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	SHT. NO.	DWG. NO.	DESCRIPTION	
	1	T-1.0	TITLE SHEET AND DRAWING INDEX	
	2	C-1.0	CIVIL NOTES	
	3	C-1.1	CIVIL NOTES	
	4	C-2.0	OVERALL SITE PLAN	
	5	C-3.0	SITE PLAN - LOT NO. 3-C	
	6	C-4.0	SITE PLAN - LOT NO. 52	
	7	C-5.0	SITE PLAN - LOT NO. 5-A	
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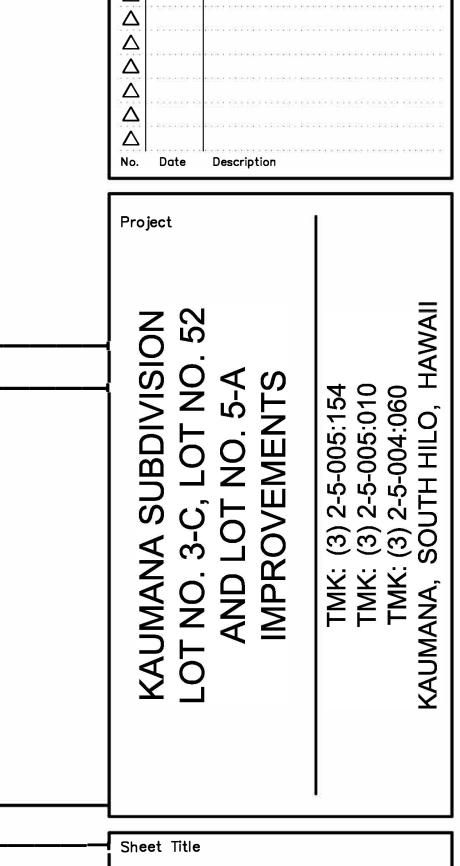
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KAUMANA SUBDIVISION LOT NO. 3-C, LOT NO. 52 AND LOT NO. 5-A

JOB NO: RFQ-20-LDD-016 KAUMANA, SOUTH HILO, HAWAII

> TMK: (3) 2-5-005:154 TMK: (3) 2-5-005:010 TMK: (3) 2-5-004:060

DEPARTMENT OF HAWAIIAN HOMELANDS LAND DEVELOPMENT DIVISION 91-5420 KAPOLEI PARKWAY KAPOLEI, HI 96707



TITLE SHEET AND

DRAWING INDEX

AS SHOWN

APRIL 2020

219-020

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CONSULTANTS

APPROVALS

DATE

CIVIL ENGINEER:

LAND SURVEYOR:

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KOKUA GEOTECH, L.L.C.

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COUNTY OF HAWAII

COUNTY OF HAWAII

GEOTECHNICAL ENGINEER:

DIRECTOR, DEPARTMENT OF PUBLIC WORKS

MANAGER-CHIEF ENGINEER, DEPARTMENT OF WATER SUPPLY

200 KOHOLA STREET HILO, HAWAII 96720

ISLAND SURVEY

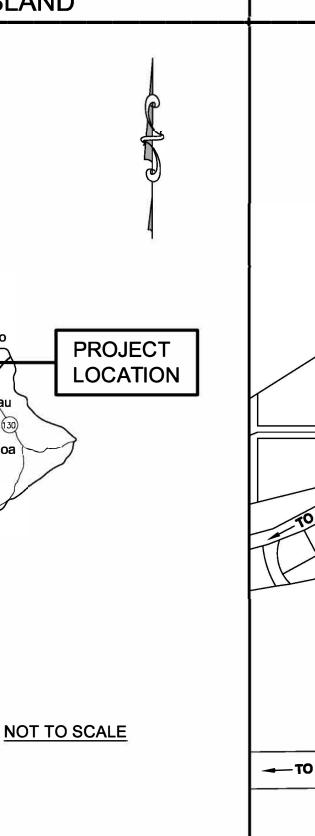
HILO, HAWAII 96720

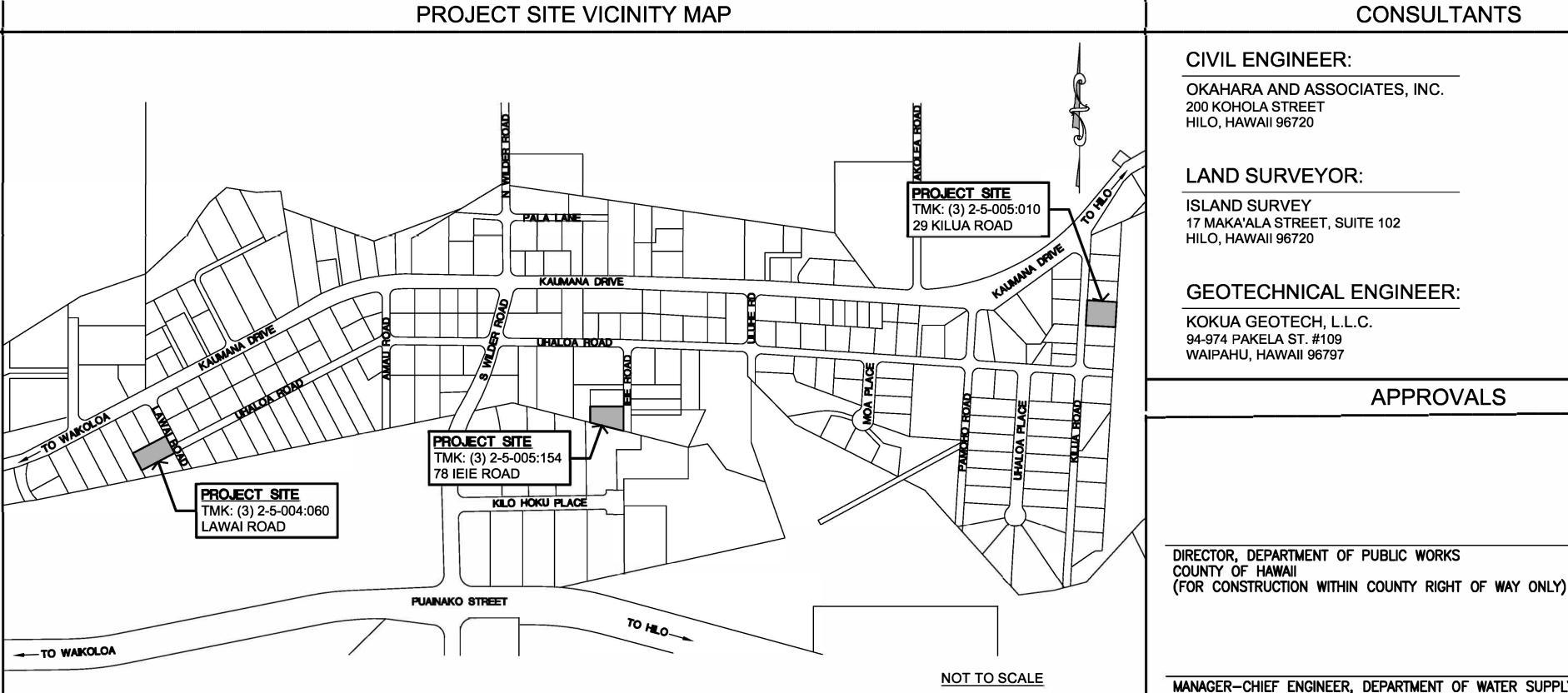
OKAHARA AND ASSOCIATES, INC.

Okahara and

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Associates, Inc.





