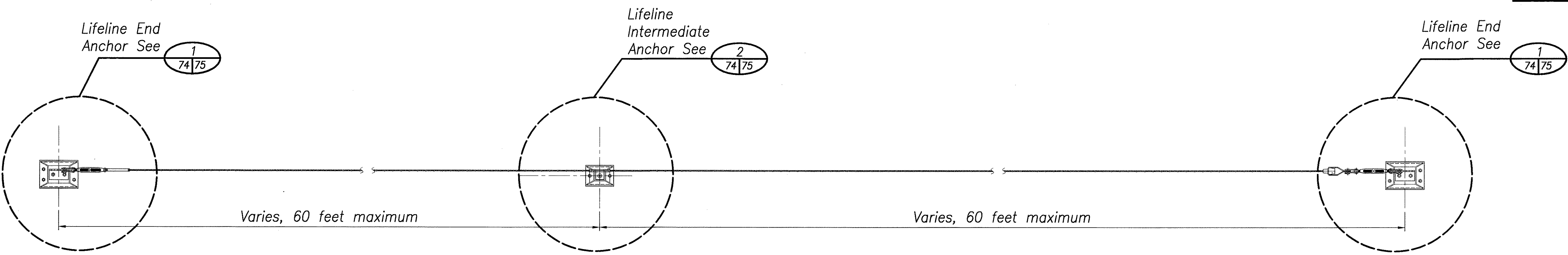
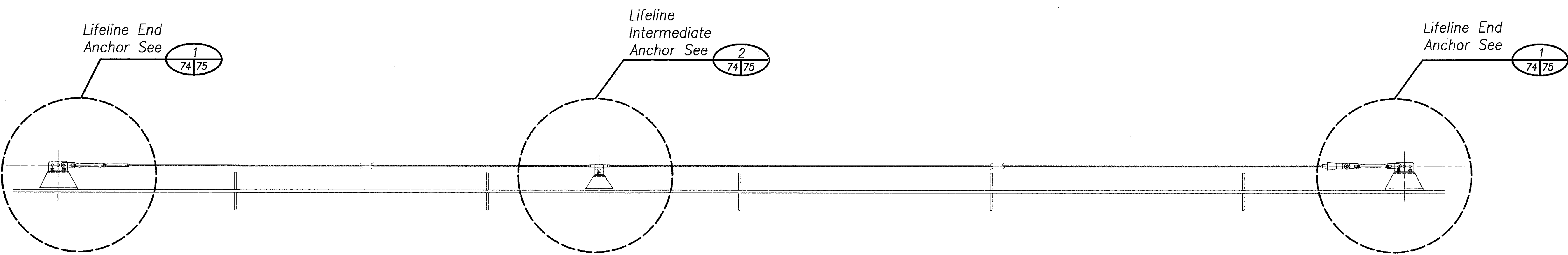


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-09-99M	2005	74	81



TYPICAL LIFELINE SYSTEM SIDE VIEW 1/74 74
Scale: 3/4" = 1'-0"

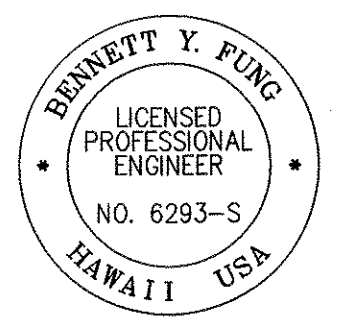


TYPICAL LIFELINE SYSTEM TOP VIEW 2/74 74
Scale: 3/4" = 1'-0"

LIFELINE SYSTEM NOTES

- The Lifeline system shall be an engineered fall protection cable system with the following characteristics:
 - Lifeline system shall conform to applicable OSHA regulations, and designed for 4 person connected to each system, and 2 person connected to any sub-span.
 - Lifeline system shall allow user to traverse the entire system without the need to detach and re-attach at intermediate points.
 - System shall be fabricated with 316 stainless steel, 304 stainless steel is allowed for end anchors, 431 stainless steel is allowed for swage body, and have no moving parts.
 - Free fall shall not exceed 6 feet.
 - Cables shall be 7 strands x 7 wires per strand construction, 316 stainless steel with a minimum diameter of 1/2 inch.
 - End reactions shall not exceed 6,750 lbs, intermediate reaction shall not exceed 3,600 lbs.
 - Manufactured anchor shall be fastened to fabricated brackets with 1/2" diameter, grade 8 stainless steel bolts, 13 threads per inch.
 - Fabricated brackets shall be hot dipped galvanized, painted, and fastened to steel girders with hot dipped galvanized, A325 slip critical bolts.
- Equipment known to meet requirements:
Sayfglida Horizontal Lifeline Systems, manufactured by SALA Engineered Systems, Red Wing, MN 55066.
- Provide Lifelines as shown on plans. Provide the following accessories:
 - Detachable Sleeves (SALA Sayflink Sleeve or equal)
 - 30 feet Retractable Lifeline (Protecta Model AD212AG or equal)
 - Cross-arm straps
 - 300 pounds Man-Rated 130 feet Self Retracting Lifeline with Retrieval Rescue Winch with stainless steel rope, and connector with matching capacity
(SALA Model number 3403603 or equal)
 - Rescue Quad Pod as shown on sheet 77
 - Rescue-Positioning Device with 30 feet of travel length
(SALA RPD or equal).
 - Full Body Harnesses with two-legs Shock Absorbing Lanyards.

DATE	____
SURVEY PLOTTED BY	____
DRAWN BY	____
DESIGNED BY	____
CHECKED BY	____
NOTE BOOK	____
No.	____



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Signature: *Bennett Y. Fung*
EXP. DATE OF THE LICENSE: 4/30/06

