STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.2	15

STANDARD PLAN NO.	TITLE	DATE
B-01	Notes and Miscellaneous Details	07/01/86
B-03	Backfill Details at Earth Retaining Structures	07/01/86
B-12	Prestressed Concrete Piles and Compression Splice	05/31/07
	Can Details	
B-12A	Prestressed Concrete Piles, Pile and Compression	05/31/07
	Splice Can Details and Notes	
B-12B	Pile Interaction Diagram	05/31/07
B-13	Prestressed Concrete Pile Build-Up Details	05/31/07

D-01	Cattle Gate	05/31/07
D-02 ●	Chain Link Fence With Toprail	05/31/07
D-03	Chain Link Fence Without Toprail	05/31/07
D-04	Wire Fence With Metal Posts	05/31/07
D-05	Typical Details of Curbs and/or Gutters	05/31/07
D-06	Typical Detail of Reinforced Concrete Drop Driveway	05/31/07
D-07	Centerline and Reference Survey Monuments	05/31/07
D-08	Street Survey Monument	05/31/07
D-15	Concrete Sidewalk	05/31/07
D-16	P.C.C. Bus Pad	05/31/07
D-17	P.C.C. Bus Pad	05/31/07
D-18	P.C.C. Pavement Layout	05/31/07
D-19	P.C.C. Pavement w/ Permeable Base Joint Details	05/31/07
D-20	P.C.C. Pavement w/ Permeable Base Joint Details	05/31/07
D-21	P.C.C. Longitudinal Joint Details	05/31/07
D-22	P.C.C. Connection to Curbs and Gutters	05/31/07
D-23	Joints	05/31/07

L-01	Tree Planting	08/16/06
L-02	Tree Planting	08/16/06
L-03	Tree Transplanting	08/16/06
L-04	Palm Planting	08/16/06
L-05	Shrub Planting	08/16/06
L-06	Landscape Details	08/16/06
L-07	Landscape Details	08/16/06
L-08	Landscape Details	08/16/06
L-09	Landscape Details	08/16/06
L-10	Landscape Details	08/16/06
L-11	Planting Notes	08/16/06
L-12	Irrigation Details	08/16/06
L-13	Irrigation Details	08/16/06
L-14	Irrigation Details	08/16/06
L-15	Irrigation Details	08/16/06
L-16	Irrigation Details	08/16/06
L-17	Irrigation Details	08/16/06
L-18	Irrigation Details	08/16/06
L-19	Irrigation Details	08/16/06
L-20	Irrigation Details	08/16/06
L-21	Irrigation Details	08/16/06
L-22	Irrigation Details	08/16/06
L-23	Irrigation Details	08/16/06
L-24	Irrigation Notes	08/16/06

STANDARD PLAN NO.	TITLE	DATE
H-01A	Type A Catch Basin	05/31/07
H-01B	Type B Catch Basin	05/31/07
H-01C	Type C Catch Basin	05/31/07
H-01D	Type D Catch Basin	05/31/07
H-01E	Catch Basin Sections	05/31/07
H-02A	Type A1 Catch Basin	05/31/07
H-02B	Type B1 Catch Basin	05/31/07
H-02C	Type C1 Catch Basin	05/31/07
H-02D	Type D1 Catch Basin	05/31/07
H-02E	Catch Basin Sections	05/31/07
H-03	Type A, B and C Storm Drain Manhole	05/31/07
H-04	Type D Storm Drain Manhole	05/31/07
H-05	Typical Reinforcing Details for Drainage Structures	05/31/07
H-06	Typical Reinforcing Details for Drainage Structures	05/31/07
H-07	Catch Basin and Manhole Casting	05/31/07
H-08	Type 1A-9 and 1A-9P Grated Drop Inlet	05/31/07
H-09	Type 2A-9 and 2A-9P Grated Drop Inlet	05/31/07
H-10	Type A-9 or A-9P Steel Frames	05/31/07
H-11	Type A-9 and A-9P Steel Grates	05/31/07
H-12	Type 61614P and 1211214P Grated Drop Inlet	05/31/07
H-13	Type 61616P and 1211216P Grated Drop Inlet	05/31/07
H-14	Type 61214P Grated Drop Inlet	05/31/07
H-15	1211214, 1211214P, 1211216, 1211216P Steel	05/31/07
	Frame and Grates	
H-16	61614, 61614P, 61616, 61616P Steel Frame and	05/31/07
	Grates	
H-17	61214 Steel Frames and Grates	05/31/07
H-18	61214P Steel Grates	05/31/07
H-19	61614B Steel Frame and Grates	05/31/07
H-20	Cement Rubble Masonry Structures	05/31/07
H-21	Concrete and Cement Rubble Masonry Structures	05/31/07
H-22	Inlet/Outlet Structure	05/31/07
H-23	Inlet/Outlet Structure	05/31/07
H-24	Flared End Section for Culverts	05/31/07
H-25	Flared End Section for Culverts	05/31/07
H-26	Concrete Spillway Inlet	05/31/07
H-27	CAP Coupling Details Standard Joint	05/31/07
H-28	Reinforced Concrete Collar & Jacket	05/31/07
H-29	Underdrain Cleanout Steel Frame and Cover	05/31/07
H-30	Underdrain Connection to Drainage Structure	05/31/07

TE-01 ●	Sign Height and Location	07/11/08
TE-01A ●	Sign Installation	07/11/08
TE-02A ●	Galvanized Flanged Channel Sign Post Mounting	05/31/07
TE-02B ●	Galvanized Flanged Channel Sign Post Mounting	05/31/07
TE-02C ●	Galvanized Flanged Channel Sign Post Mounting	05/31/07
TE-03A ●	Galvanized Square Tube Sign Post Mounting	05/31/07
TE-03B ●	Galvanized Square Tube Sign Post Mounting	05/31/07
TE-04 ●	Regulatory Signs	07/11/08
TE-05 ●	Warning Signs	07/11/08
TE-06	Miscellaneous Signs	07/11/08
TE-07 ●	Construction Signs	07/11/08
TE-08	Miscellaneous Intersection Signs	07/11/08

STANDARD PLAN NO.	TITLE	DATE
TE-09	Bike Route Sign and Supplementary Plates	07/11/08
TE-10	Interstate Route Marker	07/11/08
TE-11	State Route Marker and Auxiliary Markers	07/11/08
TE-12	State Route Marker and Border Detail for Guide	07/11/08
	Signs	
TE-12A	Route Sign Assemblies	07/11/08
TE-13	Street Name Sign on Mast Arm	07/11/08
TE-14 ●	Miscellaneous Reflector Markers	07/11/08
TE-15 ●	Object Markers	07/11/08
TE-16	Mileposts	07/11/08
TE-17A	Cantilever Overhead Sign Elevation & Details	05/31/07
TE-17B	Cantilever Sign Frame Detail and Sections	05/31/07
TE-17C	Cantilever Sign Frame Detail	05/31/07
TE-17D	Cantilever Sign Frame Sections	05/31/07
TE-17E	Cantilever Sign Frame Details	05/31/07
TE-18A	Two Post Overhead Sign Frame Elevations	05/31/07
TE-18B	Two Post Sign Framing Plan Section	05/31/07
TE-18C	Two Post Sign Framing Sections and Details	05/31/07
TE-18D	Two Post Sign Frame Details	05/31/07
TE-18E	Two Post Sign Frame Details	05/31/07
TE-19A	Overhead Sign Framing Schedule	05/31/07
TE-19B	Sign Post Drilled Shaft Foundation	05/31/07
TE-19C	Spread Footing	05/31/07
TE-19D	Sign Frame Foundation Schedule	05/31/07
TE-19D.1	Sign Frame Foundation Schedule	05/31/07
TE-19D.2	Sign Frame Foundation Schedule	05/31/07
TE-19D.3	Sign Frame Foundation Schedule	05/31/07
TE-19D.4	Sign Frame Foundation Schedule	05/31/07
TE-19D.5	Sign Frame Foundation Schedule	05/31/07
TE-19E	Anchorage Details	05/31/07
TE-19F	Anchorage Details	05/31/07
TE-19G	Miscellaneous Sign Frame Details	05/31/07
TE-19H	Luminaire Walkway Support	05/31/07
TE-19J	Fixed Message Luminaire Support	05/31/07
TE-19K	Miscellaneous Sign Details	05/31/07
TE-19L	Miscellaneous Sign Details	05/31/07
TE-19M	Miscellaneous Sign Frame Details	05/31/07
TE-20	Supports for Ground Mounted Guide Sign	05/31/07
TE-20A	Supports for Ground Mounted Guide Sign	05/31/07
TE-20B	Supports for Ground Mounted Guide Sign	05/31/07
TE-20C	Supports for Ground Mounted Guide Sign	05/31/07
TE-21A	Sign Breakaway Mounts	05/31/07
TE-21B	Sign Breakaway Mounts	05/31/07
TE-22	Laminated Aluminum Sign Panels (Overhead)	07/11/08
TE-23	Laminated Aluminum Sign Panels (Ground Mounted)	05/31/07
TE-24	Solid Aluminum Extruded Sign Panel and Accessory	05/31/07
	Details	
TE-25	Guide Signs Luminaire Mountings	05/31/07

STANDARD PLAN NO.	TITLE	DATE
TE-26	Raised Pavement Markers and Striping	07/11/08
TE-27	Raised Pavement Markers and Striping	07/11/08
TE-28	Entrance and Exit Pavement Markings	07/11/08
TE-28A	Miscellaneous Pavement Markings	07/11/08
TE-29	Pavement Arrows and Symbols	07/11/08
TE-30	Pavement Alphabets, Numbers & Symbols	07/11/08
TE-31	Pavement Alphabets, Numbers & Symbols	07/11/08
TE-32	Type I & II Traffic Signal System Miscellaneous	05/31/07
	Details	
TE-33	Type II Traffic Signal System	08/16/06
TE-33A.1	Type II Traffic Signal Standard	05/31/07
TE-33A.2	Type II Traffic Signal Standard	05/31/07
TE-34	Loop Detector Details	07/11/08
TE-35	Loop Detectors & Duct Details	07/11/08
TE-36	Traffic Signal Details	07/11/08
TE-37	Pullbox & Cover Details	07/11/08
TE-37A	Type "A" Traffic Pullbox	05/31/07
TE-37B	Type "A" Traffic Pullbox Reinforcing	05/31/07
TE-37C	Type "B" Traffic Pullbox	05/31/07
TE-37D	Type "B" Traffic Pullbox Reinforcing	05/31/07
TE-37E	Type "B" Traffic Foundation	05/31/07
TE-37F	Type "C" Traffic Pullbox	05/31/07
TE-37G	Type "C" Traffic Pullbox Reinforcing	05/31/07
TE-37H	Type "C" Traffic Foundation	05/31/07
TE-37J	Traffic Pullbox Cover and Details	05/31/07
TE-38	Type III Traffic Signal Standard	05/31/07
TE-38A.1	Type III Traffic Signal Standard	05/31/07
TE-38A.2	Type III Traffic Signal Standard	05/31/07
TE-39	Metal Guardrail Connection to Concrete Barrier	07/11/08
TE-40	Concrete Barrier Transition	05/31/07
TE-40A	Concrete Barrier Transition Sections	05/31/07
TE-41	Guardrail Type 4 (Rigid Barrier)	05/31/07
TE-42	Portable Concrete Barrier	05/31/07
TE-43	Portable Concrete Barrier	05/31/07
TE-44	Guardrail Type 4 Miscellaneous Details	07/11/08
TE-45 ●	Barricades	07/11/08
TE-46	Delineation & Pavement Markings at Narrow Bridges	07/11/08
TE-47	Highway Light Standard	05/31/07

NOTE:
STANDARD PLANS APPLICABLE TO THIS PROJECT ARE INDICATED BY A " ● " NEXT TO THE STANDARD PLAN NO. (For Example: D-07 ●).

ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

AECOM

ARDALAN R. NIKOU
LICENSED PROFESSIONAL ENGINEER
No. 6198-C
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

1	06/16/14	Revised Standard Plans Summary
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

Scale: As Noted Date: June 2014

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.3	15

GENERAL NOTES:

1. The Scope of Work for this project consists of rockfall mitigative improvements along a stretch of Kuamoo Road in the vicinity of MP 0.3. Improvements consist of a ring net drapery system supported with grouted wire rope anchors and cable lashing installed over the slope to reduce the potential for rockfall hazards and a chain link fence at the top of slope.

2. The Contractor's attention is directed to the following Sections of the Standard Specifications and Special Provisions: Subsection 104.11 – Utilities and Services Section 107 – Legal Relations and Responsibility to Public; and Section 645 – Work Zone Traffic Control.

3. /1\ At the end of each day's work, the Contractor shall remove all barriers, equipment, and other obstructions to permit free and safe passage of public traffic.

4. /1\ The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his/her operations whether or not they are shown on the plans.

5. Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.

6. The Contractor shall notify the Engineer in writing, five working days prior to starting any construction work.

7. /1\ All required environmental permits shall be provided by the State. All required construction permits for this project shall be obtained by the Contractor at his/her own cost.

8. The Contractor shall comply with the State of Hawaii's Occupational Safety and Health Law (DOSH).

9. /1\ The Contractor shall provide a temporary removable barrier where work is active on or near the slope and allow for contra-flow of traffic. The Contractor shall maintain at least one lane of traffic open at all times during work hours and permit free and safe passage of public traffic. Any lane closures shall be coordinated with the Engineer. All lanes shall be open to traffic at the end of each work day.

10. The Contractor shall comply with Section 645 – Work Zone Traffic Control of the Standard Specifications regarding lane closures and other applicable traffic control measures to be employed during this project.

11. In the event that historical resources, including human skeletal remains, cultural materials, lava tubes, and lava blisters/bubbles are discovered during construction activities, the contractor shall cease work in the immediate vicinity of the find, protect it from additional disturbances, and call the State Historical Preservation Division at (808) 692-8015.

12. Any work specified in the contract but not listed separately in the proposal schedule shall be considered incidental to other various contract items and shall not be paid for separately.

GENERAL CONSTRUCTION NOTES:

1. Locations of existing underground structures and utilities such as pipelines, conduits, cables, manholes, monuments, and structures shown on the Plans are approximate only. It is not the intent of these Plans to show the exact location of all underground utilities and structures. It is the responsibility of the Contractor to verify the locations of all existing utilities with the respective owners. Existing utilities damaged by the Contractor shall be repaired by the Contractor at his own cost.

2. The Contractor shall verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the Engineer for clarification.

3. All work called for on the plans and not itemized in the proposal and all work not called for but required for the construction of this project shall be considered incidental to various contract items.

4. Full compensation for all additional materials and labor, not specifically shown or called for which are necessary to complete the construction of the project, shall be considered incidental to the various contract items in the Proposal and no additional compensation will be allowed therefore.

5. The Contractor shall restore to their original condition all improvements damaged as a result of the construction, including pavements, embankments, curbs, signs, landscaping, structures, utilities, walls, fences, etc.. Demolition and restoration of existing items shall be incidental and included within the amount paid for various contract items.

6. The Contractor shall observe and comply with the administrative rules of The Department of Health regarding noise control of Hawai'i.

7. Maintenance of traffic through the construction area shall be in accordance with Part VI of the "Manual on Uniform Traffic Control Devices for Streets and Highways," FHWA (2009) and as specified in the Special Provisions. The Contractor shall furnish and maintain adequate barriers, blinkers, construction signs, etc., for the safety of the motoring public.

8. The Contractor shall remove all silt and debris resulting from his work and deposited in drainage facilities, roadways, and other areas on a daily basis. The costs incurred for any necessary remedial action by the Engineer shall be made payable by the Contractor.

9. The Contractor, at his own expense, shall keep the project area and surrounding area from dust nuisance. The work shall be in conformance with the Air Pollution Control Standards and Regulations of the State Department of Health.

10. No material and/or equipment shall be stockpiled or otherwise stored within roadway right-of-way except of locations designated and approved in writing by the Engineer.

11. There may be other contractors working in the project site on other projects. The Contractor shall coordinate his work with these contractors.

12. /1\ All construction work shall be done in accordance with these plans and associated specifications; all applicable sections of the "Standard Specifications for Road and Bridge Construction," dated 2005 as amended, of the State Highways Division, Department of Transportation; and the project's Special Provisions, unless otherwise specified.

13. Removal of existing signs shall also include the removal of posts and foundations unless otherwise noted. Cost for removal and temporary installation of signs, posts, and foundations shall be considered incidental to other items of work.

ABBREVIATIONS:

@	At
℄	Center Line
CLR	Clear
Dia	Diameter
Elev	Elevation
GDI	Grated Drain Inlet
Max	Maximum
Min	Minimum
ND	Nominal Diameter
NTS	Not to Scale
o.c.	On Center
PVC	Polyvinyl Chloride
R/W	Right-of-Way
SS	Stainless Steel
STA	Station along ℄
TYP	Typical
w/	With

LEGEND:

- Right-of-Way
- Chain Link Fence
- Compost Filter Sock
- Ring Net Drapery System

	DATE	REVISION
/1\	06/16/14	Revised Notes

AECOM

ARDALAN R. NIKOU
LICENSED PROFESSIONAL ENGINEER
No. 6198-C
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

Scale: As Noted Date: June 2014

SHEET No. 3 OF 15 SHEETS

ADD. 3

ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY
PLANS BY
TRACED BY
REVISED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.4	15

Notes for Construction Within State Right-of-Way

1. The Contractor shall obtain a construction permit from State Highway's District Engineer at 1720 Haleukana Street, Lihue, Hawaii 96766 prior to commencement of work within State Highway Right-of-Way (ph. 808-241-3017).

2. Construction and restoration of all existing highway facilities within State Right-of-Way shall be done in accordance with all applicable sections of the current "Hawaii Standard Specification for Road and Bridge Construction 2005" and the "Specification for Installation of Miscellaneous Improvements within State Highway" of the State Highway Division.

3. The Contractor shall provide, install, and maintain all necessary signs, lights, flares, barricades, markers, cones, and other protective facilities and shall take all necessary precautions for the protection and for the convenience and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the "Administrative Rules of Hawaii Governing the Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways" adopted by the Director of Transportation, and the current U.S. Federal Highway Administration "Manual on Uniform Traffic Control Devices for Street and Highways, Part VI-Traffic Control for Highway Construction and Maintenance Operations." If lane closures are required during construction, a traffic control plan shall be incorporated into the construction plans and must be approved by the Division prior to the issuance of the permit.

4. No material and/or equipment shall be stockpiled or otherwise stored within Highway Right-of-Way except at locations designated in writing and approved by the District Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a permit to use the property within the Highway R/W from the State Highways Division (ph. 808-241-3022).

5. (1) Existing longitudinal drainage system along the highway shall be functional and maintained at all times.

6. Approval of permit construction plans shall be valid for a period of one year thereof from the date of notification of approval to the applicant. In the event construction does not commence within this one-year period, the applicant will be required to resubmit his construction plan for Division's review and approval.

7. All regulatory, guide and construction signs and barricades shall be of high intensity reflective sheeting.

8. Contractor shall inform the State Highways Office (ph. 808-241-3022) at least 2 days prior to closing any lanes.

9. The Contractor shall reference to the satisfaction of the District Engineer, all existing traffic signs, posts, and pavement markings prior to the commencement of construction. The contractor shall replace or repair all traffic signs, posts, and pavement markings disturbed by his activities unless directed otherwise by the District Engineer or designated representative.

10. The Contractor shall exercise care when excavating in areas with utilities, streetlights, signals, etc. Damage to these existing facilities shall be immediately reported to the respective utility companies, county, or state agency. The repair work shall be done at the Contractor's expense.

11. The Contractor shall comply with the attached traffic control plans and sign spacing table.

12. Contractor shall implement Best Management Practices (BMP) for erosion and silt control for work within the State R/W.

13. The permit to perform work upon State Highways may be revoked because of default in any of the following:
    A. Work performed before or after permitted hours;
    B. Failure to maintain roadway surfaces in smooth and safe condition;
    C. Failure to clean up construction debris generated from project work;
    D. Failure to provide proper traffic control;
    E. Failure to replace damaged pavement markings and signs.

Notes for Construction Within State Right-of-Way (Cont)

14. The contractor shall exercise care when performing work in or adjacent to the state highway right-of-way. Damages to existing facilities shall be immediately reported to the respective utility companies, and/or city or state agencies. the repair work shall be done at the Contractor's expense.

15. Prior to construction, the Contractor shall contact the various agencies for location of existing utilities within the project limits. The Contractor shall locate and protect all existing utilities whether or not shown on the plans. Any costs incurred from damages to existing utilities shall be borne by the Contractor. Contractor shall request toning of utilities from One-Call Center (ph. 1-866-423-7287). The Contractor shall also call the County of Kauai Department of Water (ph. 808-245-5411) and the Wastewater Division (ph. 808-241-6642) for toning of waterlines and sewer lines, respectively.

16. The Contractor shall notify the State Highways Division, Kauai's District Office, Area Engineer (ph. 808-241-3022) three working days prior to commencing work.

17. Unless requested in writing by the Contractor and approved in writing by the District Engineer, use of steel plates within the travelway will not be permitted at any time. When permitted, only one steel plate will be used within the travelway at any time.

18. All workers within the State Right-of-Way who are exposed to either vehicles using the roadway or to construction equipment shall wear high visibility safety apparel that meets the Performance Class 2 or 3 requirements of ANSI/ISEA 107-2004. "Workers" is defined as people on foot whose duties place them within the State Right-of-Way such as but not limited to construction and maintenance forces, equipment operators, survey crews, utility crews, responders to incidents (e.g. EMT and Firefighters) and law enforcement personnel directing traffic, investigating accidents, and handling lane closures and obstructed roadways.

19. (1) The contractor shall exercise care when performing work in or adjacent to the state highway right-of-way. Damages to existing facilities shall be immediately reported to the respective utility companies, and/or city or state agencies. The repair work shall be done at the Contractor's expense.

20. (1) Night work shall not be done during the period from September 15 to December 31 of each year.

