

DEPARTMENT OF PUBLIC WORKS
COUNTY OF HAWAII
HILO, HAWAII

DATE: June 20, 2019

Memorandum

TO: HWY ✓
TRF

FROM: *MD for*
David Yamamoto, Director

SUBJECT: BEGIN COUNTY MAINTENANCE
Pu`ualala Village
Subdivision No. 2012-1165
Grantor: Hawaii Island Community Development Corporation
Location: Makahanaloa & Pepeekeo, South Hilo, Hawaii
TMK: 2-8-026:033, 036, por. 017, 021 & 022
Folder No.: 2829-A3A

On June 4, 2019, the roadway lots and drainage easement within the subject subdivision were dedicated to the County. Please begin maintenance within your respective area.

A copy of the as-built construction plans and Resolution No. 163-19, along with the dedication location map, are transmitted with this memo.

Total roadway length dedicated = 1,184 lineal feet = 0.224 miles.

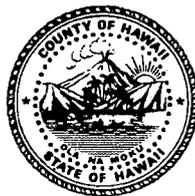
Also attached for Highways use only are the UIC documents related to this project.

Traffic may contact Jeremy McComber from Hawaii Island Community Development Corporation at 319-2428 or jeremy.hicdc@gmail.com to obtain the last HELCO invoice.

Questions may be referred to Melanie DeMello at ext. 8927.

MD

Attachments

RESOLUTION NO. 163 19

A RESOLUTION ACCEPTING THE DEDICATION OF ONOMEA STREET EXTENSION, IDENTIFIED AS TMK NO. (3) 2-8-026:036, ROAD A, IDENTIFIED AS TMK NO. (3) 2-8-026:033, AND EASEMENT 21B, IDENTIFIED AS TMK NOS. (3) 2-8-026:017 (POR.), (3) 2-8-026:021 (POR.), AND (3) 2-8-026:022 (POR.), ALL SITUATED AT PEPE'EKEO, DISTRICT OF SOUTH HILO, ISLAND AND COUNTY OF HAWAI'I, STATE OF HAWAI'I, FROM HAWAI'I ISLAND COMMUNITY DEVELOPMENT CORPORATION, A HAWAI'I NON-PROFIT CORPORATION.

WHEREAS, Hawai'i Island Community Development Corporation, a Hawai'i non-profit corporation (hereinafter "Owner"), is the owner of Onomea Street Extension, identified as TMK No. (3) 2-8-026:036, Road A, identified as TMK No. (3) 2-8-026:033, and Easement 21B, identified as TMK Nos: (3) 2-8-026:17 (por.), (3) 2-8-026:021 (por.), and (3) 2-8-026:022 (por.) (hereinafter collectively, "Roadways and Easement"), situated at Pepe'ekeo, District of South Hilo, Island and County of Hawai'i, State of Hawai'i, as described in Exhibit "A" and delineated on Exhibit "B", which are attached hereto and made a part hereof; and

WHEREAS, Owner is desirous of dedicating the Roadways and Easement and all improvements thereon to the County of Hawai'i for roadway and drainage purposes, and the Roadways and Easement and improvements thereon have been inspected and approved by the Department of Public Works, and received dedication approval from the Department of Water Supply, the Planning Department and the Department of Environmental Management; and

WHEREAS, Section 23-10 of the Hawai'i County Code prohibits the Council from receiving by dedication any streets in any subdivision platted after December 21, 1966 except upon full compliance with provisions of Chapter 23; and

WHEREAS, Article XIII, Section 13-12 of the Hawai'i County Charter provides that the Council may accept gifts, including real estate or any interest in real estate, on behalf of the County of Hawai'i; now, therefore,

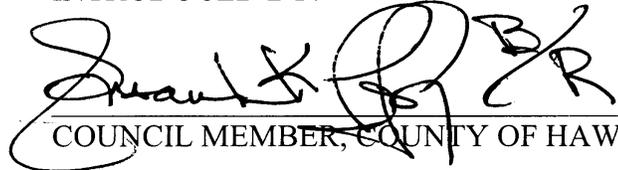
BE IT RESOLVED BY THE COUNCIL OF THE COUNTY OF HAWAI'I, that it finds the subject Roadways and Easement and improvements thereon are in full compliance with the provisions of Chapter 23 of the Hawai'i County Code as certified and approved by all applicable agencies, and that it is in the public interest to accept such dedication.

BE IT FURTHER RESOLVED BY THE COUNCIL OF THE COUNTY OF HAWAI'I, in accordance with Article XIII, Section 13-12 of the Hawai'i County Charter and Chapter 23 of the Hawai'i County Code, the County of Hawai'i accepts the dedication of the Roadways and Easement for public road and drainage purposes.

BE IT FINALLY RESOLVED that the County Clerk shall transmit a copy of this resolution to: (1) the Honorable Harry Kim, Mayor of the County of Hawai'i; (2) the Department of Public Works; (3) Deputy Corporation Counsel Danny Patel; and (4) Hawai'i Island Community Development Corporation, Attn: Jeremy McComber, 100 Pauahi Street, Suite 204, Hilo, Hawai'i 96720.

Dated at Hilo, Hawai'i, this 4th day of June, 2019.

INTRODUCED BY:


 COUNCIL MEMBER, COUNTY OF HAWAI'I

COUNTY COUNCIL
 County of Hawai'i
 Hilo, Hawai'i

I hereby certify that the foregoing RESOLUTION was by the vote indicated to the right hereof adopted by the COUNCIL of the County of Hawai'i on June 4, 2019.

ATTEST:

 
 COUNTY CLERK CHAIRPERSON & PRESIDING OFFICER

ROLL CALL VOTE

	AYES	NOES	ABS	EX
CHUNG	X			
DAVID	X			
EOFF	X			
KANEALI'I-KLEINFELDER	X			
KIERKIEWICZ	X			
LEE LOY	X			
POINDEXTER	X			
RICHARDS	X			
VILLEGAS	X			
	9	0	0	0

Reference: G-270/PWMTIC -11
 RESOLUTION NO. 163 19

DESCRIPTION

ONOMEA STREET EXTENSION

Being a Portion of R.P. 7192, L.C Aw. 8559-B, Apana 17 and 18
to William C. Lunaliilo

Situated at Pepeekeo, South Hilo, Island of Hawaii, Hawaii

Beginning at the southwest corner of this parcel of land, the coordinates of said point of beginning referred to Government Survey Triangulation Station "ALALA" being 1,101.93 feet South and 1,069.74 feet West and running by azimuths measured clockwise from True South:

1. 171° 10' 50.00 feet along Lot A-2-F;
2. Thence along Lot 1, Road A, Lots 30 and 29, along a curve to the right having a radius of 250.00 feet, the chord azimuth and distance being:
 282° 41' 15" 183.42 feet;
3. 304° 12' 30" 99.96 feet along Lots 29 and 31;
4. Thence along Lots 31 and 25, along a curve to the left having a radius of 1700.00 feet, the chord azimuth and distance being:
 302° 27' 45" 103.58 feet;
5. 30° 43' 50.00 feet along the west side of Onomea Street;
6. Thence along Reservoir Site, along a curve to the right having a radius of 1750.00 feet, the chord azimuth and distance being:
 122° 27' 45" 106.63 feet;
7. 124° 12' 30" 99.96 feet along Reservoir Site and Lot A-2-C-2;

EXHIBIT A



ISLAND SURVEY, INC.
SURVEYORS

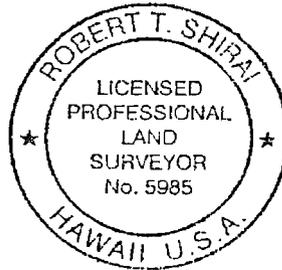
P.O. BOX 4215
HILO, HAWAII 96720-0215

Onomea Street Extension

8. Thence along Lot A-2-C-2, along a curve to the left having a radius of 200.00 feet, the chord azimuth and distance being:
102° 41' 15" 146.74 feet to the point of beginning and containing an area of 18,705 square feet.

November 12, 2018
Hilo, Hawaii

TMK:2-8-007:091 portion



ISLAND SURVEY, INC.

A handwritten signature in black ink, appearing to read "Robert T. Shirai".

ROBERT T. SHIRAI
Licensed Professional
Land Surveyor 5985
License expires 04/30/20



DESCRIPTION

ROAD A

Being a Portion of R.P. 7192, L.C Aw. 8559-B, Apana 17 and 18
to William C. Lunalilo

Situated at Pepeekeo, South Hilo, Island of Hawaii, Hawaii

Beginning at the southwest corner of this parcel of land, the coordinates of said point of beginning referred to Government Survey Triangulation Station "ALALA" being 1,049.63 feet South and 1,044.89 feet West and running by azimuths measured clockwise from True South:

1. Thence along Lot 1, along a curve to the left having a radius of 20.00 feet, the chord azimuth and distance being:
228° 27' 10.5" 25.82 feet;
2. 188° 15' 21.43 feet along Lot 1;
3. Thence along Lots 1, 2 and 3, along a curve to the left having a radius of 175.00 feet, the chord azimuth and distance being:
163° 16' 147.82 feet;
4. 138° 17' 59.14 feet along Lots 3 and 4;
5. Thence along Lots 4 through 10, along a curve to the right having a radius of 250.00 feet, the chord azimuth and distance being:
190° 56' 30" 397.52 feet;
6. 243° 36' 25.17 feet along Lot 10;
7. Thence along Lot 10, along a curve to the left having a radius of 40.00 feet, the chord azimuth and distance being:
223° 32' 25.5" 27.44 feet;
8. Thence along Lot 10, along a curve to the right having a radius of 45.00 feet, the chord azimuth and distance being:
212° 17' 55.5" 13.80 feet;



ISLAND SURVEY, INC.
SURVEYORS

P.O. BOX 4215
HILO, HAWAII 96720-0215

Road A

9. Thence along Lot 11, along a curve to the right having a radius of 45.00 feet, the chord azimuth and distance being:
264° 27' 57.5" 61.78 feet;
10. Thence along Lot 12, along a curve to the right having a radius of 45.00 feet, the chord azimuth and distance being:
327° 25' 22.5" 30.20 feet;
11. Thence along Lot 13, along a curve to the right having a radius of 45.00 feet, the chord azimuth and distance being:
357° 47' 35" 16.81 feet;
12. Thence along Road C, along a curve to the right having a radius of 45.00 feet, the chord azimuth and distance being:
29° 29' 32.15 feet;
13. Thence along Lot 19, along a curve to the right having a radius of 45.00 feet, the chord azimuth and distance being:
77° 03' 54.5" 40.37 feet;
14. Thence along Lot 19, along a curve to the left having a radius of 40.00 feet, the chord azimuth and distance being:
83° 39' 34.5" 27.44 feet;
15. 63° 36' 25.17 feet along Lots 19 and 20;
16. Thence along Lots 20 through 22, along a curve to the left having a radius of 200.00 feet, the chord azimuth and distance being:
10° 56' 30" 318.01 feet;
17. 318° 17' 59.14 feet along Lots 22 and 23;
18. Thence along Lot 23, Road B and Lot 30, along a curve to the right having a radius of 225.00 feet, the chord azimuth and distance being:
343° 16' 190.06 feet;

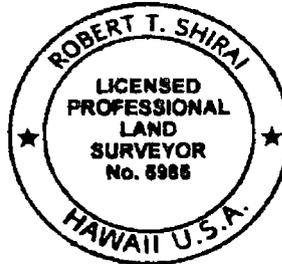


Road A

19. $8^{\circ} 15'$ 21.43 feet along Lot 30;
20. Thence along Lot 30, along a curve to the left having a radius of 20.00 feet, the chord azimuth and distance being:
 $328^{\circ} 02' 49.5''$ 25.82 feet;
21. Thence along Onomea Street Extension, along a curve to the left having a radius of 250.00 feet, the chord azimuth and distance being:
 $98^{\circ} 15'$ 83.33 feet to the point of beginning and containing an area of 42,679 square feet.

November 12, 2018
Hilo, Hawaii

TMK:2-8-007:portions 092 & 093



ISLAND SURVEY, INC.

A handwritten signature in black ink, appearing to read "Robert T. Shirai", written over a horizontal line.

ROBERT T. SHIRAI
Licensed Professional
Land Surveyor 5985
License expires 04/30/20



DESCRIPTION

EASEMENT 21B

For Drainage Purposes Affecting Lots 17, 21 and 22

Being a Portion of R.P. 7192, L.C Aw. 8559-B, Apana 17 and 18
to William C. Lunalilo

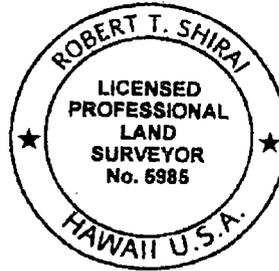
Situated at Pepekeo, South Hilo, Island of Hawaii, Hawaii

Beginning at the northwest corner of this easement parcel, the coordinates of said point of beginning referred to Government Survey Triangulation Station "ALALA" being 721.71 feet South and 1,107.78 feet West and running by azimuths measured clockwise from True South:

1. 248° 09' 207.00 feet;
2. 338° 09' 15.00 feet;
3. 68° 09' 207.39 feet;
4. Thence along Road A, along a curve to the right having a radius of 200.00 feet, the chord azimuth and distance being:
159° 38' 46.5" 15.01 feet to the point of beginning and
containing an area of 3,109 square feet.

November 12, 2018
Hilo, Hawaii

TMK:2-8-007:portions 092 & 093



ISLAND SURVEY, INC.

A handwritten signature in black ink, appearing to read "Robert T. Shirai".

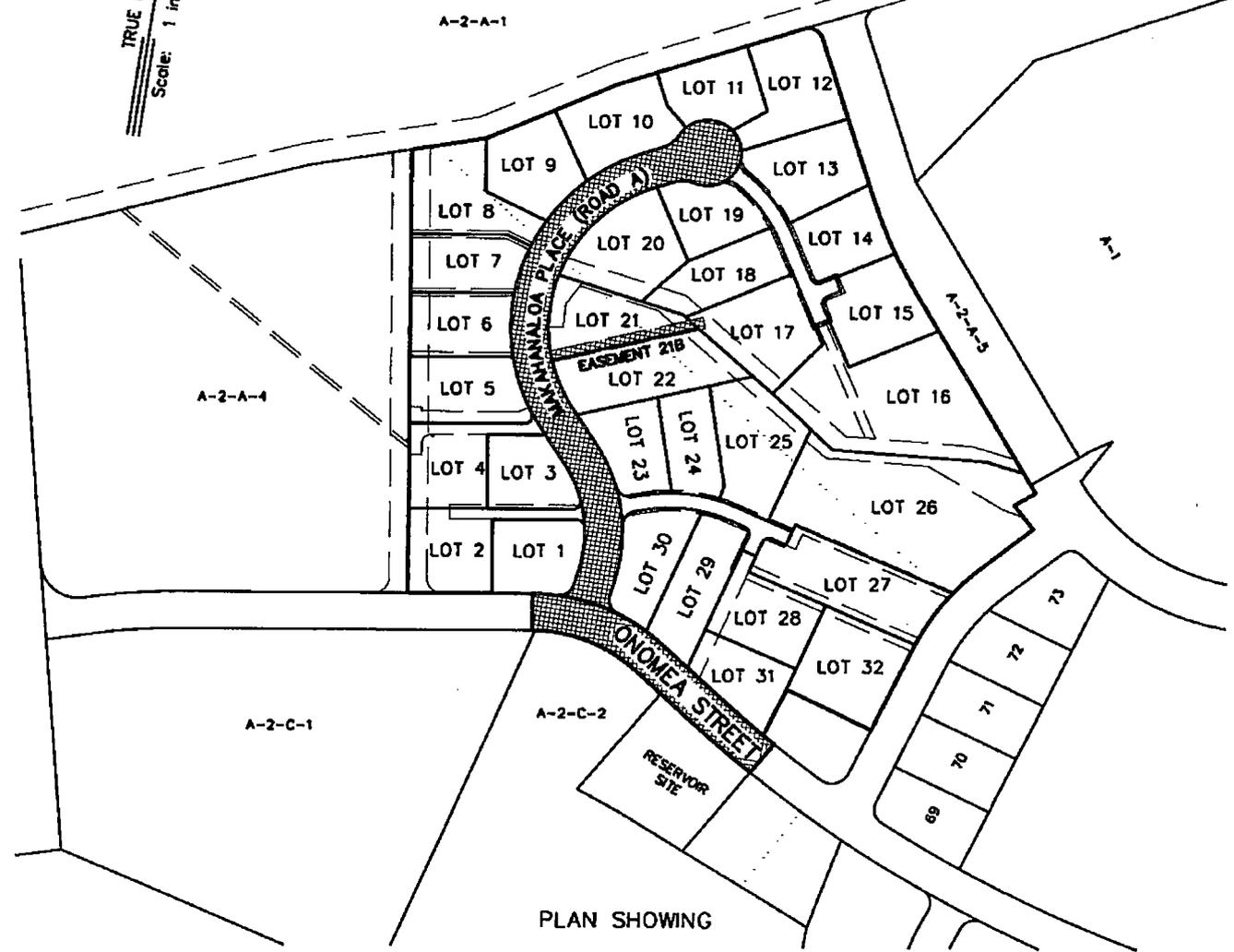
ROBERT T. SHIRAI
Licensed Professional
Land Surveyor 5985
License expires 04/30/20



ISLAND SURVEY, INC.
SURVEYORS

P.O. BOX 4215
HILO, HAWAII 98720-0215

TRUE NORTH
Scale: 1 in = 200 ft



PLAN SHOWING

FOR PU'U'ALALA VILLAGE

- TO BE DEDICATED: Onomea Street Extension, Makahanaloa Place (Road A) and Easement 21B for Drainage purposes
- TYPE OF ROADS: Both roads are 50-ft right-of-ways with a 20-ft wide paved travelway (3" A.C.) and paved shoulders and swales
- LENGTH OF ROADS: Onomea Street Extension 374.11 LF (0.07 Mile) and Makahanaloa Place = 809.73 LF (0.15 Mile)
- NUMBER OF DRYWELLS: Within Onomea Street Extension - 1
Within Makahanaloa Place - 6 and 2 catch basins
- NUMBER OF LOTS: 32 lots (RS-10)
- TAX MAP KEY: (3)2-8-026:033 (Makahanaloa Place - Road A), (3)2-8-026:036 (Onomea Street Extension), and (3)2-8-026:Portions 017, 021 & 022 (Easement 21B for Drainage Purposes)

EXHIBIT B

Pu'u'alala Village

PEPEEKEO, SOUTH HILO, ISLAND AND COUNTY OF HAWAII STATE OF HAWAII

SUBDIVISION NO.: SUB-12-001165
TAX MAP KEY: (3) 2-8-007:092 AND 093
DPW FOLDER NO.: 2829-A3A



NANCY E. BURNS, P.E., LLC

73-1487 Hao Street
Kailua-Kona, HI 96740
Tel. (808) 325-3182



The work was prepared by me or under my supervision and construction of this project will be under my observation

Nancy E. Burns
Signature

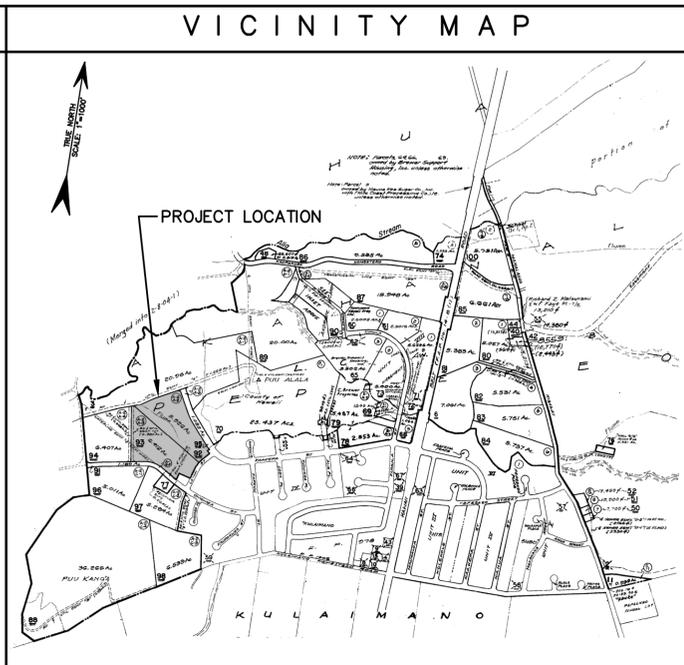
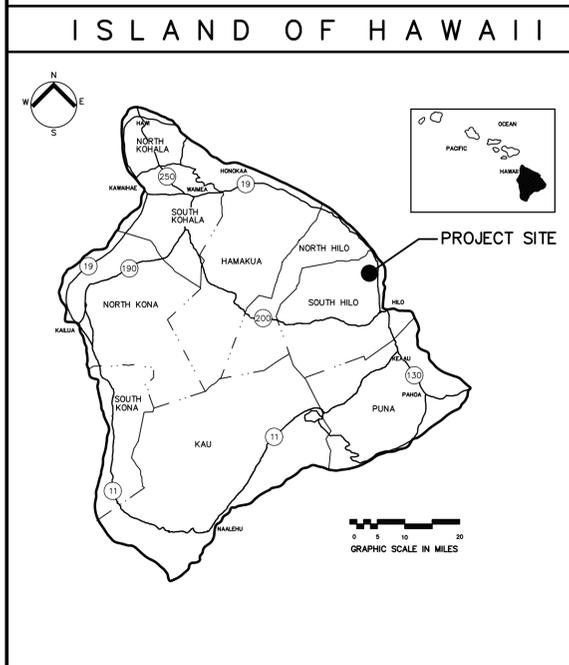
4/30/18
Expiration Date of the License

