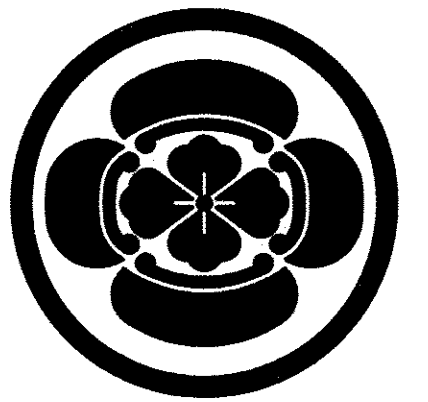
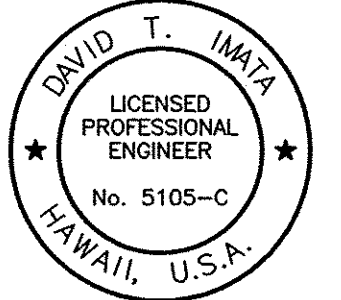




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PUAINAKO HEIGHTS SUBDIVISION PHASE 1

KUKUAU 2ND, SOUTH HILO ISLAND OF HAWAII, HAWAII

TAX MAP KEY: 3RD DIV. 2 - 5 - 046: 001
2 - 5 - 049: 057 TO 075
2 - 5 - 050: 069 TO 081 & 083
2 - 5 - 051: 055 TO 073

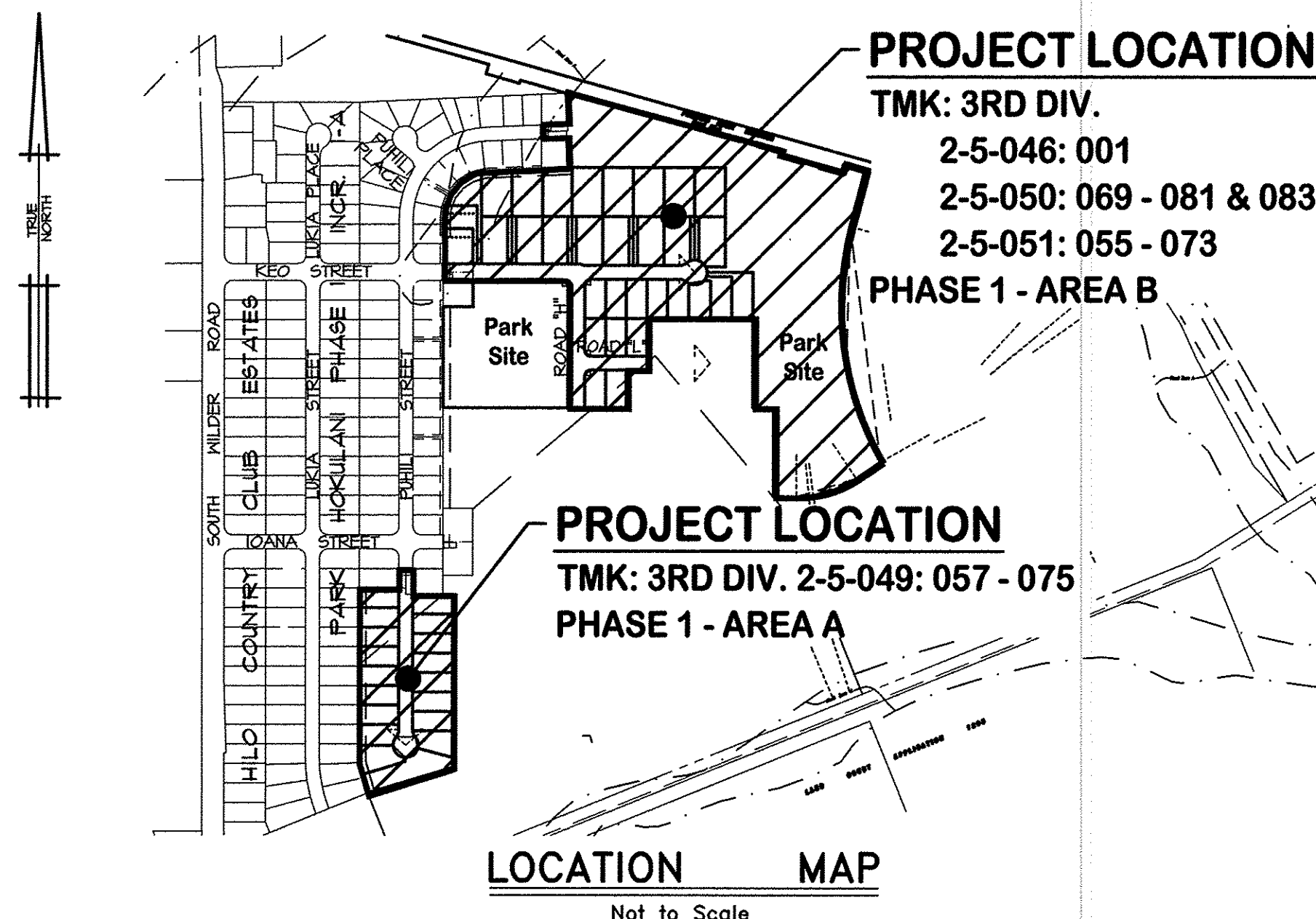
SUBDIVISION APPLICATION NUMBER: 2004-0090

D.P.W. FOLDER NUMBER: 25270-B2

CHANGE OF ZONE ORDINANCE NO. 96-113

prepared by: **IMATA & ASSOCIATES INC.**
civil engineers • land surveyors
171 kapiolani street
hilo, hawaii 96720

owner:
PUAINAKO HEIGHTS LAND COMPANY, INC.
91 AVENIDA DEL MAR, 3rd FLOOR
SAN CLEMENTE, CA 92672



PROJECT LOCATION

TMK: 3RD DIV.
2-5-046: 001
2-5-050: 069 - 081 & 083
2-5-051: 055 - 073

PHASE 1 - AREA B

PROJECT LOCATION

TMK: 3RD DIV. 2-5-049: 057 - 075
PHASE 1 - AREA A

LOCATION MAP
Not to Scale

[Signature]
DIRECTOR, PLANNING DEPARTMENT
COUNTY OF HAWAII

[Signature]
DIRECTOR, DEPARTMENT OF PUBLIC WORKS
COUNTY OF HAWAII

[Signature]
MANAGER-CHIEF ENGINEER, DEPARTMENT OF WATER SUPPLY
COUNTY OF HAWAII (S.U.)

7/11/18
DATE

6/25/18
DATE

4/16/18
DATE

REVISION • DATE • DESCRIPTION

**PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1**

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

TITLE SHEET

JOB NO. 16-25 DRAWING NUMBER

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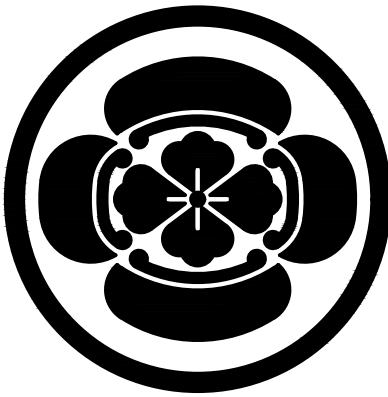
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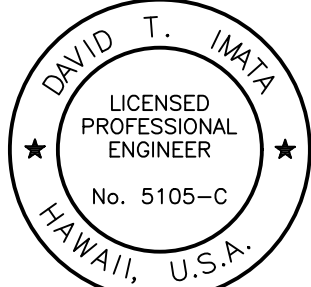
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2	T-0.02	INDEX TO DRAWINGS
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4	C-0.02	MISCELLANEOUS NOTES
5	C-0.03	MISCELLANEOUS NOTES & DETAILS
6	C-1.01	GENERAL PLAN
7	C-1.02	DEMOLITION & EROSION CONTROL PLAN
8	C-1.03	ENLARGED DEMOLITION PLANS
9	C-2.01	GENERAL GRADING PLAN
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11	C-3.01	PLAN AND PROFILE - PUHILI STREET (AREA A)
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13	C-3.03	PLAN AND PROFILE - KEO STREET (AREA B)
14	C-3.04	PLAN AND PROFILE - ROAD "H" (AREA B)
15	C-3.05	PLAN AND PROFILE - ROAD "L" (AREA B)
16	C-4.01	CROSS SECTIONS - PUHILI STREET EXTENTION (AREA A)
17	C-4.02	CROSS SECTIONS - PUHILI STREET EXTENTION - CONT'D & KEO STREET EXTENTION (AREA B)
18	C-4.03	CROSS SECTIONS - KEO STREET EXTENTION - CONT'D (AREA B)
19	C-4.04	CROSS SECTIONS - ROAD "H" (AREA B)
20	C-4.05	CROSS SECTIONS - ROAD "L" (AREA B)
21	C-5.01	SIGNING AND STRIPING PLAN
22	C-6.01	MISCELLANEOUS DETAILS
23	C-6.02	MISCELLANEOUS DETAILS
24	C-6.03	MISCELLANEOUS DETAILS
25	C-6.04	MISCELLANEOUS DETAILS
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27	C-6.06	MISCELLANEOUS DETAILS
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29	C-6.08	MISCELLANEOUS DETAILS
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31	C-7.01	STREET LIGHT AND TELEPHONE LAYOUT PLAN
32	C-7.02	STREET LIGHT DETAILS



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**PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1**

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

SHEET INDEX

JOB NO. 16-25 DRAWING NUMBER

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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 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 SITE(S) REQUIRED FOR THIS PROJECT WHEN AN APPLICATION FOR A GRADING PERMIT IS MADE. THE DISPOSAL AND/OR BORROW SITE(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 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 SURFACE.

ESTIMATED EARTHWORK QUANTITIES:

TOTAL EXCAVATION: 93,905 CU. YDS.
TOTAL EMBANKMENT: 2,309 CU. YDS.

NOTES

- A. THE QUANTITIES SHOWN ARE FOR GRADING PERMIT PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT QUANTITIES FOR BIDDING PURPOSES.
- B. EARTHWORK QUANTITIES SHOWN WERE TAKEN FROM EXISTING GROUND TO FINISH GRADE.

TOTAL AREA TO BE GRADED: 15.0 ACRES

SOLID WASTE CONSTRUCTION NOTES

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. THE CONTRACTOR SHALL CHECK WITH THE SOLID WASTE DIVISION FOR DISCLOSURE OF THE CURRENT LANDFILL FEE AND CONSIDERATION OF THAT FEE SHALL BE INCLUDED IN THE CONTRACTOR'S BID SUM.
3. CONSTRUCTION AND DEMOLITION MATERIAL SHALL NOT BE DEPOSITED AT ANY OF THE COUNTY TRANSFER STATIONS, BUT SHALL BE TRANSPORTED FOR DISPOSAL AT THE WEST HAWAII LANDFILL.
4. ASBESTOS MATERIAL MUST BE SEPARATED, DOUBLE BAGGED AND DEPOSITED IN A LANDFILL IN ACCORDANCE WITH REGULATIONS OF THE SOLID WASTE DIVISION, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT. INFORMATION MAY BE OBTAINED BY CALLING THE DIVISION AT (808) 961-8339 BETWEEN 7:00 AM AND 4:00 PM MONDAY THROUGH FRIDAY.
5. ALL GREEN WASTE GENERATED FROM GRUBBING WORK, SHALL BE SEPARATED AND DEPOSITED AT THE GREEN WASTE AREA AT THE HILO OR WEST HAWAII DISPOSAL SITE. (NOTE: NO TREATED LUMBER IS ALLOWED IN THE GREEN WASTE)
6. RECYCLE AS MUCH OF THE SOLID WASTE MATERIAL GENERATED BY THIS CONSTRUCTION AS POSSIBLE. EXCESS MATERIAL SHALL BE DISPOSED OF PROPERLY.
7. CONTRACTOR SHALL SUBMIT A REPORT PRIOR TO THE COMMENCEMENT OF WORK, PER SOLID WASTE DEMOLITION PLAN GUIDELINES, AS AMENDED. AVAILABLE AT THE COUNTY OF HAWAII, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE.
8. PRIOR TO THE DISPOSAL OF ANY CONSTRUCTION AND DEMOLITION (C & D) DEBRIS, THE CONTRACTOR/ HAULER IS REQUIRED TO SECURE A "NOTICE OF AUTHORIZATION TO DISPOSE" FROM THE SOLID WASTE DIVISION ENGINEER. PLEASE CONTACT THE SOLID WASTE DIVISION AT (808) 961-8270.
9. CONTRACTOR/ HAULER SHALL CONTACT THE WEST HAWAII SANITARY LANDFILL (PU'UANAHULU) AT (808) 886-8059 24-HOURS PRIOR TO DISPOSAL.

EXCAVATION NOTE

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT AND CONTACT THE HAWAII ONE CALL CENTER AT LEAST 5-10 WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION ACTIVITIES AT: 1-866-423-7287 OR ONLINE AT www.callbeforeyoudig.org. CONTRACTOR SHALL FOLLOW ALL INSTRUCTIONS/ REQUIREMENTS OF HRS 269 E FOR FULL COMPLIANCE WITH STATE LAW. NO EXCAVATION WORK SHALL PROCEED UNTIL ALL UTILITY AGENCIES HAVE RESPONDED AND CLEARED THE SITE.

NOTES FOR WORK WITHIN THE COUNTY RIGHT-OF-WAY

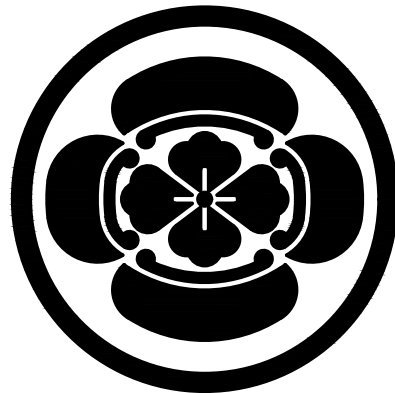
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF HAWAII, DEPARTMENT OF PUBLIC WORKS (DPW), "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER 1986 AND "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER 1984.
2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF 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 3:30 P.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 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) DAMAGED 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.
- 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-OF-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 (1) 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.

BEST MANAGEMENT PRACTICES NOTES

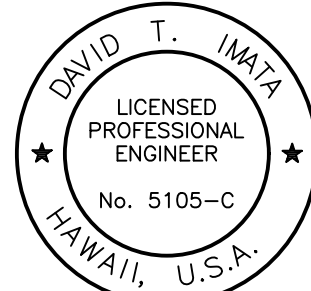
1. STABILIZED CONSTRUCTION ENTRANCE
ALL POINTS OF EGRESS AND INGRESS TO A SITE SHALL BE PROTECTED WITH A STABILIZED CONSTRUCTION ENTRANCE, 20' X 20' X 8" THICK CRUSHED ROCK LAYER OVER A GEOTEXTILE FABRIC BASE IN THE LOCATION(S) SHOWN ON THE EROSION CONTROL PLAN.
2. STOCKPILES
STOCKPILES SHALL NOT BE LOCATED IN DRAINAGE WAYS OR OTHER AREAS OF CONCENTRATED FLOWS. SEDIMENT TRAPPING DEVICES SUCH AS FENCES, TRAPS BASINS OR BARRIERS SHALL BE USED AROUND THE BASE OF ALL STOCKPILES.
3. DUST CONTROL
DUST CONTROL SHOULD BE APPLIED TO REDUCE DUST EMISSIONS. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS CONTAINED IN HAWAII ADMINISTRATIVE RULES: CHAPTER 11-60, "AIR POLLUTION CONTROL."
4. SEDIMENT BARRIERS OR TRAPS
SEDIMENT TRAPPING DEVICES SUCH AS FENCES, TRAPS, BASINS OR BARRIERS SHALL BE USED DOWN SLOPE OF ALL DISTURBED AREAS AND AROUND THE BASE OF ALL MATERIAL STOCKPILES.
5. SLOPE PROTECTION
SURFACE FLOW FROM ABOVE AN EXPOSED SLOPE SHALL NOT BE ALLOWED TO FLOW OVER THE SLOPE WITHOUT PROTECTION. SLOPE PROTECTION SHALL BE USED ON AREAS WITH SLOPES GREATER THAN 50% AND ON AREAS OF MODERATE SLOPES THAT ARE PRONE TO EROSION.
6. INLET PROTECTION
ALL STORM DRAIN INLETS ON SITE, AND THOSE OFFSITE WHICH MAY RECEIVE RUNOFF FROM THE SITE SHALL USE AN INLET PROTECTION DEVICE.
7. TEMPORARY STABILIZATION
TEMPORARY STABILIZATION IS NOT REQUIRED WHEN THE DISTURBED AREA WILL BE WORKED WITHIN A 14 DAY PERIOD. STABILIZATION IS REQUIRED FOR DISTURBED AREAS AT FINAL GRADE AND FOR THOSE AREAS THAT WILL NOT BE WORKED WITHIN A 14 DAY PERIOD.
8. PERMANENT STABILIZATION
ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED PRIOR TO REMOVING EROSION AND SEDIMENT MEASURES. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND AREAS OF DISTURBED SOIL WHICH RESULT FROM THE REMOVAL OF THE TEMPORARY MEASURES SHALL BE IMMEDIATELY PERMANENTLY STABILIZED.

DPW BUILDING DIVISION NOTES:

1. PERMITS REQUIRED FOR ALL BUILDING, ELECTRICAL, AND PLUMBING WORK PRIOR TO INSTALLATION PER HAWAII COUNTY CODE, CHAPTERS, 5, 9 AND 17, RESPECTIVELY.
2. ALL IRRIGATION SHALL BE INSTALLED AND LABELED PER NON-POTABLE WATER PROVISIONS OF THE UPC 2006.
3. ALL PLUMBING WORK SHALL COMPLY TO CHAPTER 17, OF THE HAWAII COUNTY ORDINANCE AND INSTALLATION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE.
4. ALL ELECTRICAL MATERIALS AND INSTALLATIONS SHALL COMPLY WITH THE LATEST AMENDED VERSION OF CHAPTER 9 OF THE HAWAII COUNTY ELECTRICAL CODE AND CHAPTER 14 OF THE HAWAII COUNTY OUTDOOR LIGHTING CODE.



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EXP. 4/30/20

David T. Imata

REVISION • DATE • DESCRIPTION

PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
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SHEET TITLE

MISCELLANEOUS NOTES

JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM/ EM

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DATE JAN 2018 SHEET . OF .

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WATER 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 SEVENTY-TWO (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.
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 WATERLINES 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, FIRE HYDRANT 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 APPERTENANCES NOT DESIGNATED "REMOVE AND SALVAGE" SHALL BE ABANDONED IN PLACE. ALL EXPOSED VALVE BOXES, VALVES, PIPES AND APPERTENANCES SHALL BE REMOVED AND DISPOSED OF PROPERLY AT NO COST TO THE DWS.
13. RELOCATION OF EXISTING METERS SHALL BE DONE BY OR UNDER DWS SUPERVISION. RELOCATIONS OF CUSTOMER SERVICE LINES TO RELOCATED METERS SHALL BE COPPER AND DONE BY THE CONTRACTOR. ALL WORK AND MATERIALS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AND CONSIDERED INCIDENTAL TO THE RELOCATION WORK. EXISTING METER BOXES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT THE CONTRACTOR'S COST. A DIELECTRIC UNION SHALL BE USED TO CONNECT THE COPPER PIPE TO THE CUSTOMER'S G.I. PIPE (IF APPLICABLE).
14. 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.
15. 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 THE DWS ONE WEEK PRIOR TO COMMENCEMENT OF WORK. COST FOR COMPACTION TESTS SHALL BE INCIDENTAL TO PIPELINE INSTALLATION.
16. ALL NEWLY INSTALLED WATERLINES SHALL HAVE A 4 MIL THICK, 6-INCH WIDE, NON-METALLIC BLUE WARNING TAPE OVER CENTERLINE OF PIPE LABELED "CAUTION - WATERLINE BURIED BELOW" PLACED DIRECTLY OVER THE COMPACTED CUSHION MATERIAL.
17. CONSTRUCTION PROJECTS REQUIRING TEMPORARY WATER SERVICE SHALL BE METERED AND PAID FOR BY THE CONTRACTOR.
18. 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.
19. 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 V9). 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.
20. ALL BRASS PRODUCTS MUST CONFORM TO NSF STANDARD 61 AND NSF STANDARD 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.
21. ALL WATER SYSTEM PIPELINES, 4-INCHES OR LARGER IN DIAMETER, SHALL BE DUCTILE IRON, PUSH ON JOINTS, CLASS 52, AND ALL PIPELINES SMALLER THAN 4-INCHES IN DIAMETER SHALL BE SOFT COPPER, TYPE "K", UNLESS OTHERWISE SPECIFIED.
22. PIPE JOINT RESTRAINTS FOR MECHANICAL JOINT (MJ) FITTINGS AND MJ VALVES SHALL BE "MEGALUG" SERIES AS MANUFACTURED BY EBAA IRON, INC., OR AN APPROVED EQUAL (WEDGE TYPE), WHEREVER CALLED FOR ON THE PLANS AND SPECIFICATIONS.
23. FIRE HYDRANTS REQUIRE JOINT RESTRAINT BETWEEN THE TEE AND THE GATE VALVE.
24. 4' X 4' X 4" REINFORCED CONCRETE SLAB FOR FIRE HYDRANT SHALL BE REINFORCED WITH 6 X 6 X 10/10 WELDED WIRE FABRIC. SLAB TO SLOPE AWAY FROM HYDRANT AT 2% IN ALL DIRECTIONS.

25. PIPE CUSHION FOR COPPER SERVICE LATERALS SHALL BE NO. 4 MANUFACTURED FIND SAND.
26. SOLDER (⅛-INCH DIA.) AND FLUX USED SHALL NOT CONTAIN MORE THAN 0.2% LEAD.
27. METER BOXES FOR ⅝-INCH METERS PLACED OUTSIDE OF PAVEMENT TO BE TYPE "B" PER STANDARD DETAILS M1 & M2. METER BOXES FOR 1-INCH METERS OR FOR ⅝-INCH METERS LOCATED WITHIN PAVEMENT TO BE TYPE "X" PER STANDARD DETAIL M3.

STANDARD TRAFFIC NOTES

1. ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST AMENDED EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", APPLICABLE SECTIONS OF PART 5 OF THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION", DATED SEPTEMBER, 1984, AND THE "2005 HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", UNLESS OTHERWISE INDICATED ON THE PLANS, SPECIFICATIONS, OR THE "STANDARD TRAFFIC NOTES".
2. THE CONTRACTOR SHALL INSTALL PERMANENT OR TEMPORARY PAVEMENT MARKERS, STRIPING AND MARKINGS AS REQUIRED BY SECTION(S) 629 AND 755.05 OF THE "2005 HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AND AS AMENDED. TO ENSURE PROPER LANE WIDTHS AND THE SAFE FLOW OF TRAFFIC, TEMPORARY STRIPING SHALL BE INSTALLED AS CLOSELY AS POSSIBLE TO THE FINAL STRIPING PLAN, BUT NOT IN A MANNER THAT WOULD OBSTRUCT PERMANENT STRIPING LAYOUT OPERATIONS.

THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC SIGNS AND MARKINGS FOR ALL PROJECT-RELATED TEMPORARY TRAFFIC CONTROL PLANS. THE CONTRACTOR SHALL COORDINATE AND HIRE SPECIAL DUTY POLICE OFFICER(S) AS NEEDED TO PROVIDE TRAFFIC CONTROL WHILE WORKING WITHIN THE COUNTY RIGHT OF WAY.
3. THE CONTRACTOR SHALL INFORM THE TRAFFIC DIVISION AT LEAST SIX (6) WORKING DAYS PRIOR TO ANY WORK ON PAVEMENT MARKINGS OPERATIONS AND/OR SIGN INSTALLATIONS TO SCHEDULE A REVIEW AND APPROVAL OF THE STRIPING AND/OR SIGNING PLANS.
4. THE APPROVED STRIPING PLAN SHALL BE LAYED OUT USING THINNED-OUT PAINT OR OTHER APPROVED METHODS. FIELD ADJUSTMENTS SHALL BE MADE AS DIRECTED BY THE ENGINEER BEFORE THE FINAL MARKINGS ARE APPLIED.
5. ALL PAVEMENT MARKINGS THAT BECOME INAPPLICABLE SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE. REMOVAL SHALL BE BY ERADICATION OR BY OTHER METHODS APPROVED BY THE ENGINEER BEFORE THE NEW PAVEMENT MARKINGS ARE APPLIED. EXCESSIVE GOUGING OF THE PAVEMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. ALL PAVEMENT STRIPING SHALL BE WITH ALKYD BASED REFLECTIVE THERMOPLASTIC COMPOUND PAVEMENT MARKING AS SPECIFIED IN SECTION(S) 629 AND 755.05 OF THE HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2005 EDITION, AND AS AMENDED, ON ALL ROADWAYS. THE CONTRACTOR SHALL SUBMIT CERTIFICATE OF COMPLIANCE CERTIFYING THAT THE THERMOPLASTIC MATERIALS TO BE USED MEET THE CURRENT AASHTO M-247 AND AASHTO M-249 SPECIFICATIONS.

FOR CROSSWALKS AND STOP LINES, THE CONTRACTOR SHALL APPLY HIGH SKID-RESISTANT CORUNDUM AT A RATE EQUAL TO THE RATE OF APPLICATION OF THE GLASS BEADS.
7. ON CONCRETE PAVEMENTS, PRE-STRIPPE APPLICATION AREA WITH BINDER MATERIAL, PRIMER, OR PRIME SEAL COAT RECOMMENDED BY PAVEMENT MARKER MANUFACTURER.
8. HEAT APPLIED PRE-FORMED THERMOPLASTIC PAVEMENT MARKING TAPE WITH VISIBLE TEMPERATURE INDICATORS, OR AN EQUAL PAVEMENT MARKING TAPE THAT IS APPROVED BY THE TRAFFIC DIVISION SHALL BE USED FOR ALL BIKE LANE SYMBOLS AND LEGENDS, PER TRAFFIC STANDARD DETAIL TR-111, AND MAY BE USED FOR CROSSWALKS, STOP LINES, PAVEMENT ARROWS, ALPHABETS AND SYMBOLS IN LIEU OF THERMOPLASTIC COMPOUND.

HEAT APPLIED PRE-FORMED THERMOPLASTIC PAVEMENT MARKING TAPE FOR BIKE LANE SYMBOLS AND LEGEND PER TRAFFIC STANDARD DETAIL TR-111, CROSSWALKS AND STOP LINES SHALL BE MADE OF A DURABLE, HIGH SKID-RESISTANT MATERIAL.
9. REFLECTORIZED RAISED PAVEMENT MARKERS SHALL BE THE REGULAR SIZED MARKERS WITH APPROXIMATE DIMENSIONS OF 4" BY 4" BY 0.7". THE CONTRACTOR SHALL SUBMIT CERTIFICATE OF COMPLIANCE CERTIFYING THAT THE RAISED PAVEMENT MARKERS TO BE USED MEETS AND/OR EXCEEDS THE CURRENT STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
10. ALL TRAFFIC SIGNS AND POSTS SHALL MEET THE REQUIREMENTS OF THE COUNTY OF HAWAII STANDARD DETAIL T-1, EXCEPT THAT FLANGED CHANNEL POSTS AND OCTAGONAL POSTS WILL NOT BE ACCEPTABLE. SIGNS SHALL BE ON ALUMINUM SHEETING OF 0.080-INCH MINIMUM THICKNESS. SIGNPOSTS SHALL BE 2" SQUARE TELES PAR TUBING NO. 20 F 12 OR EQUIVALENT WITH 2½" SQUARE TELES PAR ANCHOR POST.

FOR ALL COUNTY DEDICATED STREETS, THE CONTRACTOR SHALL PLACE A TRAFFIC DIVISION MAINTENANCE STICKER ON THE BACK OF EACH SINGLE-SIDED SIGN. STICKERS ARE TO BE ACQUIRED AT THE TRAFFIC DIVISION.
11. ALL TRAFFIC SIGNS SHALL BE COMPLETELY REFLECTORIZED WITH TYPE XI HIGH INTENSITY RETROREFLECTIVE SHEETING.
12. THE 2¼" SQUARE ANCHOR POST FOR SIGNS SHALL BE DRIVEN INTO THE GROUND, A.C. PAVEMENT OR CONCRETE SIDEWALK IN ACCORDANCE WITH THE PLANS. ALL DAMAGES TO THE SURROUNDING AREA SHALL BE REPAIRED TO ITS ORIGINAL CONDITION OR BETTER. BEFORE DRIVING INTO CONCRETE, A NEAT HOLE OF APPROXIMATELY 3 INCH DIAMETER SHALL BE DRILLED THROUGH THE CONCRETE PRIOR TO THE INSTALLATION OF THE ANCHOR POST. IF DRIVING INTO THE CONCRETE OR A.C. PAVEMENT IS NOT POSSIBLE WITHOUT DAMAGE TO THE SURROUNDING CONCRETE OR A.C. PAVEMENT, A 12" BY 12" SQUARE SHALL BE SAW-CUT AND REMOVED PRIOR TO THE INSTALLATION OF THE ANCHOR POST AND THEN PATCHED, WITH HOT MIX TO MATCH THE EXISTING A.C. PAVEMENT, OR CONCRETE TO MATCH THE EXISTING CONCRETE SIDEWALK.
13. UPON COMPLETION OF ALL CONSTRUCTION WORK, INCLUDING, BUT NOT LIMITED TO THE FINAL PAVING OF THE ENTIRE PROJECT AREA AND OFF-SITE CONSTRUCTION, THE CONTRACTOR SHALL RESTRIPE ALL PAVEMENT MARKINGS WITHIN AND IN THE VICINITY OF THE CONSTRUCTION AREA AS APPROVED BY THE TRAFFIC DIVISION AND IN ACCORDANCE WITH ITEM 6 OF THE CURRENT STANDARD TRAFFIC NOTES. THE CONTRACTOR SHALL MAINTAIN ALL TEMPORARY PAVEMENT MARKINGS, PERMANENT PAVEMENT MARKINGS AND ALL TRAFFIC SIGNS AND POSTS UNTIL THE PROJECT IS ACCEPTED BY THE COUNTY OF HAWAII.

ALL TRAFFIC SIGNS AND POSTS WITHIN AND IN THE VICINITY OF THE CONSTRUCTION AREA THAT HAVE BEEN DAMAGED, REMOVED OR ADVERSELY AFFECTED BY THE CONSTRUCTION WORK SHALL BE REPLACED BY THE CONTRACTOR ACCORDING TO ITEM(S) 10, 11, AND 12 OF THE CURRENT STANDARD TRAFFIC NOTES AT NO COST TO THE COUNTY.

14. ALL DEDICATED STREETS MUST HAVE STREET NAMES WHICH HAVE BEEN APPROVED BY RESOLUTION BEFORE ACCEPTANCE OF THE STREET BY THE COUNTY OF HAWAII.

UNLESS OTHERWISE APPROVED BY THE TRAFFIC DIVISION, ALL STREET NAME SIGNS SHALL HAVE AN UPPERCASE FIRST LETTER/ LOWER CASE FORMAT AND THE PROPER HAWAIIAN SPELLING FOR THE STREET NAMES AS APPROVED BY THE COUNTY OF HAWAII PLANNING DEPARTMENT.

PRIOR TO STREET NAME SIGN FABRICATION, STREET NAME SIGN SUBMITTALS SHALL BE REVIEWED AND APPROVED BY THE TRAFFIC DIVISION.
15. INSTALL "PRIVATE ROAD" SIGN(S) ON ALL PRIVATE ROAD(S). SIGN SHALL BE ON 18" WIDE BY 12" HIGH ALUMINUM PLATE WITH 4" BLACK LETTERING ON WHITE REFLECTORIZED SHEETING WITH BORDER.
16. ALL SIGNS & MARKINGS FOR PRIVATE ROADWAYS SHALL BE MAINTAINED BY THE PRIVATE OWNERS.