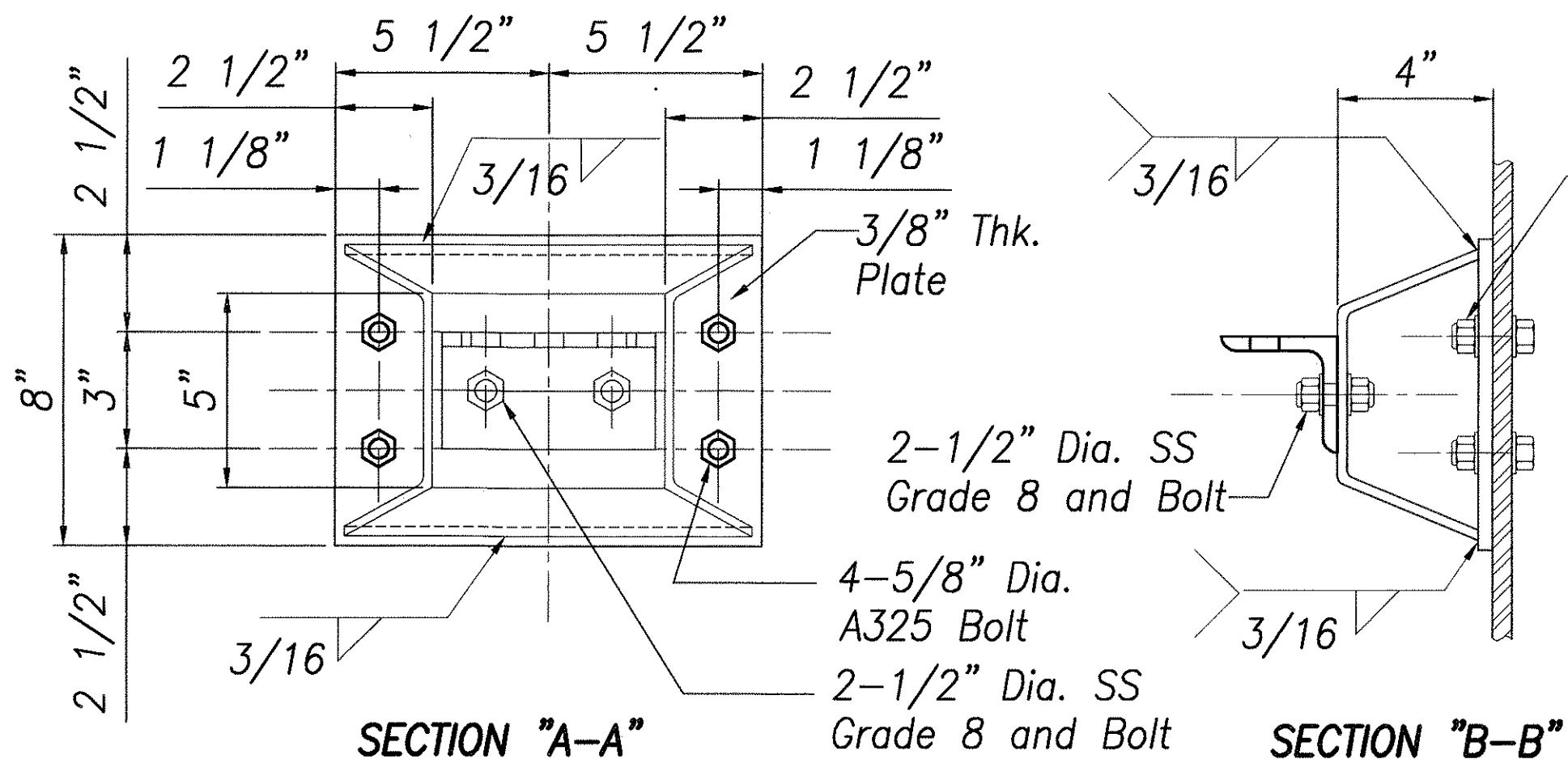
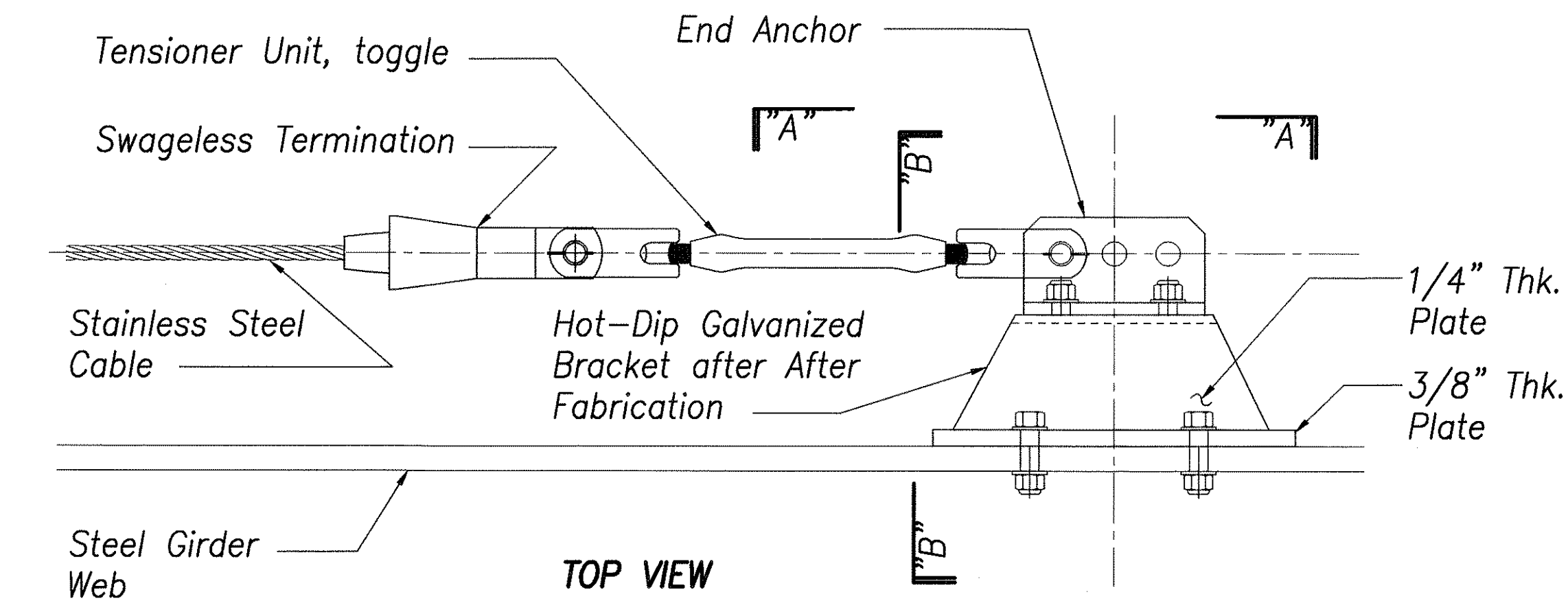
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIFELINE SYSTEM AND NOTES