Revision	Date	Approved
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DEVELOPER HAWAII ISLAND COMMUNITY DEVELOPMENT CORPORATION
100 PAUHI STREET, SUITE 204
HILO, HAWAII 96720

ENGINEER NANCY E. BURNS, P.E. L.L.C.
73-1487 HAO STREET
KAILUA-KONA HAWAII 96740

Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093



INDEX

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C-2	TYPICAL SECTIONS
C-3 TO C-6	GENERAL NOTES
C-7	GRADING AND EROSION CONTROL PLAN
C-8	STOCKPILE PLAN
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APPROVALS

DIRECTOR, DEPARTMENT OF PUBLIC WORKS, COUNTY OF HAWAII	DATE
DIRECTOR, PLANNING DEPARTMENT, COUNTY OF HAWAII	DATE
CHIEF, ENVIRONMENTAL MANAGEMENT DIVISION, DEPARTMENT OF HEALTH STATE OF HAWAII	DATE
MANAGER-CHIEF ENGINEER, DEPARTMENT OF WATER SUPPLY, COUNTY OF HAWAII	DATE
DIRECTOR, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, COUNTY OF HAWAII	DATE

AS-BUILT

SIGNATURE DATE

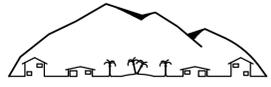
Title
TITLE SHEET

Project No. x
Date May 2016
Drawn By ACE CADD Services
Designed By NEB
Checked By NEB
CAD File T1.DWG
T-1
Sheet 1 of 31 Sheets
rev 8-20-17



AS-BUILT

SIGNATURE _____ DATE _____



NANCY E. BURNS, P.E., LLC

73-1487 Hao Street
Kailua-Kona, HI 96740
Tel. (808) 325-3182



The work was prepared by me or under my supervision and construction of this project will be under my observation

Nancy E. Burns
Signature

4/30/18
Expiration Date of the License

Revision Date Approved

Revision	Date	Approved

Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

Title
SITE PLAN AND
WATER SERVICE
REMOVAL PLAN

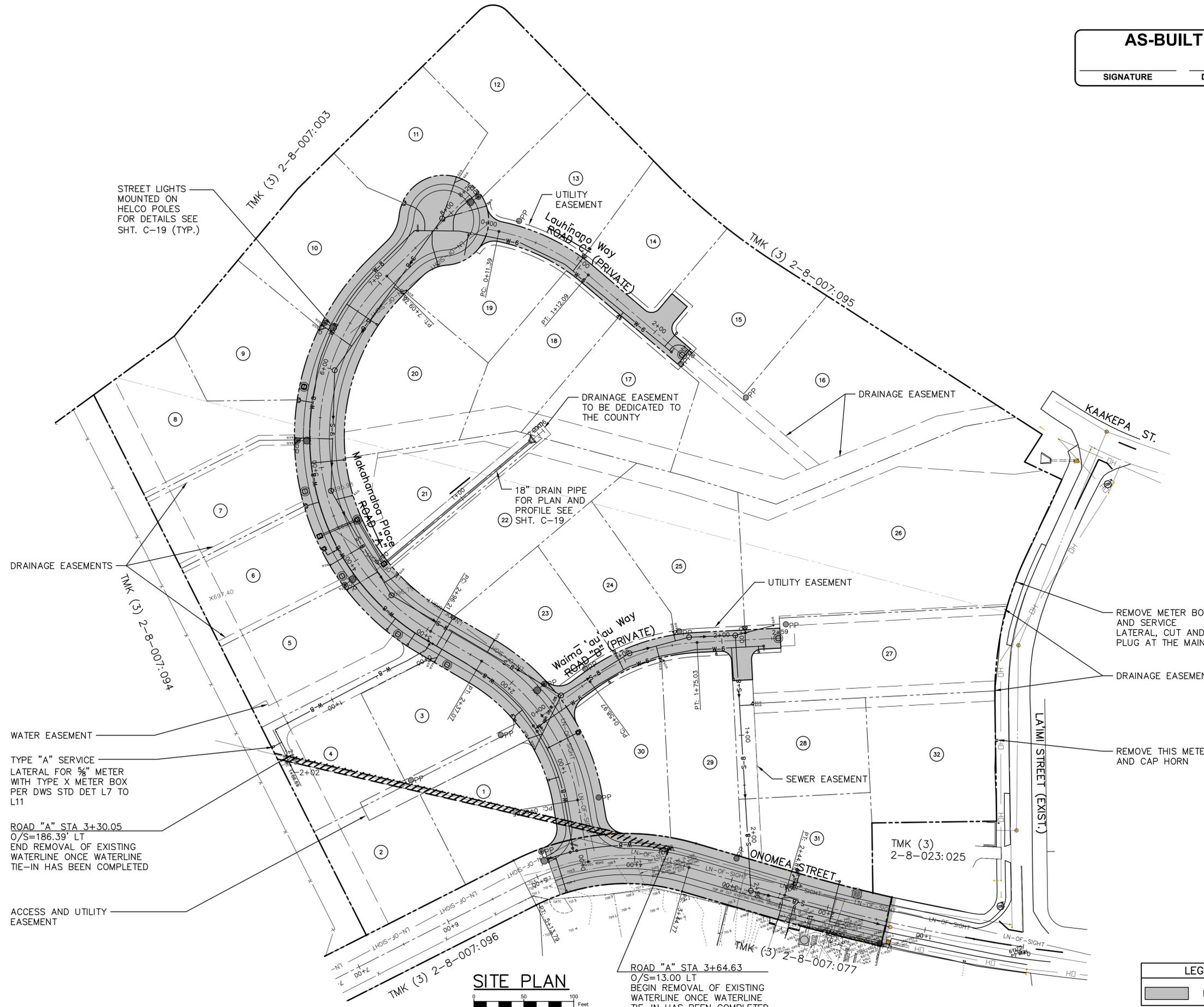
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Date May 2016
Drawn By ACE CADD Services
Designed By NEB

Checked By NEB
CAD File Site Rev 6-25-15

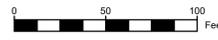
C-1

Sheet 2 of 31 Sheets

rev 8-20-17

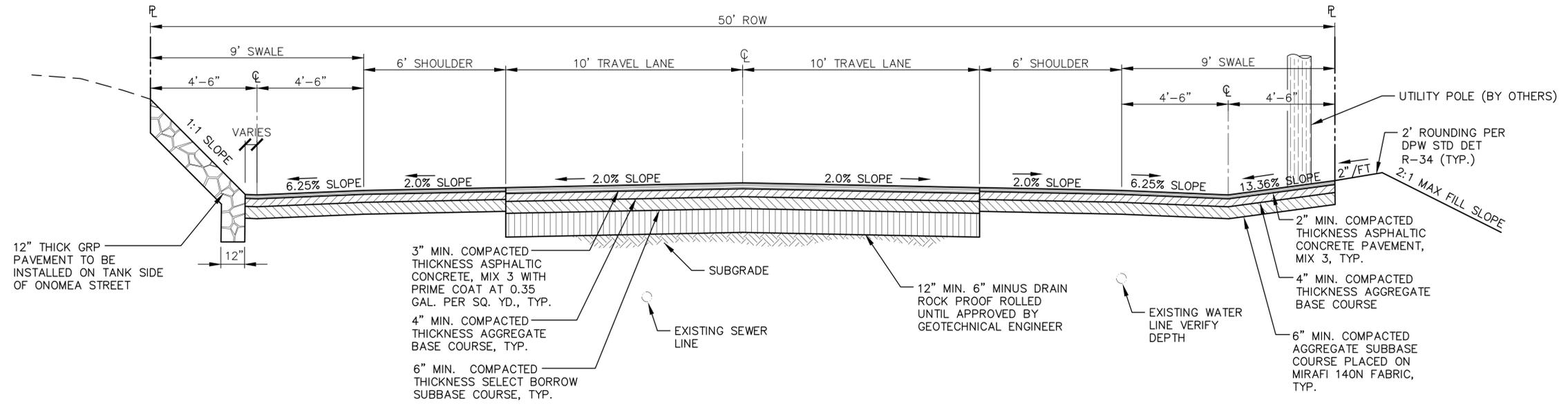


SITE PLAN



LEGEND

PAVED AREA



**TYPICAL SECTION ONOMEA STREET 50' ROW AT
TANK SITE SIDE STA 1+34.40 TO 2+26.90**
SCALE: 3/8" = 1'-0"



NANCY E. BURNS, P.E., LLC

73-1487 Hao Street
Kailua-Kona, HI 96740
Tel. (808) 325-3182



The work was prepared by me or under my supervision and construction of this project will be under my observation.
Nancy E. Burns
Signature
4/30/18
Expiration Date of the License

Revision	Date	Approved
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Project
**PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093**

Title
TYPICAL SECTIONS

Project No. x
Date May 2016
Drawn By ACE CADD Services
Designed By NEB
Checked By NEB
CAD File C2-C7.DWG
C-2A

AS-BUILT
SIGNATURE _____ DATE _____

CONSTRUCTION NOTES

- 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, AS AMENDED "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" DATED SEPTEMBER 1986, STATE OF HAWAII DEPARTMENT OF TRANSPORTATION "STANDARD PLANS" DATED 2008 "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND PUBLIC WORKS CONSTRUCTION" DATED 1994, AS APPLICABLE
- 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.
- ALL CONSTRUCTION LINES, GRADES AND SURVEY MONUMENT STAKEOUTS SHALL BE MADE BY LICENSED SURVEYORS.
- LICENSED SURVEYORS SHALL SUBMIT A LETTER TO THE DEPARTMENT OF PUBLIC WORKS CERTIFYING THAT THE MONUMENT STAKEOUT AND INSTALLATION IS CORRECT.
- CONTRACTOR SHALL NOTIFY THE ENGINEER SUFFICIENTLY IN ADVANCE OF OPENING ANY OR UTILIZING EXISTING BORROW PITS OR ON SITE BORROW, SO THAT A DETERMINATION CAN BE MADE AS TO THE SUITABILITY OF THE BORROW MATERIAL TO BE INCORPORATED INTO THE ROAD CONSTRUCTION.
- THE CONTRACTOR SHALL CONDUCT ALL TESTS AS REQUESTED BY THE ENGINEER AND BE RESPONSIBLE FOR ALL EXPENSES INCURRED IN CONDUCTING THESE TESTS.
- 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.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS", AND TO THE SATISFACTION OF THE ENGINEER.
- ALL VEGETATION, INCLUDING TREES, SHALL BE REMOVED FROM WITHIN THE ENTIRE GRADED AREA.
- ALL FACILITIES SHOWN THROUGHOUT THE CONSTRUCTION PLANS ARE SYMBOLICAL AND ENLARGED FOR CLARITY. FOR ACTUAL SIZE AND LOCATIONS OF NEW FACILITIES REFER AND CONFORM TO THE APPROPRIATE PUBLIC AGENCY STANDARDS AS REFERRED IN NOTE 1.

SOLID WASTE NOTES

- ALL WASTE GENERATED BY CONSTRUCTION INCLUDING GRUBBING EXCESS AND UNSUITABLE EXCAVATION MATERIAL IS PROHIBITED AT ALL TRANSFER STATIONS ISLAND-WIDE. CONSTRUCTION WASTES MAY BE BROUGHT TO THE SOUTH HILO LANDFILL.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL NECESSARY LABOR, EQUIPMENT, MATERIALS, AND SUPPLIES TO PROPERLY LANDFILL HIS WASTE.
- IN ACCORDANCE WITH STATE AIR POLLUTION CONTROL RULES HAR 11-60.1, OPEN BURNING OF ANY CONSTRUCTION WASTE IS PROHIBITED EITHER ON OR OFF THE SITE.

GRADING NOTES

- ALL GRADING WORK SHALL CONFORM TO CHAPTER 10 OF THE HAWAII COUNTY CODE AND THESE NOTES. SHOULD A GRADING PERMIT BE REQUIRED, NO WORK SHALL COMMENCE UNTIL THE DEPARTMENT OF PUBLIC WORKS (DPW) APPROVES A GRADING PERMIT.
- 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.
- 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.
- 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.

GRADING NOTES (CONTINUED)

- THE CONTRACTOR SHALL SOD OR PLANT ALL SLOPES AND EXPOSED AREAS IMMEDIATELY AFTER THE GRADING WORK HAS BEEN COMPLETED.
- FILLS ON SLOPES STEEPER THAN 5:1 SHALL BE KEYED.
- 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.
- NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS ANYTIME WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS. GRADING WORK ON NORMAL WORKING DAYS SHALL BE BETWEEN THE HOURS OF 7:00 AM TO 3:30 PM.
- SUBGRADE SOILS SHALL BE CLEANED OF ORGANIC AND DELETERIOUS MATERIAL AND COMPACTED FIRM CONDITION. SOILS BELOW ROADS WILL THEN BE STABILIZED BY COVERING THE SURFACE WITH A THIN LAYER OF 4-INCH DRAIN ROCK AND COMPACTING WITH A VIBRATORY SHEEPSFOOT ROLLER. APPLICATION OF DRAIN ROCK MAY BE REPEATED 1 OR 2 MORE TIMES, WITH INTERMITTENT PROOF ROLLS UNTIL SUBGRADE CONDITIONS ARE APPROVED BY THE GEOTECHNICAL ENGINEER.
- TRAVELWAY PAVEMENT SECTION WILL BE COMPRISED OF THE FOLLOWING:
 - 3-INCH THICK, COUNTY MIX 3 ASPHALTIC CONCRETE PAVEMENT
 - 4-INCH THICK BASE COURSE COMPACTED TO 95% OF MAXIMUM DENSITY PER ASTM D-1557 MODIFIED PROCTOR ANALYSIS
 - 6-INCH OF SUB-BASE COURSE COMPRISED OF 2.5-INCH MINUS CRUSHED AGGREGATE, OR EQUAL COMPACTED TO 95% OF MAXIMUM DENSITY PER ASTM D-1557 MODIFIED PROCTOR ANALYSIS
 - STABILIZED SUBGRADE.
- ROADWAY SHOULDER AND SWALE SECTION WILL BE COMPRISED OF THE FOLLOWING:
 - 2-INCH THICK, COUNTY MIX 3 ASPHALTIC CONCRETE PAVEMENT.
 - 4-INCH BASE COURSE COMPACTED TO 95% OF MAXIMUM DENSITY PER ASTM D-1557 MODIFIED PROCTOR ANALYSIS

APPROXIMATE EARTHWORK QUANTITIES:
 CUT: 16,174 CY
 FILL: 12,107 CY
 NET: 3,767 CY
 GRADED AREA ±10.27 ACRES

WATERLINE NOTES

- ALL WORK SHALL BE DONE ACCORDING TO THE WATER SYSTEM STANDARDS, STATE OF HAWAII, DATED 2002 AS AMENDED.
- 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 COSTS FOR DAMAGES DONE DURING THE CONTRACT PERIOD.
- THE CONTRACTOR SHALL INFORM THE DEPARTMENT OF WATER SUPPLY (D.W.S.) ENGINEER 72 HOURS PRIOR TO THE BEGINNING OF ANY WATERLINE WORK AND TWO WEEKS PRIOR TO ANY CONNECTION, CHLORINATION, SHUT-OFF OR RELOCATION WORK.
- ALL CONNECTIONS TO THE EXISTING WATER SYSTEM SHALL BE DONE BY THE D.W.S. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, BACKFILL, ROAD REPAIR, TRAFFIC CONTROL, AND PROVIDE EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE CONNECTION.
- THE CONTRACTOR SHALL PAY FOR ALL WORK, EQUIPMENT AND MATERIAL FURNISHED BY THE D.W.S.
- 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 D.W.S. 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.
- CONSTRUCTION PROJECTS REQUIRING TEMPORARY CONSTRUCTION WATER SERVICE SHALL BE METERED AND PAID FOR BY THE CONTRACTOR.

WATERLINE NOTES (CONTINUED)

- OUTSIDE OF STATE ROAD RIGHT-OF-WAYS: MINIMUM COVER ON WATER SYSTEM PIPELINES 4-INCH THROUGH 8-INCH TO BE 2.0 FEET. MINIMUM COVER ON 12-INCH PIPELINES TO BE 2.5 FEET. MINIMUM COVER ON PIPELINES GREATER THAN 12-INCH TO BE 3.0 FEET. MAXIMUM COVER ON PIPELINES NOT TO EXCEED 5 FEET UNLESS APPROVED BY THE MANAGER OF D.W.S. WITHIN STATE ROAD RIGHT-OF-WAYS: MIN. COVER ON ALL SIZES OF WATERLINES TO BE 3.0 FEET.
- 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.
- MINIMUM VERTICAL CLEARANCE BETWEEN WATERLINES AND OTHER UTILITIES SHALL BE 12-INCHES PROVIDED THE OTHER UTILITY IS CONCRETE JACKETED, AND 18-INCHES IF NO CONCRETE JACKETS ARE USED. IN ALL APPLICABLE INSTANCES, THE WATERLINES SHALL BE AT A GRADE HIGHER THAN OTHER UTILITIES. UTILIZE PERPENDICULAR CROSSINGS WHERE PRACTICABLE. FOR WATERLINES, CENTER FULL PIPE LENGTHS AT UTILITY CROSSINGS WHENEVER POSSIBLE.
- MINIMUM HORIZONTAL CLEARANCE BETWEEN WATERLINES AND OTHER UTILITIES SHALL BE 8 FEET UNLESS OTHERWISE SPECIFIED. (CLEAR SPACE-NOT CENTERLINE TO CENTERLINE).
- WHEN WATERLINE IS WITHIN 6- FEET OF A PRESSURIZED SEWER LINE OR WITHIN 18-INCHES OF A GRAVITY SEWER LINE, THE SEWER MAIN SHALL BE REINFORCED CONCRETE JACKETED. WHENEVER A WATER MAIN CROSSES UNDER A SEWER MAIN, THE SEWER MAIN SHALL HAVE REINFORCED CONCRETE JACKET ON BOTH SIDES OF CROSSING TO A DISTANCE 5 FEET FROM THE WATERLINE (MEASURED PERPENDICULAR TO WATERLINE). STANDARD CONCRETE JACKET DETAILS FOR SEWER LINES, AS SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS STANDARDS SHALL BE FOLLOWED. PLASTIC PIPES SHALL NOT BE JACKETED. DUCTILE IRON OR CONCRETE CYLINDER PIPE SHALL BE USED FOR THE PORTION TO BE JACKETED.
- ALL WATER SYSTEM PIPELINES, 4-INCHES OR LARGER IN DIAMETER, SHALL BE DUCTILE IRON PUSH ON JOINTS, CLASS 52, AND ALL PIPE LINES SMALLER THAN 4-INCHES IN DIAMETER SHALL BE SOFT COPPER, TYPE "K", UNLESS OTHERWISE SPECIFIED.
- SOLDER (1/8-INCH DIA.) AND FLUX USED SHALL NOT CONTAIN MORE THAN 0.2% LEAD
- ALL FITTINGS (CLASS 250 MINIMUM) AND GATE VALVES (CLASS 200) SHALL BE DUCTILE IRON, WITH MECHANICAL JOINTS UNLESS OTHERWISE SPECIFIED. BUTTERFLY VALVES (MJ) SHALL BE CLASS 250 EPOXY-COATED INTERIOR UNLESS OTHERWISE SPECIFIED.
- 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), WHERE EVER CALLED FOR ON THE PLANS AND SPECIFICATIONS.
- FIRE HYDRANTS REQUIRE JOINT RESTRAINTS BETWEEN THE TEE AND THE GATE VALVE.
- 4'x4'x4" REINFORCED CONCRETE SLAB FOR FIRE HYDRANT SHALL BE REINFORCED WITH 6X6X10/10 WELDED WIRE FABRIC. SLAB TO SLOPE AWAY FROM HYDRANT AT 2% IN ALL DIRECTIONS.
- THE WATERLINE SHALL BE TESTED AT A MINIMUM OF 225 PSI OR ONE-AND-ONE-HALF TIMES THE STATIC PRESSURE AT THE LOW POINT, WHICHEVER IS GREATER, UNDER DWS SUPERVISION. JUST PRIOR TO PAVING,
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CHLORINATION AND SHALL BEAR ALL COSTS. THE PERSONS ENGAGED TO DO THE CHLORINATION WORK MUST HAVE THE APPROPRIATE LICENSE TO PERFORM THE WORK IN THE STATE OF HAWAII.
- 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 D.W.S. BASEYARD. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS BID ITEMS, UNLESS SPECIFIED OTHERWISE.
- EXISTING WATERLINES, VALVES, FITTINGS AND APPURTENANCES NOT DESIGNATED "REMOVE AND SALVAGE" SHALL BE ABANDONED IN PLACE. ALL EXPOSED VALVE BOXES, VALVES, PIPES AND

