

NOTES FOR GENERAL CONSTRUCTION

- ALL CONSTRUCTION WORK IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSIONS OF THE PUBLICATIONS "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", THE "HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION STANDARD PLANS", AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, CITY AND COUNTY OF HONOLULU, AND THE COUNTIES OF KAUAI, MAUI, AND HAWAII." THE STANDARD DETAILS ARE AVAILABLE AT THE COUNTY OF KAUAI CLERK'S OFFICE.
- APPROVAL BY THE COUNTY SHALL IN NO WAY RELIEVE THE DESIGN ENGINEER OF THEIR RESPONSIBILITIES AND PROFESSIONAL OBLIGATIONS. THEY SHALL BE HELD RESPONSIBLE FOR THE ADEQUACY OF THE DESIGN AND ACCURACY AND COMPLETENESS OF THE PLANS AND SPECIFICATIONS. CHANGES OR REVISIONS TO CORRECT ANY DEFICIENCIES SHALL BE MADE BY AND AT THE EXPENSE OF THE DESIGNER. SUCH CHANGES AND REVISIONS SHALL REQUIRE APPROVAL BY THE COUNTY.
- NO GRADING BETWEEN 7 P.M. TO 7 A.M. ON ANY GIVEN DAY OR ON SATURDAYS, SUNDAYS, AND HOLIDAYS WITHOUT WRITTEN PERMISSION FROM THE COUNTY ENGINEER AND THE STATE DEPARTMENT OF HEALTH.
- CONTRACTOR TO NOTIFY PUBLIC WORKS DEPARTMENT FIVE (5) BUSINESS DAYS PRIOR TO COMMENCING ANY GRADING WORK. WHEN COMPLETED AND READY FOR FINAL INSPECTION; NOTIFY PUBLIC WORKS DEPARTMENT INSPECTION SECTION.
- CONSTRUCTION PLANS ARE VALID FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL. IF CONSTRUCTION DOES NOT COMMENCE WITHIN THE ONE-YEAR TIME FROM THE DATE OF APPROVAL, THE CONSTRUCTION PLANS SHALL BE RESUBMITTED TO ALL REVIEWING AND APPROVING AGENCIES FOR REVIEW, APPROVAL, AND RECERTIFICATION OF THE PLAN.
- ALL GRADING, GRUBBING, AND STOCKPILING WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE COUNTY OF KAUAI ORDINANCE NO. 808.
- AFTER EACH RAINFALL EVENT, THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE COUNTY ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
- DURING CLEANING OPERATIONS, THE CONTRACTOR SHALL SUPPLY A WATER TRUCK FOR DUST CONTROL PURPOSES UNTIL THE VEGETATION HAS RE-ESTABLISHED ITSELF. EXCESS WATER, INCLUDING SILT AND DIRT, SHALL NOT BE ALLOWED TO RUN-OFF THE PROPERTY.
- BENCHMARKS THAT ARE DISTURBED OR DESTROYED SHALL BE RESTORED UNDER A LICENSED LAND SURVEYOR'S DIRECTION. COPIES OF FIELD NOTES, DESCRIPTIONS AND NEW VALUES OF THE NEW BENCHMARK SHALL BE SENT TO THE DEPARTMENT OF PUBLIC WORKS SURVEY SECTION FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OVERTIME AND/OR NIGHT WORK PAYMENTS FOR THE COUNTY'S STAFF AND INSPECTION PERSONNEL INCLUDING CONSULTANTS, WHEN THE CONTRACT REQUIRES OVERTIME OR NIGHT WORK TO BE PERFORMED, OR DIRECTS THE CONTRACTOR TO WORK ADDITIONAL SHIFTS OR OVERTIME FOR COUNTY'S CONVENIENCE.
- BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE EMPLOYED AT ALL TIMES TO THE MAXIMUM EXTENT PRACTICABLE TO PREVENT DAMAGE BY SEDIMENTATION, EROSION OR DUST TO STREAMS, WATERCOURSES, NATURAL AREAS AND THE PROPERTY OF OTHERS.
- SURVEYS, AND ALL CONSTRUCTION STAKE OUT FOR MASS GRADING, FINAL ROADWAY AND SHOULDER IMPROVEMENTS, AND UTILITIES (SEWER, DRAIN, WATER, ELECTRICAL, ETC.) SHALL BE DONE UNDER THE SUPERVISION OF A LAND SURVEYOR LICENSED IN THE STATE OF HAWAII. IF THE CONTRACTOR ELECTS TO PERFORM THE SURVEY AND CONSTRUCTION STAKE OUTS WITHOUT THE SUPERVISION OF A LAND SURVEYOR, THE CONTRACTOR SHALL SUBMIT FINAL AS-BUILT PLANS CERTIFIED BY A LAND SURVEYOR THAT ALL UTILITIES AND ALL GRADING WORK FOR FINAL ROAD AND SHOULDER ELEVATIONS WERE CONSTRUCTED IN THE LOCATION AND ELEVATIONS (INCLUDED BUT NOT LIMITED TO TOP AND INVERTS FOR UTILITIES) AS SHOWN ON THE AS-BUILT PLANS AND CERTIFIED BY THE DESIGN ENGINEER THAT THE AS-BUILT LOCATION AND ELEVATIONS FOR THE IMPROVEMENTS MEETS MINIMUM DESIGN STANDARDS AND REGULATORY REQUIREMENTS.
- IF SYSTEM CONDITIONS REQUIRE NON-EMERGENCY NIGHTTIME WORK DURING THE AUTUMN SEABIRD FALL SEASON (SEPTEMBER 15 THROUGH DECEMBER 15), USE OF LIGHTING SHALL BE RESTRICTED BETWEEN 9:00 P.M. TO 4:30 A.M. IF LIGHTING OF THE WORK AREA IS REQUIRED IN SUCH SITUATION, ALL LIGHTS SHALL BE SHIELDED (MINIMUM LIGHT SPILL TOWARDS THE SKY) AND DIRECTED DOWNWARDS TO THE MAXIMUM EXTENT PRACTICABLE. MINIMUM REQUIREMENTS FOR LIGHTING BY HIOSH AND OSHA SHALL BE PROVIDED AND ASSURED BY THE CONTRACTOR. THE CONTRACTOR SHALL TRAIN ALL EMPLOYEES WORKING AT NIGHT (RECORDS RETAINED BY THE CONTRACTOR) ON HOW TO HANDLE ANY RETRIEVED DOWNED BIRDS AND SHALL HAVE APPROPRIATE EQUIPMENT AS APPROVED BY SAVE OUR SHEARWATERS (SOS) ON SITE TO HOLD AND TRANSPORT ANY RETRIEVED BIRDS TO AN SOS FACILITY. THIS REQUIREMENT DOES NOT ALLOW LIGHTING AS MAY BE RESTRICTED BY OTHER GOVERNMENT AGENCIES.
- PRIOR TO STARTING ANY EXCAVATION ACTIVITIES, THE CONTRACTOR SHALL CONTACT THE HAWAII ONE CALL CENTER AT 1-866-423-7287.
- PRIOR TO INSTALLATION OF ANY NEW SEWER LINES, DRAIN LINES, MANHOLES, AND STRUCTURES THAT WILL BE TRANSFERRED TO THE COUNTY OR REQUIRED FOR THE SUBDIVISION OF THE PROPERTY, THE CONTRACTOR SHALL HAVE ALL IMPROVEMENTS (MANS, PIPES, APPURTENANCES AND STRUCTURES) SURVEYED AND STAKED OUT BY A LICENSED PROFESSIONAL LAND SURVEYOR AND THE CONTRACTOR SHALL EXPOSE, VERIFY, AND BACKFILL ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES IN CLOSE PROXIMITY TO CROSSINGS AND CONNECTIONS PRIOR TO EXCAVATION OF PIPELINE TRENCH. CONTRACTOR SHALL PROVIDE THE LICENSED SURVEYOR CUT SHEET AND PROBING INFORMATION TO THE PUBLIC WORKS ENGINEERING CONSTRUCTION ENGINEER FOR REVIEW AND APPROVAL BEFORE MOVING FORWARD WITH INSTALLATION VIA THE SUBMITTAL REVIEW PROCESS.

- PRIOR TO INSTALLATION OF FINAL ROADWAY IMPROVEMENTS (SUBGRADE, BASE COURSE, AND FINAL CONCRETE OR AC PAVEMENT, CURBS, GUTTERS, SIDEWALK, ETC.) AND/OR ANY NEW RIGHT OF WAY IMPROVEMENTS THAT WILL BE TRANSFERRED TO THE COUNTY OR REQUIRED FOR THE SUBDIVISION OF THE PROPERTY, THE CONTRACTOR SHALL HAVE ALL IMPROVEMENTS SURVEYED AND STAKED OUT BY A LICENSED PROFESSIONAL LAND SURVEYOR AND THE CONTRACTOR SHALL EXPOSE, VERIFY, AND BACKFILL ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES IN CLOSE PROXIMITY TO CONNECTIONS PRIOR TO ESTABLISHING ROAD SUBGRADE. CONTRACTOR SHALL PROVIDE THE LICENSED SURVEYOR ROAD CENTERLINE (AND/OR CURB OFFSETS) CUT SHEET OF FINAL SUBGRADE TO THE PUBLIC WORKS ENGINEERING CONSTRUCTION ENGINEER FOR REVIEW AND APPROVAL BEFORE MOVING FORWARD WITH THE INSTALLATION VIA THE SUBMITTAL REVIEW PROCESS.
- THE DEPARTMENT OF PUBLIC WORKS SHALL BE PROVIDED TWENTY (20) WORKING DAYS FOR ALL SUBMITTAL REVIEWS FROM THE TIME OF SUBMISSION BY THE CONTRACTOR.
- THE DEPARTMENT OF PUBLIC WORKS SHALL HAVE ACCESS TO THE WORK AT ALL TIMES DURING CONSTRUCTION AND SHALL BE FURNISHED WITH EVERY REASONABLE FACILITY (INCLUDING BUT NOT LIMITED TO LAYOUT UNDER THE SUPERVISION OF A LAND SURVEYOR LICENSED IN THE STATE OF HAWAII) FOR ASCERTAINING THAT THE MATERIALS USED AND THE WORKMANSHIP ARE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CHAPTER 9 SUBDIVISION ORDINANCE; ORDINANCE NO. 808, ARTICLE 7, GRADING, GRUBBING AND STOCKPILING; AND THE STANDARDS ESTABLISHED BY THE DEPARTMENT OF PUBLIC WORKS.
- FOR GRADING WORK EXCEEDING ONE (1) ACRE, WITH EMBANKMENTS IN EXCESS OF FIVE HUNDRED (500) CUBIC YARDS, AND WITH A DEPTH OF MORE THAN FOUR (4) FEET, THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER FOR QUALITY CONTROL. CERTIFICATION FROM THE GEOTECHNICAL ENGINEER SHALL BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS AT THE COMPLETION OF THE GRADING WORK. THE GEOTECHNICAL ENGINEER SHALL CERTIFY THAT THE GRADING WORK MEETS THE REQUIREMENTS OF THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS; THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, COUNTY OF KAUAI, CITY AND COUNTY OF HONOLULU, COUNTY OF MAUI, AND THE COUNTY OF HAWAII DATED SEPTEMBER 1984" OR AS AMENDED; ORDINANCE NO. 808, ARTICLE 7, GRADING GRUBBING, AND STOCKPILING; AND THE APPROVED CONSTRUCTION PLANS. THE GEOTECHNICAL ENGINEER SHALL ALSO SUBMIT TEST RESULTS AS REQUESTED BY THE DEPARTMENT OF PUBLIC WORKS.
- UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR WILL PREPARE AND CERTIFY AS-BUILT DRAWINGS THAT REPRESENT ALL CHANGES TO THE ORIGINAL APPROVED CONSTRUCTION PLANS. THE OWNER'S LICENSED DESIGN ENGINEER WILL CERTIFY THAT ALL OF THE CHANGES SHOWN ON THE AS-BUILT DRAWINGS HAVE BEEN APPROVED BY THE DESIGN ENGINEER AND MEET MINIMUM STANDARDS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ORIGINAL APPROVED CONSTRUCTION PLANS. THE DEPARTMENT OF PUBLIC WORKS MAY REQUIRE EVERY REASONABLE FACILITY TO VERIFY ANY IMPROVEMENT ON THE FINAL AS-BUILT PLANS PRIOR TO THE CERTIFICATION BY THE OWNER'S ENGINEER, INCLUDING BUT NOT LIMITED TO HAVING A LAND SURVEYOR LICENSED IN THE STATE OF HAWAII CONFIRM AND CERTIFY THE FINAL LOCATION AND ELEVATIONS

NOTES FOR CONSTRUCTION WITHIN COUNTY ROW

- ALL DAMAGED PAVEMENT SHALL BE RESTORED TO ITS ORIGINAL CONDITION IN ACCORDANCE WITH COUNTY OF KAUAI, "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS IN THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984", AS AMENDED BY THE DEPARTMENT FOR PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, AND THE COUNTIES FOR KAUAI, MAUI, AND HAWAII, WITH 2" MINIMUM HOT MIXED ASPHALT CONCRETE PAVEMENT (STATE DESIGN MIX V) AND 8" MINIMUM BASE COURSE.
- THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES AND OTHER PROTECTIVE FACILITIES AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION AND FOR THE CONVENIENCE AND SAFETY OF THE PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES AND PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH THE RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS ADOPTED BY THE HIGHWAY SAFETY COORDINATOR AND U.S. FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS DATED 2009 AND ITS AMENDMENTS.
- THE CONTRACTOR SHALL, WHENEVER NECESSARY, PROPERLY SHEET AND BRACE ALL EXCAVATIONS TO RENDER IT SECURE AND SHALL REMOVE ALL SUCH SHEETING AND BRACING BEFORE COMPLETION OF THE BACKFILL FOR WATER MAINS. THE MINIMUM COVER REQUIREMENTS (FROM TOP OF PIPE TO FINISHED GRADE OVER PIPE) IS THREE (3) FEET.
- A PERMIT SHALL BE OBTAINED BY THE CONTRACTOR FROM THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF KAUAI BEFORE WORK ON A PUBLIC STREET OR HIGHWAY MAY BEGIN. PERMIT FEES SHALL BE AT THE CONTRACTOR'S EXPENSE.
 - DRIVEWAYS SHALL BE KEPT OPEN UNLESS OWNERS OF THE ABUTTING LOTS USING THESE (ROW) ARE OTHERWISE PROVIDED FOR SATISFACTORILY.
 - ALL WORK INCLUDING REPAIR OF DAMAGED PAVEMENT AND SHOULDERS SHALL BE INSPECTED AND APPROVED BY THE DEPARTMENT OF PUBLIC WORKS. ALL UNAPPROVED WORK SHALL BE CONSIDERED UNACCEPTABLE AND SHALL BE REWORKED AND CORRECTED AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS, AT THE CONTRACTOR'S EXPENSE.
 - DAMAGED SHOULDERS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITION.
 - WORK ON A PUBLIC STREET AREA MY BE PERFORMED ONLY BETWEEN THE HOURS OF 8:00 A.M. TO 3:30 P.M. MONDAY THROUGH FRIDAY, EXCEPT ON HOLIDAYS RECOGNIZED BY THE COUNTY OF KAUAI, UNLESS OTHERWISE PERMITTED IN WRITING BY THE COUNTY ENGINEER.
 - DURING NON-WORKING HOURS, ALL TRENCHED SHALL BE COVERED WITH A SAFE NON-SKID BRIDGING MATERIAL AND ALL LANES SHALL BE OPENED TO PUBLIC VEHICULAR AND PEDESTRIAN TRAFFIC.

- NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN COUNTY RIGHT-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING AND APPROVED BY THE COUNTY ENGINEER.
- THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO OFFER THE LEAST POSSIBLE OBSTRUCTIONS AND INCONVENIENCE TO THE PUBLIC AND HE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAN HE CAN EXECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC.
 - ALL EXISTING DRAINAGE FLOW CONDITIONS SHALL BE MAINTAINED.
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER FOR QUALITY CONTROL. CERTIFICATION FROM THE GEOTECHNICAL ENGINEER SHALL BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS AT THE COMPLETION OF THE CONSTRUCTION WORK. THE GEOTECHNICAL ENGINEER SHALL CERTIFY THAT THE CONSTRUCTION WORK MEETS THE "STANDARD SPECIFICATIONS". THE GEOTECHNICAL ENGINEER SHALL ALSO SUBMIT TEST RESULTS AS REQUESTED BY THE DEPARTMENT OF PUBLIC WORKS.
- THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH THE CONSTRUCTION - DESIGN SECTIONS OF THE DEPARTMENT OF PUBLIC WORKS BEFORE COMMENCING ANY WORK.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PRESERVE BENCHMARKS (SURVEY MONUMENTS) WHENEVER THE CENTER OF A SURVEY MONUMENT IS LESS THAN THREE (3) FEET FROM THE EDGE OF CONSTRUCTION. THE CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR TO REFERENCE THE LOCATION OF SAID SURVEY MONUMENT.
- BENCHMARKS THAT ARE DISTURBED OR DESTROYED SHALL BE RESTORED UNDER A LICENSED LAND SURVEYOR'S DIRECTION. COPIES OF FIELD NOTES, DESCRIPTIONS AND NEW VALUES OF THE NEW BENCHMARK SHALL BE SENT TO THE DEPARTMENT OF PUBLIC WORKS SURVEY SECTION FOR REVIEW AND APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OVERTIME OR NIGHT WORK PAYMENTS FOR COUNTY'S STAFF AND INSPECTION PERSONNEL INCLUDING CONSULTANTS WHEN THE CONTRACT REQUIRES OVERTIME OR NIGHT WORK TO BE PERFORMED OR DIRECTS THE CONTRACTOR TO WORK ADDITIONAL SHIFTS OR OVERTIME FOR COUNTY'S CONVENIENCE.
- IF SYSTEM CONDITIONS REQUIRE NON-EMERGENCY NIGHTTIME WORK DURING THE AUTUMN SEABIRD FALL SEASON (SEPTEMBER 15 THROUGH DECEMBER 15), USE OF LIGHTING SHALL BE RESTRICTED BETWEEN 9:00 P.M. TO 4:30 A.M. IF LIGHTING OF THE WORK AREA IS REQUIRED IN SUCH SITUATION, ALL LIGHTS SHALL BE SHIELDED (MINIMUM LIGHT SPILL TOWARDS THE SKY) AND DIRECTED DOWNWARDS TO THE MAXIMUM EXTENT PRACTICABLE. MINIMUM REQUIREMENTS FOR LIGHTING BY HIOSH AND OSHA SHALL BE PROVIDED AND ASSURED BY THE CONTRACTOR. THE CONTRACTOR SHALL TRAIN ALL EMPLOYEES WORKING AT NIGHT (RECORDS RETAINED BY THE CONTRACTOR) IN HOW TO HANDLE ANY RETRIEVED DOWNED BIRDS AND SHALL HAVE APPROPRIATE EQUIPMENT AS APPROVED BY SAVE OUR SHEARWATERS (SOS) ON SITE TO HOLD AND TRANSPORT ANY RETRIEVED BIRDS TO AN SOS FACILITY. THIS REQUIREMENT DOES NOT ALLOW LIGHTING AS MAY BE RESTRICTED BY OTHER GOVERNMENT AGENCIES.

HISTORICAL PRESERVATION NOTES

- SHOULD HISTORIC REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATIONS OF SHELL OR CHARCOAL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR SHALL CORDON OFF THE AREA AND IMMEDIATELY NOTIFY THE PLANNING DEPARTMENT AT (808) 241-4050 AND THE STATE HISTORIC PRESERVATION DIVISION AT (808) 692-8015, WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND THE APPROPRIATE MITIGATION MEASURES, IF NECESSARY. IN ADDITION, IF HUMAN BURIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COUNTY OF KAUAI POLICE DEPARTMENT.

CONSTRUCTION NOTES FOR TRAFFIC CONTROL PLANS

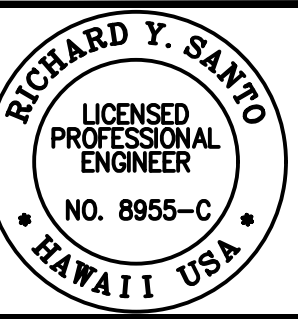
- THE PERMITTEE SHALL MAKE ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
- CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
- TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
- REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF THE WORK.
- FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
- WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITTEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLAN.
- SIGN SPACING (D), TAPER LENGTHS (T) AND SPACING OF CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
- ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
- ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.

- THE BACKS OF ALL SIGNS SHALL BE PROMPTLY REMOVED OR COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES), WHENEVER THE MESSAGES ARE NOT APPLICABLE OR NOT IN USE.
- AT THE END OF EACH DAY'S WORK OR AS SOON AS THE WORK IS COMPLETED, THE PERMITTEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION.
- REPLACE PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS UPON COMPLETION OF EACH PHASE OF WORK.
- POLICE OFFICERS/FLAGGERS SHALL BE PRESENT AT ALL TIMES.
- WHEN REQUIRED BY THE COUNTY OF KAUAI, AN ADVERTISEMENT SHALL BE PLACED IN THE NEWSPAPER BY THE CONTRACTOR FOR ANY LANE CLOSURE. THE ADVERTISEMENT SHALL BE MADE ONE (1) WEEK BEFORE ANY LANE CLOSURE AND SHALL CONTAIN THE FOLLOWING INFORMATION:
 - MAP OF THE TRAFFIC CHANGE LIMITS;
 - NOTICE OF STARTING AND ENDING DATES, TIME AND DURATION;
 - MAP TO SHOW LANE CLOSURE;
 - EXPLANATION OF THE LANE CLOSURE; "NOTICE TO MOTORIST & PEDESTRIANS"

- THE CONTRACTOR SHALL BE REQUIRED TO HAVE ANY LANE CLOSURE ANNOUNCED DAILY OVER THE RADIO TWO (2) DAYS BEFORE STARTING DATE UNTIL THE WORK IS COMPLETED. BOTH ADVERTISEMENTS IN THE NEWSPAPER AND OVER THE RADIO SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL ALSO NOTIFY THE HOSPITALS, POLICE, FIRE AND AMBULATORY SERVICES OF THE LANES CLOSURES.
- ALL WORKERS WITHIN THE COUNTY R/W WHO ARE EXPOSED TO EITHER VEHICLES USING THE ROADWAY OR TO CONSTRUCTION EQUIPMENT SHALL WEAR HIGH VISIBILITY SAFETY APPAREL THAT MEETS THE PERFORMANCE CLASS 2 OR 3 REQUIREMENTS OF ANSI/ISEA 107-2004. "WORKERS" ARE DEFINED AS PEOPLE ON FOOT WHOSE DUTIES PLACE THEM WITHIN THE ROAD RIGHT-OF-WAY, SUCH AS, BUT NOT LIMITED TO CONSTRUCTION AND MAINTENANCE FORCES, EQUIPMENT OPERATORS, SURVEY CREW, UTILITY CREW, RESPONDERS TO INCIDENTS (I.E., EMT AND FIREMEN), AND LAW ENFORCEMENT PERSONNEL DIRECTING TRAFFIC, INVESTIGATING ACCIDENTS, HANDLING LANE CLOSURES AND ROADWAY CONSTRUCTION.
 - ALL TRAFFIC CONTROL DEVICES SHALL BE REFLECTORIZED WHEN USED AT NIGHT. CONES SHALL BE EQUIPPED WITH REFLECTORIZED COLLAR WHEN USED AT NIGHT. FLASHING LIGHTS SHALL BE USED WITH BARRICADES AND STEADY BURN LIGHTS WHEN USED IN A SERIES FOR CHANNELIZATION. FLAGGER STATIONS SHALL BE ADEQUATELY ILLUMINATED AT NIGHT.
 - CONTRACTOR TO PROVIDE ACCESS AND/OR DIRECTION SIGNS TO REROUTE PEDESTRIAN TRAFFIC.
 - THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE THE USE AND DURATION OF STEEL PLATES. ALL STEEL PLATES SHALL HAVE A NON-SKID SURFACING. THE COUNTY MAY REQUIRE THE BACKFILLING AND PATCHING OF THE TRENCH DUE TO THE EXCESSIVE USE OF STEEL PLATES.
 - CONTRACTORS SHALL PROVIDE SAFE PASSAGE TO ALL MOTORISTS TURNING OUT OF ENTRANCE TO MOI ROAD AT ALL TIMES. FURTHER, THE CONTRACTOR SHALL PROVIDE A FLAGGER/POLICE OFFICER AT THE INTERSECTIONS.
 - THE CONTRACT SHALL MAKE A FLYER SHOWING THE CHANGES IN TRAFFIC PATTERNS AND ESTIMATED TIMES OF USE. SUFFICIENT COPIES OF THE FLYER SHALL BE PROVIDED TO EACH BUSINESS FOR DISTRIBUTION TO ITS EMPLOYEES AND GUESTS.

POSTED SPEED LIMIT (M.P.H.)	SIGN SPACING (D) FEET	TAPER LENGTH (T) (FEET)		LONGITUDINAL BUFFER SPACE (8) (FEET)	SPACING OF CONES OR DELINEATORS (FEET)		
		W=12' OR LESS*	W=GREATER THAN 12*		TAPER	TANGENT	WORK AREA
20	250	200	W X 17	35	20	20	10
25	250	200	W X 17	55	25	25	10
30	250	250	W X 20	85	30	30	10
35	250	250	W X 20	120	35	35	10
40	500	350	W X 30	170	40	40	10
45	500	550	W X 45	220	45	45	10
50	1000	600	W X 50	280	50	50	10
55	1000	700	W X 55	335	55	55	10

* W = WIDTH OF LANE, SHOULDER OR OFFSET



THE WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII. I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY, EXPRESS OR IMPLIED, FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY, EXPRESS OR IMPLIED, FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY, EXPRESS OR IMPLIED, FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN.

DATE: 4/20/24
 EXPIRES: 4/20/25

NOTE: Contractor to check and verify dimensions of job before proceeding with work.

SSFM International, Inc.
 501 Surfer Street
 Suite 620
 Honolulu, Hawaii 96817

NO.	DATE	REVISION	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	RA	PERMIT COMMENTS		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

CIVIL NOTES - 1

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DATE: APRIL 2023
 SHEET NUMBER: C-001
 3 OF 109 SHEETS

PAVEMENT AND TRENCH RESTORATION NOTES

- TRENCH REPAVING SHALL BE A MINIMUM 8-INCHES THICK BASE COURSE AND 2-INCHES MINIMUM ASPHALT CONCRETE (STATE MIX V). IF THE EXISTING PAVEMENT STRUCTURE IS GREATER IN THICKNESS AND QUALITY, THE REPAVING SHALL MATCH THE EXISTING PAVEMENT STRUCTURE.
- PAVEMENT RESURFACING WORK SHALL INCLUDE 2-INCH THICKNESS OF EXISTING A.C. TO BE COLD PLANED AND CONSTRUCTION OF A MINIMUM OF 2-INCH OF NEW A.C. (STATE MIX V) LAYER.
- ROAD RESTORATION FOR TRENCHES ALIGNED ALONG THE LONGITUDINAL DIRECTION SHALL INCLUDE PAVEMENT RESURFACING AS FOLLOWS:
 - ROADS WITH PAVEMENT WIDTHS OF LESS THAN 12 FEET WIDE SHALL BE REPAVED THE ENTIRE WIDTH.
 - ROADWAYS BETWEEN 12 FEET AND 28 FEET WIDE WITH NO STRIPING SHALL BE PAVED FOR HALF OF THE ROADWAY.
 - ROADWAYS WITH NO STRIPING AND PAVEMENT WIDTHS GREATER THAN 28 FEET SHALL HAVE A 12-FOOT WIDE TRAVEL WAY RESURFACED.
- ROAD RESTORATION FOR TRENCHES ALIGNED PERPENDICULAR TO THE ROADWAY SHALL INCLUDE ROAD RESURFACING FOR A MINIMUM OF 6 FEET BEYOND THE TRENCH EDGES.
- THE ENTIRE ROAD INTERSECTION SHALL BE RESURFACED WHENEVER TRENCH REPAVING IS REQUIRED WITHIN ANY PORTION OF AN INTERSECTION. THE LIMITS OF RESURFACING SHALL BE THE CURVE RETURNS OF THE ROADWAYS OF THE INTERSECTIONS.
- ALL EXISTING PAVEMENT STRIPING DISTURBED BY THIS PROJECT SHALL BE RESTORED. THE STRIPING MATERIALS SHALL BE THERMOPLASTIC TAPE OR THERMOPLASTIC EXTRUSION. PAINTING IS NOT ACCEPTABLE.
- THE LIMITS OF ROAD RESTORATION WORK MAY BE REVISED BY THE ENGINEERING DIVISION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS DURING PROCESSING OF ROAD PERMITS FOR THIS PROJECT.

NOTES FOR SUBDIVISION CONSTRUCTION AND IMPROVEMENTS THAT WILL BE OWNED OR MAINTAINED BY THE COUNTY

- THE OWNER AND/OR SUBDIVIDER WILL BE RESPONSIBLE TO ENSURE THAT ALL MATERIALS INCORPORATED IN THE CONSTRUCTION ARE IN ACCORDANCE WITH THE PUBLICATIONS "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS, AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, COUNTY OF KAUAI, CITY AND COUNTY OF HONOLULU, COUNTY OF MAUI, AND COUNTY OF HAWAII DATED SEPTEMBER 1984" OR AS AMENDED. THE OWNER'S LICENSED DESIGN ENGINEERS AND/OR LICENSED ENGINEERS PERFORMING THE CONSTRUCTION MANAGEMENT WILL BE RESPONSIBLE TO REVIEW AND APPROVE ALL CONSTRUCTION MATERIAL SUBMITTALS FROM THE CONTRACTOR PRIOR TO INSTALLATION. AT THE COMPLETION OF CONSTRUCTION, THE OWNER AND/OR SUBDIVIDER WILL SUBMIT A CERTIFICATION FROM THEIR LICENSED DESIGN ENGINEERS AND/OR LICENSED ENGINEERS PERFORMING THEIR CONSTRUCTION MANAGEMENT THAT ALL MATERIALS INCORPORATED IN THE PROJECT MET THE REQUIREMENTS OF "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS, AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, COUNTY OF KAUAI, CITY AND COUNTY OF HONOLULU, COUNTY OF MAUI, AND COUNTY OF HAWAII DATED SEPTEMBER 1984 OR AS AMENDED
- THE CONTRACTOR WILL BE REQUIRED TO INFORM THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SECTION OF ANY PROPOSED CHANGES OR DEVIATIONS TO THE APPROVED CONSTRUCTION PLANS PRIOR TO PROCEEDING WITH ANY WORK THAT HAS NOT BEEN APPROVED. ANY AND ALL DEVIATIONS FROM THE APPROVED CONSTRUCTION PLANS WILL NEED TO BE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS AND ANY OTHER AGENCY THAT MAY HAVE JURISDICTION FOR THE RESPECTIVE WORK AS DETERMINED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO CONSTRUCTION.
- NO WORK ON ANY APPROVED CHANGES WILL BE INSPECTED UNTIL PLANS OF THE APPROVED CHANGES ARE PROVIDED TO THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION SECTION.
- UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR WILL CERTIFY THAT THE AS-BUILT DRAWINGS REPRESENT ALL CHANGES TO THE ORIGINAL APPROVED CONSTRUCTION PLANS. THE OWNER'S LICENSED DESIGN ENGINEER WILL CERTIFY THAT ALL OF THE CHANGES SHOWN ON THE AS-BUILT DRAWINGS MEET MINIMUM STANDARDS IN ACCORDANCE WITH THE PUBLICATIONS "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS, THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, COUNTY OF KAUAI, CITY AND COUNTY OF HONOLULU, COUNTY OF MAUI, AND COUNTY OF HAWAII DATED SEPTEMBER 1984" AS WELL AS THE REQUIREMENTS OF THE ORIGINAL APPROVED CONSTRUCTION PLANS.
- ALL SURVEY AND LAYOUT IS TO BE PERFORMED UNDER THE SUPERVISION OF A LAND SURVEYOR LICENSED IN THE STATE OF HAWAII.
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF A GEOTECHNICAL ENGINEER FOR QUALITY CONTROL. CERTIFICATION FROM THE GEOTECHNICAL ENGINEER SHALL BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS AT THE COMPLETION OF THE CONSTRUCTION WORK. THE GEOTECHNICAL ENGINEER SHALL CERTIFY THAT THE CONSTRUCTION WORK MEETS THE REQUIREMENTS OF THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AND ITS AMENDMENTS, AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, COUNTY OF KAUAI, CITY AND COUNTY OF HONOLULU, COUNTY OF MAUI, AND COUNTY OF HAWAII DATED SEPTEMBER 1984" OR AS AMENDED AND THE APPROVED CONSTRUCTION PLANS. THE GEOTECHNICAL ENGINEER SHALL ALSO SUBMIT TEST RESULTS AS REQUESTED BY THE DEPARTMENT OF PUBLIC WORKS.
- ALL SIDEWALKS OR SHARED USE PATHS SHALL BE REINFORCED BY WELDED WIRE OR FIBER AS DETERMINED BY THE DEPARTMENT OF PUBLIC WORKS.

WATER POLLUTION AND EROSION CONTROL NOTES (COUNTY)

- GENERAL:
 - THE CONTRACTOR IS REMINDED OF THE REQUIREMENTS OF SECTION 209 - WATER POLLUTION AND EROSION CONTROL AND SECTION 620 -DUST CONTROL IN THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2005," AND ITS AMENDMENTS. SECTION 209 DESCRIBES BUT IS NOT LIMITED TO SUBMITTAL REQUIREMENTS; SCHEDULING OF A WATER POLLUTION AND EROSION CONTROL CONFERENCE WITH THE COUNTY; CONSTRUCTION REQUIREMENTS; METHOD OF MEASUREMENT; AND BASIS OF PAYMENT. NO WORK SHALL COMMENCE WITHOUT A BMP PLAN APPROVED BY THE DEPARTMENT OF HEALTH.
 - THE CONTRACTOR SHALL FOLLOW THE GUIDELINES IN THE "INTERIM BEST MANAGEMENT PRACTICES MANUAL FOR CONSTRUCTION SITES FOR THE COUNTY OF KAUAI, APRIL 2004" IN DEVELOPING, INSTALLING AND MAINTAINING THE BEST MANAGEMENT PRACTICES (BMP'S) FOR THE PROJECT. THE CONTRACTOR MAY SUBMIT ALTERNATE METHODS TO THE COUNTY FOR ACCEPTANCE.
 - THE CONTRACTOR SHALL KEEP A COPY OF THE APPROVED BMP PLAN, NOI, ETC. ON THE PROJECT SITE. THE BMP PLAN SHALL BE UPDATED TO REFLECT ANY CHANGES MADE DURING THE COURSE OF CONSTRUCTION FOR THE DURATION OF THE PROJECT.
 - THE ENGINEER MAY ASSESS LIQUIDATED DAMAGES OF UP TO \$27,500 FOR NON-COMPLIANCE OF EACH BMP REQUIREMENT AND EACH REQUIREMENT STATED IN SECTION 209, FOR EVERY DAY ON NON-COMPLIANCE. THERE IS NO MAXIMUM LIMIT ON THE AMOUNT ASSESSED PER DAY.
 - THE ENGINEER WILL DEDUCT THE COST FROM THE PROGRESS PAYMENT FOR ALL CITATIONS RECEIVED BY THE DEPARTMENT FOR NON-COMPLIANCE, OR THE CONTRACTOR/OWNER SHALL REIMBURSE THE STATE AND/OR COUNTY FOR THE FULL AMOUNT OF THE OUTSTANDING COST INCURRED BY THE STATE AND/OR COUNTY.
- WASTE DISPOSAL:
 - WASTE MATERIALS: ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER THAT DOES NOT LEAK. THE DUMPSTER SHALL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER SHALL BE EMPTIED AT A MINIMUM OF TWICE PER WEEK OR AS OFTEN AS IS DEEMED NECESSARY. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ONSITE. THE CONTRACTOR'S SUPERVISORY PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.
 - HAZARDOUS WASTE: ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER. THE CONTRACTOR'S SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES AND SHALL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.
 - SANITARY WASTE: ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK, OR AS REQUIRED.
- EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:
 - ALL CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EACH WEEK AND WITHIN 24 HOURS FOLLOWING ANY RAINFALL EVENT OF 0.5 INCHES OR GREATER.
 - ALL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS AFTER THE INSPECTION.
 - BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
 - SILT SCREEN OR FENCE SHALL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO VERIFY THAT THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS OR CONCRETE SLAB AND TO VERIFY THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
 - TEMPORARY AND PERMANENT SEEDING AND PLANTING SHALL BE INSPECTED FOR BARE SPOTS, WASH OUTS AND HEATHY GROWTH.
 - THE CONTRACTOR SHALL SUBMIT TO THE COUNTY A MAINTENANCE INSPECTION REPORT PROMPTLY AFTER EACH WEEKLY INSPECTION.
 - THE CONTRACTOR SHALL SELECT A MINIMUM OF THREE PERSONNEL WHO SHALL BE RESPONSIBLE FOR INSPECTION, MAINTENANCE AND REPAIR ACTIVITIES AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
 - PERSONNEL SELECTED FOR THE INSPECTION AND MAINTENANCE RESPONSIBILITIES SHALL RECEIVE TRAINING FROM THE CONTRACTOR. THEY SHALL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.
 - ALL SLOPES AND EXPOSED AREAS SHALL BE GRASSED AS FINAL GRADES HAVE BEEN ESTABLISHED. GRADING TO FINAL GRADE SHALL BE CONTINUOUS, AND ANY AREA IN WHICH WORK HAS BEEN INTERRUPTED OR DELAYED OR EXPOSED FOR MORE THAN 15 DAYS SHALL BE GRASSED IN ORDER TO PREVENT DUST EMISSION, EROSION AND SILT RUNOFF. AREAS WITH IMPORTED SOILS SHALL BE GRASSED NOT MORE THAN 5 WORKING DAYS AFTER THE FINAL GRADES HAVE BEEN ESTABLISHED.
 - TEMPORARY EROSION CONTROL SHALL NOT BE REMOVED BEFORE PERMANENT EROSION CONTROLS ARE IN-PLACE AND ESTABLISHED.
- GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:
 - MATERIALS POLLUTION PREVENTION PLAN:
 - APPLICABLE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION. OTHER MATERIALS AND SUBSTANCES NOT LISTED BELOW SHALL BE ADDED TO THE INVENTORY OF THE CONSTRUCTION CONTRACTOR'S SITE-SPECIFIC BMP PLAN.

CONCRETE	FERTILIZERS
DETERGENTS	PETROLEUM BASED PRODUCTS
PAINTS (ENAMEL AND LATEX)	CLEANING SOLVENTS
METAL STUDS	WOOD
TAR	MASONRY BLOCK
 - MATERIAL MANAGEMENT PRACTICES SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCTS AS IS REQUIRED TO DO THE JOB.
 - ALL MATERIALS STORED ONSITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE.
 - PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURES LABEL.
 - SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
 - A PRODUCT SHALL BE USED UP COMPLETELY BEFORE DISPOSING OF THE CONTAINER.
 - MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
 - THE CONTRACTOR SHALL CONDUCT A DAILY INSPECTION TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.
 - HAZARDOUS MATERIAL POLLUTION PREVENTION PLAN:
 - PRODUCTS SHALL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
 - ORIGINAL LABELS AND MATERIAL SAFETY DATA SHEETS (MSDS) SHALL BE RETAINED AND MADE AVAILABLE TO THE COUNTY UPON REQUEST.
 - SURPLUS PRODUCTS SHALL BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR LOCAL AND STATE RECOMMENDED REGULATIONS.
 - ONSITE AND OFFSITE PRODUCTS SPECIFIC PLANS:

THE FOLLOWING PRODUCTS SPECIFIC PRACTICES SHALL BE FOLLOWED ONSITE:

 - PETROLEUM BASED PRODUCTS: ALL ONSITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVED REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
 - FERTILIZERS: APPLY FERTILIZERS USED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, WORK FERTILIZER INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE SHALL BE KEPT IN A COVERED SHED. TRANSFER THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
 - PAINTS: SEAL AND STORE ALL CONTAINERS WHEN NOT REQUIRED FOR USE. DO NOT DISCHARGE EXCESS PAINT TO THE ROADWAY DRAINAGE SYSTEM. DISPOSE PROPERLY ACCORDING TO THE MANUFACTURER'S INSTRUCTION OR STATE AND LOCAL REGULATIONS.
 - CONCRETE TRUCKS: WASH OUT OR DISCHARGE CONCRETE TRUCK DRUM WASH WATER ONLY AT A DESIGNATED SITE. DO NOT DISCHARGE WATER IN THE ROADWAY DRAINAGE SYSTEM OR WATERS OF THE UNITED STATES. CONTACT DRINKING WATER BRANCH, DEPARTMENT OF HEALTH AT (808) 586-4309 TO RECEIVE PERMISSION TO DESIGNATE A DISPOSAL SITE. CLEAN DISPOSAL SITE AS REQUIRED OR AS REPRESENTED BY THE OWNER'S REPRESENTATIVE.
 - SPILL CONTROL PLAN:
 - POST A SPILL PREVENTION PLAN TO INCLUDE MEASURES TO PREVENT AND CLEAN UP EACH SPILL.
 - THE CONTRACTOR SHALL BE THE PREVENTION AND CLEAN-UP COORDINATOR. DESIGNATE AT LEAST THREE SITE PERSONNEL WHO SHALL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS SHALL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. POST THE NAMES OF RESPONSIBLE SPILL PERSONNEL IN THE MATERIAL STORAGE AREA AND IN THE OFFICE TRAILER ONSITE.
 - CLEARLY POST MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP. MAKE SITE PERSONNEL AWARE OF THE PROCEDURES AND THE LOCATION OF INFORMATION AND CLEANUP SUPPLIES.
 - KEEP MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP IN THE MATERIAL STORAGE AREA ONSITE.
 - CLEAN UP ALL SPILLS IMMEDIATELY AFTER DISCOVERY.
 - KEEP THE SPILL AREA WELL VENTILATED. PERSONNEL SHALL WEAR

APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH HAZARDOUS SUBSTANCES.

g. REPORT SPILLS OF TOXIC HAZARDOUS MATERIAL TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.

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

- THE CONTRACTOR SHALL APPLY FOR, OBTAIN AND COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR KAUAI DISTRICT PERMIT PROJECTS. THIS IS AVAILABLE AT THE KAUAI DISTRICT OFFICE AT 3040 UMI STREET, SUITE 205. DUE TO POTENTIAL COSTS AND IMPACTS, THE CONTRACTOR NEEDS TO BE AWARE OF THESE REQUIREMENTS.
- THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS FOR ALL PROJECTS WHICH WILL DISTURB ONE (1) ACRE OR MORE OF LAND. THE CONTRACTOR SHALL NOT START CONSTRUCTION UNTIL NOTICE OF GENERAL PERMIT COVERAGE (NGPC) IS RECEIVED FROM THE DEPARTMENT OF HEALTH, STATE OF HAWAII AND HAS SATISFIED ANY OTHER APPLICABLE REQUIREMENTS OF THE NPDES PERMIT PROGRAM.
- THE CONTRACTOR SHALL COMPLETE AND SUBMIT A CONTRACTOR'S CERTIFICATION OF NPDES COMPLIANCE, INCLUDING COMPLETION OF THE BEST MANAGEMENT PRACTICE (BMP) CHECKLIST AND SUBMITTAL OF A WRITTEN BMP PLAN AND DRAWINGS, PRIOR TO ISSUANCE OF THE PERMIT TO PERFORM WORK UPON COUNTY ROADWAYS.

GRADING NOTES

TEMPORARY DUST CONTROL MEASURES FOR GRADING

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

TEMPORARY EROSION CONTROL MEASURES FOR GRADING

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

PERMANENT EROSION CONTROL MEASURES FOR GRADING

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

GRADING PHASES

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



THE WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII. I AM NOT PROVIDING ANY DESIGN OR CONSTRUCTION SERVICES TO ANY OTHER PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF SSPM INTERNATIONAL, INC.

DATE: 4/20/23
 EXPIRES: 4/20/24

NOTE: Contractor to check and verify dimensions of job before proceeding with work.

SSPM International, Inc.
 501 Surfer Street
 Suite 620
 Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

CIVIL NOTES - 2

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DATE: APRIL 2023
 SHEET NUMBER: C-002
 4 OF 109 SHEETS

WATER CONSTRUCTION NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE "WATER SYSTEM STANDARDS", 2002, AS ADOPTED BY THE DEPARTMENT OF WATER, COUNTY OF KAUAI, INCLUDING ALL SUBSEQUENT AMENDMENTS AND ADDITIONS.
2. ALL REQUIRED PROJECT SUBMITTALS (MATERIALS, SHOP DRAWINGS, CHLORINATION PLAN, ETC.) SHALL BE APPROVED BY THE DEPARTMENT CONSTRUCTION MANAGEMENT DIVISION BEFORE A PRECONSTRUCTION CONFERENCE CAN BE SCHEDULED. ONCE ALL PROJECT SUBMITTALS HAVE BEEN APPROVED BY DOW CONSTRUCTION ENGINEER, THE DOW CONSTRUCTION ENGINEER WILL NOTIFY THE CONTRACTOR THAT A PRECONSTRUCTION CONFERENCE CAN BE ARRANGED. THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE AT LEAST TEN (10) CALENDAR DAYS BEFORE CONSTRUCTION AND SHALL NOTIFY THE DEPARTMENT OF WATER AT LEAST THREE (3) WORKING DAYS PRIOR TO START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL SUBMIT THE NAMES AND TELEPHONE NUMBERS OF ITS AUTHORIZED JOB SUPERINTENDENT AND AT LEAST THREE (3) ADDITIONAL PERSONS TO CONTACT IN CASE OF AN EMERGENCY DURING NON-WORKING HOURS.
4. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF WATER AT LEAST 24 HOURS PRIOR TO ANY TRENCHING, PIPE LAYING, BACKFILLING, TESTING OR DISINFECTION ACTIVITIES TO INSURE THAT INSPECTION SERVICES WILL BE AVAILABLE.
5. ALL MATERIALS (PIPE, LUBRICANTS, PAINTS, SEALANTS, FORM OIL, CONCRETE ADMIXTURES, ETC.) IN DIRECT CONTACT WITH THE POTABLE WATER SHALL HAVE NATIONAL SANITATION FOUNDATION (NSF) CERTIFICATIONS. THE CONTRACTOR SHALL SUBMIT THESE CERTIFICATIONS TO THE DEPARTMENT OF WATER FOR REVIEW AND APPROVAL PRIOR TO ITS APPLICATION.
6. THE LOCATION OF EXISTING WATER MAINS AND APPURTENANCES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD. EXCAVATION AROUND ANY EXISTING WATER MAIN SHALL BE DONE BY HAND.
7. THE CONTRACTOR SHALL PROVIDE UNOBSTRUCTED ACCESS TO EXISTING HYDRANTS, VALVES AND WATER METERS AT ALL TIMES.
8. THE CONTRACTOR SHALL SECURE ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REGULATIONS.
9. THERE SHALL BE NO PHYSICAL CONNECTION BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SYSTEM AND A NON-POTABLE WATER SYSTEM, SEWER, OR APPURTENANCE THERETO WHICH COULD PERMIT THE PASSAGE OF ANY SEWAGE OR POLLUTED WATER INTO THE POTABLE WATER SUPPLY.
10. TRENCH EXCAVATION, BACKFILLING IN LIFTS, AND REPAVING SHALL CONFORM TO THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005" AS AMENDED.
11. WARNING TAPE SHALL BE IN ACCORDANCE WITH DIVISION 200, SECTION 212.08 OF THE "WATER SYSTEM STANDARDS". THE WARNING TAPE SHALL BE FOUR MIL THICK, NON-METALLIC, ACID AND ALKALI RESISTANT POLYETHYLENE AND 6-INCHES WIDE WITH MINIMUM STRENGTH OF 1,750 PSI LENGTHWISE AND 1,500 PSI CROSSWISE. TAPE COLOR SHALL BE "SAFETY PRECAUTION BLUE" AND SHALL BEAR A CONTINUOUS PRINTED INSCRIPTION "CAUTION WATER LINE BURIED BELOW". INSCRIPTION SHALL BE 2-INCHES HIGH, BLACK TEXT.
12. ALL HYDRANTS SHALL RECEIVE A MINIMUM SSPC SP3 SURFACE PREPARATION AND COATED IN ACCORDANCE WITH DIVISION 200, SECTION 206.01 OF THE "WATER SYSTEM STANDARDS".
13. UNLESS OTHERWISE DIRECTED, PRIOR TO THE CONNECTION OF ANY PIPELINE AND/OR LATERALS TO THE EXISTING MAIN, THE PIPELINES/LATERALS INSTALLED SHALL BE CLEANED, PRESSURE TESTED, CHLORINATED, FLUSHED, AND SAMPLED IN ACCORDANCE WITH DIVISION 300, SECTIONS 302.27 TO 302.29 OF THE "WATER SYSTEM STANDARDS".
 - A. WATER SAMPLES SHALL BE TESTED FOR TOTAL COLIFORMS BY A LABORATORY CERTIFIED BY THE STATE OF HAWAII TO PERFORM COLIFORM ANALYSIS. PRESENCE OF COLIFORM BACTERIA IS UNACCEPTABLE.
 - B. IN ADDITION TO THE TEST FOR COLIFORMS, A SEPARATE TEST FOR HETEROTROPHIC PLATE COUNT (HPC) SHALL BE CONDUCTED. THE HPC COUNT SHALL BE LESS THAN 300 CFU/ML.
 - C. PRIOR TO CHLORINATION, A WATER CHLORINATION AND SANITATION CONTRACTOR WITH A C-37D LICENSE SHALL SUBMIT A CHLORINATION PLAN WITH WATER SOURCE, INJECTION POINTS, SAMPLING POINTS AND PROCEDURE CLEARLY DEFINED FOR APPROVAL BY THE DOW.
 - D. THE TESTED PIPELINES AND/OR LATERALS MUST BE CONNECTED TO THE EXISTING DOW SYSTEM WITHIN 14 CALENDAR DAYS OF PULLING THE FIRST DISINFECTION SAMPLE TESTED BY A CERTIFIED LABORATORY. THE DEPARTMENT OF WATER WILL REQUIRE THE CONTRACTOR TO REDO THE CLEANING, PRESSURE TESTING, AND/OR DISINFECTION OF THE WATERLINE AT THE CONTRACTOR'S EXPENSE IF THE CONNECTION IS NOT COMPLETED WITHIN THESE 14 CALENDAR DAYS.
14. POLYURETHANE FOAM "PIGS" SHALL BE "PUSHED" THROUGH THE LENGTH OF THE INSTALLED PIPELINE USING PRESSURIZED WATER.
15. ALL CONNECTIONS SHALL BE SCHEDULED IN COORDINATION WITH THE DEPARTMENT OF WATER.
 - A. AN ADVANCE DEPOSIT IS REQUIRED FOR OPERATING VALVES, FLUSHING LINES AND NOTIFYING CONSUMERS AFFECTED BY A WATER SHUTDOWN DURING CONNECTIONS. THE CONTRACTOR WILL BE CHARGED THE ACTUAL COST.
 - B. THE CONTRACTOR SHALL PLACE THE DEPOSIT PRIOR TO SCHEDULING THE CONNECTION DATE.
 - C. SHUTDOWN CONNECTIONS SHALL BE SCHEDULED ON TUESDAYS THROUGH THURSDAYS. NO CONNECTIONS SHALL BE SCHEDULED ON MONDAYS, FRIDAYS, WEEKENDS AND HOLIDAYS, OR FROM DECEMBER 18 - JANUARY 8 OF EACH YEAR.

- D. ALL MATERIALS SHALL BE ON HAND AND APPROVED BY THE ENGINEER PRIOR TO SCHEDULING THE CONNECTION DATE.
- E. PUMPS USED TO DE-WATER THE CONNECTION AREA SHALL BE OPERATED IN THE PRESENCE OF THE ENGINEER PRIOR TO SCHEDULING THE CONNECTION DATE.
- F. ALL CONNECTIONS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER.
- G. NO LIVE TAPS SHALL BE SCHEDULED FROM DECEMBER 24 - DECEMBER 31 OF EACH YEAR

16. IN ORDER TO PREVENT DAMAGE TO THE POLYETHYLENE ENCASUREMENT FROM EXCESSIVE HANDLING, THE POLYWRAP SHALL BE INSTALLED AROUND THE BARREL OF THE DUCTILE IRON PIPE AT ITS FINAL LOCATION ALONG THE TRENCHLINE. THE POLYETHYLENE ENCASED PIPE SHALL BE LIFTED USING A FABRIC TYPE SLING OR A SUITABLY PADDED CABLE OR CHAIN TO PREVENT DAMAGE TO THE POLYETHYLENE.

17. THE CONTRACTOR SHALL TAKE ALL NECESSARY COMPACTION TESTS WHILE THE WATERLINE TRENCH IS BEING BACKFILLED AND WHILE THE SUBBASE/BASECOURSE IS BEING PLACED. IF THE TEST RESULTS INDICATE THAT ADDITIONAL COMPACTION IS REQUIRED, THE CORRECTIVE WORK SHALL BE COMPLETED BEFORE ANY ADDITIONAL TRENCH EXCAVATION OR PLACING OF SUBBASE/ BASECOURSE IS ALLOWED.

THE CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED GEOTECHNICAL ENGINEER FOR QUALITY CONTROL. THE COMPACTION TEST RESULTS SHALL BE CERTIFIED BY THE GEOTECHNICAL ENGINEER AND SUBMITTED TO THE DEPARTMENT OF WATER, STATE HIGHWAYS DIVISION (FOR WORK DONE WITHIN STATE R/W) AND THE DEPARTMENT OF PUBLIC WORKS (FOR WORK DONE WITHIN COUNTY R/W). THE GEOTECHNICAL ENGINEER SHALL CERTIFY THAT THE COMPACTION RESULTS MEET THE REQUIREMENTS OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

18. THE CONTRACTOR SHALL CONNECT ALL EXISTING CONSUMER PIPING TO THE NEW SERVICE LATERALS. THE DEPARTMENT OF WATER WILL TRANSFER THE EXISTING WATER METERS ONLY.
19. ALL FITTINGS SHALL BE MECHANICAL JOINT (MJ) AT EACH END UNLESS OTHERWISE NOTED. "MEGALUG" RETAINER GLANDS SHALL BE USED WITH ALL MECHANICAL JOINT FITTINGS AND VALVES USED IN CONNECTING NEW WATER MAINS TO EXISTING WATER MAINS UNLESS OTHERWISE NOTED.
20. ALL WATER VALVES THAT WILL BE ABANDONED IN PLACE SHALL BE PLACED IN THE "CLOSED" POSITION. REMOVE TOP SECTION OF VALVE BOX AND CONCRETE SETTLEMENT SLAB. FILL REMAINDER OF VALVE BOX WITH CONCRETE. PLACE BACKFILL AND REPAIR PAVEMENT SECTION TO APPLICABLE STATE OR COUNTY STANDARDS. BACKFILL TO FINISH GRADE IN ROAD SHOULDER AREA.
21. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE DEPARTMENT OF HEALTH PERMITS PRIOR TO THE START OF CONSTRUCTION. PERMITS INCLUDE, BUT ARE NOT LIMITED TO, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS FOR STORM WATER, HYDROSTATIC TEST, DEWATERING, AND FOR CONSTRUCTION ACTIVITIES, INCLUDING CLEARING, GRADING, AND EXCAVATION, THAT RESULT IN THE DISTURBANCE OF EQUAL TO OR GREATER THAN ONE (1) ACRE OF TOTAL LAND AREA.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF STORM WATER DISCHARGES AND EFFLUENT ASSOCIATED WITH CONSTRUCTION ACTIVITIES, INCLUDING HYDROTESTING AND DISINFECTION OPERATIONS, TO SAFEGUARD PUBLIC HEALTH AND SAFETY IN ACCORDANCE WITH APPLICABLE DEPARTMENT OF HEALTH REQUIREMENTS. ALL PERMITS AND LICENSES FOR STORM WATER AND CONSTRUCTION WATER DISPOSAL, INCLUDING ALL APPLICATION, CHARGES, FEES, AND TAXES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

22. THE CONTRACTOR IS RESPONSIBLE FOR DEWATERING TRENCH AS NECESSARY WHERE GROUNDWATER IS ENCOUNTERED. ALL ASSOCIATED COSTS FOR DEWATERING SHALL BE BORNE BY THE CONTRACTOR.
23. FOR DOW PROJECTS, THE USE OF KNOWN SEWER PUMP TRUCKS IS PROHIBITED FOR ANY USE, INCLUDING BUT NOT LIMITED TO DEWATERING AND TESTING OF NEW FACILITIES.
24. THE CONTRACTOR SHALL VERIFY OUTSIDE DIAMETER OF ALL EXISTING ASBESTOS-CEMENT (A.C.) WATERLINES TO BE CONNECTED. CONTRACTOR SHALL VERIFY USE OF PROPER GASKETS PRIOR TO CONNECTION. A.C. PIPE AND GASKET INFORMATION SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL.
25. ALL REMOVAL, DISPOSAL AND CONNECTION WORK THAT INVOLVES ASBESTOS PIPE/MATERIAL SHALL BE DONE IN THE PRESENCE OF OR BY A LICENSED ASBESTOS CONTRACTOR.

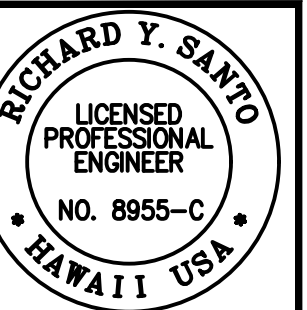
THE LICENSED ASBESTOS CONTRACTOR SHALL SUBMIT THEIR PLAN FOR ALL ASSOCIATED REMOVAL, DISPOSAL AND CONNECTION WORK FOR THE PROJECT TO DOW FOR REVIEW AND APPROVAL PRIOR TO CONDUCTING THE WORK.
26. ALL CONNECTIONS TO EXISTING A.C. PIPE SHALL BE AT THE NEAREST A.C. PIPE JOINT. A.C. PIPE SHALL BE REMOVED BY ENTIRE LENGTH(S) TO FACILITATE THE CONNECTION. CUTTING OF A.C. PIPE IS PROHIBITED.
27. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE OSHA, HIOSH AND FEDERAL REGULATIONS IN HANDLING AND DISPOSAL OF ASBESTOS-CEMENT PIPE. DISPOSAL OF THE PIPE SHALL BE AT AN APPROVED ASBESTOS MATERIAL DISPOSAL SITE.
28. ALL WATERWORKS BRASS FITTINGS SHALL BE IN COMPLIANCE WITH THE AMENDED SECTION 1417 OF THE SAFE DRINKING WATER ACT (SDWA) WHICH TAKES EFFECT ON JANUARY 4, 2014. THE AMENDMENT INCLUDES A CHANGE TO THE DEFINITION OF "LEAD-FREE" BY REDUCING LEAD CONTENT FROM 8% TO A WEIGHTED AVERAGE OF NOT MORE THAN 0.25% IN THE WETTED SURFACE MATERIAL. ALL WATERWORKS BRASS FITTINGS INSTALLED FOR POTABLE WATER SERVICE ON JANUARY 4, 2014 AND BEYOND SHALL CONFORM TO THE AMENDED DEFINITION OF "LEAD-FREE."

AS INDICATED IN SECTION 211 OF THE "WATER SYSTEM STANDARDS" - BRASS PRODUCTS, ALL BRASS FITTINGS SHALL CONFORM TO NSF STANDARD 61 AND SECTION 1417 OF THE SAFE DRINKING WATER ACT (SDWA). IN ADDITION, ALL BRASS FITTINGS SHALL CONFORM TO NSF STANDARD 372.

29. CONTRACTOR SHALL INSTALL WATER FACILITIES ONLY AFTER REACHING FINAL SUBGRADE OR HIGHER. THE DEPARTMENT OF WATER WILL NOT ALLOW INSTALLATION OF ANY WATER FACILITIES UNTIL THE FINAL SUBGRADE LAYER AT MINIMUM HAS BEEN ACHIEVED.
30. PRIOR TO INSTALLATION OF NEW WATER LINES AND/OR FACILITIES, THE CONTRACTOR SHALL HAVE ALL FACILITIES SURVEYED AND STAKED OUT BY A LICENSED SURVEYOR AND THE CONTRACTOR SHALL EXPOSE, VERIFY, AND BACKFILL ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES IN CLOSE PROXIMITY TO CROSSINGS AND CONNECTIONS PRIOR TO EXCAVATION OF PIPELINE TRENCH. CONTRACTOR SHALL PROVIDE THE LICENSED SURVEYOR CUT SHEET AND THE PROBING INFORMATION TO THE DOW CONSTRUCTION ENGINEER FOR REVIEW AND APPROVAL BEFORE MOVING FORWARD WITH INSTALLATION VIA THE SUBMITTAL REVIEW PROCESS.
31. THE DEPARTMENT SHALL BE PROVIDED TWENTY (20) WORKING DAYS FOR ALL SUBMITTAL REVIEWS FROM THE TIME OF SUBMISSION BY THE CONTRACTOR.

APPROVED:

FOR MANAGER AND CHIEF ENGINEER, DEPT. OF WATER DATE
COUNTY OF KAUAI



The work was prepared by me or under my direct supervision and I am a duly licensed Professional Engineer in the State of Hawaii. I am duly licensed in the State of Hawaii. My license number is 8955-C. My expiration date is 4/30/24. My commission expires on 4/30/24. My commission expires on 4/30/24. My commission expires on 4/30/24. My commission expires on 4/30/24.

SSFM International, Inc.
501 Surfer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

CIVIL NOTES - 3
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DATE: APRIL 2023
SHEET NUMBER: C-003
5 OF 109 SHEETS

SEWER NOTES

- ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE COUNTY OF KAUAI "SEWER DESIGN STANDARDS," DATED JUNE 1973 AND THE HAWAII STANDARD SPECIFICATION FOR ROAD, BRIDGE AND PUBLIC WORKS CONSTRUCTION, 1994".
- IN THE EVENT THAT ANY CHANGE IN ALIGNMENT OR GRADE FOR THE PROPOSED SEWERS ARE REQUIRED DUE TO UNFORESEEN CONFLICT WITH OTHER UTILITIES, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE WHO IN TURN WILL BE RESPONSIBLE FOR THE REQUIRED CHANGES.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND INVERT OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT SHOWN AS REQUIRED.
- CRUSHED ROCK CRADLE IS PERMITTED WHERE SOIL IS STABLE. IN AREAS OF UNSTABLE SOIL, THE MAKER OF THE PLANS AND THE CONSTRUCTION ENGINEER WILL DETERMINE THE PIPE SUPPORT REQUIRED.
- THE UNDERGROUND PIPES, CABLES OR DUCTLINES KNOWN TO EXIST BY THE ENGINEER FROM HIS RESEARCH OF RECORDS ARE INDICATED ON THE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE FACILITIES, INCLUDING AND AFFECTING SEWER LINES, IN THE PRESENCE OF THE WASTEWATER INSPECTOR AND EXERCISE PROPER CARE IN EXCAVATING THE AREA. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGED UTILITIES.
- SEWER LATERALS SHALL BE CLEAR OF AND NOT CONFLICTING WITH ANY OTHER UTILITY. MINIMUM HORIZONTAL AND VERTICAL CLEARANCE SHALL BE STRICTLY OBSERVED AND FOLLOWED.
- SLOPE FOR SEWER LATERALS SHALL BE A MINIMUM OF 1.00% PER KAUAI COUNTY CODE SEC. 25-9.3 UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SEWAGE SPILLS CAUSED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE STATE DEPARTMENT OF HEALTH AND UTILIZE APPROPRIATE SAMPLING AND ANALYZING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC NOTIFICATIONS AND PRESS RELEASES.
- THE CONTRACTOR SHALL INSTALL "RAINSTOPPER" MANHOLE INSERTS IN ALL SEWER MANHOLES WITH TYPE "SA" FRAME AND COVER.
- S4C PIPE CRADLE SEALS SHALL BE INSTALLED 10 FEET FROM ALL SEWER MANHOLES TO PREVENT SOIL MIGRATION. SEE DETAIL 7/C-507.
- CONFINED SPACE

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

- ALL SAFETY EQUIPMENT REQUIRED BY THE CONFINED SPACE REGULATIONS APPLICABLE TO ALL PARTIES OTHER THAN THE CONSTRUCTION INDUSTRY, TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:
 - FULL BODY HARNESSES FOR UP TO TWO PERSONNEL.
 - LIFELINE AND ASSOCIATED CLIPS.
 - INGRESS/EGRESS AND FALL PROTECTION EQUIPMENT.
 - TWO-WAY RADIOS (WALKIE-TALKIES) IF OUT OF LINE-OF-SIGHT.
 - EMERGENCY (ESCAPE) RESPIRATOR (10 MINUTE DURATION).
 - CELLULAR TELEPHONE TO CALL FOR EMERGENCY ASSISTANCE.
 - CONTINUOUS GAS DETECTOR (CALIBRATED) TO MEASURE OXYGEN, HYDROGEN SULFIDE, CARBON.
 - PERSONAL MULTI-GAS DETECTOR TO BE CARRIED BY INSPECTOR.
- CONTINUOUS FORCED AIR VENTILATION ADEQUATE TO PROVIDE SAFE ENTRY CONDITIONS.
- ONE ATTENDANT/RESCUE PERSONNEL TOPSIDE (TWO, IF CONDITIONS WARRANT IT).

- WHEN CONNECTING TO A LIVE SEWER LINE, THE CONTRACTOR SHALL ABIDE BY ALL CONDITIONS THAT THE STATE DEPARTMENT OF HEALTH SETS FORTH TO MITIGATE ANY WASTEWATER SPILL THAT MAY OCCUR. THE CONTRACTOR SHALL INFORM THE CITY INSPECTOR FIVE (5) WORKING DAYS PRIOR TO THE ACTUAL CONNECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES AND PENALTIES DUE TO ANY SPILLS RESULTING FROM THE CONNECTION.
- NO RUNGS SHALL BE INSTALLED INSIDE NEW SEWER MANHOLES.
- THE CONTRACTOR SHALL MAINTAIN VISIBILITY AND MAINTENANCE ACCESS TO LIVE SEWER MANHOLE LOCATIONS AT ALL TIMES, INCLUDING DURING NON-WORK HOURS AND PAVING OPERATIONS.
- DHHL WILL NEED TO ENTER INTO AN AGREEMENT WITH THE COUNTY ON EACH INCREMENTAL PHASE THAT WILL REQUIRE SEWER SERVICE.
- ALL COUNTY WASTEWATER FEES (INCLUDING WTCA AND SCC FEES) WILL NEED TO BE PAID OR SATISFIED BEFORE ANY SEWER SERVICE CONNECTION CAN BE MADE.
- UPON FINAL INSPECTION, THE DESIGN ENGINEER WILL PROVIDE SIGNED "AS-BUILT PLANS" CERTIFYING THAT ALL SEWER CONSTRUCTION WORK WILL BE INSPECTED, TESTED AND INSTALLED AS PER APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS. THE COUNTY WASTEWATER DIVISION WILL RESERVE THE RIGHT FRO RANDOM INSPECTIONS AND FINAL ACCEPTANCE OF CONSTRUCTION. THE WASTEWATER DIVISION SHALL HAVE ACCESS TO THE WORK AT ALL TIMES DURING ITS CONSTRUCTION AND SHALL BE FURNISHED WITH EVERY REASONABLE FACILITY FOR ASCERTAINING THAT THE MATERIALS USED AND THE WORKMANSHIP ARE IN ACCORDANCE WITH THE STANDARDS ESTABLISHED BY THE DIVISION.
- THE CONDITIONS OF THE SEWER ORDINANCE SEC. 25-7.4 ACCEPTANCE NEED TO BE MET, SHOULD THE SEWER IMPROVEMENTS BE CONVEYED TO THE COUNTY.
- THE CONTRACTOR SHALL PROVIDE RECORDED SEWER CAMERA INSPECTION OF THE FINAL COMPLETED GRAVITY SEWER LINES TO THE COUNTY WASTEWATER DIVISION BEFORE FINAL ACCEPTANCE IS GRANTED.

- A FINAL CERTIFIED "AS-BUILT" WITH ALL TOP AND INVERT ELEVATIONS FOR ALL SEWER IMPROVEMENTS WILL BE SUBMITTED TO THE WASTEWATER DIVISION.
- THE CONTRACTOR SHALL PROVIDE TWO STAND-BY (SPARE) PUMPS FOR THE EXISTING SEWER PUMP STATIONS ON KAUMUALI ROAD AS PART OF THE CONSTRUCTION CONTRACT. THE CONTRACTOR SHALL COORDINATE WITH THE COUNTY ON THE PUMPS (I.E., MANUFACTURER AND SIZE).

SEWER PUMP REPLACEMENT NOTES:

- THE CONTRACTOR SHALL PROVIDE A BACKUP OPEN TRAILER-MOUNTED CENTRIFUGAL SOLIDS-HANDLING PUMP AND DIESEL ENGINE INCLUSIVE OF A 60-GALLON FUEL TANK FOR THE EXISTING RIVERSIDE SEWER PUMP STATION (SPS) NO. 1 AND A BACKUP OPEN SKID-MOUNTED CENTRIFUGAL SOLIDS-HANDLING PUMP AND DIESEL ENGINE INCLUSIVE OF A 150-GALLON FUEL TANK FOR THE FIRE STATION SPS NO. 2).
- THE BACKUP 4-INCH PUMP FOR THE RIVERSIDE SPS NO. 1 SHALL BE THE GODWIN CD103M OPEN ISUZU 4LE2T, T4F, 60-GALLON FUEL TANK, TRAILER-MOUNTED AND PRIME GUARD OR APPROVED EQUAL.
- THE BACKUP 6-INCH PUMP FOR THE FIRE STATION SPS NO. 2 SHALL BE THE GODWIN CD160M OPEN JOHN DEERE 4045HFC04, T4F, 150-GALLON FUEL TANK, SKID-MOUNTED AND PRIME GUARD OR APPROVED EQUAL.
- EXISTING PUMPS INFORMATION:
 - SPS NO. 1: 4-INCH GODWIN PUMP, TYPE CD: 103M DRI-PRIME PUMP, SERIAL NO.: 18647839/04.
 - SPS NO. 2: 6-INCH GODWIN PUMP, TYPE: CD: 160M DR-PRI PUMP, SERIAL NO.: 19086496/01.
- THE SEWER PUMPS SHALL BE STORED IN THE COUNTY'S WAREHOUSE OR AS DIRECTED BY THE WASTEWATER DIVISION.
- CONTACT INFORMATION FOR THE COUNTY OF KAUAI, PUBLIC WORKS IS AS FOLLOWS:
 WASTEWATER DIVISION
 3190 NININI POINT STREET
 LIHUE, KAUAI, HI 96766
 PHONE: 808-652-0982
 EMAIL: JNAKASHIMA@KAUAI.GOV
- REFER TO SPECIFICATION SECTION 02530 - SANITARY SEWER SYSTEM.

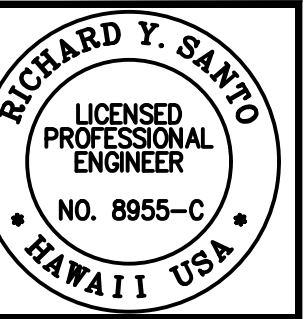
ENVIRONMENTAL NOTES FOR GRADING

- IN ACCORDANCE WITH CHAPTER 11-60.1, AIR POLLUTION CONTROL, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE PROPERTY OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT EFFECTIVE CONTROL MEASURES ARE PROVIDED TO MINIMIZE OR PREVENT ANY VISIBLE DUST EMISSION CAUSED BY THE CONSTRUCTION WORK FROM IMPACTING THE SURROUNDING AREAS INCLUDING THE OFF-SITE ROADWAYS USED TO ENTER/EXIT THE PROJECT. THESE MEASURES INCLUDE BUT ARE NOT LIMITED TO THE USE OF WATER WAGONS, SPRINKLER SYSTEMS, DUST FENCES, ETC.
- IN ACCORDANCE WITH CHAPTER 11-55, WATER POLLUTION CONTROL AND CHAPTER 11-54, WATER QUALITY STANDARDS, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE PROPERTY OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT THE BEST MANAGEMENT PRACTICE (BMP) TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENTS, DEBRIS AND OTHER WATER POLLUTANT INTO STATE WATERS ARE PROVIDED AT ALL TIMES.
- IN ACCORDANCE WITH CHAPTER 11-58, SOLID WASTE MANAGEMENT CONTROL, TITLE 11, HAWAII ADMINISTRATIVE RULES, THE PROPERTY OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING THAT GRUB MATERIAL, DEMOLITION WASTE AND CONSTRUCTION WASTE GENERATED BY THE PROJECT ARE DISPOSED OF IN A MANNER OR AT A SITE APPROVED BY THE STATE DEPARTMENT OF HEALTH. DISPOSAL OF ANY OF THESE WASTES BY BURNING IS PROHIBITED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL APPLICABLE PERMITS FROM THE DEPARTMENT OF HEALTH INCLUDING BUT NOT LIMITED TO NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), NOTICE OF INTENT AND GENERAL PERMIT FOR STORM WATER, HYDROSTATIC TEST AND DEWATERING DISCHARGES PRIOR TO COMMENCING CONSTRUCTION. NPDES PERMIT SHALL BE REQUIRED PRIOR TO GRADING OR GRUBBING WORK OVER AN AREA OF ONE ACRE OR MORE.
- AFTER EACH RAINFALL EVENT, THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE COUNTY ENGINEER SHALL BE PAYABLE BY THE CONTRACTOR.
- BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE EMPLOYED AT ALL TIMES TO THE MAXIMUM EXTENT PRACTICABLE TO PREVENT DAMAGE BY SEDIMENTATION, EROSION OR DUST TO STREAMS, WATERCOURSE, NATURAL AREAS AND THE PROPERTY OF OTHERS.
- IN ACCORDANCE WITH CHAPTER 11-46, COMMUNITY NOISE, HAWAII ADMINISTRATIVE RULES, THE PROPERTY OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING EFFECTIVE CONTROL MEASURES TO MINIMIZE OR PREVENT CONSTRUCTION RELATED NOISE FROM IMPACTING THE RESIDENTS IN THE IMMEDIATE AREA. IF REQUIRED, NOISE REDUCTION MEASURES SHALL BE IMPLEMENTED BY THE CONTRACTOR DURING THE CONSTRUCTION WORK.
- THE PROPERTY MAY HARBOR RODENTS WHICH WILL BE DISPERSED TO THE SURROUNDING AREAS WHEN THE SITE IS CLEARED. IN ACCORDANCE WITH CHAPTER 11-26, ENTITLED VECTOR CONTROL OF TITLE 11, HAR, THE APPLICANT SHALL ASCERTAIN THE PRESENCE OR ABSENCE OF RODENTS ON THE PROPERTY. SHOULD THE PRESENCE OF RODENTS BE DETERMINED, THE APPLICANT SHALL ERADICATE THE RODENTS PRIOR TO CLEARING THE SITE.
- A COPY OF THE PLANS, CONSTRUCTION SCHEDULE AND/OR WRITTEN MEASURES THAT IS REQUIRED TO BE SUBMITTED BY THE CONTRACTOR (DUST CONTROL MEASURES/PLANS) SHOULD ALSO BE SENT TO THE DEPARTMENT OF HEALTH FOR MONITORING PURPOSES.

STATE HISTORIC PRESERVATION DIVISION NOTE:
 IN THE EVENT THE SUBSURFACE HISTORIC RESOURCES, INCLUDING HUMAN SKELETAL REMAINS, STRUCTURAL REMAINS, CULTURAL DEPOSITS, ARTIFACTS, SAND DEPOSITS, OR SINK HOLES ARE IDENTIFIED DURING THE DEMOLITION AND/OR CONSTRUCTION WORK, CEASE WORK IN THE IMMEDIATE VICINITY OF THE FIND, PROTECT THE FIND FROM ADDITIONAL DISTURBANCE, AND CONTACT THE STATE HISTORIC PRESERVATION DIVISION, AT (808) 462-3225.

DEPARTMENT OF HEALTH (DOH) NOTES:

- SANITATION
 - NOISE WILL BE GENERATED DURING THE DEMOLITION AND CONSTRUCTION PHASE OF THIS PROJECT. THE APPLICABLE MAXIMUM PERMISSIBLE SOUND LEVELS AS STATED IN TITLE 11, HAR CHAPTER 11-46, "COMMUNITY NOISE CONTROL", SHALL NOT BE EXCEEDED UNLESS A NOISE PERMIT IS OBTAINED FROM THE DEPARTMENT OF HEALTH
 - ANY WASTE THAT IS GENERATED BY THE PROJECT SHALL BE DISPOSED OF AT A SOLID WASTE DISPOSAL FACILITY THAT COMPLIES WITH THE APPLICABLE PROVISIONS OF TITLE 11, HAR, CHAPTER 11-58.1 "SOLID WASTE MANAGEMENT CONTROL", THE OPEN BURNING OF ANY OF THESE WASTES ON OR OFF-SITE IS PROHIBITED.
 - ACCORDING TO HAR §11-26-35, NO PERSON, FIRM, OR CORPORATION SHALL DEMOLISH OR CLEAR ANY STRUCTURE, PLACE, OR VACANT LOT WITHOUT FIRST ASCERTAINING THE PRESENCE OR ABSENCE OF RODENTS THAT MAY ENDANGER PUBLIC HEALTH BY DISPERSAL FROM SUCH PREMISES. SHOULD ANY SUCH INSPECTION REVEAL THE PRESENCE OF RODENTS, THE RODENTS SHALL BE ERADICATED BEFORE DEMOLISHING OR CLEARING THE STRUCTURE, SITE, OR VACANT LOT. A DEMOLITION OR LAND CLEARING PERMIT IS REQUIRED WITH A APPLICATION FEE OR \$25 DUE AT FILING.
- WASTEWATER
 - THIS SUBDIVISION IS DESIGNED FOR REGULATED PUBLIC SEWER SYSTEM CONNECTION ONLY, INDIVIDUAL WASTEWATER SYSTEMS CANNOT BE USED.
- CLEAN AIR
 - ACTIVITIES MUST COMPLY WITH THE PROVISIONS OF HAWAII ADMINISTRATIVE RULES, §11-60.1-33 ON FUGITIVE DUST WHEN APPLICABLE.
- CLEAN WATER
 - ANY PROJECT AND ITS POTENTIAL IMPACTS TO STATE WATERS MUST MEET THE STATE'S:
 - ANTI-DEGRADATION POLICY, WHICH REQUIRES THAT THE EXISTING USES AND THE LEVEL OF WATER QUALITY NECESSARY TO PROTECT THE EXISTING USES OF THE RECEIVING STATE WATER BE MAINTAINED AND PROTECTED;
 - DESIGNATED USES, AS A DETERMINED BY THE CLASSIFICATION OF THE RECEIVING STATE WATERS;
 - AND WATER QUALITY CRITERIA [HAWAII ADMINISTRATIVE RULES (HAR), CHAPTER 11-54].
 - A SECTION 401 WATER QUALITY CERTIFICATION (WQC) IS REQUIRED IF YOUR PROJECT/ACTIVITY:
 - REQUIRES A FEDERAL PERMIT, LICENSE, CERTIFICATE, APPROVAL, REGISTRATION, OR STATUTORY EXEMPTION; AND
 - MAY RESULT IN A DISCHARGE INTO STATE WATERS. THE TERM "DISCHARGE" IS DEFINED IN CLEAN WATER ACT, SUBSECTIONS 502(16), 502(12), AND 502(6). EXAMPLES OF "DISCHARGE" INCLUDE, BUT ARE NOT LIMITED TO, ALLOWING THE FOLLOWING POLLUTANTS TO ENTER STATE WATERS FROM THE SURFACE OR IN-WATER: SOLID WASTE, ROCK/SAND/DIRT, HEAT, SEWAGE, CONSTRUCTION DEBRIS, ANY UNDERWATER WORK, CHEMICALS, FUGITIVE DUST/SPRAY PAINT, AGRICULTURAL WASTES, BIOLOGICAL MATERIALS, INDUSTRIAL WASTES, CONCRETE/SEALANT/EPOXY, AND WASHING/CLEANING EFFLUENT.
- DETERMINE IF YOUR PROJECT/ACTIVITY REQUIRES A FEDERAL PERMIT, LICENSE, CERTIFICATE, APPROVAL, REGISTRATION, OR STATUTORY EXEMPTION BY CONTRACTING THE APPROPRIATE FEDERAL AGENCIES (E.G. DEPARTMENT OF THE ARMY (DA), U.S. ARMY CORPS OF ENGINEERS (COE), PACIFIC OCEAN DIVISION HONOLULU DISTRICT OFFICE (POH) TEL:808-835-4303; U.S. ENVIRONMENTAL PROTECTION AGENCY TEL: 415-947-8021; FEDERAL ENERGY REGULATORY COMMISSION TEL: 866-208-3372; U.S. COASTAL GUARD OFFICE OF BRIDGE PROGRAMS TEL: 202-372-1511).
- ACCORDING TO STATE LAW, ALL DISCHARGES RELATE TO THE PROJECT CONSTRUCTION OR OPERATION ACTIVITIES, WHETHER OR NOT NPDES PERMIT COVERAGE AND/OR SECTION 401 WQC ARE REQUIRED, MUST COMPLY WITH THE STATE'S WATER QUALITY STANDARDS.



THE WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII. I AM NOT PROVIDING ANY DESIGN OR CONSTRUCTION SERVICES TO ANY OTHER PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF SPSM INTERNATIONAL, INC.

DATE: 4/30/24
 SCALE: AS SHOWN
 PROJECT NO: 2018-001

NOTE: Contractor to check and verify dimensions of job before proceeding with work.

SPSM International, Inc.
 501 Surfer Street
 Suite 620
 Honolulu, Hawaii 96817

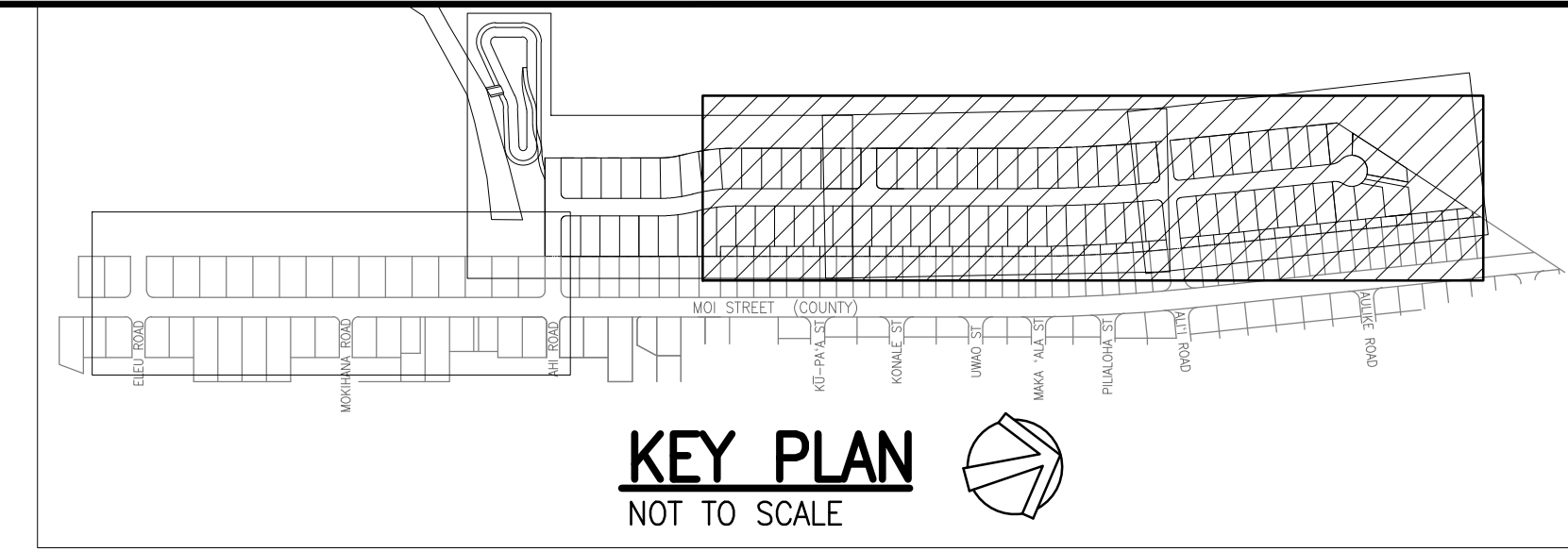
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PERMIT COMMENTS		DESCRIPTION	
MADE BY		APPROVED	

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

CIVIL NOTES - 4

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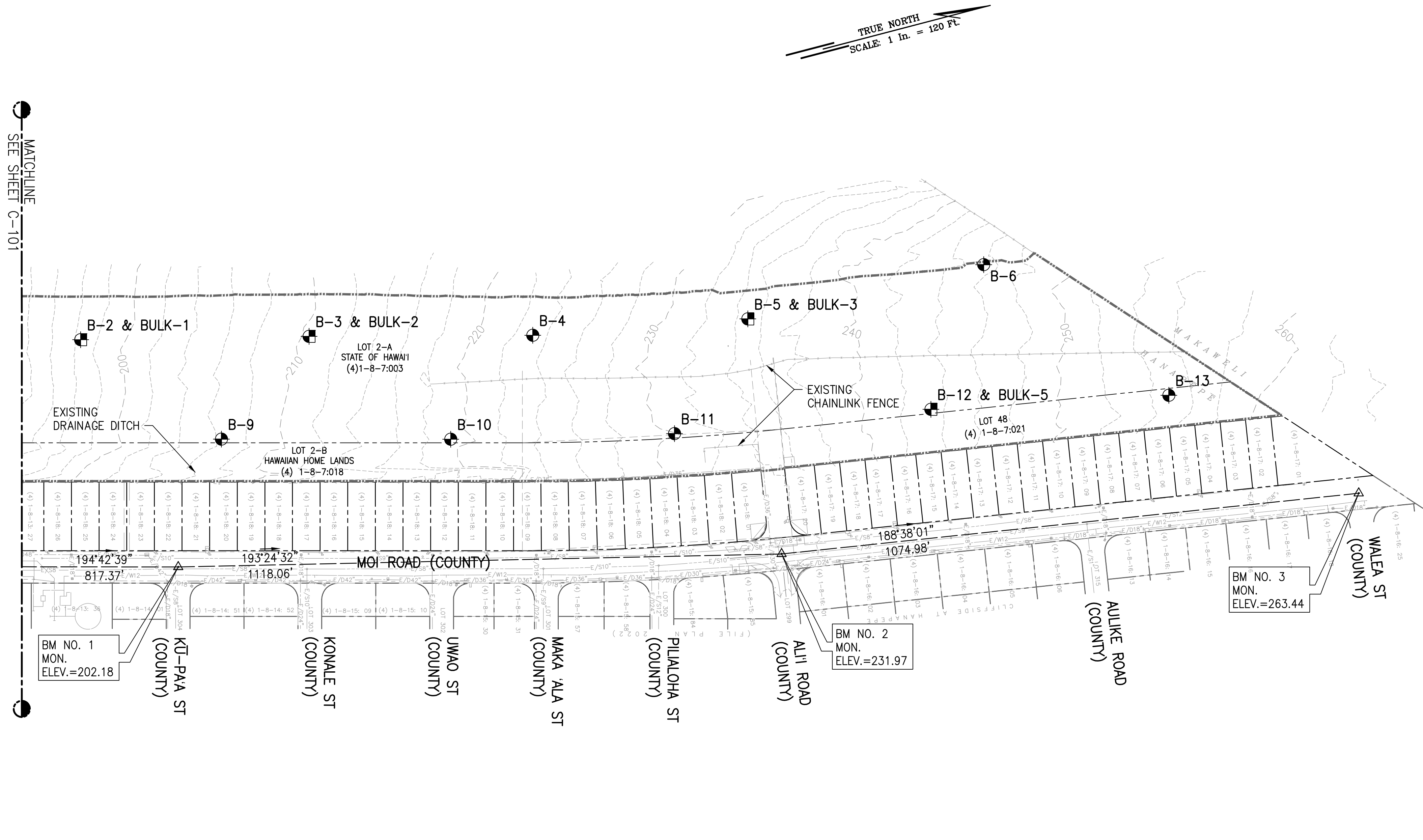
DATE: APRIL 2023
 SHEET NUMBER: C-004
 6 OF 109 SHEETS



RICHARD Y. SAITO
 LICENSED PROFESSIONAL ENGINEER
 NO. 8955-C
 HAWAII USA

4/20/24
 4/20/24

NOTE: Contractor to check and verify dimensions of job before proceeding with work.



TRUE NORTH
 SCALE: 1 in. = 120 ft.

- NOTES:**
- ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD. HOWEVER, CONNECTION OF UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA.
 - UNDERGROUND UTILITIES SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES BUT FROM OTHERS NOT CONNECTED WITH THIS COMPANY. THEREFORE, NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.

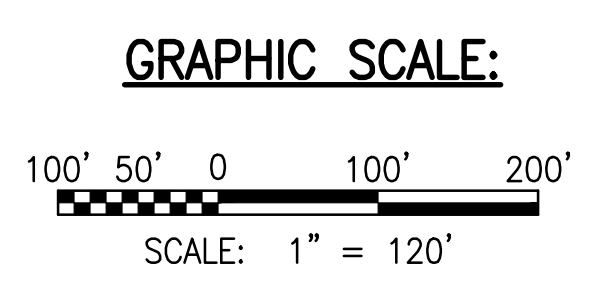
- LEGEND:**
- PROPERTY LINE
 - EXIST MAJOR CONTOUR
 - EXIST MINOR CONTOUR
 - EXIST DRAINLINE
 - EXIST SEWERLINE
 - EXIST WATERLINE
 - EXIST ELEC. LINE
 - EXIST CHAIN LINK FENCE
 - PROJECT LIMITS
 - APPROXIMATE BORING LOCATION
 - APPROXIMATE INFILTRATION TEST LOCATION
 - APPROXIMATE BULK SAMPLE LOCATION

SSFM International, Inc.
 50 Summer Street
 Suite 620
 Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

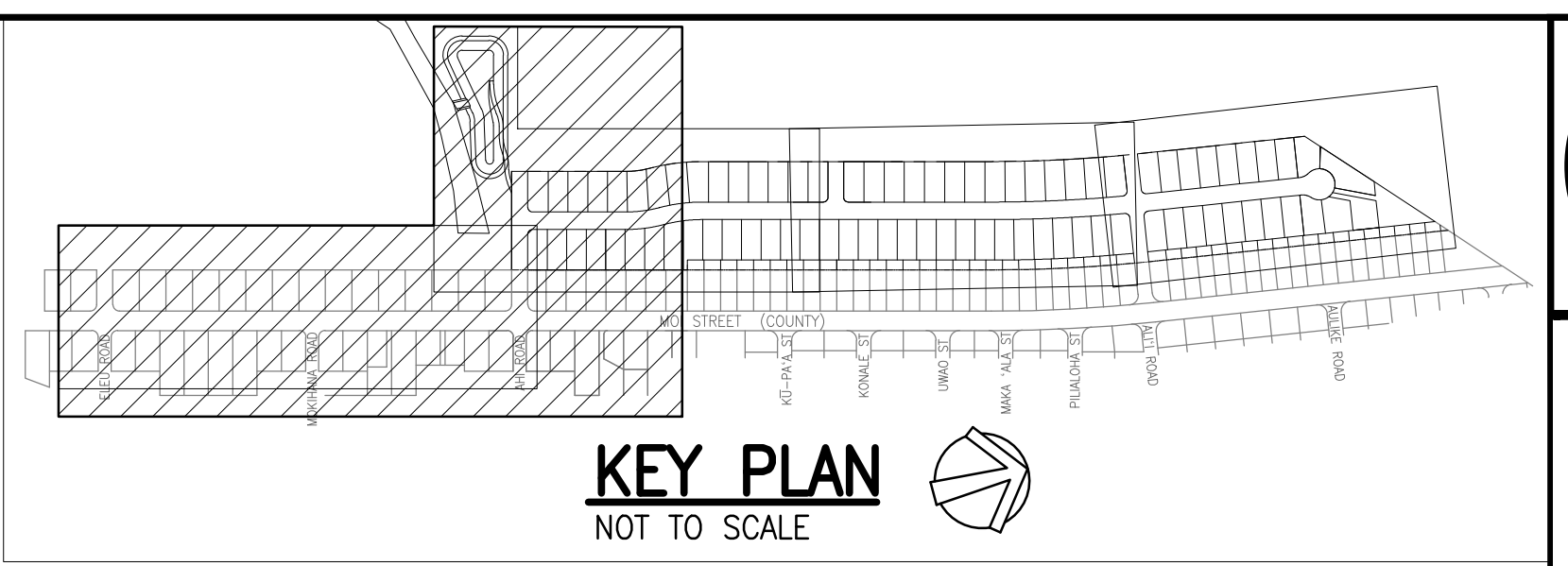
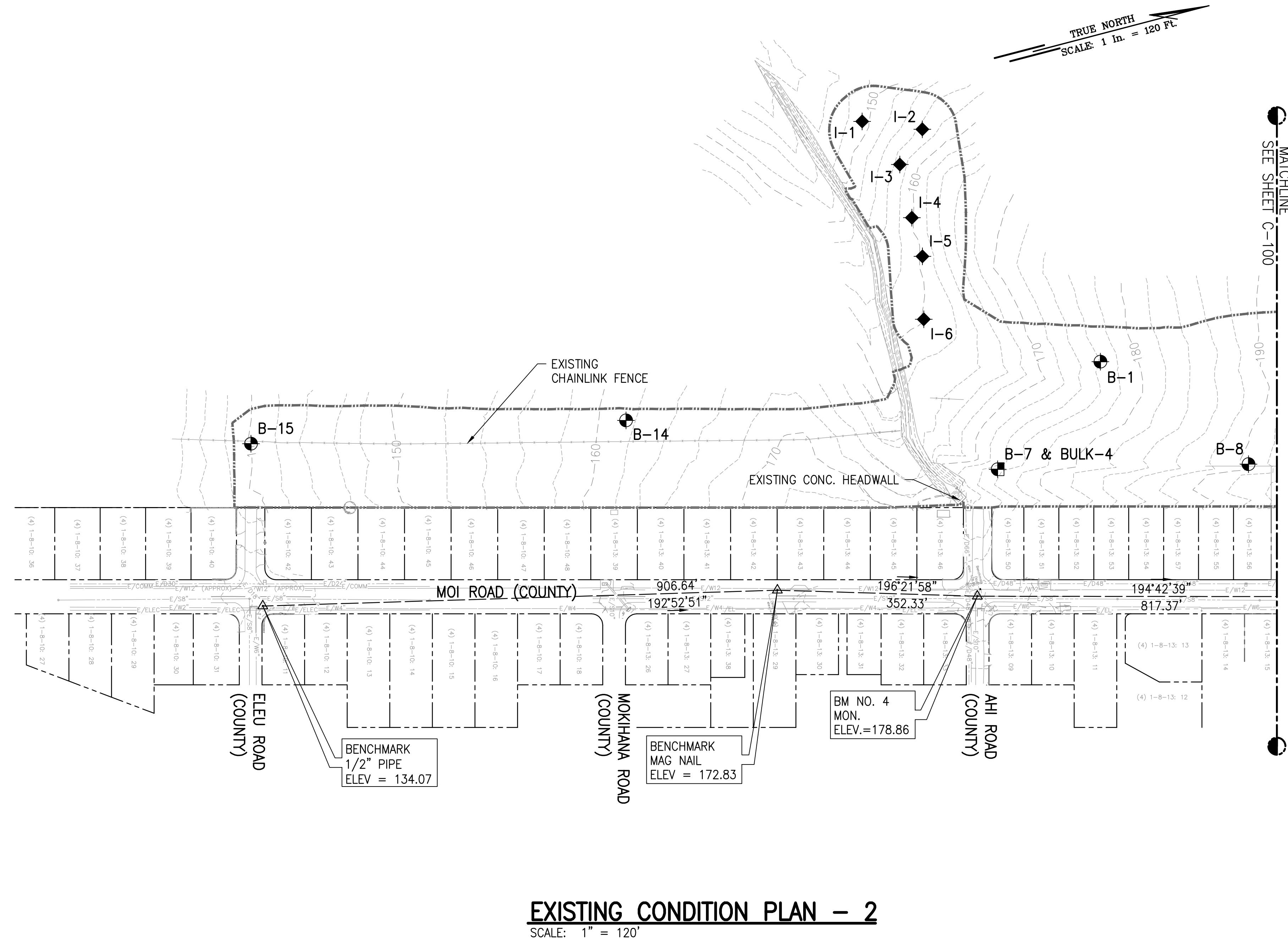
EXISTING CONDITION PLAN - 1
 SCALE: 1" = 120'



EXISTING CONDITION PLAN - 1

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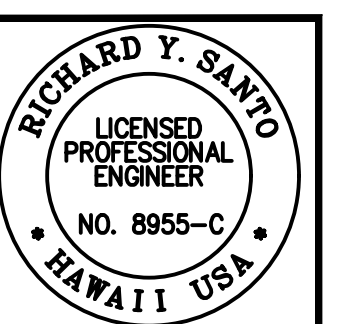
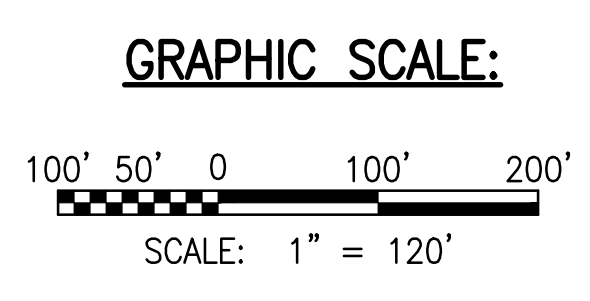
DATE: APRIL 2023
 SHEET NUMBER: C-100
 7 OF 109 SHEETS



- NOTES:**
- ALL VISIBLE UTILITY STRUCTURES HAVE BEEN LOCATED IN THE FIELD. HOWEVER, CONNECTION OF UNDERGROUND UTILITY LINES AS SHOWN ARE UNVERIFIED AND COMPILED FROM EXISTING DATA.
 - UNDERGROUND UTILITIES SHOWN HEREON ARE FOR INFORMATION ONLY, HAVING BEEN OBTAINED FROM THE BEST AVAILABLE SOURCES BUT FROM OTHERS NOT CONNECTED WITH THIS COMPANY. THEREFORE, NO GUARANTEE IS MADE ON THE ACCURACY OR COMPLETENESS OF SAID INFORMATION.

LEGEND:

---	PROPERTY LINE
- - - - 260	EXIST MAJOR CONTOUR
- - - -	EXIST MINOR CONTOUR
- - - - E/D18"	EXIST DRAINLINE
- - - - E/S8"	EXIST SEWERLINE
- - - - E/W8"	EXIST WATERLINE
- - - - E/E1"	EXIST ELEC. LINE
- - - -	EXIST CHAIN LINK FENCE
---	PROJECT LIMITS
◆	APPROXIMATE BORING LOCATION
◆	APPROXIMATE INFILTRATION TEST LOCATION
■	APPROXIMATE BULK SAMPLE LOCATION



The work was prepared by me or under my direct supervision and I am a duly Licensed Professional Engineer in the State of Hawaii. I am duly Licensed in the State of Hawaii. My License No. is 8955-C. My expiration date is 4/30/24. My address is 50 Summer Street, Suite 620, Honolulu, Hawaii 96817.

Richard Y. Santo
L.P.E.
4/30/24

SSFM International, Inc.
50 Summer Street
Suite 620
Honolulu, Hawaii 96817

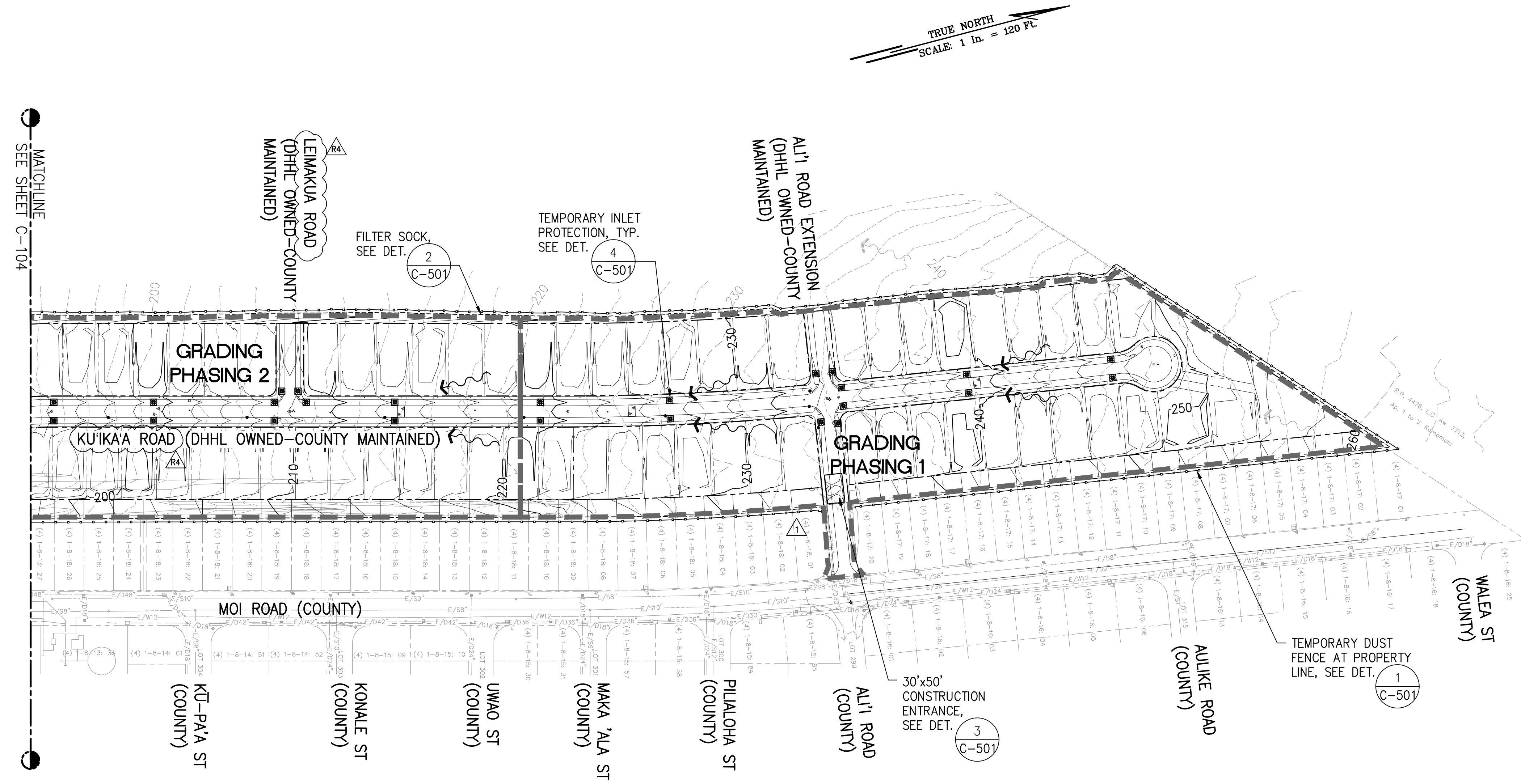
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT:
DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

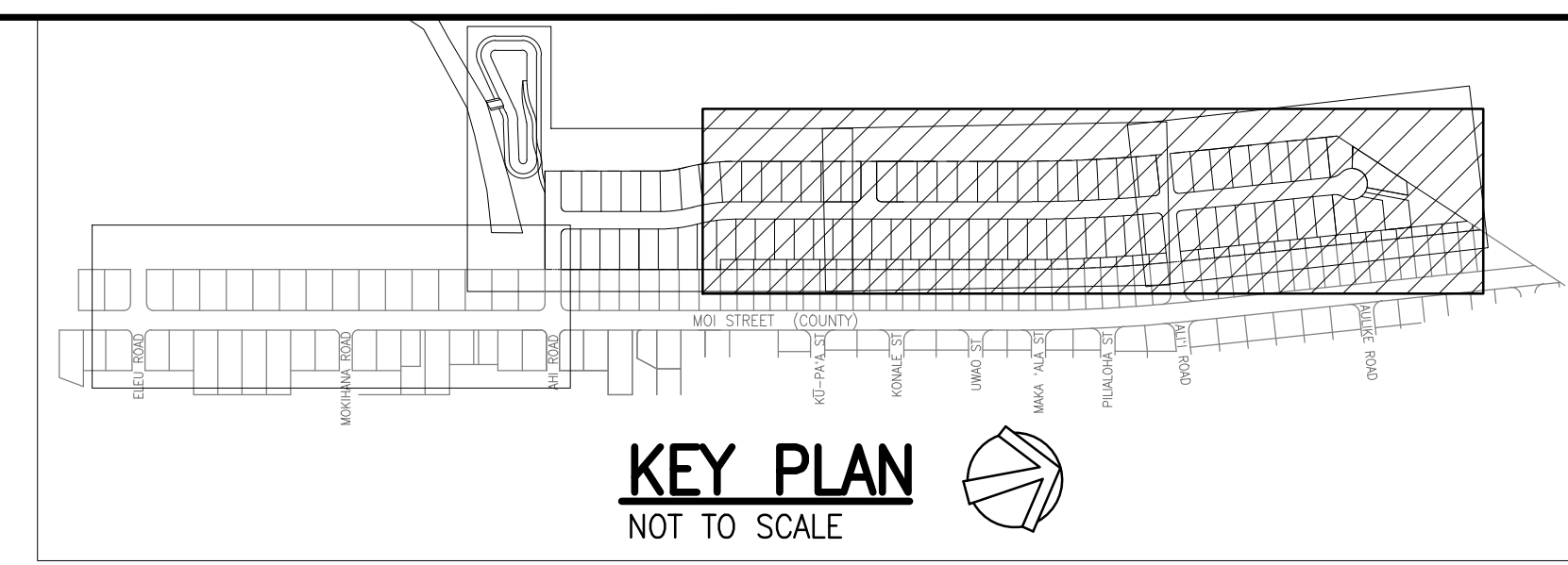
EXISTING CONDITION PLAN - 2

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DATE: APRIL 2023
SHEET NUMBER: C-101
8 OF 109 SHEETS

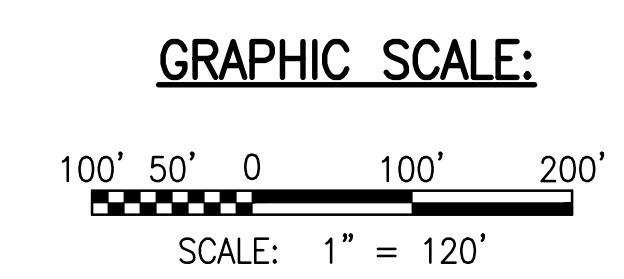


OVERALL EROSION AND SEDIMENT CONTROL PLAN - 1
SCALE: 1" = 120'



- LEGEND:**
- CONSTRUCTION INGRESS/EGRESS
 - PROPERTY LINE
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - LIMITS OF GRADING AND DISTURBANCE
 - FILTER SOCK PERIMETER CONTROL
 - TEMPORARY CONSTRUCTION FENCE
 - GRADING PHASING LIMITS
 - TEMPORARY INLET PROTECTION
 - EXISTING RUNOFF DIRECTION
 - PROPOSED RUNOFF DIRECTION

- NOTES:**
1. FOR DETAILED EROSION AND SEDIMENT CONTROL PLAN, SEE SHEETS C-115 AND C-116.
 2. BMP PLAN IS CONCEPTUAL IN NATURE. CONTRACTOR TO ADJUST PLAN AS REQUIRED FOR PHASING OF PROJECT.
 3. FOR GRADING PHASING PLAN, SEE SHEET C-109.



RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

4/20/24

[Signature]

DATE OF THE ISSUE OF THE SEAL

NOTE: Contractor to check and verify dimensions of job before proceeding with work.

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SSFM International, Inc.
50 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	12/05/22	ADDITION 4		
2	05/06/23	REVISED STREET NAMES		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

OVERALL EROSION AND SEDIMENT CONTROL PLAN - 1

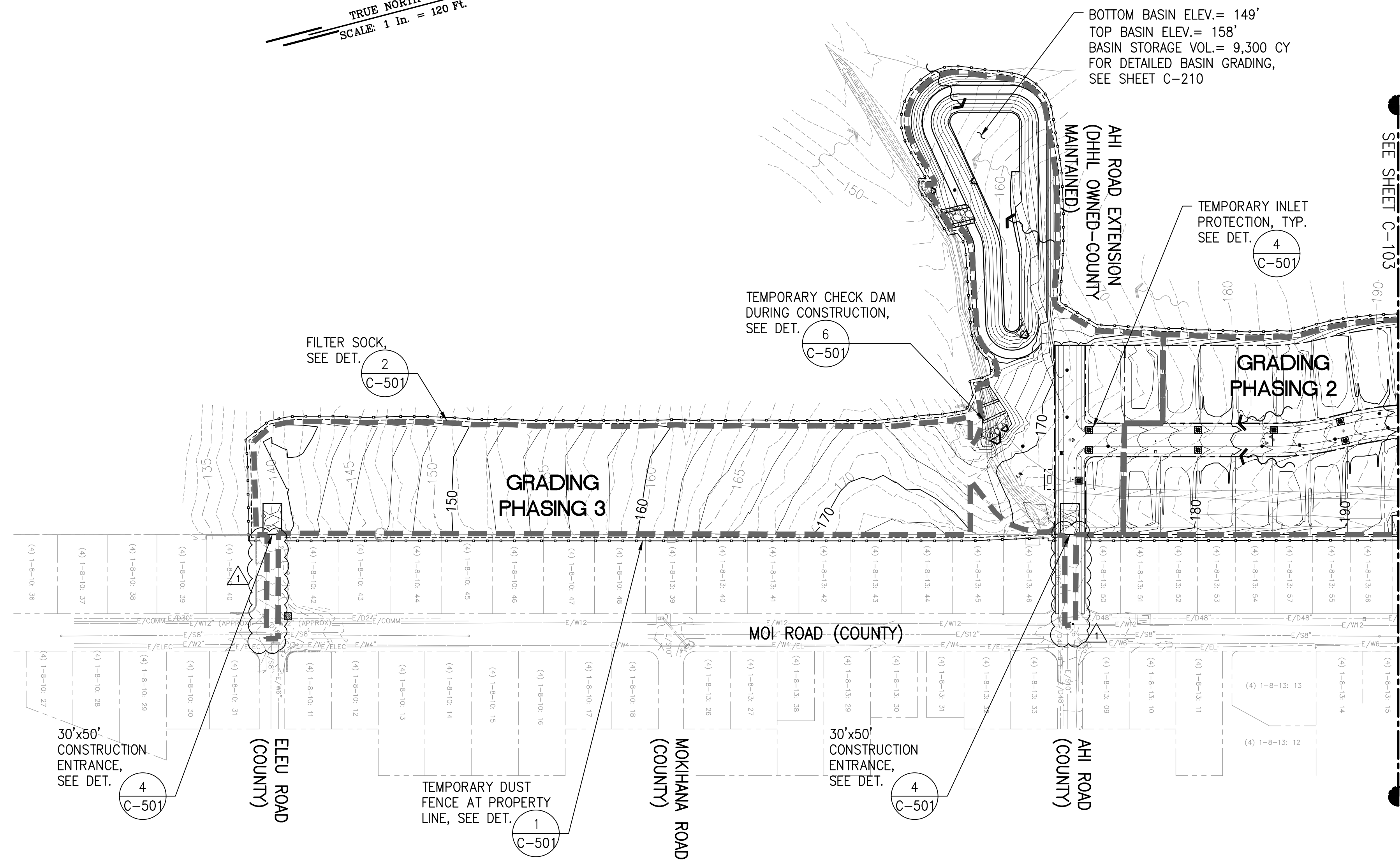
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DATE: APRIL 2023

SHEET NUMBER: C-103

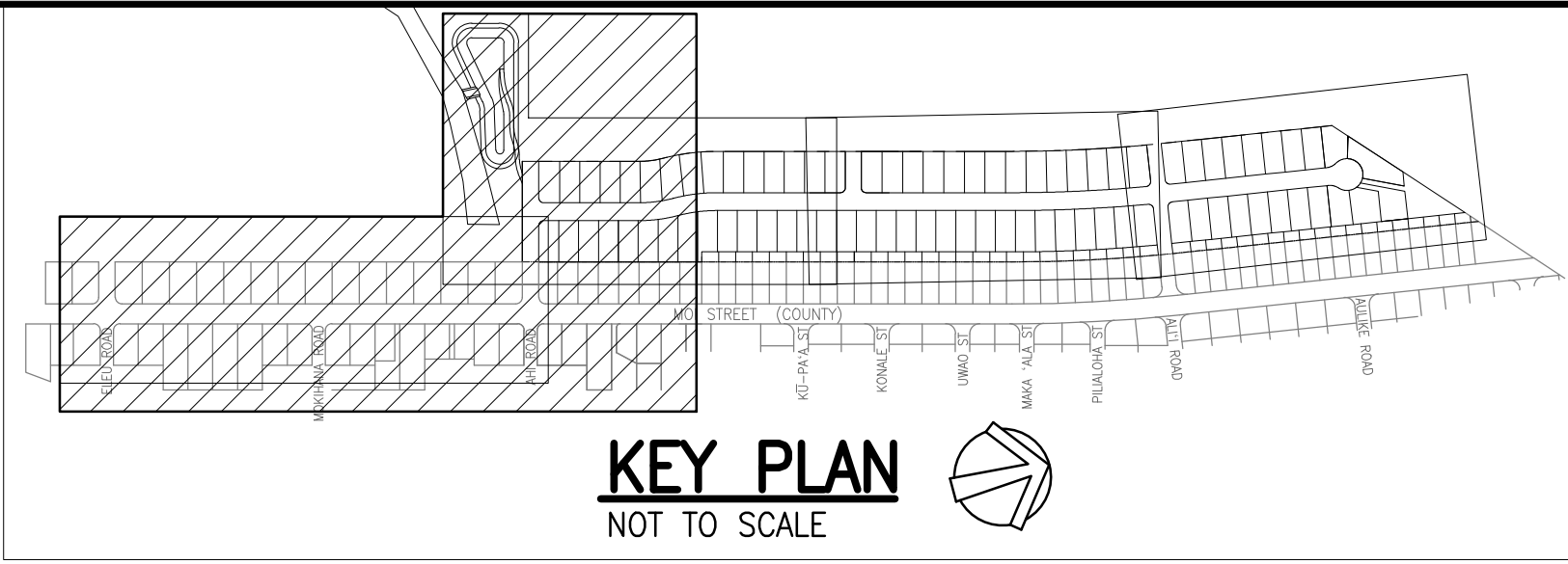
10 OF 109 SHEETS

W:_CIVIL_3D_PROJECTS\2018_021.001_DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01 CE DWG\C-103 - C-104 OVERALL EROSION AND SEDIMENT CONTROL PLANS.DWG 3/13/2023 7:27 AM SAMANO



OVERALL EROSION AND SEDIMENT CONTROL PLAN - 2

SCALE: 1" = 120'



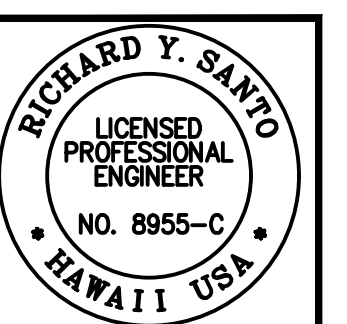
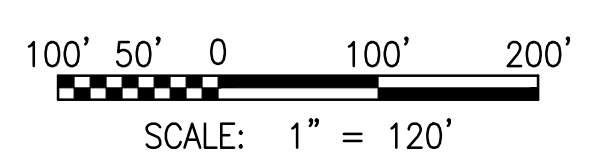
LEGEND:

- CONSTRUCTION INGRESS/EGRESS
- PROPERTY LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- LIMITS OF GRADING AND DISTURBANCE
- FILTER SOCK PERIMETER CONTROL
- TEMPORARY CONSTRUCTION FENCE
- GRADING PHASING LIMITS
- TEMPORARY INLET PROTECTION
- TEMPORARY CHECK DAM
- EXISTING RUNOFF DIRECTION
- PROPOSED RUNOFF DIRECTION

NOTES:

1. FOR DETAILED EROSION AND SEDIMENT CONTROL PLAN, SEE SHEETS C-115 AND C-116.
2. BMP PLAN IS CONCEPTUAL IN NATURE. CONTRACTOR TO ADJUST PLAN AS REQUIRED FOR PHASING OF PROJECT.
3. FOR GRADING PHASING PLAN, SEE SHEET C-109.