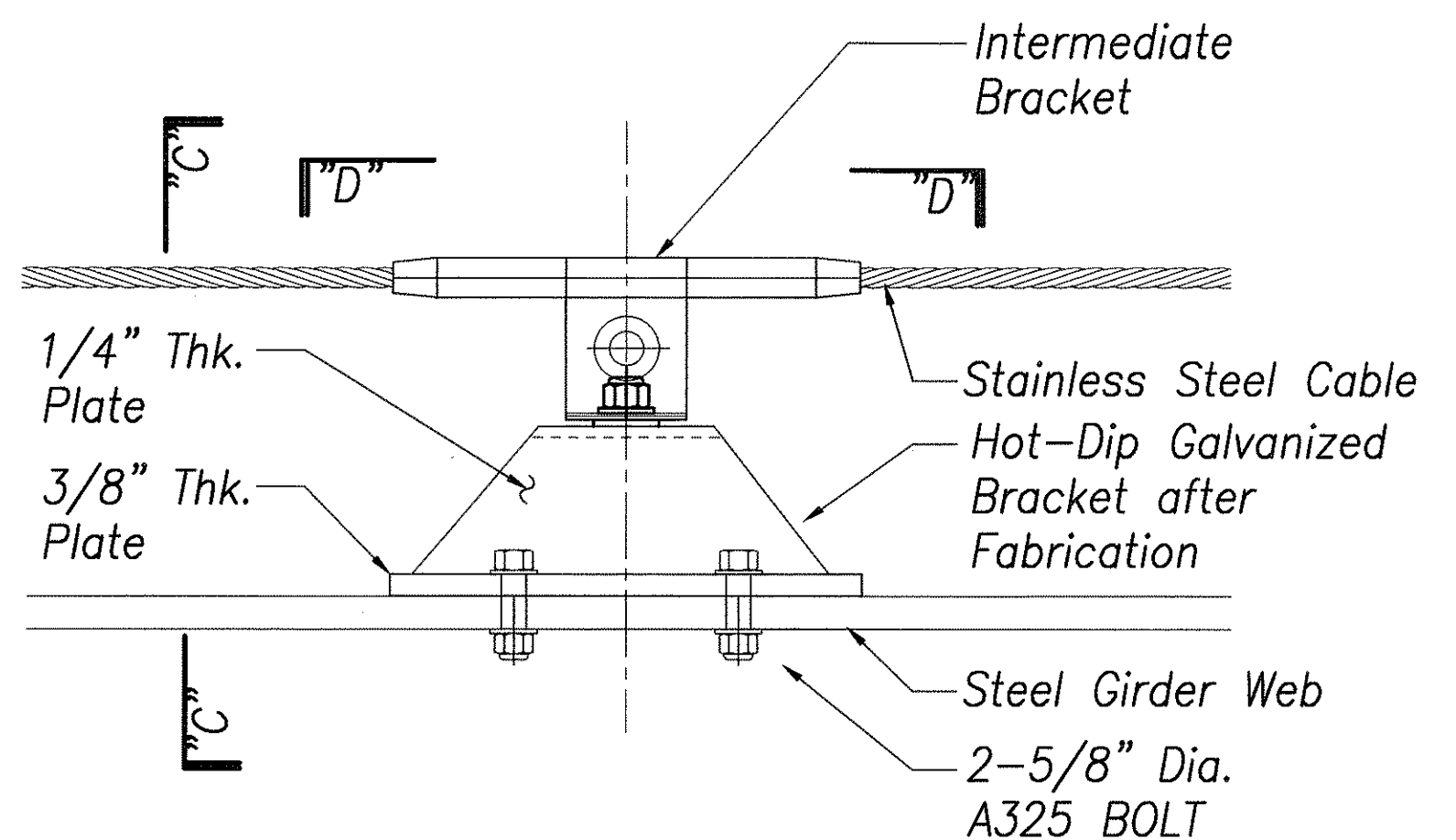
MAINTENANCE PLATFORM ON VARIOUS BRIDGES
PROJECT NO. HWY-H-09-99M
Scale: 3/4" = 1'-0" Date: Apr. 2005

Sheet No. 74 Of 81 Sheets

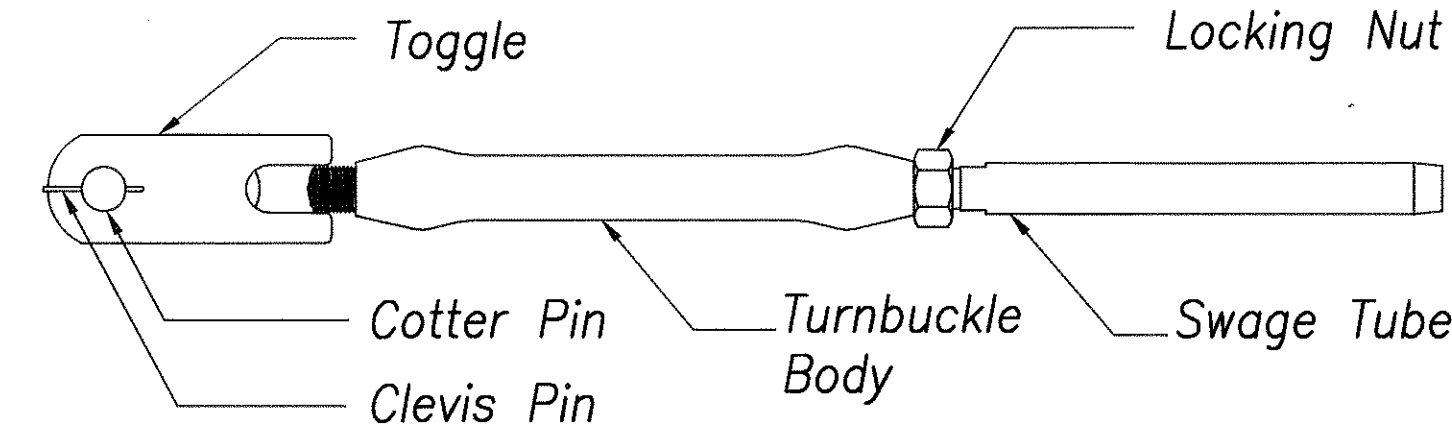
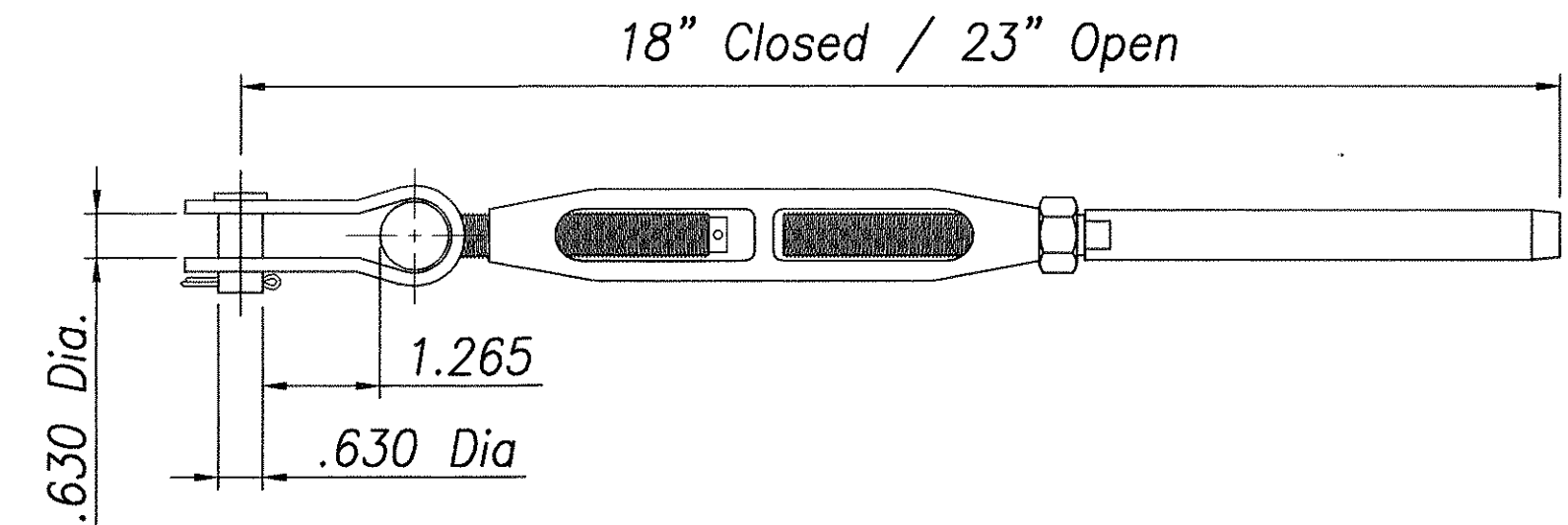
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-09-99M	2005	75	81