DATE	REVISION
(1) 06/16/14	Added and Revised Notes

AECOM

LICENSED PROFESSIONAL ENGINEER No. 6198-C ARDALAN R. NIKOU HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

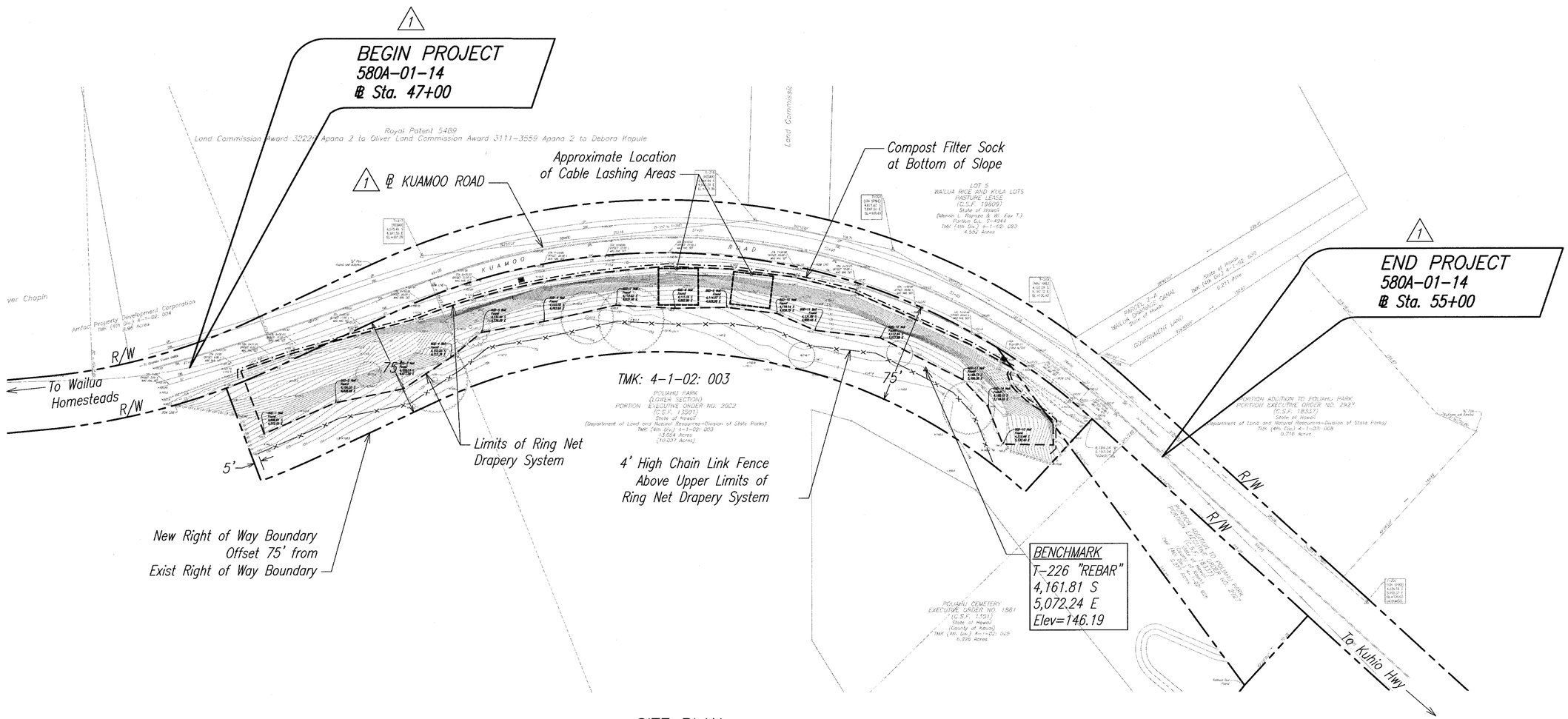
Scale: As Noted   Date: June 2014

SHEET No. 4 OF 15 SHEETS

ORIGINAL PLAN / NOTE BOOK No. / SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY / DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.8	15

TRUE NORTH
Scale: 1 in. = 40 ft.



SITE PLAN
SCALE: 1"=40'

0 40 80 120
Scale: 1" = 40' Feet

1	06/16/14	Revised Kuamoo Road Baseline and Project Limit Stationing
	DATE	REVISION

AECOM

ARDALAN R. NIKOU
LICENSED PROFESSIONAL ENGINEER
No. 6198-C
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE PLAN
KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

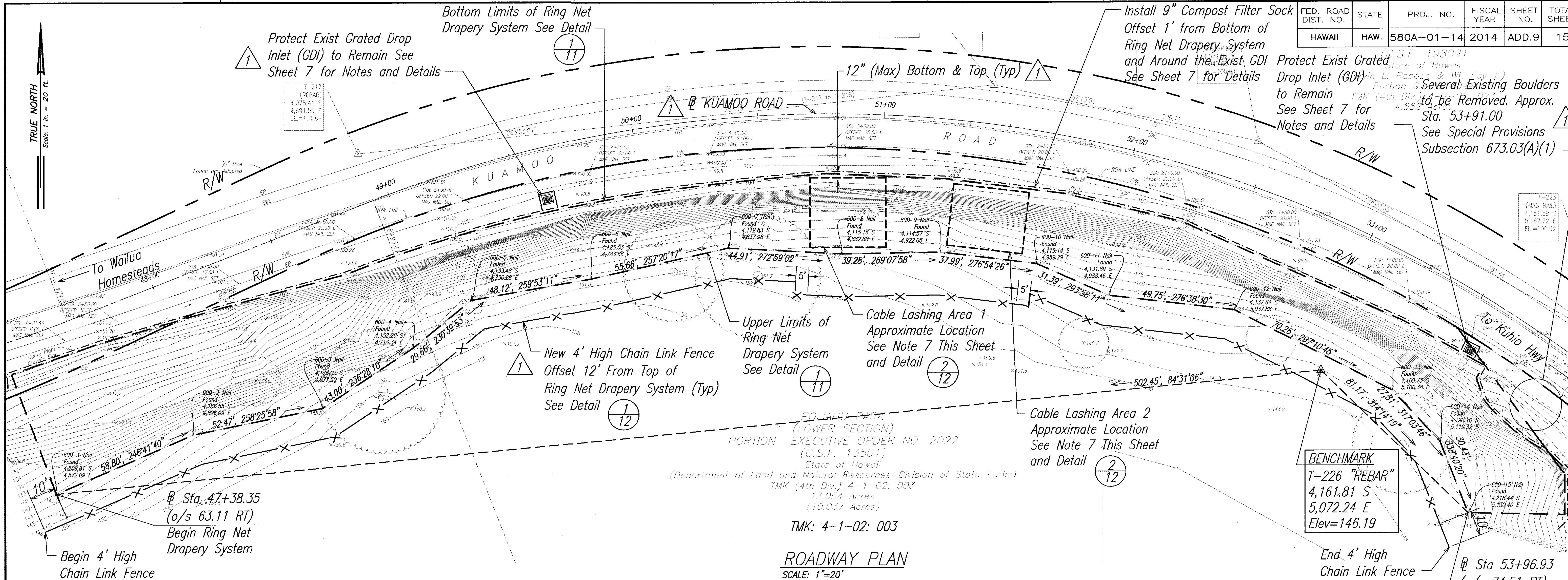
Scale: As Noted Date: June 2014

SHEET No. 8 OF 15 SHEETS

ADD. 8

ORIGINAL PLAT
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.9	15



ROADWAY PLAN
SCALE: 1"=20'

Notes:

1. Baseline stationing is in accordance with Fed-Aid Proj. No. HRRP-0580(4) plans.

2. Contractor shall provide temporary safety measures, such as a temporary moveable barrier to protect the public and property from rockfall. Any damages resulted from falling rocks or debris shall be corrected or repaired to the original condition or better as approved by the Engineer and at no additional cost to the State. All scaling and/or demolition work deemed necessary by the Contractor shall be incidental to the cost of the ring net drapery system.

3. Contractor shall survey the upper limits and locations of the top anchors for the ring net drapery system as shown on these plans using a surveyor licensed in the State of Hawaii. Upper limits and locations of the top anchors shall be reviewed and approved by the Engineer prior to installation of anchors.

4. In the case of any discrepancies between the information in these documents and those that could be supplied or any other discrepancies between information provided within these contract documents, the Contractor shall inform the Engineer of such discrepancies immediately and seek direction prior to any material fabrication or other related construction operation.

5. All vegetation and surface objects encountered within the limits of the ring net drapery system and up to two feet beyond the limits of the ring net drapery system shall be cleared and cut flush to the ground prior to installation of the ring net drapery system. All material resulting from clearing operations shall become property of the Contractor and removed from the site and properly disposed of at an authorized location. Cost for clearing work shall be paid on a lump sum basis. See Special Provisions Section 201 - Clearing and Grubbing.

6. Ring net drapery system shall be installed per the Manufacturer's instructions and Engineer approved shop drawings.

7. The two locations proposed for cable lashing as shown on this drawing are approximate only. Exact locations for the two cable lashing areas including related top and bottom support anchors to be designated in the field by the Engineer prior to any anchor installation. Chain link fence shall be offset 2' from line of lashing anchors.

8. The Contractor shall hydroseed the entire slope, the area within the ring net drapery system limits, up to 25' beyond the top of slope, and all areas disturbed within the project limits by the Contractor's operation and as coordinated with the Engineer in the field. See Special Provisions Section 641 - Hydro-Mulch Seeding.

Coordinates of 60D Nails:

60D Nail No.	Southing	Easting
60D-1	4,209.81	4,572.09
60D-2	4,186.55	4,626.09
60D-3	4,176.03	4,677.50
60D-4	4,152.28	4,713.34
60D-5	4,133.48	4,736.28
60D-6	4,125.03	4,783.66
60D-7	4,112.83	4,837.96
60D-8	4,115.16	4,882.80
60D-9	4,114.57	4,922.08
60D-10	4,119.14	4,959.79
60D-11	4,131.89	4,988.46
60D-12	4,137.64	5,037.88
60D-13	4,169.73	5,100.38
60D-14	4,190.10	5,119.32
60D-15	4,218.44	5,130.40

0 20 40 60
Scale: 1" = 20' Feet

AECOM

ARDALAN R. NIKOU
LICENSED PROFESSIONAL ENGINEER
No. 6198-C
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

DATE	REVISION
06/16/14	Revised Kuamoo Road Baseline, Chain Link Fence Offset, Notes, and Callouts