CONSTRUCTION NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF HAWAII DEPARTMENT OF PUBLIC WORKS "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER, 1984, AND "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," DATED SEPTEMBER, 1986.
2. THE ENGINEER RESERVES THE RIGHT TO MAKE CHANGES TO THE DRAINAGE SYSTEM AS SUCH CHANGES ARE FOUND TO BE NECESSARY AS THE LAND IS CLEARED AND EROSION CONTROL CONSTRUCTION PROGRESSES.
3. ALL CONSTRUCTION LINES, GRADES AND SURVEY MONUMENT STAKEOUTS SHALL BE MADE BY LICENSED SURVEYORS.
4. THE CONTRACTOR SHALL CONDUCT ALL TESTS AS REQUESTED BY THE ENGINEER AND BE RESPONSIBLE FOR ALL EXPENSES INCURRED IN CONDUCTING THESE TESTS.
5. 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 COMPANY.
6. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," AND TO THE SATISFACTION OF THE ENGINEER.
7. PURSUANT TO HRS CHAPTER 6E - IN THE EVENT ANY APPARENT SITE OF ARCHAEOLOGICAL OR HISTORICAL SIGNIFICANCE SUCH AS, BUT NOT LIMITED TO, ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL IMMEDIATELY SUSPEND WORK AND NOTIFY THE COUNTY OF HAWAII POLICE DEPARTMENT AND THE STATE DEPARTMENT OF LAND AND NATURAL RESOURCES-HISTORIC PRESERVATION DIVISION. IN ADDITION, FOR PRIVATE PROJECTS, THE CONTRACTOR SHALL INFORM THE COUNTY OF HAWAII, DEPARTMENT OF PUBLIC WORKS-ENGINEERING BRANCH. FOR COUNTY OF HAWAII OR STATE OF HAWAII PROJECTS, CONTRACTOR SHALL NOTIFY THE RESPONSIBLE AGENCY.
8. CONTRACTOR SHALL PROVIDE ADEQUATE SAFETY MEASURES TO ENSURE THE SAFETY OF THE GENERAL PUBLIC FROM HIS CONSTRUCTION ACTIVITIES. ALL MEASURES SHALL REMAIN IN PLACE UNTIL ALL WORK IS COMPLETED. MEASURES MAY INCLUDE, BUT NOT BE LIMITED TO BARRICADES, SIGNS, FENCING, ETC.
9. CONTRACTOR SHALL USE A SURVEYOR LICENSED IN THE STATE OF HAWAII TO LAYOUT AND SET GRADES FOR NEW CONSTRUCTION.

A. AFTER COMPLETION OF FORMWORK AND PRIOR TO POURING CONCRETE, THE CONTRACTOR SHALL USE A 4' LONG DIGITAL LEVEL TO VERIFY SLOPES AT ALONG THE ACCESSIBLE ROUTE INCLUDING RAMPS AND WALKWAYS.

B. CROSS SLOPES OF WALKWAYS AND RAMPS SHALL NOT EXCEED 2.00% (1:50 VERTICAL TO HORIZONTAL).

C. LONGITUDINAL SLOPE OF RAMPS ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED 8.33% (1:12 VERTICAL TO HORIZONTAL).

D. ANY PORTION OF THE ACCESSIBLE ROUTE MEASURED WITH THE DIGITAL LEVEL TO HAVE A LONGITUDINAL SLOPE OF 5.00% (1:20 VERTICAL TO HORIZONTAL) OR GREATER WHICH IS NOT SPECIFIED IN THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER. ANY REMEDIAL ACTION NECESSARY SHALL BE BORN BY THE CONTRACTOR.

E. GUTTER AND/OR PAVEMENT SLOPE WITHIN 4' OF THE BOTTOM OF CURB RAMPS SHALL NOT EXCEED 5.00% (1:20 VERTICAL TO HORIZONTAL).

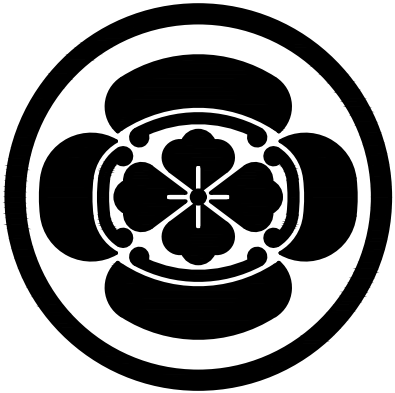
F. ANY SLOPES IN EXCESS OF THESE GUIDELINES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND THE CONTRACTOR SHALL FOLLOW HIS DIRECTION.
9. DRAINLINES:

G. ALL DRAINLINES 36" DIA. OR SMALLER SHALL BE HIGH DENSITY POLYETHYLENE CORRUGATED PIPE (HDPE), TYPE S, AASHTO M294.

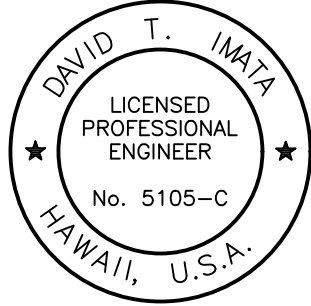
H. ALL DRAINLINES LARGER THAN 36" DIA. SHALL BE REINFORCED CONCRETE PIPE (RCP), CL III.

I. SEE COUNTY OF HAWAII DPW STD. DTL. D-4, DATED MAY, 2013 FOR DRAINLINE TRENCH BACKFILLING.
10. CONTRACTOR SHALL ENLIST THE SERVICES OF A STRUCTURAL ENGINEER LICENSED IN THE STATE OF HAWAII TO REVIEW AND APPROVE ALL CONNECTIONS TO AN EXISTING OR NEW DRAINAGE, SEWER OR WATER STRUCTURE. STRUCTURAL ENGINEER SHALL ALSO REVIEW AND APPROVE ALL MODIFICATIONS TO DPW STANDARD STRUCTURES CALLED FOR ON PLANS. ALL COSTS SHALL BE BORNE BY THE CONTRACTOR.
11. CONTRACTOR SHALL PROVIDE AN ALTERNATE CIRCULATION PATH WHENEVER THE EXISTING PEDESTRIAN ACCESS ROUTE IS BLOCKED BY CONSTRUCTION, ALTERATION, MAINTENANCE, OR OTHER TEMPORARY CONDITIONS, PER ADAAG SECTIONS 201.3 AND 206.3.

WHERE POSSIBLE, THE ALTERNATE CIRCULATION PATH SHALL PARALLEL THE DISRUPTED PEDESTRIAN ACCESS ROUTE, ON THE SAME SIDE OF THE STREET.
12. ALL VEGETATION, INCLUDING TREES, SHALL BE REMOVED FROM WITHIN THE ENTIRE GRADED ROADWAY RIGHT-OF-WAY.
13. AT ALL NEW TO EXISTING CONCRETE SIDEWALK CONNECTIONS, TRANSVERSE OR LONGITUDINAL JOINTS WITH DOWELS SHALL BE USED PER STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, STANDARD PLAN D-15, DATED 5/31/07.



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REVISION • DATE • DESCRIPTION

PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

MISCELLANEOUS NOTES

JOB NO. 16-25 DRAWING NUMBER

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DATE JAN 2018 SHEET . OF .

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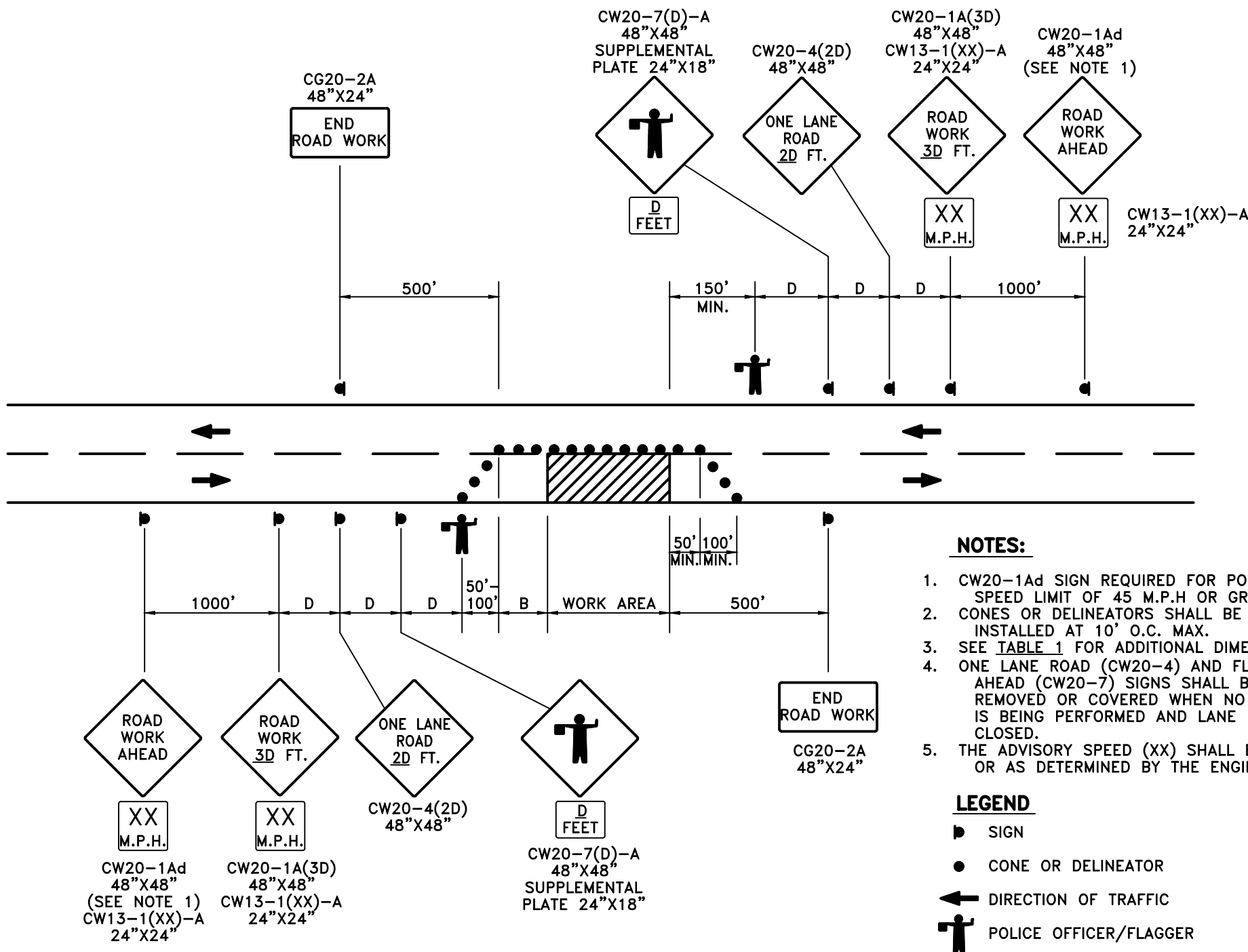
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GENERAL NOTES FOR TRAFFIC CONTROL PLAN

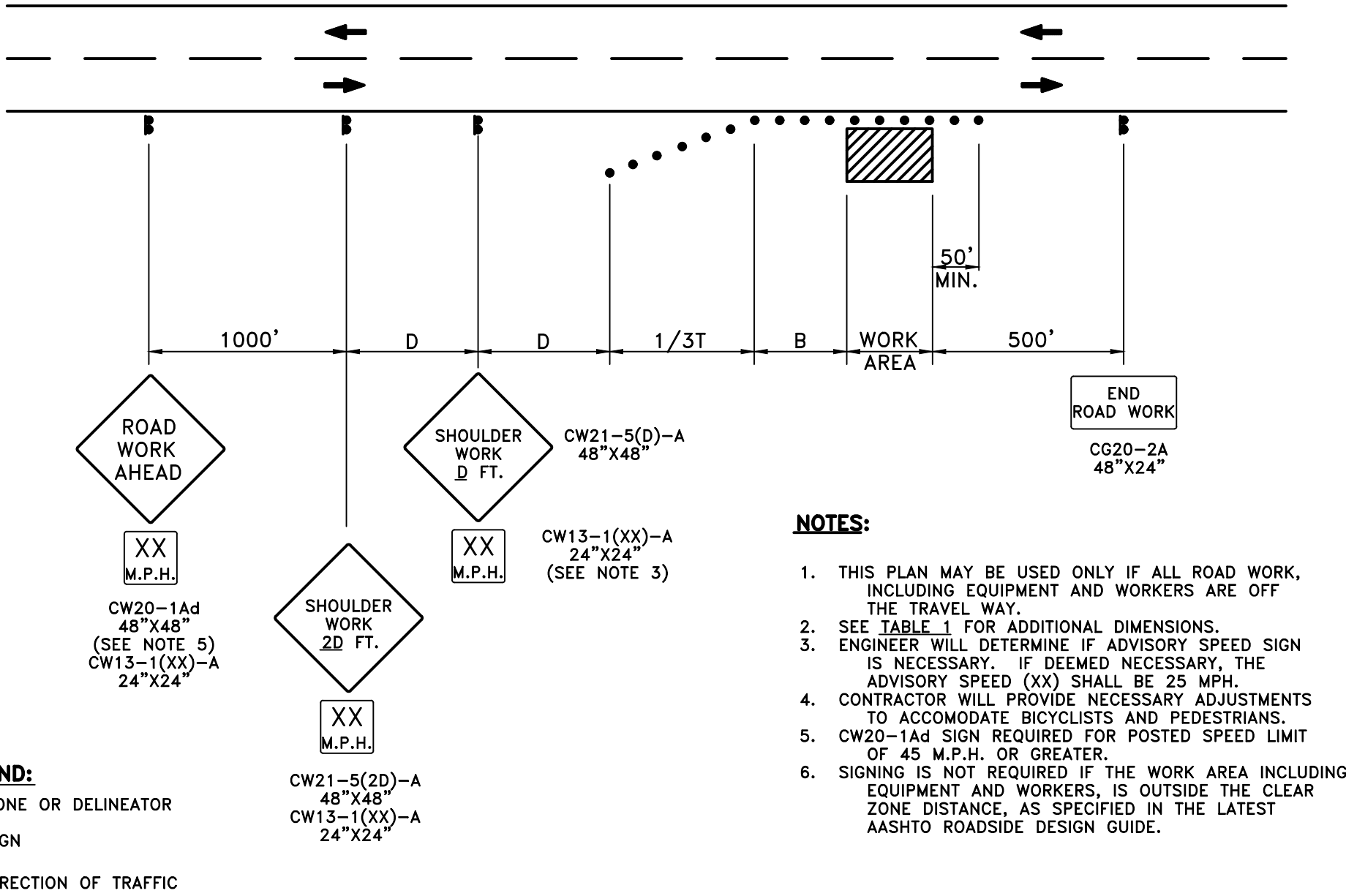
1. THE PERMITEE SHALL MAKE MINOR ADJUSTMENTS AT INTERSECTIONS, DRIVEWAYS, BRIDGES STRUCTURES, ETC., TO FIT FIELD CONDITIONS.
2. CONES OR DELINEATORS SHALL BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTEST FROM THE WORK AREA SHALL BE PLACED FIRST. THE OTHERS SHALL THEN BE PLACED PROGRESSIVELY TOWARD THE WORK AREA.
4. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL BE REMOVED OR COVERED. ALL SIGNS SHALL BE RESTORED UPON COMPLETION OF THE WORK.
5. FLAGGERS AND/OR POLICE OFFICERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
6. WHEN REQUIRED BY THE ISSUING OFFICE, THE PERMITEE SHALL INSTALL A FLASHING ARROW SIGNAL AS SHOWN ON THE TRAFFIC CONTROL PLANS.
7. SIGN SPACING (D), TAPER LENGTHS (T) AND SPACING OF CONES OR DELINEATORS SHALL BE AS SHOWN IN TABLE 1, UNLESS OTHERWISE NOTED ON THE TRAFFIC CONTROL PLANS.
8. ALL TRAFFIC LANES SHALL BE A MINIMUM OF 10 FEET WIDE.
9. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
10. THE BACKS OF ALL SIGNS 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).
11. AT THE END OF EACH DAY'S WORK OR AS SOON AS THE 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 TO IN THE REVERSE ORDER OF INSTALLATION.
12. PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL BE REPLACED UPON THE COMPLETION OF EACH PHASE OF WORK.

TABLE 1 FOR TRAFFIC CONTROL PLAN							
POSTED SPEED LIMIT (M.P.H.)	SIGN SPACING (D) (FEET)	TAPER LENGTH (T) (FEET)		LONGITUDINAL BUFFER SPACE (B) (FEET)	SPACING OF CONES OR DELINEATORS (FEET)		
		W=12' OR LESS ①	W=GREATER THAN 12' ①		TAPER	TANGENT	WORK AREA
20	250	200	W x 17	35	20	20	10
25	250	200	W x 17	55	25	25	10
30	250	250	W x 20	85	30	30	10
35	250	250	W x 20	120	35	35	10
40	500	350	W x 30	170	40	40	10
45	500	550	W x 45	220	45	45	10
50	1000	600	W x 50	280	50	50	10
55	1000	700	W x 55	335	55	55	10

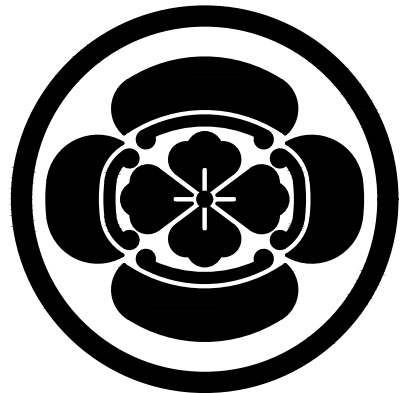
NOTES: ① W = WIDTH OF LANE, SHOULDER, OR OFFSET



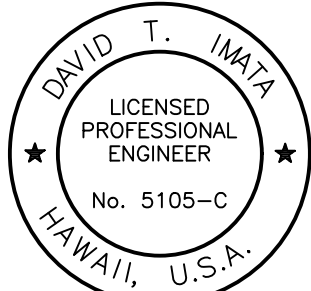
TWO-LANE HIGHWAY – ONE LANE CLOSED
FIGURE 1 – TRAFFIC CONTROL PLAN



WORKING ON SHOULDER OR ROADSIDE
FIGURE 7 – TRAFFIC CONTROL PLAN



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SHEET TITLE

MISCELLANEOUS NOTES
& DETAILS

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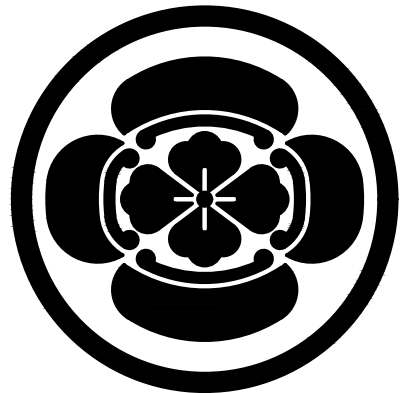
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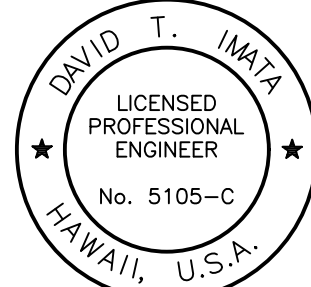
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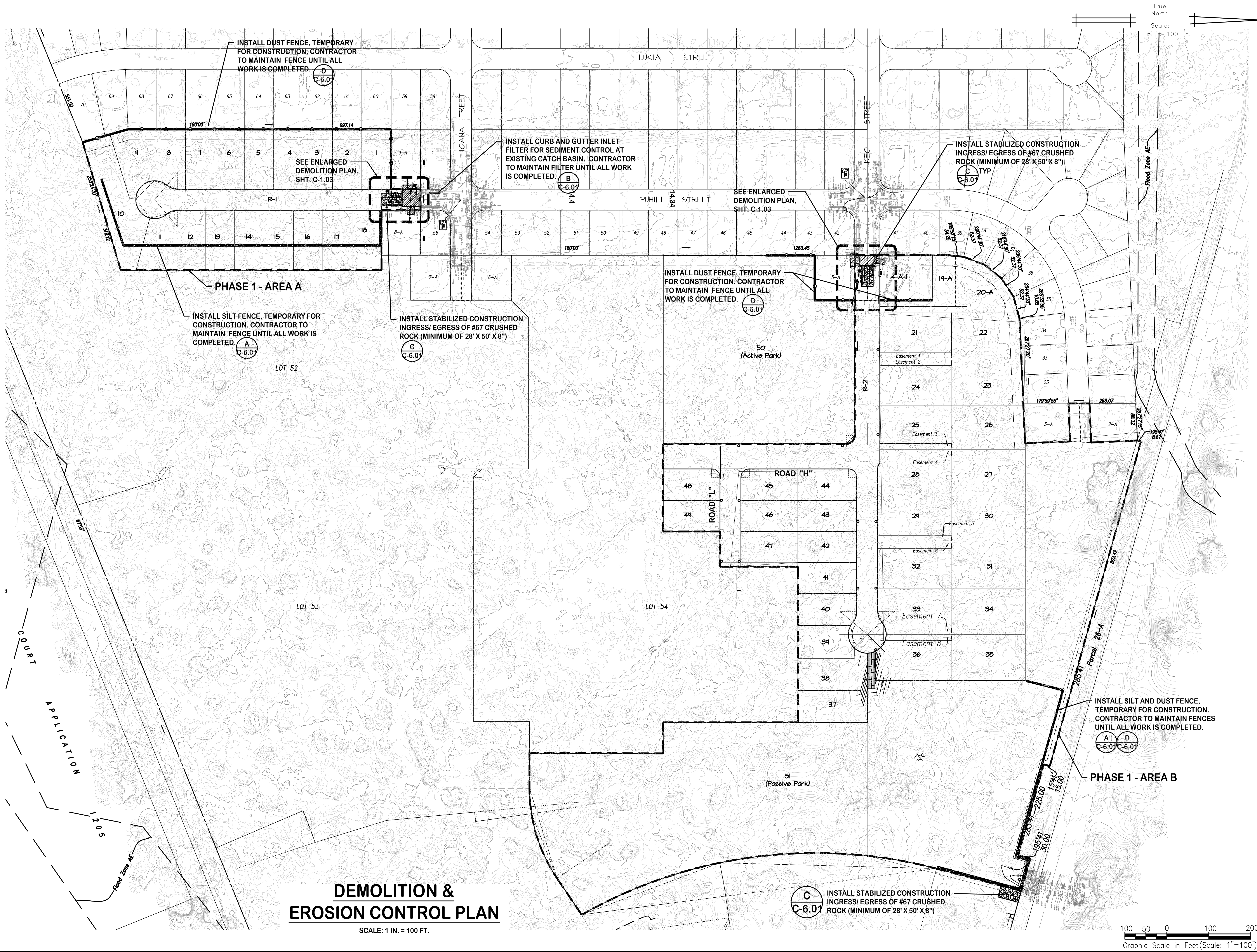
DEMOLITION & EROSION CONTROL PLAN

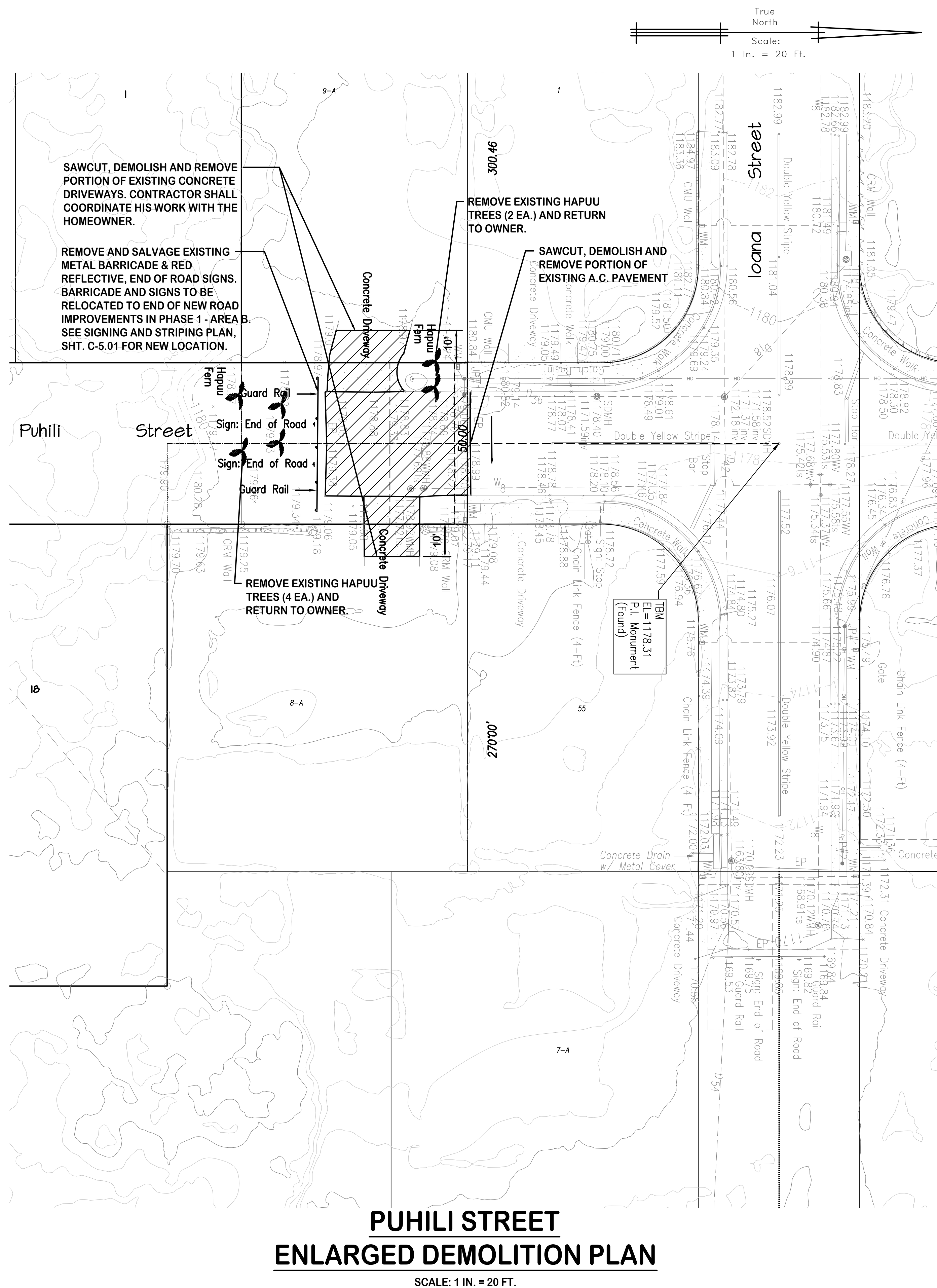
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CHECKED DTI

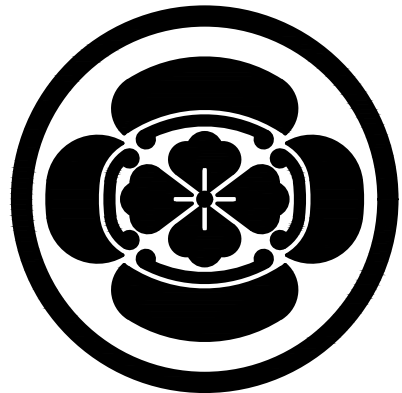
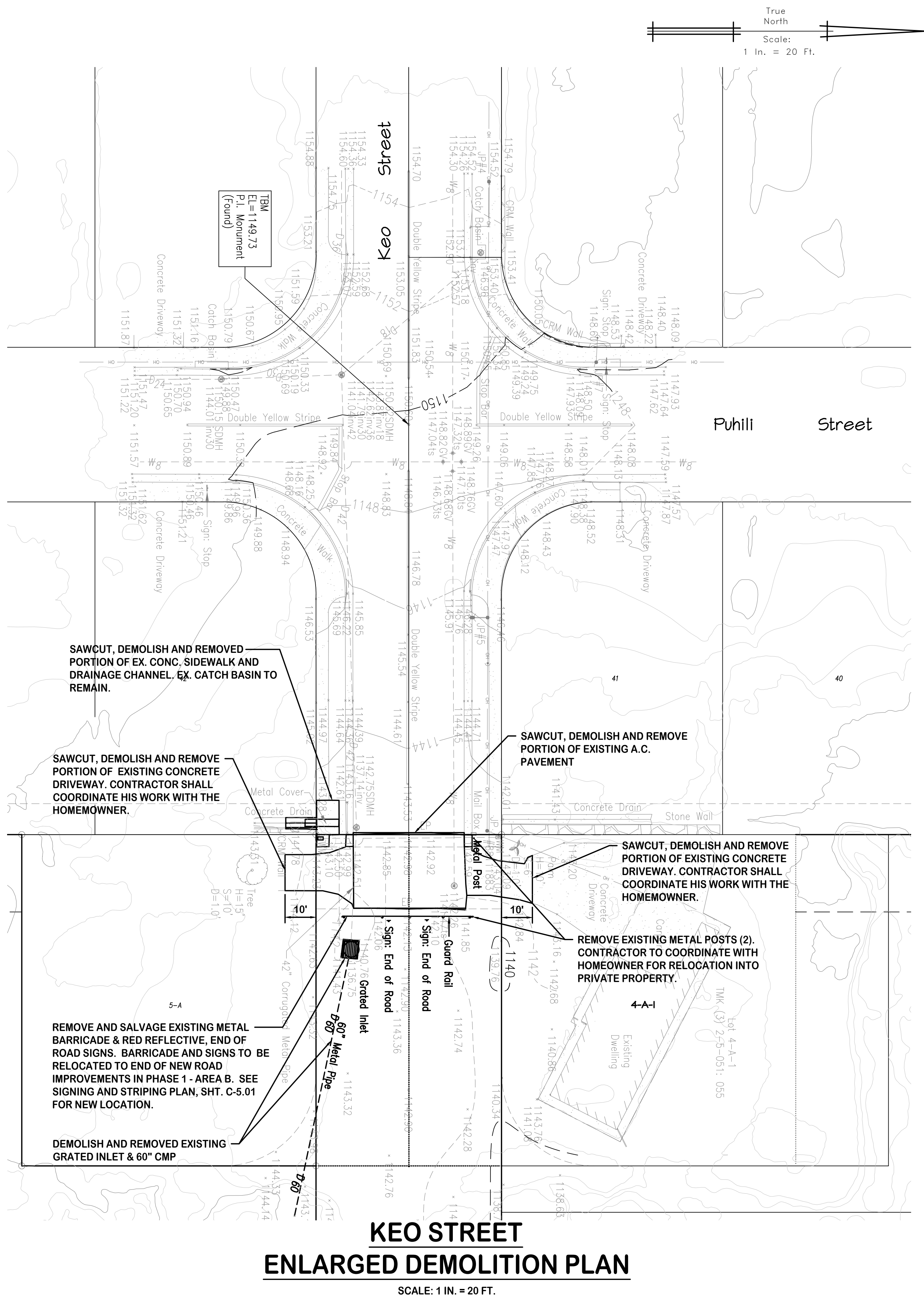
DATE JAN. 2018 SHEET 8 OF .



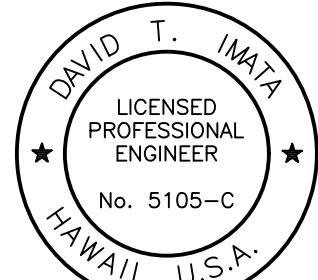


NOTES:

1. EXISTING IMPROVEMENTS TO REMAIN UNLESS NOTED OTHERWISE.
2. PROVIDE ACCESS TO HOMEOWNERS DURING ALL PHASES OF CONSTRUCTION.



