

## **BFED Committee**

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**From:** Shane M. Sinenci  
**Sent:** Monday, April 11, 2022 11:09 AM  
**To:** Lesley J. Milner; BFED Committee  
**Cc:** karla.peters@mauicounty.us  
**Subject:** Paani Mai Access Road Final Plans  
**Attachments:** Paani Mai Park Access Rd Final Plans.pdf

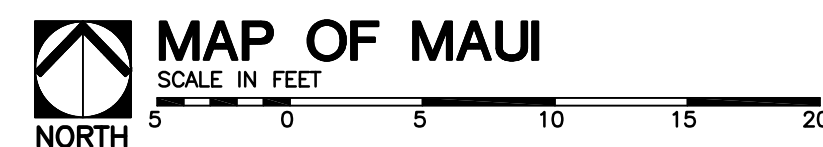
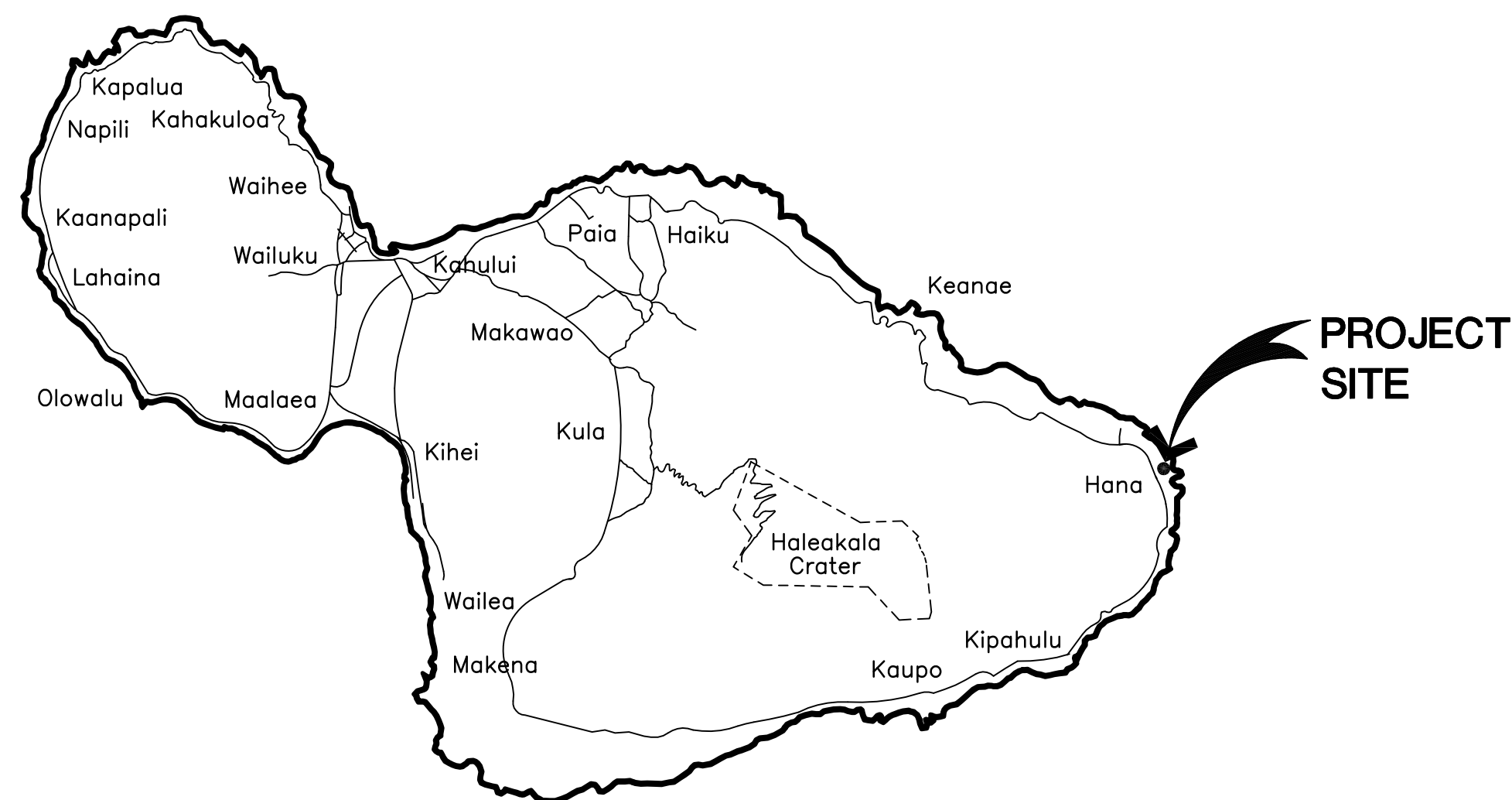
Hi Lesley, please share with councilmembers my alternate proposal #71

# PAANI MAI ACCESS ROAD

PROJECT NO. P15/001

TAX MAP KEYS: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021

HANA, MAUI, HAWAII



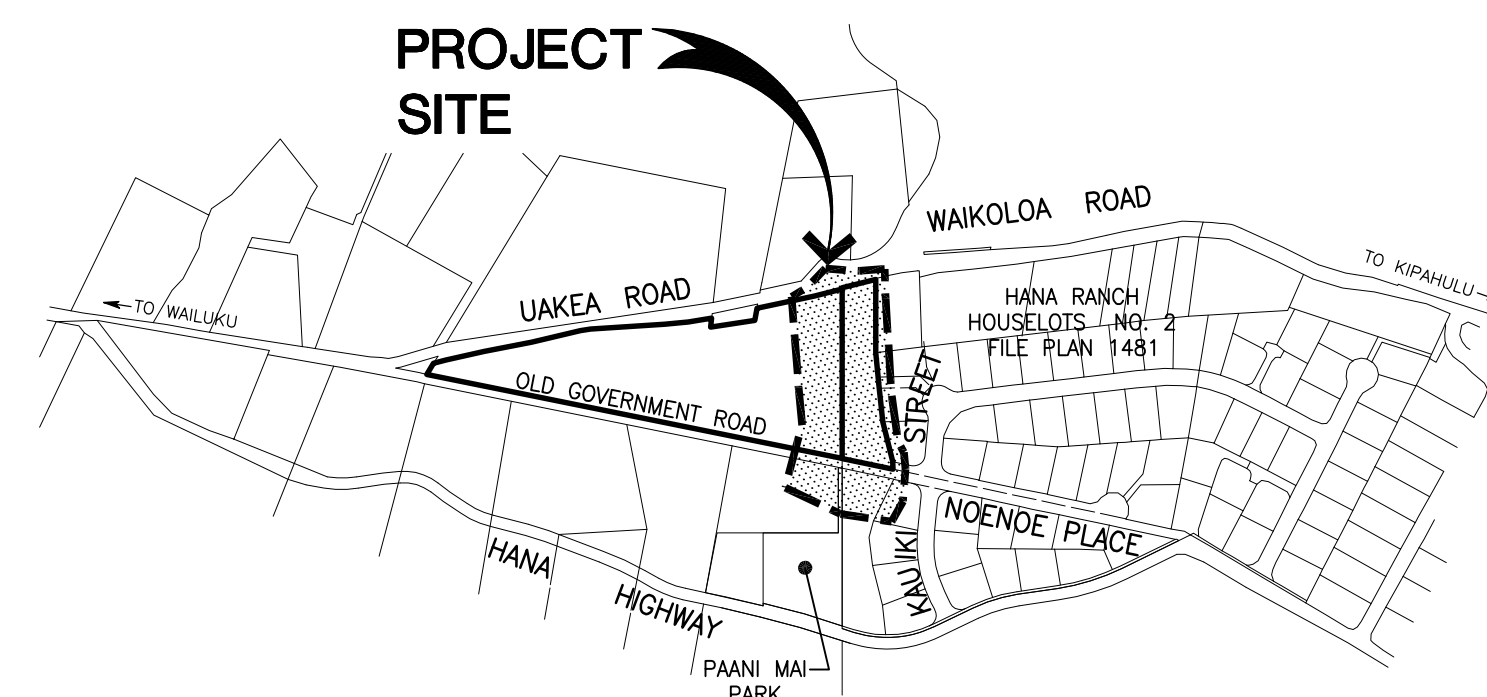
PREPARED FOR:

PLANNING AND DEVELOPMENT DIVISION  
DEPARTMENT OF PARKS AND RECREATION  
COUNTY OF MAUI  
700 HALIA NAKOA STREET, UNIT 2F  
WAILUKU, MAUI, HAWAII 96793

PREPARED BY:



**FUKUMOTO ENGINEERING, INC.**  
*Civil Engineering & Land Surveying Consultants*  
1721 Wili Pa Loop, Suite 203 • Wailuku, Hawaii 96793



## APPROVALS:

\_\_\_\_\_  
DIRECTOR,  
DEPARTMENT OF PUBLIC WORKS  
COUNTY OF MAUI  
(APPROVAL GRANTED FOR WORK WITHIN COUNTY RIGHT-OF-WAY)

\_\_\_\_\_  
DATE

\_\_\_\_\_  
DIRECTOR,  
DEPARTMENT OF PARKS AND RECREATION  
COUNTY OF MAUI

\_\_\_\_\_  
DATE

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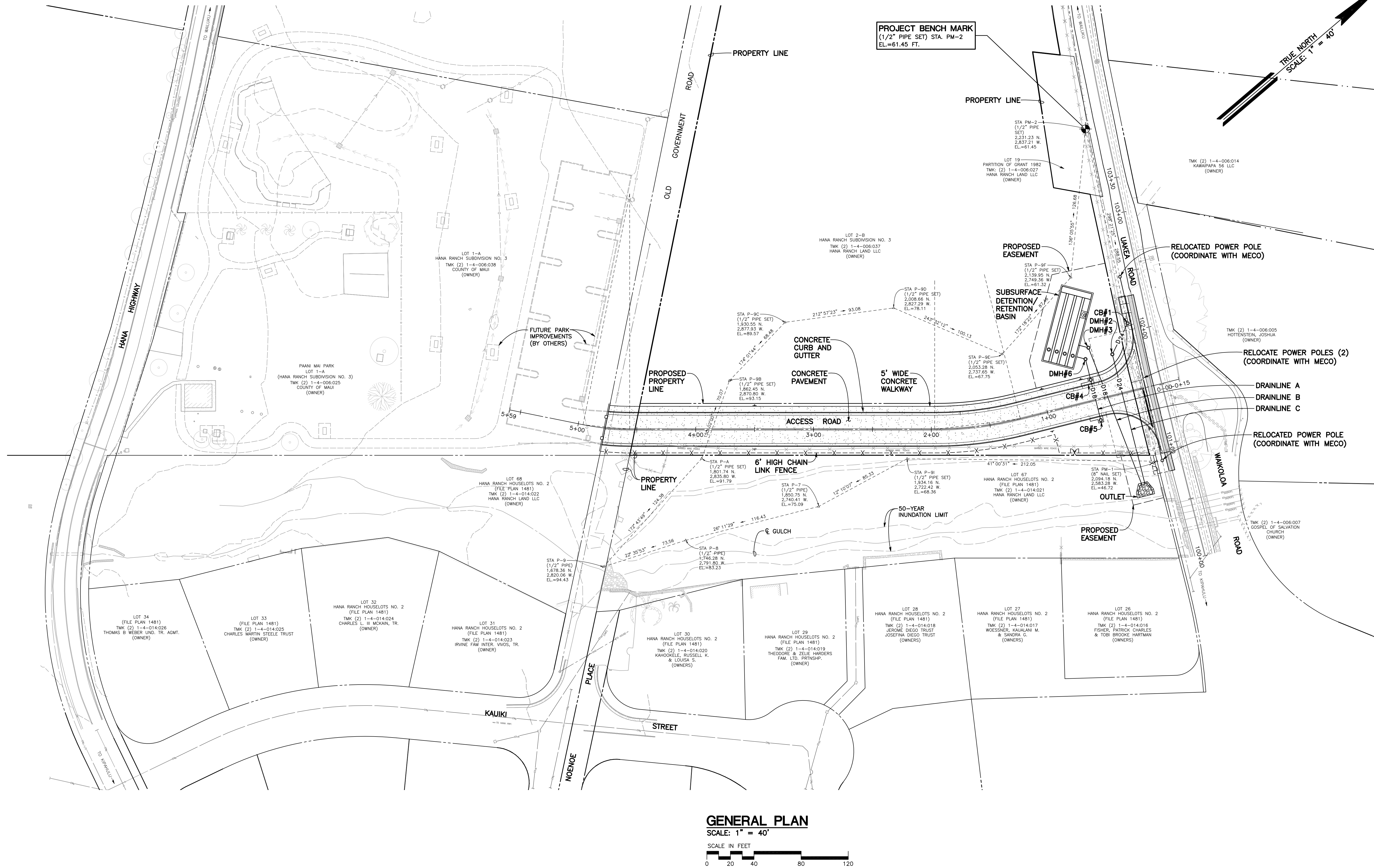
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**PAANI MAI PARK ACCESS ROAD**  
TMK: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021  
HANA, MAUI, HAWAII  
**GENERAL PLAN**

MANDY K. SAITO  
LICENSED PROFESSIONAL ENGINEER  
No. 14754-C  
HAWAII, U.S.A.  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR 16-115-2.  
Mandy K. Saito  
LICENSE EXPIRES: 04/30/2018

DESIGNED BY: M.K.S.  
DRAWN BY: M.K.S., N.M.  
CHECKED BY: R.F.  
DATE: DECEMBER 8, 2016  
FILE NO: COM57

SHEET  
**C-1**  
2 OF 13





CONSTRUCTION NOTES

GENERAL NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE BASED ON AVAILABLE "AS-BUILT" OF RECORD CONSTRUCTION PLANS, ARE APPROXIMATE ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.
2. EXISTING CONTOURS AND FEATURES ARE BASED ON "TOPOGRAPHIC SURVEY" PREPARED BY FUKUMOTO ENGINEERING, INC. DATED FEBRUARY 22, 2016 THROUGH MARCH 3, 2016.
3. ELEVATIONS SHOWN ARE BASED ON THE PROJECT BENCH MARK, A 1/2" PIPE (STA. PM-2) LOCATED WITHIN PARCEL 27 OF TAX MAP KEY (2) 1-4--006, 59 FEET FROM THE EAST CORNER OF THIS PARCEL AND 2.9 FEET FROM THE SOUTHWESTERLY SIDE OF UAKEA ROAD. ELEVATION = 61.45 FEET.
4. VERIFY EXISTING GRADES BEFORE PROCEEDING WITH GRADING WORK. SHOULD ANY DISCREPANCIES BE DISCOVERED IN THE EXISTING GRADES OR DIMENSIONS GIVEN ON THE PLANS, NOTIFY THE ENGINEER BEFORE PROCEEDING ANY FURTHER WITH THE WORK. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY COST INVOLVED IN THE CORRECTION OF CONSTRUCTION PLACED DUE TO SUCH DISCREPANCIES.
5. DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES WITHIN PROJECT LIMITS BEFORE COMMENCING WORK, AND AGREE TO BE FULLY RESPONSIBLE FOR DAMAGES DUE TO FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES.
6. REPORT ANY INCONSISTENCIES WITH THE PROPOSED PLAN TO THE OWNER'S REPRESENTATIVE AND DEMOLISH, REMOVE, OR RELOCATE ALL EXISTING UTILITIES, IMPROVEMENTS, ETC. INCONSISTENT WITH THE PROPOSED PLAN AS DIRECTED BY THE OWNER'S REPRESENTATIVE AND AT THE CONTRACTOR'S EXPENSE.
7. THE LATEST REVISIONS OF THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION," SEPTEMBER 1984 AND THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," 2005 IS INCLUDED AS PART OF THESE CONSTRUCTION PLANS. OBTAIN THE LATEST REVISIONS BEFORE COMMENCING CONSTRUCTION.
8. SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS AND MOUNDS, OR REMAINS SUCH AS ARTIFACTS, BURIALS, CONCENTRATION OF CHARCOAL OR SHELLS BE ENCOUNTERED DURING CONSTRUCTION WORK, CEASE WORK IN THE IMMEDIATE VICINITY OF THE FIND, AND PROTECT THE FIND FROM FURTHER DAMAGE. THE CONTRACTOR MUST IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (PH: 243-1285 OR 243-4640), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND MITIGATION MEASURES, IF NECESSARY.
9. PURSUANT TO CHAPTER 6E OF THE HAWAII REVISED STATUTES, IN THE EVENT THAT ANY HUMAN SKELETAL REMAINS ARE INADVERTENTLY DISCOVERED DURING CONSTRUCTION, DO NOT MOVE THE REMAINS, CEASE ANY ACTIVITY IN THE IMMEDIATE AREA THAT COULD DAMAGE THE REMAINS OR THE POTENTIAL HISTORIC SITE, AND CONTACT THE DEPARTMENT OF LAND AND NATURAL RESOURCES' HISTORIC PRESERVATION DIVISION (PH: 243-1285 OR 243-4640), THE APPROPRIATE MEDICAL EXAMINER OR CORONER, AND THE POLICE DEPARTMENT (TELEPHONE: 244-6400).

GRADING NOTES

1. FINISH SPOT ELEVATIONS AND FINISH CONTOURS, AS SHOWN ON PLAN REPRESENTS FINISH GRADING. THE SITE WORK CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE CONTRACTOR THE LOCATION AND DEPTH OF TOPSOIL. THE FINISH SUBGRADE SHALL REFLECT THE FINISH GRADE LESS SPECIFIED TOPSOIL DEPTH.
2. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE MEASURES OF THE BEST MANAGEMENT PRACTICE (BMP) PLAN. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS CONTAINED IN THE PUBLIC HEALTH REGULATIONS, STATE DEPARTMENT OF HEALTH, ON WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS.
3. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS, AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION BY THE STATE DEPARTMENT OF HEALTH SHALL BE PAYABLE BY THE CONTRACTOR.
4. THE CONTRACTOR, AT HIS EXPENSE, SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE OF DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.
5. CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE SITE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE MUST ALSO FULFILL REQUIREMENTS OF THE GRADING ORDINANCES.
6. THE CONTRACTOR SHALL NOT DEMOLISH OR CLEAR ANY STRUCTURE, SITE OR VACANT LOT WITHOUT FIRST ASCERTAINING THE PRESENCE OR ABSENCE OF RODENTS WHICH MAY ENDANGER THE PUBLIC HEALTH BY DISPERSAL FROM SUCH PREMISES. SHOULD SUCH INSPECTION REVEAL THE PRESENCE OF SUCH RODENTS, THE CONTRACTOR SHALL ERADICATE SUCH RODENTS BEFORE DEMOLISHING OR CLEARING SAID STRUCTURE, SITE OR VACANT LOT.
7. THE FOLLOWING MEASURES SHALL BE TAKEN TO CONTROL DUST AND EROSION DURING THE SITE DEVELOPMENT PERIOD:
- A. MINIMIZE TIME OF CONSTRUCTION.
- B. RETAIN EXISTING GROUND COVER UNTIL THE LATEST DATE TO COMPLETE CONSTRUCTION.
- C. CONSTRUCT REMAINING PERMANENT EROSION AND DRAINAGE CONTROL FEATURES AS EARLY AS POSSIBLE.
- D. USE TEMPORARY AREA SPRINKLERS IN NON-ACTIVE CONSTRUCTION AREAS WHEN GROUND COVER IS REMOVED.
- E. STATION WATER TRUCK ON-SITE DURING CONSTRUCTION PERIOD TO PROVIDE FOR IMMEDIATE SPRINKLING, AS NEEDED, IN ACTIVE CONSTRUCTION AREAS (WEEKENDS AND HOLIDAYS INCLUDED).
- F. USE TEMPORARY BERMS AND CUT-OFF DITCHES, WHERE NEEDED, FOR CONTROL OF EROSION. IMPLEMENT AND MAINTAIN THE MEASURES OF THE BMP PLAN.
- G. GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND ON WEEKENDS.
- H. ALL CUT AND FILL SLOPES SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.

CONSTRUCTION NOTES WITHIN COUNTY RIGHT-OF-WAY

1. CONTRACTOR SHALL OBTAIN A PERMIT TO PERFORM WORK ON COUNTY HIGHWAYS FROM THE DEVELOPMENT SERVICES ADMINISTRATION TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK.
2. STANDARD DETAIL DRAWINGS AND STANDARD SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC WORKS SHALL BE INCLUDED AS PART OF THE CONSTRUCTION PLANS.
3. ALL CONSTRUCTION WORK SHALL STRICTLY CONFORM TO THE LATEST VERSION OF THE HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE PUBLIC WORKS CONSTRUCTION, AND THE SEPTEMBER 1984 "STANDARD DETAILS" FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, AS AMENDED.
4. IF EXISTING UTILITIES, WHETHER OR NOT SHOWN ON PLANS, ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL AT HIS OWN EXPENSE BE REQUIRED TO REPAIR SUCH UTILITIES.
5. CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC, ACCORDING TO THE LATEST VERSION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE FOR STREETS AND HIGHWAYS", AND TO THE RULES AND REGULATIONS GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORKSITES AND/OR ADJACENT TO PUBLIC STREETS AND HIGHWAYS ADOPTED BY THE HIGHWAY SAFETY COORDINATOR AND THE U.S. FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS".
6. THE DIRECTOR OF PUBLIC WORKS AND/OR THE DIRECTOR OF THE DEPARTMENT OF WATER SUPPLY HAS THE RIGHT TO STOP CONSTRUCTION SHOULD ANY WORK BE FOUND CONTRARY TO THE APPROVED CONSTRUCTION PLAN OR DETRIMENTAL TO THE PUBLIC'S INTEREST.
7. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE DEVELOPMENT SERVICES ADMINISTRATION FIVE (5) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
8. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND COUNTY GRADING ORDINANCE.
9. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.
10. CONSTRUCTION DEBRIS AND WASTES SHALL BE DEPOSITED AT AN APPROPRIATE WORK SITE. THE CONTRACTOR SHALL INFORM THE DIRECTOR OF PUBLIC WORKS OF THE LOCATION OF THE DISPOSAL SITES. THE DISPOSAL SITE MUST FULFILL THE REQUIREMENTS OF THE GRADING ORDINANCE.
11. THE CONTRACTOR SHALL SUBMIT A TIFF AND FIVE (5) COPIES OF THE "AS-BUILT" DRAWINGS PRIOR TO THE FINAL APPROVAL OF THE IMPROVEMENTS.
12. IF THE CLEARANCE BETWEEN A WASTEWATER LINE AND A NEW OR EXISTING WATERLINE IS EIGHTEEN INCHES (18") OR LESS, THE WASTEWATER LINE SHALL BE CONCRETE-JACKETED IN ACCORDANCE WITH THE STANDARD DETAILS OF PUBLIC WORKS CONSTRUCTION DATED SEPTEMBER 1984, AS AMENDED.
13. SHOULD HISTORIC SITES SUCH AS WALLS, PLATFORMS, PAVEMENTS OR MOUNDS, OR REMAINS SUCH AS ARTIFACTS BURIALS, CONCENTRATION OF SHELL OR CHARCOAL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, WORK SHALL CEASE IMMEDIATELY IN THE IMMEDIATE VICINITY OF THE FIND AND THE FIND SHALL BE PROTECTED FROM FURTHER DAMAGE. THE CONTRACTOR AND/OR LANDOWNER SHALL IMMEDIATELY CONTACT THE STATE HISTORIC PRESERVATION DIVISION (692-8015), WHICH WILL ASSESS THE SIGNIFICANCE OF THE FIND AND RECOMMEND AN APPROPRIATE MITIGATION MEASURE, IF NECESSARY.
14. THE COUNTY OF MAUI IS NOT RESPONSIBLE FOR ANY PARK, ROADWAY, EASEMENT (INCLUDING BUT NOT LIMITED TO DRAINAGE, SEWER, ACCESS, RECLAIMED WATER, OR AVIGATION EASEMENT), OR ANY OTHER INTEREST IN REAL PROPERTY SHOWN ON THIS MAP OR SHOWN ON THESE PLANS, UNLESS THE MAUI COUNTY COUNCIL HAS ACCEPTED ITS DEDICATION BY A RESOLUTION APPROVED BY A MAJORITY OF A COUNCIL MEMBERS AT A REGULAR OR SPECIAL MEETING OF THE MAUI COUNTY COUNCIL OR THE COUNTY OF MAUI HAS SIGNED ITS ACCEPTANCE VIA A CONVEYANCE DOCUMENT RECORDED IN THE BUREAU OF CONVEYANCES OF THE STATE OF HAWAII IN COMPLIANCE WITH MAUI COUNTY CODE SECTION 3.44.015.
15. STEEL PLATE WARNING SIGNS ARE REQUIRED FOR ALL STEEL PLATES IN THE RIGHT-OF-WAY.
16. WHEELCHAIR RAMP INSPECTION/CERTIFICATION FORMS SHALL BE REQUIRED FOR ALL NEWLY CONSTRUCTED RAMPS.
17. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE OF THERMOPLASTIC MATERIAL.
18. COMPACTION REQUIREMENTS

- A. TESTING OF MATERIALS SHALL BE CONDUCTED BY AN APPROVED INDEPENDENT TESTING AGENCY IN ACCORDANCE WITH ASTM STANDARD METHODS OR AS SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DIVISION, AS FOLLOWS:
- I. EMBANKMENT/SELECT BORROW AND SUBGRADE MATERIALS: ONE (1) COMPACTION TEST PER 600 SQUARE YARDS PER LIFT;
- II. AGGREGATE SUBBASE COURSE: ONE (1) COMPACTION TEST PER 400 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
- III. AGGREGATE BASE COURSE: ONE (1) COMPACTION TEST PER 300 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
- IV. ASPHALT CONCRETE PAVEMENT OR ASPHALT TREATED BASE COURSE; THREE (3) A.C. CORES FOR THICKNESS AND DENSITY TESTS PER PROJECT;
- V. TRENCH BACKFILL MATERIAL: ONE (1) TEST FOR EACH 300 LINEAL FEET OF TRENCH PER LIFT OF MATERIAL.