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

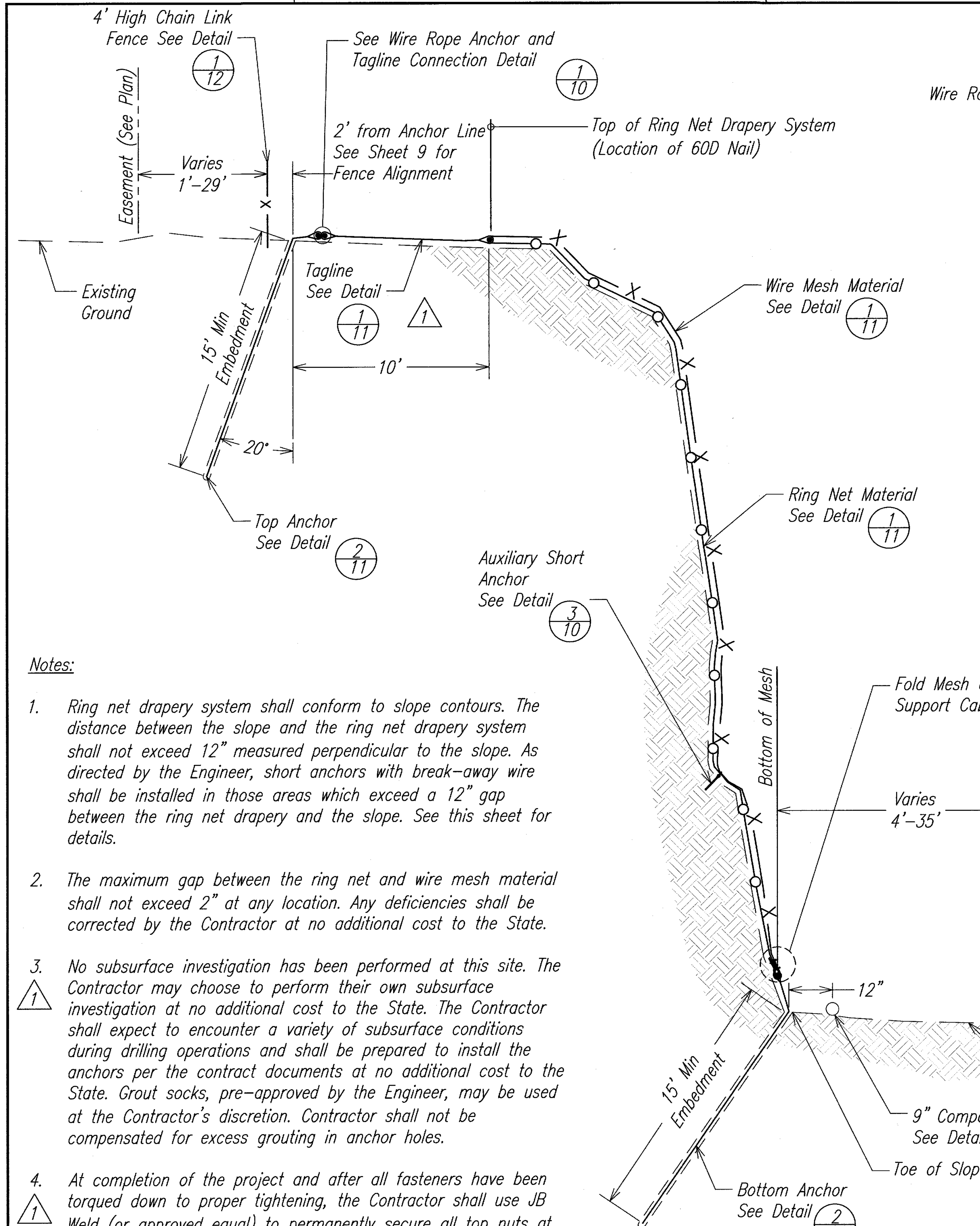
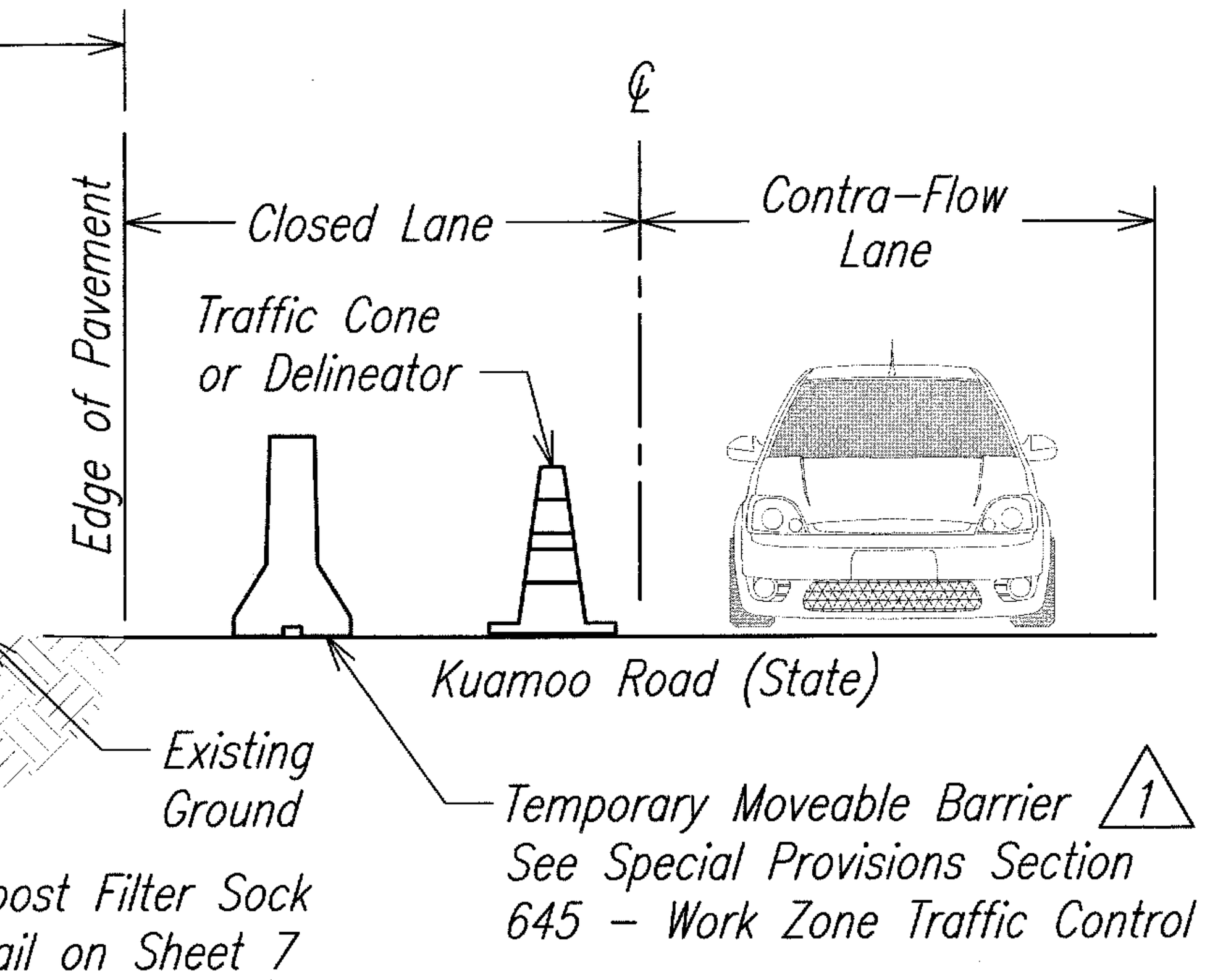
KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

Scale: As Noted   Date: June 2014

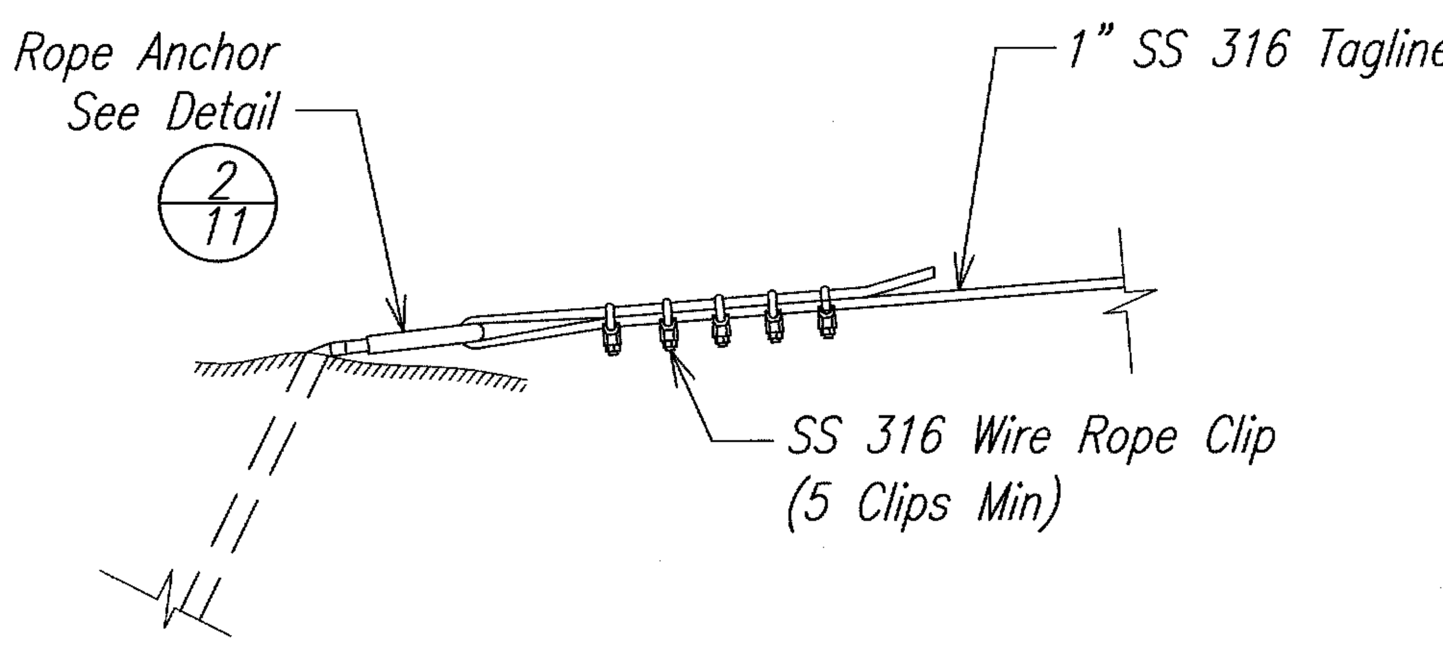
SHEET No. 9 OF 15 SHEETS

ORIGINAL PLAN | NOTE BOOK No. | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

