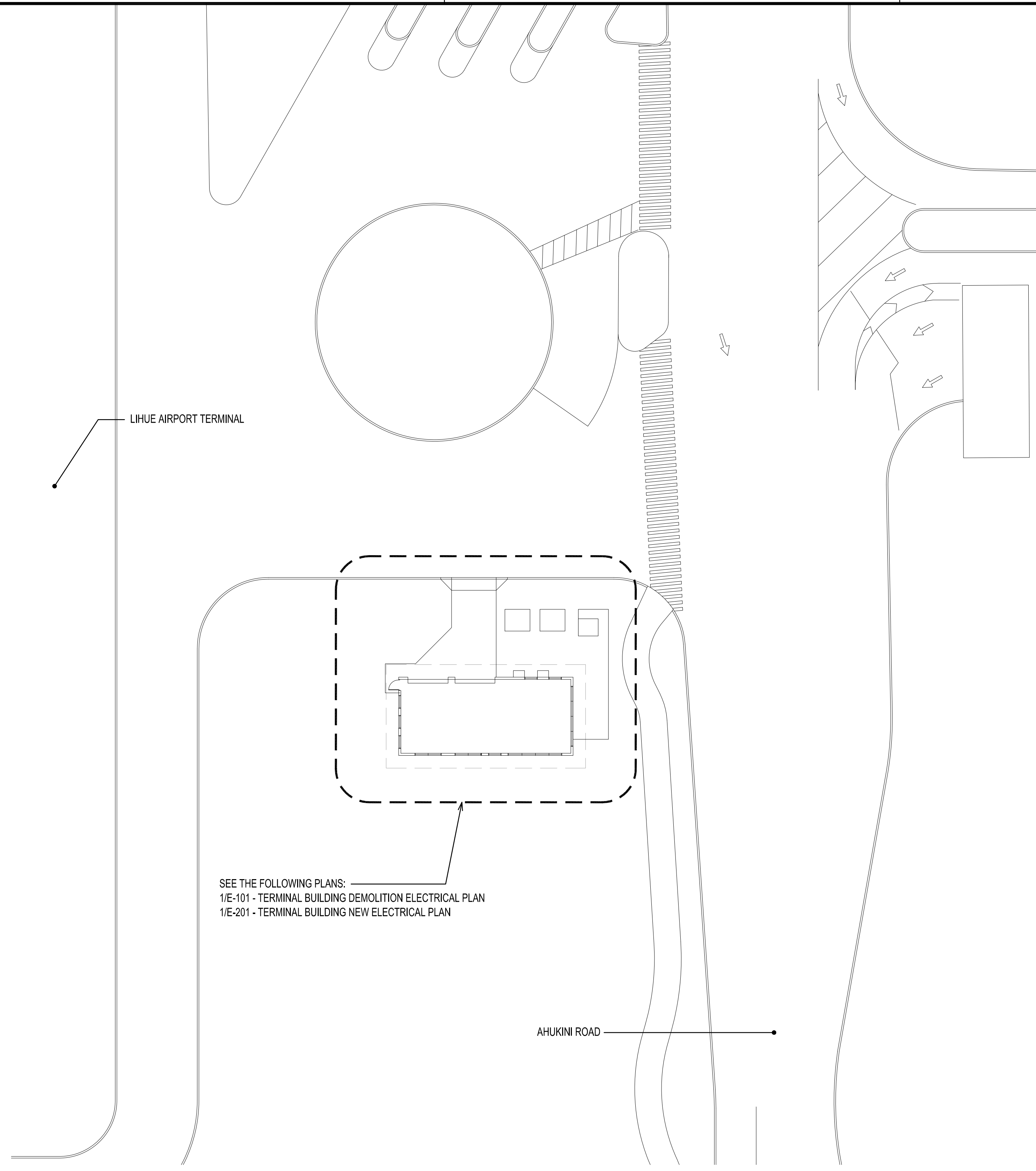
ELECTRICAL SYMBOLS			
SYMBOL			DESCRIPTION
DEMO	EXIST	NEW	
			ELECTRICAL EQUIPMENT CONNECTION
			GENERATOR POWER CONNECTION
			EXPOSED CONDUIT OR CABLE
			UNDERGROUND CONDUIT
			HOMERUN TO RESPECTIVE PANELBOARD (CIRCUIT NUMBER 1; PANEL "A" INDICATED)
			DENOTES INDICATOR, DENOTES SEE BOX NOTE 1
			JUNCTION BOX, 4"SQ X 1-1/2"D, WALL/CEILING MTD. RESPECTIVELY
			ELECTRICAL PANELBOARD

GENERAL ELECTRICAL NOTES - EXISTING CONDITIONS:

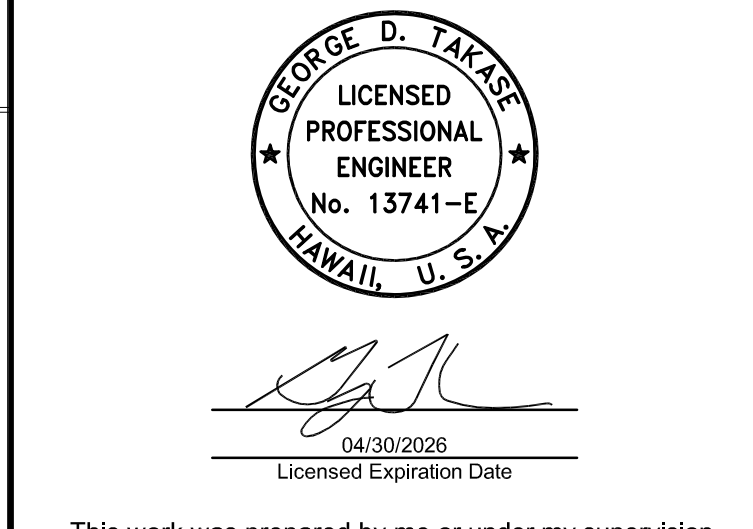
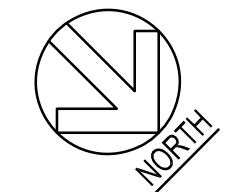
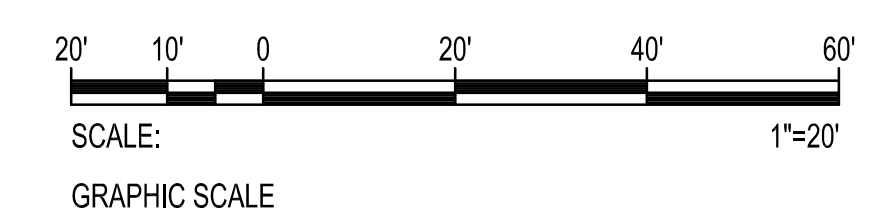
- EXISTING CONDITIONS INDICATED ON THESE DRAWINGS ARE INTENDED TO SHOW THE GENERAL SCOPE OF WORK, BASED ON LIMITED FIELD VERIFICATION AND INFORMATION PROVIDED BY OTHERS. VISIT THE PROJECT SITE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING AND THE START OF WORK. A SIGNED CONTRACT ACKNOWLEDGES THAT ALL SITE CONDITIONS ARE ACCEPTED.
- ANY DRAWING DISCREPANCIES WITH RESPECT TO THE EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER, AND SHALL BE RESOLVED PRIOR TO STARTING WORK. NO ADDITIONAL EXPENSES WILL BE ALLOWED FOR WORK MADE NECESSARY BY FAILING TO VERIFY SITE CONDITIONS AND RESOLVE DISCREPANCIES.
- COORDINATE ALL ELECTRICAL, TELECOMMUNICATION, AND FIRE ALARM OUTAGES WITH THE ENGINEER. OUTAGES SHALL BE SCHEDULED AND MINIMIZED.
- DEMOLISH EXISTING EQUIPMENT, DEVICES, SUPPORTS, ETC. AS REQUIRED TO ACCOMPLISH THE NEW WORK INDICATED ON THE PLANS, WHETHER OR NOT THESE ITEMS ARE SPECIFICALLY SHOWN.
- MAINTAIN CONTINUITY OF EXISTING CIRCUITS TO PROVIDE POWER TO ALL EQUIPMENT AND DEVICES TO REMAIN. PROVIDE TEMPORARY CIRCUITS TO EQUIPMENT AND DEVICES THAT MUST REMAIN IN OPERATION DURING CONSTRUCTION.
- ALL DEMOLISHED ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF UNLESS DESIGNATED BY THE ENGINEER OR AS INDICATED ON THE DRAWINGS.
- REMOVED EQUIPMENT CONTAINING HAZARDOUS MATERIALS, SUCH AS MERCURY OR PCBs, SHALL BE DISPOSED OF PER THE ENVIRONMENTAL PROTECTION AGENCY (EPA) GUIDELINES.
- UNLESS SPECIFICALLY INDICATED, REMOVED CONDUCTORS SHALL BE REMOVED IN THEIR ENTIRETY TO THE SOURCE OVERCURRENT PROTECTION DEVICE. RACEWAYS SHALL BE REMOVED AS FOLLOWS:
 - ALL OVERHEAD AND EXPOSED RACEWAYS SHALL BE REMOVED ENTIRELY.
 - RACEWAYS BELOW GRADE SHALL BE REMOVED TO MINIMUM 18" BELOW GRADE OR AS INDICATED OTHERWISE, BACKFILLED TO MATCH THE FINAL FINISH GRADE.
 - RACEWAYS IN REMAINING WALLS AND SLABS SHALL BE ABANDONED, CUT AT LEAST 2' INTO THE SURFACE AND THE OPENING GROUTED SMOOTH.
- ALL EQUIPMENT AND CIRCUITING LINED WITH 'X' INDICATES WORK THAT SHALL BE COMPLETELY DEMOLISHED, INCLUDING ALL CONDUCTORS, RACEWAYS, AND SUPPORTS, UNLESS SPECIFICALLY STATED OTHERWISE.

GENERAL ELECTRICAL NOTES :

- PERFORM ALL WORK IN ACCORDANCE WITH NFPA 70 2017 (NATIONAL ELECTRICAL CODE), NFPA 70E (STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE), AND ALL LOCAL RULES AND REGULATIONS.
- WORK SHALL BE NEAT AND WORKSMANLIKE. PROVIDE LISTED, CORRECTLY-SPACED METHODS OF RACEWAY SUPPORT AND TRANSITIONS WITHOUT UNUSED OPENINGS; EQUIPMENT SHALL BE FIRMLY SECURED WITH VENTILATION OPENINGS UNOBSURED.
- COORDINATE CONNECTIONS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. ALL EQUIPMENT SHALL HAVE THE APPROPRIATE DISCONNECTING MEANS PROVIDED.
- NOT ALL PENETRATIONS ARE INDICATED. PENETRATE WALLS, SLABS, BEAMS, AND CEILING FOR INSTALLATION OF NEW ELECTRICAL RACEWAYS AS REQUIRED; FIRE STOP, PATCH AND PAINT TO MATCH EXISTING RATINGS AND ADJACENT FINISHES. EXTERIOR PENETRATIONS SHALL BE FIRE STOPPED AND MADE WEATHERPROOF ON THE SAME DAY OF THE PENETRATION.
- WHERE POSSIBLE, CONCEAL ALL RACEWAYS IN WALLS, ABOVE CEILINGS, OR IN CABINETS. EXPOSED BOXES AND RACEWAYS WITHOUT GRADE 316 STAINLESS STEEL SHALL BE PAINTED TO MATCH ADJACENT FINISH.
- ALL EQUIPMENT AND DEVICES SHALL BE RATED FOR THE ENVIRONMENT THEY ARE INSTALLED IN. ALL OUTDOOR EQUIPMENT SHALL BE MINIMUM NEMA 4X 316SS.
- PROVIDE ALL LOW VOLTAGE WIRING AND DATA CABLING PER THE MANUFACTURER'S RECOMMENDATIONS, INCLUDING BUT NOT LIMITED TO ALL GENERATOR STARTUP CONTROL WIRING.