GRAPHIC SCALE:



DATE: 4/20/24
SCALE: AS SHOWN
PROJECT: OVERALL EROSION AND SEDIMENT CONTROL PLAN - 2
SHEET NUMBER: C-104

SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

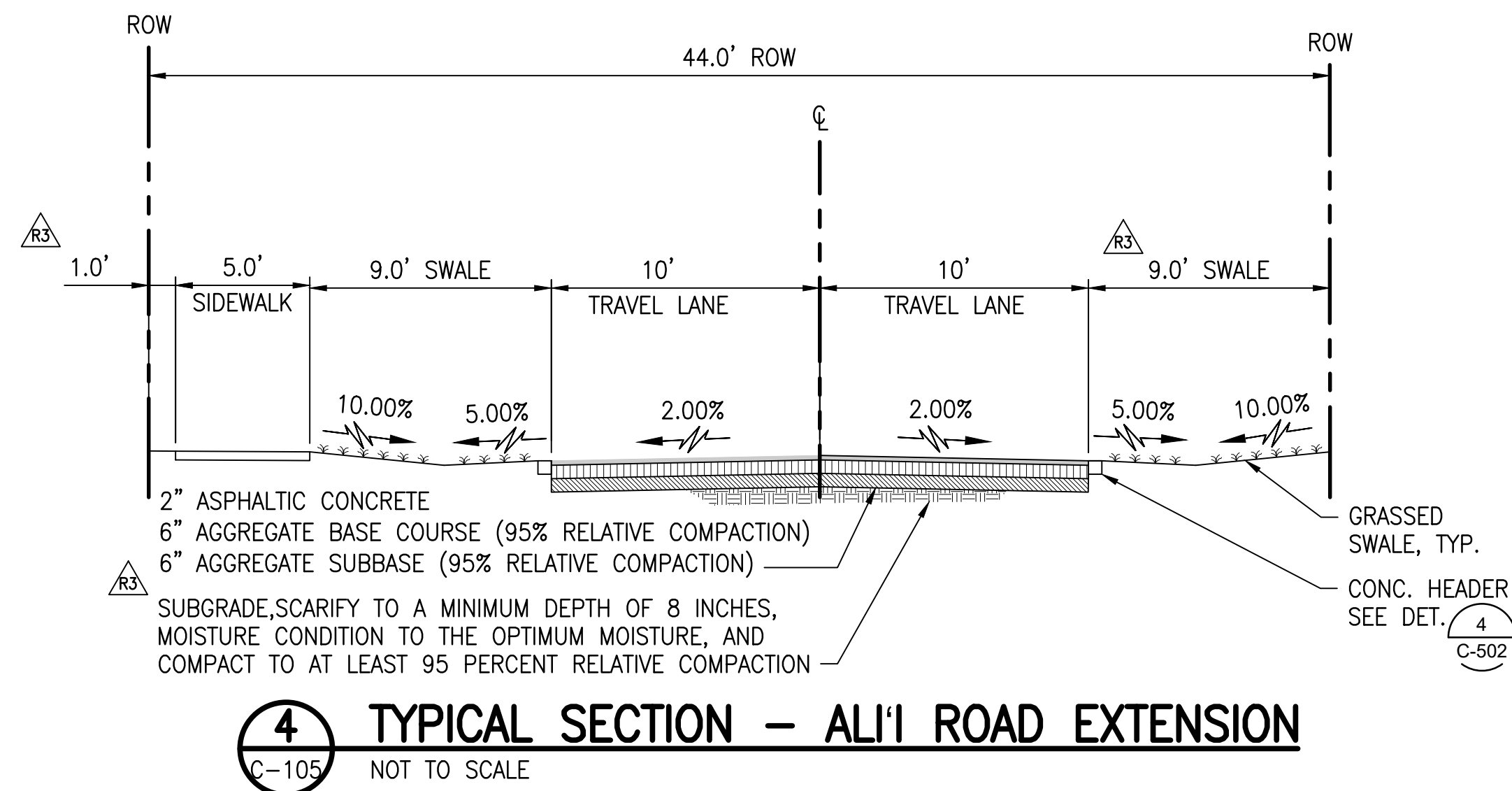
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	12/05/22	ADDENDUM 4		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

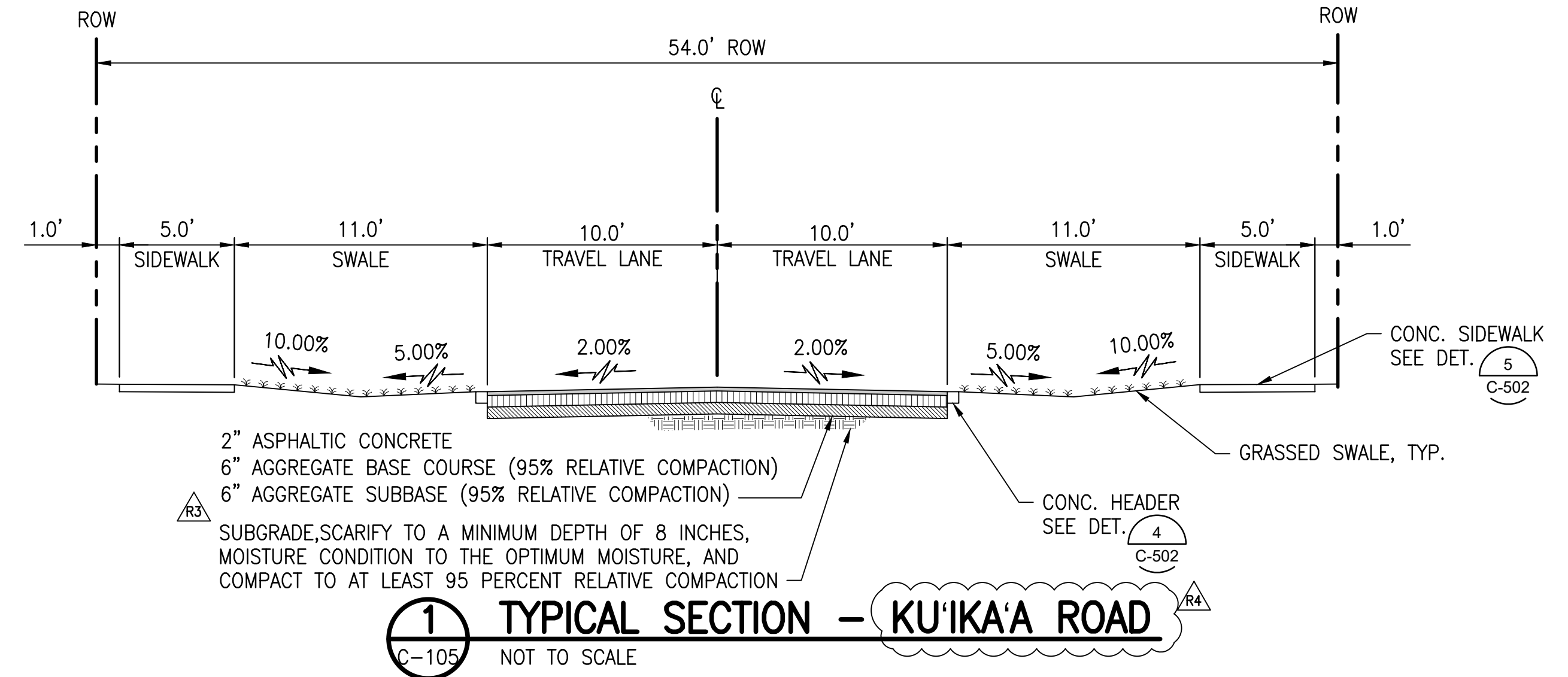
OVERALL EROSION AND SEDIMENT CONTROL PLAN - 2
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DATE: APRIL 2023
SHEET NUMBER: C-104
11 OF 109 SHEETS

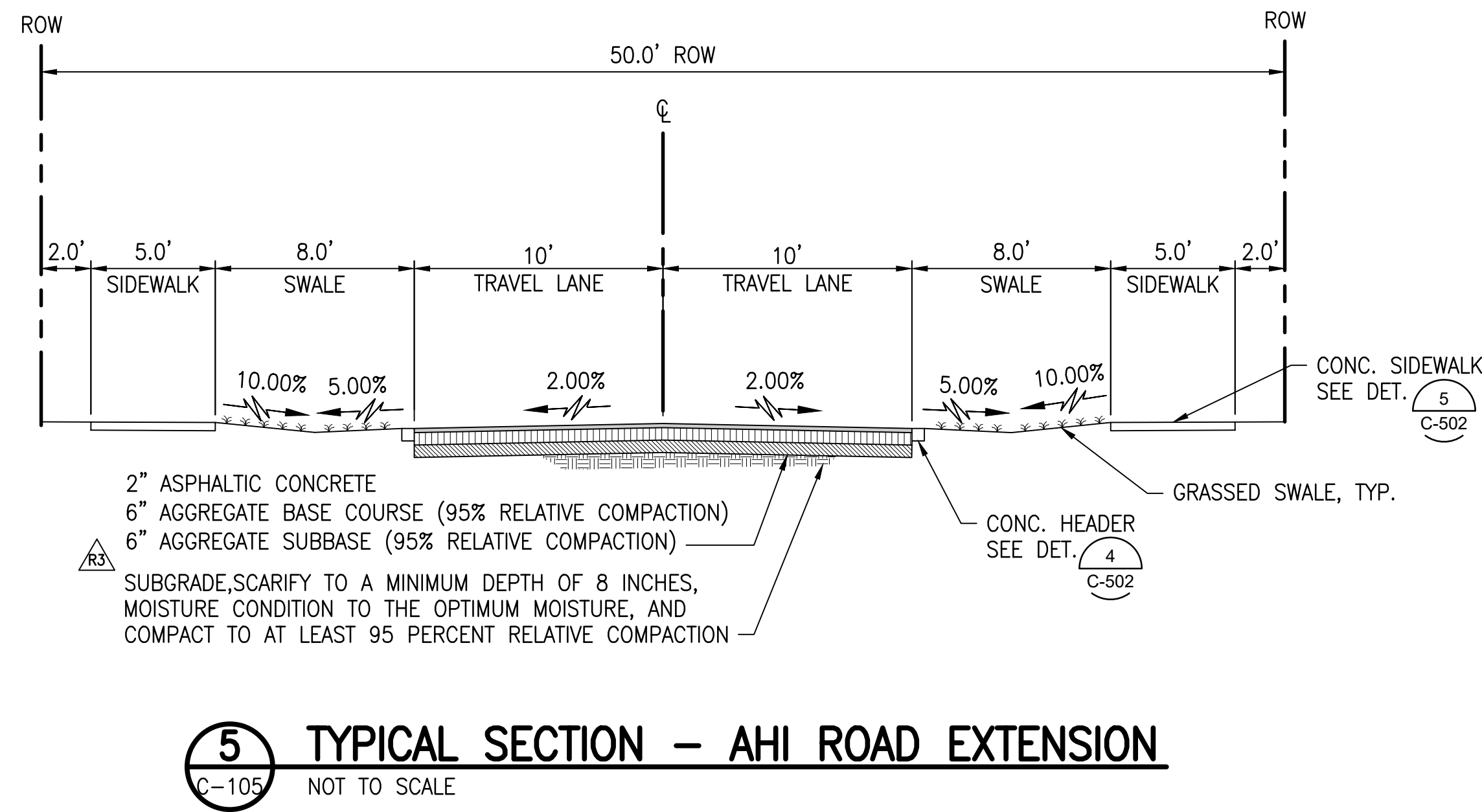
W:\CIVIL_3D\PROJECTS\2018_021.001\DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-105_TYPICAL_SECTIONS.DWG 5/19/2023 8:40 AM CLEMENTE



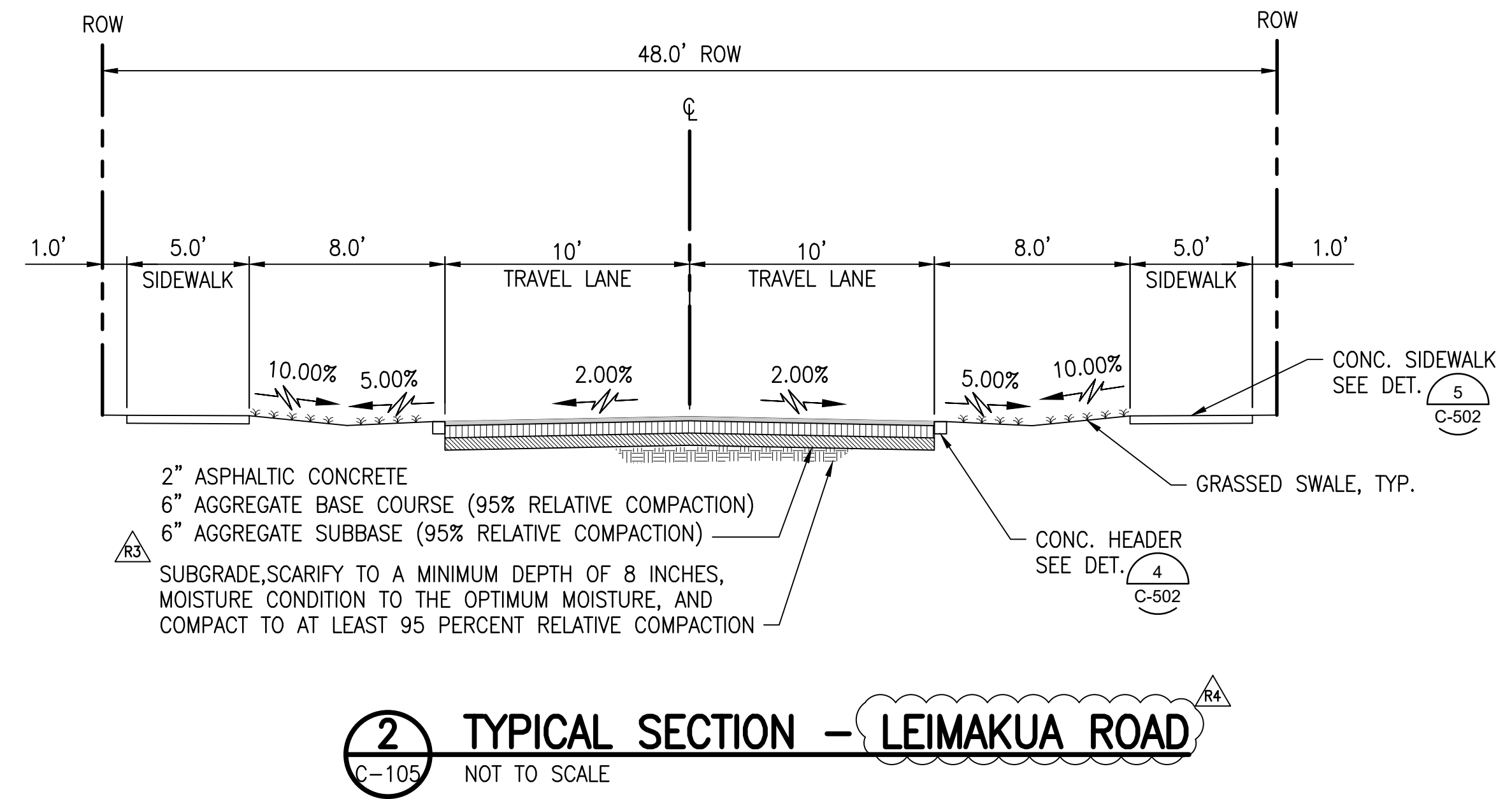
4 TYPICAL SECTION - ALI'I ROAD EXTENSION
C-105 NOT TO SCALE



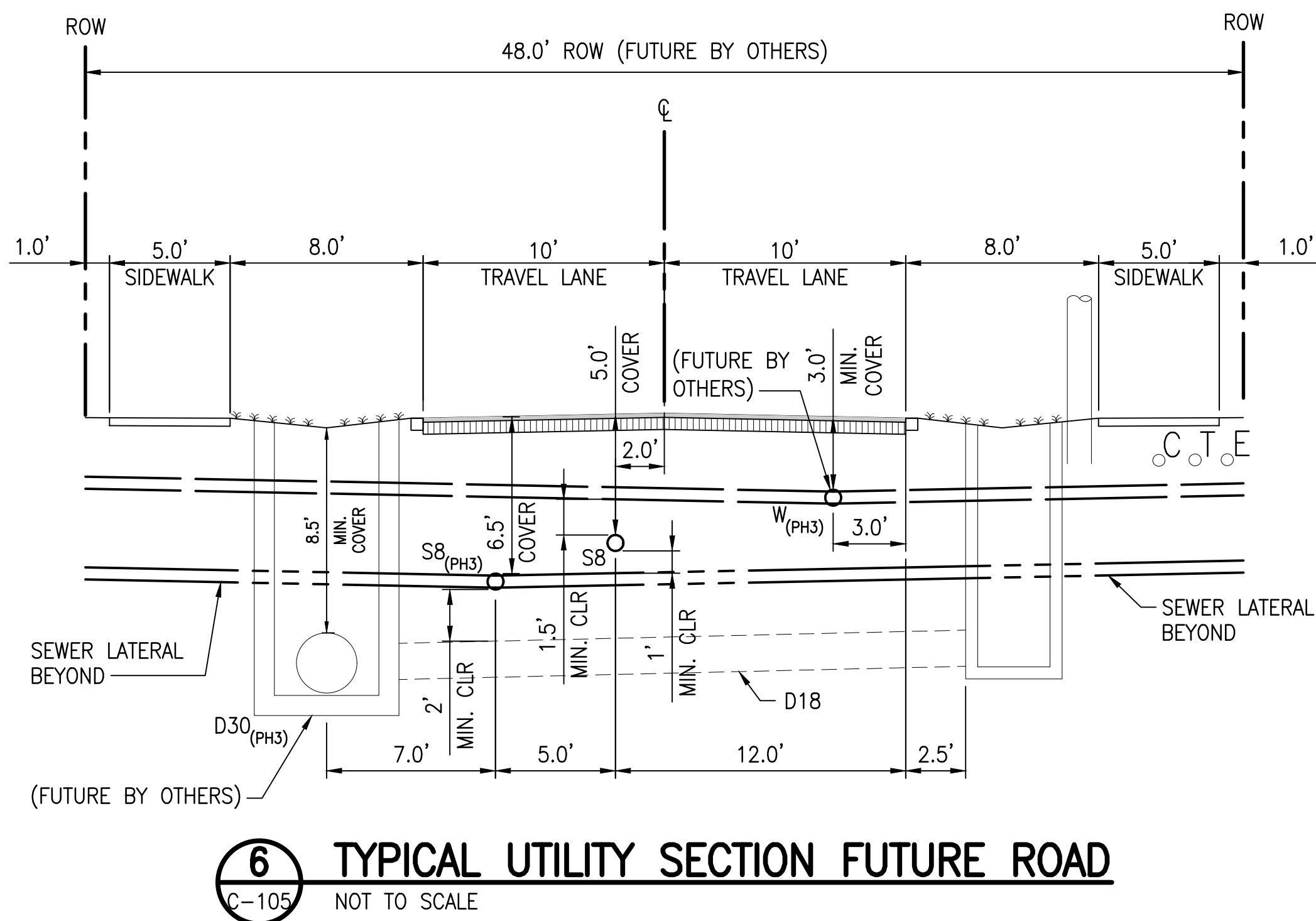
1 TYPICAL SECTION - KU'IKA'A ROAD
C-105 NOT TO SCALE



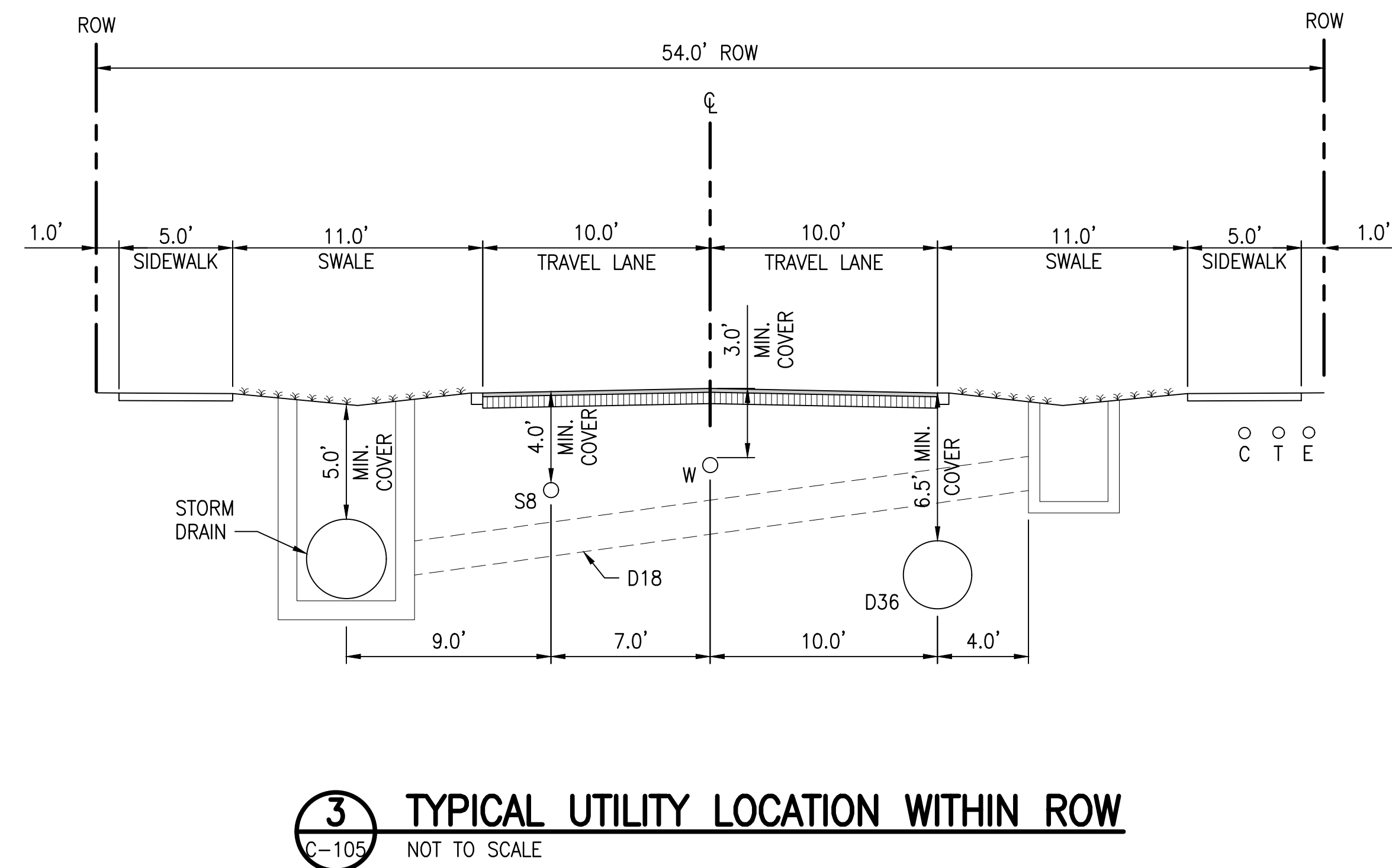
5 TYPICAL SECTION - AHI ROAD EXTENSION
C-105 NOT TO SCALE



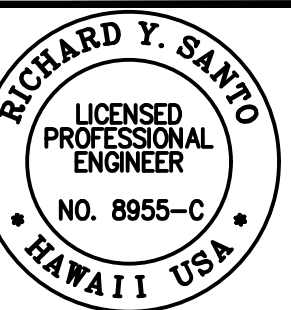
2 TYPICAL SECTION - LEIMAKUA ROAD
C-105 NOT TO SCALE



6 TYPICAL UTILITY SECTION FUTURE ROAD
C-105 NOT TO SCALE



3 TYPICAL UTILITY LOCATION WITHIN ROW
C-105 NOT TO SCALE



DATE: 4/20/24
SCALE: AS SHOWN
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
T.M.K.: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hamapōpō, Waimāea, Kauaʻi, Hawaiʻi

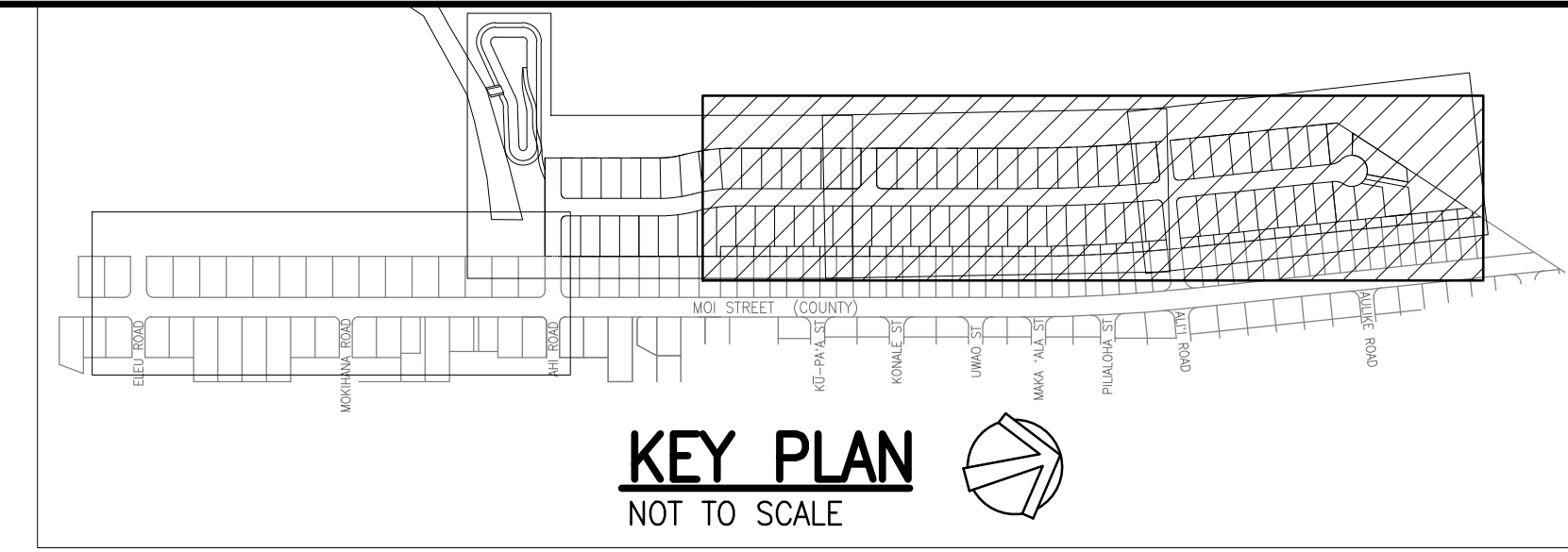
SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	PERMIT COMMENTS	DESCRIPTION
RA	05/26/23		
RA	2/07/23		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
T.M.K.: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hamapōpō, Waimāea, Kauaʻi, Hawaiʻi

TYPICAL SECTIONS
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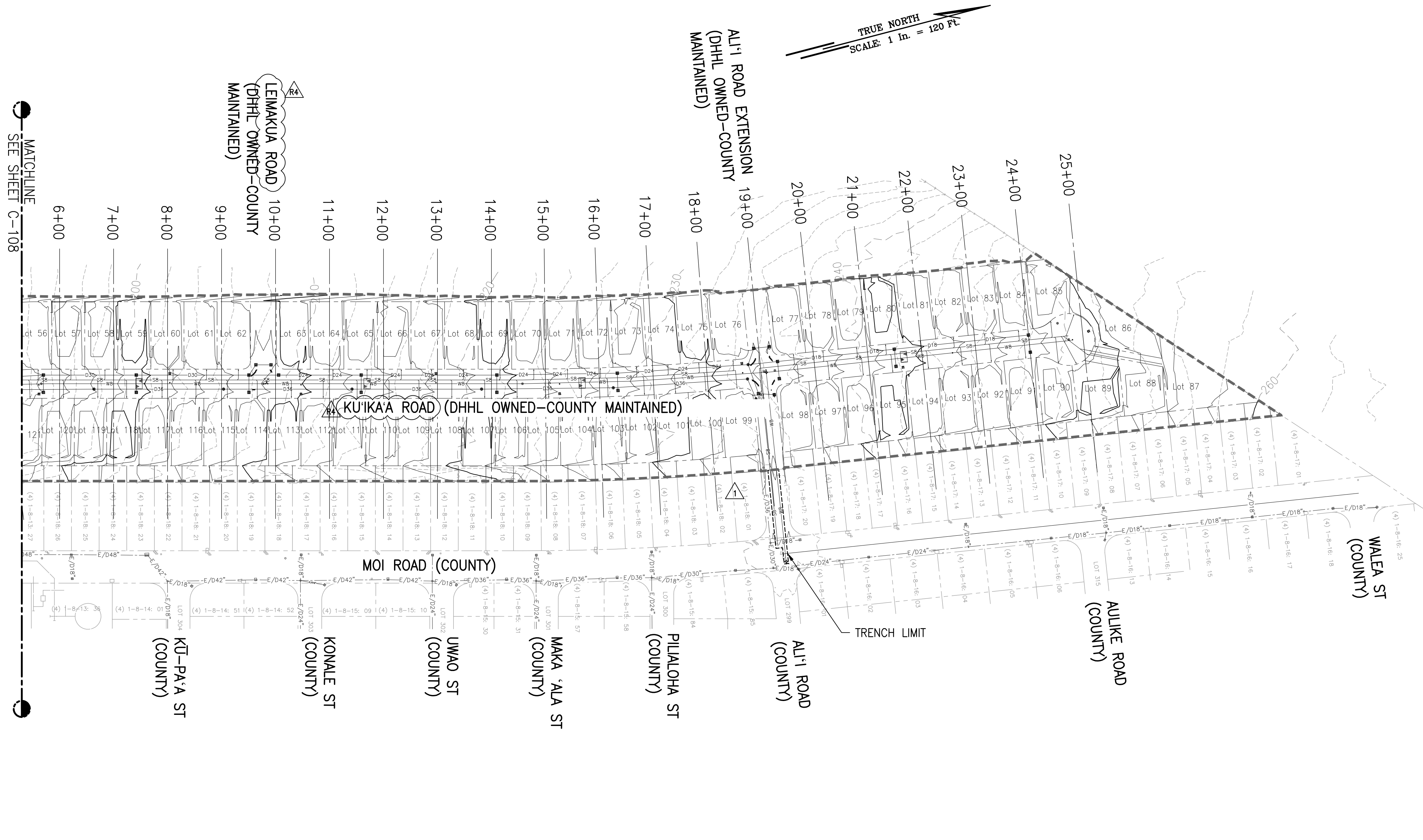
DATE: APRIL 2023
SHEET NUMBER: C-105
12 OF 109 SHEETS



RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: 4/20/24
BY: [Signature]

NOTE: Contractor to check and verify dimensions of job before proceeding with work.



OVERALL GRADING PLAN - 1
SCALE: 1" = 120'

LEGEND:

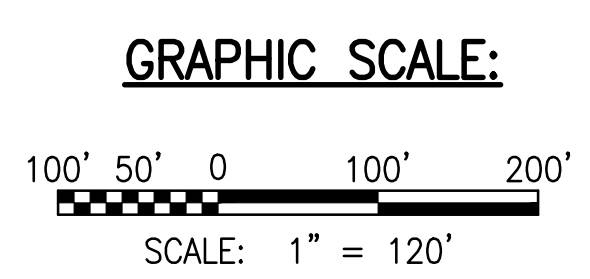
---	PROPERTY LINE
- - - -	EXISTING CONTOURS
---	PROPOSED CONTOURS
- - - -	EXIST. DRAINLINE
---	DRAINLINE
---	LIMITS OF GRADING AND DISTURBANCE
■	GRATED DRAIN INLET (GDI)
○	STORM DRAIN MANHOLE (SDMH)
⊙	SEWER MANHOLE (SMH)
⊗	FIRE HYDRANT

EARTHWORK SUMMARY:

AREA TO BE GRADED	1,215,750 SF (27.91 AC)
AREA TO BE DISTURBED	1,216,621 SF (27.93 AC)
EXCAVATION	33,700 CY (CUT) Δ 1
EMBANKMENT	41,749 CY (FILL)
NET	Δ 1 8,049 CY (FILL)

QUANTITIES SHOWN ARE FOR THE COUNTY GRADING PERMIT PURPOSE ONLY AND DO NOT INCLUDE TRENCH OR STRUCTURAL EXCAVATION AND BACKFILL. THE CONTRACTOR SHALL VERIFY ALL EARTHWORKS QUANTITIES FOR THEIR BIDDING PURPOSES.

- NOTES:**
- FOR DETAILED GRADING AND DRAINAGE PLANS, SEE SHEETS C-121 AND C-126
 - FOR GRADING SECTIONS, SEE SHEETS C-301 AND C-302



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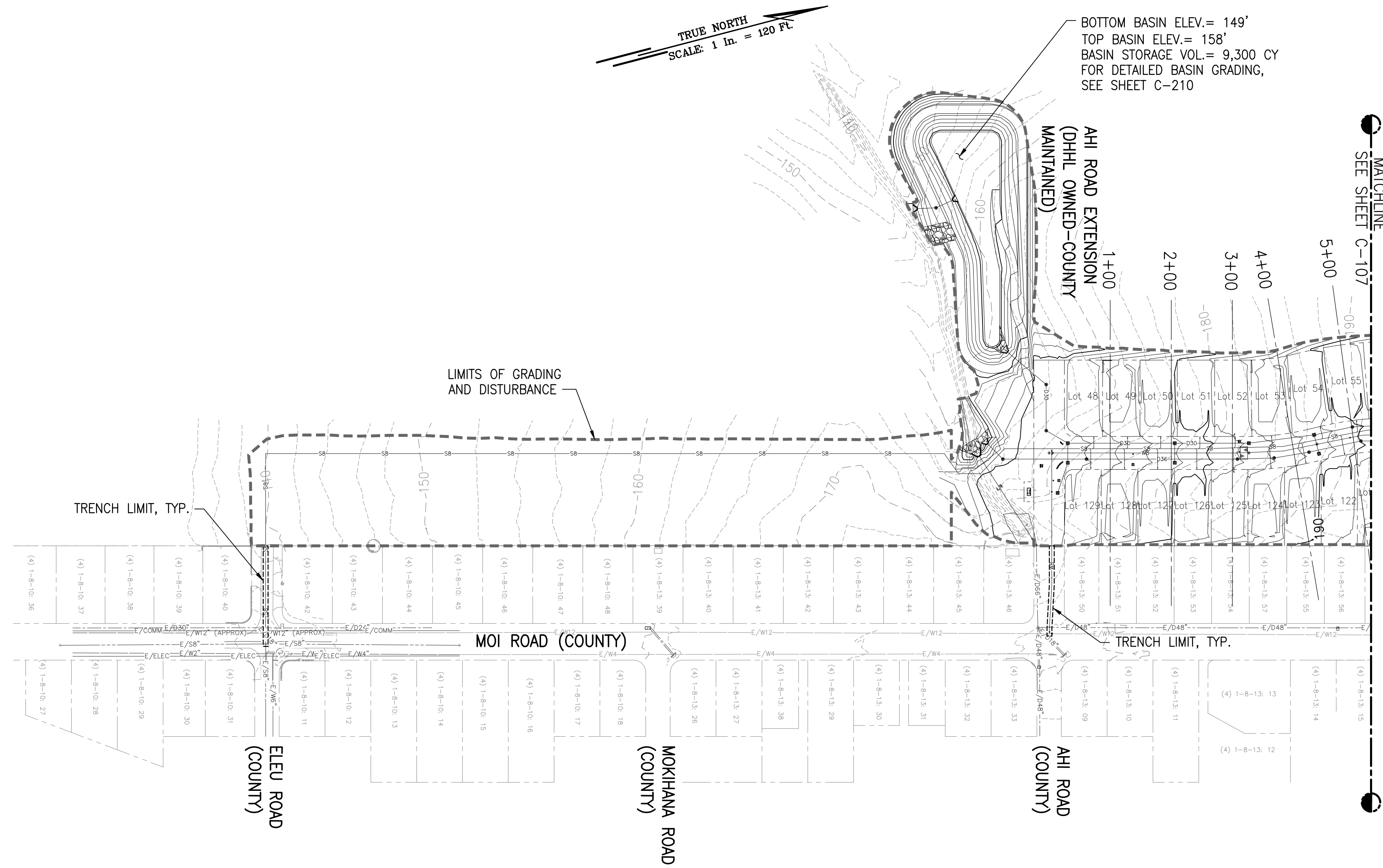
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	12/05/22	ADDITIONAL		
2	05/06/23	REVISED STREET NAMES		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

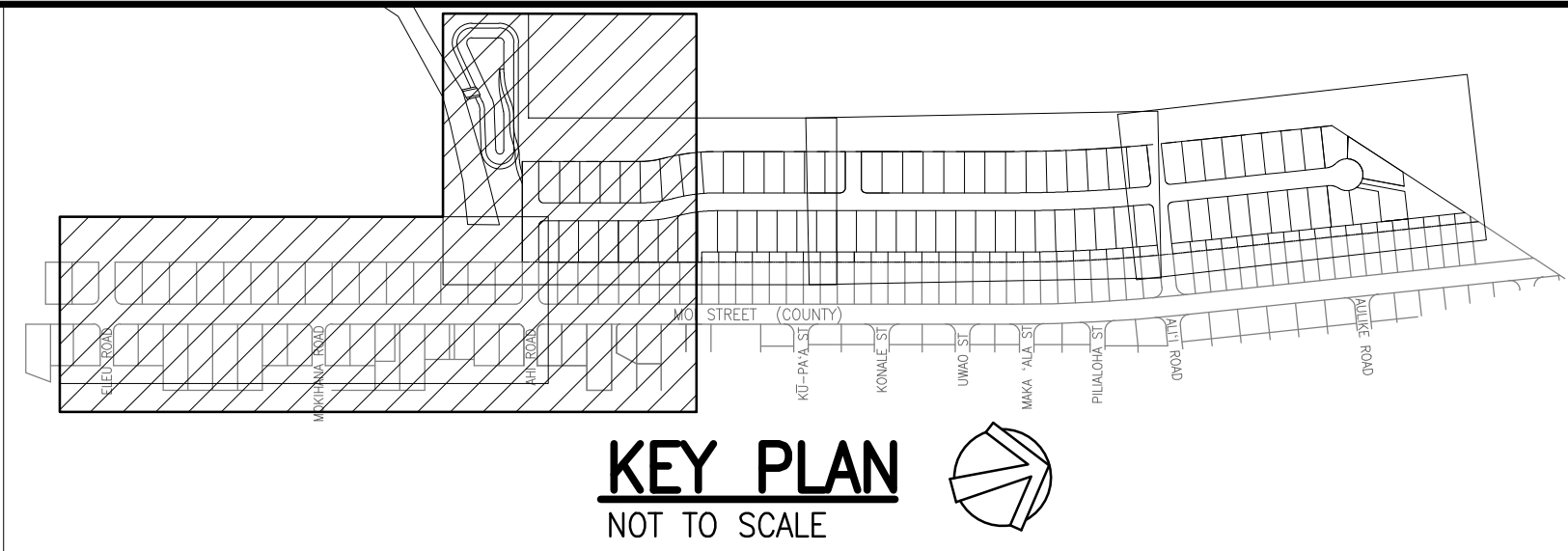
OVERALL GRADING PLAN - 1

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DATE: APRIL 2023
SHEET NUMBER: **C-107**
14 OF 109 SHEETS



OVERALL GRADING PLAN - 2
SCALE: 1" = 120'

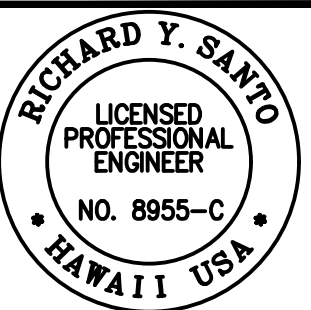
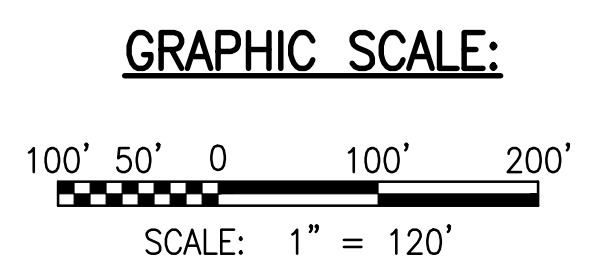


LEGEND:

- PROPERTY LINE
- - - - - EXISTING CONTOURS
- 705 ----- PROPOSED CONTOURS
- - - - - E/018' ----- EXIST. DRAINLINE
- D36 ----- DRAINLINE
- LIMITS OF GRADING AND DISTURBANCE
- GRATED DRAIN INLET (GDI)
- STORM DRAIN MANHOLE (SDMH)
- ⊙ SEWER MANHOLE (SMH)
- ✕ FIRE HYDRANT

NOTES:

1. FOR DETAILED GRADING AND DRAINAGE PLANS, SEE SHEETS C-121 AND C-126
2. FOR GRADING SECTIONS, SEE SHEETS C-301 AND C-302



The work was prepared by me or under my direct supervision and I am a duly Licensed Professional Engineer in the State of Hawaii. I am duly Licensed in the State of Hawaii. My License No. is 8955-C. I am duly Licensed in the State of Hawaii. My License No. is 8955-C. I am duly Licensed in the State of Hawaii. My License No. is 8955-C.

Signature: *RYS* Date: 4/30/24

NOTE: Contractor to check and verify dimensions of job before proceeding with work.

SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

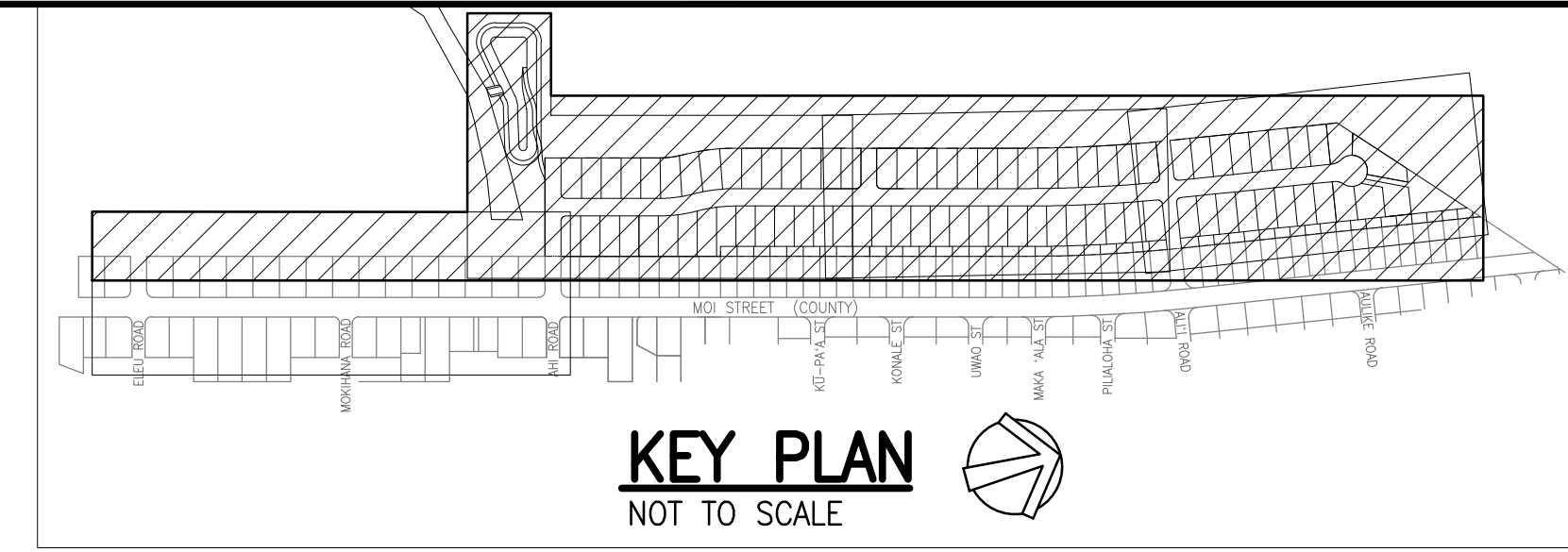
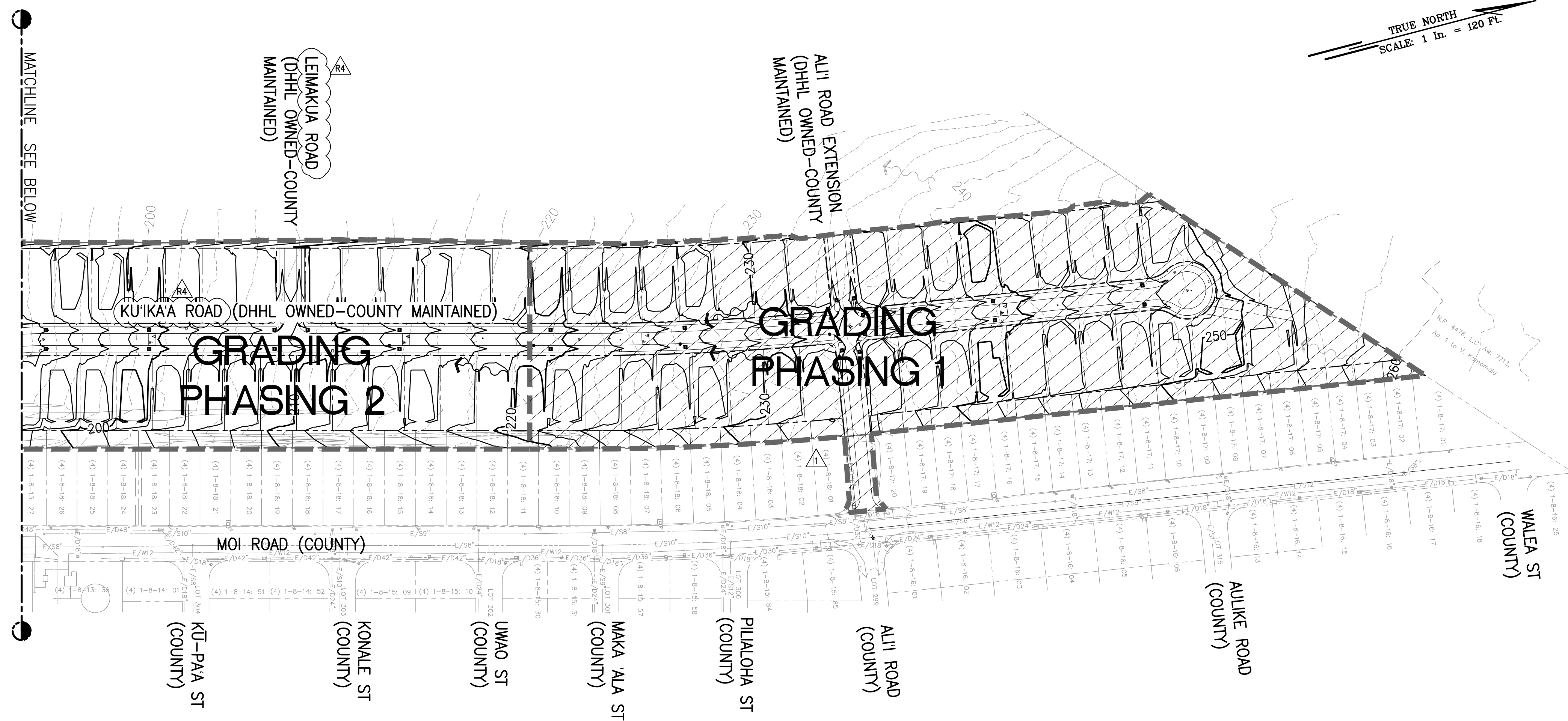
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

OVERALL GRADING PLAN - 2

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DATE: APRIL 2023
SHEET NUMBER: C-108
15 OF 109 SHEETS

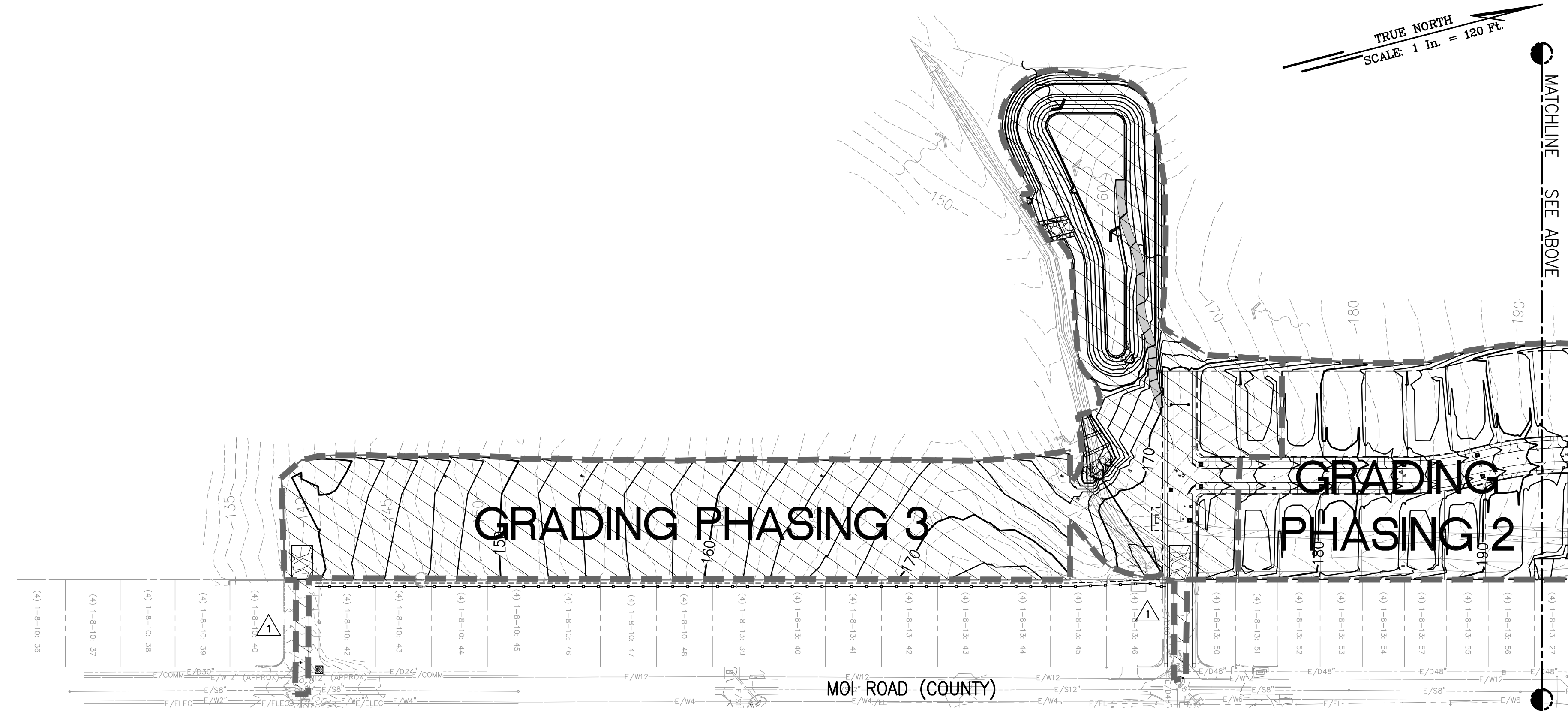


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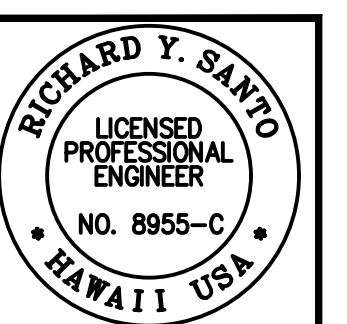
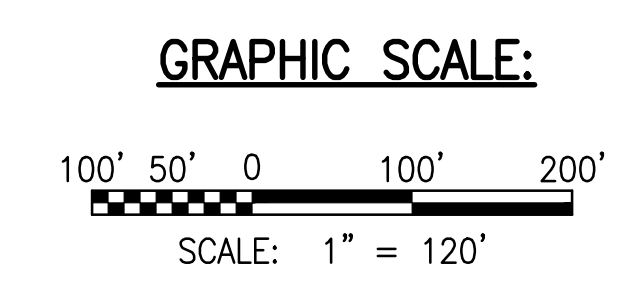
- PROPERTY LINE
- - - RIGHT-OF-WAY
- - - 150 - - - EXISTING MAJOR CONTOUR
- - - 150 - - - PROPOSED MAJOR CONTOUR
- - - - - EXISTING MINOR CONTOUR
- - - - - PROPOSED MINOR CONTOUR
- - - - - LIMITS OF GRADING
- - - - - GRADING PHASING LIMITS
- [Hatched Box] GRADING PHASE 1 (9.85 ACRES)
- [White Box] GRADING PHASE 2 (9.74 ACRES)
- [Hatched Box] GRADING PHASE 3 (8.18 ACRES)

NOTE:
 GRADING AND GRUBBING SHALL BE DONE IN PHASES AND LIMITED TO 10 ACRES MAXIMUM PER PHASE. CONTRACTOR TO ADJUST BMP PLAN AS REQUIRED FOR PHASING PROJECT.

APPROXIMATE EARTHWORK			
GRADING PHASE	AREA (ACRES)	CUT (CY)	FILL (CY)
1	9.99	13,920±	4,950±
2	9.74	3,340±	20,020±
3	8.20	16,440±	16,780±



GRADING PHASING PLAN
 SCALE: 1" = 120'



DATE: 4/20/24
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 PROJECT: [Project Name]

SSFM International, Inc.
 501 Surfer Street
 Suite 620
 Honolulu, Hawaii 96817

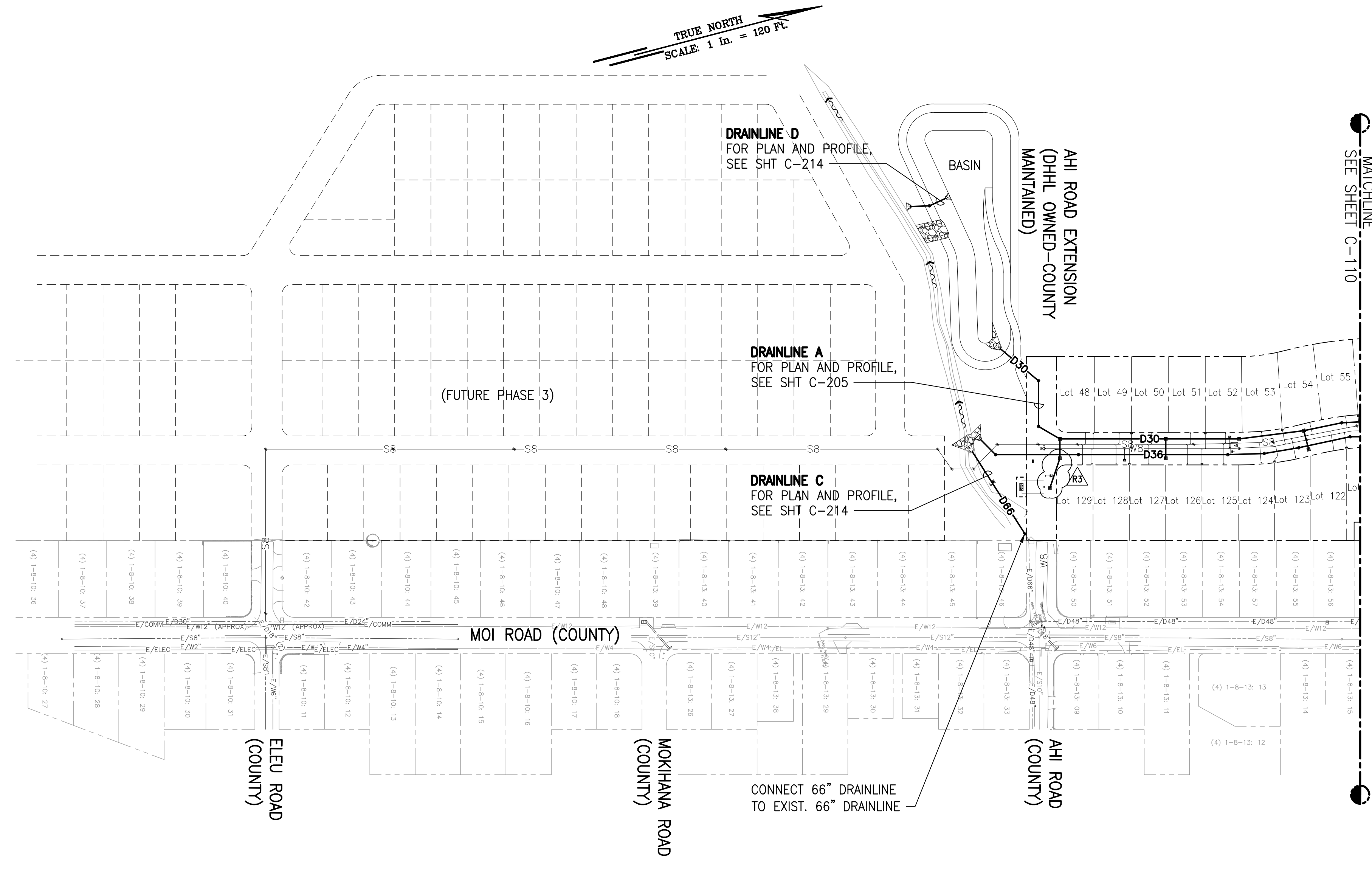
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/06/23	REVISED STREET NAMES		
2	12/05/22	ADDENDUM 4		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

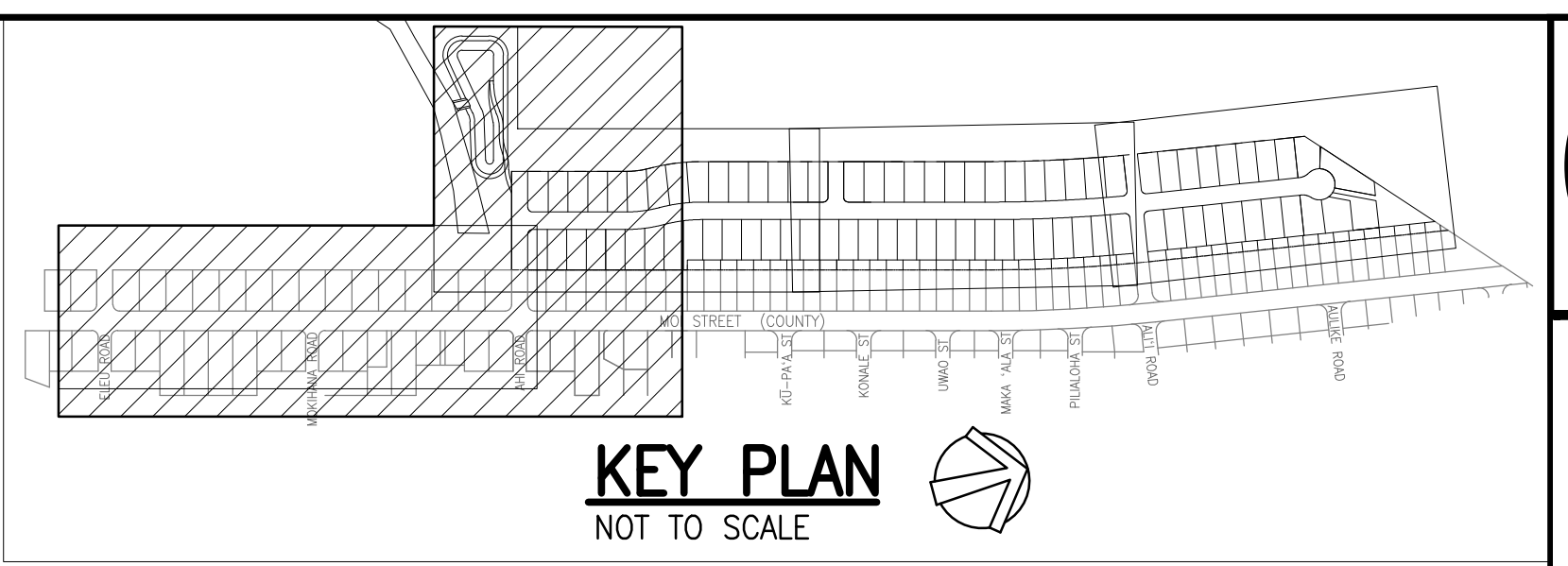
GRADING PHASING PLAN

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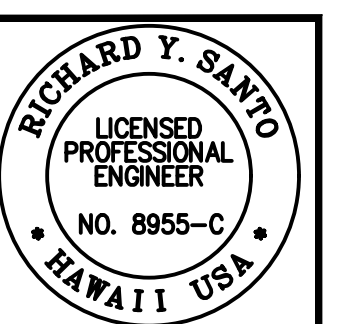
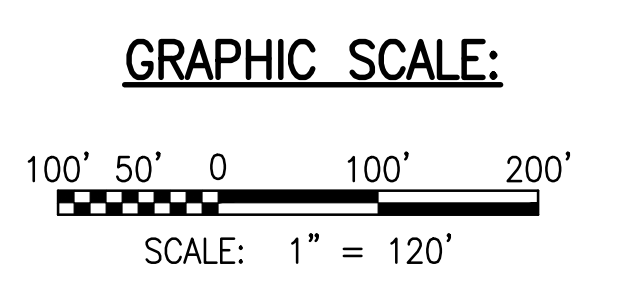
DATE: APRIL 2023
 SHEET NUMBER: **C-109**
 16 OF 109 SHEETS



OVERALL DRAINAGE PLAN - 2
SCALE: 1" = 120'



- LEGEND:**
- PROPERTY LINE
 - LOT LINE
 - E/018"----- EXIST. DRAINLINE
 - E/36"----- EXIST. SEWERLINE
 - E/78"----- EXIST. WATERLINE
 - D36----- DRAINLINE
 - S8----- SEWERLINE
 - W8----- WATERLINE
 - GRATED DRAIN INLET (GDI)
 - STORM DRAIN MANHOLE (SDMH)
 - ⊙ SEWER MANHOLE (SMH)
 - ⊗ FIRE HYDRANT



The work was prepared by me or under my direct supervision and I am a duly Licensed Professional Engineer in the State of Hawaii. I am duly Licensed in the State of Hawaii under License No. 8955-C. My expiration date is 4/30/24. My commission expires on 4/30/24. I am duly Licensed in the State of Hawaii under License No. 8955-C. My expiration date is 4/30/24. My commission expires on 4/30/24.

Signature: *[Signature]*
Date: 4/30/24

NOTE: Contractor to check and verify all dimensions of job before proceeding with work.

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Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	PERMIT COMMENTS	DESCRIPTION	MADE BY	APPROVED
1	2/07/23				

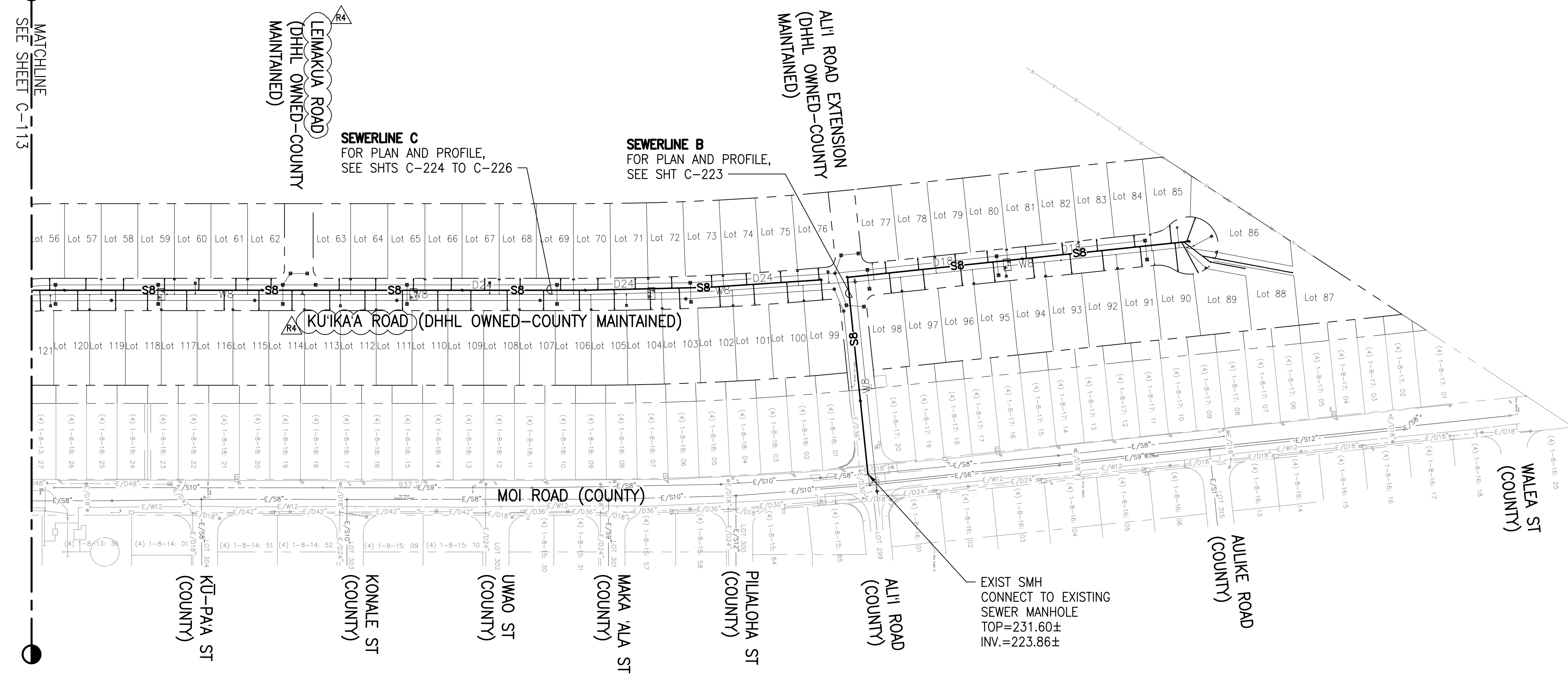
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

OVERALL DRAINAGE PLAN - 2

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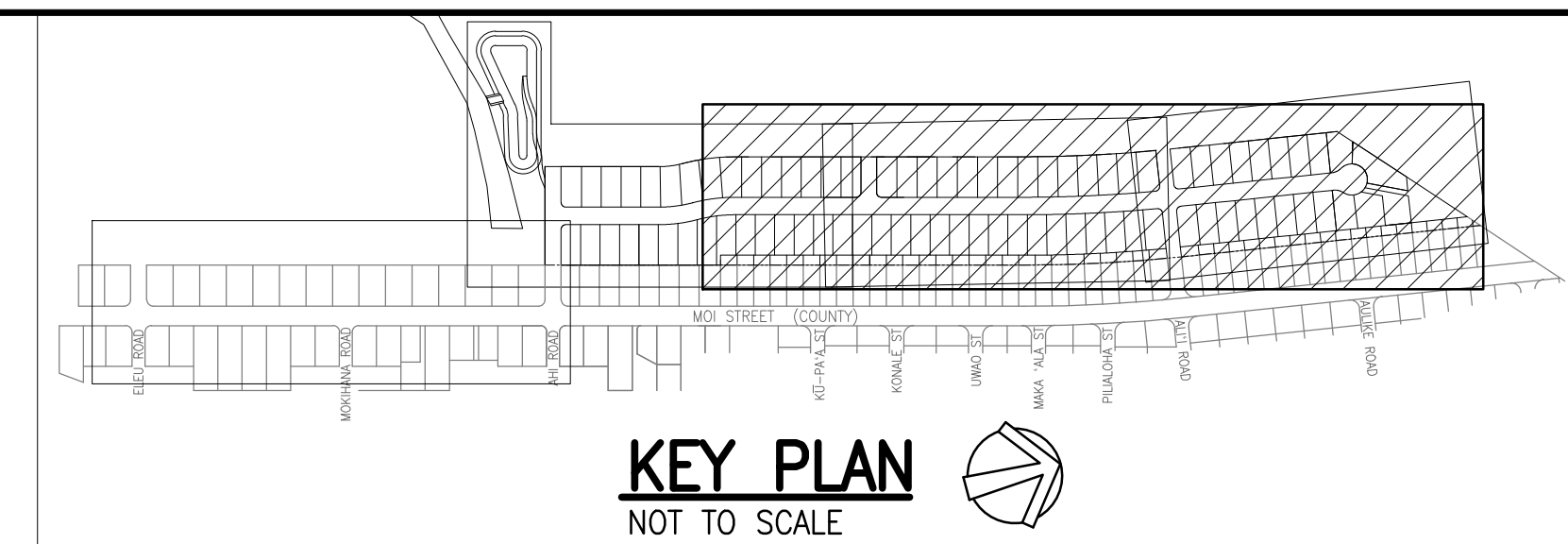
DATE: APRIL 2023
SHEET NUMBER: C-111
18 OF 109 SHEETS

MATCHLINE
SEE SHEET C-113



OVERALL SEWER PLAN - 1
SCALE: 1" = 120'

TRUE NORTH
SCALE: 1 in. = 120 ft.



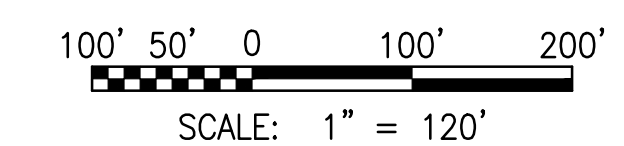
LEGEND:

- PROPERTY LINE
- LOT LINE
- E/016"- EXIST. DRAINLINE
- E/38"- EXIST. SEWERLINE
- E/46"- EXIST. WATERLINE
- D36- DRAINLINE
- SB- SEWERLINE
- WB- WATERLINE
- GRATED DRAIN INLET (GDI)
- STORM DRAIN MANHOLE (SDMH)
- SEWER MANHOLE (SMH)
- ✕ FIRE HYDRANT

NOTES:

1. THE CONTRACTOR SHALL PROVIDE TWO STAND-BY (SPARE) PUMPS FOR THE EXISTING SEWER PUMP STATIONS ON KAUMUALI' ROAD AS PART OF THE CONSTRUCTION CONTRACT. THE CONTRACTOR SHALL COORDINATE WITH THE COUNTY ON THE PUMPS. SEE SHEET NO. C-003 "SEWER REPLACEMENT NOTES" AND SPECIFICATION SECTION 02530 "SANITARY SEWER SYSTEM".
2. FOR TIES FROM CONTROL POINT BENCHMARKS ALONG MOI ROAD TO SEWERLINE POINT OF CONNECTION, SEE SHEETS C-221 TO C-223

GRAPHIC SCALE:



The work was prepared by me or under my direct supervision and I am a duly Licensed Professional Engineer in the State of Hawaii. My license No. 8955-C expires on 4/30/24. I am the author of the design and calculations shown on this drawing. I am not responsible for any errors or omissions on this drawing. I am not responsible for any errors or omissions on this drawing. I am not responsible for any errors or omissions on this drawing.

SSFM
International
SSFM International, Inc.
50 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	REVISED STREET NAMES		

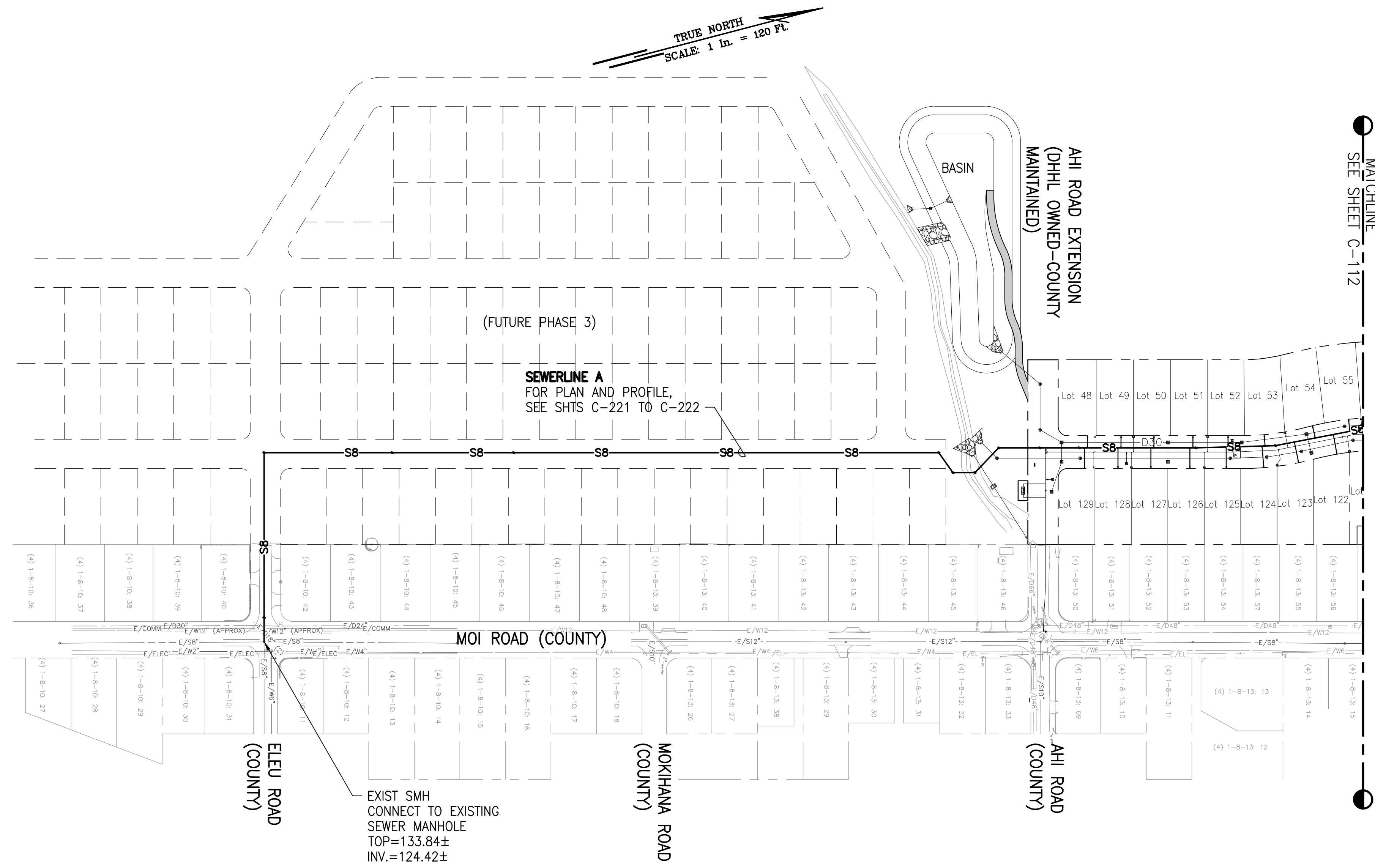
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

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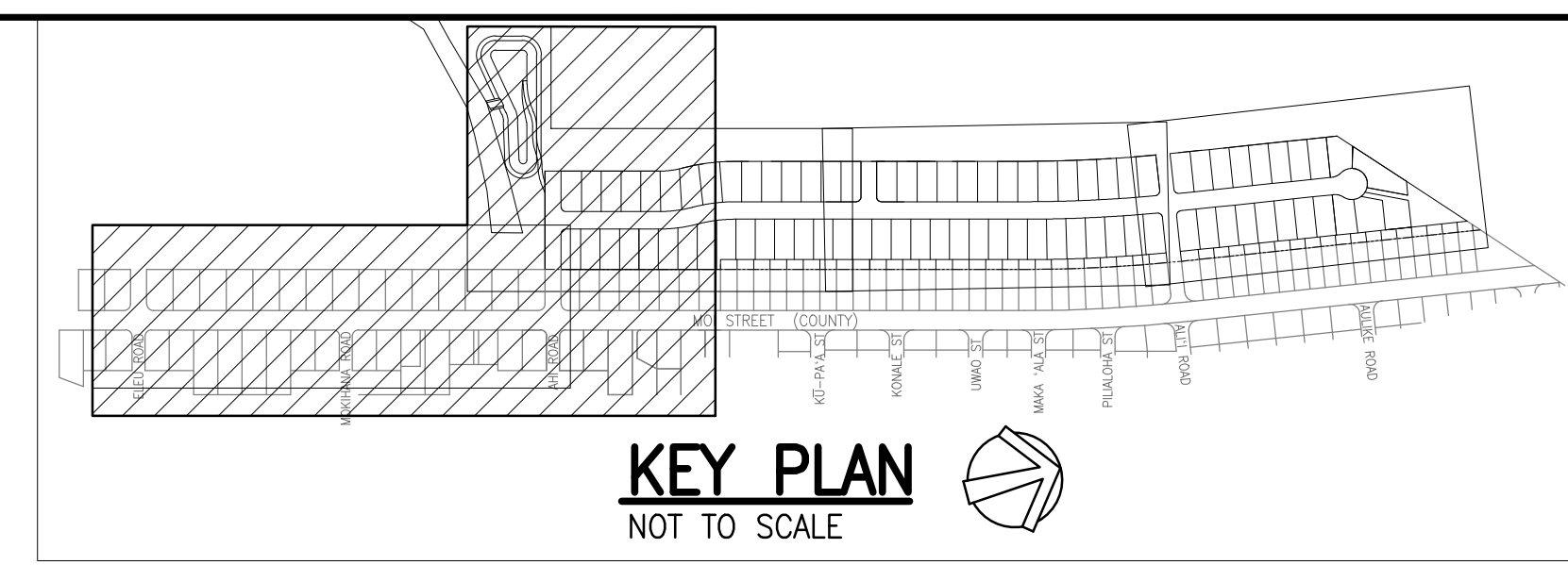
DATE: APRIL 2023

SHEET NUMBER: C-112

19 OF 109 SHEETS

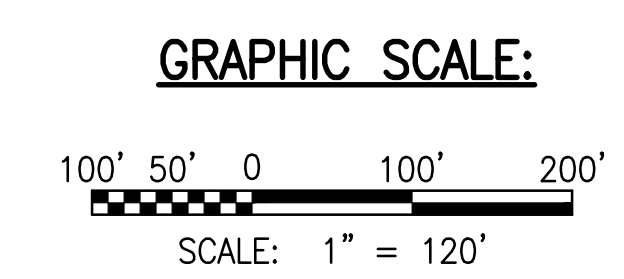


OVERALL SEWER PLAN - 2
SCALE: 1" = 120'



- LEGEND:**
- PROPERTY LINE
 - LOT LINE
 - E/015°- EXIST. DRAINLINE
 - E/58°- EXIST. SEWERLINE
 - E/95°- EXIST. WATERLINE
 - D36- DRAINLINE
 - SB- SEWERLINE
 - WB- WATERLINE
 - GRATED DRAIN INLET (GDI)
 - STORM DRAIN MANHOLE (SDMH)
 - SEWER MANHOLE (SMH)
 - ✕ FIRE HYDRANT

- NOTES:**
1. THE CONTRACTOR SHALL PROVIDE TWO STAND-BY (SPARE) PUMPS FOR THE EXISTING SEWER PUMP STATIONS ON KAUMUALI'I ROAD AS PART OF THE CONSTRUCTION CONTRACT. THE CONTRACTOR SHALL COORDINATE WITH THE COUNTY ON THE PUMPS. SEE SHEET NO. C-003 "SEWER REPLACEMENT NOTES" AND SPECIFICATION SECTION 02530 "SANITARY SEWER SYSTEM".
 2. FOR TIES FROM CONTROL POINT BENCHMARKS ALONG MOI ROAD TO SEWERLINE POINT OF CONNECTION, SEE SHEETS C-221 TO C-223



RICHARD Y. SAITO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII USA

4/30/24

[Signature]

DATE: 4/30/24

SCALE: AS SHOWN

NOTES: Contractor to check and verify dimensions of job before proceeding with work.

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Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

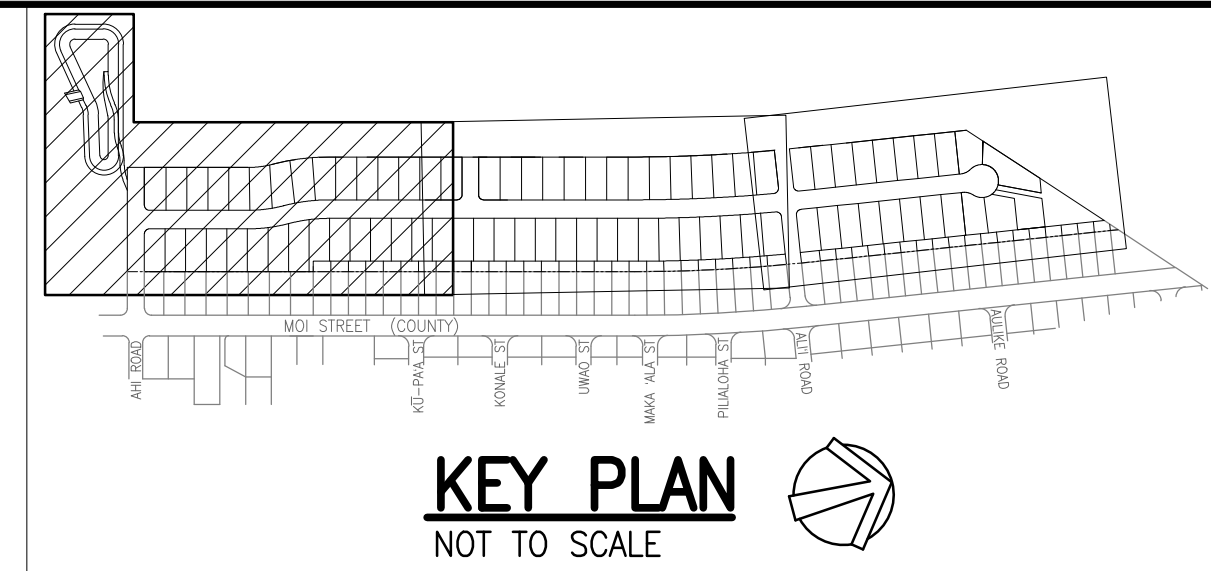
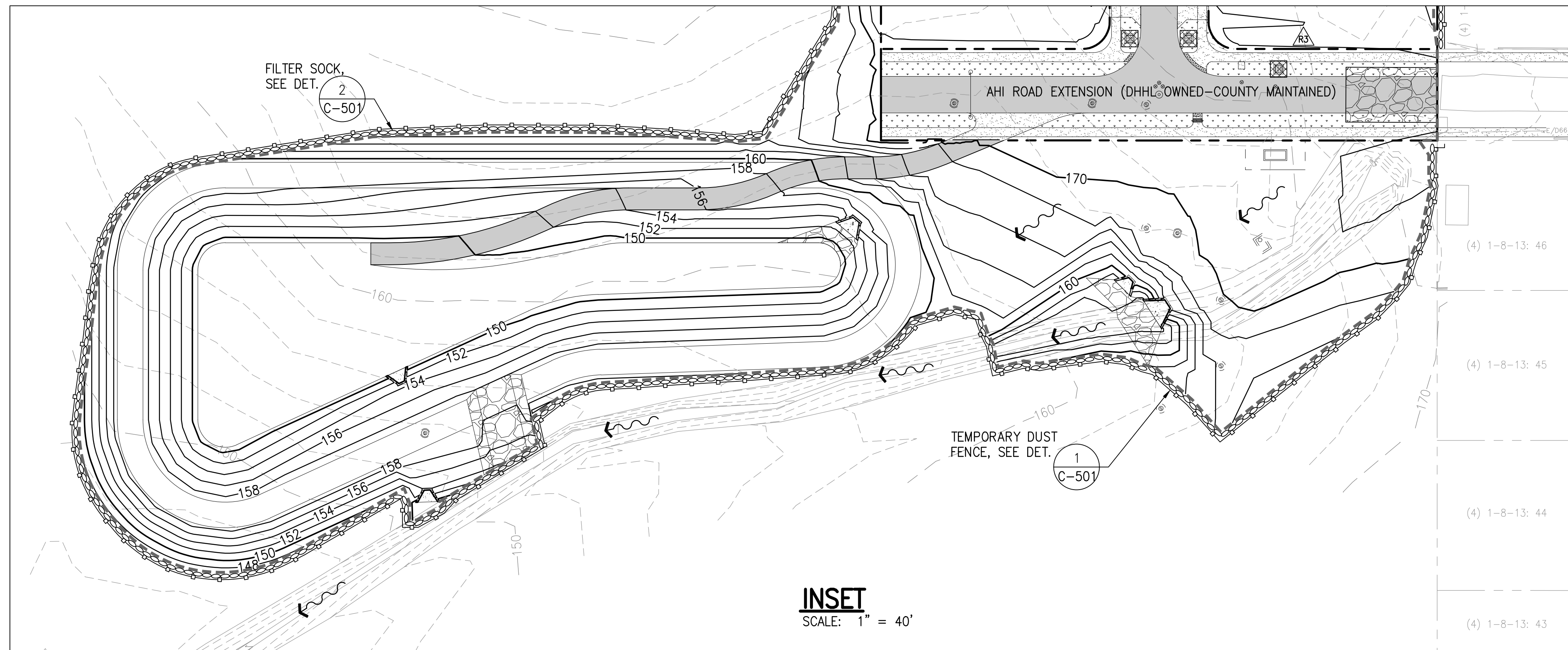
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

OVERALL SEWER PLAN - 2

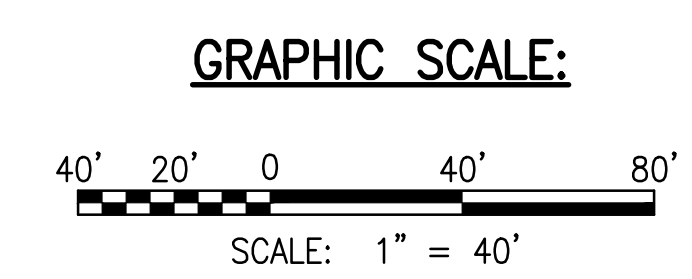
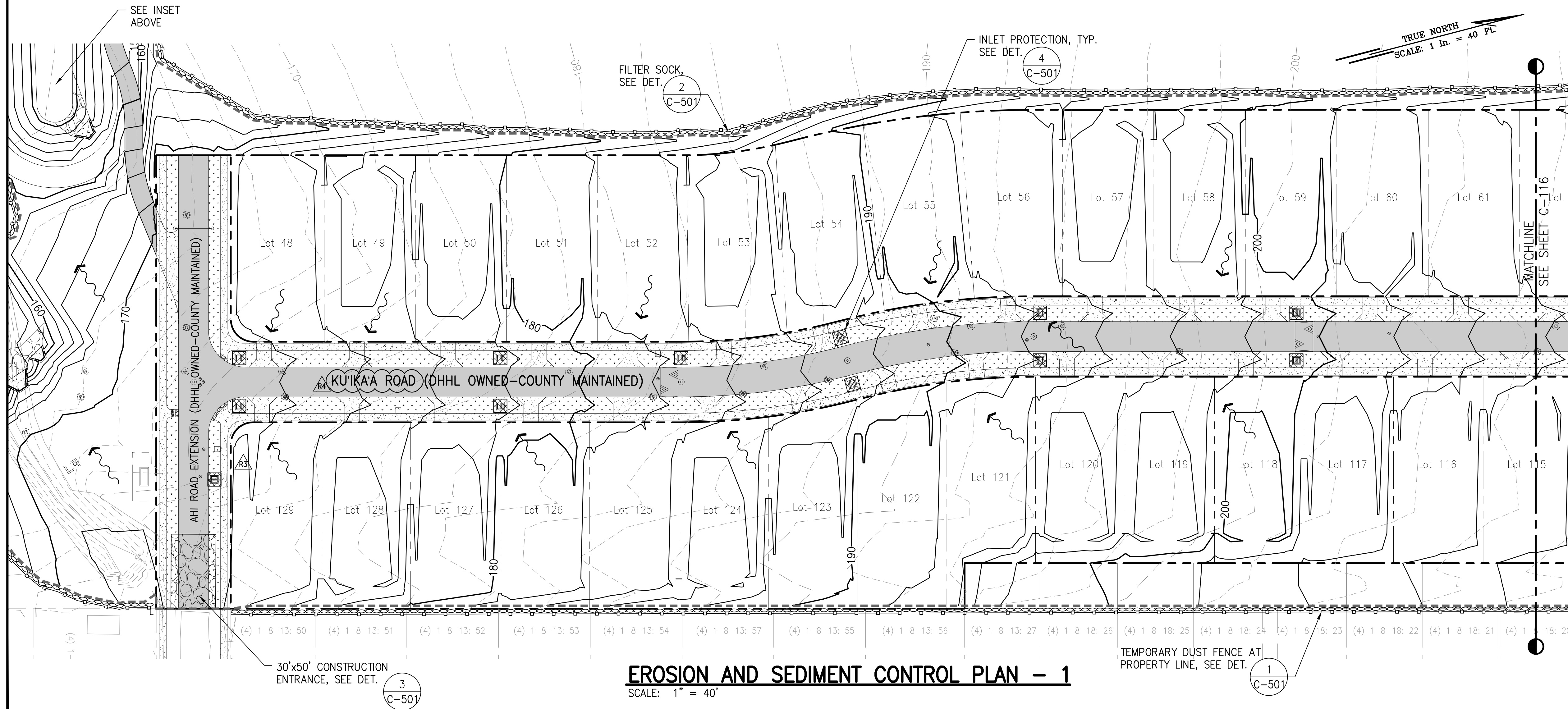
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DATE: APRIL 2023
SHEET NUMBER: C-113
20 OF 109 SHEETS

W:_CIVIL_3D_PROJECTS\2018_02\01 DHIH HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-115 - C-116 EROSION AND SEDIMENT CONTROL PLANS.DWG 5/22/2023 10:47 AM SAMANO



- LEGEND:**
- CONSTRUCTION INGRESS/EGRESS, SEE DET. 3 C-501
 - PROPERTY LINE
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - LIMITS OF GRADING AND DISTURBANCE
 - FILTER SOCK PERIMETER CONTROL, SEE DET. 2 C-501
 - TEMPORARY DUST FENCE, SEE DET. 1 C-501
 - EXISTING RUNOFF DIRECTION
 - PROPOSED RUNOFF DIRECTION
 - INLET PROTECTION, SEE DET. 4 C-501



RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: 4/30/24
BY: [Signature]

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

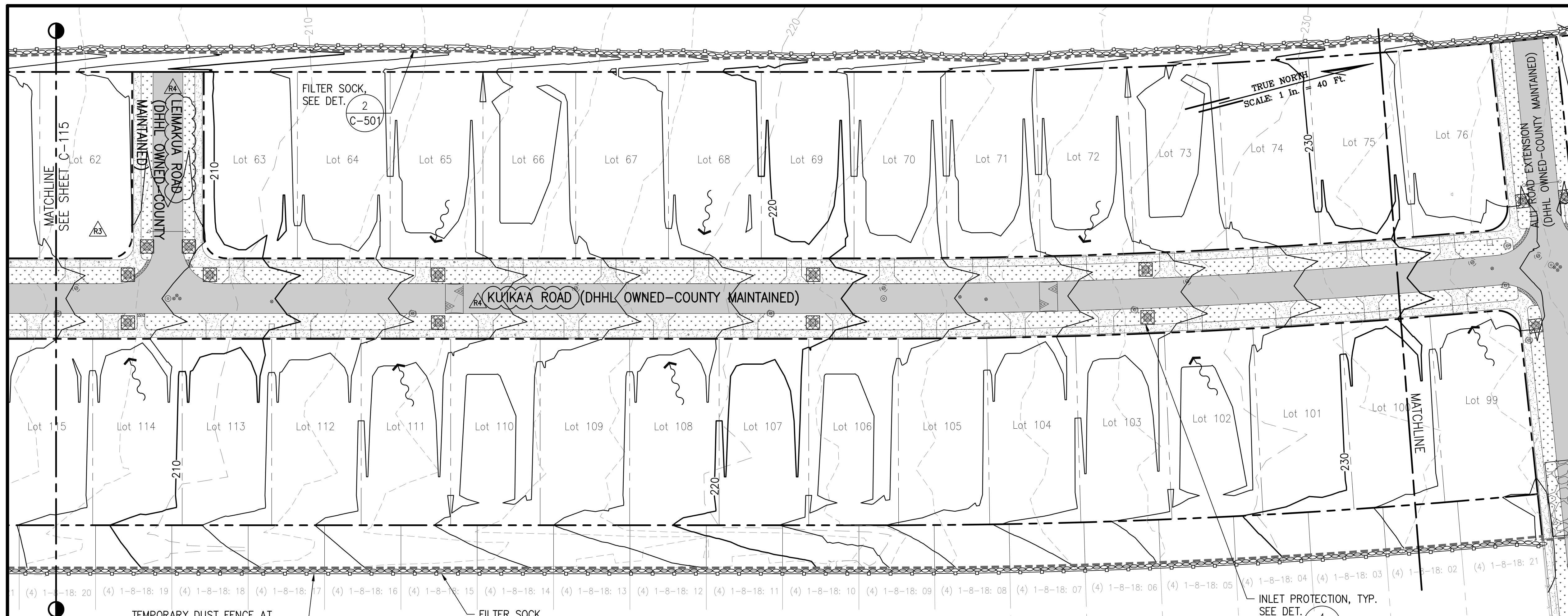
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/26/23	REVISED STREET NAMES		
RA	2/07/23	PERMIT COMMENTS		

EROSION AND SEDIMENT CONTROL PLAN - 1

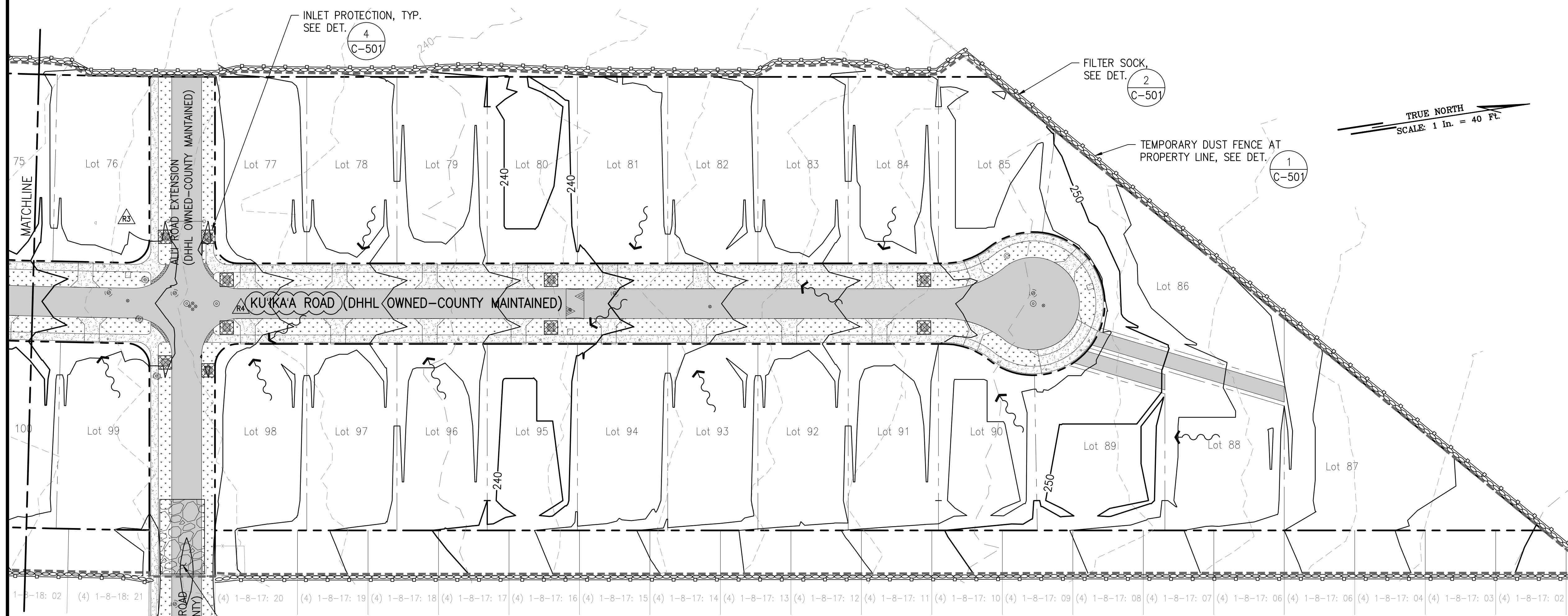
DATE: APRIL 2023
SHEET NUMBER: **C-115**
22 OF 109 SHEETS

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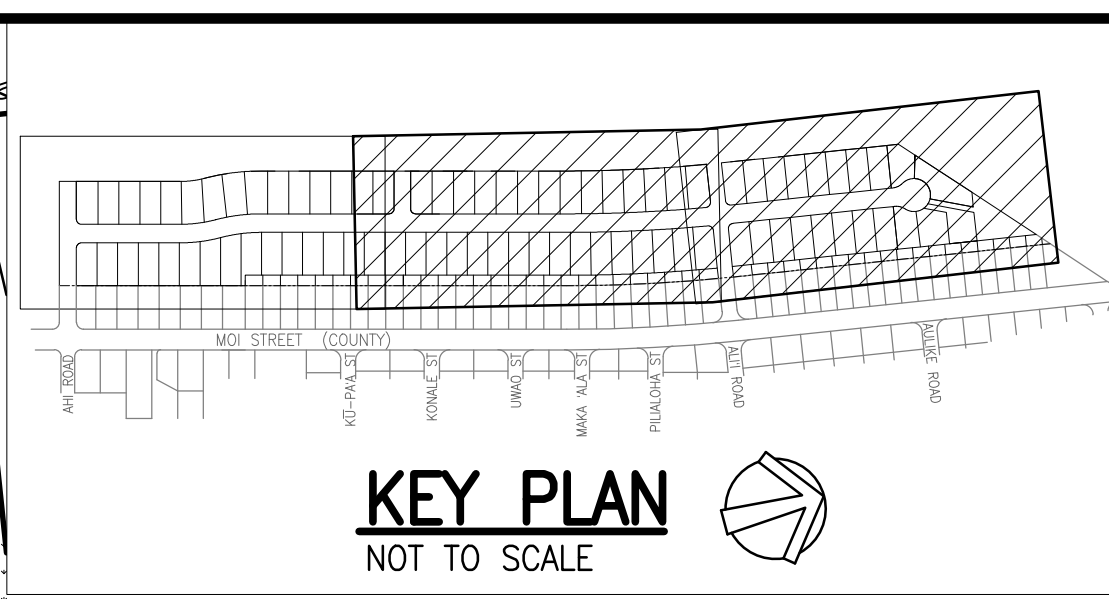
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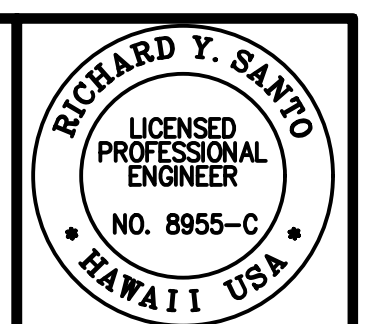
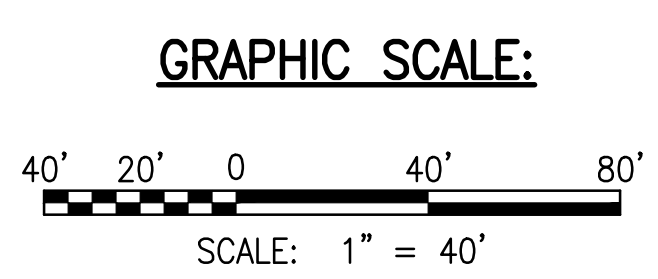
EROSION AND SEDIMENT CONTROL PLAN - 2
SCALE: 1" = 40'



EROSION AND SEDIMENT CONTROL PLAN - 3
SCALE: 1" = 40'



- LEGEND:**
- CONSTRUCTION INGRESS/EGRESS, SEE DET. 3
 - PROPERTY LINE
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - LIMITS OF GRADING AND DISTURBANCE
 - FILTER SOCK PERIMETER CONTROL, SEE DET. 2
 - TEMPORARY DUST FENCE, SEE DET. 1
 - EXISTING RUNOFF DIRECTION
 - PROPOSED RUNOFF DIRECTION
 - INLET PROTECTION, SEE DET. 4



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DATE: 4/30/24
PROJECT: 2023-001

SSFM International, Inc.
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Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	APPROVED
1	2/07/23	PERMIT COMMENTS	
2	05/06/23	REVISED STREET NAMES	

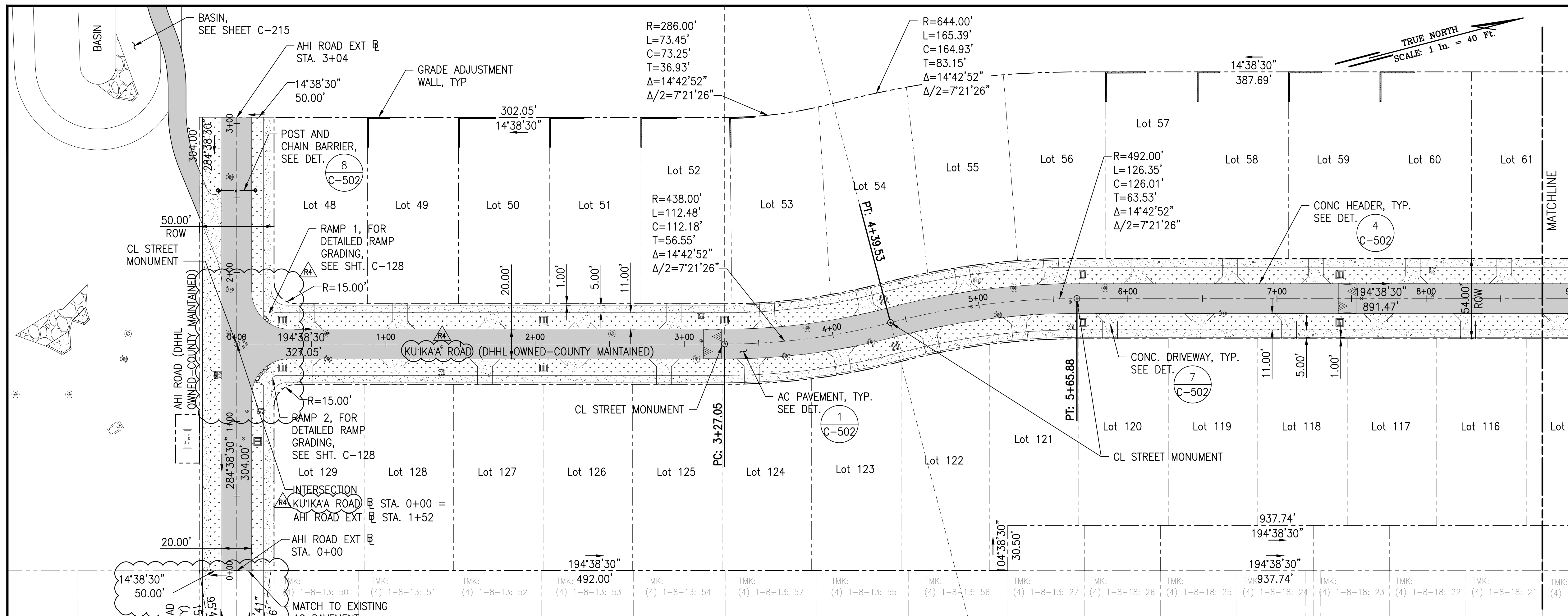
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

EROSION AND SEDIMENT CONTROL PLAN - 2

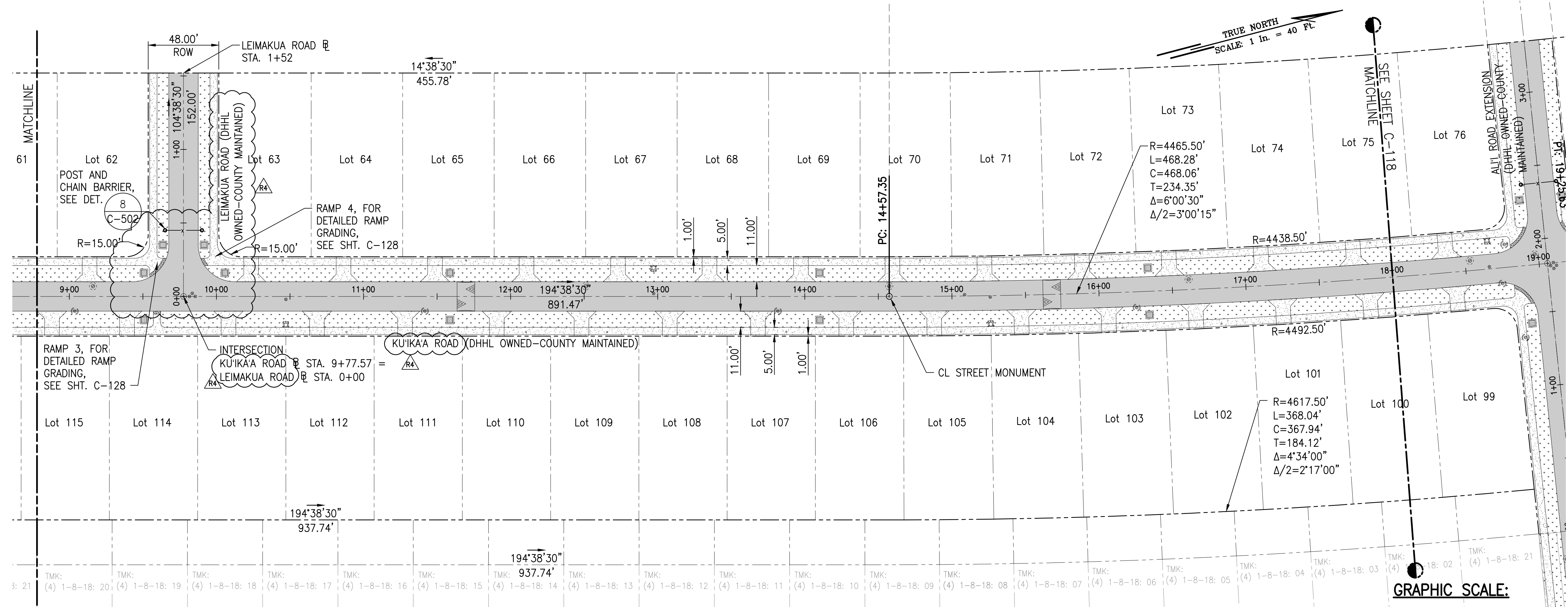
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DATE: APRIL 2023
SHEET NUMBER: **C-116**
23 OF 109 SHEETS

W:_CIVIL_3D_PROJECTS\2018_02\01.DWG\01.DWG\01.DWG - C-118 SITE PLANS.DWG 5/22/2023 1:08 PM SAMANO



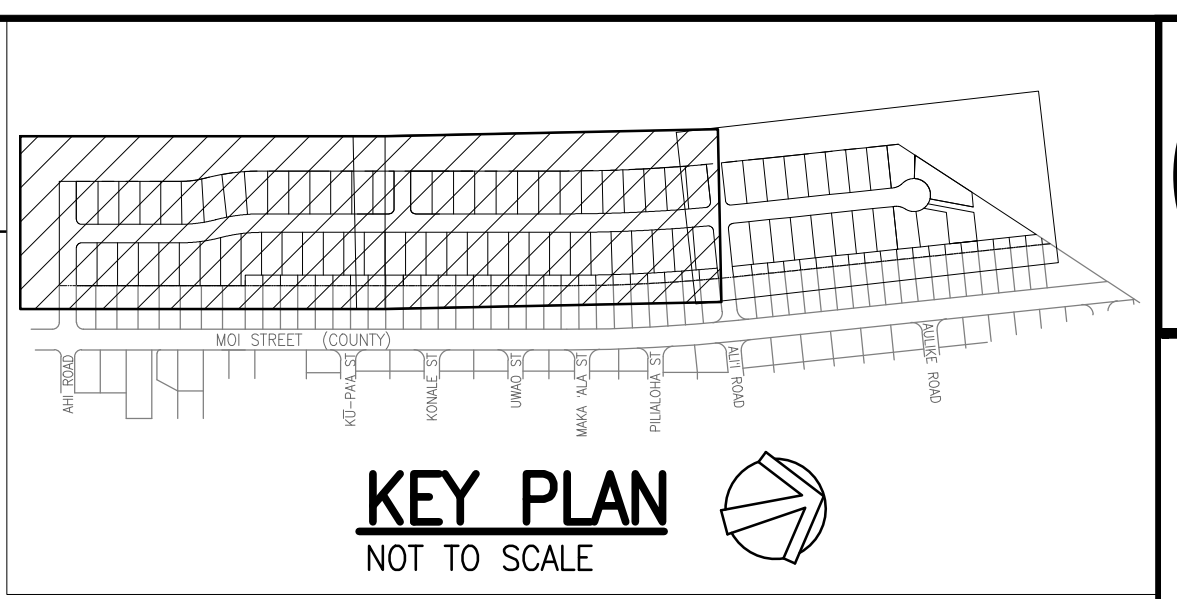
SITE PLAN - 1
SCALE: 1" = 40'



SITE PLAN - 1
SCALE: 1" = 40'

BASELINE TIES

1. BM NO. 4 BACKSIGHT TO BM NO. 1
194'42'39" AT 817.37'
2. BM NO. 4 TO AHI ROAD EXT. STA. 0+00
104'46'41" AT 156.02'
3. BM NO. 4 TO INTERSECTION (KUIKAA ROAD) STA. 0+00 = AHI ROAD EXT. STA. 1+52
104'42'39" AT 308.02'
4. BM NO. 4 TO AHI ROAD EXT. STA. 3+04
104'41'17" AT 460.02'

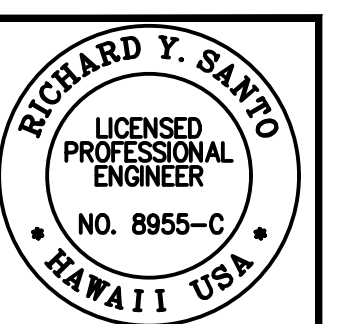


LEGEND:

- PROPERTY LINE
- LOT LINE
- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE SIDEWALK/DRIVEWAY
- GRASSED SWALE

NOTES:

1. FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
2. FOR RAMP DETAILED GRADING, SEE SHEET C-128.
3. FOR GRADE ADJUSTMENT WALL, SEE SHEETS C-127 AND C-502.
4. FOR CENTERLINE STREET MONUMENT, SEE DPW STD DETAIL R-14.
5. FOR BENCHMARK LOCATIONS, SEE SHEET C-106.



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REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/26/23	REVISED STREET NAMES AND COORDINATES		
RA	2/07/23	PERMIT COMMENTS		

PROJECT:
DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

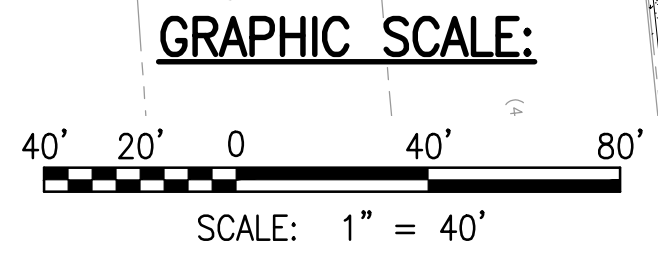
SITE PLAN - 1

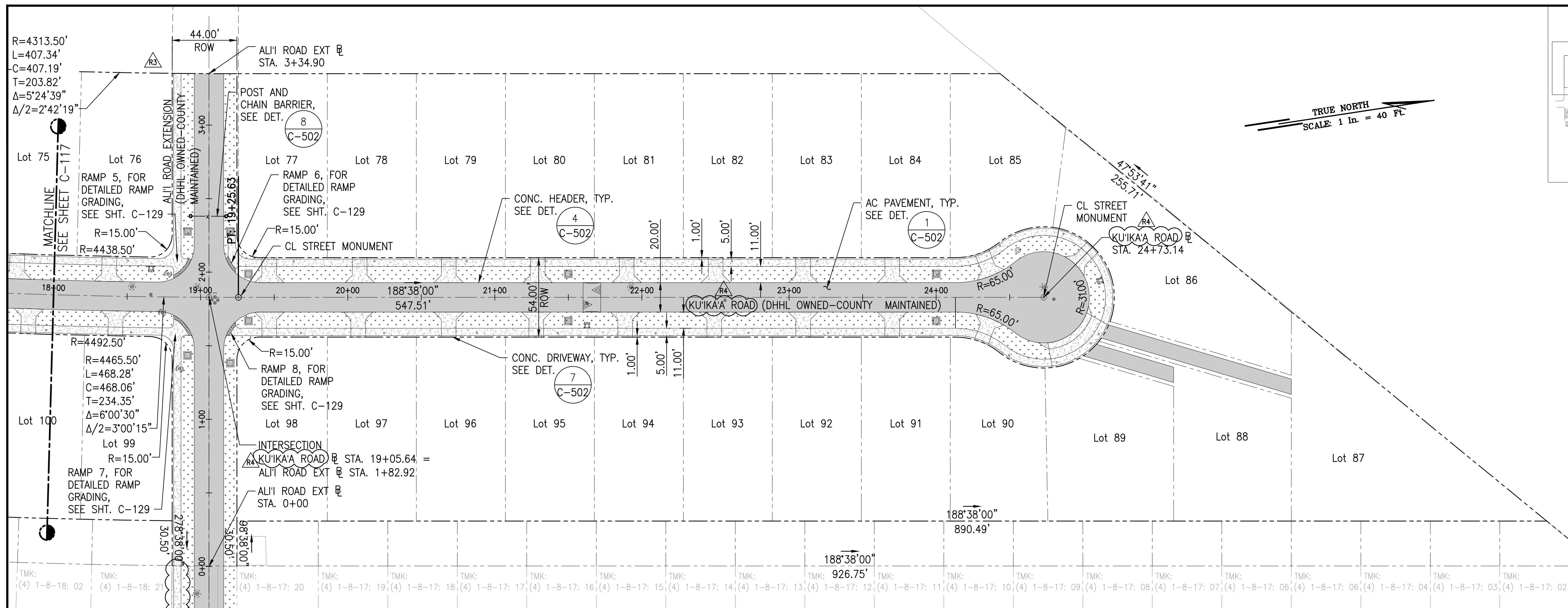
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DATE: APRIL 2023
SHEET NUMBER:

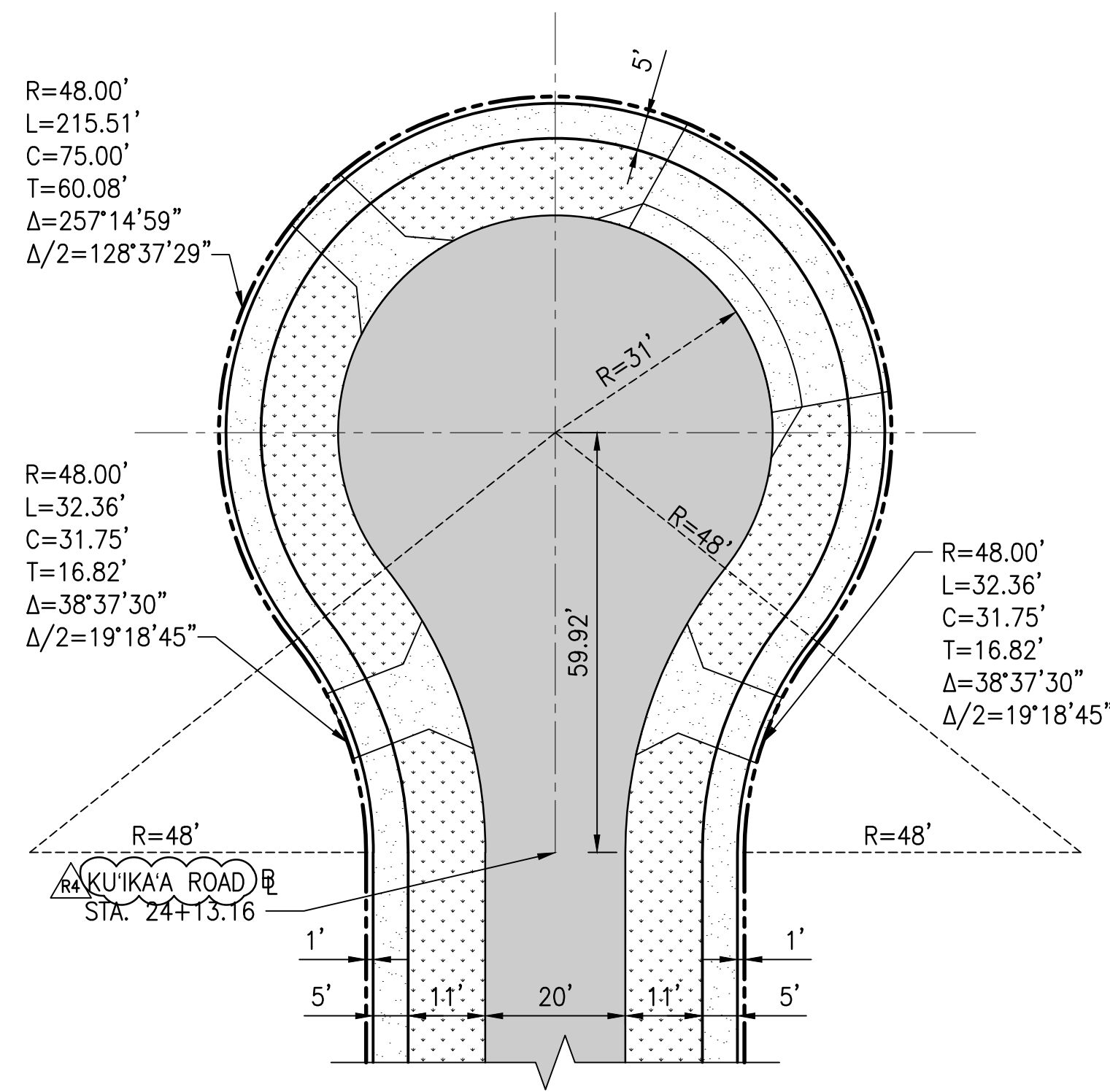
C-117

24 OF 109 SHEETS

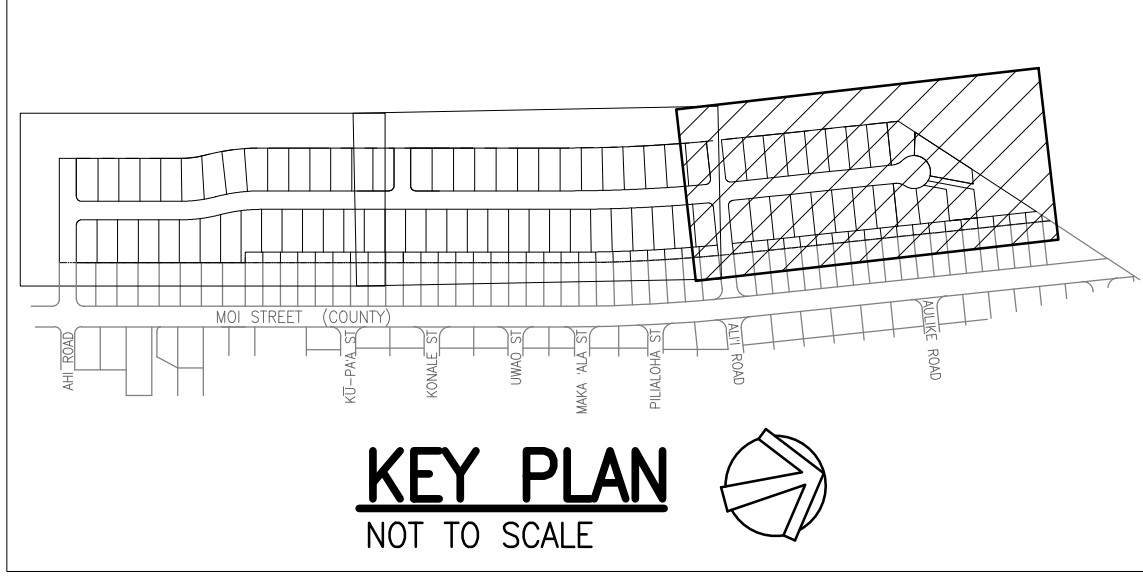




SITE PLAN - 2
SCALE: 1" = 40'



1 CUL-DE-SAC DETAIL
C-118 NOT TO SCALE



LEGEND:

- PROPERTY LINE
- - - LOT LINE
- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE SIDEWALK/DRIVEWAY
- GRASSED SWALE

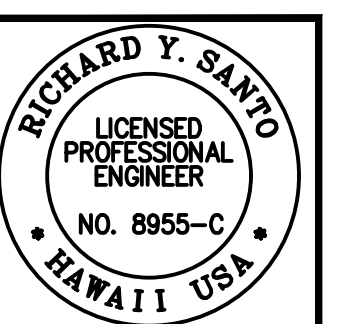
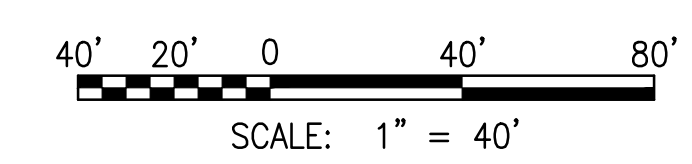
NOTES:

1. FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
2. FOR RAMP DETAILED GRADING, SEE SHEET C-128.
3. FOR GRADE ADJUSTMENT WALL, SEE SHEETS C-127 AND C-502.
4. FOR CENTERLINE STREET MONUMENT, SEE DPW STD DETAIL R-14.
5. FOR BENCHMARK LOCATIONS, SEE SHEET C-106.