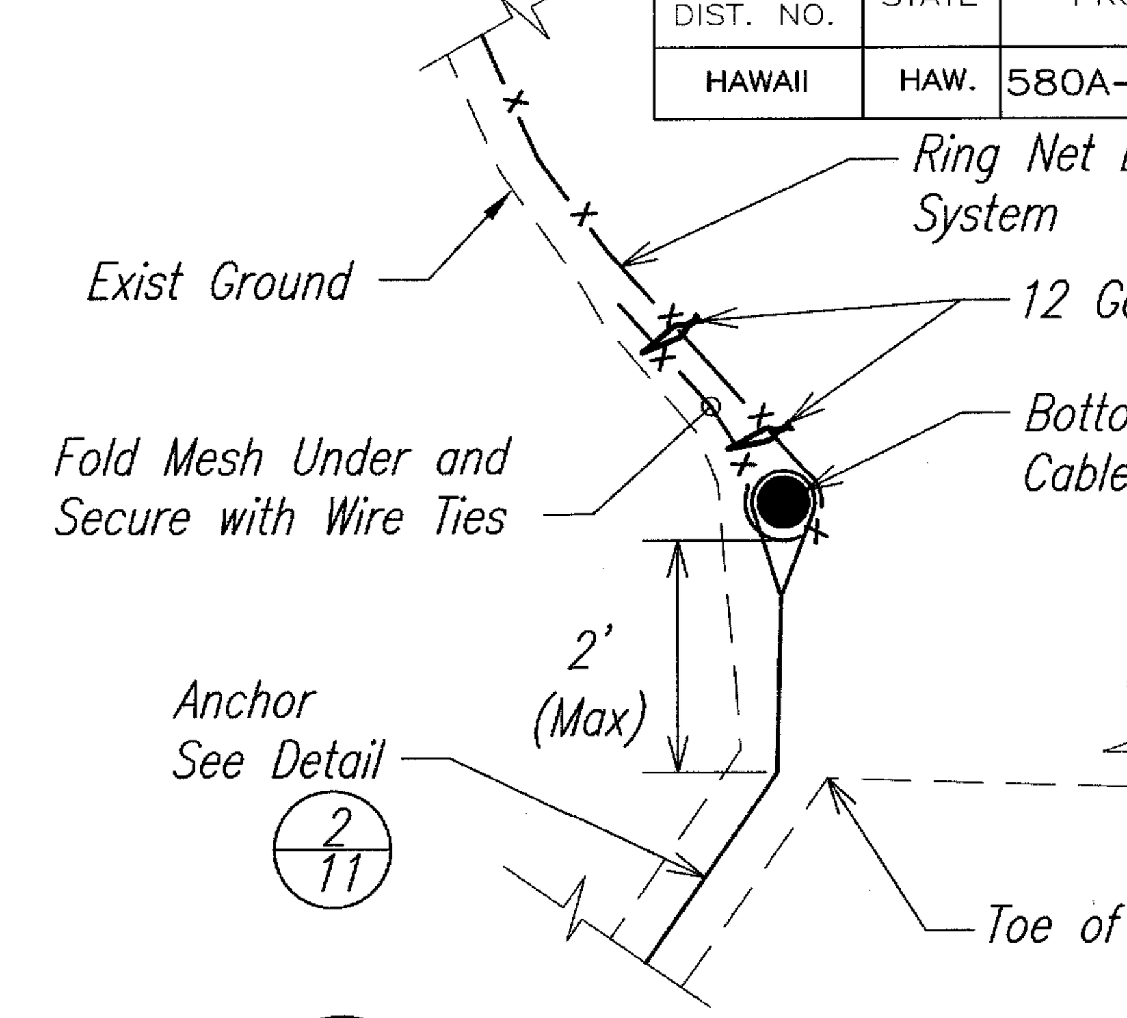
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.10	15

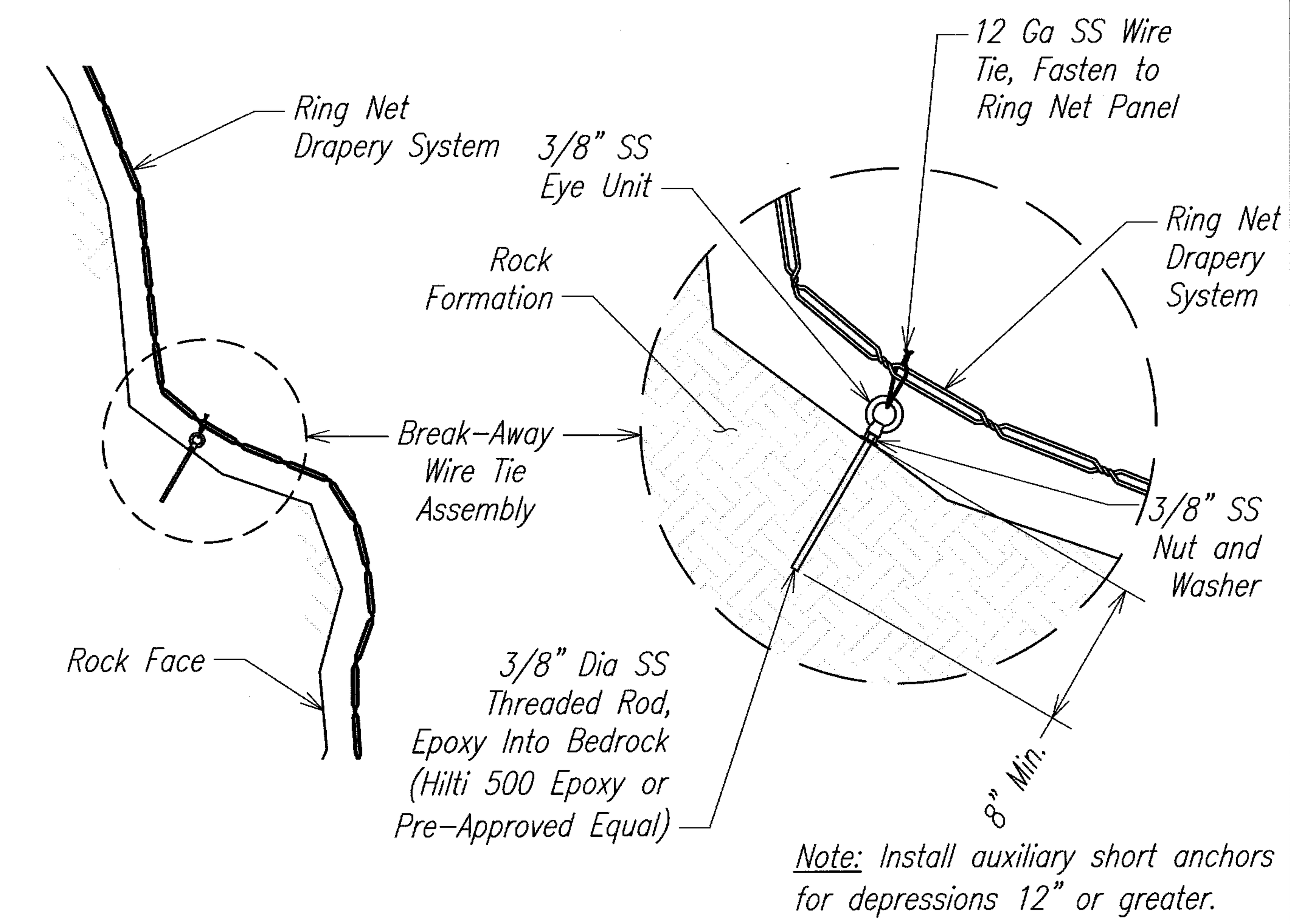
TYPICAL SECTION
NOT TO SCALE



1/10 WIRE ROPE ANCHOR AND TAGLINE CONNECTION DETAIL
NOT TO SCALE



2/10 BOTTOM OF MESH DETAIL
NOT TO SCALE



Note: Install auxiliary short anchors for depressions 12" or greater.

3/10 AUXILIARY SHORT ANCHOR WITH BREAK-AWAY WIRE
NOT TO SCALE

Notes:

1. Ring net drapery system shall conform to slope contours. The distance between the slope and the ring net drapery system shall not exceed 12" measured perpendicular to the slope. As directed by the Engineer, short anchors with break-away wire shall be installed in those areas which exceed a 12" gap between the ring net drapery and the slope. See this sheet for details.
2. The maximum gap between the ring net and wire mesh material shall not exceed 2" at any location. Any deficiencies shall be corrected by the Contractor at no additional cost to the State.
3. No subsurface investigation has been performed at this site. The Contractor may choose to perform their own subsurface investigation at no additional cost to the State. The Contractor shall expect to encounter a variety of subsurface conditions during drilling operations and shall be prepared to install the anchors per the contract documents at no additional cost to the State. Grout socks, pre-approved by the Engineer, may be used at the Contractor's discretion. Contractor shall not be compensated for excess grouting in anchor holes.
4. At completion of the project and after all fasteners have been torqued down to proper tightening, the Contractor shall use JB Weld (or approved equal) to permanently secure all top nuts at each threaded connection throughout. The two exceptions shall be a) the shackles connecting bottom anchors to the mesh cable; and b) the two cable lashing systems.

1	06/16/14	Revised Typical Section Detail, Callouts and Notes, and Bottom of Mesh Detail
	DATE	REVISION