1 TERMINAL BUILDING SITE ELECTRICAL PLAN
SCALE: 1" = 20'



DSGN.	DRWN.	CHKD.	APPD.
SH	CAD	GDT	GDT

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

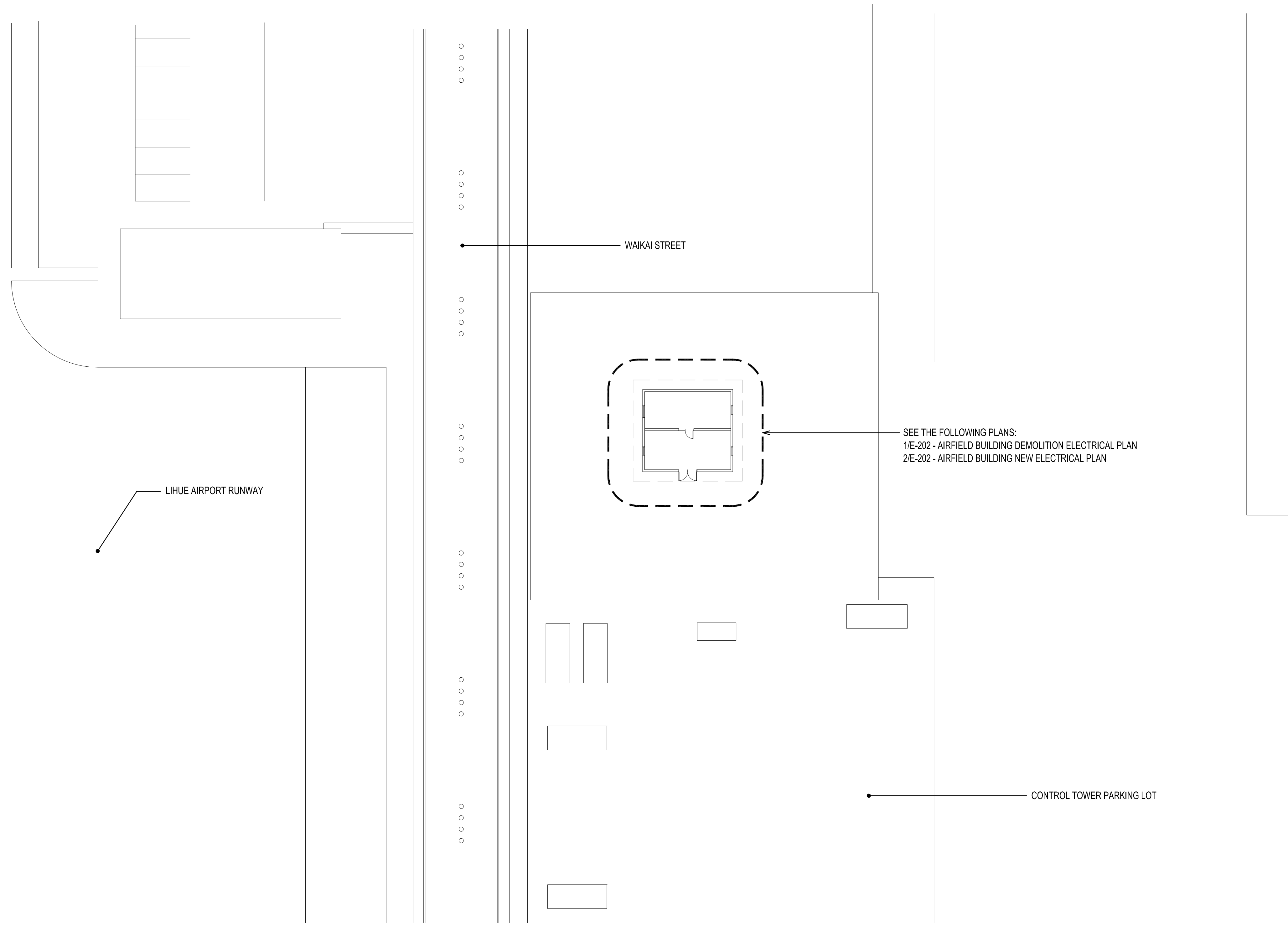
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UST REMOVALS AND REPLACEMENTS WITH ASTS
AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:
AK1046-31

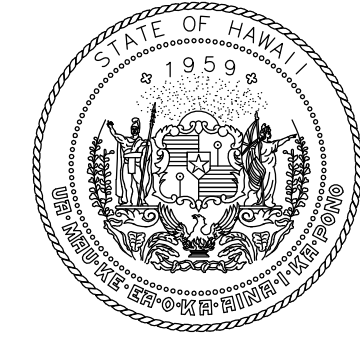
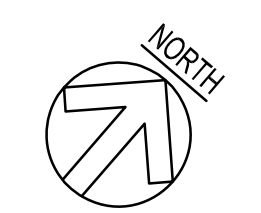
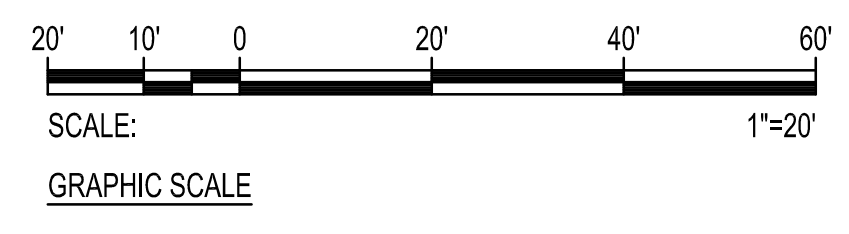
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ELEC SYMBOL LIST, GENERAL ELECTRICAL NOTES, SITE PLAN

DATE :	DWG. NO.
MAR 2024	E-001
SHEET :	
25 OF 30 SHEETS	

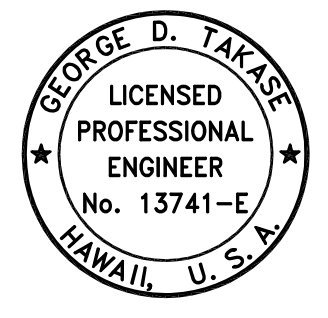
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1 AIRFIELD BUILDING SITE ELECTRICAL PLAN
SCALE: 1" = 20'



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



George D. Takase
04/30/2026
Licensed Expiration Date

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MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS
AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

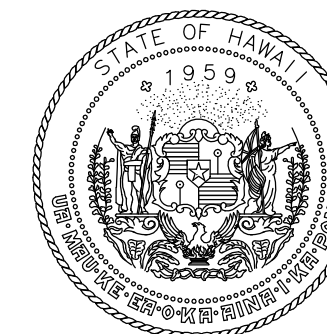
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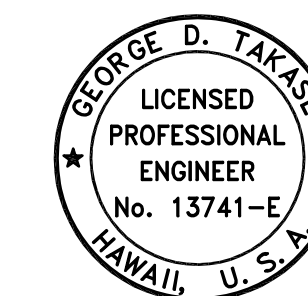
AIRFIELD BUILDING ELECTRICAL SITE PLAN