WATERLINE NOTES (CONTINUED)

- APPURTENANCES SHALL BE REMOVED AND DISPOSED OF PROPERLY AT NO COST TO THE D.W.S.
- REMOVAL OF EXISTING FIRE HYDRANT UNITS AS FOLLOWS: FOR MECHANICAL JOINT FITTINGS-PLUG TEE AT THE MAIN; FOR LEAD JOINT FITTINGS-CUT TEE FROM MAIN AND INSTALL PIPE NIPPLE USING TWO TRANSITION COUPLINGS.
 - METER BOXES FOR 3/8-INCH METERS PLACED OUTSIDE OF PAVEMENT TO BE TYPE "B" PER STD DETAILS M1 & M2. METER BOXES FOR 1-INCH METERS OR FOR 3/8-INCH METERS LOCATED WITHIN PAVEMENT TO BE TYPE "X" PER STD DETAIL M3.
 - IRRIGATION METERS SHALL BE CLEARLY NOTED AS SUCH ON THE PLANS. DETAILED WATER DEMAND CALCULATIONS REQUIRED. IRRIGATION WATER COUNTS AGAINST AVAILABLE WATER COMMITMENTS. RP BACKFLOW PREVENTION DEVICE REQUIRED FOR ALL IRRIGATION METERS. EXECUTED IRRIGATION AGREEMENT REQUIRED PRIOR TO WATER SERVICE.
 - 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. WHEN APPLICABLE, A DIELECTRIC UNION SHALL BE USED TO CONNECT THE COPPER PIPE TO THE CUSTOMER'S GALVANIZED IRON (G.I.) PIPE (IF APPLICABLE).
 - SERVICE LATERAL TO BE ABANDONED SHALL BE CUT AND PLUGGED THE WATER MAIN. METER BOXES TO BE ABANDONED SHALL BE REMOVED AND GROUND SHALL BE RESTORED TO A CONDITION BETTER OR EQUAL TO SURROUNDING AREA.
 - WHEN COMPACTION TESTS ARE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE D.W.S. 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 D.W.S. ONE WEEK PRIOR TO COMMENCEMENT OF WORK. COST FOR COMPACTION TESTS SHALL BE INCIDENTAL TO PIPELINE INSTALLATION.
 - 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 DWS.
 - LOTS REQUIRING A DEPARTMENT OF WATER SUPPLY APPROVED BACKFLOW PREVENTION ASSEMBLY SHALL HAVE ONE. BACKFLOW DEVICE INSTALLATION MAY NOT BE REQUIRED FOR FINAL SUBDIVISION APPROVAL BUT MUST BE INSTALLED, WHERE REQUIRED, BEFORE WATER SERVICE IS ALLOWED. IT MUST BE INSTALLED ON PRIVATE PROPERTY IN ACCORDANCE WITH D.W.S. STANDARD DETAIL NO. V9 AND DEPARTMENTAL STAFF MUST APPROVE THE INSTALLATION BEFORE WATER SERVICE CAN BE STARTED.
 - LOTS THAT REQUIRE A DWS APPROVED REDUCED PRESSURE PRINCIPAL TYPE BACKFLOW PREVENTION ASSEMBLY SHALL HAVE ONE. IT MUST BE INSTALLED ON PRIVATE PROPERTY IN ACCORDANCE WITH STANDARD DETAIL V9 (ABOVE GROUND) AND DEPARTMENTAL STAFF MUST APPROVE THE INSTALLATION BEFORE WATER SERVICE CAN BE STARTED. NO TAPS OR CONNECTIONS ARE ALLOWED BETWEEN THE METER AND THE APPROVED BACKFLOW PREVENTION ASSEMBLY. THE OWNER IS REQUIRED TO TEST THE BACKFLOW ASSEMBLY 1 TIMES PER YEAR. THE OWNER SHALL MAKE THEIR OWN PROVISIONS FOR THOSE TIMES WHEN THE BACKFLOW ASSEMBLY IS BEING TESTED. IF THE DISTANCE BETWEEN THE METER AND THE BACKFLOW PREVENTER IS GREATER THAN 5 FEET, THEN THE LINE BETWEEN THEM SHALL BE CONCRETE JACKETED. CONCRETE JACKET ENCASEMENT SHALL BE A MINIMUM OF 3 INCHES ALL AROUND PIPE. INSPECTION BY D.W.S. CROSS-CONNECTION PERSONNEL REQUIRED AT TIME OF CONCRETE PLACEMENT.
 - PRESSURE AT ALL LOCATIONS WITHIN THE WATER SYSTEM IMPROVEMENTS SHALL NOT BE LESS THAN 40 PSI STATIC OR GREATER THAN 125 PSI STATIC. PRESSURES AT ALL LOCATIONS WITHIN THE WATER SYSTEM SHALL NOT FALL BETWEEN 20 PSI RESIDUAL DURING MAXIMUM DAY FLOW PLUS FIRE FLOW FROM ANY FIRE HYDRANTS WITHIN THE WATER SYSTEM IMPROVEMENTS SHOWN.
 - THE D.W.S. WILL NOT ASSUME OWNERSHIP OR GRANT ANY WATER SERVICE UNTIL THE WATER SYSTEM IS DEDICATED TO THE D.W.S. ALONG WITH ALL NECESSARY EASEMENTS AND DOCUMENTS.
 - WATER SYSTEM APPROVED ON CONFORMANCE TO WATER SYSTEM STANDARD ONLY. PLAN APPROVAL AND SIGNATURE BY THE MANAGER-CHIEF ENGINEER, DEPARTMENT OF WATER SUPPLY ONLY INDICATED THAT THE WATER SYSTEM IMPROVEMENTS SHOWN ON THE PLANS GENERALLY CONFORM TO WATER SYSTEM STANDARDS FOR THE COUNTY OF HAWAII. THEY ARE NOT GUARANTEES OF WATER. AVAILABILITY OR OF A WATER COMMITMENT FOR



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 Kailua-Kona, HI 96740
 Tel. (808) 325-3182



The work was prepared by me or under my supervision and construction of this project will be under my observation

Nancy E. Burns
 Signature

4/30/18

Expiration Date of the License

Revision	Date	Approved
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Project

**PU'U'ALALA VILLAGE
 TMK 2-8-007:092 & 093**

Title

GENERAL NOTES

Project No. x

Date May 2016

Drawn By ACE CADD Services

Designed By NEB

Checked By NEB

CAD File C2-C7.DWG

C-3

Sheet 5 of 31 Sheets



NOTE:
LINE OF SIGHT
REQUIREMENT IS 335'

Ⓐ CURVE DATA
A= 43'03"
R= 225.00'
T= 88.72'
L= 169.02'

REMOVE EXISTING CATCH BASIN,
HEADWALL AND CULVERT
(HATCHED)

STA 1+75.44 O/S=13.00' LT
1-16X6 TAPPING SLEEVE
1-6" TAPPING VALVE AND BOX
1-CONC. BLOCK

STA 1+75.69 O/S=7.91' LT
1-22 1/2" BEND
1-CONC. BLOCK

+/- STA 1+35 LT TO STA 2+27 LT
GRP ON SLOPE WHERE REQUIRED TO
AVOID ENCROACHMENT

Ⓒ CURVE DATA
A= 8.13
R= 1725.00
T= 122.81
L= 244.81

STA 1+75 O/S=20.41' RT
GRADED DROP INLET OVER
20' DEEP DRYWELL
GRATE INV.=684.43
FOR DET. SEE SHTS C-15
AND C-16

STA 1+92.00 O/S=22.05' RT
1-22 1/2" BEND M.J.
1-CONC. BLOCK

STA 1+92.00 O/S 28' RT
1-2" CLEANOUT UNIT AND
BOX PER DWS STD. DET
V20
1-CONC. BLOCK

STA 2+14.17 O/S=37.60 LT
1-8" SEEPAGE PIT FOR
DETAIL SEE SHEET C-17A
CONNECT EXISTING DRAIN
LINE TO SEEPAGE PIT

STA 2+29.98 O/S=13.23 LT
1- 1/4 BEND
1-CONC. BLOCK

REMOVE EXISTING
CULVERT AND
HEADWALLS
(HATCHED)

SMH 9
ONOMEA ST. STA 2+78.64
O/S=5.00 LT
PER STD. DET. S-13 AND
S-22
RIM ELEV.=695.34
INV.=681.51
TMK (3) 2-8-007:097

STA: 4+46.71 ONOMEA ROAD=
STA: 0+00 ROAD A
Ⓒ MON. PER DPW STD.
DET R-14 (TYP.)

1" TYPE "A" LATERAL
FOR 5/8" METER WITH
TYPE "X" METER BOX
PER DWS STD. DETS. L7
TO L11 (TYP.)

STA 4+84.38
END PAVEMENT
PROVIDE SMOOTH
RIDING CONNECTION TO
EXISTING GRAVEL ROAD

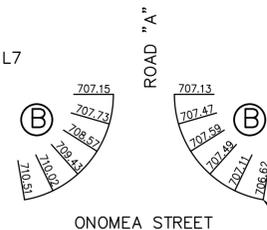
LINE OF SITE (TYP.) EOP FLOW LINE ELEVATIONS
SCALE: 1"=30'

STA 4+83.44 O/S= 13.00' RT
1-1" ARV UNIT AND BOX PER
DWS STD DET V1
1-8" C.I. CAP WITH RETAINER
GLAND OR C.I. PLUG
TAPPED 2" IPT CLEANOUT
UNIT AND BOX PER STD.
DET V20
1-CONCRETE BLOCK

STA 4+58.90 O/S= 13.00' RT
1-8X8X8 C.I. TEE, M.J.
3-8" RESILIENT SEAT GATE
VALVES, M.J.
3-VALVE BOXES
1-ARV UNIT AND BOX PER
DWS STD DET V1
1-CONCRETE BLOCK

REMOVE BETWEEN
POINTS OF CONNECTION
ONCE WATER LINE
TIE-IN HAS BEEN
COMPLETED

Ⓑ EOP CURVE DATA
A= 80'24'21"
R= 35.00'
T= 29.58'
L= 49.12'



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Tel. (808) 325-3182



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project will be under my observation
Nancy E. Burns
Signature
4/30/18
Expiration Date of the License

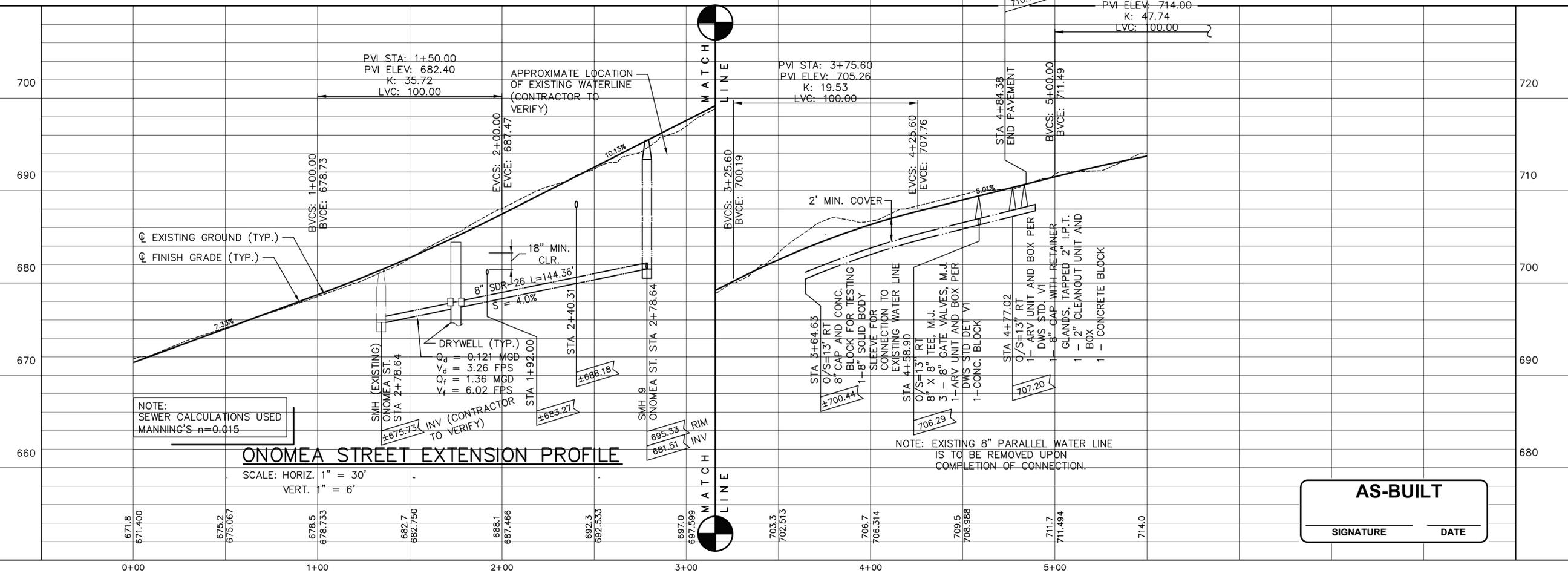
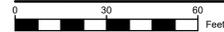
Revision	Date	Approved

ONOMEA STREET EXTENSION PLAN

LEGEND
PAVED AREA

DIVISION CHIEF DEPT. OF ENVIRONMENTAL MANAGEMENT,
WASTEWATER DIVISION

DATE



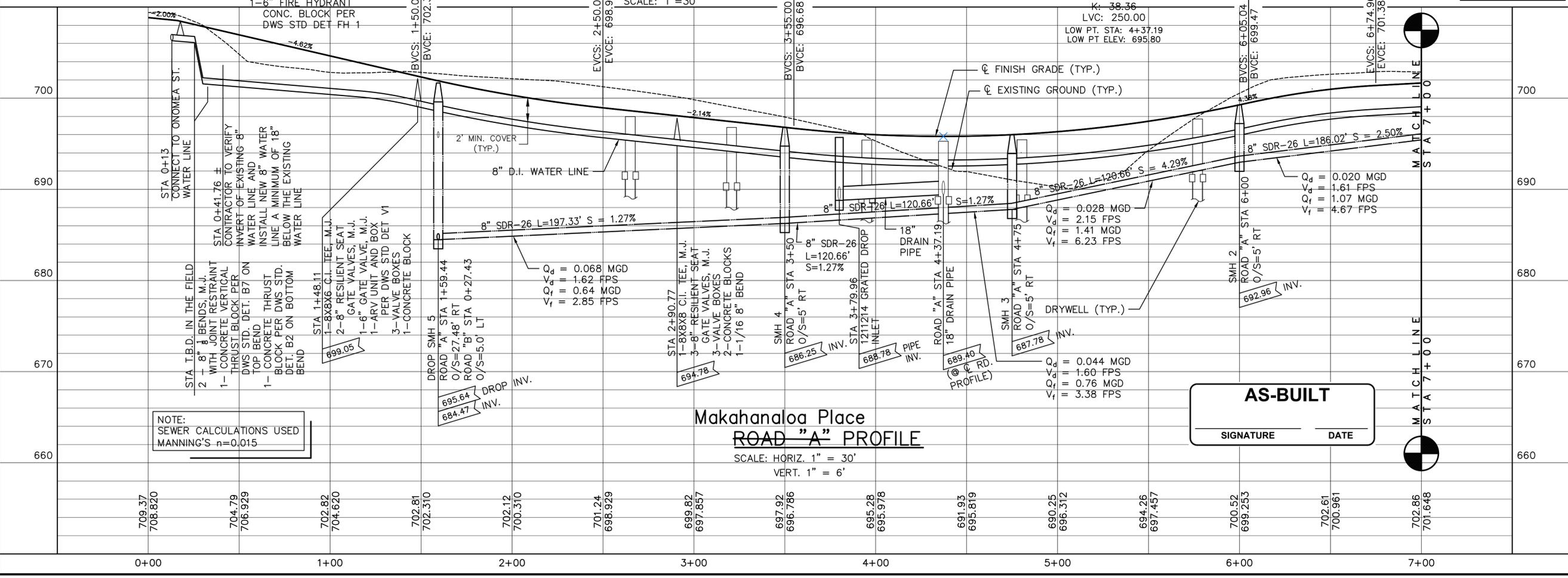
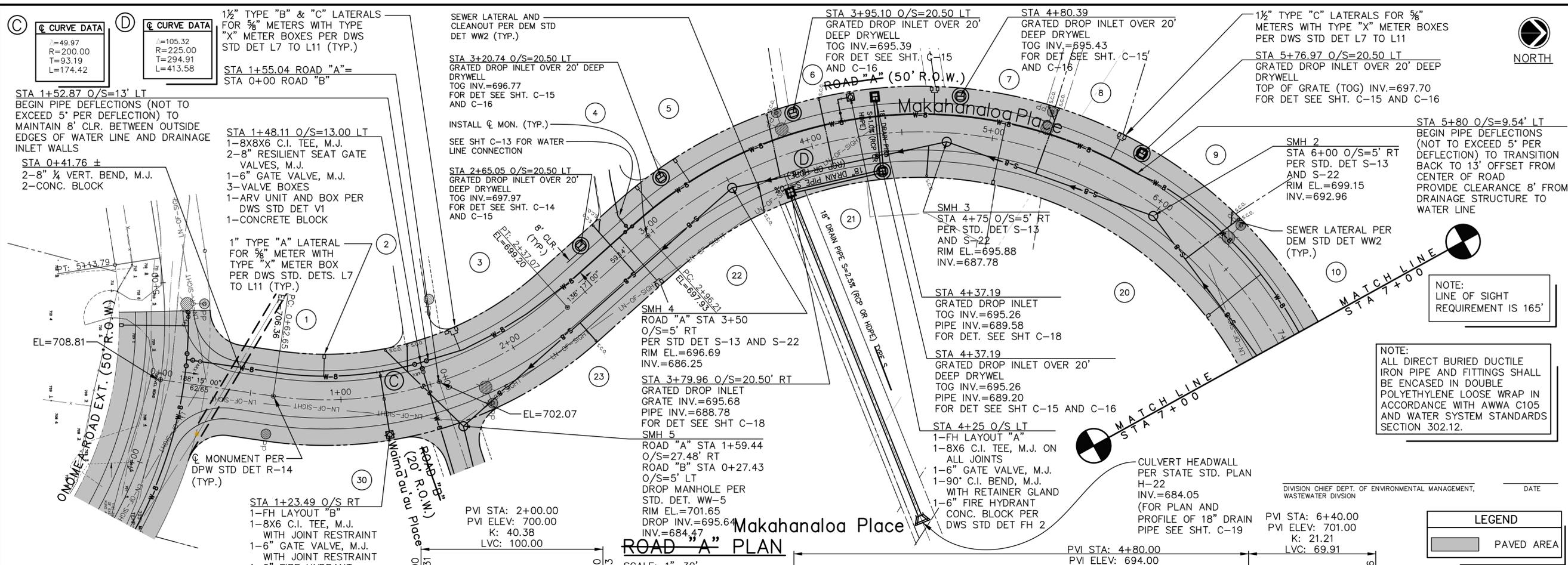
AS-BUILT
SIGNATURE _____ DATE _____

Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

Title
**ONOMEA STREET
EXT. PLAN AND
PROFILE**

Project No. x
Date May 2016
Drawn By ACE CADD Services
Designed By NEB
Checked By NEB
CAD File Onomea Road Ext Plan-Pro

C-9



C CURVE DATA

Δ=49.97
R=200.00
T=93.19
L=174.42

D CURVE DATA

Δ=105.32
R=225.00
T=294.91
L=413.58

1½" TYPE "B" & "C" LATERALS FOR ¾" METERS WITH TYPE "X" METER BOXES PER DWS STD DET L7 TO L11 (TYP.)

STA 1+55.04 ROAD "A" = STA 0+00 ROAD "B"

STA 1+48.11 O/S=13.00 LT
1-8X8 C.I. TEE, M.J.
2-8" RESILIENT SEAT GATE VALVES, M.J.
1-6" GATE VALVE, M.J.
3-VALVE BOXES
1-ARV UNIT AND BOX PER DWS STD DET V1
1-CONCRETE BLOCK

1" TYPE "A" LATERAL FOR ¾" METER WITH TYPE "X" METER BOX PER DWS STD. DETS. L7 TO L11 (TYP.)

1" TYPE "A" LATERAL FOR ¾" METER WITH TYPE "X" METER BOX PER DWS STD. DETS. L7 TO L11 (TYP.)

1-8X6 C.I. TEE, M.J. WITH JOINT RESTRAINT
1-6" GATE VALVE, M.J. WITH JOINT RESTRAINT
1-6" FIRE HYDRANT CONC. BLOCK PER DWS STD-DET FH 1

SEWER LATERAL AND CLEANOUT PER DEM STD DET WW2 (TYP.)