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REVISION	•	DATE	•	DESCRIPTION
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PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

ENLARGED DEMOLITION PLAN

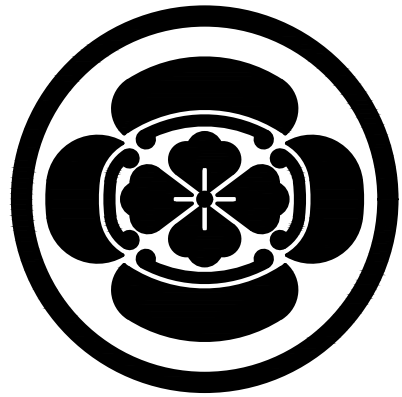
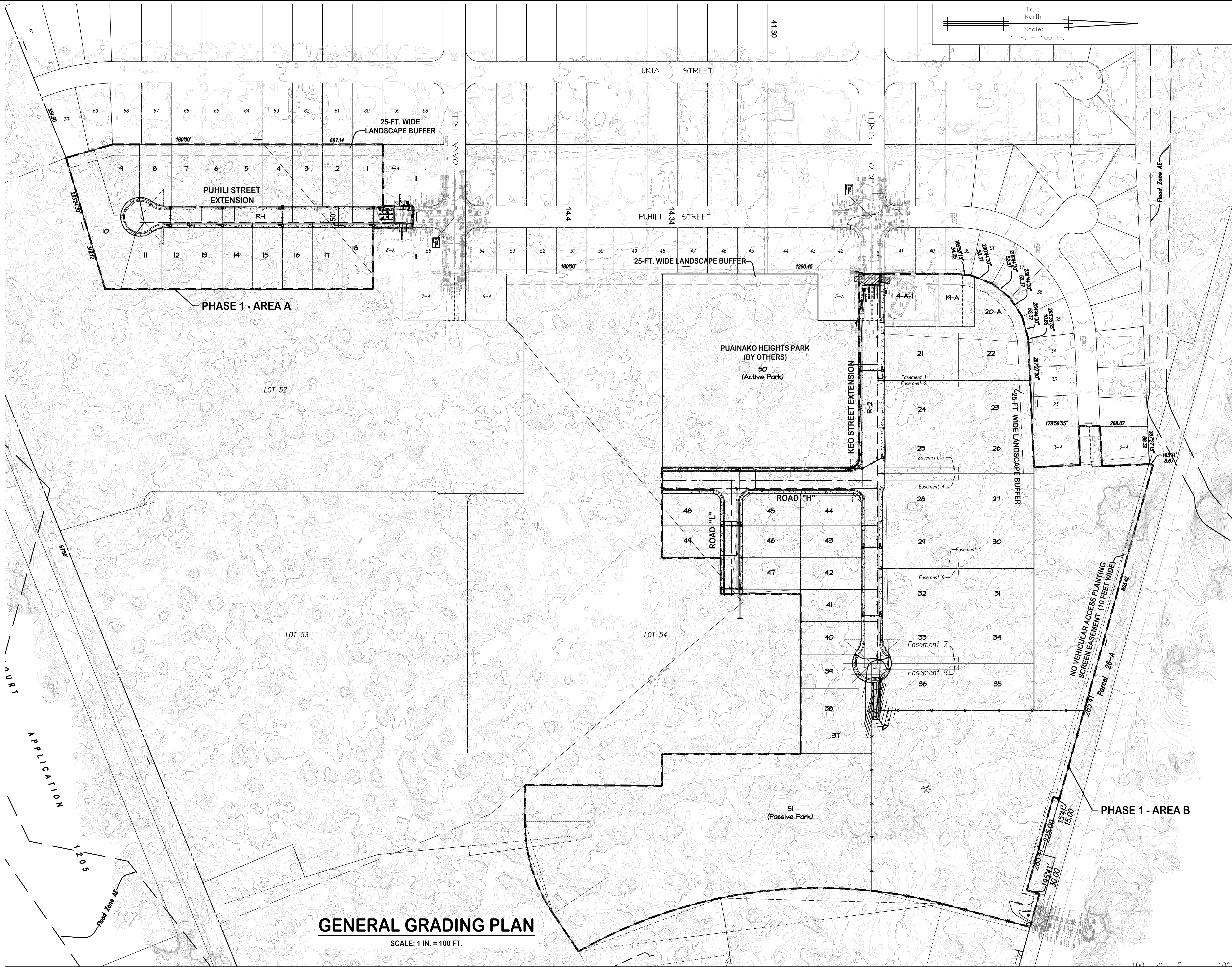
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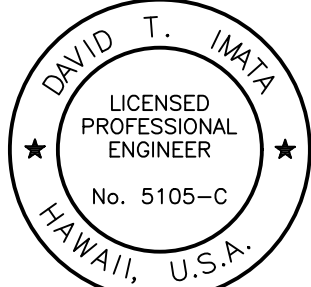
CHECKED DTI

DATE JAN. 2018 SHEET 8 OF .

Y:\DRAWING FILES\CURRENT PROJECTS\PUAINAKO HEIGHTS PH 1\01 CURRENT\2-C-1.01 PLANS\PP-W\DRONETOP03.dwg, C-2.01 GEN GRADING PLAN, 9/4/2018 11:31:04 AM



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PUAINAKO HEIGHTS SUBDIVISION PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

GENERAL GRADING PLAN

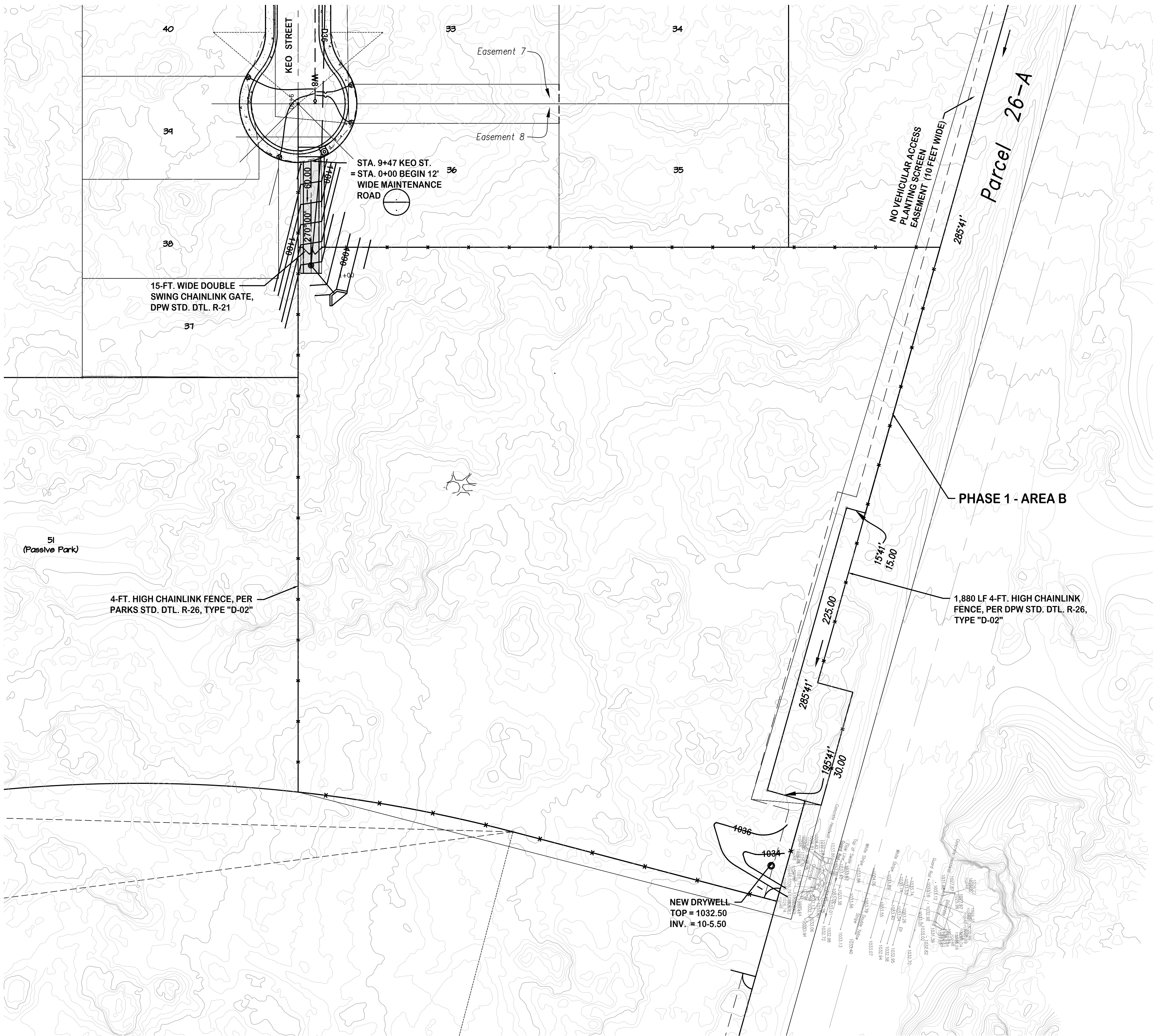
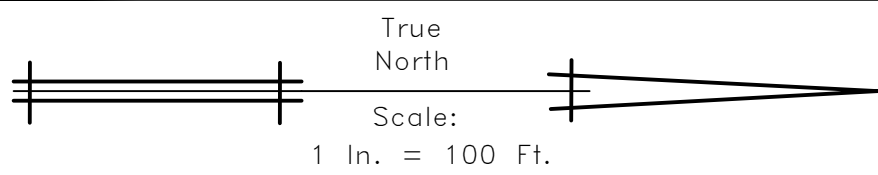
JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM

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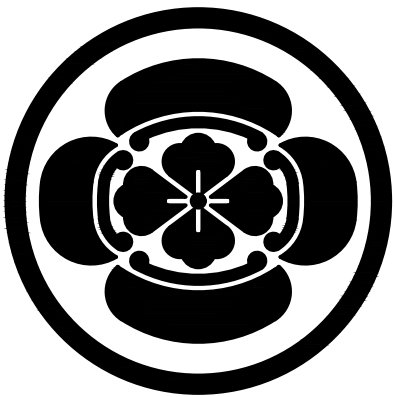
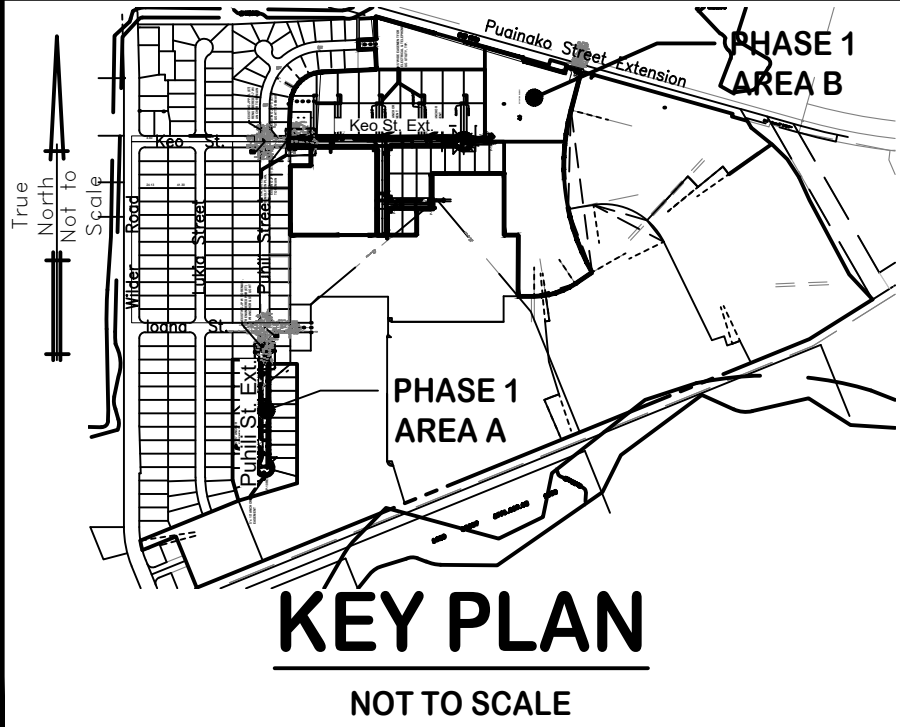
DATE JAN. 2018 SHEET . OF .

100 50 0 100 200
Graphic Scale in Feet (Scale: 1"=100')

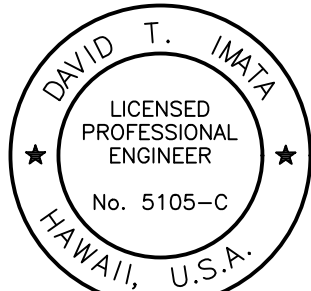


PASSIVE PARK PLAN

SCALE: 1 IN. = 40 FT.



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PUAINAKO HEIGHTS SUBDIVISION PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

PASSIVE PARK PLAN

JOB NO. 16-25 DRAWING NUMBER

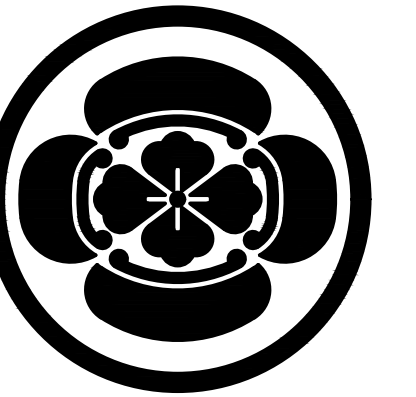
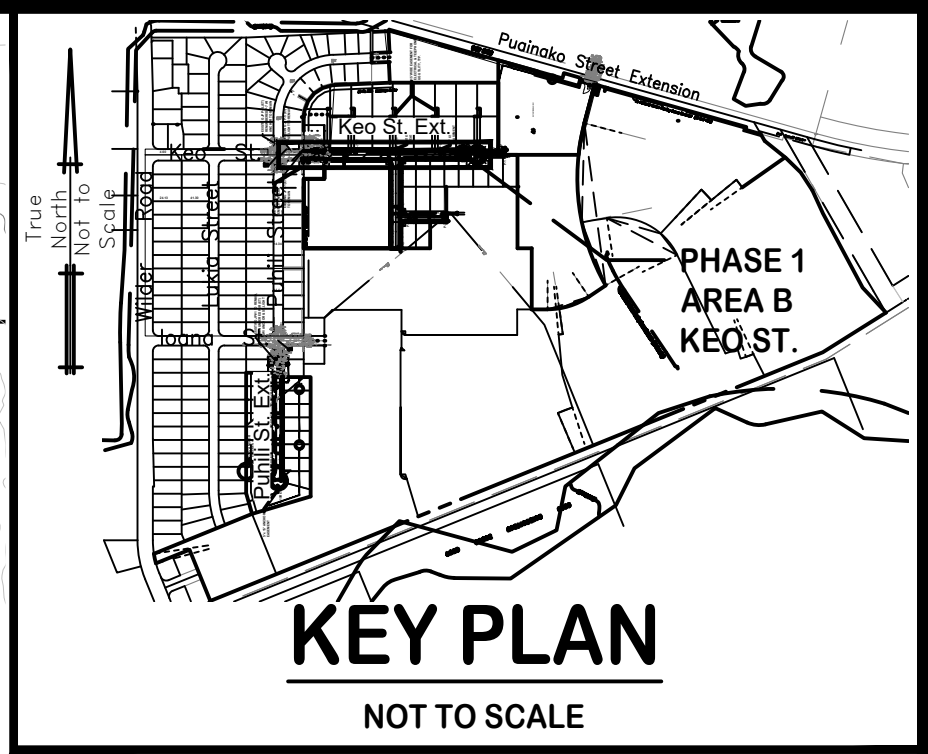
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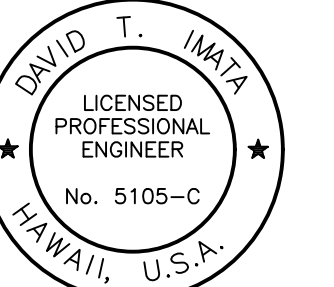
DATE SEPT 2017 SHEET . OF .

C-2.02





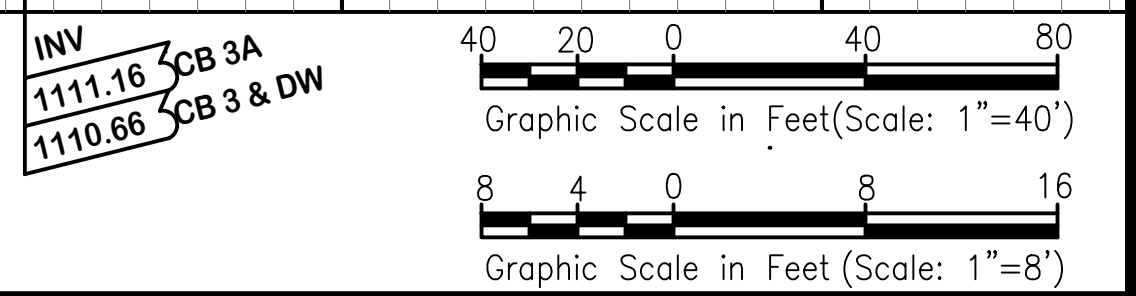
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SCALE: 1 IN. = 40 FT.



PROFILE - KEO STREET EXTENSION

SCALE: HORIZ. 1 IN. = 40 FT.
VERT. 1 IN. = 8 FT.

REVISION	•	DATE	•	DESCRIPTION
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PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

MK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
 2-5-050: 069-081, 2-5-051: 056-073

PLAN & PROFILE

KEO STREET EXTENSION

(ROADWAY LOT R-2)
AREA B

JOB NO. 16-25 DRAWING NUMBER

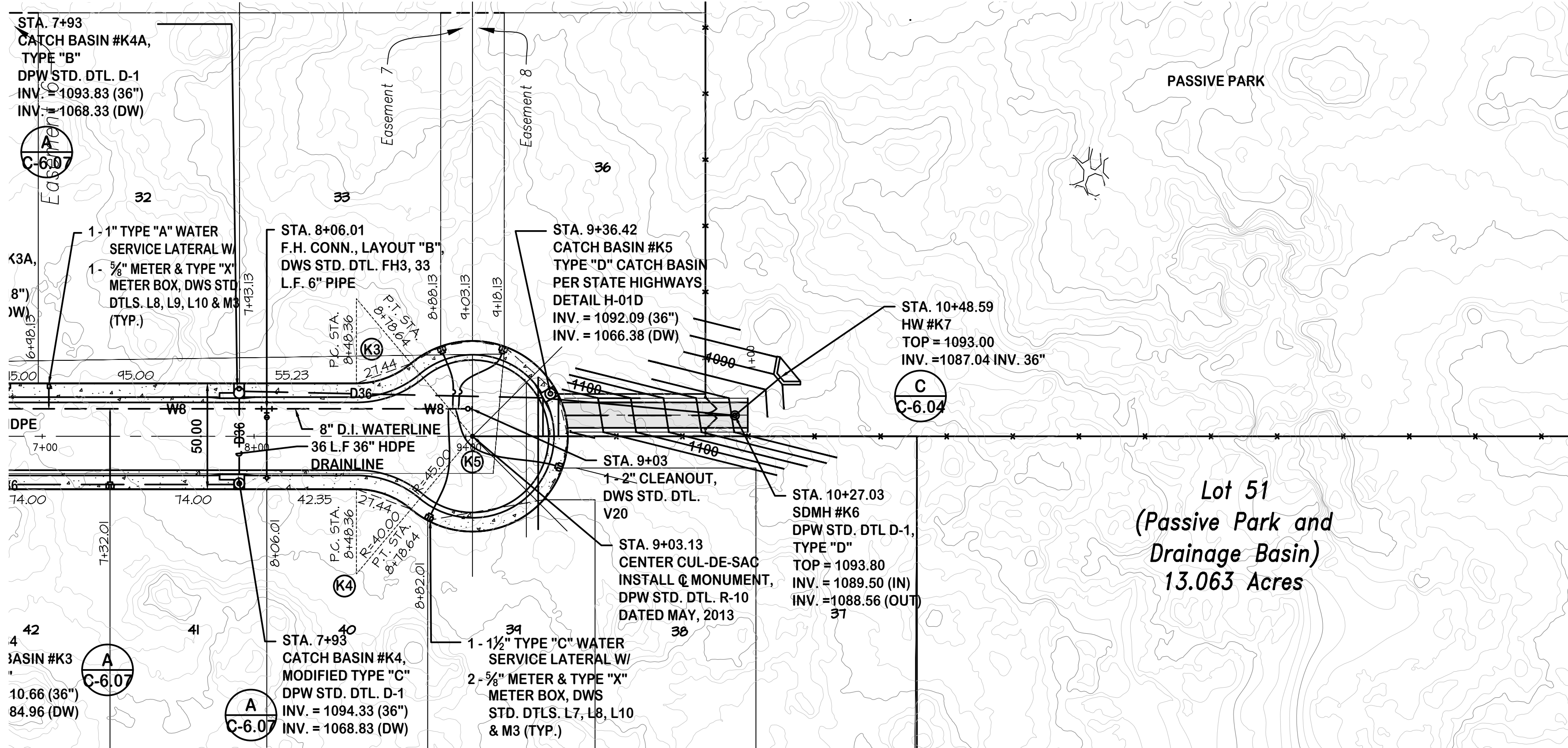
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CHECKED DTI

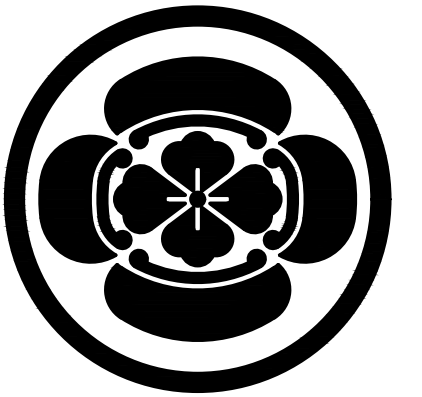
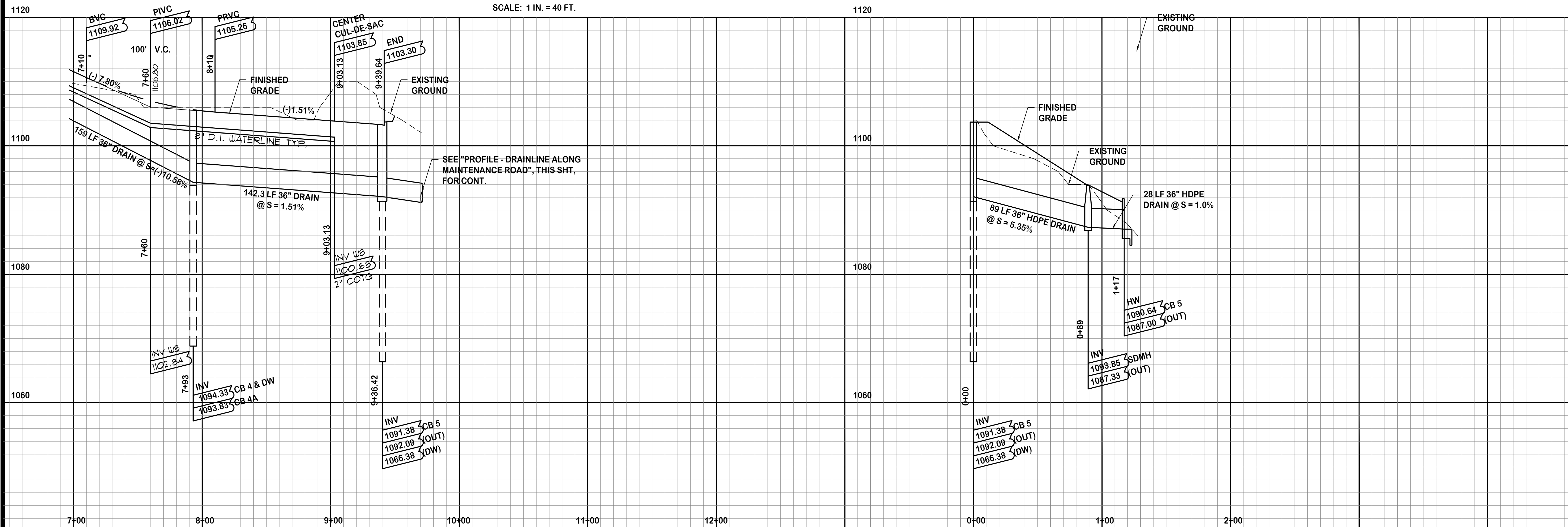
DATE JAN. 2018 SHEET 10 OF .

-3.02

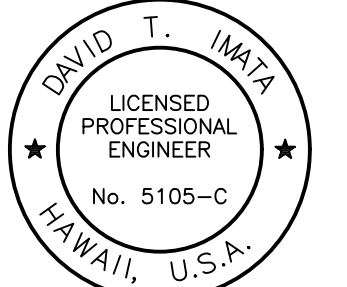
-3.02



PLAN - KEO STREET EXTENSION
(PHASE 1 AREA B)

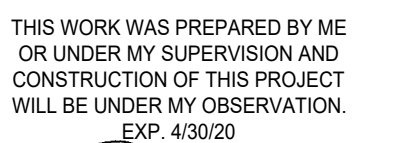
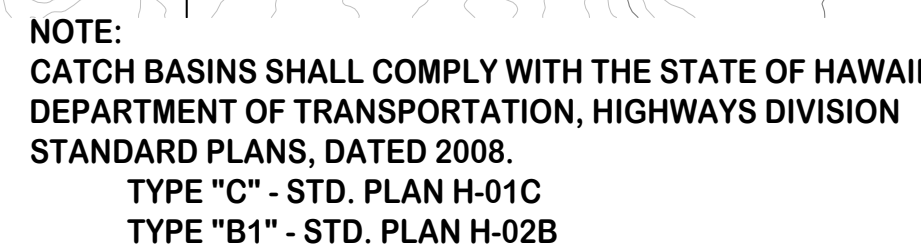


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PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

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ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

PLAN & PROFILE ROAD "H"

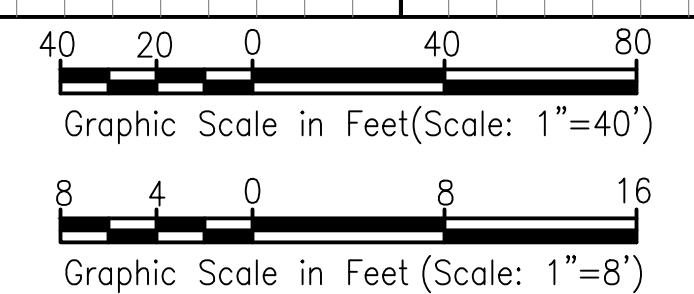
(ROADWAY LOT R-2)
AREA B

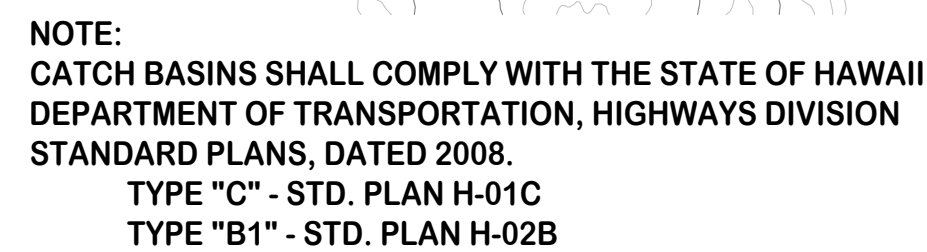
JOB NO. 16-25 DRAWING NUMBER

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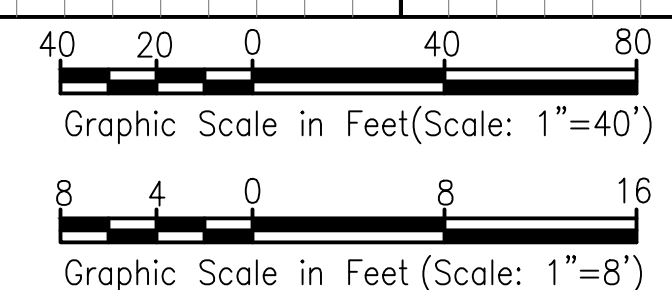
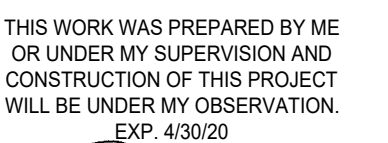
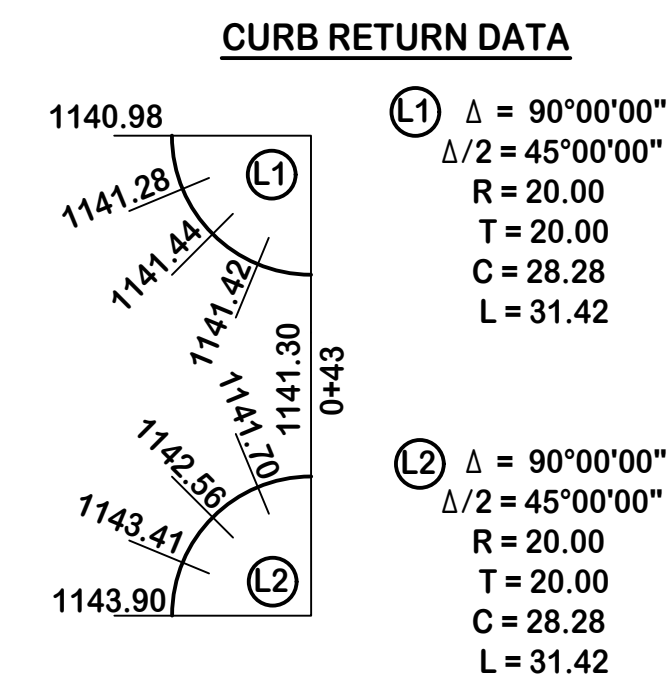
CHECKED DTI

DATE JAN. 2018 SHEET . OF .





SCALE: 1 IN. = 40 FT.



REVISION	•	DATE	•	DESCRIPTION
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PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

PLAN & PROFILE ROAD "L"

(ROADWAY LOT R-2)
AREA B

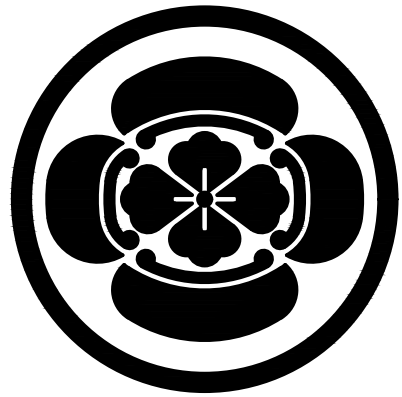
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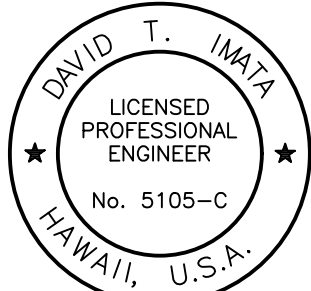
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DATE JAN. 2018 SHEET 10 OF .

C-3.05



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PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

CROSS SECTIONS
PUHILI ST. EXTENSION

JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM/ EM

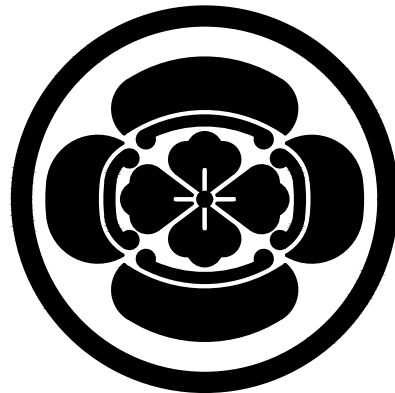
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DATE JAN 2018 SHEET . OF .

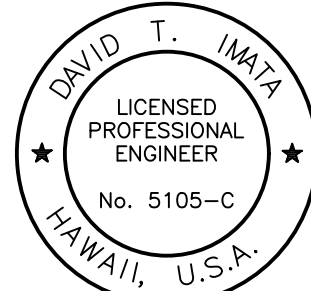
C-4.01

PUHILI ST. EXTENTION

X:\1-Barbara-2016\DRAWING FILES\CURRENT PROJECTS\PUAINAKO HEIGHTS PH 1\001 CURRENT\3 C-4.01 ROAD SECS.dwg, C-4.01 PUHILI.XSEC, 9/4/2018 10:48:08 AM



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**PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1**

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

**CROSS SECTIONS
PUHILI ST. & KEO ST. EXTENTIONS**

JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM/ EM

CHECKED DTI

DATE JAN 2018 SHEET . OF .