AECOM

ARDALAN R. NIKOU LICENSED PROFESSIONAL ENGINEER No. 6198-C HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION

KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

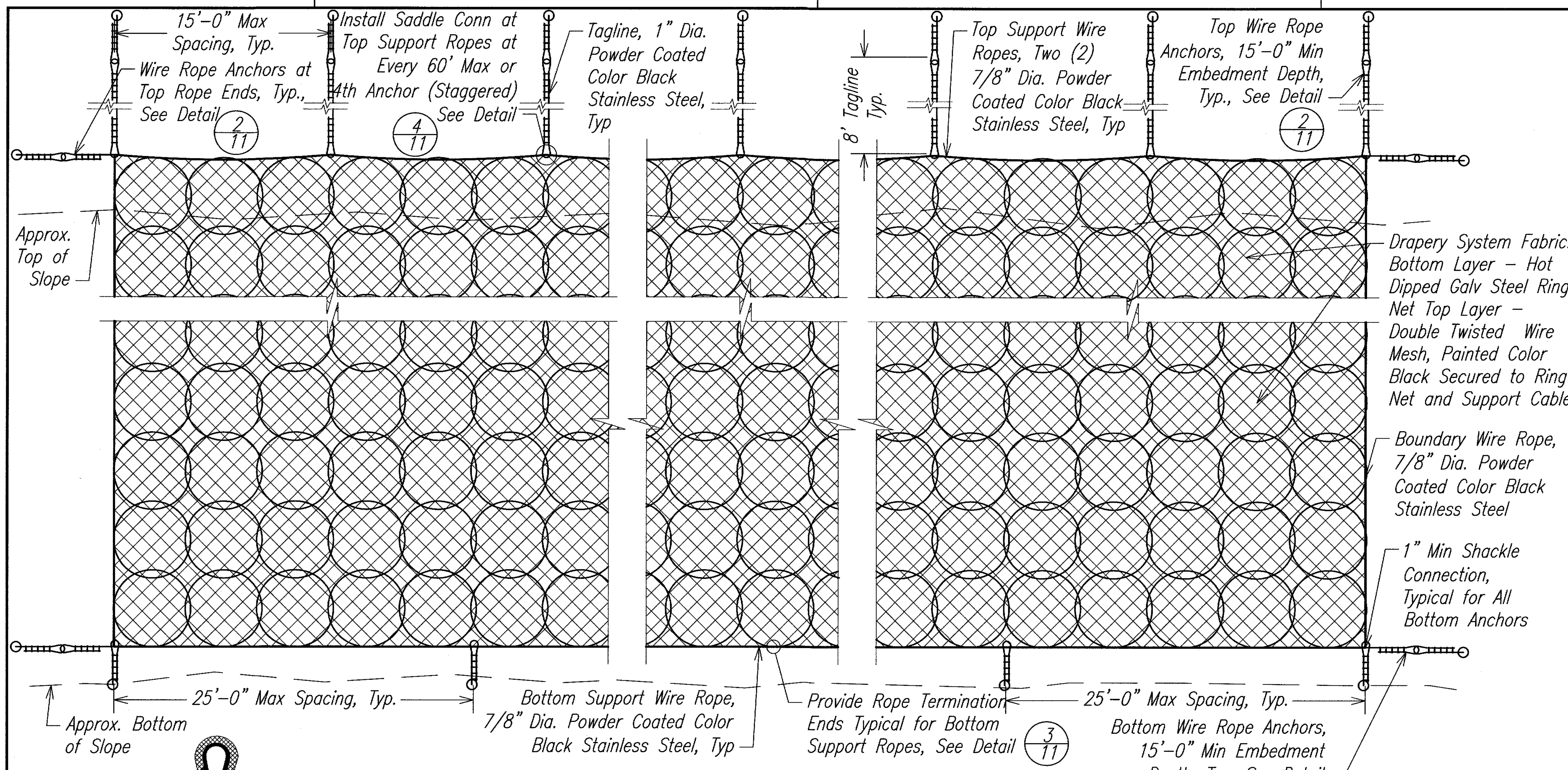
Scale: As Noted Date: June 2014

SHEET No. 10 OF 15 SHEETS

ADD. 10

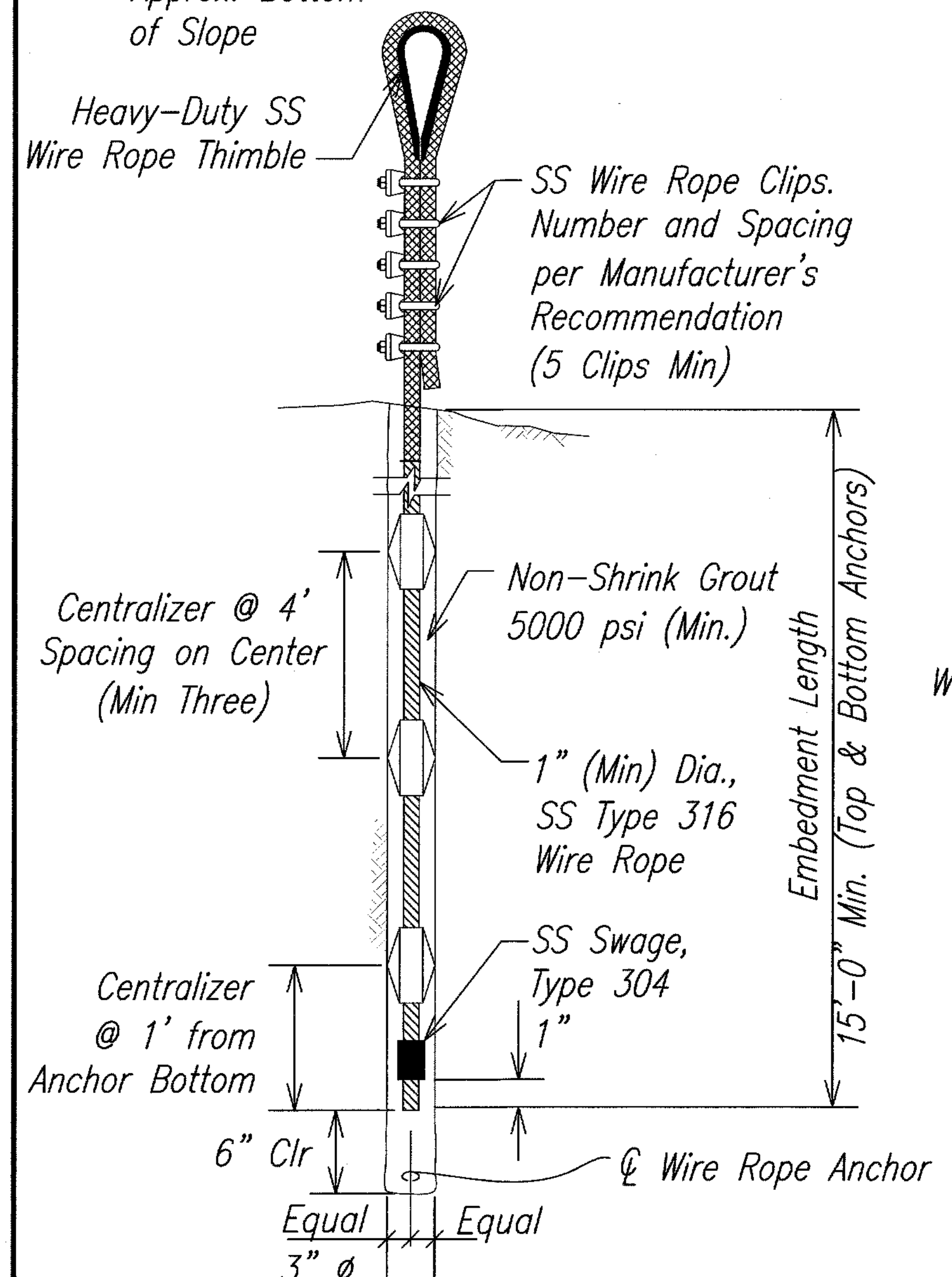
ORIGINAL PLAN / NOTE BOOK / No. — SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY — DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.11	15

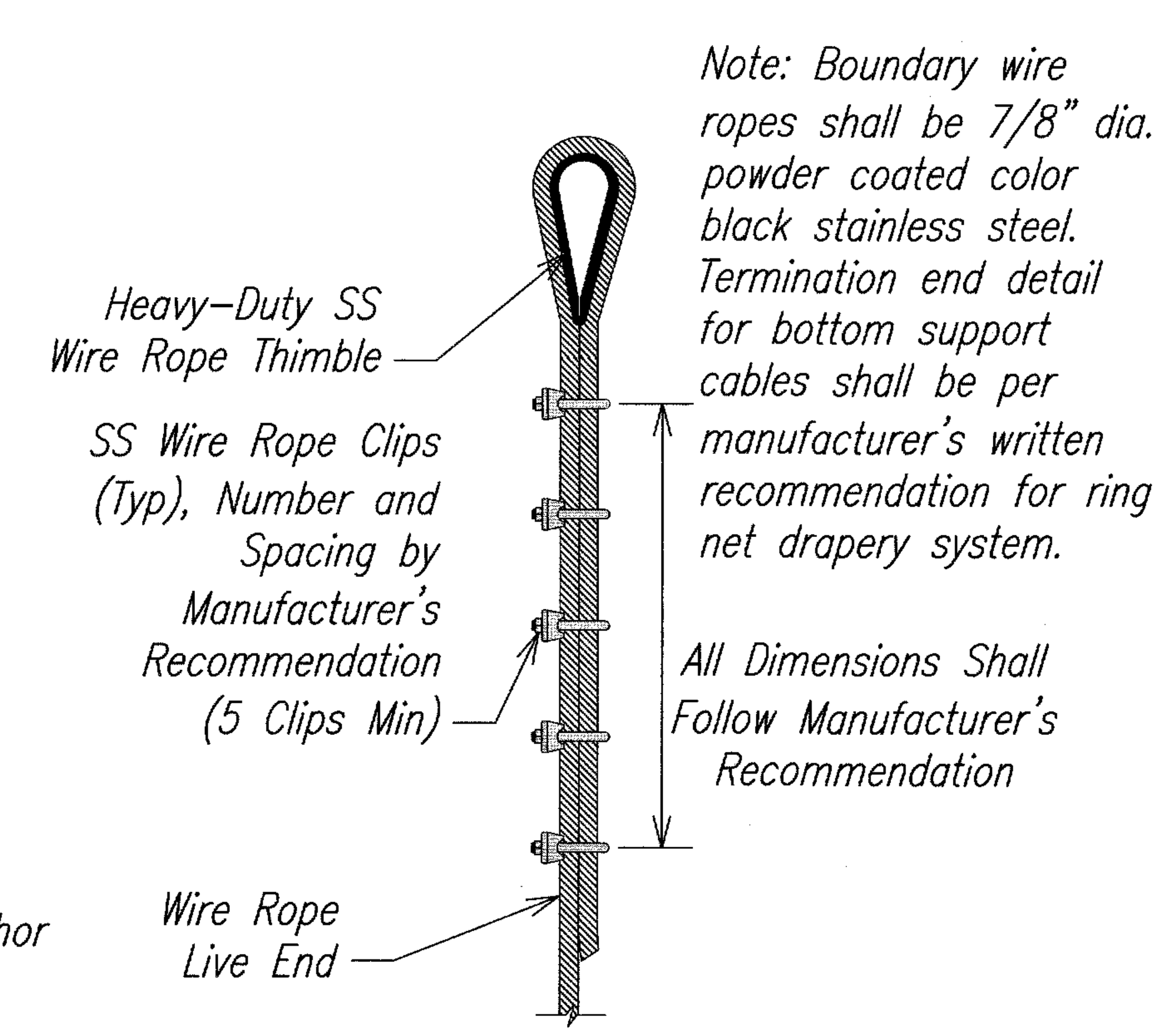


Note: Adjacent ring net drapery panels and ring net drapery panels to boundary cables shall be fastened and secured using seam rope and/or shackles. See Special Provisions Section 673 - Ring Net Drapery System.

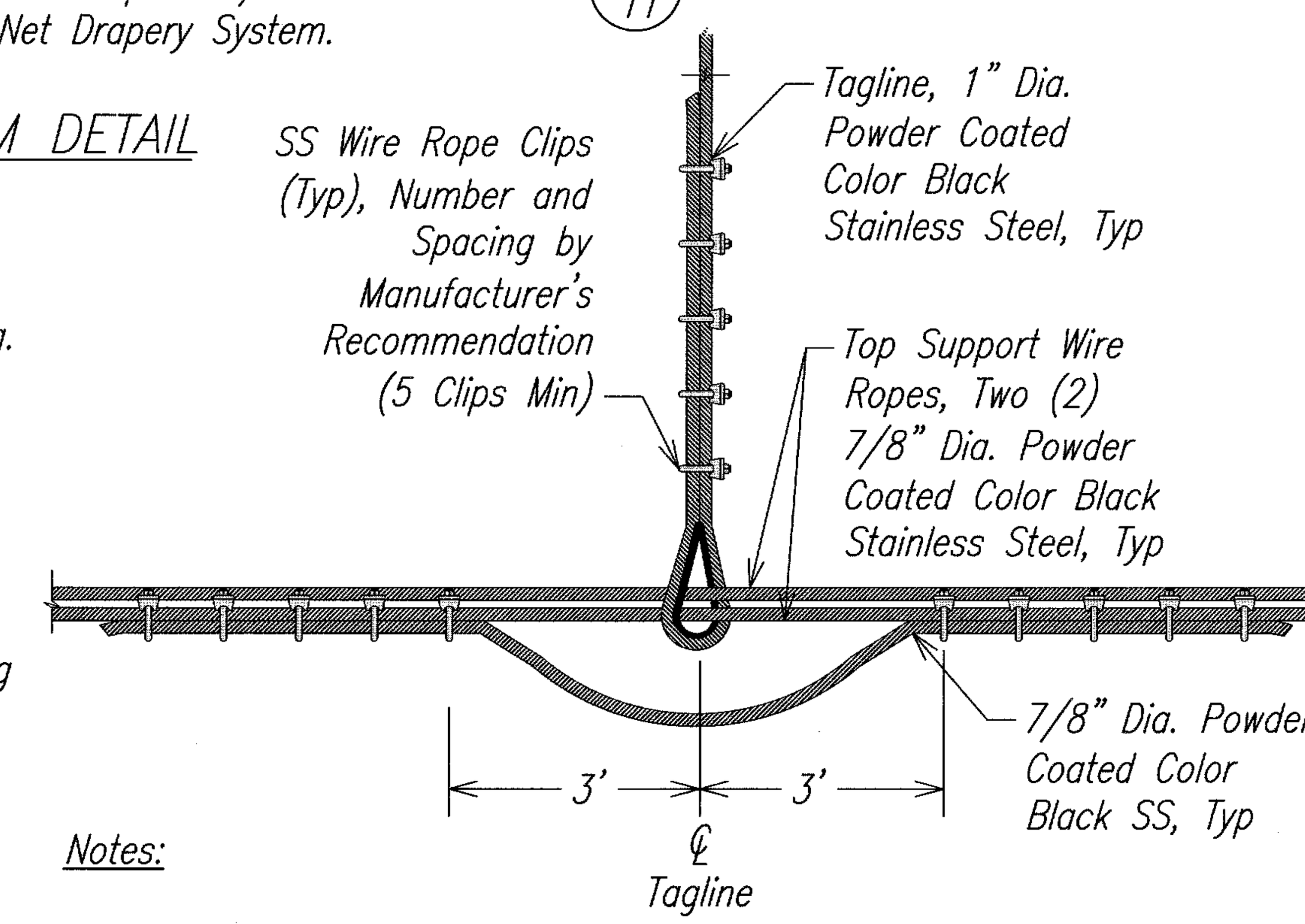
1/11 RING NET DRAPERY SYSTEM DETAIL
NOT TO SCALE