STA 3+20.74 O/S=20.50 LT
GRATED DROP INLET OVER 20" DEEP DRYWELL
TOG INV.=696.77
FOR DET SEE SHT. C-15 AND C-16

INSTALL 1/2" MON. (TYP.)

SEE SHT C-13 FOR WATER LINE CONNECTION

STA 2+65.05 O/S=20.50 LT
GRATED DROP INLET OVER 20" DEEP DRYWELL
TOG INV.=697.97
FOR DET SEE SHT. C-14 AND C-15

18" DRAIN PIPE S-2.5% (FOR OR IMPED. DETS.)

SMH 4
ROAD "A" STA 3+50
O/S=5' RT
PER STD DET S-13 AND S-22
RIM EL.=696.69
INV.=686.25

STA 3+79.96 O/S=20.50' RT
GRATED DROP INLET
GRATE INV.=695.68
PIPE INV.=688.78
FOR DET SEE SHT C-18

SMH 5
ROAD "A" STA 1+59.44
O/S=27.48' RT
ROAD "B" STA 0+27.43
O/S=5' LT
DROP MANHOLE PER STD. DET. WW-5
RIM EL.=701.65
DROP INV.=695.64
INV.=684.47

PVI STA: 2+00.00
PVI ELEV: 700.00
K: 40.38
LVC: 100.00

STA 3+95.10 O/S=20.50 LT
GRATED DROP INLET OVER 20" DEEP DRYWELL
TOG INV.=695.39
FOR DET SEE SHT. C-15 AND C-16

ROAD "A" (50' R.O.W.)

STA 4+80.39
GRATED DROP INLET OVER 20" DEEP DRYWELL
TOG INV.=695.43
FOR DET SEE SHT. C-15' AND C-16

SMH 3
STA 4+75 O/S=5' RT
PER STD. DET S-13 AND S-22
RIM EL.=695.88
INV.=687.78

STA 4+37.19
GRATED DROP INLET
TOG INV.=695.26
PIPE INV.=689.58
FOR DET. SEE SHT C-18

STA 4+37.19
GRATED DROP INLET OVER 20" DEEP DRYWELL
TOG INV.=695.26
PIPE INV.=689.20
FOR DET SEE SHT C-15 AND C-16

STA 4+25 O/S LT
1-FH LAYOUT "A"
1-8X6 C.I. TEE, M.J. ON ALL JOINTS
1-6" GATE VALVE, M.J.
1-90° C.I. BEND, M.J. WITH RETAINER GLAND
1-6" FIRE HYDRANT CONC. BLOCK PER DWS STD DET FH 2

CULVERT HEADWALL PER STATE STD. PLAN H-22
INV.=684.05
(FOR PLAN AND PROFILE OF 18" DRAIN PIPE SEE SHT. C-19)

PVI STA: 4+80.00
PVI ELEV: 694.00
K: 38.36
LVC: 250.00
LOW PT. STA: 4+37.19
LOW PT. ELEV: 695.80

1½" TYPE "C" LATERALS FOR ¾" METERS WITH TYPE "X" METER BOXES PER DWS STD DET L7 TO L11

STA 5+76.97 O/S=20.50 LT
GRATED DROP INLET OVER 20" DEEP DRYWELL
TOP OF GRATE (TOG) INV.=697.70
FOR DET SEE SHT. C-15 AND C-16

SMH 2
STA 6+00 O/S=5' RT
PER STD. DET S-13 AND S-22
RIM EL.=699.15
INV.=692.96

SEWER LATERAL PER DEM STD DET WW2 (TYP.)

STA 5+80 O/S=9.54' LT
BEGIN PIPE DEFLECTIONS (NOT TO EXCEED 5" PER DEFLECTION) TO TRANSITION BACK TO 13' OFFSET FROM CENTER OF ROAD PROVIDE CLEARANCE 8' FROM DRAINAGE STRUCTURE TO WATER LINE

NOTE: LINE OF SIGHT REQUIREMENT IS 165'

NOTE: ALL DIRECT BURIED DUCTILE IRON PIPE AND FITTINGS SHALL BE ENCASED IN DOUBLE POLYETHYLENE LOOSE WRAP IN ACCORDANCE WITH AWWA C105 AND WATER SYSTEM STANDARDS SECTION 302.12.

LEGEND

PAVED AREA

DIVISION CHIEF DEPT. OF ENVIRONMENTAL MANAGEMENT, WASTEWATER DIVISION

DATE

PVI STA: 6+40.00
PVI ELEV: 701.00
K: 21.21
LVC: 69.91

NANCY E. BURNS, P.E., LLC

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Kailua-Kona, HI 96740
Tel. (808) 325-3182

LICENSED PROFESSIONAL ENGINEER
No. 6812-C
HAWAII, U.S.A.

The work was prepared by me or under my supervision and construction of this project will be under my observation.

Nancy E. Burns
Signature
4/30/18
Expiration Date of the License

Revision	Date	Approved

Project
**PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093**

Title
ROAD "A" PLAN AND PROFILE

Project No. x
Date May 2016
Drawn By ACE CADD Services
Designed By NEB
Checked By NEB
CAD File RD A AND B PLN-PRO
C-10

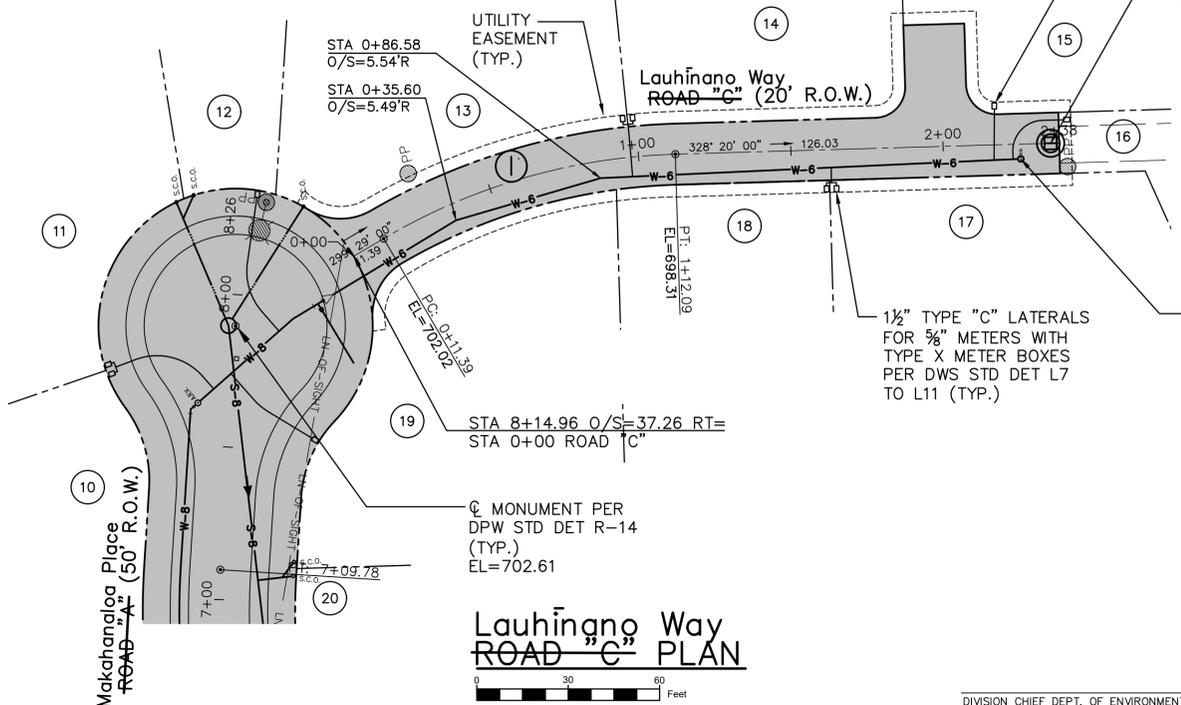
Sheet 12 of 31 Sheets
rev 8-20-17



☉ CURVE DATA

Δ	28.85'
R	200.00'
T	51.44'
L	100.71'

NOTES:
 1 LOTS 14, 15, 16, 17, AND 18 ARE NOT SERVED BY THE SEWER SYSTEM
 2 LINE OF SIGHT REQUIREMENT IS 165'

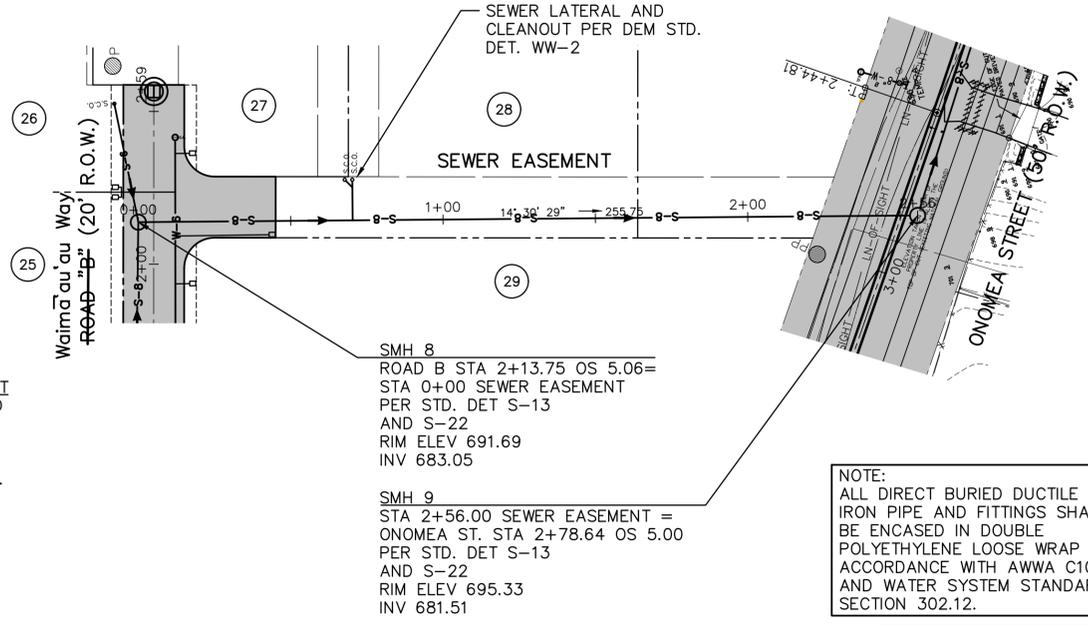


Lauhinano Way ROAD "C" PLAN

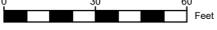


DIVISION CHIEF DEPT. OF ENVIRONMENTAL MANAGEMENT, WASTEWATER DIVISION

DATE

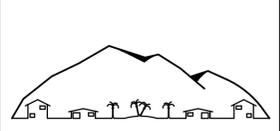


20 FT WIDE SEWER EASEMENT FROM Waimā'au'au Way ROAD "B" TO ONOMEA ST. PLAN



LEGEND

	PAVED AREA
--	------------



NANCY E. BURNS, P.E., LLC
 73-1487 Hao Street
 Kailua-Kona, HI 96740
 Tel. (808) 325-3182



The work was prepared by me or under my supervision and construction of this project will be under my observation.
 Signature: *Nancy E. Burns*
 4/30/18
 Expiration Date of the License

Revision	Date	Approved

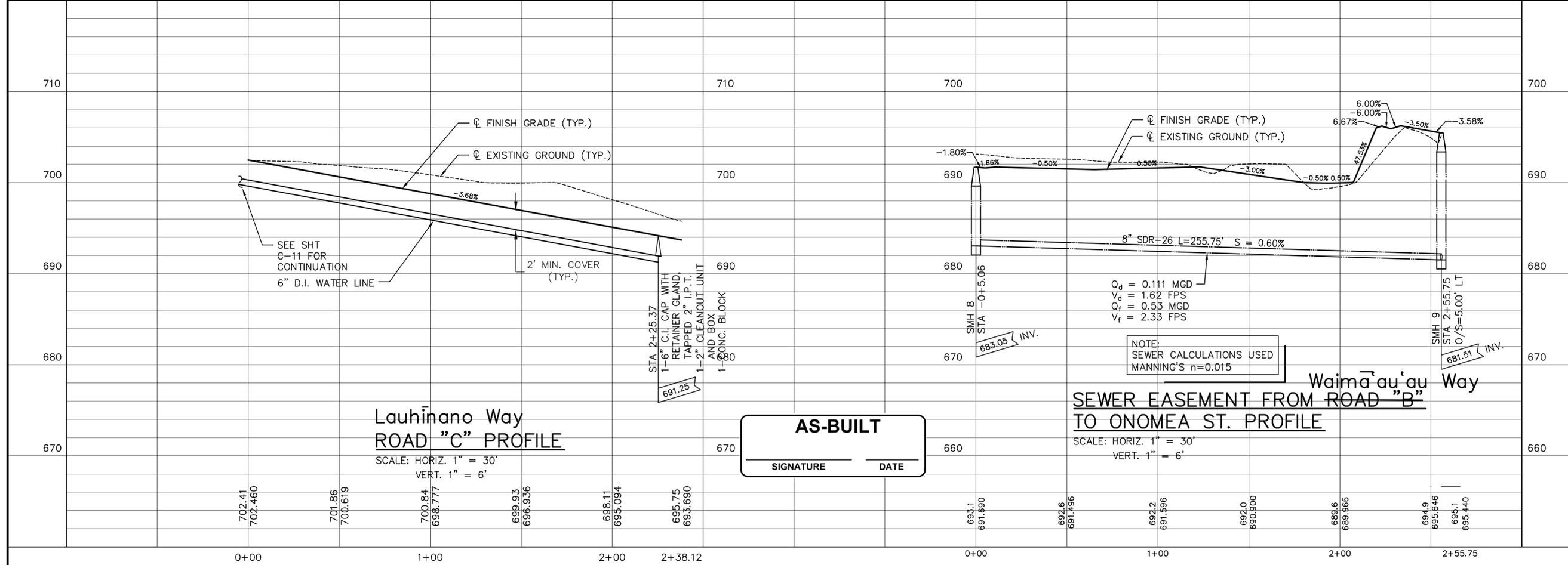
Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

Title
ROAD "C" PLAN AND PROFILE

Project No. x
 Date May 2016
 Drawn By ACE CADD Services
 Designed By NEB
 Checked By NEB
 CAD File Road C Plan-Pro

C-12

Sheet 15 of 31 Sheets



SIGNATURE _____ DATE _____

SIGNING SCHEDULE

- 3 R1-1 30"x30" "STOP" WITH DOUBLE STREET NAME & BRACKET
- 2 R2-1 24"x30" "25 M.P.H. SPEED LIMIT"
- 1 R7-1 (R) 12"x18" "NO PARKING ANYTIME"
- 1 R7-1 (L) 12"x18" "NO PARKING ANYTIME"
- 1 R7-1 (D) 12"x18" "NO PARKING ANYTIME"
- 1 W-14 30"x30" "NO OUTLET"
- 2 18"x12" "PRIVATE ROAD"

SIGHT DISTANCE DATA

SPEED LIMIT 25 M.P.H.
DESIGN SPEED 30 M.P.H.

INTERSECTION NUMBER	ACTUAL SIGHT DISTANCE LEFT	REQUIRED SIGHT DISTANCE RIGHT	REQUIRED SIGHT DISTANCE LEFT	SIGHT DISTANCE RIGHT
①	>400'	792' (END)	331'	331'
② *	163' (INTERSECTION)	280'	165'	165'
③ *	175'	N/A	165'	165'

* STOPPING SIGHT DISTANCE FOR LOW VOLUME ROAD (AASHTO GUIDELINE FOR GEOMETRIC DESIGN OF VERY LOW VOLUME LOCAL ROADS (ADT ≤ 400) EXHIBIT 8)



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Signature

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Revision	Date	Approved

Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

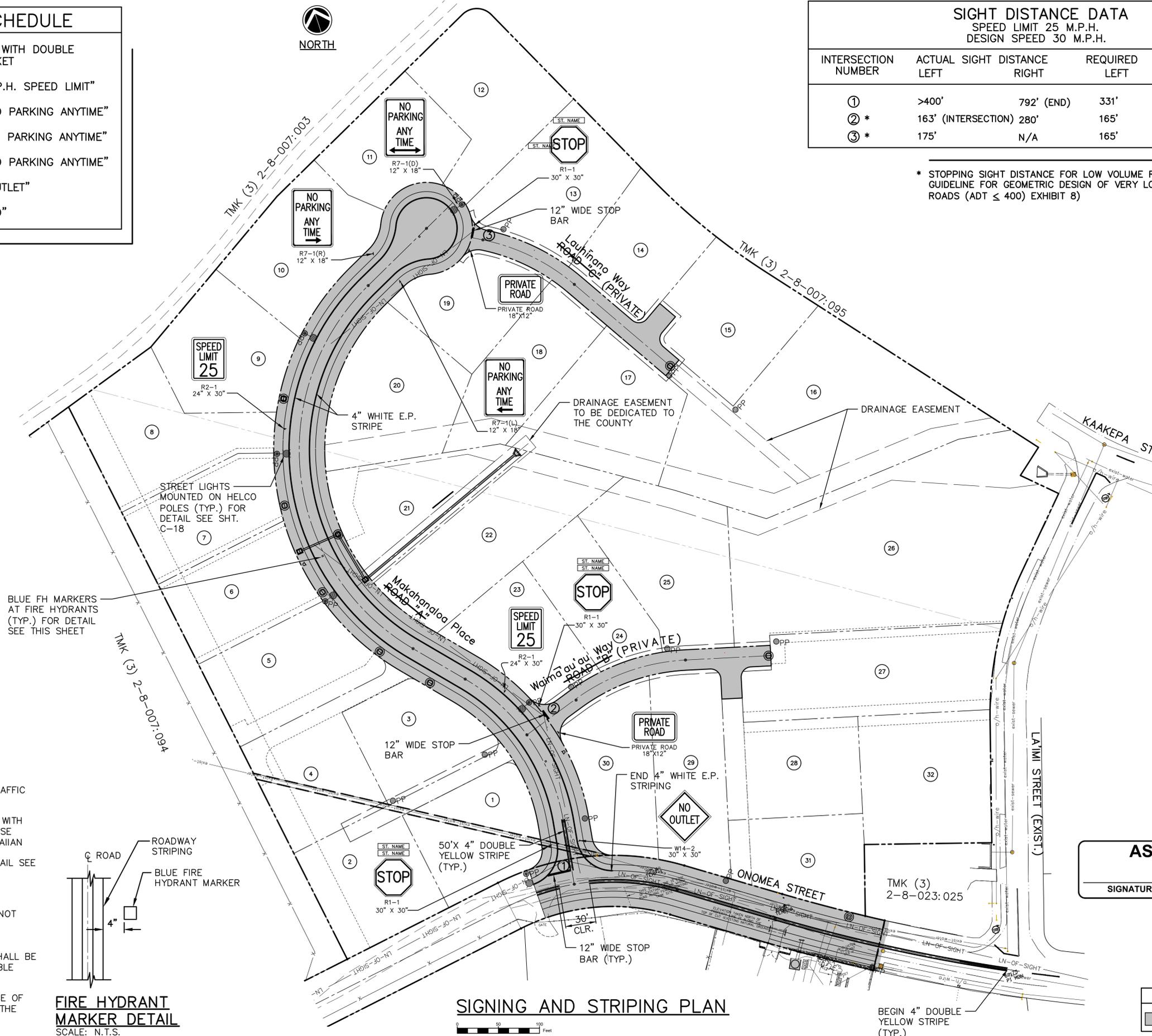
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SIGNING AND STRIPING PLAN

AS-BUILT
SIGNATURE _____ DATE _____

Project No.	x
Date	May 2016
Drawn By	ACE CADD Services
Designed By	NEB
Checked By	NEB
CAD File	Site Plan 5-29-15 OS DRAINAGE
C-14	