BASELINE TIES

1. BM NO. 2 BACKSIGHT TO BM NO. 3
188°37'58" AT 1074.97'
2. BM NO. 2 BACKSIGHT TO BM NO. 1
13°24'34" AT 1118.06'
3. BM NO. 2 TO ALII ROAD EXT. STA. 0+00
98°38'27" AT 156.61'
4. BM NO. 2 TO INTERSECTION KULI'KAA ROAD STA. 19+02.64 = ALII ROAD EXT. STA. 1+82.90
98°38'13" AT 339.50'
5. BM NO. 2 TO ALII ROAD EXT. STA. 3+34.90
98°38'09" AT 491.51'

GRAPHIC SCALE:



THE WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII. I AM NOT PROVIDING ANY DESIGN OR CONSTRUCTION SERVICES TO ANY OTHER PARTY WITHOUT THE WRITTEN CONSENT OF SSPM INTERNATIONAL, INC.

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REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	12/05/22	ADDENDUM 4		
2	2/07/23	PERMIT COMMENTS		
3	06/26/23	REVISED STREET NAMES AND PERMIT COMMENTS		

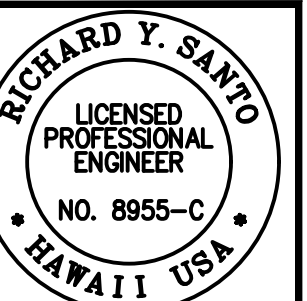
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
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DATE: APRIL 2023
SHEET NUMBER: C-118
25 OF 109 SHEETS

W:\CIVIL_3D PROJECTS\2018_02\01.DWG\01.DWG\01.DWG - C-118 SITE PLANS.DWG 5/22/2023 1:08 PM SAMANO

W:\CIVIL_3D\PROJECTS\2018_02\01 DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-119 - C-120 SIGNING AND PAVEMENT MARKING PLANS.DWG 5/22/2023 1:43 PM SAMANO



DATE: 4/30/24
REVISION: 1
NOTES: Contractor to check and verify dimensions of job before proceeding with work.

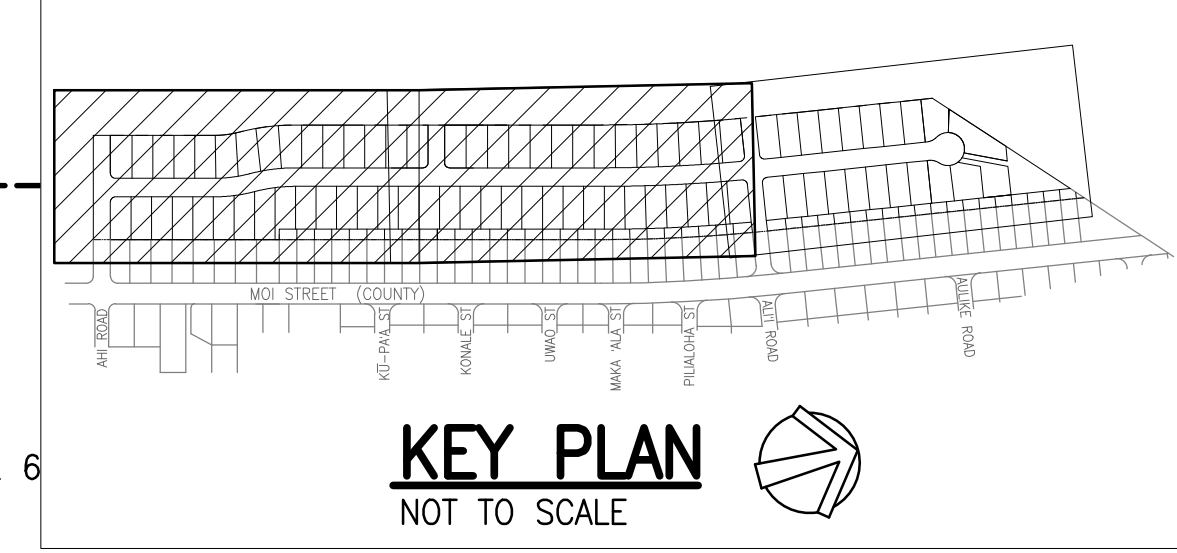
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Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	APPROVED
1	05/06/23	REVISED STREET NAMES AND PERMIT COMMENTS	
2	2/07/23	PERMIT COMMENTS	

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanalei, Kauai, Hawaii

SIGNAGE AND PAVEMENT MARKING PLAN - 1
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DATE: APRIL 2023
SHEET NUMBER: C-119
26 OF 109 SHEETS

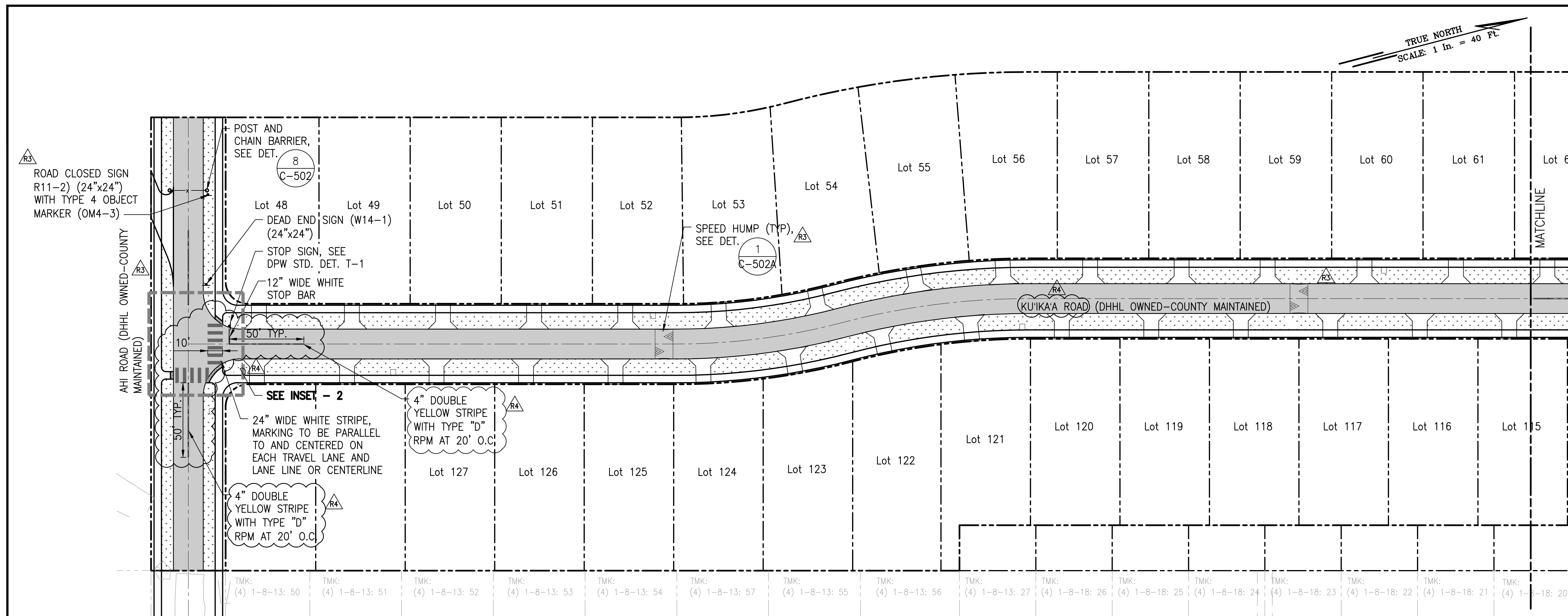


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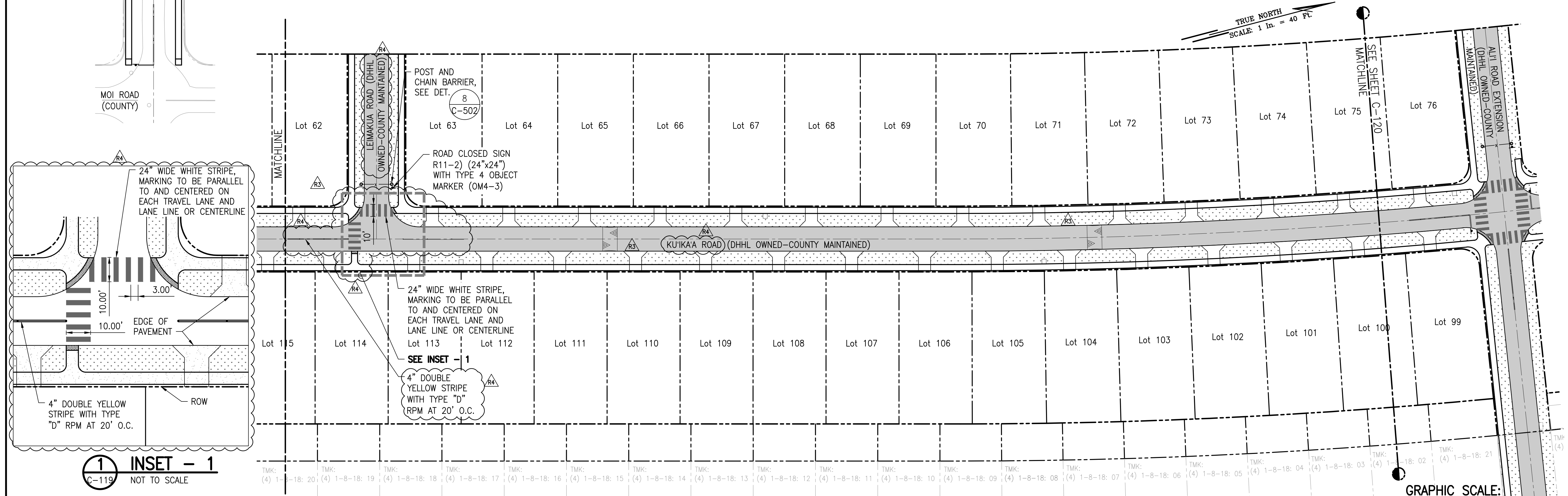
- PROPERTY LINE
- - - - - TMK: LINE

NOTES:

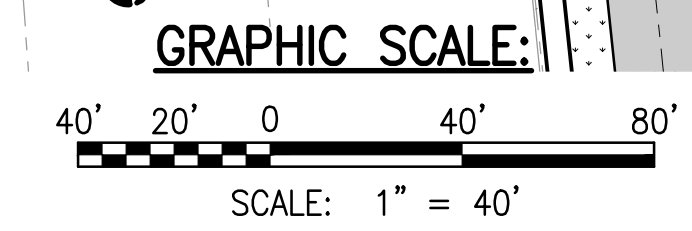
- FOR TYPICAL INTERSECTION STRIPING AND SIGNAGE DETAIL, SEE SHEET C-120.
- ALL STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
- ALL TRAFFIC PAINT SHALL BE REFLECTORIZED AND SHALL BE APPROVED BY THE ENGINEER.



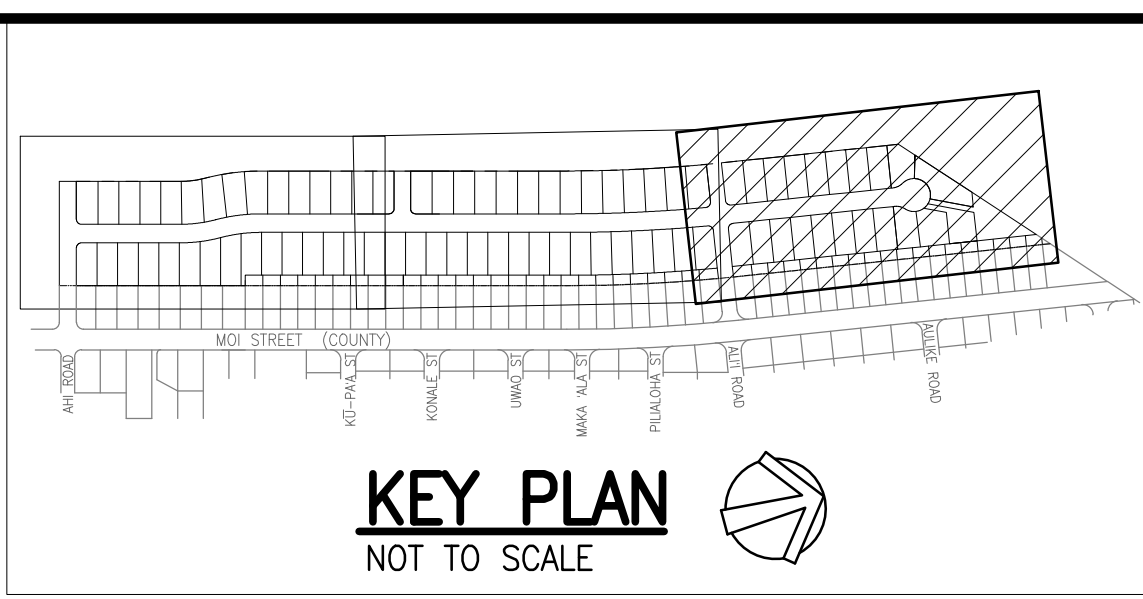
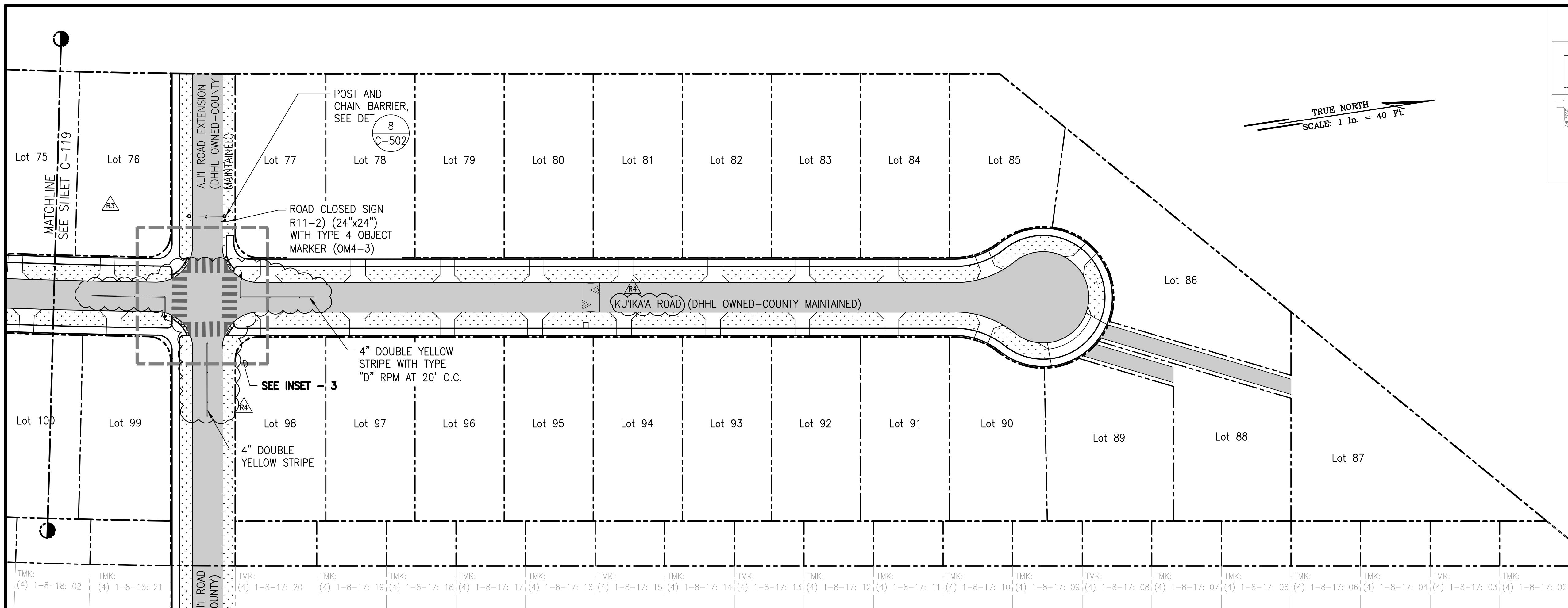
SIGNAGE AND PAVEMENT MARKING PLAN - 1
SCALE: 1" = 40'



SIGNAGE AND PAVEMENT MARKING PLAN - 1
SCALE: 1" = 40'



W:_CIVIL_3D_PROJECTS\2018_021.001_DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-119 - C-120_SIGNING_AND_PAVEMENT_MARKING_PLANS.DWG 5/22/2023 5:25 PM SAMANO



RICHARD Y. SANO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: 4/30/24
PROJECT: C-120

NOTES: Contractor to check and verify dimensions of job before proceeding with work.

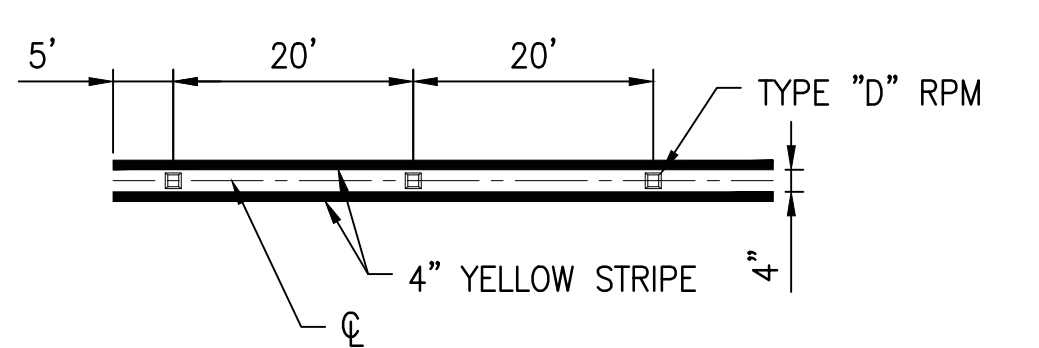
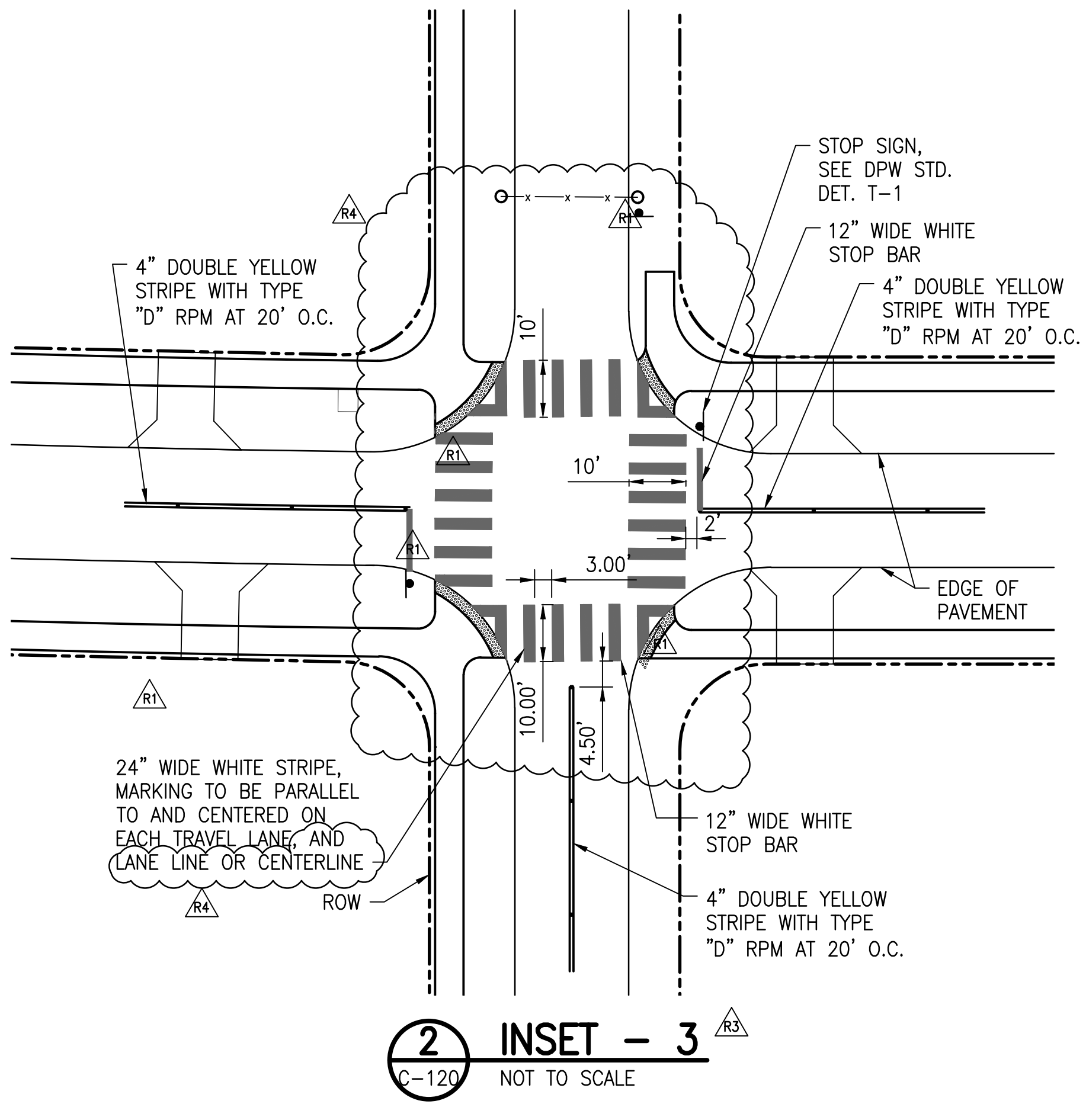
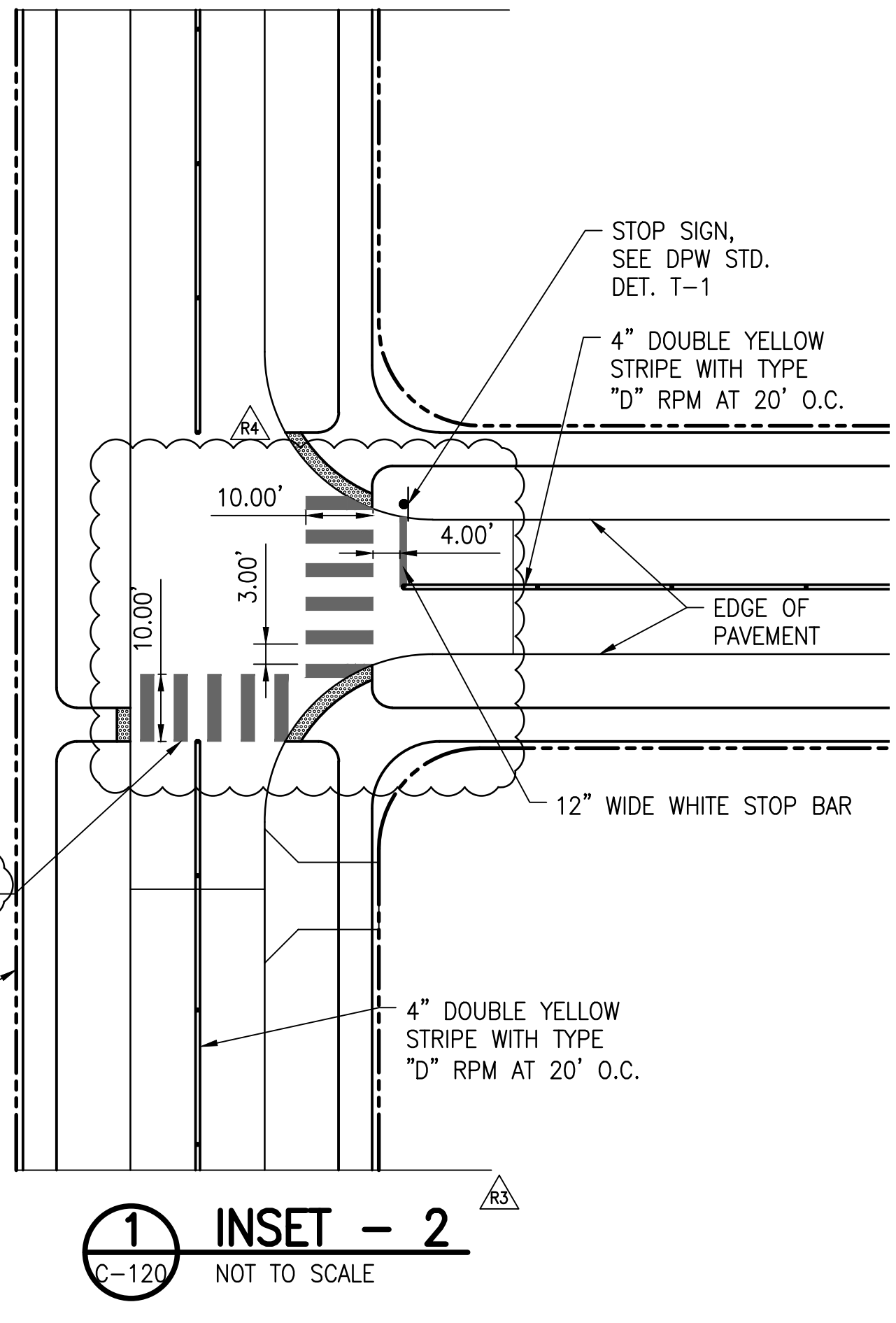
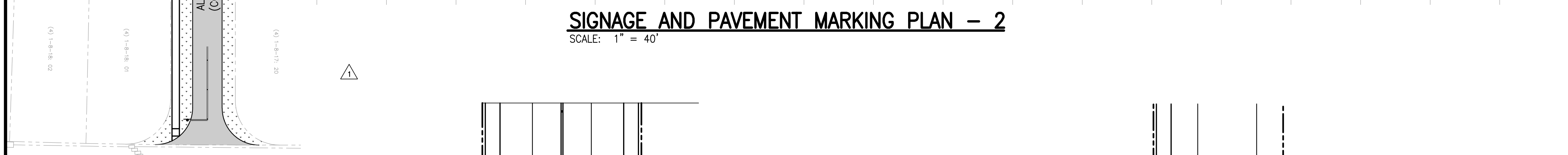
LEGEND:

- PROPERTY LINE
- TMK: LINE

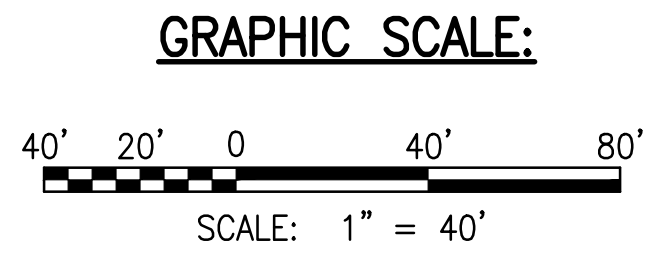
NOTES:

1. FOR TYPICAL INTERSECTION STRIPING AND SIGNAGE DETAIL, SEE DETAIL ON THIS SHEET.
2. ALL STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
3. ALL TRAFFIC PAINT SHALL BE REFLECTORIZED AND SHALL BE APPROVED BY THE ENGINEER.

SIGNAGE AND PAVEMENT MARKING PLAN - 2
SCALE: 1" = 40'



TYPICAL DOUBLE YELLOW STRIPE WITH TYPE "D" MARKER DETAIL



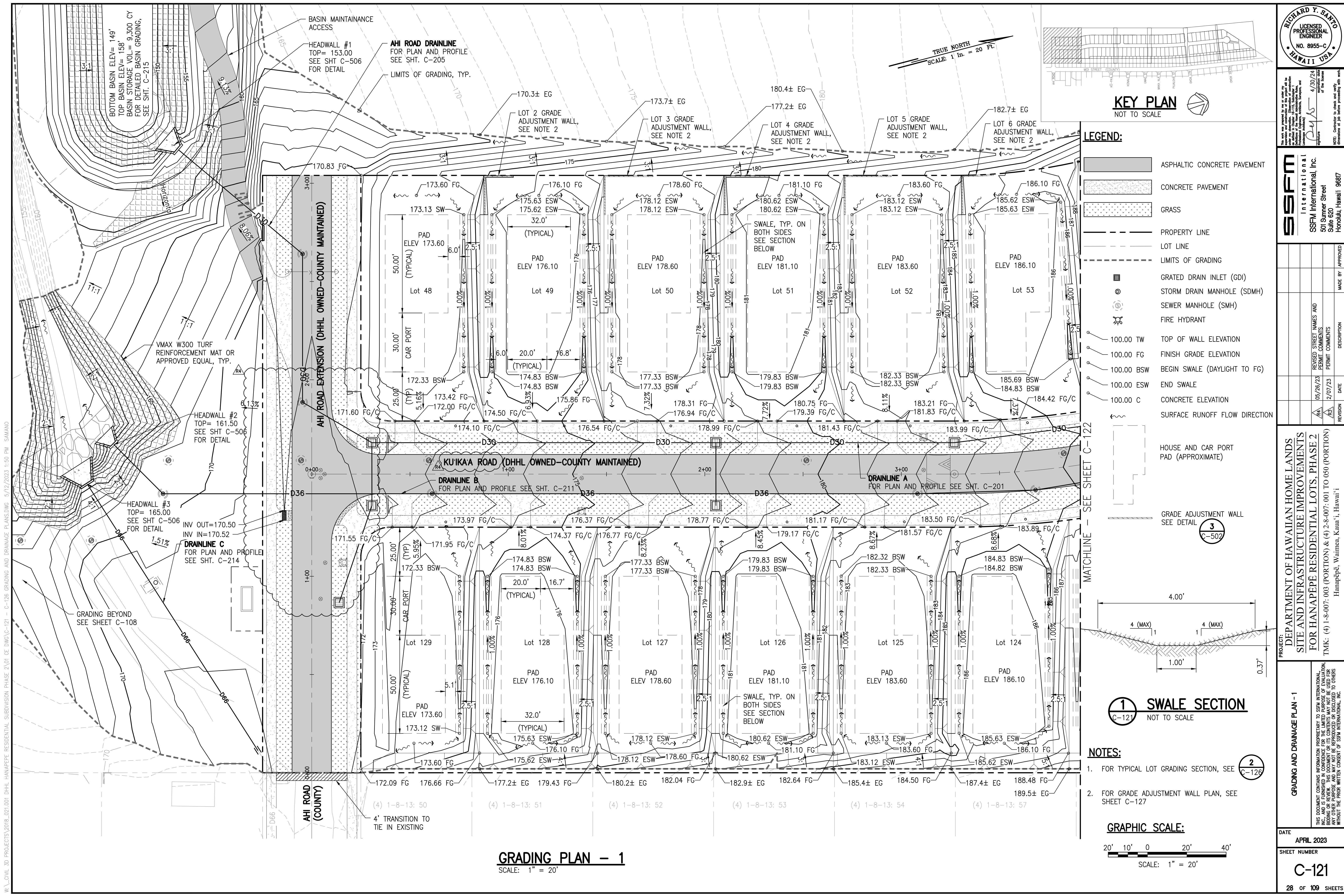
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/26/23	REVISED STREET NAMES AND PERMIT COMMENTS		
RA	2/07/23	PERMIT COMMENTS		
RA	01/20/23	DCAB COMMENTS		
RA	12/05/22	ADDENDUM 4		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

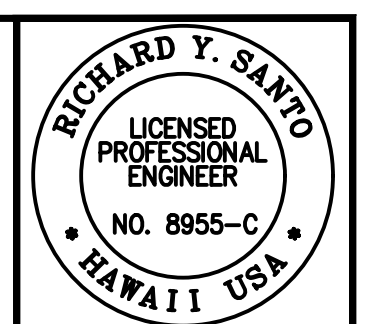
SIGNAGE AND PAVEMENT MARKING PLAN - 2

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DATE: APRIL 2023
SHEET NUMBER: C-120
27 OF 109 SHEETS



W:_CIVIL_3D_PROJECTS\2018_001\001_DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-121 - C-126 GRADING AND DRAINAGE PLANS.DWG 5/12/2023 1:50 PM SAMANO



DATE: 4/30/24
 REVISION: 1/20/24
 PERMIT COMMENTS: REVISED STREET NAMES AND PERMIT COMMENTS
 DATE: 05/06/23
 REVISION: 2/07/23

SSFM International, Inc.
 501 Surfer Street
 Suite 620
 Honolulu, Hawaii 96817

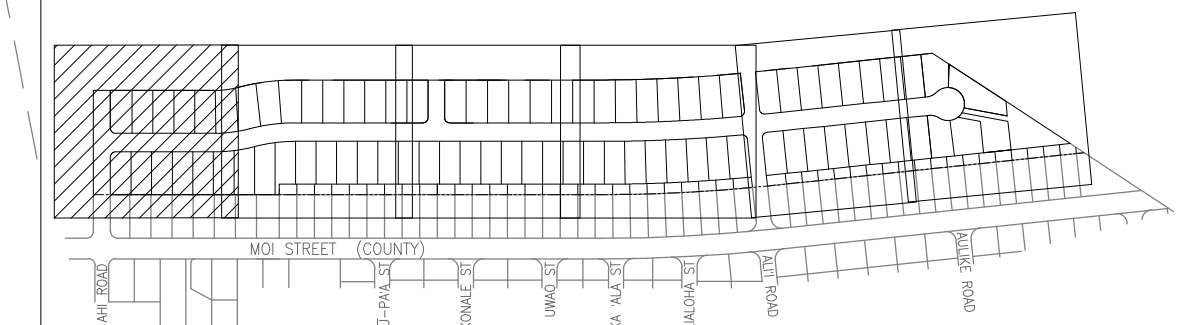
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/06/23	REVISED STREET NAMES AND PERMIT COMMENTS		
2	2/07/23	PERMIT COMMENTS		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

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DATE: APRIL 2023
 SHEET NUMBER: C-121
 28 OF 109 SHEETS

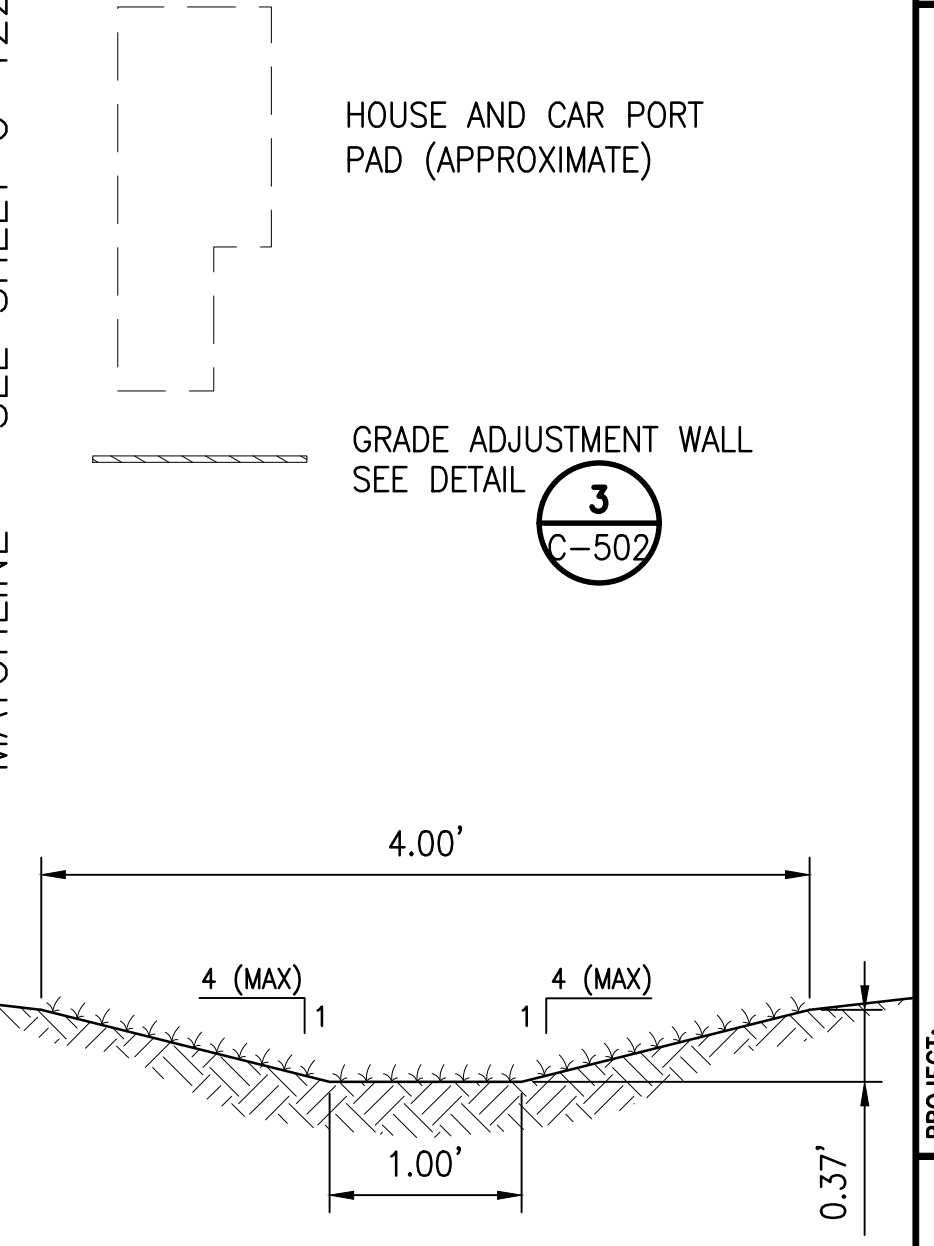
TRUE NORTH
 SCALE: 1 in. = 20 ft.



KEY PLAN
 NOT TO SCALE

LEGEND:

- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- GRASS
- PROPERTY LINE
- LOT LINE
- LIMITS OF GRADING
- GRATED DRAIN INLET (GDI)
- STORM DRAIN MANHOLE (SDMH)
- SEWER MANHOLE (SMH)
- FIRE HYDRANT
- 100.00 TW TOP OF WALL ELEVATION
- 100.00 FG FINISH GRADE ELEVATION
- 100.00 BSW BEGIN SWALE (DAYLIGHT TO FG)
- 100.00 ESW END SWALE
- 100.00 C CONCRETE ELEVATION
- SURFACE RUNOFF FLOW DIRECTION



1 SWALE SECTION
 C-121 NOT TO SCALE

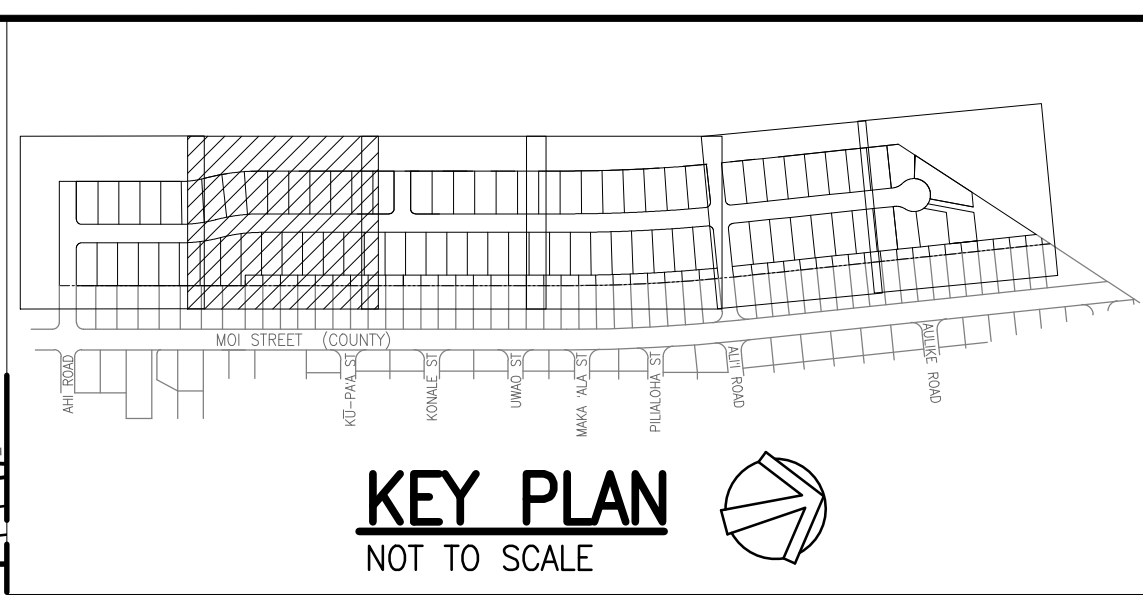
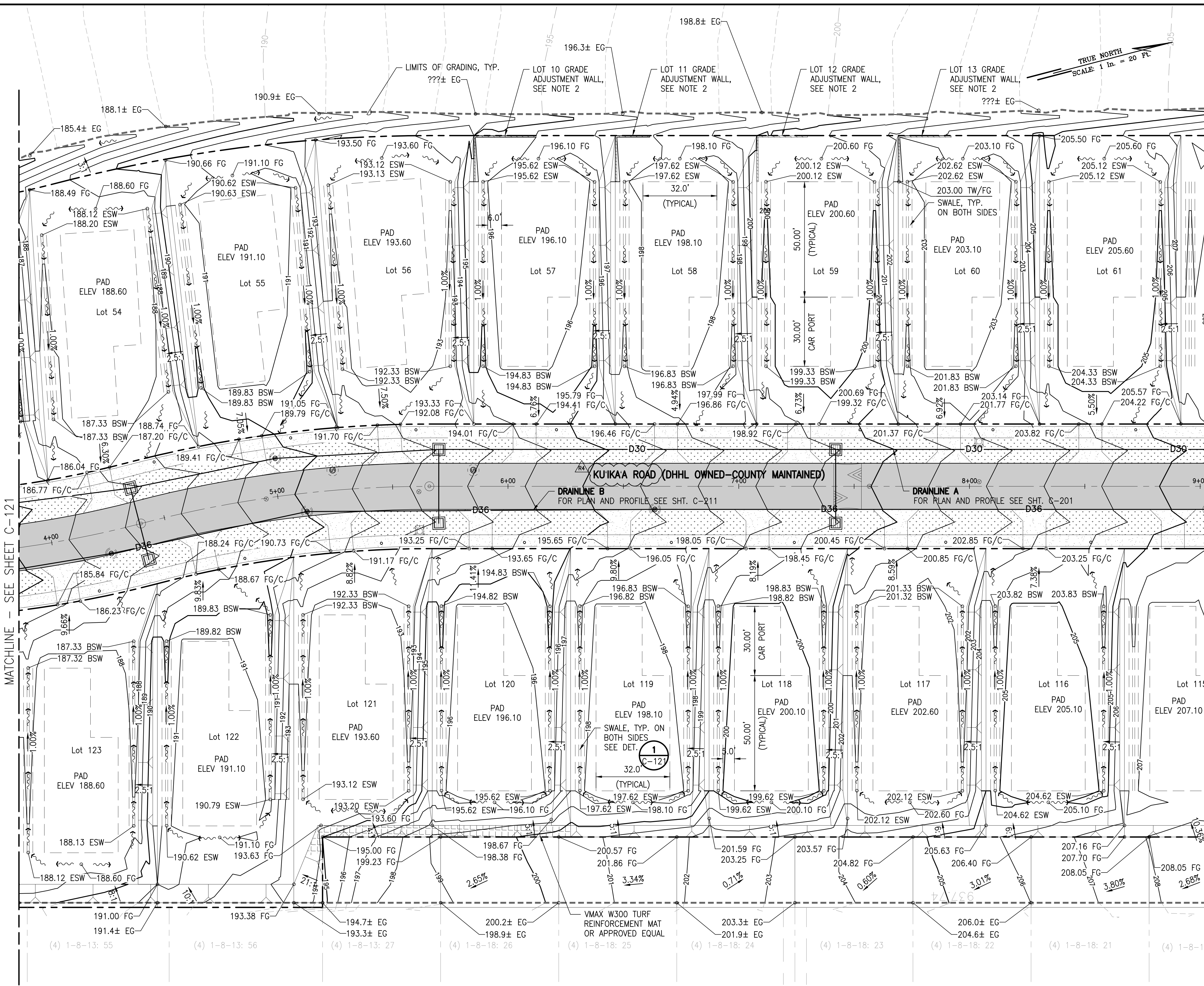
NOTES:

1. FOR TYPICAL LOT GRADING SECTION, SEE **2 C-126**
2. FOR GRADE ADJUSTMENT WALL PLAN, SEE SHEET C-127

GRAPHIC SCALE:
 20' 10' 0' 20' 40'
 SCALE: 1" = 20'

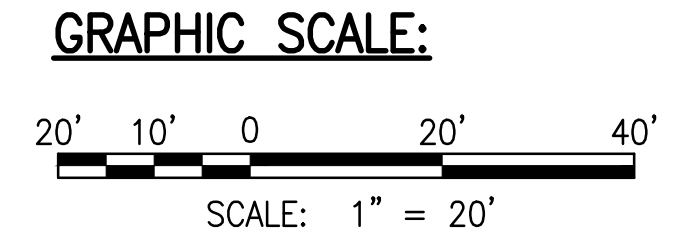
GRADING PLAN - 1
 SCALE: 1" = 20'

W:\CIVIL_3D\PROJECTS\2018_021\001_DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-121 - C-126 GRADING AND DRAINAGE PLANS.DWG 5/22/2023 2:14 PM SAMANO



- LEGEND:**
- ASPHALTIC CONCRETE PAVEMENT
 - CONCRETE PAVEMENT
 - GRASS
 - PROPERTY LINE
 - LOT LINE
 - LIMITS OF GRADING
 - GRATED DRAIN INLET (GDI)
 - STORM DRAIN MANHOLE (SDMH)
 - SEWER MANHOLE (SMH)
 - FIRE HYDRANT
 - 100.00 TW TOP OF WALL ELEVATION
 - 100.00 FG FINISH GRADE ELEVATION
 - 100.00 BSW BEGIN SWALE (DAYLIGHT TO FG)
 - 100.00 ESW END SWALE
 - 100.00 C CONCRETE ELEVATION
 - SURFACE RUNOFF FLOW DIRECTION
 - HOUSE AND CAR PORT PAD (APPROXIMATE)
 - GRADE ADJUSTMENT WALL SEE DETAIL C-502

- NOTES:**
1. FOR TYPICAL LOT GRADING SECTION, SEE C-126
 2. FOR GRADE ADJUSTMENT WALL PLAN, SEE SHEET C-127



GRADING PLAN - 2
 SCALE: 1" = 20'

RICHARD Y. SAITO
 LICENSED PROFESSIONAL ENGINEER
 NO. 8955-C
 HAWAII, USA

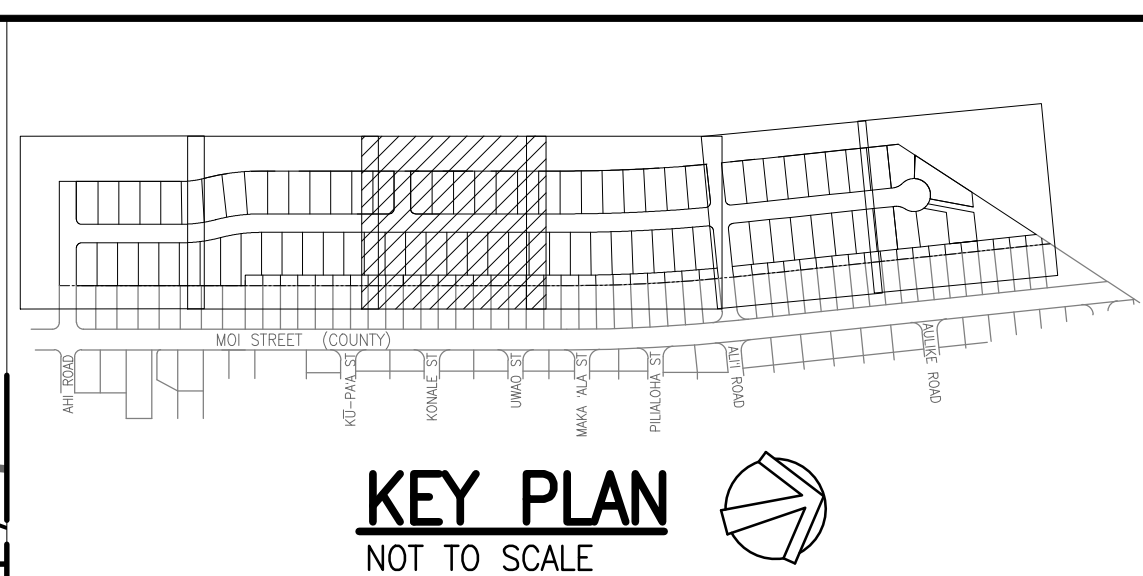
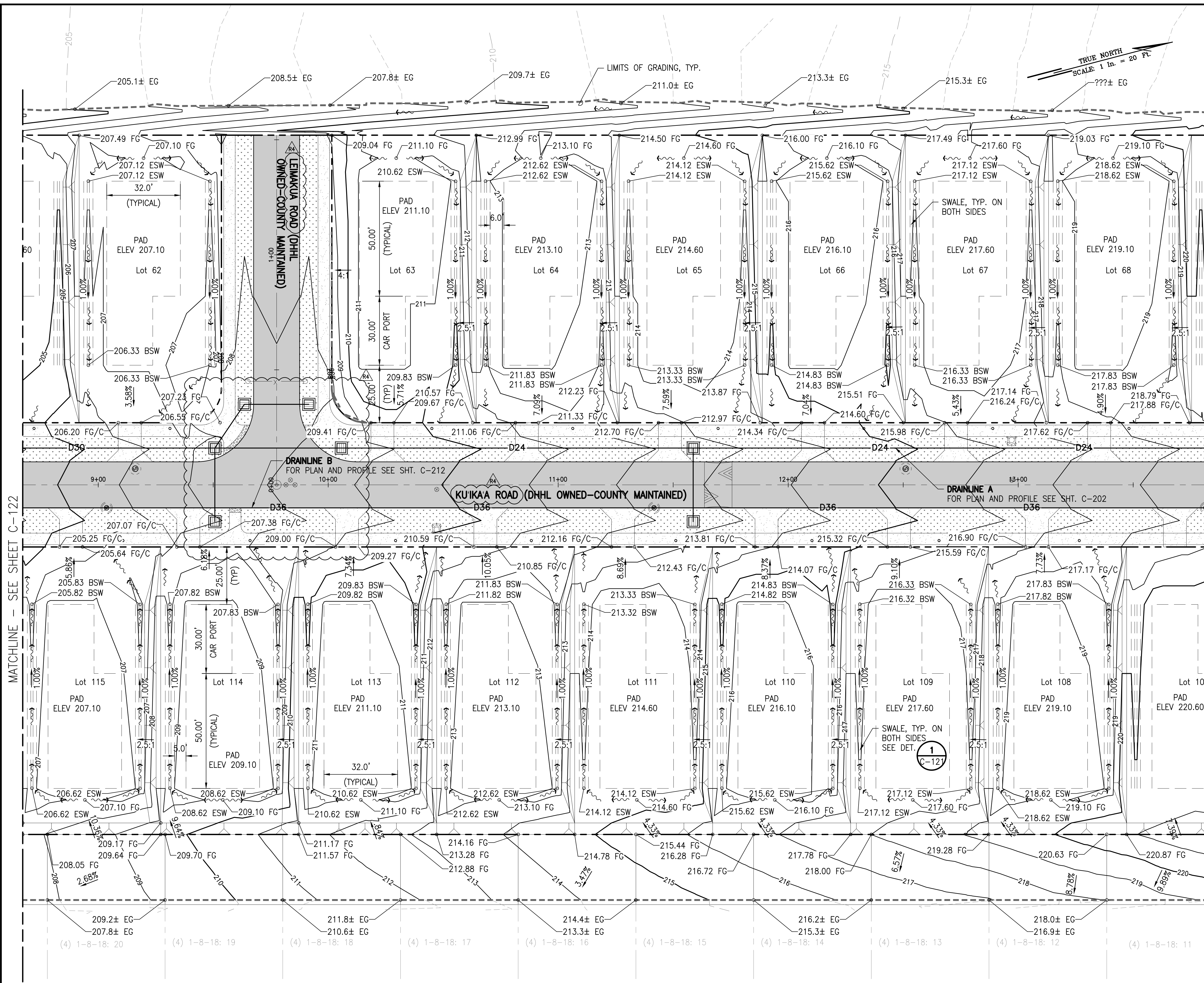
DATE: APRIL 2023
 SHEET NUMBER: C-122
 29 OF 109 SHEETS

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	REVISED STREET NAMES		

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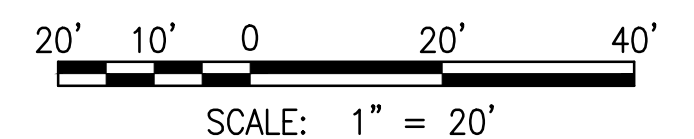
LEGEND:

- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- GRASS
- PROPERTY LINE
- LOT LINE
- LIMITS OF GRADING
- GRATED DRAIN INLET (GDI)
- STORM DRAIN MANHOLE (SDMH)
- SEWER MANHOLE (SMH)
- FIRE HYDRANT
- 100.00 TW TOP OF WALL ELEVATION
- 100.00 FG FINISH GRADE ELEVATION
- 100.00 BSW BEGIN SWALE (DAYLIGHT TO FG)
- 100.00 ESW END SWALE
- 100.00 C CONCRETE ELEVATION
- SURFACE RUNOFF FLOW DIRECTION
- HOUSE AND CAR PORT PAD (APPROXIMATE)

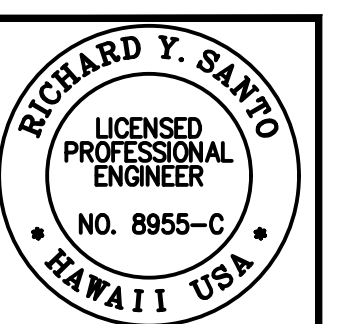
NOTE:

1. FOR TYPICAL LOT GRADING SECTION, SEE

GRAPHIC SCALE:



GRADING PLAN - 3
SCALE: 1" = 20'



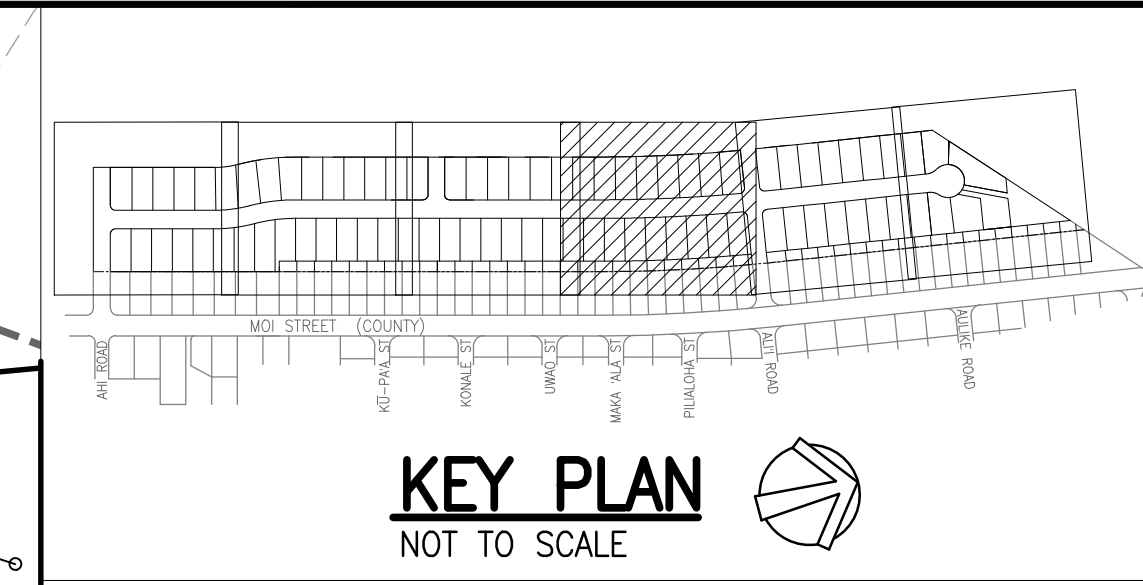
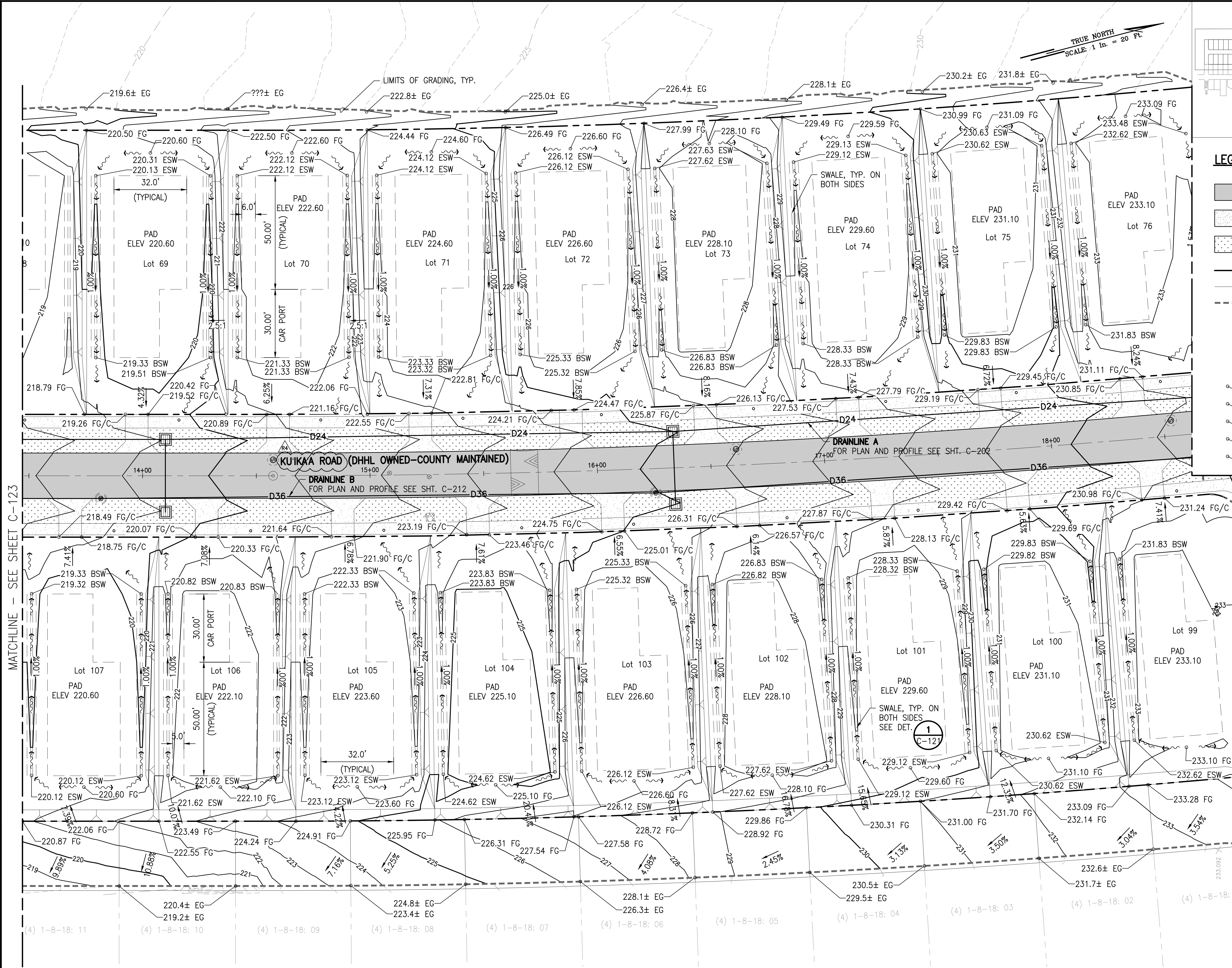
SSFM International, Inc.
50 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/26/23	REVISED STREET NAMES AND PERMIT CONDITIONS		
AS	2/07/23	PERMIT COMMENTS		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

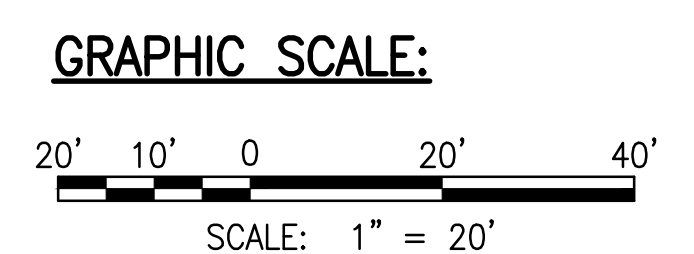
GRADING AND DRAINAGE PLAN - 3
DATE: APRIL 2023
SHEET NUMBER: C-123
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- LEGEND:**
- ASPHALTIC CONCRETE PAVEMENT
 - CONCRETE PAVEMENT
 - GRASS
 - PROPERTY LINE
 - LOT LINE
 - LIMITS OF GRADING
 - GRATED DRAIN INLET (GDI)
 - STORM DRAIN MANHOLE (SDMH)
 - SEWER MANHOLE (SMH)
 - FIRE HYDRANT
 - 100.00 TW TOP OF WALL ELEVATION
 - 100.00 FG FINISH GRADE ELEVATION
 - 100.00 BSW BEGIN SWALE (DAYLIGHT TO FG)
 - 100.00 ESW END SWALE
 - 100.00 C CONCRETE ELEVATION
 - SURFACE RUNOFF FLOW DIRECTION

NOTE:
1. FOR TYPICAL LOT GRADING SECTION, SEE 2 C-126



GRADING PLAN - 4
SCALE: 1" = 20'

RICHARD Y. SAKO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

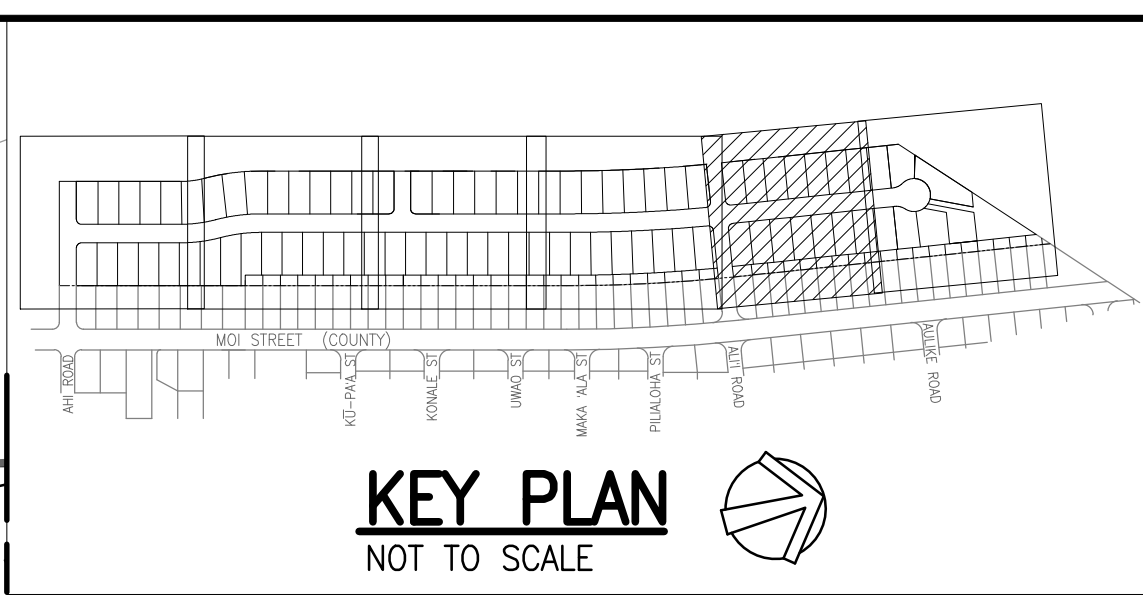
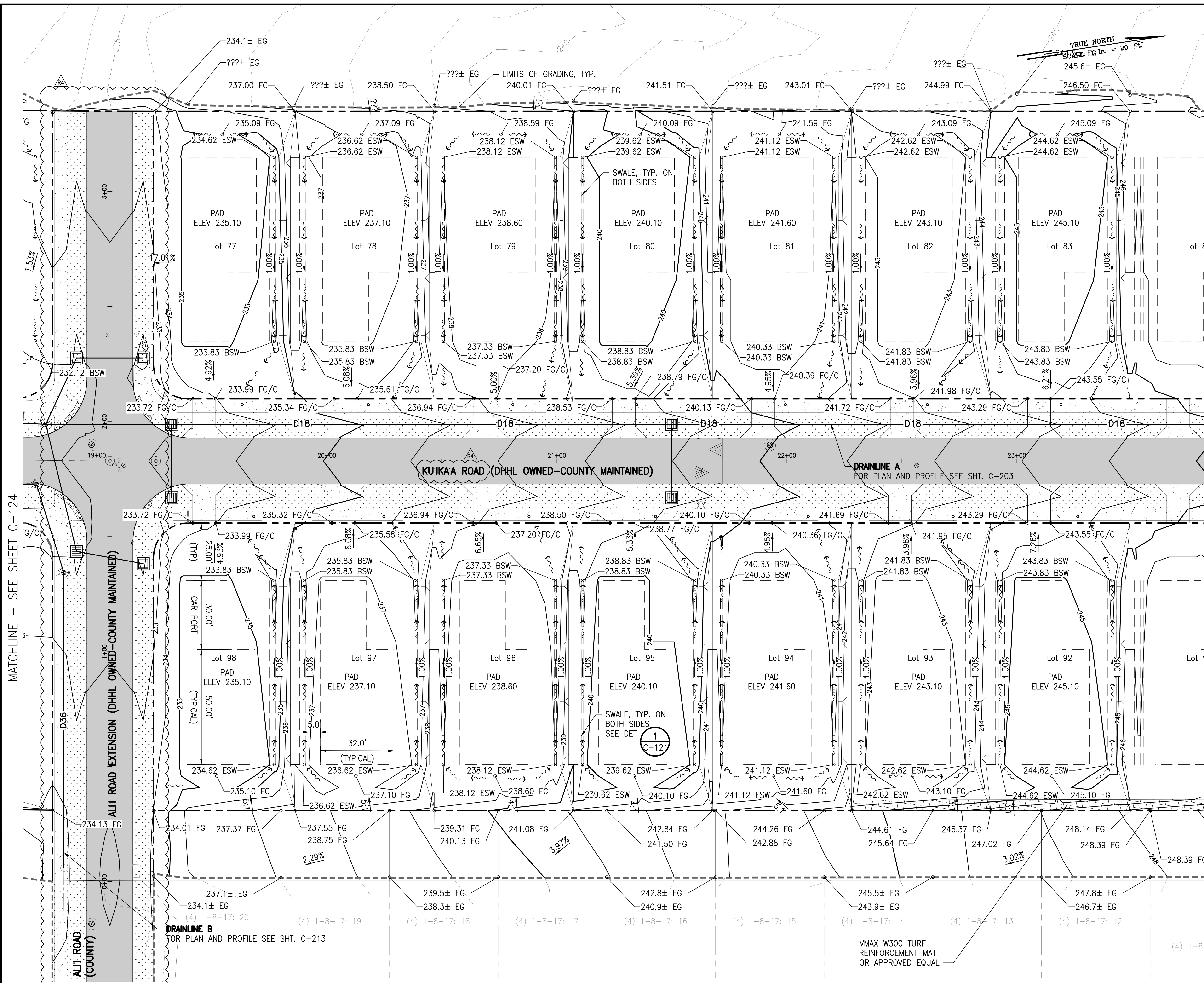
DATE: APRIL 2023
SHEET NUMBER: C-124
31 OF 109 SHEETS

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
AR	05/26/23	REVISED STREET NAMES		

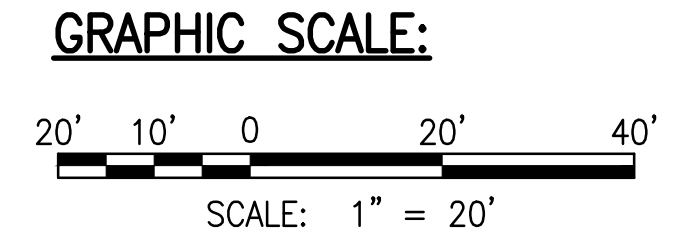
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- LEGEND:**
- ASPHALTIC CONCRETE PAVEMENT
 - CONCRETE PAVEMENT
 - GRASS
 - PROPERTY LINE
 - LOT LINE
 - LIMITS OF GRADING
 - GRATED DRAIN INLET (GDI)
 - STORM DRAIN MANHOLE (SDMH)
 - SEWER MANHOLE (SMH)
 - FIRE HYDRANT
 - 100.00 TW TOP OF WALL ELEVATION
 - 100.00 FG FINISH GRADE ELEVATION
 - 100.00 BSW BEGIN SWALE (DAYLIGHT TO FG)
 - 100.00 ESW END SWALE
 - 100.00 C CONCRETE ELEVATION
 - SURFACE RUNOFF FLOW DIRECTION
 - HOUSE AND CAR PORT PAD (APPROXIMATE)

NOTE:
1. FOR TYPICAL LOT GRADING SECTION, SEE 2 C-126



GRADING PLAN - 5
SCALE: 1" = 20'

RICHARD Y. SANO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: APRIL 2023
SHEET NUMBER: C-125
32 OF 109 SHEETS

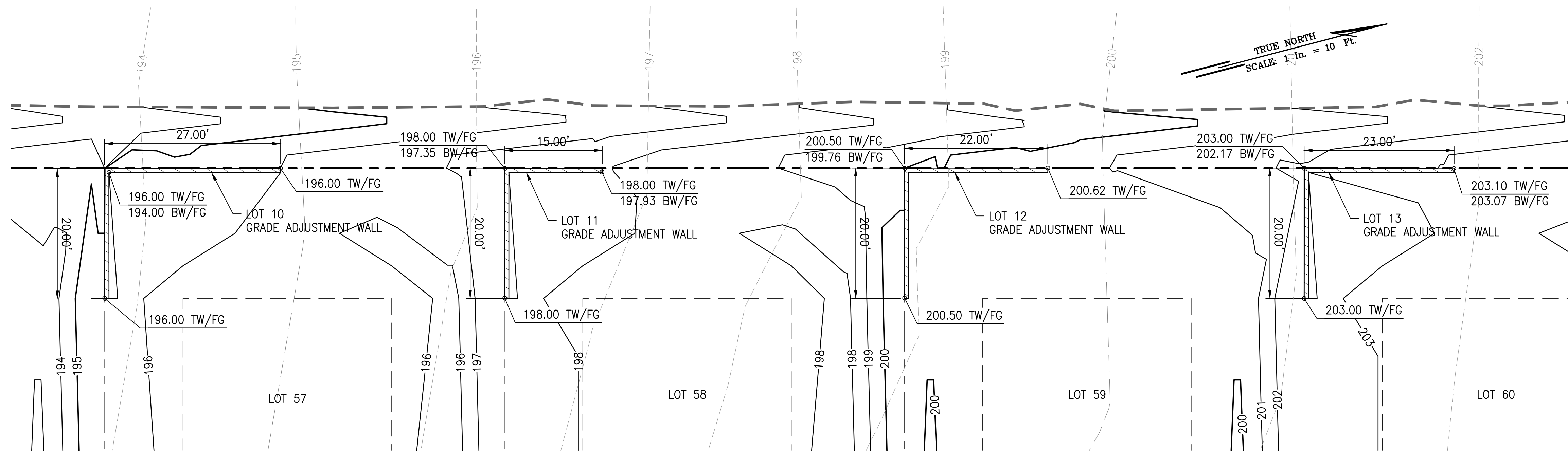
SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/26/23	REVISED STREET NAMES AND PERMITS		
RA	2/07/23	PERMIT COMMENTS		

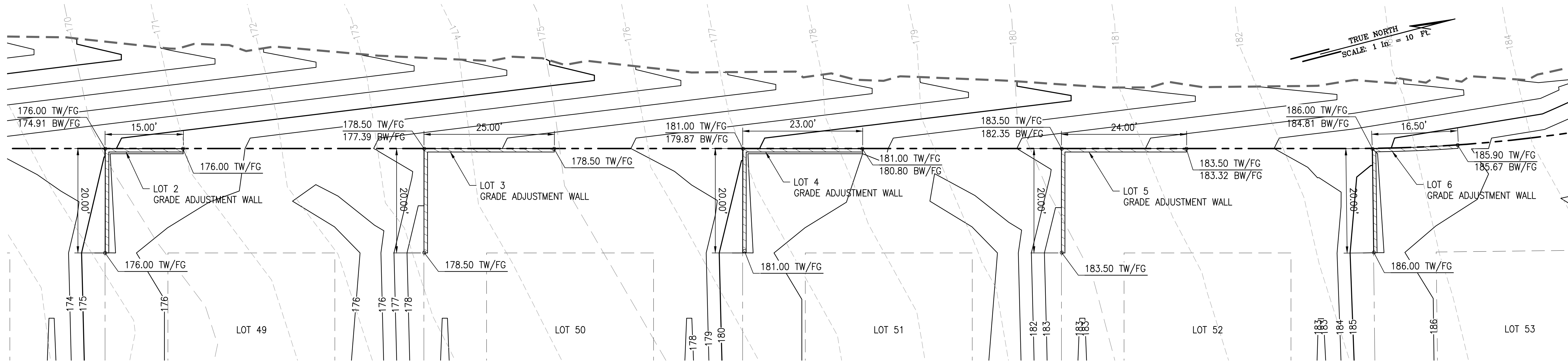
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

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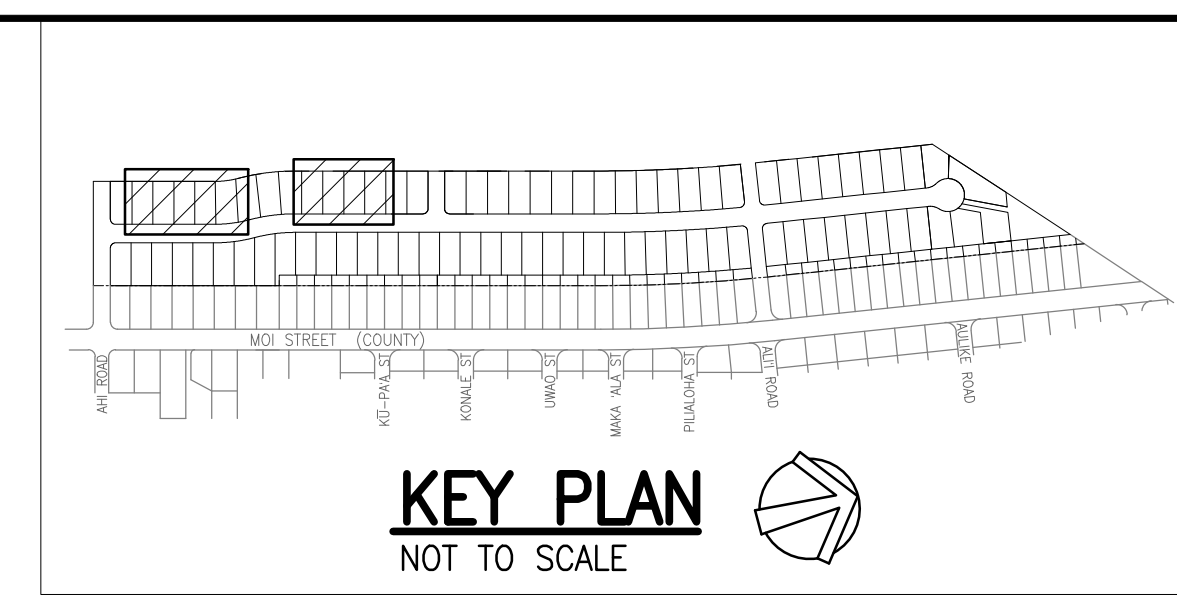
W:\CIVIL_3D\PROJECTS\2018_021.001\DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-127 GRADE ADJUSTMENT WALL PLANDWG 2/28/2023 7:42 AM EBORNALES



GRADE ADJUSTMENT WALL PLAN
SCALE: 1" = 10'

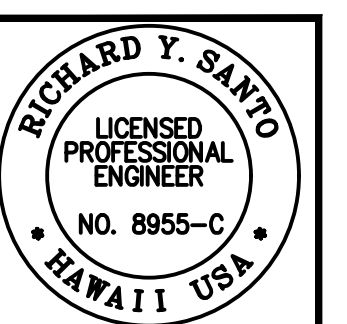


GRADE ADJUSTMENT WALL PLAN
SCALE: 1" = 10'



- LEGEND:**
- PROPERTY LINE
 - - - - - LIMITS OF GRADING AND DISTURBANCE
 - ==== GRADE ADJUSTMENT WALL, SEE DETAIL
- 3**
C-502

NOTE:
FOR GRADE WALL ADJUSTMENT ELEVATION DETAIL, SEE SHEETS C-121 TO C-126.



DATE: 4/30/24
SCALE: 1/8" = 1'-0"

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Suite 620
Honolulu, Hawaii 96817

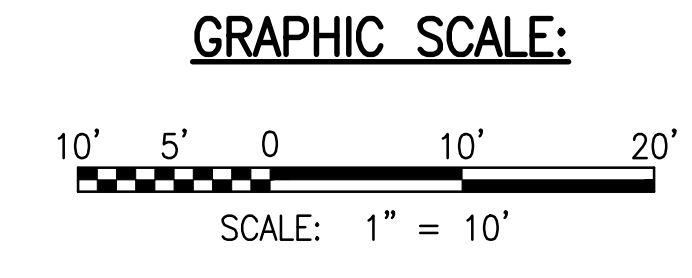
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanalei, Kauai, Hawaii

GRADE ADJUSTMENT WALL PLAN

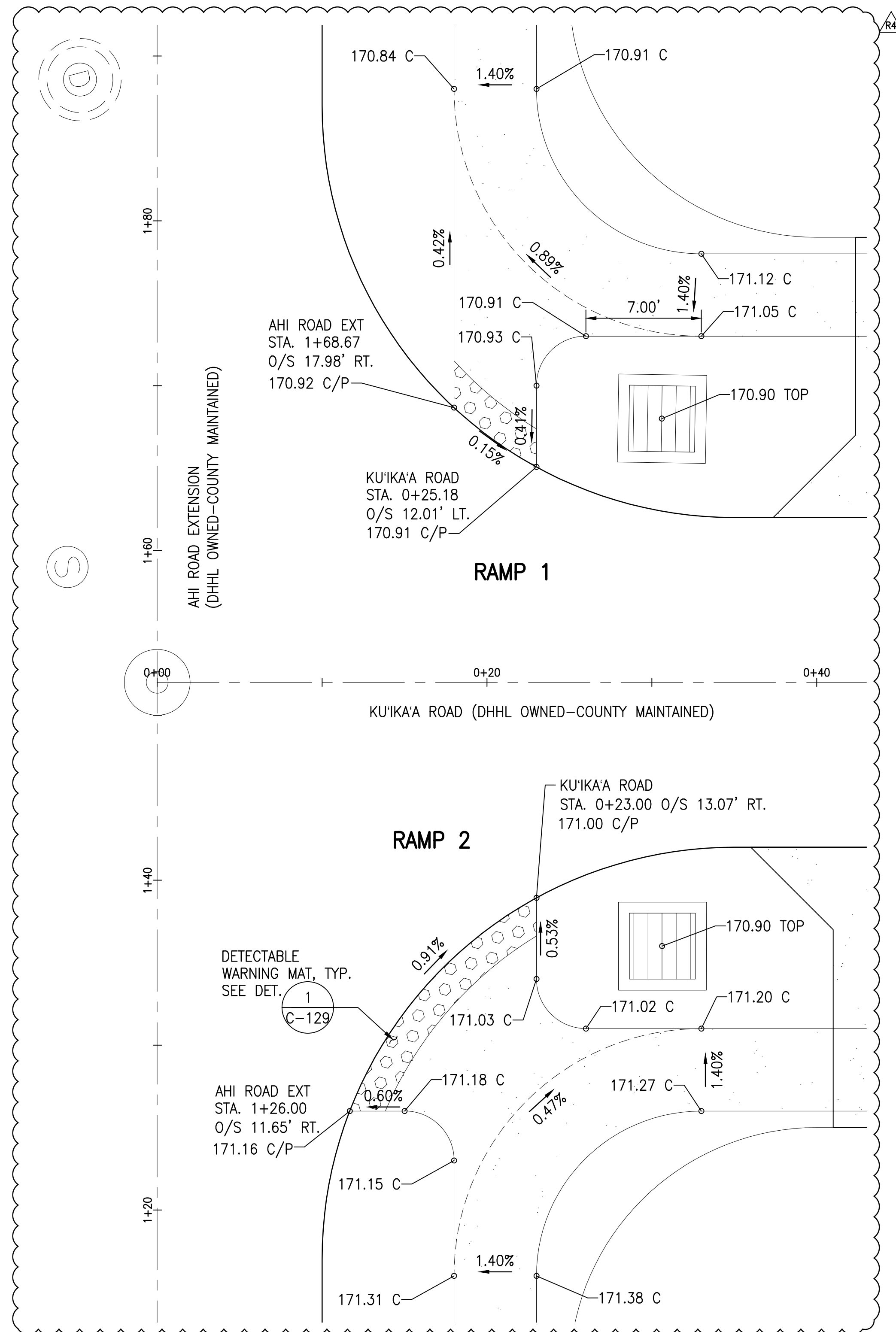
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DATE: APRIL 2023
SHEET NUMBER: **C-127**
34 OF 109 SHEETS



W:_CIVIL_3D_PROJECTS\2018_021.001_DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-128_RAMP_DETAILED_GRADING_PLAN - 1.DWG 5/23/2023 5:43 PM SAMANO

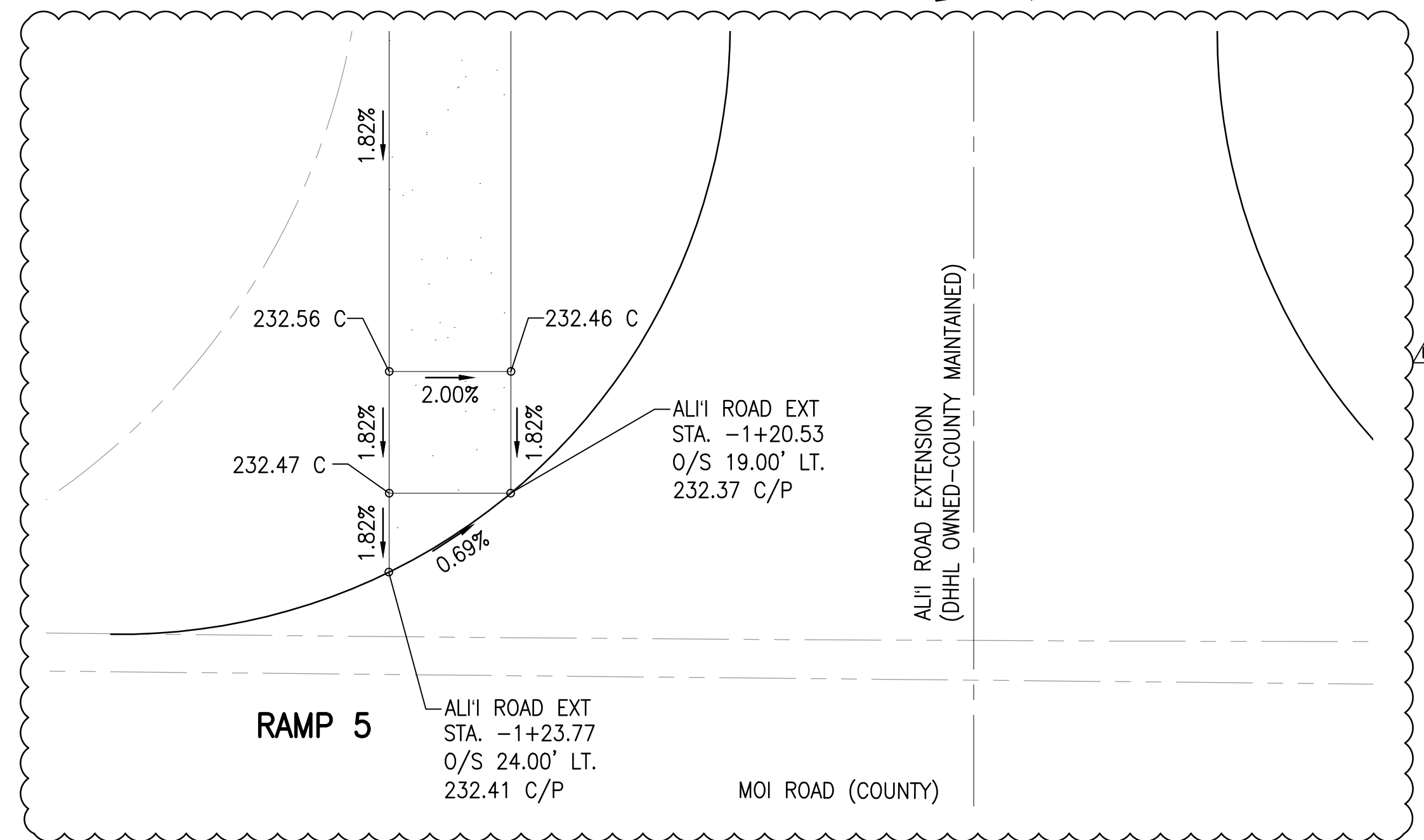
TRUE NORTH
SCALE: 1 in. = 5 Ft.



RAMP GRADING DETAILS - KU'IKA'A ROAD AND AHI ROAD INTERSECTION

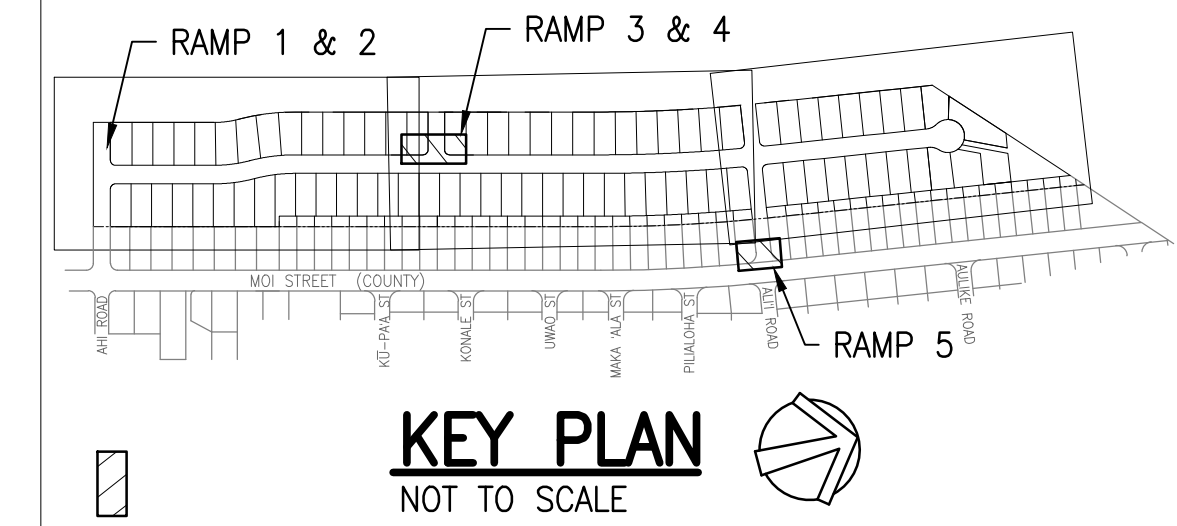
SCALE: 1" = 5'

TRUE NORTH
SCALE: 1 in. = 5 Ft.



RAMP GRADING DETAILS - ALI'I ROAD EXTENSION AND MOI ROAD INTERSECTION

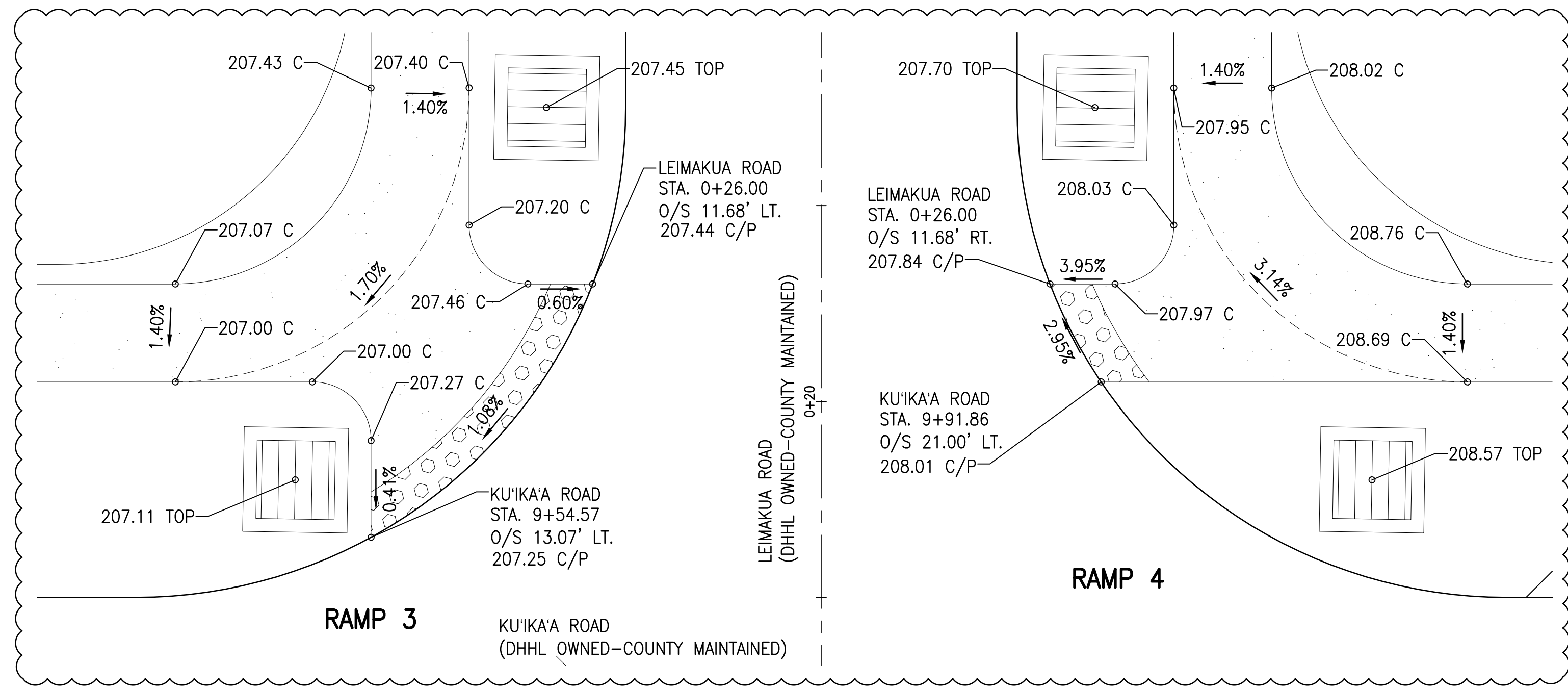
SCALE: 1" = 5'



LEGEND:

- PROPERTY LINE
- LOT LINE

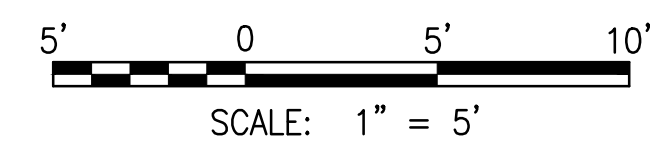
TRUE NORTH
SCALE: 1 in. = 5 Ft.



RAMP GRADING DETAILS - KU'IKA'A ROAD AND LEIMAKUA ROAD INTERSECTION

SCALE: 1" = 5'

GRAPHIC SCALE:



4/20/24
DATE OF THE DRAWING
DATE OF THE DESIGN
DATE OF THE PERMIT
DATE OF THE REVIEW

SSFM International
SSFM International, Inc.
50 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/06/23	REVISED STREET NAMES AND PERMIT COMMENTS		
RA	2/07/23	PERMIT COMMENTS		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

RAMP DETAILED GRADING PLAN - 1
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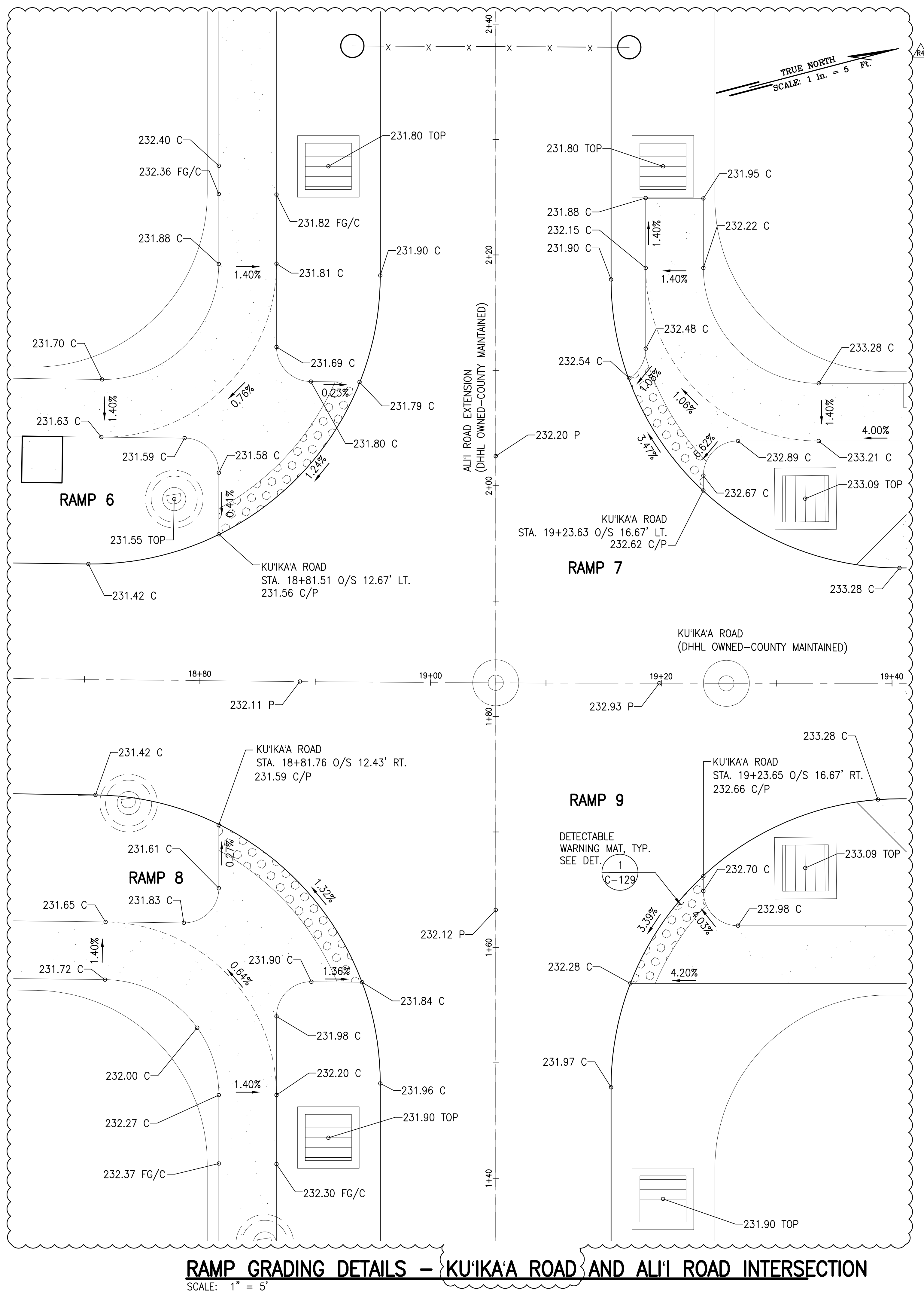
DATE: APRIL 2023

SHEET NUMBER

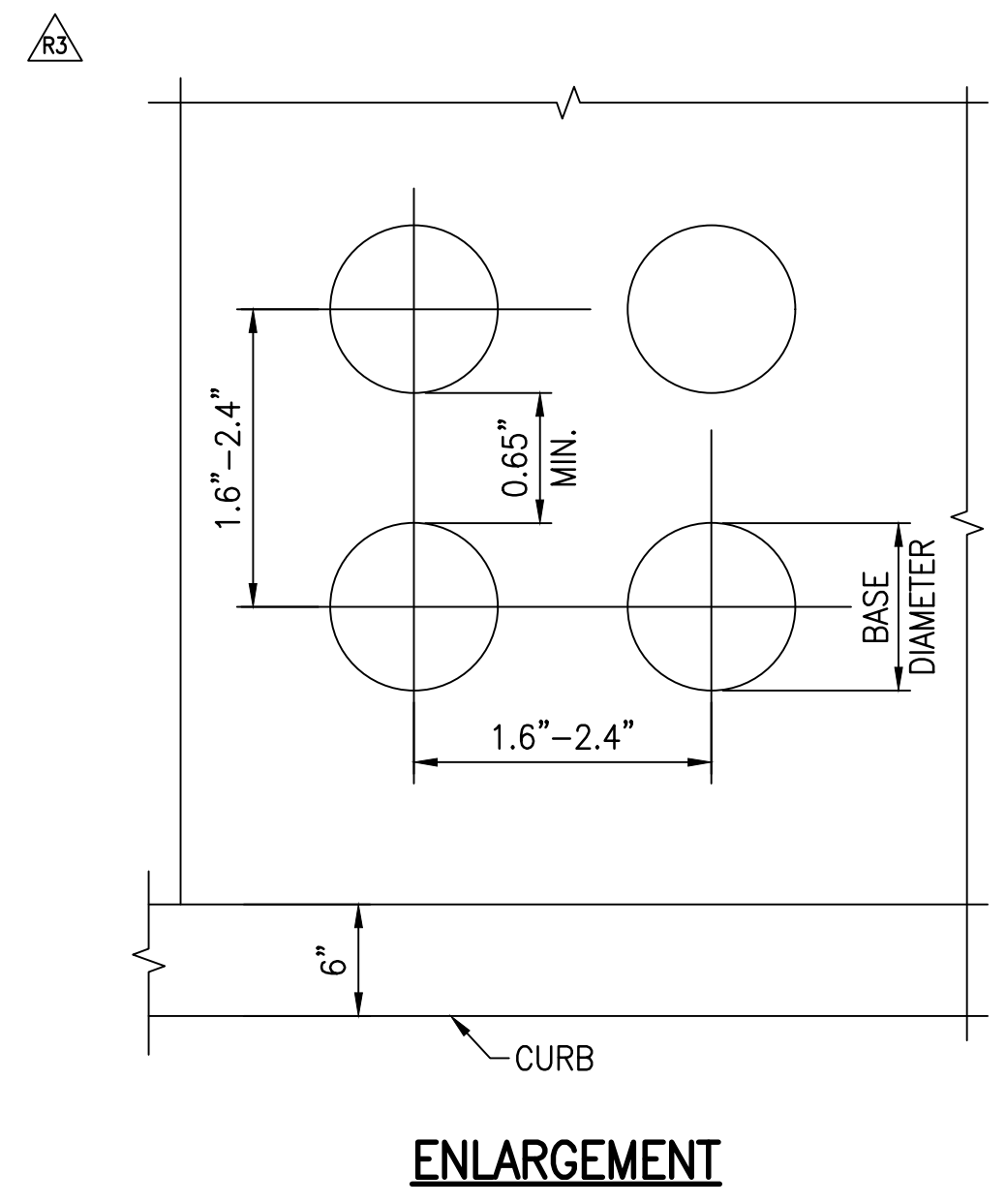
C-128

35 OF 109 SHEETS

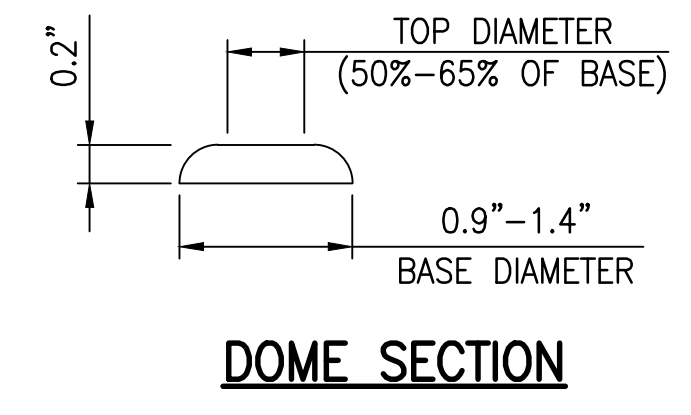
W:\CIVIL_3D\PROJECTS\2018_021.001.DHHL.HANAPEPE.RESIDENTIAL.SUBDIVISION.PHASE.2\01.CE.DWG\C-129.RAMP.DETAILED.GRAIDING.PLAN - 2.DWG 5/22/2023 8:33 PM SAMANO



RAMP GRADING DETAILS - KUI'IKAA ROAD AND ALI'I ROAD INTERSECTION
SCALE: 1" = 5'



ENLARGEMENT

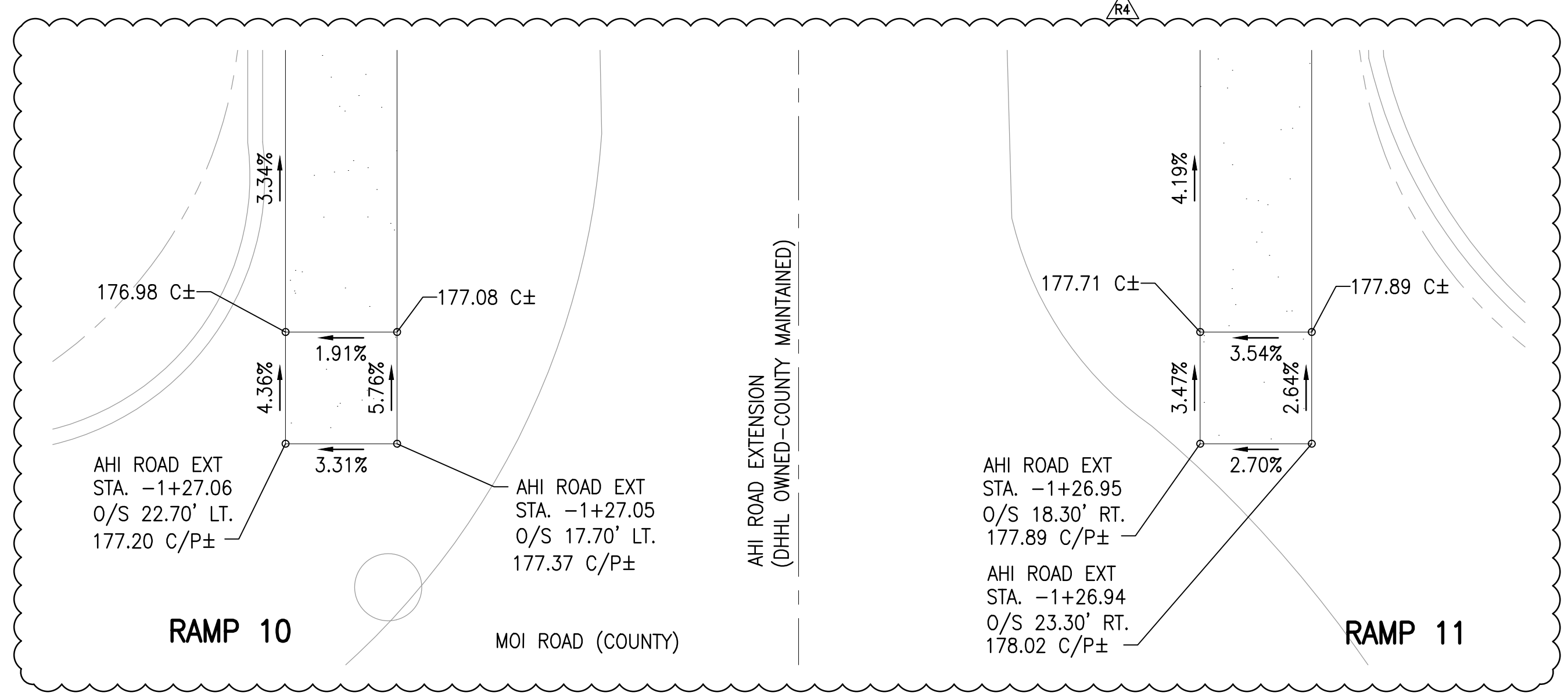


DOME SECTION

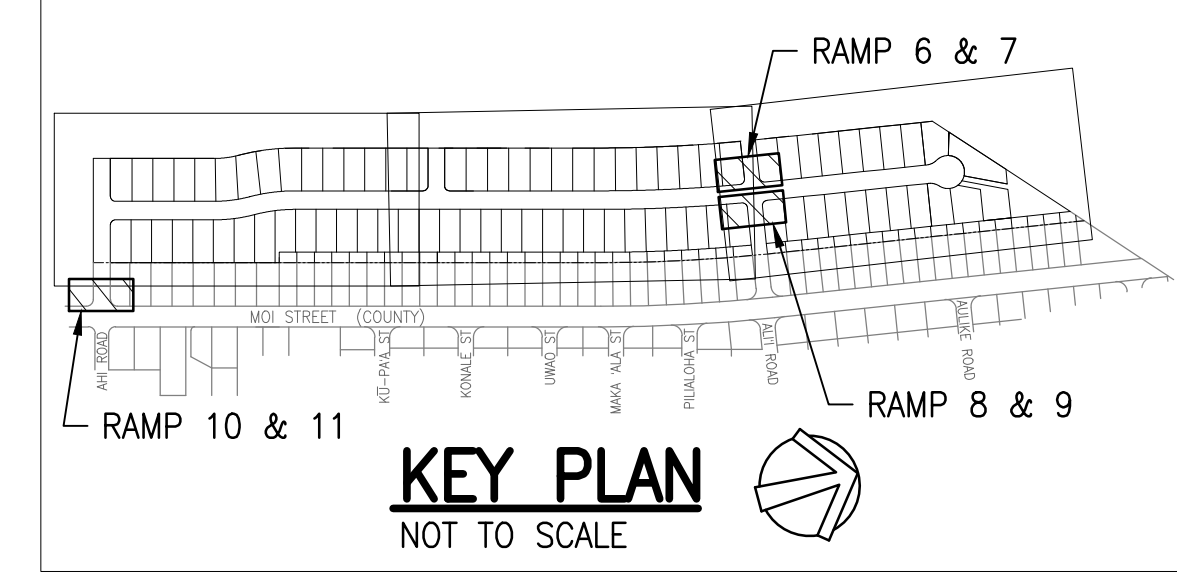
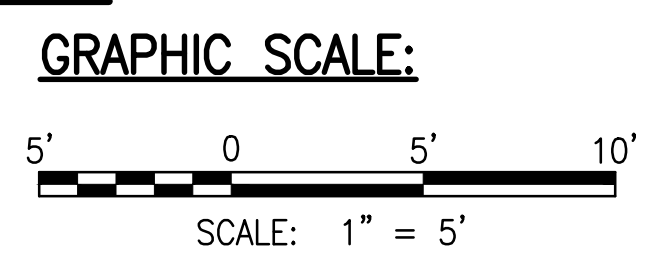
DETECTABLE WARNING MAT NOTES:

1. DETECTABLE WARNING SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE (DOES NOT INCLUDE FLARES).
2. TRUNCATED DOMES SHALL HAVE A DIAMETER OF 0.9 TO 1.4 INCH AT THE BOTTOM, A DIAMETER OF 50%-65% OF THE BASE DIAMETER AT THE TOP, A HEIGHT OF 0.2 INCH AND A CENTER-TO-CENTER SPACING OF 1.6 TO 2.4 INCHES MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
3. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN THE DOMES.
4. THERE SHALL BE MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "SAFETY YELLOW".
5. DETECTABLE WARNING MAT SHALL BE CONSIDERED INCIDENTAL TO SECTION 650 PAY ITEMS.

1 DETECTABLE WARNING MAT DETAILS
C-129 NOT TO SCALE

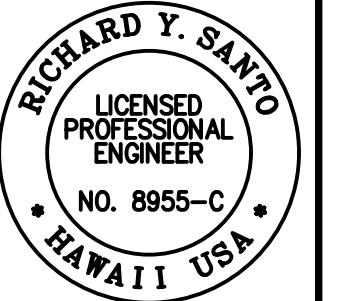


RAMP GRADING DETAILS - MOI ROAD AND AHI ROAD INTERSECTION
SCALE: 1" = 5'



LEGEND:

- PROPERTY LINE
- LOT LINE



DATE: 4/20/24
BY: [Signature]
CHECKED BY: [Signature]
SCALE: AS SHOWN
NOTES: Contractor to check and verify dimensions of job before proceeding with work.