GENERAL NOTES

- I. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES WATER LATERAL INSTALLATION, GRADING, AND CONSTRUCTION OF NEW STABILIZING CRM WALL.
- 2. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREAS FREE FROM DUST NUISANCES. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL RULES OF THE STATE DEPARTMENT OF HEALTH, HAR 11-60.1, FUGITIVE DUST.
- 3. THE CONTRACTOR SHALL PROVIDE A SMOOTH—RIDING CONNECTION TO EXISTING STREETS.
- 4. EXISTING UTILITIES SHALL REMAIN IN SERVICE DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORK WITHIN THE SCOPE AND WORK DONE BY OTHERS.
- 5. IN PERFORMING ALL WORK, THE CONTRACTOR SHALL EXERCISE DUE CARE AND CAUTION NECESSARY TO AVOID ANY DAMAGE TO AND IMPAIRMENT IN THE USE OF ANY EXISTING UTILITY LINE. ANY DAMAGE INFLICTED ON EXISTING UTILITY LINES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE IMMEDIATELY REPAIRED OR RESTORED AS DIRECTED BY THE DHHL AND/OR ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THE DWS WATER SYSTEM, HAWAII GAS LINES, HAWAIIAN TELCOM SYSTEM, HELCO SYSTEM, OR OTHER UTILITY LINES (UNDERGROUND OR OVERHEAD).
- 7. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DHHL OR THE ENGINEER.
- 8. ANY PAVEMENT, PAVEMENT MARKINGS, STRUCTURES, SIGNS AND OTHER APPURTENANCES DAMAGED BY THE CONTRACTOR AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL, OR BETTER CONDITION.
- 9. THE CONTRACTOR SHALL NOTIFY ALL AGENCIES TO VERIFY THE ACTUAL LOCATION OF ALL UTILITIES IN THE PROJECT AREA PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK WITH AGENCIES AND UTILITY COMPANIES. ALL UTILITY WORK WITH UNDERGROUND INSTALLATIONS MUST BE COMPLETED PRIOR TO PAVING WORK BEING DONE ABOVE THEM.
- 10. WORK INCIDENTAL TO THE CONTRACT AND NECESSARY TO COMPLETE THE PROJECT, ALTHOUGH NOT SPECIFICALLY REFERRED TO ON THE CONTRACT DOCUMENT, SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR AT HIS OWN COST.
- 11. THE CONTRACTOR IS TO COMPLY WITH THE DIRECTIONS OF THE STATE OF HAWAII OCCUPATIONAL SAFETY AND HEALTH LAW (DOSH).
- 12. THE ENGINEER RESERVES THE RIGHT TO MAKE CHANGES TO THE DRAINAGE SYSTEM AS SUCH CHANGES ARE FOUND TO BE NECESSARY.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN, FROM THE APPROPRIATE COUNTY AND STATE AGENCIES, ALL PERMITS REQUIRED TO COMPLETE THE WORK SHOWN ON THESE PLANS INCLUDING, BUT NOT LIMITED TO, ALL DEMOLITION, CLEARING AND GRUBBING, GRADING, AND AUTHORIZATION TO WORK WITHIN STATE RIGHT—OF—WAY, AT NO ADDITIONAL COST TO THE OWNER. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, DATED SEPTEMBER 1986, UNLESS OTHERWISE STATED IN THESE DRAWINGS.

NOTES FOR SOLID WASTE DISPOSAL

- 1. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER HANDLING, STORAGE AND/OR DISPOSAL OF ALL WASTE GENERATED BY THIS CONSTRUCTION INCLUDING GRUBBING AND EXCESS EXCAVATED MATERIAL. ANY MATERIAL BROUGHT TO THE COUNTY LANDFILLS WILL BE SUBJECTED TO THE INSTITUTED TIPPING FEE SYSTEM, WITH NO EXCEPTIONS OR EXEMPTIONS.
- 2. ALL WASTES GENERATED BY CONSTRUCTION, INCLUDING GRUBBING DEMOLITION AND EXCESS EXCAVATION MATERIAL MAY BE BROUGHT TO THE WEST HAWAII LANDFILL. ALL COST FOR LANDFILL FEES SHALL BE INCLUDED IN THE CONTRACTORS BID.
- 3. CONSTRUCTION, DEMOLITION AND GRUBBING MATERIAL SHALL NOT BE DEPOSITED AT ANY OF THE COUNTY TRANSFER STATIONS, BUT SHALL BE TRANSPORTED FOR DISPOSAL AT THE WEST HAWAII LANDFILL.
- 4. NO ASBESTOS CONTAINING MATERIAL SHALL BE USED FOR THIS PROJECT.
- 5. CHIP-GRUBBED MATERIAL BEFORE BRINGING TO THE COUNTY LANDFILL IN ACCORDANCE WITH REGULATIONS OF THE SOLID WASTE DIVISION, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

NOTES FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF HAWAII, DEPARTMENT OF PUBLIC WORKS "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPT. 1984 AND "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" DATED SEPT. 1986, AS AMENDED.
- 2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLAN OR NOT, AND SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SAME IN THE EVENT OF DAMAGES DUE TO HIS CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE RESPECTIVE UTILITY COMPANIES.
- 3. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS.
- 4. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS 48 HOURS BEFORE THE COMMENCEMENT OF ANY UTILITY LINE WORK TO SCHEDULE A FIELD REVIEW AND SECURE APPROVAL OF THE PROPOSED UTILITY LINE LOCATION WITHIN THE COUNTY RIGHT-OF-WAY.
- 5. THE PROPOSED UTILITY LINE LOCATION SHALL BE LAID OUT IN THE FIELD PRIOR TO THE CONDUCTING OF THE FIELD REVIEW BY THE DEPARTMENT OF PUBLIC WORKS.
- 6. FIELD ADJUSTMENTS SHALL BE MADE AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO THE COMMENCEMENT OF ANY UTILITY LINE WORK.
- 7. THE REQUIRED PERMIT, UNDER CHAPTER 22, ARTICLE 4, DIVISION 1
- OF THE HAWAII COUNTY CODE, SHALL BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS BY THE CONTRACTOR FOR WORK WITHIN THE COUNTY RIGHT—OF WAY.
- 8. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE (1) LANE FOR TRAFFIC MOVEMENT AT ALL TIMES. TWO (2) LANES FOR TRAFFIC MOVEMENT SHALL BE PROVIDED BETWEEN THE HOURS OF 3:30P.M. TO 8:00 A.M.
- 9. THE EXISTING PAVEMENT SHALL BE SAW-CUT BEFORE COMMENCEMENT OF TRENCHING WORK.
- 10. ANY PAVEMENT OUTSIDE THE CONTRACT ZONE LIMITS DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESTORED TO ITS ORIGINAL CONDITION, OR BETTER, AS DIRECTED BY THE DPW.
- 11. A TEMPORARY COLD MIX PATCH SHALL BE APPLIED IMMEDIATELY UPON COMPLETION OF THE BACKFILLING OPERATION AND SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL A PERMANENT PATCH IS AUTHORIZED BY THE DEPARTMENT OF PUBLIC WORKS.
- 12. NO MATERIAL, EXCEPT FOR THE TRENCH EXCAVATED MATERIAL, SHALL BE STOCKPILED CLOSER THAN SIX (6) FEET FROM THE EXISTING EDGE OF PAVEMENT.
- 13. NO CONSTRUCTION EQUIPMENT SHALL BE PARKED WITHIN THE ROAD RIGHT-OF-WAY IN SUCH A MANNER THAT THE EQUIPMENT WILL OBSTRUCT THE NORMAL MOVEMENT AND SIGHT DISTANCE OF THE DRIVING MOTORIST, EXCEPT DURING ACTUAL WORKING HOURS.
- 14. EXCEPT DURING ACTUAL WORKING HOURS, ALL SIGNS THAT DO NOT PERTAIN TO THE CONSTRUCTION ACTIVITY, SUCH AS "MEN WORKING" AND "FLAGMAN AHEAD" SHALL BE COVERED OR LAID DOWN. HOWEVER, ALL SIGNS NECESSARY FOR THE SAFETY OF THE PUBLIC SHALL BE MAINTAINED.
- 15. ANY PAVEMENT MARKINGS, STRUCTURES, AND APPURTENANCES (WITHIN OR OUTSIDE OF THE CONTRACT ZONE LIMITS) DAMAGE AND/OR WORN AWAY UNDER THE PERMIT SHALL BE REPAINTED OR RECONSTRUCTED AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS.
- 16. NO TRENCHING SHALL BE LEFT OPEN FOR MORE THAN FIVE (5) WORKING DAYS.
- 17. SHOULD TRENCHING OCCUR THROUGH AN EXISTING SIDEWALK, OR SHOULD DAMAGES OCCUR TO THE SIDEWALK AS A RESULT OF ANY CONSTRUCTION WORK, THE FOLLOWING PROCEDURE SHALL BE UTILIZED TO REPAIR THE SIDEWALK.
 - A. ALL PORTLAND CEMENT CONCRETE TO BE REMOVED SHALL FIRST BE CUT WITH A CONCRETE SAW THAT HAS A DIAMOND OR CARBORUNDUM ABRASIVE WHEEL. THOSE CUTS SHALL BE MADE TO A DEPTH EQUAL TO AT LEAST ONE—FOURTH OF THE DEPTH OF THE SLAB, OR ENOUGH AS IS DEEMED NECESSARY BY THE DEPARTMENT OF PUBLIC WORKS, TO PERMIT BREAKING OUT THE BALANCE OF THE CONCRETE WITHOUT SPALLING OFF THE EXPOSED EDGES OF THE SLAB LEFT IN PLACE.
- B. IF ANY CONCRETE BLOCK IS TOUCHED, THE WHOLE BLOCK SHALL BE REMOVED AND LATER REPLACED, UNLESS A MINOR VARIATION IS AUTHORIZED BY THE DPW OR ITS REPRESENTATIVE.
- C. ANY DAMAGES TO ADJACENT AREAS DUE TO SETTLEMENT OR TO ANY OTHER EFFECTS WHATSOEVER CAUSED BY THE CONSTRUCTION WORK SHALL BE PROPERLY REPAIRED AND CORRECTED.