Sheet 16 of 31 Sheets

rev 8-20-17



SIGNING AND STRIPING PLAN

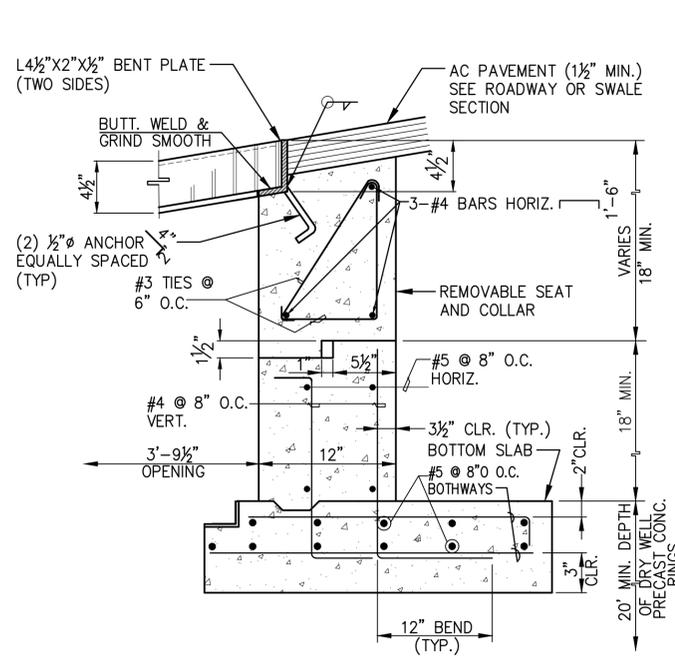


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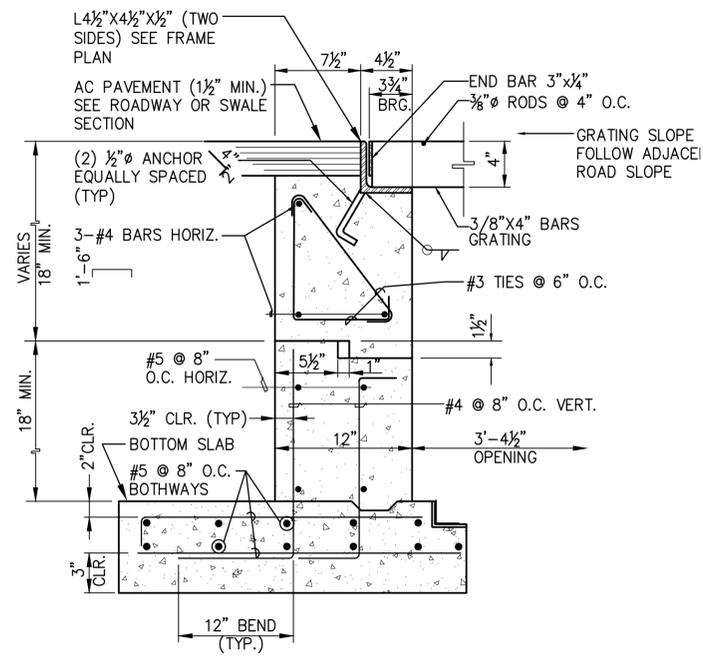
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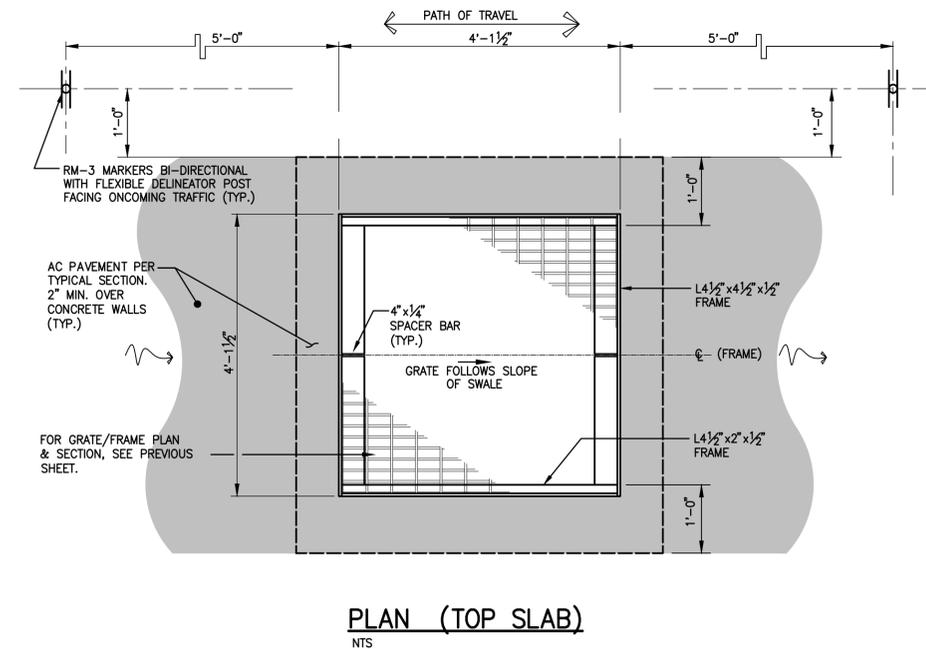
- SIGNING AND STRIPING NOTES:**
- SEE SHT C-5 FOR STANDARD TRAFFIC NOTES.
 - STREET NAME SIGNS TO COMPLY WITH UPPERCASE 1ST LETTER/LOWERCASE FORMAT WITH THE CORRECT HAWAIIAN SPELLING AS APPROVED BY THE PLANNING DEPARTMENT. FOR DETAIL SEE SHT. C-19
- ADA NOTES:**
- POST MOUNTED OBJECTS SHALL NOT PROTRUDE MORE THAN 4" INTO ACCESSIBLE ROUTE.
 - MINIMUM CLEAR WIDTH OF 36" SHALL BE MAINTAINED ALONG THE ACCESSIBLE ROUTE
 - A MINIMUM HEADROOM CLEARANCE OF 84" SHALL BE PROVIDED ALONG THE ACCESSIBLE ROUTE



ADJUSTABLE GRATING SEAT DETAIL "A"
SCALE: 1/2"=1'-0"



ADJUSTABLE GRATING SEAT DETAIL "B"
SCALE: 1/2"=1'-0"



PLAN (TOP SLAB)
NTS

GENERAL NOTES:

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO THE START OF CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCY IN WRITING TO THE ENGINEER BEFORE COMMENCEMENT OF WORK.
- 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.
- 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" WITH A MAXIMUM SLUMP OF FOUR (4) INCHES.
- ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615, GRADE 60. BENDS AND HOOKS SHALL BE TO FAR FACE OF INTERSECTING WALL OR SLAB.
- 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"
- GRATE AND FRAMES SHALL CONFORM TO ASTM A-36 AND SHALL BE HOT DIP GALVANIZED AFTER FABRICATION. ACCORDING WITH ASTM A123.
- THE CONCRETE ADJUSTABLE GRATING SEAT SHALL BE CAST IN PLACE.
- TOP OF GRATING SHALL BE SET RELATIVE TO THE ADJACENT PAVEMENT/SHOULDER ELEVATIONS.
- THE DRY WELL INTAKE BOX IS SIZED TO ALLOW FOR A MAXIMUM 36-INCH CULVERT CONNECTION. THE DESIGNER MUST RESIZE THE CATCH BASIN AS NECESSARY. A MINIMUM EIGHT INCH WALL THICKNESS SHALL BE MAINTAINED AT ALL TIMES. SEE STATE STD. PLAN H-06 FOR REINFORCING AROUND CULVERT OPENINGS.

GENERAL NOTES (CONINTUED)

- #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 T 96 SHALL NOT EXCEED 50 PERCENT AT 500 REVOLUTIONS. GRADATION (ASTM DESIGNATION) PERCENT PASSING BY WEIGHT SHALL BE AS FOLLOWS:

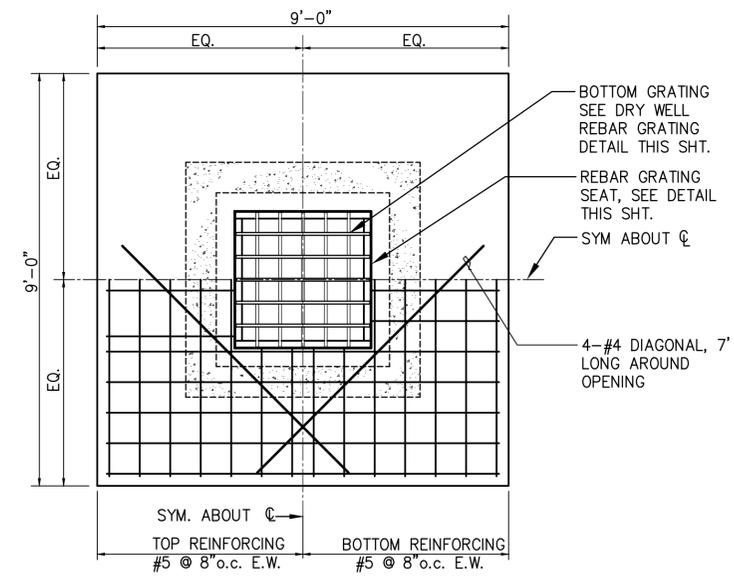
SIEVE SIZE	PERCENT PASSING
3"	100
2 1/2"	90-100
2"	35-70
1 1/2"	0-15
3/4"	0-5

- 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 14 INCHES.
- WALL OPENING FOR CONNECTING CULVERT SHALL BE CONSTRUCTED A MAXIMUM OF 1/2" LARGER THAN THE CULVERT OUTSIDE DIAMETER. OVERSIZED AND SQUARE OPENINGS SHALL NOT BE ALLOWED.

DRYWELL NOTES:

- CONTRACTOR SHALL PRESERVE EXISTING GEOLOGICAL FORMATION AT PROPOSED DRY WELL LOCATION TO ENSURE PROPER DRY WELL OPERATION.
- ONLY WATER SOLUBLE DRILLING LUBRICANTS WILL BE ALLOWED. NO CLAY OR OTHER DRILLING 2. LUBRICANTS, WHICH HAVE THE POTENTIAL TO REDUCE PERMEABILITY WILL BE PERMITTED.
- AFTER DRILLING OF THE DRY WELL IS COMPLETED, THE SIDEWALLS SHALL BE WASHED ALONG THE ENTIRE DEPTH AND THE BOTTOM OF THE DRY WELL CLEANED OUT TO ALLOW POSITIVE PERMEABILITY.

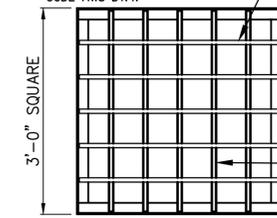
AS-BUILT
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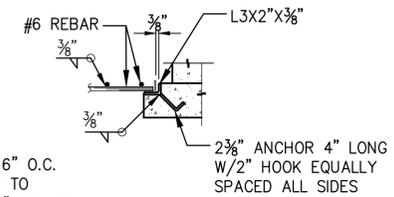
PLAN (BOT. SLAB)
SCALE: NTS

NOTES:

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



DRYWELL REBAR GRATING DETAIL
SCALE: 3/4"=1'-0"



REBAR GRATING SEAT DETAIL
SCALE: NTS

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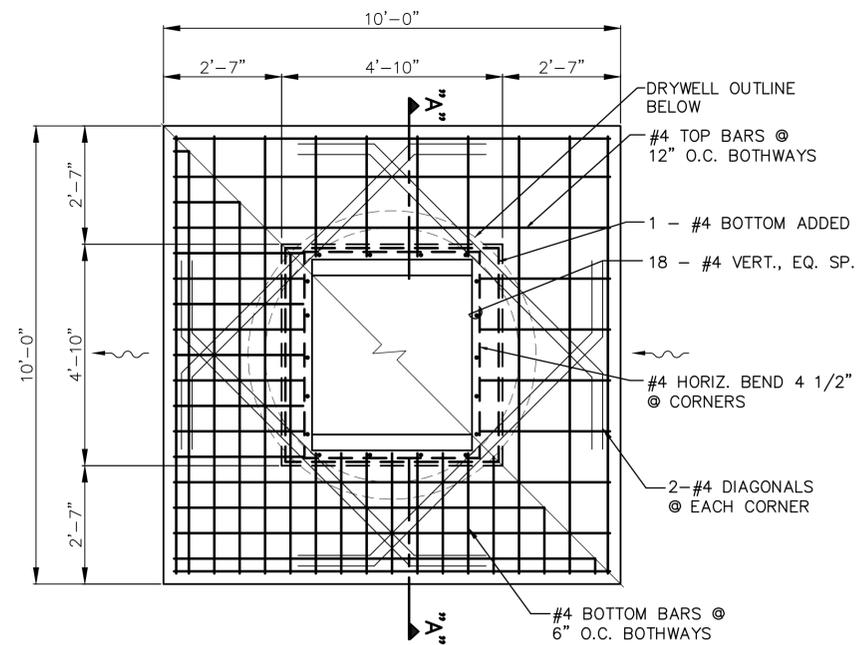
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Nancy E. Burns
Signature
4/30/18
Expiration Date of the License

Revision	Date	Approved

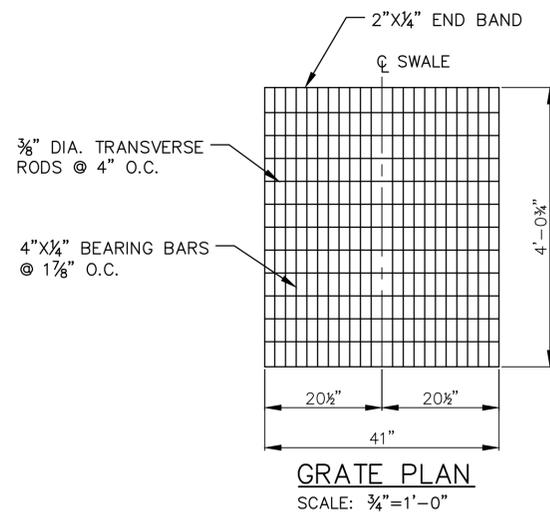
Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

Title
DRYWELL DETAILS

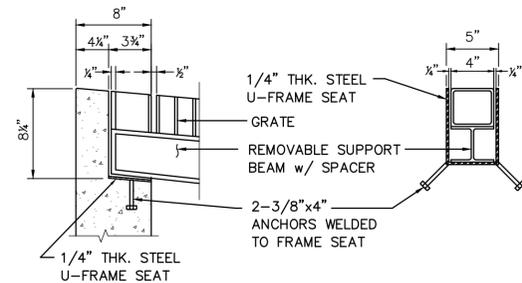
Project No. x
Date May 2016
Drawn By ACE CADD Services
Designed By NEB
Checked By NEB
CAD File V Grate-Drywell Details
C-16
Sheet 18 of 31 Sheets



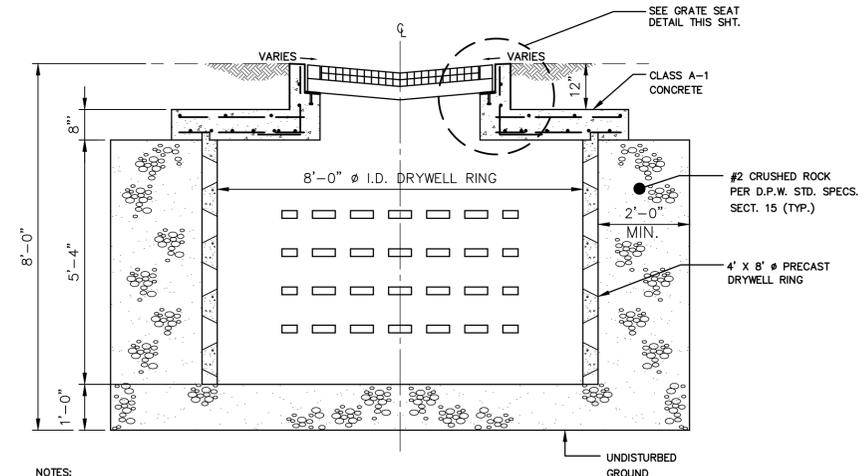
SEEPAGE PIT COVER PLAN
SCALE: 1/2"=1'-0"



GRATE PLAN
SCALE: 3/4"=1'-0"

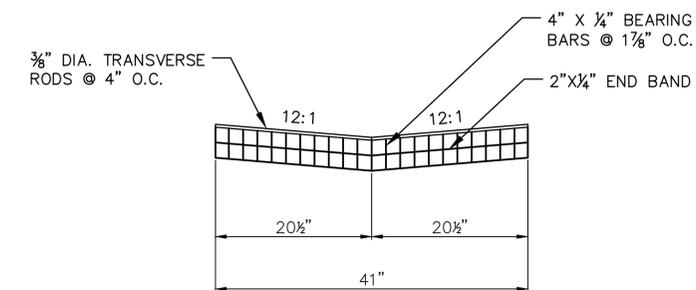


REMOVABLE SUPPORT BEAM DETAIL
SCALE: N.T.S.

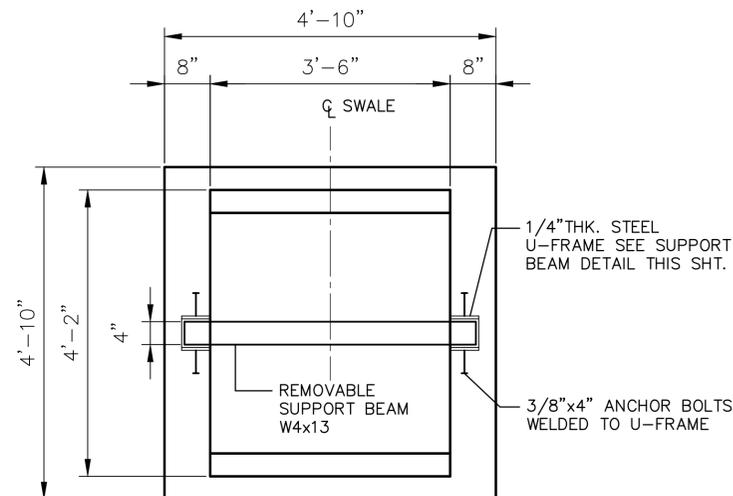


SECTION "A" - "A"
SCALE: 3/8" = 1'-0"

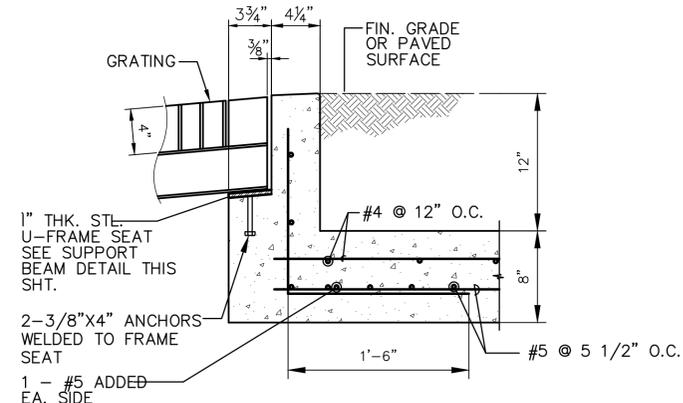
- NOTES:
 1. ALL WELD 5/16".
 2. ALL STEEL SHALL BE STRUCTURAL GRADE.
 3. GRATES AND FRAME L'S SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 44.3 (H) OF THE STANDARD SPECS.