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Suite 620
Honolulu, Hawaii 96817

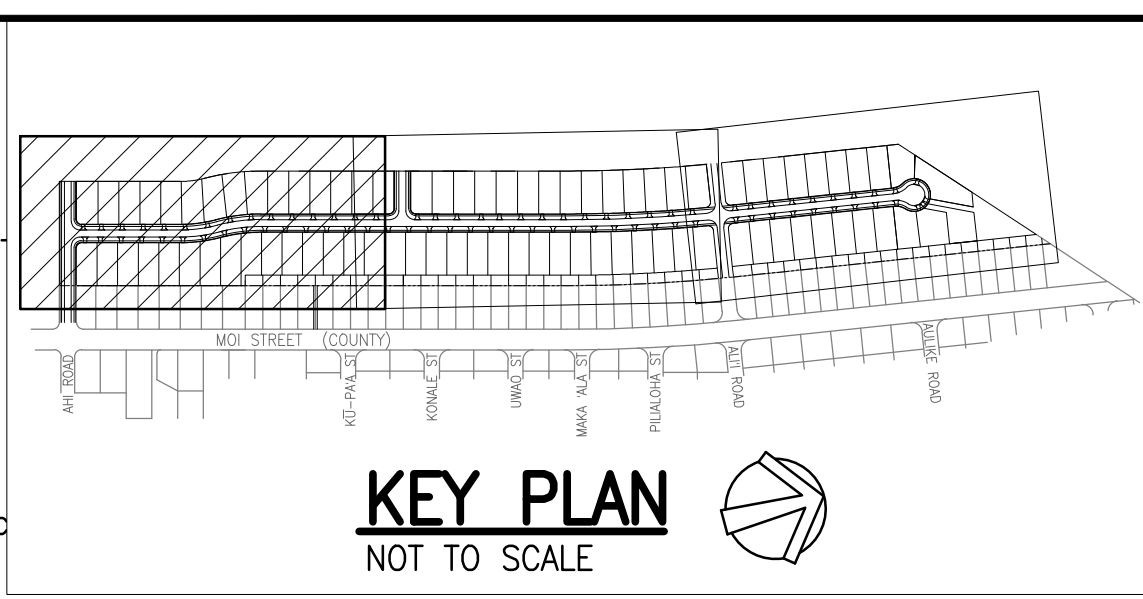
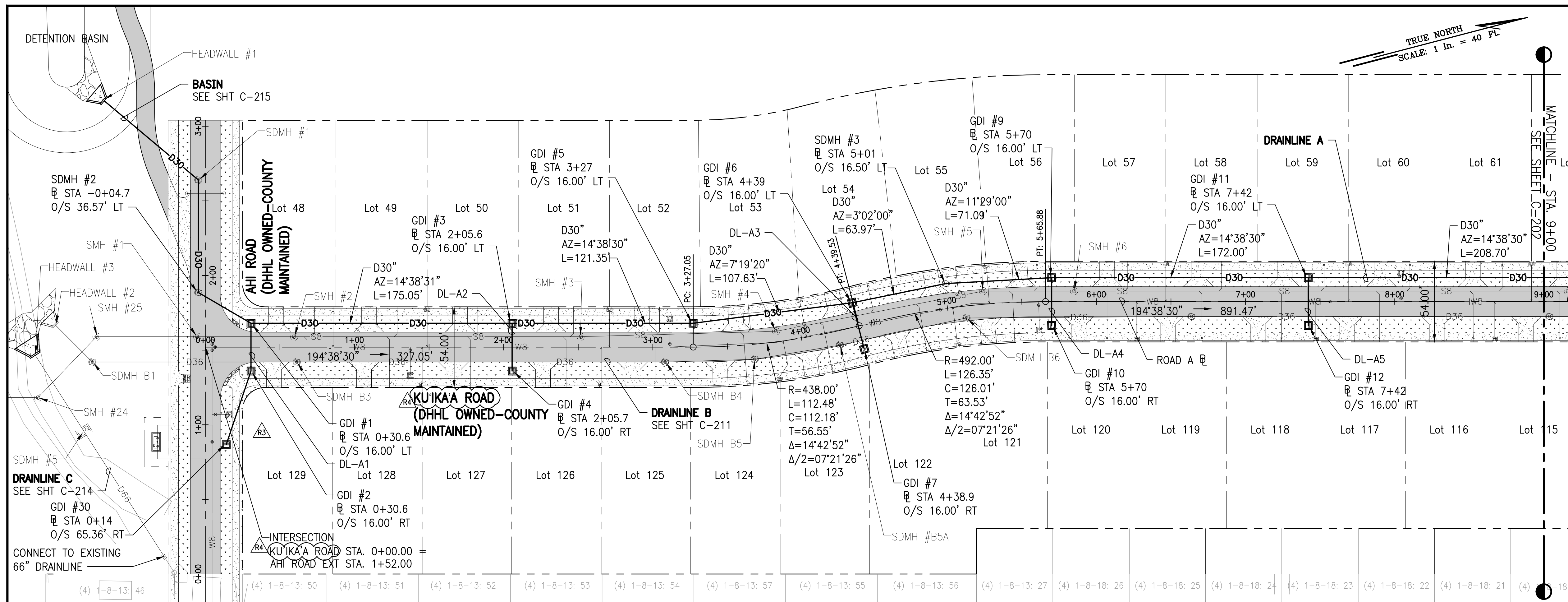
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/06/23	REVISED STREET NAMES AND PERMIT COMMENTS		
RA	2/07/23	PERMIT COMMENTS		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

RAMP DETAILED GRADING PLAN - 2
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DATE: APRIL 2023
SHEET NUMBER: C-129
36 OF 109 SHEETS

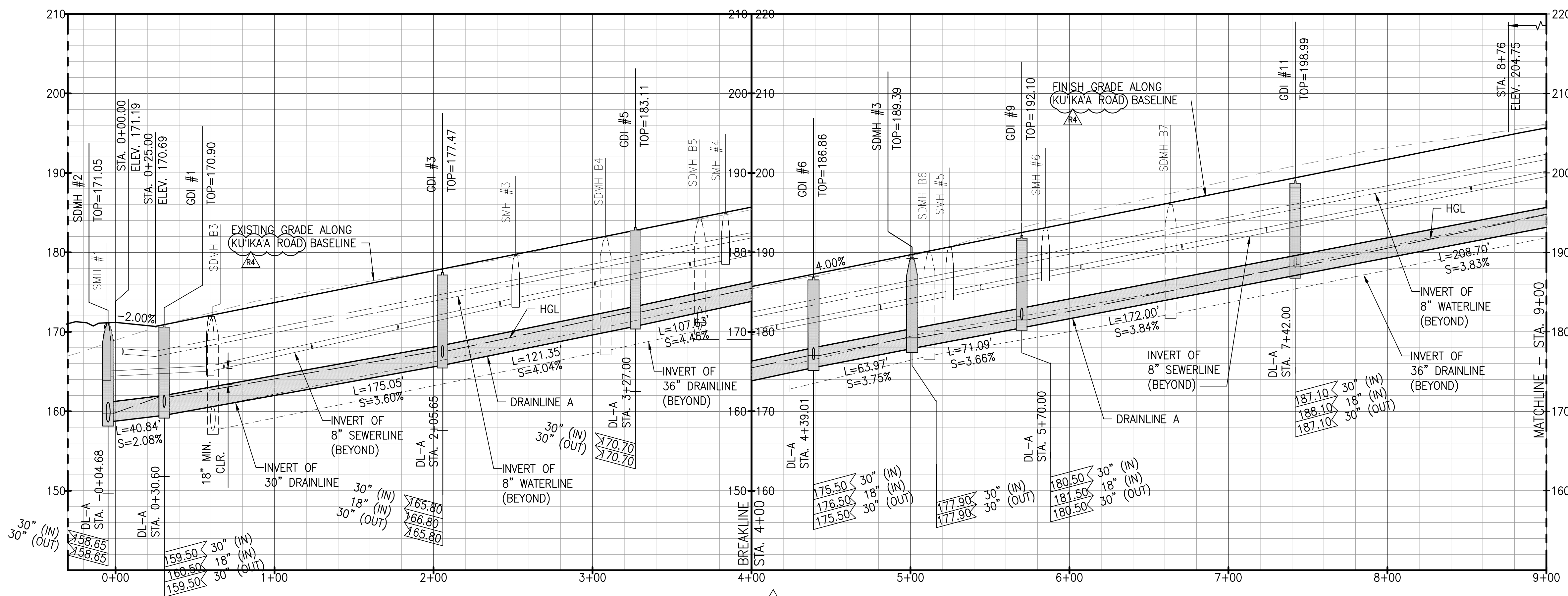
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LEGEND:

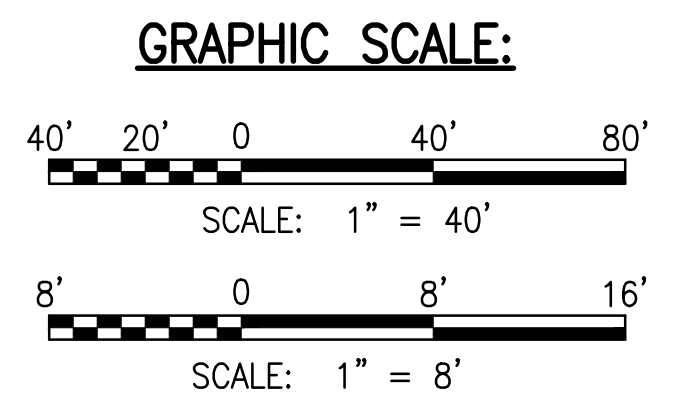
---	PROPERTY LINE
---	LOT LINE
D36	DRAINLINE
S8	SEWERLINE
W8	WATERLINE
■	GRATED DRAIN INLET (GDI), SEE DET C-504
⊙	STORM DRAIN MANHOLE (SDMH), SEE DET C-505
⊙	SEWER MANHOLE (SMH)
⊙	FIRE HYDRANT
▨	ASPHALTIC CONCRETE PAVEMENT
▨	CONCRETE PAVEMENT
▨	GRASS

PLAN - KU'IKAA ROAD AND DRAINLINE A
SCALE: 1" = 40'



PROFILE - KU'IKAA ROAD AND DRAINLINE A
SCALE: HORIZ 1" = 40', VERT 1" = 8'

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



RICHARD Y. SAKO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: APRIL 2023
SHEET NUMBER: C-201
37 OF 109 SHEETS

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

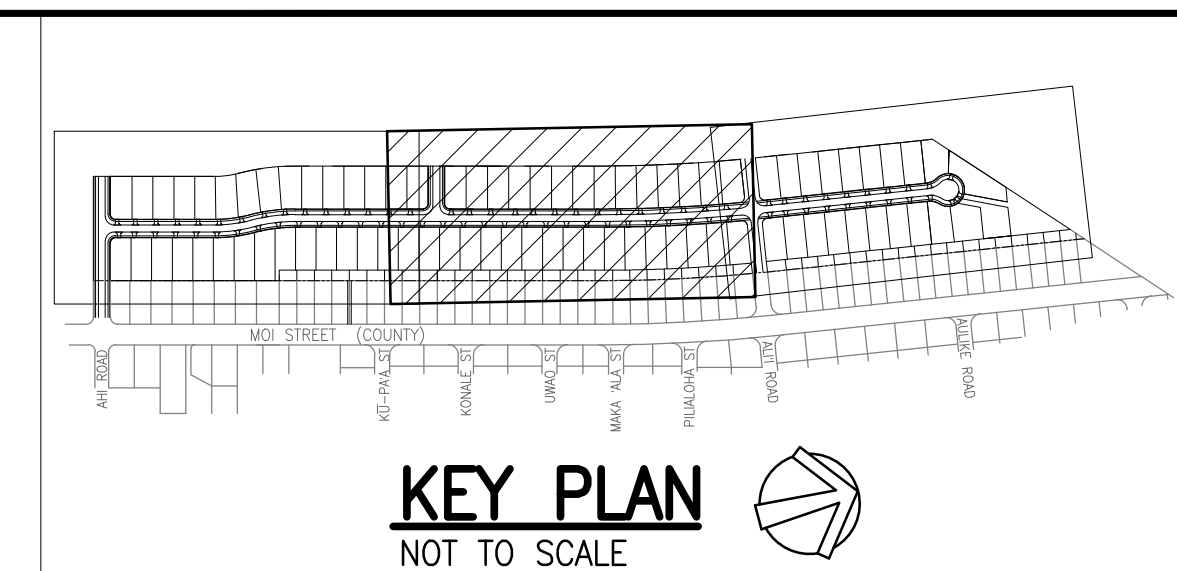
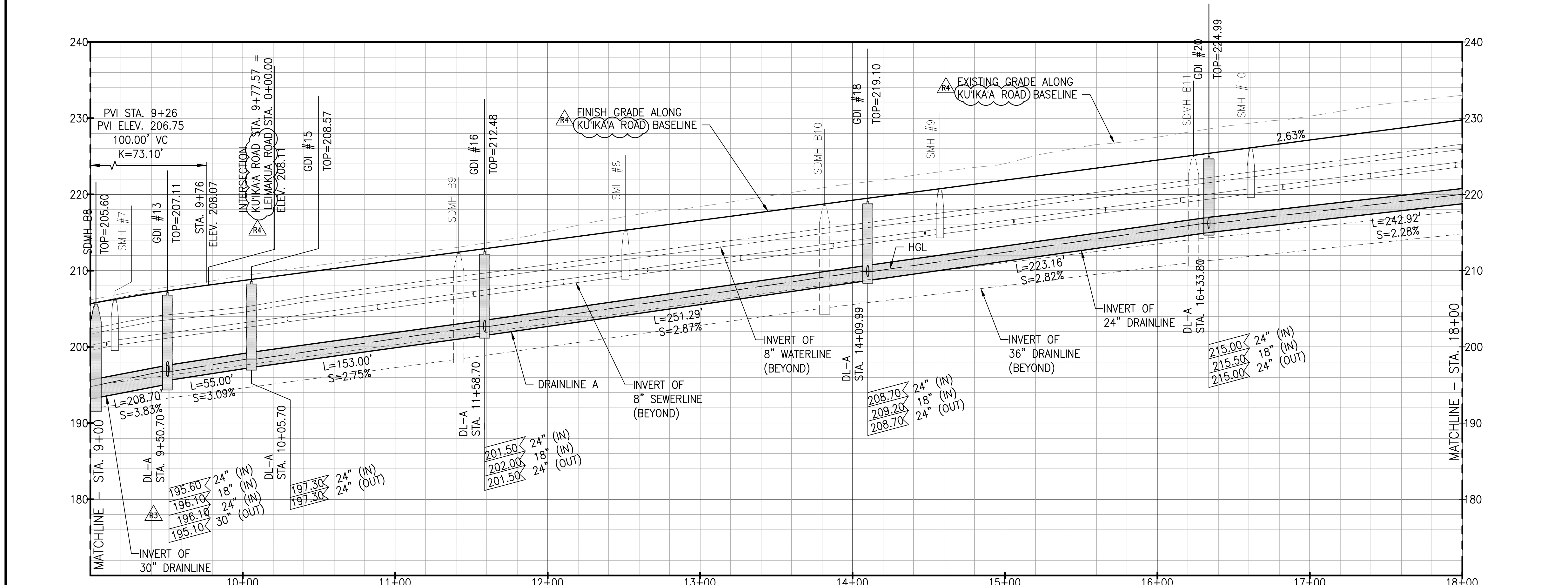
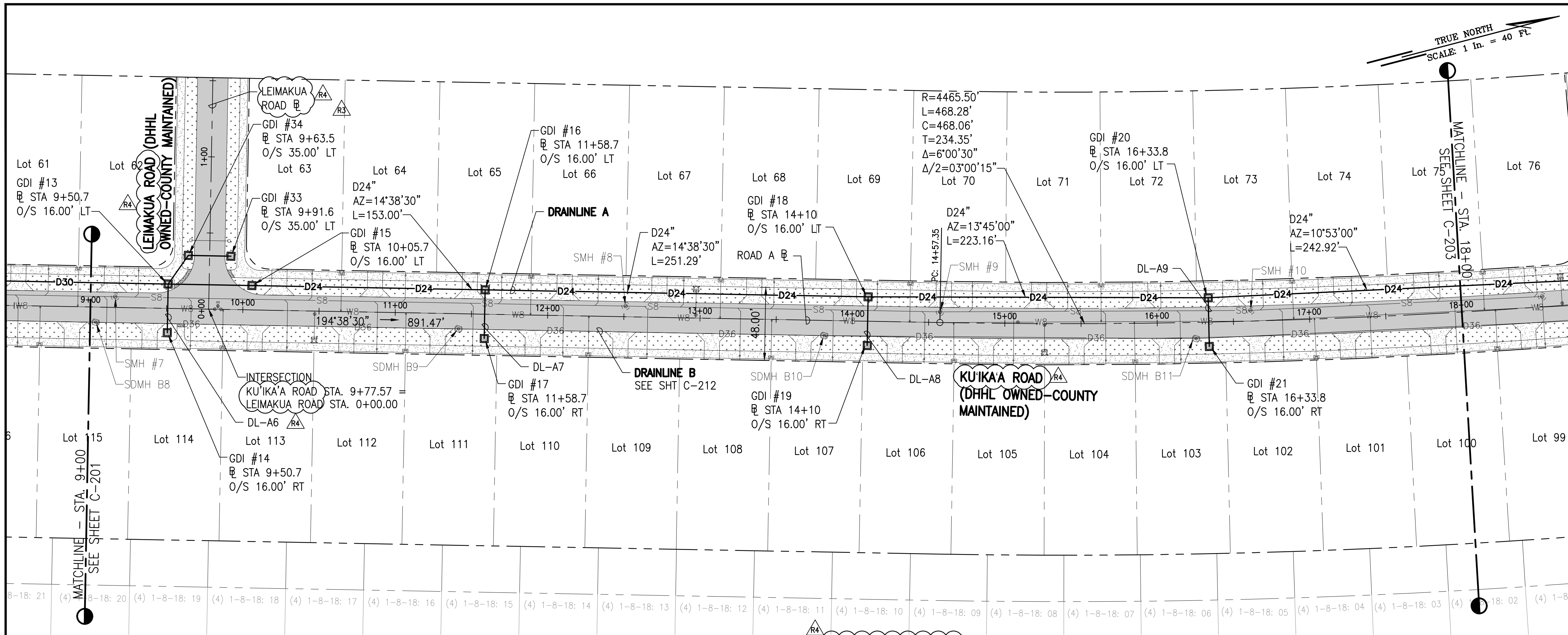
REVISION: 05/06/23 REVISED STREET NAMES AND PERMIT COMMENTS DATE: 2/07/23
REVISION: RA/AS PERMIT COMMENTS DATE: 2/07/23

MADE BY: APPROVED

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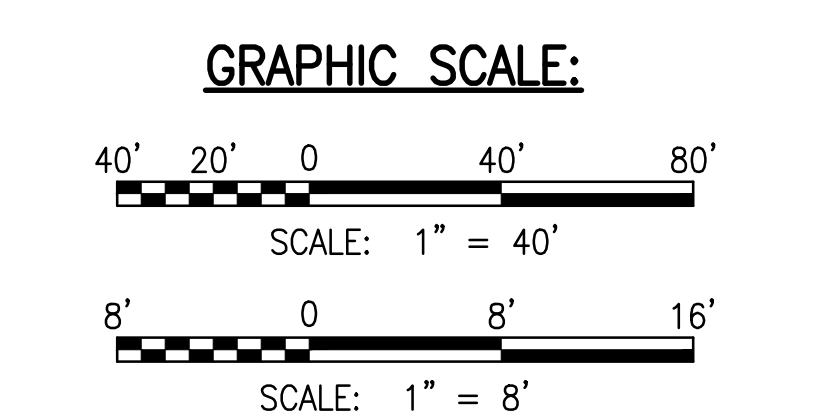
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LEGEND:

---	PROPERTY LINE
---	LOT LINE
D36	DRAINLINE
S8	SEWERLINE
W8	WATERLINE
■	GRATED DRAIN INLET (GDI), SEE DET C-504
⊙	STORM DRAIN MANHOLE (SDMH), SEE DET C-505
⊙	SEWER MANHOLE (SMH)
⊙	FIRE HYDRANT
▒	ASPHALTIC CONCRETE PAVEMENT
▒	CONCRETE PAVEMENT
▒	GRASS

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



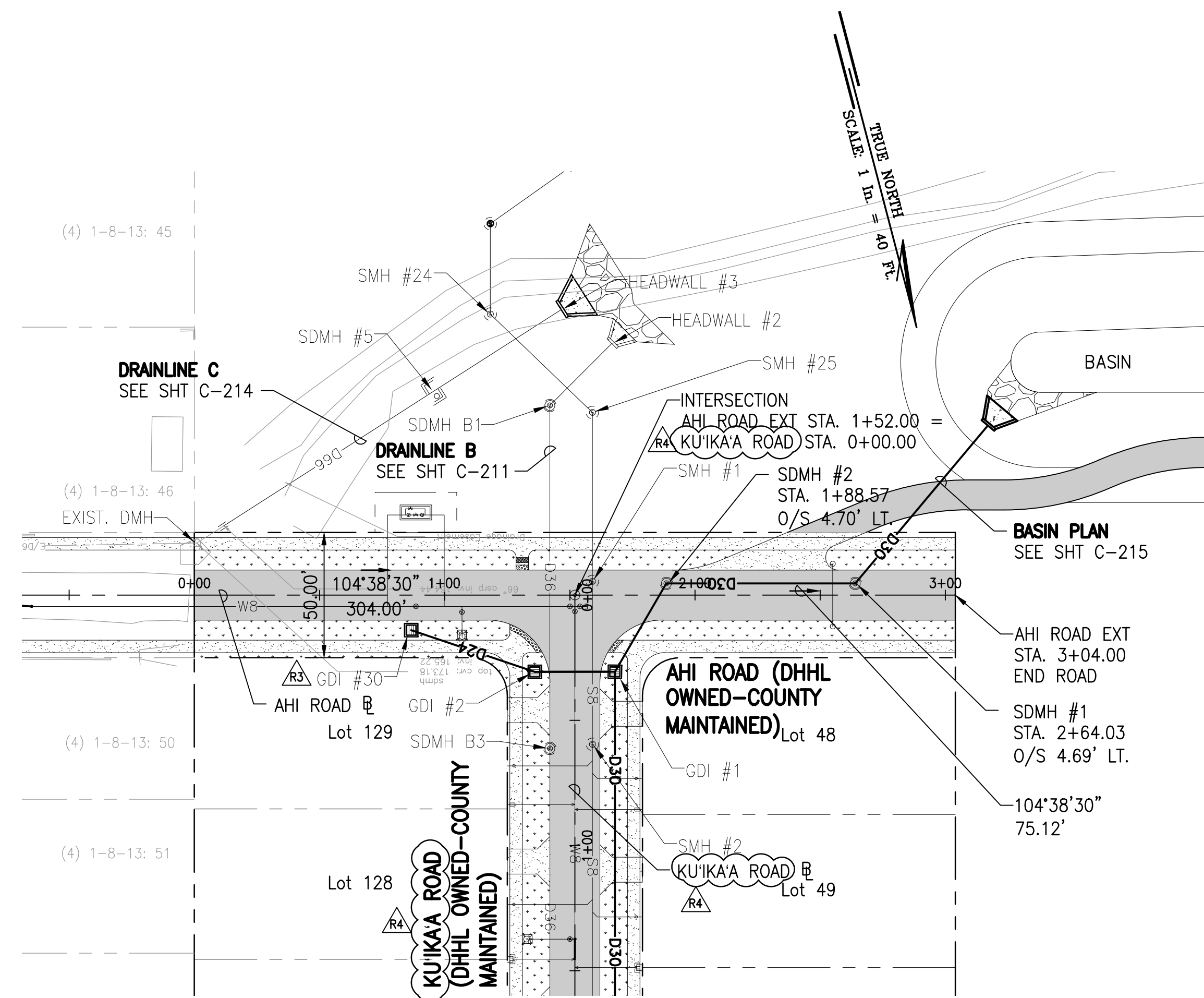
RICHARD Y. SAKO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: APRIL 2023
SHEET NUMBER: C-202
38 OF 109 SHEETS

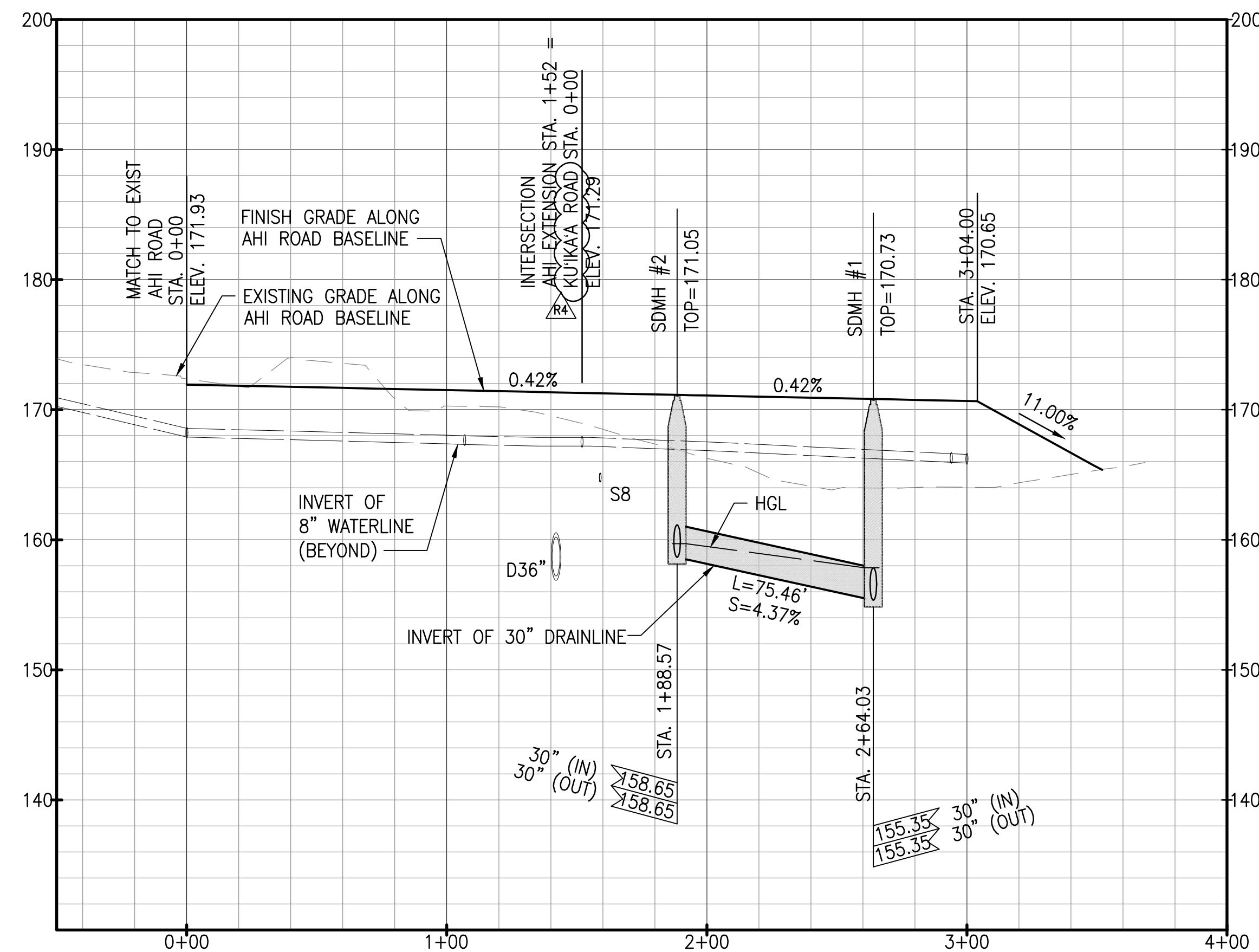
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
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REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
RA	05/06/23	REVISED STREET NAMES AND PERMIT COMMENTS		
AS	2/07/23	PERMIT COMMENTS		

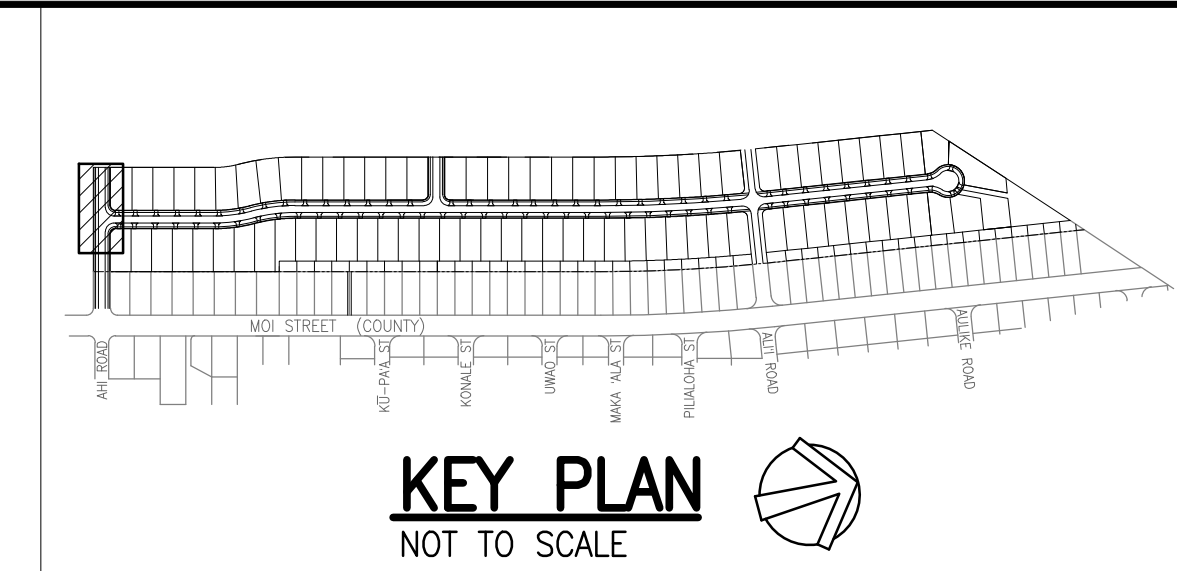
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PLAN - AHI ROAD AND DRAINLINE
SCALE: 1" = 40'



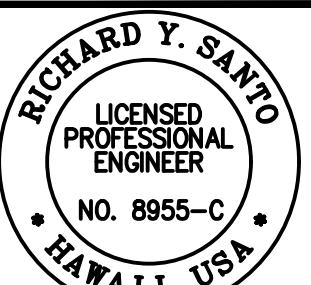
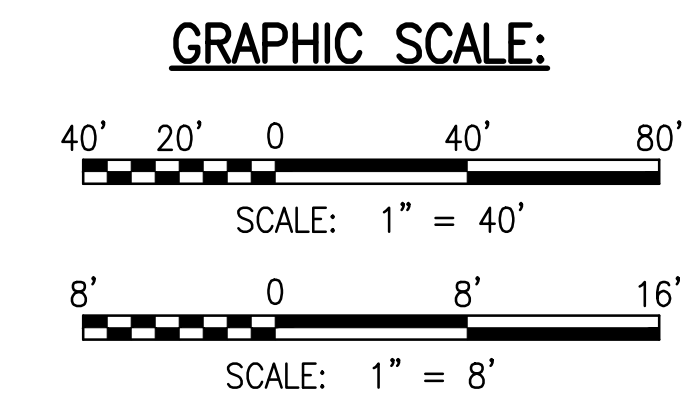
PROFILE - AHI ROAD AND DRAINLINE
SCALE: HORIZ 1" = 40'
VERT 1" = 8'



LEGEND:

	PROPERTY LINE
	LOT LINE
	DRAINLINE
	SEWERLINE
	WATERLINE
	GRATED DRAIN INLET (GD), SEE DET C-504
	STORM DRAIN MANHOLE (SDMH), SEE DET C-505
	SEWER MANHOLE (SMH)
	FIRE HYDRANT
	ASPHALTIC CONCRETE PAVEMENT
	CONCRETE PAVEMENT
	GRASS

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



THE WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII. I AM NOT PROVIDING ANY DESIGN OR CONSTRUCTION SERVICES TO ANY OTHER PROJECTS AT THE SAME TIME AS THIS PROJECT. I AM NOT PROVIDING ANY DESIGN OR CONSTRUCTION SERVICES TO ANY OTHER PROJECTS AT THE SAME TIME AS THIS PROJECT. I AM NOT PROVIDING ANY DESIGN OR CONSTRUCTION SERVICES TO ANY OTHER PROJECTS AT THE SAME TIME AS THIS PROJECT.

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RA	05/26/23	REVISED STREET NAMES		
RA	2/07/23	PERMIT COMMENTS		
RA	12/05/22	ADDENDUM 4		

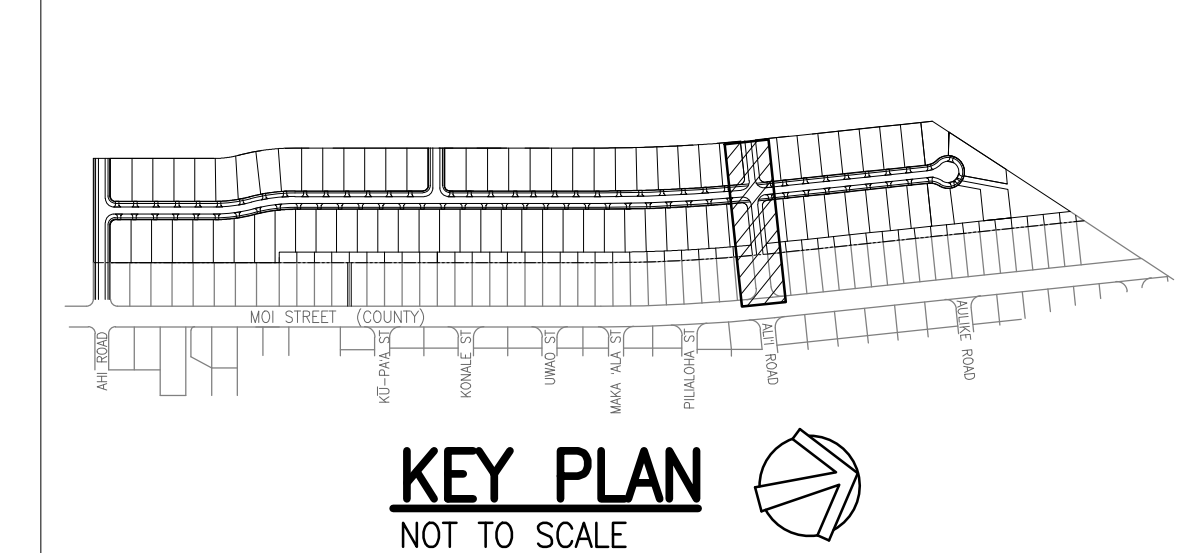
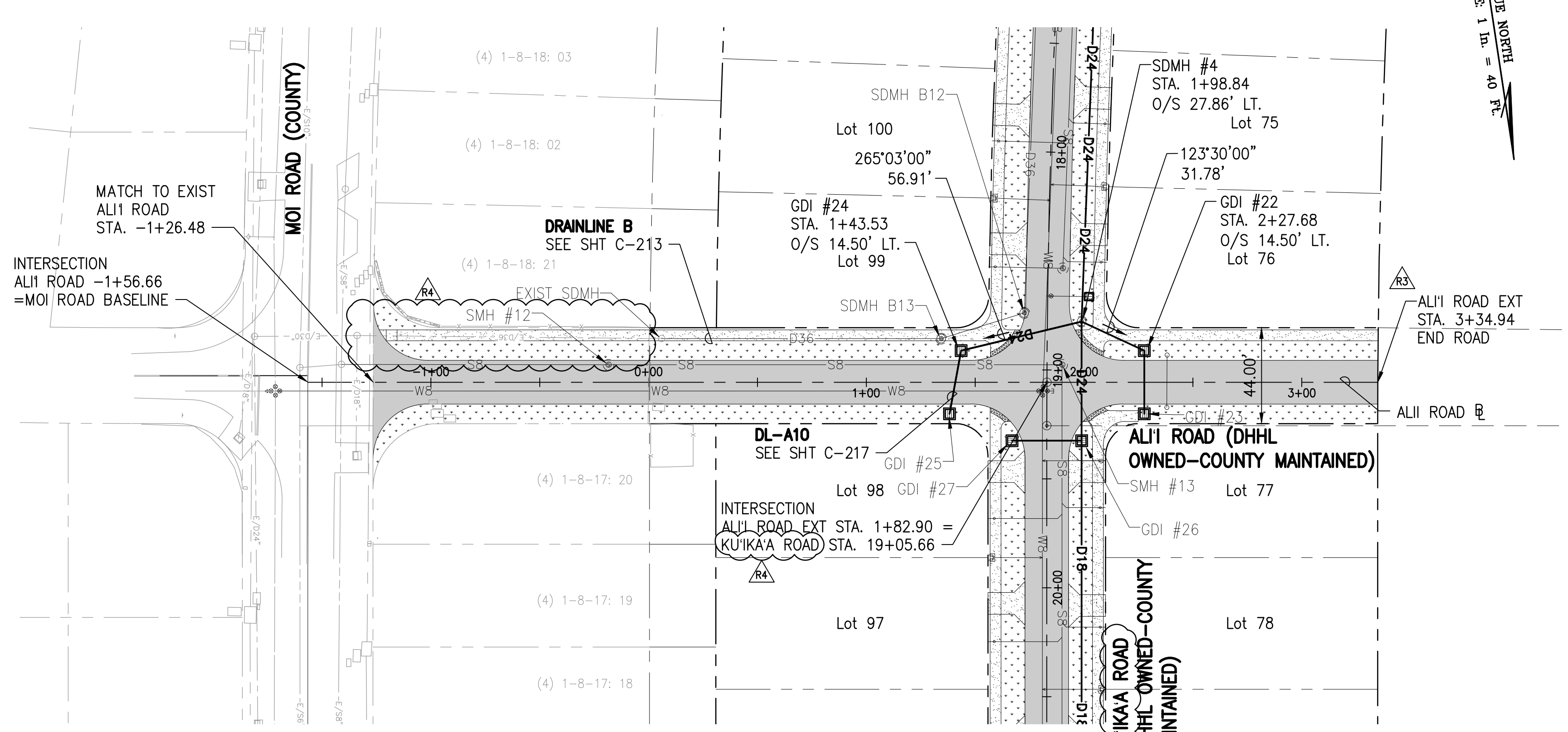
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
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AHI ROAD DRAINLINE PLAN AND PROFILE

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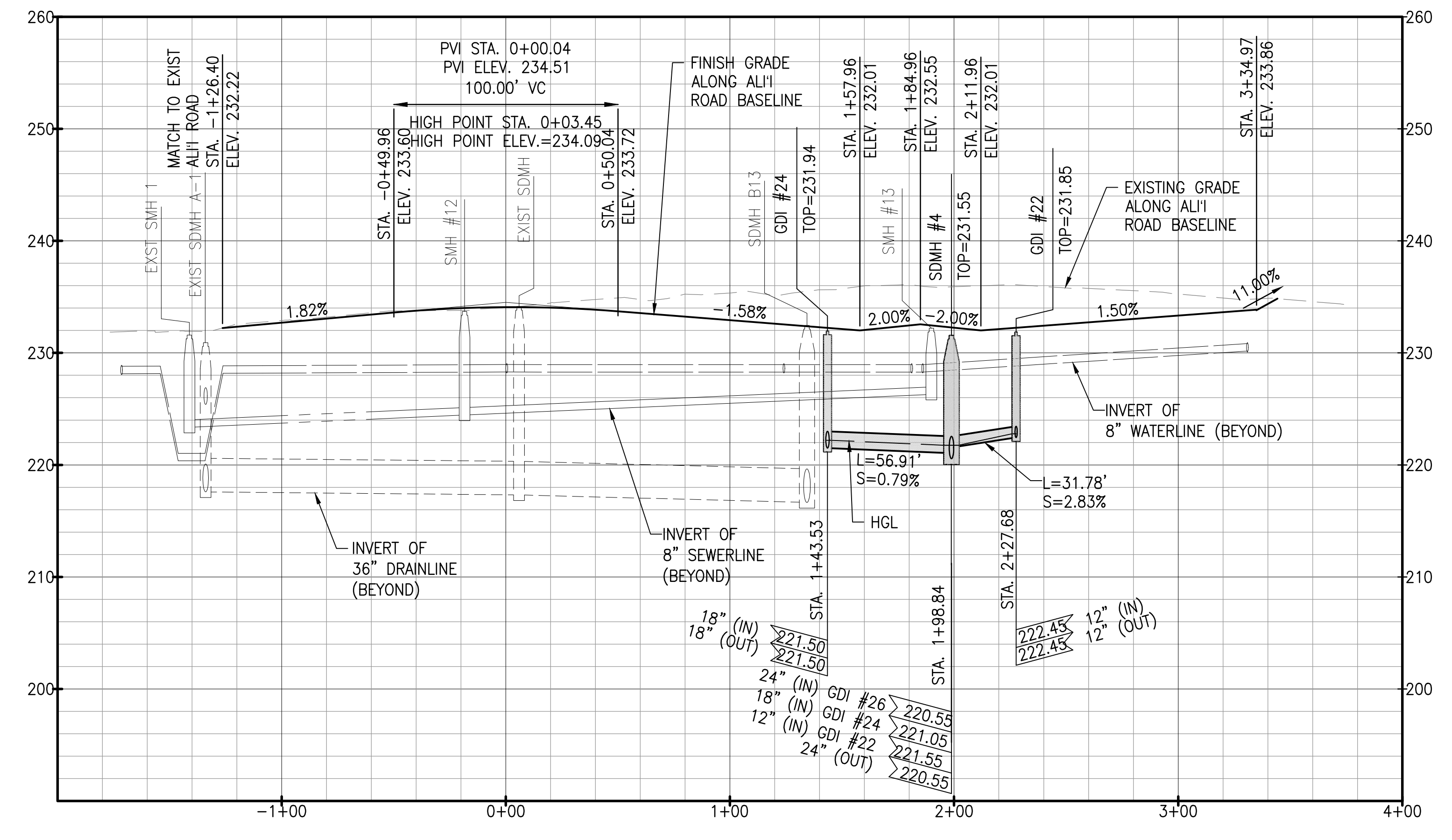
DATE: **APRIL 2023**
SHEET NUMBER: **C-205**
41 OF 109 SHEETS

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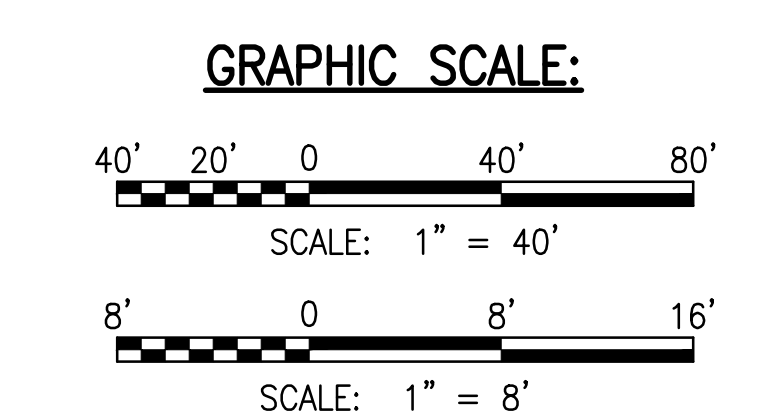


LEGEND:

---	PROPERTY LINE
---	LOT LINE
D36	DRAINLINE
S8	SEWERLINE
WB	WATERLINE
■	GRATED DRAIN INLET (GDI), SEE DET
⊙	STORM DRAIN MANHOLE (SDMH), SEE DET
⊙	SEWER MANHOLE (SMH)
⊙	FIRE HYDRANT
▒	ASPHALTIC CONCRETE PAVEMENT
▒	CONCRETE PAVEMENT
▒	GRASS



- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: APRIL 2023

SHEET NUMBER: **C-205A**

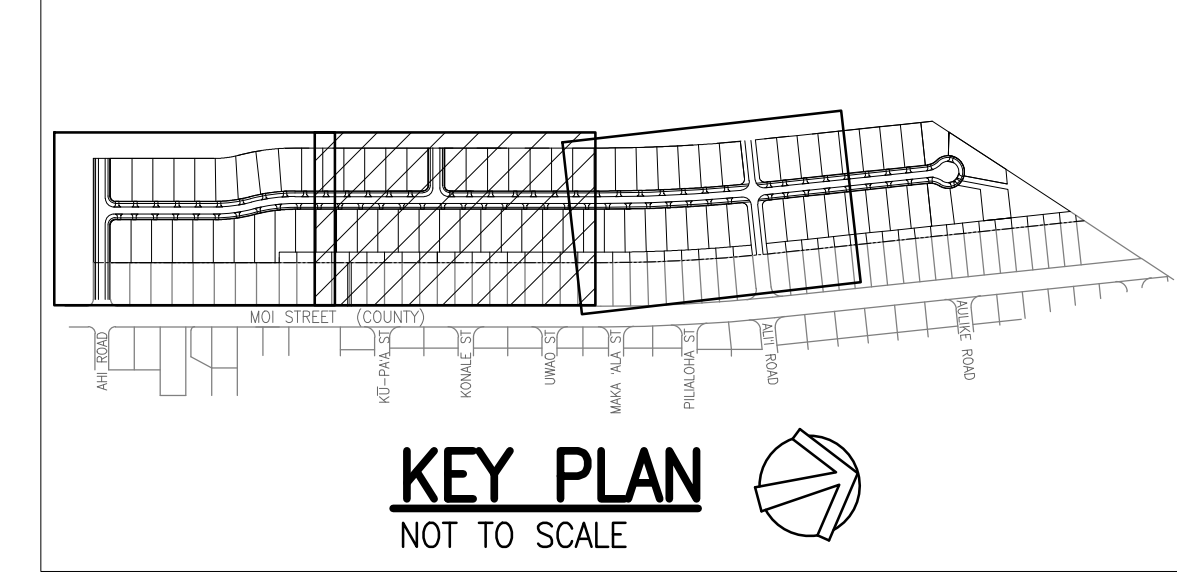
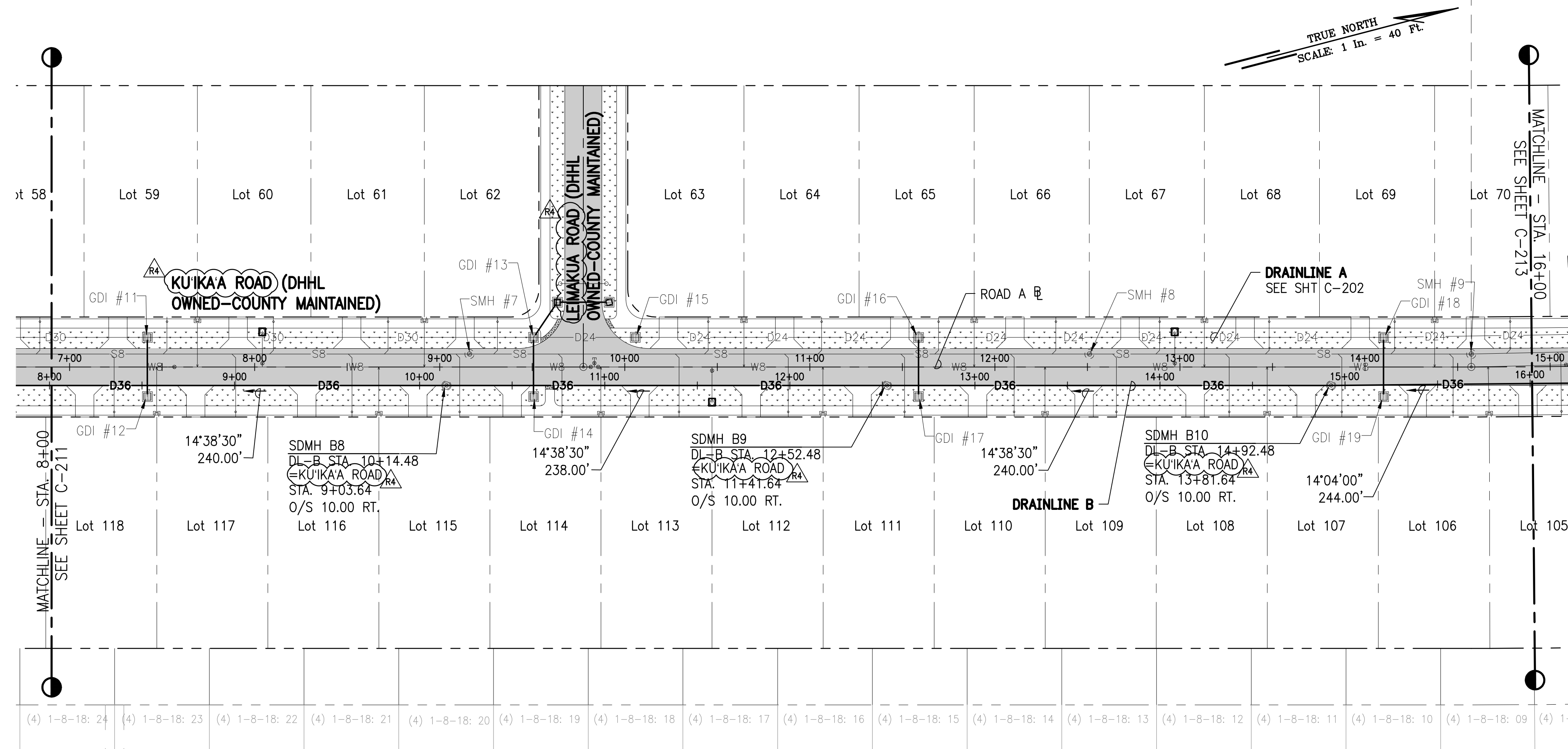
41A OF 109 SHEETS

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

REVISIONS:

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	REVISED STREET NAMES AND PERMIT COMMENTS		
2	2/07/23	PERMIT COMMENTS		
3	12/05/22	ADDENDUM 4		

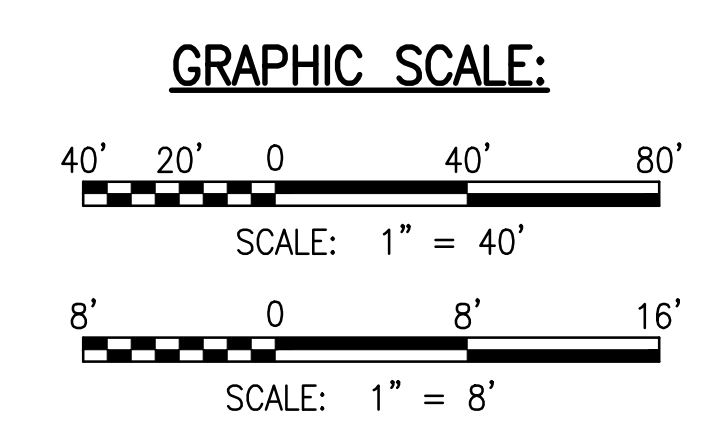
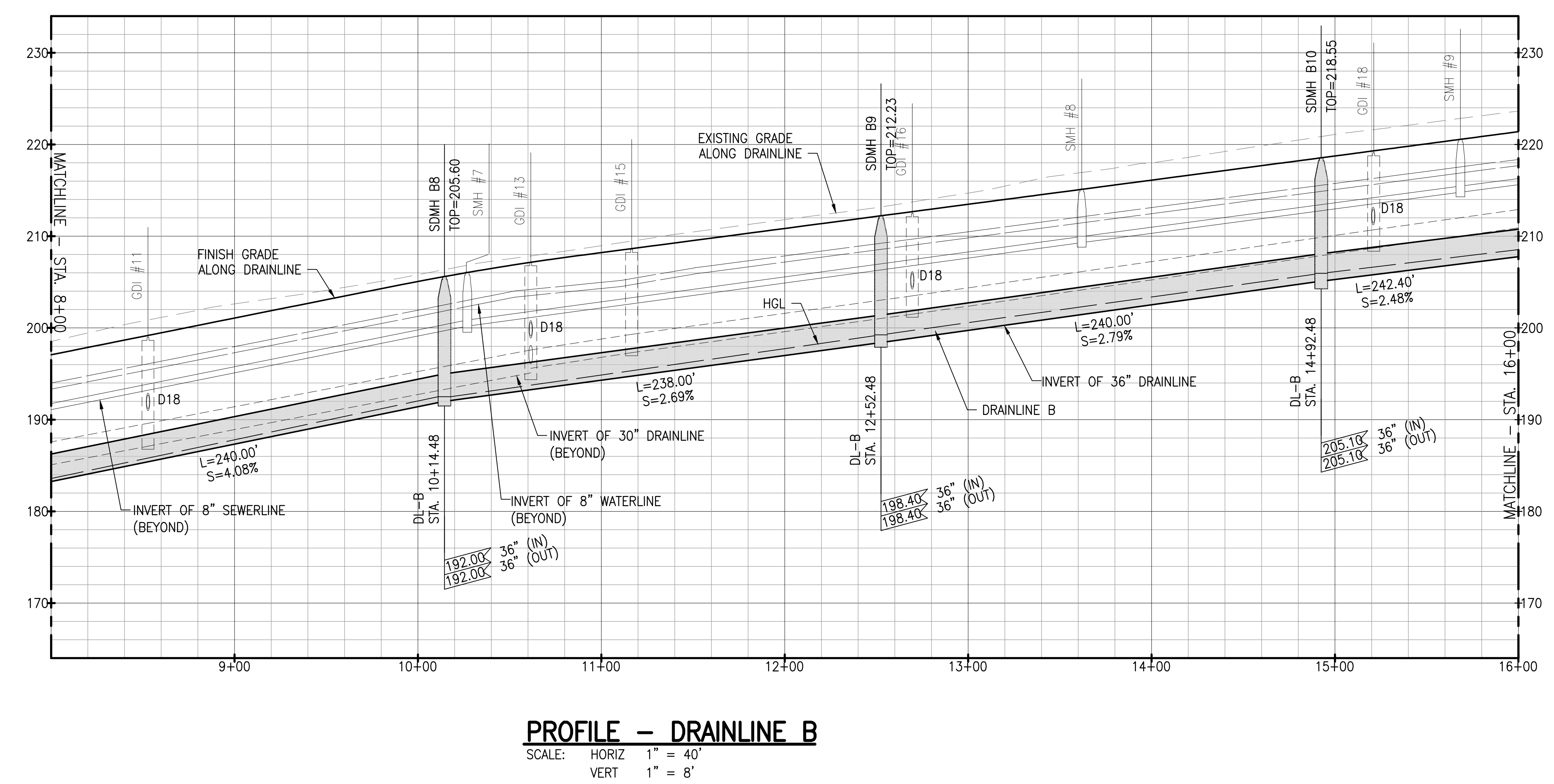
W:\CIVIL_3D\PROJECTS\2018_02\01 DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-211 - C-213 DRAINLINE B PLAN AND PROFILE.DWG 5/22/2023 6:55 PM SAMANO



LEGEND:

- PROPERTY LINE
- - - LOT LINE
- D36- DRAINLINE
- S8- SEWERLINE
- W8- WATERLINE
- GRATED DRAIN INLET (GDI)
- ⊙ STORM DRAIN MANHOLE (SDMH)
- ⊙ SEWER MANHOLE (SMH)
- ⊙ FIRE HYDRANT
- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- GRASS

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR SEWERLINE PLAN AND PROFILE, SEE SHEETS C-224 TO C-222.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



RICHARD Y. SANTO
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NO. 8955-C
HAWAII, USA

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

DATE: APRIL 2023

SHEET NUMBER: C-212

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DATE: 4/20/24
SCALE: 1/4" = 1'-0"
NOTES: Contractor to check and verify dimensions of job before proceeding with work.

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Honolulu, Hawaii 96817

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1	05/26/23	REVISED STREET NAMES AND PERMIT COMMENTS		
2				

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

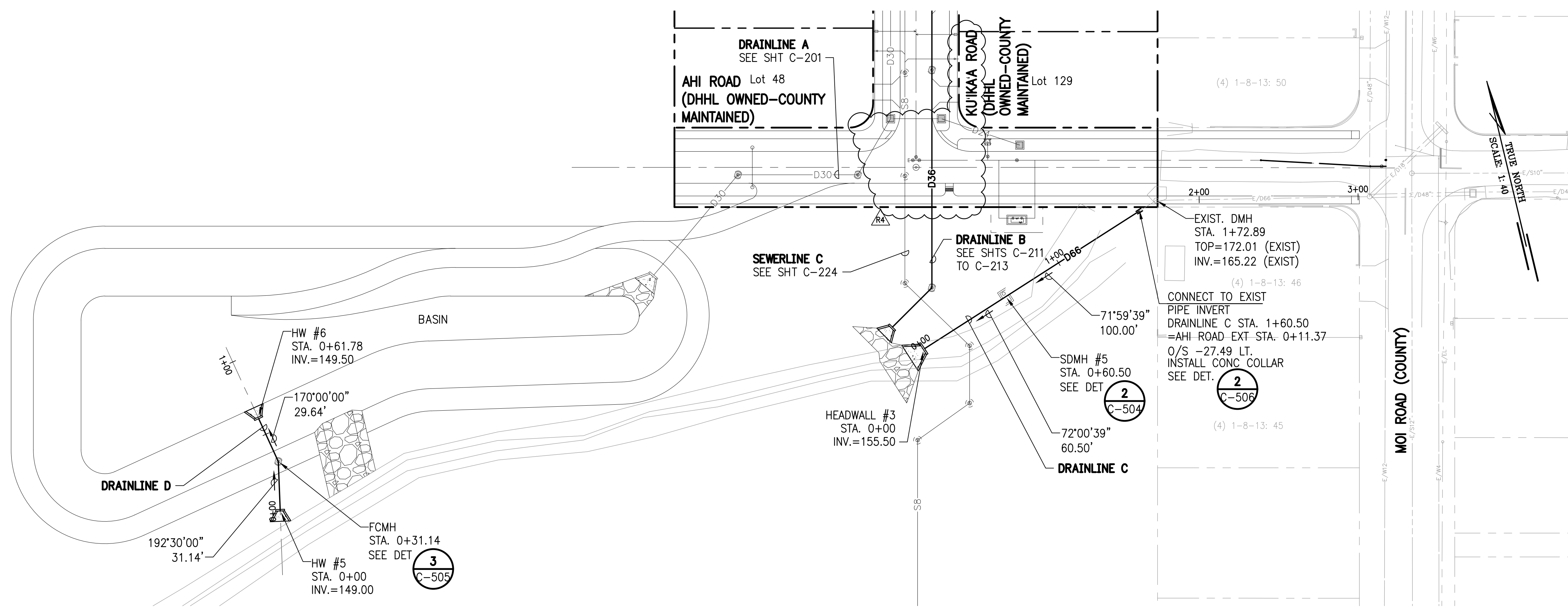
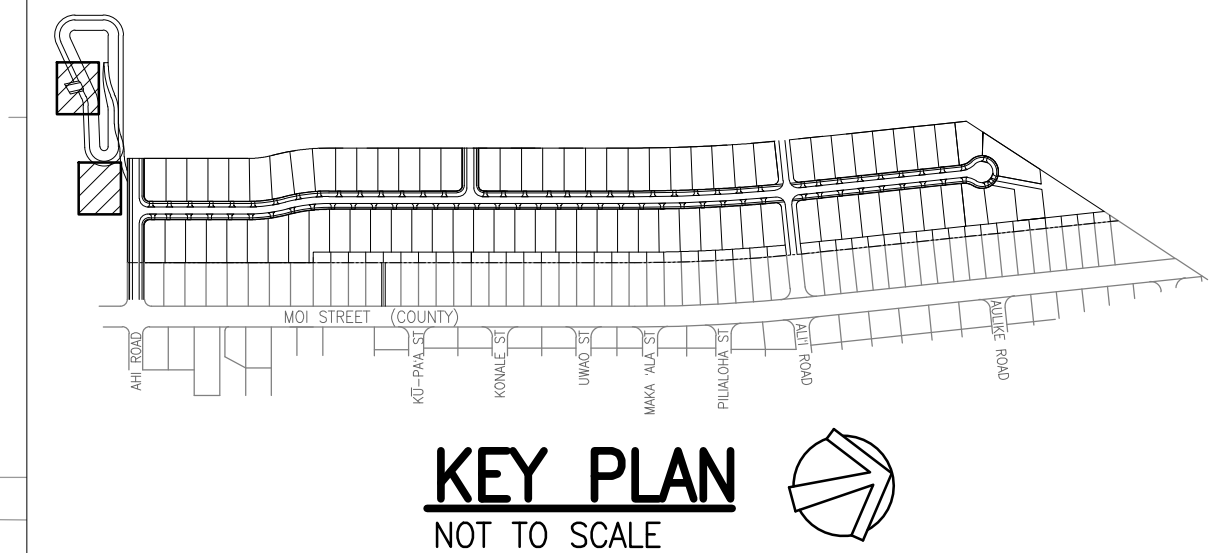
DRAINLINE C AND D PLAN AND PROFILE
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DATE: APRIL 2023

SHEET NUMBER

C-214

45 OF 109 SHEETS

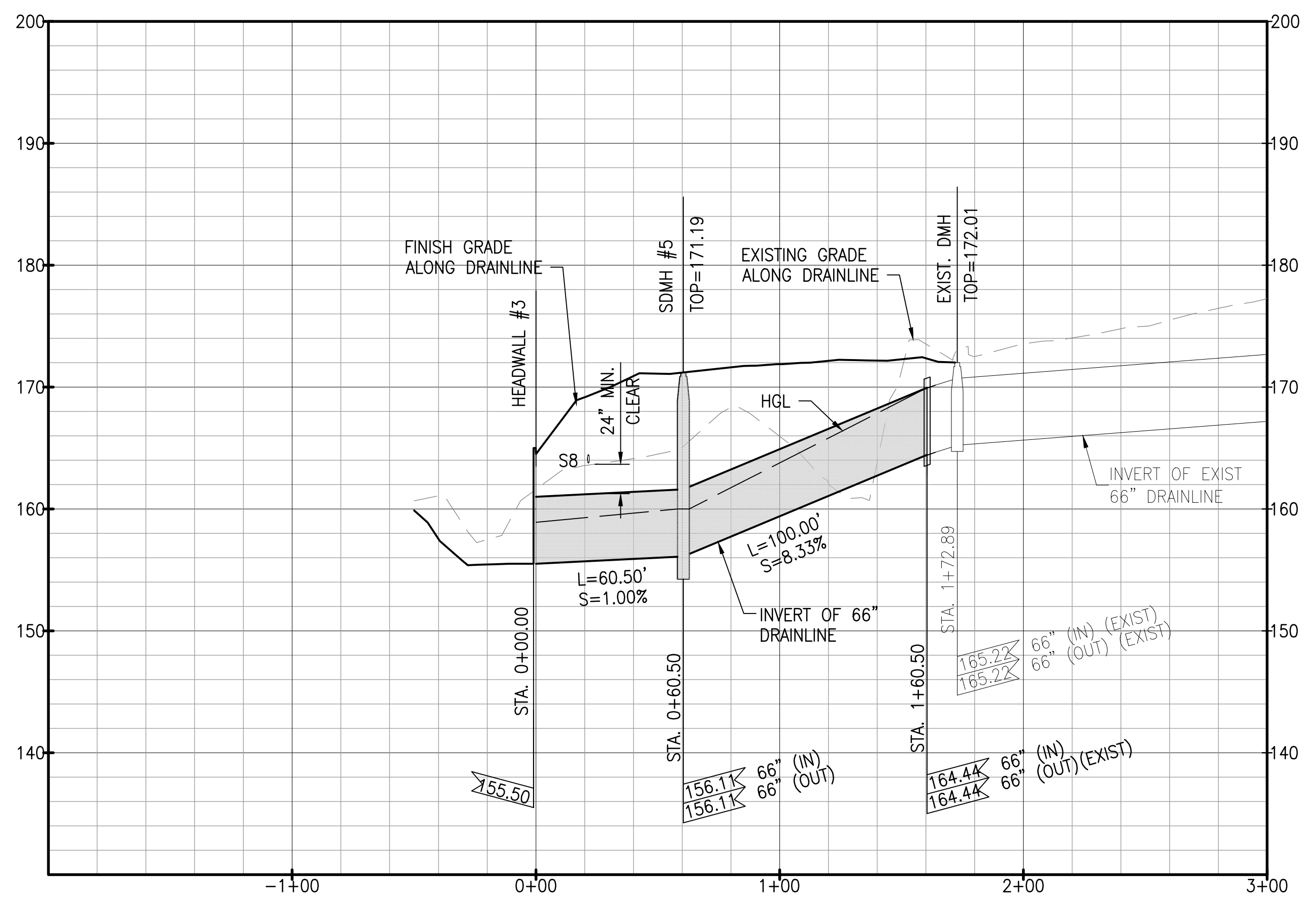


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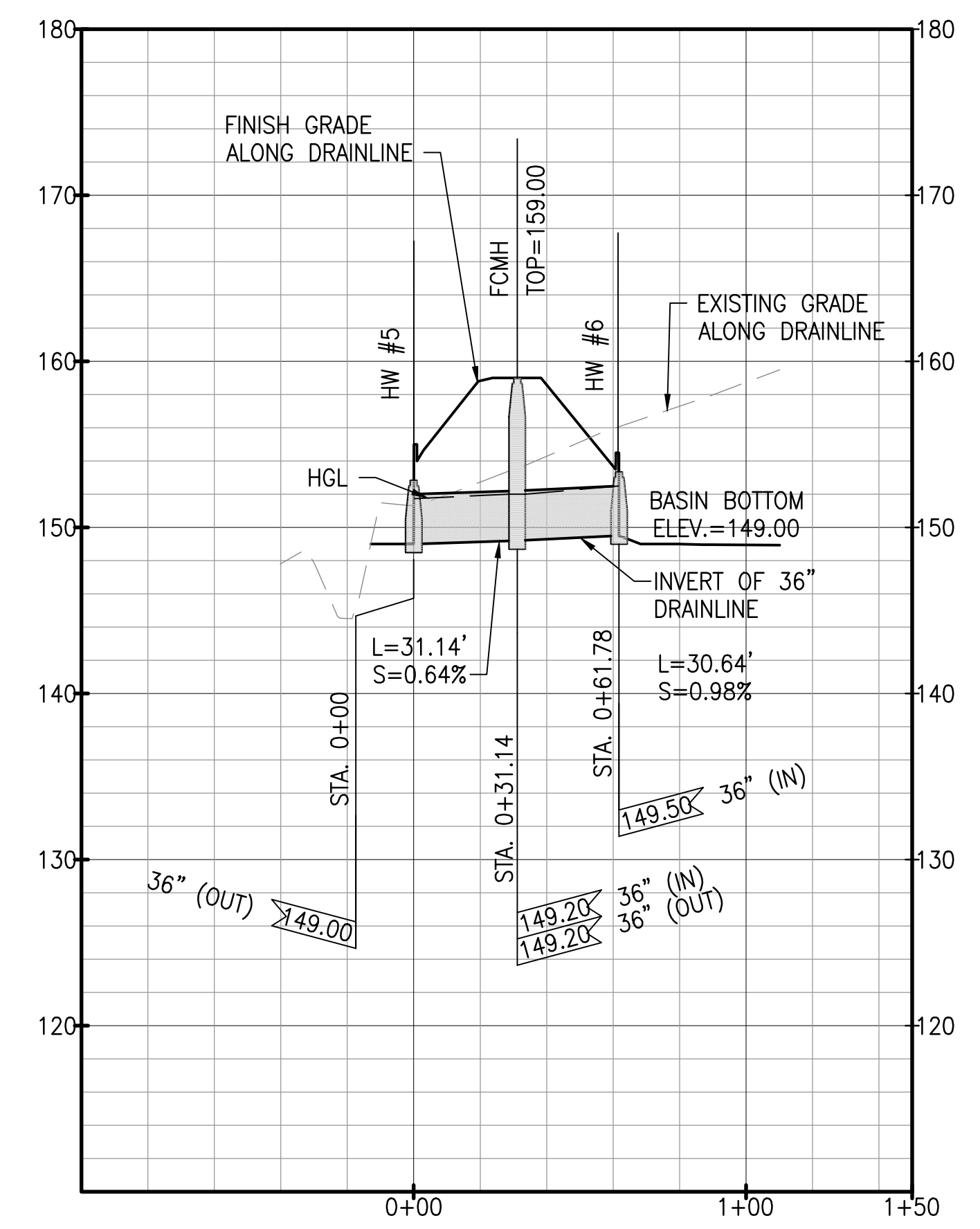
- PROPERTY LINE
- - - LOT LINE
- D36- DRAINLINE
- S8- SEWERLINE
- W8- WATERLINE
- GRATED DRAIN INLET (GD), SEE DET
- ⊙ STORM DRAIN MANHOLE (SDMH), SEE DET
- ⊙ SEWER MANHOLE (SMH)
- ⊙ FIRE HYDRANT

1 C-504
2 C-505

PLAN - DRAINLINE C AND D PLAN AND PROFILE
SCALE: 1" = 40"

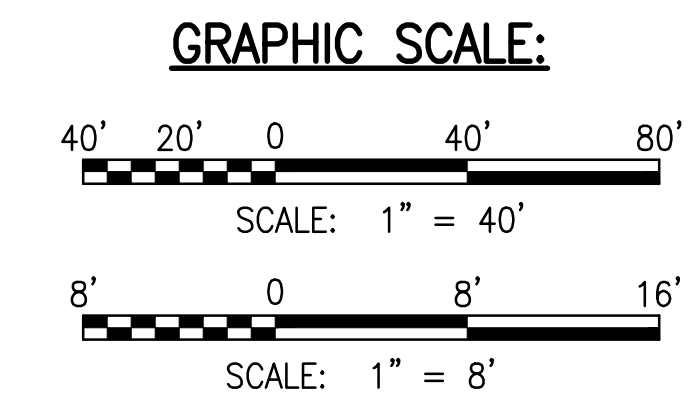


PROFILE - DRAINLINE C PROFILE
SCALE: HORIZ 1" = 40"
VERT 1" = 8"



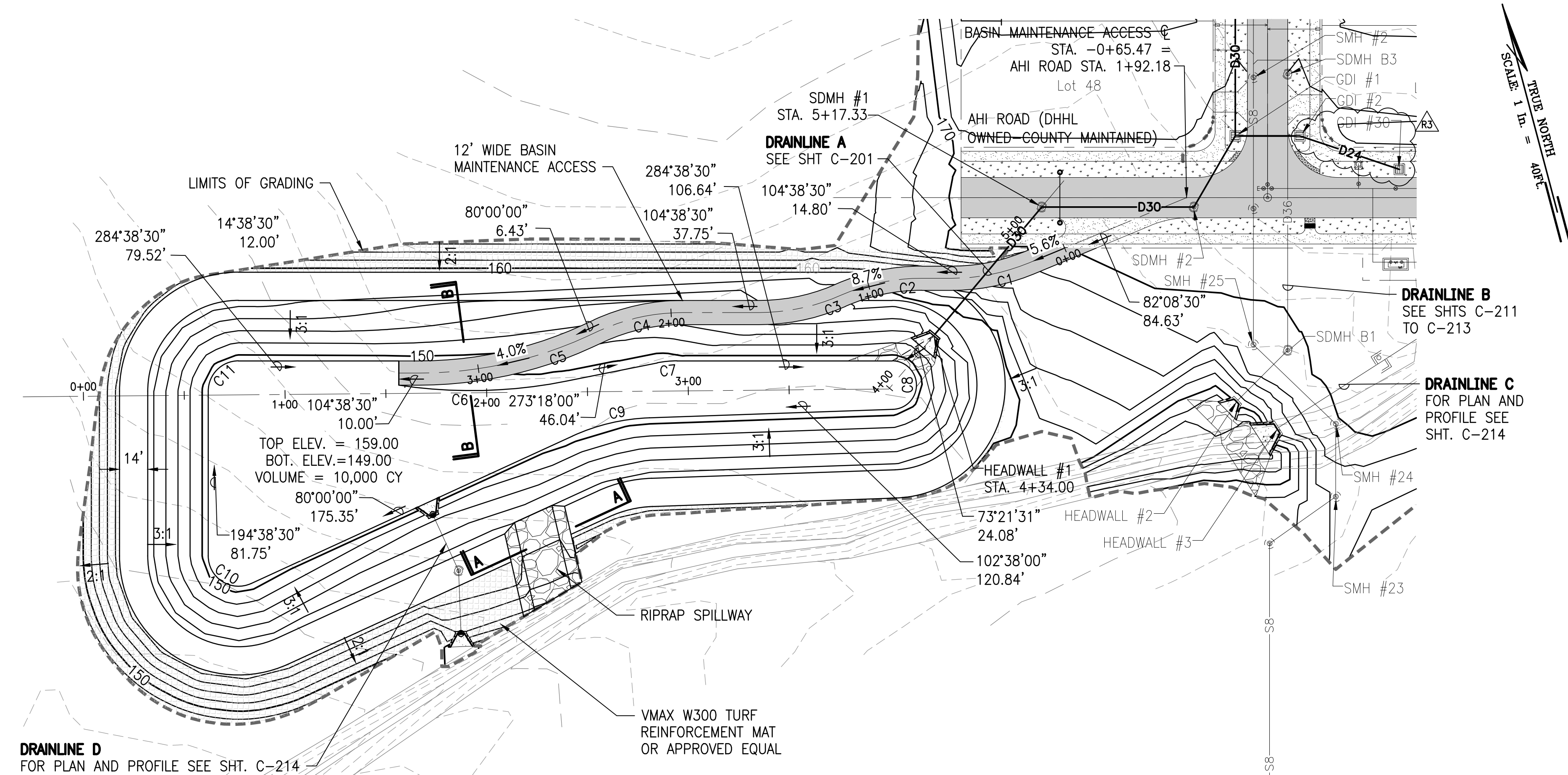
PROFILE - DRAINLINE D PROFILE
SCALE: HORIZ 1" = 40"
VERT 1" = 8"

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR SEWERLINE PLAN AND PROFILE, SEE SHEETS C-221 TO C-226.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



W:\CIVIL_3D\PROJECTS\2018_021.001 DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-214 DRAINLINE C AND D PLAN AND PROFILE.DWG 5/23/2023 8:46 AM SAMANO

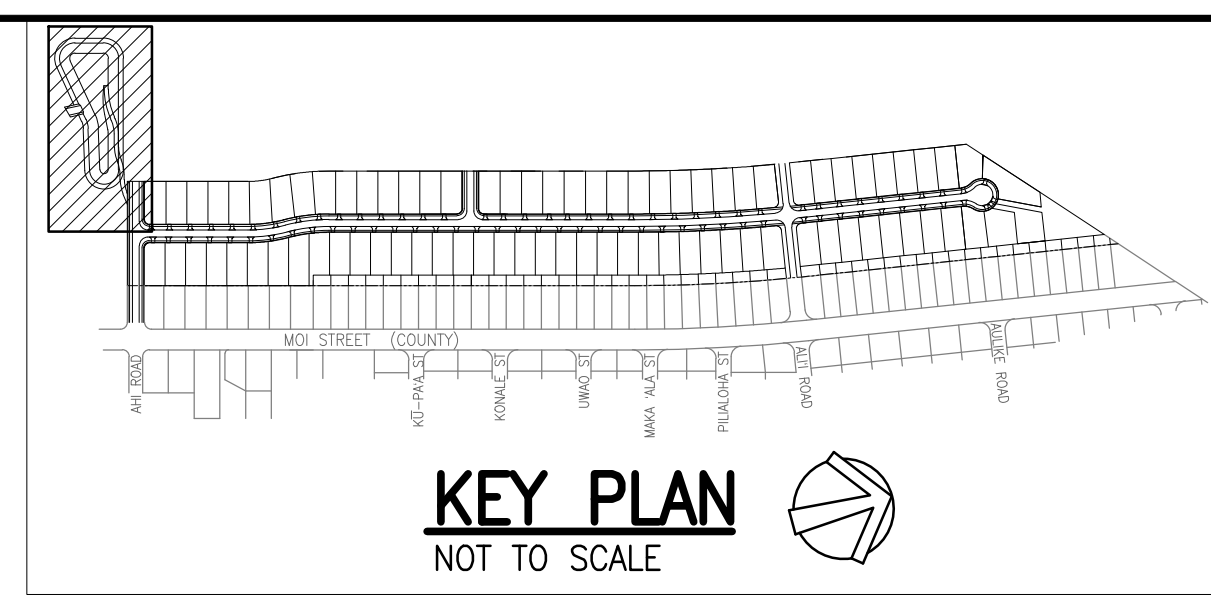
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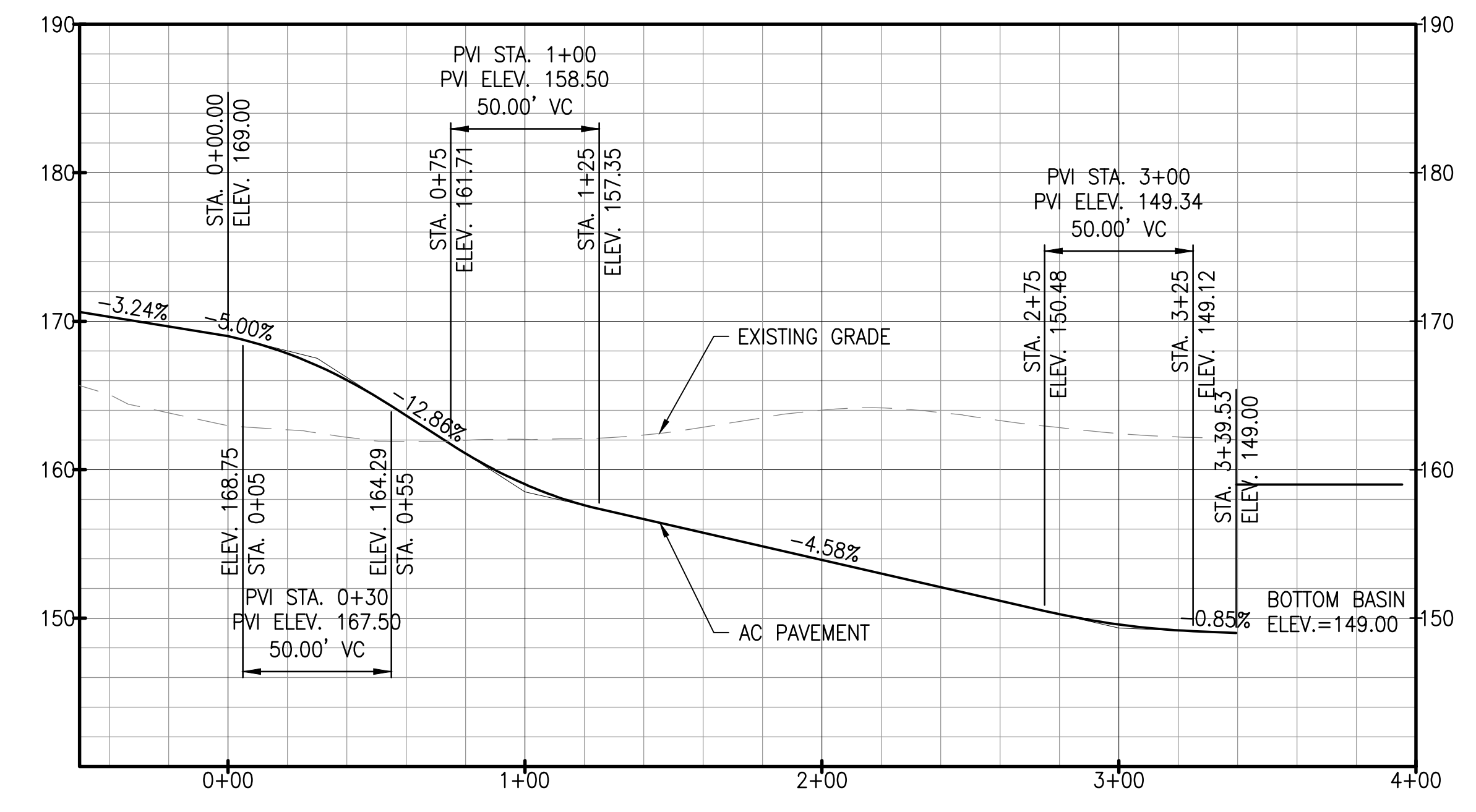
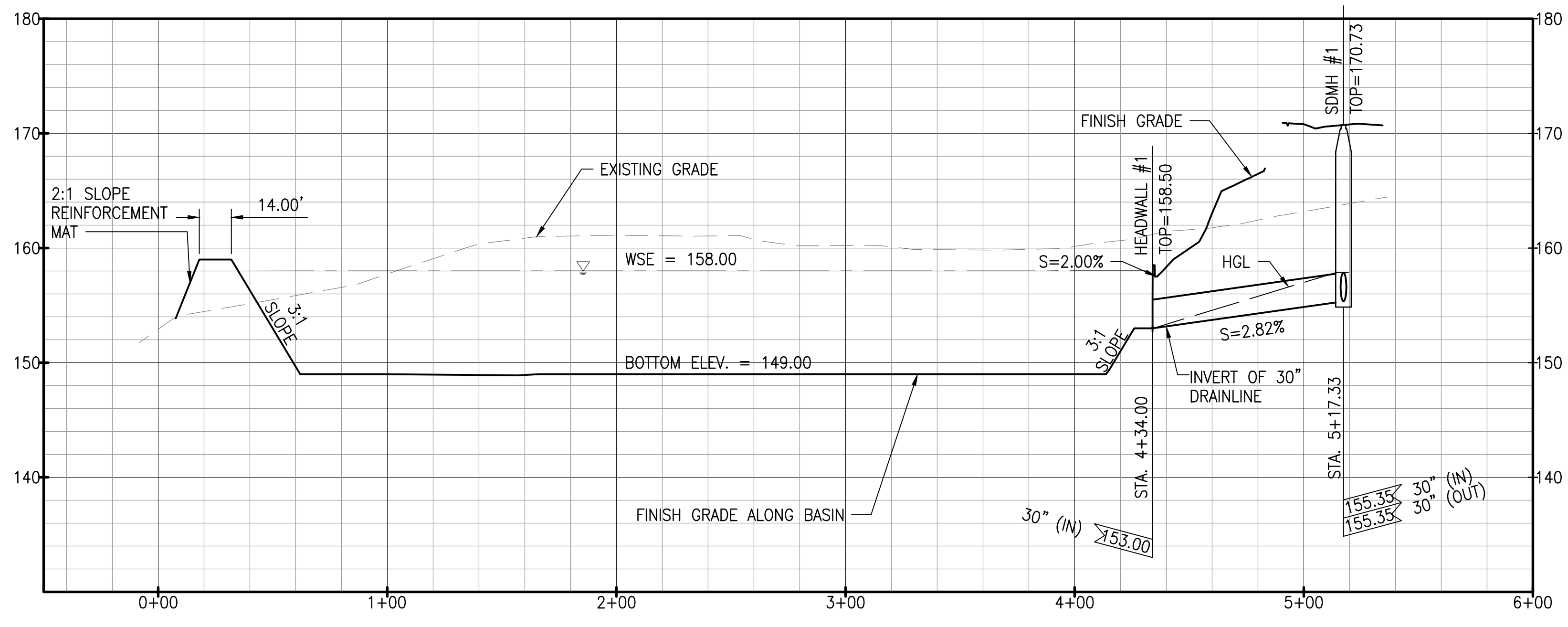
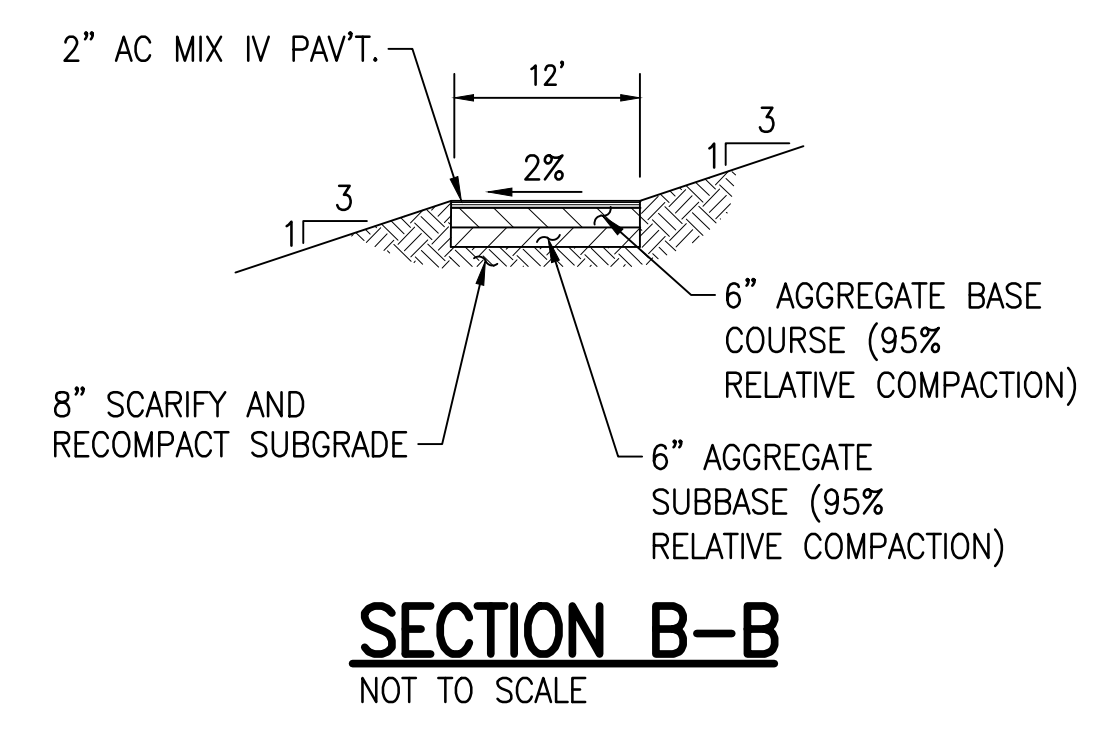
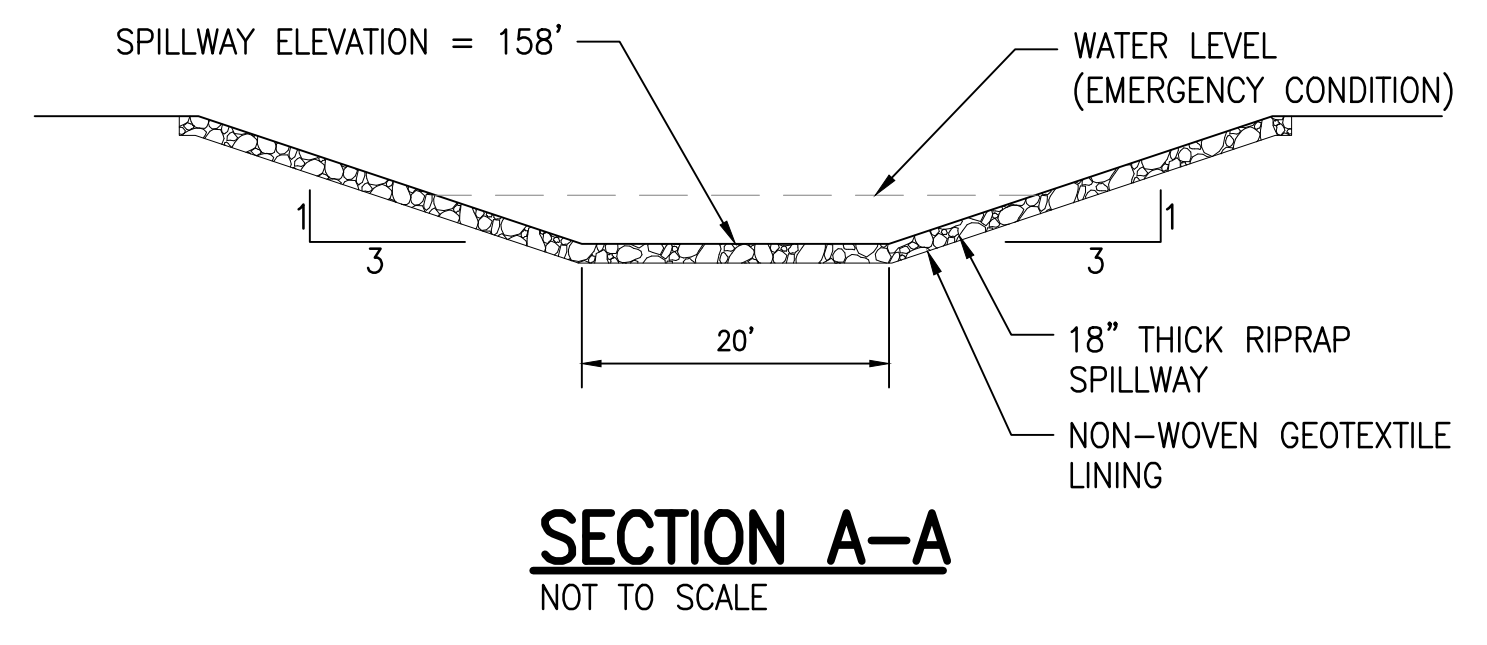
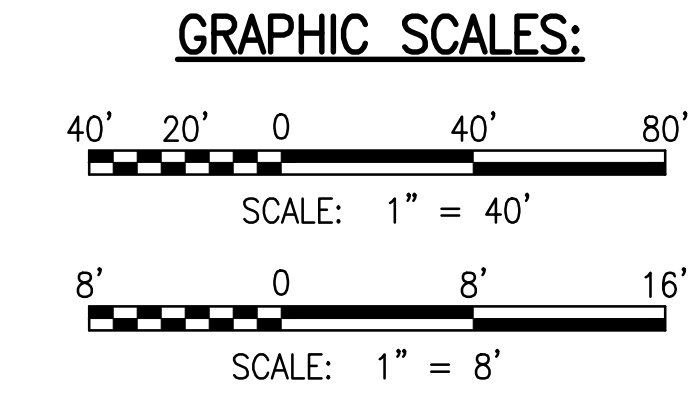
CURVE TABLE

CURVE #	LENGTH	RADIUS	TANGENT	DELTA	DELTA/2
C1	39.27'	100.00'	19.89'	022°30'00"	11°15'00"
C2	41.53'	100.00'	21.07'	023°47'39"	11°53'49"
C3	41.53'	100.00'	21.07'	023°47'39"	11°53'49"
C4	43.01'	100.00'	21.84'	024°38'30"	12°19'15"
C5	86.02'	200.00'	43.68'	024°38'30"	12°19'15"
C6	83.48'	240.00'	42.16'	019°55'42"	09°57'51"
C7	9.90'	50.00'	4.96'	011°20'30"	05°40'15"
C8	37.28'	12.00'	684.63'	177°59'30"	88°59'45"
C9	39.50'	100.00'	20.01'	022°38'00"	11°19'00"
C10	30.01'	15.00'	23.38'	114°38'30"	57°19'15"
C11	23.56'	15.00'	15.00'	090°00'00"	45°00'00"

CONTOUR ELEV.	AREA		DEPTH INTERVAL	INCREMENTAL VOLUME		CUMULATIVE VOLUME	
	FT	SF		FT	CF	CF	CY
149		17,243	N/A	N/A	0		
150		20,436	1	18,839	698	18,839	698
151		23,242	1	21,839	809	40,678	1,507
152		26,156	1	24,699	915	65,377	2,421
153		29,236	1	27,696	1,026	93,073	3,447
154		32,479	1	30,857	1,143	123,930	4,590
155		35,624	1	34,051	1,261	157,981	5,851
156		38,809	1	37,216	1,378	195,197	7,230
157		42,035	1	40,422	1,497	235,619	8,727
158		45,304	1	43,670	1,617	279,289	10,344



- LEGEND:**
- PROPERTY LINE
 - - - LIMITS OF GRADING
 - D36- DRAINLINE
 - S8- SEWERLINE
 - W8- WATERLINE
 - ▣ GRATED DRAIN INLET (GDI)
 - ⊙ STORM DRAIN MANHOLE (SDMH)
 - ⊙ SEWER MANHOLE (SMH)
 - ⊙ FIRE HYDRANT
 - ▨ ASPHALTIC CONCRETE PAVEMENT
 - ▨ CONCRETE PAVEMENT
 - ▨ GRASS
 - ▨ REINFORCEMENT MAT



RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: APRIL 2023
SHEET NUMBER: C-215
46 OF 109 SHEETS

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

DATE: 2/07/23
REVISION: 1/1

PERMIT COMMENTS: [Blank]

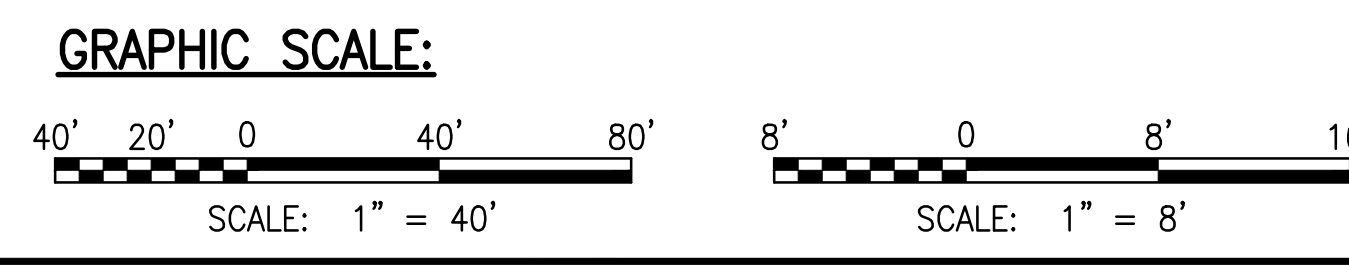
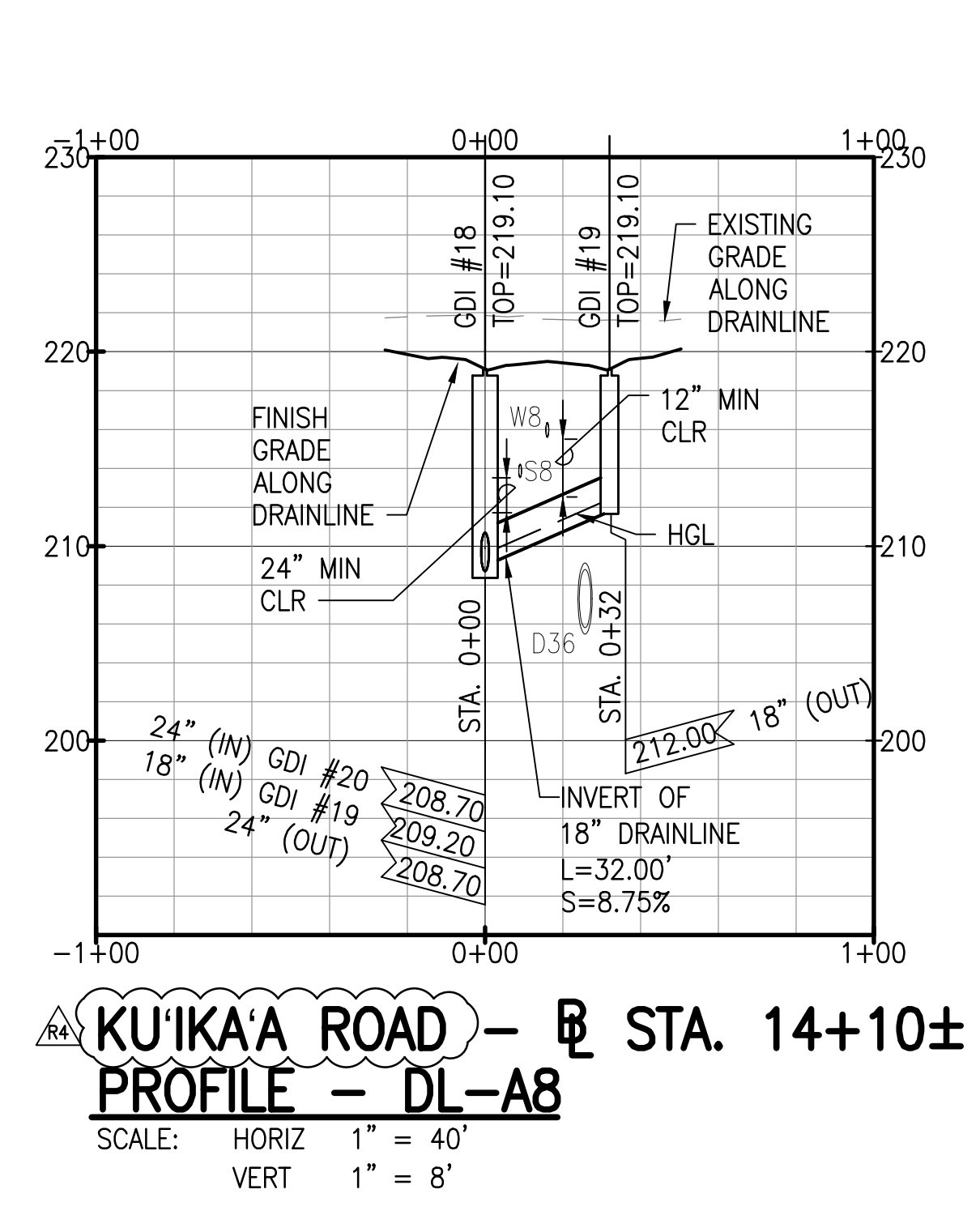
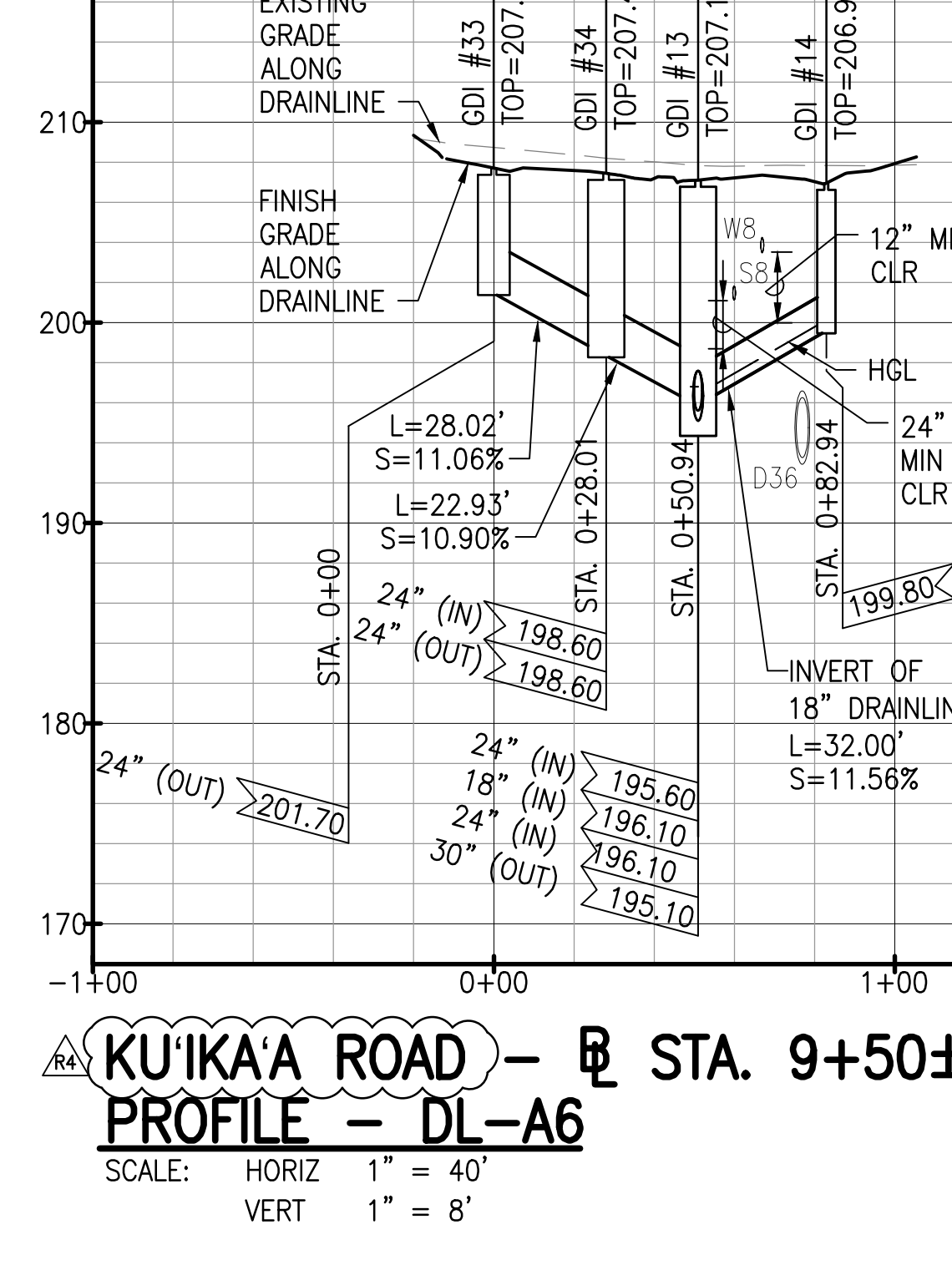
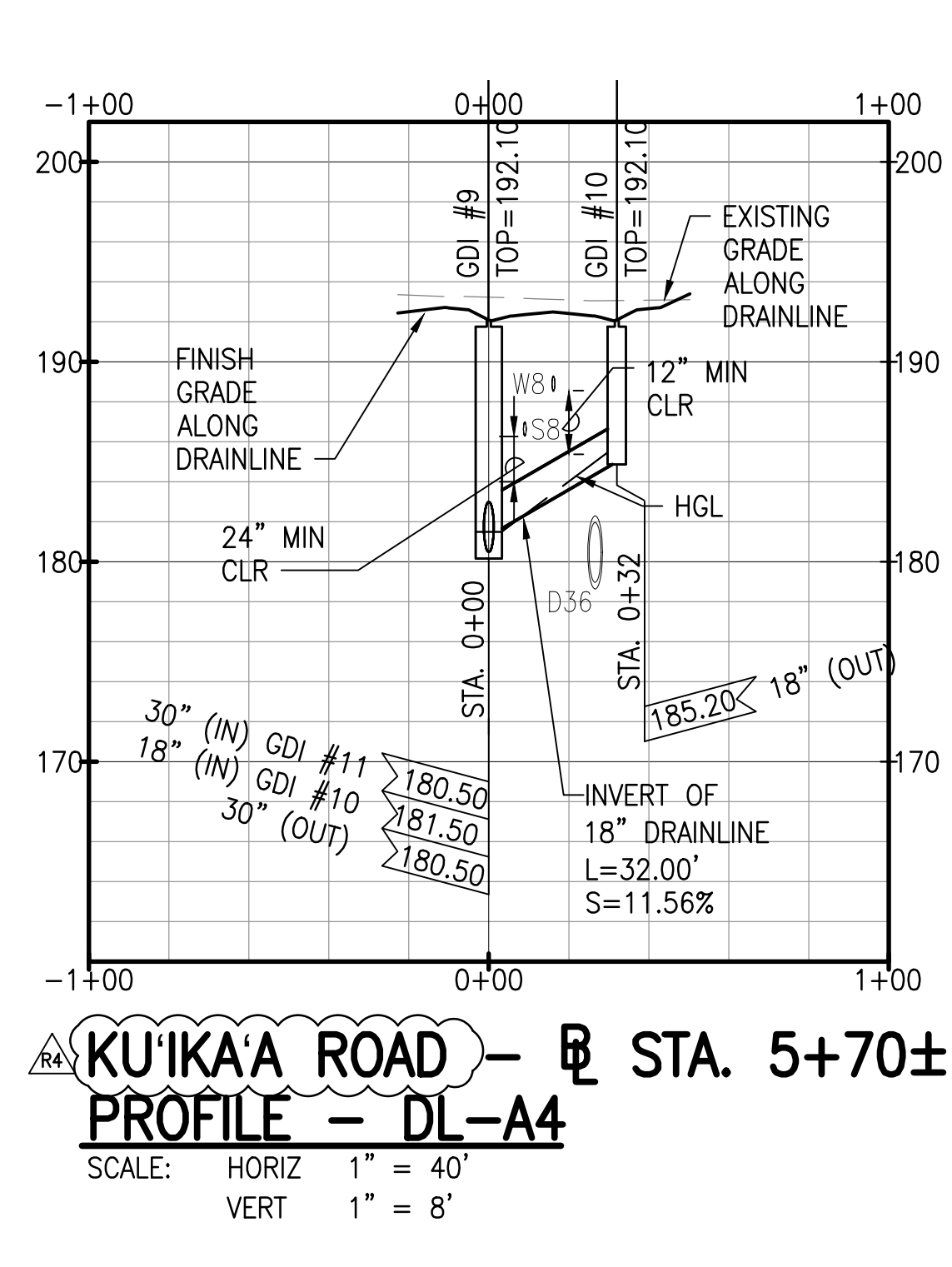
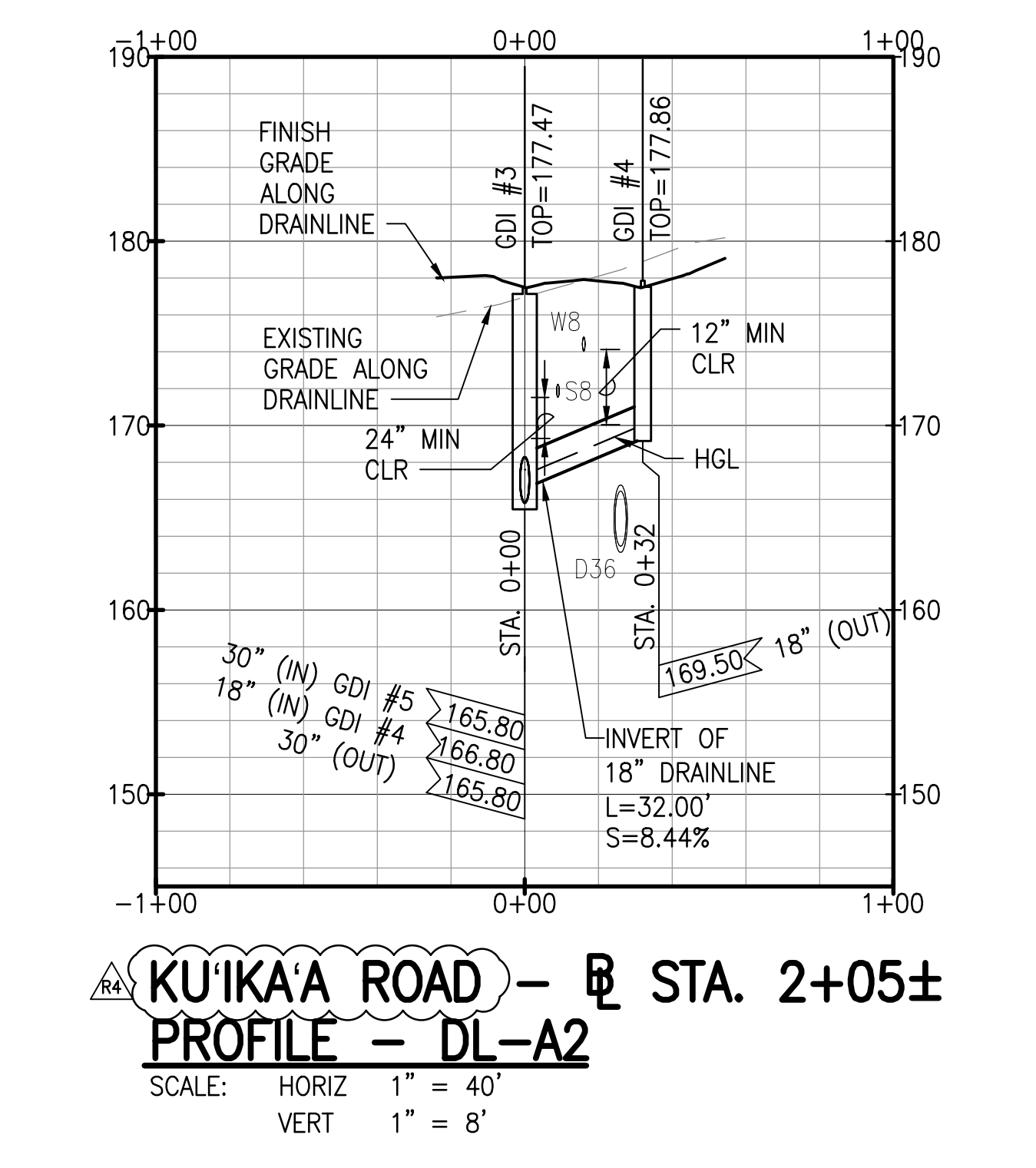
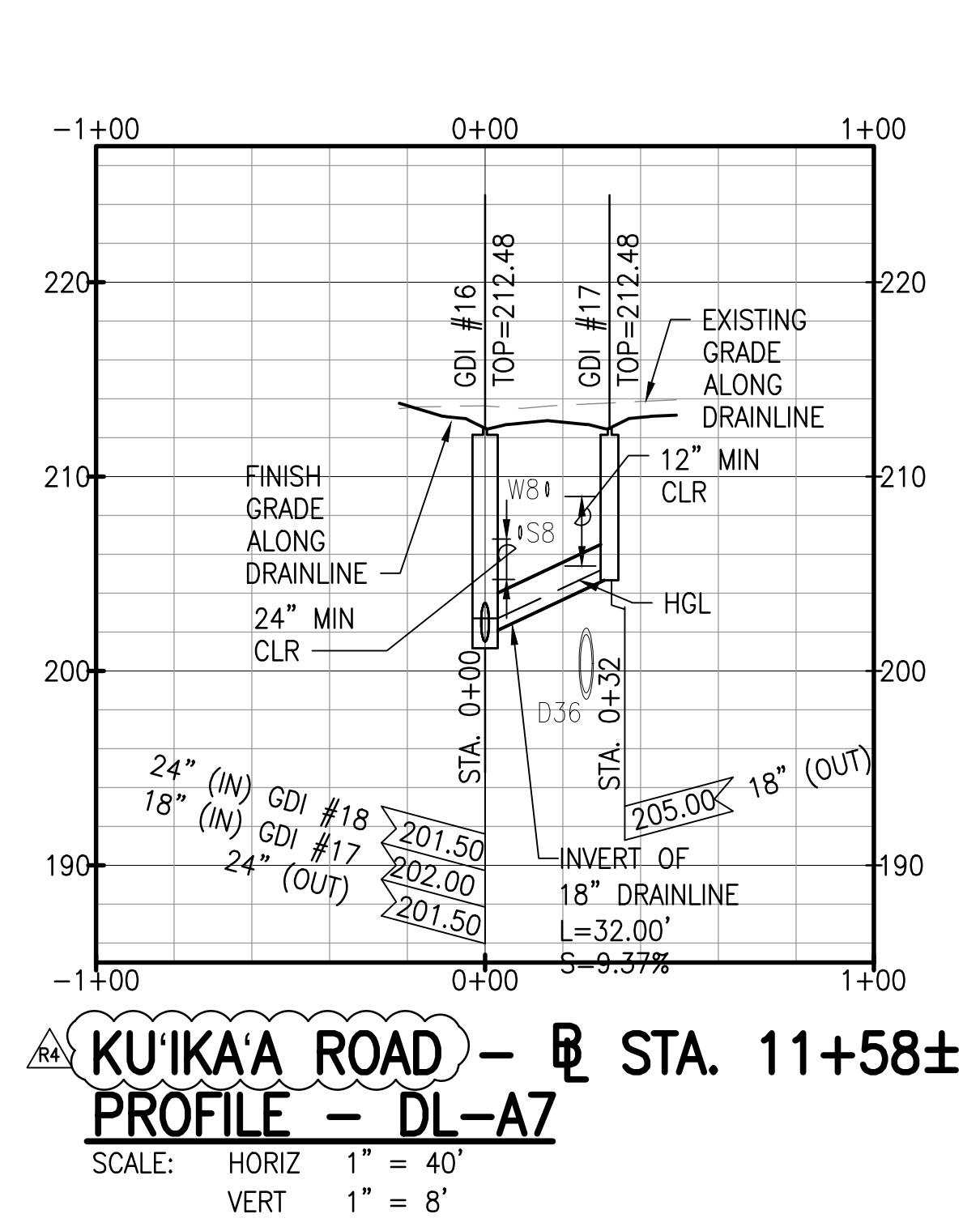
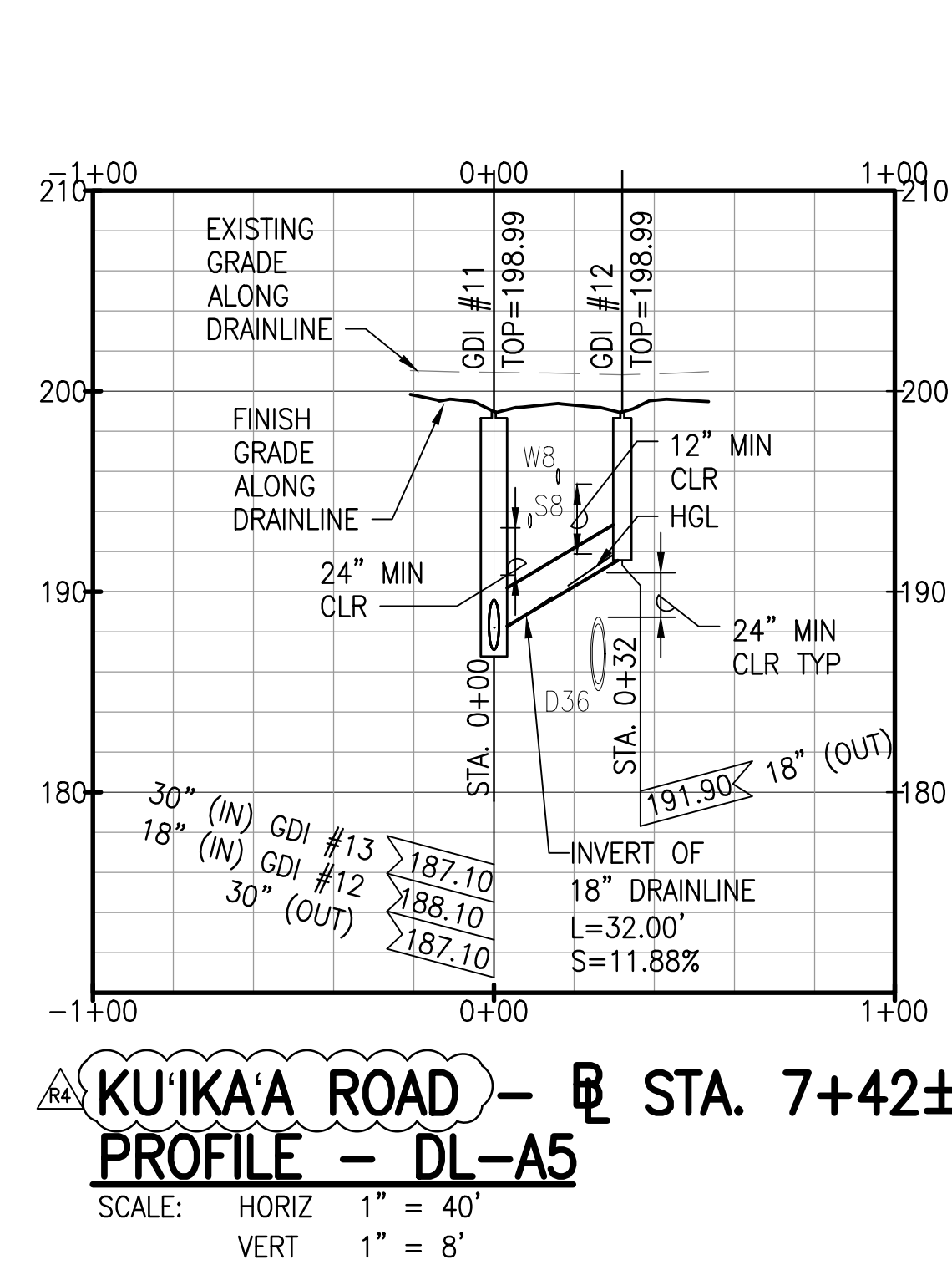
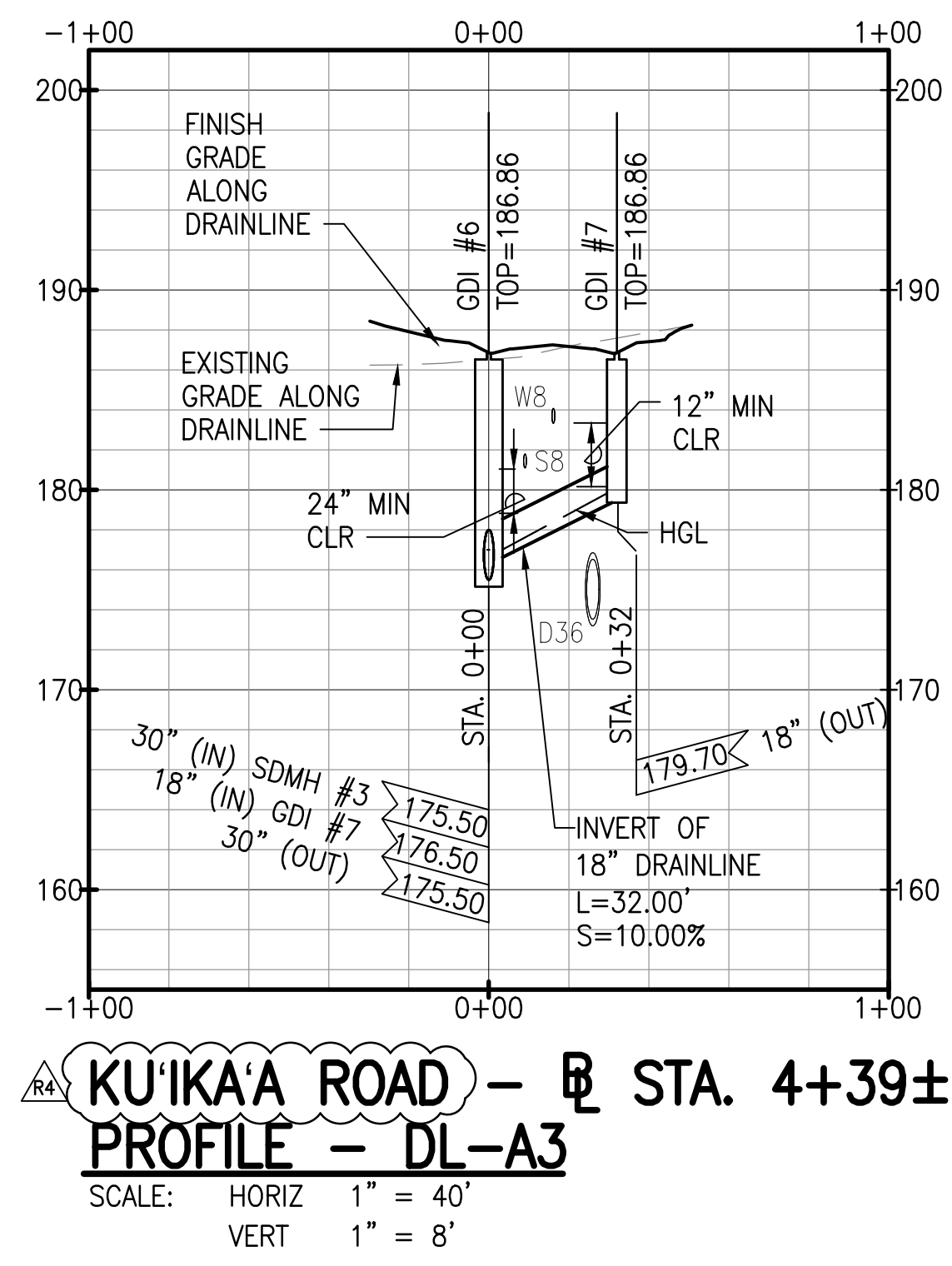
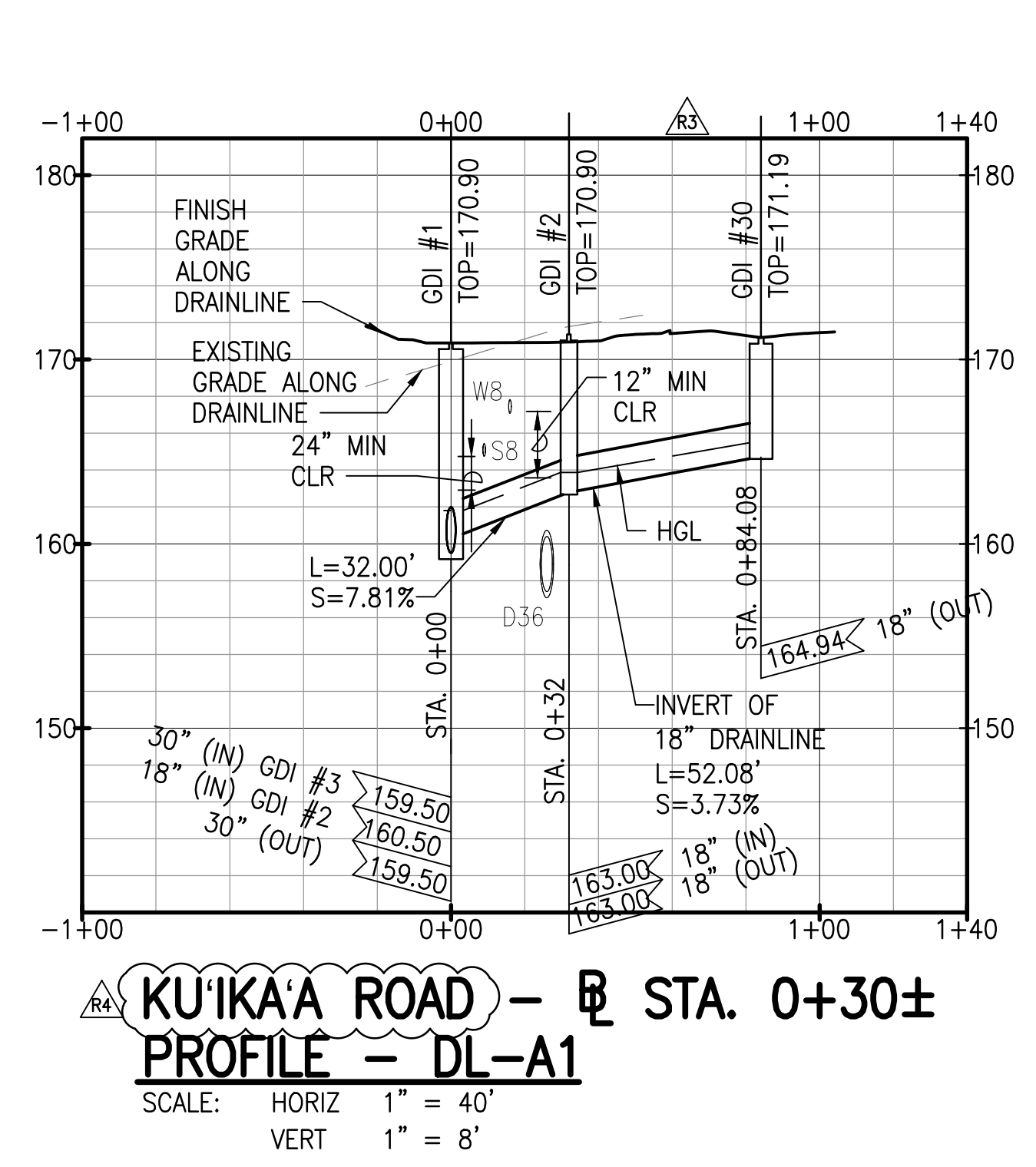
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MADE BY: APPROVED

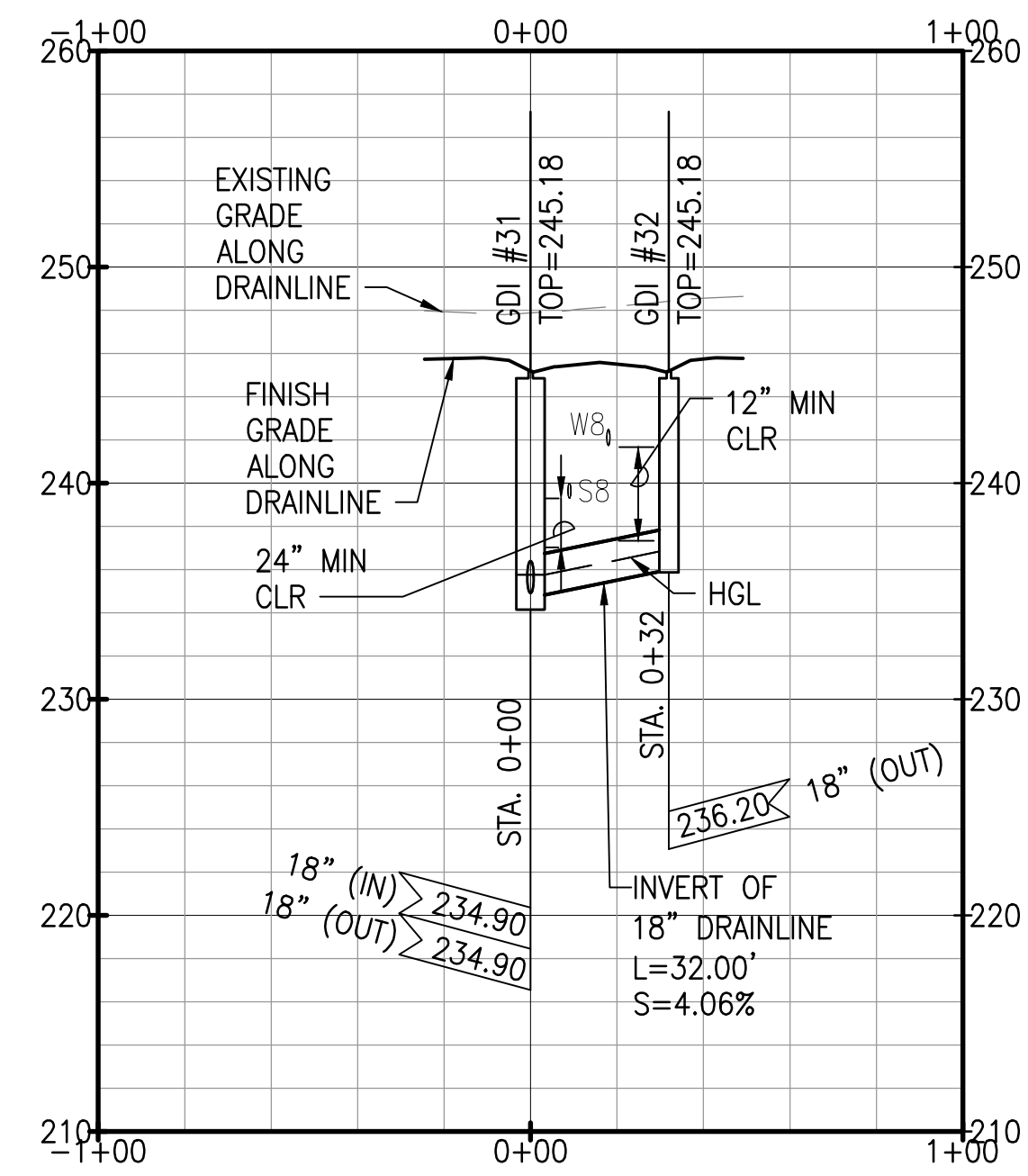
REVISION	DATE	PERMIT COMMENTS	DESCRIPTION	MADE BY	APPROVED
RA	05/06/23				
RA	2/07/23				