CONTRACTOR SHALL SUBMIT ALL TESTING REPORTS INCLUDING RESULTS TO THE COUNTY'S INSPECTION AGENCY FOR REVIEW AND APPROVAL PRIOR TO COUNTY'S ACCEPTANCE OF WORK.

THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE COUNTY OF ANY TESTING FAILURES AND CORRECT EACH FAILURE PRIOR TO PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION.

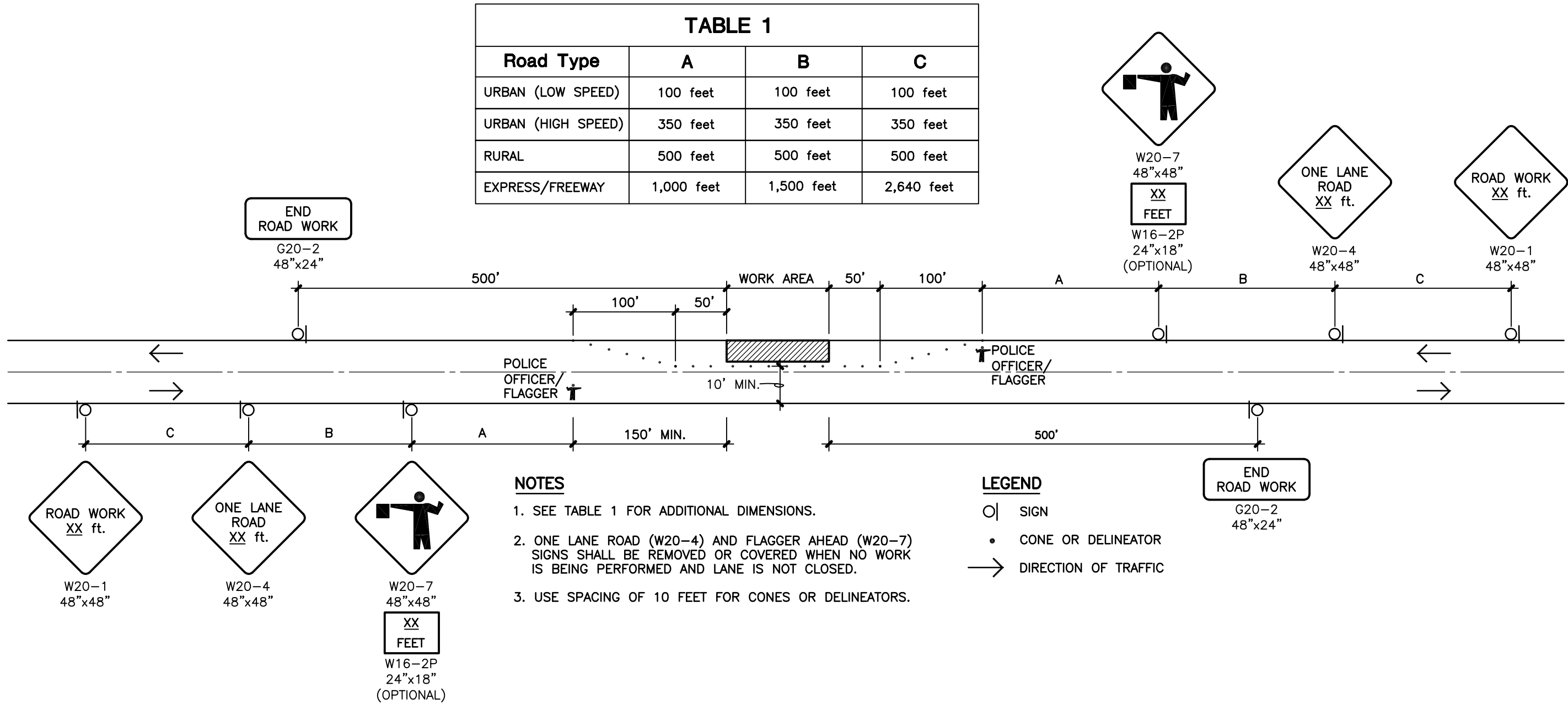
REVISED: 04/2016

DEPARTMENT OF PUBLIC WORKS NOTES

1. THE CONTRACTOR SHALL ALLOW FOUR WEEKS TO OBTAIN A GRADING PERMIT FROM THE DEVELOPMENT SERVICES ADMINISTRATION PRIOR TO COMMENCEMENT OF ANY CLEARING AND GRUBBING. A SATISFACTORY DRAINAGE AND EROSION CONTROL PLAN SHALL BE SUBMITTED IN THE EVENT THE GRUBBING AREA EXCEEDS ONE ACRE OR THE PROPOSED CUT OR FILL IS GREATER THAN 15 FEET IN HEIGHT. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL BEST MANAGEMENT PRACTICE MEASURES.
2. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, AND OTHER PROTECTIVE DEVICES FOR THE PROTECTION, SAFETY AND CONVENIENCE OF THE PUBLIC AND IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAY, 2003 EDITION WITH REVISION No. 1 INCORPORATED, DATED NOVEMBER 2004". THE CONTRACTOR SHALL PREPARE AND OBTAIN NECESSARY APPROVALS OF TRAFFIC CONTROL PLANS IF REQUIRED BY THE DEVELOPMENT SERVICES ADMINISTRATION.
3. STANDARD DETAIL DRAWINGS OF THE DEPARTMENT OF PUBLIC WORKS AND THE HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND PUBLIC WORKS CONSTRUCTION (1994) SHALL BE INCLUDED AS PART OF THE CONSTRUCTION PLANS.
4. ALL CONSTRUCTION WORK SHALL STRICTLY CONFORM TO THE APPLICABLE SECTIONS OF THE 2005 HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE SEPTEMBER 1984 "STANDARD DETAILS" FOR PUBLIC WORKS CONSTRUCTION OF THE DEPARTMENT OF PUBLIC WORKS, AS AMENDED.
5. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND COUNTY GRADING ORDINANCE.
6. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COSTS INCURRED FOR ANY NECESSARY REMEDIAL ACTION ORDERED BY THE DIRECTOR OF PUBLIC WORKS SHALL BE PAID BY THE CONTRACTOR.

COMPACTION REQUIREMENTS

1. TESTING OF MATERIALS SHALL BE CONDUCTED BY AN APPROVED INDEPENDENT TESTING AGENCY IN ACCORDANCE WITH ASTM STANDARD METHODS OR AS SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS, ENGINEERING DIVISION, AS FOLLOWS:
- A. EMBANKMENT/SELECT BORROW AND SUBGRADE MATERIALS: ONE (1) COMPACTION TEST PER 600 SQUARE YARDS PER LIFT;
- B. AGGREGATE SUBBASE COURSE: ONE (1) COMPACTION TEST PER 400 SQUARE YARDS; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER LIFT PER PROJECT;
- C. AGGREGATE BASE COURSE: ONE (1) COMPACTION TEST PER 300 SQUARE YARDS PER LIFT OF MATERIAL; ONE (1) GRADATION AND SAND EQUIVALENT TEST PER PROJECT;
- D. ASPHALT CONCRETE PAVEMENT OR ASPHALT TREATED BASE COURSE; THREE (3) A.C. CORES FOR THICKNESS AND DENSITY TESTS PER PROJECT;
- E. TRENCH BACKFILL MATERIAL: ONE (1) TEST FOR EACH 300 LINEAL FEET OF TRENCH PER LIFT OF MATERIAL.
2. CONTRACTOR SHALL SUBMIT ALL TESTING REPORTS INCLUDING RESULTS TO THE COUNTY'S INSPECTION AGENCY FOR REVIEW AND APPROVAL PRIOR TO COUNTY'S ACCEPTANCE OF WORK.
3. THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE COUNTY OF ANY TESTING FAILURES AND CORRECT EACH FAILURE PRIOR TO PROCEEDING TO THE NEXT PHASE OF CONSTRUCTION.



TRAFFIC CONTROL PLAN FOR ONE LANE CLOSURE  
NOT TO SCALE



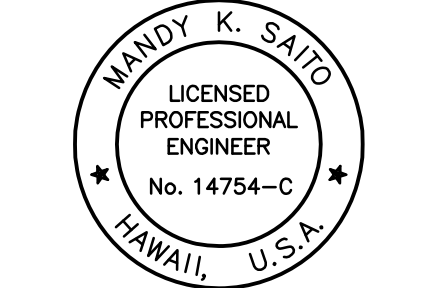
**FUKUMOTO  
ENGINEERING, INC.**  
Civil Engineering &  
Land Surveying Consultants

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Wailuku, Hawaii 96793

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Prepared for:  
Planning and Development Division  
Department of Parks and Recreation  
County of Maui  
700 Hahaione Street, Unit 2F  
Wailuku, Hawaii 96793

PAANI MAI PARK ACCESS ROAD  
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HANA, MAUI, HAWAII  
CONSTRUCTION NOTES & UAKEA ROAD TRAFFIC CONTROL PLAN

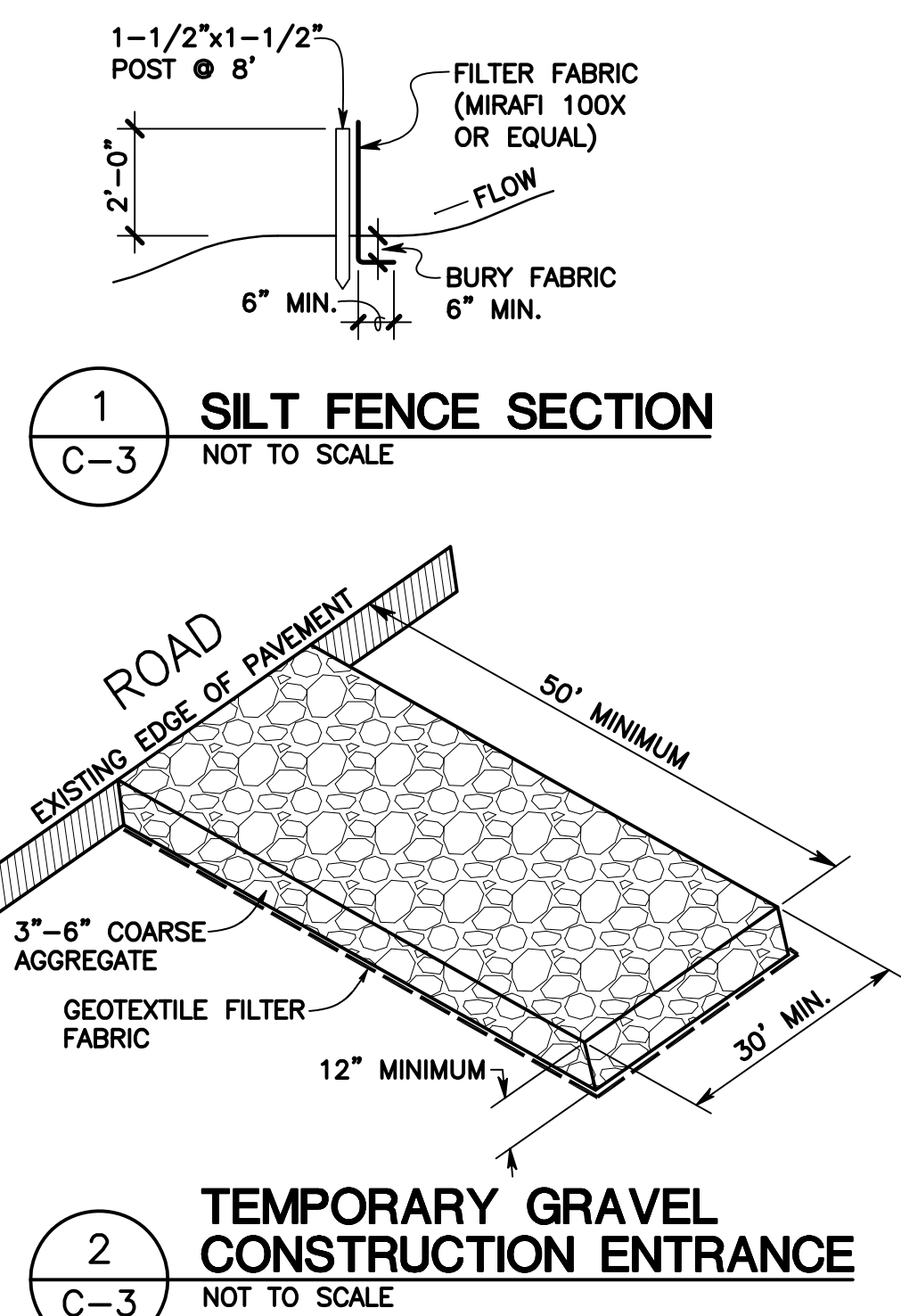
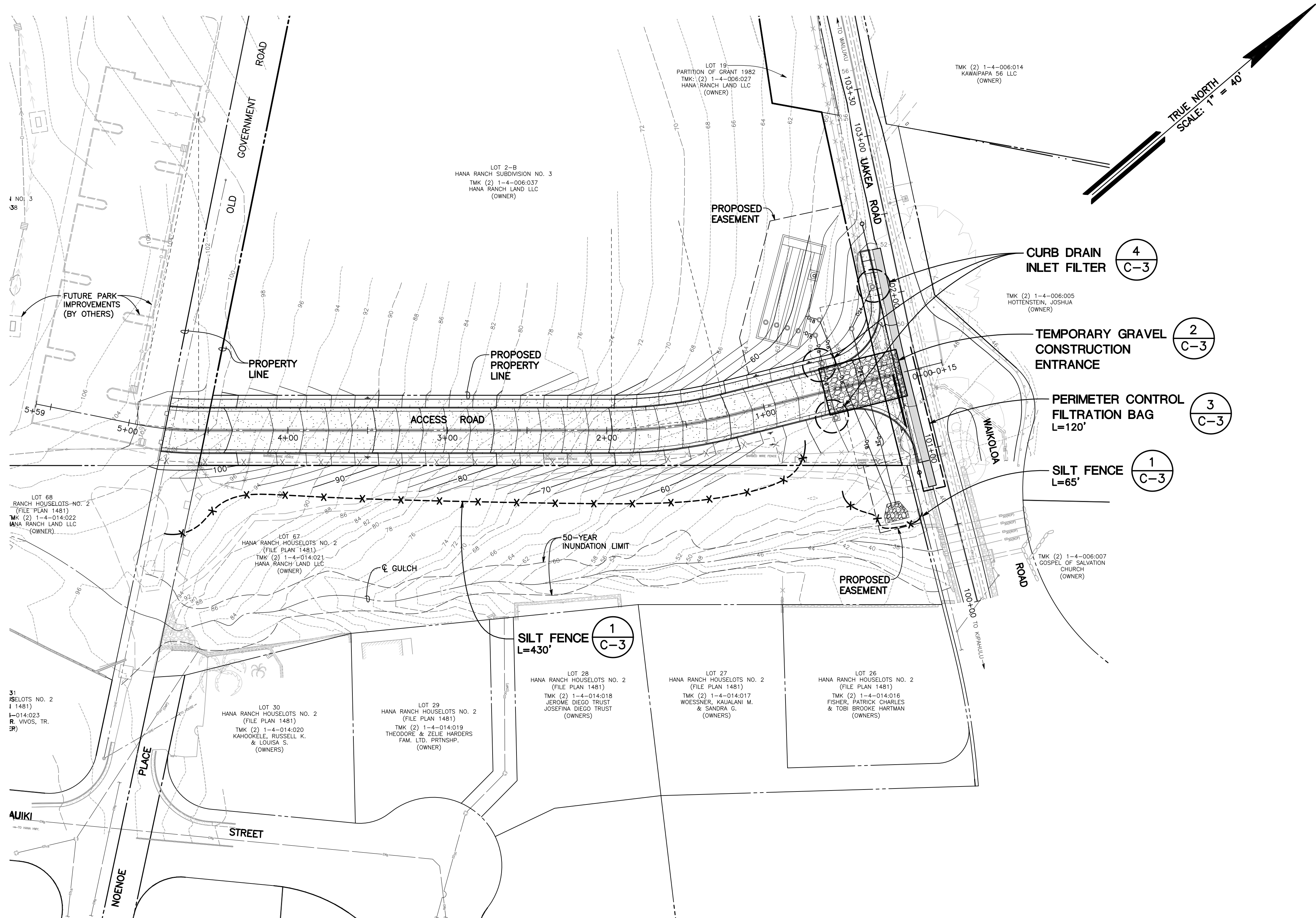


THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION,  
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*Mandy K. Saito*  
LICENSE EXPIRES: 04/30/2018

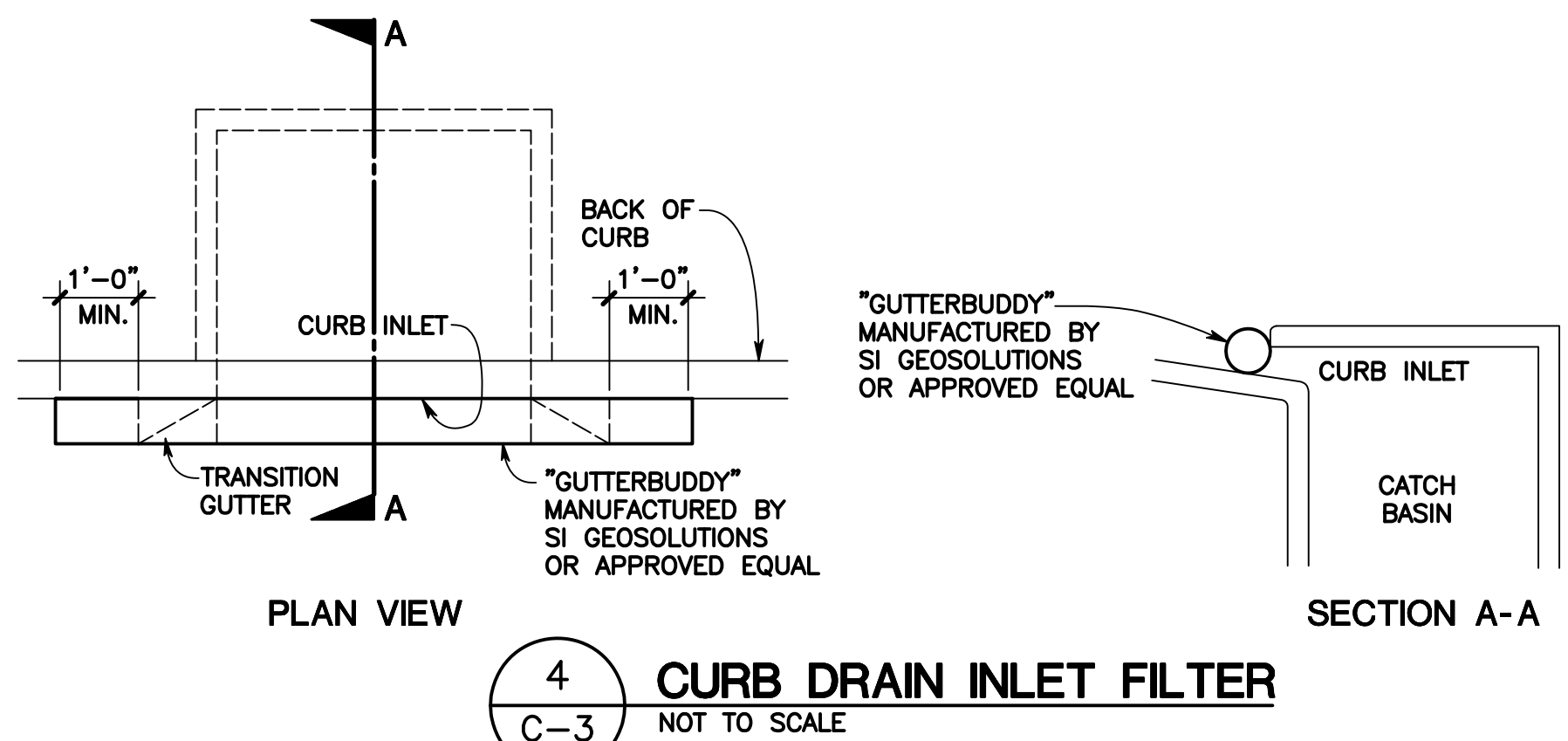
DESIGNED BY: M.K.S.  
DRAWN BY: M.K.S., N.M.  
CHECKED BY: R.F.  
DATE: DECEMBER 8, 2016  
FILE NO: COM57

SHEET  
**C-2**  
3 OF 13





**EROSION CONTROL BEST MANAGEMENT PRACTICES PLAN**  
SCALE: 1" = 40'  
SCALE IN FEET  
0 20 40 80 120



- EROSION CONTROL NOTES**  
IMPLEMENT THE FOLLOWING OUTLINE OF EROSION CONTROL MEASURES DURING CONSTRUCTION.
1. GENERAL EROSION CONTROL MEASURES
    - A. MINIMIZE TIME OF CONSTRUCTION.
    - B. RETAIN EXISTING GROUND COVER UNTIL THE LATEST DATE TO COMPLETE CONSTRUCTION.
    - C. PROVIDE TEMPORARY GRAVEL APRON(S) (APPROXIMATELY 50' LONG BY 30' WIDE) AT POINT OF CONNECTION TO PAVED STREET TO PREVENT TRACKING OF SEDIMENTS ONTO STREET.
    - D. CONTROL DUST BY SPRINKLING WITH WATER WAGONS OR OTHER SUITABLE METHODS. GRADED AREAS SHALL BE THOROUGHLY WATERED AFTER CONSTRUCTION ACTIVITY HAS CEASED FOR THE DAY AND ON WEEKENDS.
    - E. USE TEMPORARY BERMS AND CUT-OFF DITCHES, WHERE NEEDED, FOR CONTROL OF EROSION.
    - F. CONSTRUCT PERMANENT EROSION AND DRAINAGE CONTROL FEATURES AS EARLY AS POSSIBLE. ALL CUT AND FILL SLOPES SHALL BE SODDED OR PLANTED IMMEDIATELY AFTER GRADING WORK HAS BEEN COMPLETED.
    - G. MAINTAIN EROSION CONTROL MEASURES UNTIL ESTABLISHMENT OF GRASS AND LANDSCAPE PLANTING.
  2. SITE-SPECIFIC EROSION CONTROL MEASURES
    - A. INSTALL SILT FENCES AS NOTED ON PLAN. INSPECT FENCES WEEKLY AND AFTER STORMS. REMOVE AND STABILIZE SEDIMENT WHEN IT REACHES A HEIGHT OF 8 INCHES AT THE FENCE.
    - B. INSTALL CURB INLET FILTER AS NOTED ON PLAN. INSPECT FILTER WEEKLY AND AFTER STORMS. REMOVE AND DISPOSE OF SEDIMENT AFTER EACH STORM EVENT.
    - C. INSTALL GRAVEL SNAKE BAG AS MANUFACTURED BY PROTECH GENERAL CONTRACTING SERVICES, INC., OR APPROVED EQUAL, PRIOR TO EXCAVATION WITHIN PAVEMENT. PROVIDE TRAFFIC CONTROL AS NECESSARY TO PROTECT EROSION CONTROL DEVICES. THE USE OF WATER TO CLEAN THE PAVEMENT IS PROHIBITED.
  3. ADDITIONAL EROSION CONTROL NOTES
    - A. ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY WEEKLY IN DRY PERIODS AND WITHIN 24 HOURS AFTER ANY RAINFALL OF 1/2 INCH OR GREATER WITHIN A 24-HOUR PERIOD. DURING PROLONGED PERIODS OF RAINFALL, DAILY CHECKING IS NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF THE DURATION AND ESTIMATED VOLUME OF STORM WATER DISCHARGE(S), CHECKS, AND REPAIRS.
    - B. 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.
    - C. A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT.
    - D. TEMPORARY SOIL STABILIZATION WITH APPROPRIATE VEGETATION SHALL BE APPLIED ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN 30 CALENDAR DAYS.
    - E. PERMANENT SOIL STABILIZATION WITH PERENNIAL VEGETATION OR PAVEMENT SHALL BE APPLIED AS SOON AS PRACTICAL AFTER FINAL GRADING. IRRIGATION AND MAINTENANCE OF THE PERENNIAL VEGETATION SHALL BE PROVIDED FOR 30 DAYS OR UNTIL THE VEGETATION TAKES ROOT, WHICHEVER IS SHORTER.