NOTES FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY (CONT.)

- D. ALL OTHER INCIDENTAL WORK SHALL BE SATISFACTORILY PERFORMED TO EFFECT THE PROPER RESTORATION OF THE SIDEWALK AREA.
- E. SHOULD DAMAGE TO A SIDEWALK, CURB AND/OR GUTTER OCCUR AT A LOCATION WHERE A CURB RAMP SHOULD EXIST, OR TO A DRIVEWAY THAT DOES NOT MEET WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), REPAIR WORK SHALL INCLUDE THE CONSTRUCTION OF A CURB RAMP, OR RECONSTRUCTION TO THE DRIVEWAY SUCH THAT THE REPAIR WORK COMPLIES WITH THE ADA AND MEETS WITH THE APPROVAL OF THE DPW.
- 18. WHEN WORK INTERFERES WITH A SIDEWALK, THE APPLICANT SHALL PROVIDE FOR THE SAFE PASSAGE OF PEDESTRIANS INCLUDING THE DISABLED AROUND OR THROUGH THE WORK AREA.
- 19. NO WORK WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS ANYTIME WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.
 RIGHT-OR-WAY WORK ON NORMAL WORKING DAYS SHALL BE LIMITED BETWEEN THE HOURS OF 7:00 A.M. TO 3:30 P.M.
- 20. THE PERMITTEE SHALL MAINTAIN, TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS, THE AREA WORKED WITHIN THE GOVERNMENT RIGHT—OF—WAY INCLUDING ANY REPAIRS TO PAVEMENT AND SHOULDER DAMAGED AS A RESULT OF THE INSTALLATION WORK, FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL INSPECTION. THE PERMITTEE SHALL UNDERTAKE REPAIRS EXPEDITIOUSLY, WHENEVER DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS DURING THE MAINTENANCE PERIOD.

EROSION/TEMPORARY DUST AND SEDIMENT CONTROL NOTES

- 1. DURING CONSTRUCTION, PREVENTIVE MEASURES SHALL BE USED TO CONTROL FORESEEABLE DUST, EROSION OR SEDIMENTATION PROBLEMS WHICH MAY ARISE AS THE JOB PROGRESSES.
- 2. DRAINAGE SYSTEMS AS SHOWN ON THE CONSTRUCTION PLANS SHALL BE CONSTRUCTED AS EARLY AS PRACTICALLY POSSIBLE.
- 3. ALL FILL, SUBBASE AND BASE MATERIAL PLACED WITHIN THE ROAD PAVEMENT PRISM SHALL BE SUBSTANTIALLY COMPACTED BY THE END OF THE DAY.
- 4. THE CONTRACTOR SHALL CONDUCT HIS GRADING OPERATIONS SO THAT EXCAVATION, EMBANKMENT AND IMPORTED MATERIAL SHALL BE DAMPENED WITH WATER DURING HIS GRADING OPERATIONS AT ALL TIMES
- 5. WATER TRUCK AND/OR TEMPORARY SPRINKLERS SHALL BE AVAILABLE ON THE JOB SITE AT ALL TIMES TO ENSURE BARE EARTH DOES NOT CREATE A DUST PROBLEM.
- 6. FUGITIVE DUST AND SOLID WASTE DISPOSAL DURING GRUBBING AND GRADING ACTIVITIES SHALL MEET REQUIREMENTS OF ADMINISTRATIVE RULES, TITLE 11, CHAPTER 60, AIR POLLUTION CONTROL, AND CHAPTER 58, SOLID WASTE MANAGEMENT CONTROL.

EROSION AND SEDIMENT CONTROL NOTES

CONSTRUCTION MANAGEMENT TECHNIQUES:

- 1. CLEARING AND GRUBBING SHALL BE HELD TO THE MINIMUM NECESSARY FOR TRENCHING, EXCAVATING AND EQUIPMENT OPERATION. LIMITS OF THE CLEARING AND THE GRUBBING SHALL BE STAKED PRIOR TO THE START OF CONSTRUCTION.
- 2. CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF THE CLEARED SURFACE AREA.
- 3. CONSTRUCTION SHALL BE STAGED OR PHASED FOR LARGE AREAS. AREAS OF ONE PHASE SHALL BE STABILIZED BEFORE ANOTHER PHASE IS INITIATED. STABILIZATION SHALL BE ACCOMPANIED BY TEMPORARILY OR PERMANENTLY PROTECTING THE DISTURBED SOIL SURFACE FROM RAINFALL IMPACTS AND RUNOFF.
- 4. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. SILT FENCES SHALL BE INSTALLED ALONG THE ENTIRE DOWNSLOPE SIDE OF THE ACTIVE CONSTRUCTION ZONE IN AREAS WHERE ON—SITE RUNOFF FLOWS OFF THE PROJECT SITE.
- 5. ALL CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE A WEEK AND FOLLOWING ANY RAINFALL EVENT OF 0.5 INCHES OR GREATER WITHIN A 24—HOUR PERIOD. DURING PROLONGED RAINFALL, DAILY CHECKING IS NECESSARY.
- 6. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS AFTER THE INSPECTION.

EROSION AND SEDIMENT CONTROL NOTES (CONT.)

- 7. SILT SCREENS OR FENCES SHALL BE INSPECTED FOR DEPTH OF SEDIMENT AND TEARS, TO VERIFY THAT THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO VERIFY THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- 8. THE CONTRACTOR SHALL SELECT A SPECIFIC INDIVIDUAL WHO SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITES.

GRADING NOTES

- 1. ALL GRADING WORK SHALL CONFORM TO CHAPTER 10 OF THE HAWAII COUNTY CODE. SHOULD A GRADING PERMIT BE REQUIRED, NO WORK SHALL COMMENCE UNTIL THE DEPARTMENT OF PUBLIC WORKS (DPW) APPROVES A GRADING PERMIT.
- 2. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS DEPOSITED IN THE DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS RESULTING FROM HIS WORK. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE DPW SHALL BE PAYABLE BY THE CONTRACTOR.
- 3. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AND SURROUNDING AREAS FREE FROM DUST NUISANCES. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL RULES OF THE STATE DEPARTMENT OF HEALTH, HAR 11-60.1, FUGITIVE DUST.
- 4. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE HAWAII ADMINISTRATIVE RULES, TITLE 11, CHAPTER 55, WATER POLLUTION CONTROL AND CHAPTER 54, WATER QUALITY STANDARDS, AND TO THE EROSION AND SEDIMENTATION CONTROL STANDARDS AND GUIDELINES OF THE DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAII.
- 5. THE CONTRACTOR SHALL SOD OR PLANT ALL SLOPES AND EXPOSED AREAS IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED.
- 6. FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.
- 7. THE CONTRACTOR SHALL INFORM THE DPW OF THE LOCATION OF THE DISPOSAL AND/OR BORROW SITES(S) REQUIRED FOR THIS PROJECT WHEN AN APPLICATION FOR A GRADING PERMIT IS MADE. THE DISPOSAL AND/OR BORROW SITES(S) MUST ALSO FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
- 8. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS ANYTIME WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS. GRADING WORK ON NORMAL WORKING DAYS SHALL BE BETWEEN THE HOURS OF 7:00 A.M. TO 3:30 P.M.
- 9. FILLS SHALL BE COMPACTED TO 90 PERCENT (90%) OF MAXIMUM DENSITY PER ASTM D-1557 TEST.
- 10. THE CONTRACTOR SHALL REMOVE ALL VEGETATION BEFORE PLACING FILLS ON NATURAL GROUND SURFACES.

EARTHWORK QUANTITIES

LOT 52 LOT 5-A TOTAL
EXCAVATION: 115 C.Y. 266 C.Y. 381 C.Y.
EMBANKMENT: 18 C.Y. 29 C.Y. 47 C.Y.
AREA GRADE: 0.21 ACRES 0.23 ACRES 0.44 ACRES

WATERLINE NOTES

- 1. ALL WORK SHALL BE DONE ACCORDING TO THE WATER SYSTEM STANDARDS, STATE OF HAWAII, DATED 2002 AS AMENDED.
- 2. THE CONTRACTOR SHALL INFORM THE DEPARTMENT OF WATER SUPPLY (DWS) ENGINEER 72 HOURS PRIOR TO THE BEGINNING OF ANY WATERLINE WORK AND TWO WEEKS PRIOR TO ANY CONNECTION, CHLORINATION, SHUT—OFF OR RELOCATION WORK.
- 3. THE CONTRACTOR SHALL PAY FOR ALL WORK, EQUIPMENT AND MATERIALS FURNISHED BY THE DWS.
- 4. ALL EXISTING WATERLINES, WATERLINE APPURTENANCES AND OTHER UTILITY LOCATIONS SHOWN ON THE PLANS ARE OBTAINED FROM THE LATEST RELIABLE SOURCES. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXACT LOCATION OF ALL UTILITIES IN THE FIELD AND SHALL BEAR ALL COST FOR DAMAGES DONE TO THE WATER SYSTEM.
- 5. ALL CONNECTIONS TO EXISTING WATERLINES SHALL BE DONE BY THE DWS. CONTRACTOR SHALL PERFORM ALL EXCAVATION, BACKFILL, ROAD REPAIR, TRAFFIC CONTROL, AND PROVIDE EQUIPMENT NECESSARY TO COMPLETE THE CONNECTION.