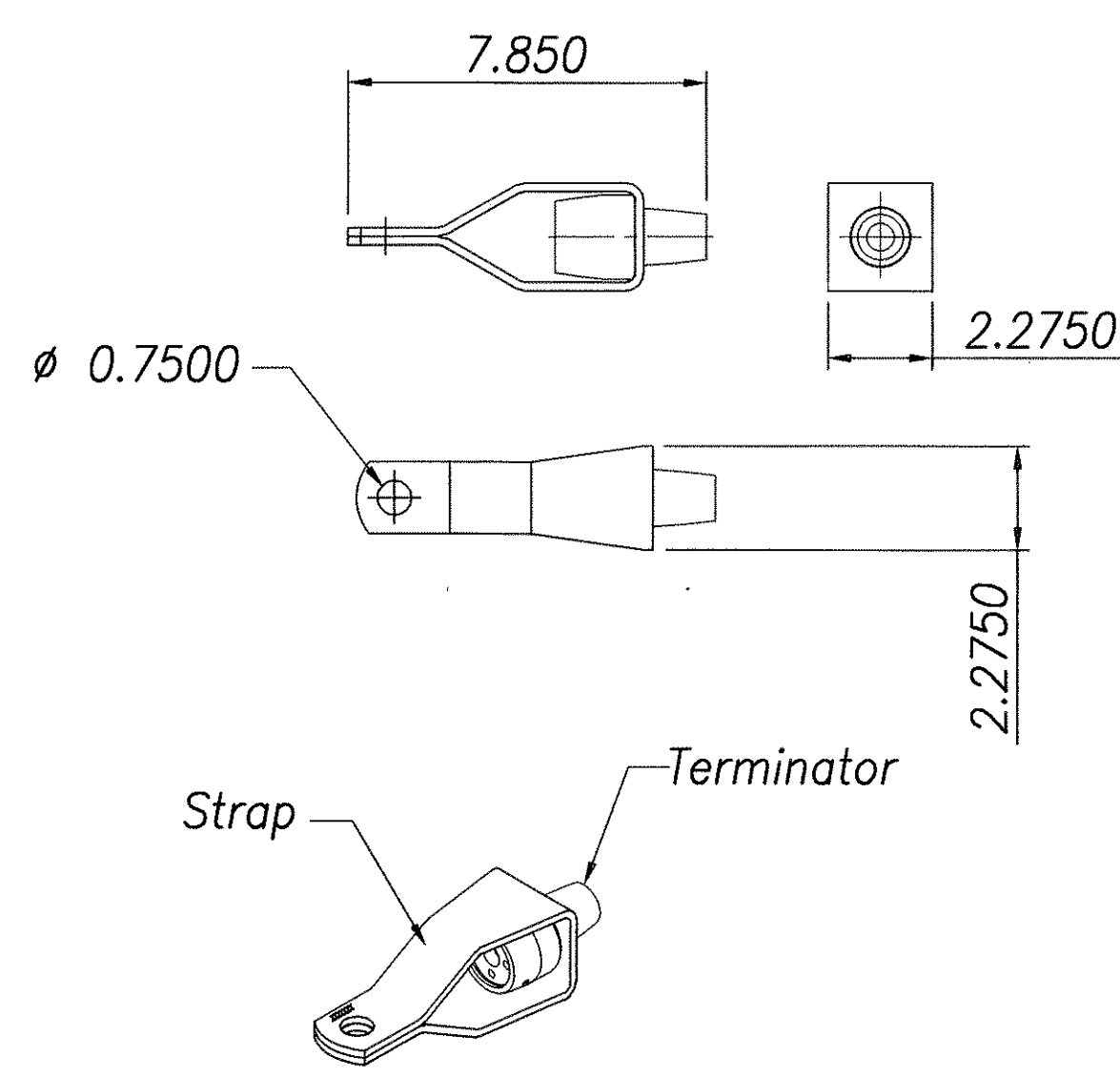
LIFELINE END ANCHOR DETAIL
Scale: 3" = 1'-0" 17, 18, 27, 38, 39, 40, 41, 46, 47 75