- MINIMUM BEST MANAGEMENT PRACTICES**
1. DRAINAGE: HANDLE DRAINAGE TO CONTROL EROSION, PREVENT DAMAGE TO DOWNSTREAM PROPERTIES, AND RETURN WATER TO THE NATURAL DRAINAGE COURSE IN A MANNER WHICH MINIMIZES SEDIMENTATION OR OTHER POLLUTION TO THE MAXIMUM EXTENT PRACTICABLE.
  2. DUST CONTROL: CONTROL DUST EMISSIONS TO THE MAXIMUM EXTENT PRACTICABLE THROUGH BMPs SUCH AS WATER SPRINKLING, DUST FENCES, LIMITING AREA OF DISTURBANCE, AND TIMELY GRASSING OF FINISHED AREAS.
  3. VEGETATION: RETAIN NATURAL VEGETATION, ESPECIALLY GRASSES, WHEREVER FEASIBLE. AVOID STORAGE OF GRUBBED MATERIALS NEAR WATERCOURSES.
  4. EROSION CONTROLS: STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MEASURES SUCH AS VEGETATION, RUNOFF DIVERSION, CHECK DAMS, MULCHING, BLANKETS, BONDED FIBER MATRICES, AND VEHICLE WHEEL WASH FACILITIES.
  5. SEDIMENT CONTROL: CAPTURE SEDIMENT TRANSPORTED IN RUNOFF TO MINIMIZE THE SEDIMENT FROM LEAVING THE SITE WITH METHODS SUCH AS SEDIMENT BASINS, SEDIMENT TRAPS, SILT FENCES, SAND BAGS, AND VEGETATED FILTER STRIPS.
  6. MATERIAL AND WASTE MANAGEMENT: PROPERLY STORE TOXIC MATERIAL AND PREVENT THE DISCHARGE OF POLLUTANTS ASSOCIATED WITH CONSTRUCTION MATERIALS.
  7. TIMING OF CONTROL MEASURE IMPLEMENTATION: TIMING OF CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION CONTROL PLAN. DISTURBED AREAS OF CONSTRUCTION SITES THAT WILL NOT BE RE-DISTURBED FOR TWENTY-ONE DAYS OR MORE WILL BE STABILIZED (GRASSES OR GRAVELED) BY NO LATER THAN THE FOURTEENTH DAY AFTER THE LAST DISTURBANCE.

**FUKUMOTO ENGINEERING, INC.**  
Civil Engineering & Land Surveying Consultants  
1721 Willi Pa Loop, Suite 203  
Wailuku, Hawaii 96793  
Phone: (808) 242-8611  
Email: office@femaui.com  
Website: www.femaui.com

Prepared for:  
Planning and Development Division  
Department of Parks and Recreation  
County of Maui  
700 Hahaione Street, Unit 2F  
Wailuku, Hawaii 96793

**PAANI MAI PARK ACCESS ROAD**  
TMK: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021  
HANA, MAUI, HAWAII  
**EROSION CONTROL BEST MANAGEMENT PRACTICES PLAN**

**MANDY K. SAITO**  
LICENSED PROFESSIONAL ENGINEER  
No. 14754-C  
HAWAII, U.S.A.  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION, AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAR 16-115-2.  
Mandy K. Saito  
LICENSE EXPIRES: 04/30/2018

DESIGNED BY:	M.K.S.
DRAWN BY:	M.K.S., N.M.
CHECKED BY:	R.F.
DATE:	DECEMBER 8, 2016
FILE NO:	COM57
SHEET	C-3
4	OF 13





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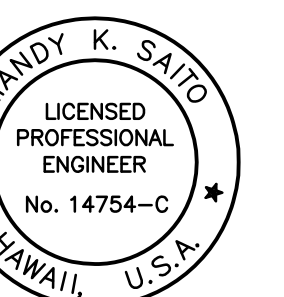
Prepared for:

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Department of Parks and Recreation  
County of Maui  
700 Hala Nakoa Street, Unit 2F  
Wailuku, Hawaii 96793

**PAANI MAI PARK ACCESS ROAD**  
TMK: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021

HANA, MAUI, HAWAII

**SITE PLAN**

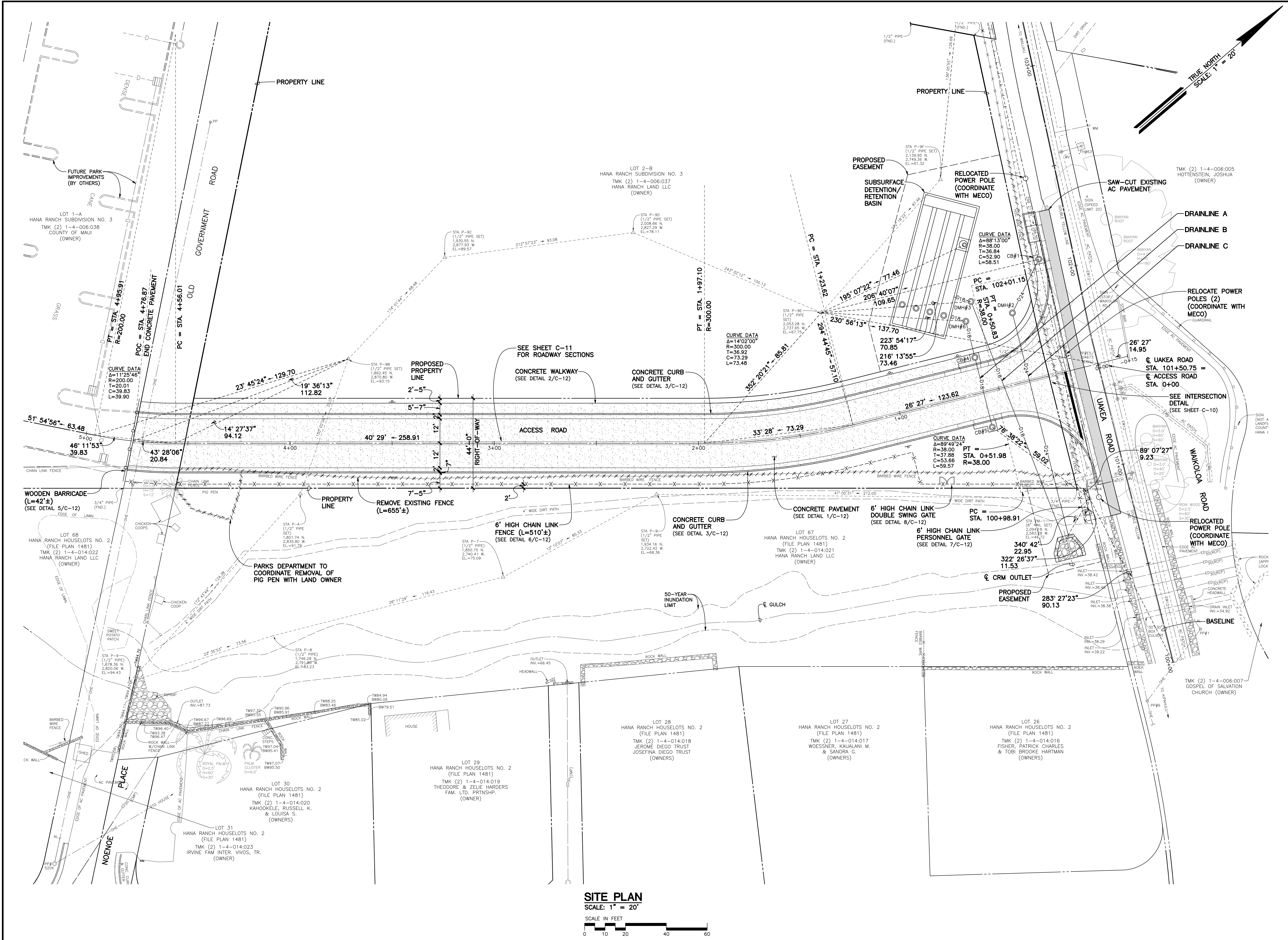


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*Mandy K. Saido*  
LICENSE EXPIRES: 04/30/2018

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CHECKED BY: R.F.  
DATE: DECEMBER 8, 2016  
FILE NO: COM57

**SHEET**  
**C-4**  
5 OF 13



**SITE PLAN**  
SCALE: 1" = 20'







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TMK: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021

HANA, MAUI, HAWAII

**GRADING AND DRAINAGE PLAN**



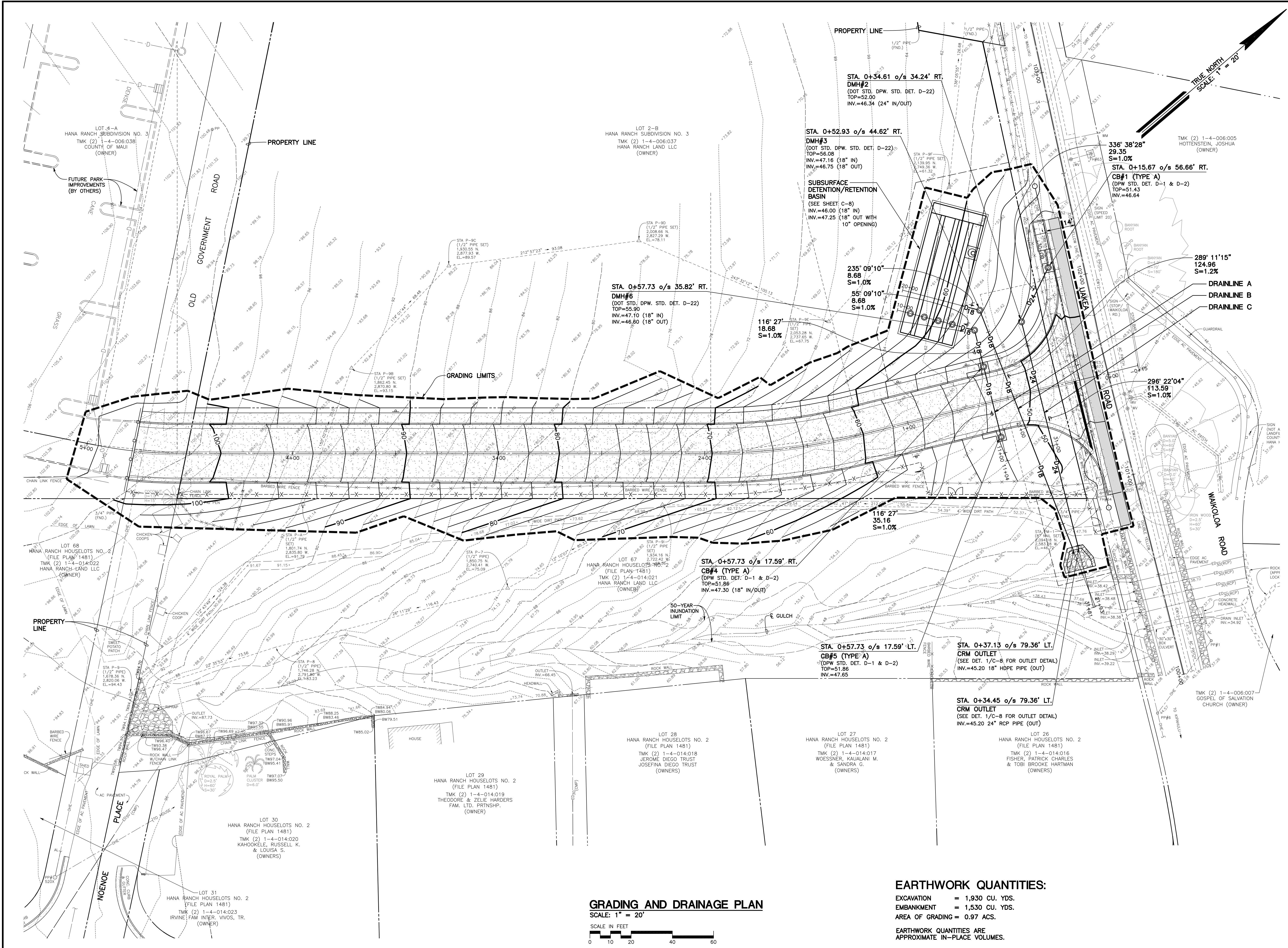
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CHECKED BY: R.F.  
DATE: DECEMBER 8, 2016  
FILE NO: COM57

**SHEET  
C-5**

6 OF 13



**GRADING AND DRAINAGE PLAN**

SCALE: 1" = 20'

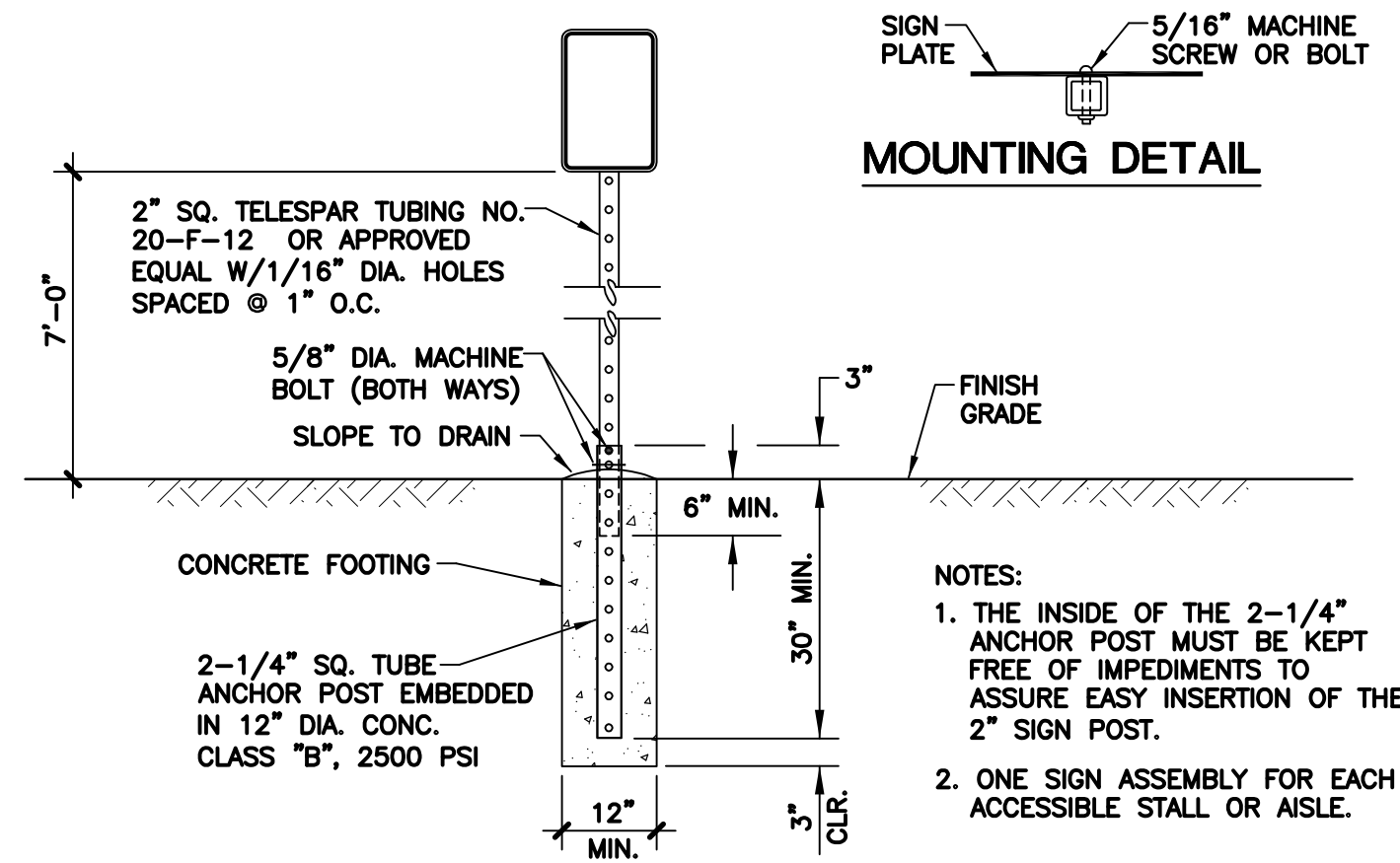
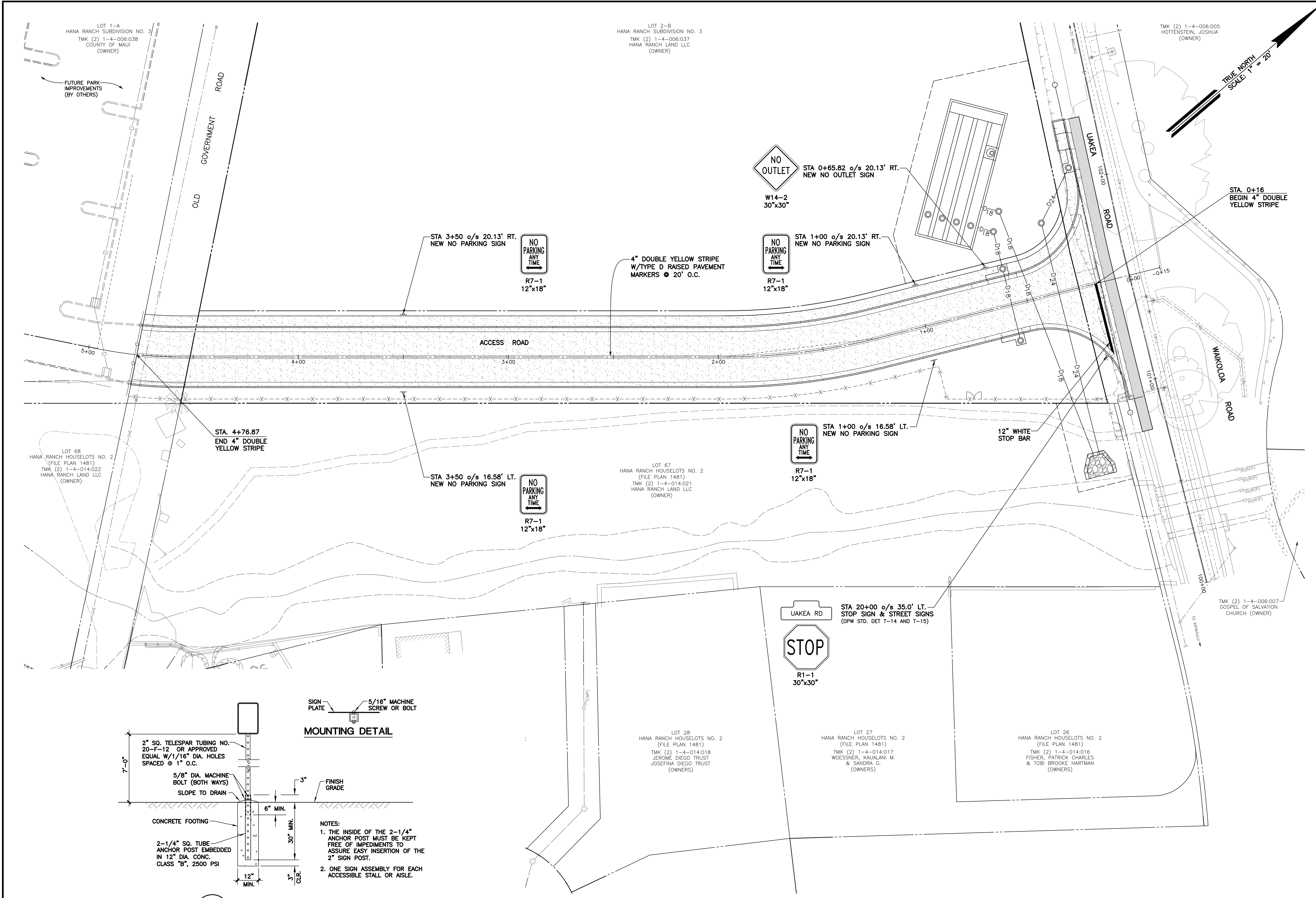


**EARTHWORK QUANTITIES:**

EXCAVATION = 1,930 CU. YDS.  
EMBANKMENT = 1,530 CU. YDS.  
AREA OF GRADING = 0.97 ACS.

EARTHWORK QUANTITIES ARE  
APPROXIMATE IN-PLACE VOLUMES.