2/11 WIRE ROPE ANCHOR DETAIL
NOT TO SCALE



3/11 WIRE ROPE TERMINATION END DETAIL (BOTTOM SUPPORT CABLE)
NOT TO SCALE



Notes:

1. All support rope splice connections shall be constructed per Manufacturer's recommendation.
2. Saddle shown here is for one of the two top support cables. Saddle for the second cable shall be similar, but staggered at same intervals as the first cable.

4/11 TERMINATION END SADDLE CONNECTION DETAIL (TOP SUPPORT CABLES)
NOT TO SCALE

NOTES:

1. All exposed metal parts shall be powder coated or primed and painted (two-coat system) a flat black color with an Engineer approved paint prior to installation. See Special Provisions Section 673 - Ring Net Drapery System.
2. All stainless steel (SS) components shall be type 316, unless specifically indicated otherwise.
3. All miscellaneous materials such as wire rope clips, thimbles, shackles, turnbuckle, rings, bolts, nuts, washers, plates, etc. shall be stainless steel, type 316 and powder coated with a flat black color. See Special Provisions Section 673 - Ring Net Drapery System.
4. Contractor shall survey the upper limits and locations of the top anchors for the ring net drapery system as shown on these plans using a licensed surveyor in the State of Hawaii. Upper limits and locations of the top anchors shall be reviewed and approved by the Engineer prior to any anchor installation.
5. All vegetation and surface objects encountered within the limits of the ring net drapery system and up to two feet beyond the limits of the ring net drapery system shall be cleared and cut flush to the ground prior to installation of the ring net drapery system. All material resulting from clearing operations shall become property of the Contractor and removed from the site and properly disposed of at an authorized location. Cost for clearing work shall be paid on a lump sum basis. See Special Provisions Section 201 - Clearing and Grubbing.
6. All scaling and/or demolition work deemed necessary by the Contractor shall be incidental to the cost of the ring net drapery system.
7. Contractor shall inform the Engineer five (5) working days in advance when grouting the anchors. Engineer shall be present during all grouting operation. No grouting shall be performed without the presence of the Engineer.
8. Contractor shall tighten the two (2) top support cables evenly and as approved by the Engineer in the field.
9. Details shown here are minimum requirements and for general guidance. The Contractor shall install the ring net drapery system per the Manufacturer's instructions and approved shop drawings, whichever is more stringent.
10. In the case of any discrepancies between the information in these documents and those that could be supplied or any other discrepancies between information provided within these contract documents, the Contractor shall inform the Engineer of such discrepancies immediately and seek direction prior to any material fabrication or other related construction operations.

DATE	REVISION
06/16/14	Revised Details, Callouts, and Notes

AECOM

LICENSED PROFESSIONAL ENGINEER No. 6198-C ARDALAN R. NIKOU HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RING NET DRAPERY DETAILS

KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

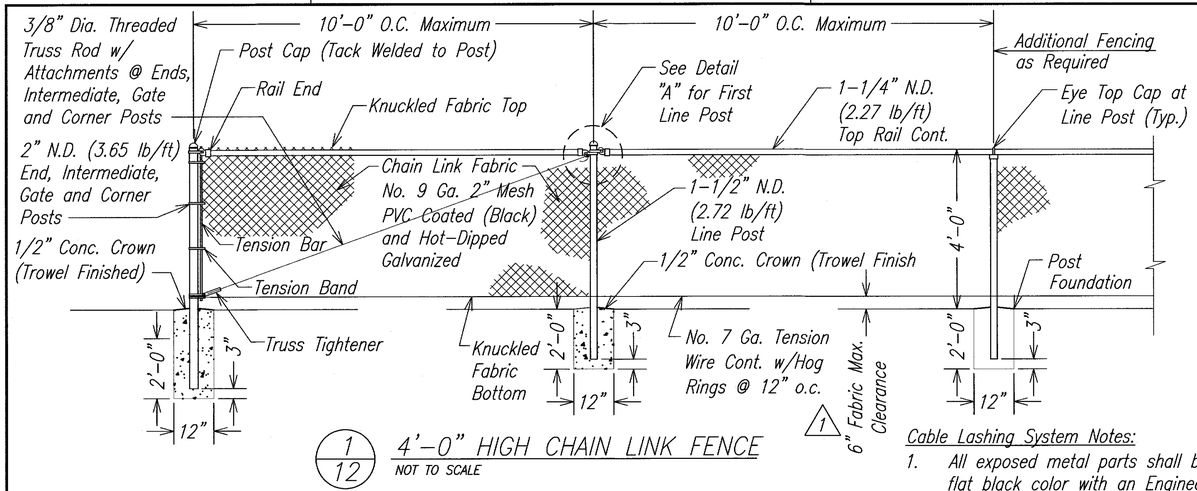
Scale: As Noted   Date: June 2014

SHEET No. 11 OF 15 SHEETS

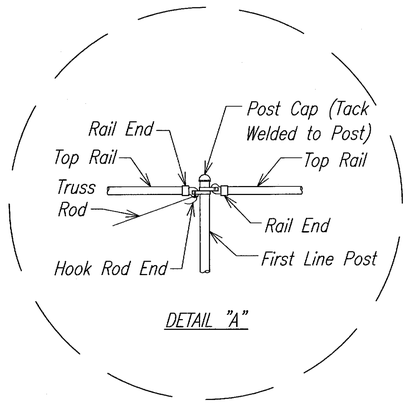
ADD. 11

ORIGINAL PLAN	SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY	DATE
NOTE BOOK		
No.		

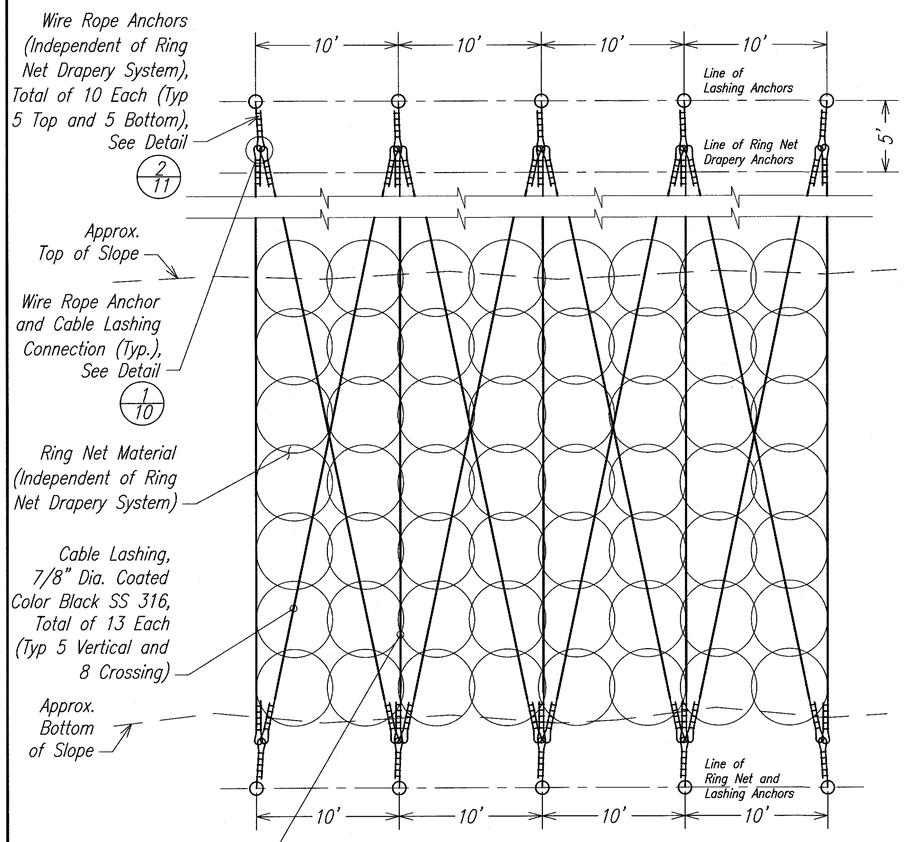
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.12	15



1/12 4'-0" HIGH CHAIN LINK FENCE
NOT TO SCALE



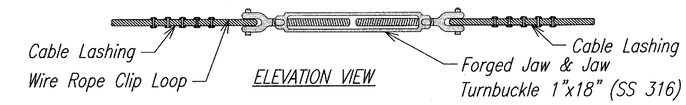
DETAIL "A"

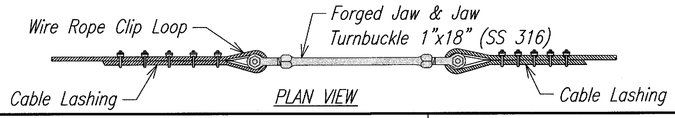


1/2 CABLE LASHING SYSTEM DETAIL
NOT TO SCALE

Cable Lashing System Notes:

1. All exposed metal parts shall be powder coated or primed and painted (two-coat system) a flat black color with an Engineer approved paint prior to installation. See Special Provisions Section 673 – Ring Net Drapery System.
2. Cable lashing system shall be 7/8" dia. SS 316 cables (5 vertical and 8 crossing), 10 wire rope anchors 1" dia. SS 316 (5 top and 5 bottom), and a ring net material (ring net and connections shall be per ring net drapery system requirements). Wire rope anchors for cable lashing shall be 6' min. clearance from any adjacent wire rope anchors as approved by the Engineer, and independent of the ring net drapery system, see wire rope anchor detail 2/11.
3. The two locations proposed for cable lashing as shown on the Roadway Plan are an approximation. Actual location for the two cable lashing areas including locations of top and bottom support anchors shall be coordinated with the Engineer in the field prior to any anchor installation. All scaling and/or demolition work deemed necessary by the Contractor shall be incidental to the cost of the ring net drapery system.
4. The ring net complete with lacing cables and connectors shall be draped over the slope and temporarily supported prior to cable lash installation. The cable lashing shall then be installed and tightened using turnbuckles as shown on this sheet complete, and the ring net shall then be secured to vertical cable lashing using shackles prior to the installation of the Ring Net Drapery System over it.
5. Install the cable lashing at locations identified by the Engineer and as shown on this sheet. If any existing condition prevents the cable lashing to run smoothly across the rock face, notify the Engineer for further directions.
6. Using the turnbuckle, tighten all cable lashing allowing slight tension in the cables. Turnbuckles shall be stainless steel, type 316 and shall be equipped with a locking mechanism. See detail this sheet.
7. Submit for review: Manufacturer's literature for installation instruction and data sheets for cable lashing, turnbuckles and any other miscellaneous materials used.
8. Immediately notify the Engineer if any conflicts or destabilization of the rock face occurs while the cable lashing is being installed.