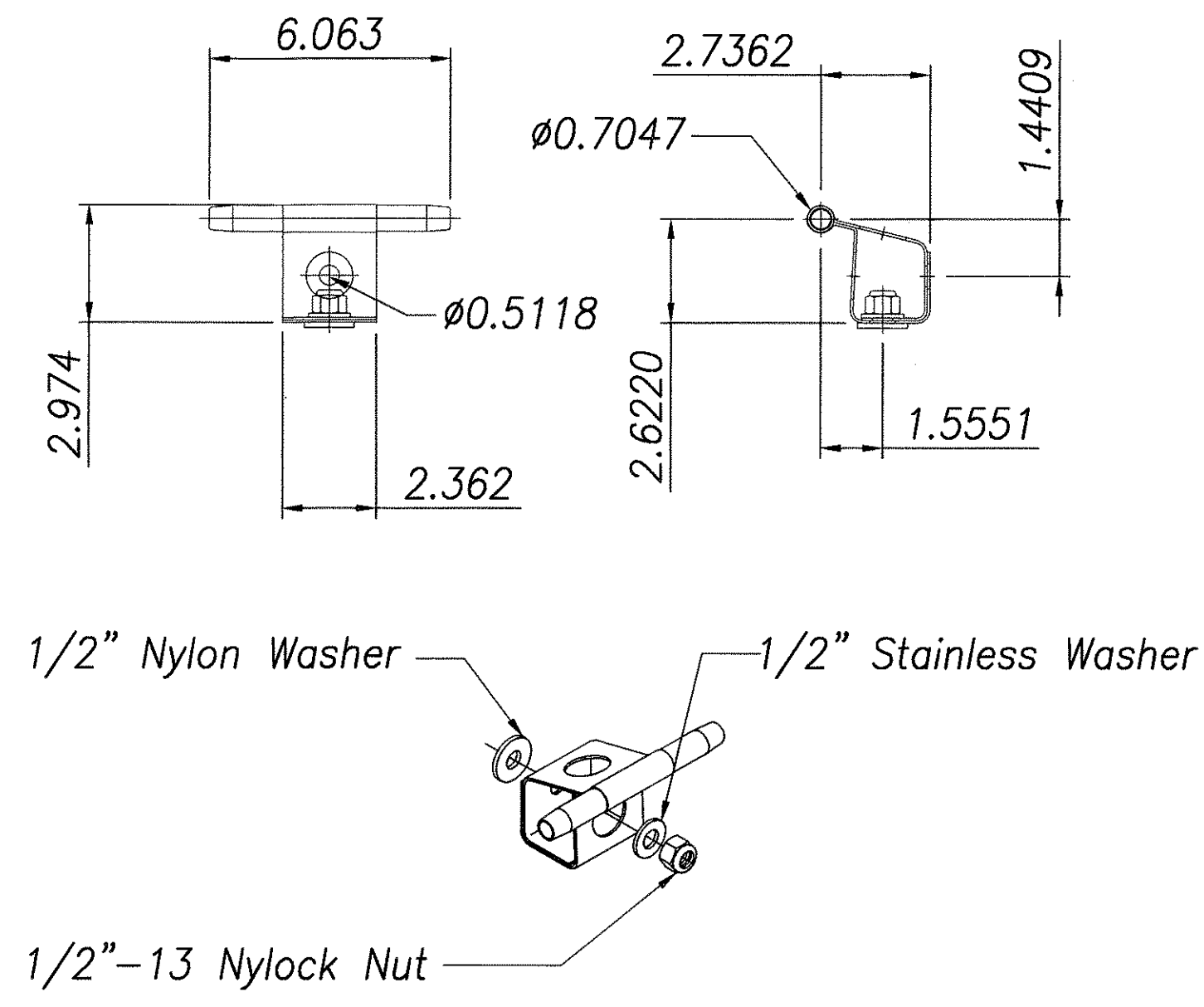
LIFELINE INTERMEDIATE ANCHOR DETAIL
Scale: 3" = 1'-0" 17, 18, 27, 38, 39, 40, 41, 46, 47 75



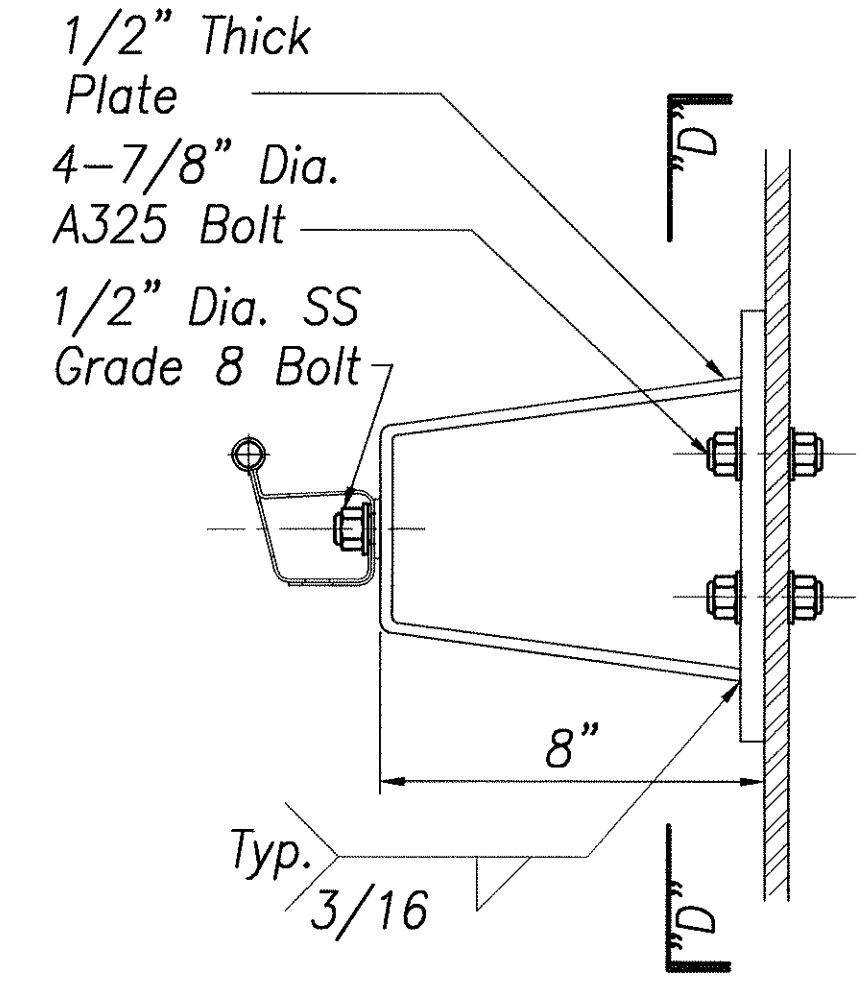
TENSIONER UNIT, TOGGLE - SWAGE
Scale: 3" = 1'-0" 75 75