DATE :	DWG. NO.
MAR 2024	E-002
SHEET :	
26 OF 30 SHEETS	

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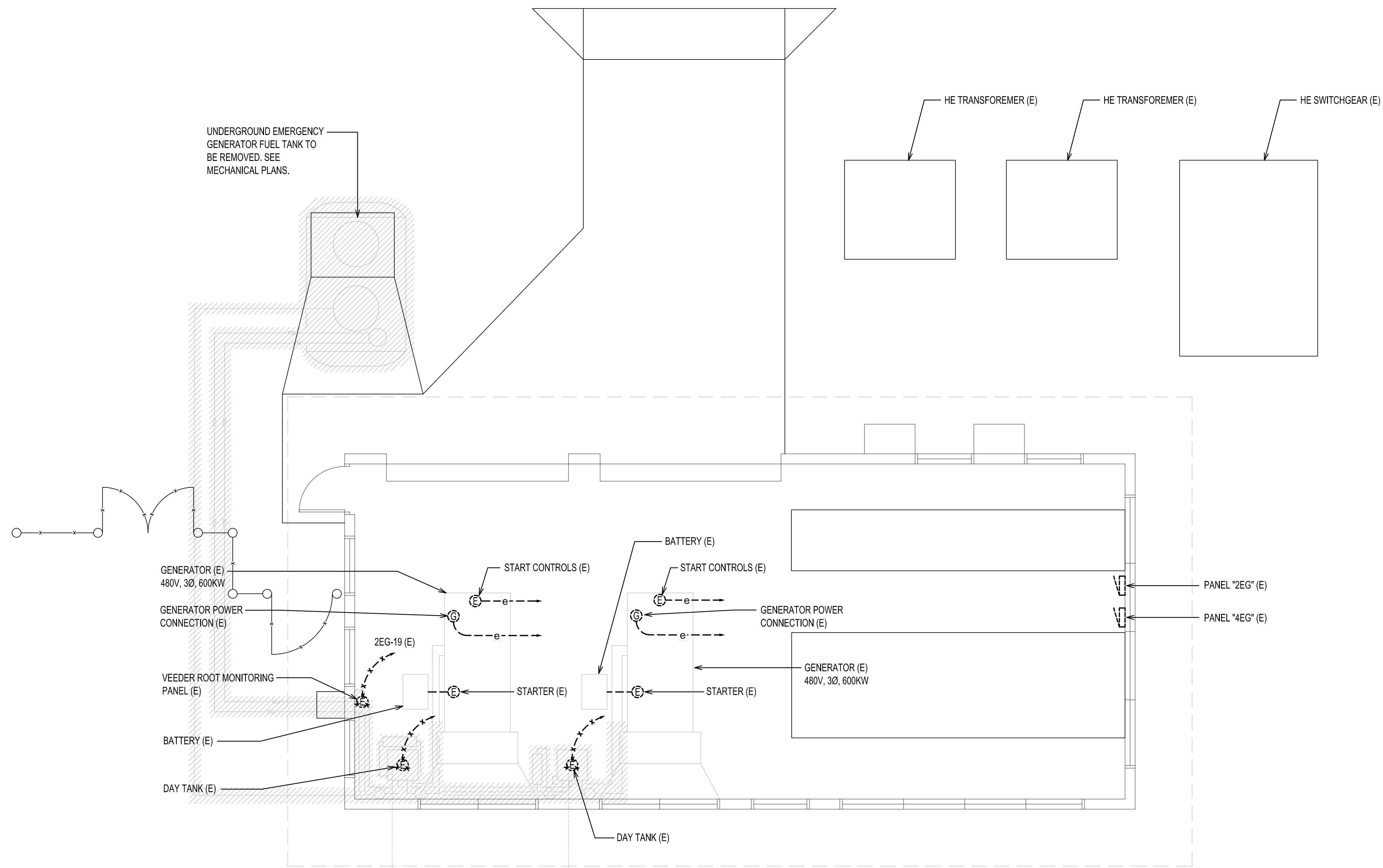
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



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HAWAII, U.S.A.

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DATE

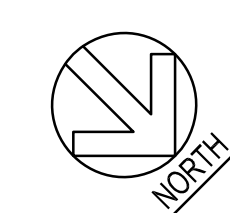
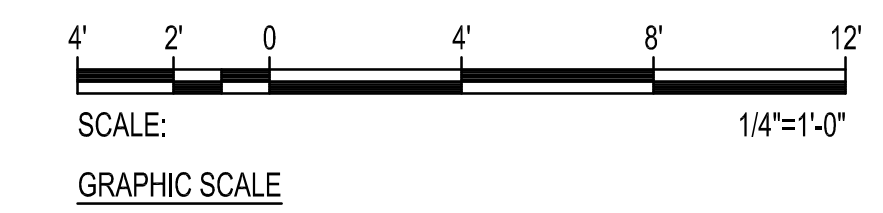
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UST REMOVALS AND REPLACEMENTS WITH ASTS
AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:
AK1046-31

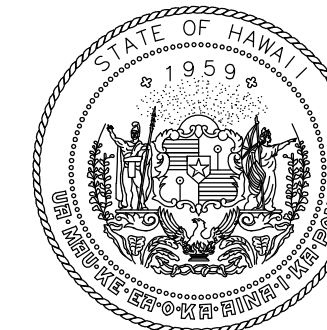
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TERMINAL BUILDING DEMOLITION ELECTRICAL PLAN

DATE :	DWG. NO.
MAR 2024	E-101
SHEET :	
27 OF 30 SHEETS	

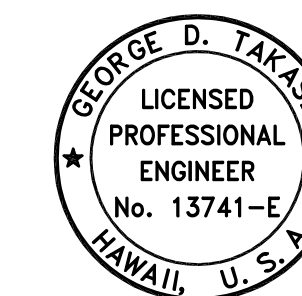
1 **TERMINAL BUILDING DEMOLITION ELECTRICAL PLAN**
SCALE: 1/4" = 1'-0"



Z:\ACAD\PROJECTS\2314\1E-101_223141_TERMINAL BLDG DEMO ELEC PLAN.DWG



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS



GEORGE D. TAKASE
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HAWAII, U.S.A.
04/30/2026
Licensed Expiration Date