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

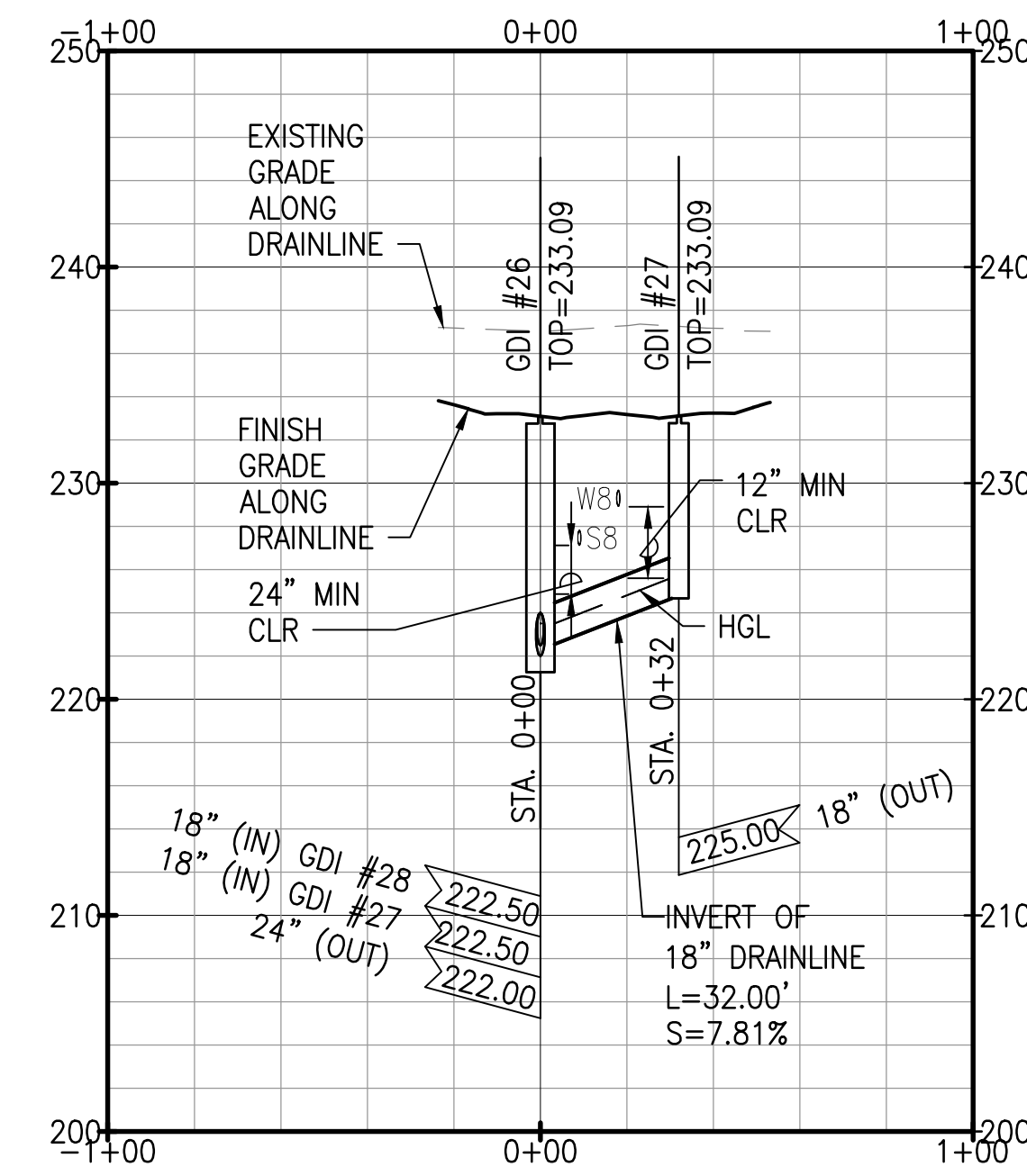
DRAIN LATERAL PROFILES - 1
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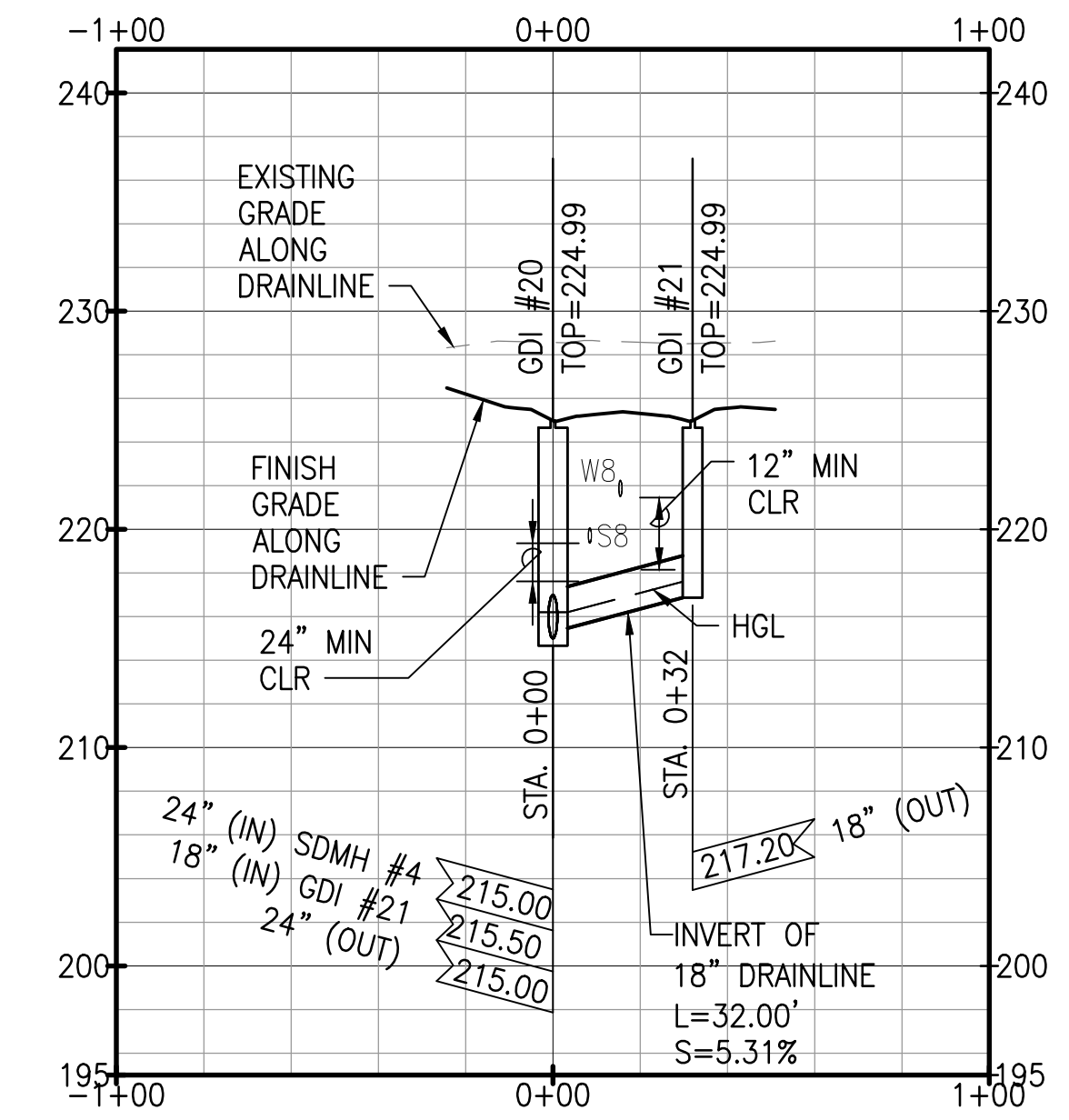
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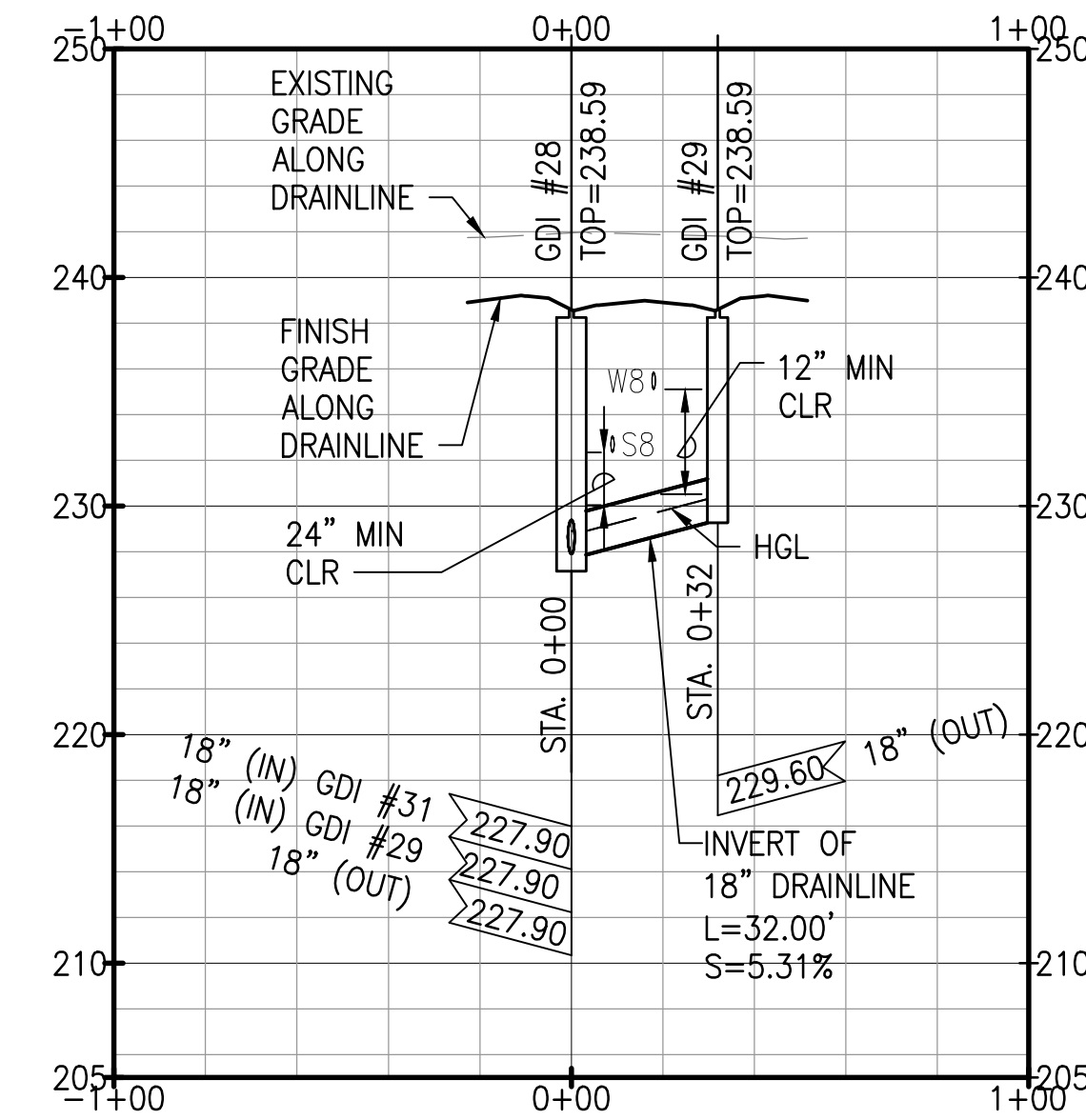
RA KU'IKAA ROAD - STA. 24+00±
PROFILE - DL-A13
 SCALE: HORIZ 1" = 40'
 VERT 1" = 8'



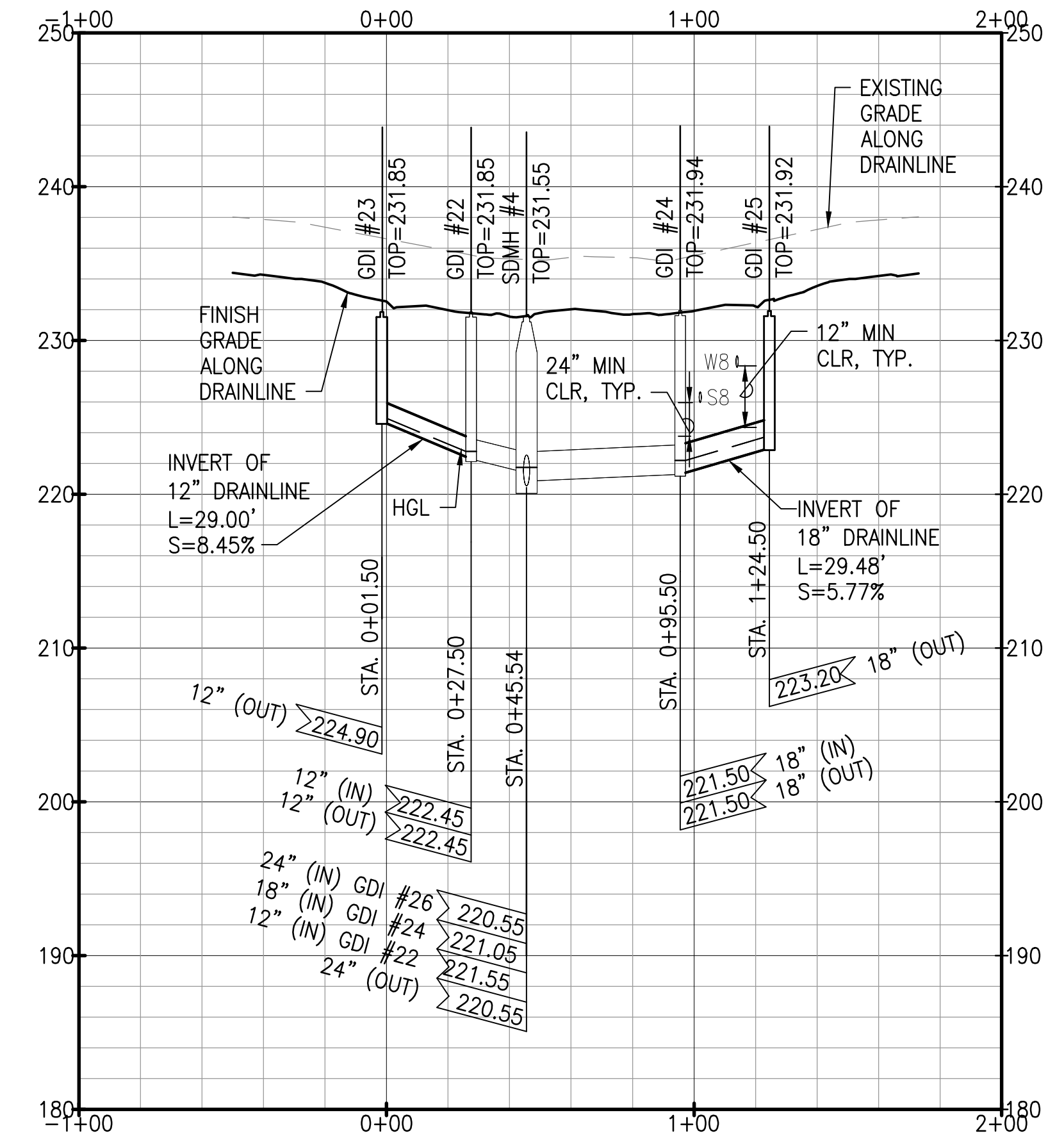
RA KU'IKAA ROAD - STA. 19+32±
PROFILE - DL-A11
 SCALE: HORIZ 1" = 40'
 VERT 1" = 8'



RA KU'IKAA ROAD - STA. 16+33±
PROFILE - DL-A9
 SCALE: HORIZ 1" = 40'
 VERT 1" = 8'

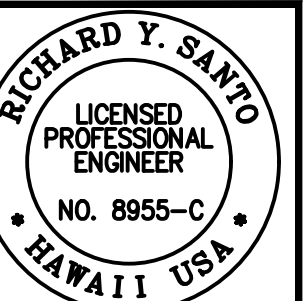
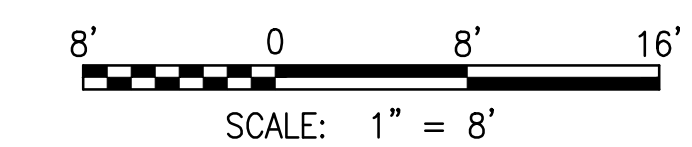
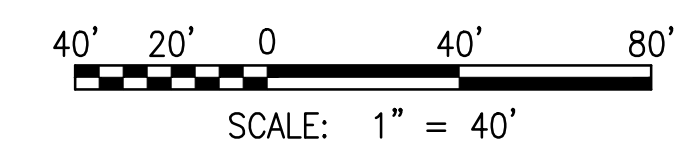


RA KU'IKAA ROAD - STA. 21+49±
PROFILE - DL-A12
 SCALE: HORIZ 1" = 40'
 VERT 1" = 8'



RA KU'IKAA ROAD - STA. 19+00±
PROFILE - DL-A10
 SCALE: HORIZ 1" = 40'
 VERT 1" = 8'

GRAPHIC SCALE:



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SSFM International, Inc.
 50 Summer Street
 Suite 620
 Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	APPROVED
RA	05/26/23	REVISED STREET NAMES	

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
 SITE AND INFRASTRUCTURE IMPROVEMENTS
 FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
 TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
 Hanapepe, Waimea, Kauai, Hawaii

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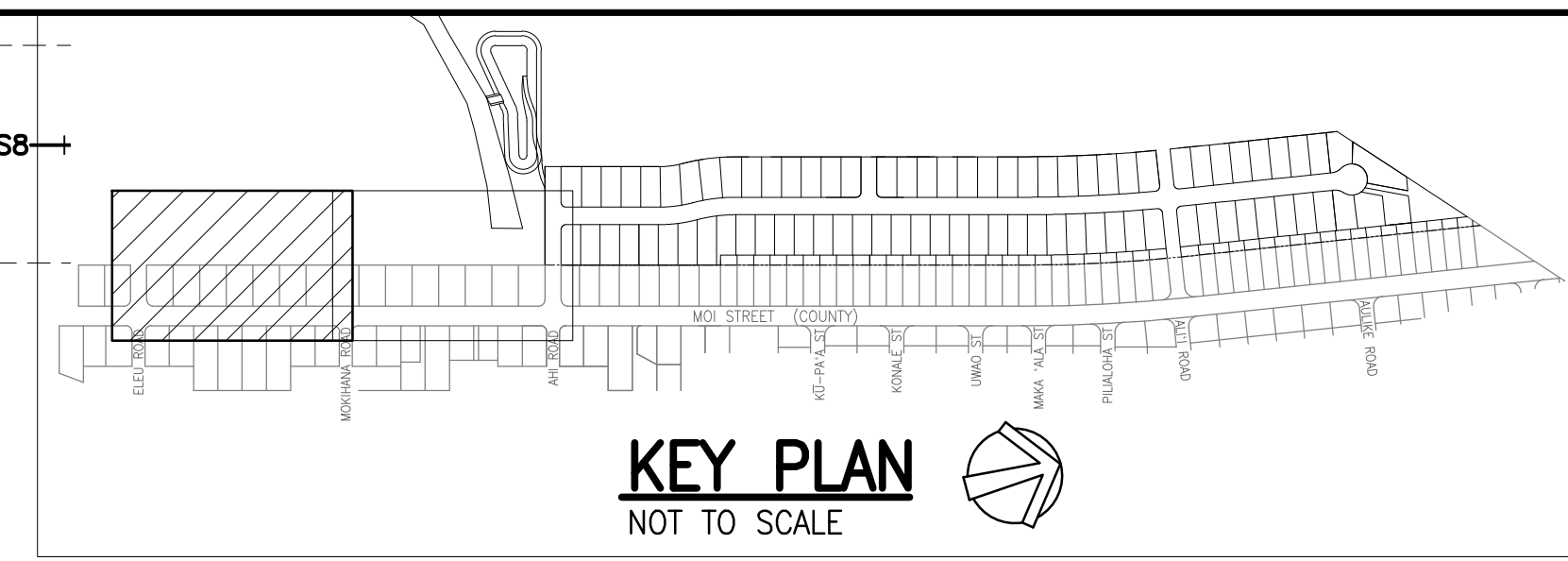
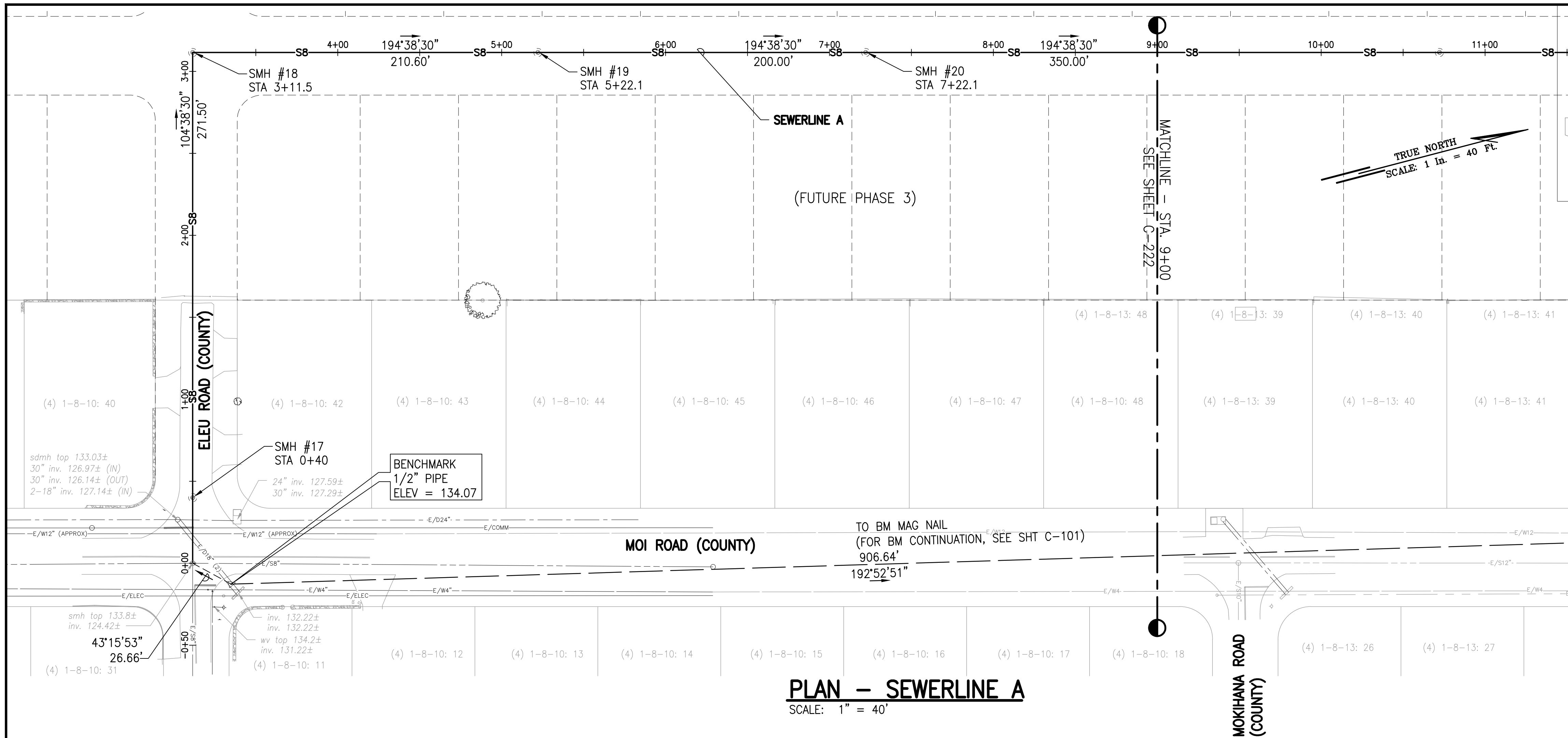
DATE: APRIL 2023

SHEET NUMBER

C-217

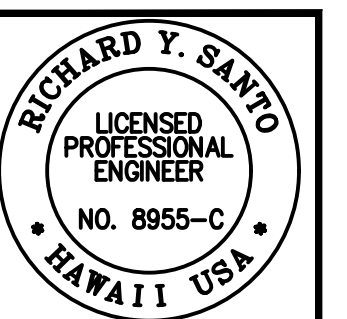
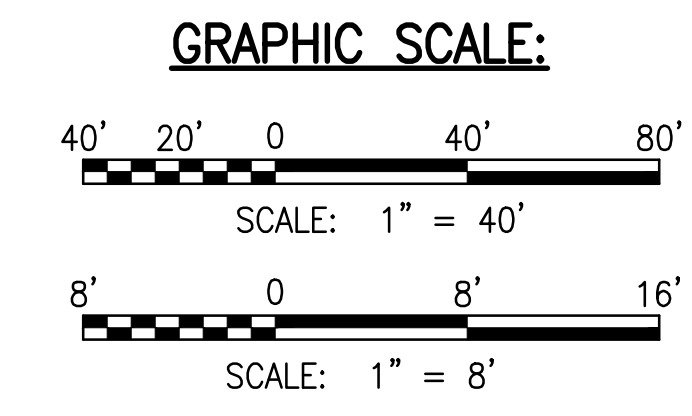
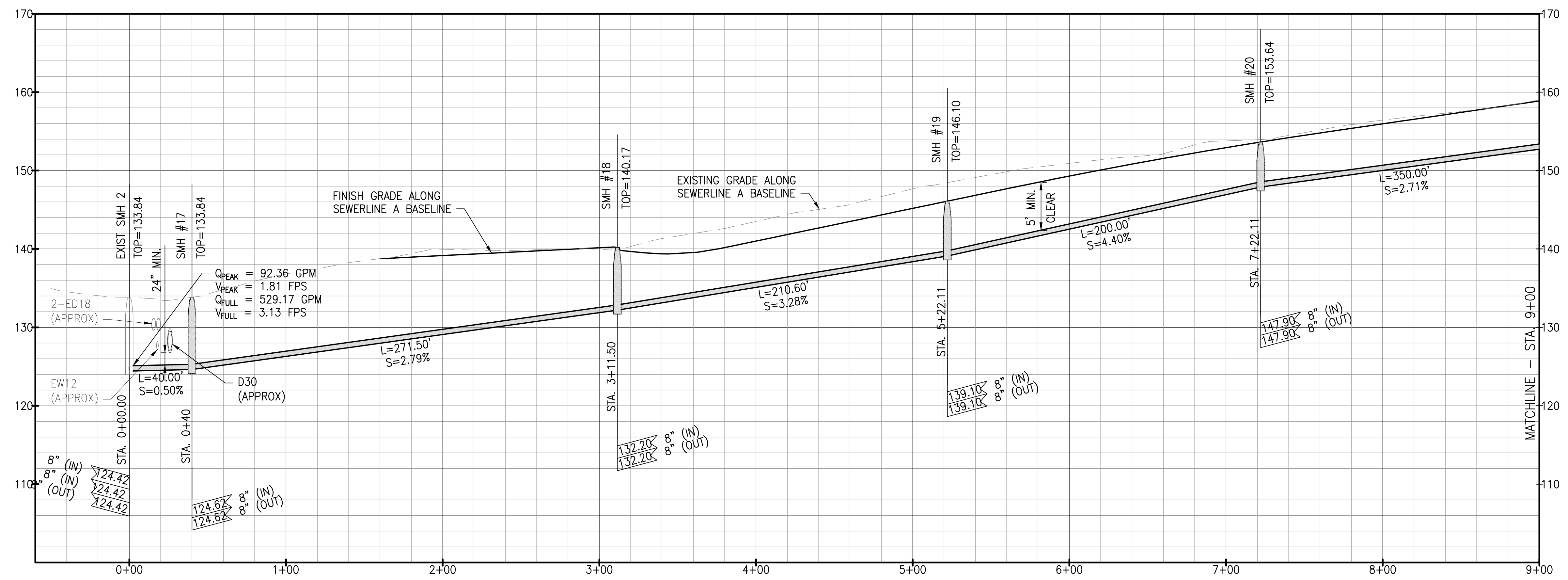
48 OF 109 SHEETS

W:\CIVIL_3D\PROJECTS\2018_021.001\DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-221 - C-222 SEWERLINE A PLAN AND PROFILE.DWG 3/13/2023 3:34 PM EBRNALES



- LEGEND:**
- PROPERTY LINE
 - LOT LINE
 - SB --- SEWERLINE
 - ⊙ SEWER MANHOLE (SMH), SEE DET.

NOTE:
1. FOR TYPICAL UTILITY SECTION FUTURE ROAD, SEE SHEET C-105.



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DATE: 4/20/24
PROJECT: C-507

SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

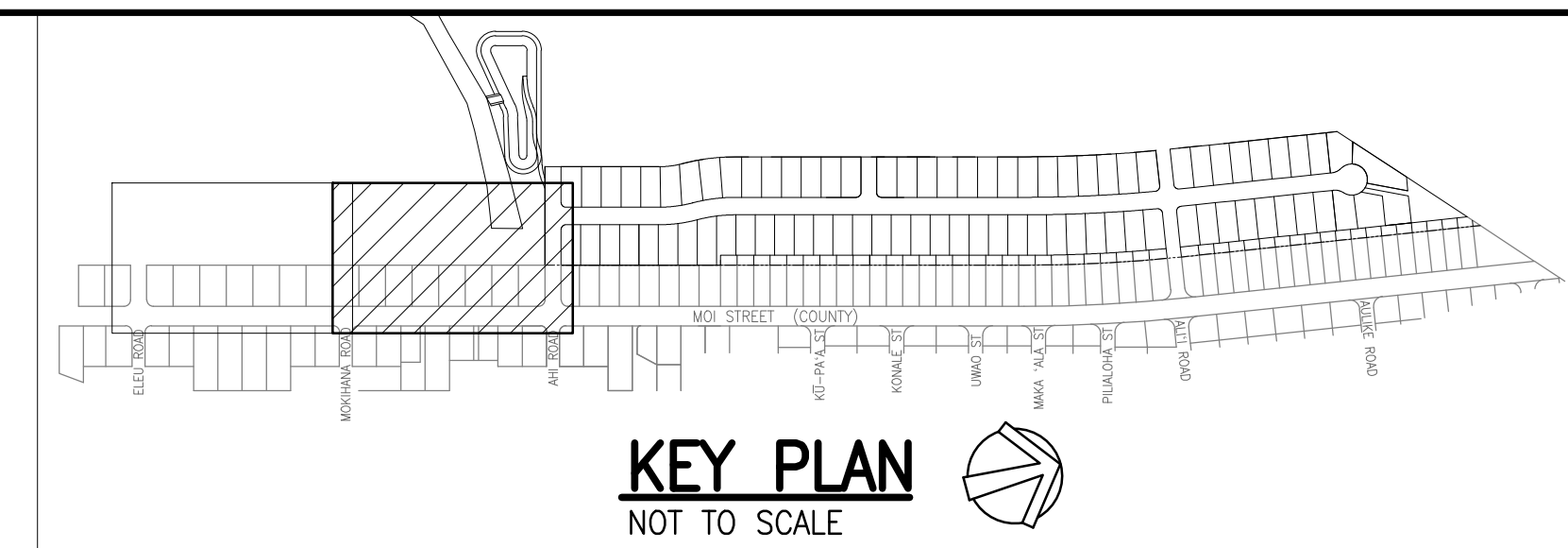
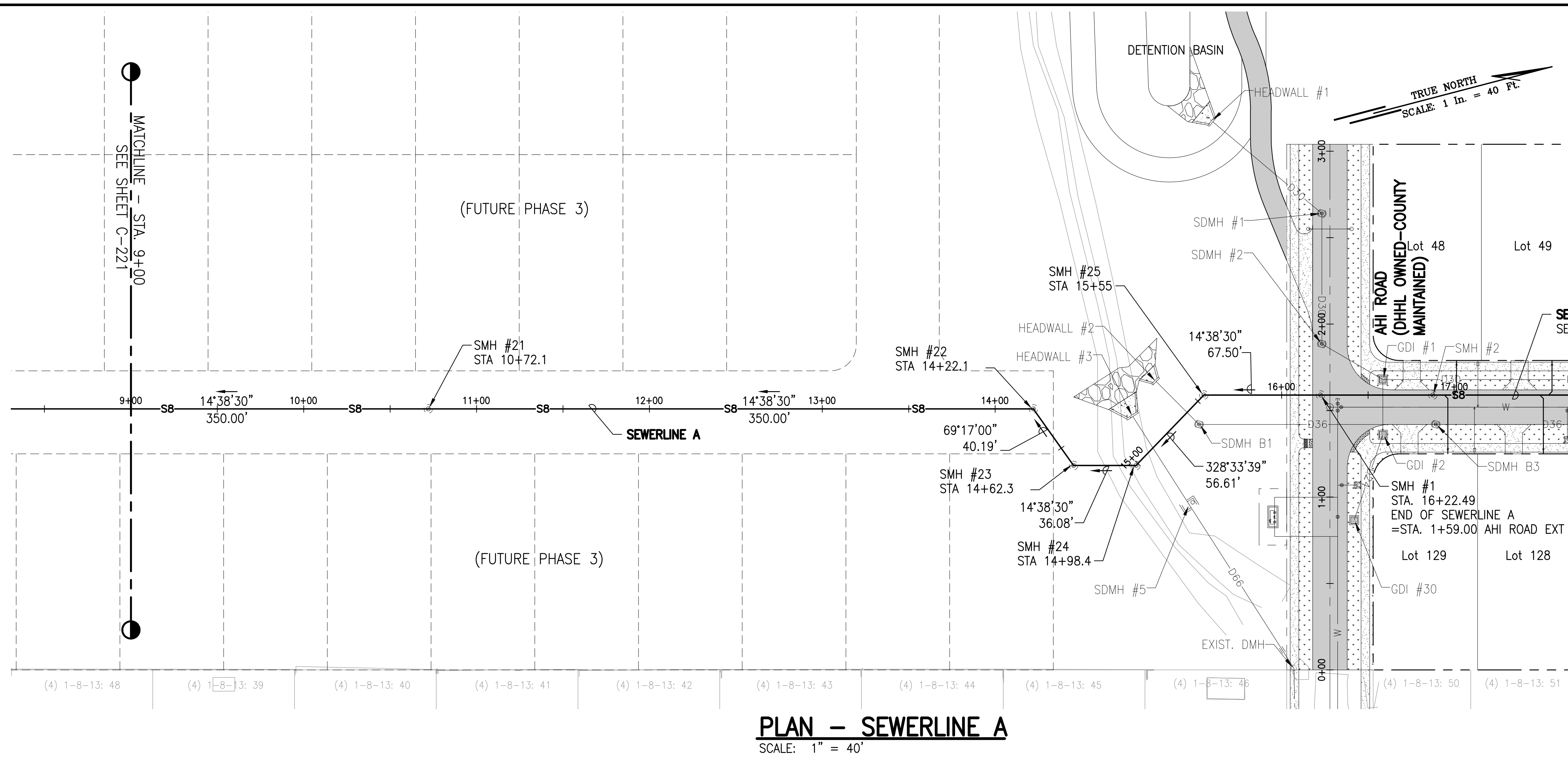
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

SEWERLINE A PLAN AND PROFILE - 1

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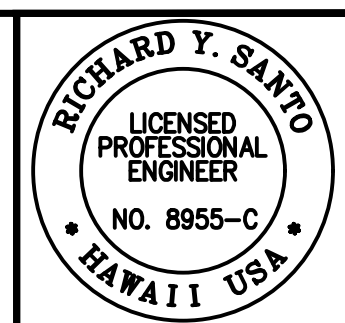
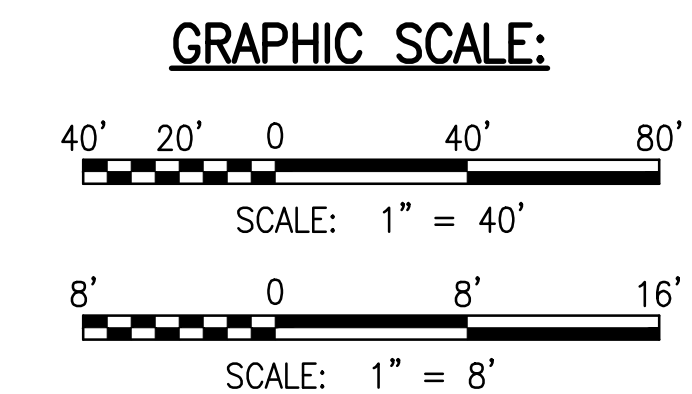
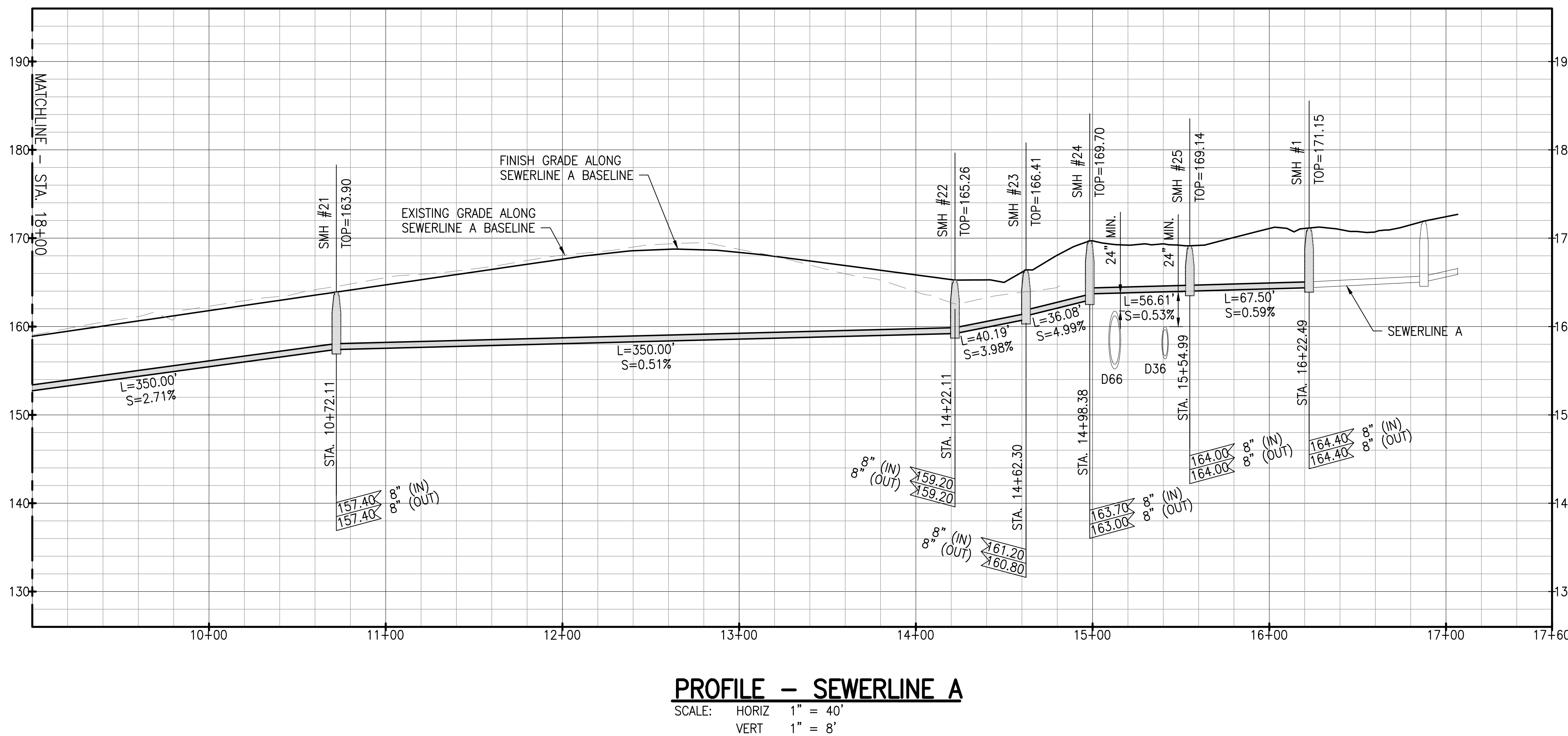
DATE: APRIL 2023
SHEET NUMBER: C-221
49 OF 109 SHEETS

W:\CIVIL_3D\PROJECTS\2018_021.001\DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-221 - C-222 SEWERLINE A PLAN AND PROFILE.DWG 3/13/2023 3:34 PM EBRNALES



- LEGEND:**
- PROPERTY LINE
 - LOT LINE
 - SB --- SEWERLINE
 - ⊙ SEWER MANHOLE (SMH), SEE DET. (1 C-507)

- NOTE:**
- FOR TYPICAL UTILITY SECTION FUTURE ROAD, SEE SHEET C-105.



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DATE: 4/20/24
PROJECT: HANAPEPE RESIDENTIAL LOTS, PHASE 2

SSPM International, Inc.
501 Surfer Street
Suite 620
Honolulu, Hawaii 96817

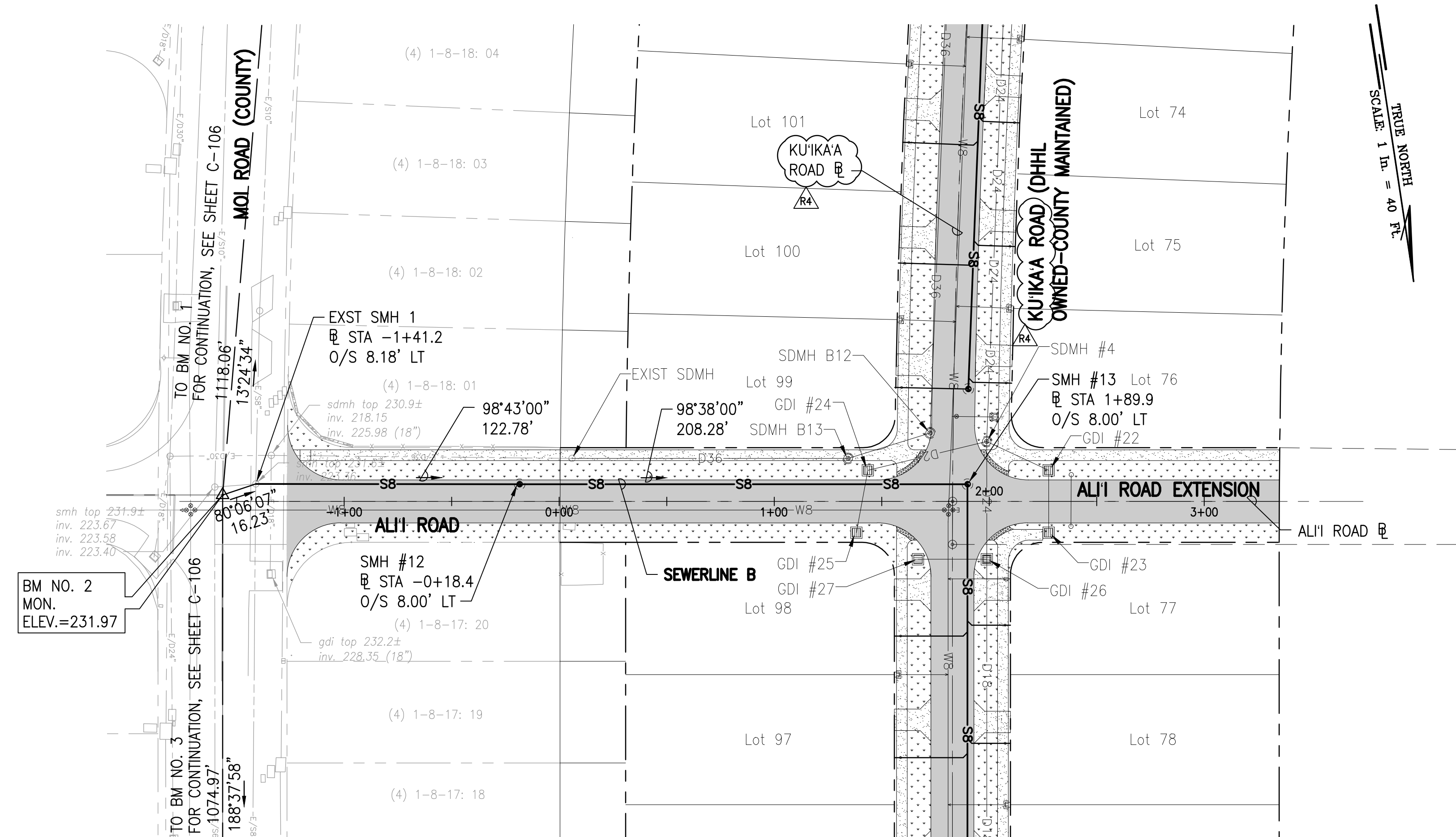
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanalei, Kauai, Hawaii

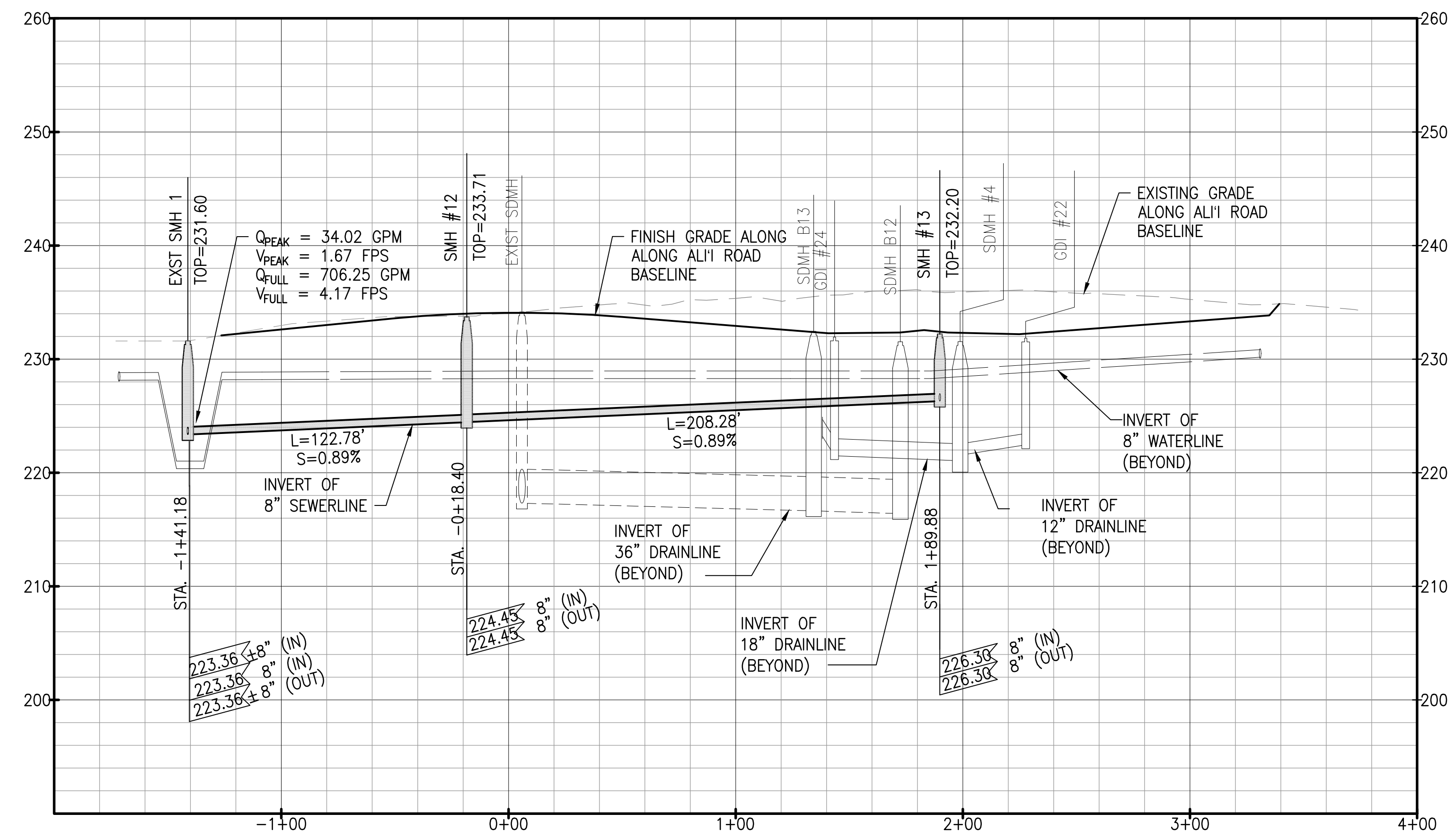
SEWERLINE A PLAN AND PROFILE - 2

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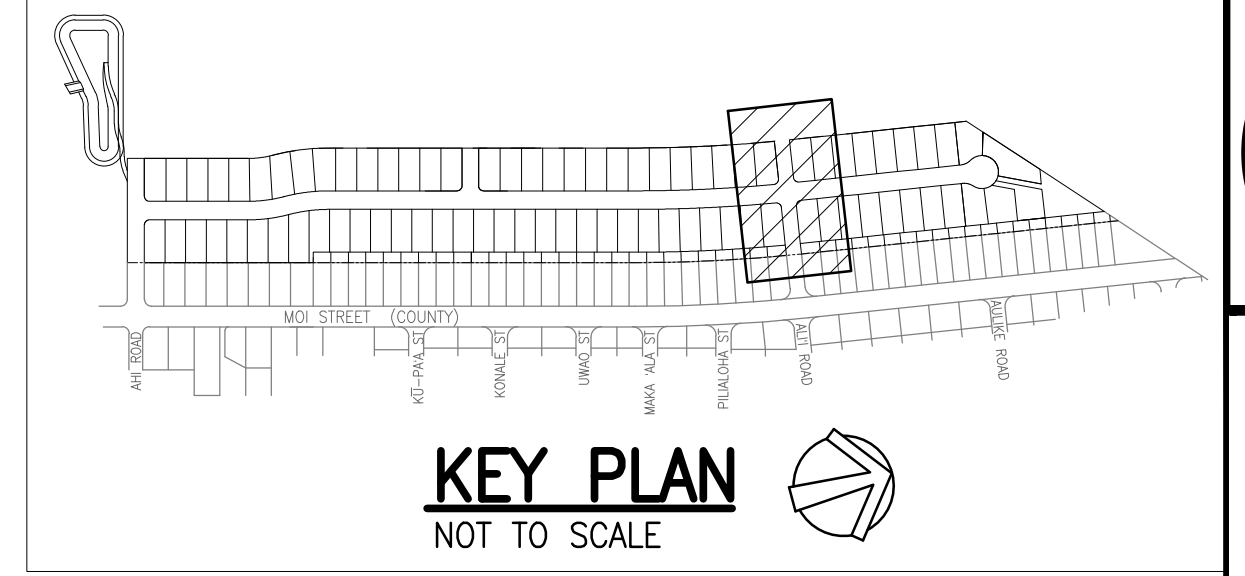
DATE: APRIL 2023
SHEET NUMBER: C-222
50 OF 109 SHEETS



PLAN - SEWERLINE B
SCALE: 1" = 40'



PROFILE - SEWERLINE B
SCALE: HORIZ 1" = 40'
VERT 1" = 8'

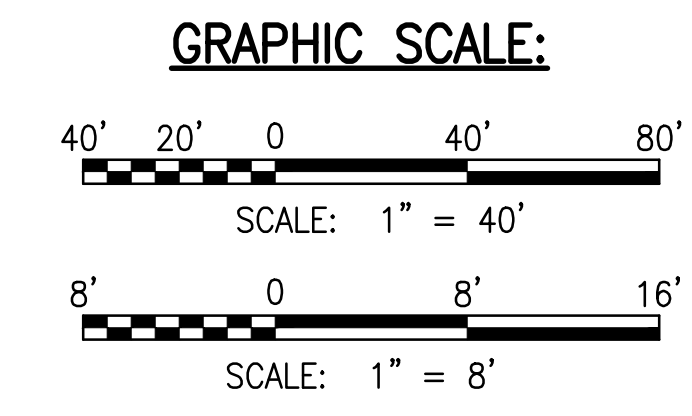


LEGEND:

- — — — — PROPERTY LINE
- — — — — LOT LINE
- D36 — — — — — DRAINLINE
- S8 — — — — — SEWERLINE
- W8 — — — — — WATERLINE
- ⊕ GRATED DRAIN INLET (GDI)
- ⊙ STORM DRAIN MANHOLE (SDMH)
- ⊙ SEWER MANHOLE (SMH), SEE DET. C-107
- ⊙ FIRE HYDRANT
- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- GRASS

NOTES:

1. FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
2. FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
3. FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
4. FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
5. FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: **APRIL 2023**

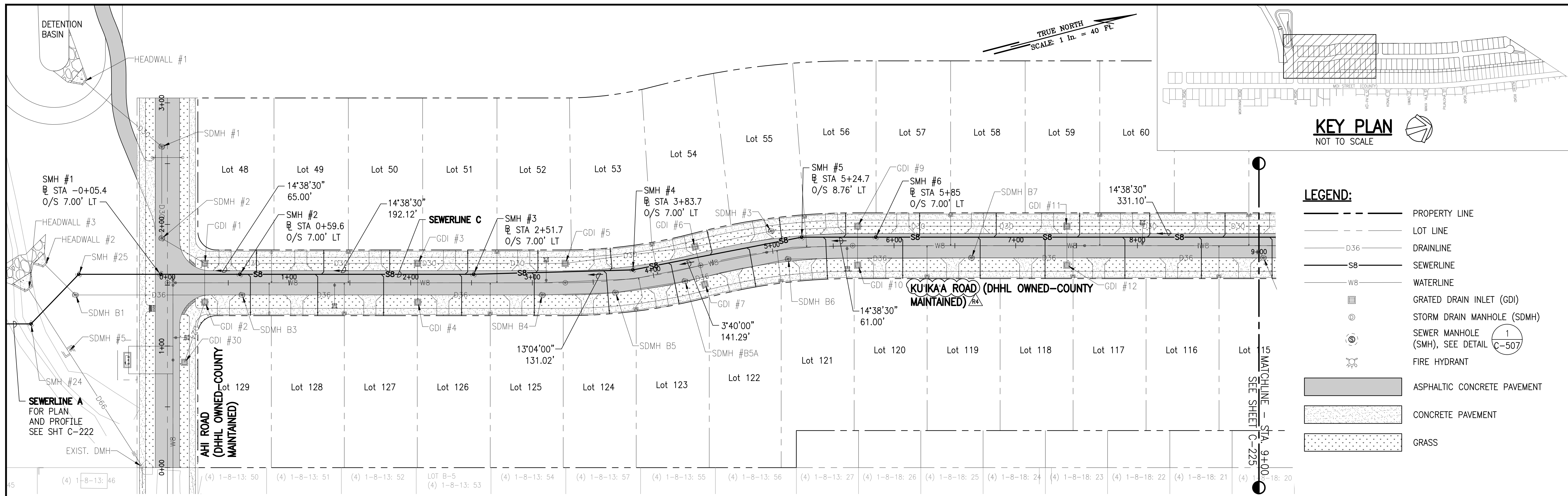
SHEET NUMBER: **C-223**

51 OF 109 SHEETS

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

REVISION: **AR** 05/26/23 DATE: 05/26/23
DESCRIPTION: REVISED STREET NAMES
MADE BY: APPROVED

W:\CIVIL_3D\PROJECTS\2018_02\01 DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-224 - C-226 SEWERLINE C PLAN AND PROFILE.DWG 5/23/2023 7:54 AM SAMANO



PLAN - SEWERLINE C
SCALE: 1" = 40'

LEGEND:

- PROPERTY LINE
- LOT LINE
- D36- DRAINLINE
- S8- SEWERLINE
- W8- WATERLINE
- ▣ GRATED DRAIN INLET (GDI)
- ⊙ SEWER MANHOLE (SMH), SEE DETAIL C-507
- ⊙ FIRE HYDRANT
- ▨ ASPHALTIC CONCRETE PAVEMENT
- ▨ CONCRETE PAVEMENT
- ▨ GRASS

RICHARD Y. SAKO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: 4/20/24
BY: RYS

NOTES: Contractor to check and verify dimensions of job before proceeding with work.

SSFM International, Inc.
50 Surfer Street
Suite 620
Honolulu, Hawaii 96817

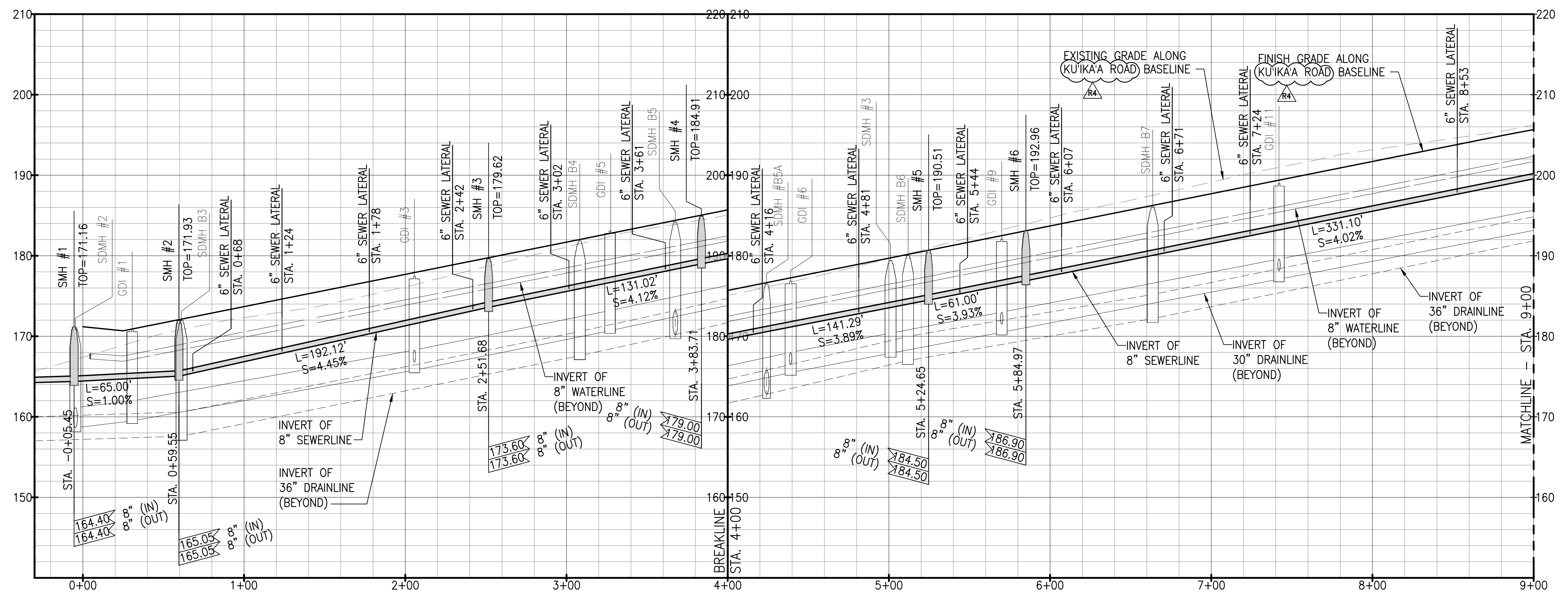
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	REVISED STREET NAMES		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

SEWERLINE C PLAN AND PROFILE - 1

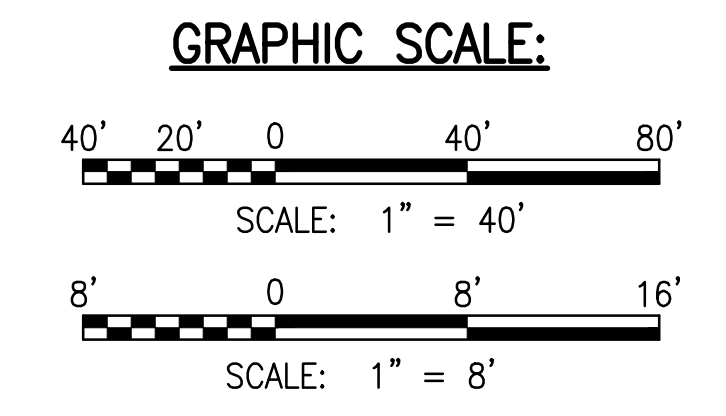
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DATE: APRIL 2023
SHEET NUMBER: C-224
52 OF 109 SHEETS

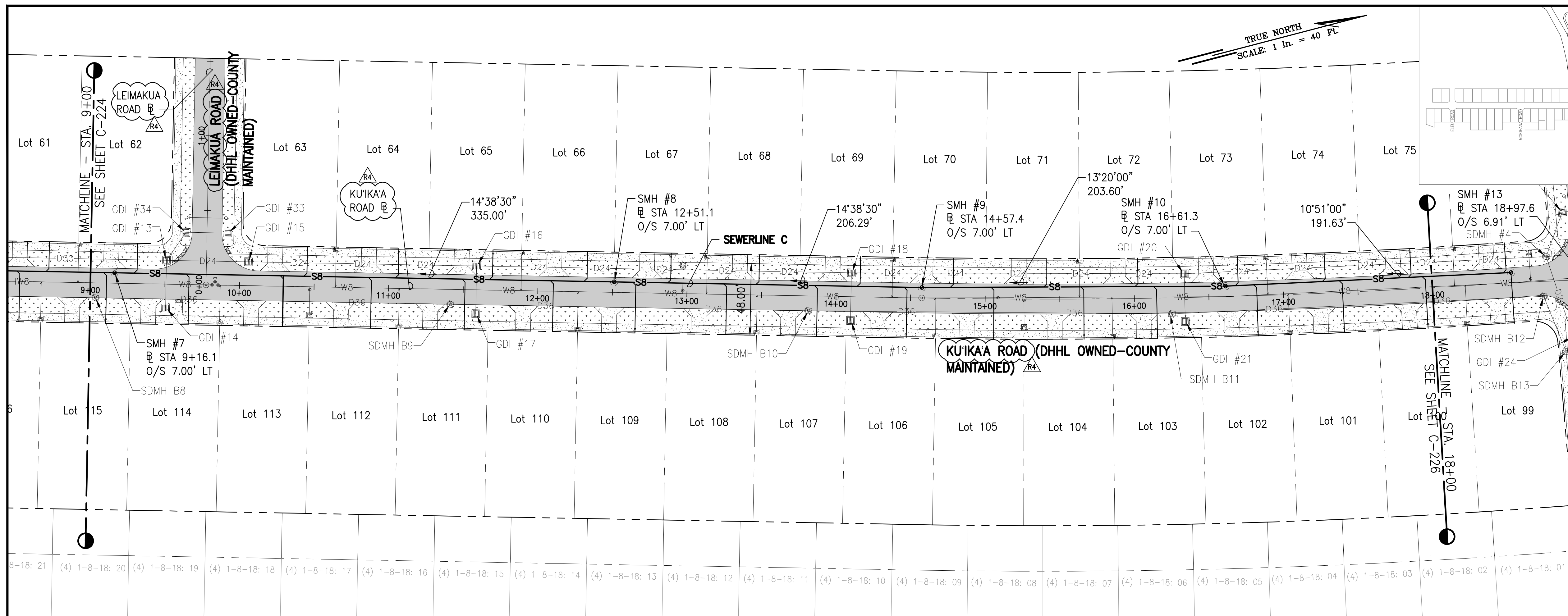


PROFILE - SEWERLINE C
SCALE: HORIZ 1" = 40'
VERT 1" = 8'

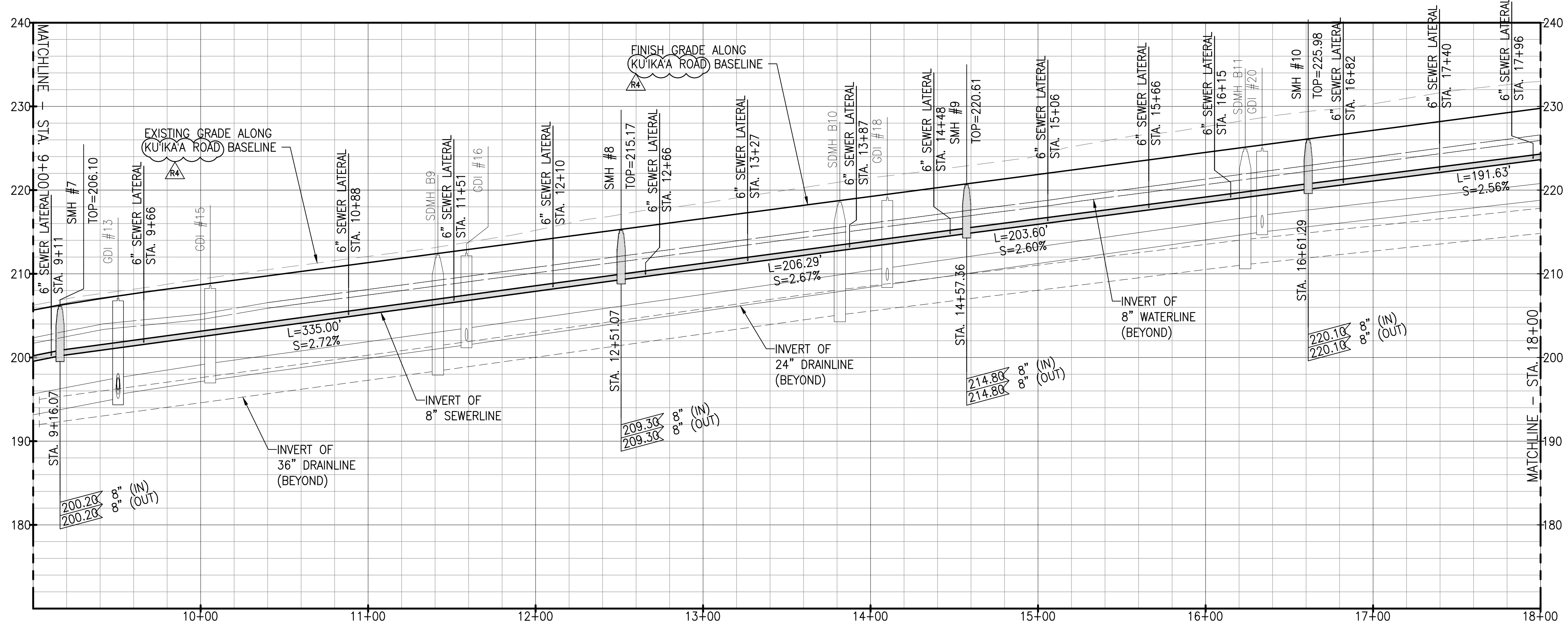
- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



W:\CIVIL_3D\PROJECTS\2018_02\01 DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-224 - C-226 SEWERLINE C PLAN AND PROFILE.DWG 5/23/2023 7:47 AM SAMANO



PLAN - SEWERLINE C
SCALE: 1" = 40'



PROFILE - SEWERLINE C
SCALE: HORIZ 1" = 40'
VERT 1" = 8'

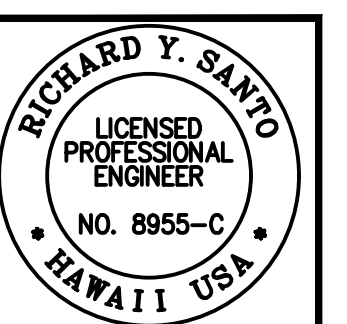
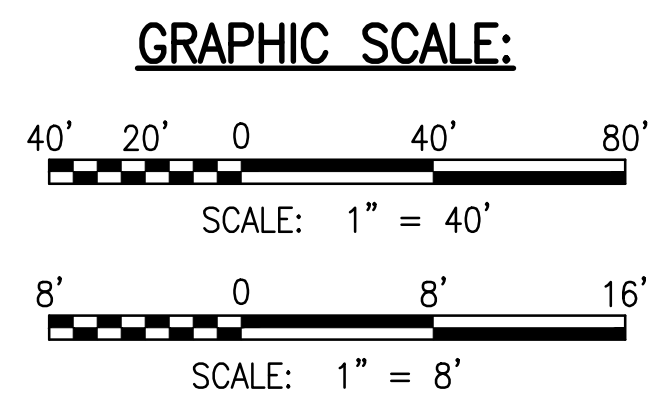
KEY PLAN
NOT TO SCALE

LEGEND:

- PROPERTY LINE
- LOT LINE
- D36- DRAINLINE
- S8- SEWERLINE
- W8- WATERLINE
- ▣ GRATED DRAIN INLET (GDI)
- ⊙ STORM DRAIN MANHOLE (SDMH)
- ⊙ SEWER MANHOLE (SMH), SEE DETAIL C-507
- ⊙ FIRE HYDRANT
- ▨ ASPHALTIC CONCRETE PAVEMENT
- ▨ CONCRETE PAVEMENT
- ▨ GRASS

NOTES:

1. FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
2. FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
3. FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
4. FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
5. FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



DATE: 4/20/24
BY: [Signature]
CHECKED BY: [Signature]
SCALE: AS SHOWN

SSFM International, Inc.
501 Surfer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	REVISED STREET NAMES		

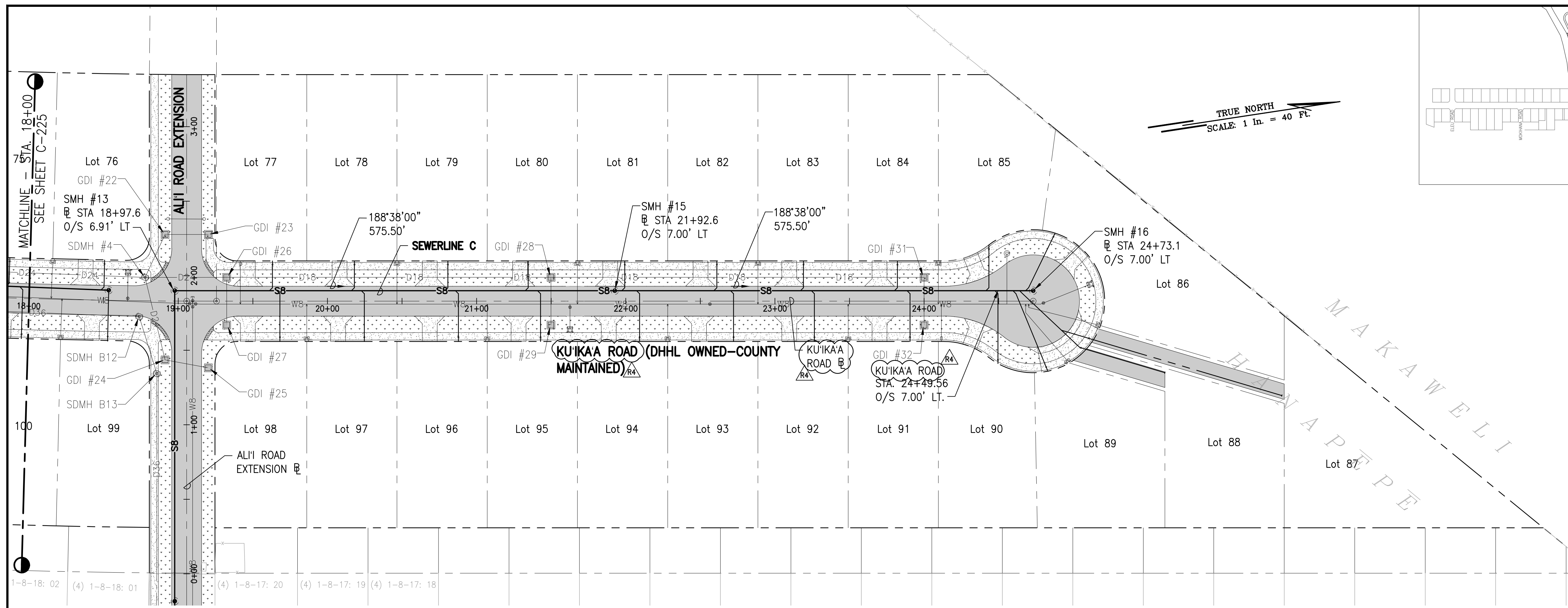
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

SEWERLINE C PLAN AND PROFILE - 2

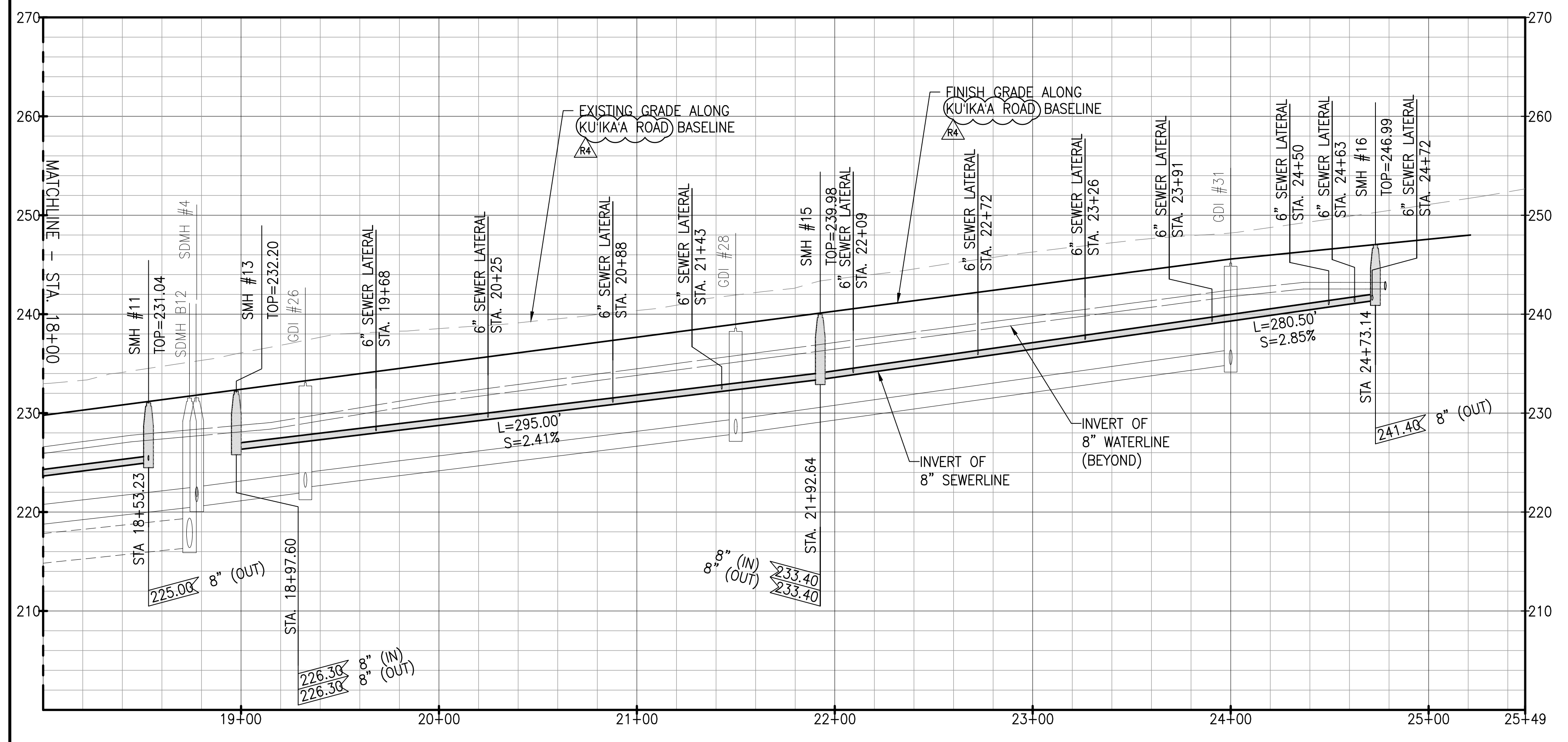
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DATE: APRIL 2023
SHEET NUMBER: C-225
53 OF 109 SHEETS

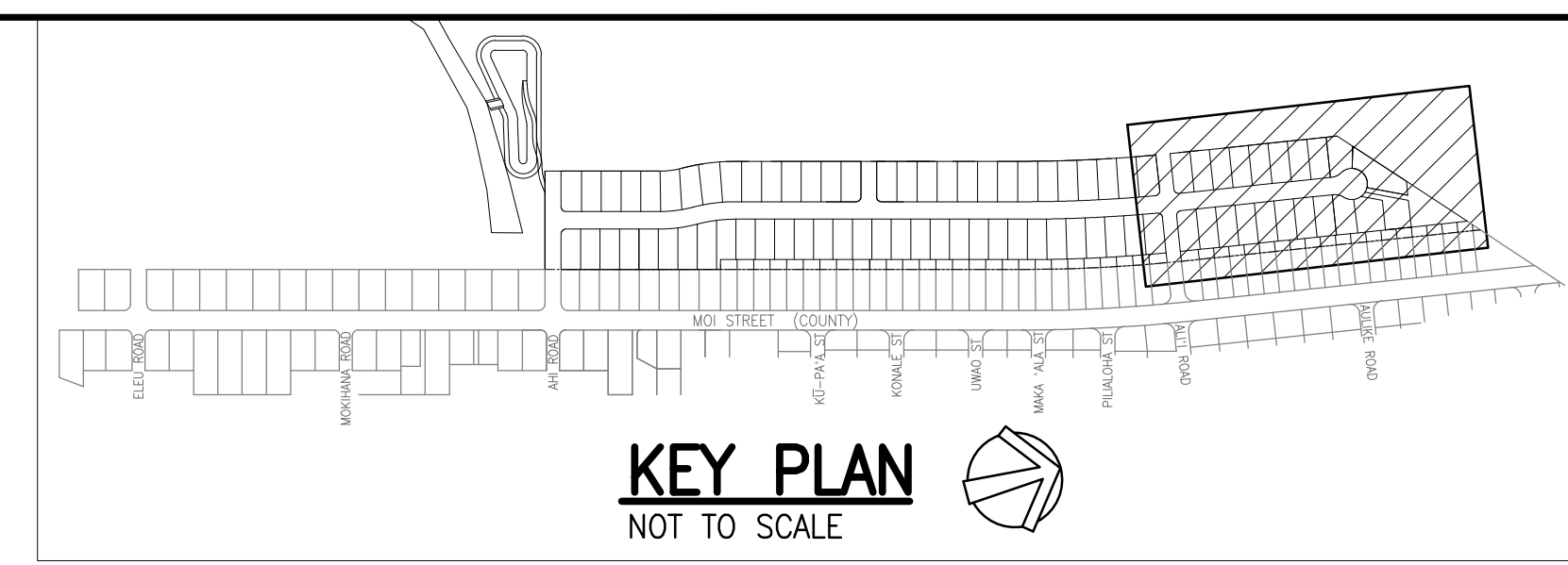
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PLAN - SEWERLINE C
SCALE: 1" = 40'



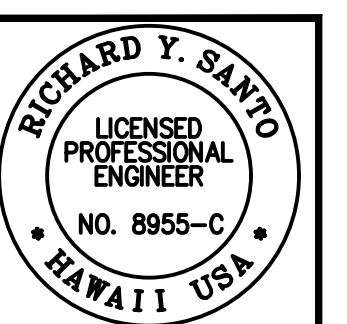
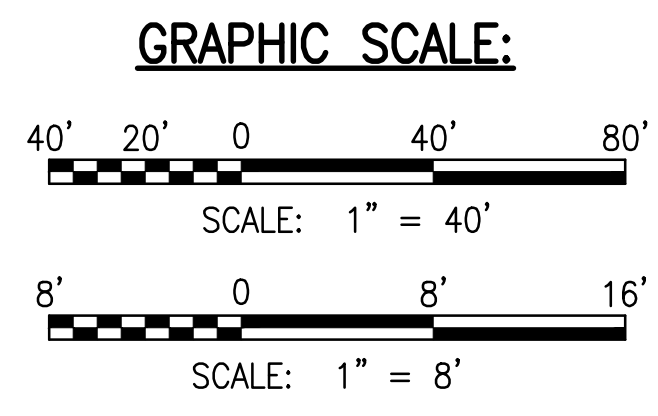
PROFILE - SEWERLINE C
SCALE: HORIZ 1" = 40'
VERT 1" = 8'



LEGEND:

	PROPERTY LINE
	LOT LINE
	DRAINLINE
	SEWERLINE
	WATERLINE
	GRATED DRAIN INLET (GDI)
	SEWER MANHOLE (SMH), SEE DETAIL C-507
	FIRE HYDRANT
	ASPHALTIC CONCRETE PAVEMENT
	CONCRETE PAVEMENT
	GRASS

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR WATERLINE PLAN AND PROFILE, SEE SHEETS C-231 TO C-235.
 - FOR DRAINLINE B PLAN AND PROFILE, SEE SHEETS C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PROFILES, SEE SHEET C-216 TO C-217.



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50 Surfer Street
Suite 620
Honolulu, Hawaii 96817

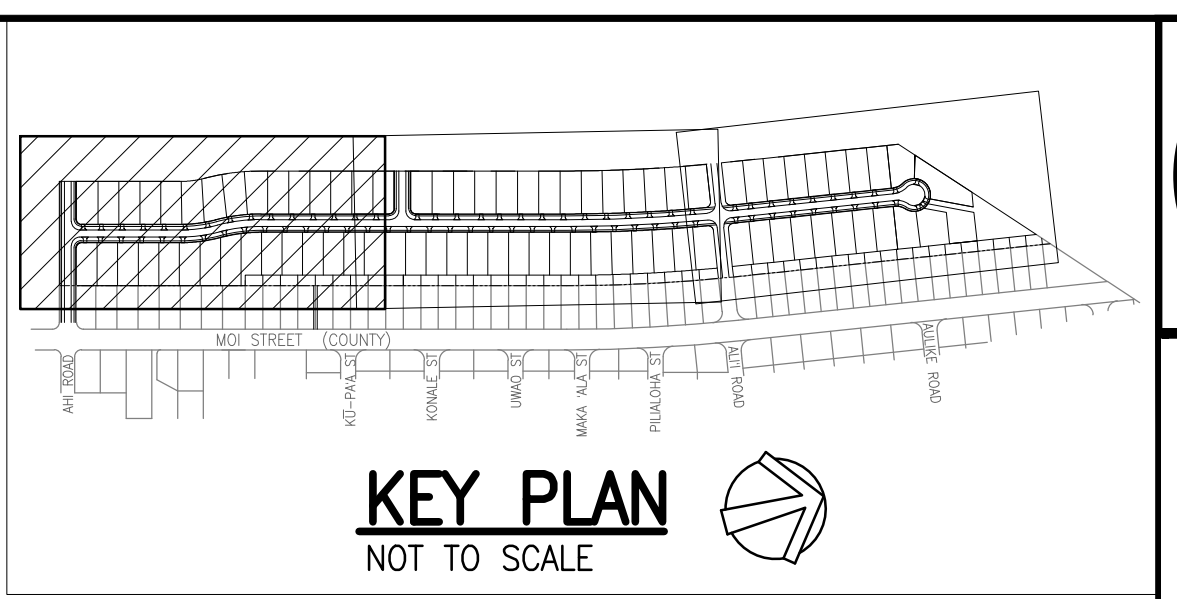
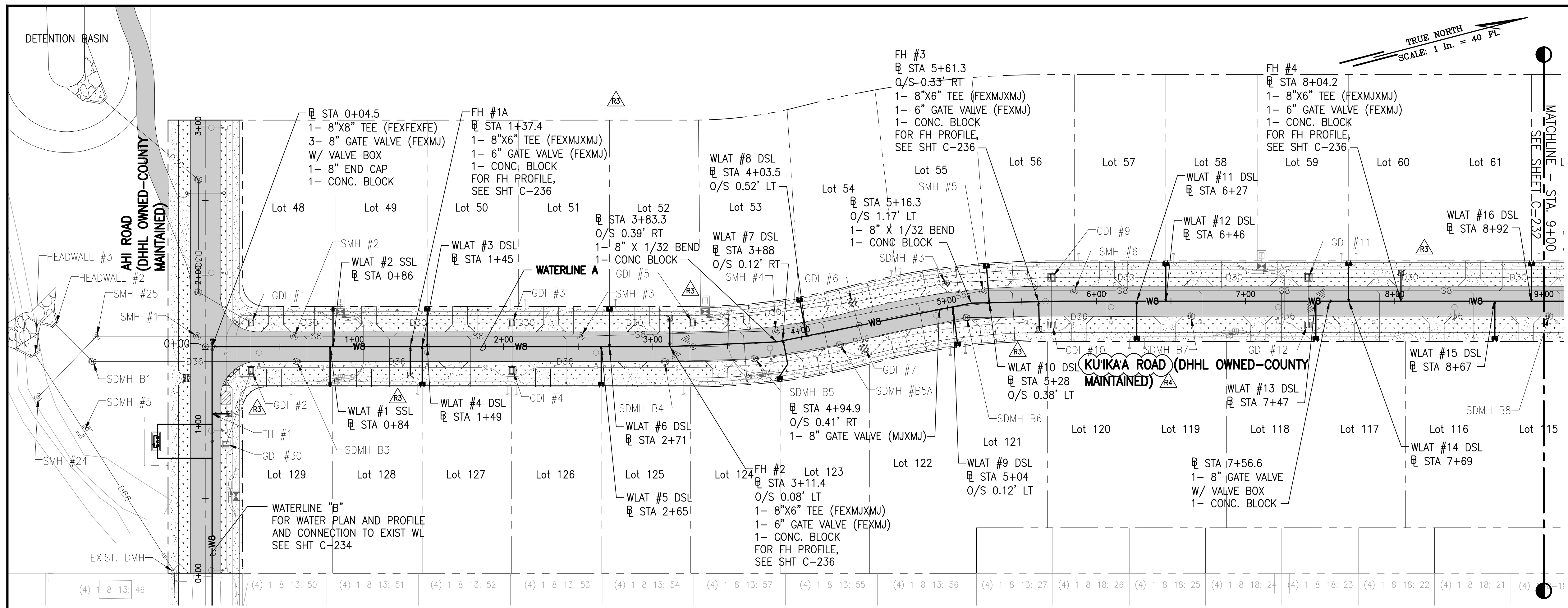
REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	REVISED STREET NAMES		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

SEWERLINE C PLAN AND PROFILE - 3

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DATE: **APRIL 2023**
SHEET NUMBER: **C-226**
54 OF 109 SHEETS



LEGEND:

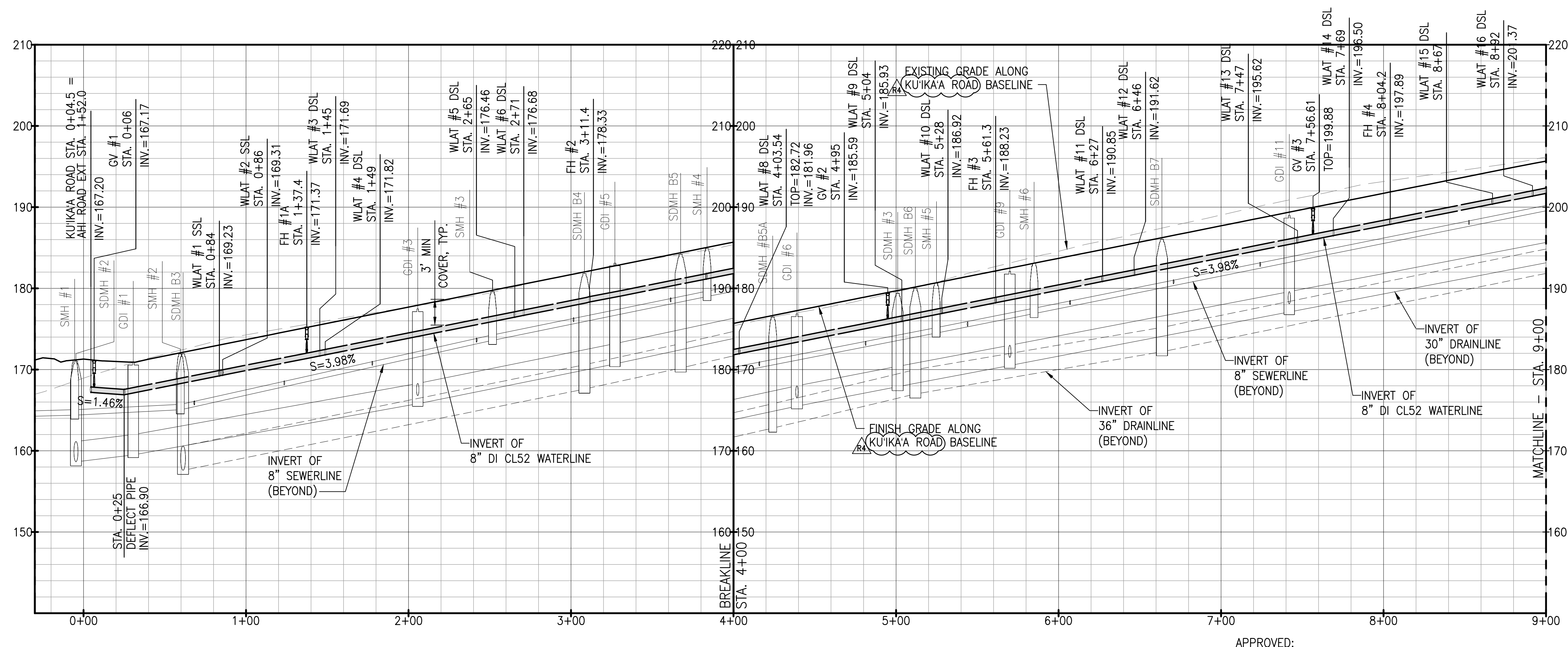
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---	LOT LINE
D.36	DRAINLINE
S8	SEWERLINE
W	WATERLINE
⊠	GRATED DRAIN INLET (GDI)
⊙	STORM DRAIN MANHOLE (SDMH)
⊙	SEWER MANHOLE (SMH)
⊙	FIRE HYDRANT
←	SINGLE SERVICE LATERAL (SSL)
←	DOUBLE SERVICE LATERAL (DSL)
▒	ASPHALTIC CONCRETE PAVEMENT
▒	CONCRETE PAVEMENT
▒	GRASS

RICHARD Y. SAKO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

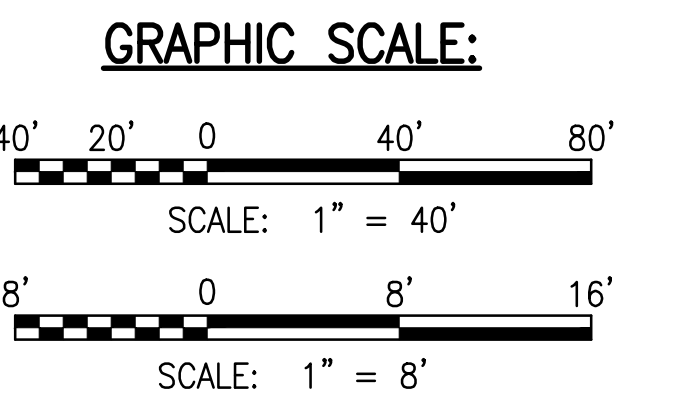
SSFM International, Inc.
501 Surfer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	PERMIT COMMENTS	DESCRIPTION
1	05/06/23		
2	2/07/23		

MADE BY: APPROVED



- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR SEWERLINE PLAN AND PROFILE, SEE SHEETS C-221 TO C-226.
 - FOR DRAINLINE PLAN AND PROFILE, SEE SHEET C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PLAN AND PROFILE, SEE SHEET C-216.
 - FOR FIRE HYDRANT PROFILES, SEE SHEET C-236.
 - FOR GATE VALVE AND VALVE BOX DETAIL, SEE DET. C-512
 - FOR SINGLE SERVICE LATERALS, SEE DET. C-511
 - FOR DOUBLE SERVICE LATERALS, SEE DET. C-511
 - FOR FIRE HYDRANT CONNECTION, SEE DET. C-510



W:\CIVIL_3D\PROJECTS\2018_02\01 DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-231 - C-233 WATERLINE PLAN AND PROFILES.DWG 5/23/2023 7:16 AM SAMANO

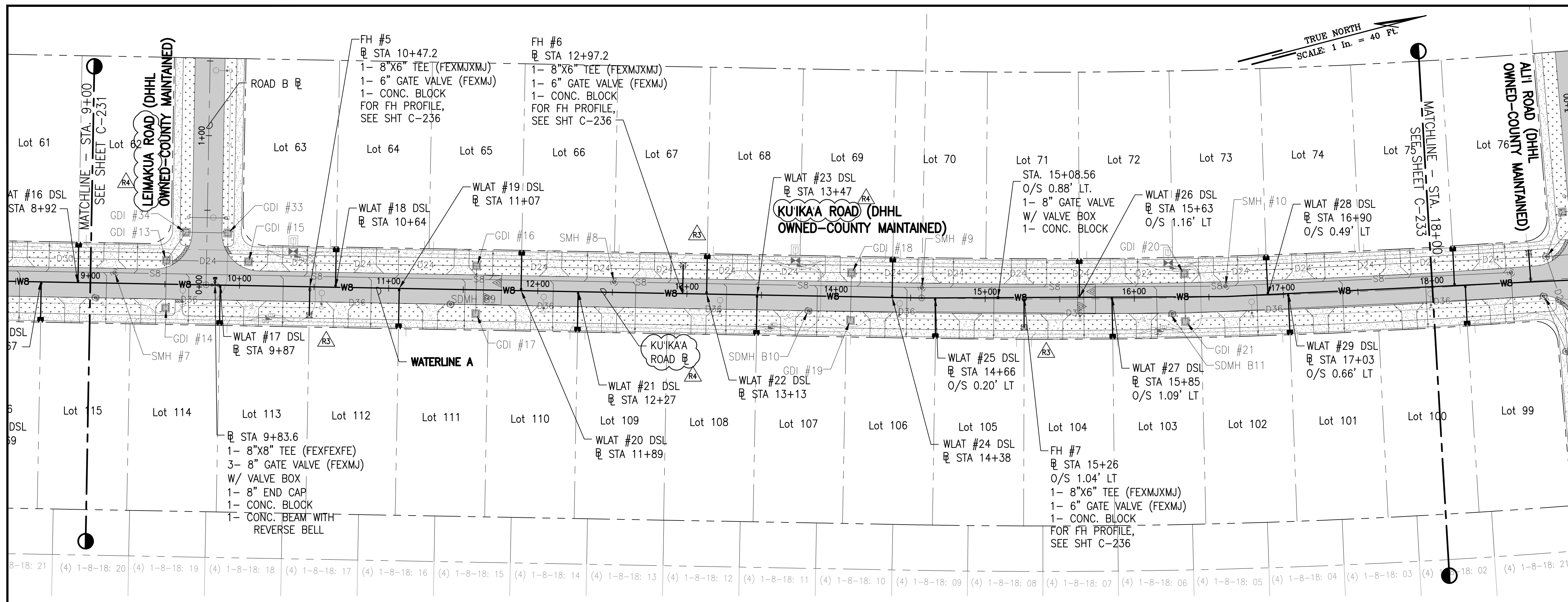
APPROVED: _____ DATE _____
FOR MANAGER AND CHIEF ENGINEER, DEPT. OF WATER COUNTY OF KAUAI

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

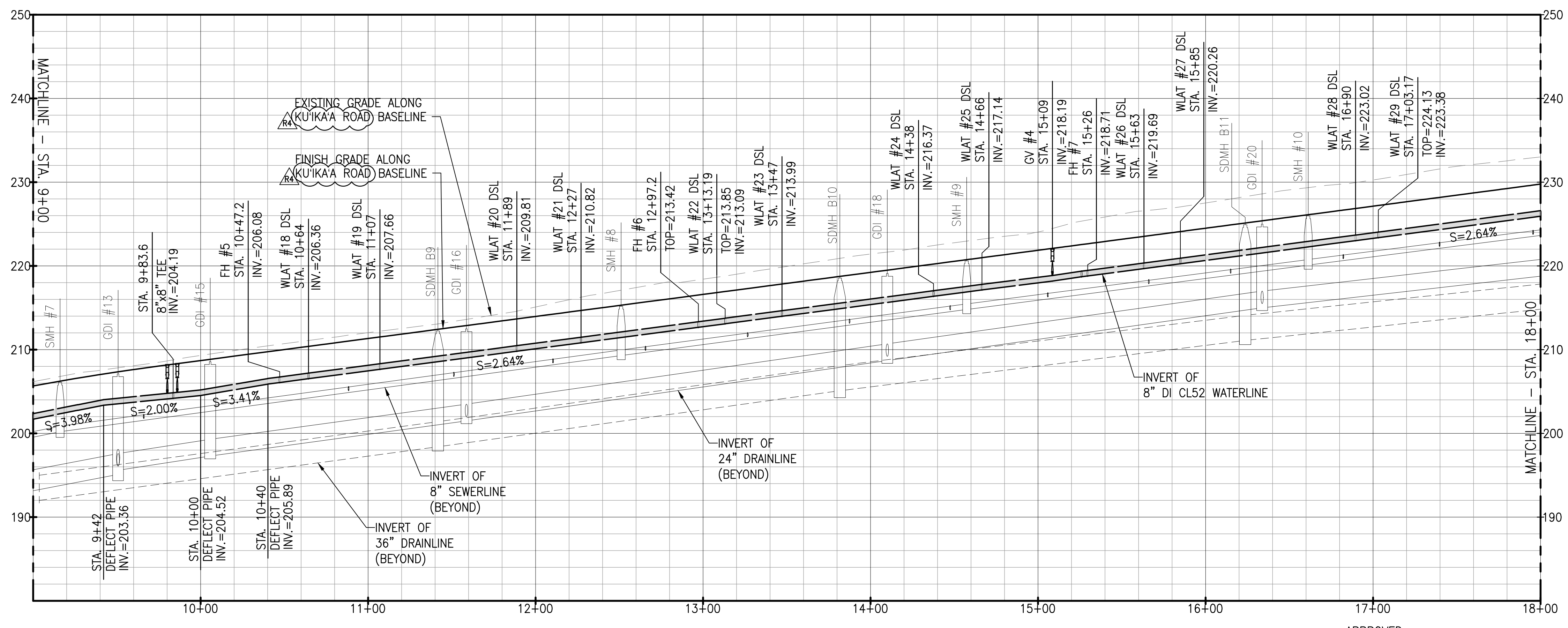
WATERLINE A PLAN AND PROFILE - 1

DATE: APRIL 2023
SHEET NUMBER: C-231
55 OF 109 SHEETS

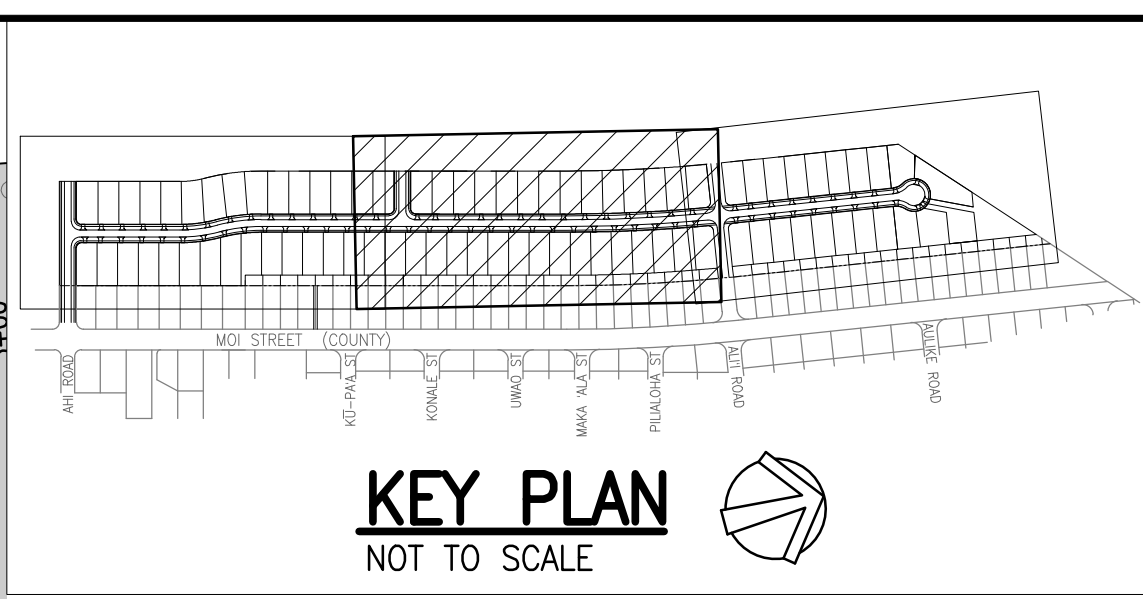
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PLAN - WATERLINE A
SCALE: 1" = 40'



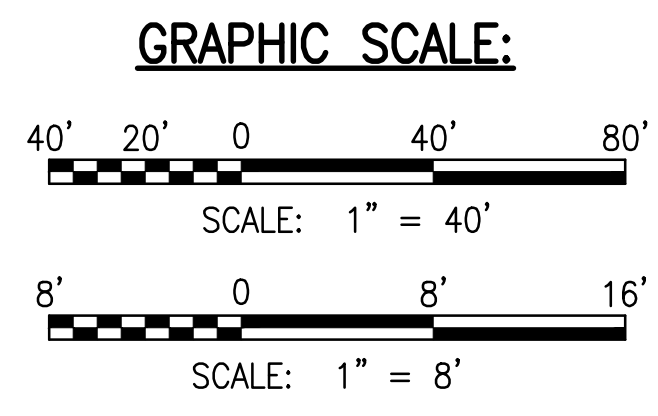
PROFILE - WATERLINE A
SCALE: HORIZ 1" = 40'
VERT 1" = 8'



LEGEND:

	PROPERTY LINE
	LOT LINE
	DRAINLINE
	SEWERLINE
	WATERLINE
	GRATED DRAIN INLET (GDI)
	STORM DRAIN MANHOLE (SDMH)
	SEWER MANHOLE (SMH)
	FIRE HYDRANT
	SINGLE SERVICE LATERAL (SSL)
	DOUBLE SERVICE LATERAL (DSL)
	ASPHALTIC CONCRETE PAVEMENT
	CONCRETE PAVEMENT
	GRASS

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR SEWERLINE PLAN AND PROFILE, SEE SHEETS C-221 TO C-226.
 - FOR DRAINLINE PLAN AND PROFILE, SEE SHEET C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PLAN AND PROFILE, SEE SHEET C-216.
 - FOR FIRE HYDRANT PROFILES, SEE SHEET C-236.
 - FOR GATE VALVE AND VALVE BOX DETAIL, SEE DET. 2 C-512
 - FOR SINGLE SERVICE LATERALS, SEE DET. 1 C-511
 - FOR DOUBLE SERVICE LATERALS, SEE DET. 2 C-511
 - FOR FIRE HYDRANT CONNECTION, SEE DET. 1 C-510



APPROVED: _____ DATE _____
FOR MANAGER AND CHIEF ENGINEER, DEPT. OF WATER COUNTY OF KAUAI

RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

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RA	05/06/23	REVISED STREET NAMES			
RA	2/07/23	PERMIT COMMENTS			

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanaapepe, Waimea, Kauai, Hawaii

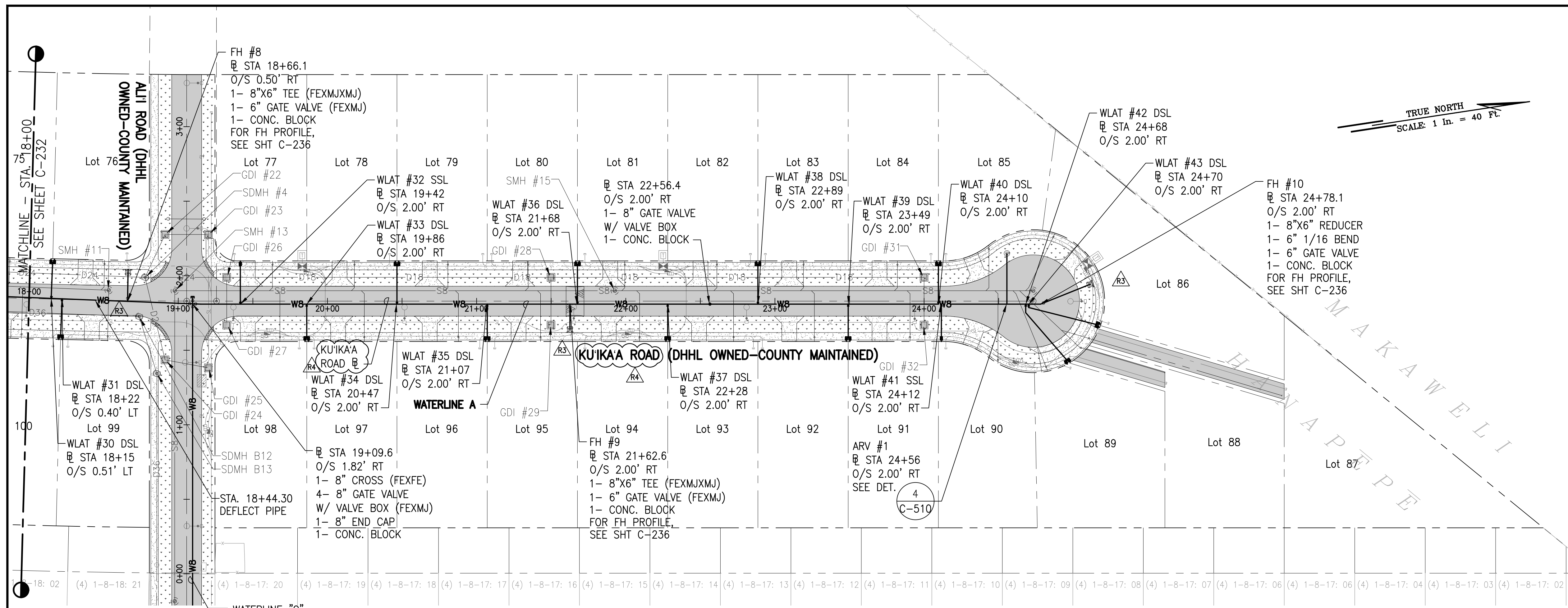
WATERLINE A PLAN AND PROFILE - 2

DATE: **APRIL 2023**

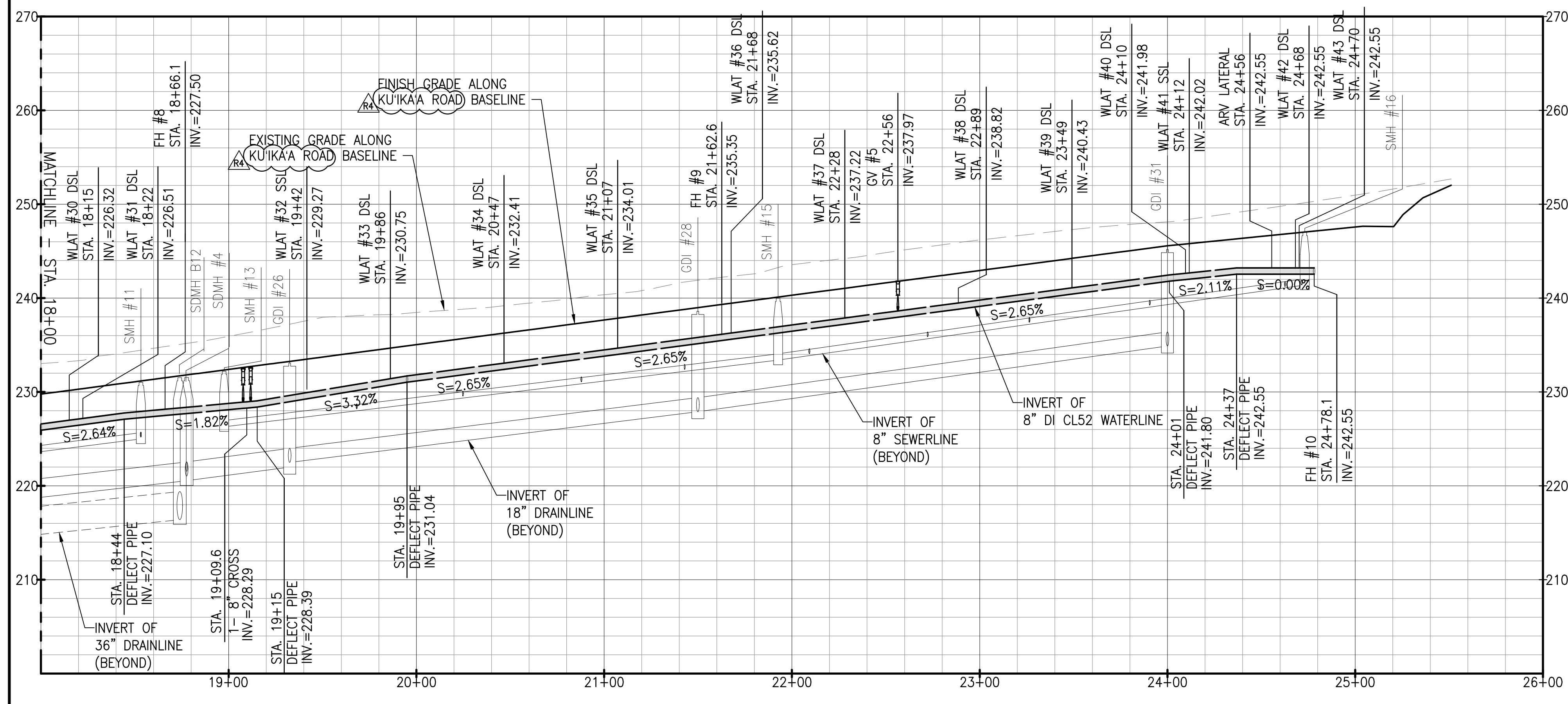
SHEET NUMBER: **C-232**

56 OF 109 SHEETS

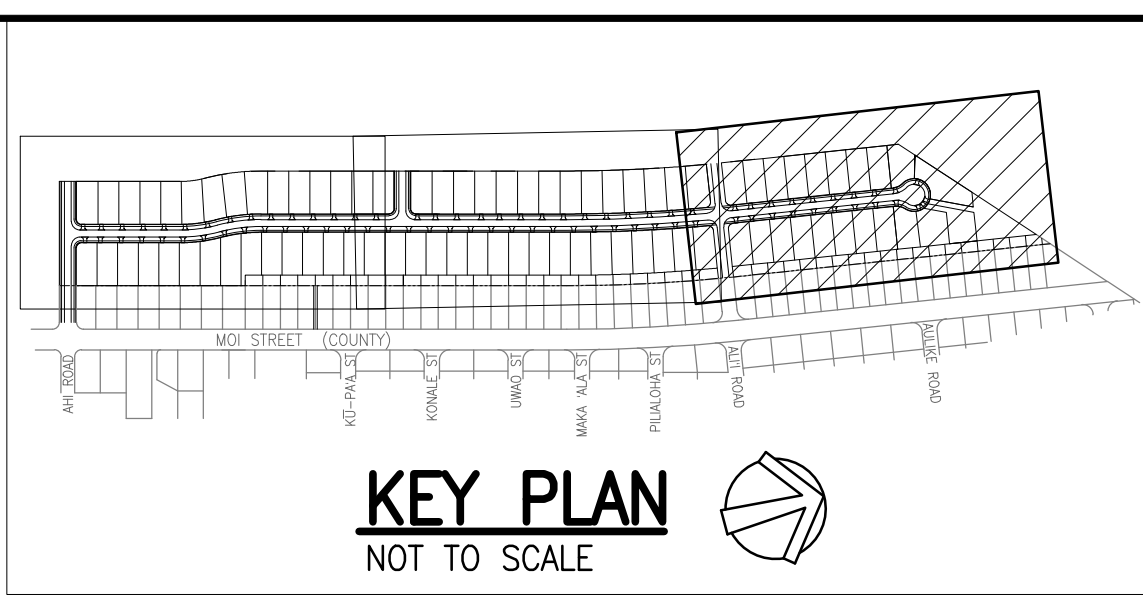
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PLAN - WATERLINE A
SCALE: 1" = 40'



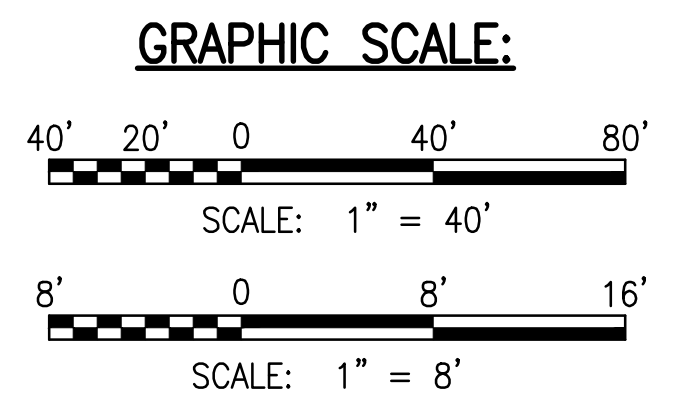
PROFILE - WATERLINE A
SCALE: HORIZ 1" = 40'
VERT 1" = 8'



LEGEND:

	PROPERTY LINE
	LOT LINE
	DRAINLINE
	SEWERLINE
	WATERLINE
	GRATED DRAIN INLET (GDI)
	STORM DRAIN MANHOLE (SDMH)
	SEWER MANHOLE (SMH)
	FIRE HYDRANT
	SINGLE SERVICE LATERAL (SSL)
	DOUBLE SERVICE LATERAL (DSL)
	ASPHALTIC CONCRETE PAVEMENT
	CONCRETE PAVEMENT
	GRASS

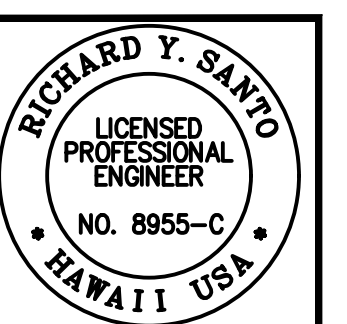
- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR SEWERLINE PLAN AND PROFILE, SEE SHEETS C-221 TO C-226.
 - FOR DRAINLINE PLAN AND PROFILE, SEE SHEET C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PLAN AND PROFILE, SEE SHEET C-216.
 - FOR FIRE HYDRANT PROFILES, SEE SHEET C-236.
 - FOR GATE VALVE AND VALVE BOX DETAIL, SEE DET. 2 C-512
 - FOR SINGLE SERVICE LATERALS, SEE DET. 1 C-511
 - FOR DOUBLE SERVICE LATERALS, SEE DET. 2 C-511
 - FOR FIRE HYDRANT CONNECTION, SEE DET. 1 C-510



APPROVED:

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

DATE



DATE: 4/30/24
BY: RYS
CHECKED BY: [Signature]
SCALE: 1/8" = 1'-0"

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1	05/06/23				
2	2/07/23				

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanalei, Kauai, Hawaii

WATERLINE A PLAN AND PROFILE - 3

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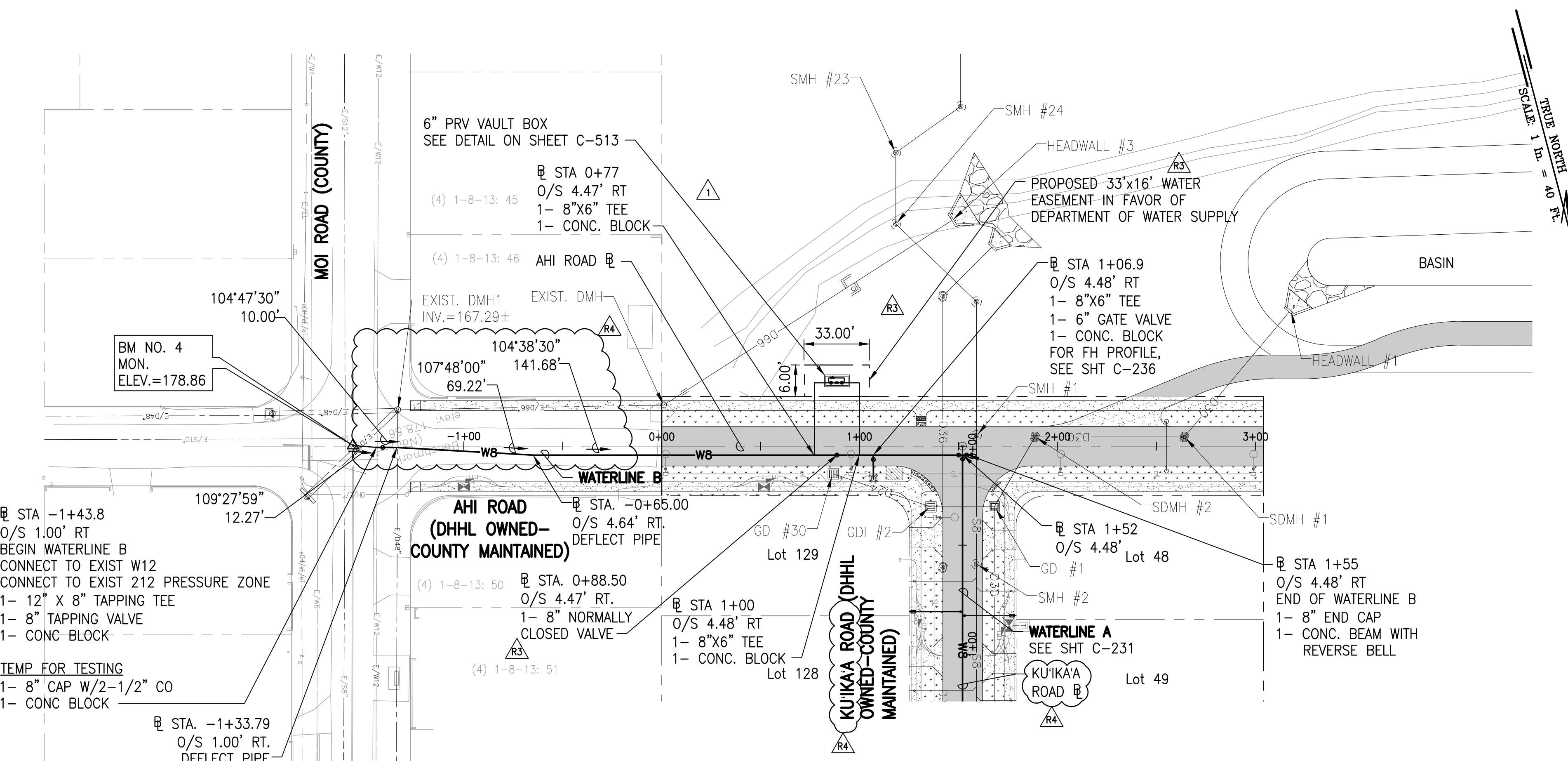
DATE: APRIL 2023