GRATE SECTION
SCALE: 1"=1'-0"



GRATE SEAT PLAN
SCALE: 3/4"=1'-0"



GRATE SEAT DETAIL
SCALE: 1 1/2"=1'-0"



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 4/30/18
 Expiration Date of the License

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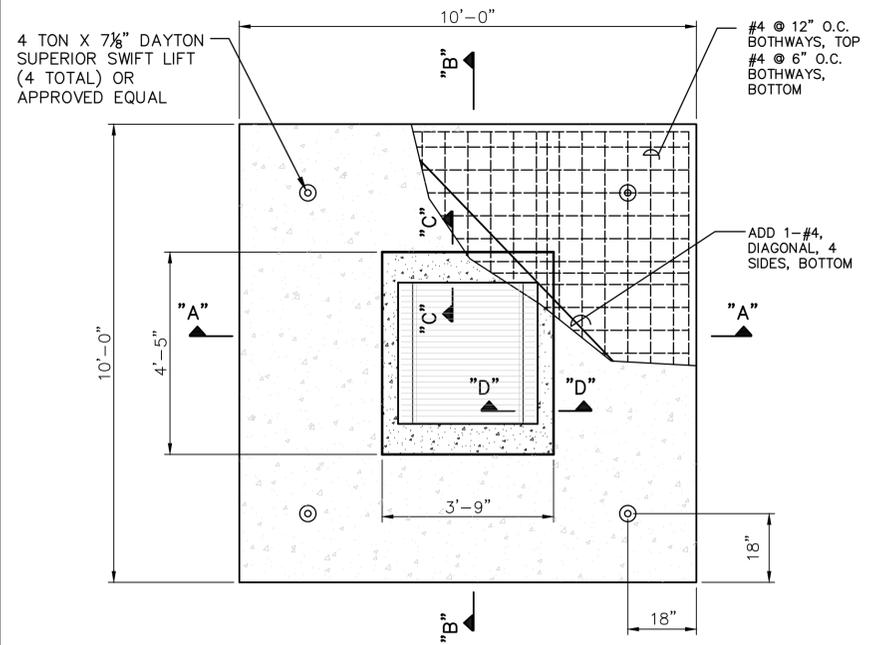
Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

Title
SEEPAGE PIT DETAILS

Project No. x
 Date May 2016
 Drawn By ACE CADD Services
 Designed By NEB
 Checked By NEB
 CAD File SEEP-PT3.DWG
C-17

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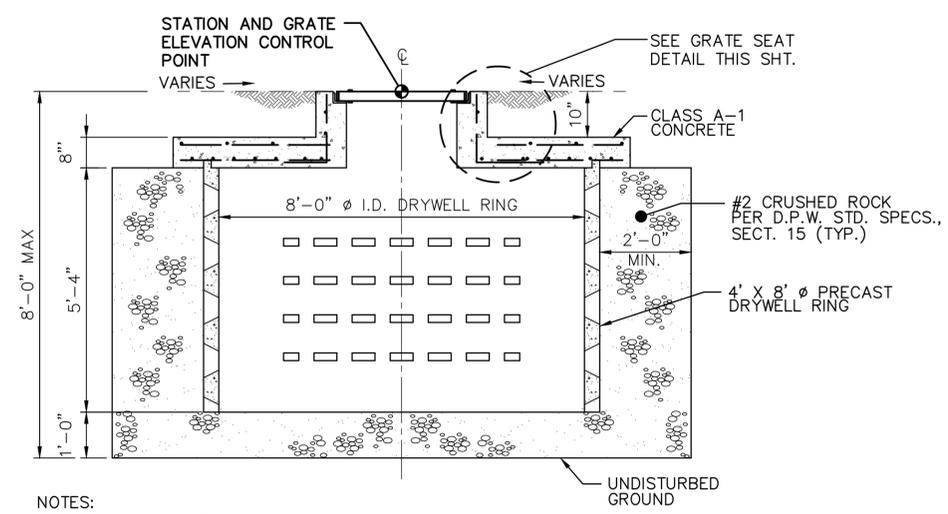
SEEPAGE PIT DETAILS
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NOTES:

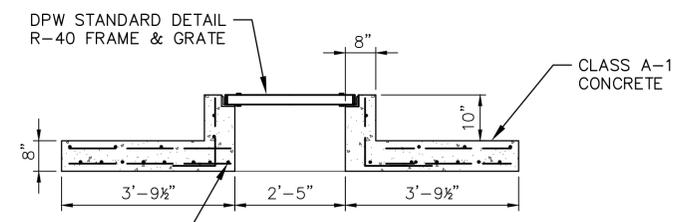
- 1 CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4,000 P.S.I. AT 28 DAYS
- 2 ALL REINFORCING STEEL SHALL BE NEW STOCK DEFORMED BARS CONFORMING TO ASTM A706W GRADE 60 UNLESS OTHERWISE NOTED. PLACEMENT OF REBARS SHALL BE IN ACCORDANCE WITH ACI-315 & ACI-318. ALL BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL BENDS SHALL BE MADE COLD.
- 3 ALL REINFORCING BARS SHALL BE ACCURATELY & SECURELY PLACED. ALL REINFORCING SHALL BE LAPPED 40 BAR DIAMETERS OR TWENTY (20) INCHES, WHICHEVER IS GREATER AT SPLICES, ALL SPLICES SHALL BE MADE AWAY FROM POINT OF MAXIMUM STRESS.
- 4 CONCRETE COVER TO REINFORCING STEEL SHALL BE 1 1/2" MINIMUM

SEEPAGE PIT COVER PLAN
SCALE: 1/2"=1'-0"

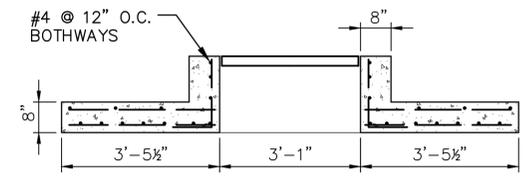


- NOTES:
1. ALL WELD 5/16"
 2. ALL STEEL SHALL BE STRUCTURAL GRADE
 3. GRATES AND FRAME L'S SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 44.3 (H) OF THE STANDARD SPECS.

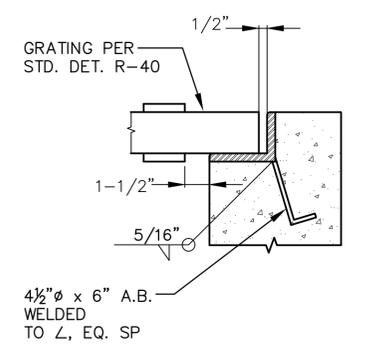
SECTION "A" - "A"
SCALE: 1/2"=1'-0"



SECTION A-A
SCALE: NTS



SECTION B-B
SCALE: NTS



R-40 GRATING SEAT DETAIL
NTS



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4/30/18
Expiration Date of the License

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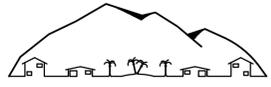
Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

Title
DRYWELL DETAILS

Project No.	x
Date	May 2016
Drawn By	ACE CADD Services
Designed By	NEB
Checked By	NEB
CAD File	V Grate-Drywell Details
	C-17A
Sheet	20 of 31 Sheets

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SEEPAGE PIT DETAILS
SCALE: AS NOTED



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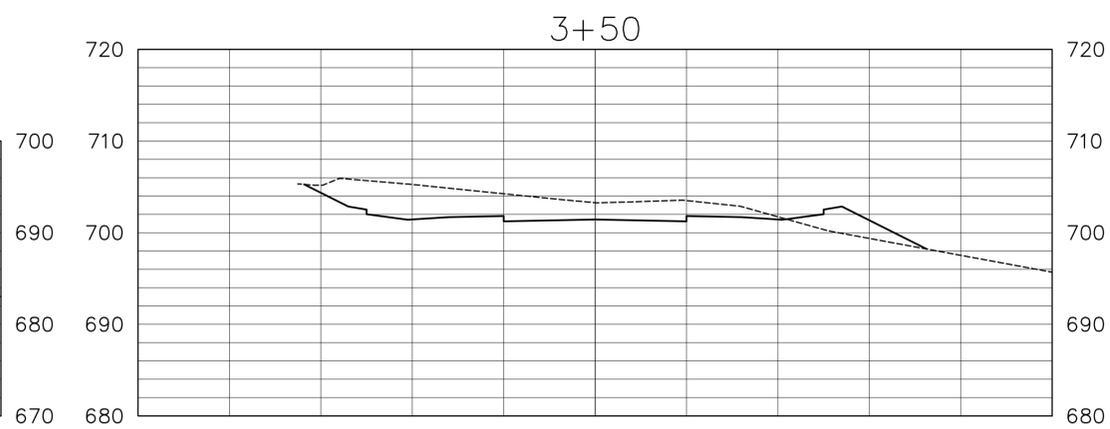
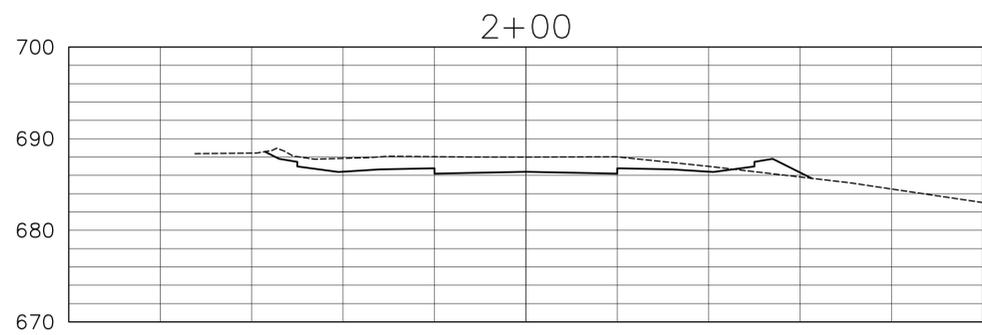
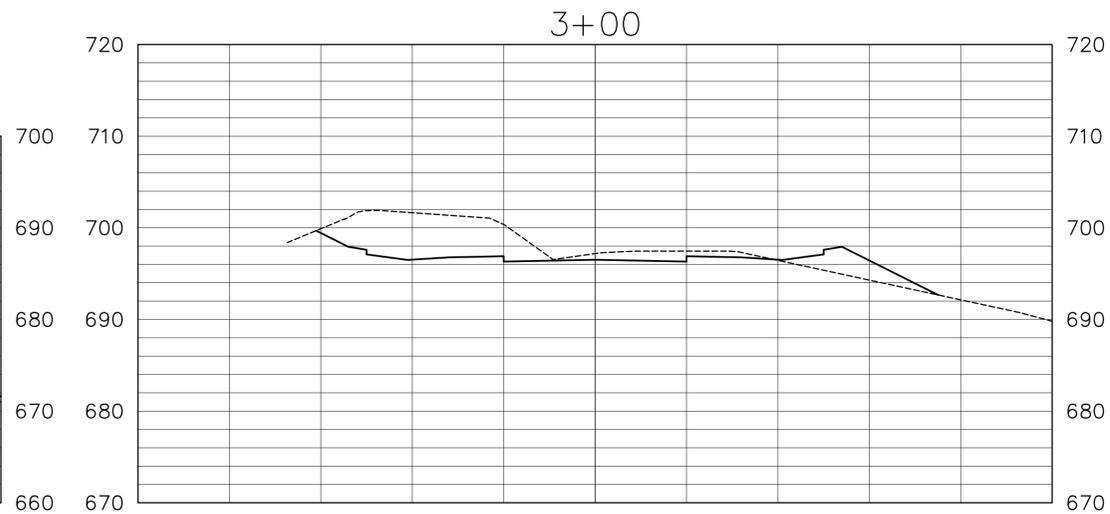
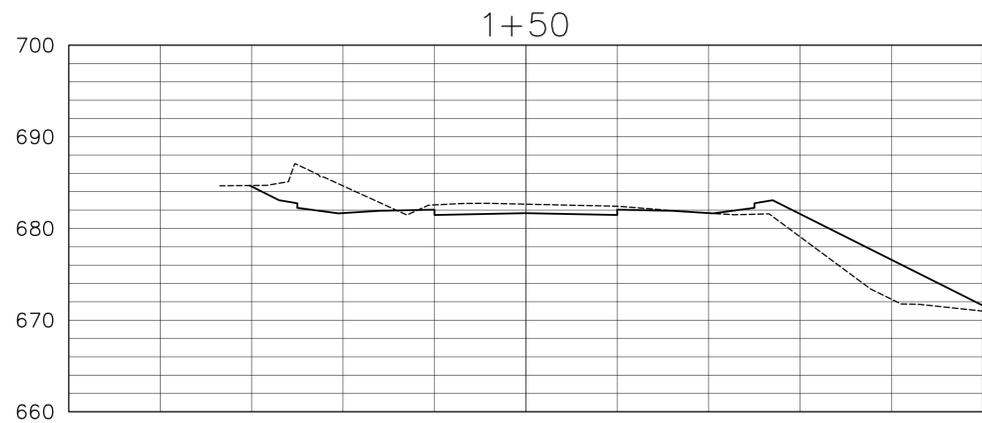
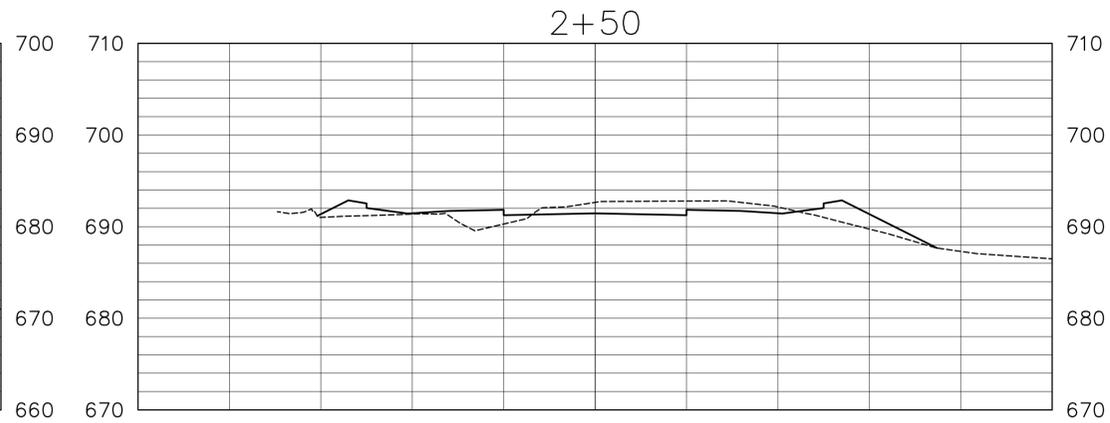
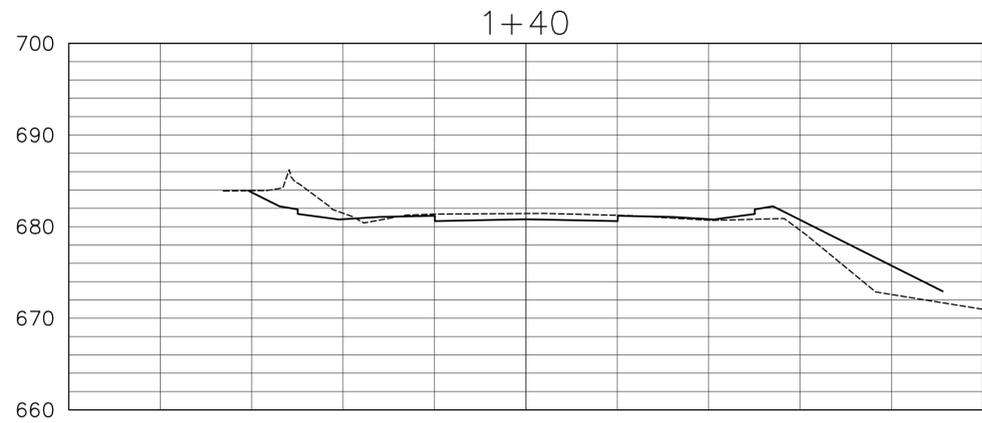
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ONOMEA ST. EXT.

SCALE: HORIZ. 1" = 10'
VERT. 1" = 10'

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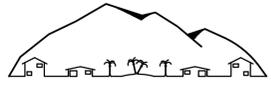
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Revision	Date	Approved
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Project
PU'U'ALALA VILLAGE
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Title
ONOMEA ST. EXT.
CROSS SECTIONS

Project No. x
Date May 2016
Drawn By ACE CADD Services
Designed By NEB
Checked By NEB
CAD File X-SECTION 2-1-16.DWG
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Project
PU'U'ALALA VILLAGE
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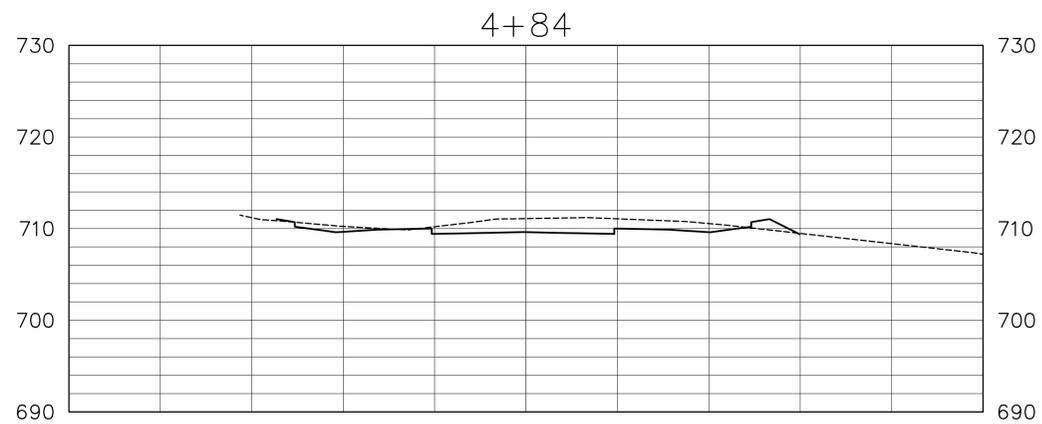
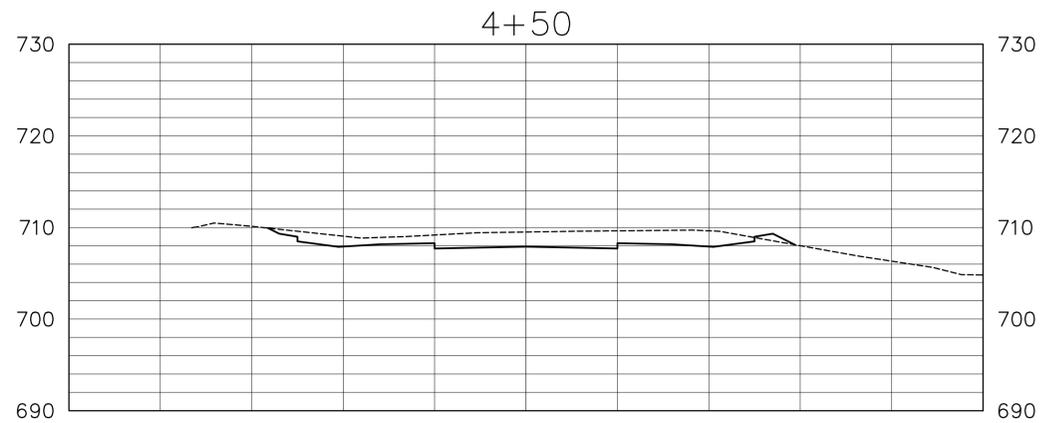
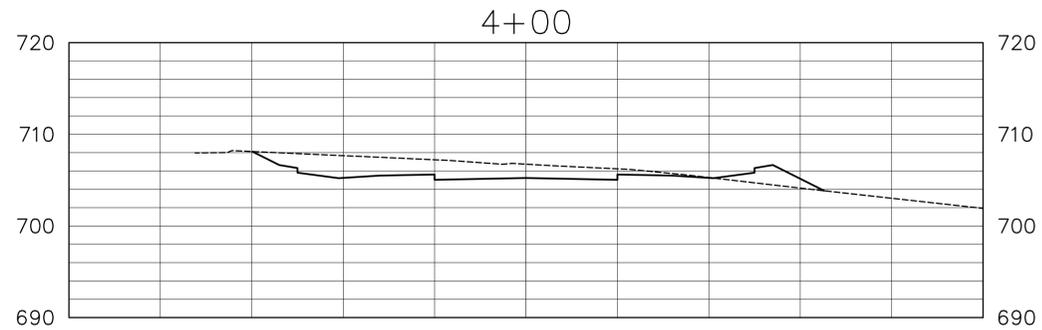
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CROSS SECTIONS

Project No. x
 Date May 2016
 Drawn By ACE CADD Services
 Designed By NEB
 Checked By NEB
 CAD File X-SECTION 2-1-16.DWG

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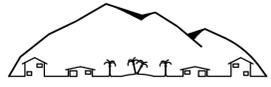


ONOMEA ST. EXT.