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SH	CAD	GDT	GDT

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS

MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

**TERMINAL BUILDING
NEW
ELECTRICAL PLAN**

DATE :

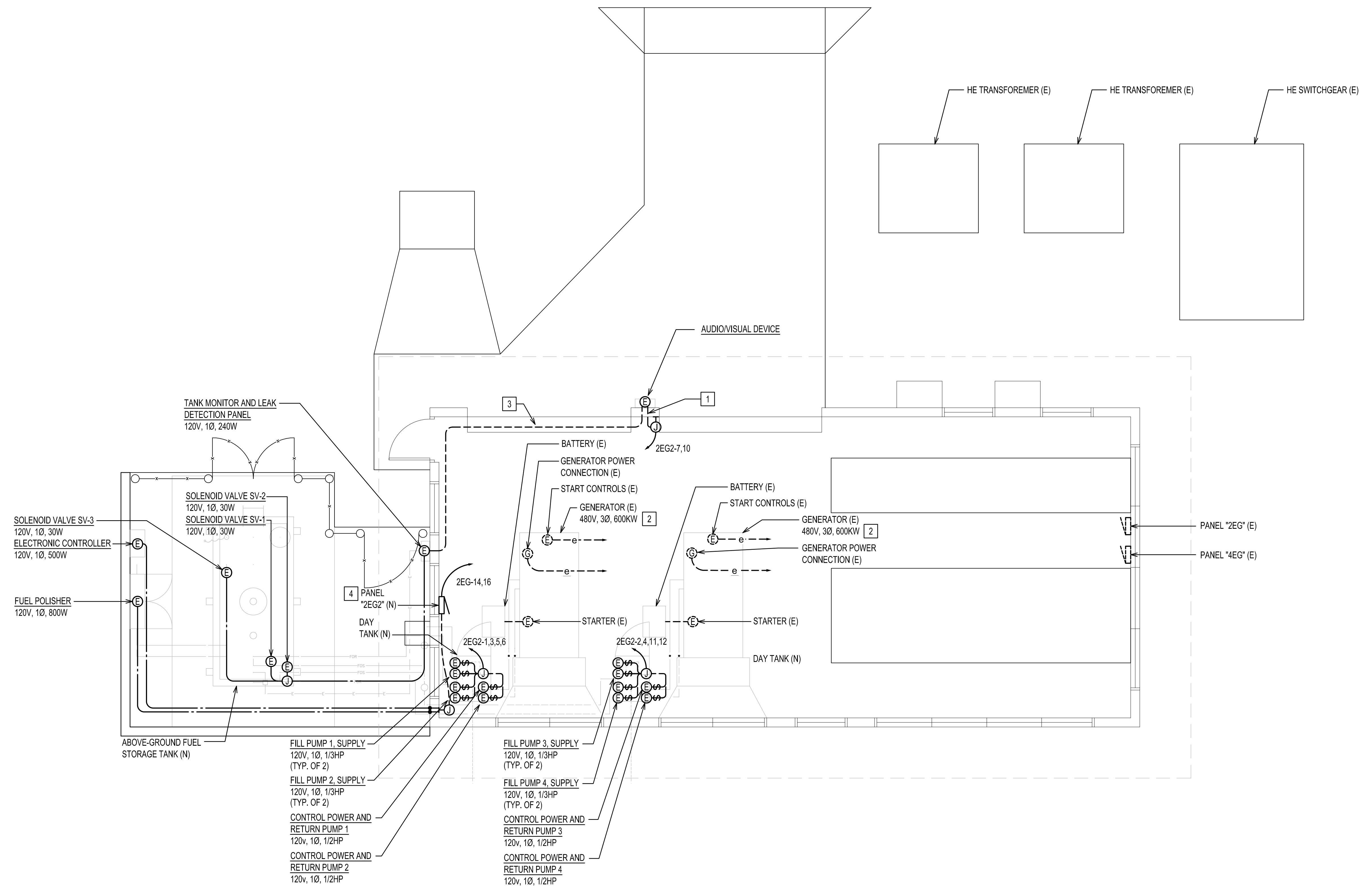
MAR 2024

SHEET :

28 OF 30 SHEETS

DWG. NO.

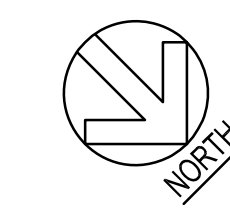
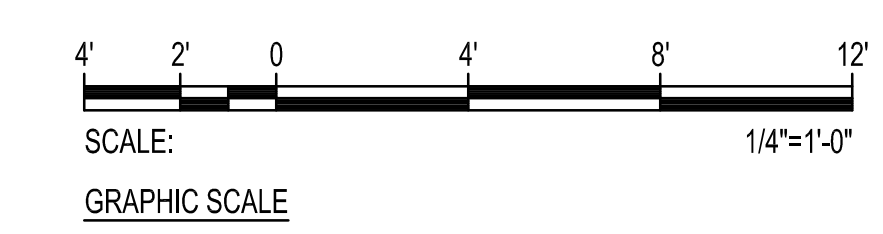
E-201