C-4.02

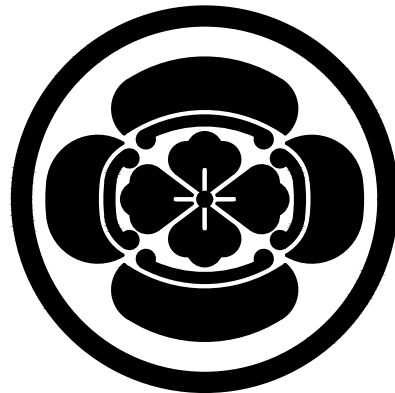
KEO ST. EXTENTION

PUHILI STREET EXTENTION

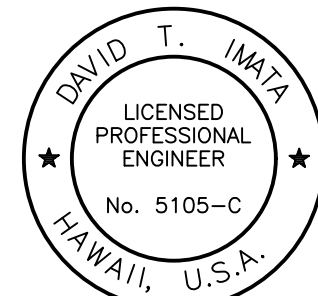
**TOTAL EXCAVATION = 6,509 CU. YDS.
TOTAL EMBANKMENT = 27 CU. YDS.**

PUHILI ST. EXTENTION (CONT'D)

KEO ST. EXTENTION



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**PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1**

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

**CROSS SECTIONS
KEO ST. EXTENSION**

JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM/EM

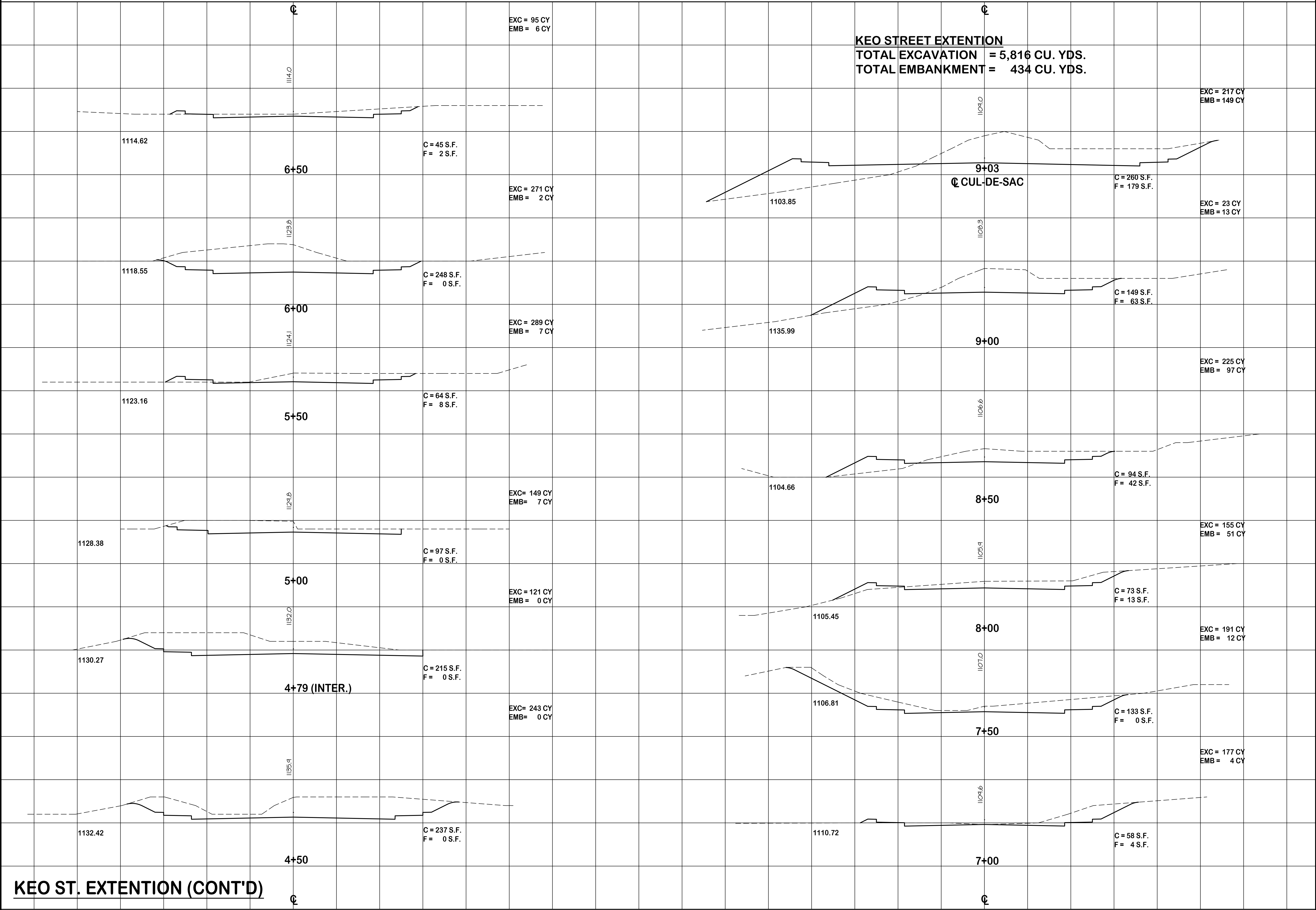
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DATE JAN 2018 SHEET . OF .

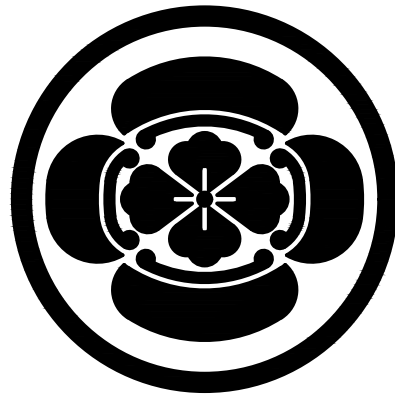
C-4.03

KEO STREET EXTENTION

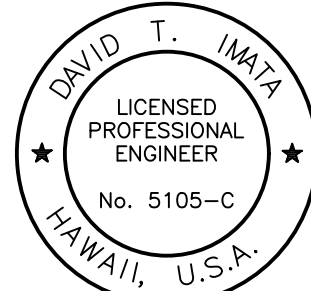
**TOTAL EXCAVATION = 5,816 CU. YDS.
TOTAL EMBANKMENT = 434 CU. YDS.**



KEO ST. EXTENTION (CONT'D)



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PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

CROSS SECTIONS
ROAD "H"

JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM/EM

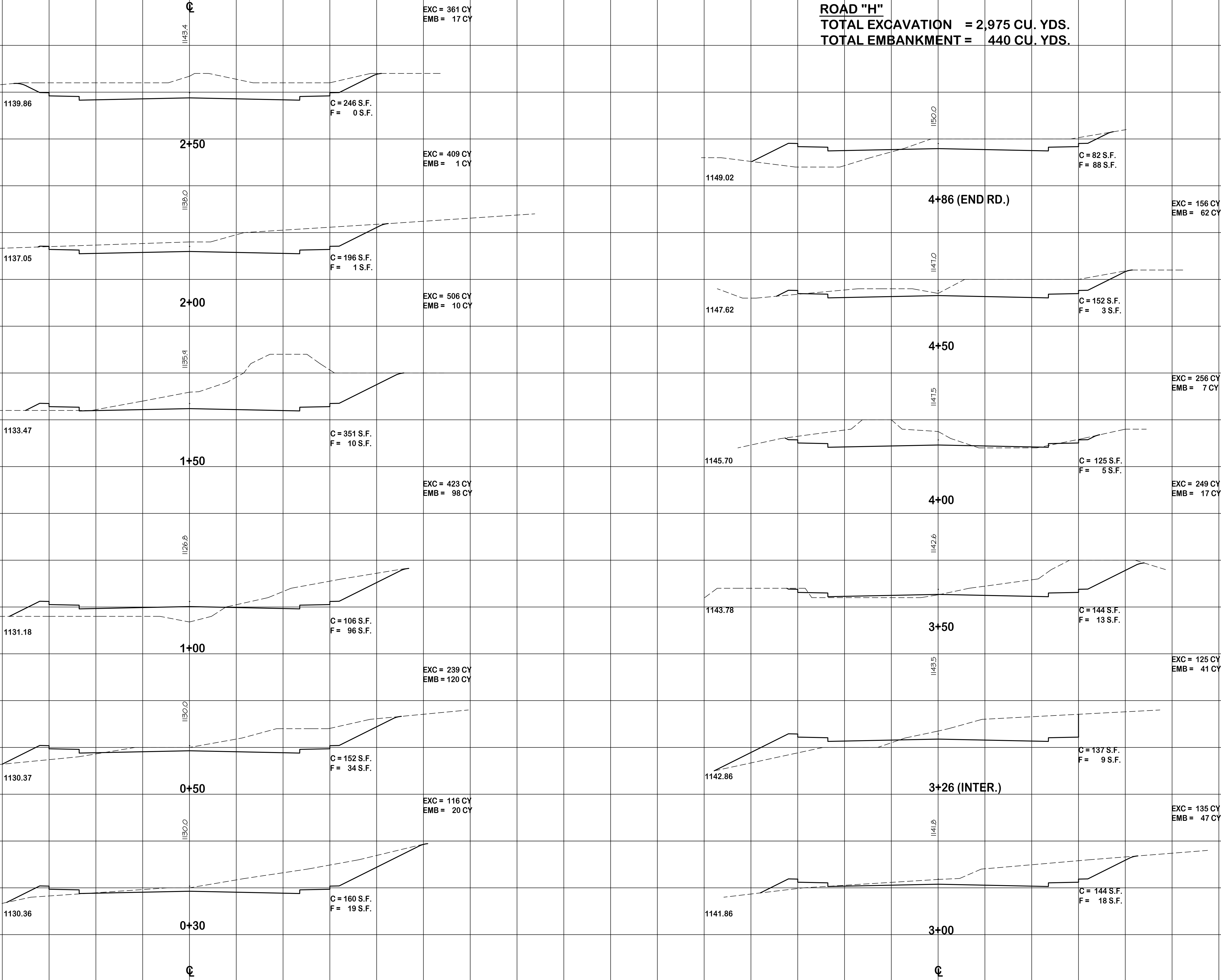
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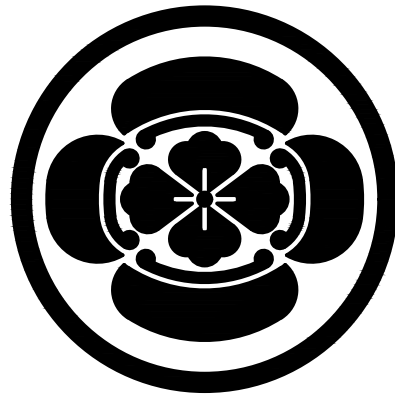
DATE JAN 2018 SHEET . OF .

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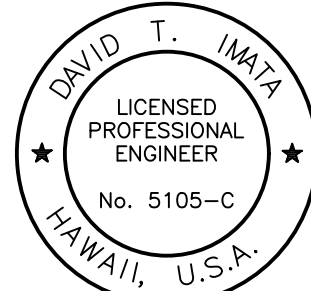
ROAD "H"
TOTAL EXCAVATION = 2,975 CU. YDS.
TOTAL EMBANKMENT = 440 CU. YDS.

ROAD "H"





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TOTAL ROADWAY QUANTITIES
TOTAL EXCAVATION = 15,876 CU. YDS.
TOTAL EMBANKMENT = 1,625 CU. YDS.

ROAD "L"
TOTAL EXCAVATION = 576 CU. YDS.
TOTAL EMBANKMENT = 724 CU. YDS.

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**PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1**

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

**CROSS SECTIONS
ROAD "L"**

JOB NO. 16-25 DRAWING NUMBER

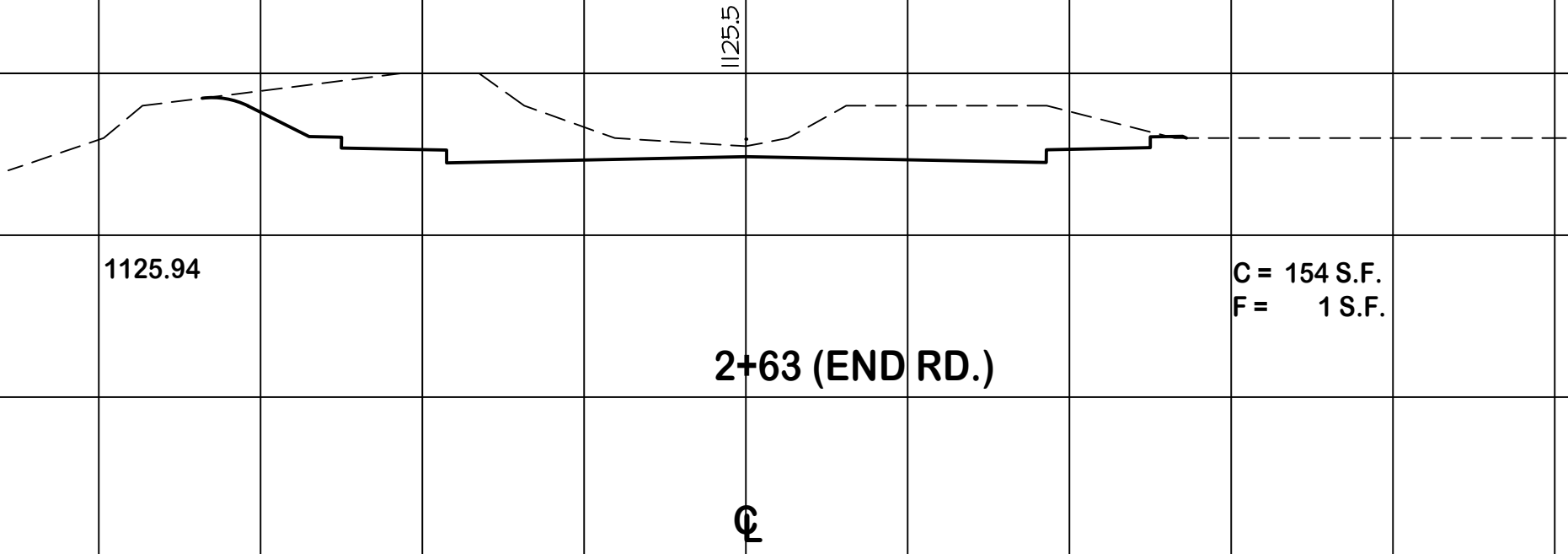
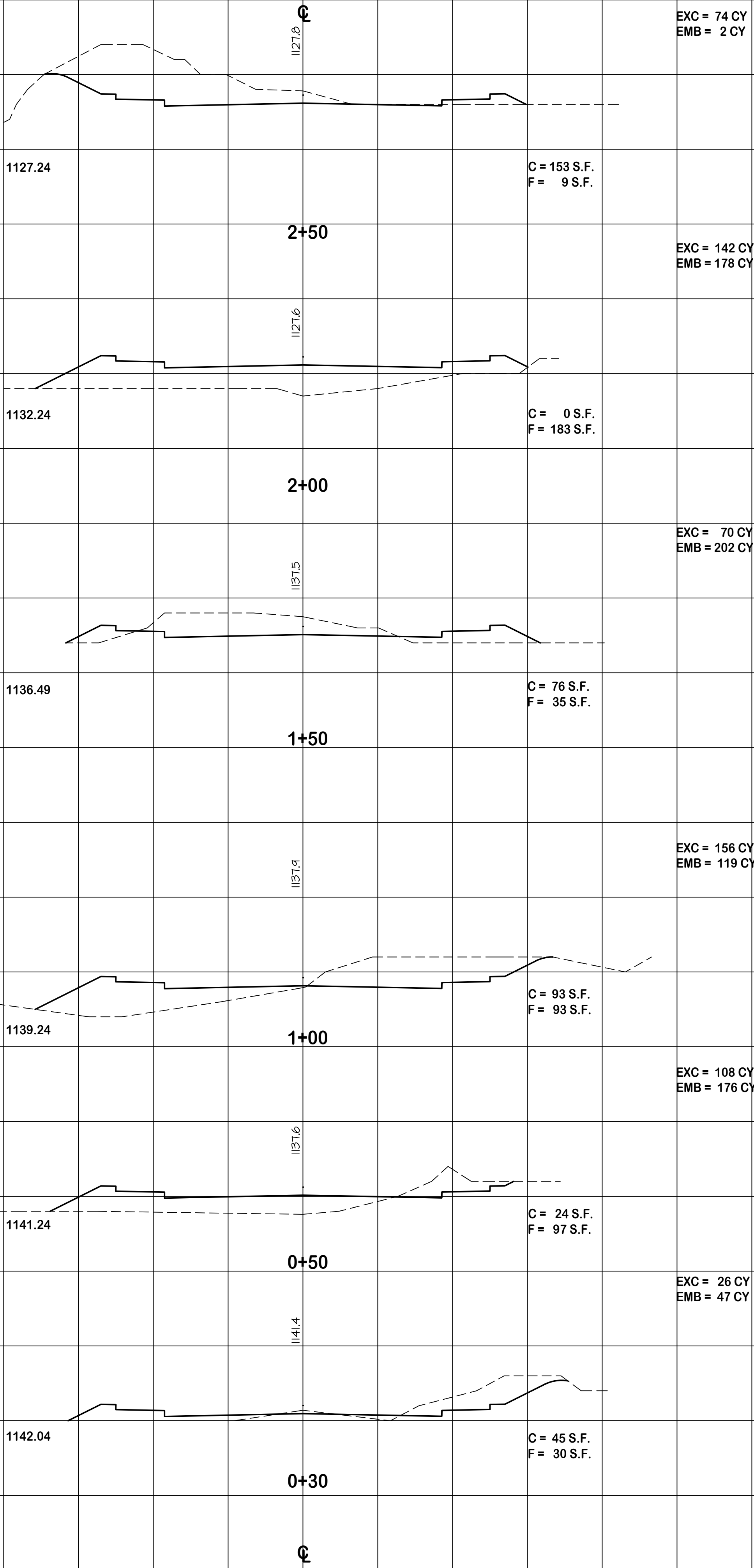
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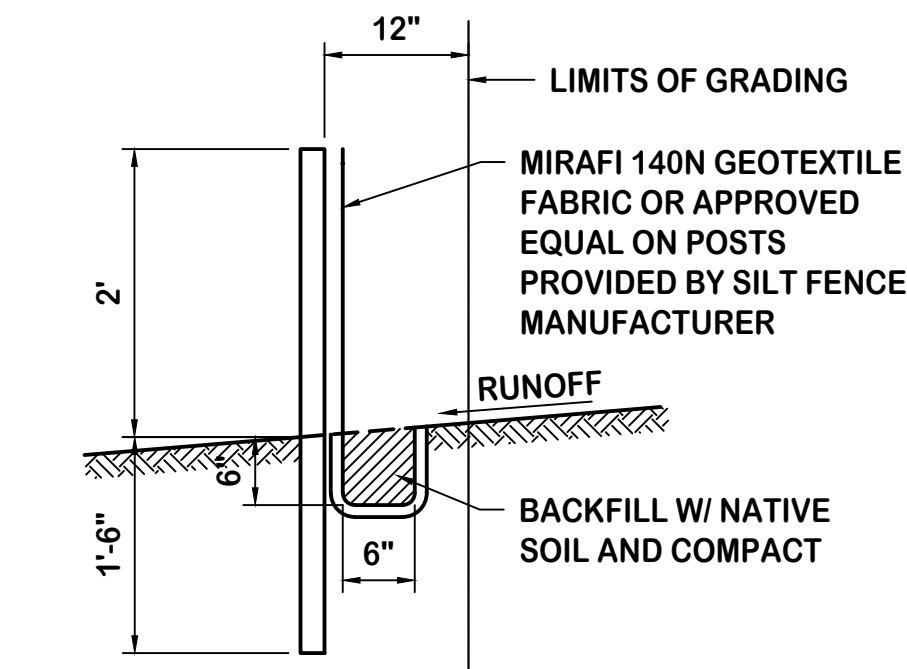
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DATE JAN 2018 SHEET . OF .

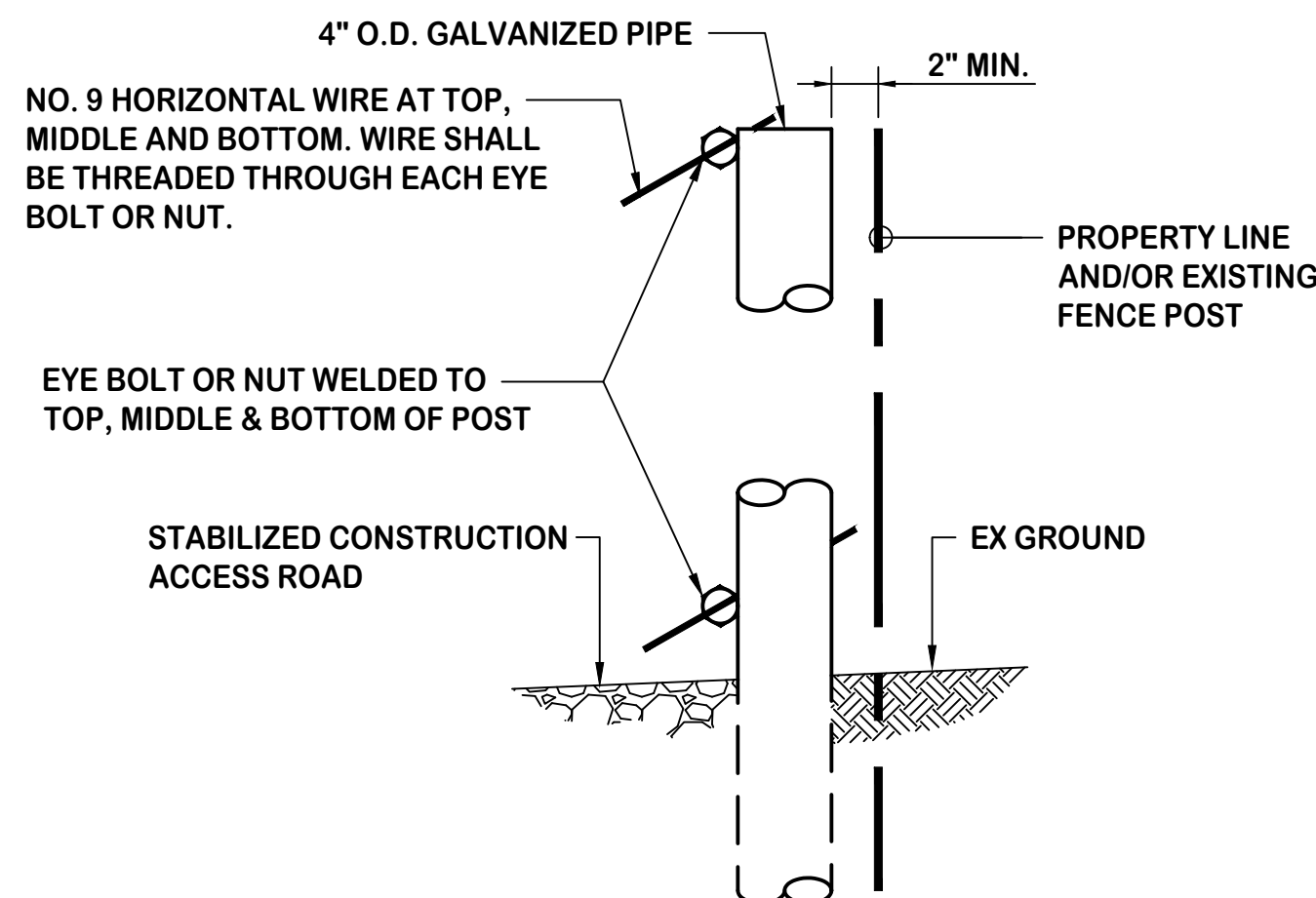
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ROAD "L"

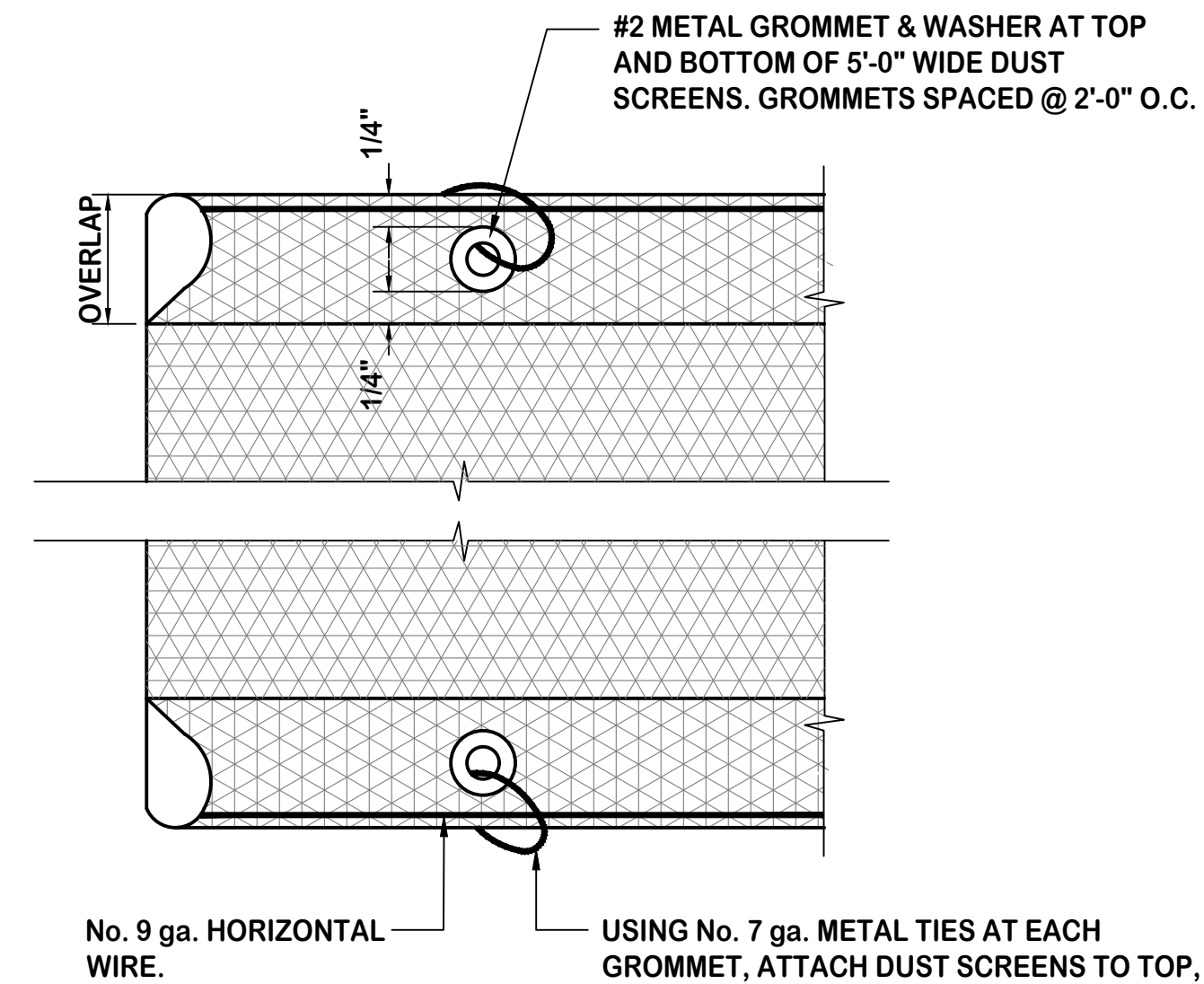




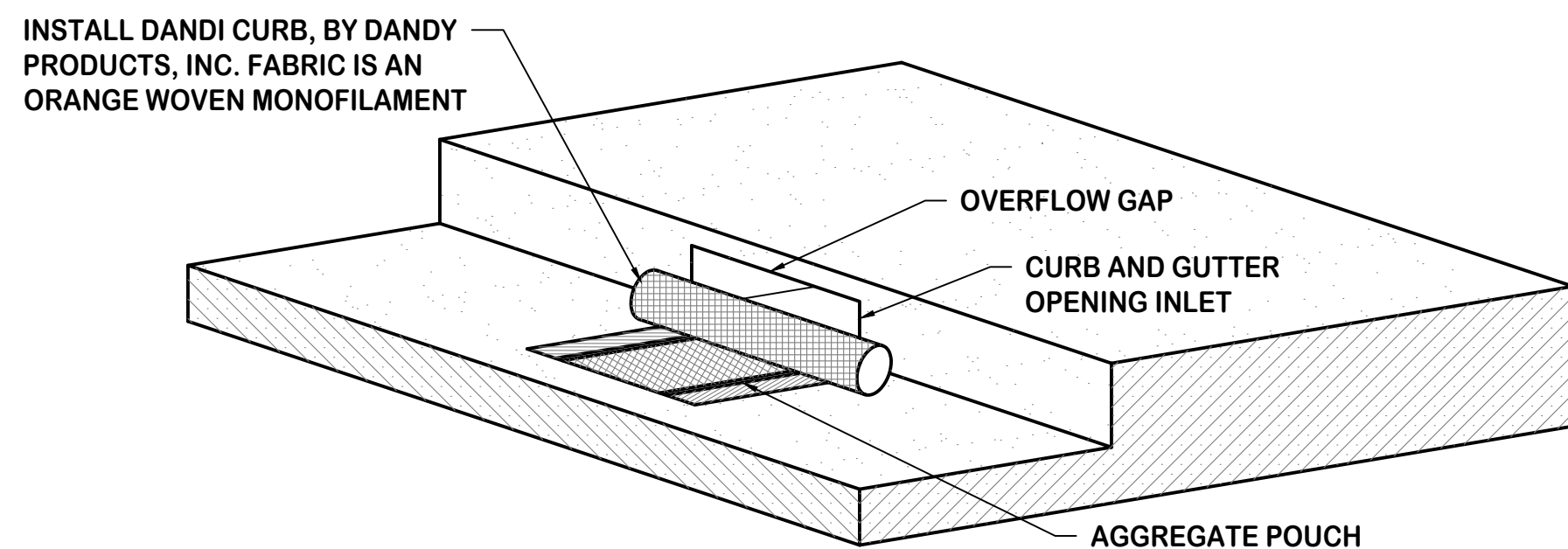
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C-6.01
SILT FENCE DETAIL
SCALE: 3/4" = 1'-0"



POST ENLARGEMENT
NOT TO SCALE

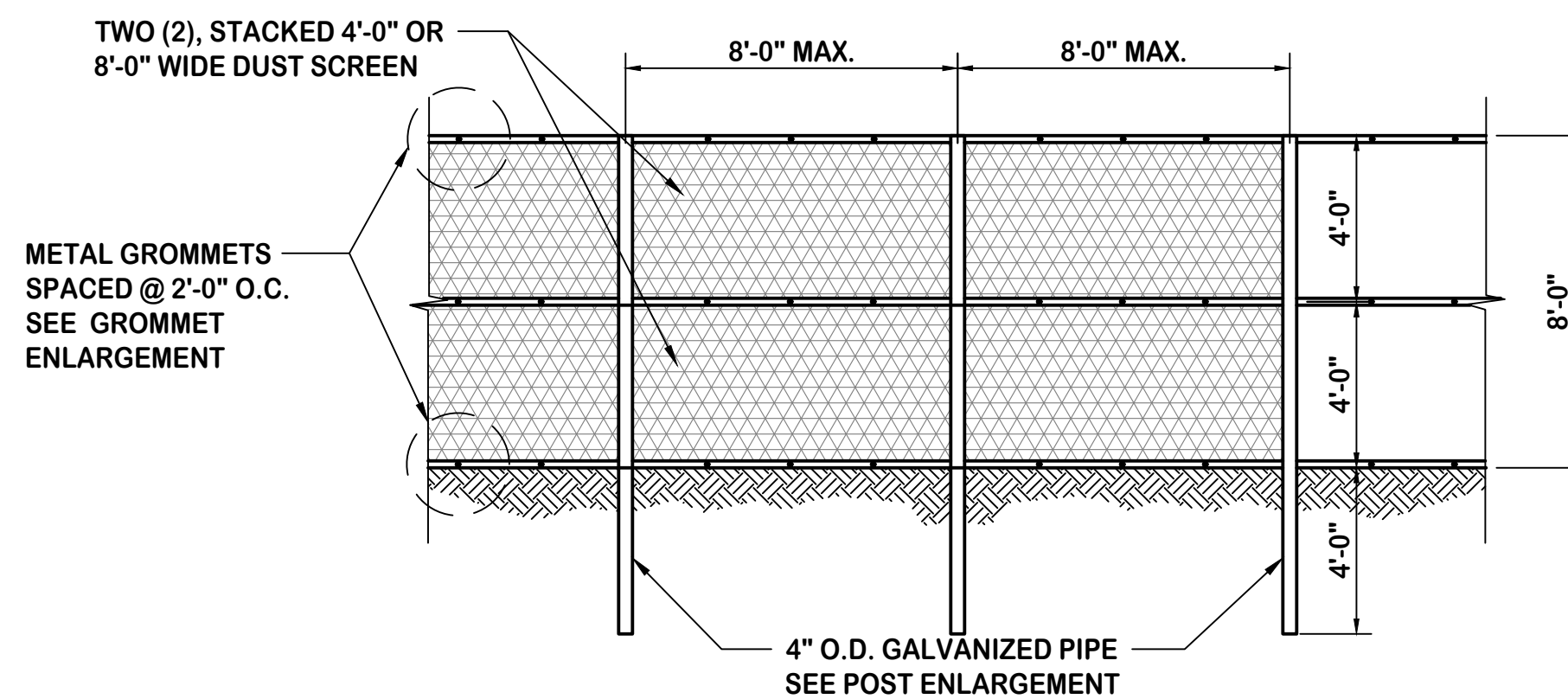


GROMMET ENLARGEMENT
NOT TO SCALE



- NOTES:**
1. REMOVE TEMPORARY EROSION CONTROLS, SILT FENCES AND OTHER MEASURES AT COMPLETION OF PROJECT AND WHEN SITE IS STABILIZED.
 2. THE CONTRACTOR SHALL REMOVE THE FILTER DURING TIMES OF ABOVE NORMAL RAINFALL EVENTS AND REPLACE THEM WHEN THE EVENT HAS PASSED.