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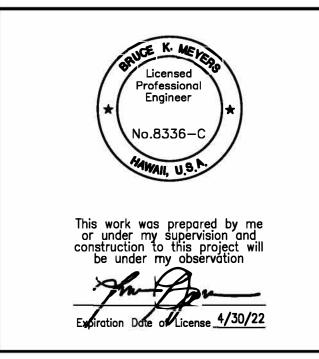


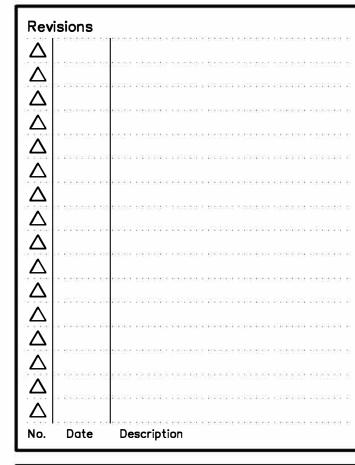
ENGINEERS AND LANDSCAPE ARCHITECTS

200 KOHOLA STREET HILO, HAWAII 96720 PH: (808) 961-5527 FAX: (808) 961-5529

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KAUMANA SUBDIVISION
LOT NO. 3-C, LOT NO. 52
AND LOT NO. 5-A
IMPROVEMENTS
TMK: (3) 2-5-005:010
TMK: (3) 2-5-004:060
TMK: (3) 2-5-004:060
TMK: (3) 2-5-004:060

Project

CIVIL NOTES

BKM 219-020
Project Director Project No.

SLP, LG LOK
Drawn By Checked By CAD File Name:

AS SHOWN
Scale:

APRIL 2020
Date C-1.0

Canst. Issue Date

2 of 8 Sheets

WATERLINE NOTES (CONT.)

- 6. WHERE WATER SHUT-OFF OF MORE THAN 3 HOURS BECOMES NECESSARY, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE A TEMPORARY BY-PASS LINE. THE DWS ENGINEER SHALL DETERMINE THE BY-PASS LINE SIZE. IF NECESSARY, THE DWS ENGINEER MAY REQUIRE A BY-PASS LINE, REGARDLESS OF THE EXPECTED SHUT-OFF PERIOD.
- 7. MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERLINE AND OTHER UTILITIES SHALL BE 8 FEET UNLESS OTHERWISE SPECIFIED. MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINES AND OTHER UTILITIES SHALL BE 12" PROVIDED CONCRETE JACKETS ARE USED, AND 18" IF NO CONCRETE JACKETS ARE USED. IN ALL APPLICABLE INSTANCES, THE WATERLINE SHALL BE AT A GRADE HIGHER THAN OTHER UTILITIES.
- 8. ALL FITTINGS (CLASS 250 MINIMUM) AND ALL GATE VALVES (CLASS 200) SHALL BE DUCTILE IRON, WITH MECHANICAL JOINTS UNLESS OTHERWISE SPECIFIED. BUTTERFLY VALVES SHALL BE CLASS 250 WITH EPOXY—COATED INTERIOR UNLESS OTHERWISE SPECIFIED.
- 9. THE WATERLINE SHALL BE TESTED AT A MINIMUM OF 225 PSI OR ONE AND A HALF TIMES THE STATIC PRESSURE AT THE LOW POINT, WHICHEVER IS GREATER, UNDER DWS SUPERVISION JUST PRIOR TO PAVING.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CHLORINATION OF THE WATER SYSTEM AND SHALL BEAR ALL COSTS. THE PERSON(S) ENGAGED TO DO THE CHLORINATION WORK MUST HAVE THE APPROPRIATE LICENSE TO PERFORM THE WORK IN THE STATE OF HAWAII.
- 11. EXISTING VALVES, F.H. UNITS, VALVE BOXES, FRAMES AND COVERS DESIGNATED "REMOVE AND SALVAGE" SHALL BE CLEANED OF ALL DIRT, SCABS, AND CONCRETE AND DELIVERED TO THE RESPECTIVE DWS BASEYARD. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS BID ITEMS, UNLESS SPECIFIED OTHERWISE.
- 12. EXISTING WATERLINES, VALVES, FITTINGS AND APPURTENANCES NOT DESIGNATED "REMOVE" OR "TO REMAIN" SHALL BE ABANDONED IN PLACE. ALL EXPOSED VALVE BOXES, VALVES, PIPES AND APPURTENANCES SHALL BE REMOVED AND DISPOSED OF PROPERLY AT NO COST TO THE DWS.
- 13. THE DWS WILL NOT ASSUME OWNERSHIP OF NOR GRANT ANY WATER SERVICE UNTIL THE WATER SYSTEM IS DEDICATED TO THE DWS ALONG WITH ALL NECESSARY EASEMENTS AND DOCUMENTS.
- 14. WHEN COMPACTION TESTS ARE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE DWS WITH PROCTOR RESULTS OF MATERIALS TO BE USED FOR THAT PORTION OF WORK REQUIRING COMPACTION. THESE RESULTS SHALL BE CERTIFIED AND SHALL BE FURNISHED TO DWS ONE WEEK PRIOR TO COMMENCEMENT OF WORK. COST FOR COMPACTION TESTS SHALL BE INCIDENTAL TO PIPELINE INSTALLATION.
- 15. ALL NEWLY INSTALLED WATERLINES SHALL HAVE A BLUE WARNING TAPE LABELED "WATERLINE" PLACED DIRECTLY OVER THE COMPACTED CUSHION MATERIAL.
- 16. CONSTRUCTION PROJECTS REQUIRING TEMPORARY WATER SERVICE SHALL BE METERED AND PAID FOR BY THE CONTRACTOR.
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORD DRAWINGS (AS-BUILT DRAWINGS) AND THE LICENSED ENGINEER SHALL CERTIFY THE DRAWINGS AS TO ACCURACY AND SUBMIT THE DRAWINGS AND AS-BUILT TRACINGS TO THE DWS.
- 18. ALL RETAINER GLANDS SHALL BE "MEGALUG" SERIES 1100, AS MANUFACTURED BY EBAA IRON SALES, INC., OF EASTLAND, TEXAS, OR APPROVED EQUAL.
- 19. ALL EXISTING WATER METER BOXES, METERS, AND SERVICE LATERALS SHALL BE REMOVED AND SALVAGED UNLESS OTHERWISE NOTED IN PLANS.
- 20. THE VARIOUS SCHEDULES SHOWN ON THE PLANS ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE IN VERIFYING THE TYPE, SIZE, ETC. OF EXISTING AND NEW UTILITIES AND APPURTENANCES. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND DWS TO ENSURE THE NEW SYSTEM IS BUILT PROPERLY AND TO THE SATISFACTION OF DWS.
- 21. WORK INCIDENTAL TO THE CONTRACT AND NECESSARY TO COMPLETE THE PROJECT, ALTHOUGH NOT SPECIFICALLY REFERRED TO ON THE CONTRACT DOCUMENTS, SHALL BE FURNISHED AND PERFORMED BY THE CONTRACTOR.
- 22. WATER SERVICE LATERALS AND CUSTOMER PIPING SHALL BE ADJUSTED WHEN WATER METER BOX ADJUSTMENT GREATER THAN 1 INCH IS REQUIRED. THE COST OF SUCH ADJUSTMENT SHALL BE INCIDENTAL TO WATER METER BOX ADJUSTMENT. THIS SHALL INCLUDE NECESSARY EXCAVATION BACKFILL AND PIPING MODIFICATIONS. ALL WORK SHALL BE PER DWS STANDARDS.
- 23. PIPE CUSHION FOR COPPER PIPES SHALL BE NO. 4 FINE, MANUFACTURED SAND.
- 24. SOLDER & FLUX SHALL CONTAIN NOT MORE 1 THAN 0.2 PERCENT LEAD.
- 25. SERVICE LATERAL(S) SHALL BE FLUSHED BY THE CONTRACTOR UNDER DWS SUPERVISION.
- 26. EXISTING SERVICE LATERALS TO BE REMOVED SHALL BE CUT AND PLUGGED AT THE MAIN.

WATERLINE NOTES (CONT.)