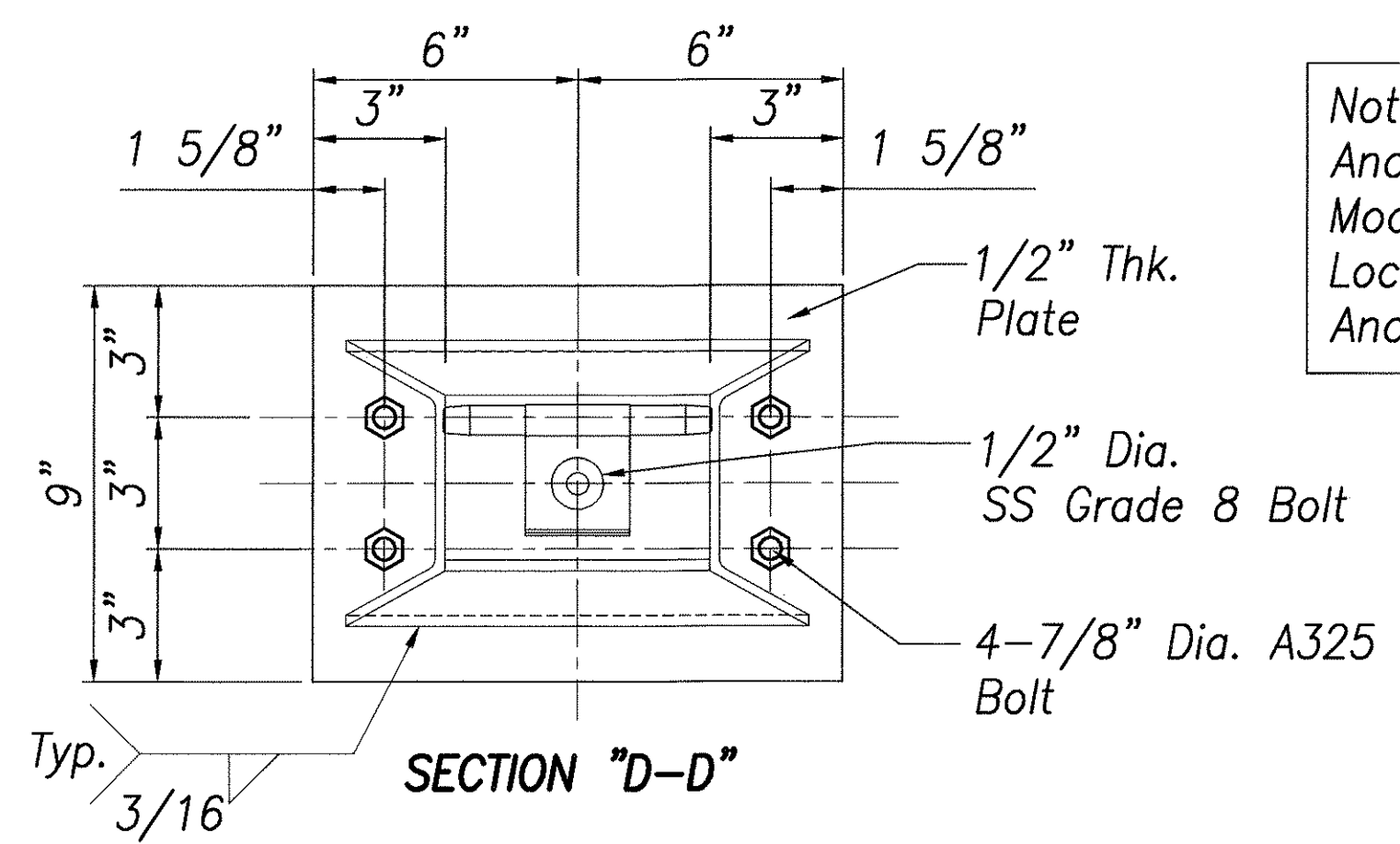
SWAGELESS TERMINATION
Scale: 3" = 1'-0" 74 75



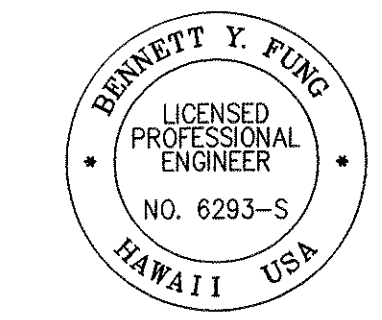
INTERMEDIATE BRACKET DETAIL
Scale: 3" = 1'-0" 74 75



LIFELINE ANCHOR DETAIL
Scale: 3" = 1'-0" 22, 30 75



Note: Intermediate Anchor Shown, Modify Bolt Hole Locations For End Anchors.



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Bennett Yung
SIGNATURE
4/30/08
EXP. DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIFELINE DETAIL

MAINTENANCE PLATFORM ON VARIOUS BRIDGES
PROJECT NO. HWY-H-09-99M
Scale: 3" = 1'-0" Date: Apr. 2005

Sheet No. 75 Of 81 Sheets

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-H-09-99M	2005	76	81

HORIZONTAL LIFELINE SYSTEM

SYSTEM NUMBER

INSTALLED BY

COMMISSION DATE

▲ WARNING

MANUFACTURER'S INSTRUCTIONS SUPPLIED WITH THIS SYSTEM AT THE TIME OF SHIPMENT MUST BE FOLLOWED FOR PROPER USE, INSPECTION AND MAINTENANCE.

ALTERATION OR MISUSE OF THIS PRODUCT, FAILURE TO FOLLOW INSTRUCTIONS, OR UNAUTHORIZED SUBSTITUTION OF SYSTEM COMPONENTS MAY RESULT IN SERIOUS INJURY OR DEATH.

INSPECT SYSTEM BEFORE EACH USE IN ACCORDANCE WITH USER INSTRUCTION MANUAL. ANNUAL RECERTIFICATION OF THE SYSTEM IS RECOMMENDED. AN IMMEDIATE INSPECTION IS REQUIRED FOLLOWING ANY FALL OR DAMAGE TO SYSTEM.

THIS SYSTEM IS FOR USE BY TRAINED PERSONNEL ONLY. USE CAUTION WHEN USING NEAR THERMAL, ELECTRICAL, OR CHEMICAL SOURCES.