SHEET NUMBER

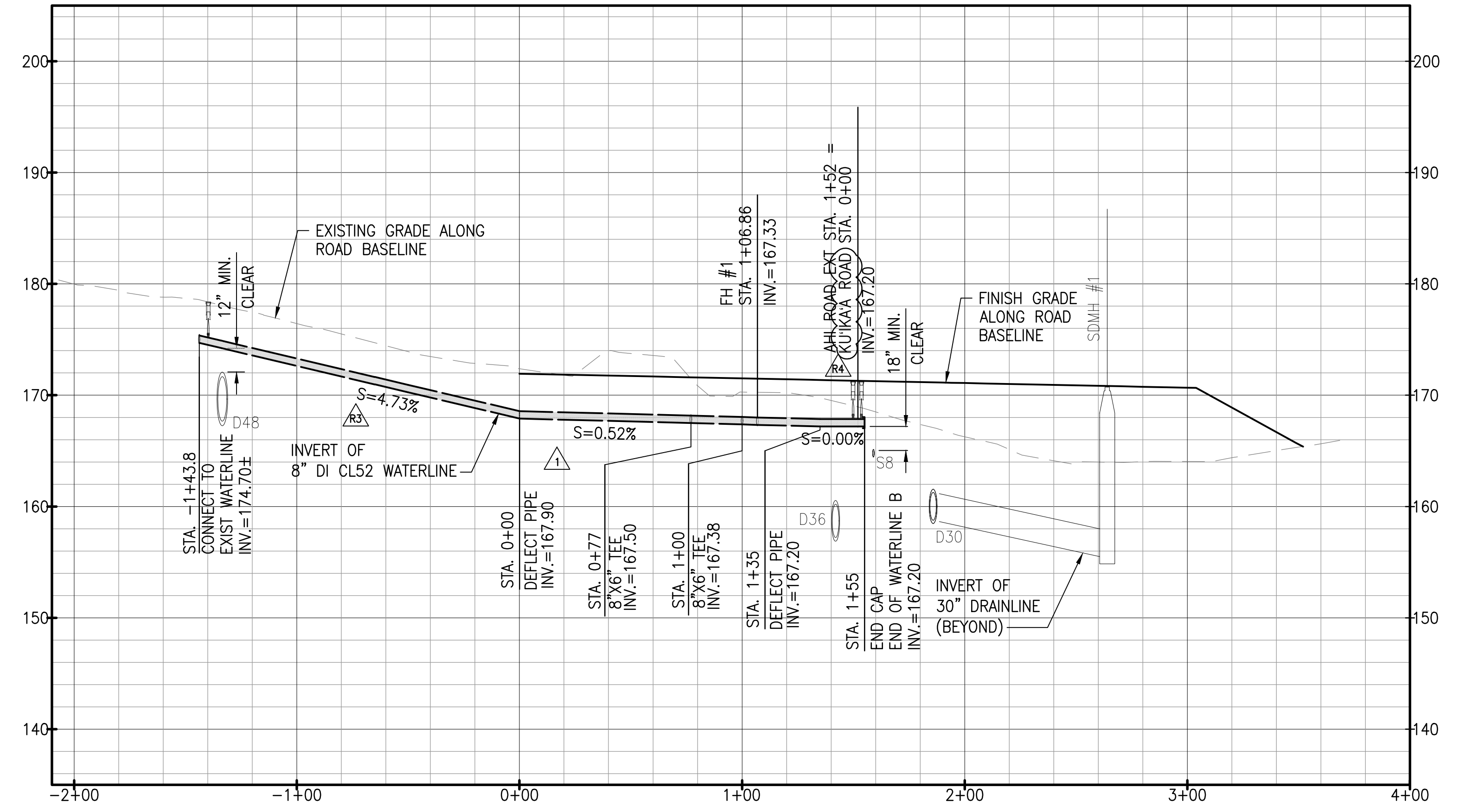
C-233

57 OF 109 SHEETS

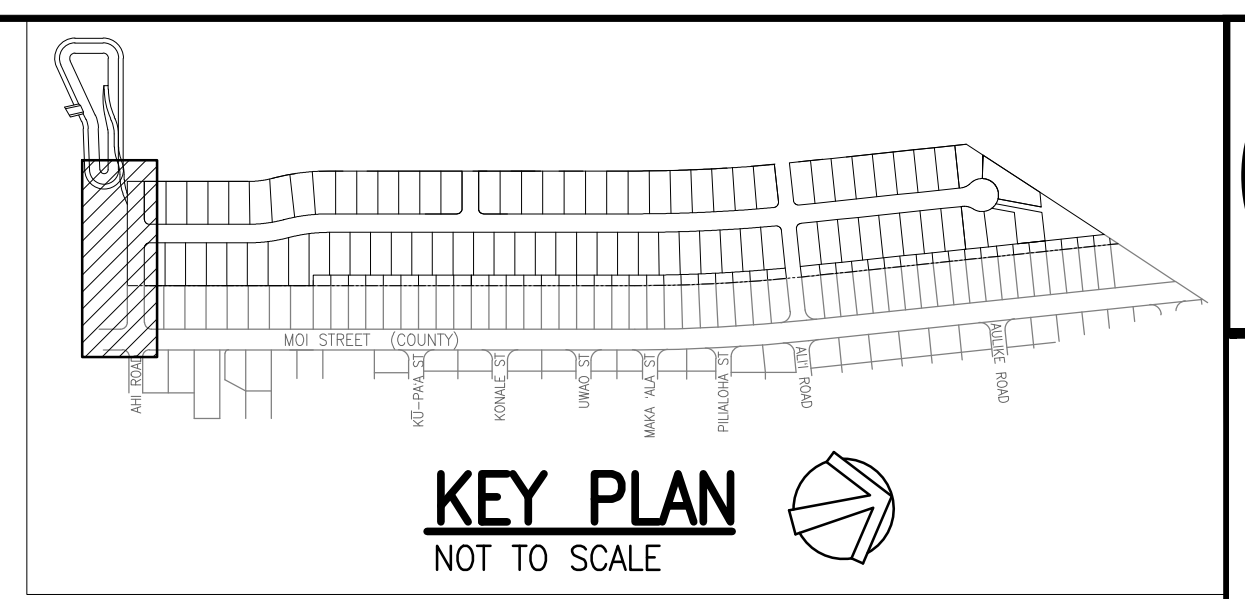
W:_CIVIL_3D_PROJECTS\2018_021.001_DHHL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-234 - C-235_AHI AND AHI ROAD WATERLINE PWP.DWG 5/15/2023 4:47 PM SAMANO



PLAN - WATERLINE B
SCALE: 1" = 40'



PROFILE - WATERLINE B
SCALE: HORIZ 1" = 40'
VERT 1" = 8'



LEGEND:

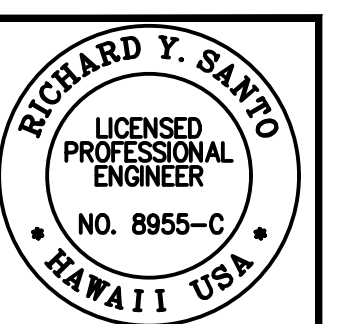
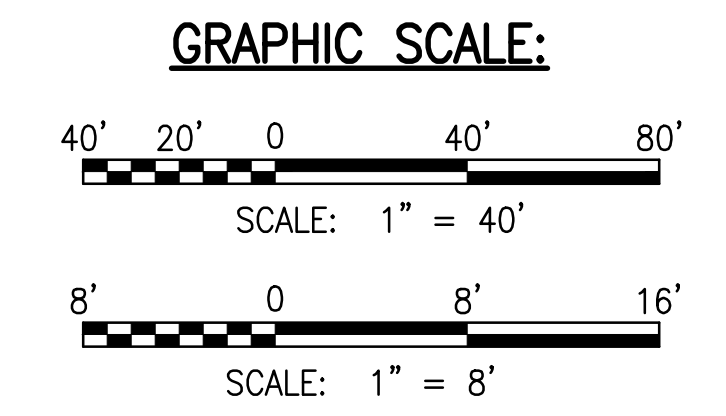
---	PROPERTY LINE
- - -	LOT LINE
D36	DRAINLINE
SB	SEWERLINE
W	WATERLINE
[Symbol]	GRATED DRAIN INLET (GDI)
[Symbol]	STORM DRAIN MANHOLE (SDMH)
[Symbol]	SEWER MANHOLE (SMH)
[Symbol]	FIRE HYDRANT
[Symbol]	SINGLE SERVICE LATERAL (SSL)
[Symbol]	DOUBLE SERVICE LATERAL (DSL)
[Pattern]	ASPHALTIC CONCRETE PAVEMENT
[Pattern]	CONCRETE PAVEMENT
[Pattern]	GRASS

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR SEWERLINE PLAN AND PROFILE, SEE SHEETS C-221 TO C-226.
 - FOR DRAINLINE PLAN AND PROFILE, SEE SHEET C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PLAN AND PROFILE, SEE SHEET C-216.
 - FOR FIRE HYDRANT PROFILES, SEE SHEET C-236.
 - FOR GATE VALVE AND VALVE BOX DETAIL, SEE DET. 2 C-512
 - FOR SINGLE SERVICE LATERALS, SEE DET. 1 C-511
 - FOR DOUBLE SERVICE LATERALS, SEE DET. 2 C-511
 - FOR FIRE HYDRANT CONNECTION, SEE DET. 1 C-510

APPROVED:

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

DATE



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Honolulu, Hawaii 96817

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1	05/16/23	REVISED STREET NAMES AND PERMIT COMMENTS	RA	
2	2/07/23	PERMIT COMMENTS	RA	
3	12/05/22	ADDENDUM 4	RA	

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

WATERLINE B PLAN AND PROFILE

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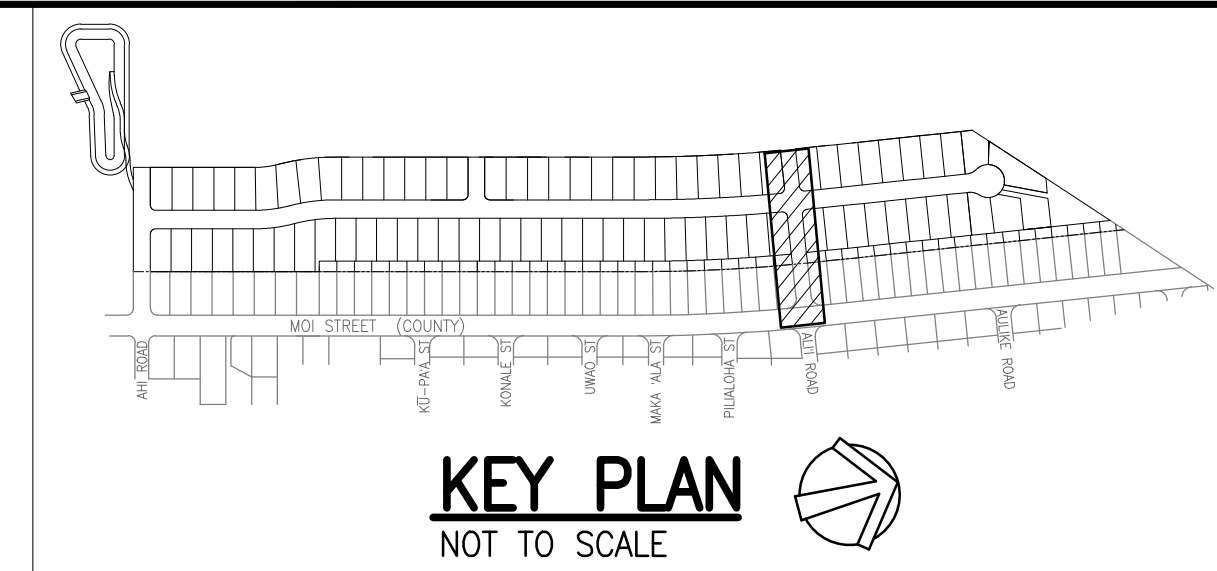
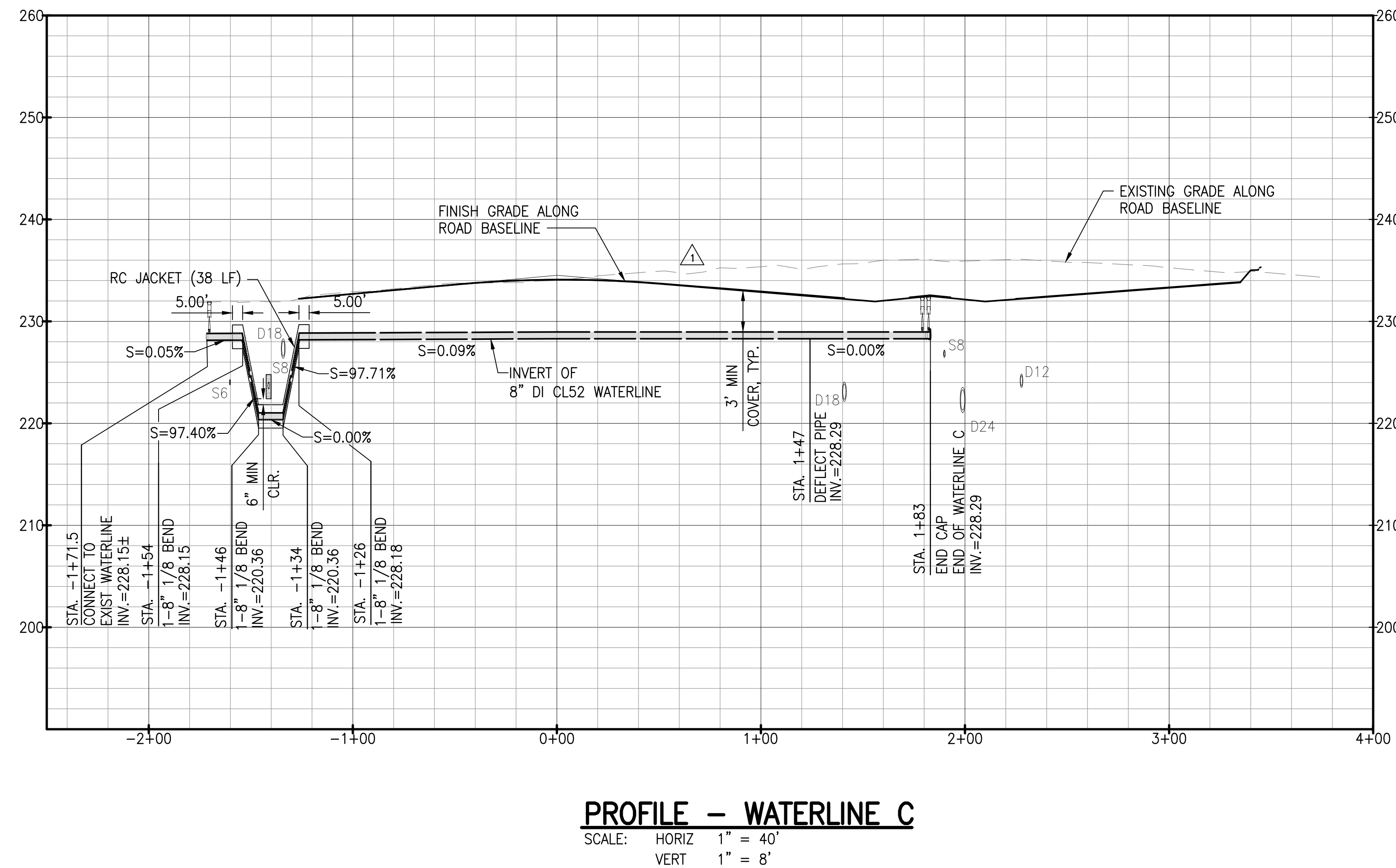
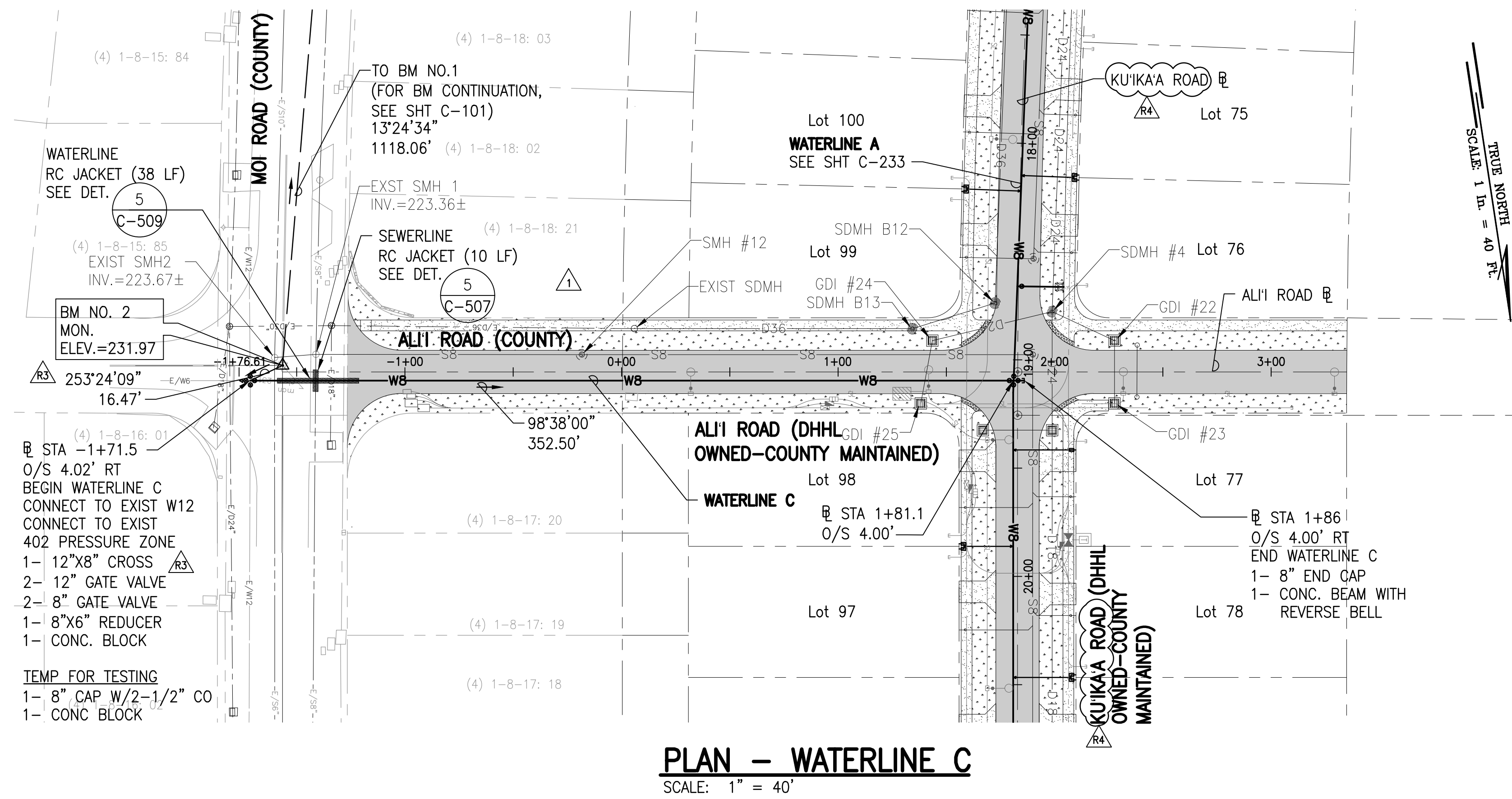
DATE: **APRIL 2023**

SHEET NUMBER

C-234

58 OF 109 SHEETS

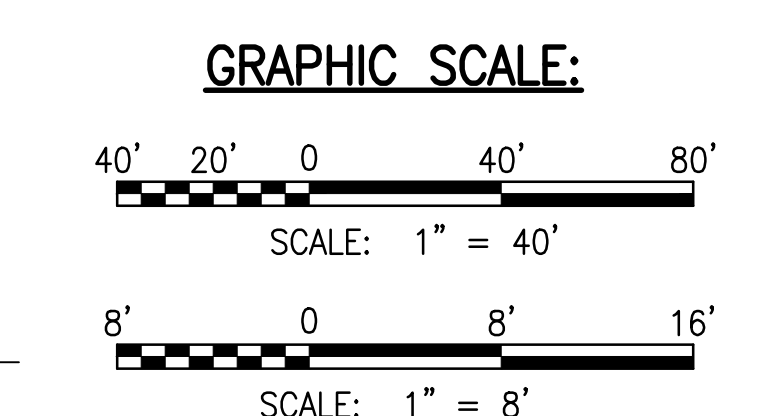
W:\CIVIL_3D\PROJECTS\2018_021.001\DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-234 - C-235 ARI AND ALI ROAD WATERLINE PWP.DWG 5/22/2023 8:09 PM SAMANO



LEGEND:

---	PROPERTY LINE
---	LOT LINE
D36	DRAINLINE
SB	SEWERLINE
W	WATERLINE
[Symbol]	GRATED DRAIN INLET (GDI)
[Symbol]	STORM DRAIN MANHOLE (SDMH)
[Symbol]	SEWER MANHOLE (SMH)
[Symbol]	FIRE HYDRANT
[Symbol]	SINGLE SERVICE LATERAL (SSL)
[Symbol]	DOUBLE SERVICE LATERAL (DSL)
[Pattern]	ASPHALTIC CONCRETE PAVEMENT
[Pattern]	CONCRETE PAVEMENT
[Pattern]	GRASS

- NOTES:**
- FOR ROADWAY TYPICAL SECTIONS, SEE SHEET C-105.
 - FOR SEWERLINE PLAN AND PROFILE, SEE SHEETS C-221 TO C-226.
 - FOR DRAINLINE PLAN AND PROFILE, SEE SHEET C-211 TO C-214.
 - FOR BASIN PLAN AND PROFILE, SEE SHEET C-215.
 - FOR DRAIN LATERAL PLAN AND PROFILE, SEE SHEET C-216.
 - FOR FIRE HYDRANT PROFILES, SEE SHEET C-236.
 - FOR GATE VALVE AND VALVE BOX DETAIL, SEE DET. 2 C-512
 - FOR SINGLE SERVICE LATERALS, SEE DET. 1 C-511
 - FOR DOUBLE SERVICE LATERALS, SEE DET. 2 C-511
 - FOR FIRE HYDRANT CONNECTION, SEE DET. 1 C-510



APPROVED: _____ DATE _____
FOR MANAGER AND CHIEF ENGINEER, DEPT. OF WATER COUNTY OF KAUAI

RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

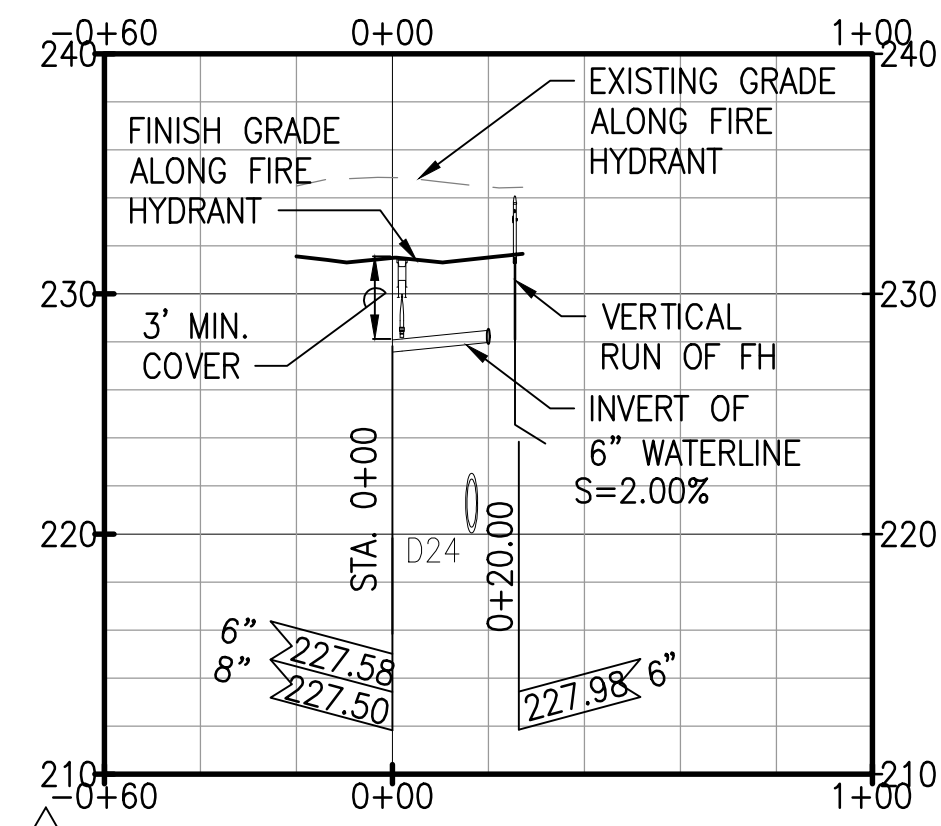
DATE: APRIL 2023
SHEET NUMBER: C-235
59 OF 109 SHEETS

PROJECT:
DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

WATERLINE C PLAN AND PROFILE

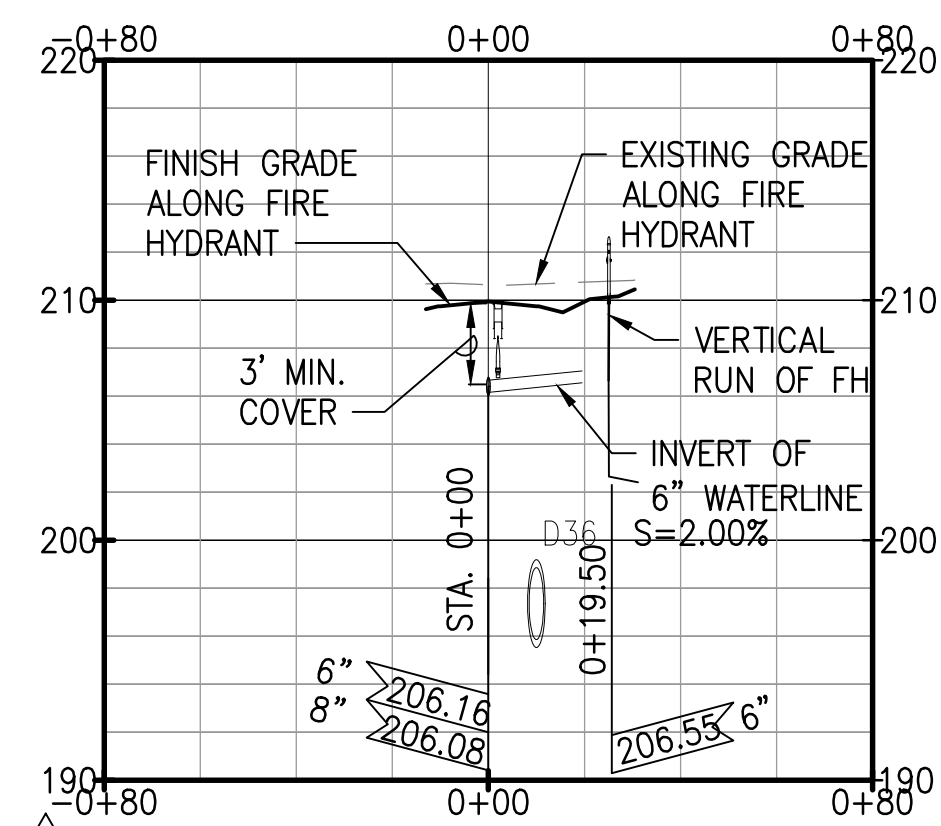
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REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
1	05/26/23	REVISED STREET NAMES		
2	2/07/23	PERMIT COMMENTS		
3	12/05/22	ADDENDUM 4		



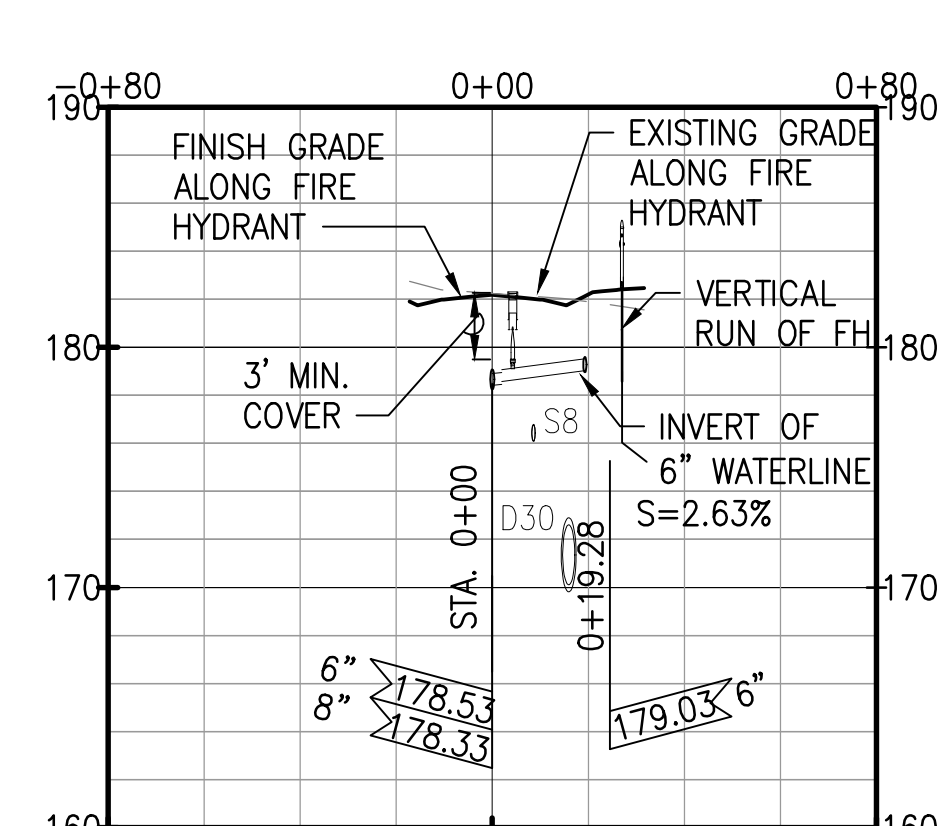
**KU'IKA'A ROAD - @ STA. 18+66±
PROFILE - FH #8**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



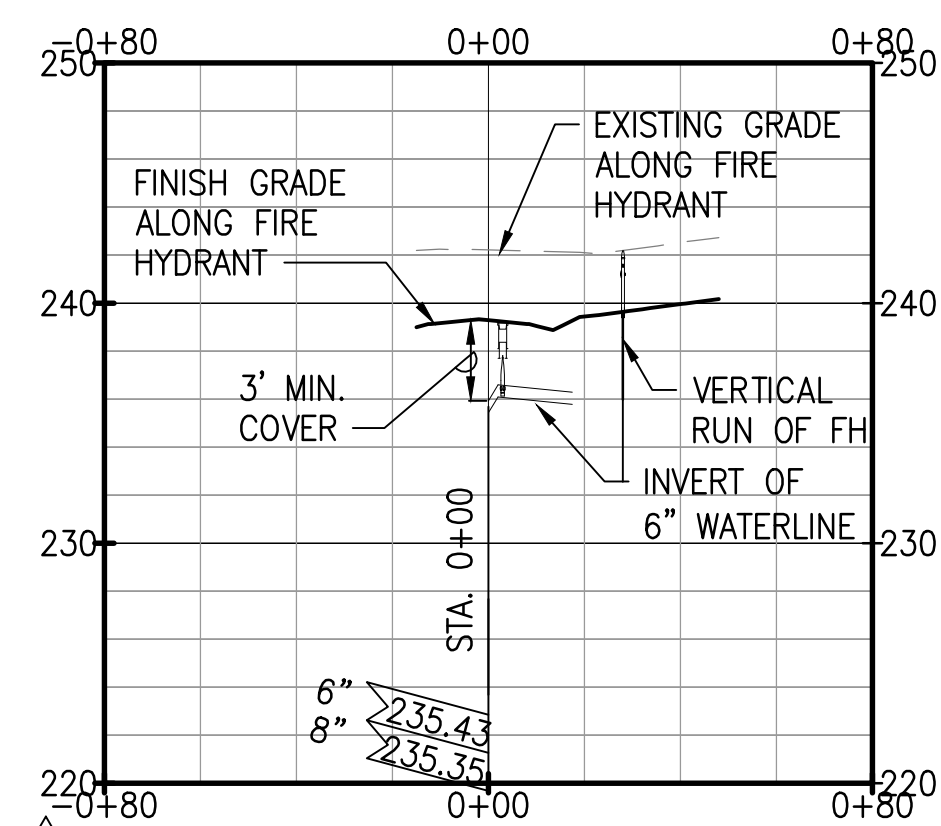
**KU'IKA'A ROAD - @ STA. 10+47±
PROFILE - FH #5**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



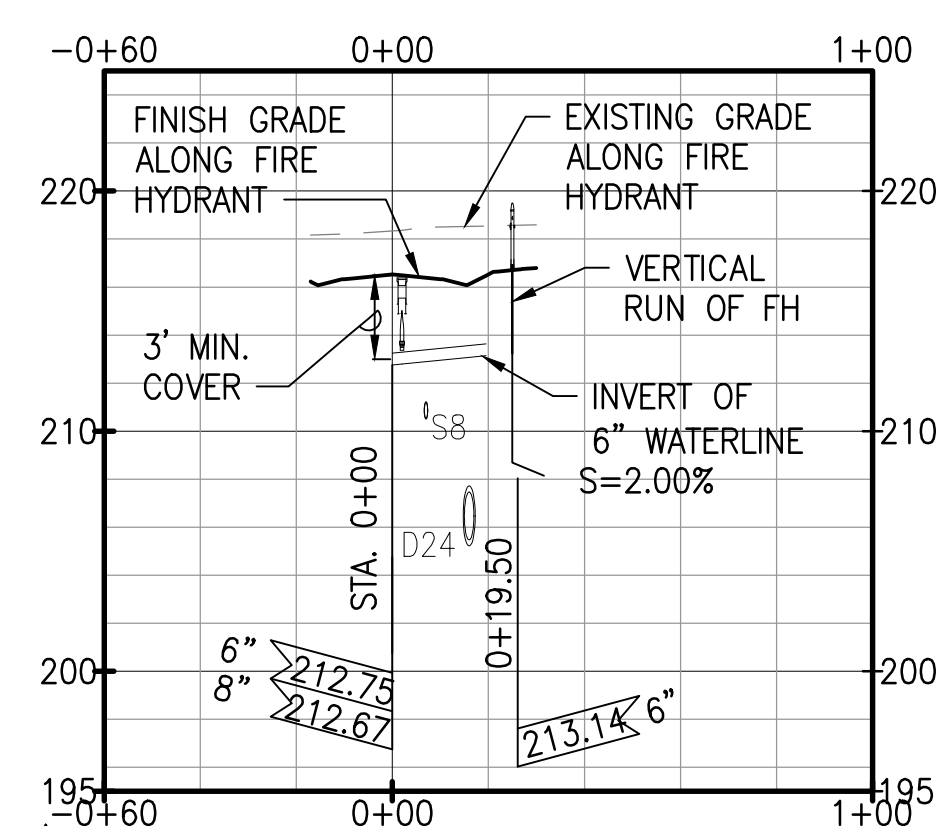
**KU'IKA'A ROAD - @ STA. 3+25±
PROFILE - FH #2**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



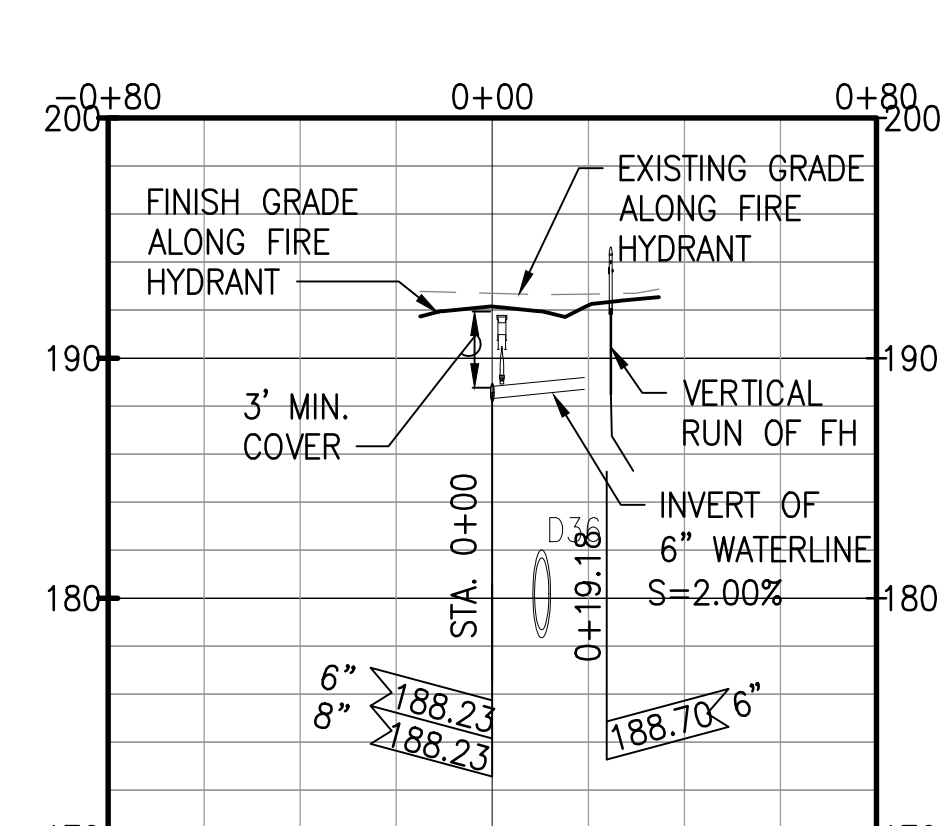
**KU'IKA'A ROAD - @ STA. 21+62±
PROFILE - FH #9**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



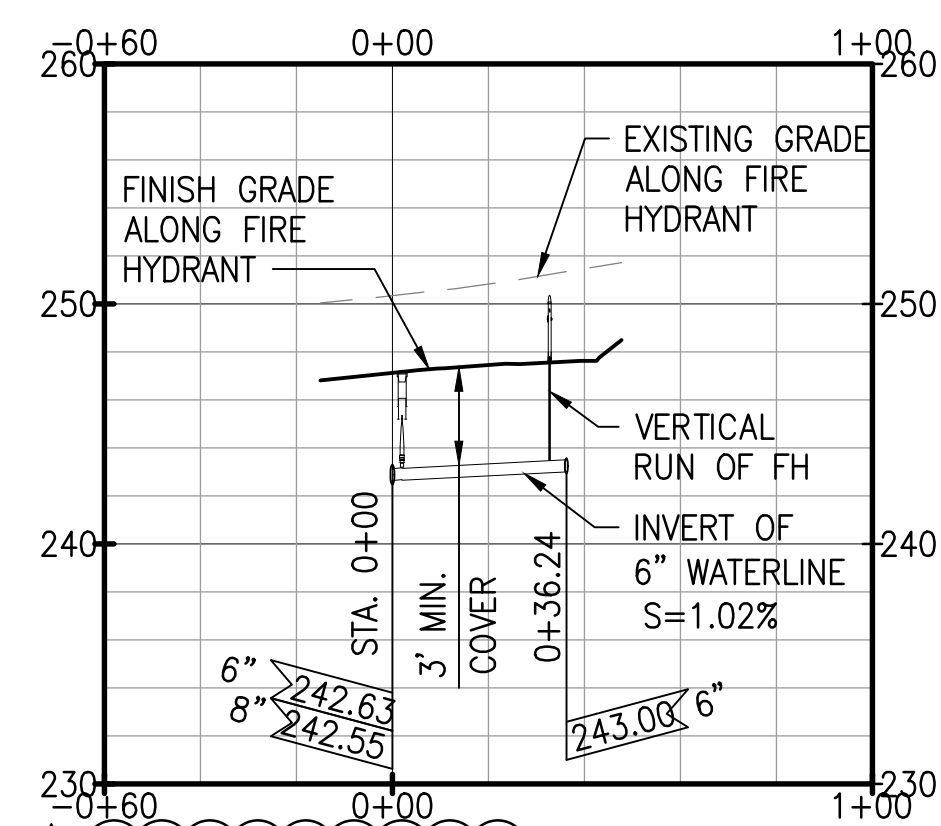
**KU'IKA'A ROAD - @ STA. 12+87±
PROFILE - FH #6**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



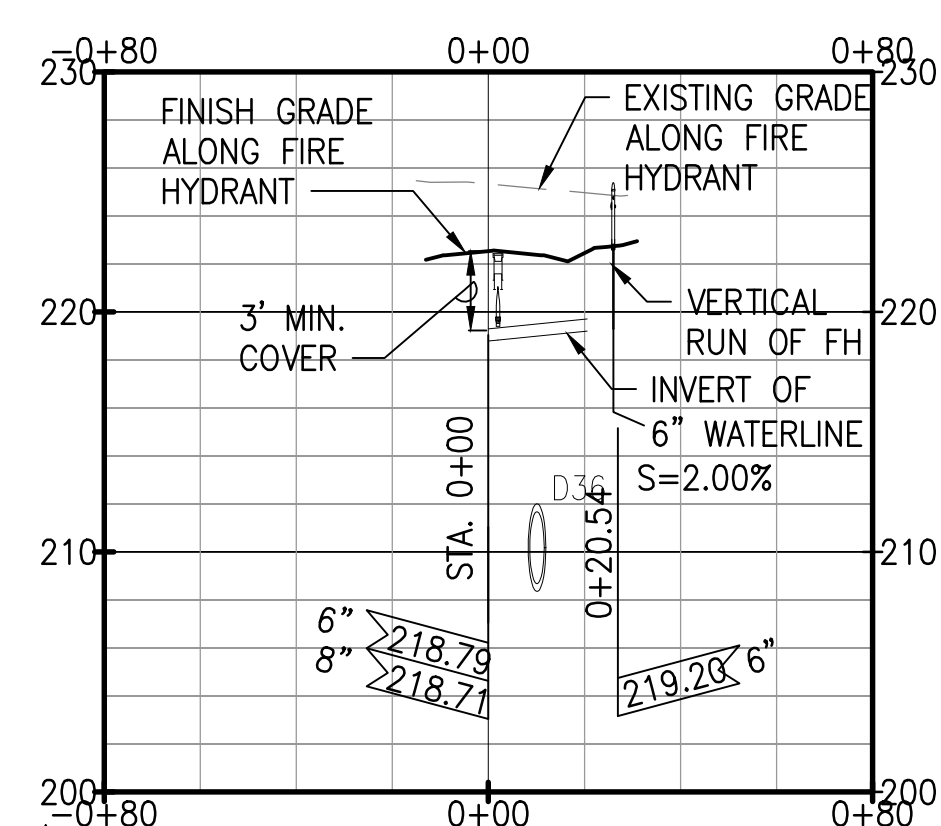
**KU'IKA'A ROAD - @ STA. 5+59±
PROFILE - FH #3**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



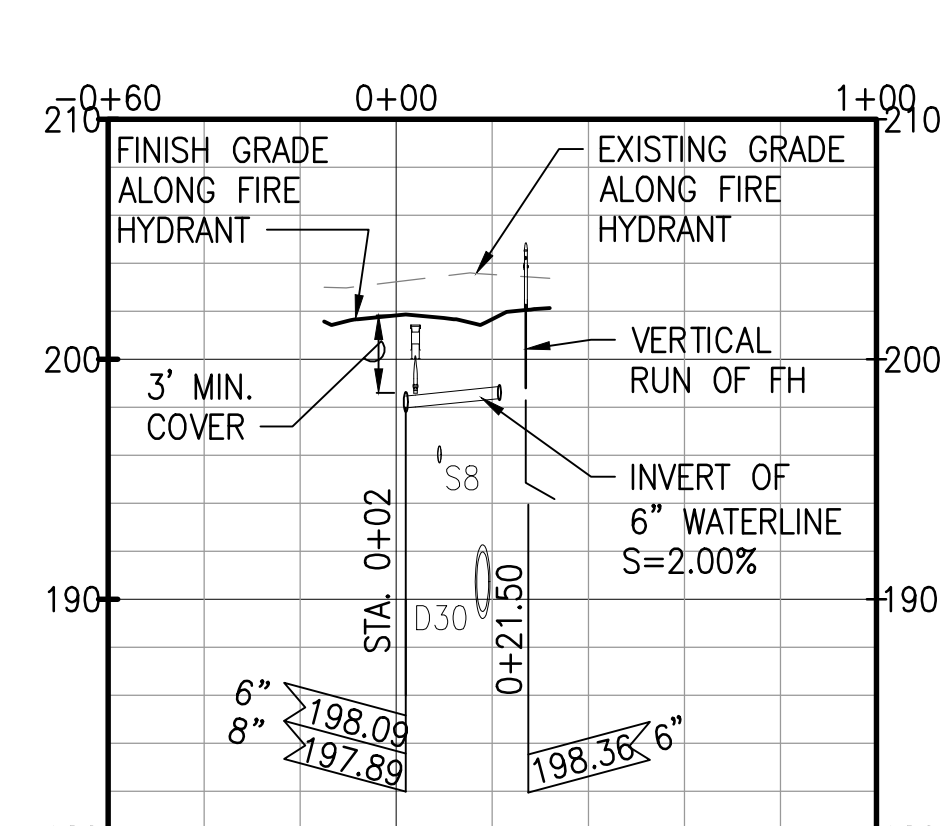
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PROFILE - FH #10**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



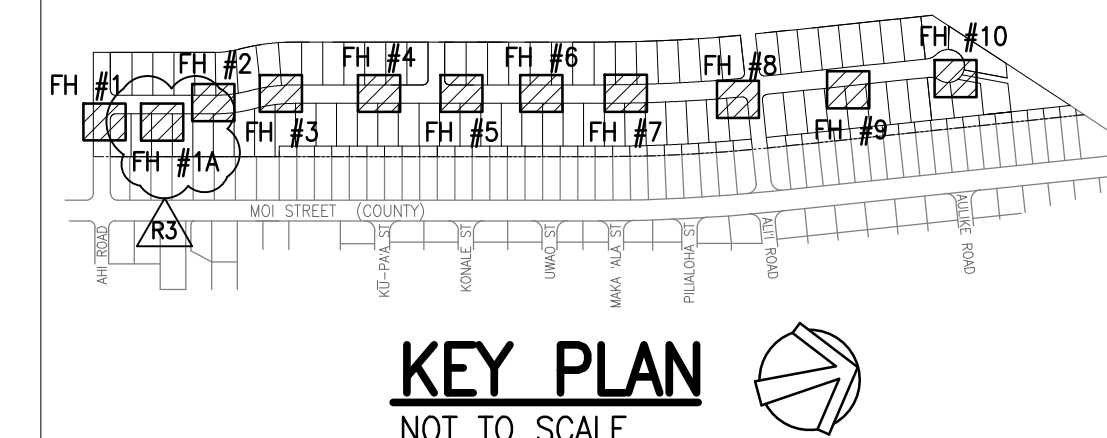
**KU'IKA'A ROAD - @ STA. 15+26±
PROFILE - FH #7**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'

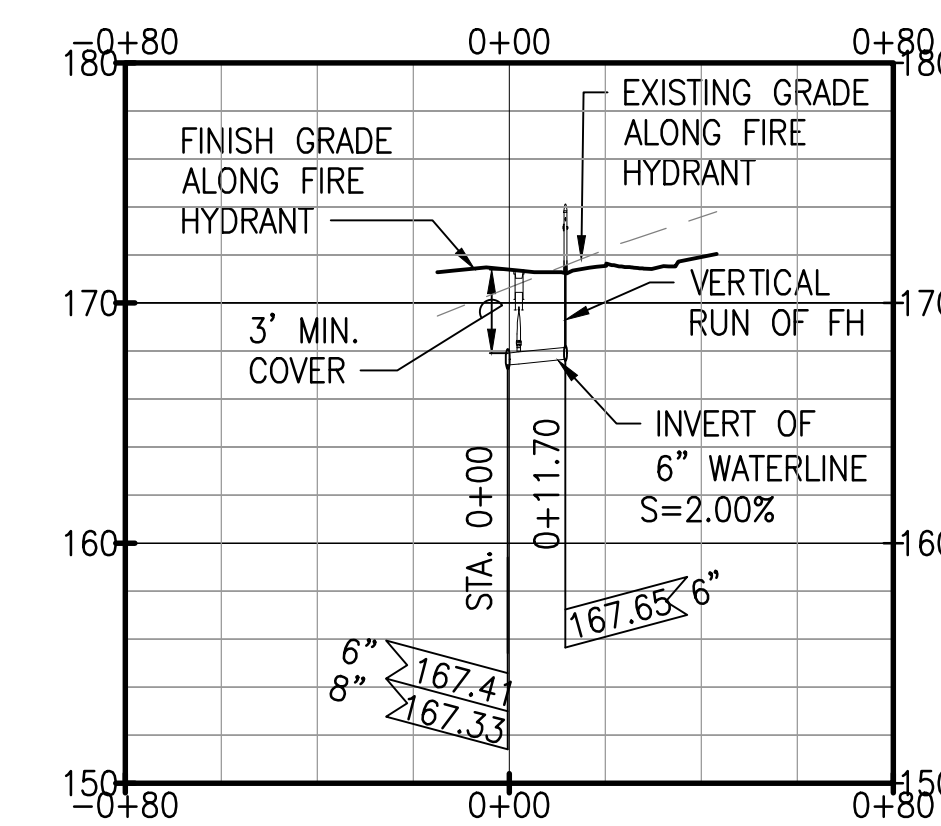


**KU'IKA'A ROAD - @ STA. 8+07±
PROFILE - FH #4**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'

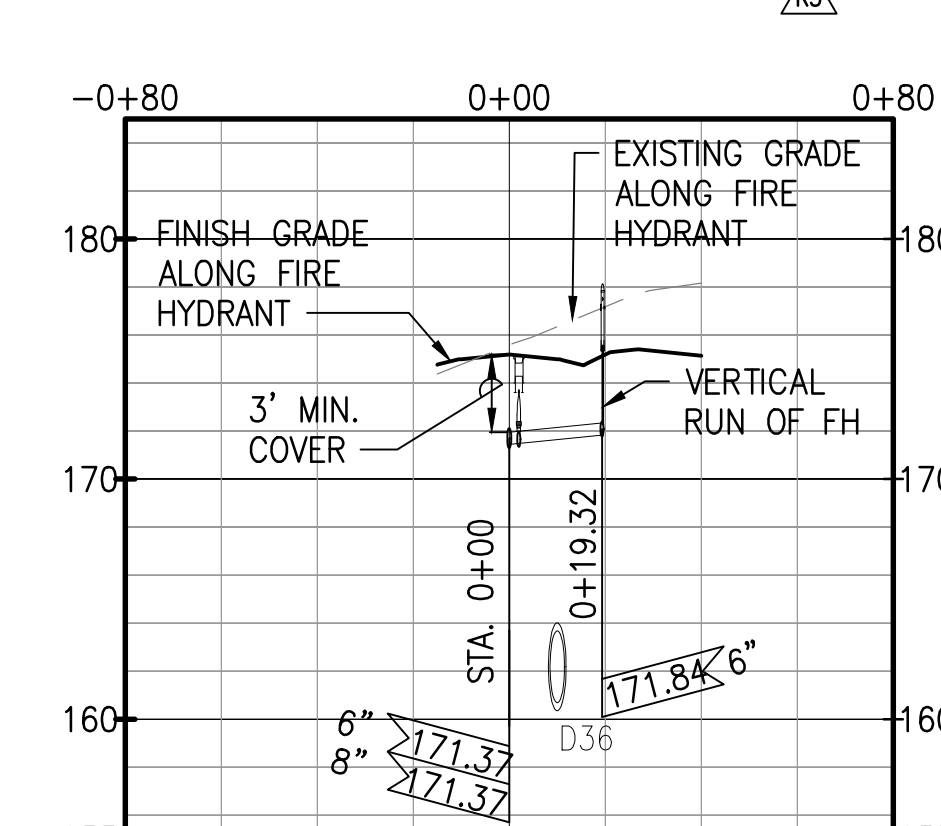


KEY PLAN
NOT TO SCALE



**AHI ROAD - @ STA. 1+10±
PROFILE - FH #1**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'



**KU'IKA'A ROAD - @ STA. 1+32±
PROFILE - FH #1A**

SCALE: HORIZ 1" = 40'
VERT 1" = 8'

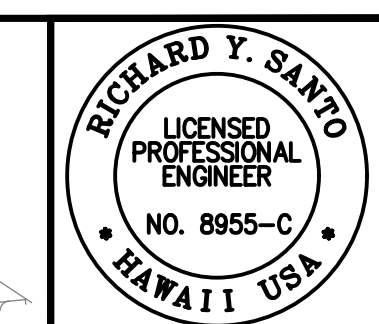
GRAPHIC SCALE:



APPROVED:

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

DATE



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SSFM International, Inc.
50 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	PERMIT COMMENTS	REVISION	DESCRIPTION
RA	05/26/23			
RA	2/07/23			

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

FIRE HYDRANT PROFILES

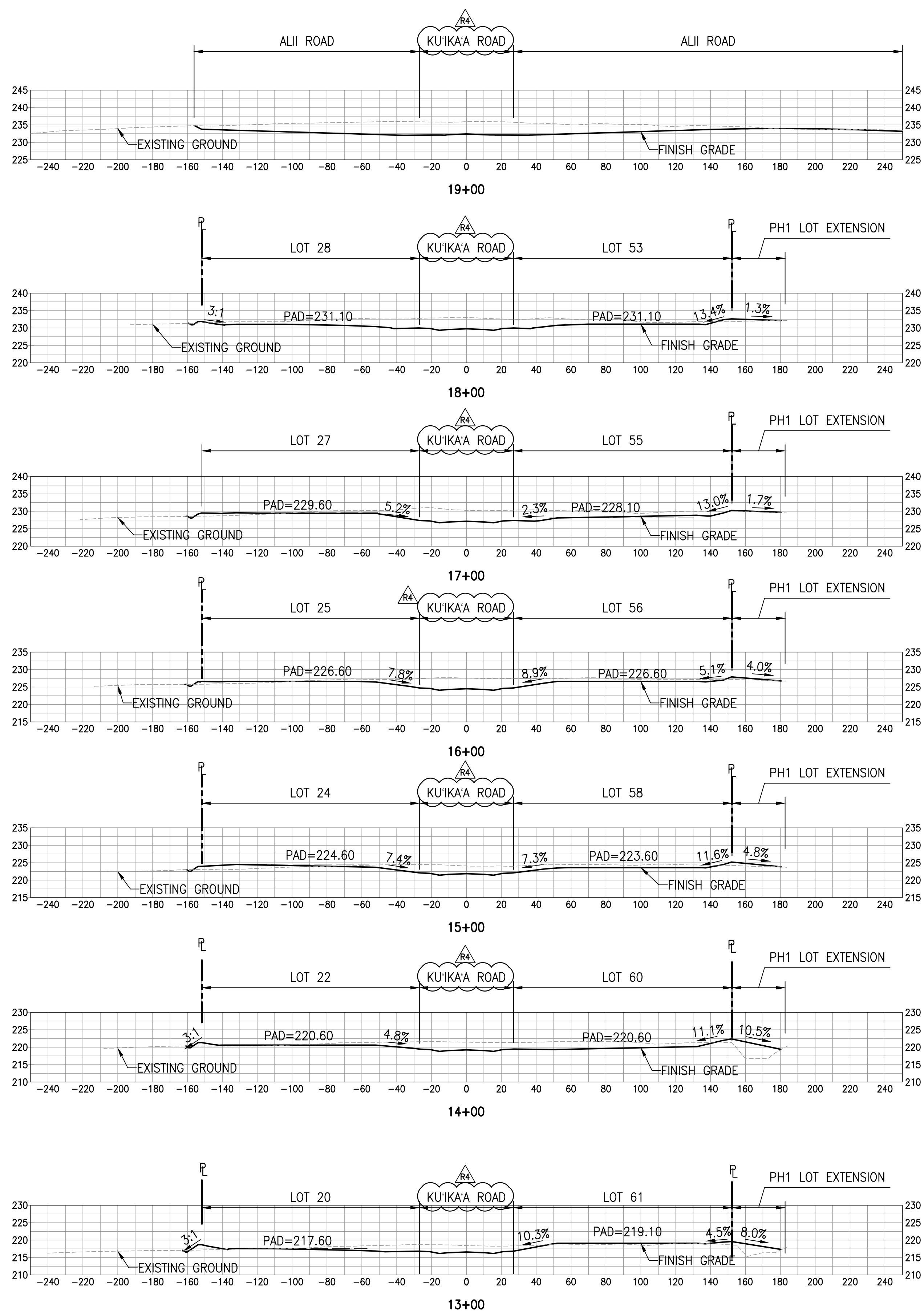
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DATE: APRIL 2023

SHEET NUMBER: C-236

60 OF 109 SHEETS

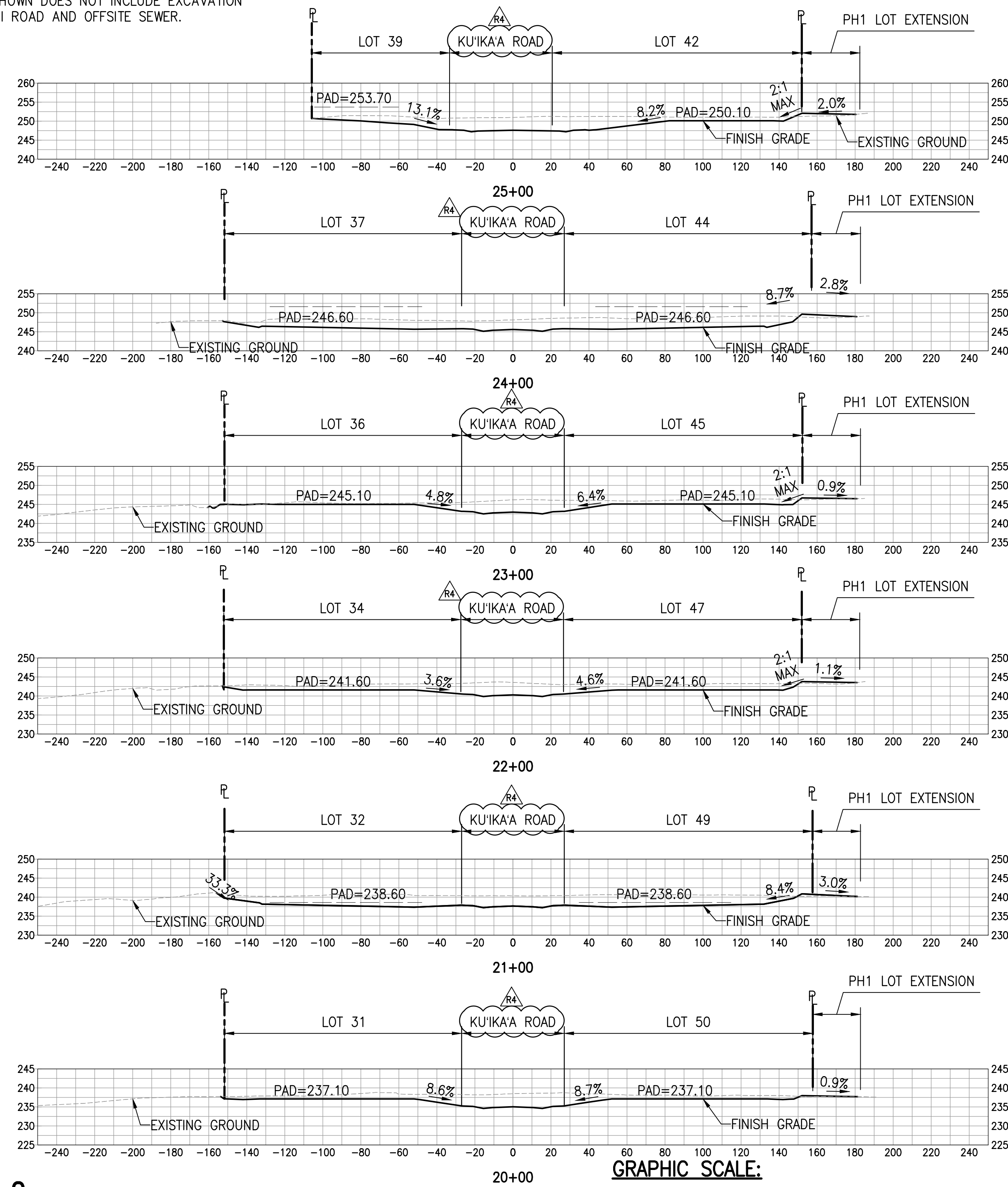
WA_CIVIL_3D_PROJECTS\2018_021.001_DHHL_HAMAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\LOT_CE_DWG\C-302 GRADING SECTIONS - 2.DWG 5/5/2023 4:32 PM SAMANO



EARTHWORK QUANTITIES SUMMARY					
STATION	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
1+00	0.00	0.00	0.00	0.00	0.00
2+00	1134.96	2016.76	1134.96	2016.76	-881.80
3+00	1031.29	1232.61	2166.25	3249.37	-1083.12
4+00	766.18	926.52	2932.43	4175.89	-1243.46
5+00	260.59	1119.81	3193.02	5295.70	-2102.68
6+00	163.58	1223.74	3356.60	6519.45	-3162.84
7+00	598.93	660.91	3955.53	7180.36	-3224.83
8+00	848.63	311.27	4804.16	7491.63	-2687.47
9+00	464.69	618.13	5268.85	8109.76	-2840.91
10+00	278.86	797.65	5547.71	8907.41	-3359.70
11+00	383.13	868.02	5930.84	9775.44	-3844.60
12+00	330.12	1093.36	6260.96	10868.79	-4607.83
13+00	529.10	774.03	6790.06	11642.83	-4852.76

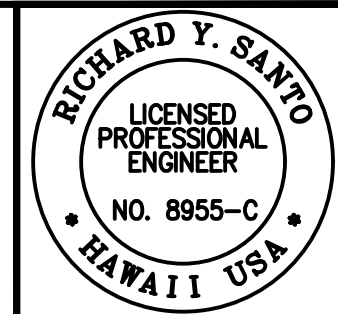
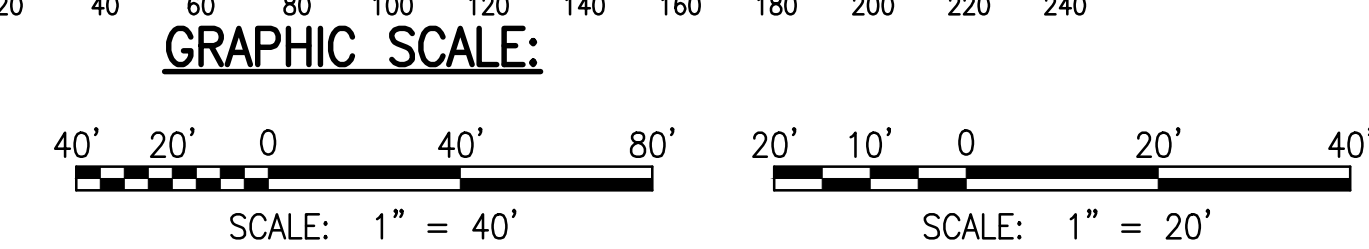
*THE EARTHWORK SUMMARY TABLE SHOWN DOES NOT INCLUDE EXCAVATION OR EMBANKMENT FOR THE BASIN, AHI ROAD AND OFFSITE SEWER.

EARTHWORK QUANTITIES SUMMARY					
STATION	CUT VOL (CY)	FILL VOL (CY)	CUM CUT VOL (CY)	CUM FILL VOL (CY)	NET VOL (CY)
14+00	1083.68	396.37	7873.75	12039.20	-4165.45
15+00	1229.62	348.49	9103.37	12387.68	-3284.31
16+00	1164.89	212.45	10268.26	12600.13	-2331.87
17+00	1507.28	126.86	11775.53	12726.99	-951.45
18+00	1809.04	86.97	13584.58	12813.96	770.62
19+00	2434.88	38.92	16019.45	12852.88	3166.57
20+00	2426.69	12.59	18446.14	12865.47	5580.67
21+00	2382.86	20.92	20829.00	12886.39	7942.61
22+00	2490.17	37.03	23319.18	12923.42	10395.75
23+00	1735.21	37.03	25054.39	12960.46	12093.93
24+00	2027.41	46.07	27081.80	13006.53	14075.27
25+00	2316.98	59.53	29398.78	13066.07	16332.72



GRADING SECTIONS - 2

SCALE: HORIZ 1" = 40'
VERT 1" = 20'



DATE: 4/20/24
PROJECT: GRADING SECTIONS - 2

SSFM International, Inc.
50 Surfer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	REVISION DESCRIPTION	MADE BY	APPROVED
RA	05/26/23	REVISED STREET NAMES		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

GRADING SECTIONS - 2
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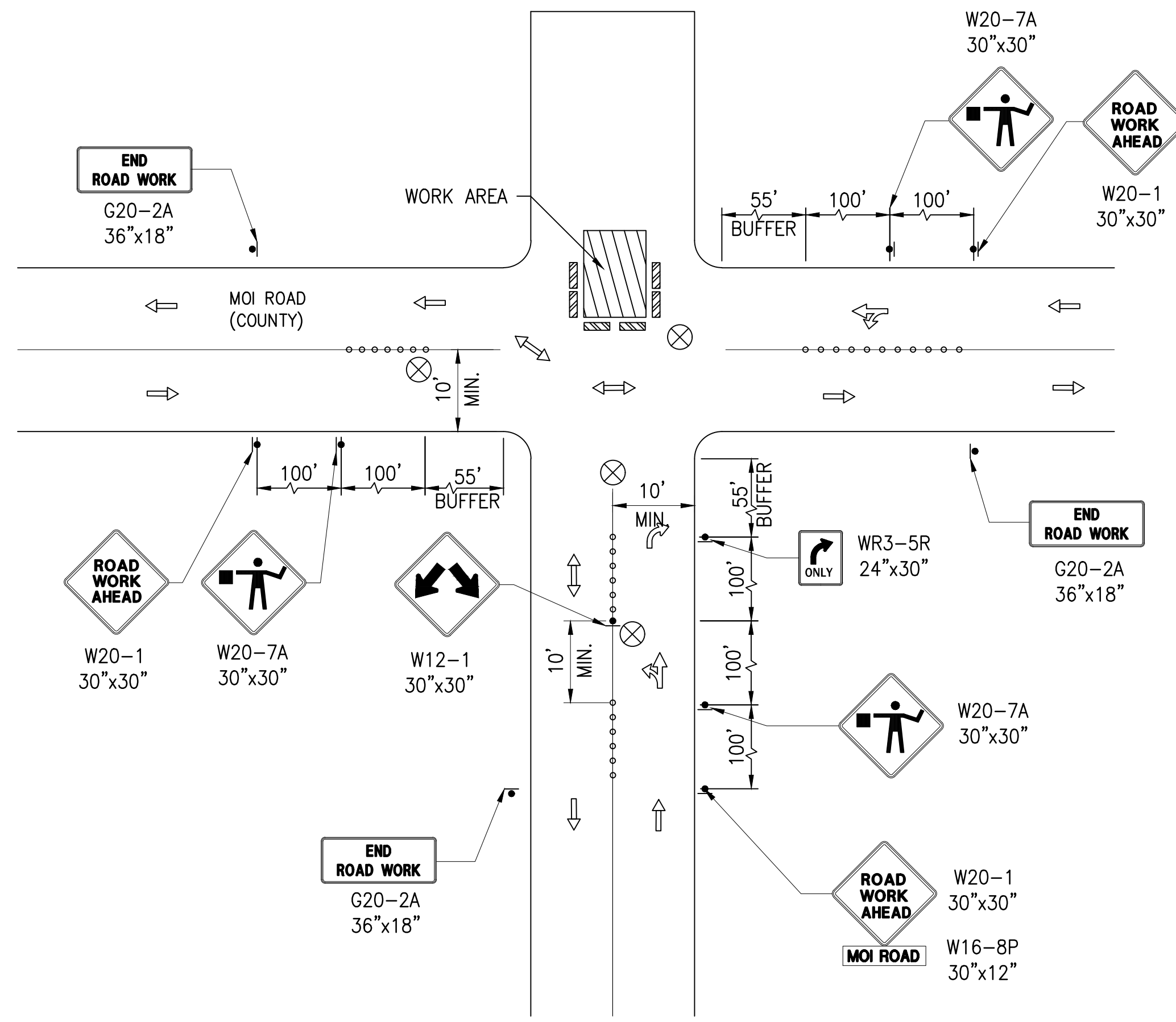
DATE: APRIL 2023
SHEET NUMBER: C-302
62 OF 109 SHEETS

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. THE PERMITEE SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES, STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
2. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK AREA IS PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
4. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED.
5. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
6. WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLANS.
7. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
8. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
9. THE BACKS OF ALL SIGNS USED FOR TRAFFIC CONTROL SHALL BE APPROPRIATELY COVERED TO PRECLUDE THE DISPLAY OF INAPPLICABLE SIGN MESSAGES (I.E., WHEN SIGNS HAVE MESSAGES ON BOTH FACES).
10. LANE CLOSURES SHALL BE LIMITED ONLY TO THE EXTENT OF ACCOMPLISHING EACH DAY'S WORK. AS SOON AS EACH DAY'S WORK IS COMPLETED, THE PERMITEE SHALL REMOVE ALL TRAFFIC CONTROL DEVICES NO LONGER NEEDED TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC. REMOVAL SHALL BE IN THE REVERSE ORDER OF INSTALLATION. EXISTING FADED OR OBLITERATED PAVEMENT MARKINGS THAT ARE NECESSARY FOR SAFE TRAFFIC FLOW IN THE CONSTRUCTION AREA SHALL BE REPLACED WITH TEMPORARY OR PERMANENT MARKINGS BEFORE OPENING THE ROADWAY TO PUBLIC TRAFFIC EACH DAY.
11. PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL BE REPLACED UPON COMPLETION OF EACH PHASE OF WORK.
12. CONES AND DELINEATORS SHALL BE SPACED AT A MAXIMUM DISTANCE OF 20 FEET APART. A MINIMUM OF SIX CHANNELIZING DEVICES SHALL BE USED FOR EACH TAPER LENGTH.
13. DRIVEWAYS SHALL BE KEPT OPEN UNLESS THE OWNERS OF THE PROPERTY USING THE DRIVEWAY ARE OTHERWISE PROVIDED FOR SATISFACTORILY. FURTHER, THE PERMITEE SHALL CONTROL TRAFFIC GOING INTO AND OUT OF DRIVEWAYS.
14. BUFFER AND TAPER AREA ON APPROACH TO ANY WORK AREA SHALL BE KEPT CLEAR OF VEHICLES AND EQUIPMENT.
15. "NO PARKING" SIGNS SHALL BE POSTED WITHIN ANY WORK AREA AND FOR THE BUFFER AND TAPER AREAS APPROACHING THE WORK AREA.
16. TRAFFIC CONTROL PLANS ARE APPROVED FOR WORK ON ANY CITY STREET AREA ONLY BETWEEN THE HOURS OF 08:30 A.M. AND 03:30 P.M. (MONDAY-FRIDAY).

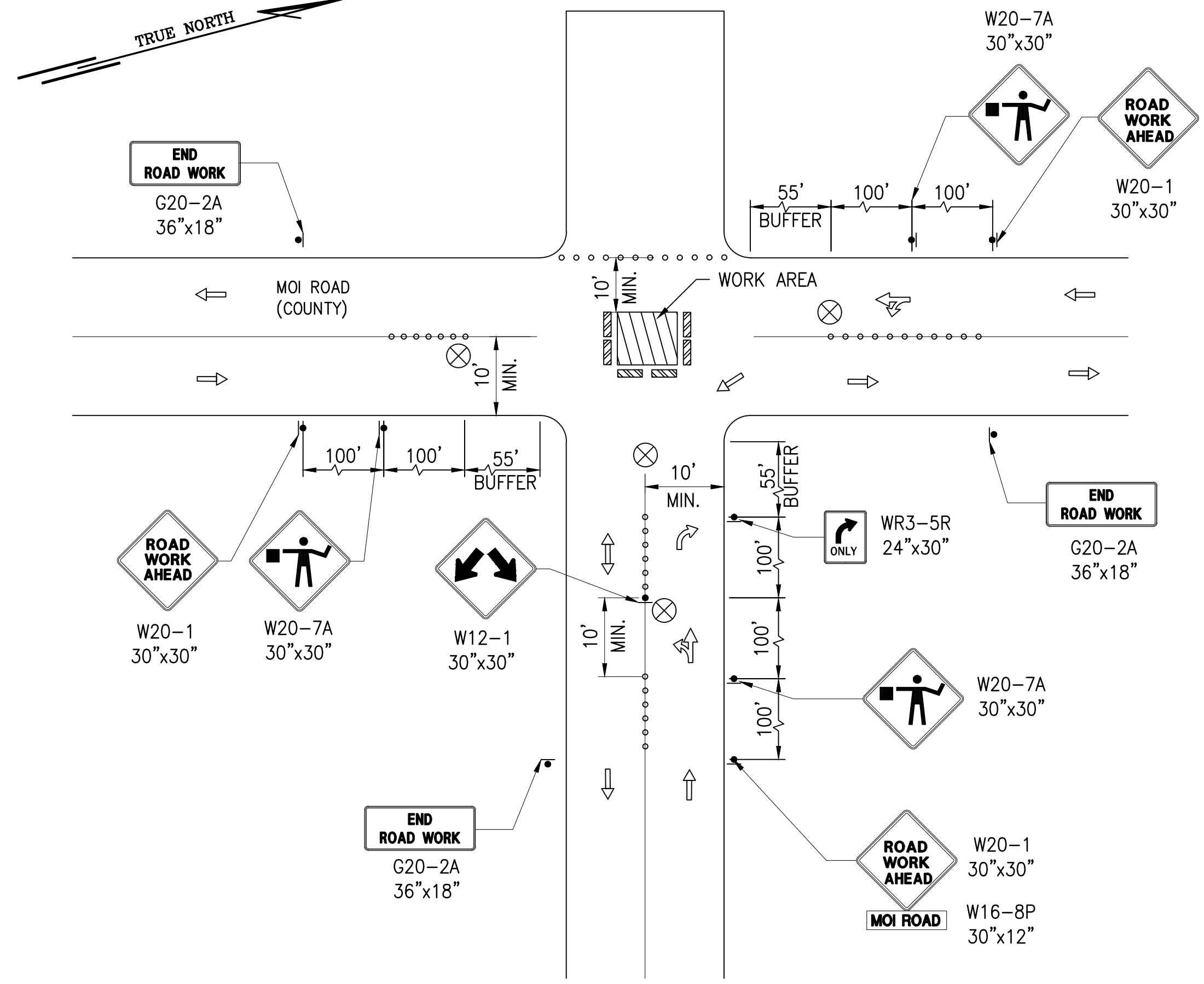
LEGEND

- CONES AT 10' O.C.
- ▲ SIGN
- ← TRAFFIC DIRECTION
- ▨ WORK AREA
- ⊗ POLICE OFFICER / FLAGGER
- ▩ TYPE III BARRICADE



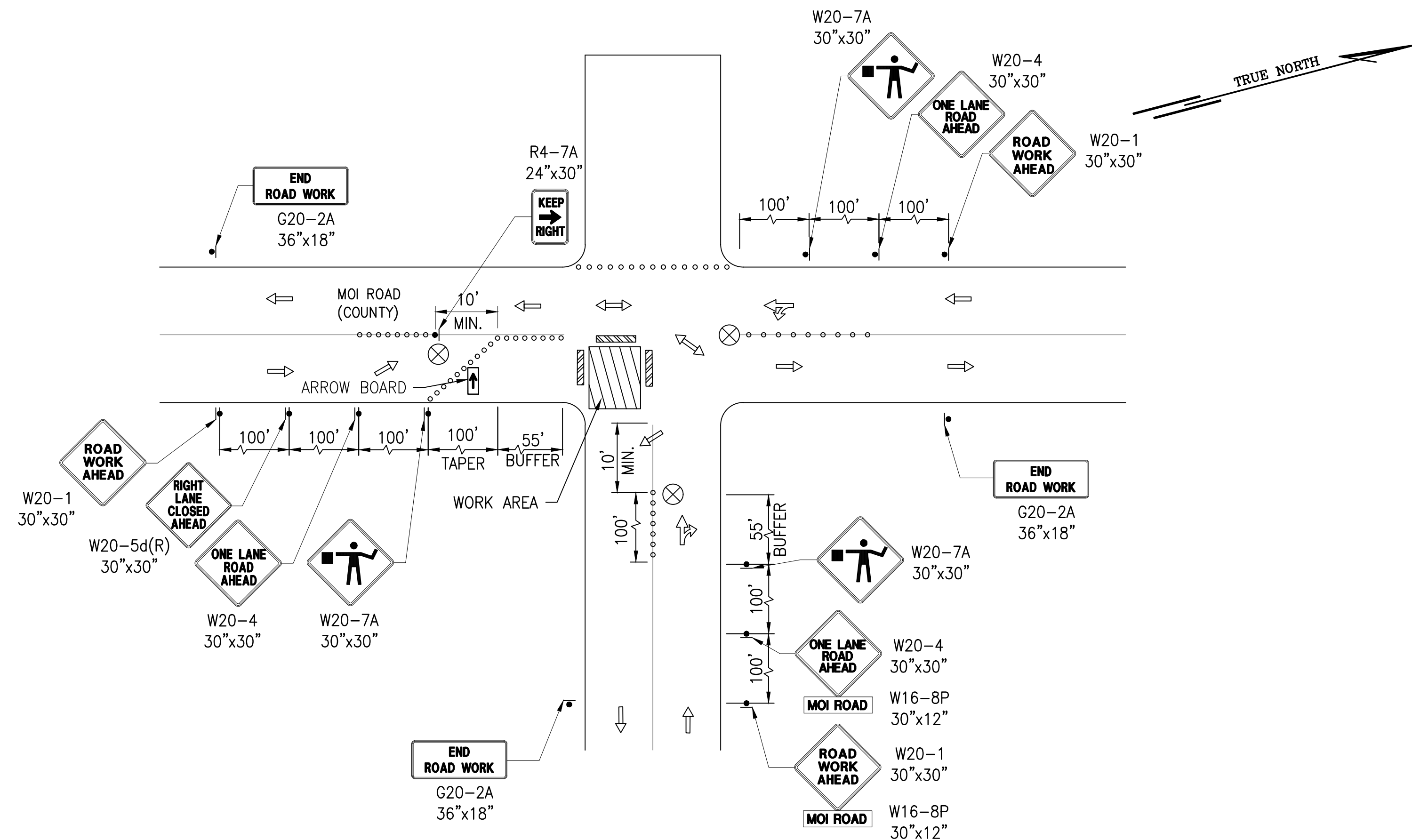
CLOSURE AT SOUTH BOUND LANE – MOI ROAD

NOT TO SCALE



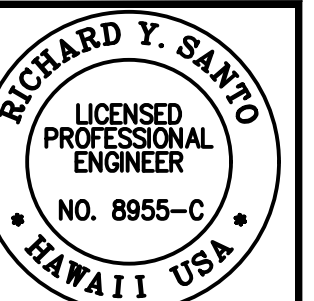
CLOSURE AT CENTER OF INTERSECTION – MOI ROAD

NOT TO SCALE



CLOSURE AT THE NORTH BOUND LANE – MOI ROAD

NOT TO SCALE



Richard Y. Santo
4/30/24
Professional Engineer
No. 8955-C
Hawaii, USA

SSFM International, Inc.
501 Surfer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

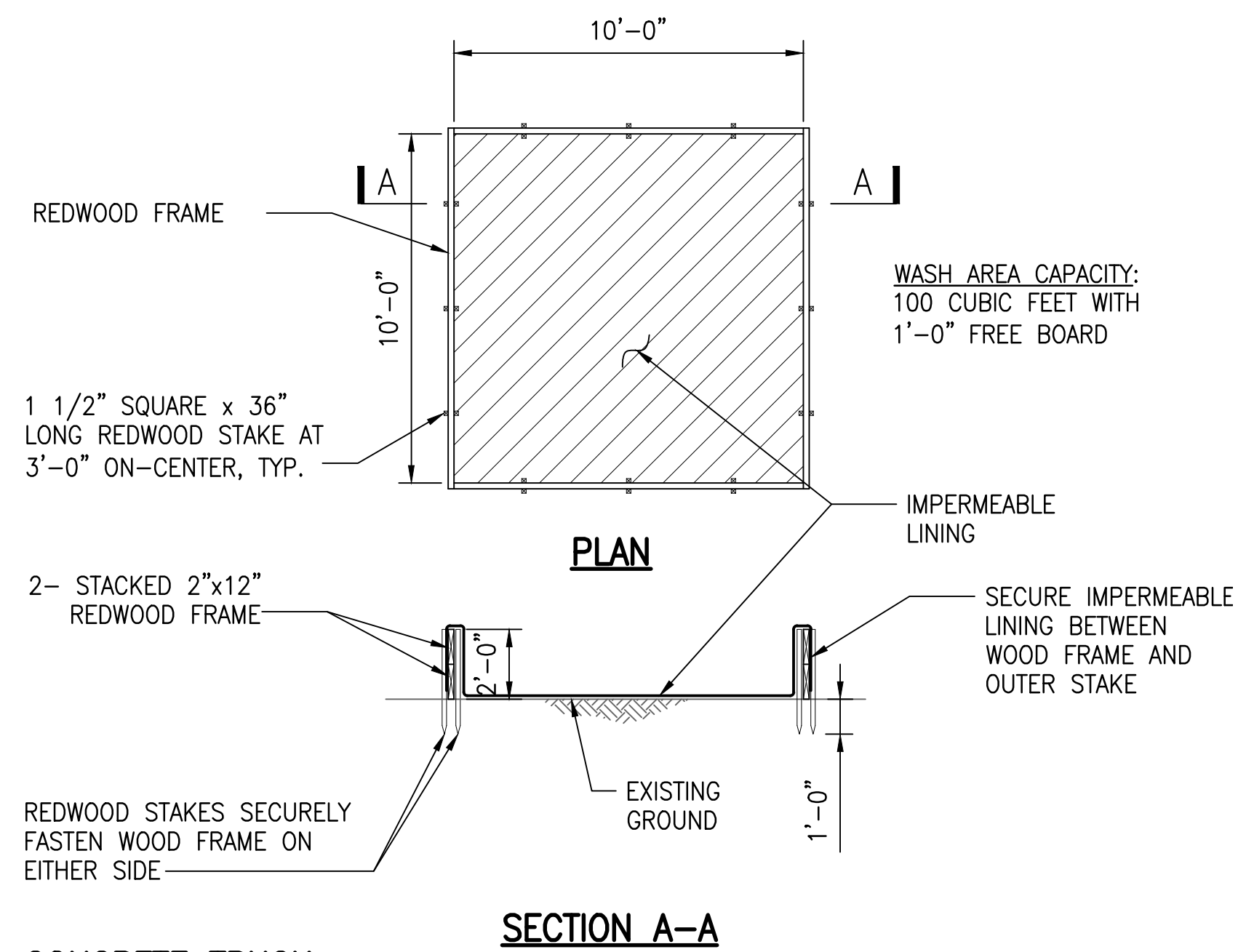
TRAFFIC CONTROL PLAN
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DATE: APRIL 2023

SHEET NUMBER

C-400

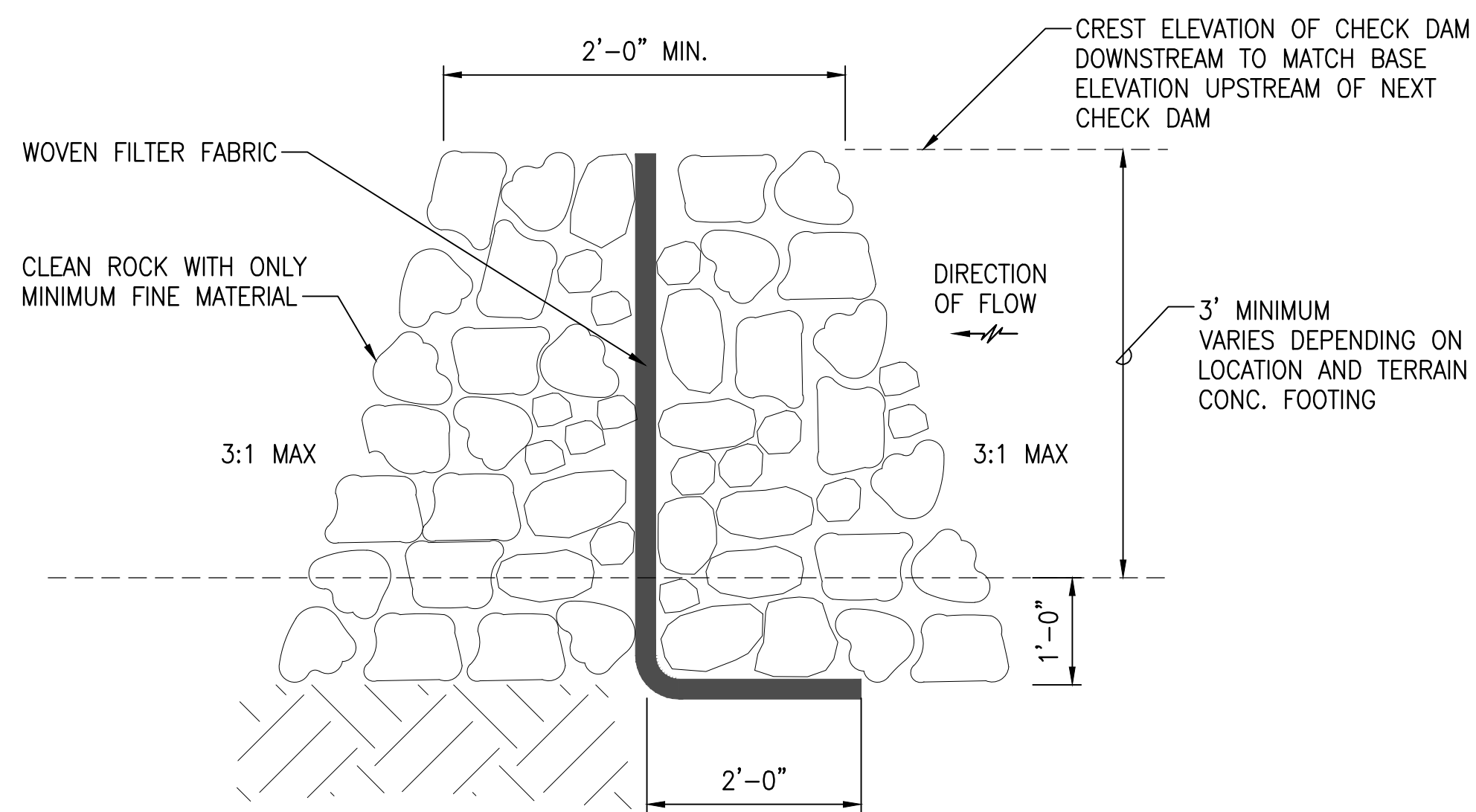
63 OF 109 SHEETS



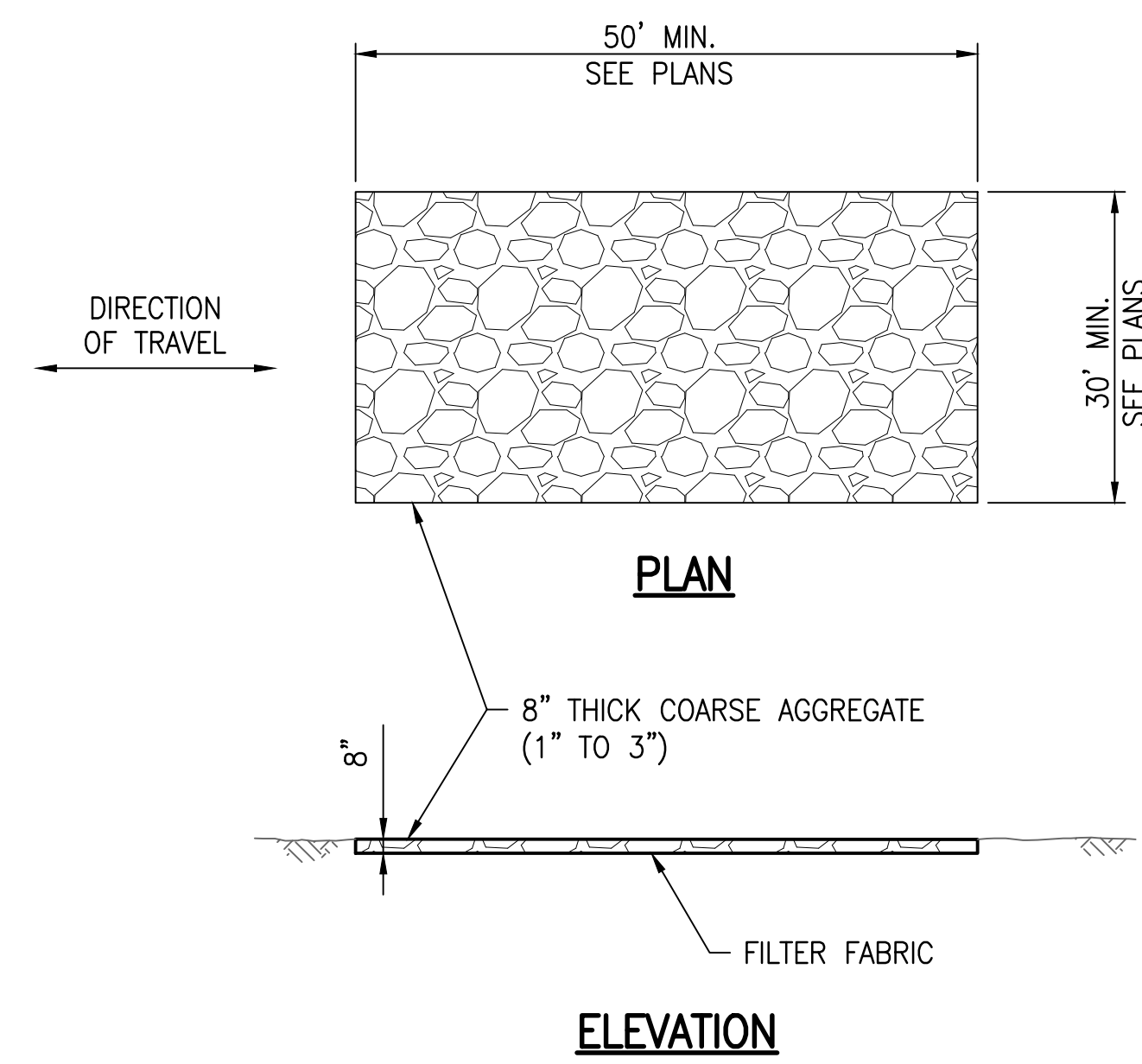
CONCRETE TRUCK WASH AREA NOTE:

THE CONCRETE WASH WATER WILL NOT BE ALLOWED TO OVERFLOW, AND WILL EITHER BE DISPOSED OF INTO AN APPROVED FACILITY IMMEDIATELY AFTER WASHING OPERATIONS, OR ALLOWED TO EVAPORATE AND THE REMAINDER REMOVED REGULARLY AND DISPOSED INTO AN APPROVED FACILITY TO AVOID BUILDUP OF CONCRETE MATERIAL WITHIN THE WASH AREA.

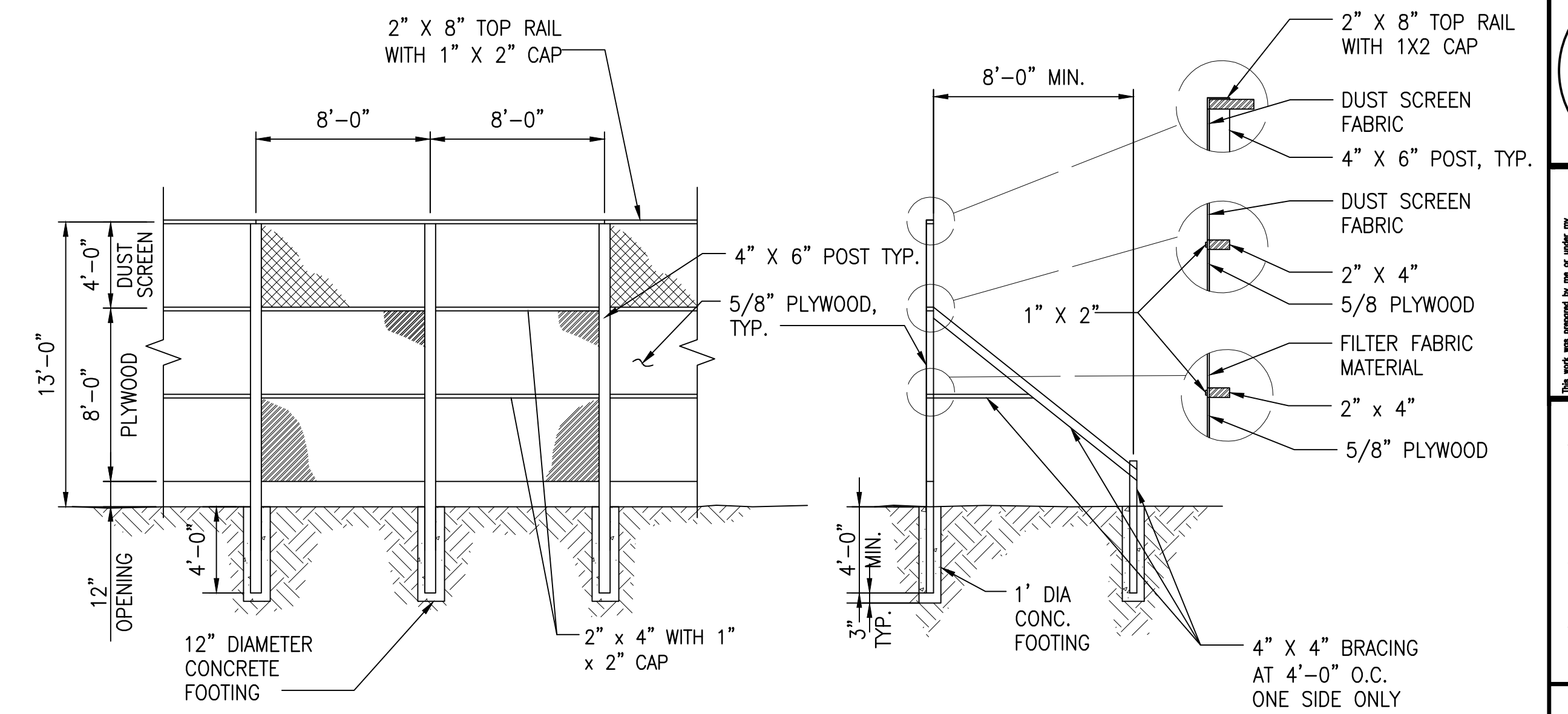
5 CONCRETE TRUCK WASH AREA DETAIL
C-501 NOT TO SCALE



6 TEMPORARY ROCK CHECK DAM DETAIL
C-501 NOT TO SCALE

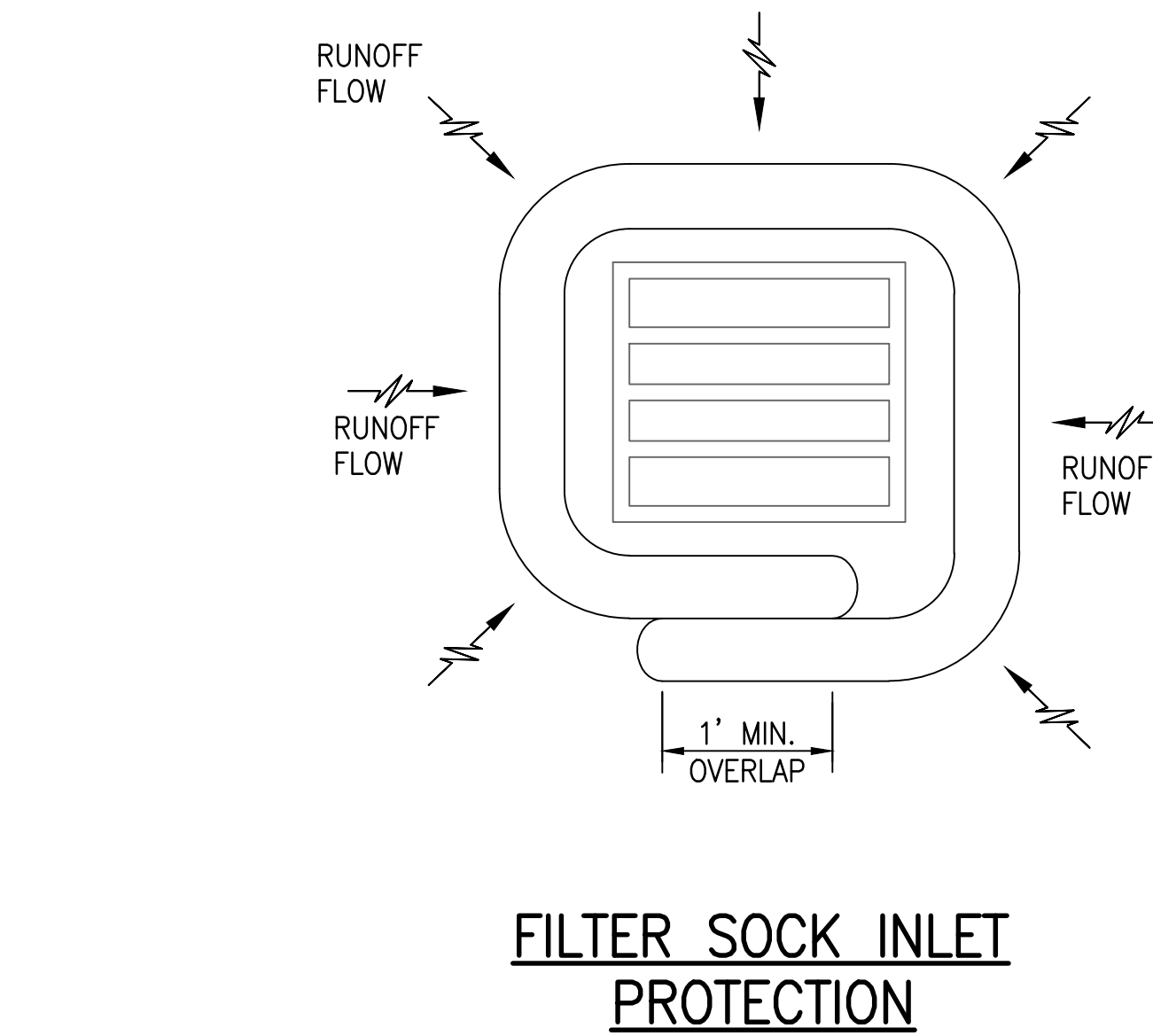
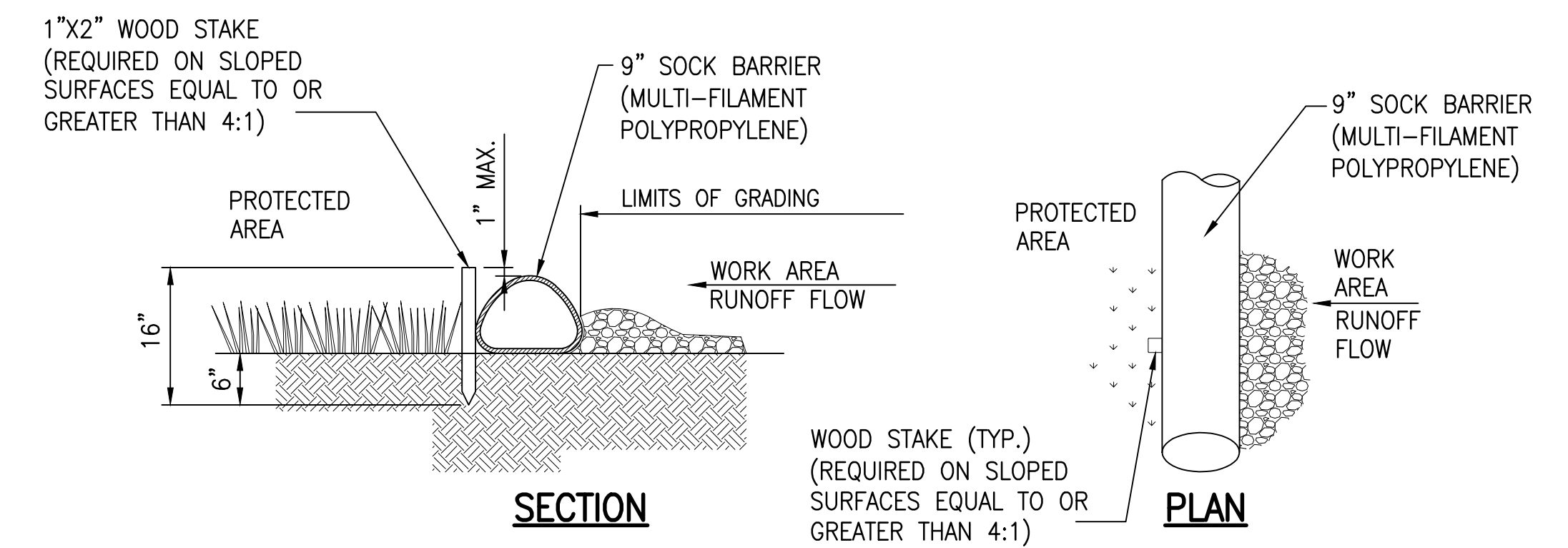


3 CONSTRUCTION INGRESS/EGRESS DETAIL
C-501 NOT TO SCALE

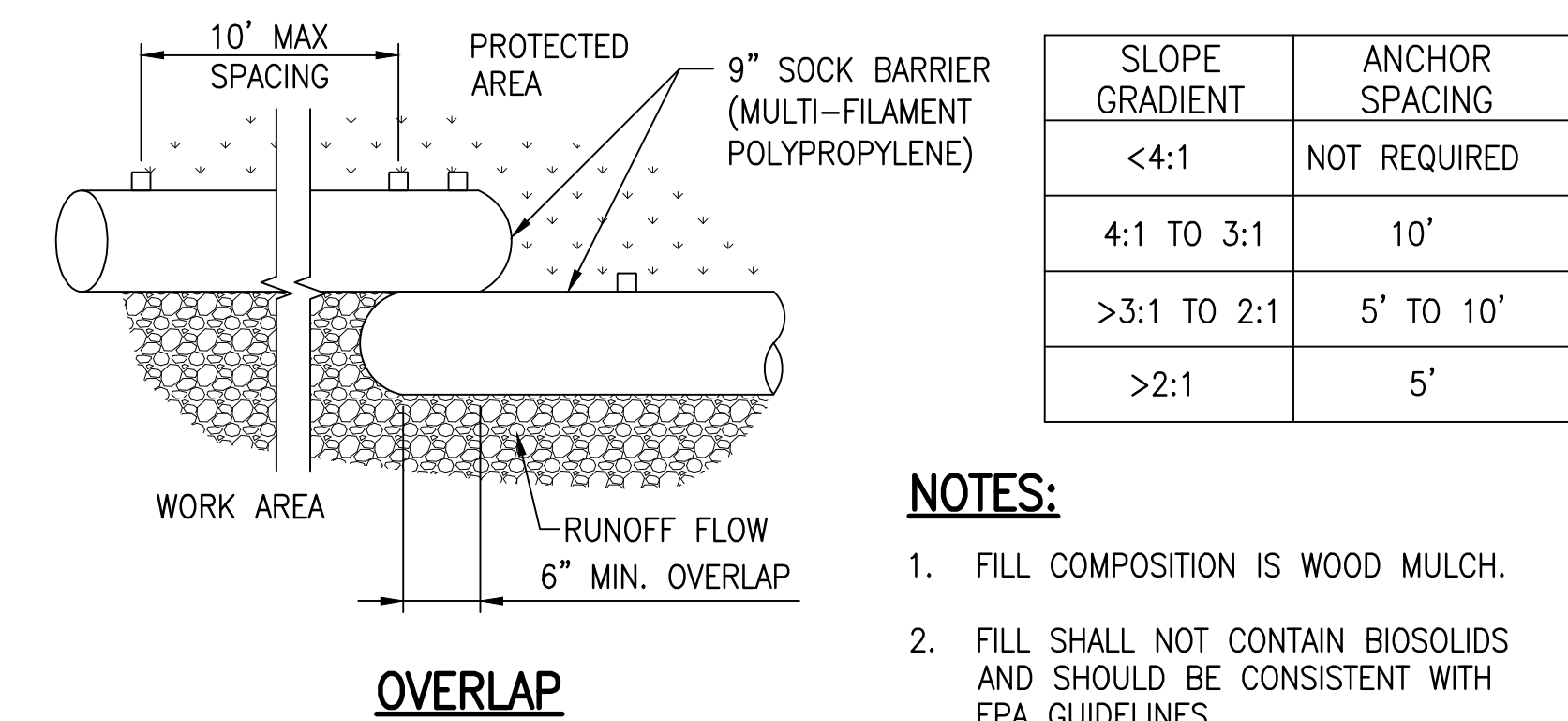


- DUST SCREEN BARRIER TO BE A "WOVEN GEOTEXTILE" OR "NURSERY SHADE"
- LUMBER SHALL BE TERMITE TREATED DOUGLAS FIR-LARCH NO. 2 GRADE.
- LUMBER SIZES ARE NOMINAL INCHES.
- 1"x2" CLOTH BARRIER CAPS TO BE NAILED 12" O.C.
- BURLAP IS NOT ACCEPTABLE AS THE CLOTH BARRIER.
- CLOTH TO HAVE NO HORIZONTAL SEAMS.
- VERTICAL SEAMS TO BE MADE OVER UPRIGHTS ONLY.
- ALL SEAMS TO BE CAPPED WITH MINIMUM OF 1"x2".
- ALL JOINTS TO BE SECURELY FASTENED BY MECHANICAL MEANS.
- FOR FENCE ON EXISTING PAVEMENT, USE ALTERNATE BASE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALTERNATE BASE TO THE ENGINEER FOR REVIEW.
- DUST SCREEN BARRIER MAY BE MOUNTED TO EXISTING CHAIN LINK FENCE IN LIEU OF PLYWOOD BARRICADE. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ENGINEER TO REVIEW.

1 DUST FENCE DETAIL
C-501 NOT TO SCALE



4 TEMPORARY DRAIN INLET PROTECTION DETAIL
C-501 NOT TO SCALE

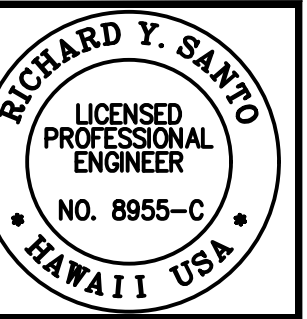


2 FILTER SOCK DETAIL
C-501 NOT TO SCALE

NOTES:

- FILL COMPOSITION IS WOOD MULCH.
- FILL SHALL NOT CONTAIN BIOSOLIDS AND SHOULD BE CONSISTENT WITH EPA GUIDELINES.

SLOPE GRADIENT	ANCHOR SPACING
<4:1	NOT REQUIRED
4:1 TO 3:1	10'
>3:1 TO 2:1	5' TO 10'
>2:1	5'



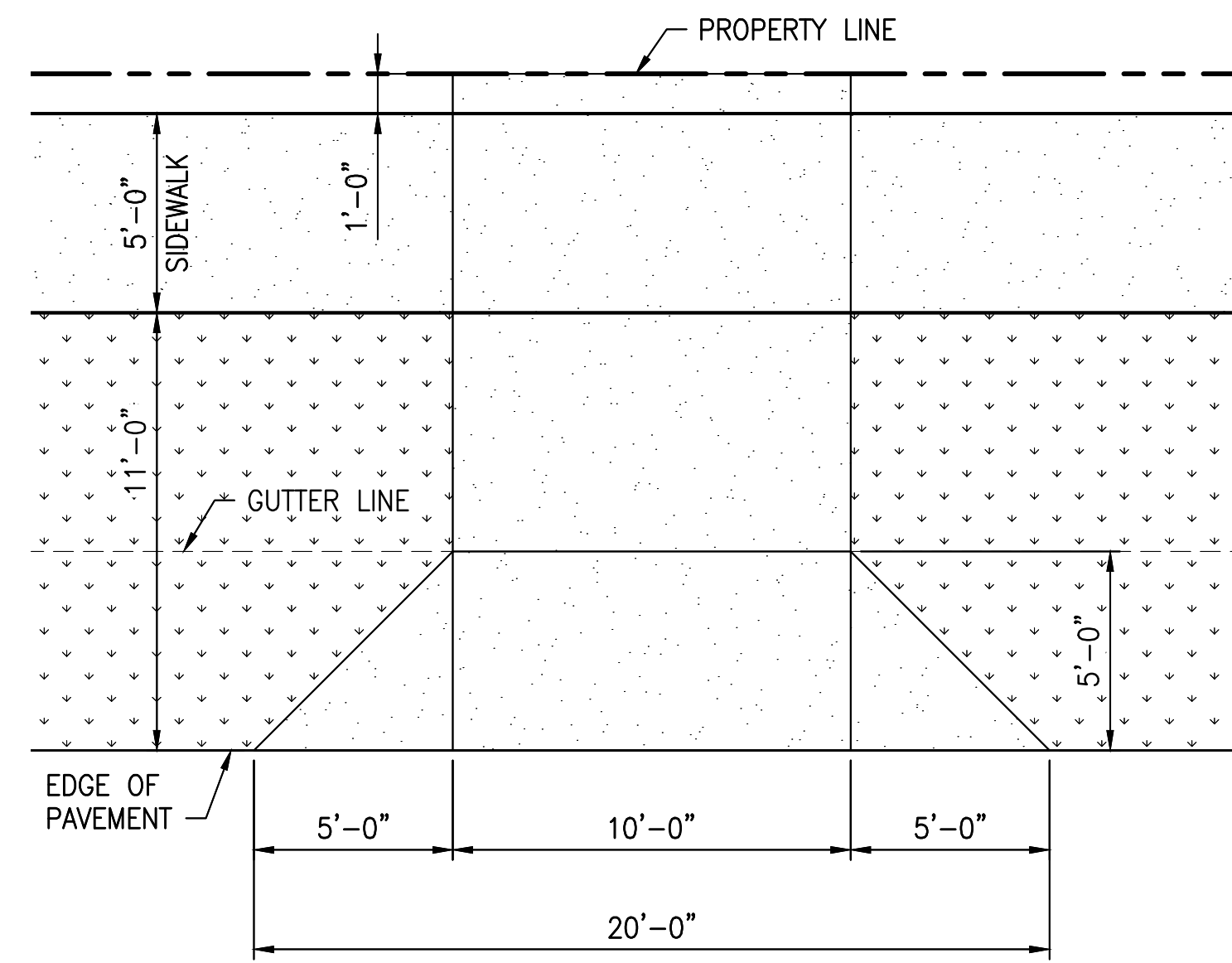
SSFM International, Inc.
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Suite 620
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REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

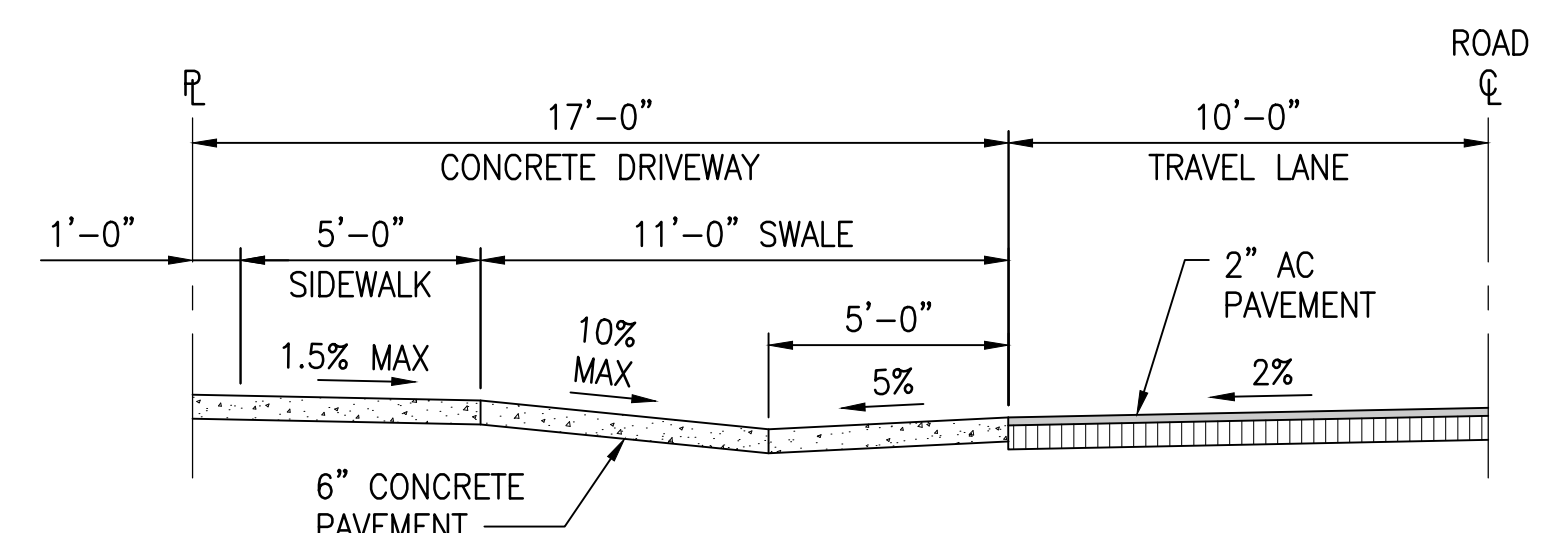
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

EROSION AND SEDIMENT CONTROL DETAILS
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DATE: APRIL 2023
SHEET NUMBER: C-501
64 OF 109 SHEETS



PLAN

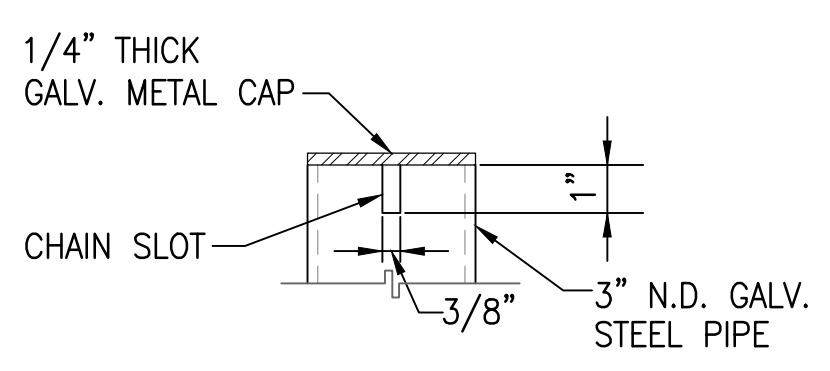
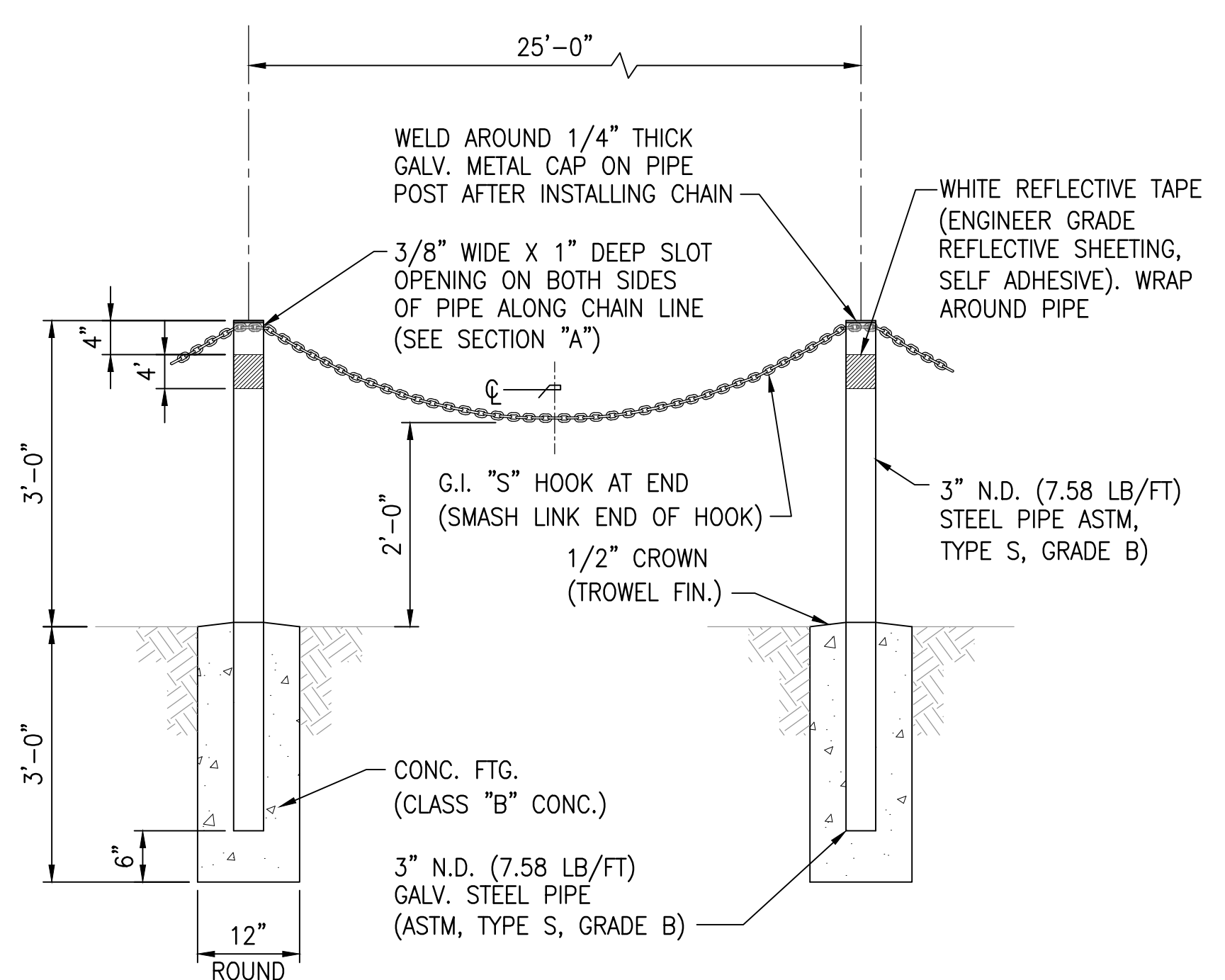


SECTION

NOTES:

- 6" CONCRETE PAVEMENT - REINFORCED WITH 6"x6"-MW19xMW19 WWF OR CONCRETE REINFORCING ADDITIVE SHALL BE CONSTRUCTED.
- PROVIDE CONSTRUCTION JOINTS AT EDGE PAVEMENT AND PROPERTY LINE.

7 TYPICAL CONCRETE DRIVEWAY DETAIL
C-502 NOT TO SCALE



SECTION "A"

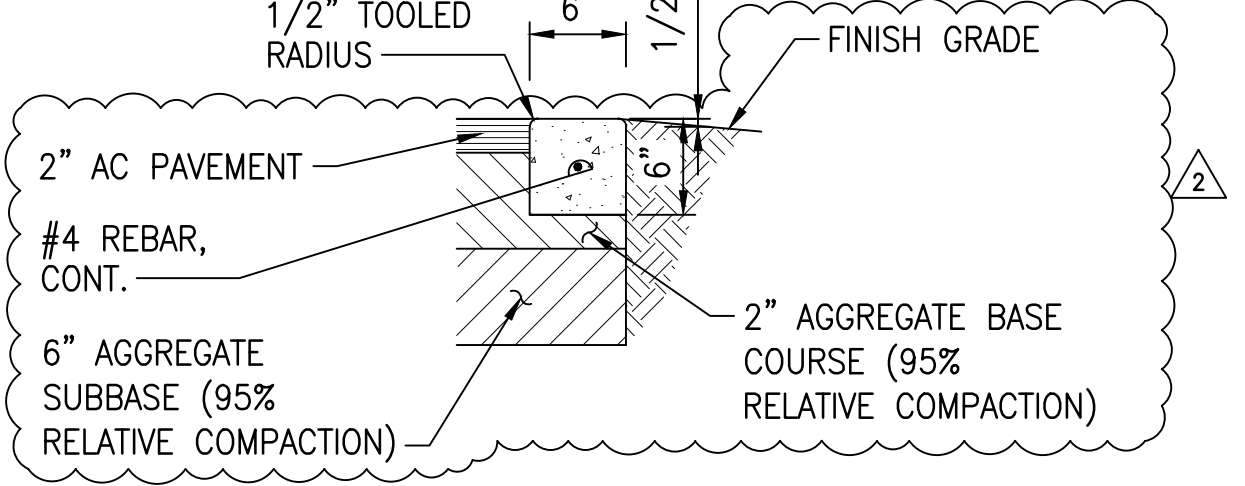
NOTES:

- ALL WELDED CONNECTIONS SHALL BE PAINTED WITH TWO COATS OF Z.R.C. COLD GALVANIZING COMPOUND.
- "S" HOOKS SHALL BE 5/16" WITH TIP TAPERED TO 3/16".
- NO SPlicing SHALL BE ALLOWED ON G.I. PIPE POSTS.
- ALL PIPE SIZES ARE NOMINAL DIAMETER (N.D.).