- 27. RELOCATION OF EXISTING METERS SHALL BE DONE UNDER DWS SUPERVISION. RELOCATION OF CUSTOMER SERVICE LINES TO RELOCATED METERS SHALL BE DONE BY THE CONTRACTOR. MATERIALS USED TO CONNECT CUSTOMER LINES TO RELOCATED METERS SHALL BE NEW 3/4" COPPER TYPE "K". ALL WORK AND MATERIALS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AND CONSIDERED INCIDENTAL TO THE VARIOUS BID ITEMS. A DIELECTRIC UNION SHALL BE USED TO CONNECT THE COPPER PIPE TO THE CUSTOMER'S G.I. PIPE.
- 28. IT IS THE INTENT OF THE DWS TO UTILIZE THE EXISTING CORPORATION STOP IN LOCATIONS WHERE ONLY THE SERVICE LATERALS WILL BE REPLACED. THE CONTRACTOR SHALL PERFORM ALL NECESSARY WORK REQUIRED TO CUT OFF EXISTING AND CONNECTING NEW PIPE TO THE EXISTING CORPORATION STOP. IN LOCATIONS WHERE NEW TAPS ARE REQUIRED, THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH DWS 24 HOURS IN ADVANCE FOR A NEW TAP. ON NEW PIPELINE, THE CONTRACTOR WILL MAKE THEIR OWN TAPS.
- 29. CONTRACTOR SHALL INFORM THE CUSTOMER 24 HOURS IN ADVANCE OF WATER SHUT-OFF TO COMPLETE NEW SERVICE CONNECTION TO CUSTOMER'S LINE.
- 30. WATER SERVICE LATERAL AND METER RELOCATION: PROVIDE DWS APPROVED 2"
 PVC, SCHEDULE 40 SLEEVE THROUGH WALL. FILL SPACE WITH AN APPROVED
 ASPHALT FILLER AS REQUIRED. ALSO, RELOCATE EXISTING WATER VALVE, VALVE
 BOX & COVER. ALL INCIDENTAL.
- 31. COORDINATE WITH DWS REGARDING SCHEDULING AND DWS REQUIREMENTS OF CONCRETE JACKET INSTALLATION, SHORING AND WATERLINE RELOCATION/ADJUSTMENT AT DRYWELL/DRAINAGE SYSTEM LOCATIONS. WATERLINE ADJUSTMENT/RELOCATION CONCRETE JACKET SHORING SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
- 32. RELOCATE EXISTING WATER METER BOX AND SERVICE LATERAL TO FRONT OF PROPERTY, INCIDENTAL, TYPICAL.
- 33. DWS BOX ADJUSTMENT:
 - CONTRACTOR TO SUBMIT DETAILED ADJUSTMENT DRAWINGS TO DWS FOR APPROVAL PRIOR TO DOING WORK (TYPICAL).
- 34. IF A WATER METER IS RELOCATED AND THE SERVICE HAS A BACKFLOW PREVENTION ASSEMBLY (BFPA), BFPA NEEDS TO BE RELOCATED WITH THE WATER METER. (INCIDENTAL)
- 35. RELOCATION/ADJUSTMENT OF EXISTING METERS SHALL BE DONE UNDER DWS SUPERVISION. CONTRACTOR TO PROVIDE NEW TYPE "X" METER BOX, INCIDENTAL. RELOCATION/ADJUSTMENT OF CUSTOMER SERVICE LINES AND EXTENSION OF EXISTING LATERALS TO RELOCATED METERS SHALL BE DONE BY THE CONTRACTOR.
- 36. CONTRACTOR SHALL PROVIDE NECESSARY MEASURES TO RESTRAIN THE EXISTING GATE VALVES TO THE WATER MAIN PRIOR TO PERFORMING RELOCATION, REPLACEMENT AND HEIGHT ADJUSTMENT WORK ON THE EXISTING FIRE HYDRANTS.
- 37. RELOCATED/ADJUST EXISTING WATER VALVE BOX WITH ROUND VALVE BOX: IDENTIFICATION TAGS INDICATING VALVE SIZE AND NUMBER OF TURNS TO CLOSE (REFER TO WATER SYSTEM DETAIL NO. V—17) ARE NOT REQUIRED ON THE NEW VALVE BOX COVERS, AS THE NUMBER OF TURNS TO CLOSE THE EXISTING VALVES CANNOT BE ACCURATELY DETERMINED.
- 38. CONTRACTOR SHALL RELOCATE EXISTING WATER METER BY EXTENDING THE SERVICE LATERAL FROM EXISTING CURB STOPS.
- 39. CONTRACTOR SHALL FURNISH AND INSTALL NEW CURB STOPS WHERE NONE EXIST AND MAY EXTEND SERVICE LATERAL FROM THE NEW CURB STOP.
- 40. ALL WATER SERVICE LATERAL MATERIALS DOWNSTREAM OF THE NEW CURB STOP SHALL BE NEW (COPPER FITTINGS, BRASS FITTINGS, VALVES AND METER BOXES).
- 41. TYPICAL FOR EXISTING 1 1/4" TYPE "B"AND "C" WATER SERVICE LATERALS: INSTALL NEW 1 1/4" CURB STOP AS SHOWN AND BY NOTE PER DWS STANDARD DETAIL L7.
- 42. FIRE HYDRANT ASSEMBLIES SHALL UTILIZE EBAA "MEGALUGS" (OR APPROVED EQUAL) AT ALL MJ CONNECTIONS.
- 43. ALL BRASS PRODUCTS MUST CONFORM TO NSF STANDARD 61 AND NSF 372 OF THE SDWA, AND BE CERTIFIED AS "LEAD—FREE" BY THE MANUFACTURER.

 "LEAD—FREE" IS DEFINED AS THE ALLOWABLE LEAD CONTENT OF NOT MORE THAN 0.25% IN THE WETTED SURFACE. CERTIFICATION FROM THE MANUFACTURER MUST BE SUBMITTED TO THE DEPARTMENT OF WATER SUPPLY FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ANY BRASS PRODUCTS INSTALLED WITHOUT APPROVAL MUST BE REMOVED AT NO EXPENSE TO THE DEPARTMENT.
- 44. FIRE HYDRANTS REQUIRE JOINT RESTRAIN BETWEEN THE TEE AND GATE VALVE.
- 45. WATER SERVICES THAT REQUIRE A DEPARTMENT OF WATER SUPPLY APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL HAVE ONE INSTALLED IN ACCORDANCE WITH THE DEPARTMENT OF WATER SUPPLY'S WATER SYSTEM STANDARD (DIVISION 100 SECTION 107 AND DETAIL V—9). THE SERVICE OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, YEARLY TESTING AND MAKE PROVISIONS FOR THE WATER SERVICE DURING THE TESTING OF THE BACKFLOW ASSEMBLY. THE INSTALLATION OF THE BACKFLOW PREVENTION ASSEMBLY SHALL BE APPROVED BY THE DEPARTMENT BEFORE WATER SERVICE IS ACTIVATED.

CIVIL ABBREVIATIONS / SYMBOLS

A.C. ASPHALT CONCRETE
APPROX. APPROXIMATE
BOT. BOTTOM
B.O.W. BOTTOM OF WALL

CFS CUBIC FEET PER SECOND
C CENTERLINE

CLR. CLEARANCE
C.O. CLEANOUT
CONC. CONCRETE

CONT. CONTINUATION, CONTINUOUS

DRAIN LINE

C.Y. CUBIC YARD

DPW DEPARTMENT OF PUBLIC WORKS

DWGS. DRAWINGS

D.L.