1  
C-6  
SIGN POST DETAIL  
NOT TO SCALE

SIGNING AND PAVEMENT MARKING PLAN  
SCALE: 1" = 20'





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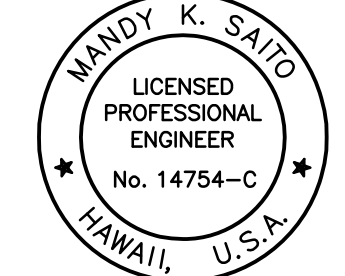
Prepared for:  
Planning and Development Division  
Department of Parks and Recreation  
County of Maui  
700 Hahaione Street, Unit 2F  
Wailuku, Hawaii 96793

**PAANI MAI PARK ACCESS ROAD**

TMK: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021

HANA, MAUI, HAWAII

SIGNING AND PAVEMENT MARKING PLAN AND DETAIL



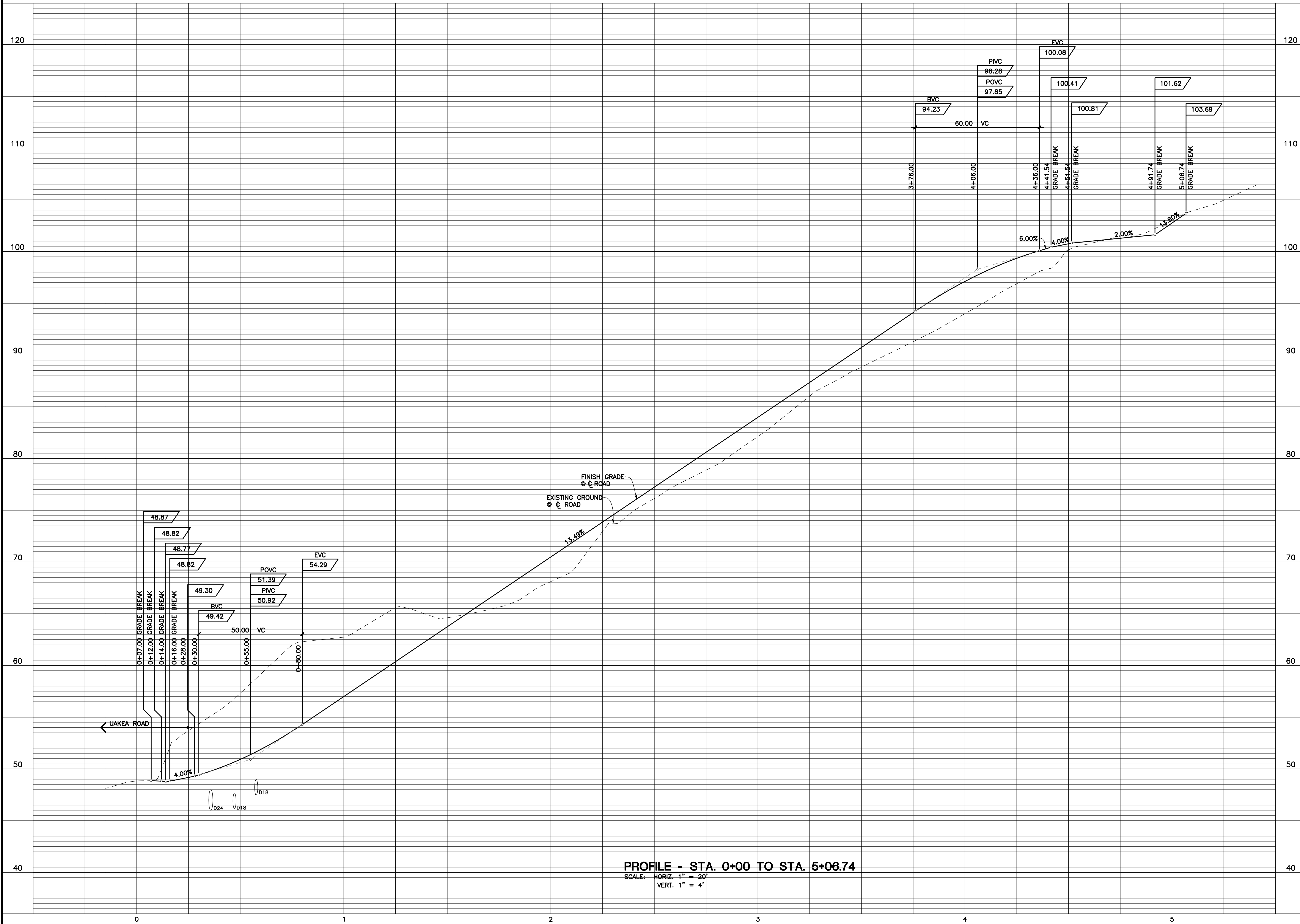
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*Mandy K. Saido*

LICENSE EXPIRES: 04/30/2018

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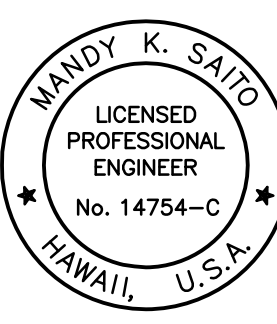
**FUKUMOTO  
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HANA, MAUI, HAWAII  
**ROAD PROFILE - STA. 0+00 TO STA. 5+06.74**



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*Mandy K. Saito*  
LICENSE EXPIRES: 04/30/2018

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CHECKED BY: R.F.  
DATE: DECEMBER 8, 2016  
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**SHEET**  
**C-7**  
8 OF 13



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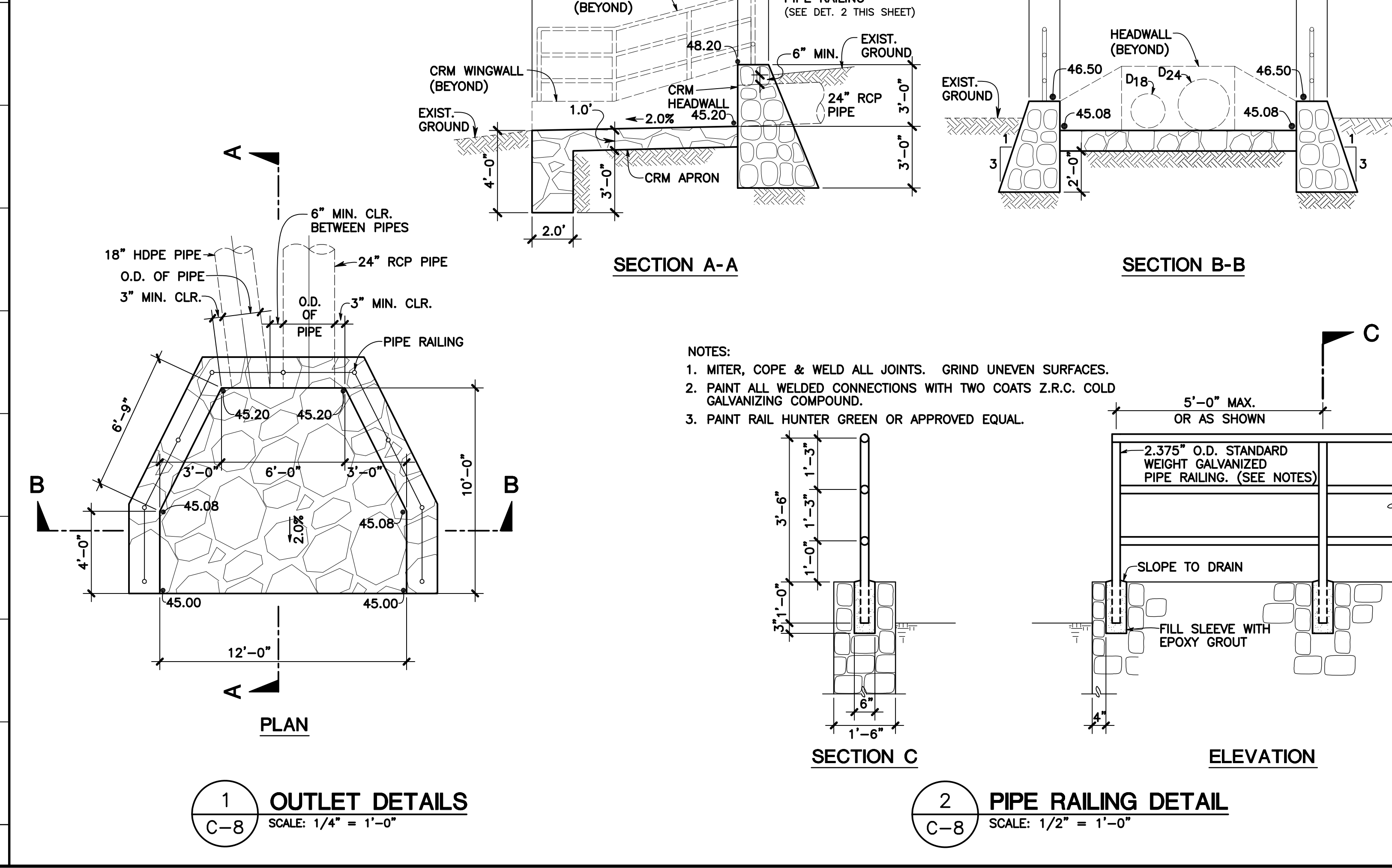
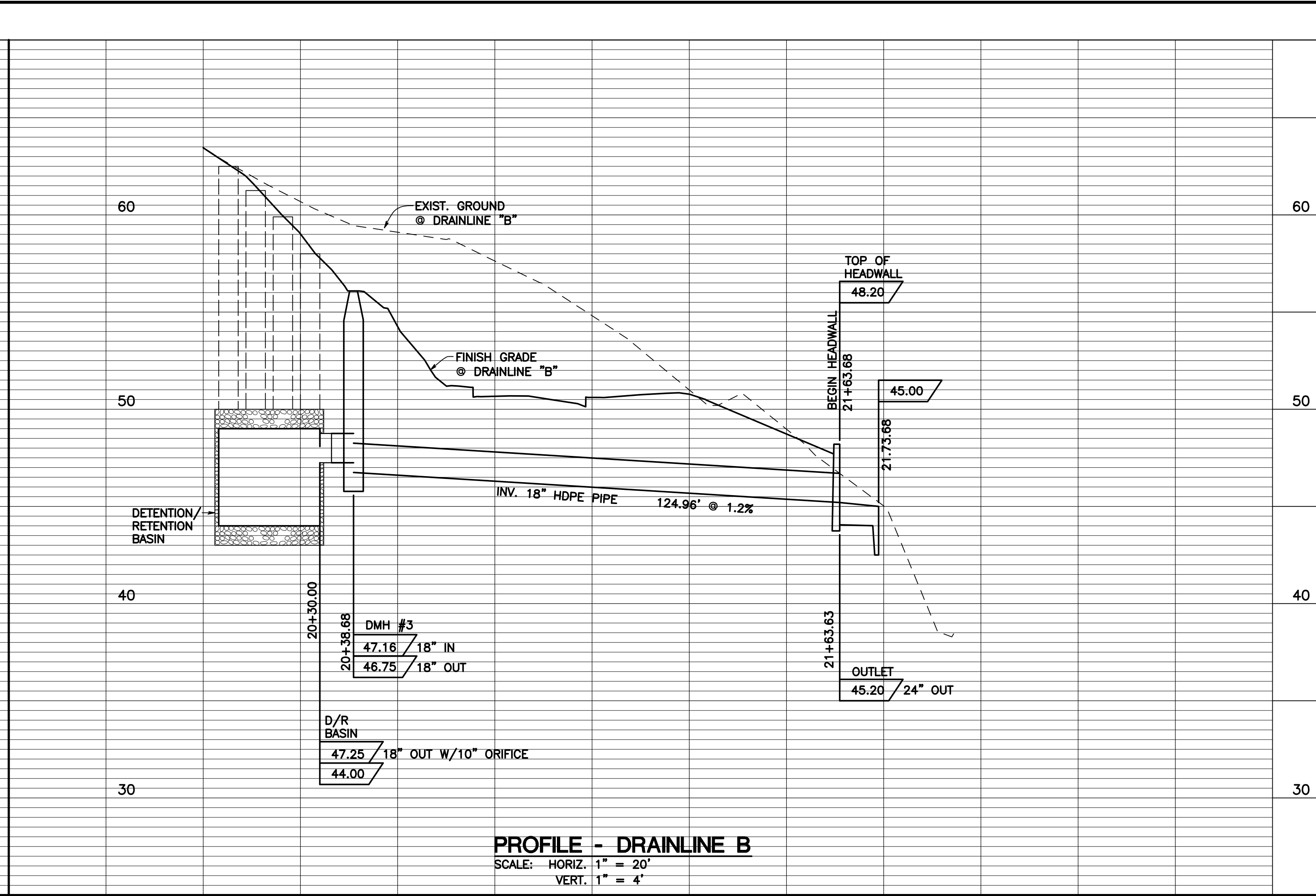
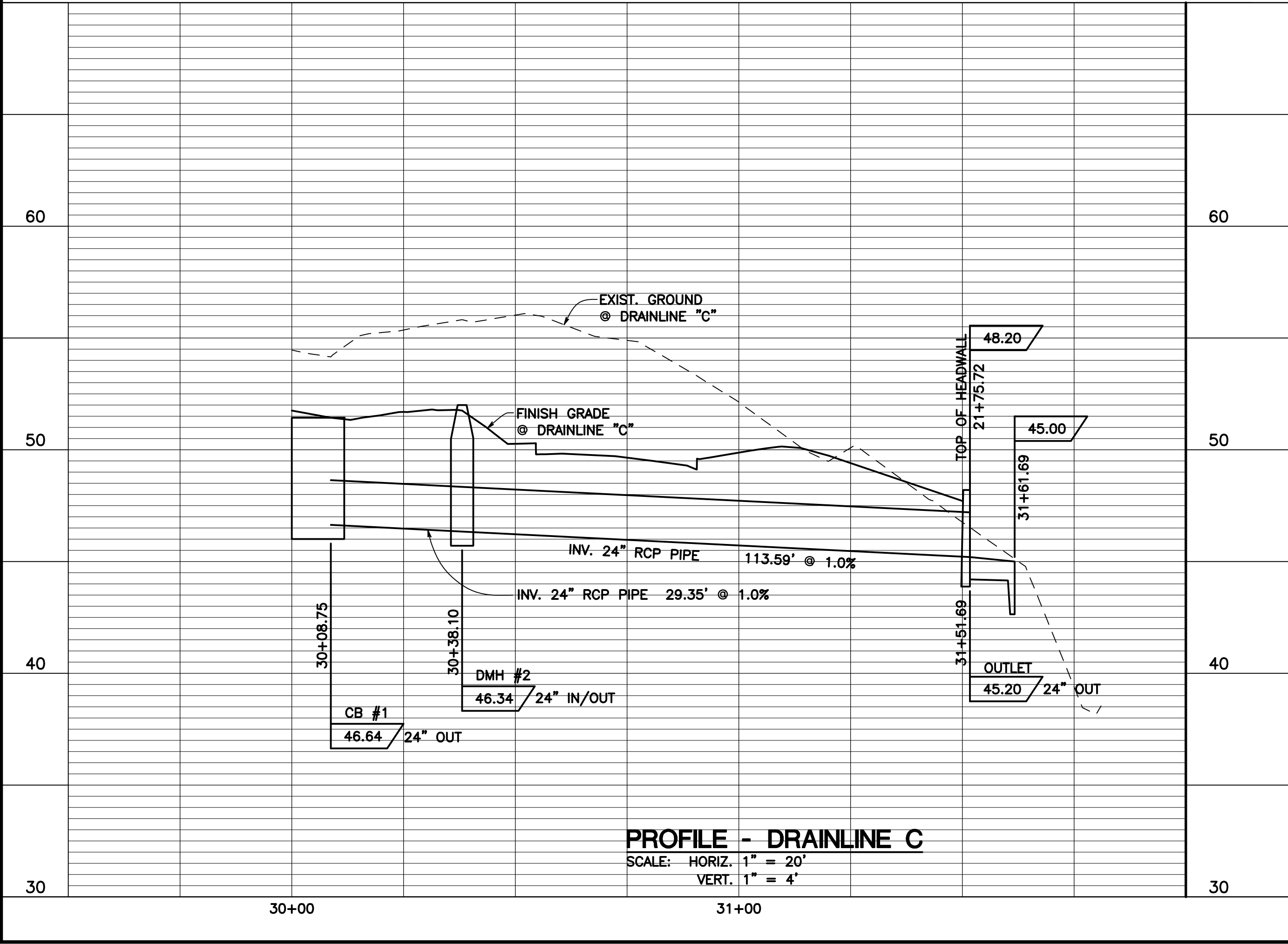
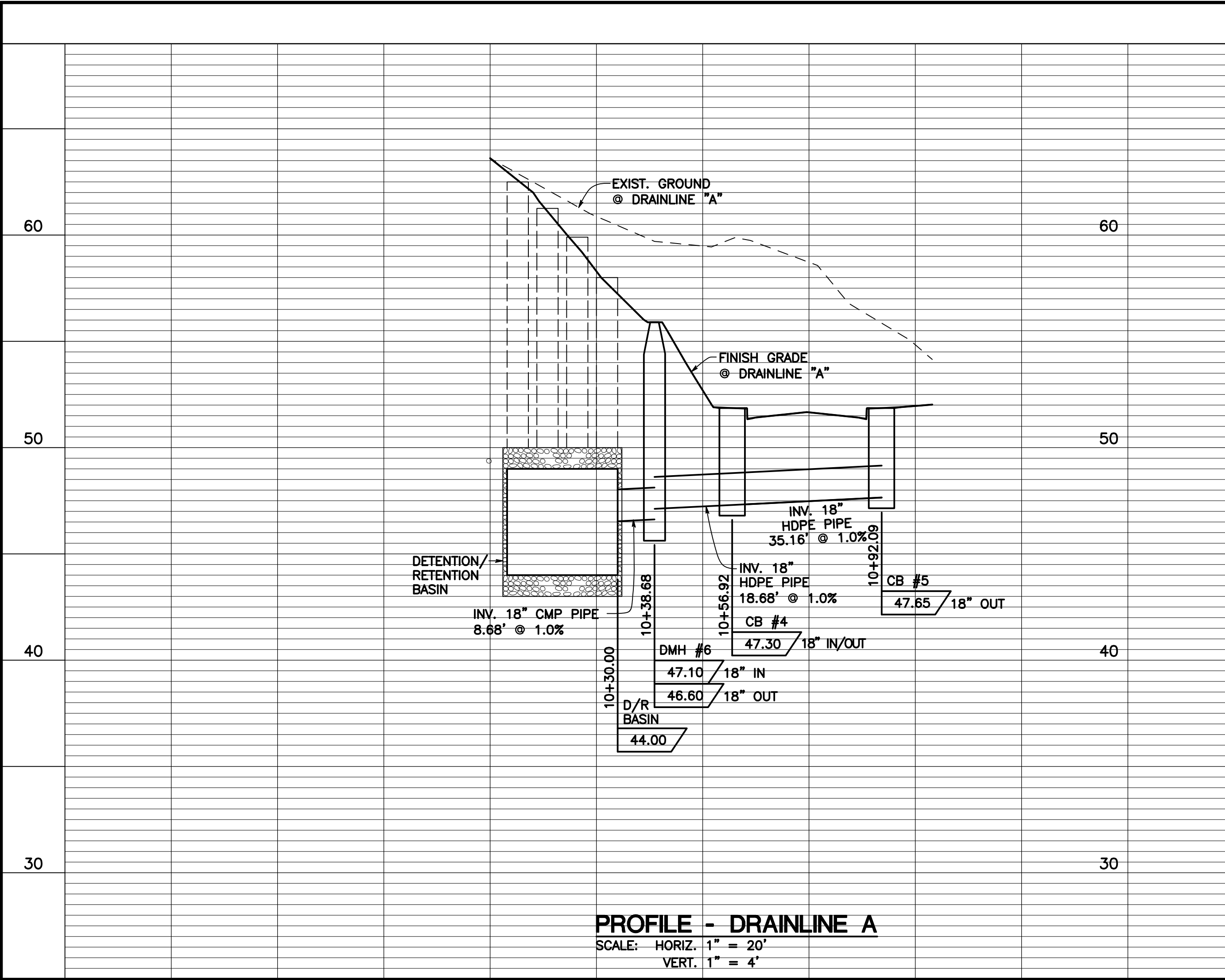
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700 Hahaione Street, Unit 2F  
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**PAANI MAI PARK ACCESS ROAD**  
TMK: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021  
HANA, MAUI, HAWAII  
**DRAINAGE PROFILES AND OUTLET DETAILS**