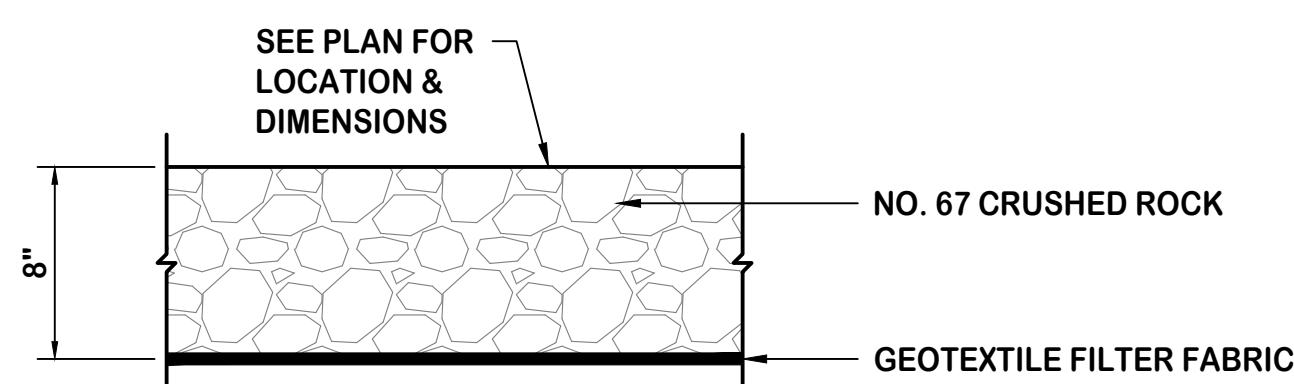
B
C-6.01
**CURB AND GUTTER INLET
FILTER DETAIL**
SCALE: 1" = 1'-0"



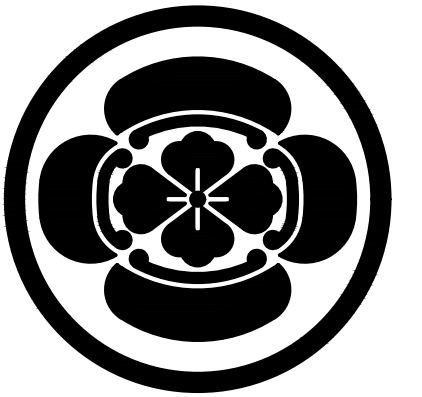
REAR ELEVATION
NOT TO SCALE

- NOTES:**
1. CLOTH BARRIER NOT SHOWN IN FRONT VIEW.
 2. CLOTH BARRIER TO BE A "WOVEN GEOTEXTILE" OR "NURSERY SHADE".
 3. BURLAP IS NOT ACCEPTABLE AS THE CLOTH BARRIER.
 4. VERTICAL SEAMS TO BE MADE OVER UPRIGHTS ONLY.
 5. ALL JOINTS TO BE SECURELY FASTENED BY MECHANICAL MEANS.
 6. THE CONTRACTOR AT HIS EXPENSE IS SOLELY RESPONSIBLE TO ADD AND/OR MODIFY THE DUST FENCING TO COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS.
 7. CONTRACTOR SHALL MAINTAIN DUST FENCE UNTIL ALL WORK HAS BEEN COMPLETED.

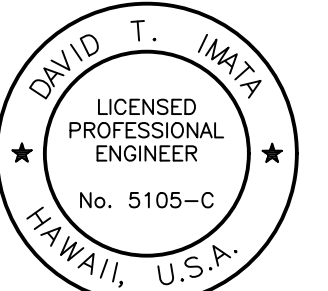
D
C-6.01
8-FT. DUST FENCE DETAIL
NOT TO SCALE



C
C-6.01
STABILIZED INGRESS/ EGRESS
NOT TO SCALE



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EXP. 4/30/20

David T. Imata

REVISION • DATE • DESCRIPTION

**PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1**

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

**MISCELLANEOUS
DETAILS**

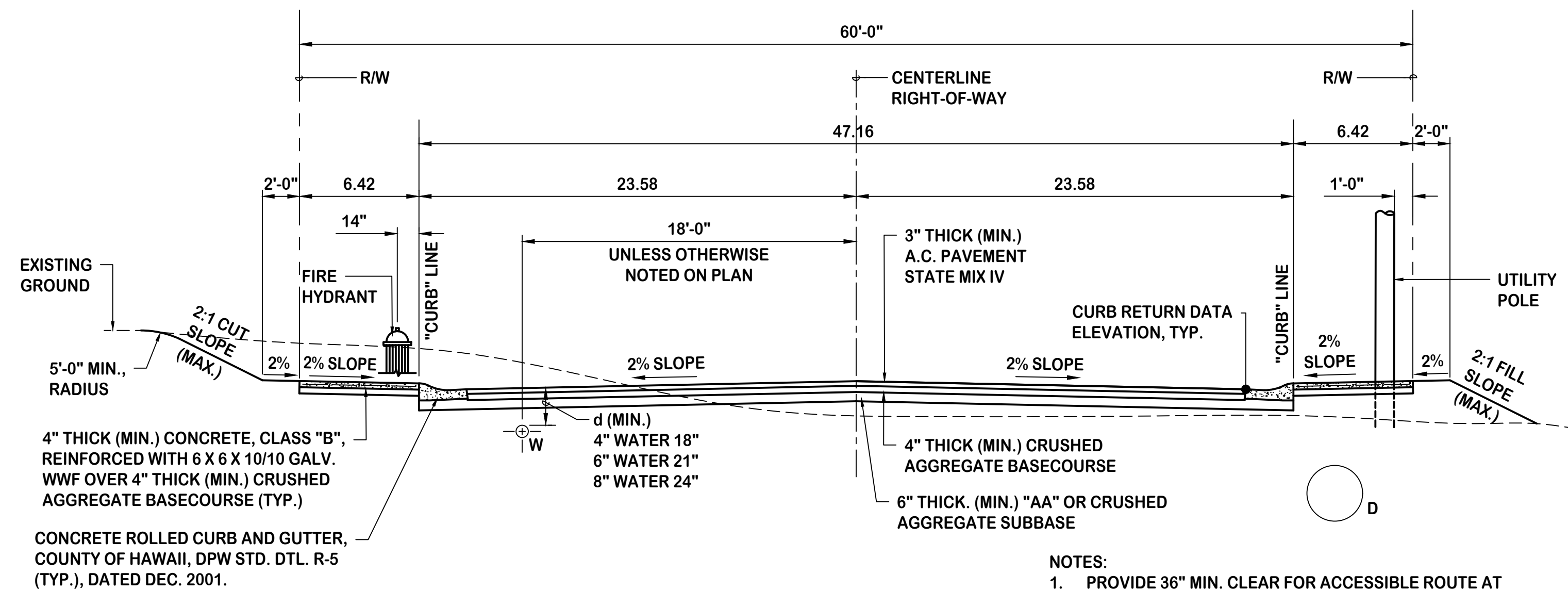
JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM/ EM

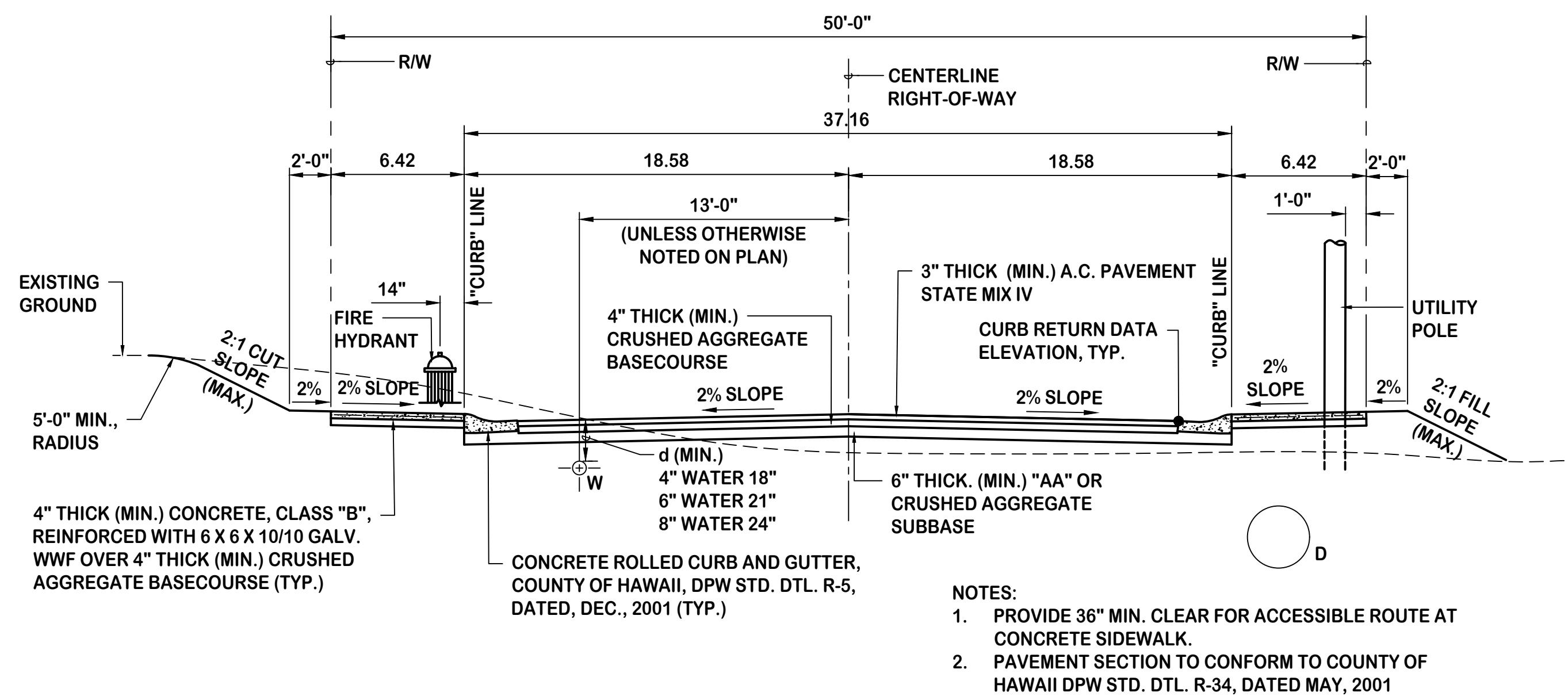
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DATE JAN 2018 SHEET . OF .

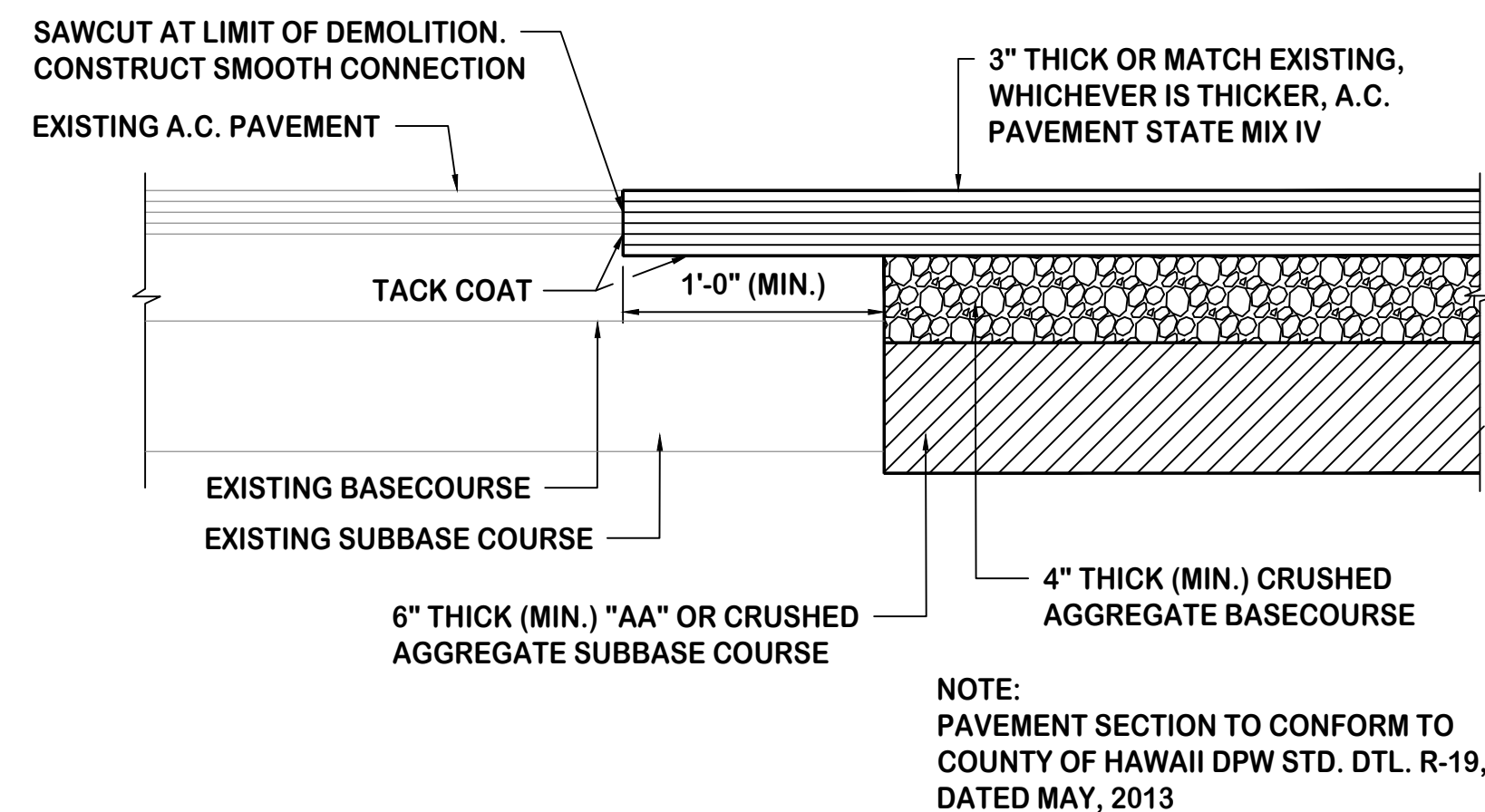
C-6.01



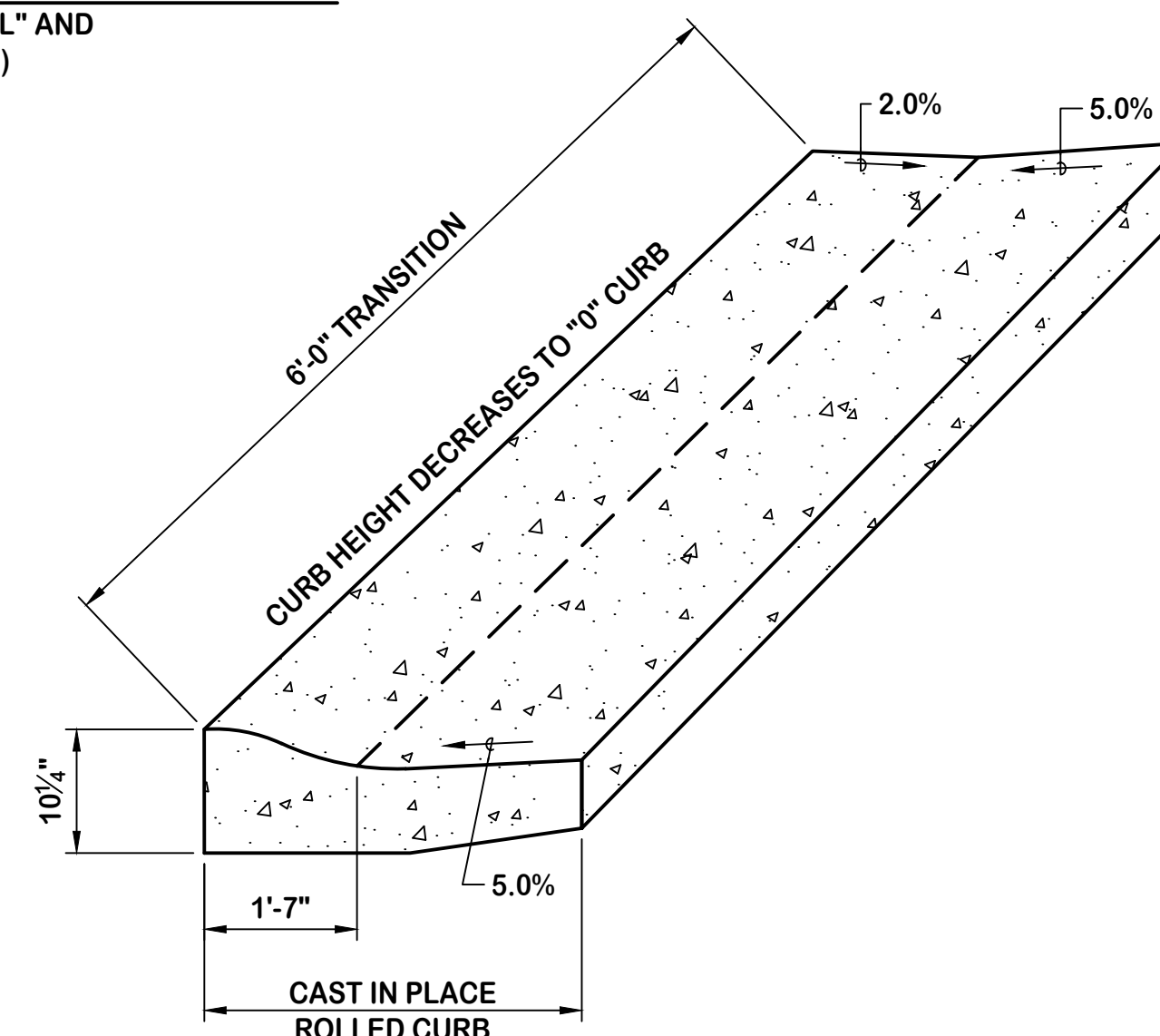
A
C-6.02 **TYPICAL 60'-0" ROADWAY SECTION**
SECTION FOR KEO ST. EXTENSION (STA. 0+00 TO STA. 5+00) & ROAD "H"
SCALE: 3/16" = 1'-0"



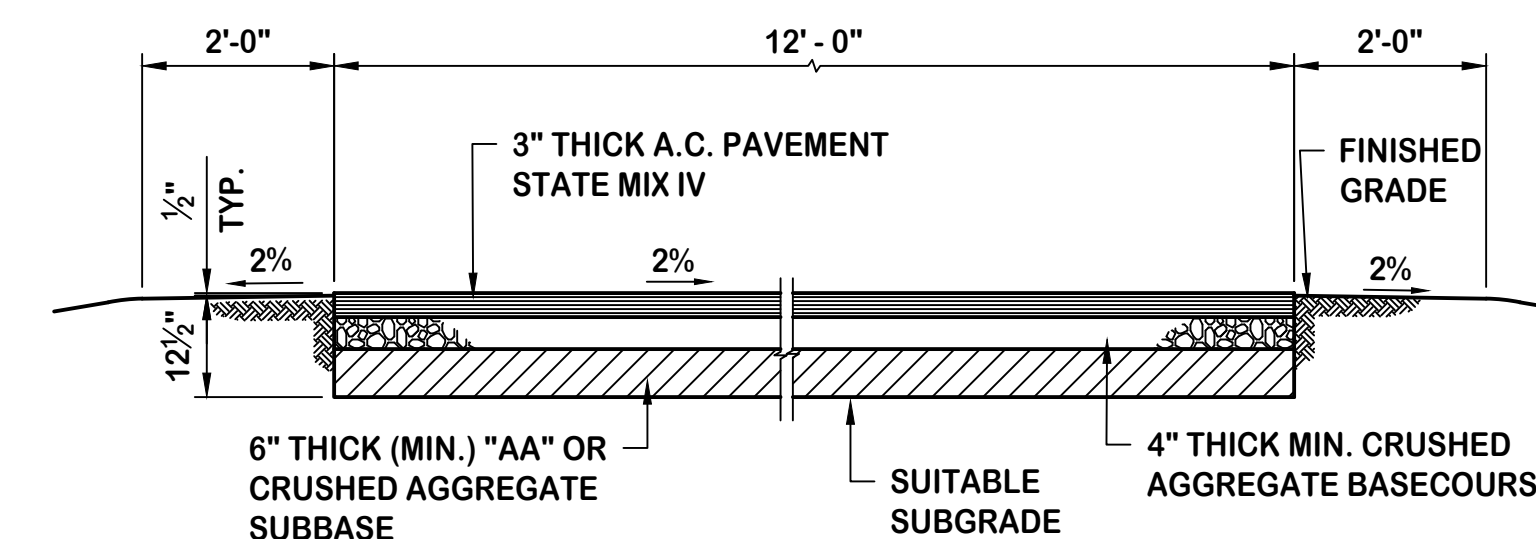
B
C-6.02 **TYPICAL 50'-0" ROADWAY SECTION**
SECTION FOR PUHILI ST. EXTENSION, ROAD "L" AND
KEO ST. EXTENSION (STA. 5+00 TO END)
SCALE: 3/16" = 1'-0"



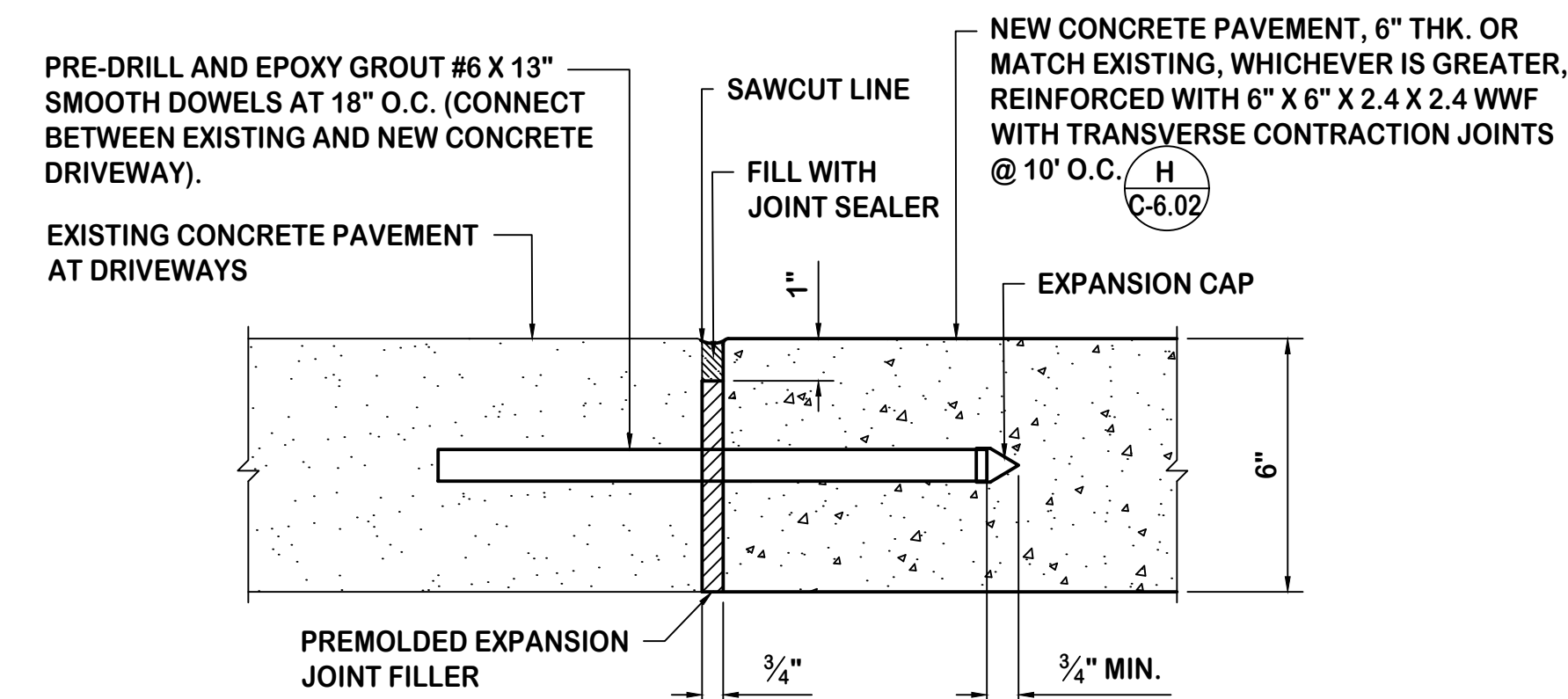
C
C-6.02 **TYPICAL A.C. PAVEMENT
TRANSITION SECTION**
SCALE: 1/2" = 1'-0"



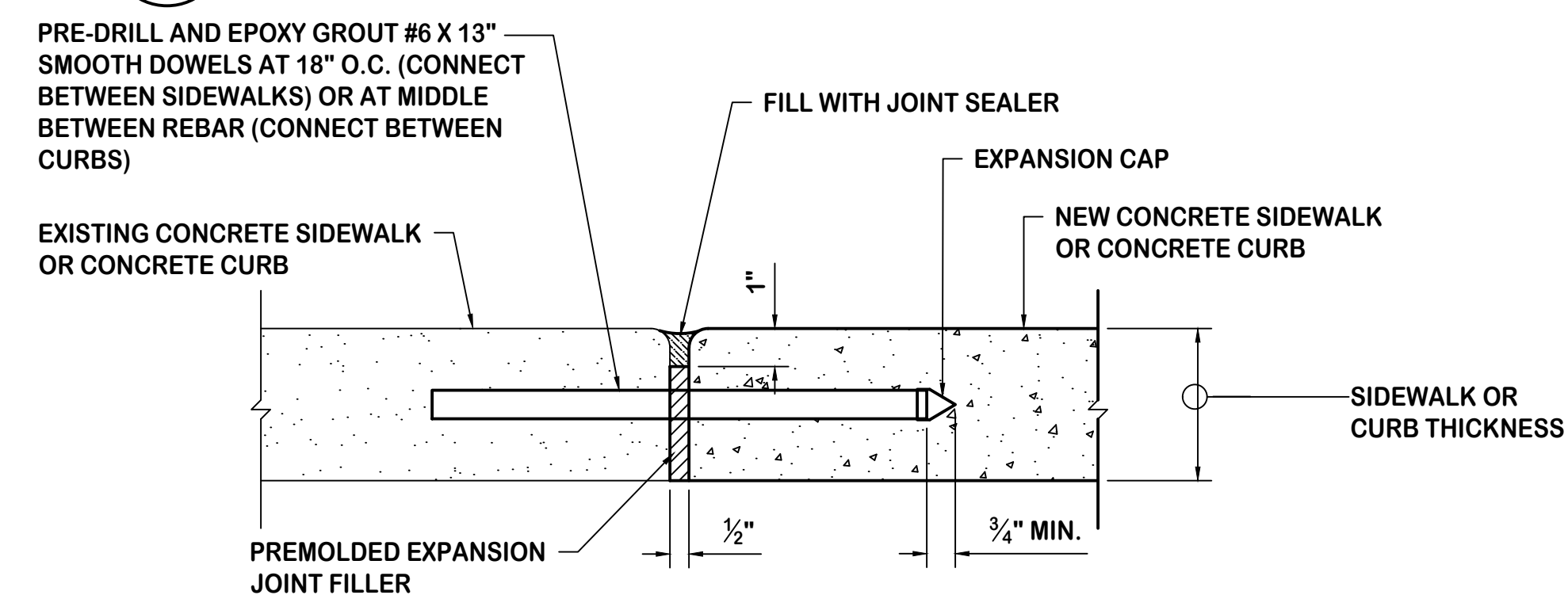
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C-6.02 **ROLLED CURB TRANSITION
AT ACCESSIBLE RAMP**
NOT TO SCALE



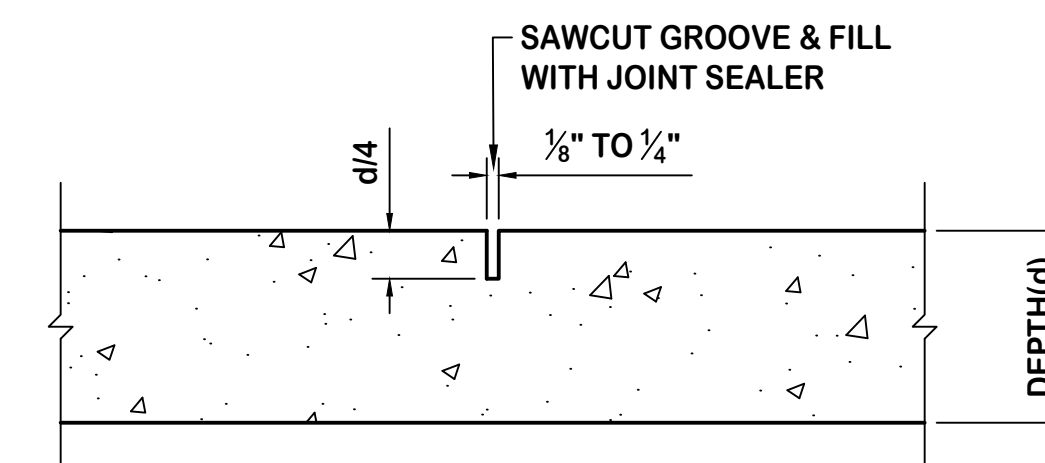
E
C-6.02 **A.C. PAVEMENT SECTION
MAINTENANCE ROAD**
SCALE: 1/2" = 1'-0"



F
C-6.02 **SECTION
CONCRETE DRIVEWAY TRANSITION**
NOT TO SCALE

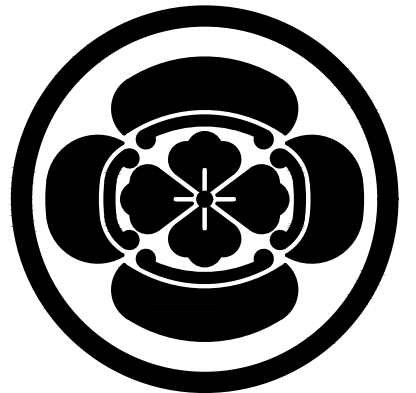


G
C-6.02 **EXPANSION JOINT
WITH DOWEL DETAIL**
NOT TO SCALE

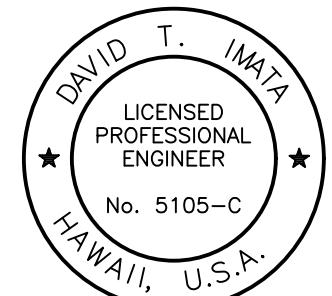


- NOTE:
- CONTRACTION JOINTS SHALL BE SAWCUT IN 10' X 10' O.C. (MAX.) PATTERN OR SPACED TO MATCH WALKWAY WIDTH, WHICHEVER IS LESS, AND AT ALL CHANGES IN DIRECTION.
 - EXPANSION JOINTS WITH DOWELS SHALL BE PLACED AT ALL CONNECTIONS TO EXISTING CONCRETE PER DTL.