SYSTEM CAPACITY

MAXIMUM OF

☐ USERS CONNECTED TO SYSTEM

MAXIMUM OF

☐ USERS CONNECTED IN ANY SUBSPAN

▲ WARNING

310 LBS. (136 KG) MAXIMUM ALLOWABLE WEIGHT PER USER INCLUDING TOOLS & CLOTHING

USER EQUIPMENT

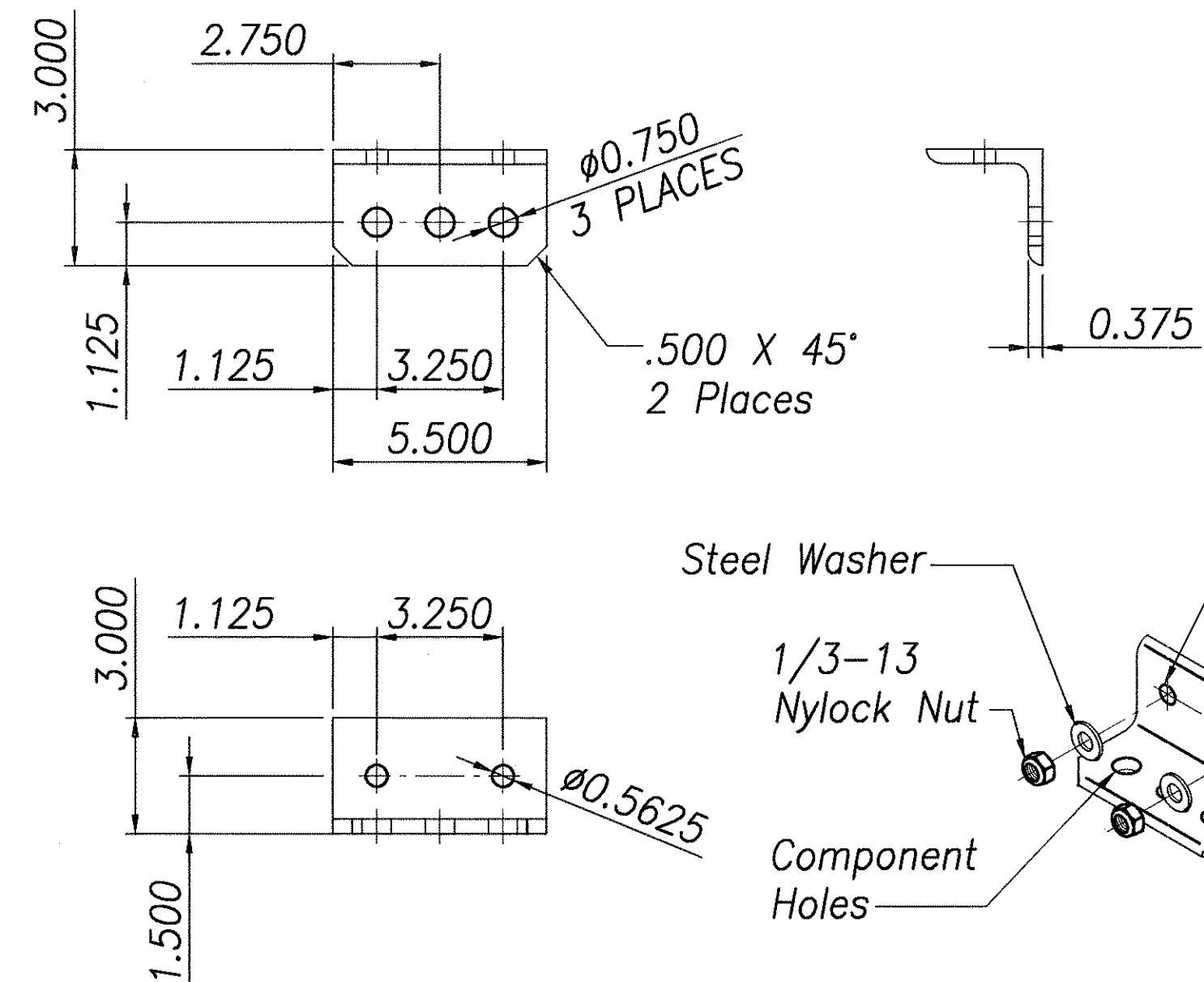
☐ ULTRA-LOK® WEB SERIES SELF RETRACTING LIFELINE

☐ EZ STOP® II SHOCK ABSORBING LANYARD, LENGTH NOT TO EXCEED

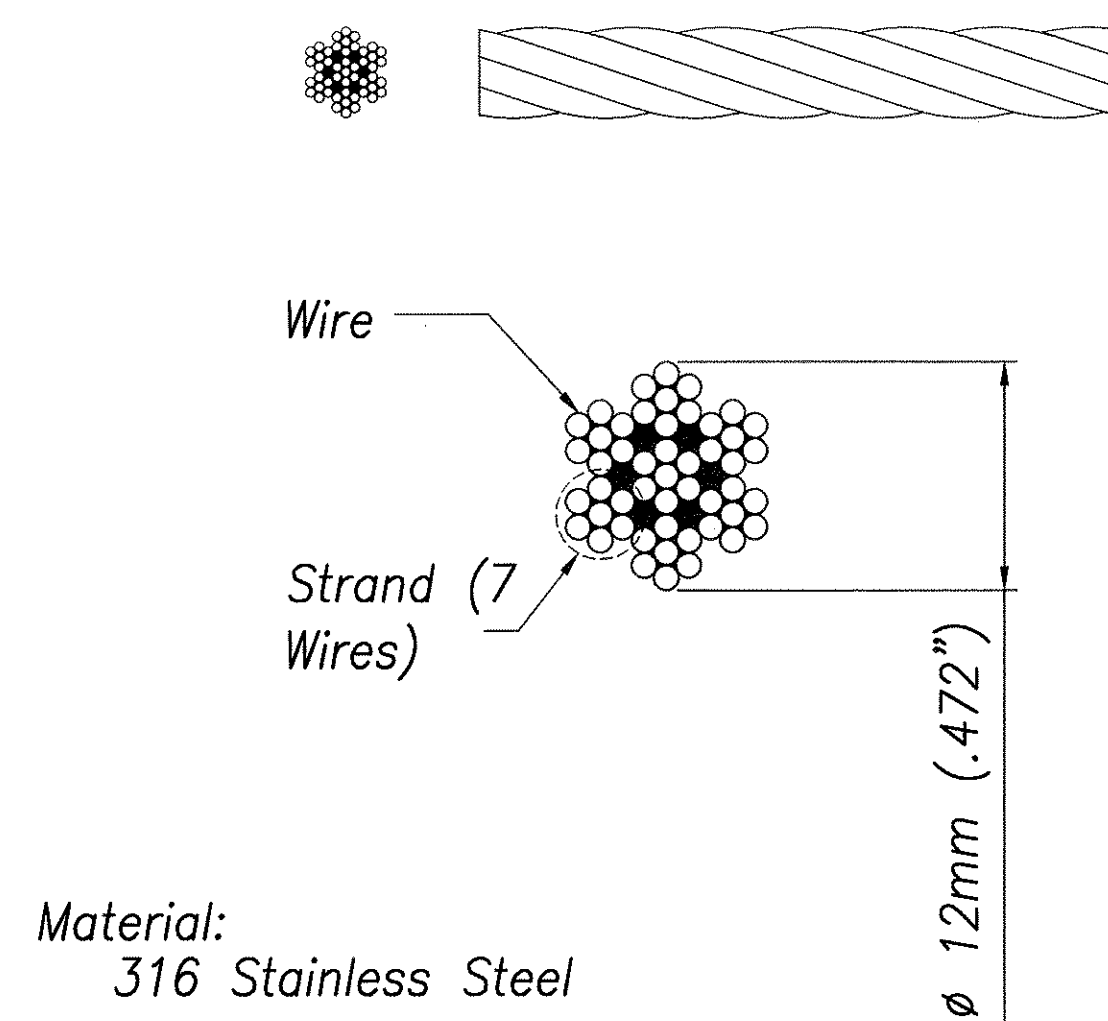
FT.