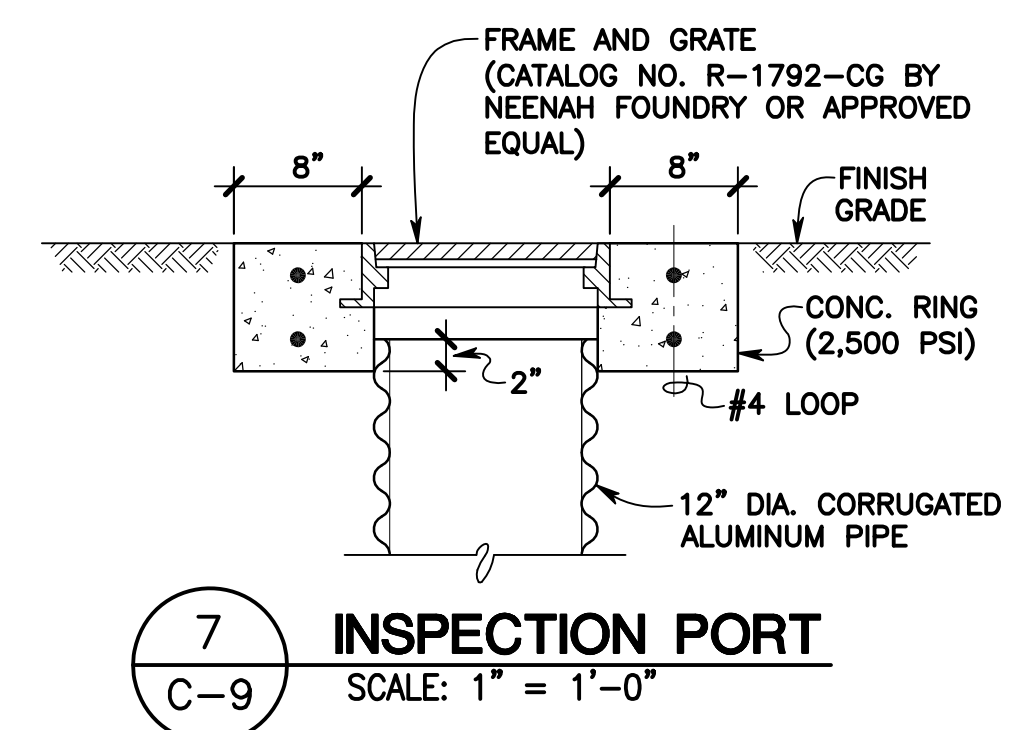
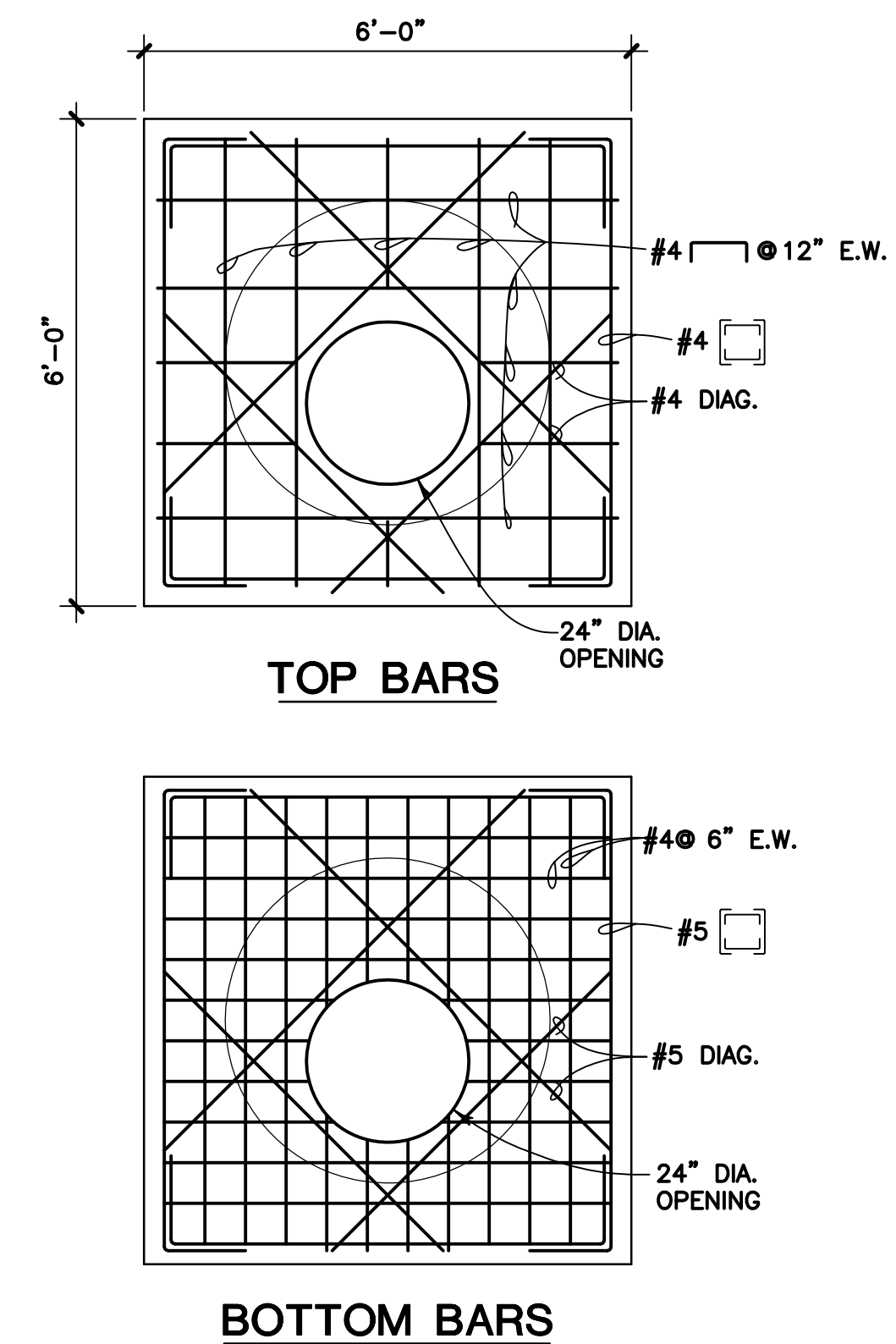
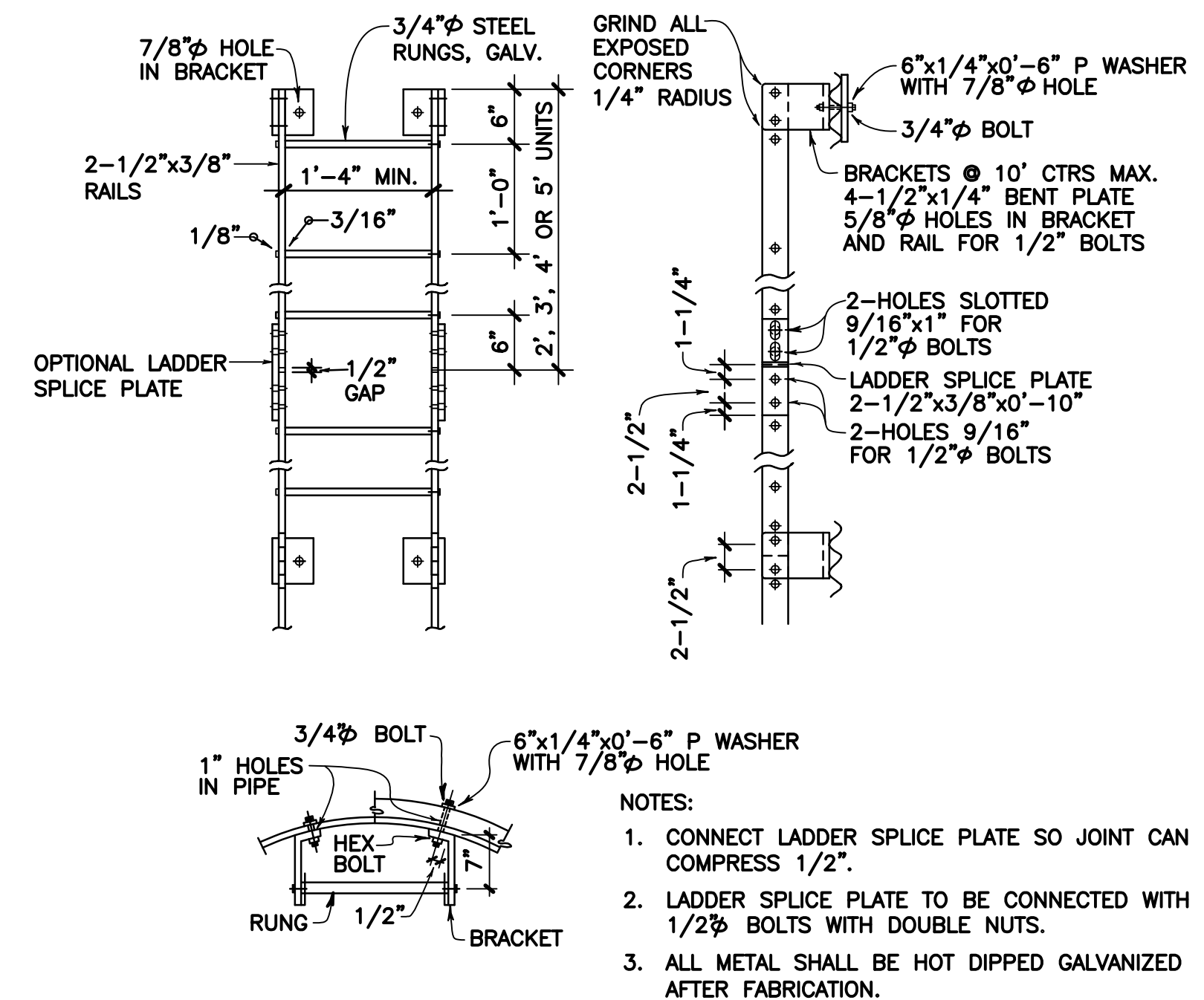
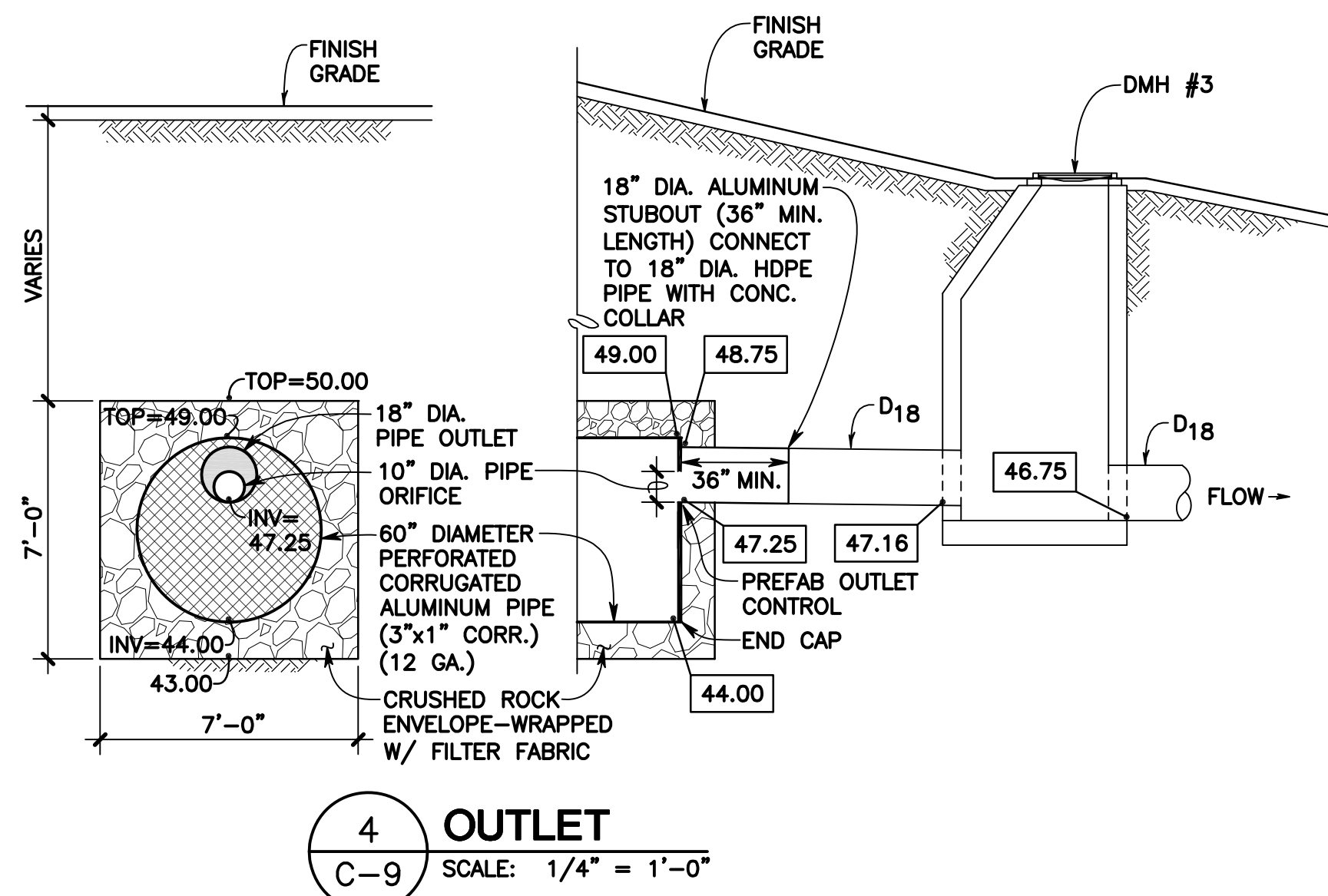
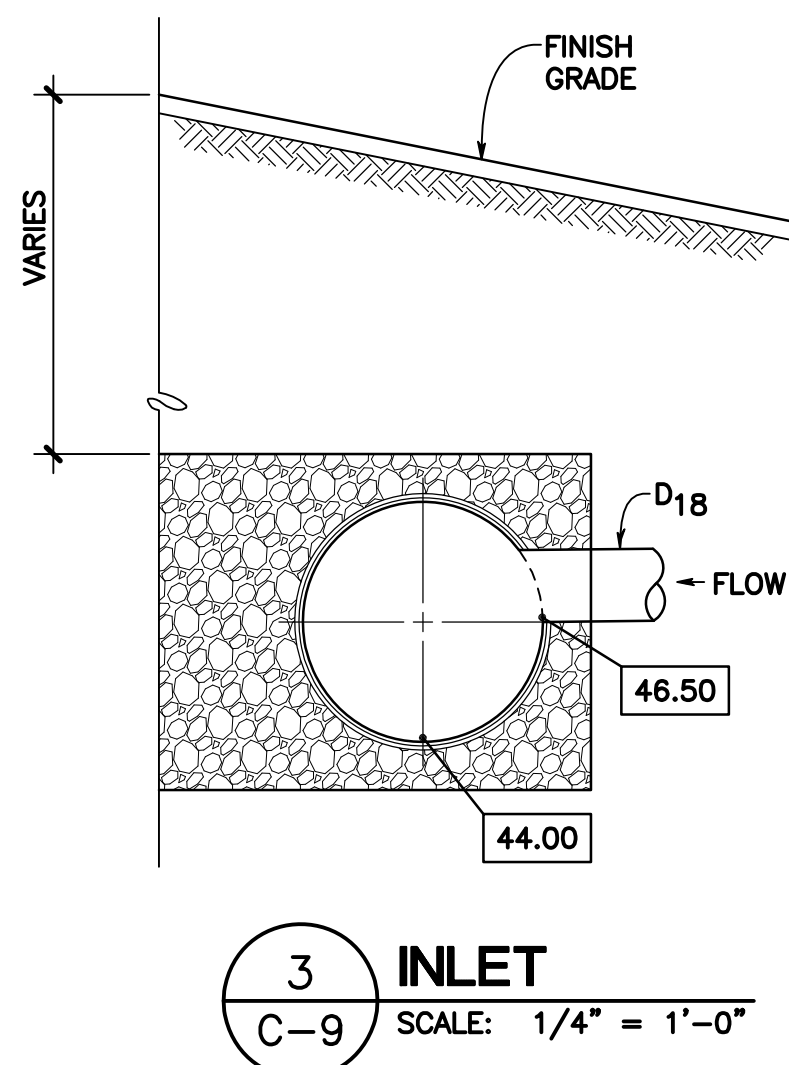
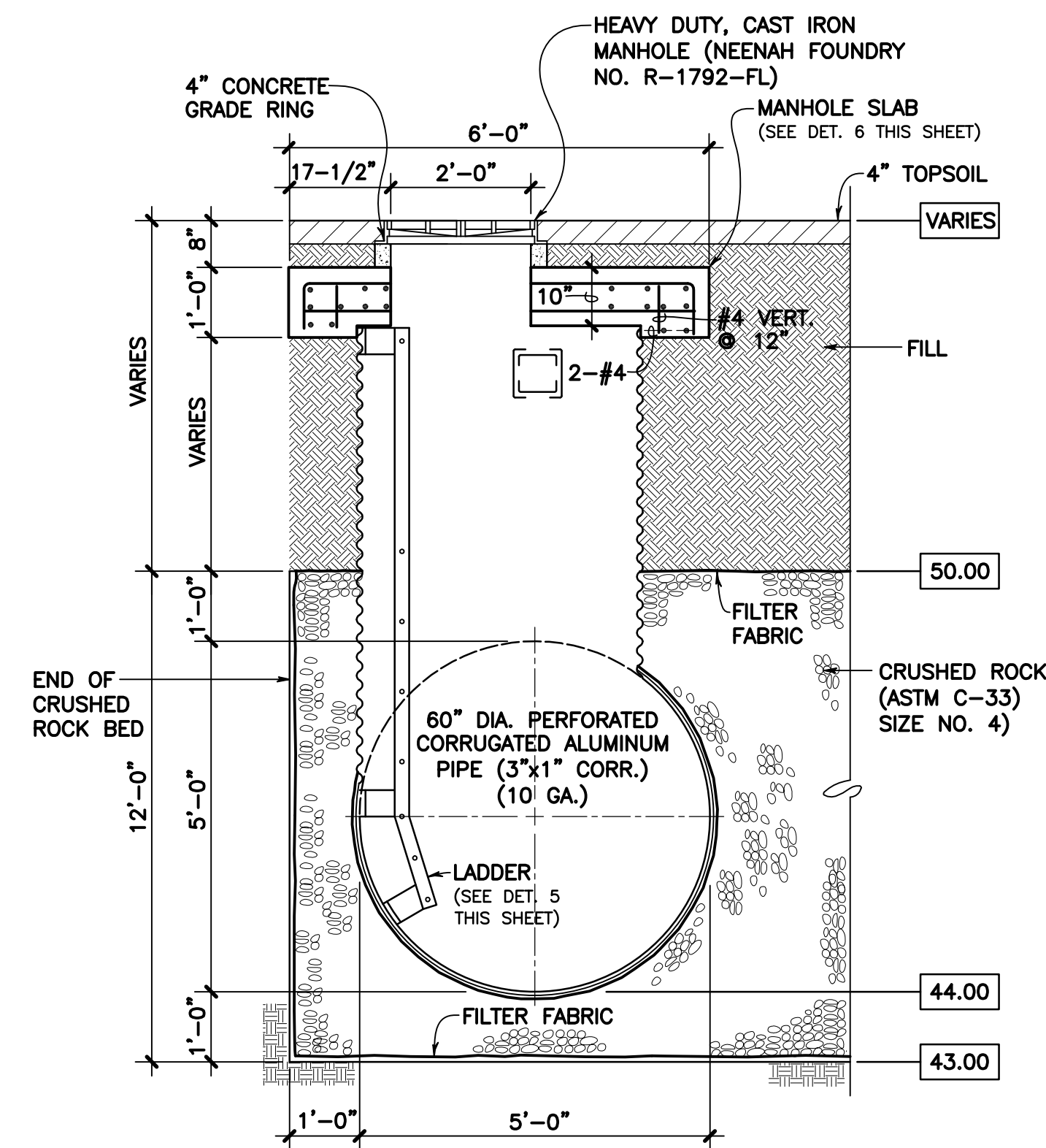
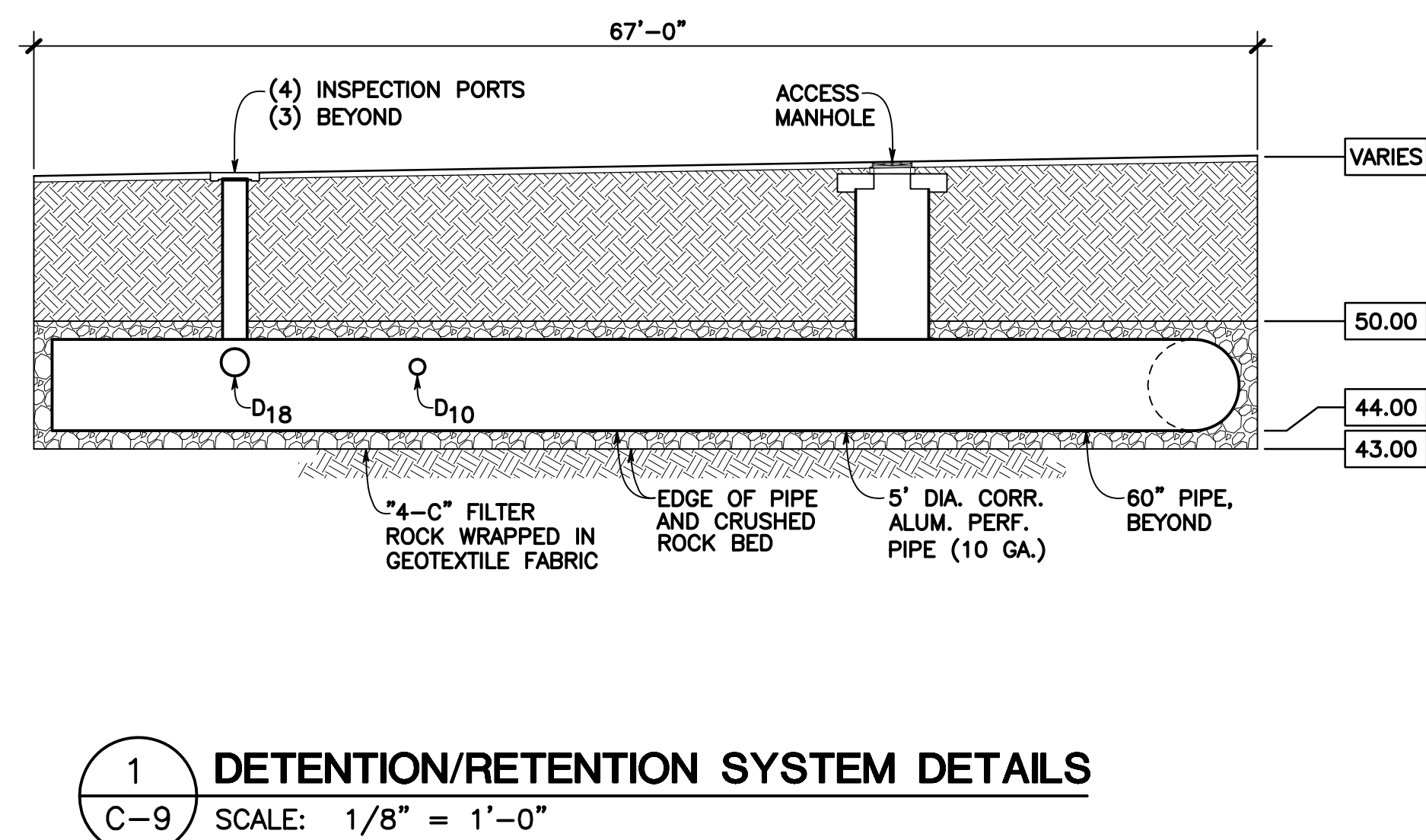
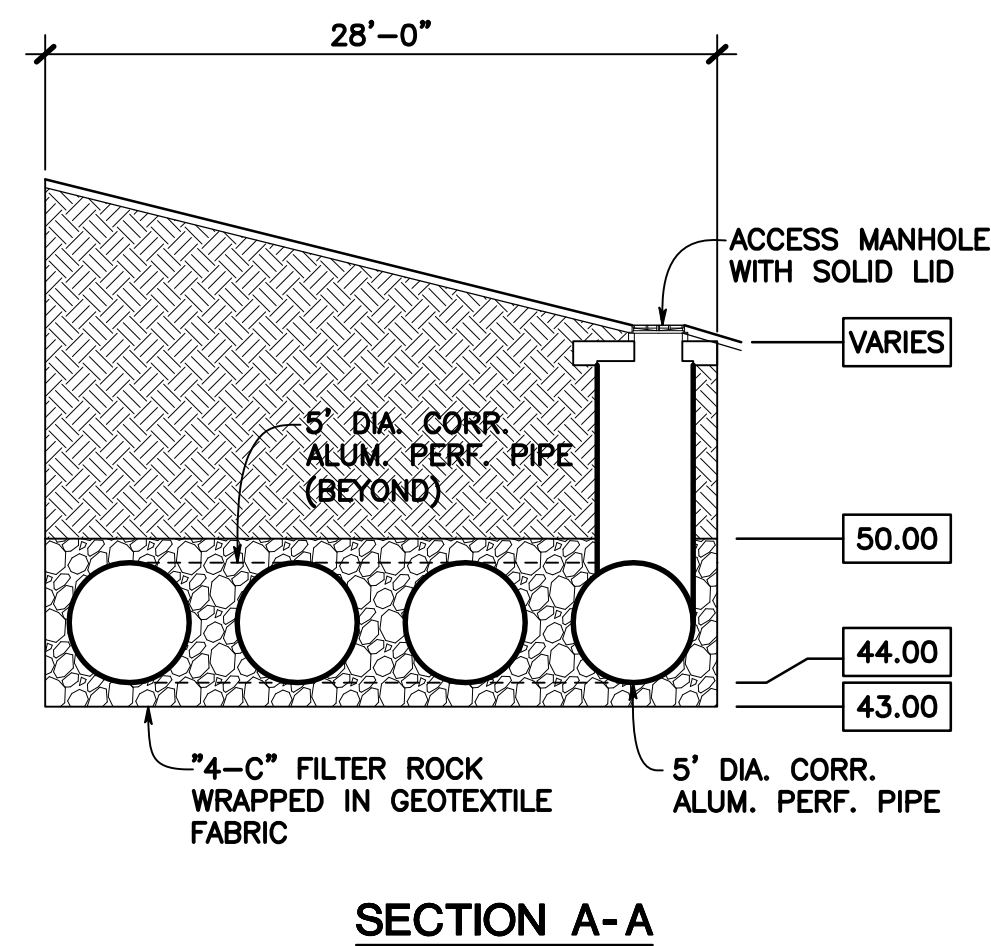
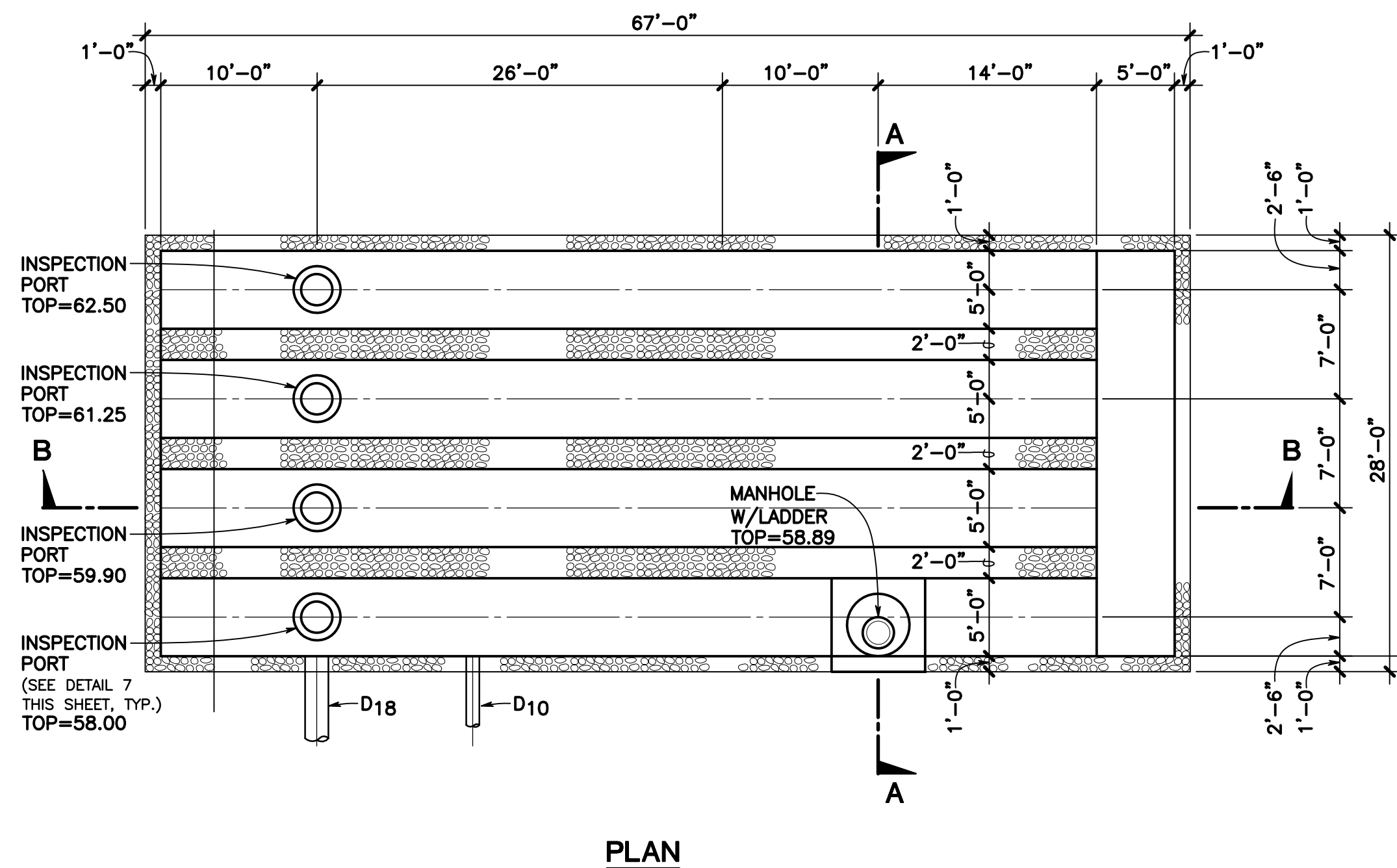
**MINDY K. SAITO**  
LICENSED  
PROFESSIONAL  
ENGINEER  
No. 14754-C  
HAWAII, U.S.A.  
THIS WORK WAS PREPARED BY  
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WILL BE UNDER MY OBSERVATION AS  
DEFINED IN HAR 16-115-2  
*Mindy K. Saito*  
LICENSE EXPIRES: 6/30/2018