H
C-6.02 **TRANSVERSE CONTRACTION JOINT**
NOT TO SCALE



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SHEET TITLE

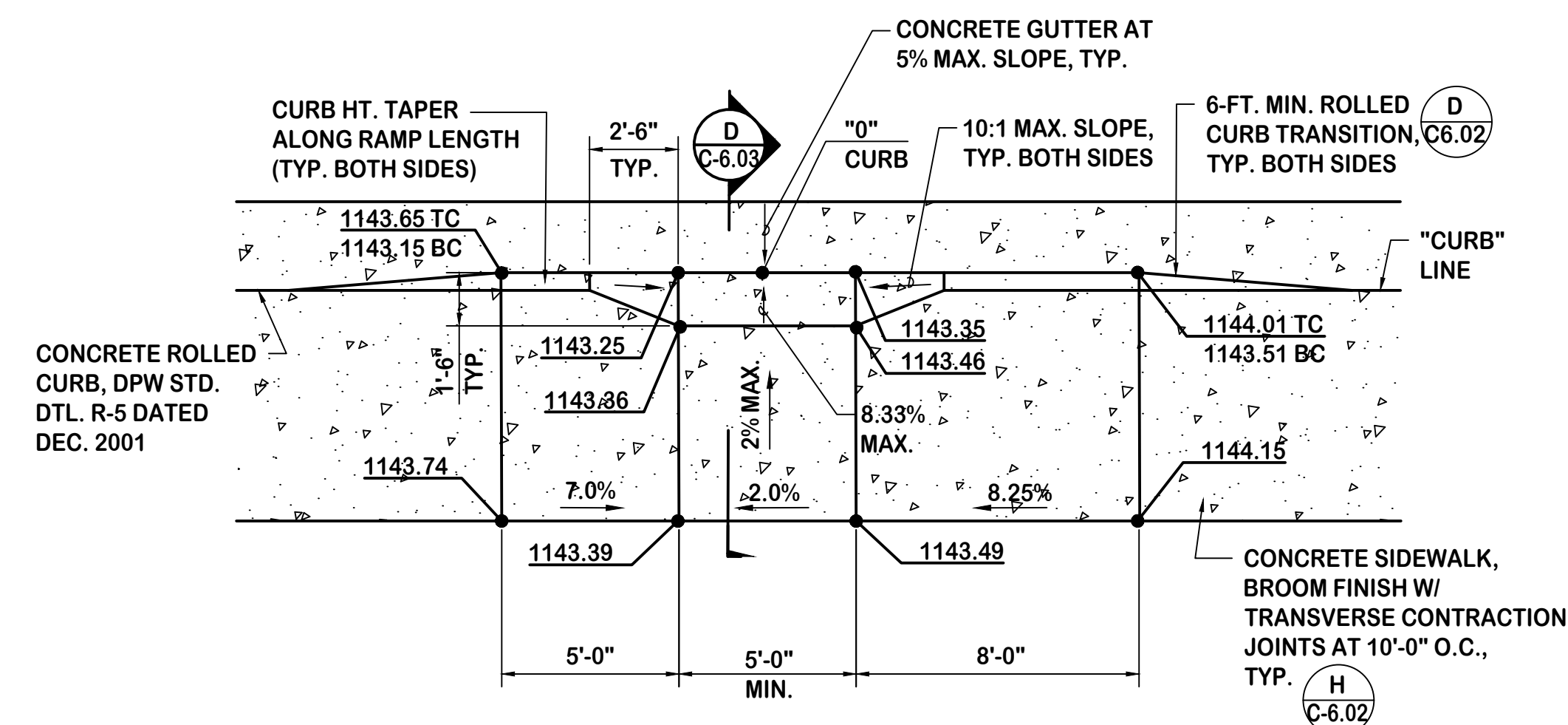
**MISCELLANEOUS
DETAILS**

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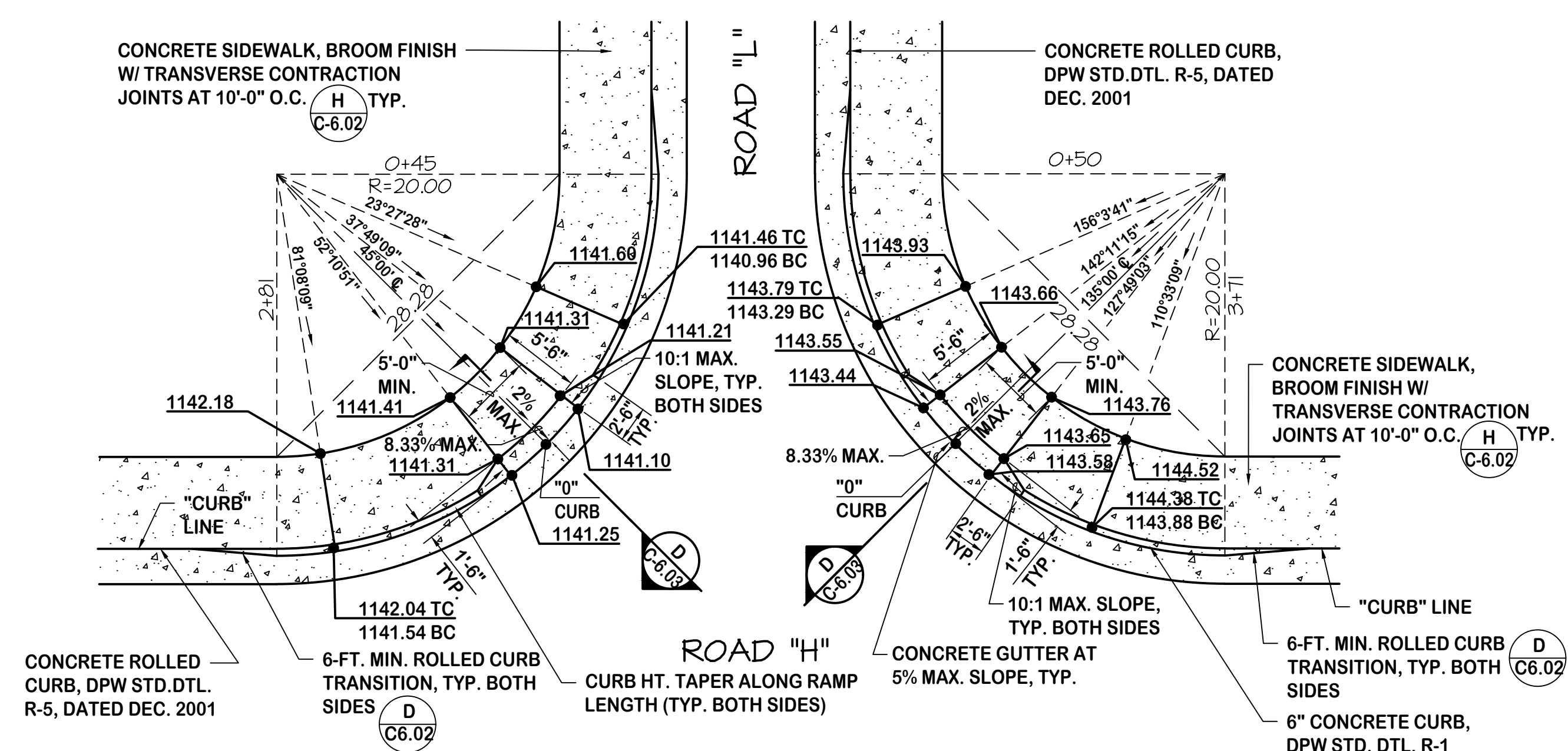
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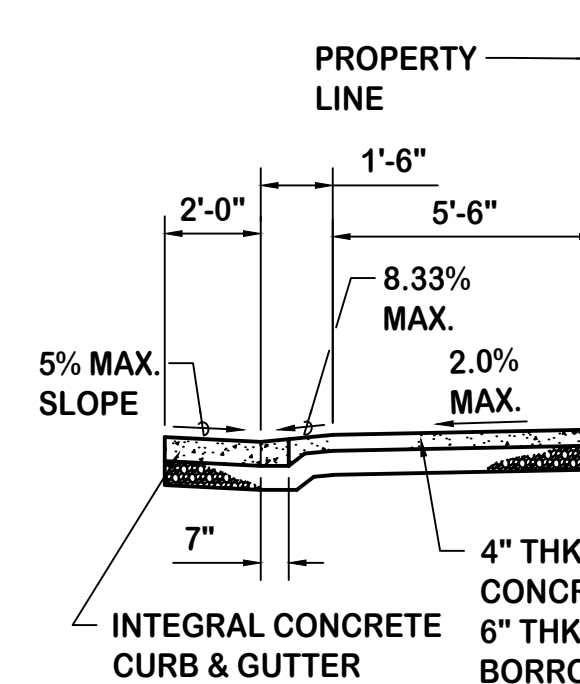
ACCESSIBLE RAMP

SCALE: $\frac{1}{8}" = 1'-0"$



SECTION ACCESSIBLE RAMP

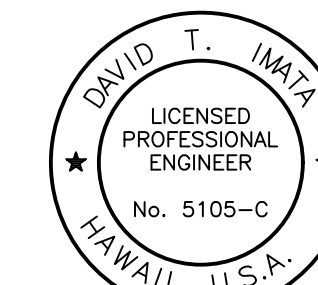
SCALE: $\frac{1}{4}" = 1'-0"$



ACCESSIBLE RAMP NOTES:

1. WHEN NECESSITATED BY EXISTING PHYSICAL CONDITIONS, ALTERNATE CURB RAMPS MAY BE USED SUBJECT TO ENGINEER'S APPROVAL.
2. SUBJECT TO FIELD CONDITIONS, THE ENGINEER SHALL DETERMINE THE FINAL LOCATION OF THE CURB RAMP.
3. WHERE NECESSARY, PULLBOXES, HANDHOLES, ETC., SHALL BE ADJUSTED TO MATCH CURB RAMP GRADE. ADJUSTMENTS SHALL BE CONSIDERED INCIDENTAL TO CURB RAMP CONSTRUCTION, UNLESS OTHERWISE NOTED.
4. FOR AN EXISTING SIDEWALK, ENTIRE SIDEWALK BETWEEN NEAREST SCORE LINE SHALL BE REMOVED.

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2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

MISCELLANEOUS DETAILS

JOB NO. 16-25 DRAWING NUMBER

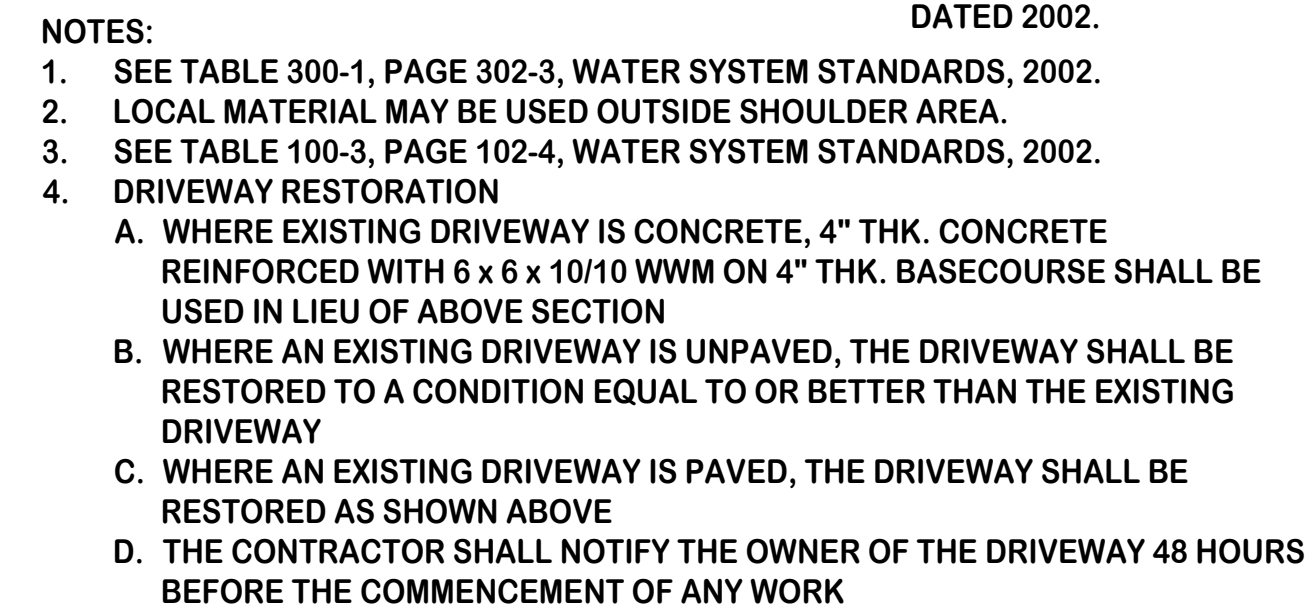
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CHECKED DT

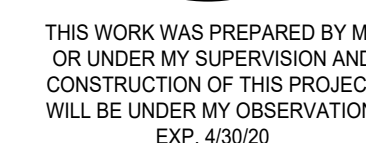
DATE JAN 2018 SHEET 1 OF 1

C-6.03

C-6.03



SCALE: 1" = 1'-0"



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REVISION	•	DATE	•	DESCRIPTION
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PUAINAKO HEIGHTS
SUBDIVISION
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KUKUAU 2ND, SOUTH HILO,
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TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-07
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SHEET TITLE

MISCELLANEOUS DETAILS

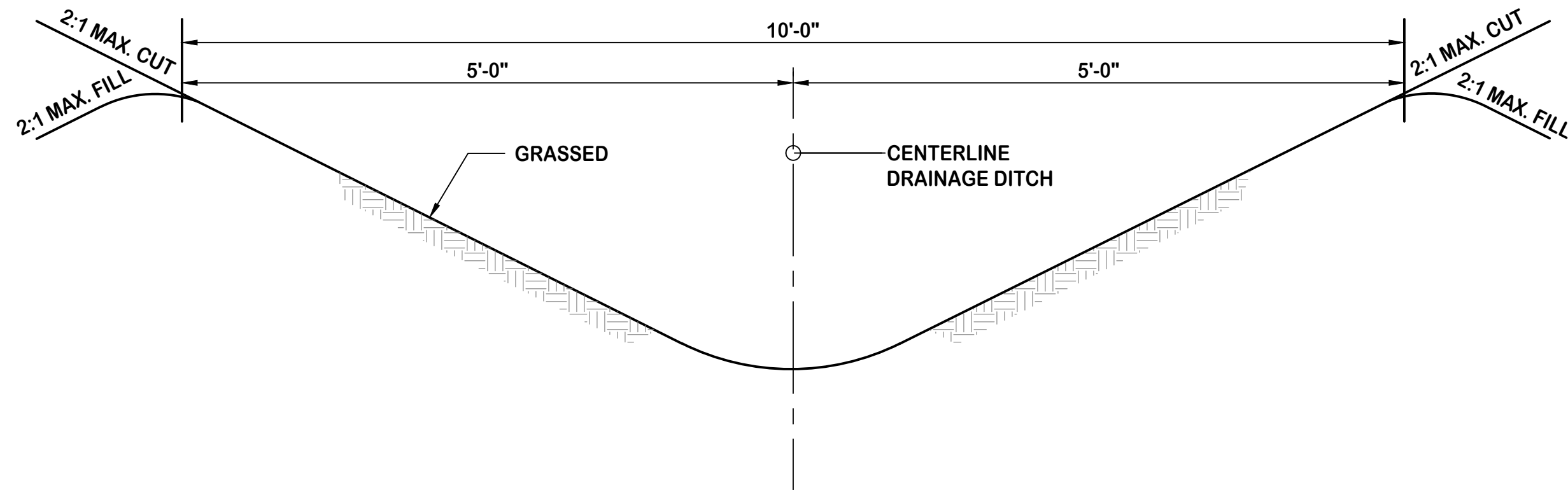
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DRAWN BJM/ EM

CHECKED DT

DATE JAN 2018 SHEET 1 OF 1

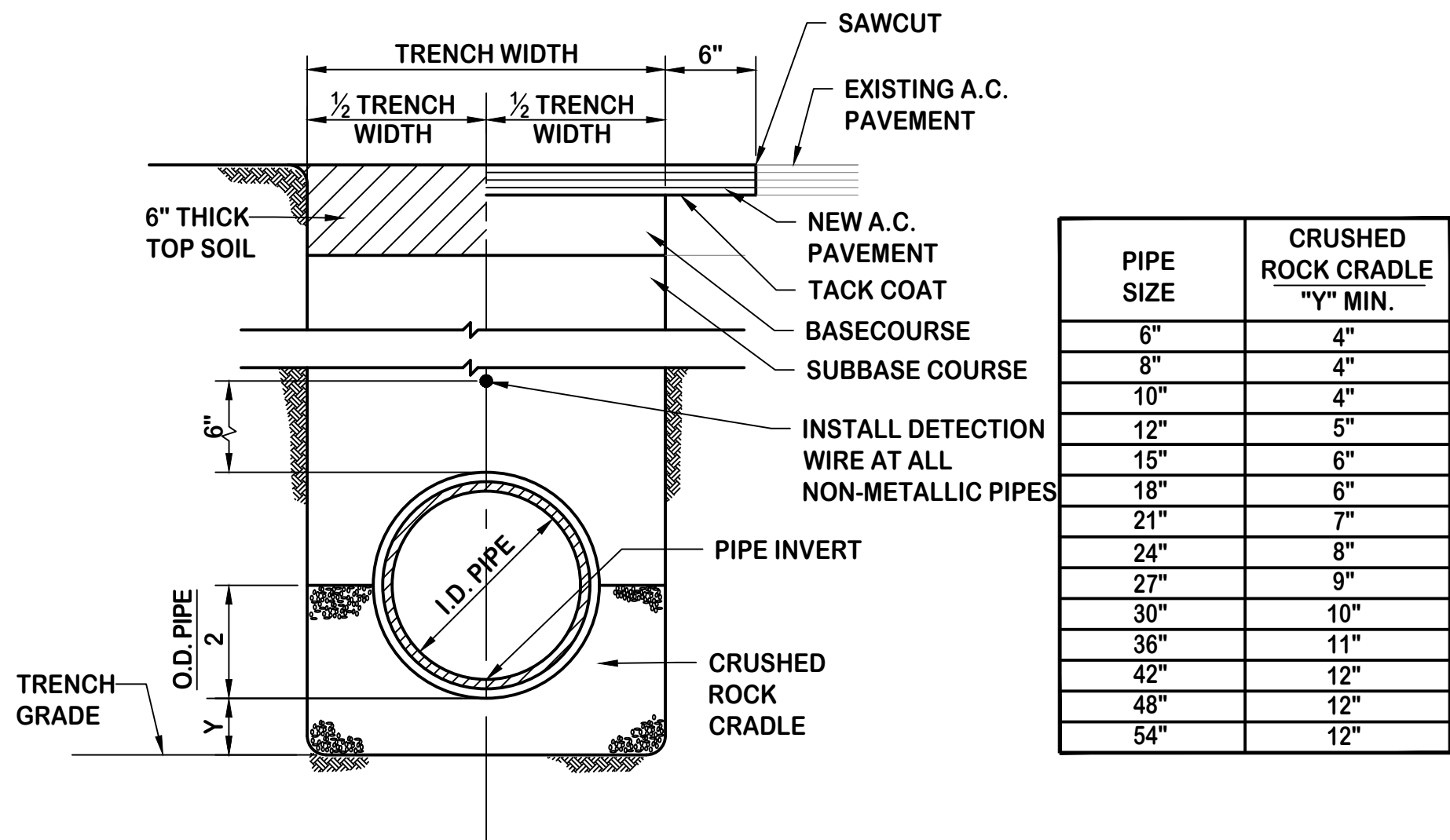
C-6.04



A
C-6.05

SECTION - UNLINED SWALES

SCALE: 1" = 1'-0"

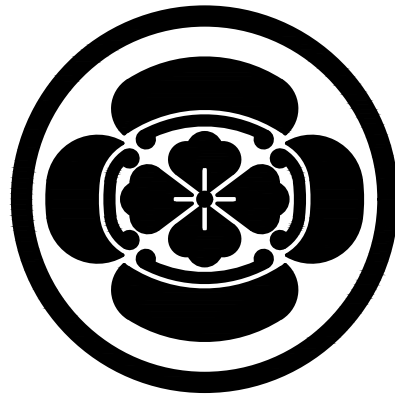


PIPE SIZE	CRUSHED ROCK CRADLE "Y" MIN.
6"	4"
8"	4"
10"	4"
12"	5"
15"	6"
18"	6"
21"	7"
24"	8"
27"	9"
30"	10"
36"	11"
42"	12"
48"	12"
54"	12"

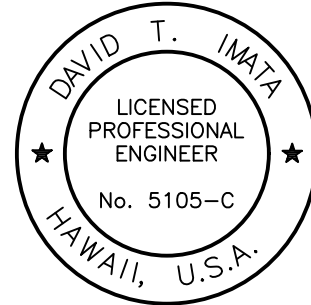
B
C-6.05

ROCK CRADLE FOR DRAINLINE PIPES

NOT TO SCALE



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SHEET TITLE

MISCELLANEOUS
DETAILS

JOB NO. 16-25 DRAWING NUMBER

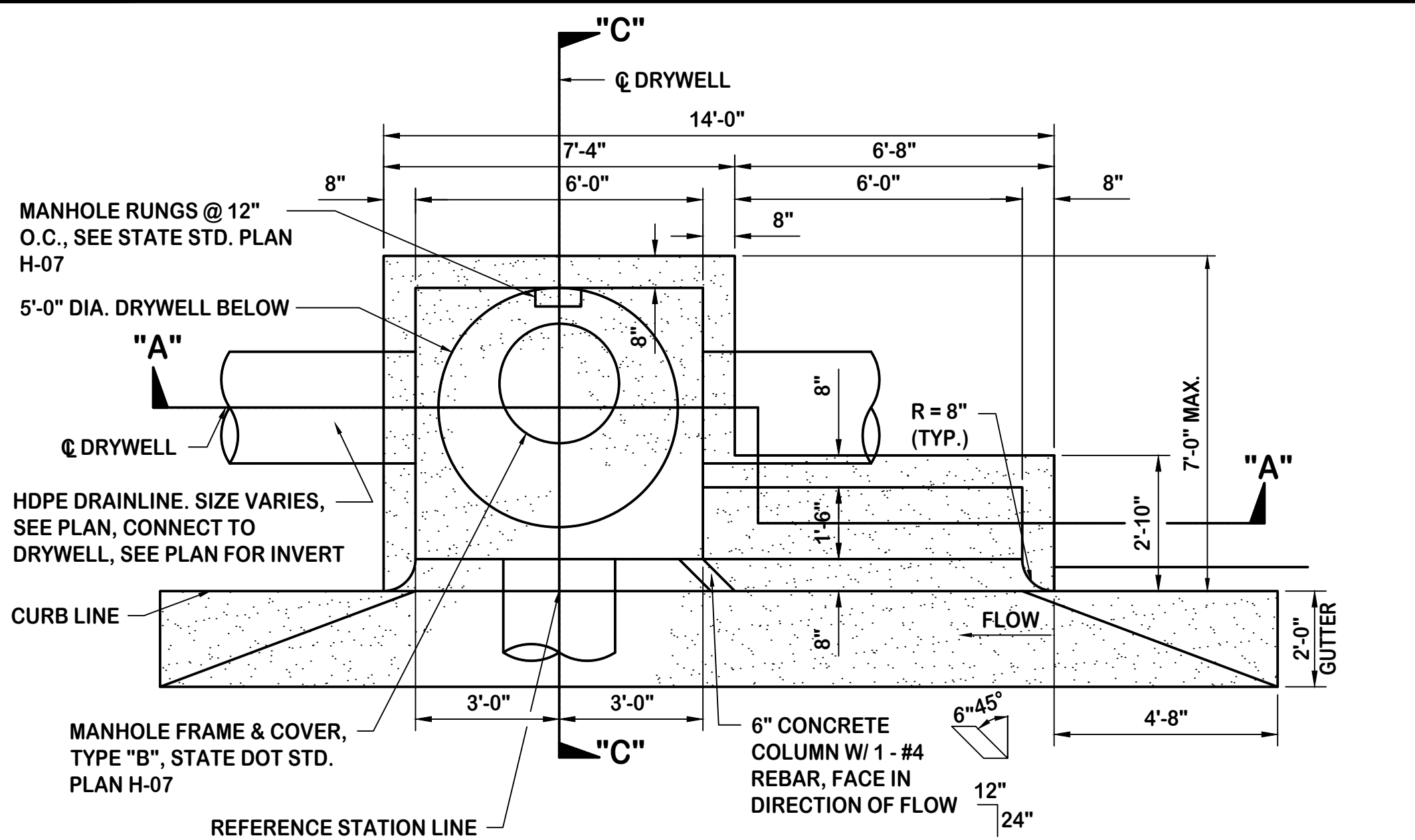
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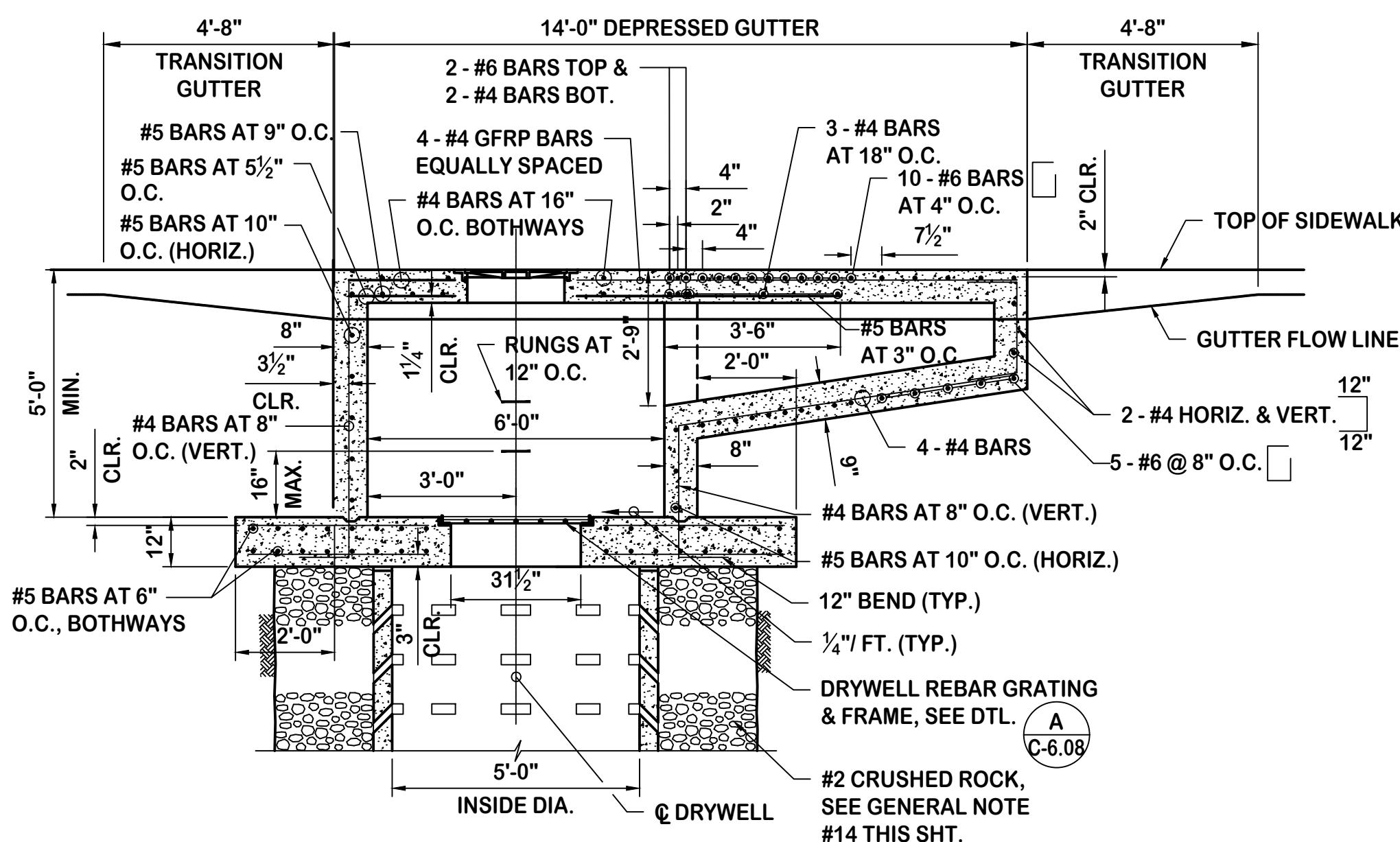
DATE JAN 2018 SHEET . OF .