E/TEL ELECTRICAL/TELEPHONE

ELEV. ELEVATION EXIST. EXISTING

F.H. FIRE HYDRANT

FT. FEET INV. INVERT

L.F. LINEAR FEET

L.P. LIGHT POST MECHANICAL

MIN. MINIMUM

NGPC NOTICE OF GENERAL PERMIT COVERAGE

NO. NUMBER

NPDES NATIONAL POLLUTANT DISCHARGE

ELIMINATION SYSTEM

O.C. ON CENTER

O.D. OUTSIDE DIAMETER

PSI POUNDS PER SQUARE INCH

PVC POLYVINYL CHLORIDE PVMT. PAVEMENT

REINF. REINFORCED

SCH. SCHEDULE

SDMH STORM DRAIN MANHOLE

S.F. SQUARE FEET

SHT. SHEET

STA. STATION

STD. STANDARD

RUCT. STRUCTURAL

TEL TELEPHONE

TAX MAP KEY

T.O.C. TOP OF CURB

T.O.G. TOP OF GRATE

T.O.W. TOP OF WALL

TYP. TYPICAL

VERT. VERTICAL

WATER VALVE
DIAMETER

CUT & PLUG EXIST. WATER LINE

EXIST. DRAIN LINE

EXIST. ELECTRICAL LINE

EXIST. WATER LINE

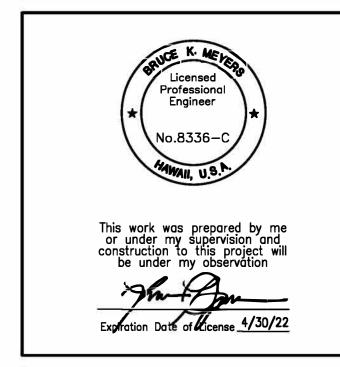


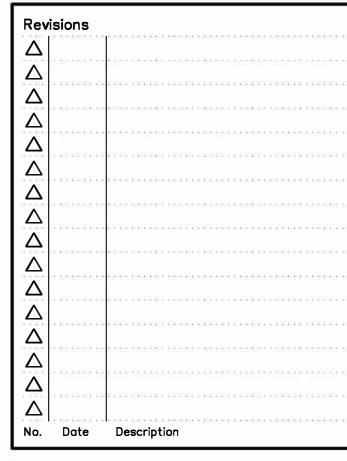
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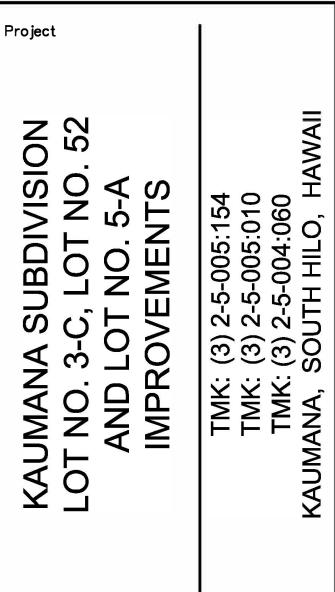
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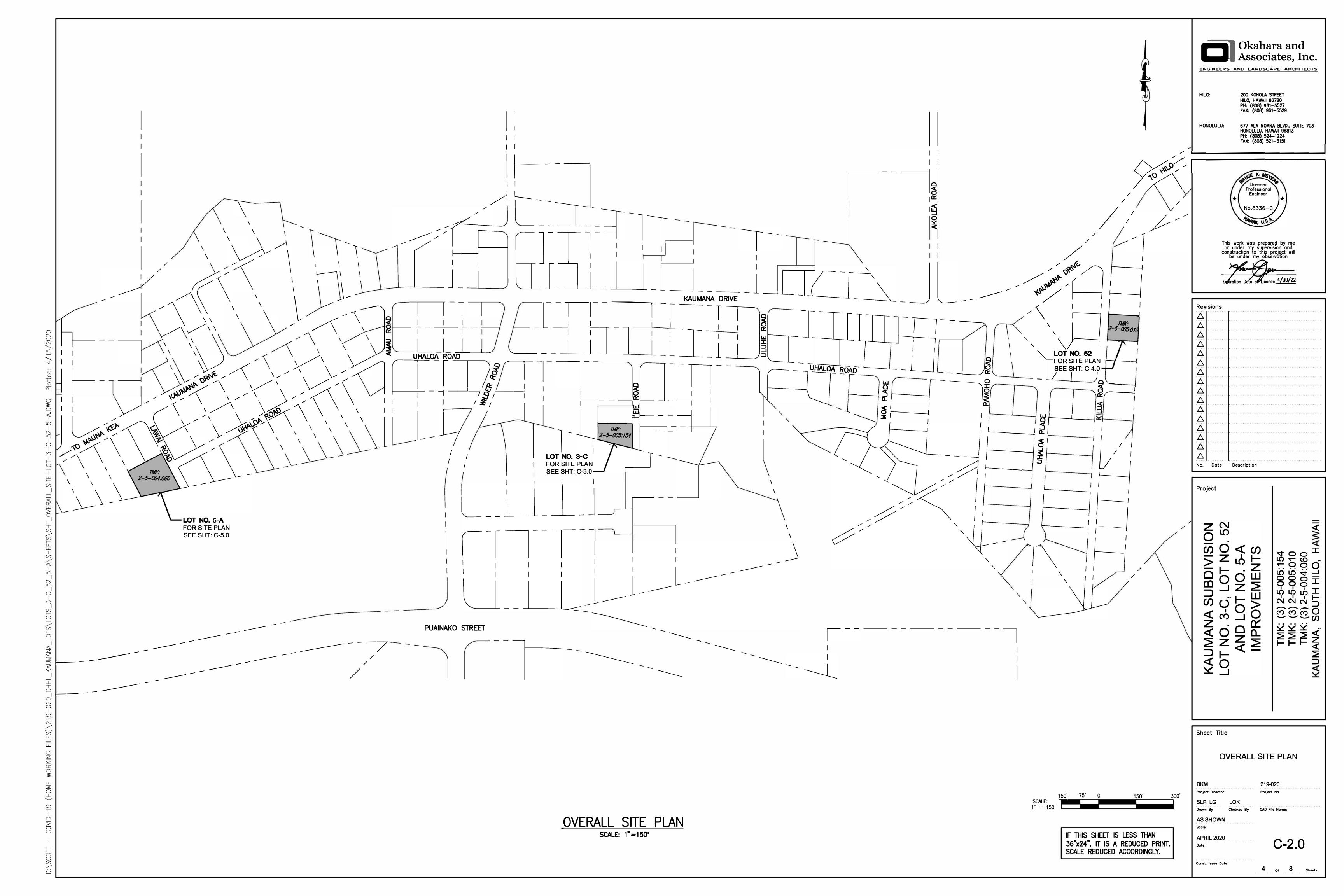