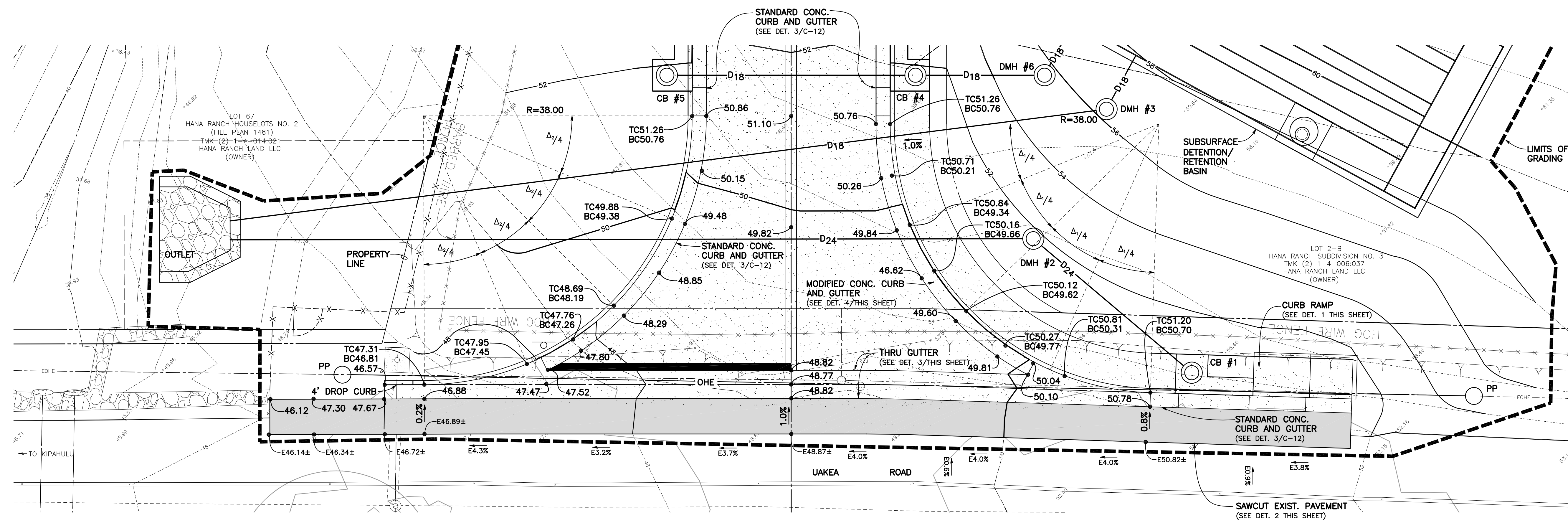
DESIGNED BY: M.K.S.  
DRAWN BY: M.K.S., N.M.  
CHECKED BY: R.F.  
DATE: DECEMBER 8, 2016  
FILE NO: COM57

**SHEET**  
**C-8**  
9 OF 13

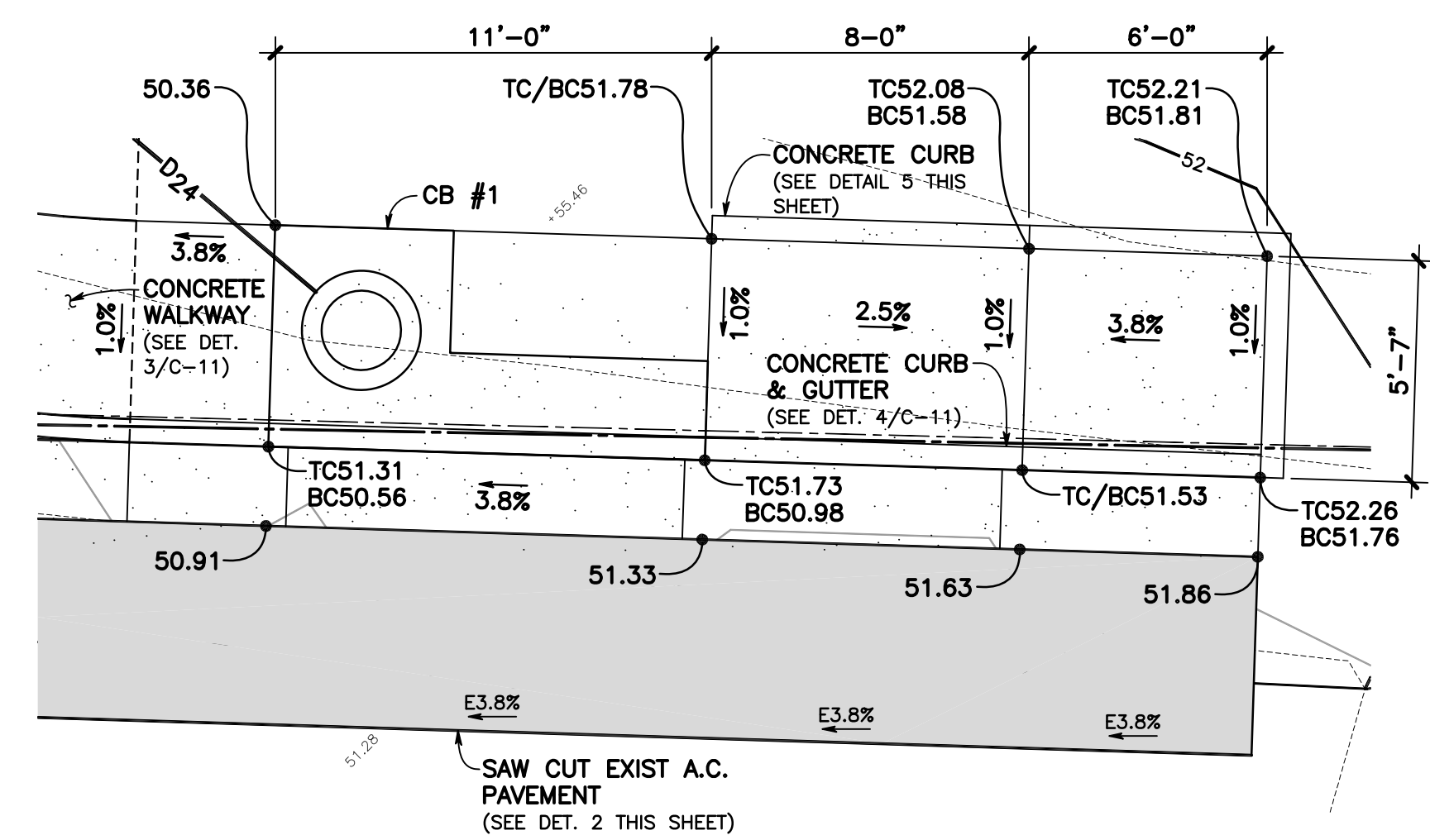




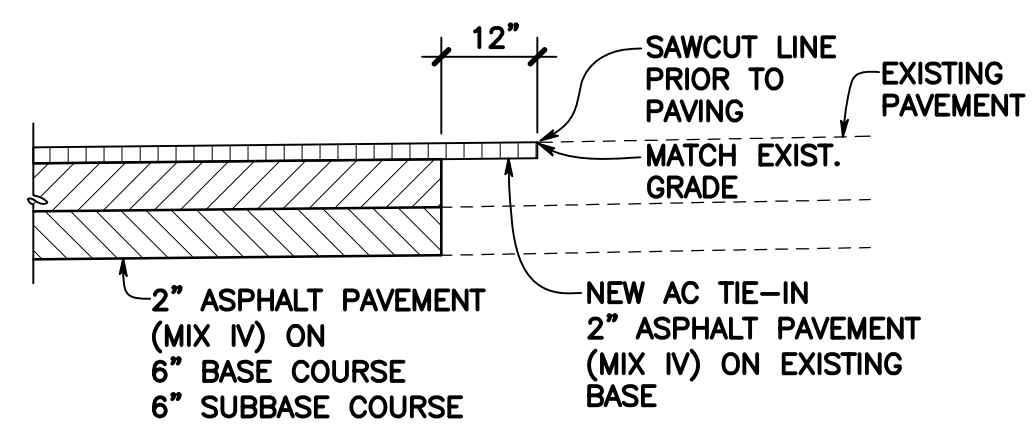




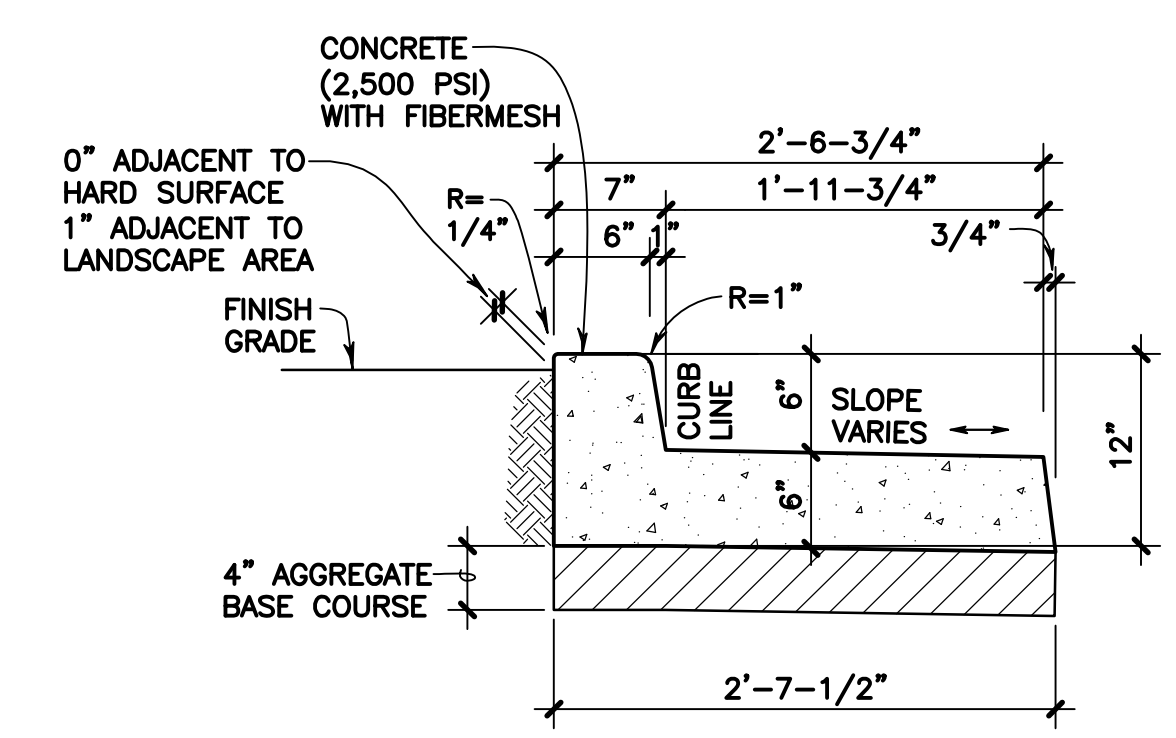
**INTERSECTION DETAIL**  
SCALE: 1/8" = 1'-0"  
SCALE IN FEET  
0 4 8 16 24



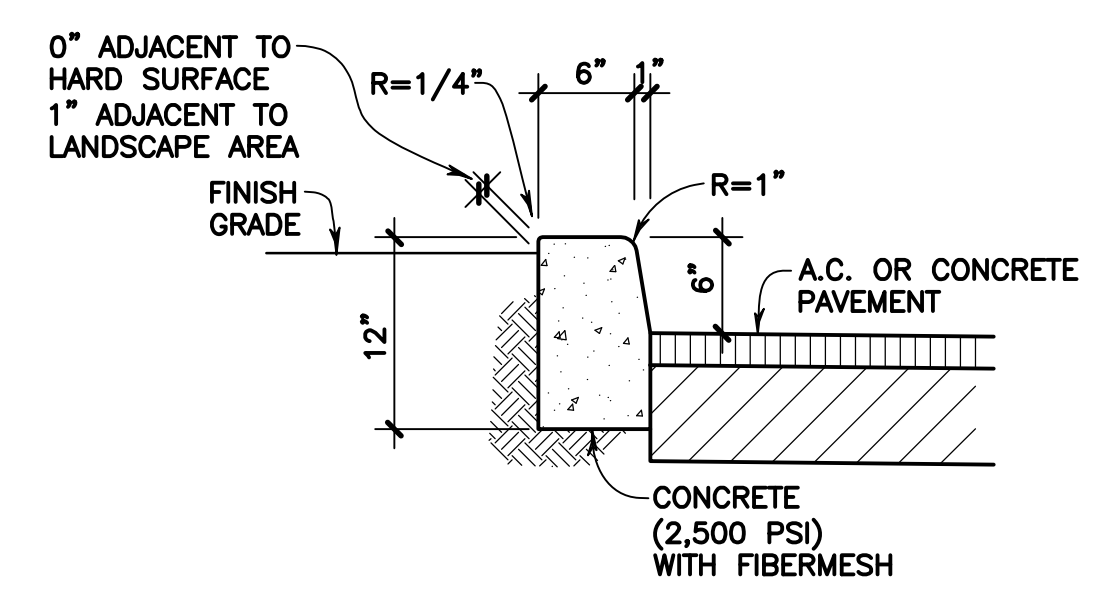
**1 CURB RAMP DETAIL**  
SCALE: 1/4" = 1'-0"



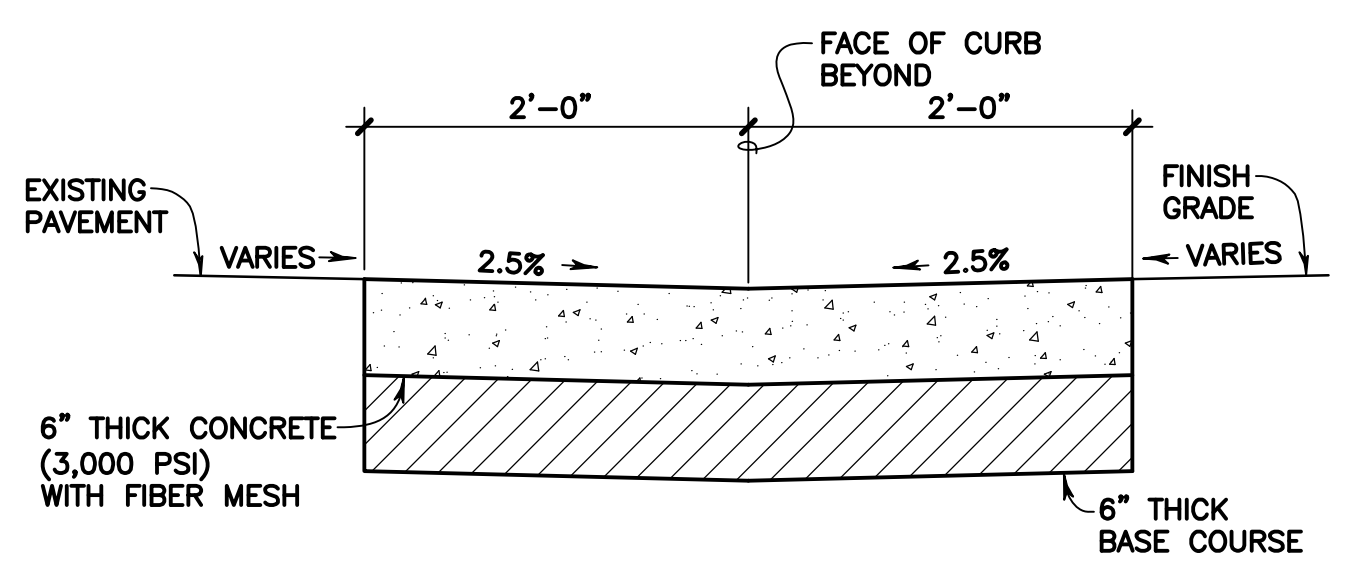
**2 ASPHALT PAVING TIE-IN DETAIL**  
SCALE: 1" = 1'-0"