8 POST AND CHAIN BARRIER DETAIL
C-502 NOT TO SCALE

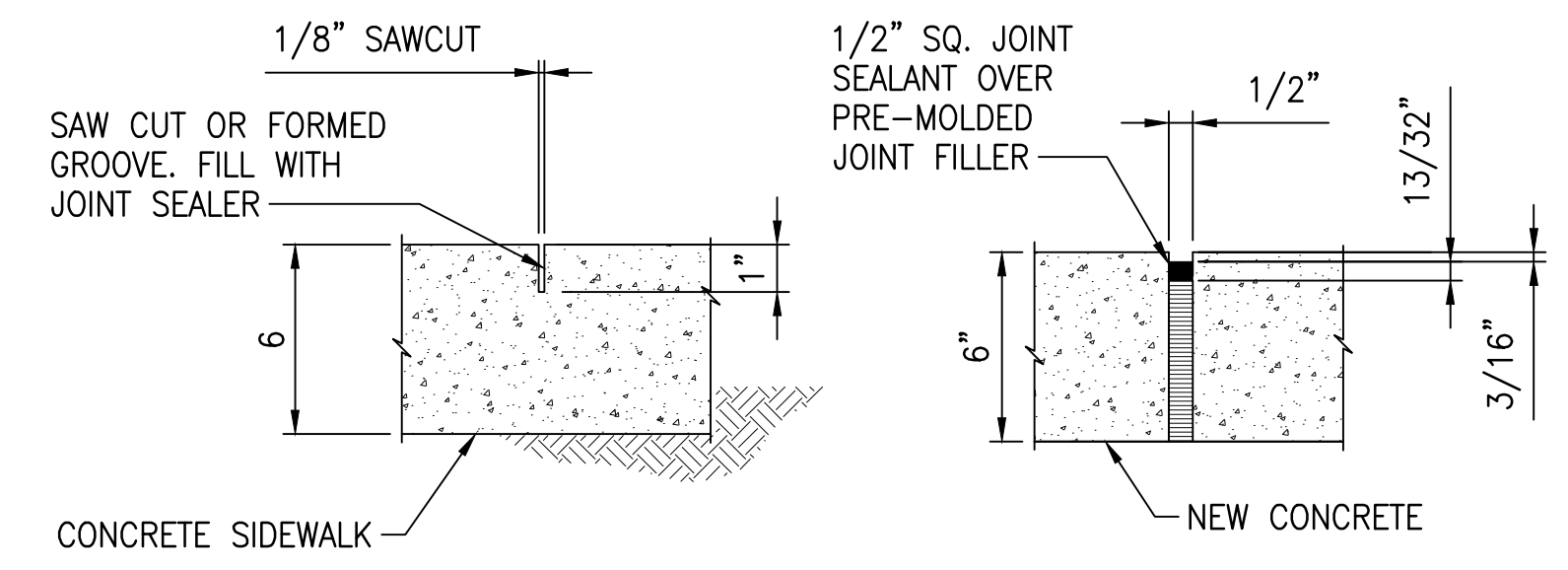
NOTES:

- SAWCUT TRANSVERSE CONTRACTION JOINTS IN CONCRETE HEADER TO 1-1/2" DEPTH AT 5' O.C. FILL JOINTS WITH FUEL AND OIL RESISTANT JOINT SEALER.
- IN AREAS INACCESSIBLE TO THE SAWCUTTING MACHINE, USE HAND TOOLS TO FORM THE CONTRACTION JOINT TO A DEPTH OF 1-1/2".



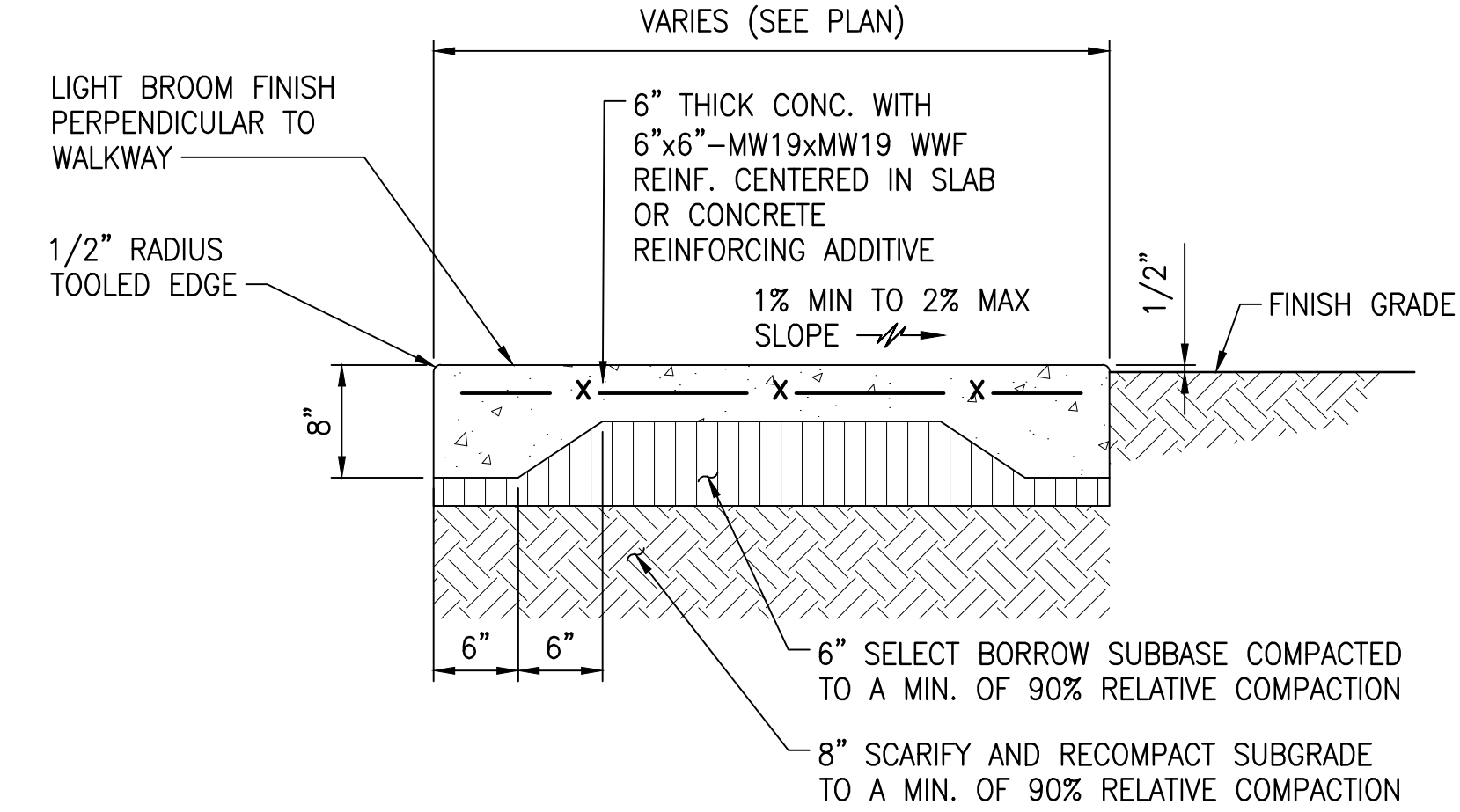
6"x6" HEADER

4 TYPICAL CONCRETE HEADER DETAIL
C-502 NOT TO SCALE

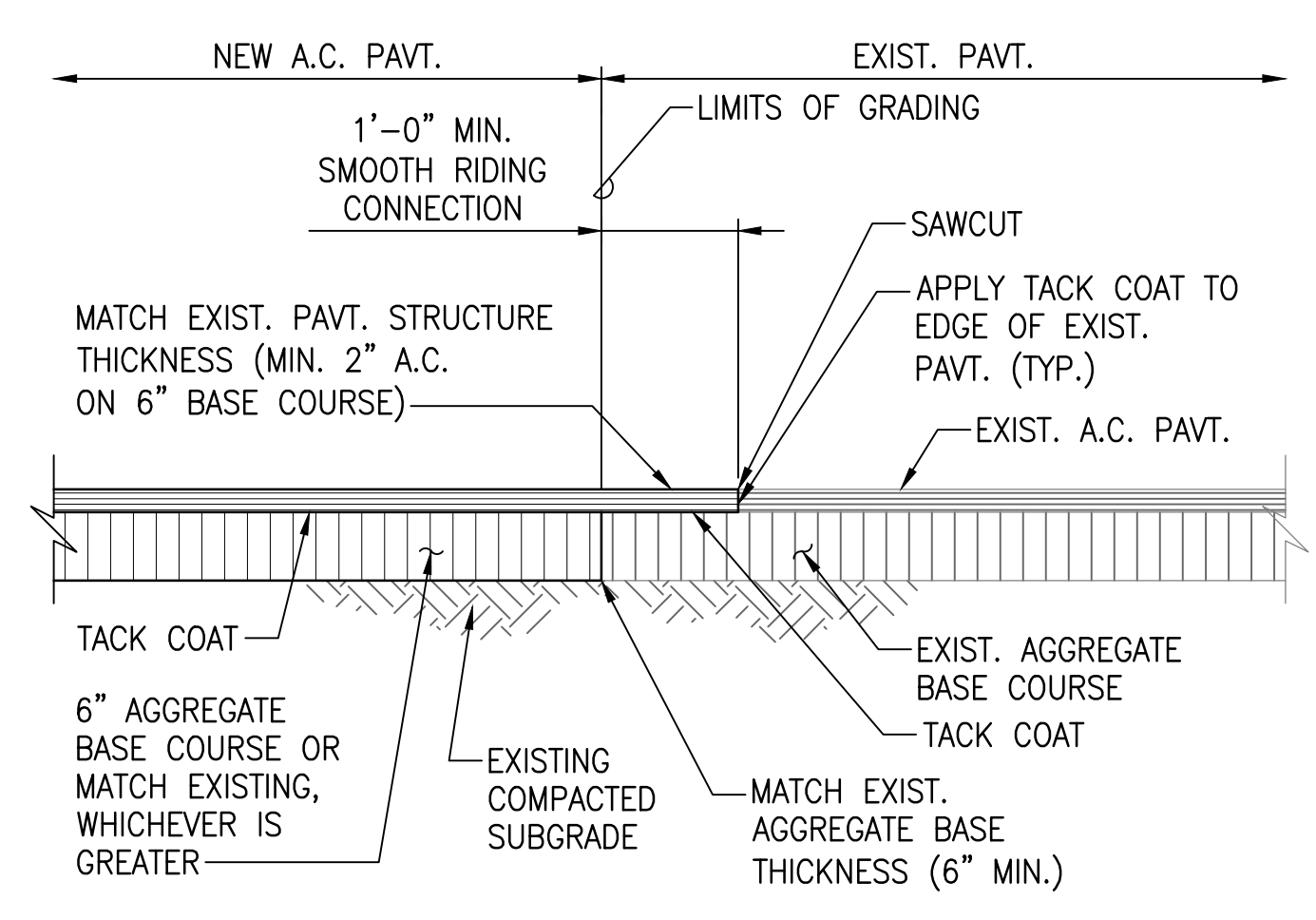


SAW CUT JOINT

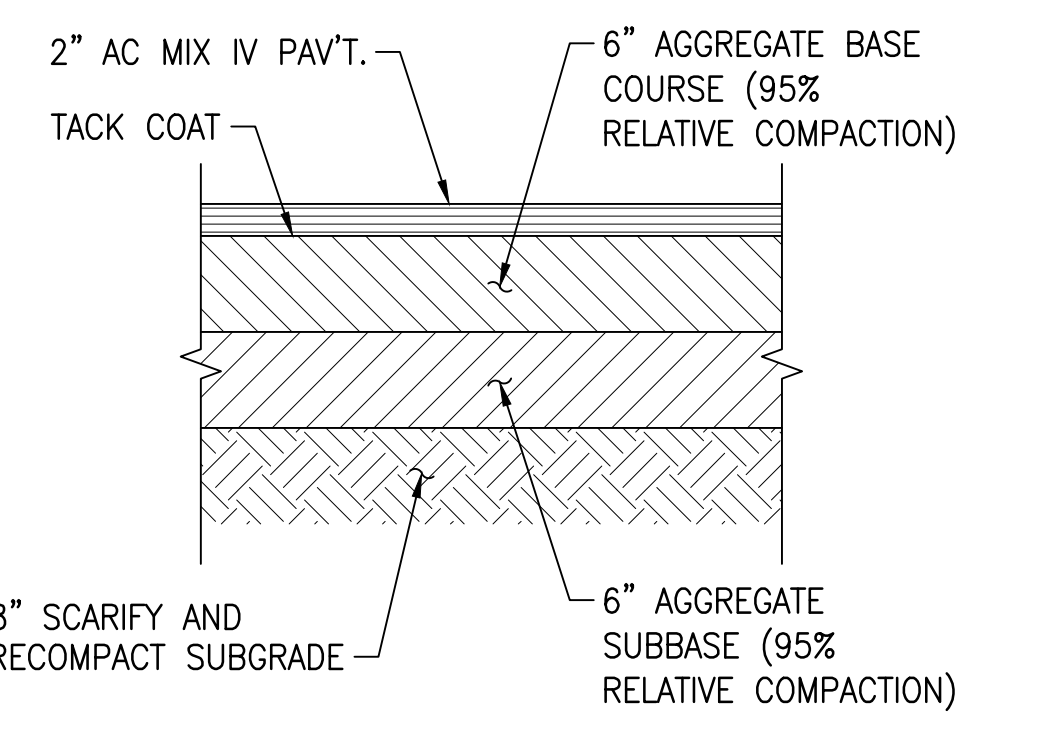
EXPANSION JOINT



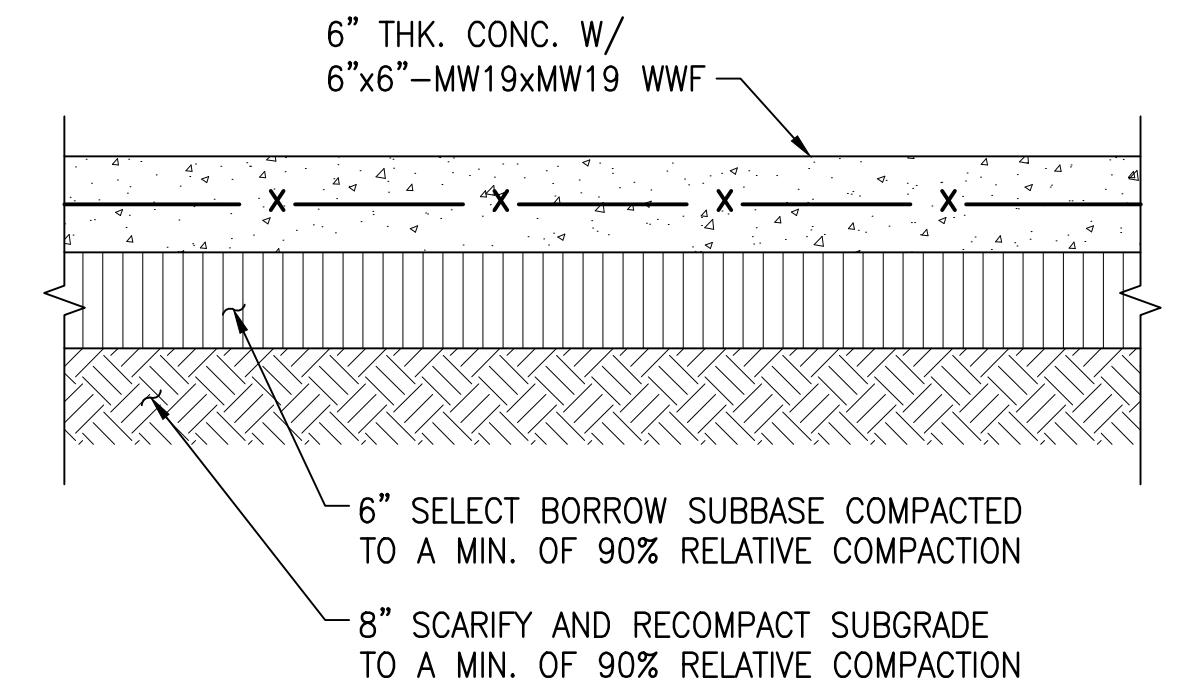
5 CONC. SIDEWALK DETAIL
C-502 NOT TO SCALE



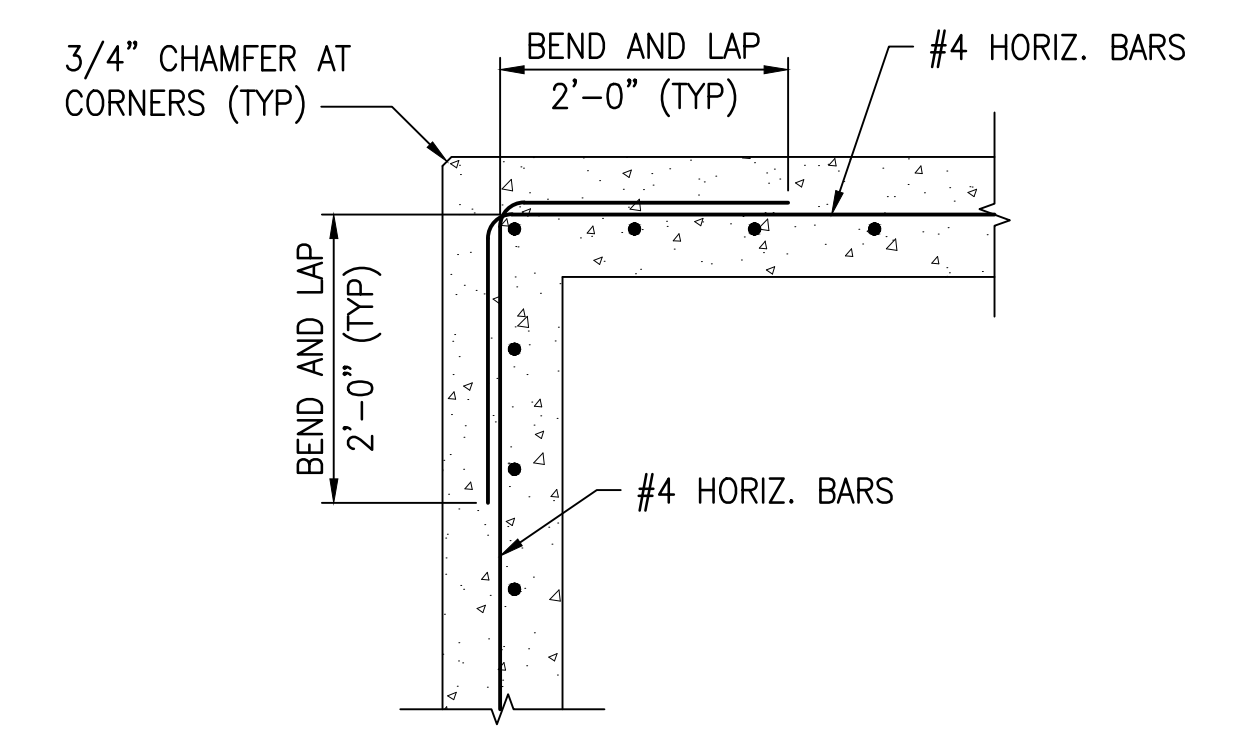
6 SMOOTH RIDING CONNECTION DETAIL
C-502 NOT TO SCALE



1 AC PAVEMENT DETAIL
C-502 NOT TO SCALE

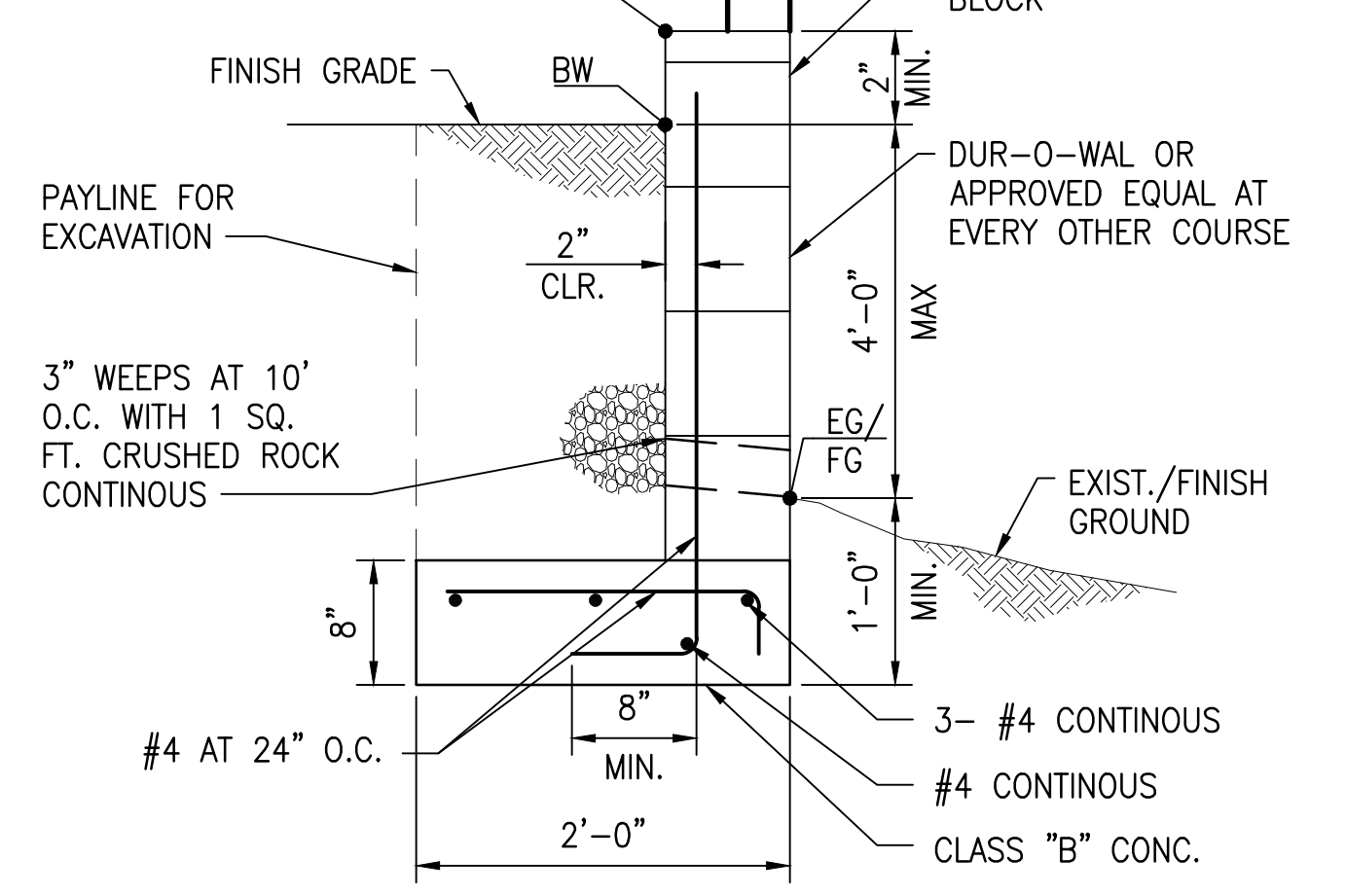


2 CONC. PAVEMENT DETAIL
C-502 NOT TO SCALE

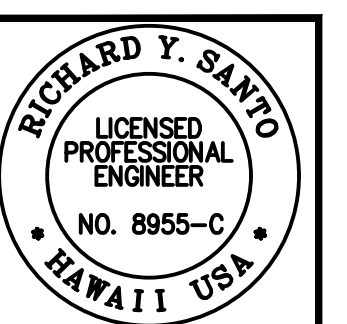


NOTE:

HORIZONTAL REINFORCEMENT WALLS MAY BE 1-#4 AT 24" O.C. IN LIEU OF DUR-O-WAL



3 GRADE ADJUSTMENT WALL DETAIL
C-502 NOT TO SCALE



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DATE: 4/30/24

PROJECT: 240101

REVISION: 2

NOTES: Contractor to check and verify dimensions of job before proceeding with work.

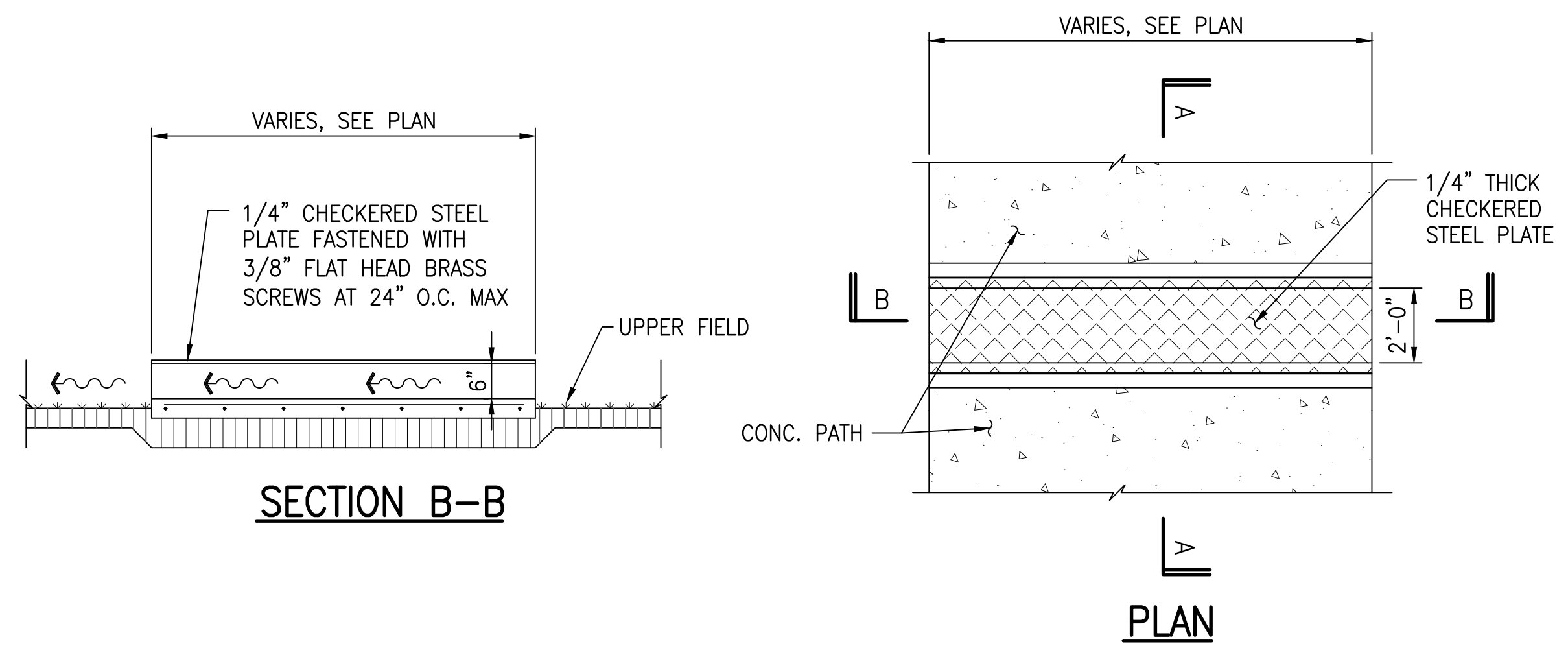
SSPM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED
2	12/12/22	ADDENDUM 5		

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
T.M.K.: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

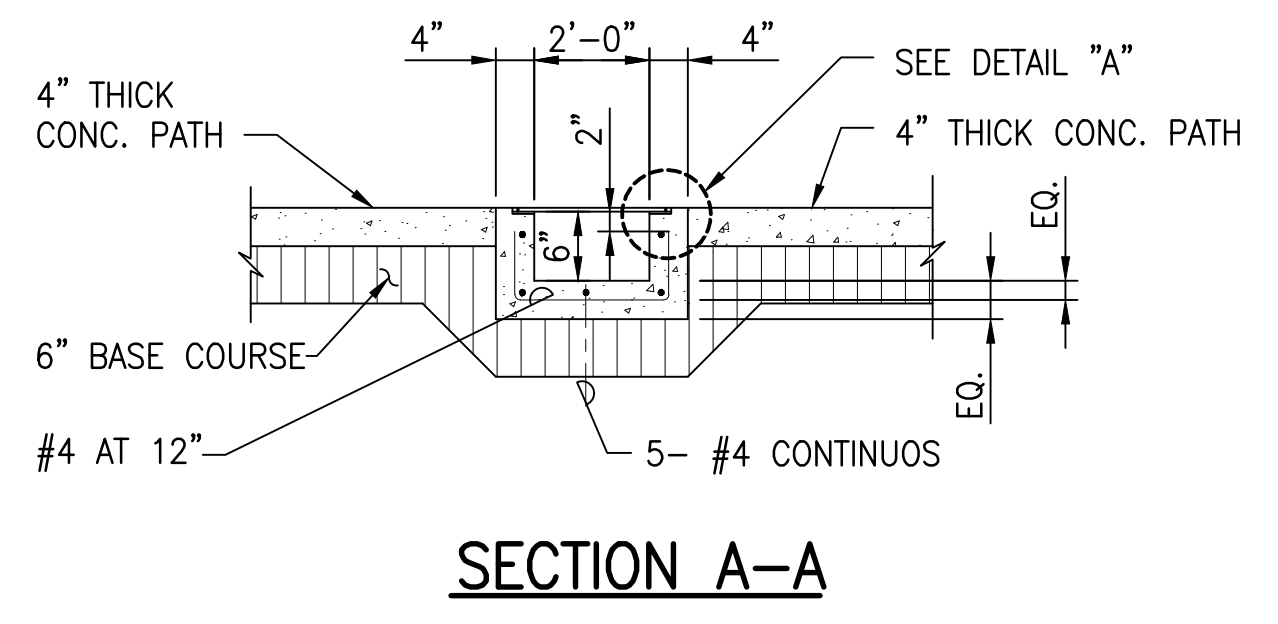
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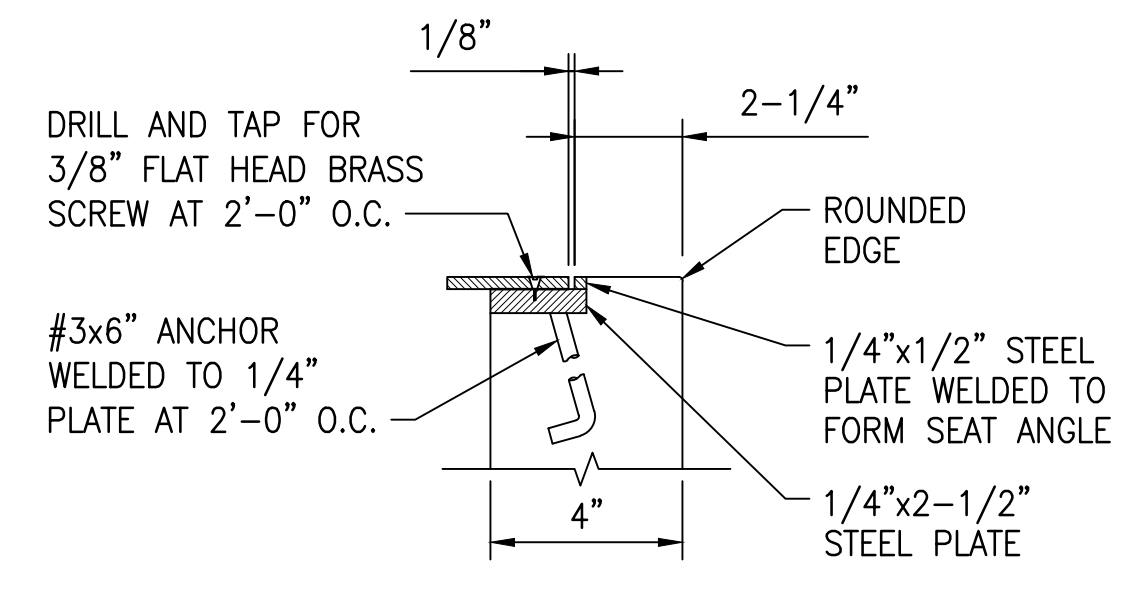


SECTION B-B

PLAN

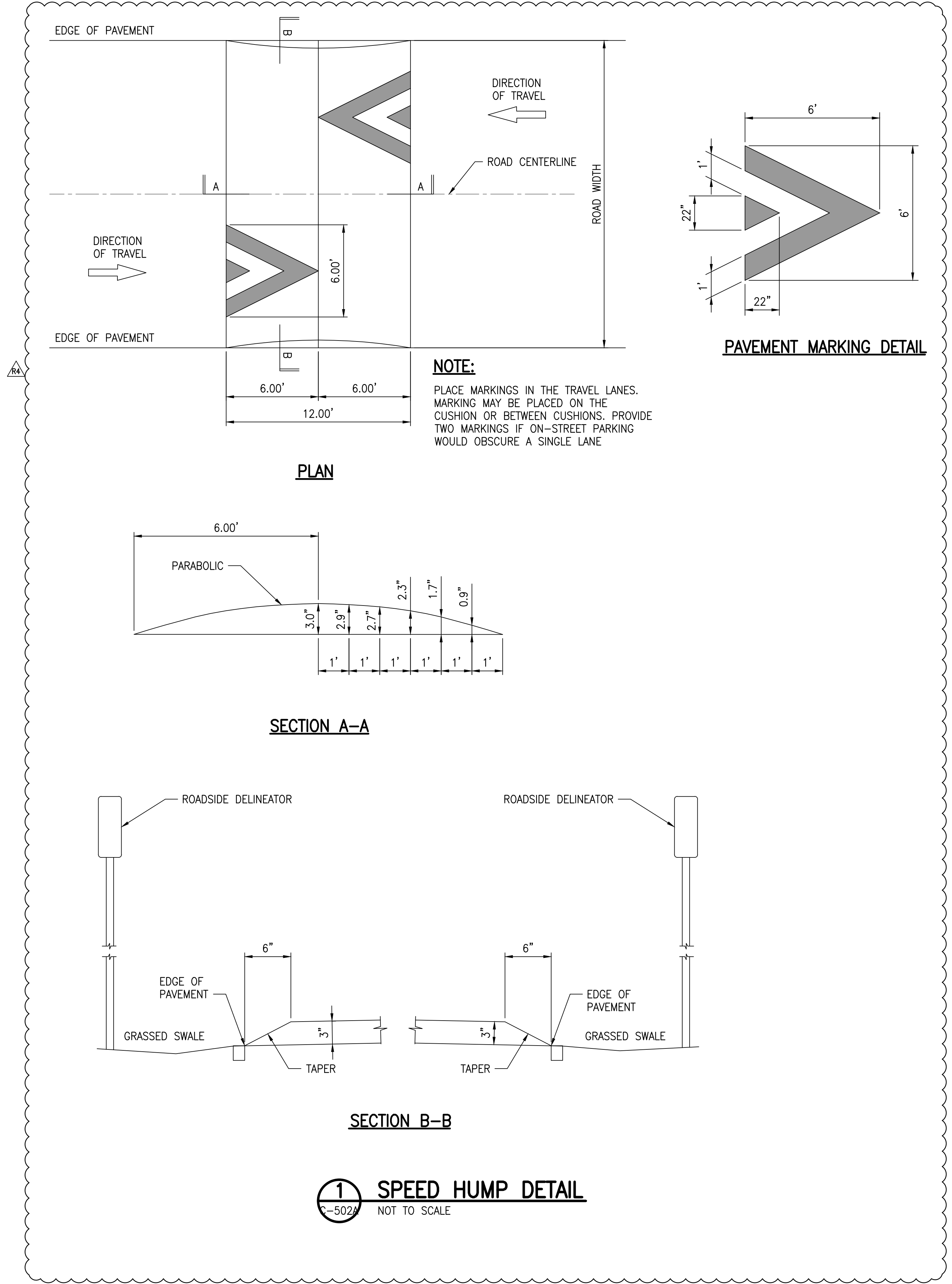


SECTION A-A



DETAIL "A"

2 SIDEWALK CULVERT DETAIL
NOT TO SCALE



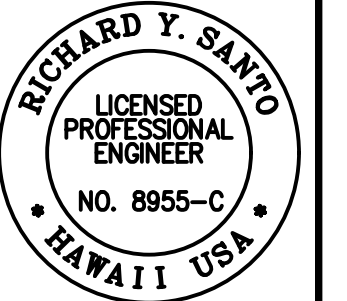
NOTE:
PLACE MARKINGS IN THE TRAVEL LANES. MARKING MAY BE PLACED ON THE CUSHION OR BETWEEN CUSHIONS. PROVIDE TWO MARKINGS IF ON-STREET PARKING WOULD OBSCURE A SINGLE LANE

PLAN

SECTION A-A

SECTION B-B

1 SPEED HUMP DETAIL
NOT TO SCALE



Richard Y. Santo
4/30/24
Professional Engineer
No. 8955-C
Hawaii, USA

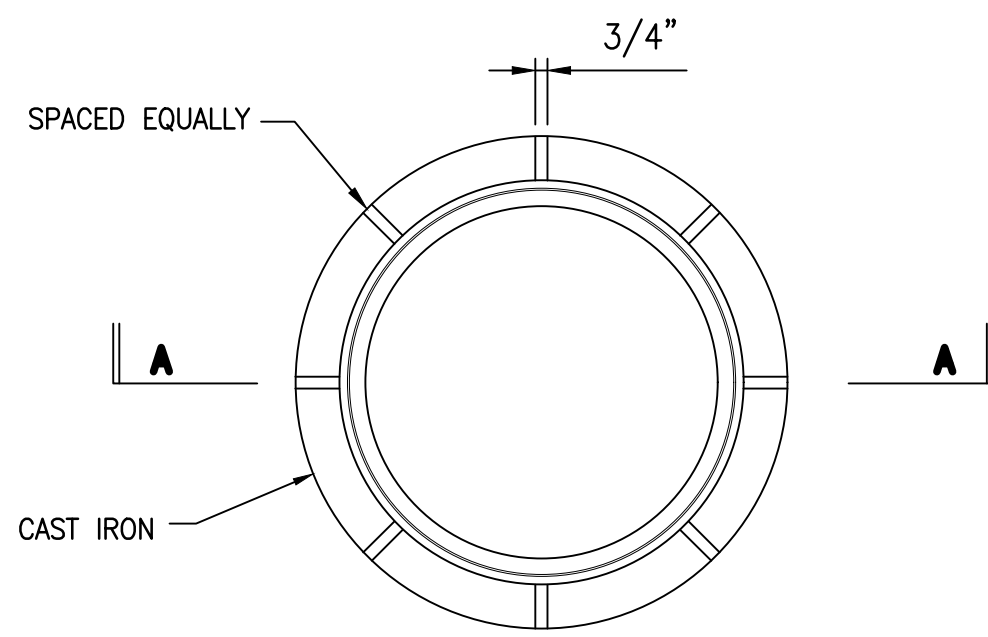
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50 Summer Street
Suite 620
Honolulu, Hawaii 96817

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RA	05/26/23				
RA	2/07/23				

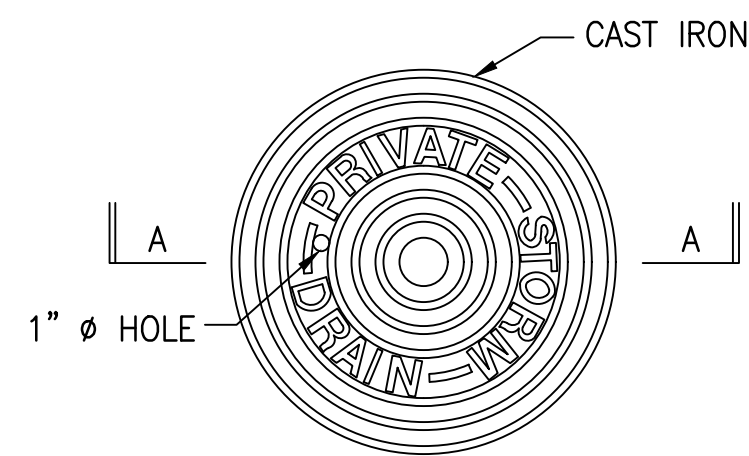
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPÉPÉ RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

CIVIL DETAILS

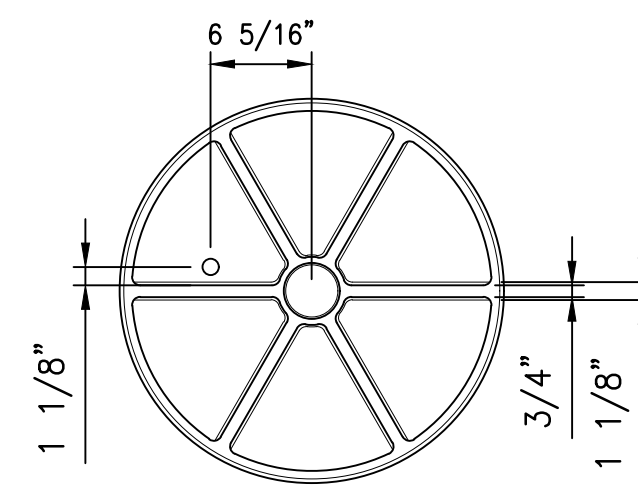
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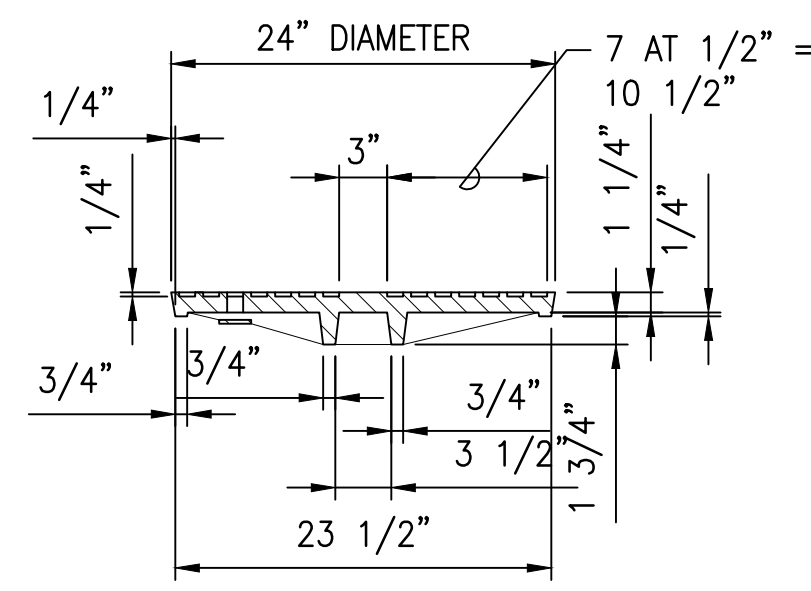
PLAN



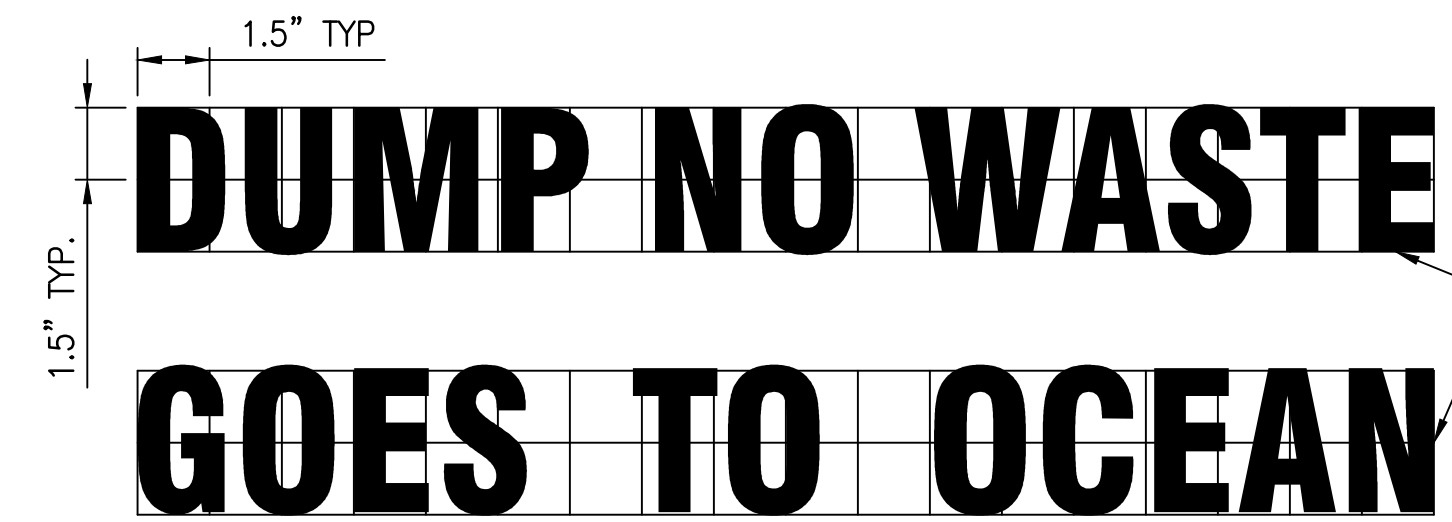
PLAN



BOTTOM VIEW OF COVER

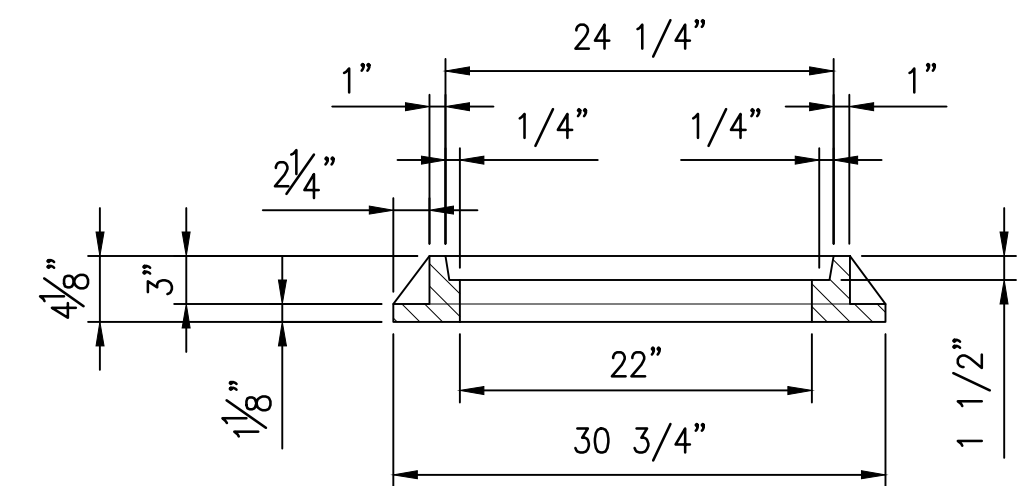


SECTION A-A



POLLUTION STENCIL

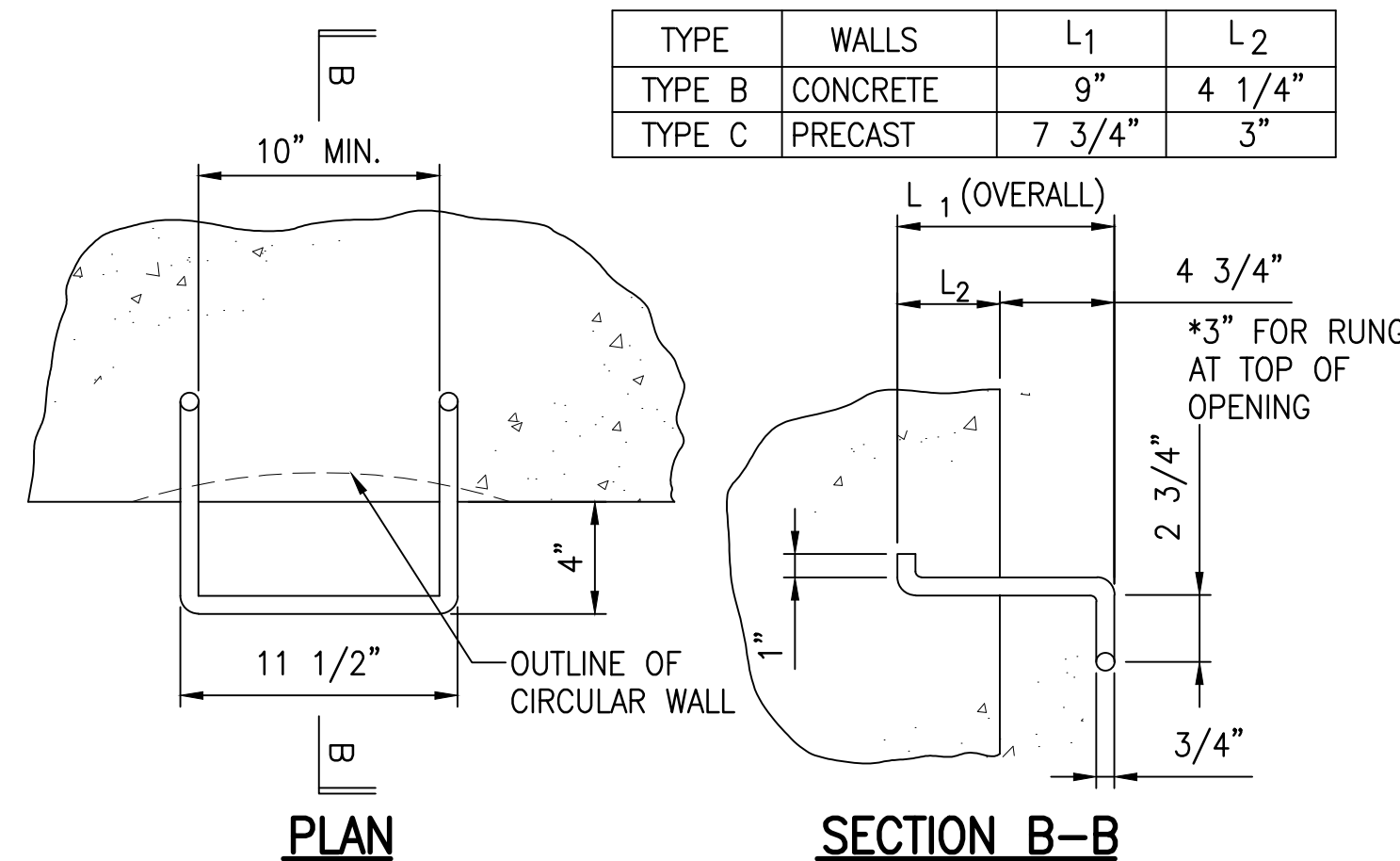
STENCIL SHALL BE PRESSED 1/4" INTO THE CONCRETE WHEN INLET IS MADE.



SECTION A-A

6 SDMH FRAME DETAIL - TYPE DA
C-503 NOT TO SCALE

3 SDMH COVER DETAIL
C-503 NOT TO SCALE



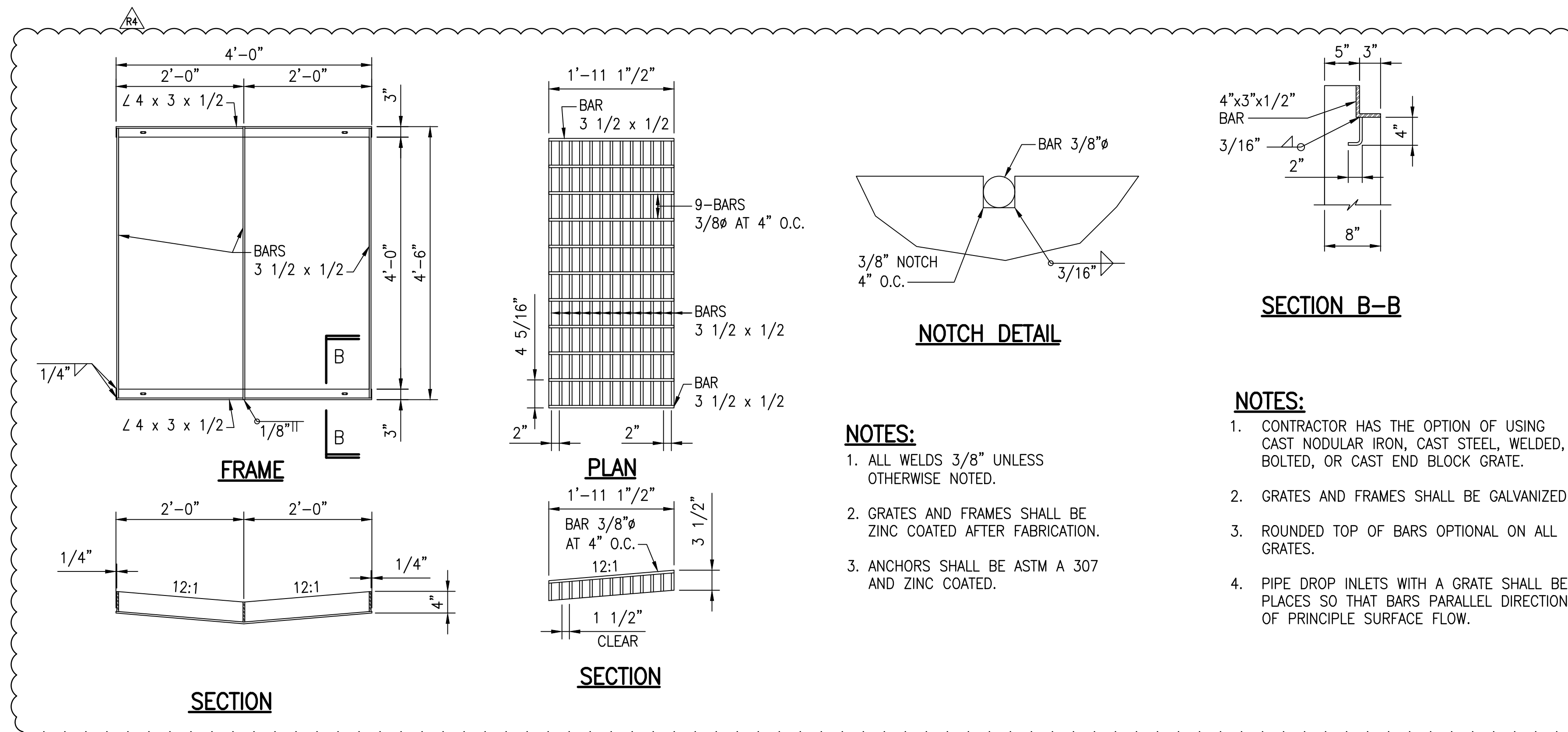
PLAN

SECTION B-B

NOTES:

- RUNG SHALL BE 3/4" DIAMETER WROUGHT IRON OR ASTM A36 STEEL RODS AND SHALL BE HOT-DIPPED GALVANIZED OR CADMIUM PLATED AFTER BENDING.
- ANY DEVIATION FROM THESE DETAILS MUST BE APPROVED BY THE CHIEF ENGINEER.

4 TYPE "B" RUNG DETAIL
C-503 NOT TO SCALE



SECTION

PLAN

SECTION

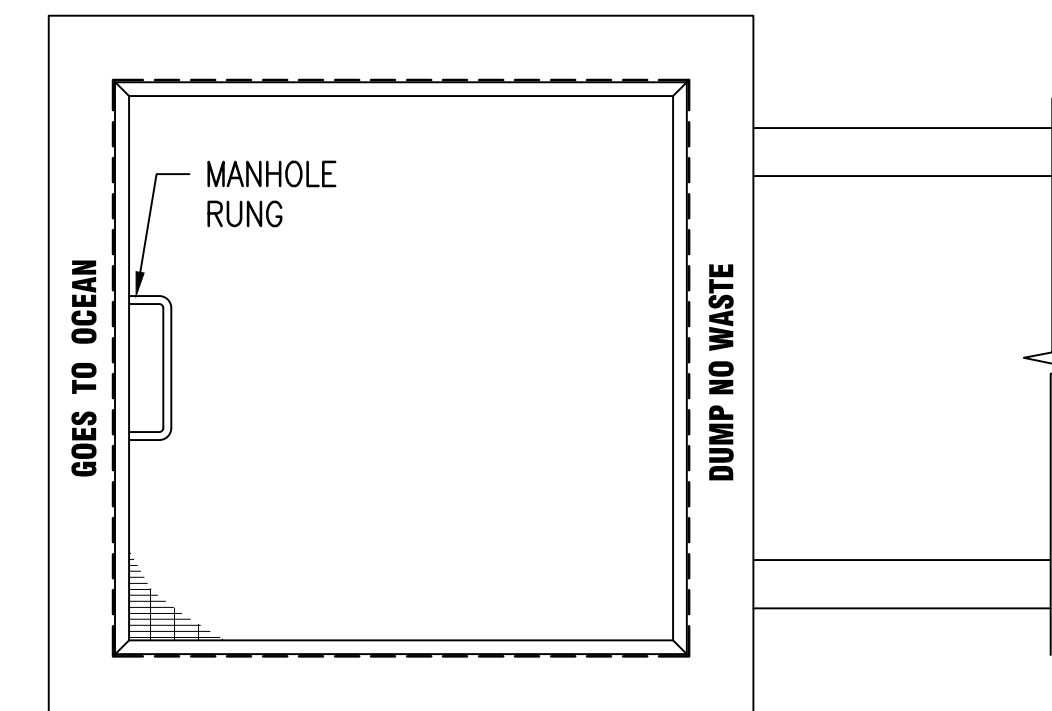
NOTCH DETAIL

SECTION B-B

NOTES:

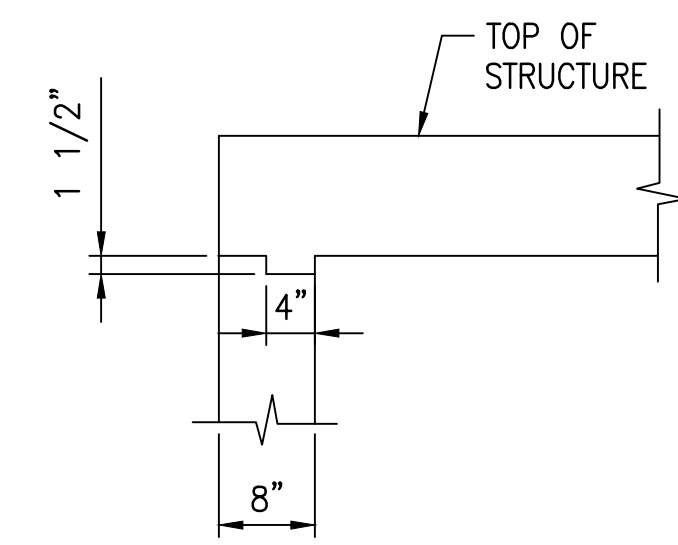
- ALL WELDS 3/8" UNLESS OTHERWISE NOTED.
- GRATES AND FRAMES SHALL BE ZINC COATED AFTER FABRICATION.
- ANCHORS SHALL BE ASTM A 307 AND ZINC COATED.

5 MANHOLE FRAME AND GRATE DETAILS
C-503 NOT TO SCALE

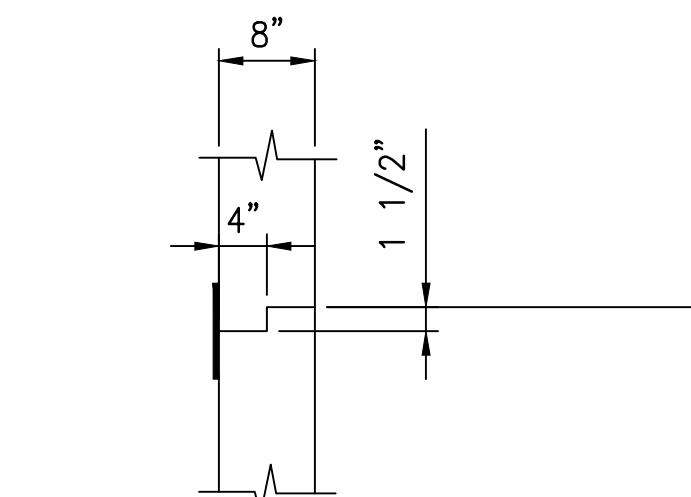


PLAN

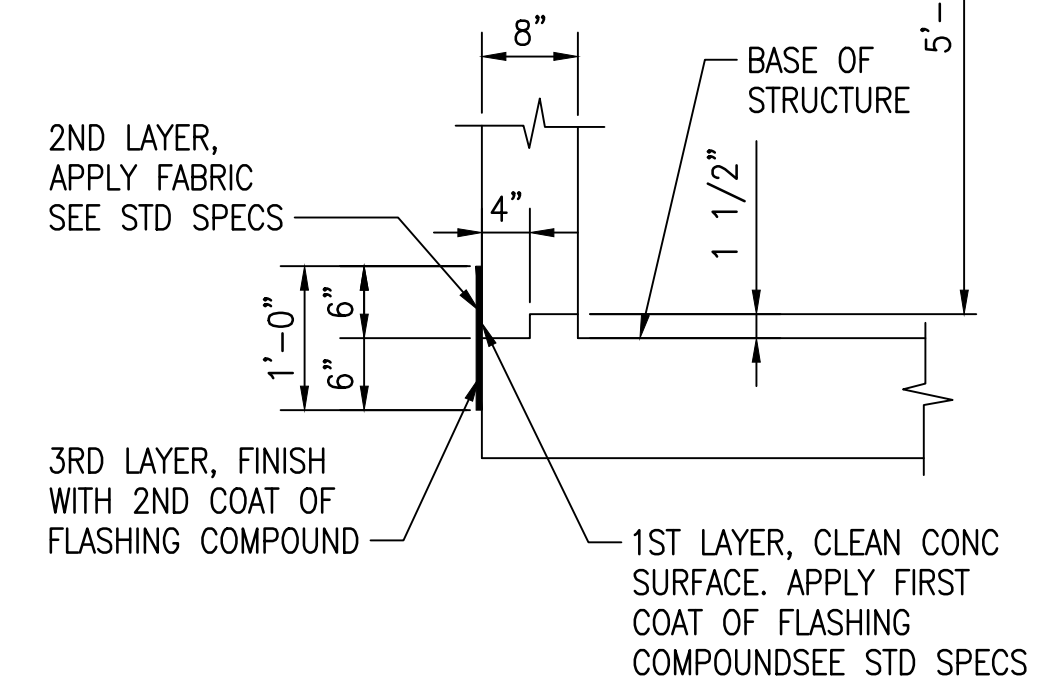
1 STENCIL DETAIL
C-503 NOT TO SCALE



JOINT AT TOP

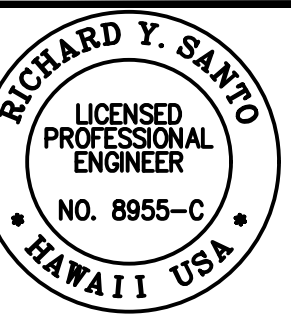


INTERMEDIATE JOINT



JOINT AT BASE

2 CONSTRUCTION JOINT DETAILS
C-503 NOT TO SCALE



Richard Y. Santo
LICENSING BOARD
NO. 8955-C
HAWAII, USA

SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

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1	05/26/23				
2	2/07/23				

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SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
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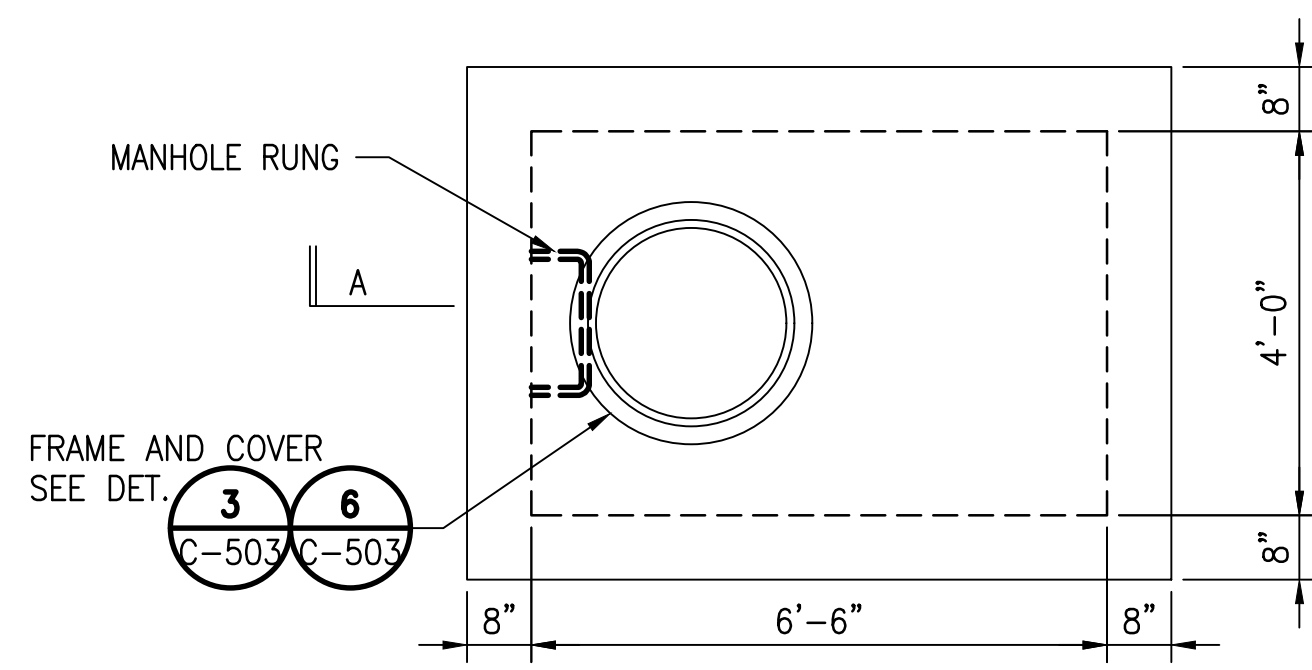
SHEET NUMBER: C-503

66 OF 109 SHEETS

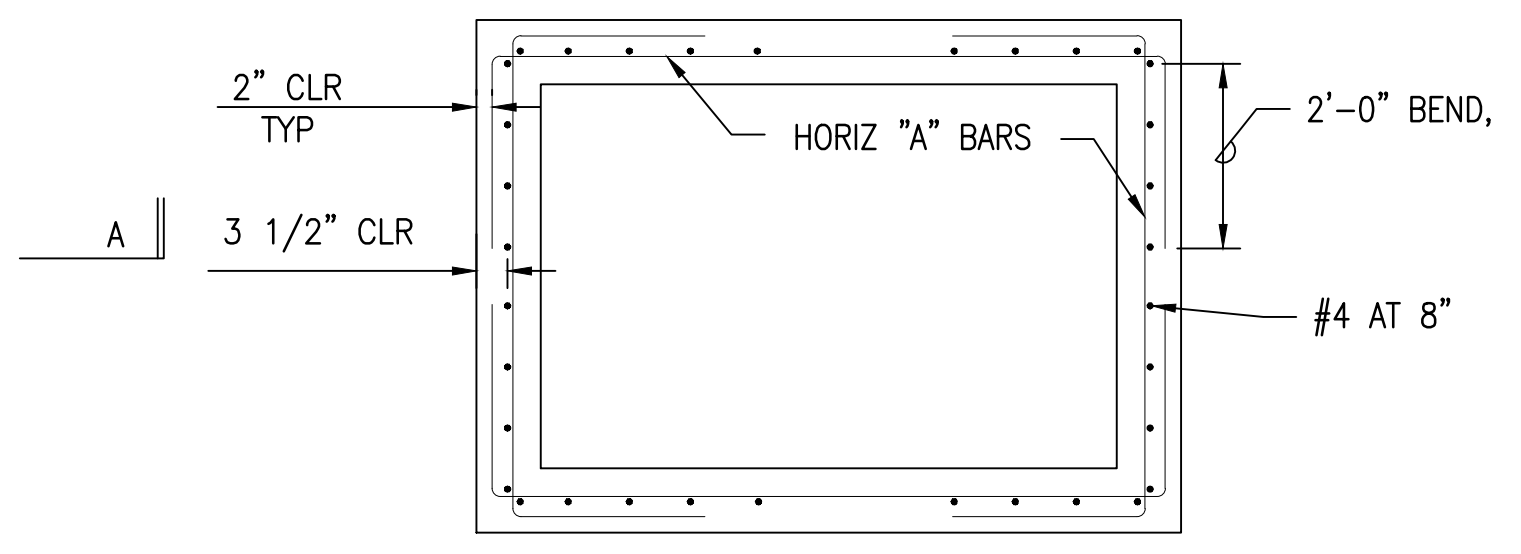
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 Hanapepe, Waimea, Kauai, Hawaii

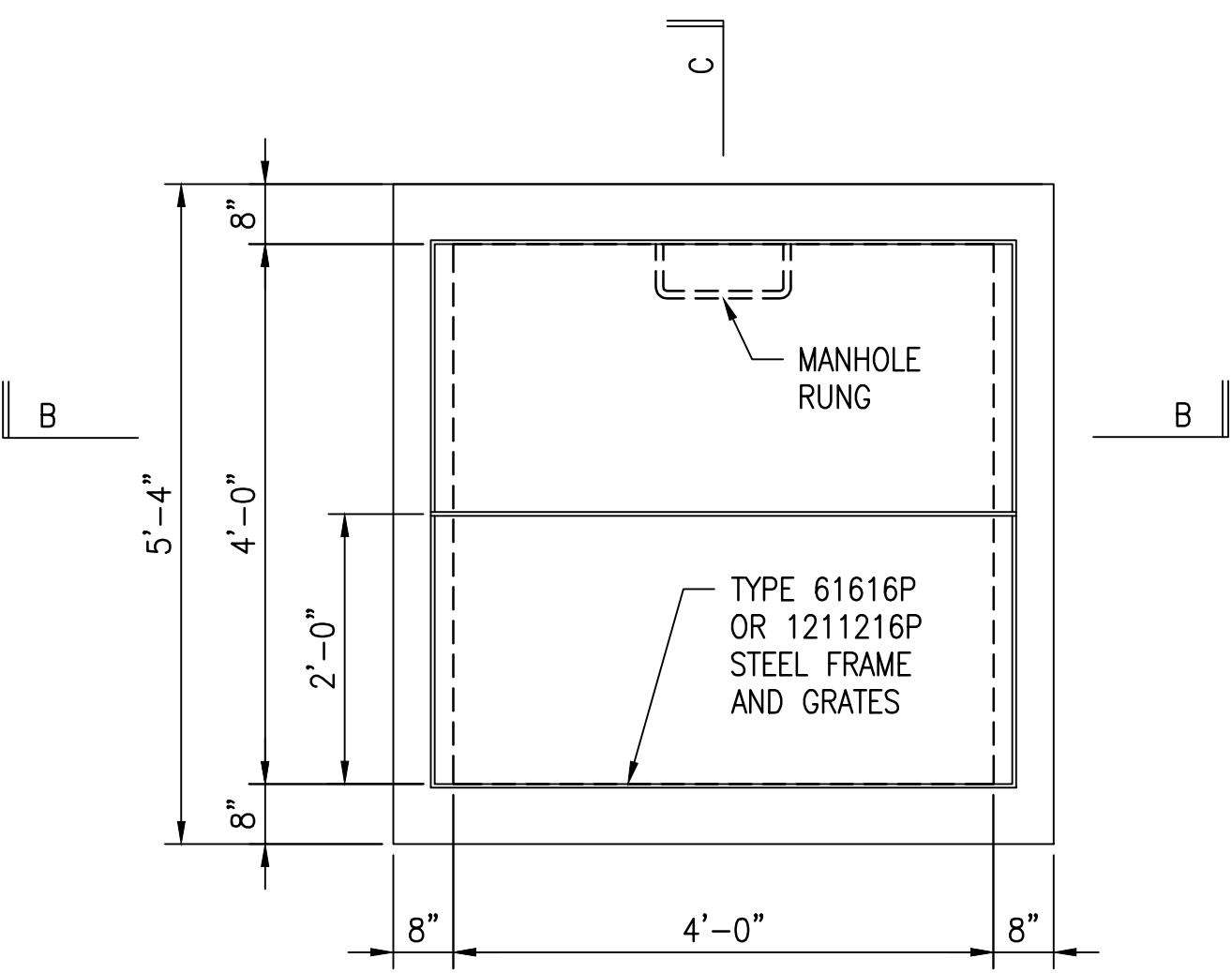
DRAINAGE DETAILS - 2
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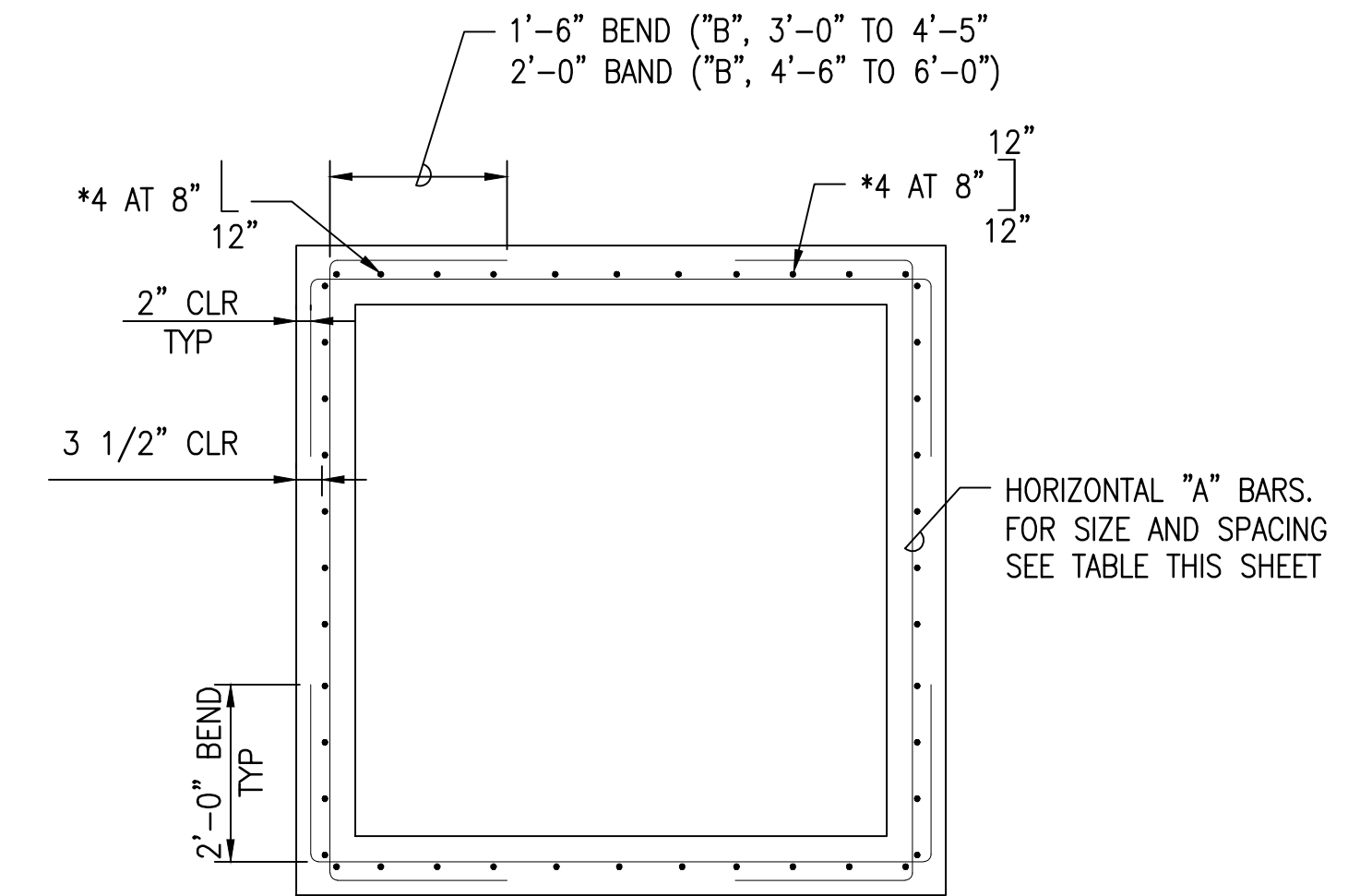
PLAN



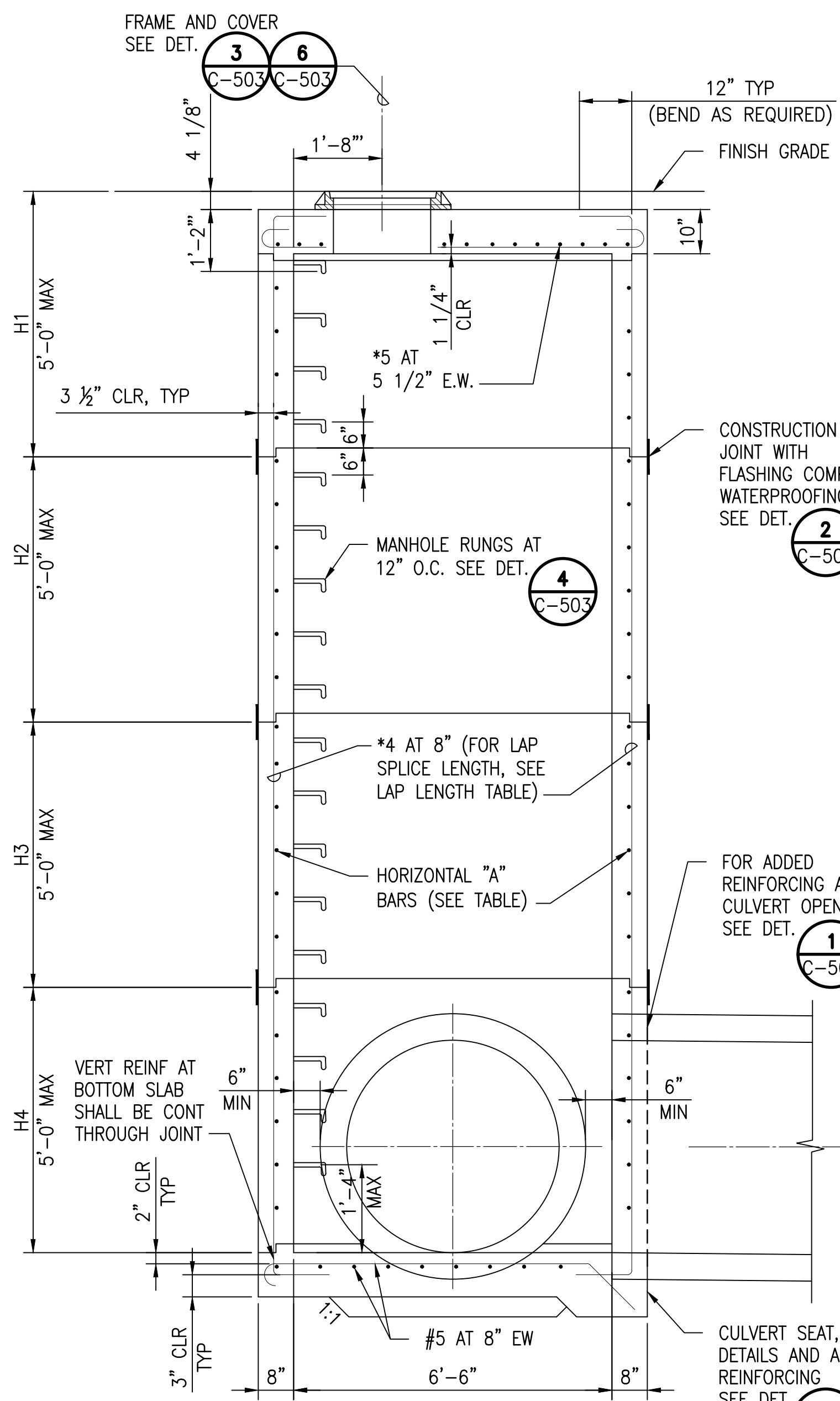
PLAN VIEW OF WALL SECTION



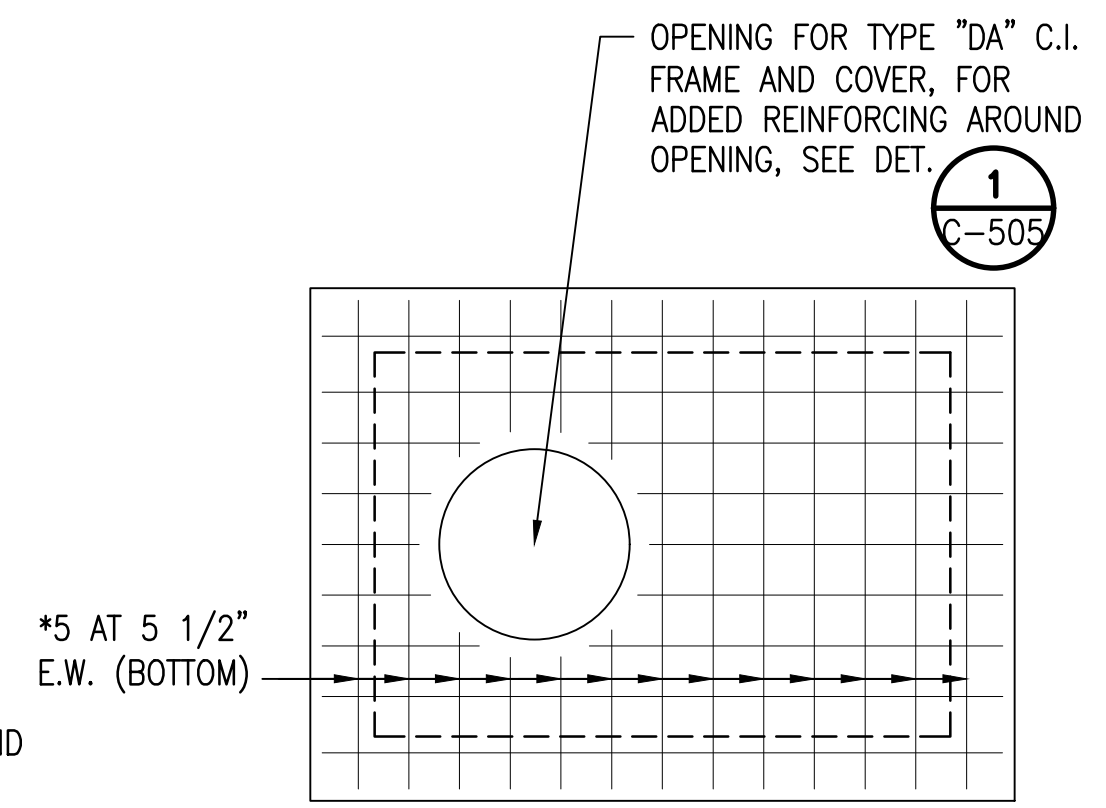
PLAN



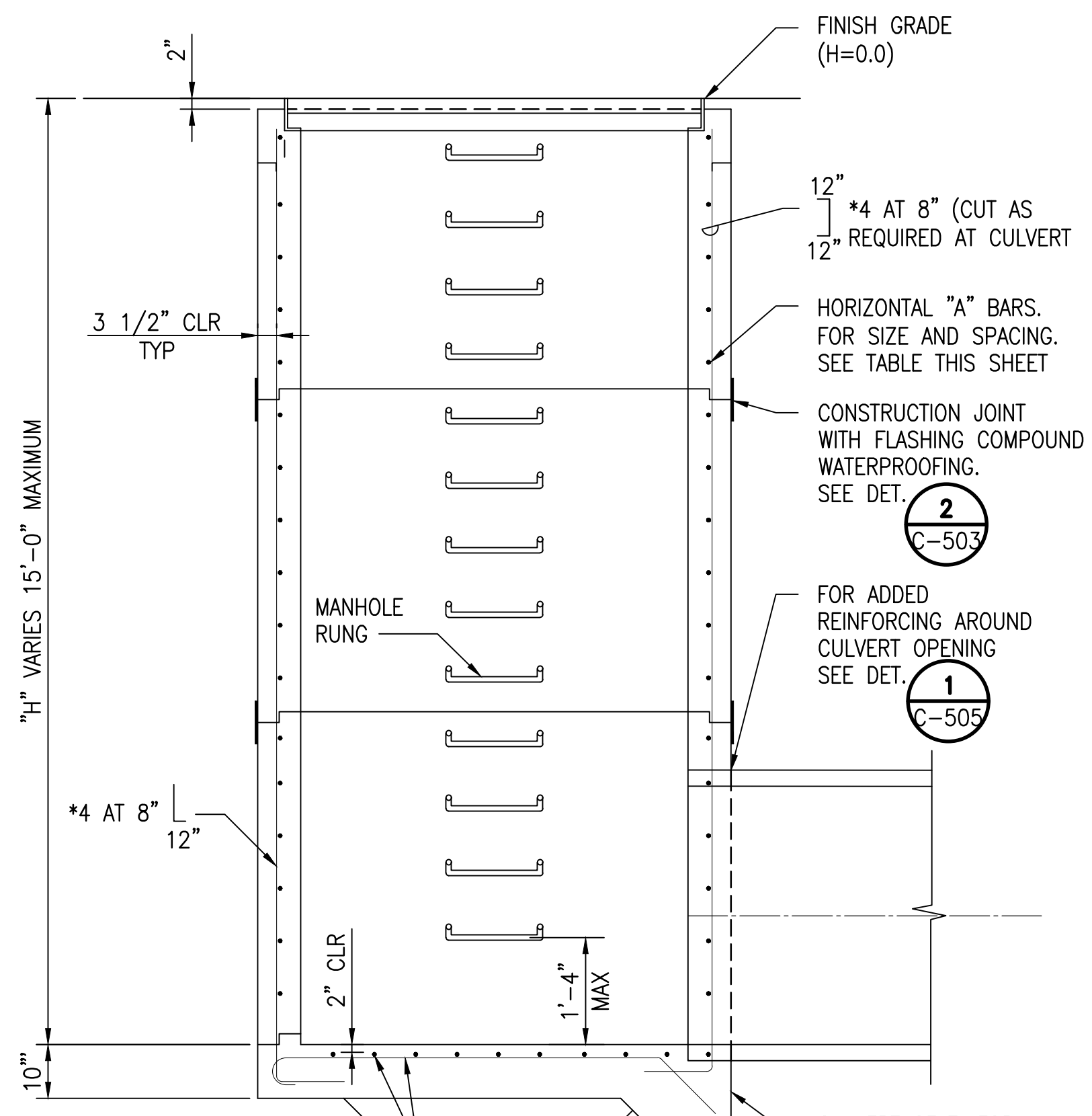
PLAN VIEW OF WALL REINFORCING



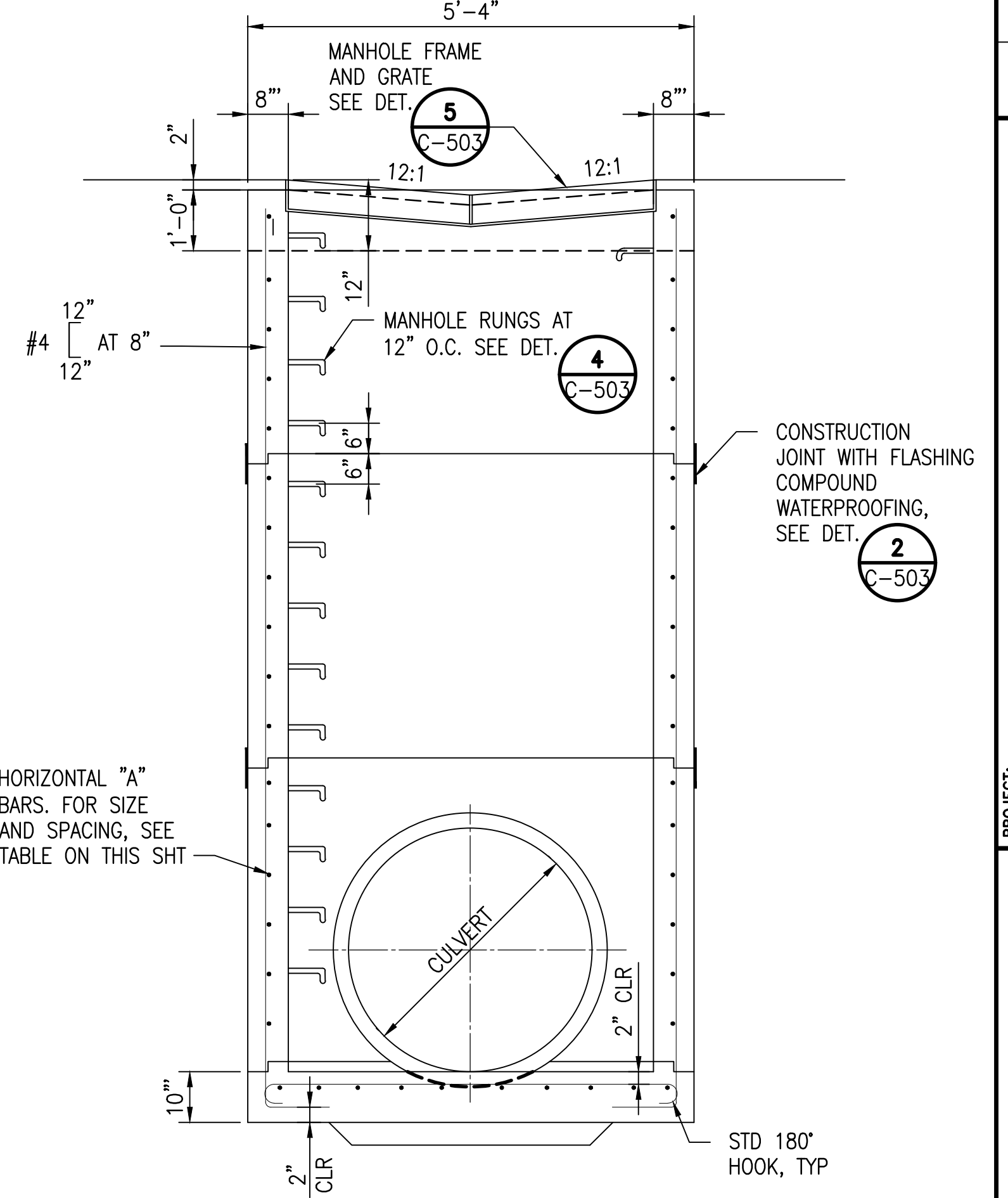
SECTION A-A



PLAN VIEW OF TOP SLAB REINFORCING



SECTION B-B



SECTION C-C

HORIZONTAL "A" BARS FOR FOR GRATED DROP INLET	
SDMH DEPTH	"A" BARS
H1 0'-0" TO 5'-0"	*5 @ 10"
H2 5'-1" TO 10'-0"	*5 @ 8"
H3'-10'-1" TO 15'-0"	*5 @ 6"
H4'-15'-1" TO 20'-0"	*5 @ 6"

VERTICAL BAR LAP SPLICE	
BAR	VERTICAL LAP LENGTH
*4	1'-8"
*5	2'-2"

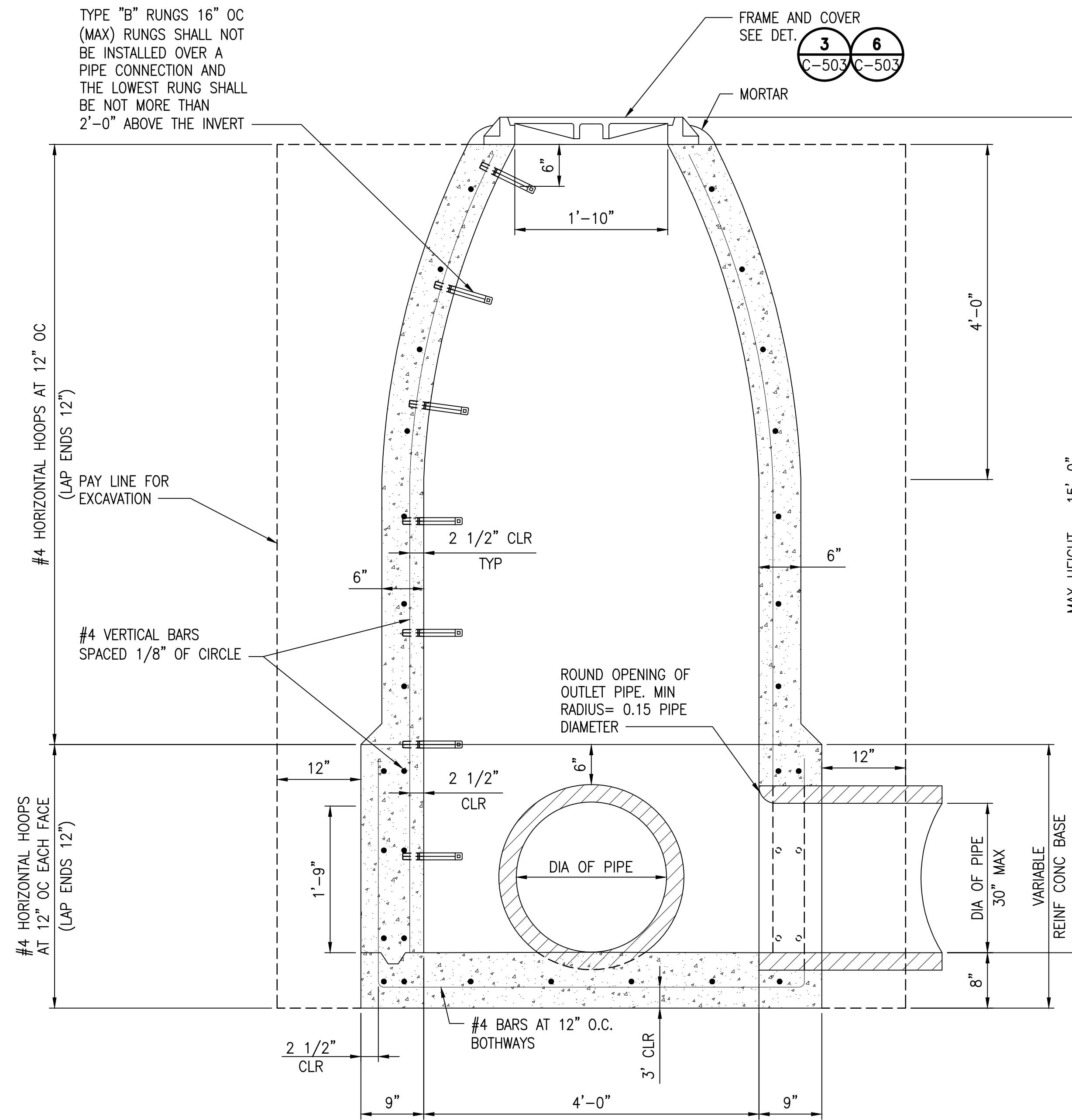
2 STORM DRAIN MANHOLE DETAIL (FOR 66"Ø)
 C-504 NOT TO SCALE

1 GRATED DROP INLET DETAIL (FOR 36"Ø MAX)
 C-504 NOT TO SCALE

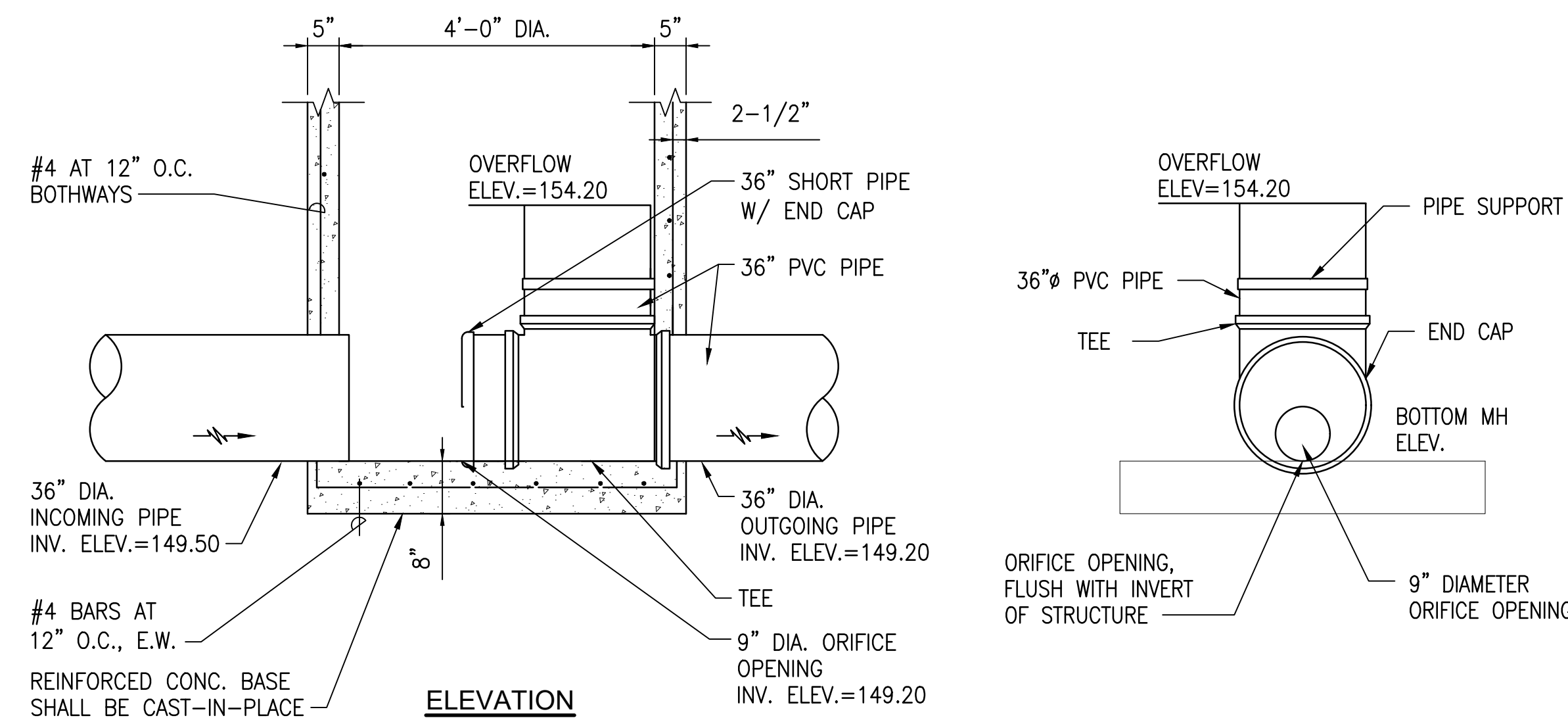
HORIZONTAL "A" BARS FOR FOR GRATED DROP INLET	
DEPTH "H"	"A" BARS
0'-0" TO 5'-0"	*5 @ 10"
5'-1" TO 10'-0"	*5 @ 8"
10'-1" TO 15'-0"	*5 @ 6"

W:_CIVIL_3D_PROJECTS\2018_001_DHLL_HANAPEPE_RESIDENTIAL_SUBDIVISION_PHASE_2\01_CE_DWG\C-504_DRAINAGE_DETAILS - 2.DWG 11/9/2022 6:52 PM EBR/NALES

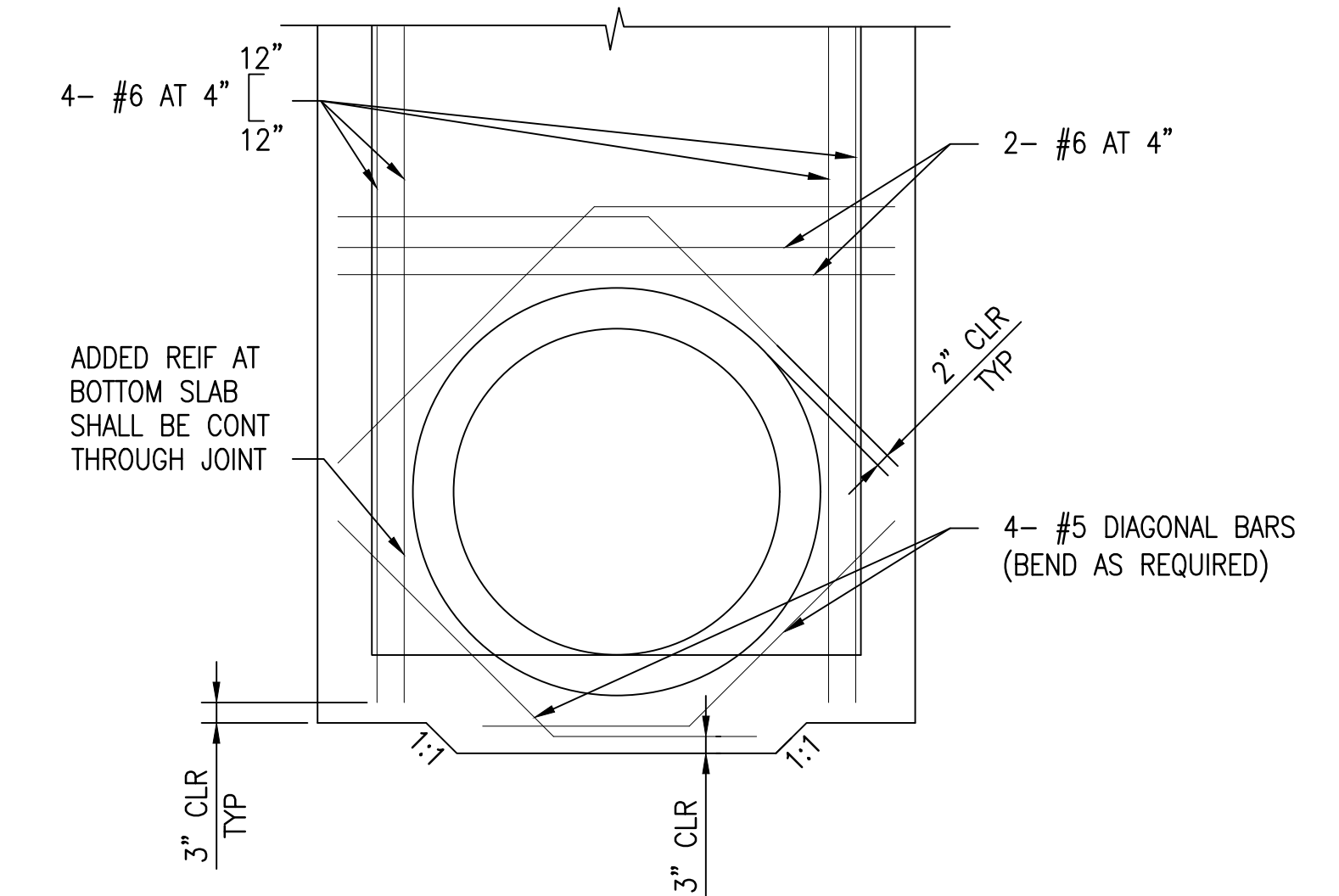
W:_CIVIL_3D PROJECTS\2018_021.001 DNL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-505 DRAINAGE DETAILS - 3.DWG 11/9/2022 6:51 PM EBORNALES



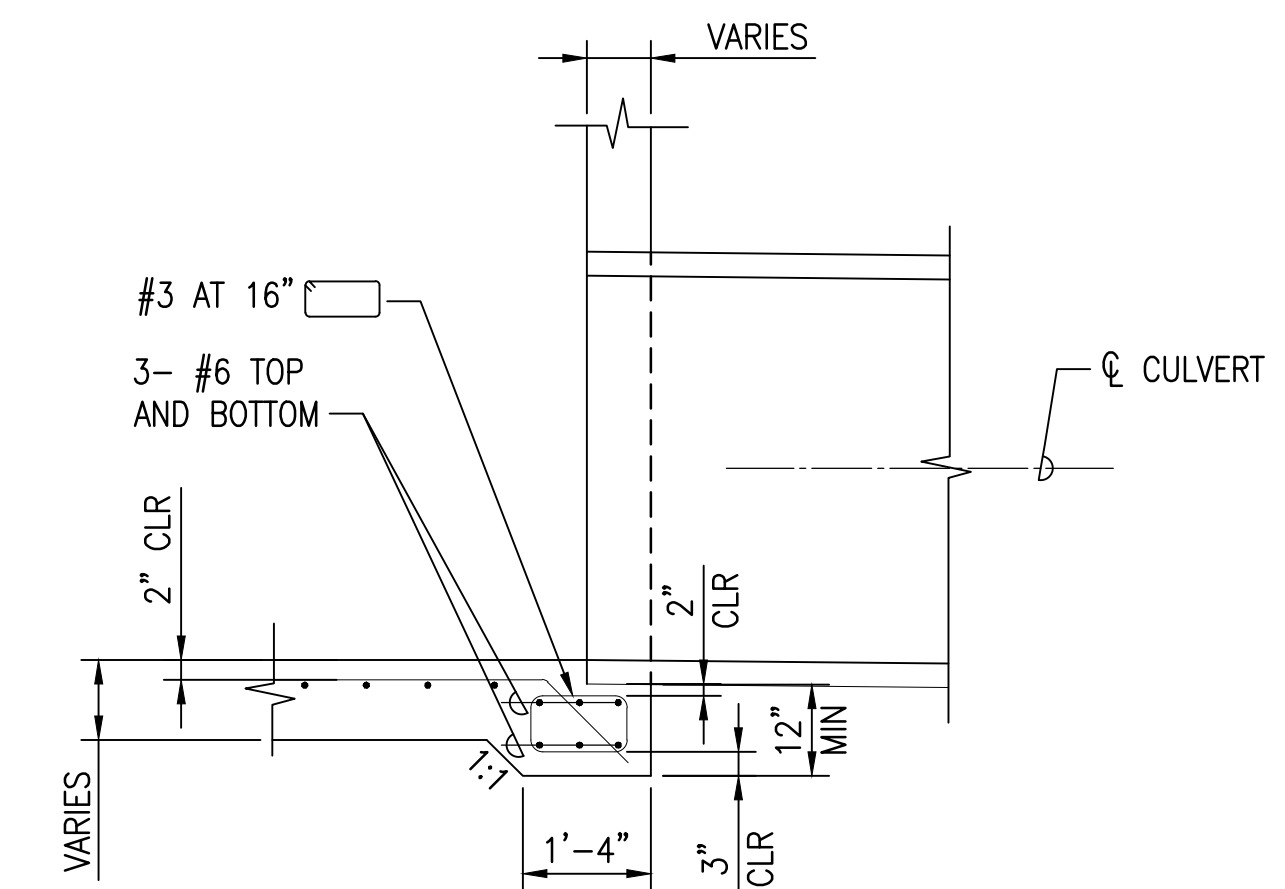
2 CAST-IN-PLACE CIRCULAR CONCRETE DRAIN MANHOLE
C-505 NOT TO SCALE



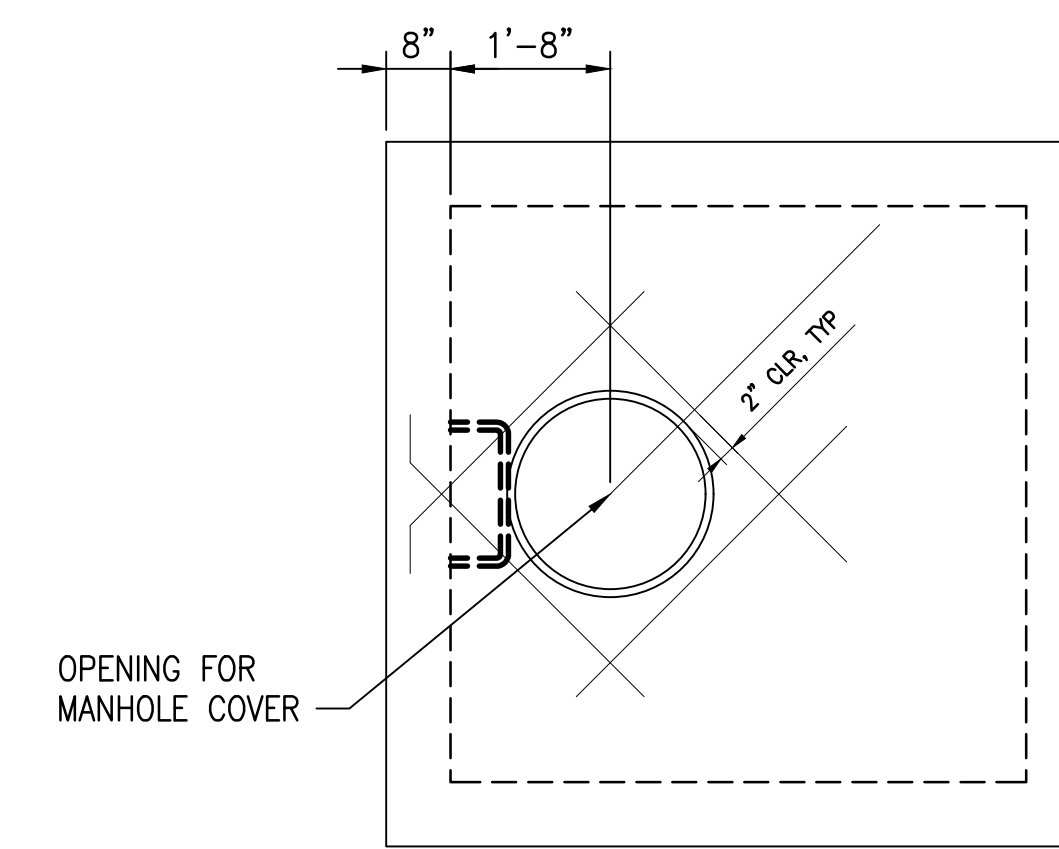
3 FLOW CONTROL MANHOLE DETAIL
C-505 NOT TO SCALE



ADDED REINFORCING FOR CULVERT OPENINGS AT BOTTOM SLAB

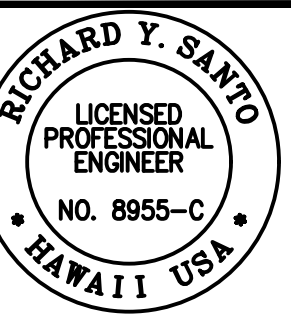


DETAIL OF CULVERT SEAT



ADDED REINFORCING FOR MANHOLE OPENING

1 TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES
C-505 NOT TO SCALE



Richard Y. Santo
4/20/24
Professional Engineer
No. 8955-C
HAWAII, USA

SSFM International, Inc.
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Honolulu, Hawaii 96817

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TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

DRAINAGE DETAILS - 3

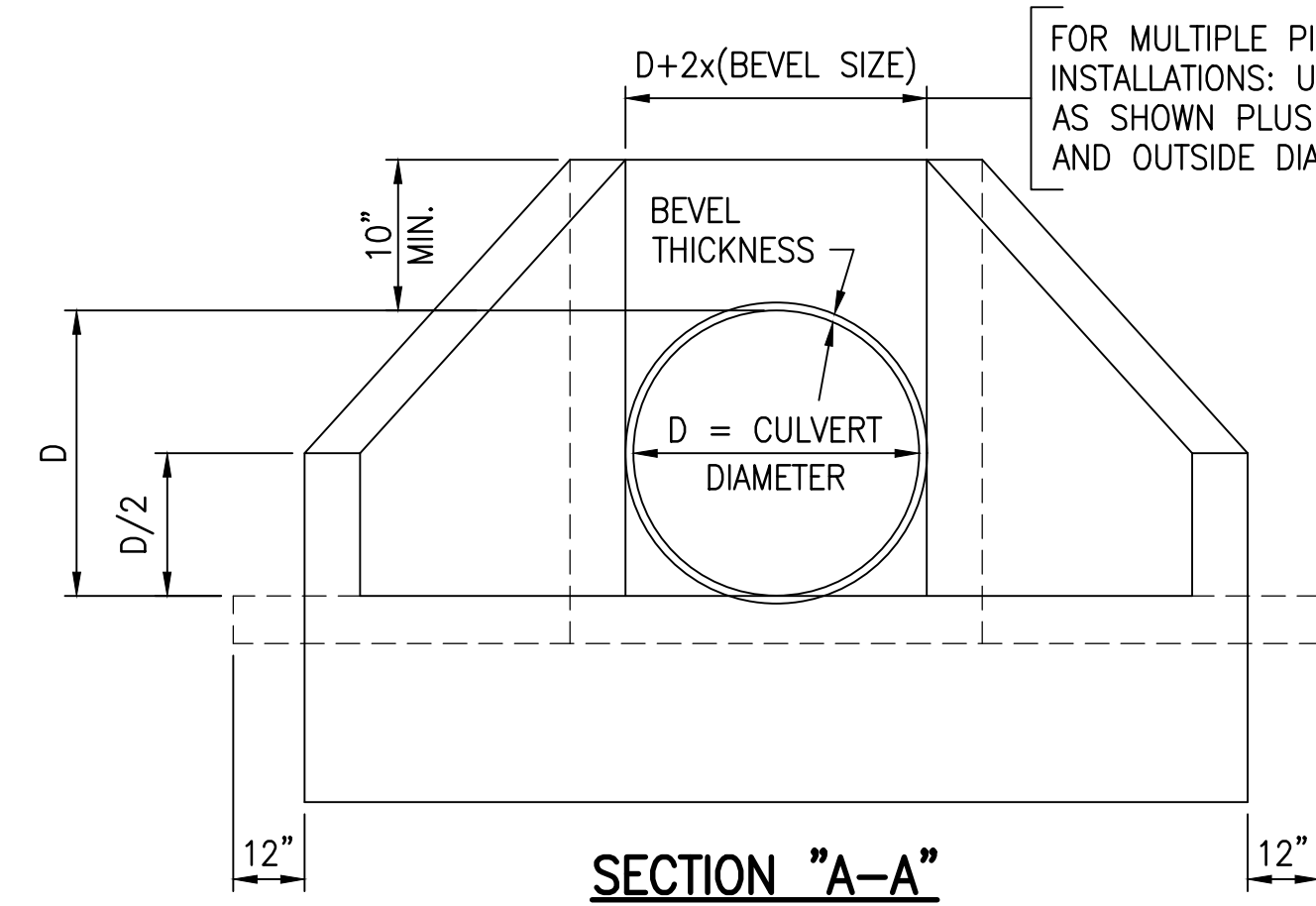
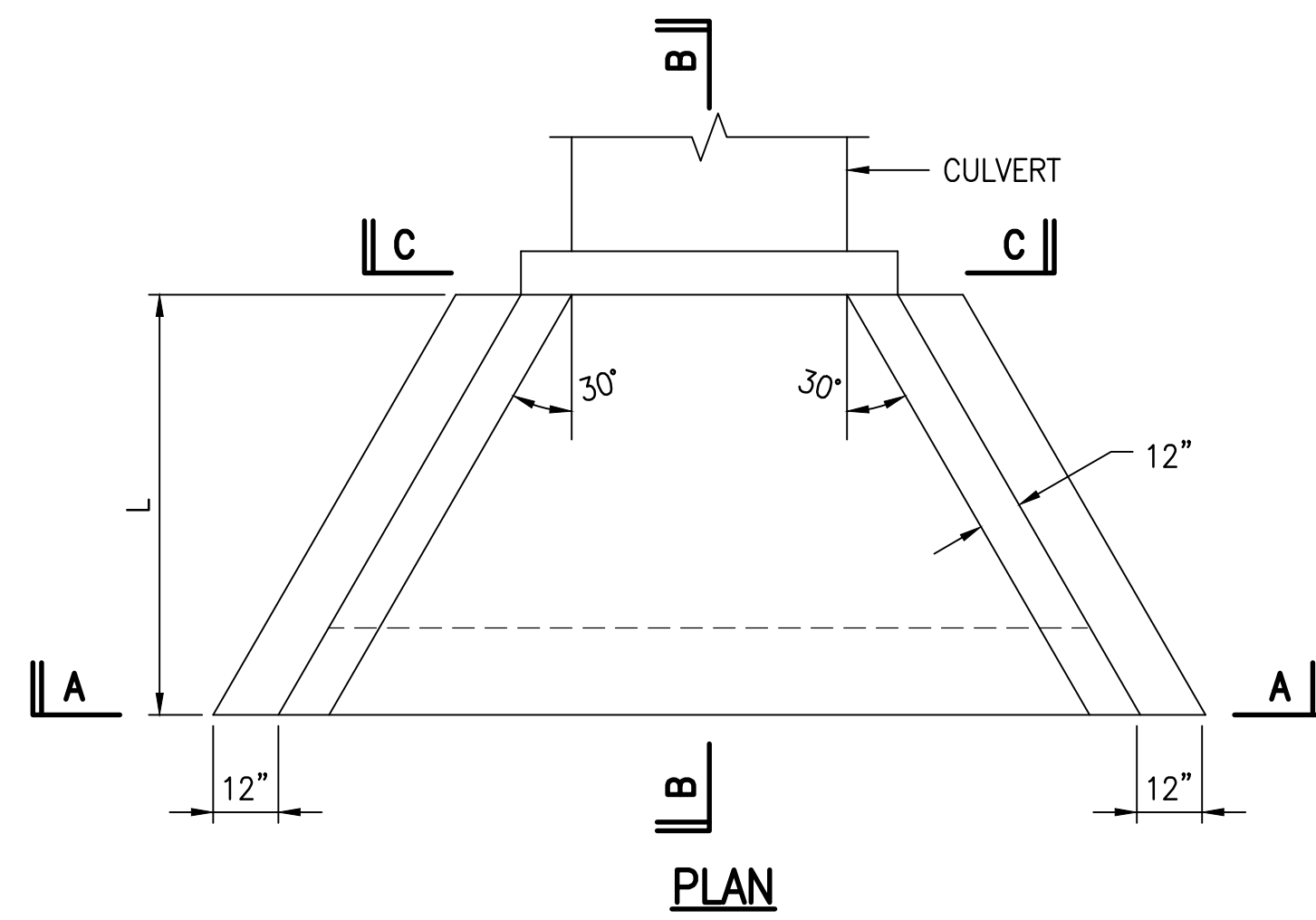
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DATE: APRIL 2023
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C-505

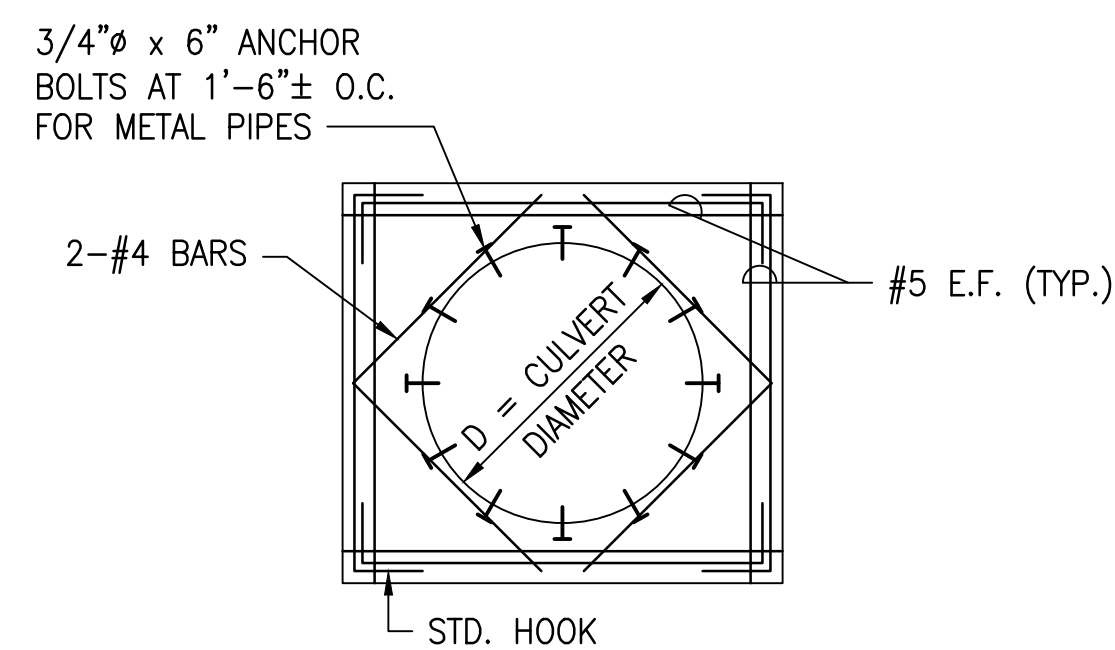
68 OF 109 SHEETS

W:\CIVIL_3D\PROJECTS\2018_021.001\DHHL\HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-506 DRAINAGE DETAILS - 4.DWG 11/9/2022 6:51 PM EBORNALES



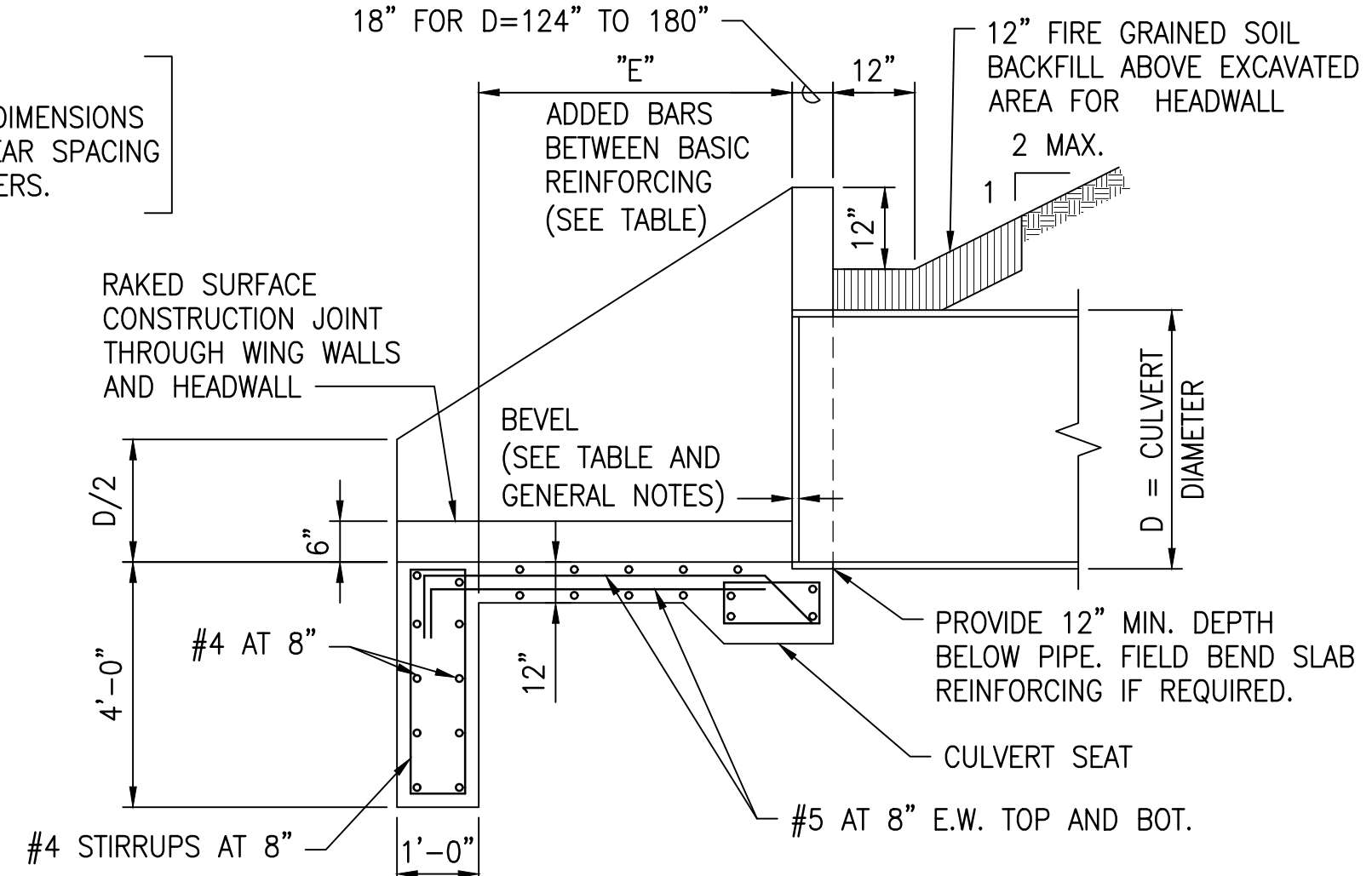
CULVERT DIA. D (INCHES)	L (MIN.)
30	6'-0"
36	6'-6"
66	11'-0"

INLET/OUTLET STRUCTURE FOR CULVERT



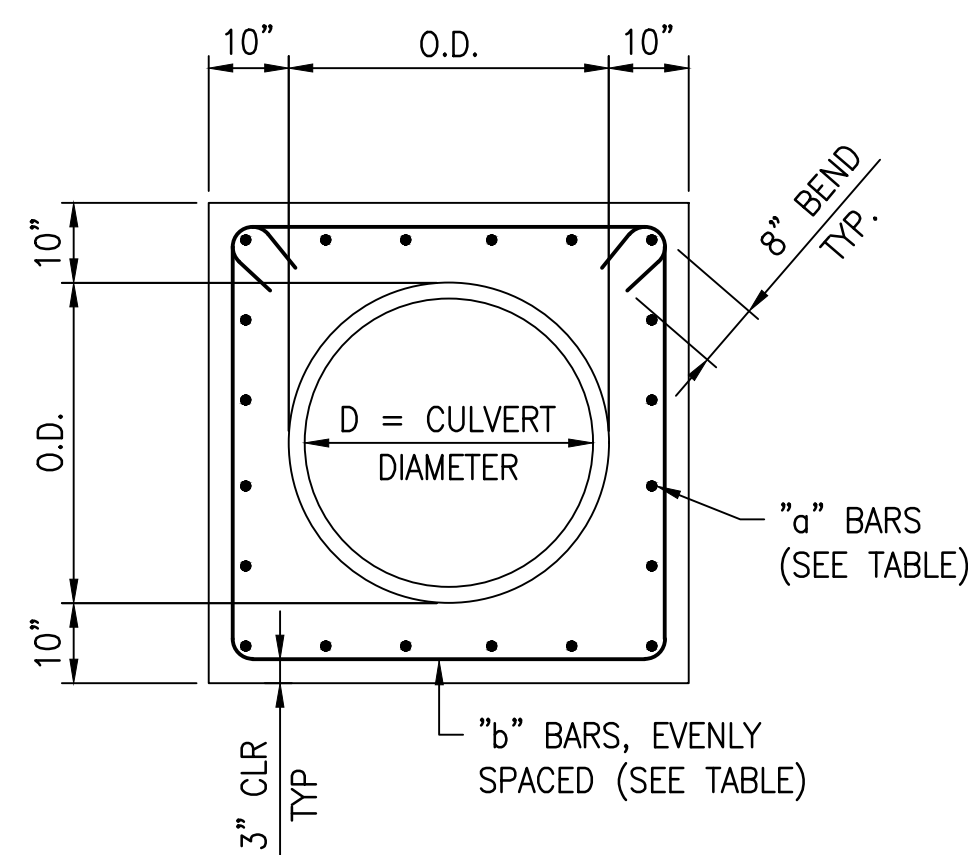
SECTION "C-C"

12" FOR D=48" TO 102"
15" FOR D=105" TO 120"
18" FOR D=124" TO 180"

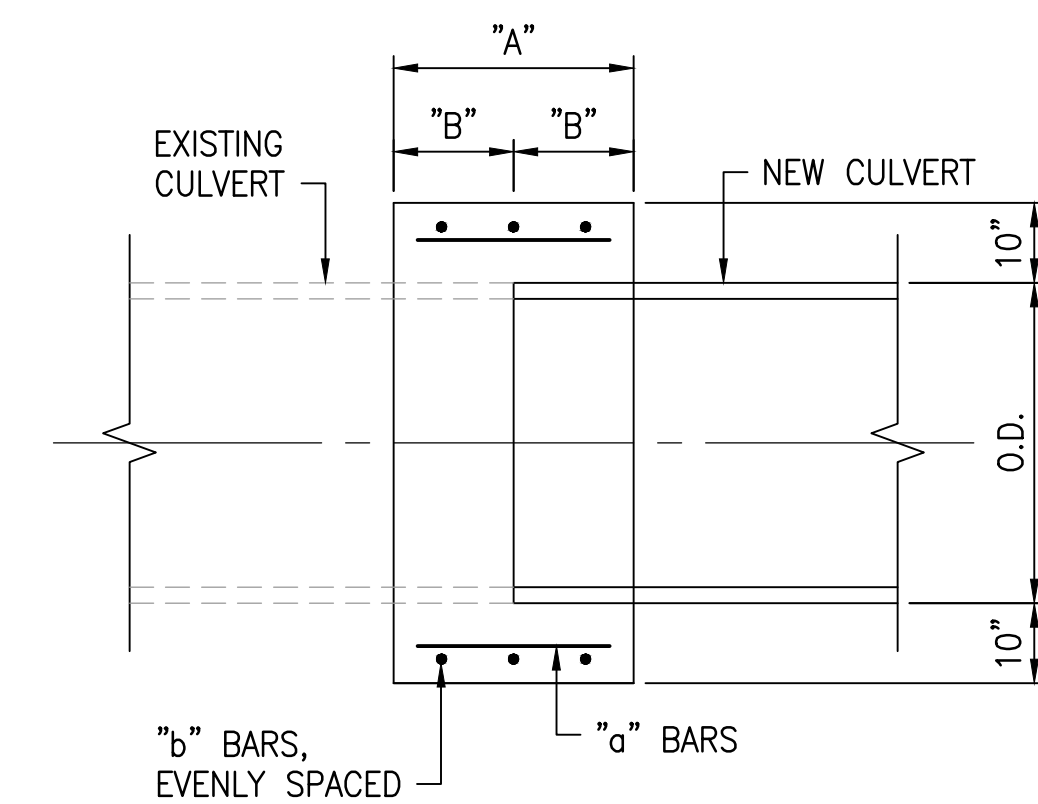


SECTION "B-B"

1 CONCRETE HEADWALL DETAIL
C-506 NOT TO SCALE



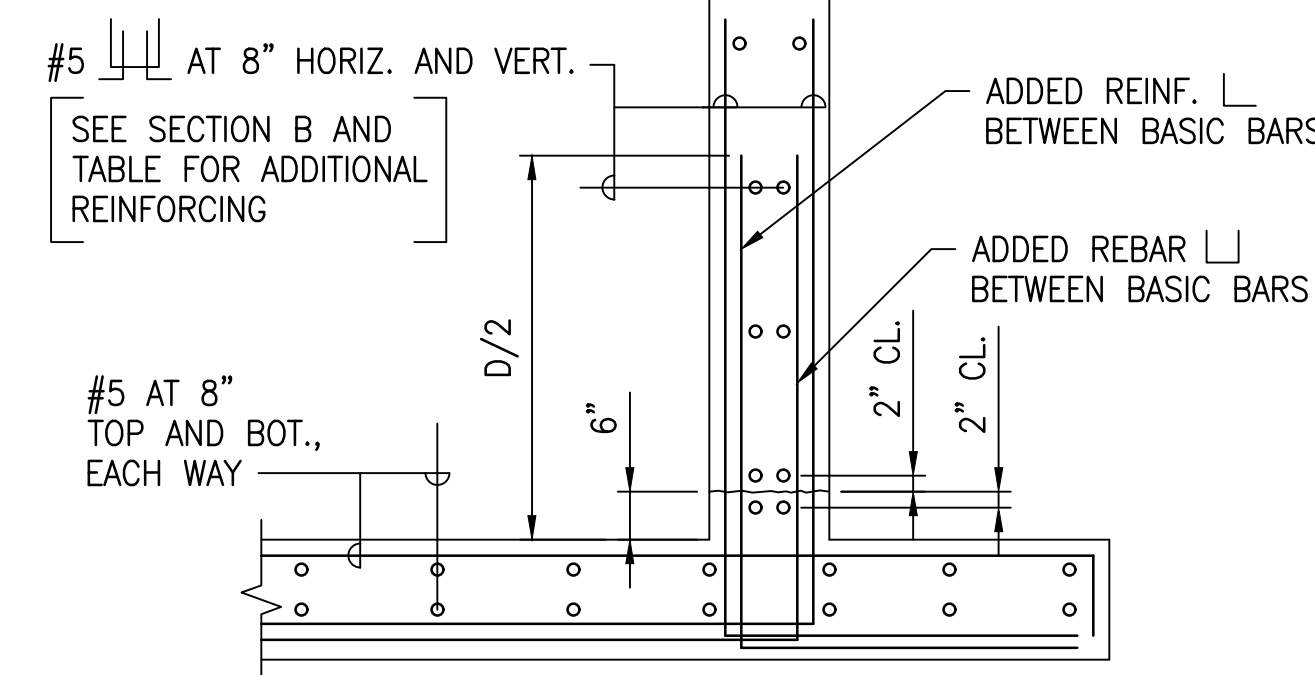
SECTION "A-A"



SECTION "B-B"

CULVERT DIAMETER	"a" BARS	"b" BARS □	"A"	"B"
18" TO 30"	#4 AT 9"	3 - #4	24"	12"
36" TO 48"	#5 AT 9"	4 - #5	30"	15"
54" TO 66"	#5 AT 9"	4 - #5	30"	15"

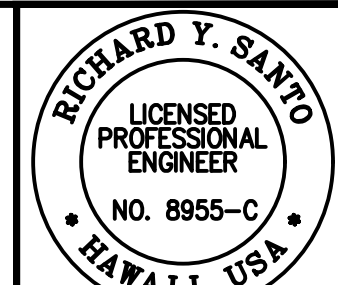
2 REINFORCED CONCRETE COLLAR DETAIL
C-506 NOT TO SCALE



WING WALLS TYPICAL WING WALL REINFORCING SECTION

GENERAL NOTES:

- CONSTRUCT BEVELS 1/2 IN./FT. OF CULVERT DIAMETER OR RISE.
- THE GROOVE OR BELL END OF THE CONCRETE CULVERT MAY BE USED IN PLACE OF THE BEVELS.
- ANCHOR BOLTS SHALL BE ASTM A307 AND ZINC COATED.
- DESIGN CRITERIA
 - ACTIVE HORIZONTAL PRESSURE = 60 PCF (2 TO 1 SLOPING BACKFILL, ABOVE GROUNDWATER)
 - ACTIVE VERTICAL PRESSURE = 30 PCF (2 TO 1 SLOPING BACKFILL, ABOVE GROUNDWATER)
 - STRENGTH BEARING CAPACITY = 2,500 PSF
 - INLET / OUTLET STRUCTURES WERE NOT DESIGNED FOR EXTREME EVENT LOAD COMBINATION.