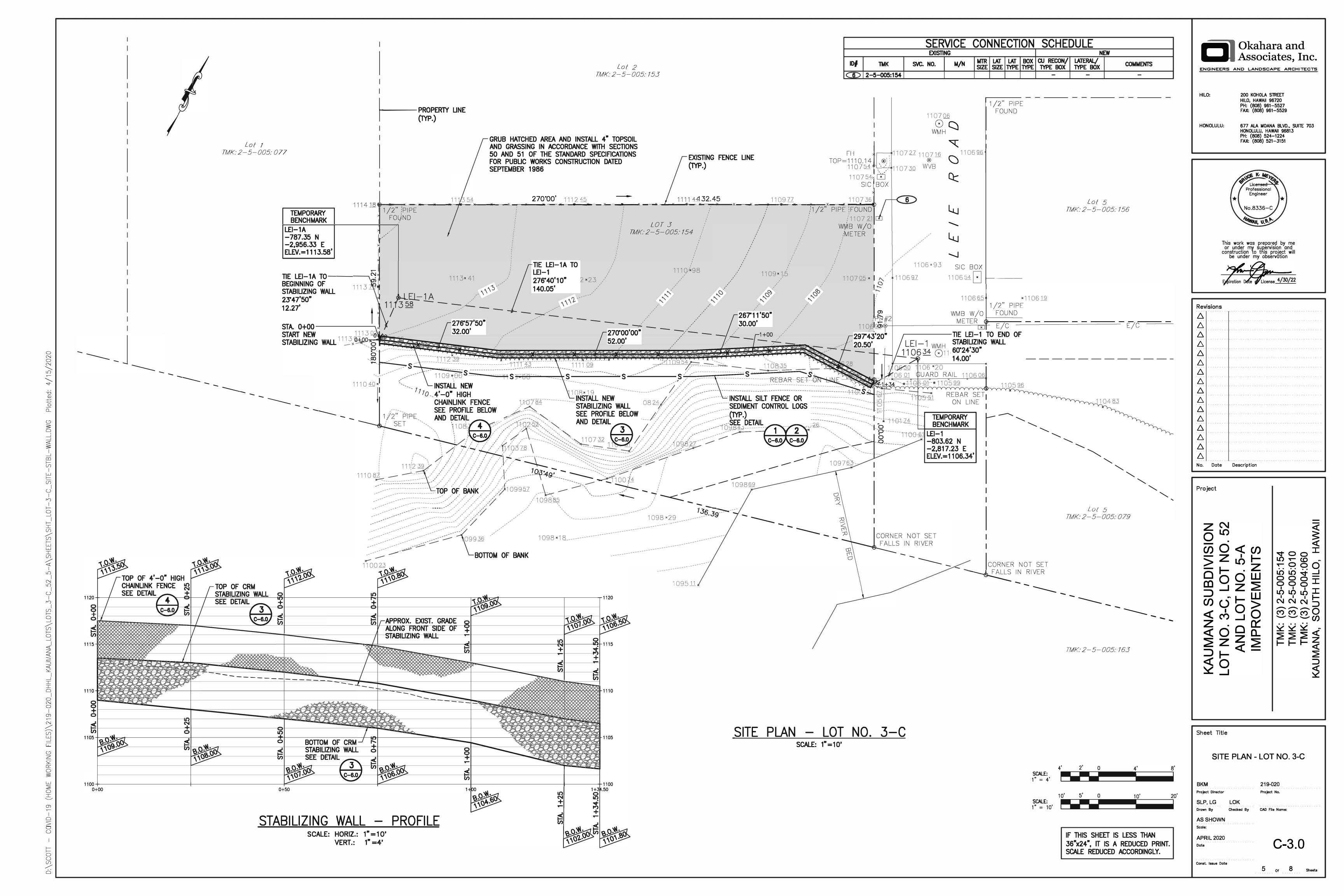


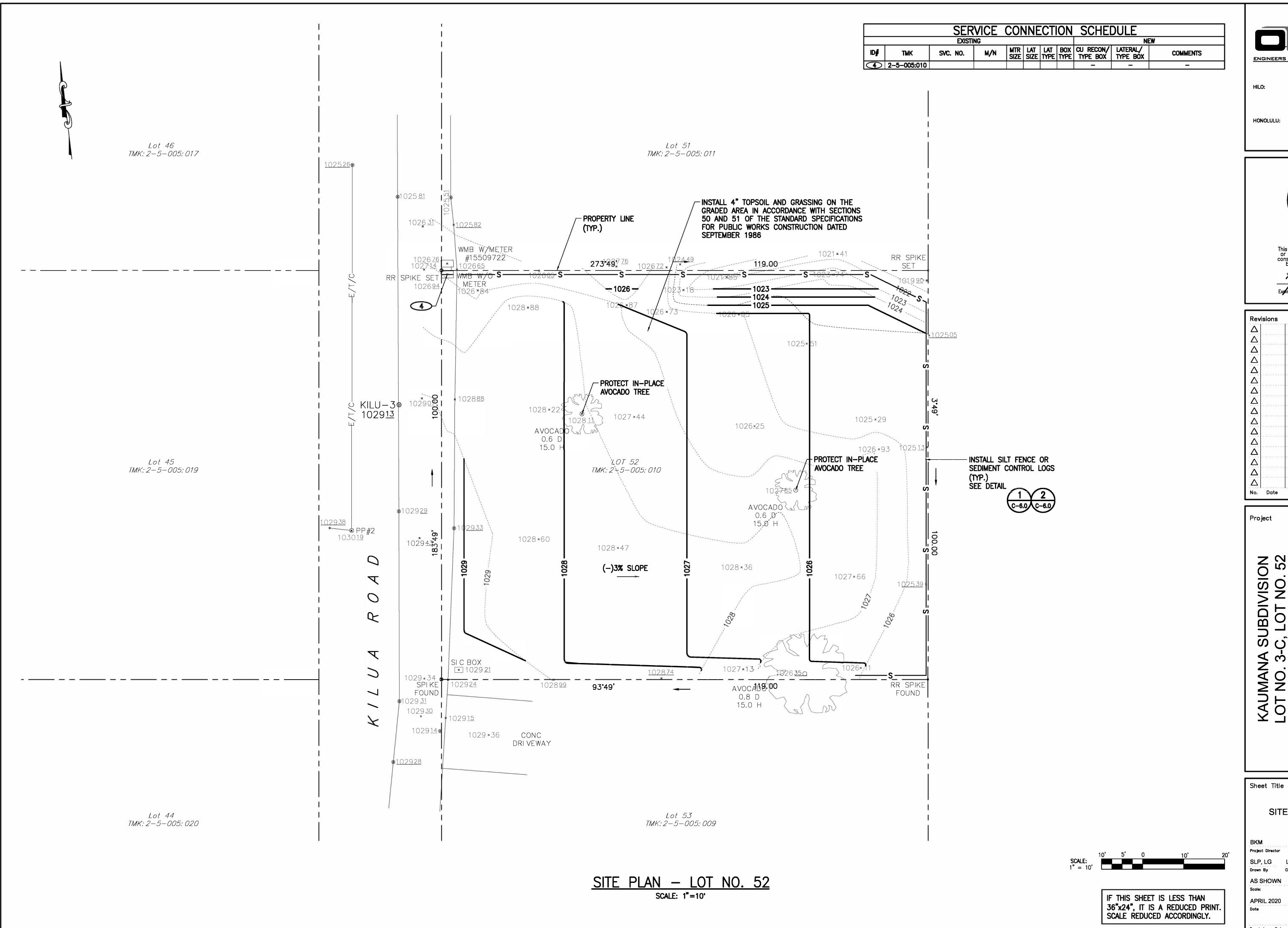


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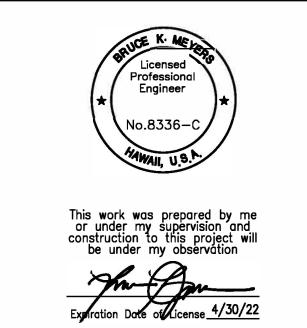


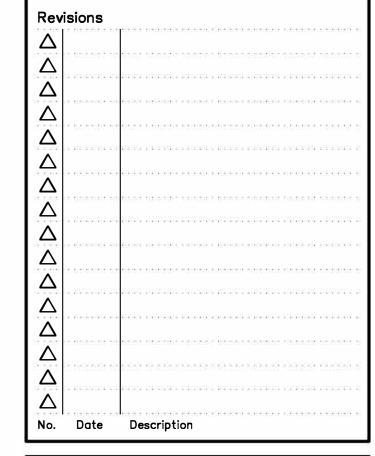


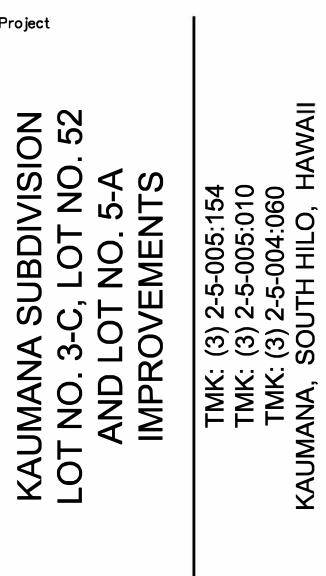
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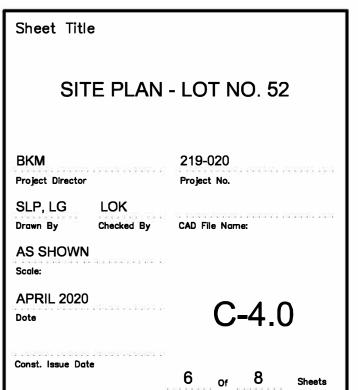
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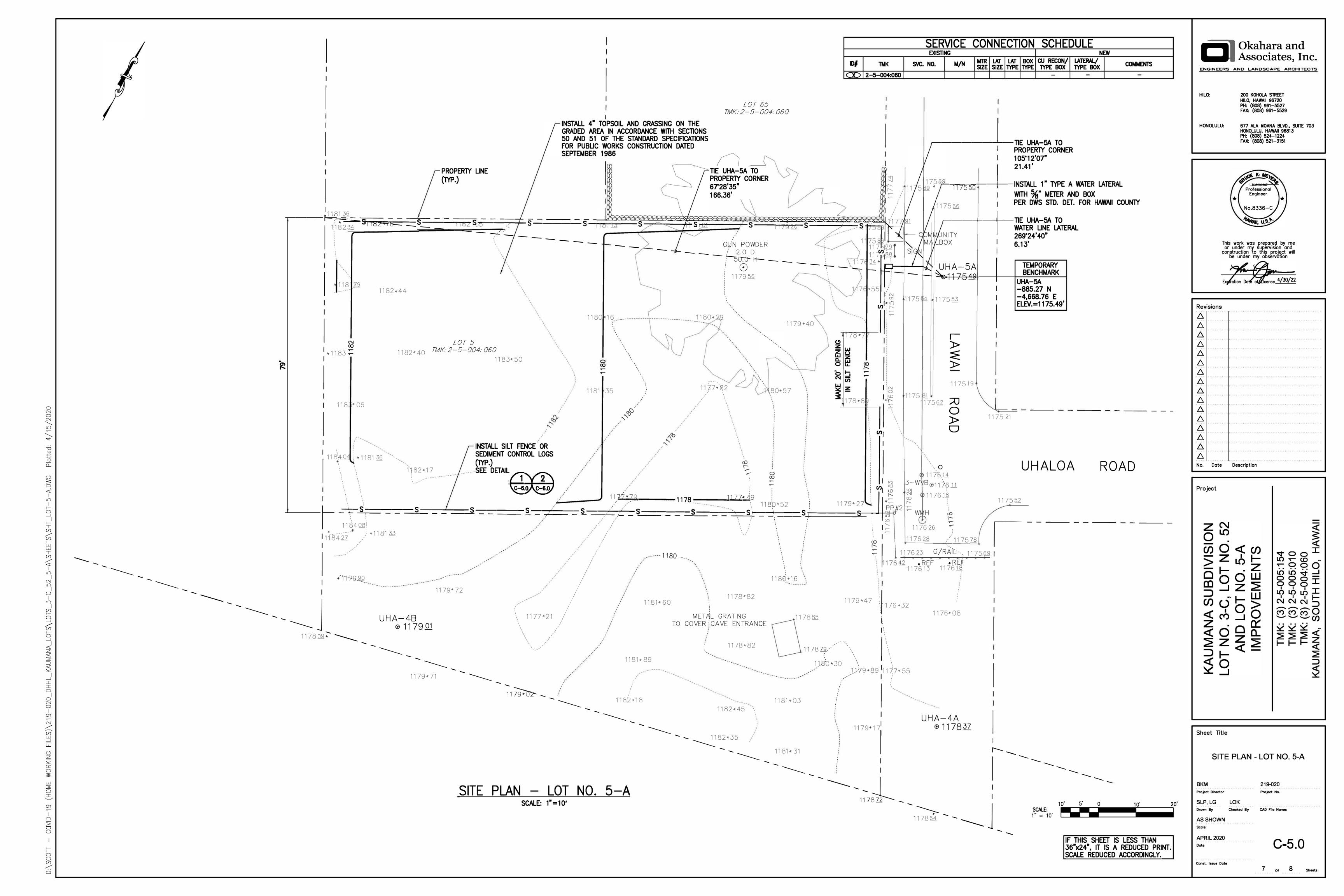
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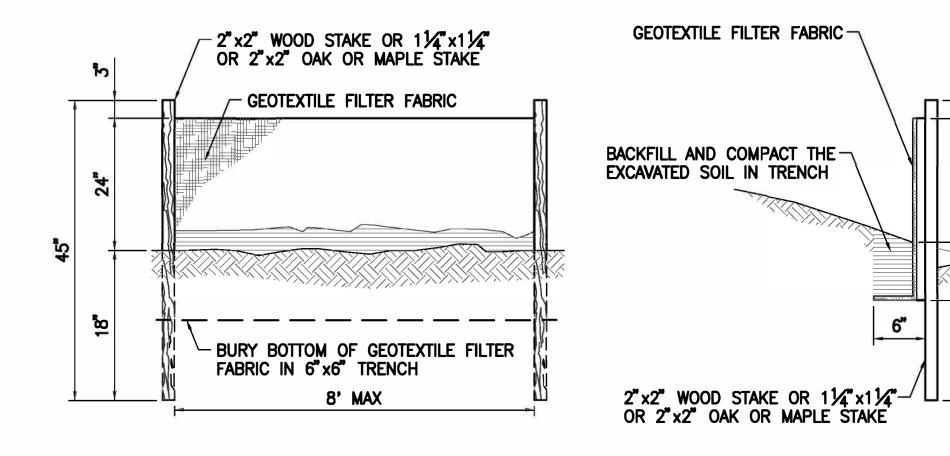