SCALE: HORIZ. 1" = 10'
VERT. 1" = 10'

AS-BUILT

SIGNATURE DATE



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Project
**PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093**

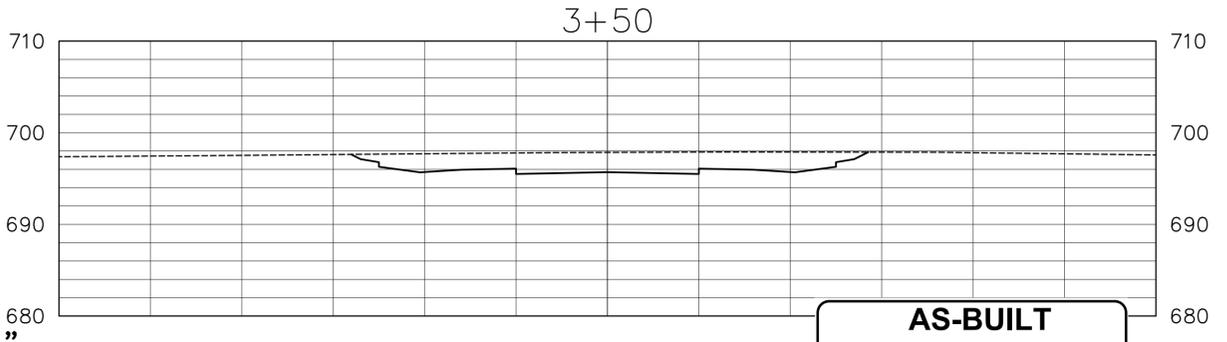
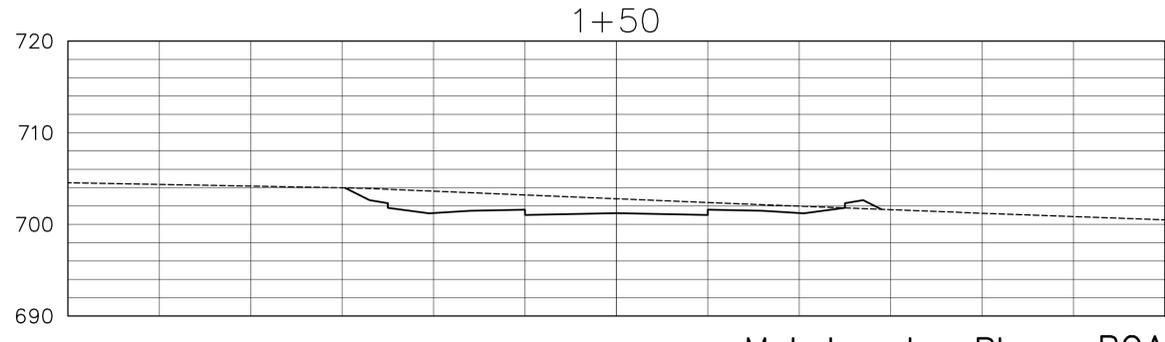
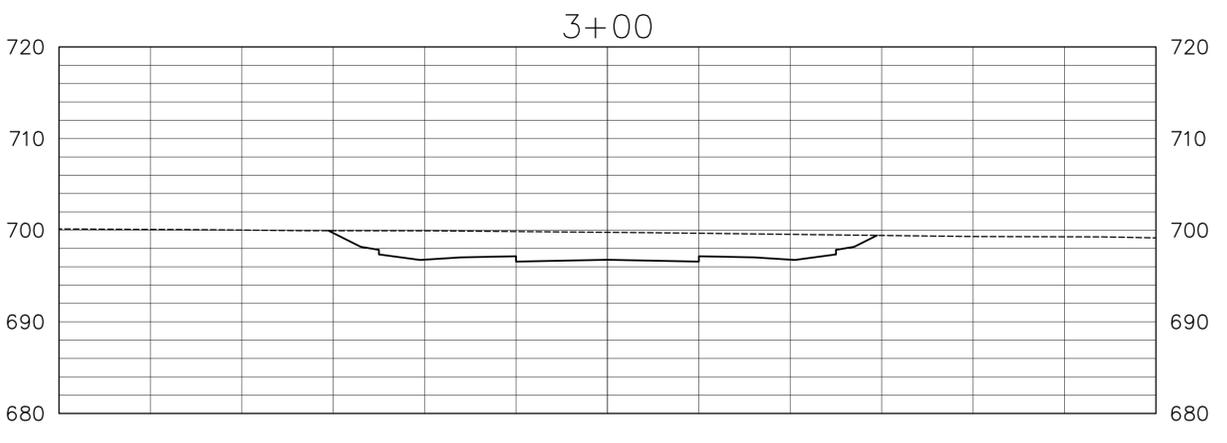
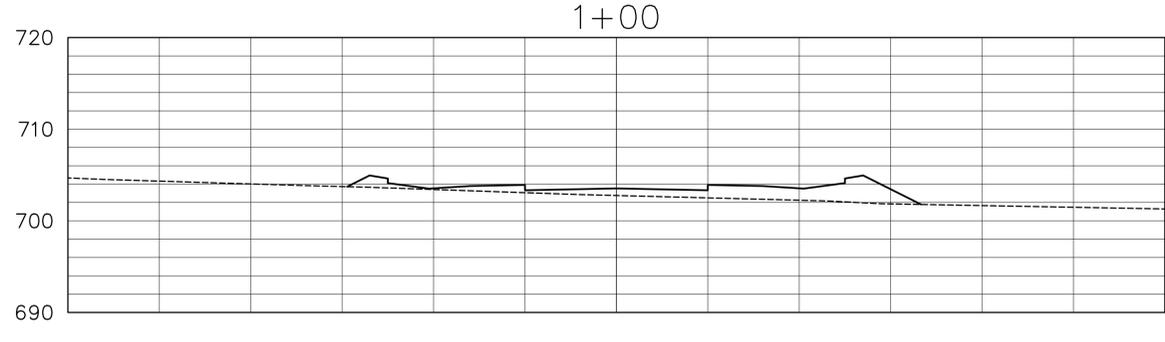
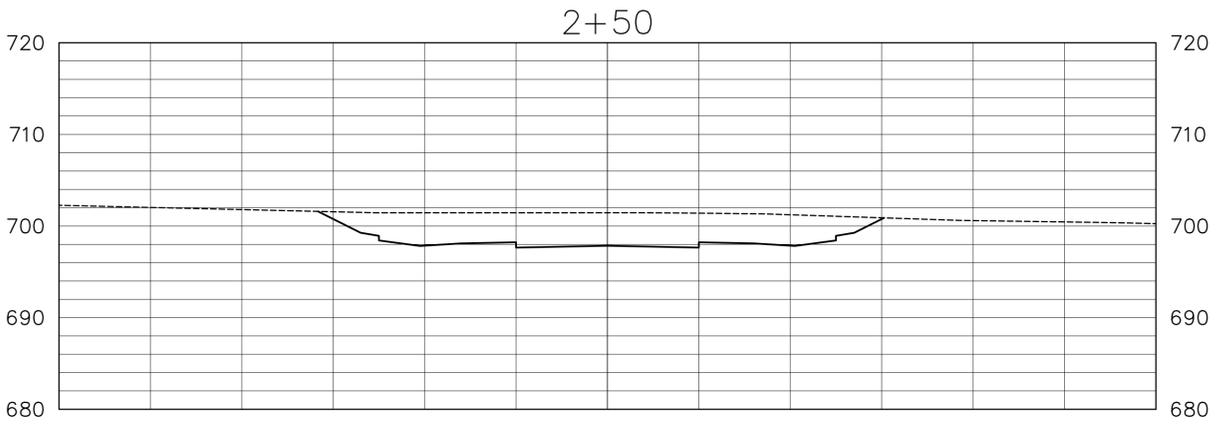
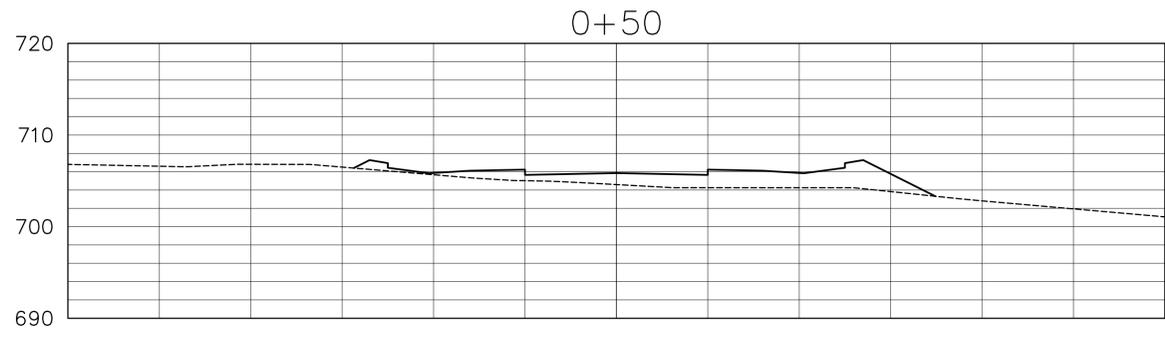
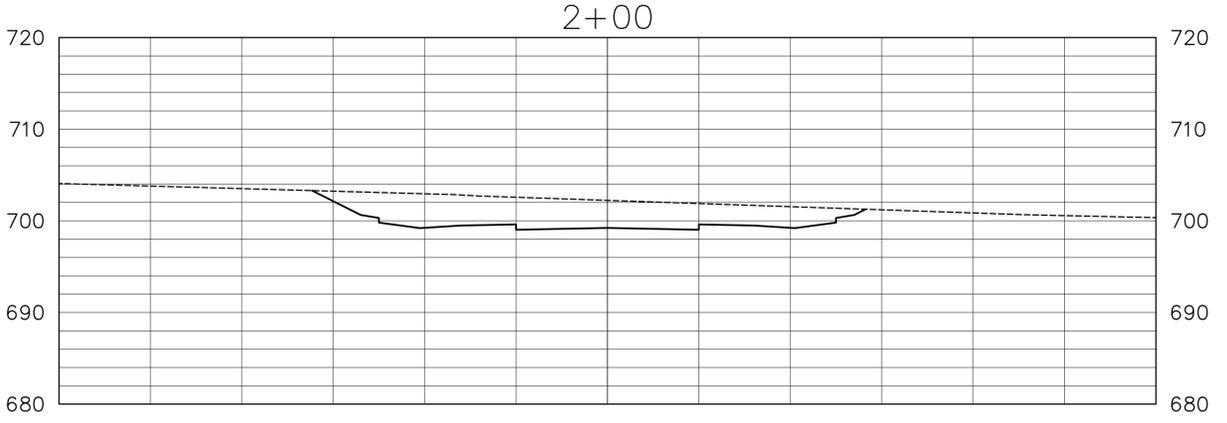
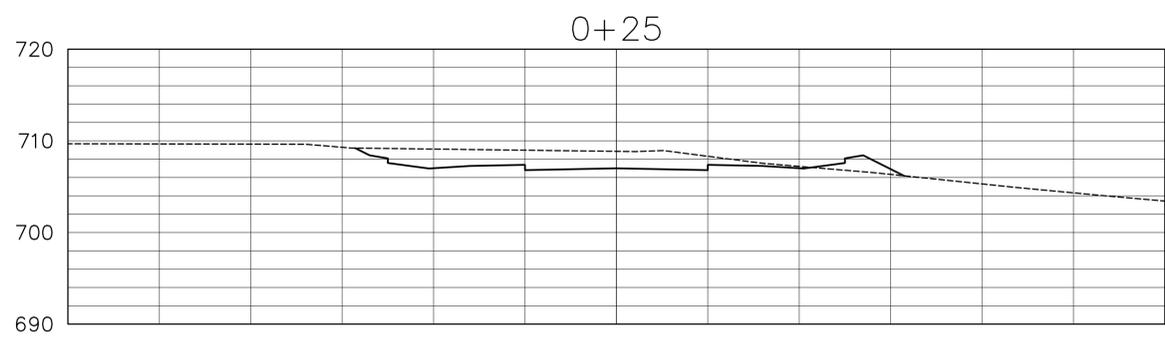
Title
**ROAD "A" CROSS
SECTIONS**

Project No.	x
Date	May 2016
Drawn By	ACE CADD Services
Designed By	NEB
Checked By	NEB
CAD File	X-SECTION 2-1-16.DWG

C-24

Sheet 27 of 31 Sheets

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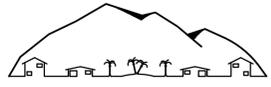


Makahaloa Place **ROAD "A"**
SCALE: HORIZ. 1" = 10'
VERT. 1" = 10'

AS-BUILT

SIGNATURE

DATE



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73-1487 Hao Street
Kailua-Kona, HI 96740
Tel. (808) 325-3182



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Nancy E. Burns
Signature

4/30/18
Expiration Date of the License

Revision	Date	Approved
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Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

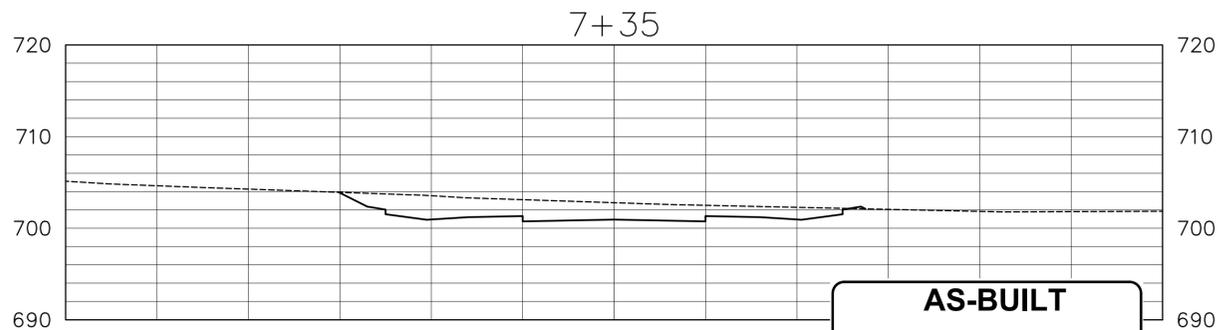
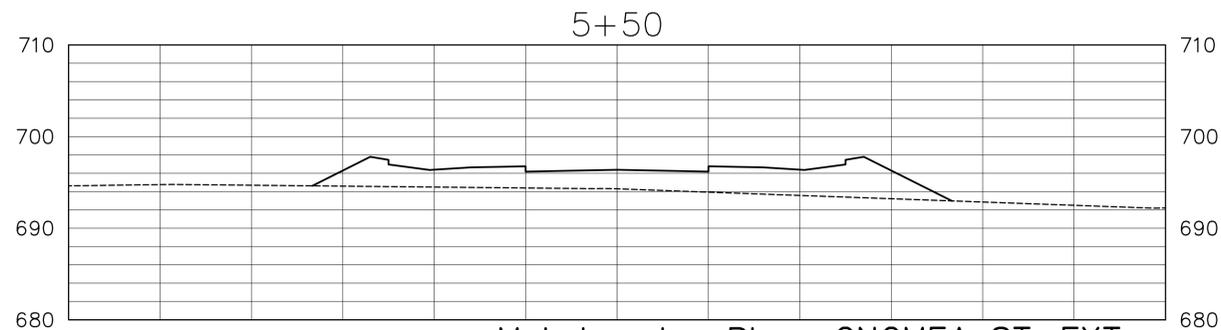
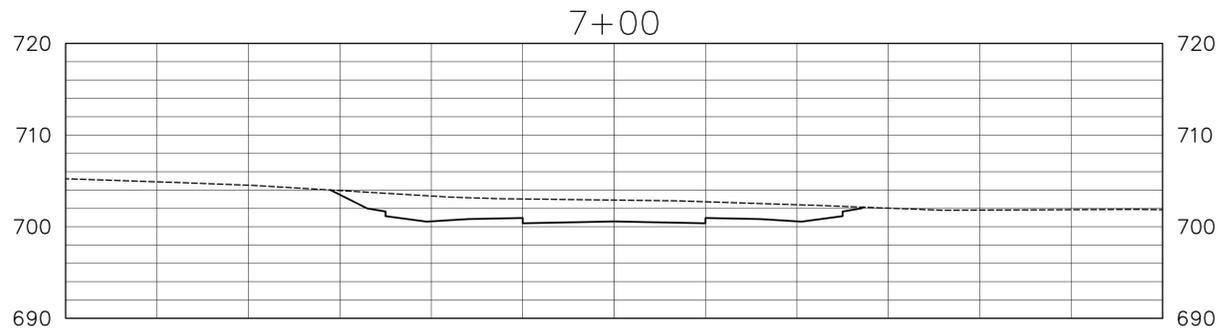
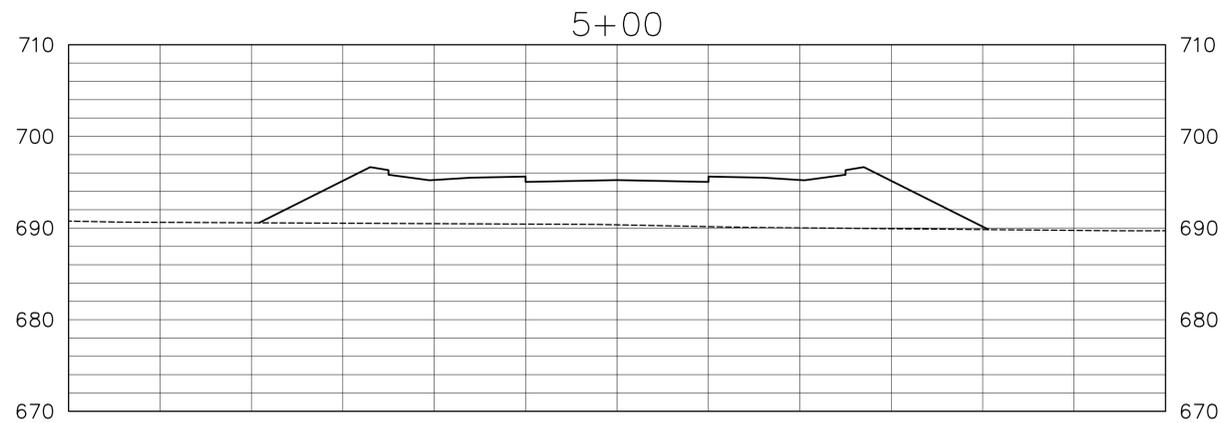
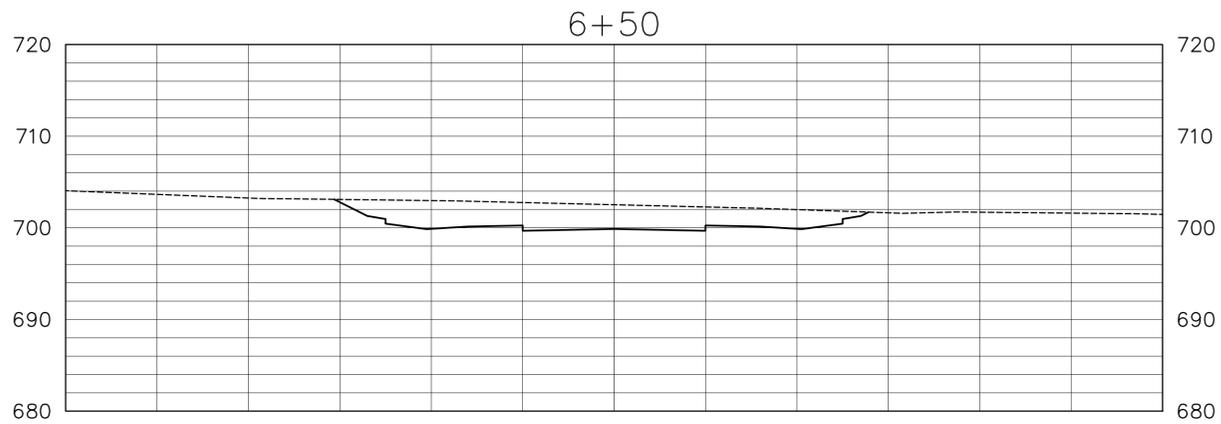
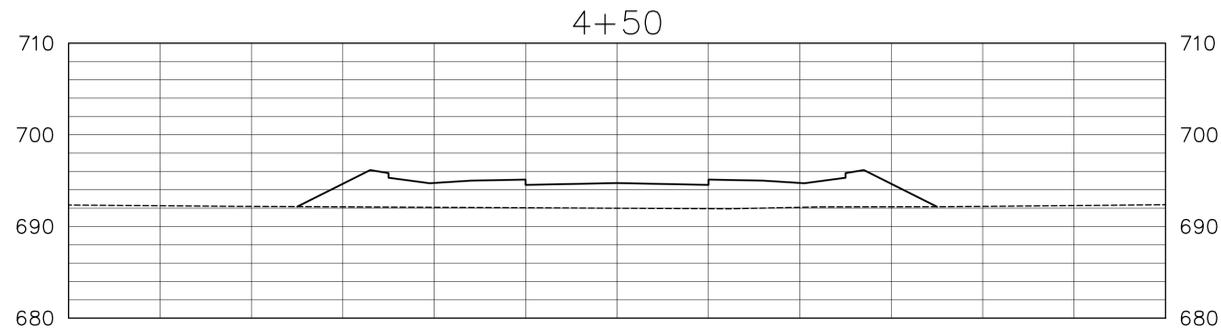
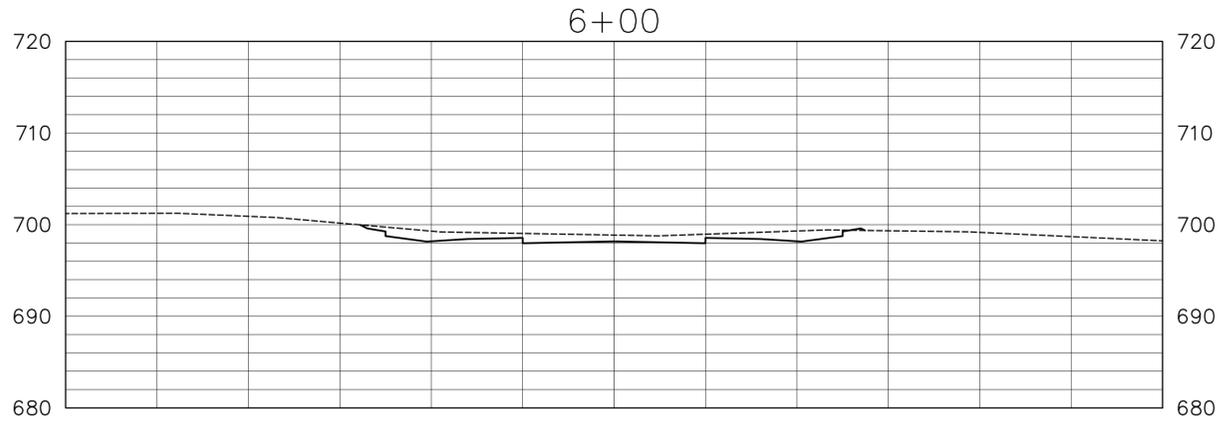
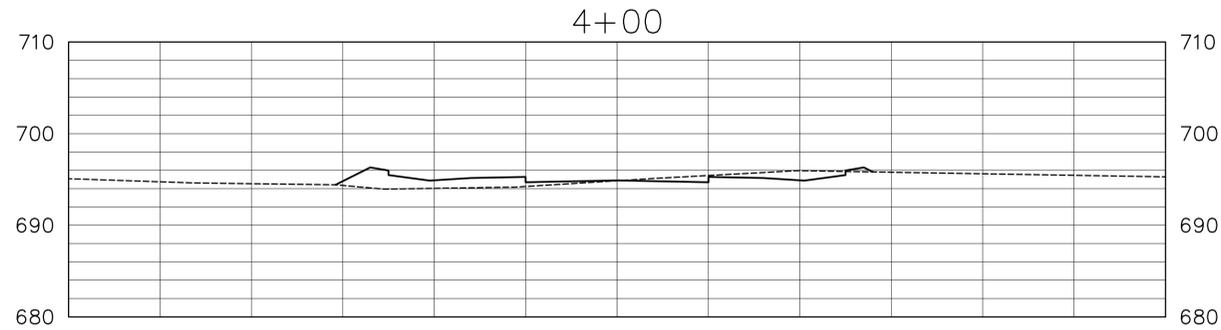
Title
ROAD "A" CROSS SECTIONS

Project No.	x
Date	May 2016
Drawn By	ACE CADD Services
Designed By	NEB
Checked By	NEB
CAD File	X-SECTION 2-1-16.DWG

C-25

Sheet 28 of 31 Sheets

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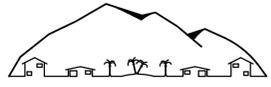
Makahalanaloa Place ONOMEA ST. EXT.