**4 MODIFIED CONCRETE CURB & GUTTER**  
SCALE: 1" = 1'-0"

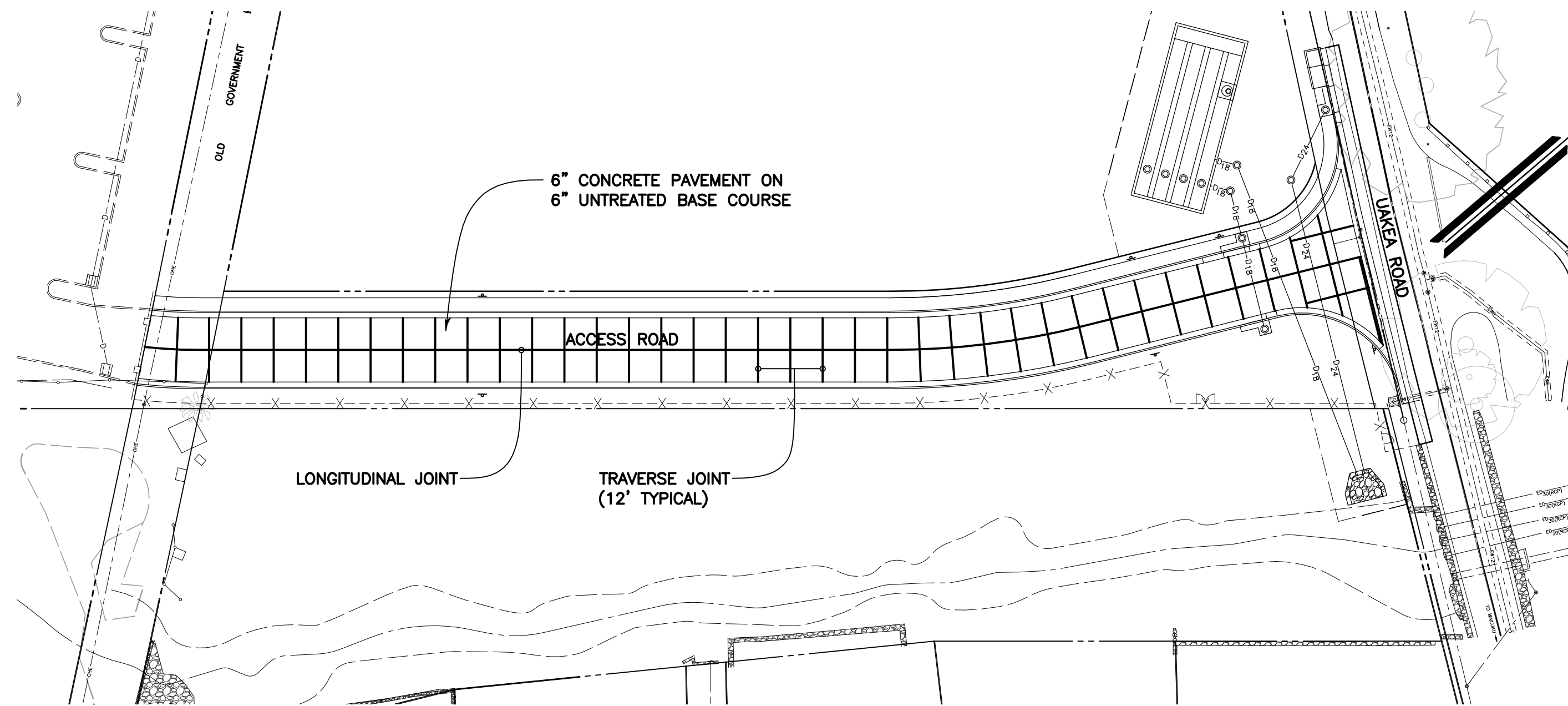


**5 CONCRETE CURB**  
SCALE: 1" = 1'-0"

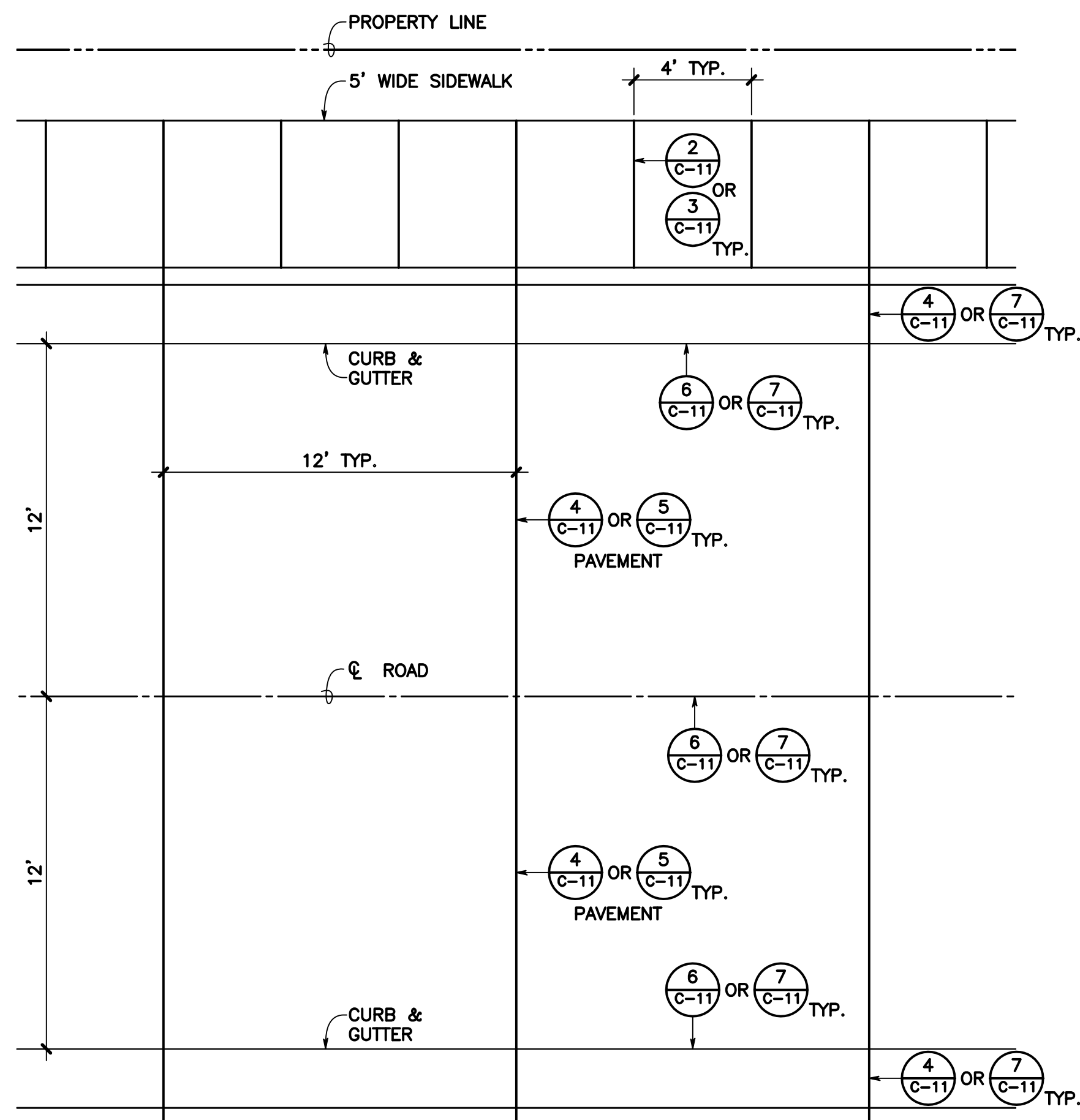


**3 THRU GUTTER**  
SCALE: 1" = 1'-0"

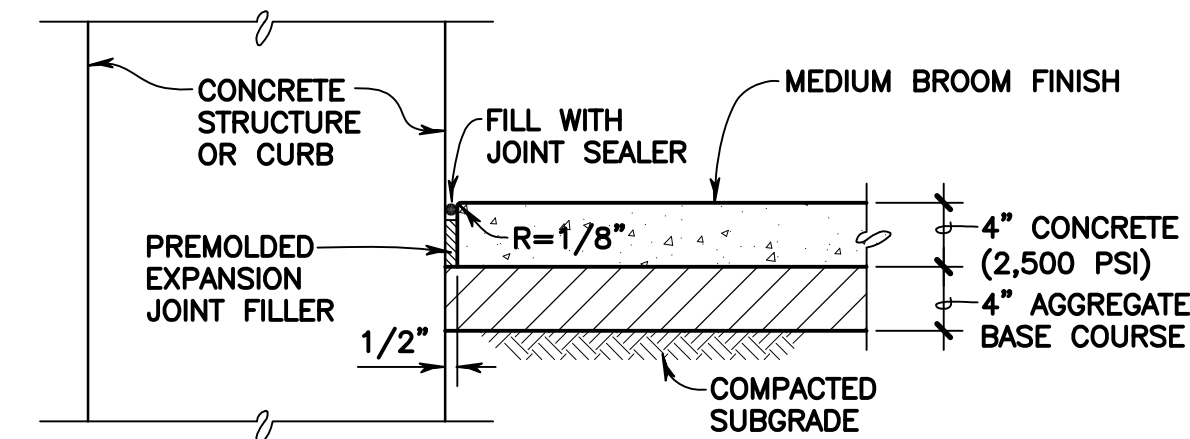




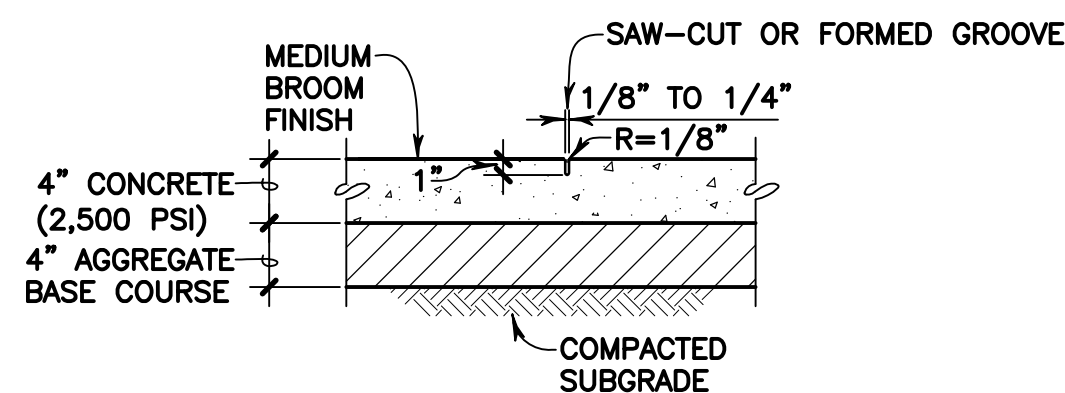
**CONCRETE PAVEMENT JOINT DIAGRAM**  
SCALE: 1" = 40'



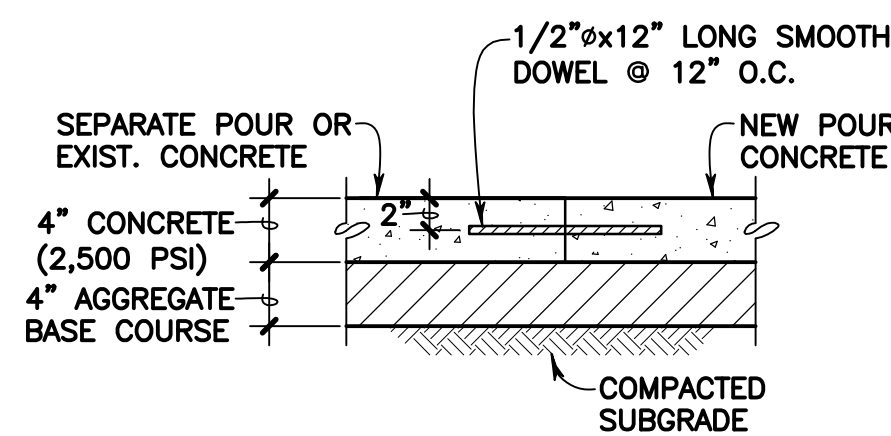
**TYPICAL CONCRETE JOINTS**  
SCALE: 1/4" = 1'-0"



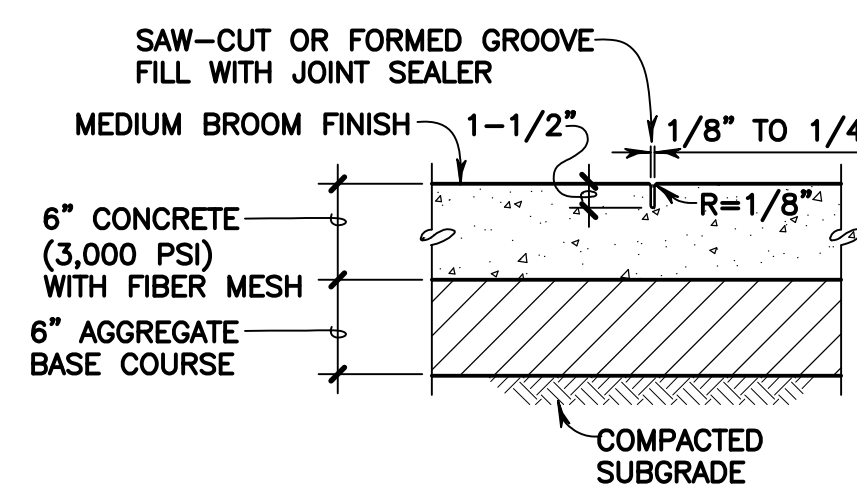
**1 EXPANSION JOINT FOR SIDEWALK**  
C-11 SCALE: 1" = 1'-0"



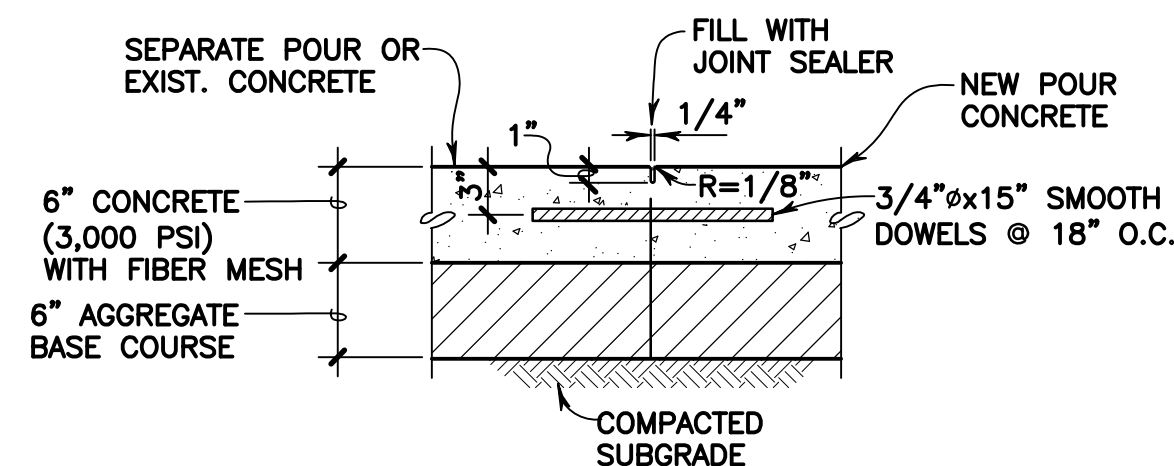
**2 CONTRACTION JOINT (FOR SIDEWALK)**  
C-11 SCALE: 1" = 1'-0"



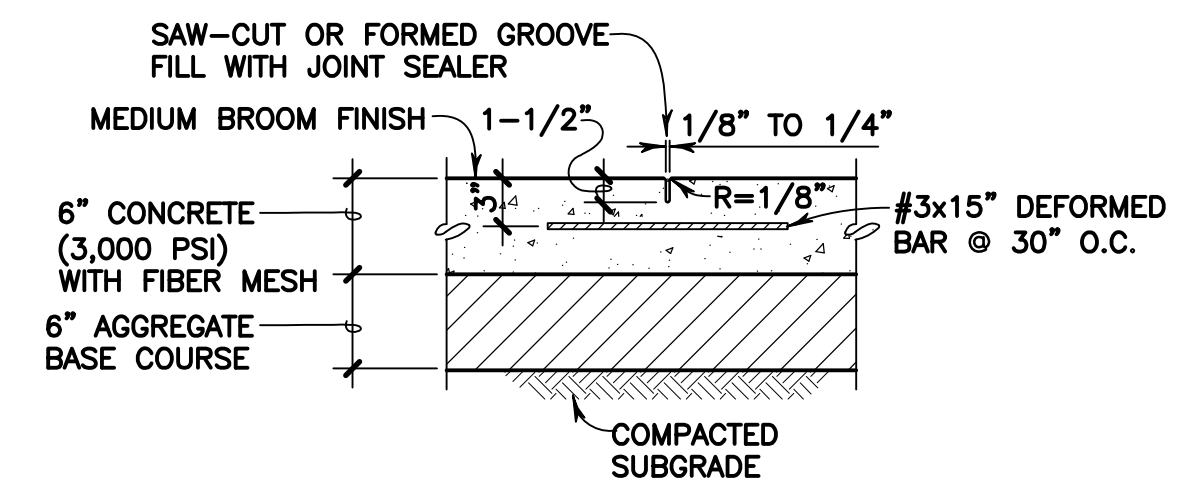
**3 CONSTRUCTION JOINT WITH DOWEL (FOR SIDEWALK)**  
C-11 SCALE: 1" = 1'-0"



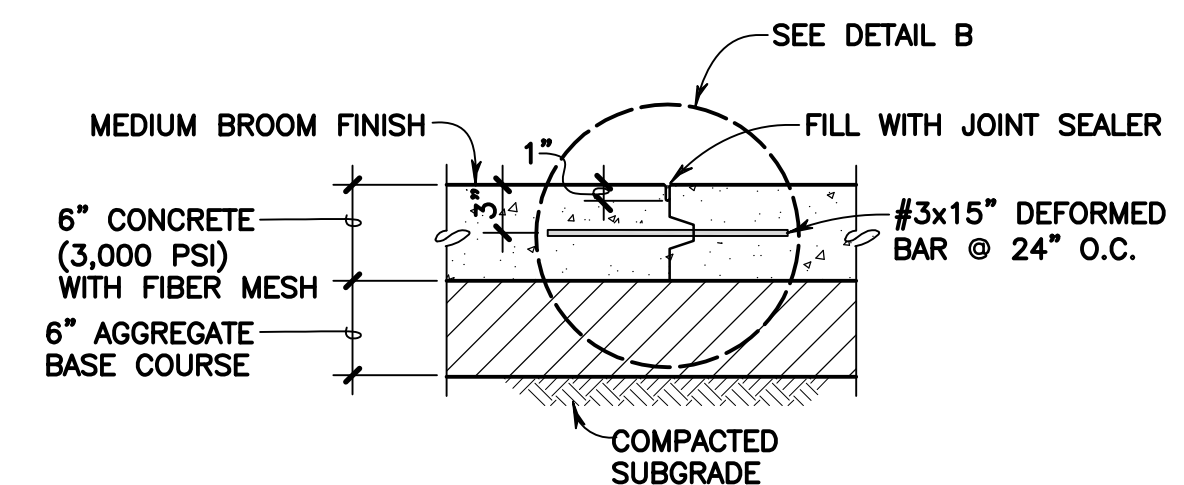
**4 TRANSVERSE CONTRACTION JOINT (FOR PAVEMENT)**  
C-11 SCALE: 1" = 1'-0"



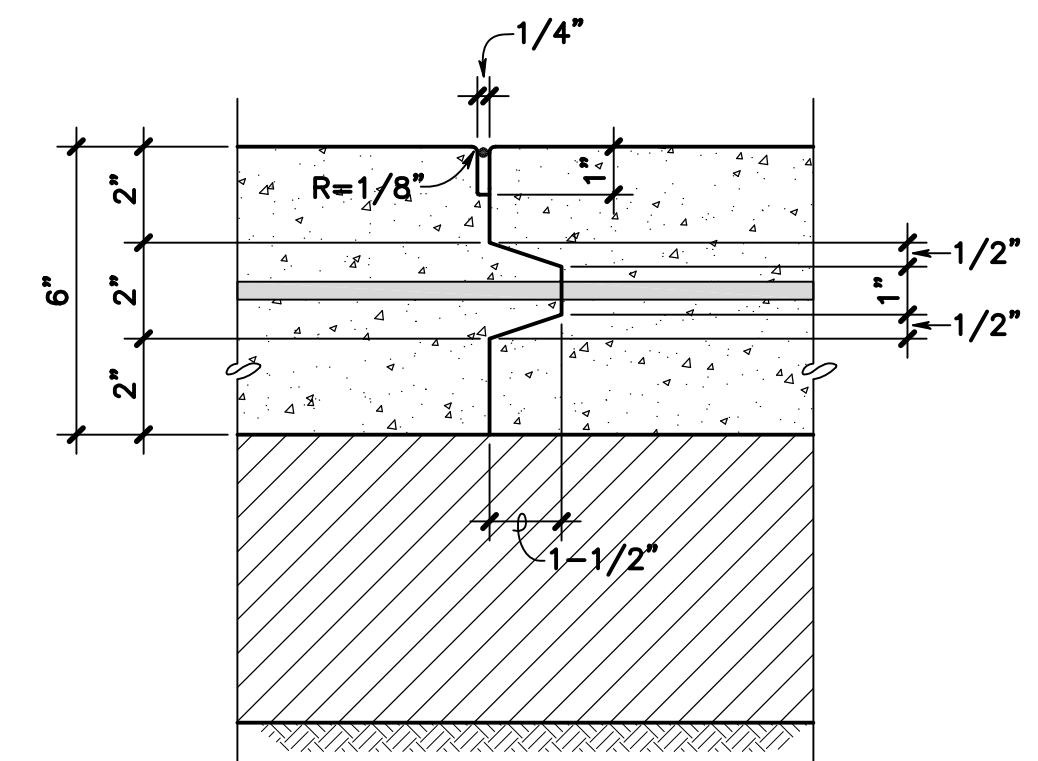
**5 TRANSVERSE CONSTRUCTION JOINT (FOR PAVEMENT)**  
C-11 SCALE: 1" = 1'-0"



**6 CONTRACTION JOINT WITH TIE BAR (FOR PAVEMENT)**  
C-11 SCALE: 1" = 1'-0"



**7 KEYED CONSTRUCTION JOINT WITH TIE BAR (FOR PAVEMENT)**  
C-11 SCALE: 1" = 1'-0"



**DETAIL B**  
SCALE: 3" = 1'-0"



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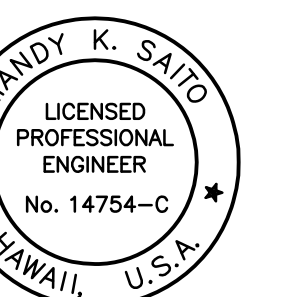
1721 Wili Pa Loop, Suite 203  
Wailuku, Hawaii 96793

Phone: (808) 242-8611  
Email: office@femaui.com  
Website: www.femaui.com

Prepared for:  
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Department of Parks and Recreation  
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700 Hahaione Street, Unit 2F  
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**PAANI MAI PARK ACCESS ROAD**  
TMK: (2) 1-4-006: POR. 037 & 038 AND 1-4-014: POR. 021  
HANA, MAUI, HAWAII

**CONCRETE DETAILS**



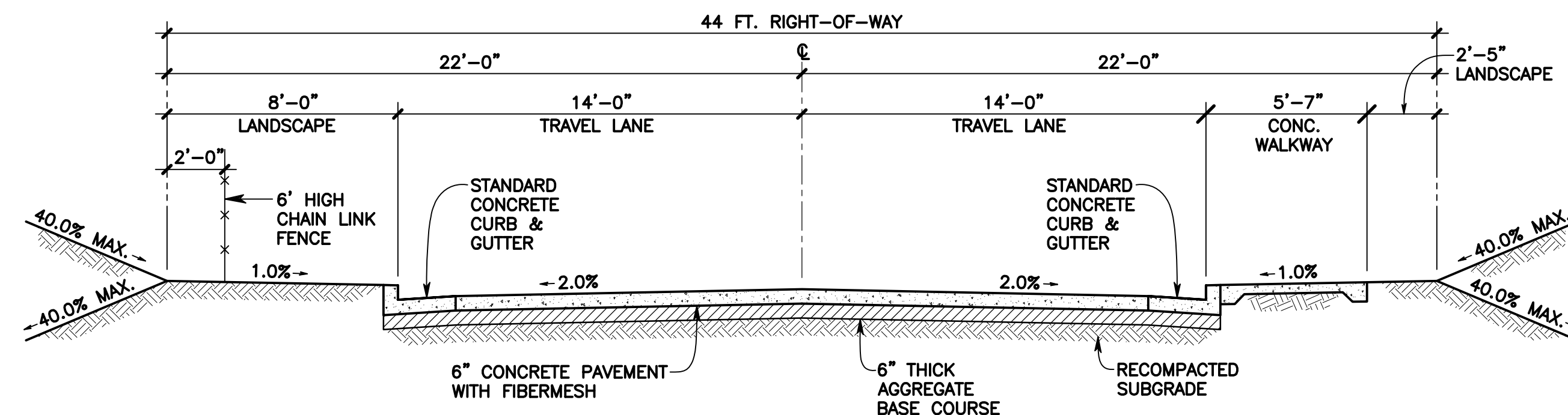
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*Mandy K. Saito*  
LICENSE EXPIRES: 04/30/2018

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DRAWN BY: M.K.S., N.M.  
CHECKED BY: R.F.  
DATE: DECEMBER 8, 2016  
FILE NO: COM57

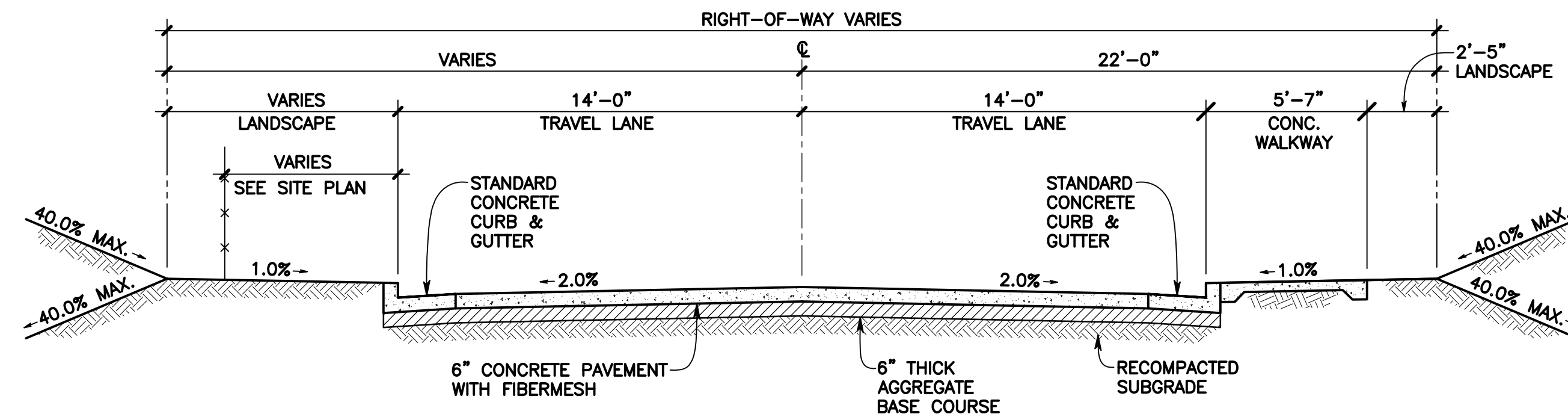
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**C-11**

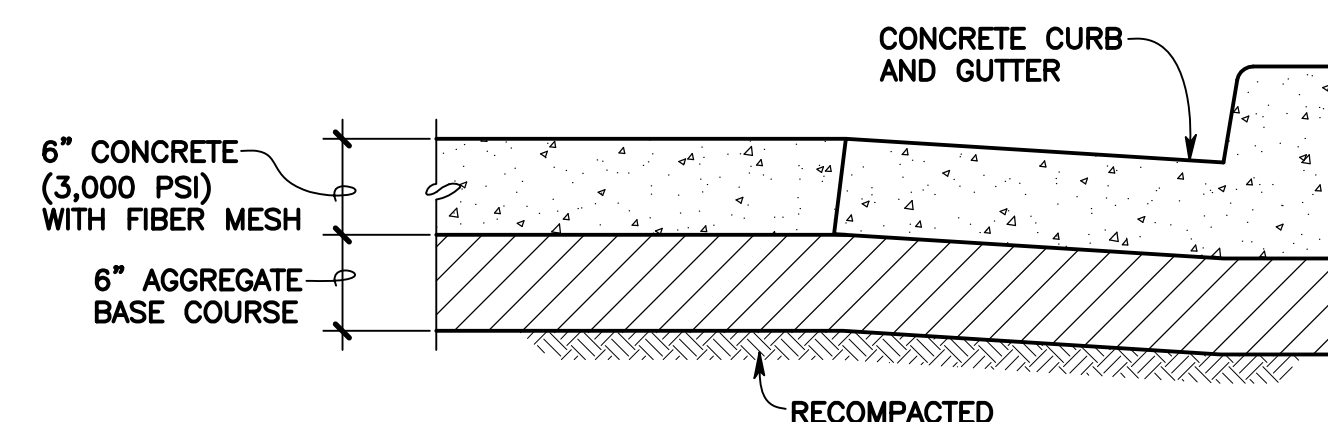
12 OF 13



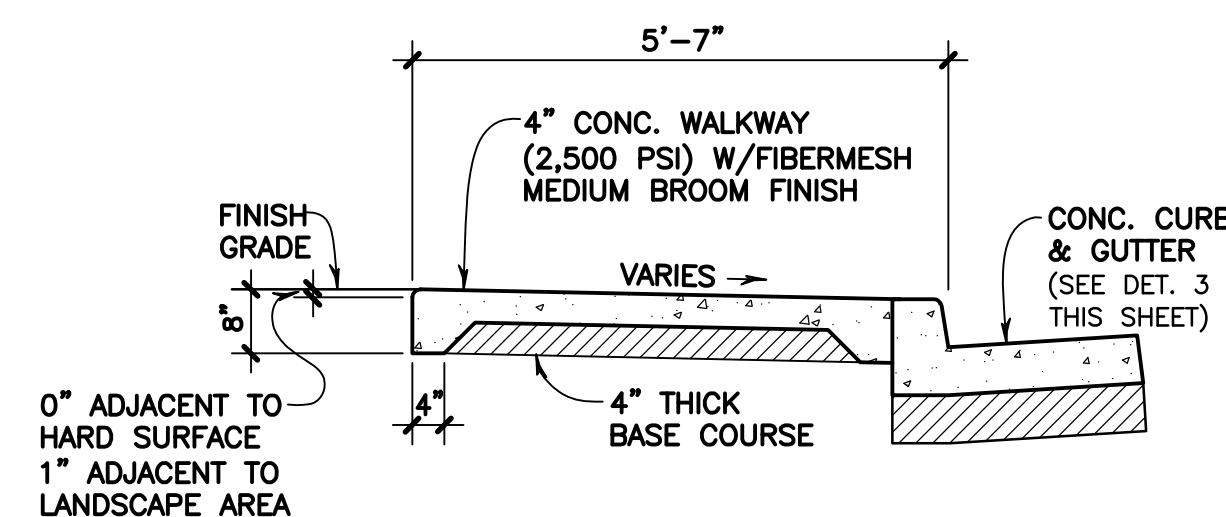
**TYPICAL ROADWAY SECTION  
ACCESS ROAD STA. 0+52 TO STA. 1+97.10**  
SCALE: 1/4" = 1'-0"