Chain Link Fence Notes:

1. All pipe and post sizes are nominal diameter (N.D.).
2. Chain link fabric, pipes, fittings, fasteners, truss rod, posts, hog rings and tension wire shall be hot-dip galvanized.
3. Chain link fabric shall be continuous and fastened to end, intermediate, gate and corner posts by tension bars with tension bands evenly spaced at 15" o.c. (max.).
4. Wire fastenings shall be no. 12 gauge galvanized tie wire.
5. Chain link fabric shall be fastened to line posts with wire fastenings evenly spaced at 12" o.c. (max.).
6. Chain link fabric shall be fastened to horizontal rails with wire fastenings evenly spaced at 12" o.c. (max.)
7. All wire fastening ends shall be wrapped around chain link a minimum of one complete turn. (hooking of wire ends shall not be permitted).
8. Chain link fabric shall be fastened to truss rod with no. 9 gauge hog rings at 12" o.c.
9. No splicing shall be allowed on all straight-run pipes.
10. Top and bottom selvages of chain link fabric shall be knuckled.
11. Install intermediate posts at 200' max. intervals.
12. All field welds and damaged galvanized surfaces shall be painted with two coats of z.r.c. cold galvanizing compound.
13. All fence posts shall be installed evenly spaced.
14. After installation, all bolt ends shall be cut flush with the nuts and ground smooth.
15. Chain link fence shall have a PVC coating, color black and shall be hot-dip galvanized. See Special Provisions Section 607 – Chain Link Fences and Gates.

1 Fabric Max. Clearance

1	06/16/14	Revised Cable Lashing System Detail and Notes, and Chain Link Fence Detail and Notes
	DATE	REVISION

AECOM

ANDALAN R. NINOU
LICENSED PROFESSIONAL ENGINEER
No. 6198-C
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

KUAMOO ROAD EMERGENCY SLOPE STABILIZATION VICINITY OF MILEPOST 0.3 PROJECT NO. 580A-01-14

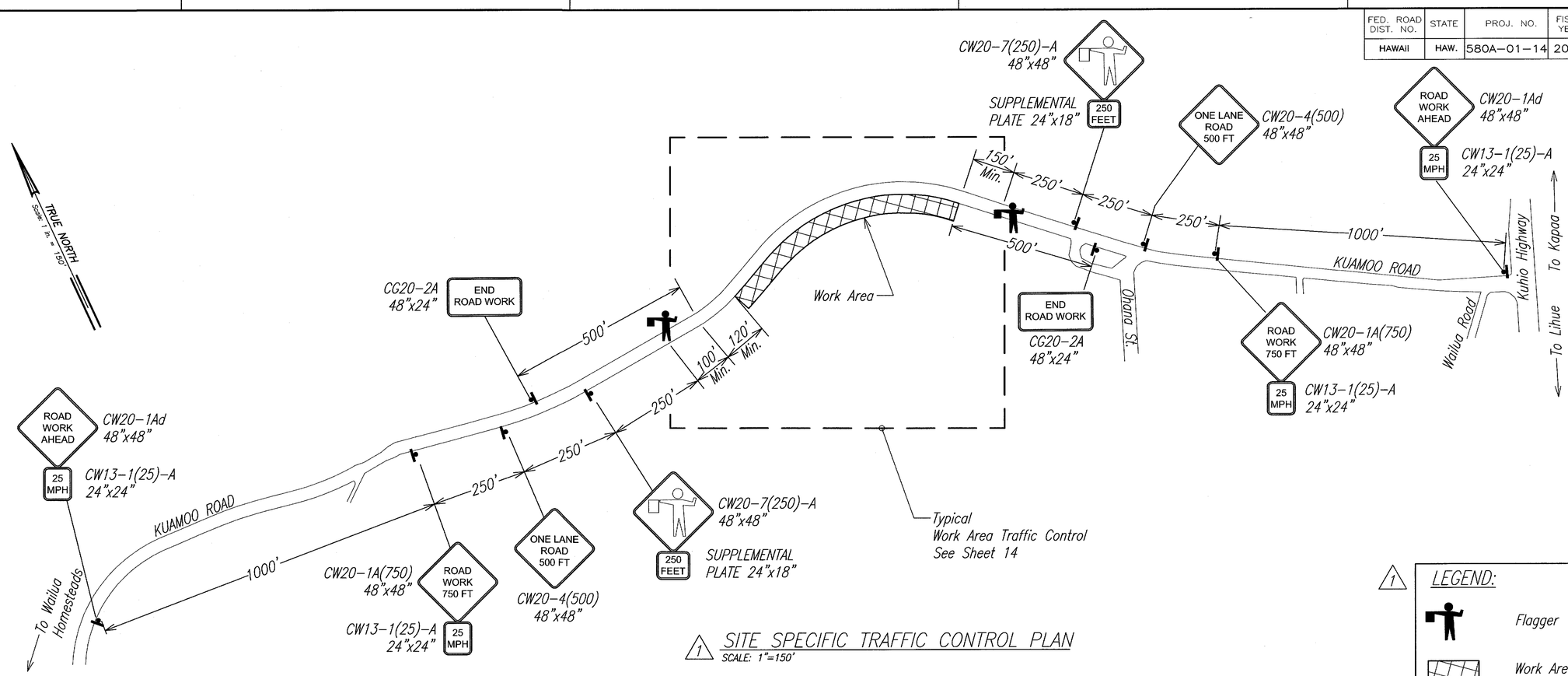
Scale: As Noted Date: June 2014

SHEET No. 12 OF 15 SHEETS

ADD. 12

ORIGINAL PLANS — NOTE BOOK — SURVEY PLOTTED BY — DRAWN BY — TRACED BY — DESIGNED BY — QUANTITIES BY — CHECKED BY — DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.13	15



1 SITE SPECIFIC TRAFFIC CONTROL PLAN
SCALE: 1"=150'

1 LEGEND:

- Flagger
- Work Area
- Traffic Control Sign

General Notes For Traffic Control Plan

1. The Permitee shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
2. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
3. Traffic control devices shall be installed such that the sign or device farthest from the work area is placed first. The others shall then be placed progressively toward the work area.
4. Regulatory and warning signs within the construction zone that are in conflict with the traffic control plans shall be removed or covered.
5. Flaggers shall be in sight of each other or in direct communication at all times.
6. All traffic lanes shall be a minimum of 10-feet wide.
7. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
8. Cones and delineators shall be spaced at a maximum distance of 20-feet apart. A minimum of six (6) channelizing devices shall be used for each taper length.
9. Buffer and taper areas on approach to any work area shall be kept clear of vehicles and equipment.
10. 1 Contractor shall be responsible for the protection and safety of the public during construction operations. Contractor shall provide for a moveable temporary barrier in the work area in progress to protect motorists and pedestrians from rockfall during all slope disturbing activities within the work area in progress. See Special Provisions Section 645 – Work Zone Traffic Control.
11. Two lanes shall be left open during all non-work hours.

ORIGINAL PLAN | NOTE BOOK | No. | DATE | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY

0 150 300 450
Scale: 1" = 150' Feet

1 | 06/16/14 | Revised Traffic Control Plan, Legend, and Notes
DATE | REVISION

AECOM

ARDALAN R. NIKOU
LICENSED PROFESSIONAL ENGINEER
No. 6198-C
HAWAII, U.S.A.
EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN & NOTES

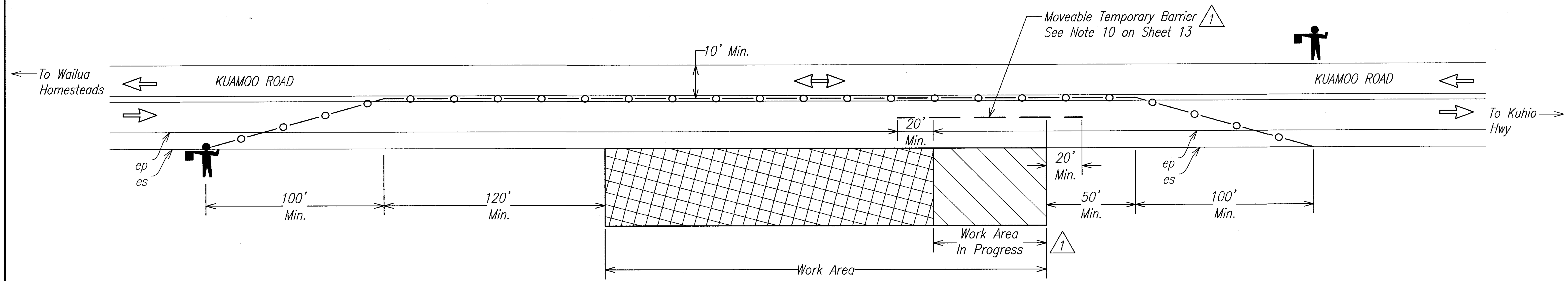
KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

Scale: As Noted Date: June 2014

SHEET No. 13 OF 15 SHEETS

ADD. 13

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	580A-01-14	2014	ADD.14	15



WORK AREA TRAFFIC CONTROL PLAN

NOT TO SCALE

LEGEND:

- Cones or Delineator
- Flagger
- Direction of Traffic
- Work Area
- Work Area In Progress
- Moveable Temporary Barrier

1

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

AECOM

ARDALAN R. NIKOU
LICENSED PROFESSIONAL ENGINEER
No. 6198-C
HAWAII, U.S.A.

EXPIRATION DATE OF THE LICENSE 4/30/2016
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

1		
	06/16/14	Revised Work Area Traffic Control Plan and Legend
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

KUAMOO ROAD
EMERGENCY SLOPE STABILIZATION
VICINITY OF MILEPOST 0.3
PROJECT NO. 580A-01-14

Scale: As Noted Date: June 2014