DATE: 4/30/24
PROJECT: 2018_021.001
SHEET: 4 OF 109

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Honolulu, Hawaii 96817

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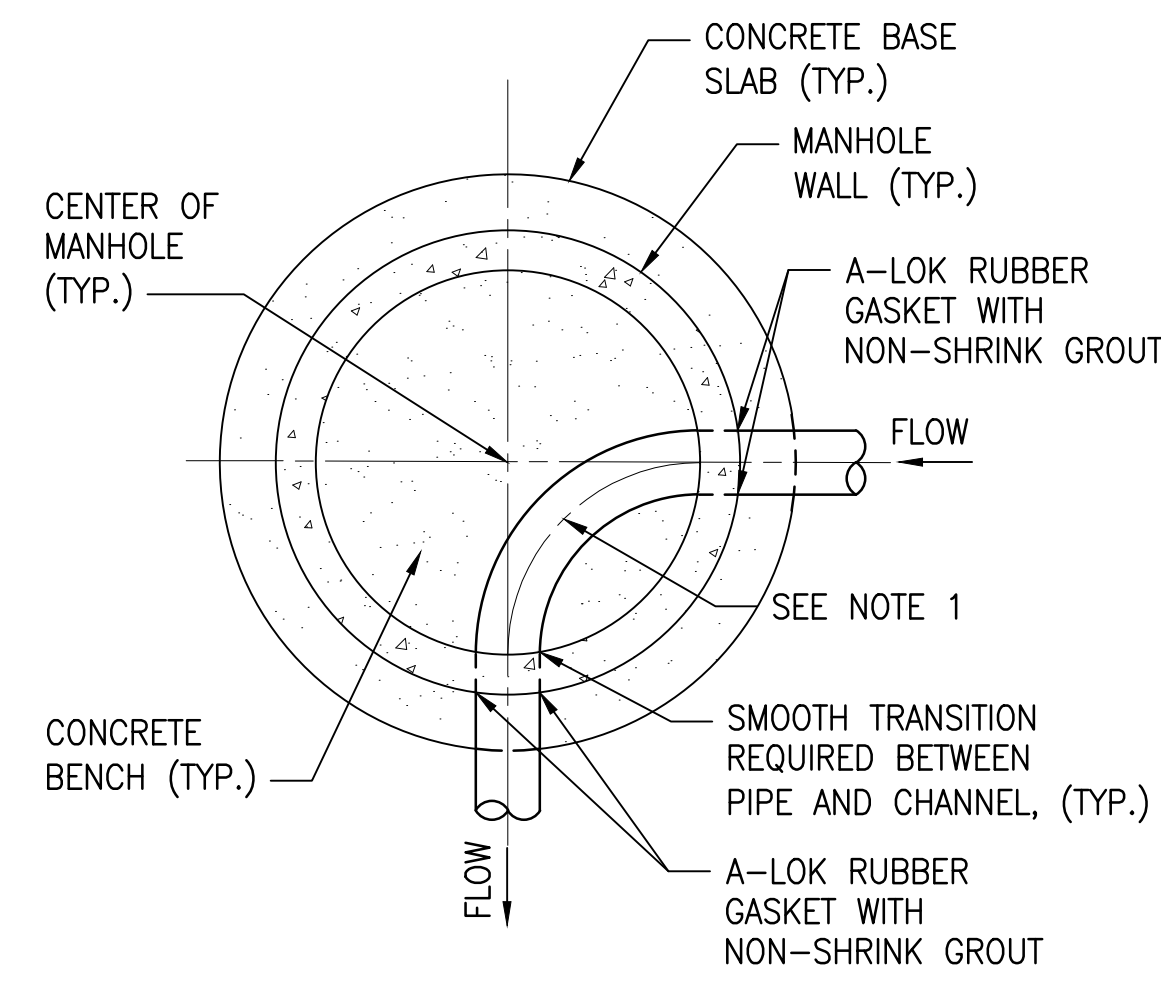
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
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FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

DRAINAGE DETAILS - 4

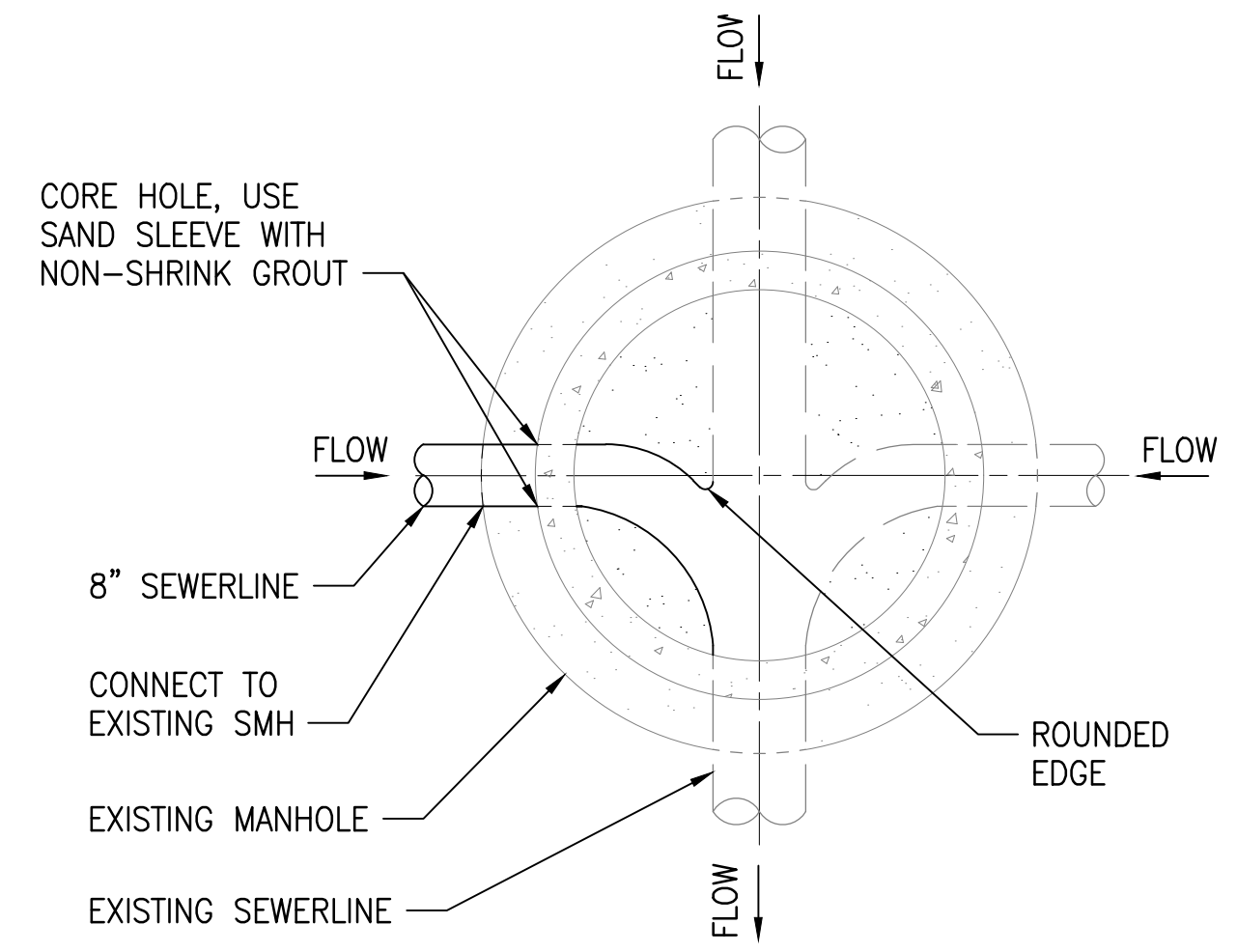
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69 OF 109 SHEETS

W:_CIVIL_3D PROJECTS\2018_021.001 DHHL HANAPEPE RESIDENTIAL SUBDIVISION PHASE 2\01 CE DWG\C-508 SEWER DETAILS - 2.DWG 11/8/2022 6:47 PM EBORNALES



NEW MANHOLE

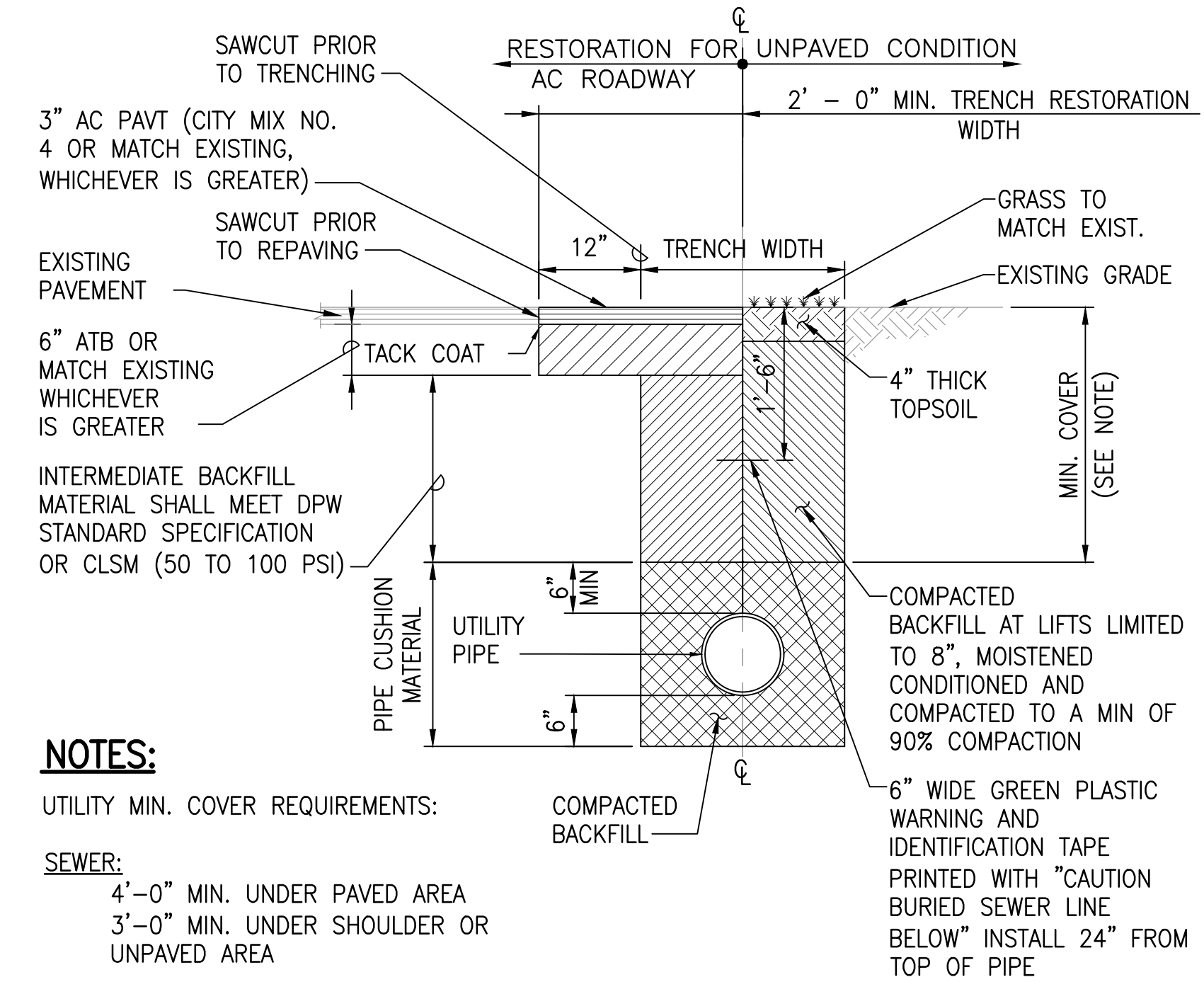


EXISTING MANHOLE

NOTES:

1. THE RADIUS OF THE CHANNEL CENTERLINE FOR PIPES SMALLER THAN 12" SHALL BE 1/2 X INSIDE DIAMETER OF MANHOLE.
2. ALL CHANNEL EDGES SHALL BE PROVIDED WITH SMOOTH ROUNDED EDGES.
3. OTHER MANHOLE CHANNEL CONFIGURATIONS SHALL BE SHOWN ON THE CONSTRUCTION DRAWINGS.

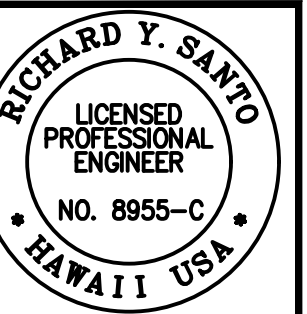
1 TYPICAL CHANNELIZATION OF SEWER MANHOLES DETAIL
C-508 NOT TO SCALE



NOTES:

- UTILITY MIN. COVER REQUIREMENTS:
- SEWER:**
4'-0" MIN. UNDER PAVED AREA
3'-0" MIN. UNDER SHOULDER OR UNPAVED AREA

2 TYPICAL TRENCH RESTORATION DETAIL
C-508 NOT TO SCALE



The work was prepared by me or under my direct supervision and I am a duly Licensed Professional Engineer in the State of Hawaii. My license is in good standing. I am not providing any services in any other state or country. My license expires on 4/30/24. My expiration date is 4/30/24. My expiration date is 4/30/24. My expiration date is 4/30/24.

Signature: *[Signature]*
Date: 4/30/24

NOTE: Contractor to check and verify dimensions of job before proceeding with work.

SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

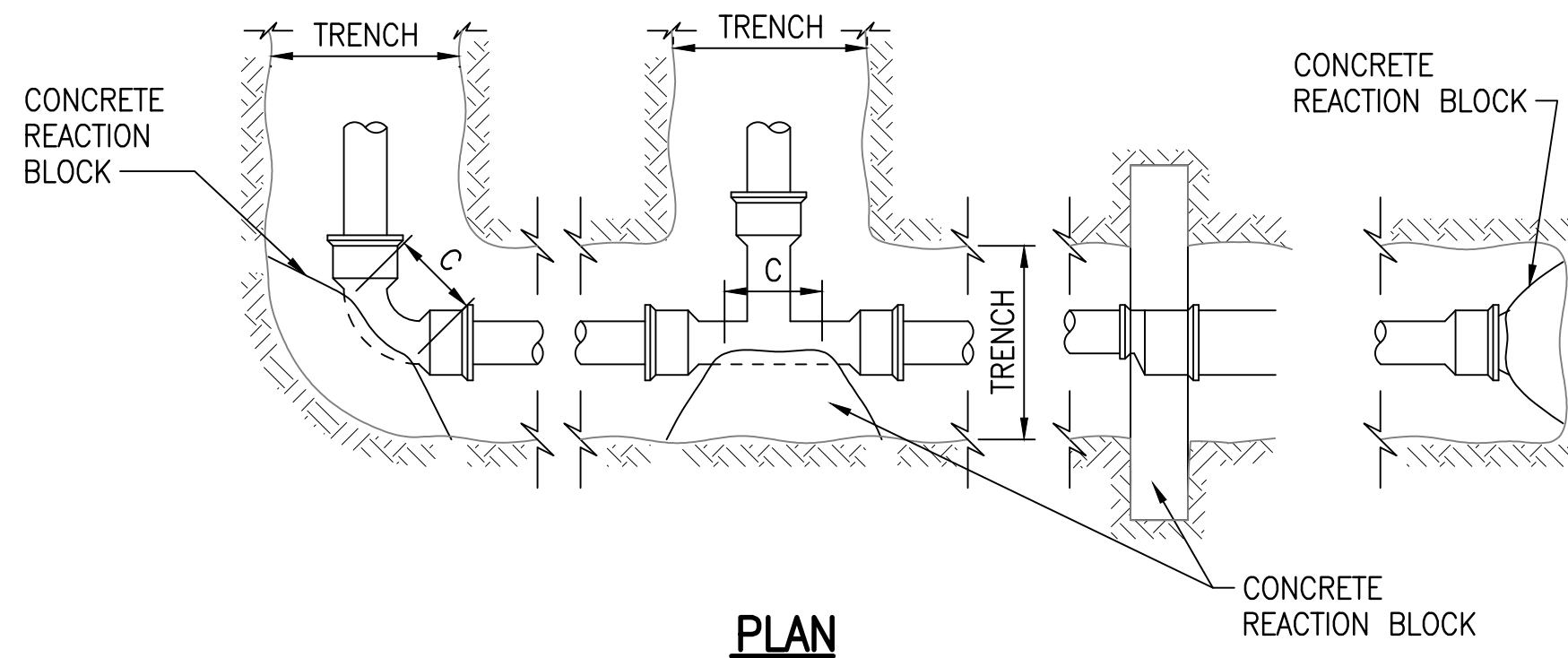
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Hanalei, Kauai, Hawaii

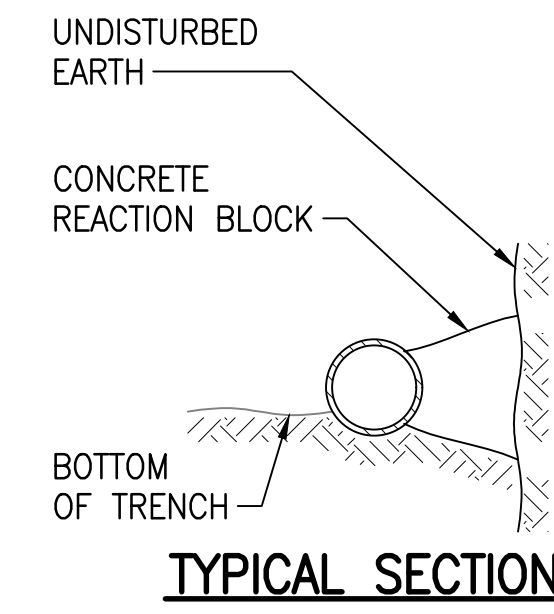
SEWER DETAILS - 2

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DATE: APRIL 2023
SHEET NUMBER: C-508
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PLAN

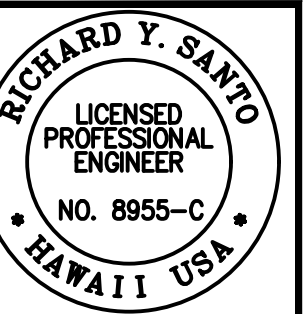


TYPICAL SECTION

NOTES:

1. CONCRETE REACTION BLOCKS SHALL BE INSTALLED AT ALL TEES, PLUGS, WYES AND BENDS.
2. CONCRETE SHALL BE DWS 2500.
3. ALL CONCRETE REACTION AND THRUST BLOCKS ARE DESIGNED FOR A MAXIMUM OPERATING PRESSURE 150 PSI.

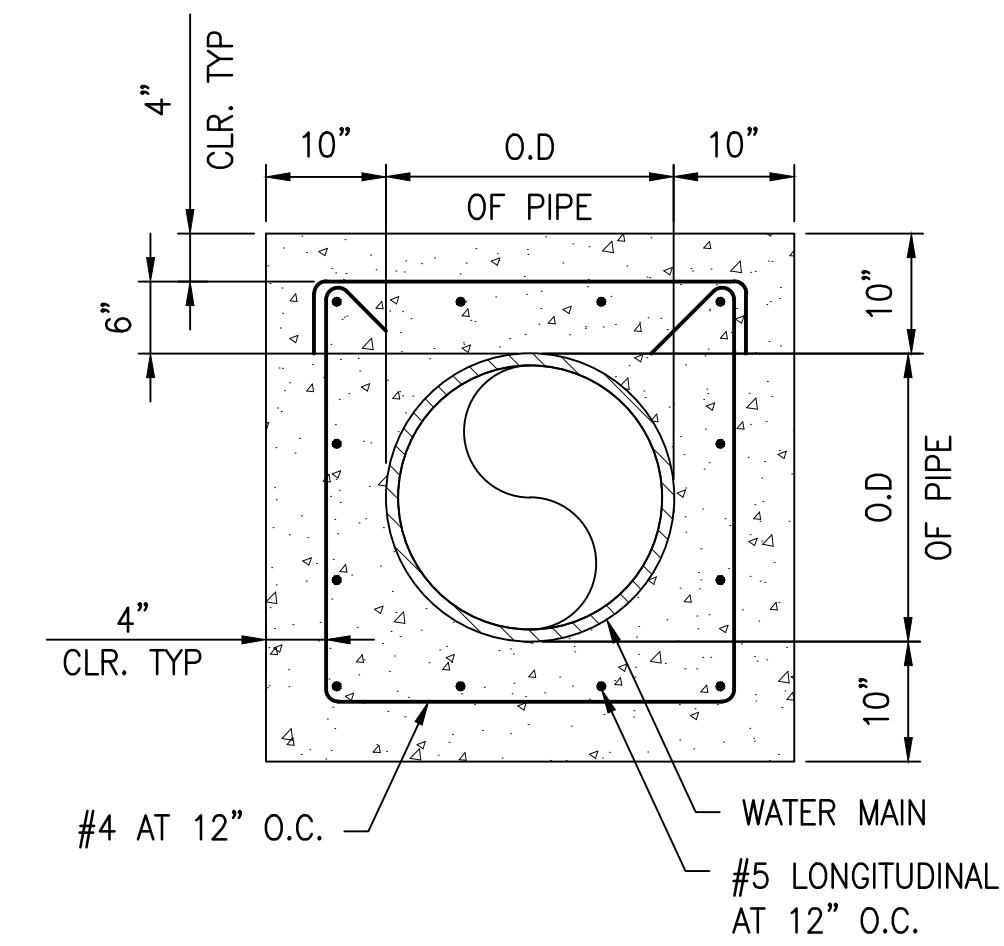
MINIMUM BEARING AREAS (SQ. FT.) FOR HORIZONTAL THRUST BLOCKS								
PIPE SIZE	BEND	PRESSURE						
		150 PSI						
		A	B	C	D	E	F	G
6"	1/4	20.0	10.0	7.0	5.0	3.5	2.5	2.0
	TEES, CAPS	25.0	12.5	8.5	6.5	4.0	3.0	2.5
8"	1/4	35.0	18.0	12.0	9.0	6.0	4.5	3.5
	1/8	20.0	9.5	6.5	5.0	3.0	2.5	2.0
	1/32	5.0	2.5	1.5	1.5	1.0	1.0	1.0
12"	TEES, CAPS	34.0	17.0	11.5	8.5	5.5	4.5	3.5
	1/8	26.0	13.0	8.5	6.5	4.5	3.5	2.5
8" x 6" REDUCER		13.0	13.0	8.0	8.0	8.0	8.0	8.0



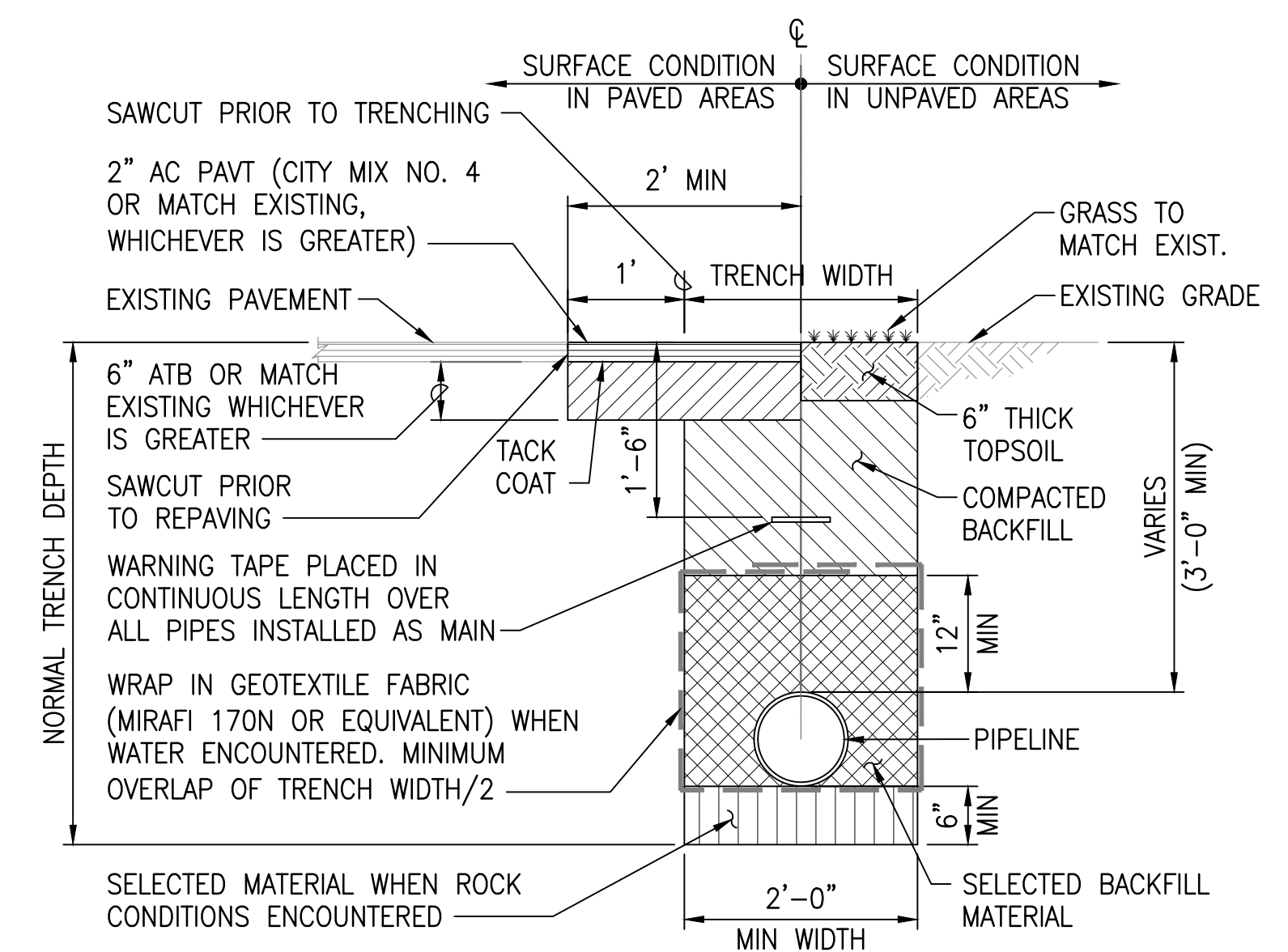
THE WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII. I AM NOT PROVIDING ANY DESIGN OR CALCULATION FOR THE DESIGN OF THE WORK. I AM NOT PROVIDING ANY DESIGN OR CALCULATION FOR THE DESIGN OF THE WORK. I AM NOT PROVIDING ANY DESIGN OR CALCULATION FOR THE DESIGN OF THE WORK.

SSFM International, Inc.
501 Summer Street
Suite 620
Honolulu, Hawaii 96817

1 THRUST BLOCK DETAIL
C-509 NOT TO SCALE



2 REINFORCED CONCRETE JACKET AROUND WATERLINE DETAIL
C-509 NOT TO SCALE



APPROVED:

FOR MANAGER AND CHIEF ENGINEER, DEPT. OF WATER COUNTY OF KAUAI DATE

3 TYPICAL WATER LINE TRENCH DETAIL
C-509 NOT TO SCALE

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

WATER DETAILS - 1
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DATE: APRIL 2023

SHEET NUMBER

C-509

72 OF 109 SHEETS

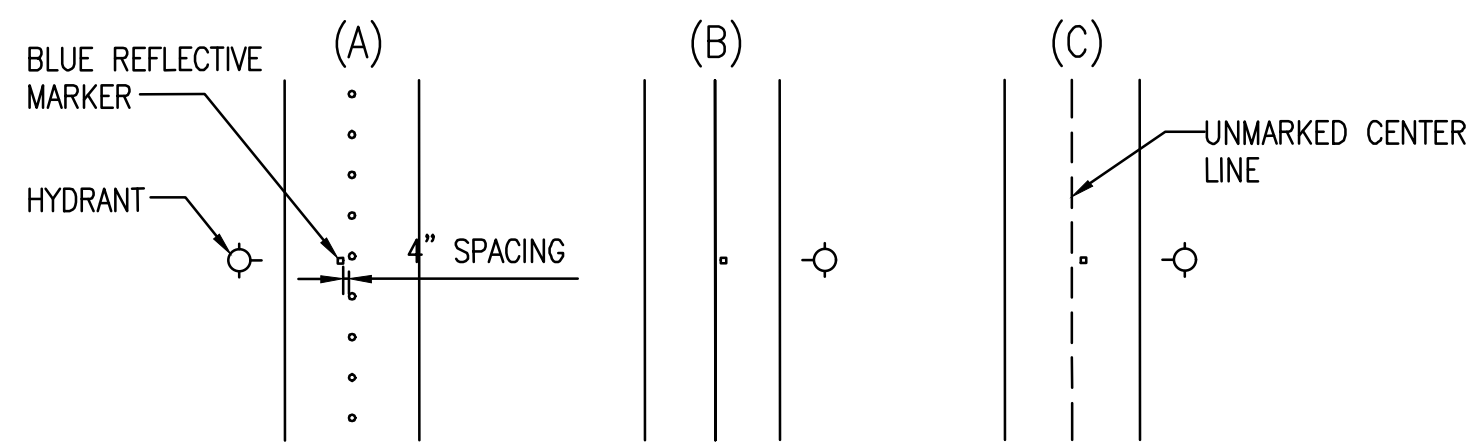


FIGURE 1
TWO LANE STREET

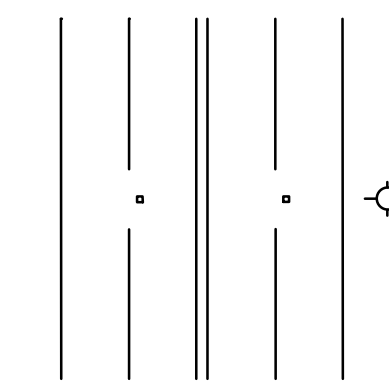


FIGURE 2
DIVIDED STREET

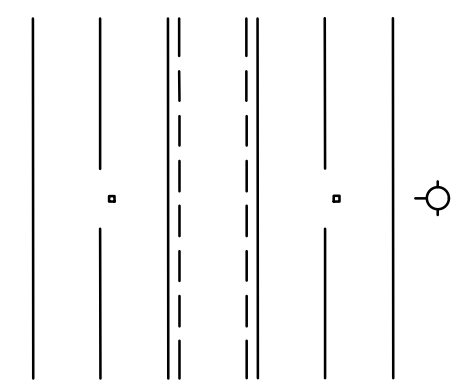


FIGURE 3
MULTI-LANE STREET W/
TURN LANE

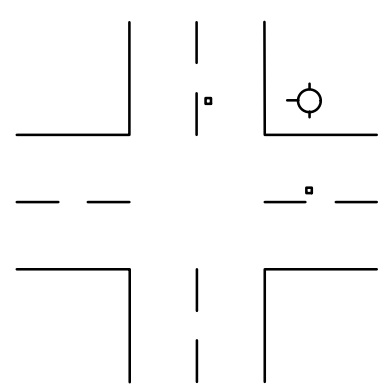


FIGURE 4
TWO LANE STREET
@ INTERSECTION

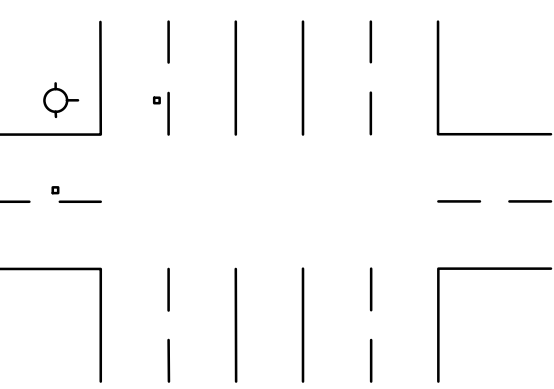
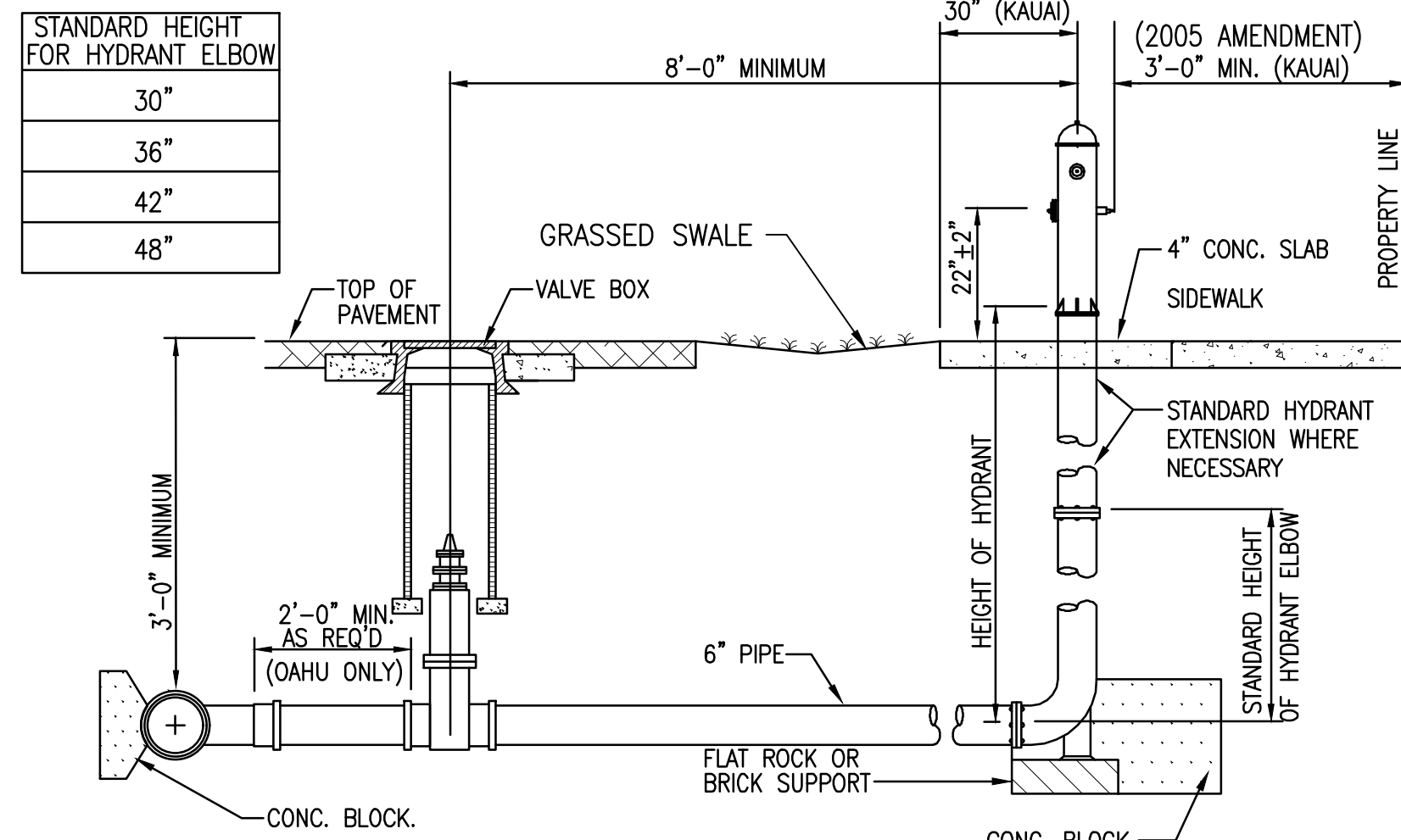


FIGURE 5
FOUR LANE STREET W/ TURN
LANE @ INTERSECTION

HYDRANT MARKER LOCATION

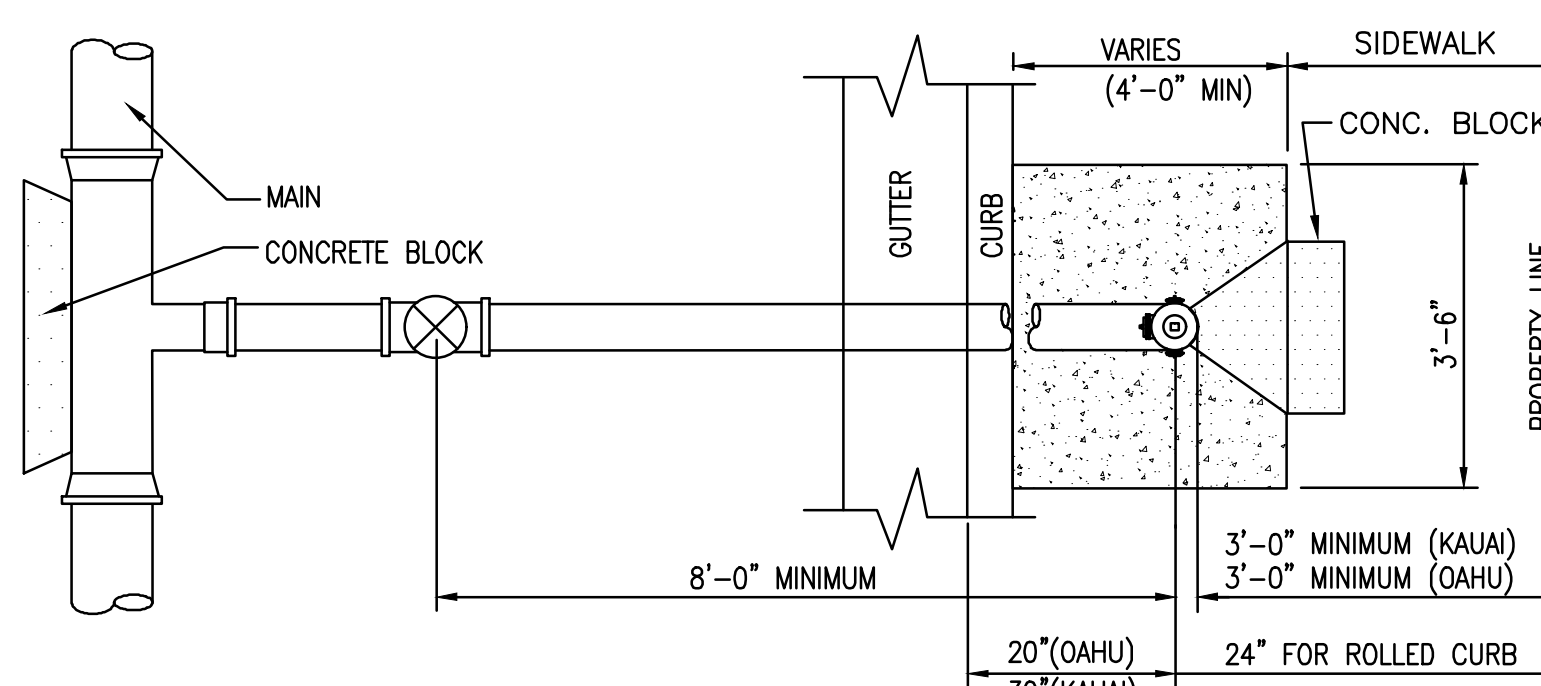


SECTION

NOTE:

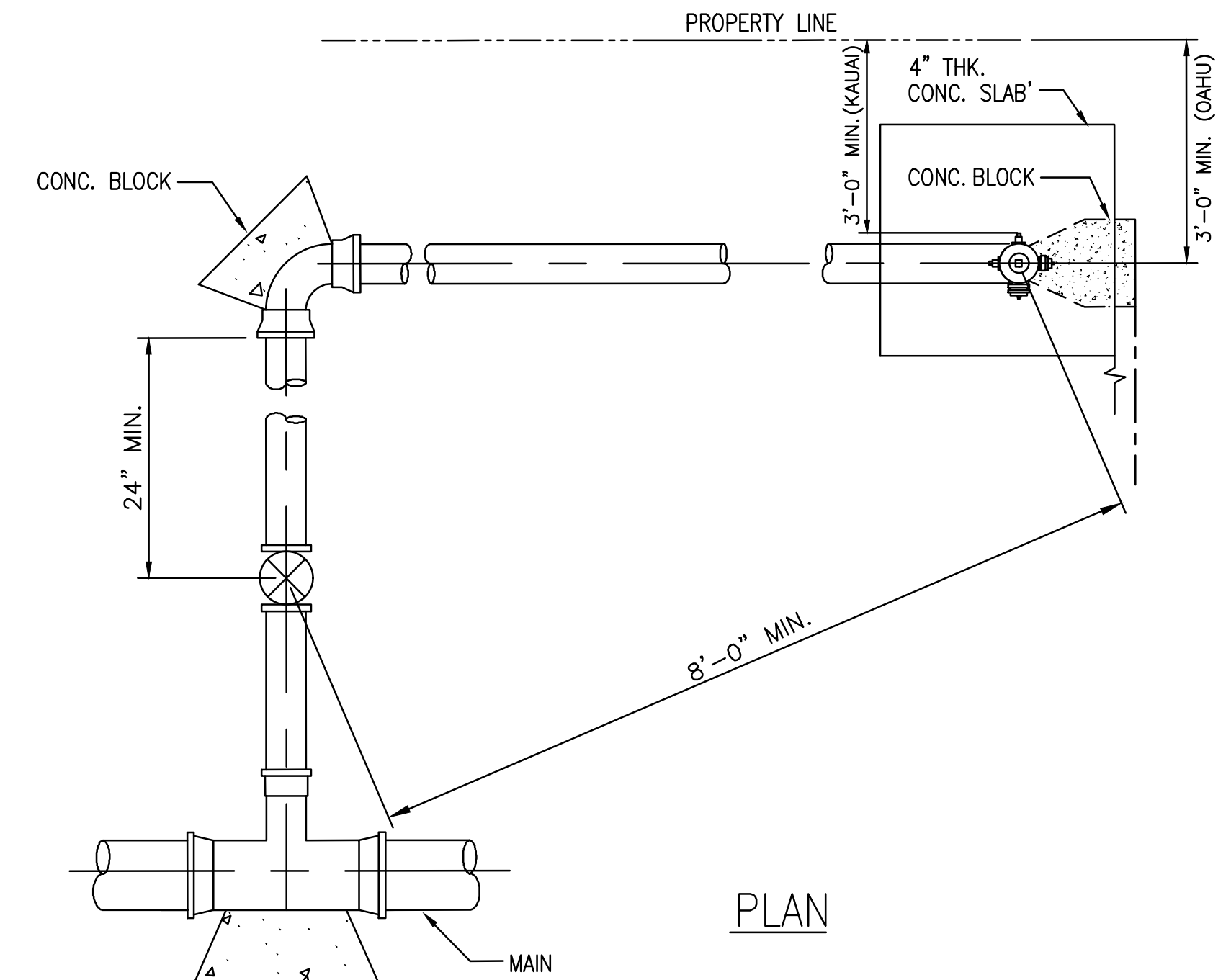
IF MULTIPLE HYDRANT EXTENSIONS ARE USED, A MINIMUM OF THE TOP 3 FLANGE JOINTS SHALL USE BREAK-OFF BOLTS.

STANDARD HYDRANT EXTENSIONS ARE AVAILABLE IN THE FOLLOWING LENGTHS: 6 TO 30 INCHES LONG IN INCREMENTS OF 6 INCHES.



STRAIGHT RUN

PLAN



PLAN

NOTES:

1. MINIMUM DIRECT DISTANCE FROM FIRE HYDRANT TO GATE VALVE SHALL BE 8'-0".
2. REFER TO PLATE FH4 FOR DIMENSIONS OF 4" CONCRETE SLAB AROUND FIRE HYDRANT.
3. IF MULTIPLE HYDRANT EXTENSIONS ARE USED, A MINIMUM OF THE TOP 3 FLANGE JOINTS SHALL USE BREAK-OFF BOLTS.

WITH ELBOW

NOTES:

1. GASKETS FOR FLANGED JOINTS SHALL BE 1/8" DUCK-INSERTED RUBBER PACKING GARLOCK NO. 19.
2. BOLTS SHALL BE BREAK-OFF TYPE, 5/8" DIA. x 3" LONG MACHINE BOLTS WITH CUT THREADS, AMERICAN STANDARD COARSE HEXAGON HEADS, HOT DIPPED GALVANIZED STEEL OR SILICON BRONZE. INSTALL BOLT WITH THREADS FACING UP.
3. NUTS SHALL BE AMERICAN STANDARD HEAVY COLD PUNCHED HEXAGON NUTS, HOT DIPPED GALVANIZED STEEL OR SILICON BRONZE.
4. CONCRETE SHALL BE DWS 2500.
5. REFER TO PLATE FH11 FOR FIRE HYDRANT INSTALLATION WITH CURB GUARD.
6. FLANGED OUTLET FOR THE TEE IS OPTIONAL FOR OAHU; MANDATORY FOR KAUAI AND MAUI.
7. TAPPING SLEEVE WITH TAPPING VALVE ASSEMBLY MAY BE USED FOR CONNECTION TO EXISTING MAIN.
8. LUBRICATE HYDRANT NOZZLE THREADS WITH NON-TOXIC GREASE.
9. PROVIDE SLOTTED FLANGED RISER FOR HYDRANT AS NEEDED TO ALIGN 4-1/2" NOZZLE PERPENDICULAR TO CURB. (FOR MAUI ONLY)
10. INSTALL HYDRANT MARKERS. (SEE DETAIL ON THIS SHEET)

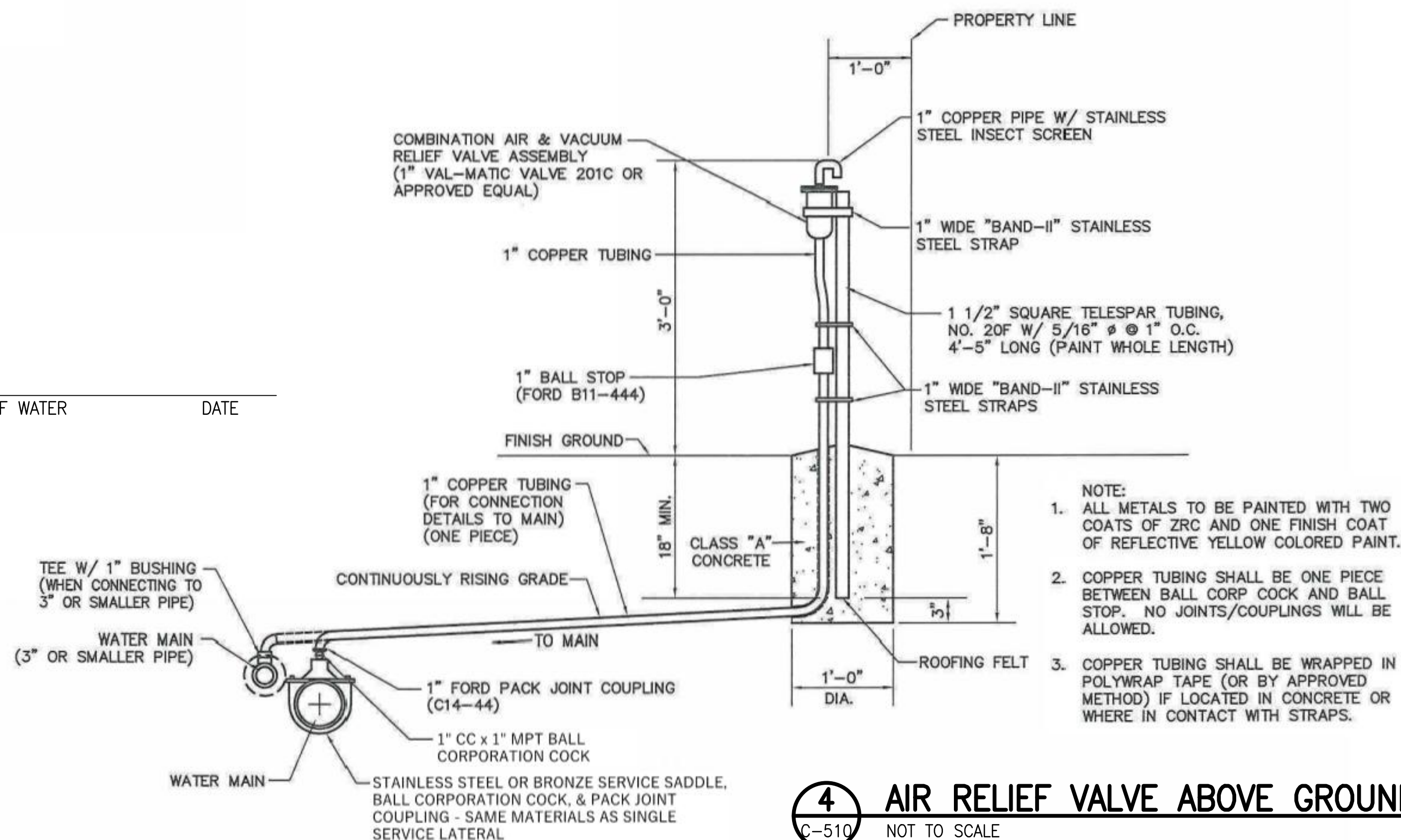
3 FIRE HYDRANT MARKER DETAIL
C-510 NOT TO SCALE (REV. 2002)

1 FIRE HYDRANT CONECTION DETAIL
C-510 NOT TO SCALE (REV. 2002)

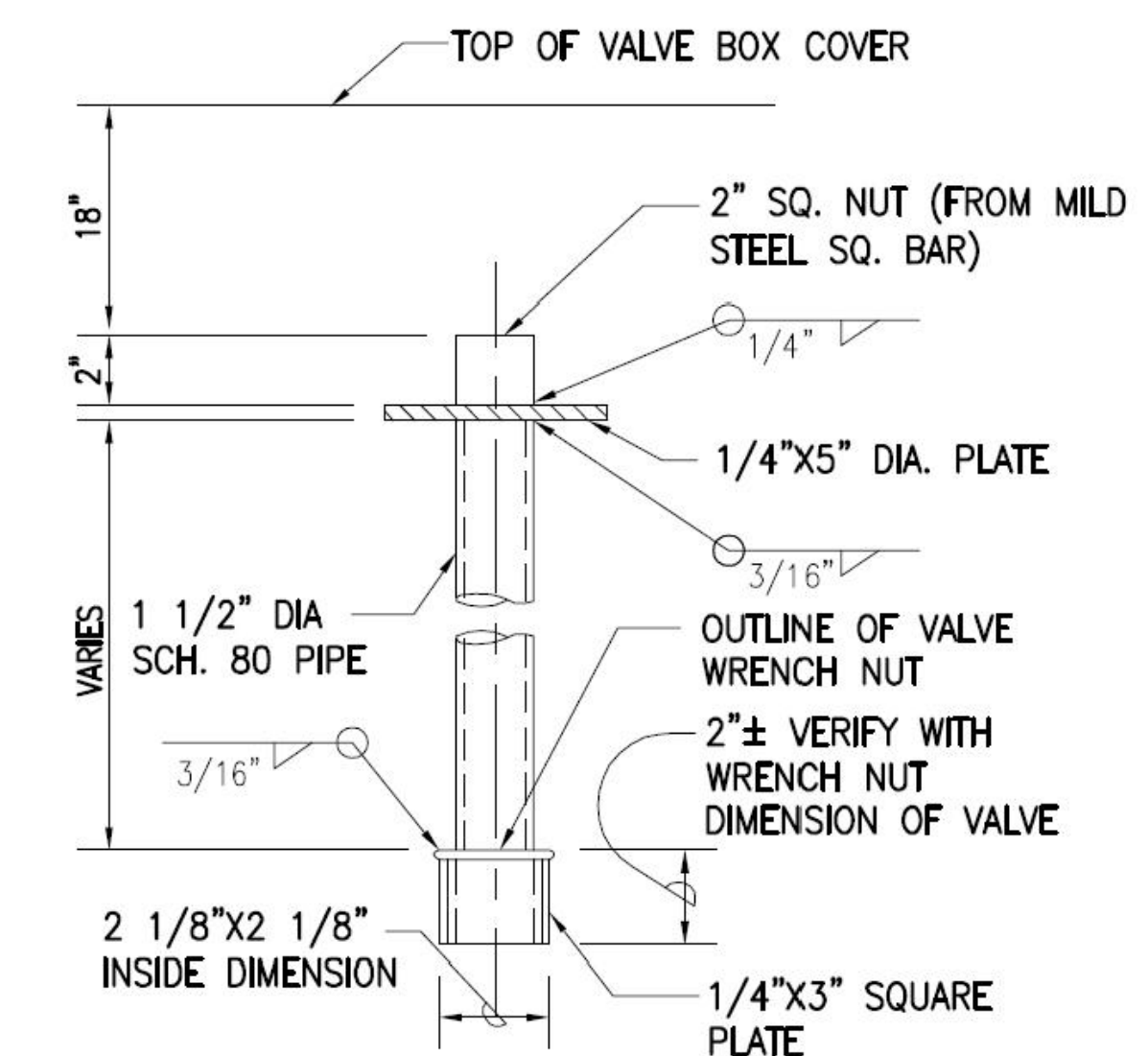
APPROVED:

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

DATE



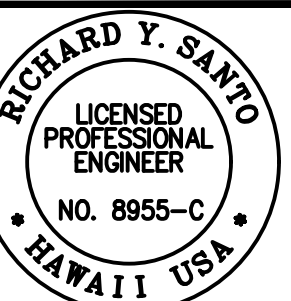
4 AIR RELIEF VALVE ABOVE GROUND DETAIL
C-510 NOT TO SCALE



2 VALVE NUT EXTENSION DETAIL
C-510 NOT TO SCALE

NOTE:

1. FURNISH AND INSTALL VALVE EXTENSION TO 18" FROM TOP OF VALVE BOX COVER.
2. VALVE EXTENSION SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
3. FOR VALVE OPERATORS DEEPER THAN 3.5' TO FINISH GRADE.



Richard Y. Santo
Professional Engineer
No. 8955-C
HAWAII, USA

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Honolulu, Hawaii 96817

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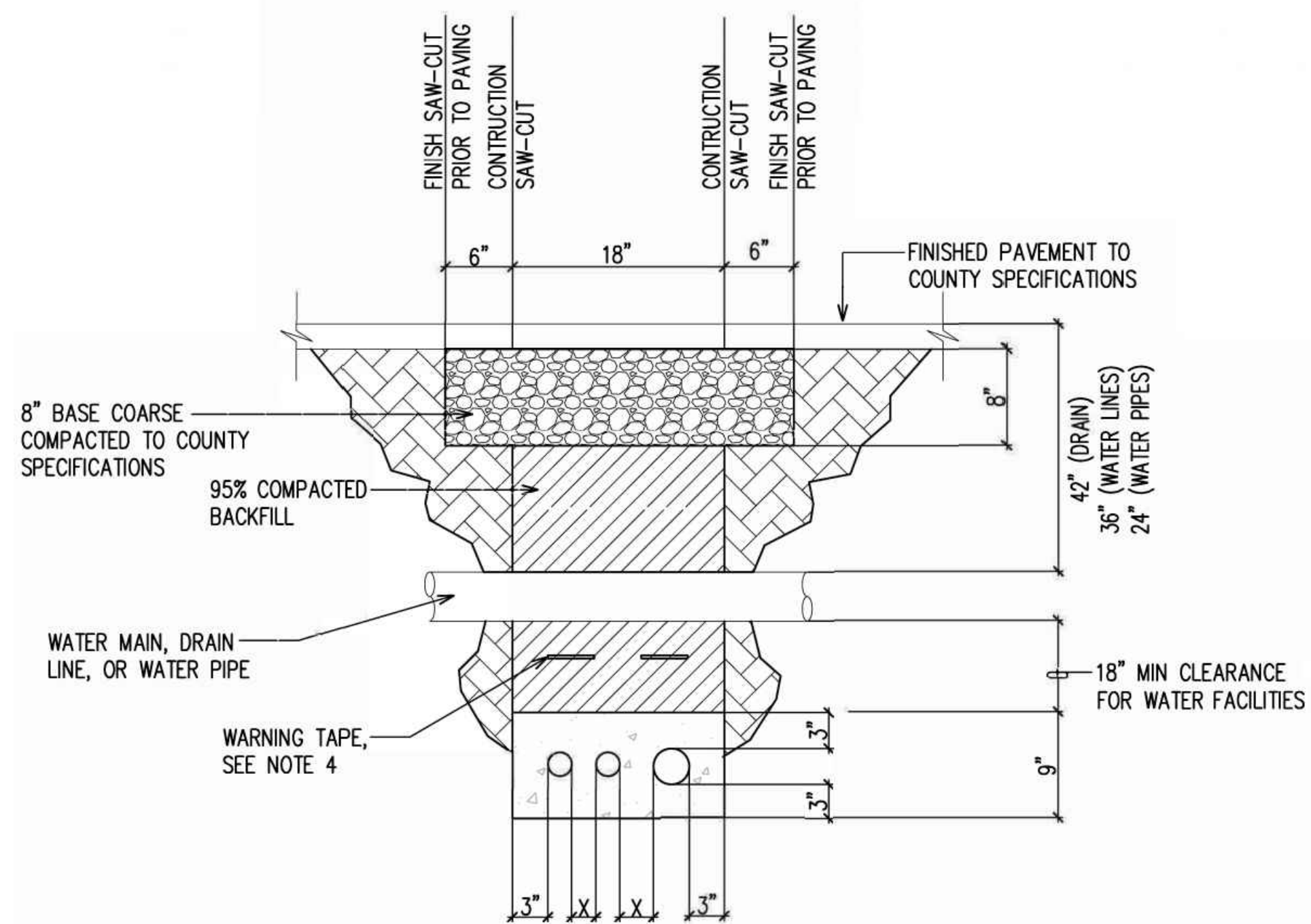
PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
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FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
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Hanapepe, Waimea, Kauai, Hawaii

WATER DETAILS - 2
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DATE: APRIL 2023

SHEET NUMBER: C-510

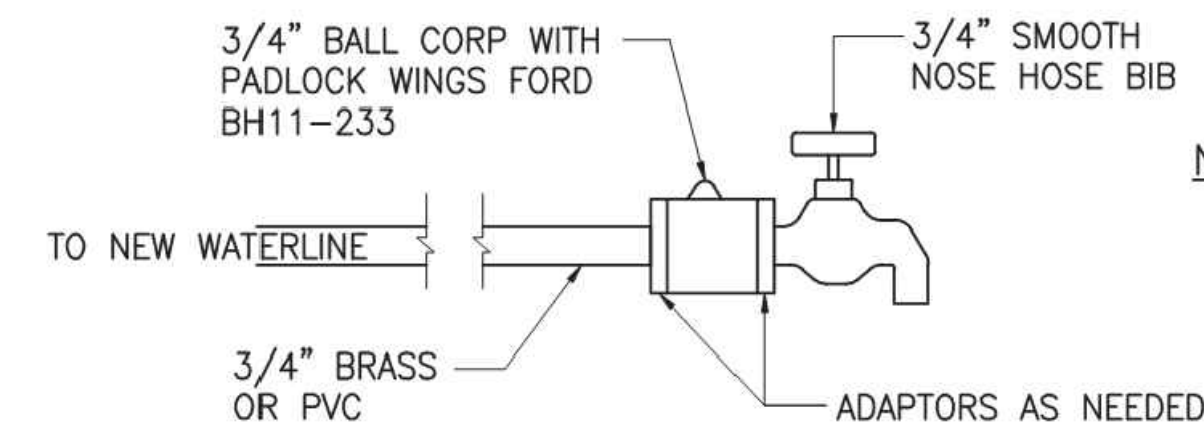
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WATER NOTES:

1. THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF THE EXISTING WATER FACILITIES PRIOR TO TRENCHING. EXCAVATION AROUND EXISTING WATER FACILITIES SHALL BE DONE BY HAND.
2. BACKFILL AROUND WATER PIPE CROSSING OVER UTILITY DUCTS SHALL MATCH BACKFILL AROUND WATER PIPE NOT CROSSING UTILITY DUCTS. BACKFILL SHALL NOT CONTAIN VEGETABLE MATTER, DEBRIS OF ANY KIND, ROCKS, STONES, ETC.
3. UTILITY DUCTS SHALL BE CONCRETE ENCASED AT ALL WATER FACILITIES CROSSINGS. AT INTERSECTION OF WATER PIPE AND UTILITY DUCTS, A 18" MINIMUM SEPARATION BETWEEN WATER PIPE AND TOP OF CONCRETE ENCASED UTILITY DUCTS SHALL BE MAINTAINED. CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF WATER 24 HOURS PRIOR TO SCHEDULED ELECTRICAL/WATER TRENCH BACKFILLING OPERATIONS.
4. CONTRACTOR SHALL PLACE 8-MIL ORANGE COLORED PLASTIC WARNING TAPE, NOT LESS THAN 4" WIDE PLACED 1 FOOT ABOVE ELECTRICAL CONDUITS.

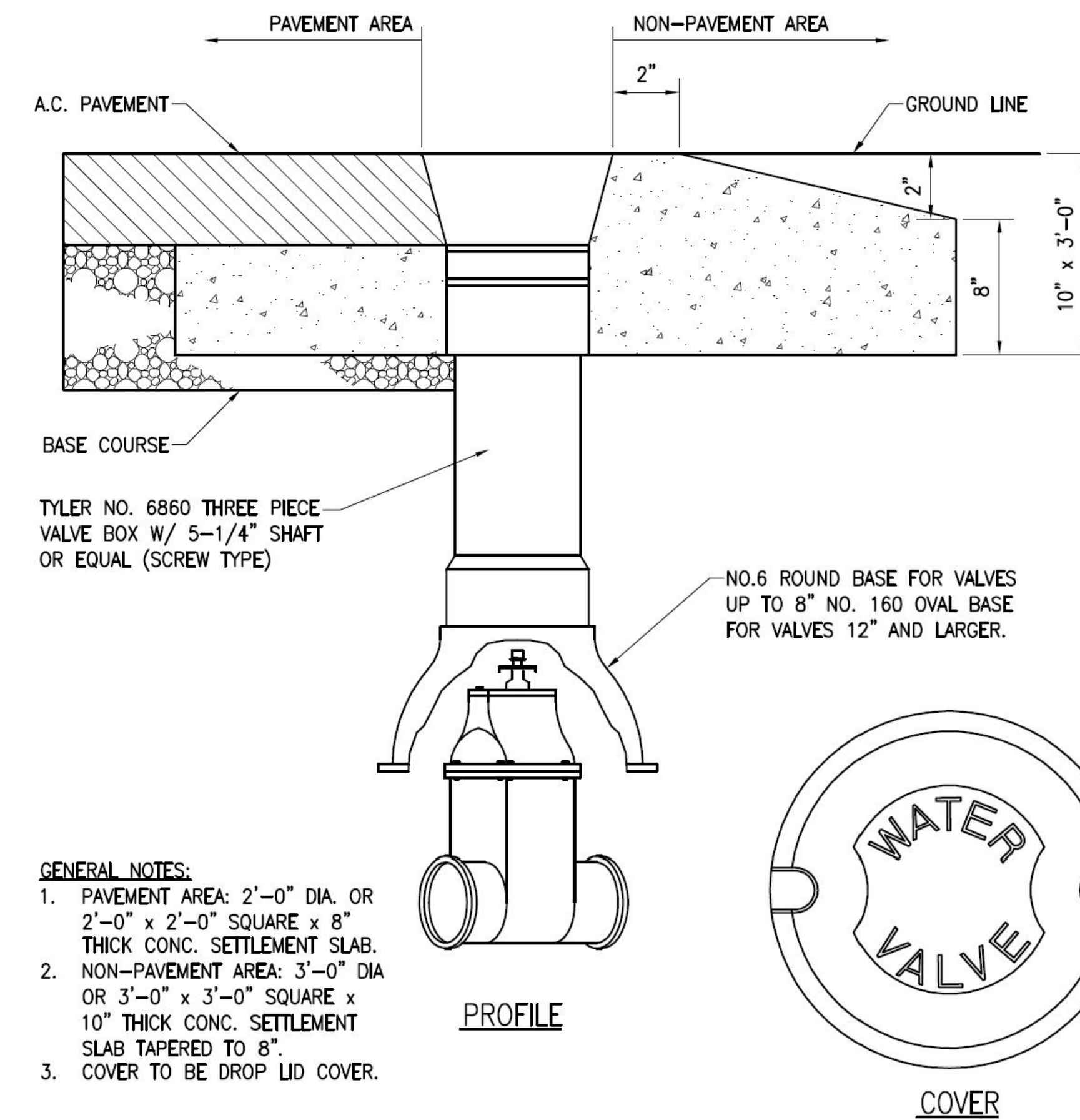
3 WATER CROSSING AT ELECTRICAL DETAIL
C-512 NOT TO SCALE



NOTES:

SHALL BE USED DURING DISINFECTION RELATED TO WATER NOTES AND PLACED APPROXIMATELY EVERY 1000 FEET OR AS DEEMED BY MANAGER

1 TEMPORARY SAMPLING POINT FOR DISINFECTION DETAIL
C-512 NOT TO SCALE



GENERAL NOTES:

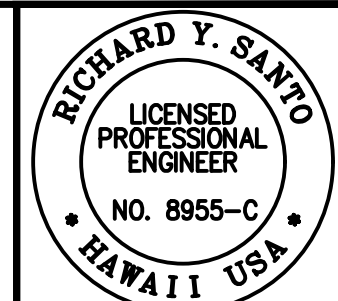
1. PAVEMENT AREA: 2'-0" DIA. OR 2'-0" x 2'-0" SQUARE x 8" THICK CONC. SETTLEMENT SLAB.
2. NON-PAVEMENT AREA: 3'-0" DIA OR 3'-0" x 3'-0" SQUARE x 10" THICK CONC. SETTLEMENT SLAB TAPERED TO 8".
3. COVER TO BE DROP LID COVER.

2 CAST IRON VALVE BOX DETAIL
C-512 NOT TO SCALE

APPROVED:

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

DATE



THESE NOTES ARE FOR THE USE OF THE CONTRACTOR AND ARE NOT TO BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF SSM INTERNATIONAL, INC.

SSFM International, Inc.
50 Summer Street
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REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
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FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

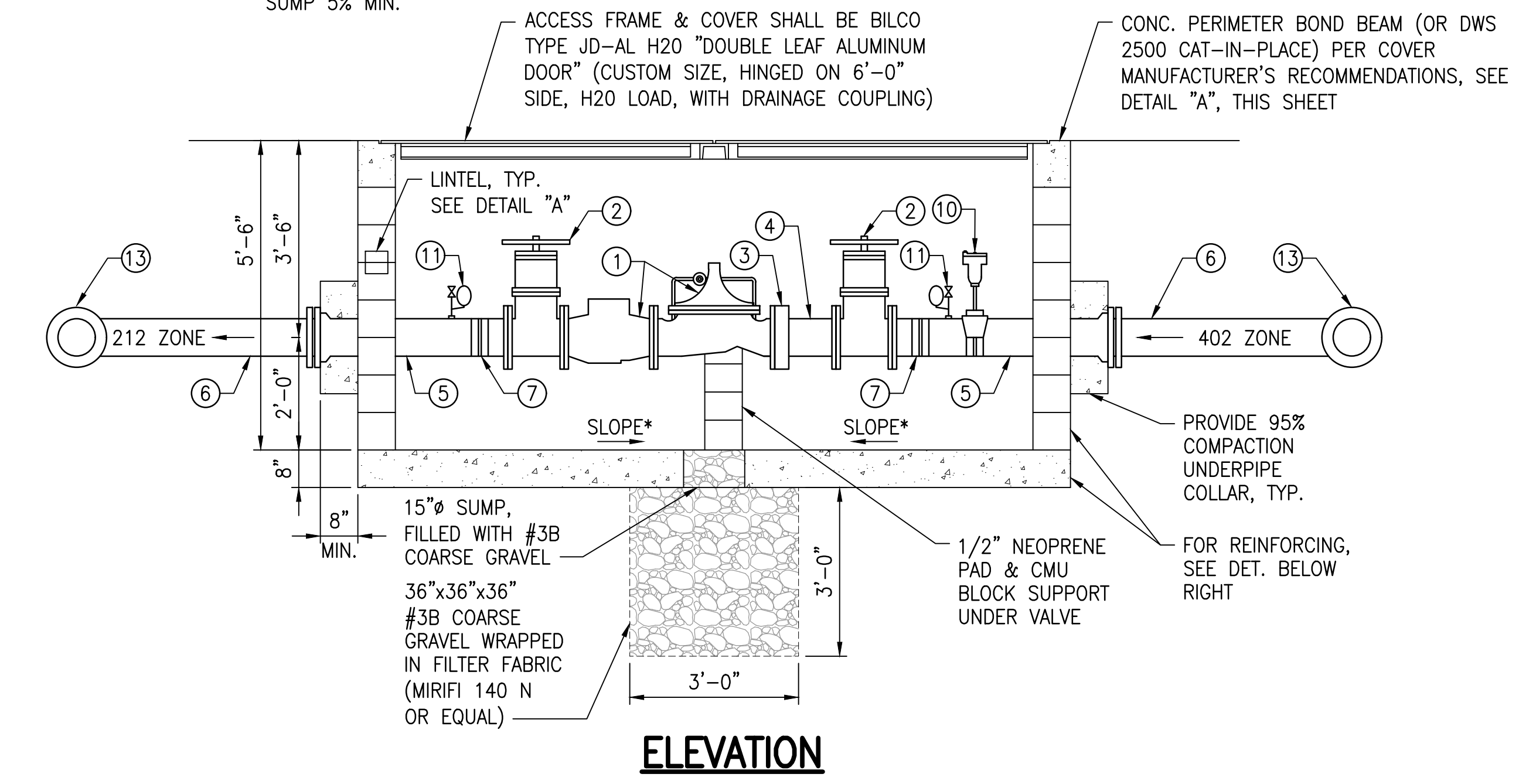
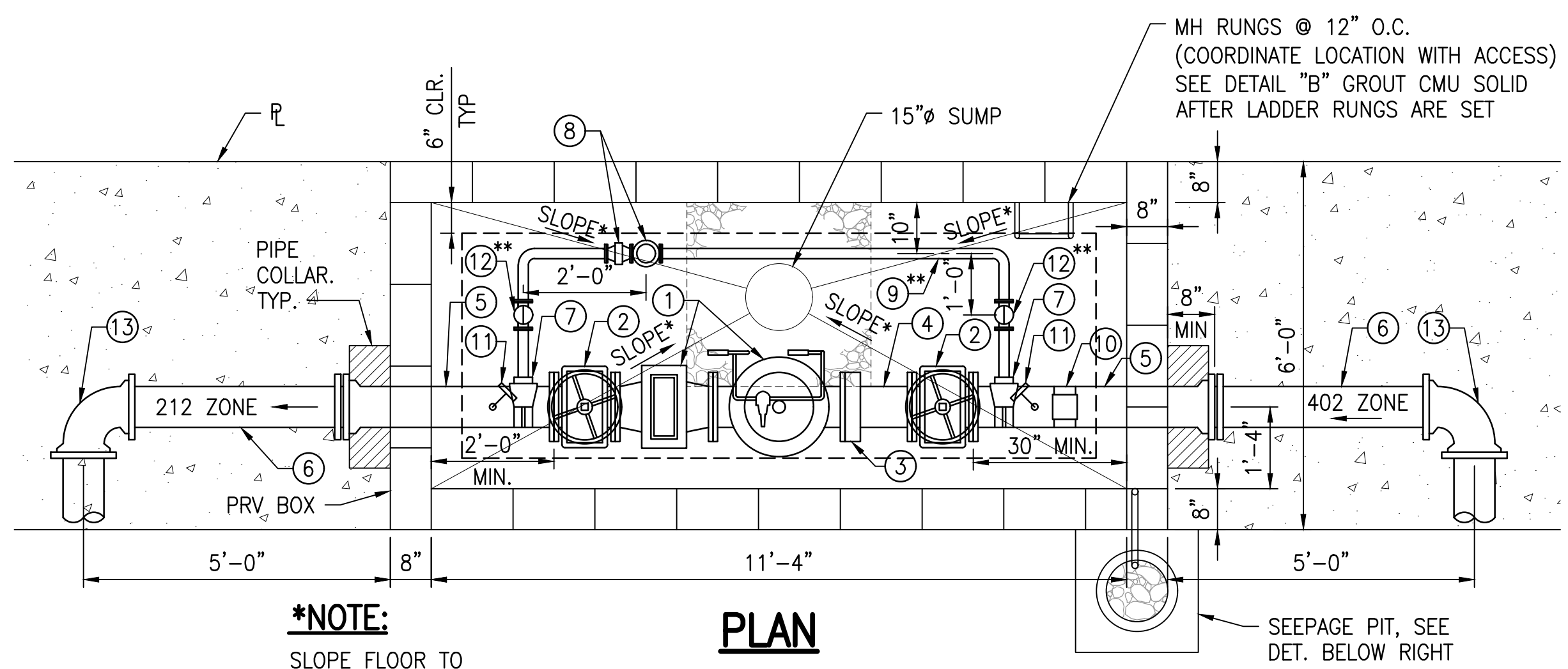
WATER DETAILS - 4
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DATE: APRIL 2023

SHEET NUMBER

C-512

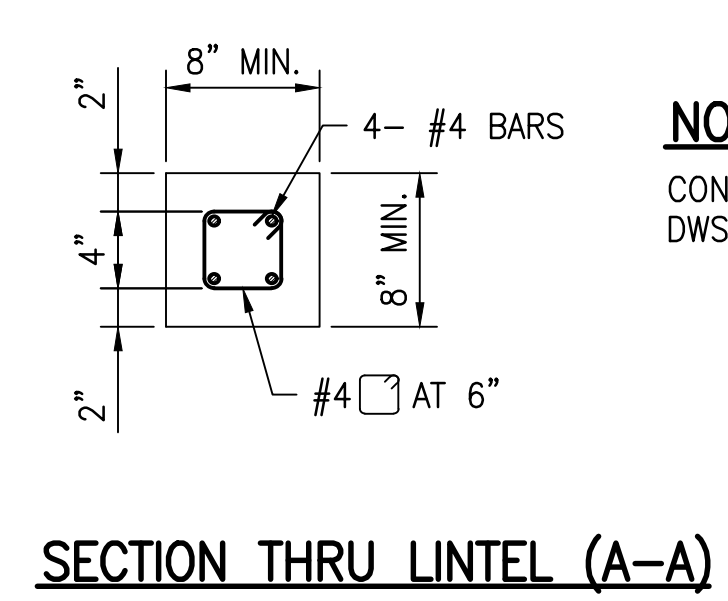
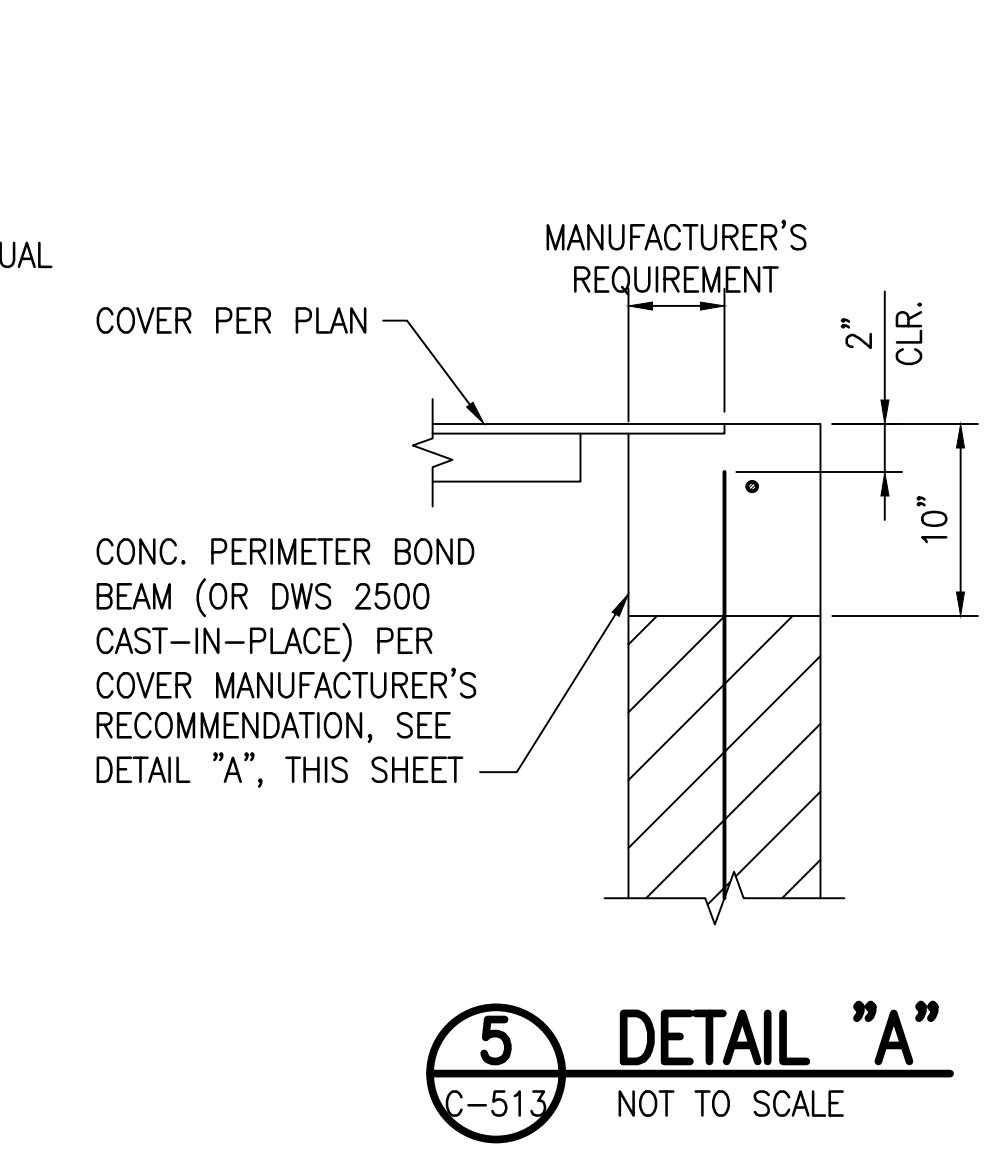
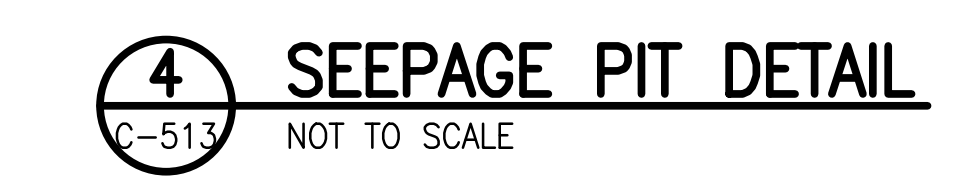
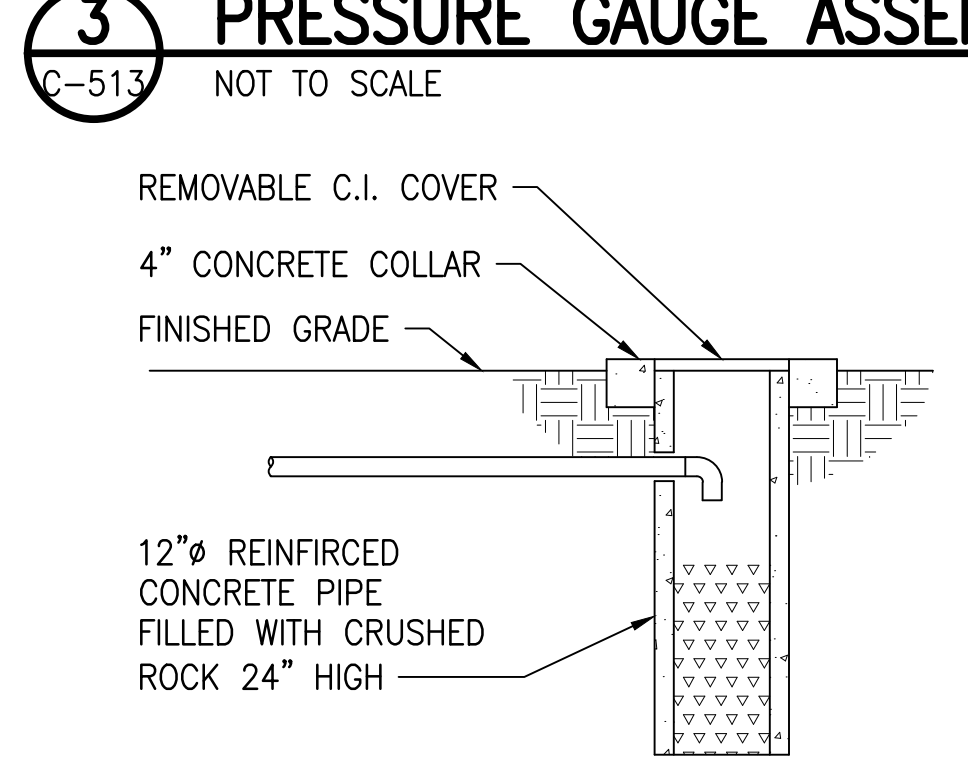
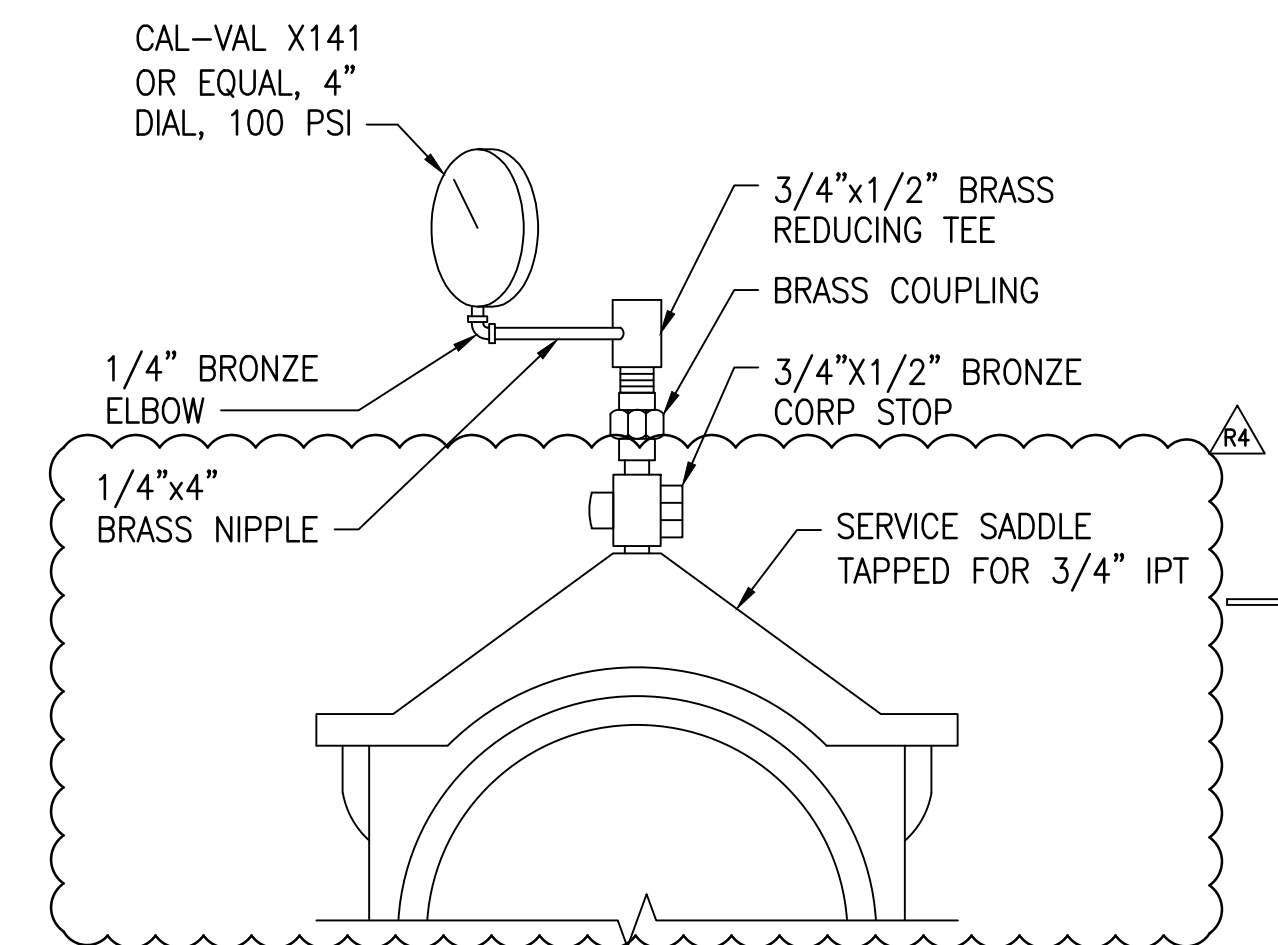
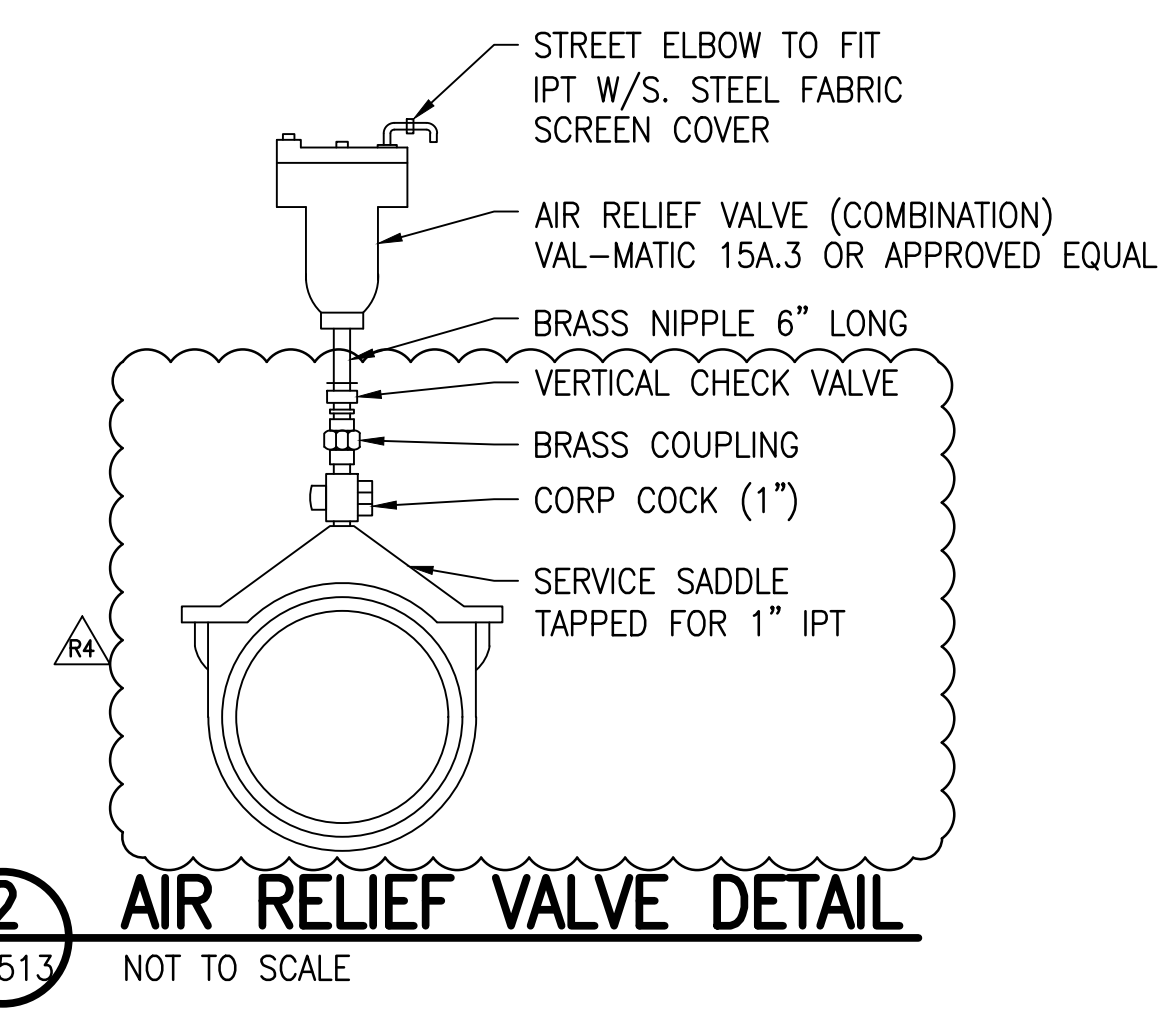
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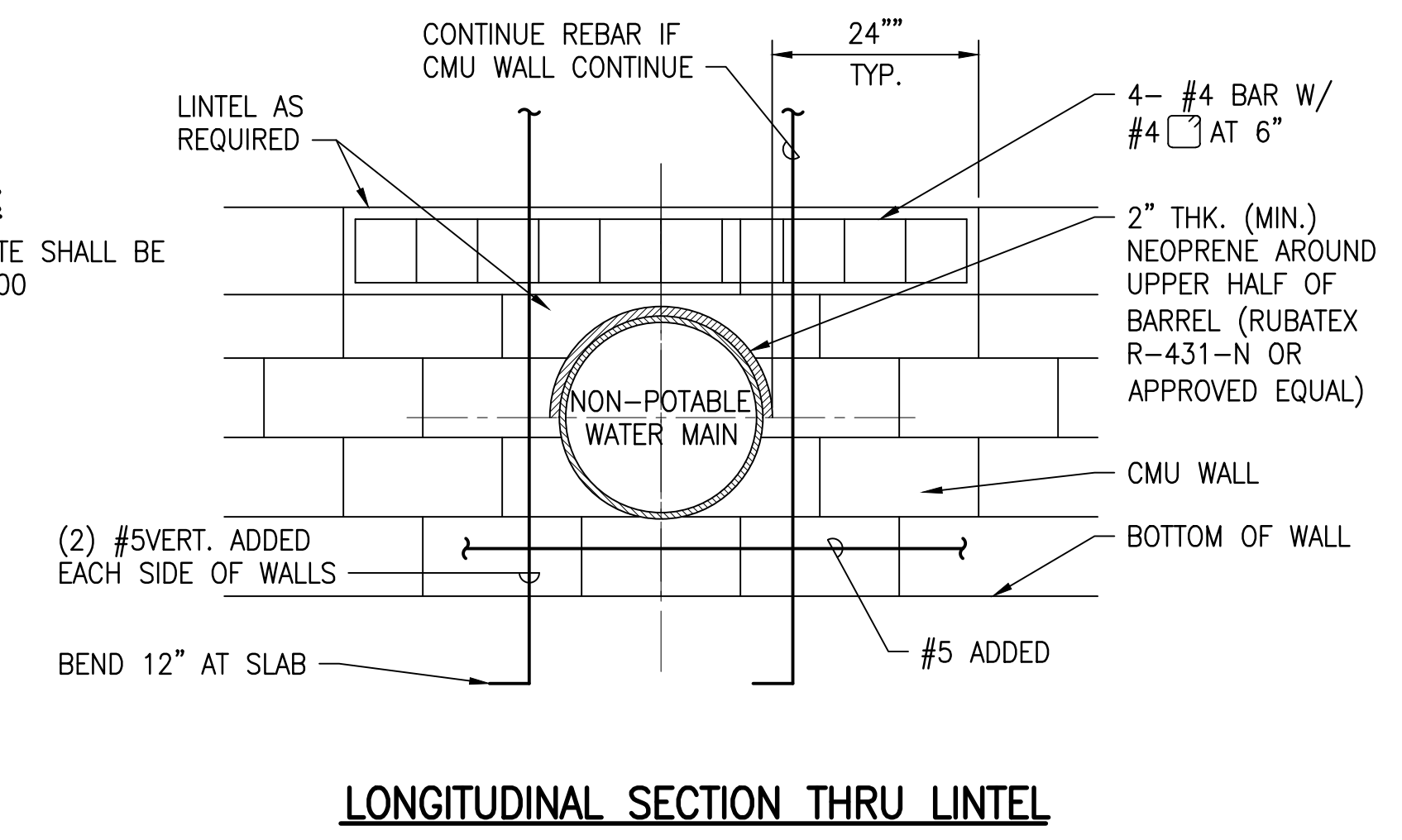
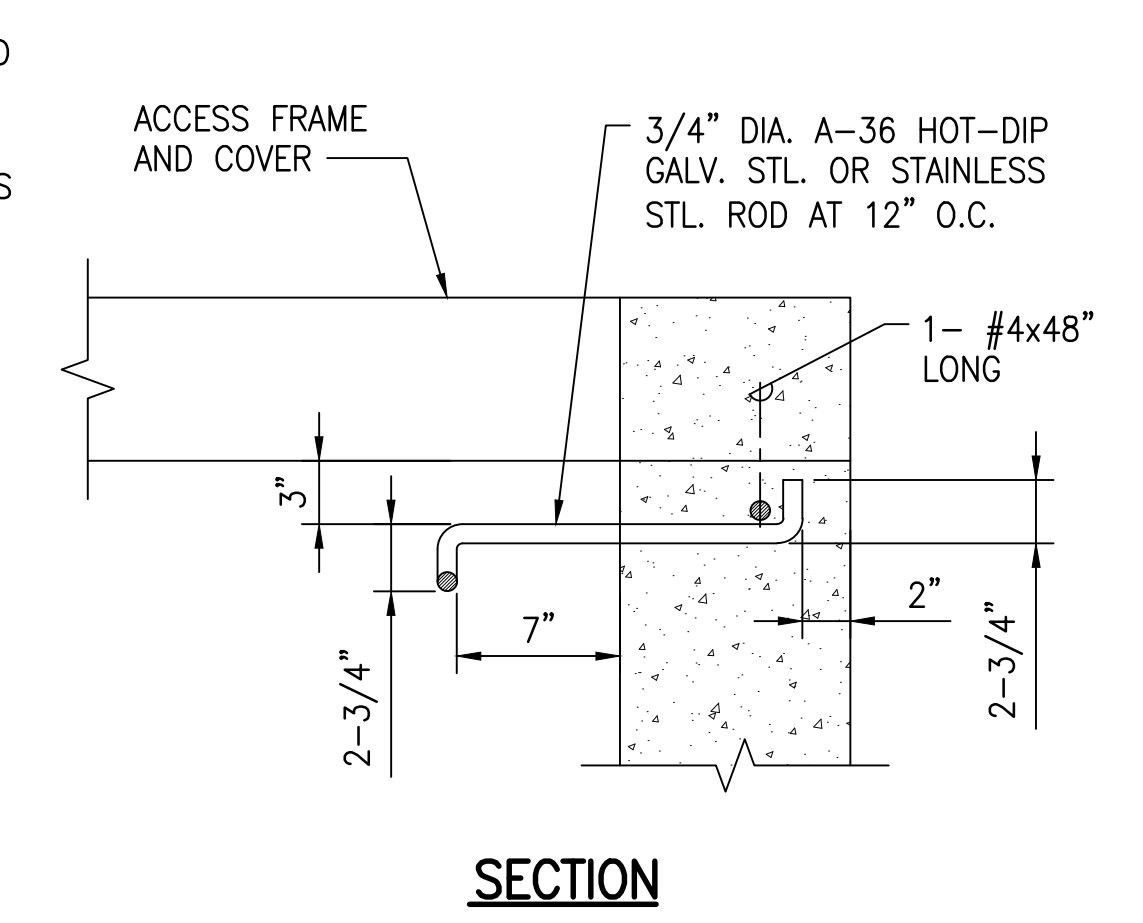
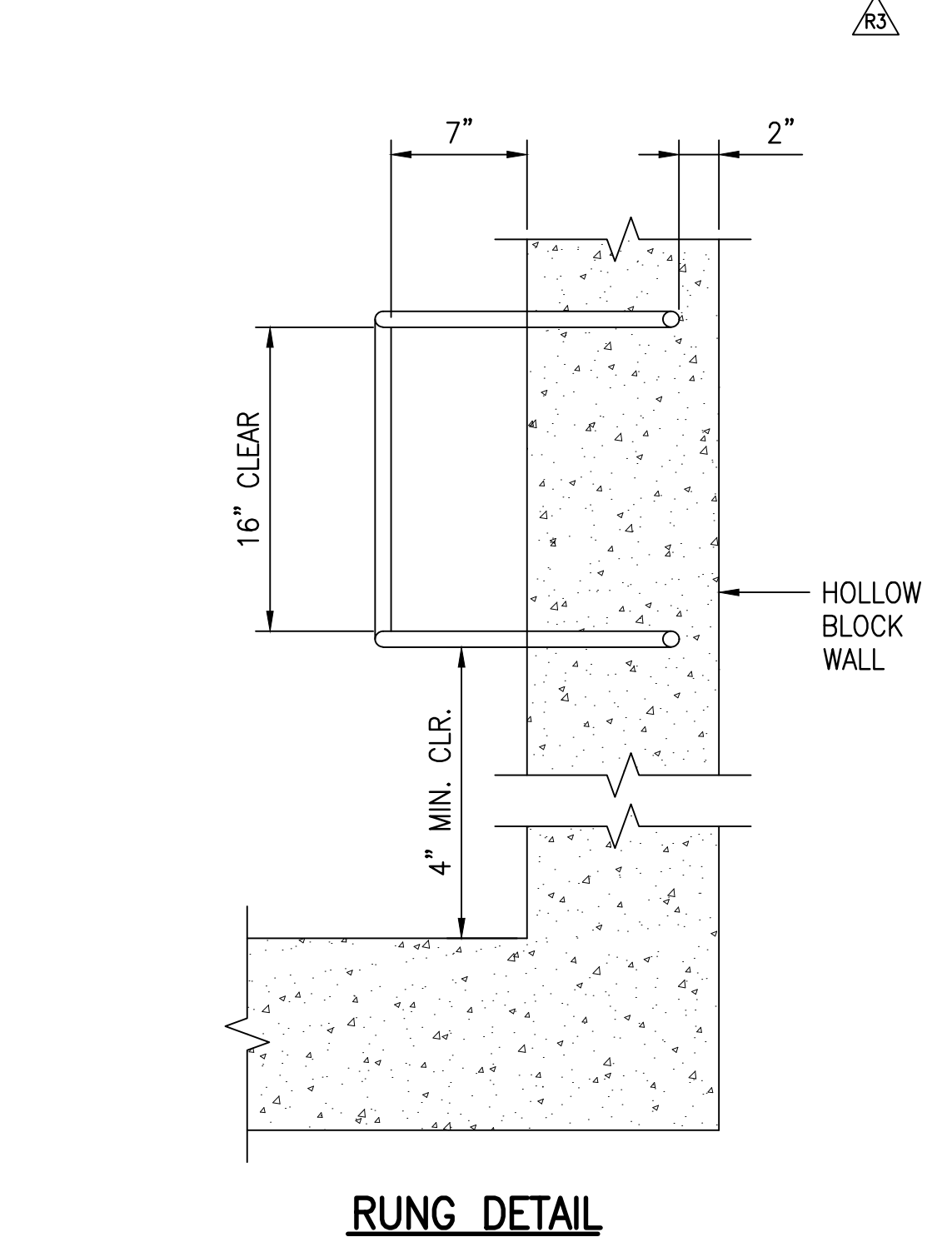
MATERIAL LIST		
NO.	SIZE	DESCRIPTION
1	6"	PRESSURE REDUCING VALVE W/ H-STYLE STRAINER, CLA-VAL MODEL 90-01H OR EQUAL, WITH CK2 VALVES, X43 STRAINER, X101 INDICATOR, X141 GAUGES (100 PSI), AND CV OPENING AND CLOSING FLOW CONTROLS (SET TO 88 PSI)
2	6"	GATE VALVE, FE, CLASS 200, NRS, WITH COMBINATION HANDWHEEL AND OPERATING NUT
3	6"	FLANGE COUPLING ADAPTOR, CLASS 150 WITH S.SS ANCHOR STUDS SMITH-BLAIR 912 OR EQUAL
4	6"	SPOOL, DI CL 52, FE & PE, LENGTH TO SUIT
5	6"	SPOOL, DI CL 52, MJ & FE, LENGTH TO SUIT
6	6"	SPOOL, DI CL 52, PE, LENGTH TO SUIT
7	2"	BRONZE DOUBLE-STRAP SERVICE SADDLE W/ CC TAP (SMITH-BLAIR 317 OR EQUAL); CC X BRONZE CORP STOP; BRASS COUPLING
8**	2"	PRESSURE REDUCING VALVE W/ H-STYLE STRAINER, CLA-VAL MODEL 90-01H OR EQUAL, WITH CK2 VALVES, X43 STRAINER, X101 INDICATOR, X141 GAUGES (100 PSI), AND CV OPENING AND CLOSING FLOW CONTROLS (SET TO 88 PSI); CMU VALVE SUPPORT W/ 1/2" NEOPRENE PAD
9**	2"	COPPER TUBE TYPE K SOFT
10	1" INLET	VAL-MATIC 15A.3 AIR RELEASE VALVE, OR APPROVED EQUAL, WITH CORP COCK, UNION, VERTICAL CHECK VALVE, NIPPLE, AND SMITH-BLAIR 317 OR EQUAL
11	-	X141 PRESSURE GAUGE ASSEMBLY
12**	2"	BALL VALVE (FORD B11-777-NL W/ HB67S OR APPROVED EQUAL), COPPER MALE ADAPTERS (2), AND ADJUSTABLE GALVANIZED PIPE SUPPORT WITH RUBBER GASKET
13	6"	1/4 DI BEND (H), MJ

- NOTES:**
- **1. ELEVATION VIEW DOES NOT SHOW 2" BYPASS NOT FOR CLARITY.
 - 2. ALL MATERIAL SHALL BE "LEAD-FREE" (WEIGHTED AVERAGE OR LESS THAN OR EQUAL TO 0.25% FOR SURFACES IN CONTACT WITH POTABLE WATER)

- NOTE:**
MANUFACTURER'S REPRESENTATIVE SHALL COMMISSION THE PRV VALVES.
- CMU NOTES:**
- BLOCKS SHALL BE HOLLOW LOAD BEARING CONCRETE MASONRY UNITS CONFORMING TO ASTM C90, NORMAL WEIGHT, f'm = 1,800 PSI.
 - ALL WALLS SHALL BE CONSTRUCTED IN RUNNING BOND WITH TYPE M MORTAR. MORTAR SHALL ATTAIN COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS.
 - GROUT SOLID ALL CELLS. GROUT SHALL FLOW INTO ALL JOINTS OF MASONRY WITHOUT SEGREGATION. COMPRESSIVE STRENGTH AT 28 DAYS = 3,000 PSI.
 - CELLS SHALL BE IN VERTICAL ALIGNMENT. DOWELS IN FOOTING SHALL BE SET TO ALIGN WITH CORES CONTAINING REINFORCING STEEL.



NOTE:
CONCRETE SHALL BE DWS 3500



RICHARD Y. SANTO
LICENSED PROFESSIONAL ENGINEER
NO. 8955-C
HAWAII, USA

DATE: APRIL 2023
SHEET NUMBER: C-513
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PROJECT: DEPARTMENT OF HAWAIIAN HOME LANDS
SITE AND INFRASTRUCTURE IMPROVEMENTS
FOR HANAPEPE RESIDENTIAL LOTS, PHASE 2
TMK: (4) 1-8-007: 003 (PORTION) & (4) 2-8-007: 001 TO 050 (PORTION)
Hanapepe, Waimea, Kauai, Hawaii

PERMIT COMMENTS: 05/26/23
DATE: 2/07/23
REVISION: RA

MADE BY: APPROVED

DESCRIPTION:

WATER DETAILS - 5

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