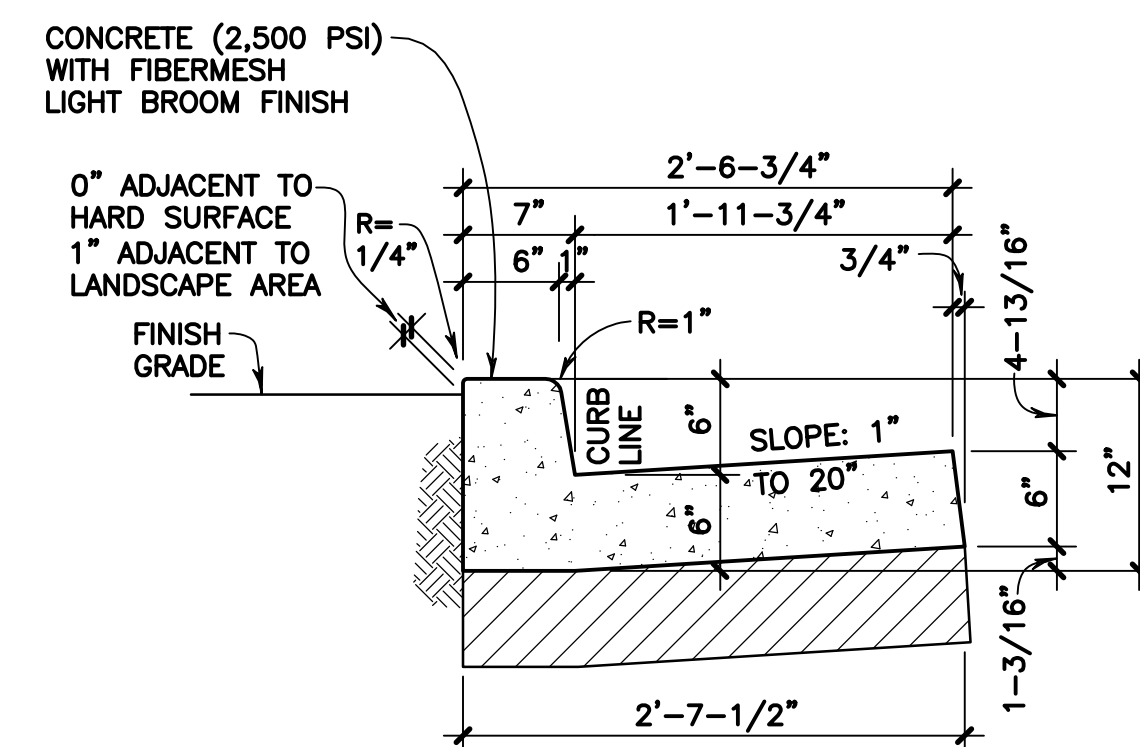
**TYPICAL ROADWAY SECTION  
ACCESS ROAD STA. 1+97.10 TO STA. 4+78.18**  
SCALE: 1/4" = 1'-0"



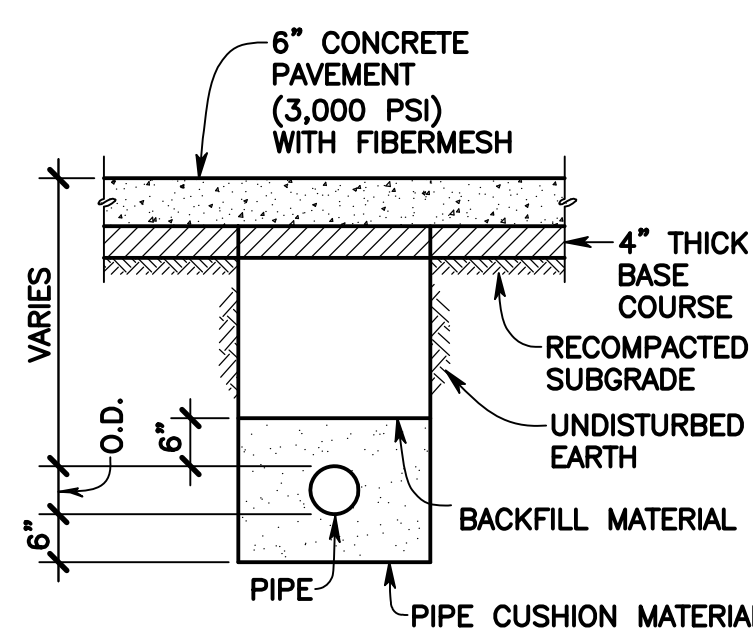
**1 NEW PAVEMENT SECTION**  
C-12 SCALE: 1" = 1'-0"



**2 CONCRETE WALKWAY DETAIL**  
C-12 SCALE: 1/2" = 1'-0"

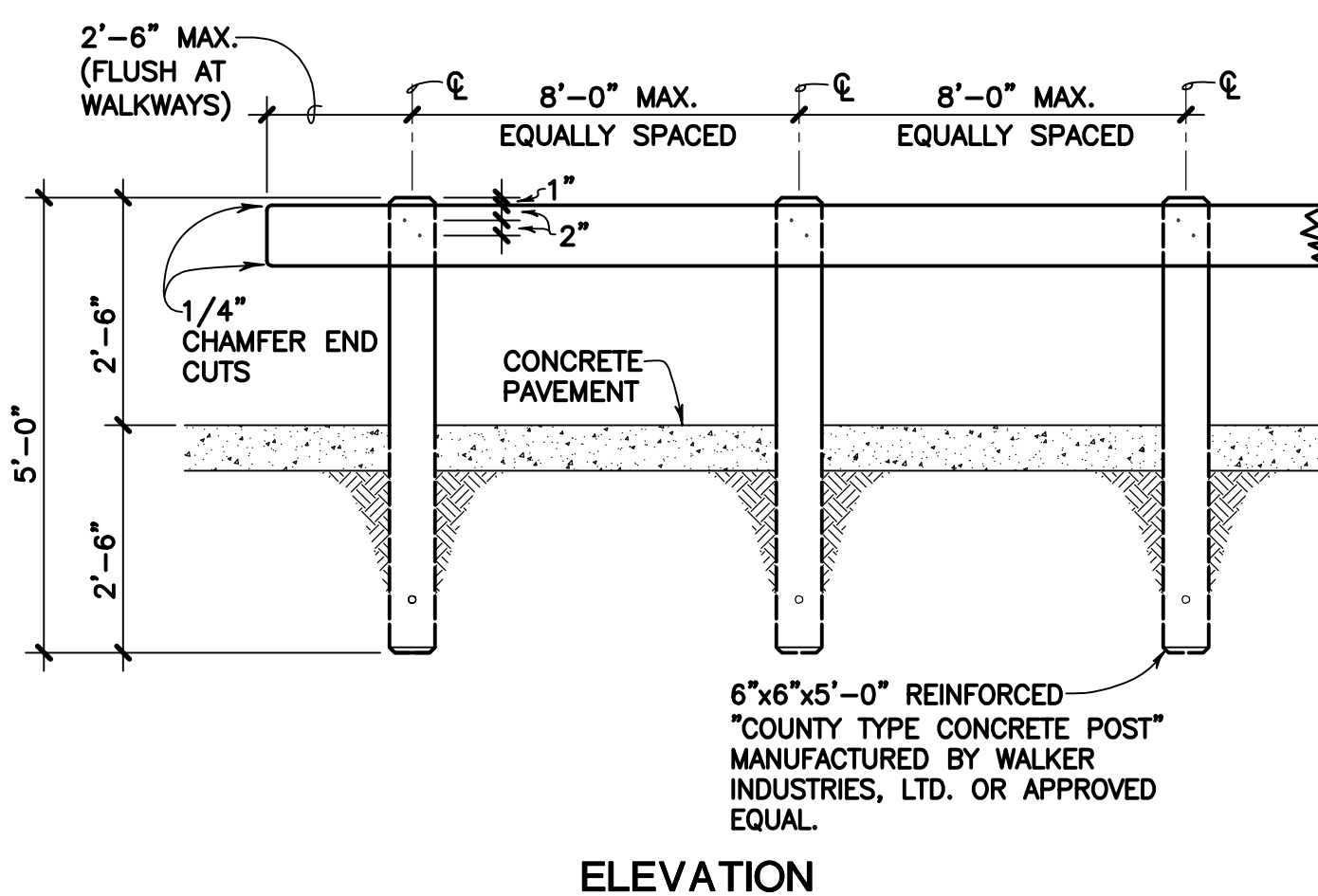
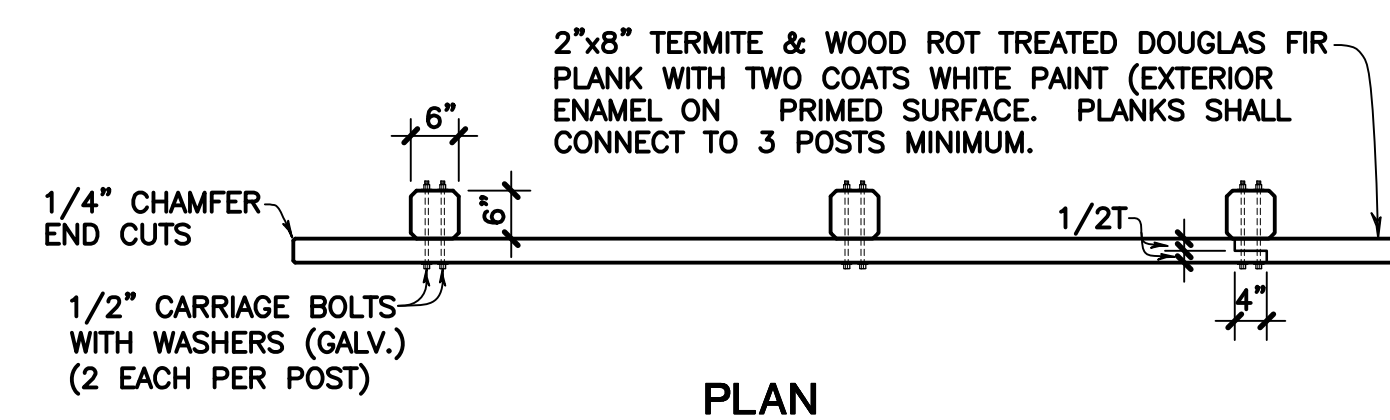


**3 CONCRETE CURB & GUTTER**  
C-12 SCALE: 1" = 1'-0"

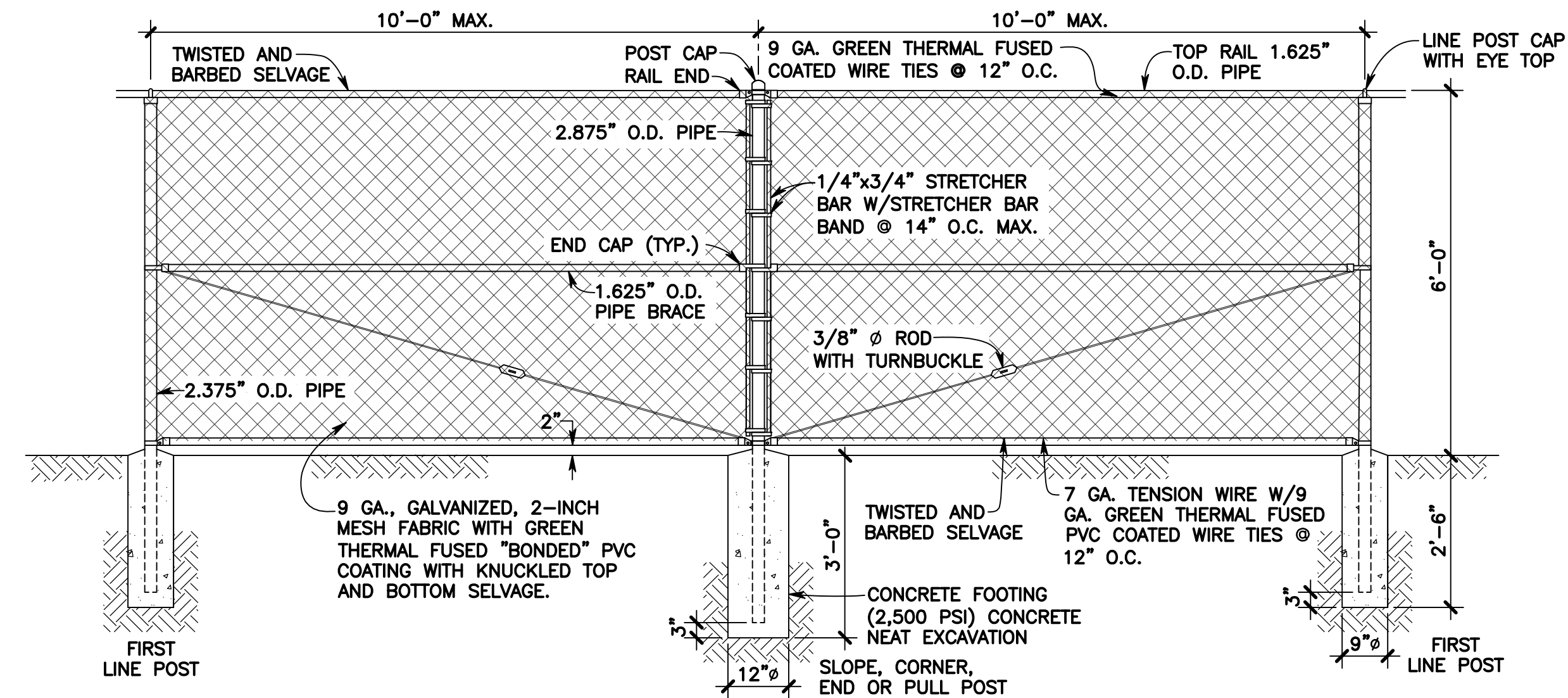


PIPE SIZE	MIN. TRENCH WIDTH
<4"	12"
4"	24"
6"	24"
8"	24"
12"	30"
18"	36"
24"	48"

**4 TYPICAL DRAINLINE TRENCH SECTION**  
C-12 NOT TO SCALE

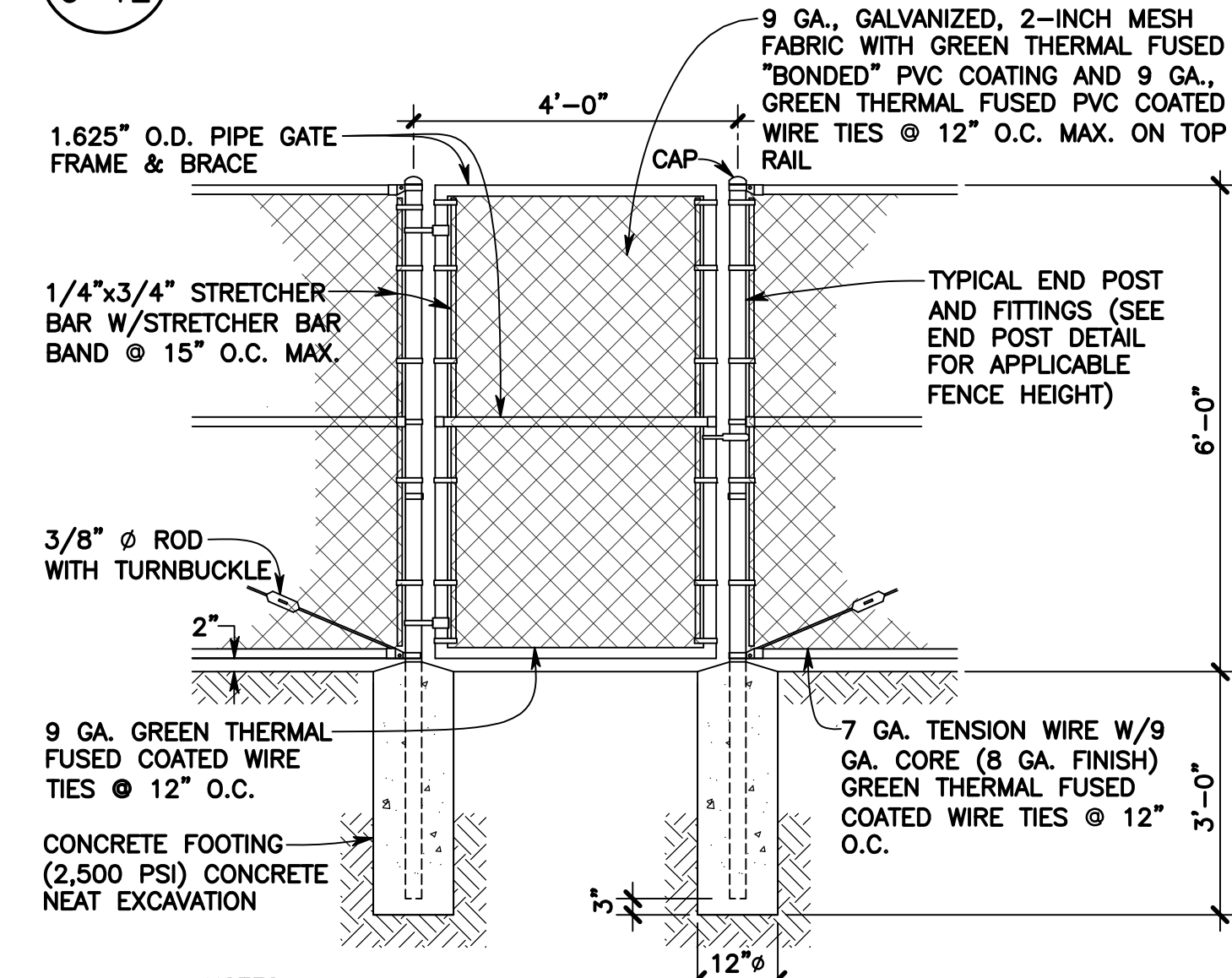


**5 WOODEN BARRICADE DETAIL**  
C-12 NOT TO SCALE



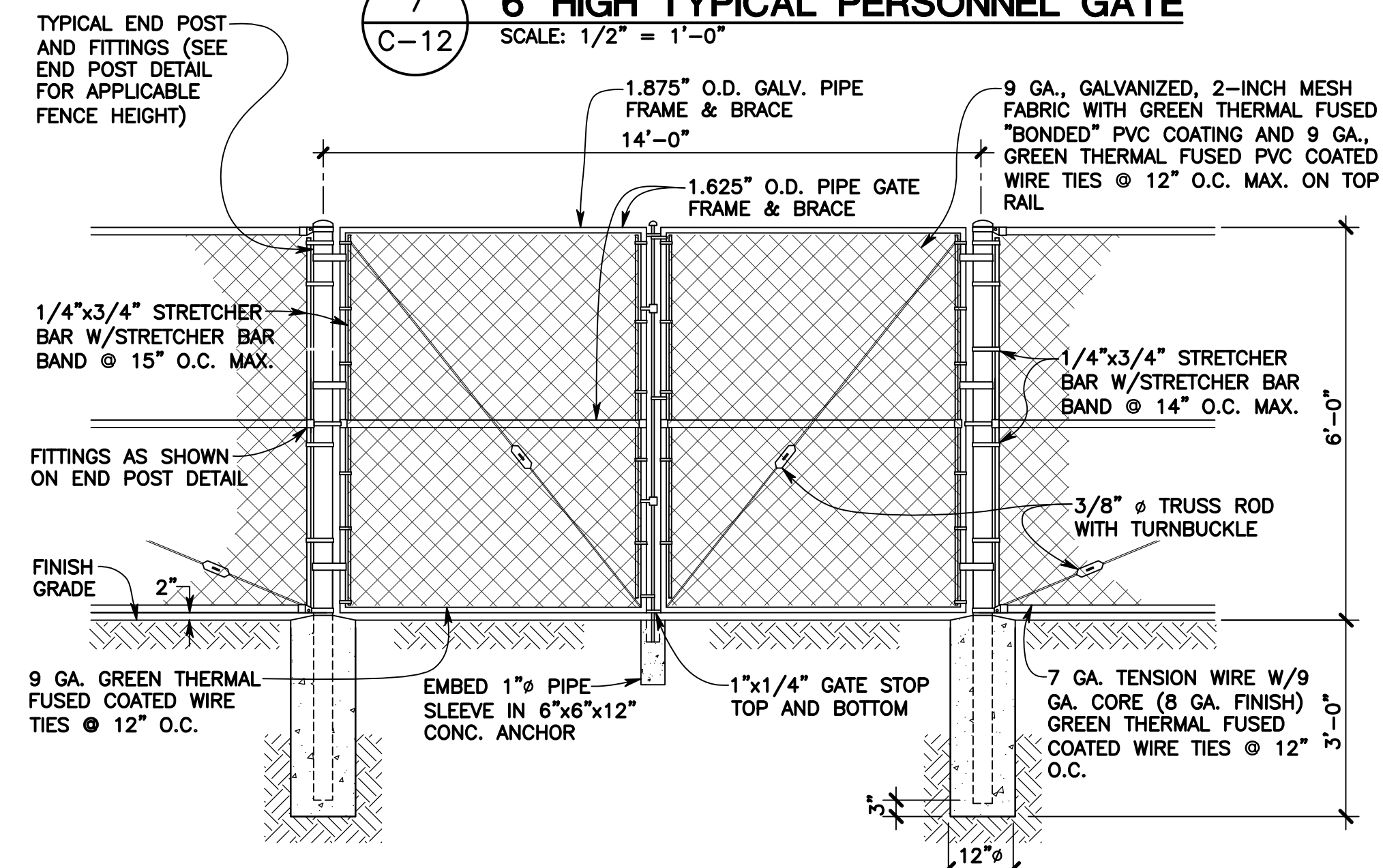
- NOTES:
1. POSTS AND BRACES SHALL BE SCHEDULE 40 (STANDARD WEIGHT) PIPE. SIZES SPECIFIED ARE OUTSIDE DIAMETER.
  2. ALL FENCING MATERIAL SHALL BE GALVANIZED STEEL.
  3. TOP RAIL COUPLINGS SHALL BE LOCATED WITHIN 6" OF LINE POSTS.
  4. TOP OF CONCRETE FOOTING SHALL BE CROWNED TO SHED WATER.

**6 6' HIGH CHAIN LINK FENCE**  
C-12 SCALE: 1/2" = 1'-0"



- NOTES:
1. ALL FENCING MATERIAL INCLUDING HARDWARE SHALL BE GALVANIZED STEEL.
  2. POSTS AND BRACES SHALL BE SCHEDULE 40 (STANDARD WEIGHT) PIPE. SIZES SPECIFIED ARE OUTSIDE DIAMETER.
  3. GATE SHALL BE PROVIDED WITH PROVISIONS FOR PADLOCKING.
  4. CORNER FITTINGS FOR GATE FRAMES MAY BE USED IN LIEU OF WELDING.
  5. GATE SHALL HAVE KNUCKLED SELVAGE TOP AND BOTTOM.
  6. TOP OF CONCRETE FOOTING SHALL BE CROWNED TO SHED WATER.

**7 6' HIGH TYPICAL PERSONNEL GATE**  
C-12 SCALE: 1/2" = 1'-0"



**8 6' HIGH DOUBLE SWING GATE**  
C-12 SCALE: 1/2" = 1'-0"