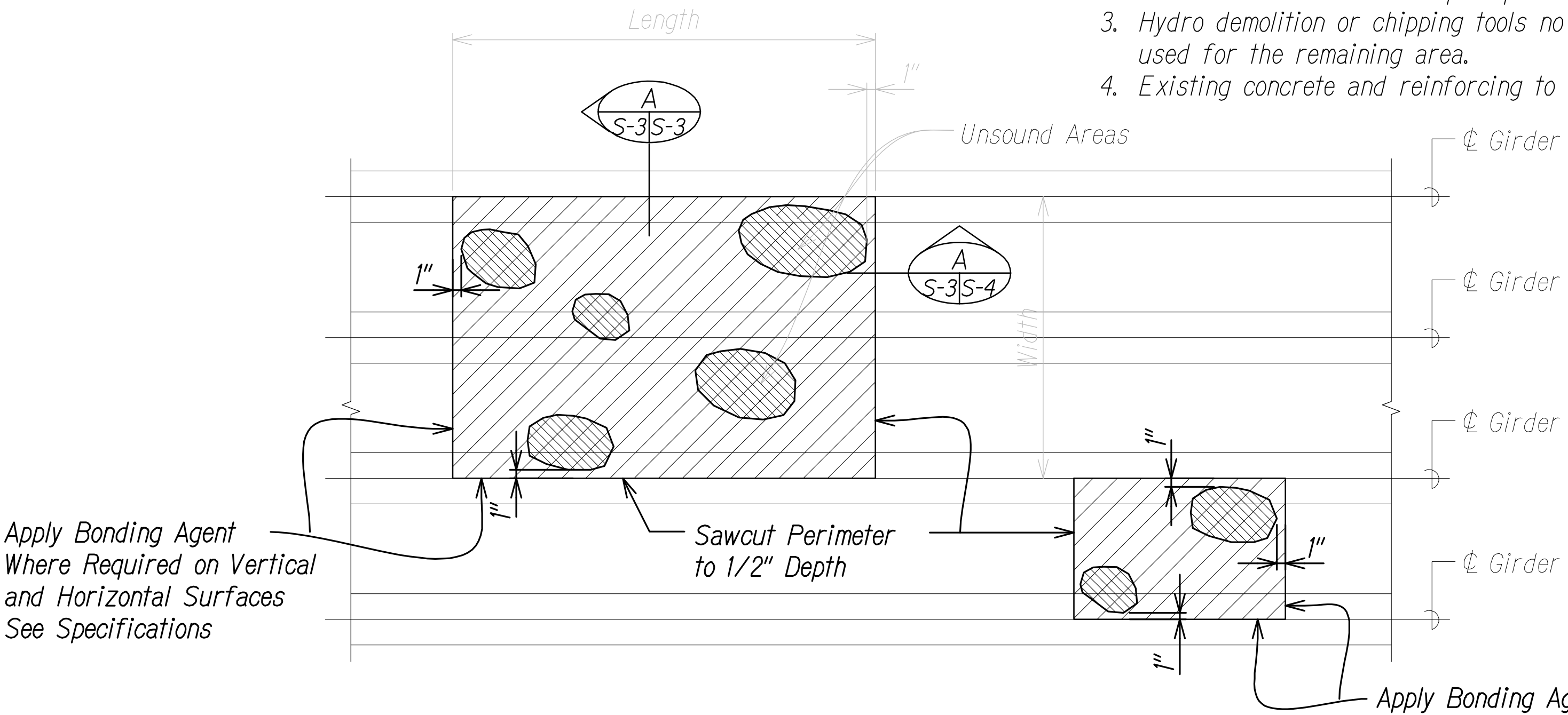


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (263)	2012	38	46

Full Depth Slab Demolition Procedure:

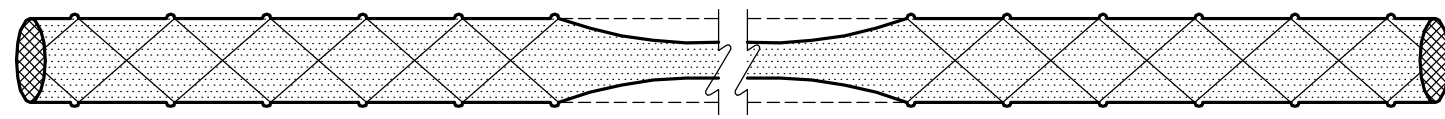
1. Sawcut perimeter to a depth of 1/2" or to top of transverse reinforcing (if concrete cover is less than 1/2"). Do not damage existing reinforcing steel. Optional method using a steel plate at the perimeter in lieu of sawcutting.
2. Use chipping hammers less than 15 lb. to remove concrete within 3 horizontal inches of the repair perimeter, and over the girders.
3. Hydro demolition or chipping tools no heavier than 60 lb may be used for the remaining area.
4. Existing concrete and reinforcing to remain undamaged.