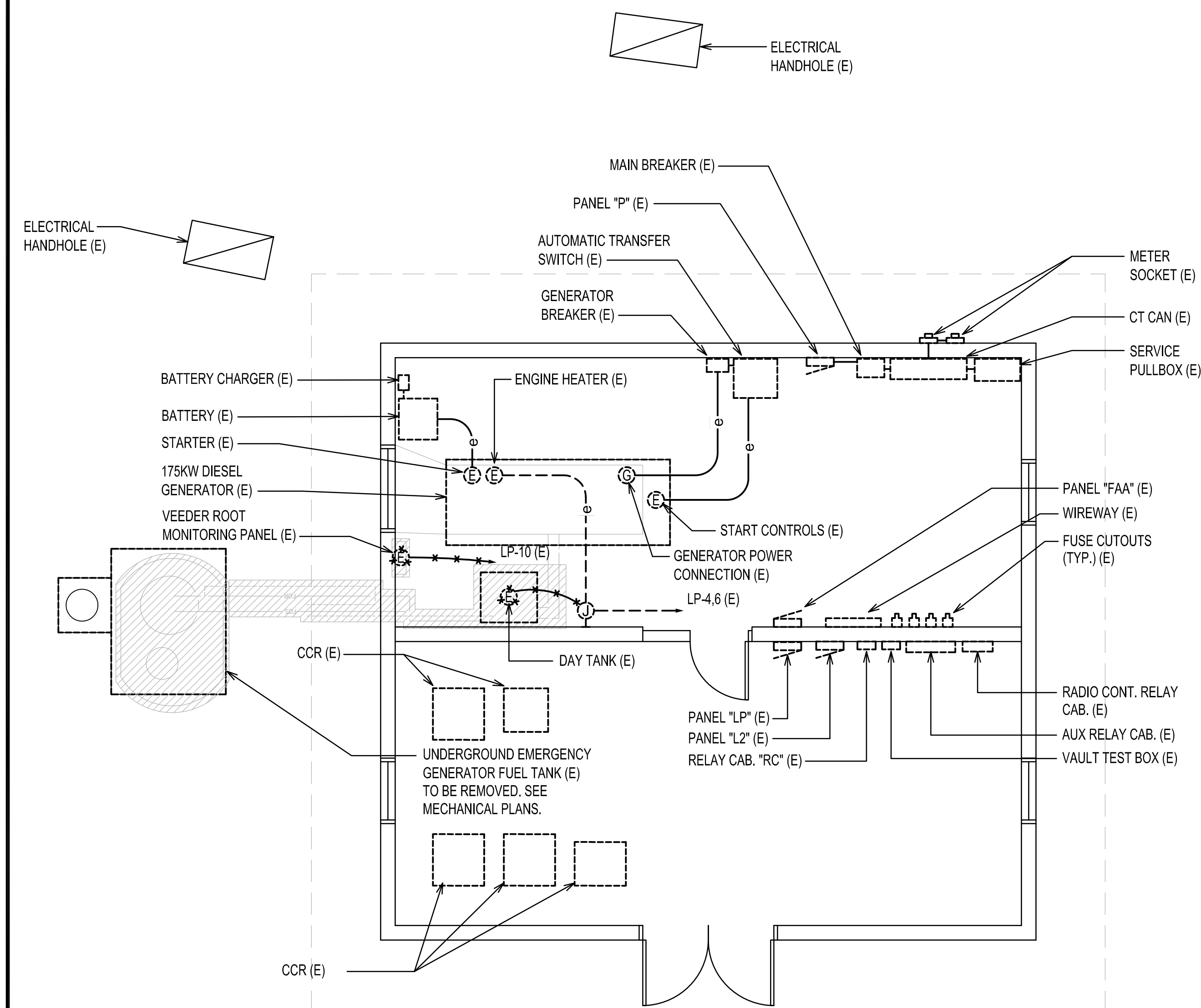
NOTES:

- 1 PENETRATE WALL ABOVE ROLLING DOOR EQUIPMENT.
- 2 GENERATOR MUST BE OPERATIONAL DURING CONSTRUCTION.
- 3 MOUNT ABOVE ROLLING DOOR EQUIPMENT.
- 4 MOUNTED TO UNISTRUT PEDESTAL. SEE 1/E-301.

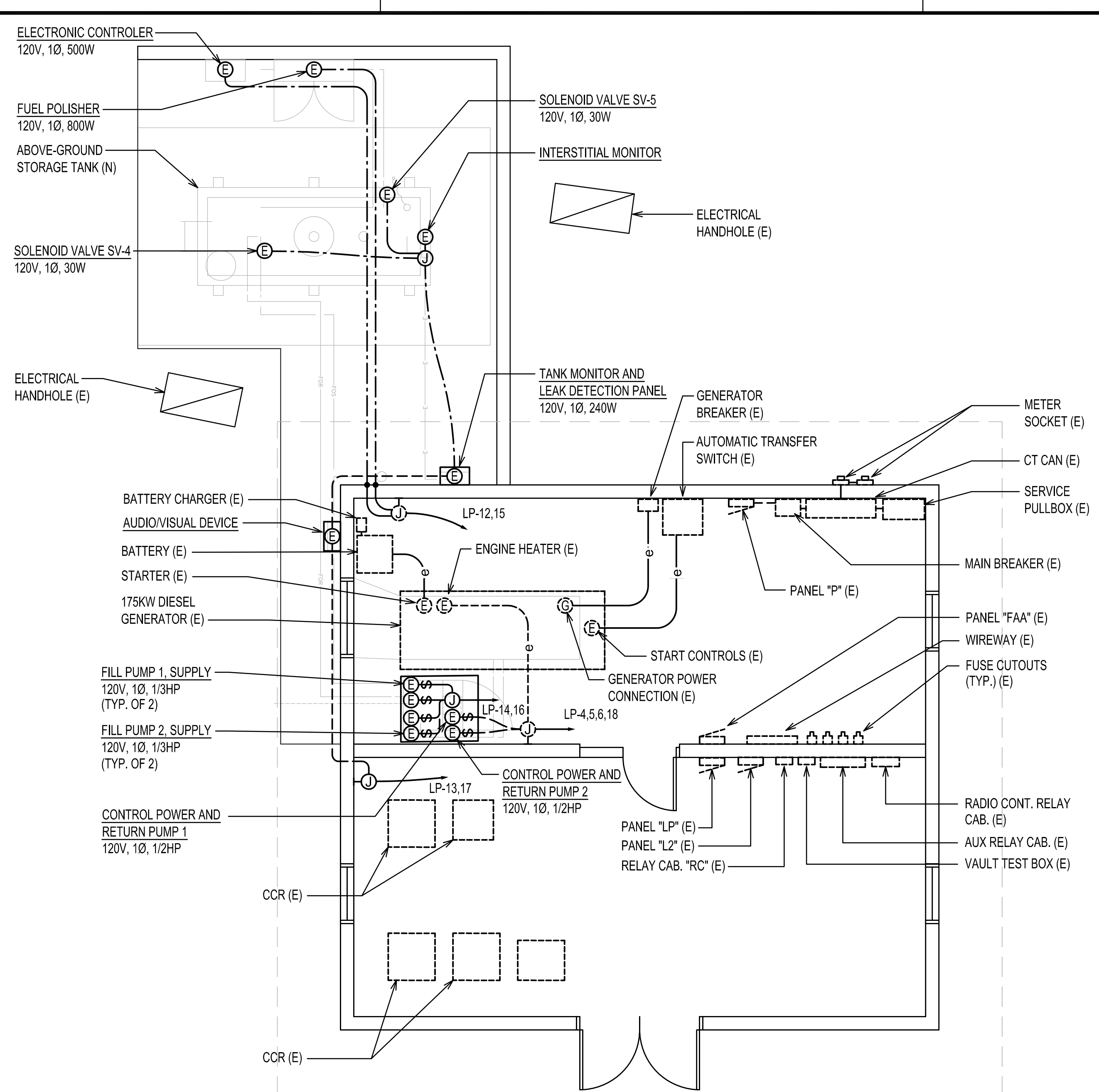
1 TERMINAL BUILDING NEW ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