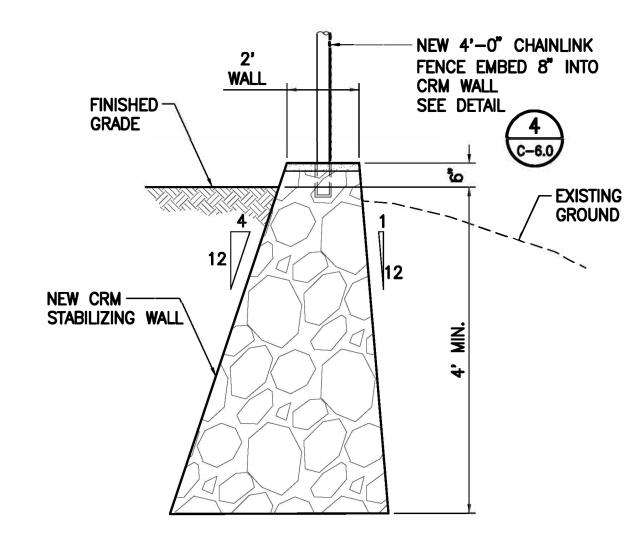




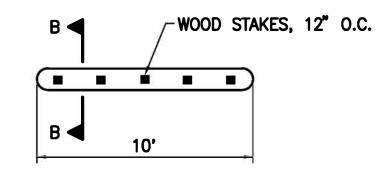




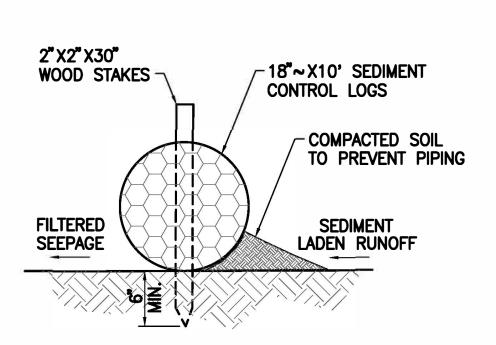








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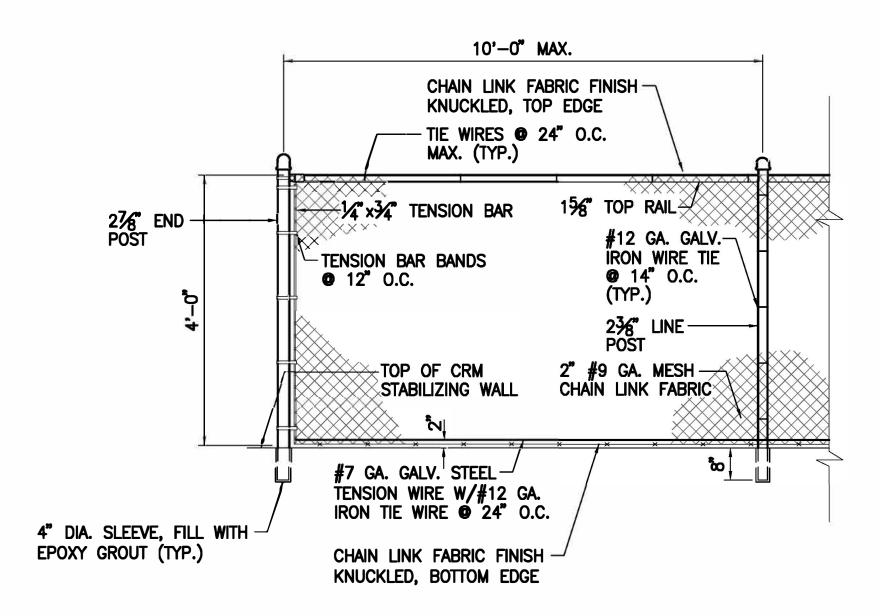


NOTES:

- 1. STAKE SEDIMENT LOGS IN PLACE WITH 2"X2"X30" WOOD STAKES SPACE NO LESS THAN 24" APART UNLESS OTHERWISE NOTED. DRIVE STAKES INTO GROUND A MINIMUM OF 6".
- 2. INSTALL SEDIMENT CONTROL LOGS DIRECTLY ON GROUND MAKING SURE BOTTOM OF LOG IS IN FULL CONTACT WITH GROUND. TAMP SOIL BACKFILL AGAINST UPSTREAM SIDE OF LOG TO ASSURE STORM WATER IS FORCED FLOW THROUGH LOG RATHER THAN UNDER IT.







END POST

LINE POST

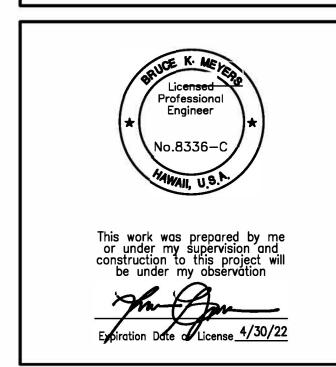
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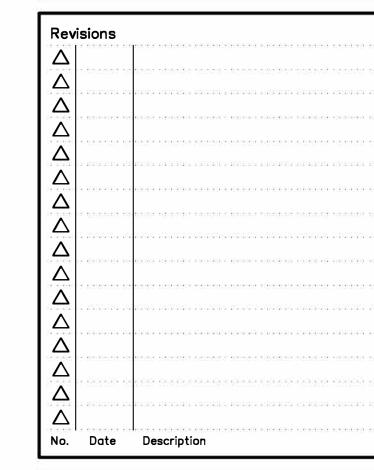
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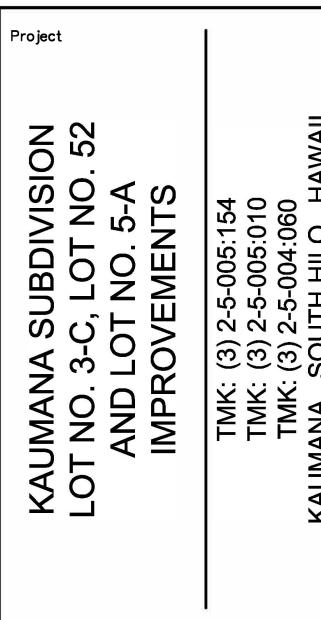


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