C-6.05





PLAN - CATCH BASIN

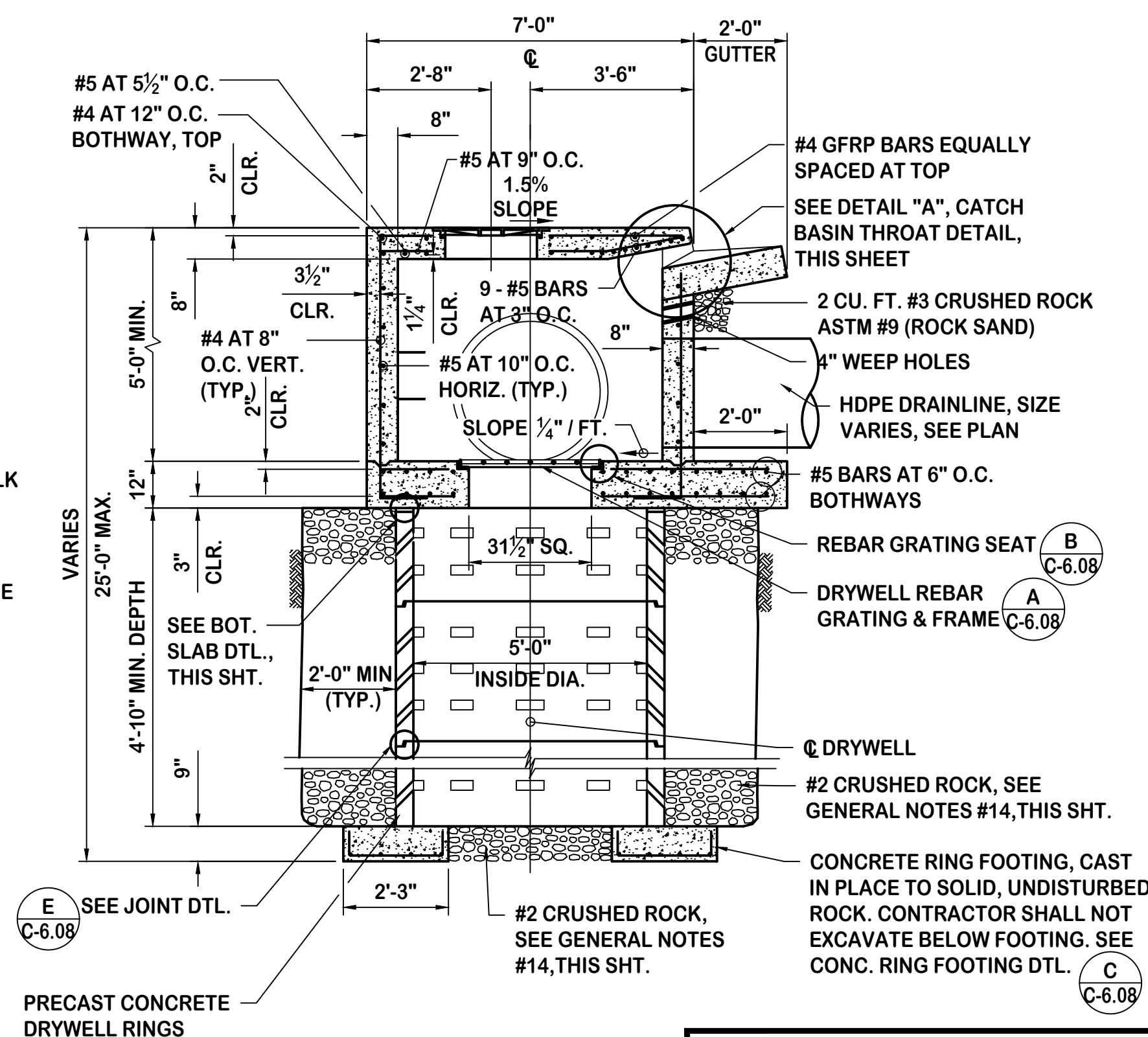


SECTION - "A-A"

TYPE "C" CATCH BASIN/ DRYWELL (CB/DW)

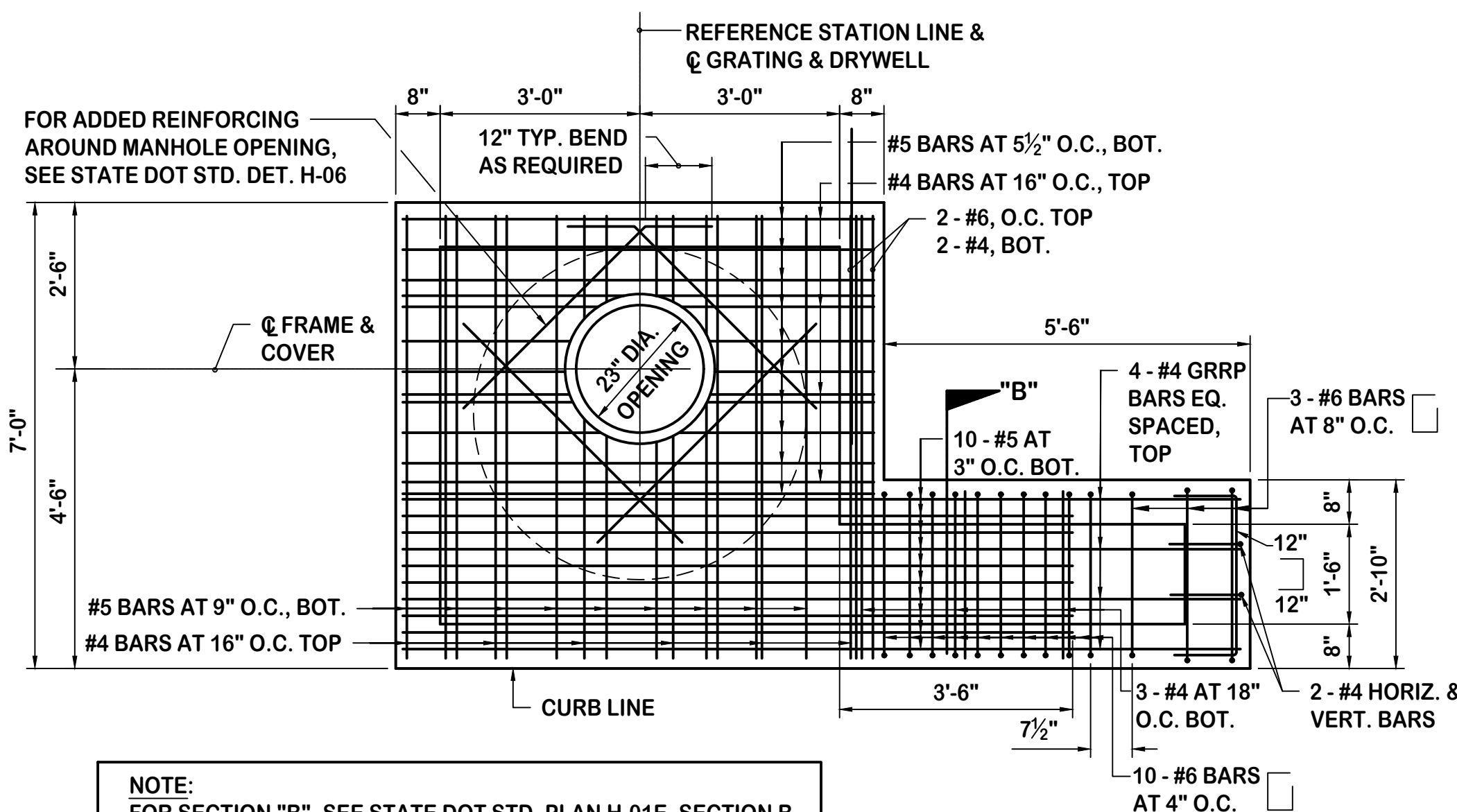
SCALE: $\frac{3}{8}$ " = 1'-0"

- NOTES:**
1. REFER TO STATE STD. PLAN H-05 PLAN VIEW OF WALL REINFORCING FOR HORIZONTAL BAR BEND DETAILS.
 2. PROVIDE 6" THICK AGGREGATE BASE COURSE BELOW ENTIRE BOTTOM SLAB AND PLACED ON TOP #2 CRUSHED ROCK (TYP.).
 3. PROVIDE 4"x1" DEEP KEY WAY BETWEEN CATCH BASIN WALLS AND BOTTOM SLAB (TYP.).
 4. CONTRACTOR SHALL ENLIST THE SERVICES OF A STRUCTURAL ENGINEER LICENSED IN THE STATE OF HAWAII TO REVIEW AND APPROVE ALL CONNECTIONS TO AN EXISTING OR NEW DRAINAGE, SEWER OR WATER STRUCTURE. STRUCTURAL ENGINEER SHALL ALSO REVIEW AND APPROVE ALL MODIFICATIONS TO DPW STANDARD STRUCTURES CALLED FOR ON PLANS. ALL COSTS SHALL BE BORNE BY THE CONTRACTOR.

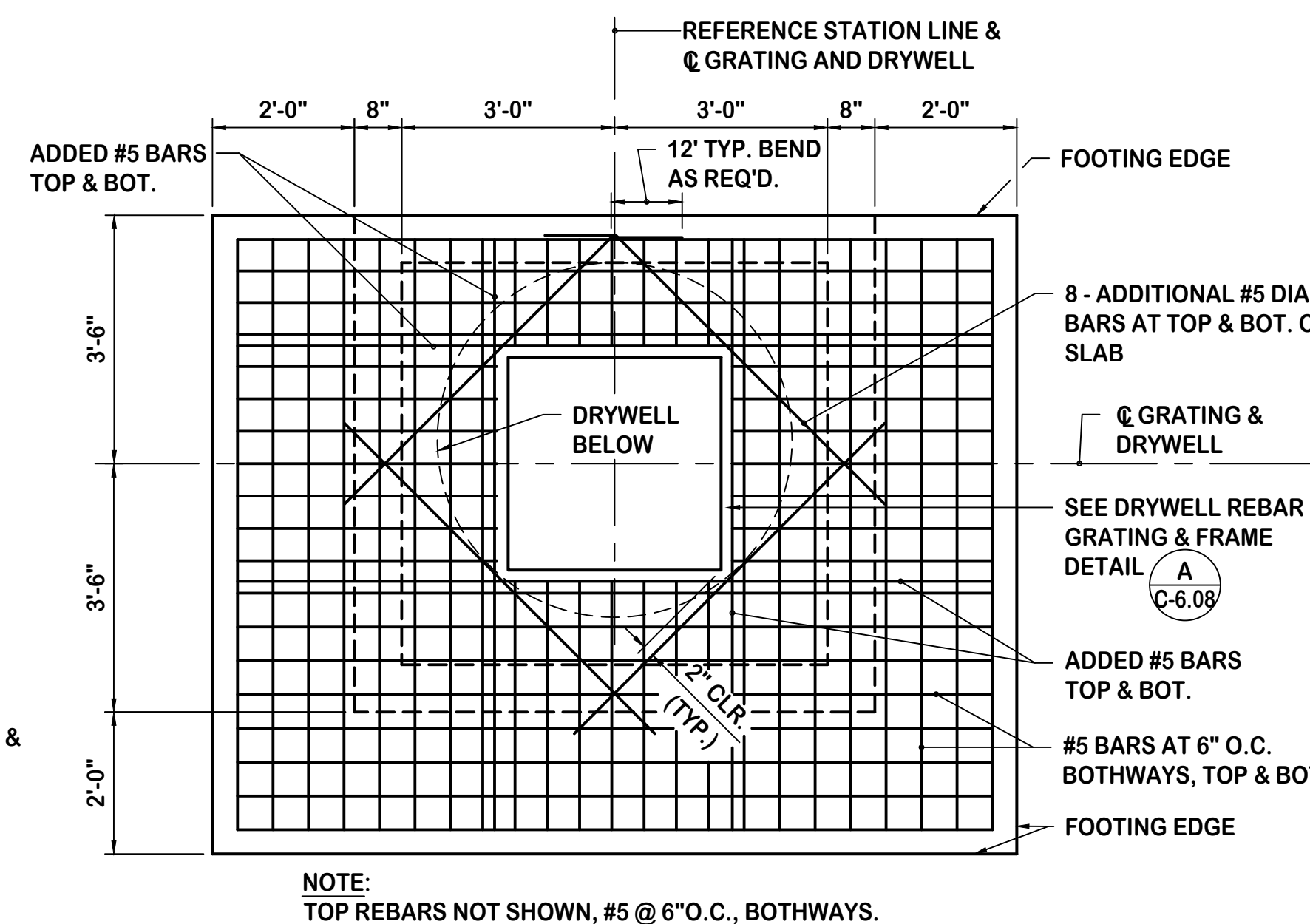


SECTION - "C-C"

NOTE:
CATCH BASIN, DOT TYPE "B" SIMILAR,
WITH THROAT "WING" ON LEFT SIDE. SEE
DOT STD. PLAN H-01B DATED 5/31/07.



TOP SLAB OF CATCH BASIN



BOTTOM SLAB OF WITH GRATING

TYPE "C" CATCH BASIN REINFORCING DETAILS

SCALE: $\frac{1}{2}$ " = 1'-0"

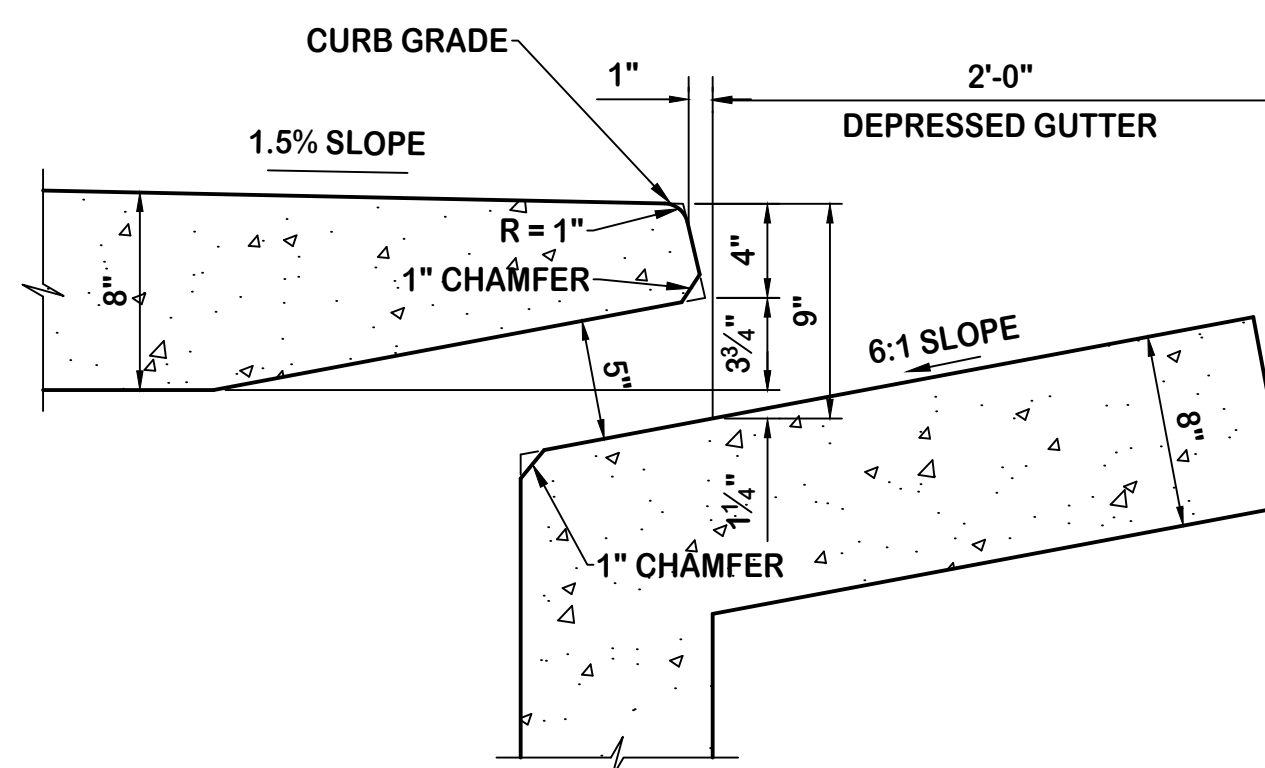
GENERAL NOTES FOR CATCH BASIN/ DROP INLET

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS INCLUDING PROBING TO ASCERTAIN THERE ARE NO AFFECTED EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCY IN WRITING TO THE ENGINEER BEFORE COMMENCEMENT OF WORK.
2. THE CONCRETE WORK SHALL CONFORM TO ACI 318-95 AND SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 P.S.I. AT 28 DAYS UNLESS NOTED OTHERWISE. MAXIMUM AGGREGATE SIZE SHALL BE 3/4 INCH WITH A MAXIMUM SLUMP OF FOUR (4) INCHES.
3. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60. BENDS AND HOOKS SHALL BE TO FAR FACE OF INTERSECTION WALL OR SLAB.
4. REFER TO STATE STD. PLAN VIEW OF WALL SECTION, FOR HORIZONTAL BAR BEND DETAILS.
5. CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
 - A. CONCRETE CAST AGAINST EARTH - 3"
 - B. CONCRETE EXPOSED TO EARTH - 2"
 - C. CONCRETE EXPOSED TO WEATHER - 1 1/2"
6. DRAINAGE INTAKE BOXES SHALL BE CAST IN PLACE TO MEET DESIGN AND EXISTING CONDITIONS. THE CONTRACTOR MAY PRECAST BOXES TO 2' BELOW FINISH GRADE. TOP 2' SHALL BE CAST IN PLACE. ANY MODIFICATIONS REQUIRED FOR NOT MEETING DESIGN CONDITIONS OR EXISTING CONDITIONS DUE TO UNFORESEEN OBSTRUCTIONS SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. TOP/INLET GRATES AND FRAMES SHALL CONFORM TO ASTM A36. REBAR GRATE SHALL CONFORM TO ASTM A-706. ALL FRAMES AND GRATES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, ACCORDING WITH ASTM A123.
8. ALL WELDS SHALL BE 3/8" UNLESS SHOWN OTHERWISE. GRIND SMOOTH ALL EXPOSED WELDS.
9. ALL JOINTS SHALL BE FULLY WELDED.
10. ALL WELDS TO BE PRE-QUALIFIED FULL PENETRATION, UNLESS OTHERWISE SHOWN.
11. ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT EDITIONS OF STEEL AND REINFORCED STEEL WELDING CODES AWS D1.1 AND D1.4.
12. IN NO CASE SHALL THE CLEARANCE FROM FRAME AND GRATE EXCEED 1/4" PER SIDE (1/2" TOTAL BOTH SIDES). CLEARANCE IN EXCESS OF THIS WILL BE REJECTED.
13. TOP OF GRATING (TOG) SHALL BE SET RELATIVE TO THE ADJACENT PAVEMENT/SHOULDER ELEVATIONS. SEE PLANS, PROFILE AND CROSS SECTIONS. GRATE SHALL BE PARALLEL TO THE DIRECTION OF FLOW.
14. #2 CRUSHED ROCK SHALL BE MANUFACTURED FROM SOUND DURABLE ROCK AND SHALL BE FREE FROM VEGETABLE MATTER AND OTHER DELETERIOUS SUBSTANCES. THE WEAR WHEN TESTED UNDER AASHTO TEST METHOD T96 SHALL NOT EXCEED 50 PERCENT AT 500 REVOLUTIONS. GRADATION (ASTM DESIGNATION) PERCENT PASSING BY WEIGHT SHALL BE AS FOLLOWS:

SIEVE SIZE	PERCENT PASSING
3"	100
2 1/2"	90-100
2"	35-70
1 1/2"	0-15
3/4"	0-5
15. USE CLSM FOR STRUCTURAL AND TRENCH BACKFILL.
16. THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING FOR ALL STRUCTURAL MEMBERS AS REQUIRED FOR STRUCTURAL STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.
17. THE DISTANCE FROM THE TOP OF THE PRECAST PORTION OF THE INTAKE BOX TO THE TOP OF THE CULVERT OPENING SHALL BE A MINIMUM OF 30 INCHES.
18. WALL OPENING FOR CONNECTING CULVERT SHALL BE CONSTRUCTED A MINIMUM OF 1-1/2 INCH LARGER THAN THE CULVERT OUTSIDE DIAMETER. OVERSIZED AND SQUARE OPENINGS SHALL NOT BE ALLOWED.
19. DRYWELL COVER WITH GRATED INLET BOX AND DRAINAGE INTAKE BOX SHALL BE CAST IN PLACE UNLESS APPROVED BY THE ENGINEER. HOWEVER, ANY REPLACEMENT BOX AND ACCEPTABLE MODIFICATION REQUIRED DUE TO EXISTING SURROUNDING CONDITIONS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE ADJUSTABLE GRATING SEAT SHALL BE CAST IN PLACE.
20. RESTORE AFFECTED EXISTING WALLS AS REQUIRED, INCIDENTAL.

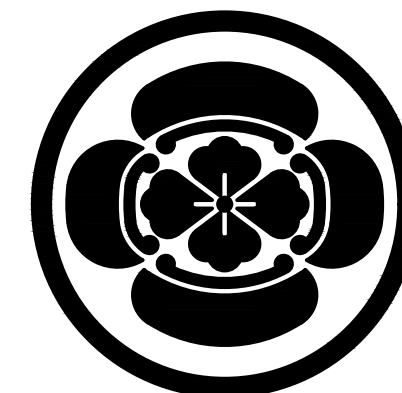
TYPICAL DRYWELL NOTES

1. CONTRACTOR SHALL PRESERVE EXISTING GEOLOGICAL FORMATION AT PROPOSED DRYWELL LOCATION TO ENSURE PROPER DRYWELL OPERATION.
2. ONLY WATER SOLUBLE DRILLING LUBRICANTS WILL BE ALLOWED. NO CLAY OR OTHER DRILLING LUBRICANTS, WHICH HAVE THE POTENTIAL TO REDUCE PERMEABILITY WILL BE PERMITTED.
3. AFTER DRILLING OF THE DRYWELL IS COMPLETED, THE SIDEWALLS SHALL BE WASHED ALONG THE ENTIRE DEPTH AND THE BOTTOM OF THE DRYWELL CLEANED OUT TO ALLOW POSITIVE PERMEABILITY.
4. REFER TO STATE STD. PLAN H-03, PLAN VIEW OF WALL SECTION, FOR HORIZONTAL BAR BEND DETAILS. STATE STD. PLAN H-05 FOR CULVERT SEAT DETAILS & ADDED REINFORCING AND H-07 FOR RUNG, COVER AND FRAME DETAILS. ALSO SEE STATE STANDARD PLANS H-01A, H-01B, H-01C, H-01D, H-01E, H-05, H-06 FOR OTHER APPLICABLE DETAILS.
5. CONCRETE RINGS DIAMETER GREATER THAN 5'-0" SHALL BE DESIGNED AND APPROVED BY A STRUCTURAL ENGINEER.

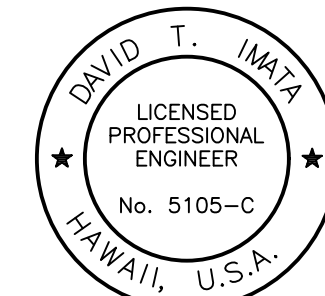


DETAIL "A" CATCH BASIN THROAT DETAIL

SCALE: $\frac{1}{2}$ " = 1'-0"



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SHEET TITLE

MISCELLANEOUS DETAILS

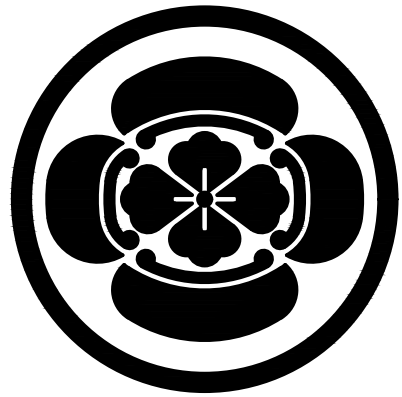
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DRAWN BJM/EM

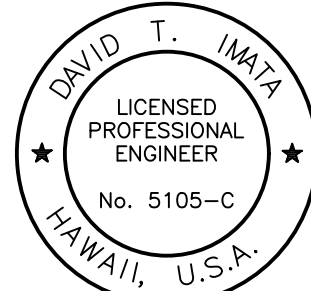
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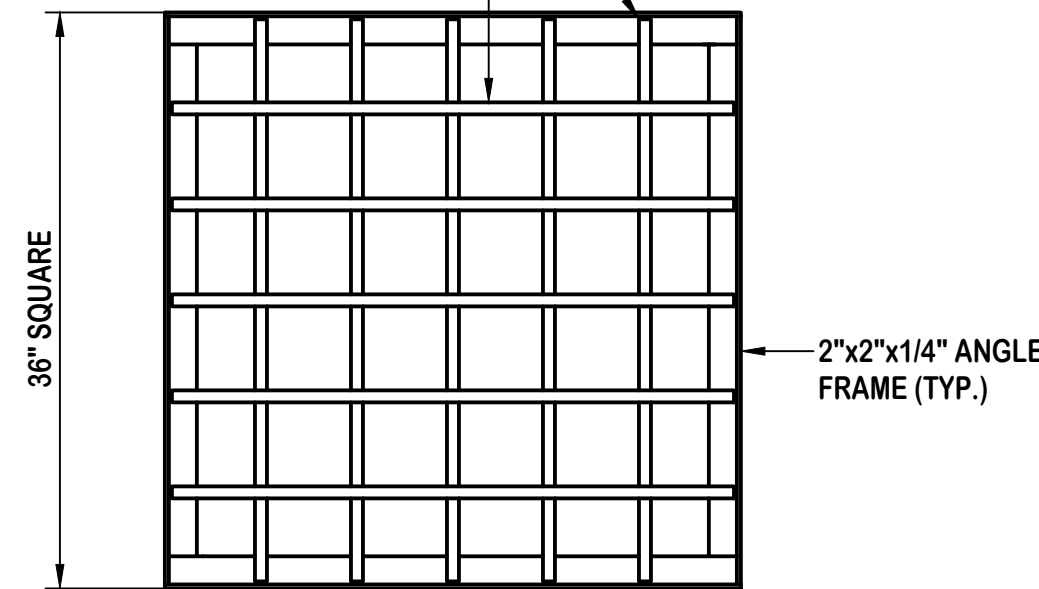
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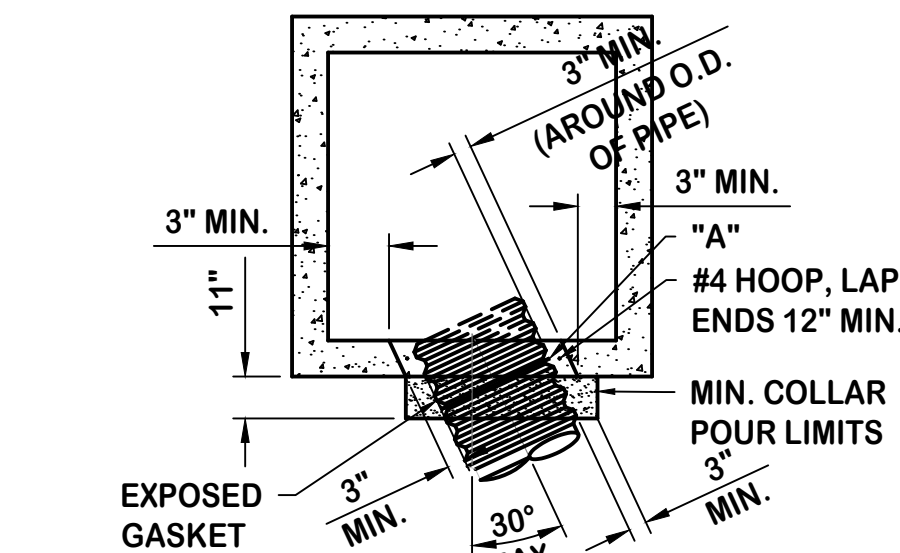
DATE JAN 2018 SHEET . OF .

C-6.08

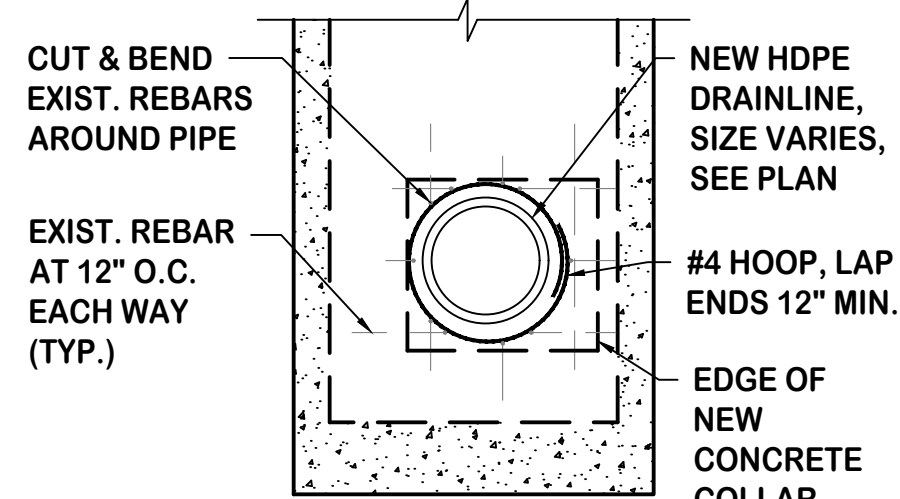
#6 ASTM A-706 REINFORCING BARS @
6" O.C. MAX., BOTHWAYS, WELDED TO
36"x36" SQ., 2"x2"x1/4" ANGLE FRAME
& INTERSECTIONS OR APPROVED EQUAL,
HOT DIP GALV. AFTER FABRICATION



A
C-6.08
**DRYWELL REBAR GRATING
& FRAME DETAIL**
SCALE: 1"=1'-0"

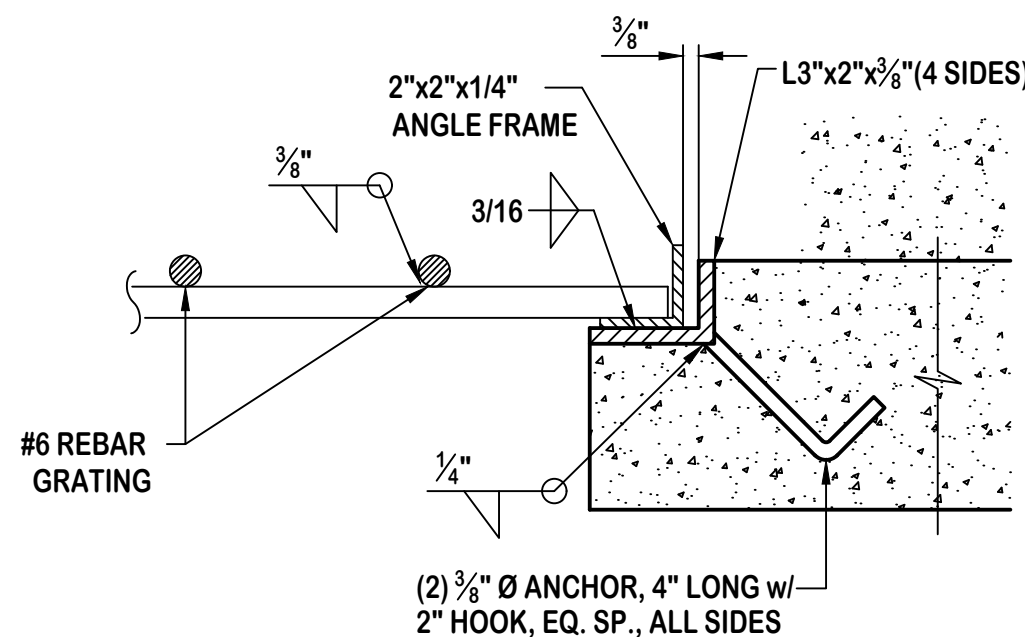


PLAN VIEW



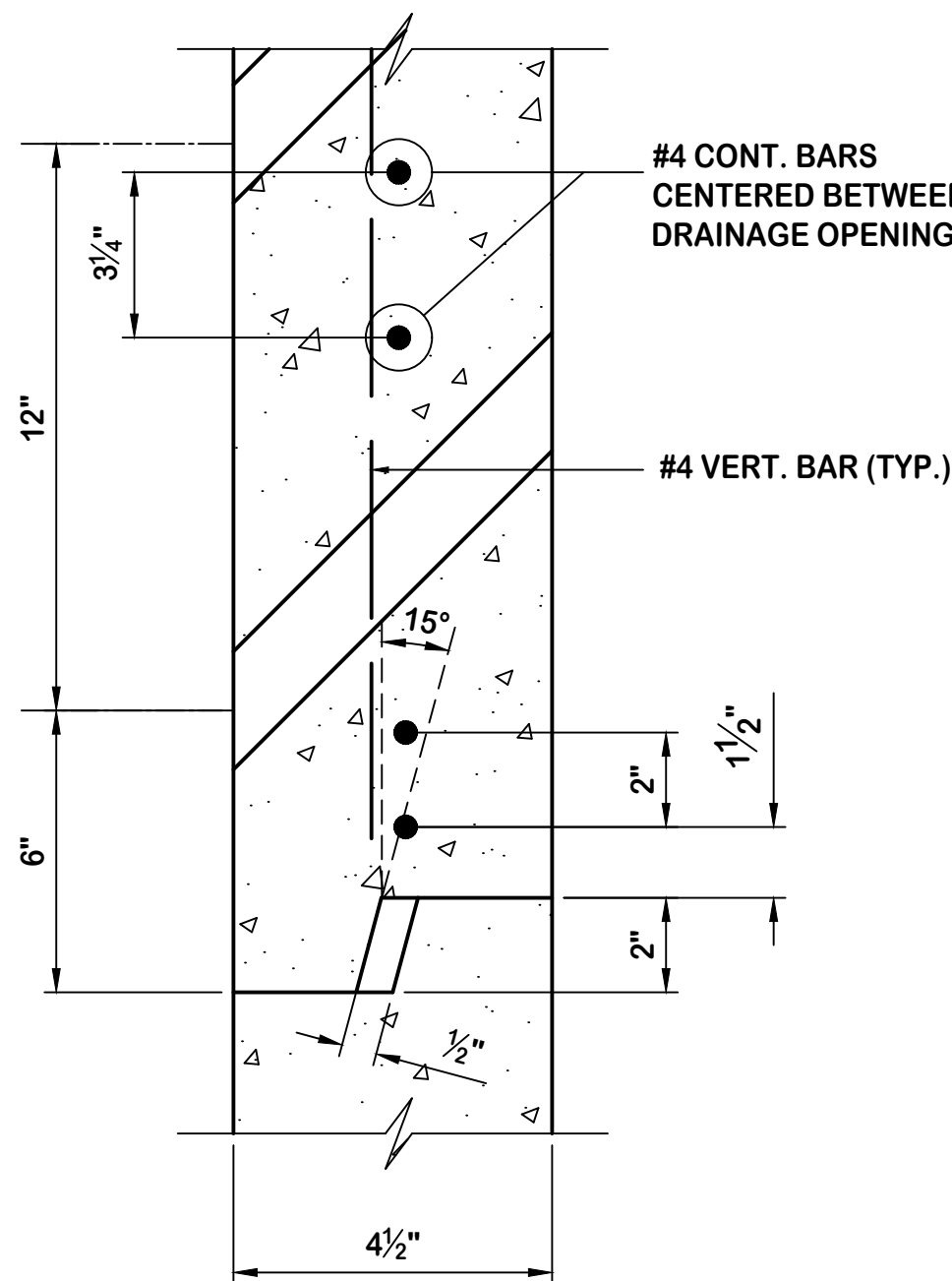
ELEVATION VIEW

D
C-6.08
**NON-SHRINK GROUT COLLAR FOR
HDPE PIPE TO MANHOLE CONNECTION**
NOT TO SCALE

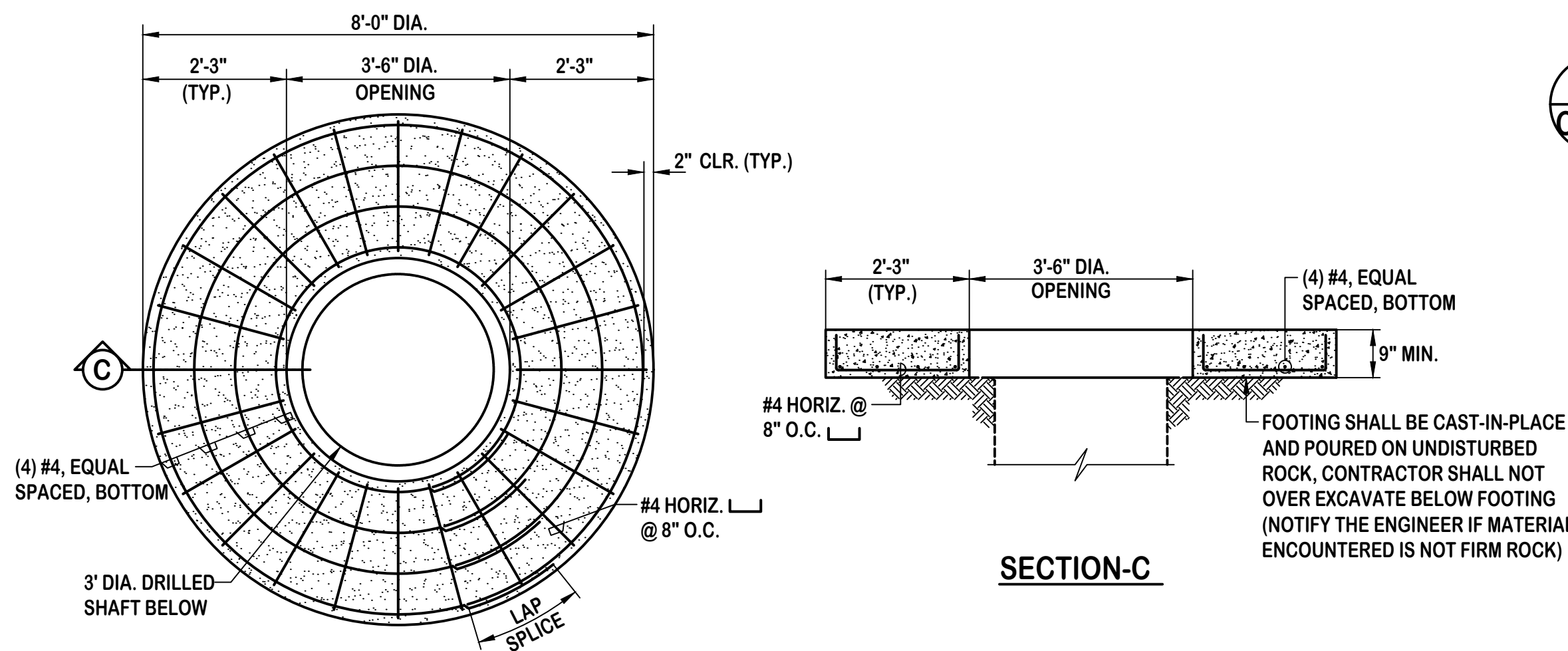


- NOTES:
1. GRATING SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 2. ALL STEEL SHALL BE STRUCTURAL GRADE (ASTM A36 MIN.).
 3. ALL WELDS 3/8" UNLESS OTHERWISE NOTED.
 4. ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT EDITION OF REINFORCED STEEL WELDING CODE AWS D1.4.