FULL DEPTH SLAB DECK REPAIR PLAN

Scale: NONE

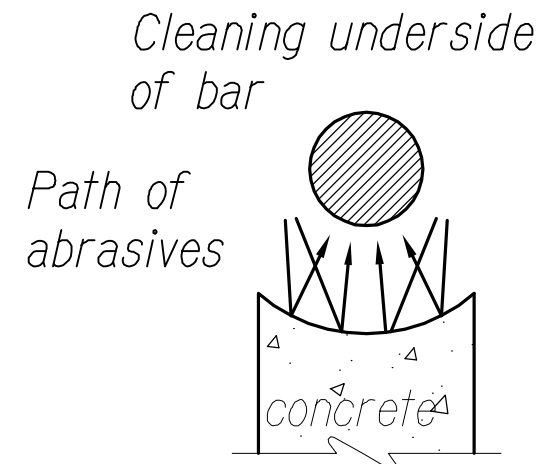
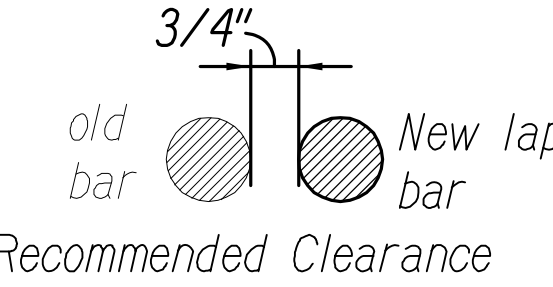
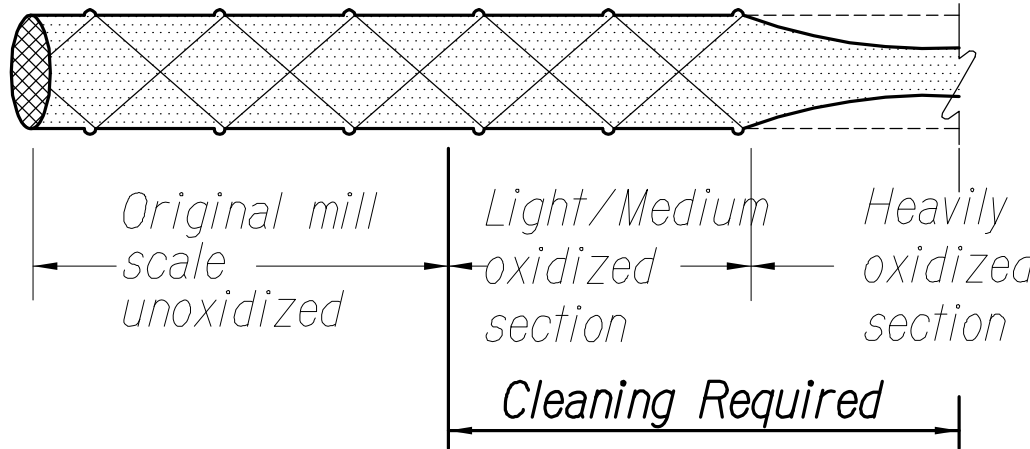
ACI Required lap Affected area ACI Required lap



1. If rebar has lost more than 25% of its cross section, consult the Engineer.
2. If repairs are required to reinforcing steel use one of following repair methods:

- A. Complete bar replacement, or
- B. Addition of supplemental bar over affected section, new bar shall be welded to old bar or placed parallel to and approximately 3/4" from existing bar, see S-4 for welding details.

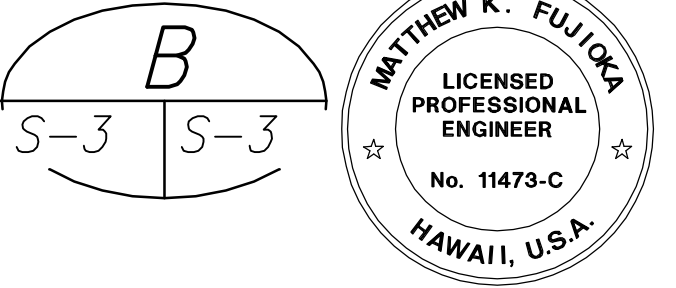
3. Lap length shall be determined in accordance with ACI 318, also refer to CRSI manual.



1. Remove heavy oxides and scale from bar to promote maximum bond of replacement material. oil free abrasive blast is preferred method. A tightly bonded light oxide built-up on surface may result from high-pressure water blasting, with or without abrasive, this is usually not detrimental to bond, unless a protective coating is being applied to bar surface, in which case follow coating manufacturer's recommendations for surface preparation.