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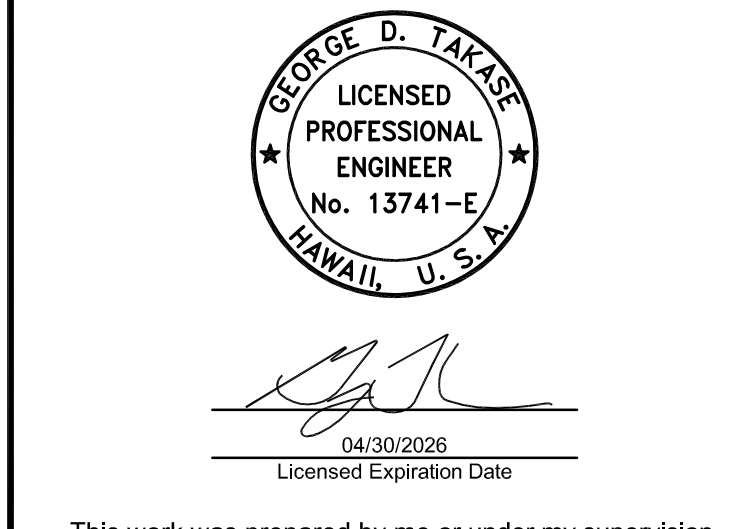
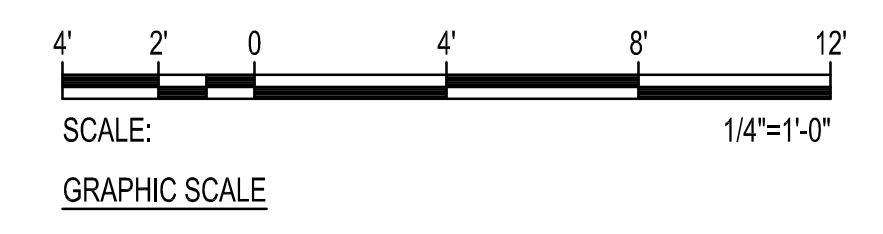


1 AIRFIELD BUILDING DEMOLITION ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



2 AIRFIELD BUILDING NEW ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

NOTES:
1. GENERATOR MUST BE OPERATIONAL DURING CONSTRUCTION.



This work was prepared by me or under my supervision.

DSGN.	DRWN.	CHKD.	APPD.
SH	CAD	GDT	GDT

NO.	DATE	REVISIONS
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CONSTRUCTION DOCUMENTS
MARCH 11, 2024
DATE

PROJECT TITLE :

UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1046-31

SHEET TITLE:

AIRFIELD BUILDING DEMOLITION AND NEW ELECTRICAL PLANS

DATE :	DWG. NO.
MAR 2024	E-202
SHEET :	
29 OF 30 SHEETS	

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TO FILL PUMP 3 & 4 AND RETURN PUMP 2
 TO FILL PUMP 1 & 2 AND RETURN PUMP 1
 TO AUDIOVISUAL DEVICE
 TO FUEL POLISHER
 TO PANEL "2EG" (E)

BOLT UNISTRUT INTO WALL (TYP.)

2" SQ UNISTRUT (BOLTED OR WELDED) (N)

VEEDER ROOT FUEL MONITOR (E)

PANEL "2EG2" (N)
 120/208V, 1Ø, 3W, NEMA 1

UNISTRUT BASE BOLT INTO FINISHED GRADE (TYP.) (N)

1 TERMINAL PANELBOARD ELEVATION
 SCALE: NOT TO SCALE

PANEL "LP" (E)
 MAIN LUGS ONLY, 120/208V, 3Ø, 4 WIRE
 22,000 AIC RATING, PANELBOARD TYPE, PLUG-IN BREAKERS
 225 A CU BUS RATING, SURFACE MOUNTED, NEMA 1 ENCLOSURE

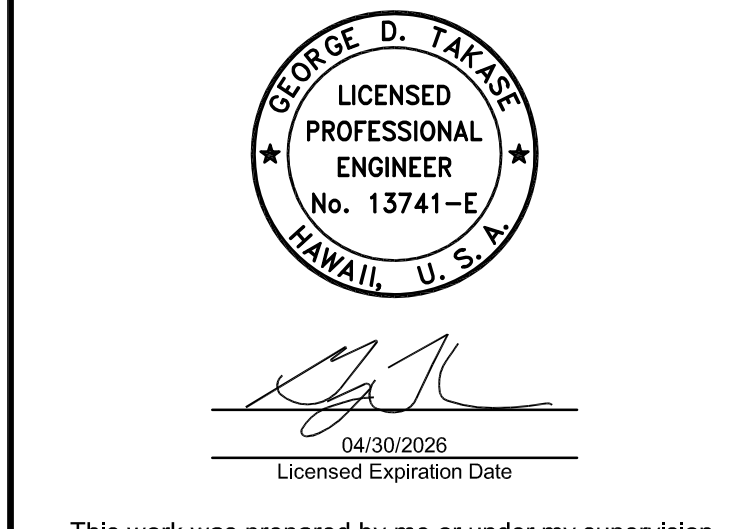
CKT NO.	USE: PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN	BREAKERS		WIRE SIZE	KVA ON BUSES			WIRE SIZE	BREAKERS		USE: PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN	CKT NO.
		POLE	AMPS		PHASE A	PHASE B	PHASE C		POLE	AMPS		
1	LTS	1	20	12	1.0	0.2		12	1	20	BATTERY CHARGER	2
3	LTS - BATTERY LT & NL	1	20	12			0.2	1.0			FUEL PUMP	4
5	NEW CONTROL POWER & RETURN PUMP 2	1	20	12					0.9	0.5	ENGINE HEATER	6
7	GENERATOR CLOCK, RECEPTACLE ²	1	20	12	1.2	0.5					CONTROL & TEST-AF LTG.	8
9	BEACON	1	30				2.4	0.6			LEAK DETECTOR, LIGHTING CONTROL ¹	10
11	EMCS PNL	1	20	12					0.2	0.5	NEW ELECTRONIC CONTROLLER	12
13	NEW SOLENOID VALVE SV-4, SV-5	1	20	12	0.1	1.0					NEW FILL PUMP 1, SUPPLY	14
15	NEW FUEL POLISHER	1	20	12			0.9	1.0			NEW FILL PUMP 2, SUPPLY	16
17	NEW TANK MONITOR & LEAK DETECTION PANEL	1	20	12					0.3	0.9	NEW CONTROL POWER & RETURN PUMP 1	18
19	PRV# 1	3	15	12	0.4	0.4					PRV# 2	20
21							0.4	0.4				22
25,27	FUTURE APRON LTS	2	30		1.2	1.8					FUTURE APRON LTS	26,28
29,31	FUTURE APRON LTS	2	30				1.2	1.8			FUTURE APRON LTS	30,32
33,35	FUTURE APRON LTS	2	30				1.2	1.8			FUTURE APRON LTS	34,36
CONNECTED LOAD PER PHASE					10.8	12.9		10.1				
¹ TAP LIGHTING CONTROL OFF LEAK DETECTOR ON CIRCUIT 10 TO COMBINE. SPLICE AND TAP AS NECESSARY. ² TAP RECEPTACLE OFF GENERATOR CLOCK ON CIRCUIT 7 TO COMBINE. SPLICE AND TAP AS NECESSARY.											TOTAL CONNECTED LOAD (KVA)	34 KVA
											DEMAND FACTOR	100%
											TOTAL DEMAND LOAD (KVA)	34 KVA
											TOTAL DEMAND LOAD (AMPS)	94 A