SCALE: HORIZ. 1" = 10'
VERT. 1" = 10'

AS-BUILT

SIGNATURE

DATE



NANCY E. BURNS, P.E., LLC

73-1487 Hao Street
Kailua-Kona, HI 96740
Tel. (808) 325-3182



The work was prepared by me or under my supervision and construction of this project will be under my observation

Nancy E. Burns
Signature

4/30/18
Expiration Date of the License

Revision	Date	Approved
△		
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Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

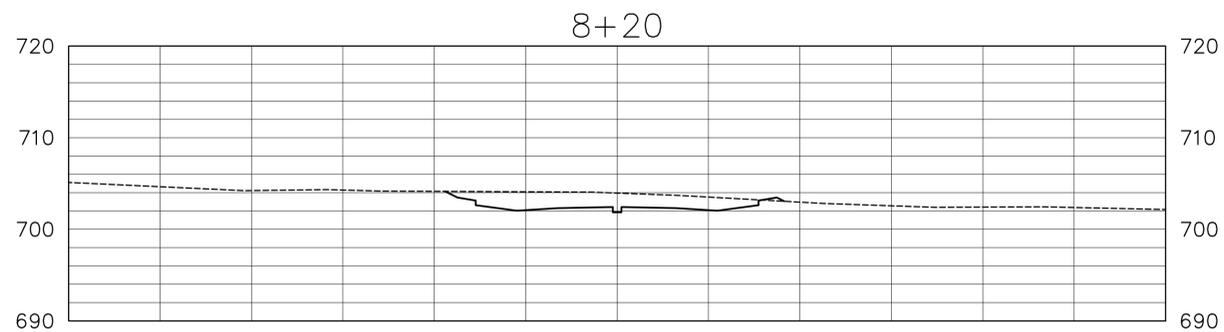
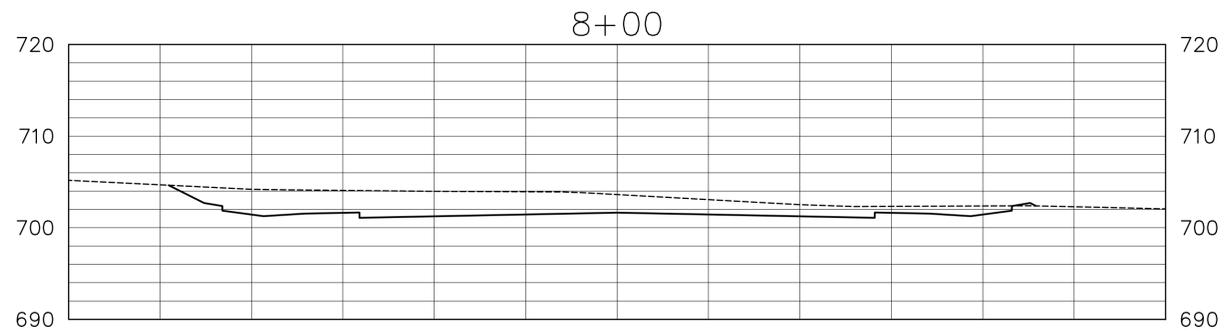
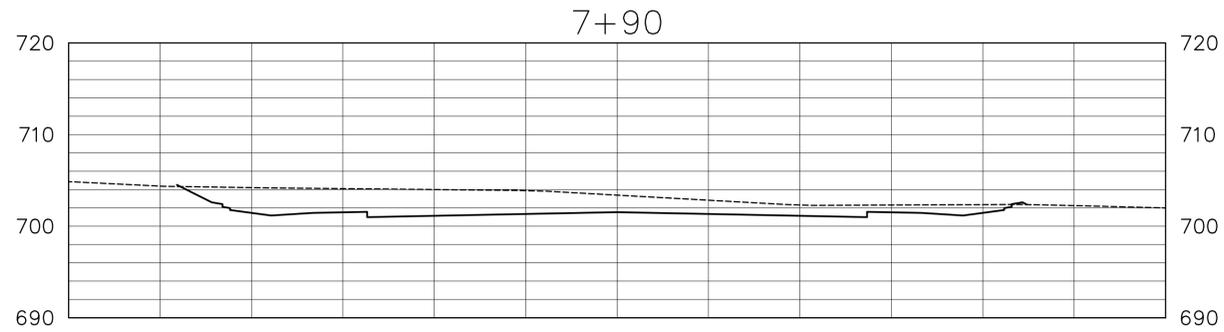
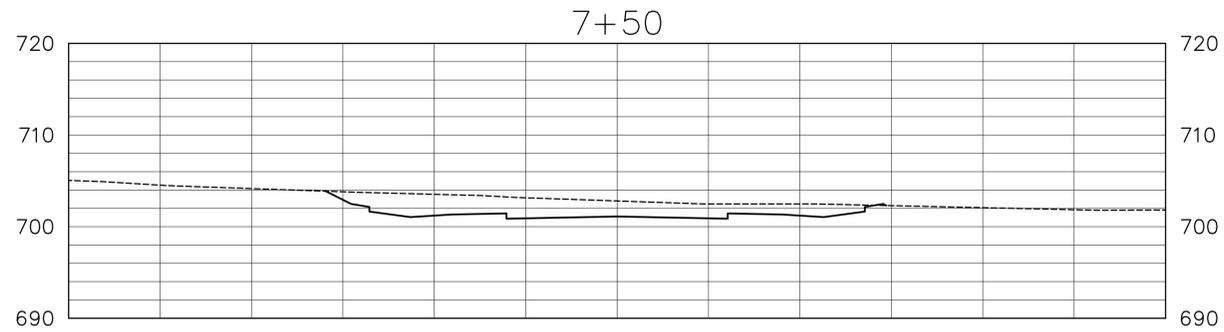
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ROAD "A" CROSS SECTIONS

Project No.	x
Date	May 2016
Drawn By	ACE CADD Services
Designed By	NEB
Checked By	NEB
CAD File	X-SECTION 2-1-16.DWG

C-26

Sheet 28 of 31 Sheets

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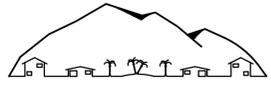


Makahalanaloa Place
ROAD "A"
SCALE: HORIZ. 1" = 10'
VERT. 1" = 10'

AS-BUILT

SIGNATURE

DATE



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Kailua-Kona, HI 96740
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Signature
4/30/18

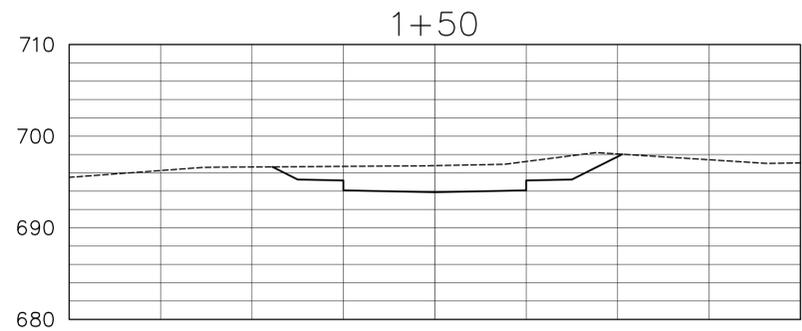
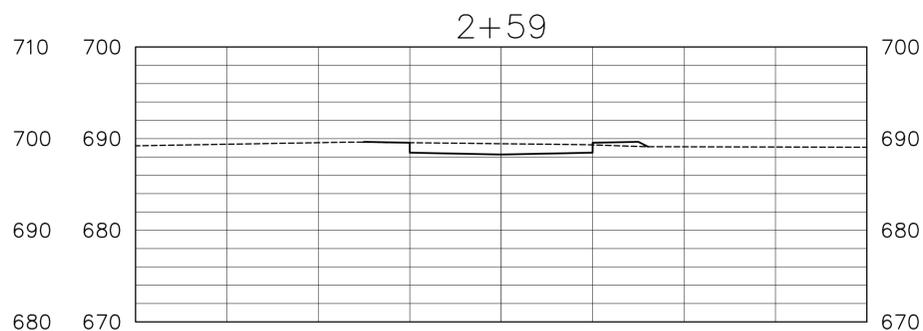
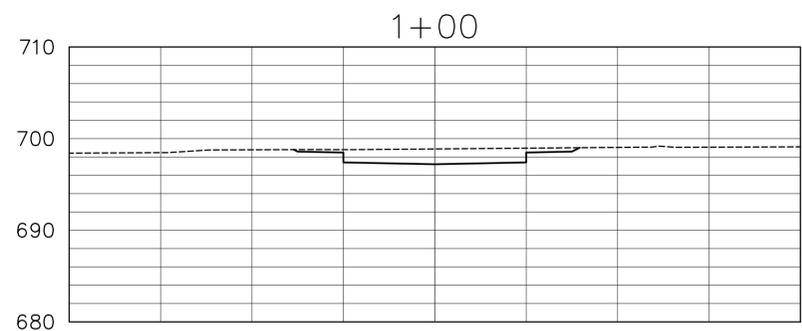
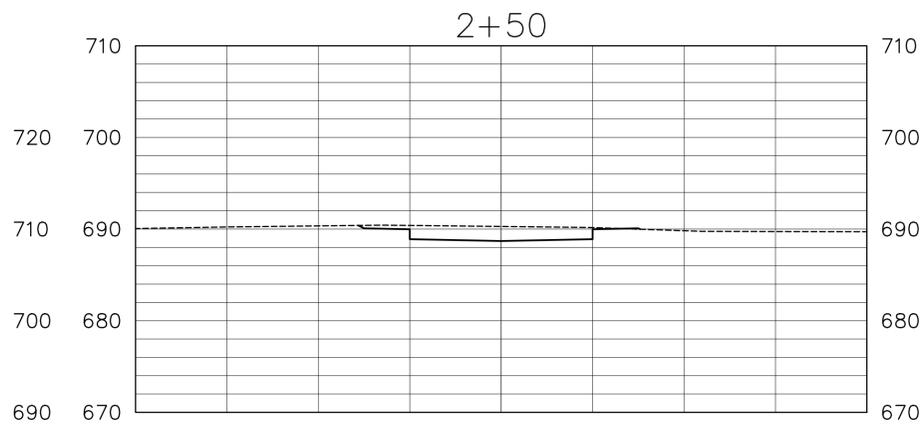
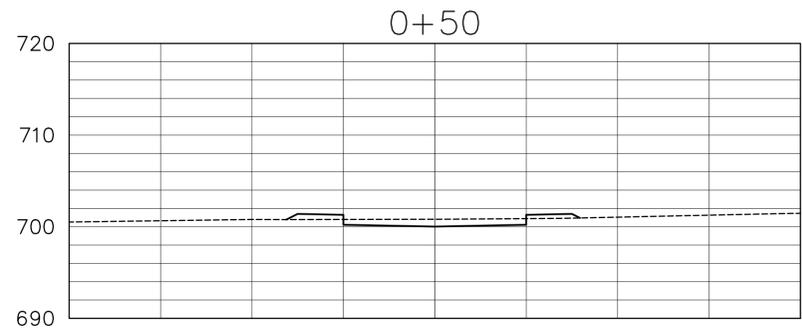
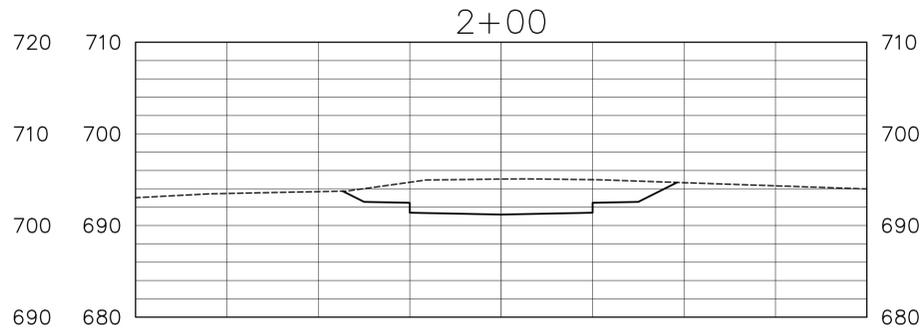
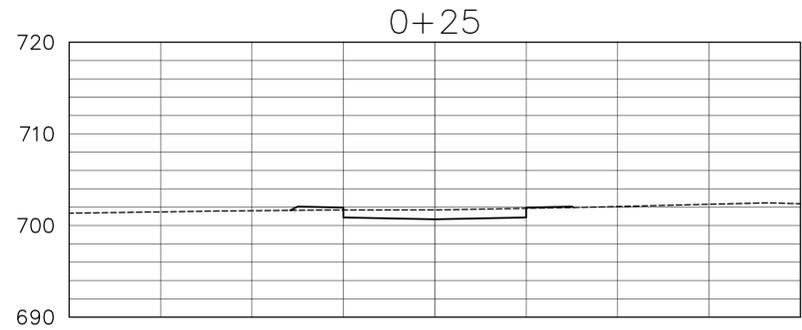
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Revision	Date	Approved
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Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

Title
ROAD "B" CROSS SECTIONS

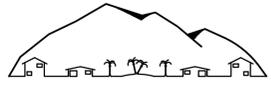
Project No. x
 Date May 2016
 Drawn By ACE CADD Services
 Designed By NEB
 Checked By NEB
 CAD File X-SECTION 2-1-16.DWG
C-27



Waimā'au'au Way **ROAD "B"**

SCALE: HORIZ. 1" = 10'
VERT. 1" = 10'

AS-BUILT
SIGNATURE _____ DATE _____



NANCY E. BURNS, P.E., LLC

73-1487 Hao Street
Kailua-Kona, HI 96740
Tel. (808) 325-3182



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Nancy E. Burns
Signature

4/30/18
Expiration Date of the License

Revision	Date	Approved
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Project
PU'U'ALALA VILLAGE
TMK 2-8-007:092 & 093

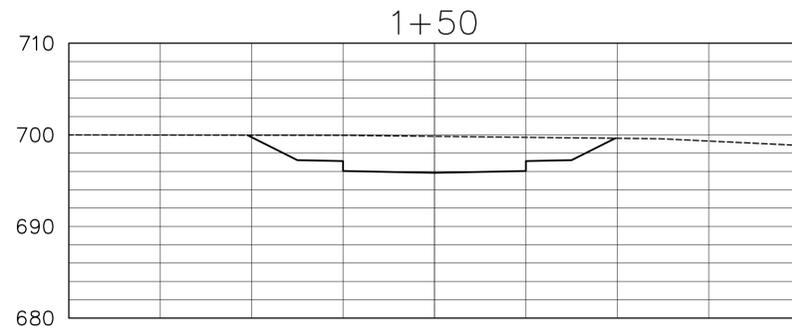
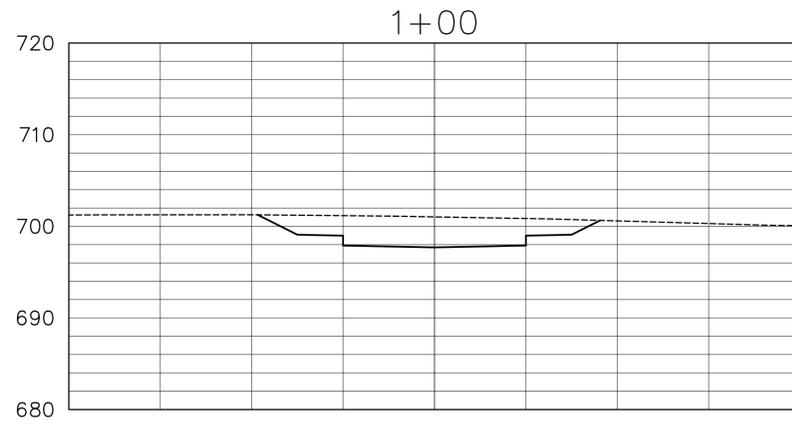
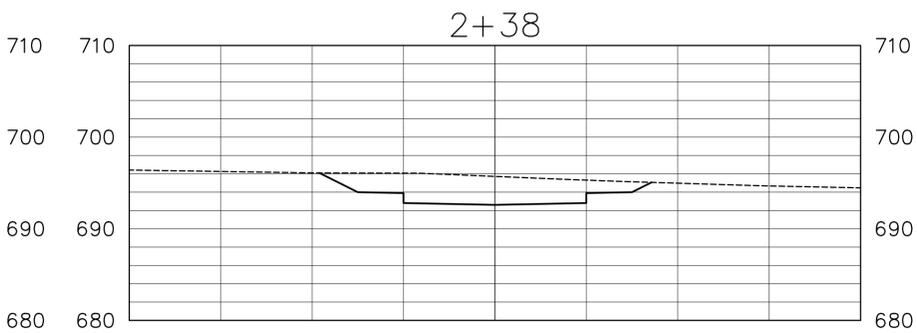
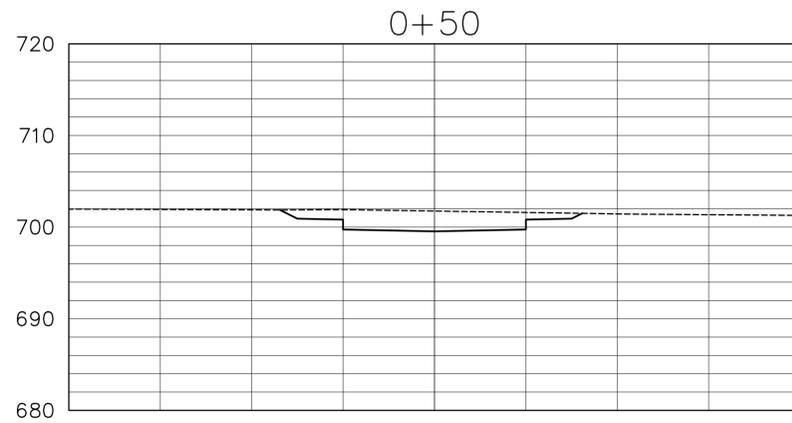
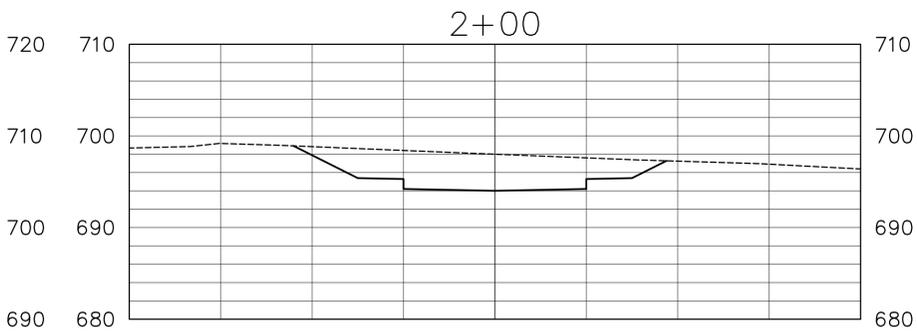
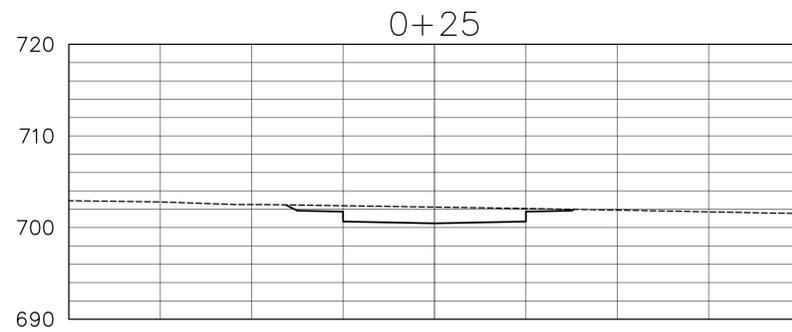
Title
ROAD "C" CROSS SECTIONS

Project No. x
 Date May 2016
 Drawn By ACE CADD Services
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 Checked By NEB
 CAD File X-SECTION 2-1-16.DWG

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Lauhānana Way
ROAD "C"
 SCALE: HORIZ. 1" = 10'
 VERT. 1" = 10'

AS-BUILT

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