B
C-6.08
**REBAR GRATING
SEAT DETAIL**
N.T.S.



E
C-6.08
**DRYWELL RING
JOINT DETAIL**
N.T.S.



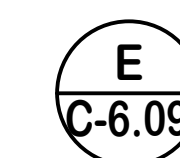
PLAN

SECTION-C

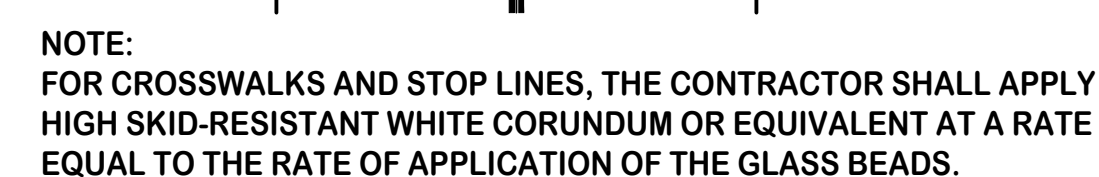
C
C-6.08
CONCRETE RING FOOTING DETAIL
SCALE: 1/2" = 1'-0"



1. THE INSIDE OF THE 2 1/4" ANCHOR POST MUST BE KEPT FREE OF IMPEDIMENTS TO ASSURE EASY INSERTION OF THE 2" SIGN POST.
2. SQUARE TUBE SIGN POST SHALL BE TELESCOPING PERFORATED TELESPAR TUBING OR APPROVED EQUAL.
3. SIGN DIMENSIONS SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) AND THE "STANDARD HIGHWAY SIGNS" BOOK.
4. FLANGED CHANNEL POSTS AND OCTAGONAL POSTS ARE NOT ACCEPTABLE.
5. ALL INSTALLATIONS SHALL BE FIRM AND PERFORMED IN A FIRST CLASS WORKMAN-LIKE MANNER ACCORDING TO INDUSTRY STANDARDS.

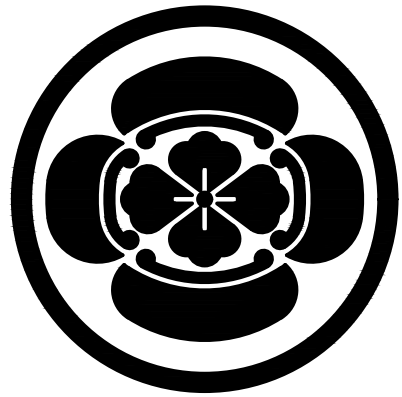


STREET NAME SIGNS

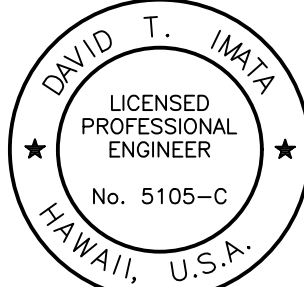


SKEWED CROSSWALK **LAYOUT AND DIMENSIONS**

(DPW STD. DTL. TR-103a)
NOT TO SCALE



Imata & Associates, Inc.
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171 KAPIOLANI STREET
HILO, HAWAII 96720



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION AND
CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION.
EXP. 4/30/20

[Signature]

REVISION • DATE • DESCRIPTION

PUAINAKO HEIGHTS SUBDIVISION PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

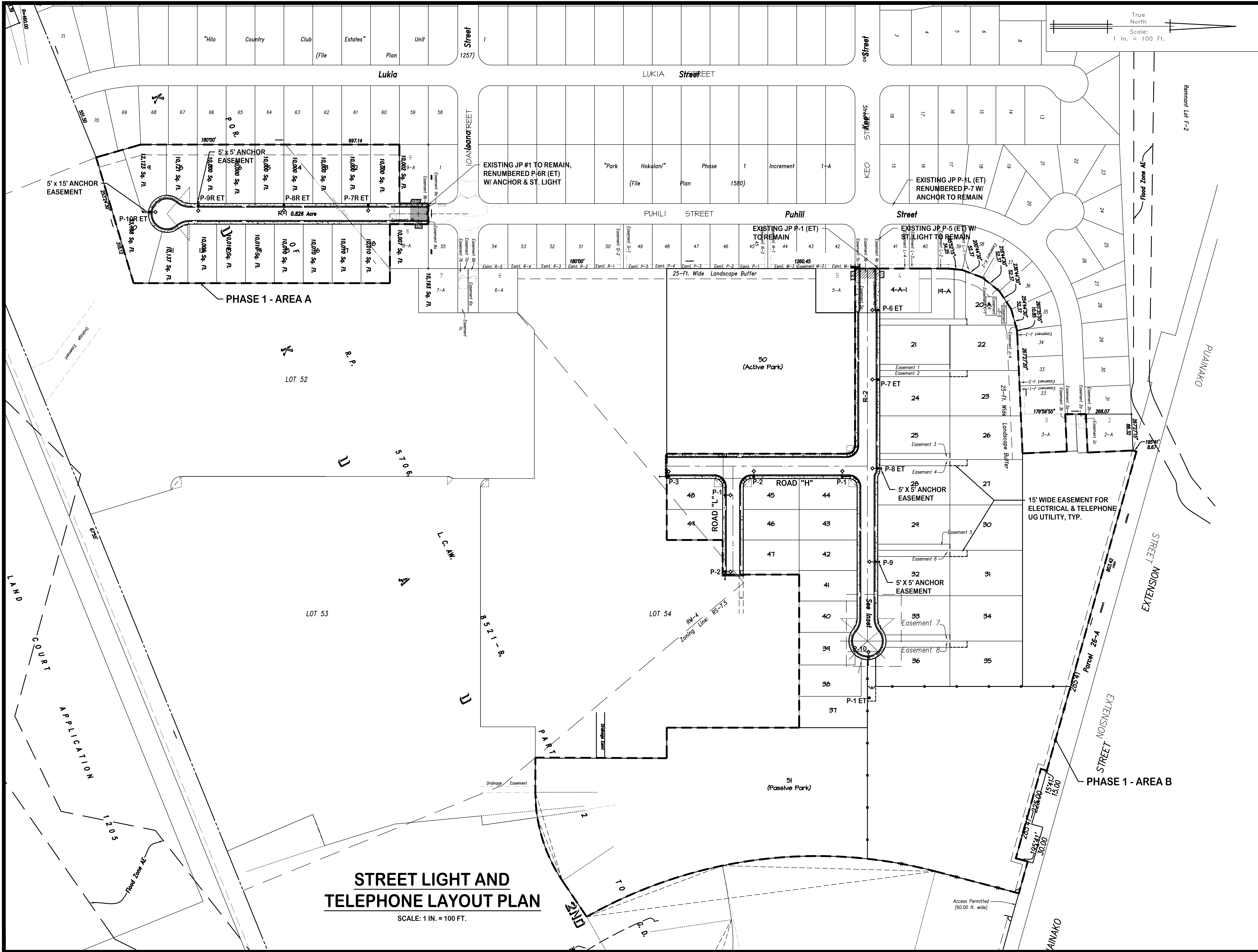
STREET LIGHT AND TELEPHONE PLAN

JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM

CHECKED DTI

DATE JAN. 2018 SHEET . OF .



STREET LIGHT AND TELEPHONE LAYOUT PLAN

SCALE: 1 IN. = 100 FT.

STREET LIGHT NOTES

NEW INSTALLATIONS:

- SUBMIT A SCALED PLAN DRAWING OF STREET LIGHT LOCATIONS (PREFERABLY ON ONE SHEET) AND DETAILS OF FIXTURE MOUNTING, LUMINARY TYPE, ARM LENGTH, AND IDENTIFICATION TAGS. FOR UNDERGROUND CIRCUITS, FOUNDATIONS, BASES AND POLES, DRAWINGS SHALL ALSO BE SUBMITTED TO THE TRAFFIC DIVISION AFTER PLAN APPROVAL AND BEFORE CONSTRUCTION BEGINS.
- ANY SUBDIVISION WITH TWO (2) OR MORE STREET LIGHTS, THE DEVELOPER SHALL SET UP AN ACCOUNT WITH HELCO; PROVIDING STREET NAME(S), POLE NUMBER(S), GPS COORDINATES, WATTAGE AND BILLING ADDRESS TO ENERGIZE LIGHTS IN THE SUBDIVISION. A COPY OF THE STREET LIGHT INFORMATION SHALL ALSO BE PROVIDED TO THE COUNTY FOR INSPECTION PURPOSES. THE DEVELOPER SHALL ALSO BE RESPONSIBLE FOR THE ENERGY COSTS UNTIL THE STREET(S) ARE DEDICATED TO THE COUNTY; WHERE-UPON BILLING SHALL BE TRANSFERRED TO THE COUNTY.
- SUBMIT AN ISOLINE ILLUMINATION PLOT DRAWING OF ANY NEW STREET LIGHTS, SHOWING THE STREET LIGHTING ILLUMINATION OF THE ROADWAYS WITHIN THE PROJECT AREA. THE STREET LIGHTING ILLUMINATION LEVELS SHALL BE CALCULATED ACCORDING TO THE 2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE OR THE ANSI/IES RP-8-14 ROADWAY LIGHTING GUIDE.
- ALL STREET LIGHT IDENTIFICATION TAG NUMBERING FOR METAL POLES SHALL START WITH "1" AND CONTINUE NUMERICALLY FOR EACH STREET IN THE SUBDIVISION. ALL NEW TAGS NUMERAL HEIGHT SHALL BE A MINIMUM OF 3". ALL STREET LIGHT IDENTIFICATION TAG NUMBERING FOR WOODEN POLES SHALL BE IN ACCORDANCE WITH HELCO'S SEQUENTIAL NUMBERING SYSTEM.
- SHOP DRAWINGS SHALL BE SUBMITTED FOR ANY DEVIATIONS FROM THE ORIGINAL PLAN FOR APPROVAL BY THE TRAFFIC DIVISION.
- NO CHANGES WILL BE ALLOWED OR ACCEPTED AFTER THE APPROVAL OF THE FINAL STREET LIGHT DESIGN WITHOUT VALID JUSTIFICATION FROM THE ENGINEERING DESIGN FIRM AND WITH APPROVAL OF THE COUNTY OF HAWAII, DPW, TRAFFIC DIVISION.
- FOR CONSTRUCTION IN-PROGRESS, THE DEVELOPER/ CONTRACTOR SHALL INFORM AND COORDINATE WITH THE COUNTY TRAFFIC DIVISION, STREET LIGHT INSPECTOR FOR INSPECTIONS OF STREET LIGHT SYSTEM INSTALLATIONS NO LATER THAN 72 HOURS PRIOR TO AN ON-SITE VISIT.
- FOR FINAL STREET LIGHT INSPECTIONS, THE DEVELOPER/ CONTRACTOR SHALL CONTACT THE APPLICABLE GOVERNMENT AGENCY INVOLVED WITH THE PROJECT IN REQUESTING FOR FINAL INSPECTIONS.
- UPON THE COMPLETION OF A PROJECT, THE CONTRACTOR SHALL PROVIDE THE COUNTY OF HAWAII, TRAFFIC DIVISION WITH "AS BUILT" PLANS.

EXISTING POLE INSTALLATIONS:

- WHEN A STREET LIGHT IS TO BE INSTALLED ON AN EXISTING WOODEN UTILITY POLE OR POLES IN THE COUNTY OR STATE RIGHT-OF-WAYS, THE COUNTY OF HAWAII, TRAFFIC DIVISION SHALL BE CONTACTED IN ORDER TO INITIATE A SHARED POLE APPLICATION WITH HAWAIIAN ELECTRIC AND/OR HAWAIIAN TELEPHONE. NO STREET LIGHT SHALL BE INSTALLED UNTIL A JOINT POLE SHARING AUTHORIZATION IS GIVEN.
- UPON SIGNED APPROVAL BY THE COUNTY OF HAWAII, TRAFFIC DIVISION OR STATE HDOT, STREET LIGHT(S) REQUIRED ON EXISTING POLE(S) MAY BE INSTALLED BY THE TRAFFIC DIVISION AT A COST OF \$2,500.00 PER LIGHT. THE QUANTITY OF STREET LIGHTS SHALL NOT EXCEED A MAXIMUM OF 4 LIGHTS PER PROJECT.

THE PROJECT SHALL THEN SUBMIT A CHECK, PAYABLE TO THE COUNTY DIRECTOR OF FINANCE ALONG WITH THE SUBDIVISION NUMBER, DPW FOLDER NUMBER, TAX KEY, UTILITY POLE, 6 DIGIT ID NUMBERS AND GPS COORDINATES.

- WHERE STREET LIGHT(S) ARE INSTALLED ON A RIGHT-OF-WAY WITH EXISTING STREET LIGHT(S), THE STREET LIGHT INSTALLATION SHALL CONFORM TO THE NEAREST EXISTING STREET LIGHT CONFIGURATION ON THAT ROADWAY. CONTACT THE COUNTY TRAFFIC DIVISION, STREET LIGHT INSPECTOR FOR INFORMATION OR EXCEPTIONS.

STREET LIGHTING ELECTRICAL PRACTICES:

- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SECONDARY CIRCUIT EXTENSIONS TO THE NEAREST HELCO SECONDARY. IF STREET LIGHTS ARE INSTALLED BEFORE HELCO INSTALLS THEIR SECONDARY, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND INFORMING HELCO OF STREET LIGHT LOCATIONS AND POLE CONTACTS.
- THE CONTRACTOR SHALL INSCRIBE THE MONTH AND YEAR OF INSTALLATION ON PHOTOELECTRIC (PE) CELLS AND LAMPS. ALL PE'S SHALL HAVE THE NORTH INDEX FACING NORTH.
- ALL OVERHEAD WIRING STREET LIGHT FIXTURES SHALL BE BONDED TO THE NEUTRAL WIRE IN THE FIXTURE. ALL BONDED STREET LIGHT FIXTURES SHALL HAVE A 2" X 2" REFLECTIVE GREEN STICKER PLACED AT THE BASE OF WIRE OPENING ON THE ALUMINUM ARM, SIGNIFYING THAT THE STREET LIGHTS ARE BONDED.
- ALL UNDERGROUND STREET LIGHT WIRING SHALL HAVE A #6 AWG (MINIMUM) GROUND WIRE ROUTED IN SERIES FROM THE NEUTRAL-GROUND SOURCE POINT TO EACH STREET LIGHT GROUND ROD FOR A STREET LIGHT FIXTURE GROUND POINT. A GROUND TEST MEASUREMENT SHOULD INDICATE A MAXIMUM OF 25 OHMS TO GROUND.
- A MINIMUM 8' X 5/8" COPPER GROUND ROD SHALL BE USED FOR EACH STREET LIGHT FOUNDATION.

MATERIALS:

- ALL MATERIALS AND LABOR SHALL BE WARRANTED FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
- ACCEPTABLE STREET LIGHT MATERIALS:
 - LED LUMINAIRES:

C & W ENERGY SOLUTIONS:

HIB SERIES STAR FRIENDLY FILTERED™ LED LUMINAIRES:
HIB-SLA-74-1-5-UN-GR-YL-2V-PC-SS-BT-EL, 46 WATT
(OR LATEST MODELS)
 - PHOTOELECTRIC CELLS: COMPLETELY SOLID STATE, FAIL "ON". FISHER PIERCE: FP-7790B SPS.

- ALUMINUM POLES: INTERNAL MOUNTED VIBRATION DAMPER, MINIMUM .188 WALL THICKNESS. MUST BE F.H.W.A. APPROVED AND SHALL COMPLY WITH THE CURRENT AASHTO STREET LIGHTING STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS; 12" POLE MOUNT-BASE BOLT PATTERN; ARM LENGTH SHALL BE PER PLAN; ALL EXPOSED SURFACES SHALL BE POWDER COATED GRAY FINISH; ANY OTHER FINISH SHALL REQUIRE AN APPROVAL BY THE TRAFFIC DIVISION PRIOR TO ORDERING.

TYPES:

HAPCO - SINGLE MAST ARM POLE PART# RTA30D8BFM1 OR APPROVED EQUAL (*SEE NOTE)-GC.
*NOTE: MAST ARM LENGTH PART# CODE; 8 = 8', A = 10'.

HAPCO - SINGLE TRUSS ARM POLE PART# RTA30C8BFT1 OR APPROVED EQUAL (*SEE NOTE)-GC.
*NOTE: MAST ARM LENGTH CATALOG# CODES: C = 12', E = 15'.

- ANCHOR BOLTS: USE STAINLESS STEEL ANCHOR BOLTS.

TRANSFORMER BASES:

ALUMINUM WITH 15" FOUNDATION BASE BOLT CIRCLE. MUST BE F.H.W.A. APPROVED AND IN COMPLIANCE WITH THE 2001 AMENDED AND ADOPTED AASHTO BREAK-AWAY SPECIFICATIONS; ALL EXPOSED SURFACES SHALL BE POWDER COATED GRAY FINISH; ANY OTHER FINISH SHALL REQUIRE AN APPROVAL BY THE TRAFFIC DIVISION PRIOR TO ORDERING.

TYPES:

HAPCO - 70501 (TB1 - 17)
VALMONT - M093 (TB1-17)

- TRANSFORMER BASES SHALL USE LEVELING SHIMS AND NOT LEVELING NUTS AS SPECIFIED BY HAPCO; USE LEVELING SHIMS, HAPCO PART# 51432-001 OR EQUIVALENT.

WOODEN POLES:

SOUTHERN YELLOW PINE OR DOUGLAS FIR, CLASS III, PENTA TREATED AS PER AWPA USE CATEGORY SYSTEM UC4B, COMMODITY SPECIFICATION D, 35' LENGTH.

WIRE:

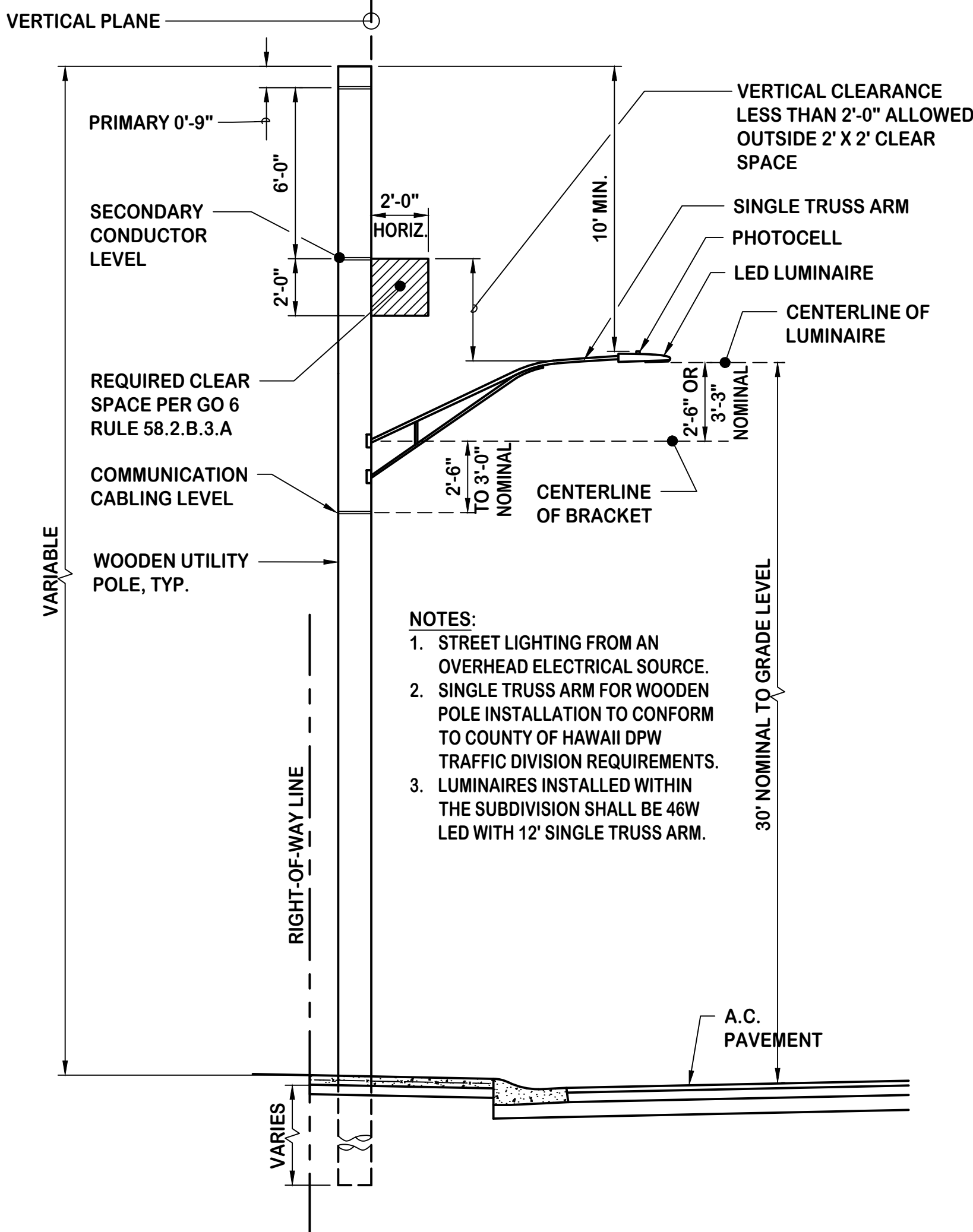
#12-AWG RHW-STRANDED COPPER WIRE - SIZE SHALL BE PER PLAN. WHITE TAPE WRAP DENOTING NEUTRAL SHALL BE A MINIMUM OF 12" ON THE STREET LIGHT SIDE AND 4' ON THE SECONDARY TAPPED (HELCO) SIDE.

REFERENCES:

- WHERE SPECIFIC STREET LIGHT DETAILS ARE NOT COVERED BY THIS DOCUMENT, REFER TO THE HDOT 2008 SPECIFICATIONS AND/OR THE 2005 STANDARD PLANS. OR CONTACT THE COH, TRAFFIC DIVISION, TRAFFIC SIGNALS & STREET LIGHTS INSPECTION SECTION, 808-961-8341.

NOTE: ALL WORK SHALL CONFORM TO THE LATEST NATIONAL ELECTRICAL CODE.

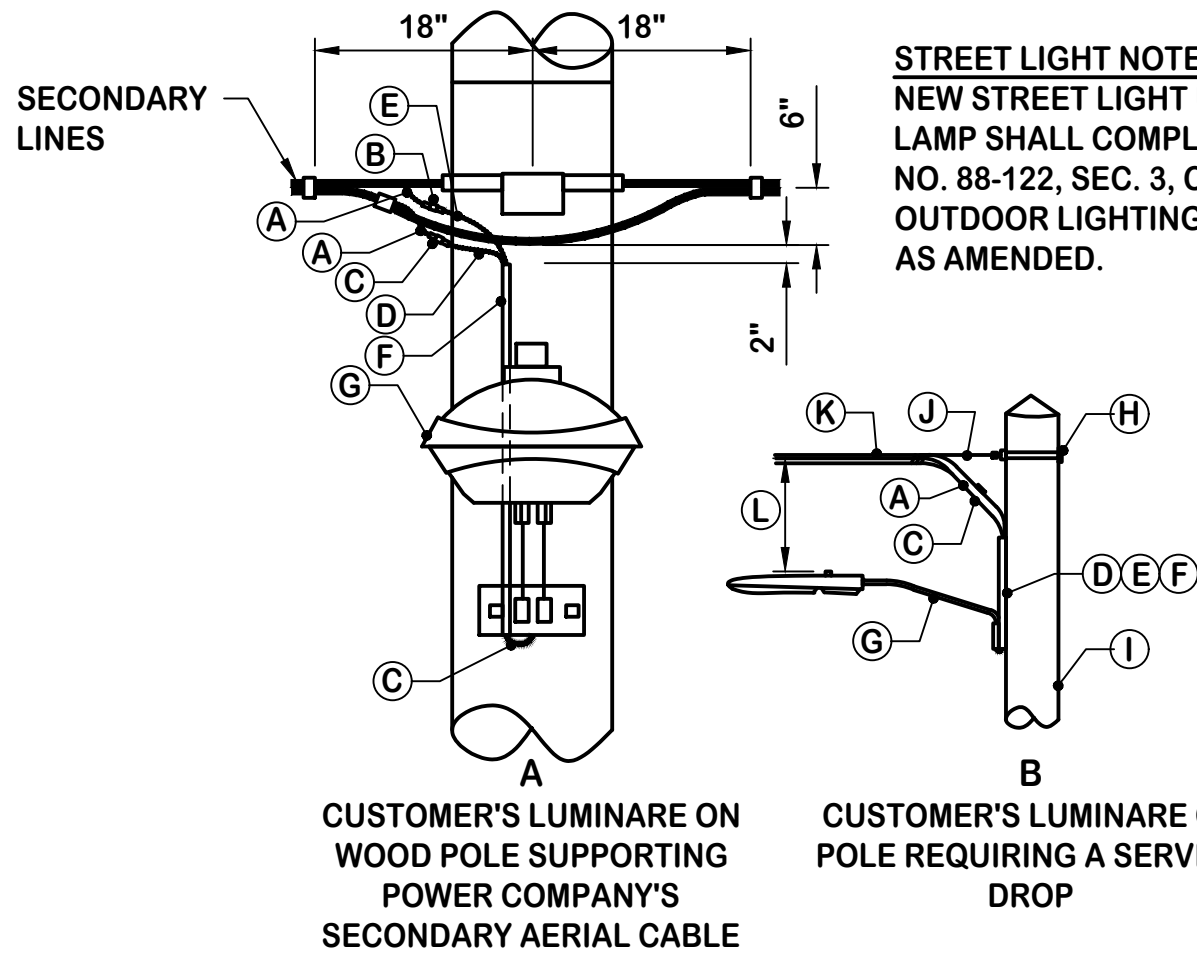
DATED: 2-NOV-17 - SUPERSEDES ALL PREVIOUS VERSIONS.



A
C7.02

STREET LIGHT INSTALLATION
ON WOODEN POLE DETAIL

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

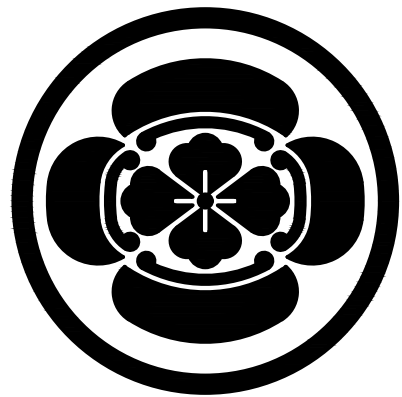


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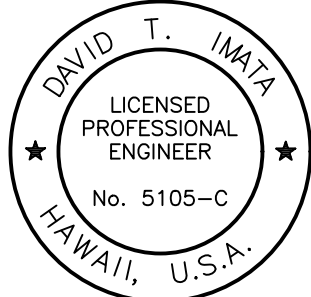
- NO. 12 AWG STRANDED COPPER WIRE, RHW, OF SUFFICIENT LENGTH TO SPLICE TO THE POWER COMPANY'S LINES. COIL THE WIRE AT THE POLE, PENDING SPLICING BY UTILITY.
- IN THE LINE UNFUSED, INSULATED SEPARABLE CONNECTOR, SUITABLE FOR NO. 8 AWG STRANDED ALUMINUM WIRE ON LINE SIDE, NO. 12 COPPER WIRE ON LOAD SIDE.
- IN THE LINE FUSE HOLDER AND FUSE SUITABLE FOR NO. 8 AWG STRANDED ALUMINUM WIRE ON LINE SIDE AND NO. 12 AWG COPPER ON LOAD SIDE.
- NO. 12 AWG RHW BLACK, SINGLE CONDUCTOR STRANDED COPPER WIRE.
- NO. 12 AWG RHW WHITE, SINGLE CONDUCTOR STRANDED COPPER WIRE.
- 3/4" PVC SCHEDULE 80 CONDUIT.
- LUMINAIRES AND BRACKET.
- ALUMINUM SERVICE DROP ANCHOR BOLT, ASSEMBLY FURNISHED AND INSTALLED BY CUSTOMER.
- WOOD POLE BY CUSTOMER.
- PREFORMED GRIP BY CUSTOMER.
- ALUMINUM SERVICE DROP BY CUSTOMER.
- 12" MINIMUM CLEARANCE BETWEEN THE LIGHT FIXTURE AND THE UTILITY SERVICE CONDUCTOR. IF NOT POSSIBLE WHEN SERVICE DROP PASSES OVER LUMINAIRES, THE UTILITY WILL SELECT A SPLICING POINT WHICH WILL PROVIDE A PASSAGE TO THE RIGHT OR LEFT OF LUMINAIRES TO PROVIDE A 12" CLEARANCE.

B
C7.02

STREET LIGHT INSTALLATION
ON WOODEN POLE
(OVERHEAD ELECTRICAL SOURCE)
NOT TO SCALE



Imata & associates, inc.
CIVIL ENGINEERS • LAND SURVEYORS
171 KAPIOLANI STREET
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THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION AND
CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION.
EXP. 4/30/20

Signature of David T. Imata

REVISION • DATE • DESCRIPTION

PUAINAKO HEIGHTS
SUBDIVISION
PHASE 1

KUKUAU 2ND, SOUTH HILO,
ISLAND OF HAWAII, HAWAII

TMK: 3RD DIV. 2-5-046: 001, 2-5-049: 057-074
2-5-050: 069-081, 2-5-051: 056-073

SHEET TITLE

MISCELLANEOUS
STREET LIGHT DETAILS

JOB NO. 16-25 DRAWING NUMBER

DRAWN BJM/ EM

CHECKED DTI

DATE JAN 2018 SHEET . OF .

C-7.02