PANEL "2EG" (E)
 150 A BREAKER, 120/208V, 3Ø, 4 WIRE
 22,000 AIC RATING, PANELBOARD TYPE, PLUG-IN BREAKERS
 225 A CU BUS RATING, SURFACE MOUNTED, NEMA 1 ENCLOSURE

CKT NO.	USE: PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN	BREAKERS		WIRE SIZE	KVA ON BUSES			WIRE SIZE	BREAKERS		USE: PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN	CKT NO.	
		POLE	AMPS		PHASE A	PHASE B	PHASE C		POLE	AMPS			
1	LIGHTING CONTROL	1	20	12	0.5	3.0			8	1	40	ENGINE JACKET WH #1 RIGHT	2
3	BATTERY CHARGER	1	20	12			0.5	1.0				F.O. XFER PUMP	4
5	RECEPTACLE	1	20	12					1.0	1.0		BAD BREAKER	6
7,9,11	PARKING CONTROL BUILDING	3	100	2	15.0	1.0						GAS PUMP/PROPANE	8
							15.0	1.0				HONEYWELL GDP	10
									15.0	1.0		F.O. XFER PUMP	12
13	ENGINE JACKET WH #1 LEFT	1	30	8	3.0	4.2						NEW PANEL "2EG2"	14,16
15	ENGINE JACKET WH #2 LEFT	1	30	8			3.0	5.5					
17	ENGINE JACKET WH #2 RIGHT	1	40	8					3.0	0.0		PFB	18
19	VEEDER ROOT (FUEL MONITOR)	1	20	12	0.1	0.8						PFB	20
21	PFB	1	20	12			1.1	1.8				SHORE POWER	22,24
23	EMER. GEN EPIC PANEL	1	40	8					5.0	1.8		SHORE POWER	
CONNECTED LOAD PER PHASE					27.6	28.9		27.8					
											TOTAL CONNECTED LOAD (KVA)	84 KVA	
											DEMAND FACTOR	30%	
											TOTAL DEMAND LOAD (KVA)	25 KVA	
											TOTAL DEMAND LOAD (AMPS)	70 A	

PANEL "2EG2" (N)
 MAIN LUGS ONLY, 120/208V, 1Ø, 3 WIRE
 22,000 AIC RATING, PANELBOARD TYPE, PLUG-IN BREAKERS
 100 A CU BUS RATING, SURFACE MOUNTED, NEMA 1 ENCLOSURE

CKT NO.	USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN	BREAKERS		WIRE SIZE	KVA ON BUSES			WIRE SIZE	BREAKERS		USE: L-LTS, R-RECEP, PFB-PROVISION FUTURE BKR., S-SPARE, F-FAN	CKT NO.	
		POLE	AMPS		PHASE A	PHASE B	PHASE C		POLE	AMPS			
1	NEW FILL PUMP 1	1	20	12	0.9	0.9			12	1	20	NEW FILL PUMP 3	2
3	NEW FILL PUMP 2	1	20	12			0.9	0.9				NEW FILL PUMP 4	4
5	NEW CONTROL POWER AND RETURN PUMP 1	1	20	12	0.9	0.9			12	1	20	NEW CONTROL POWER AND RETURN PUMP 2	6
7	NEW SOLENOID VALVE SV-1, SV-2, SV-3	1	20	12			1.0	0.9				NEW FUEL POLISHER	8
9	NEW ELECTRONIC CONTROLLER	1	20	12	0.5	0.1			12	1	20	NEW VEEDER ROOT (FUEL MONITOR)	10
11	NEW CONTROL POWER AND RETURN PUMP 3						0.9	0.9				NEW CONTROL POWER AND RETURN PUMP 4	12
CONNECTED LOAD PER PHASE					4.2	5.5							
											TOTAL CONNECTED LOAD (KVA)	10 KVA	
											DEMAND FACTOR	100%	
											TOTAL DEMAND LOAD (KVA)	10 KVA	
											TOTAL DEMAND LOAD (AMPS)	47 A	



This work was prepared by me or under my supervision.
 DSGN. DRWN. CHKD. APPD.
 SH CAD GDT GDT

NO. DATE REVISIONS
CONSTRUCTION DOCUMENTS
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UST REMOVALS AND REPLACEMENTS WITH ASTS

AT
 LIHUE AIRPORT
 LIHUE, KAUAI, HAWAII

PROJECT NO. :
AK1046-31

SHEET TITLE :
ELECTRICAL DETAILS

DATE :
MAR 2024
 SHEET :
 30 OF 30 SHEETS
 DWG. NO.
E-301

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