▲ WARNING

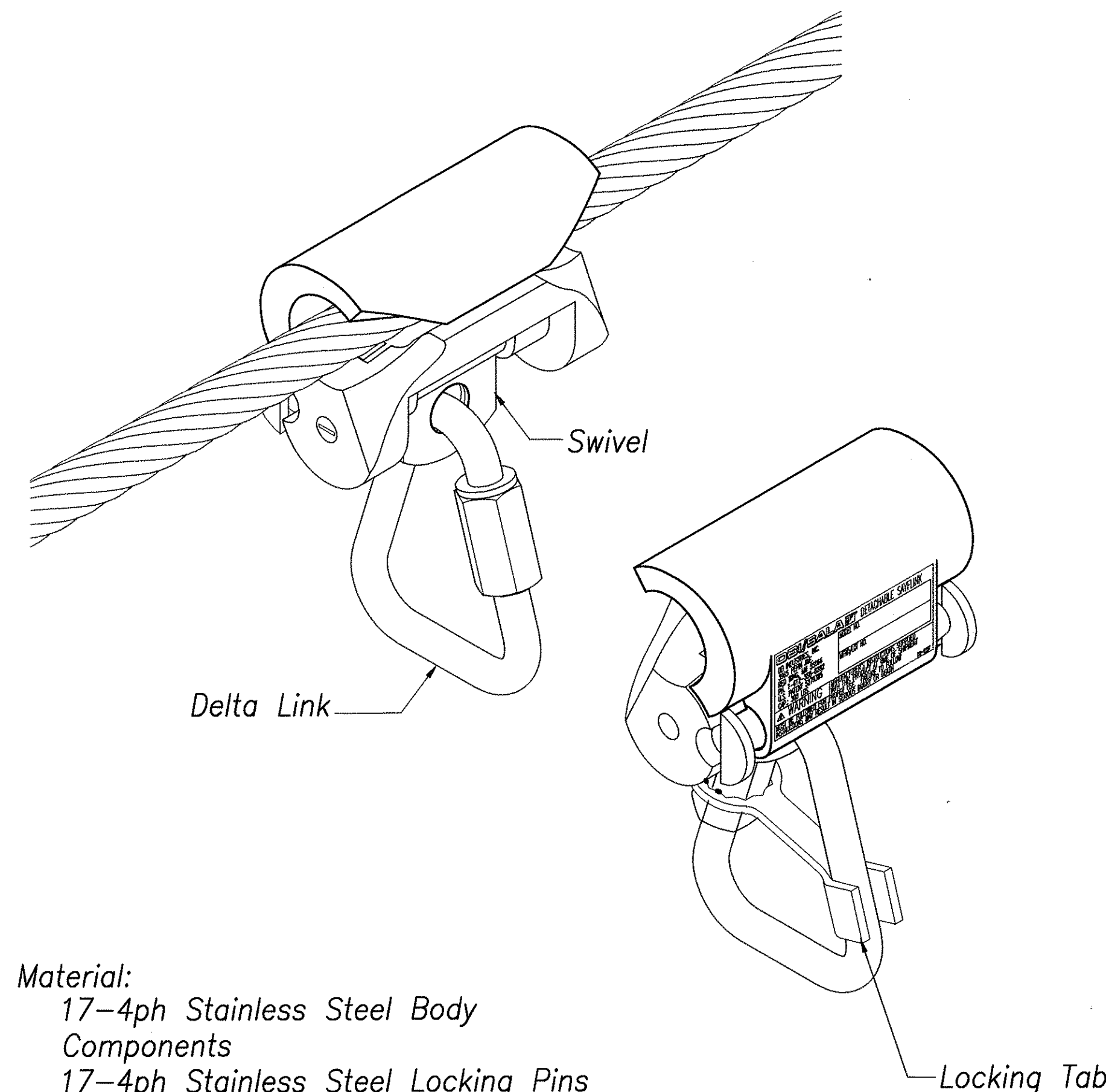
CONNECT TO THE SYSTEM USING A SAYFLINK SLEEVE AND THE USER EQUIPMENT AS MARKED



Material:
304 Stainless Steel Angle
316 Stainless Washers
316 Stainless Steel Lock Nut
With Nylon Insert
Breaking Strength:
Greather Than 20,000 Lbs.



Material:
316 Stainless Steel
Construction:
12mm (.472") Diameter
7 Strands X 7 Wires Per Strand
Right Hand Ordinary Lay
Breaking Strength:
Greather Than 18,600 Lbs.
All lifelines and cables need to have manufacturer's tag



Material:
17-4ph Stainless Steel Body
Components
17-4ph Stainless Steel Locking Pins & Hinge Pin
Stainless Steel Swivel & Springs
Zinc Plated Steel Delta Link & Locking Tab
Breaking Strength:
Greather Than 5,000 Lbs.

Material:
Stainless Steel,
Self Adhesive Backing

WERWERWR

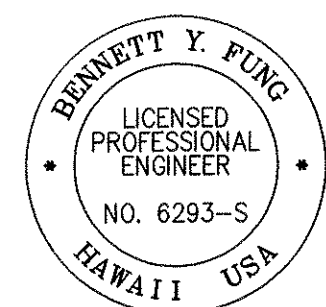
SYSTEM LABEL 1
Scale: 3"= 1'-0" 76 | 76

END ANCHOR - BOLT ON 2
Scale: 3"= 1'-0" 76 | 76

STAINLESS STEEL CABLE 3
Scale: 1"= 1'-0" 76 | 76

DETACHABLE SAYFLINK SLEEVE 4
Scale: 1"= 1'-0" 76 | 76

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NO.	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	



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Bennett Yung
4/30/06
SIGNATURE EXP. DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIFELINE DETAIL

MAINTENANCE PLATFORM ON VARIOUS BRIDGES
PROJECT NO. HWY-H-09-99M
Scale: 1"= 1'-0" Date: Apr. 2005

Sheet No. 76 Of 81 Sheets