TYPICAL REPAIR AND CLEANING OF REINFORCING STEEL

Scale: NONE



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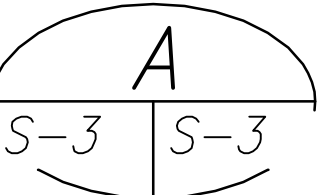
Notes:

1. Optional method using a steel plate at the perimeter in lieu of sawcutting.

* As shown in original contract construction drawings, See Structural Note 1.c. on sheet No. S-0.

FULL DEPTH SLAB REPAIR SECTION PERPENDICULAR TO TRAFFIC LANES

Scale: 3/4" = 1'-0"



LEGEND FOR AS-BUILT POSTINGS	
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Roadway	Text for as-built posting

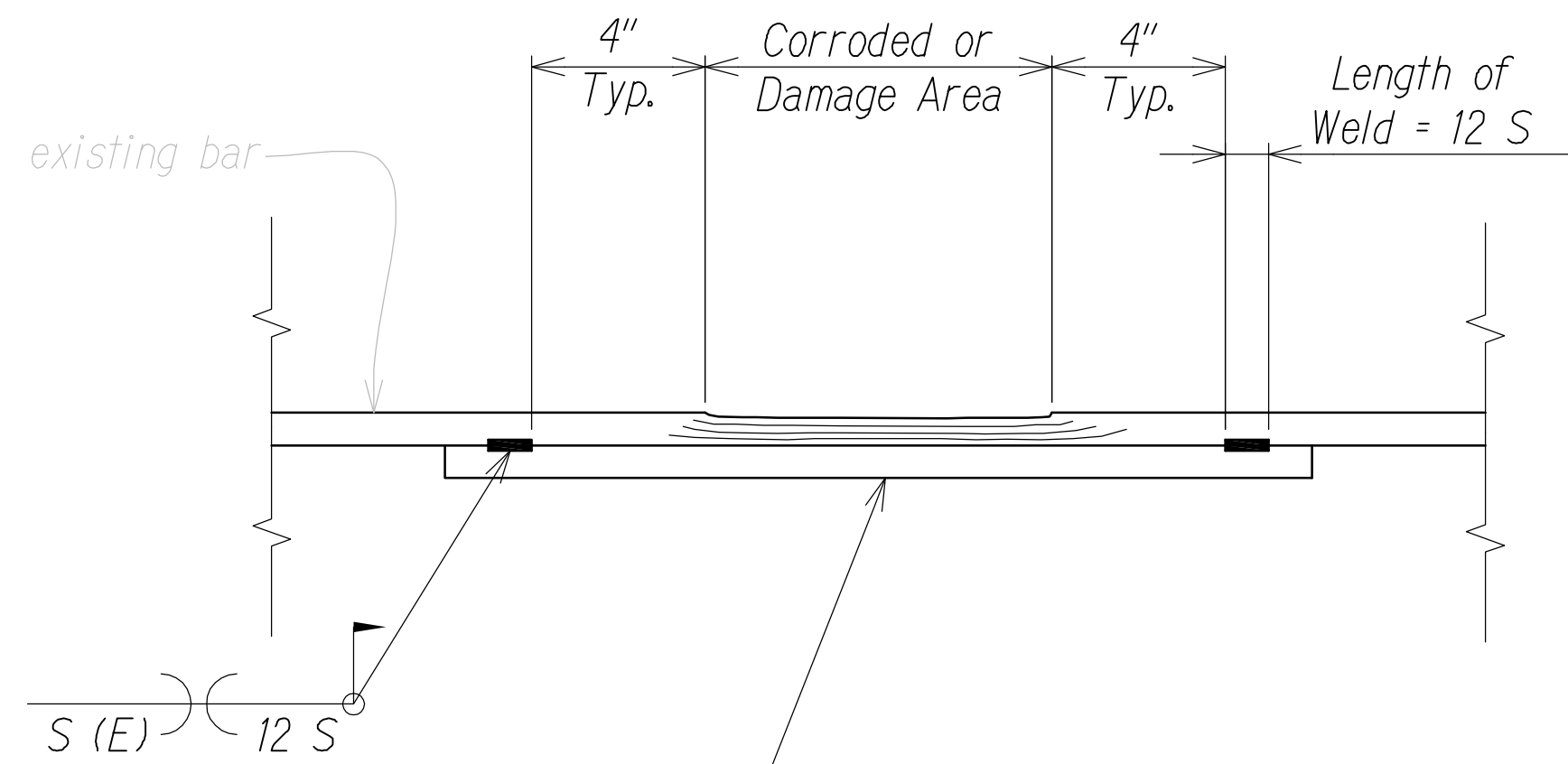
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPICAL DETAILS	
INTERSTATE ROUTE H-1 PEARL CITY AND WAIMALU VIADUCT IMPROVEMENTS	
FEDERAL AID PROJECT NO. BR-HI-1 (263)	Date: July 2016
Scale: As Noted	
SHEET No. S-2 OF 10 SHEETS	

"AS-BUILT"

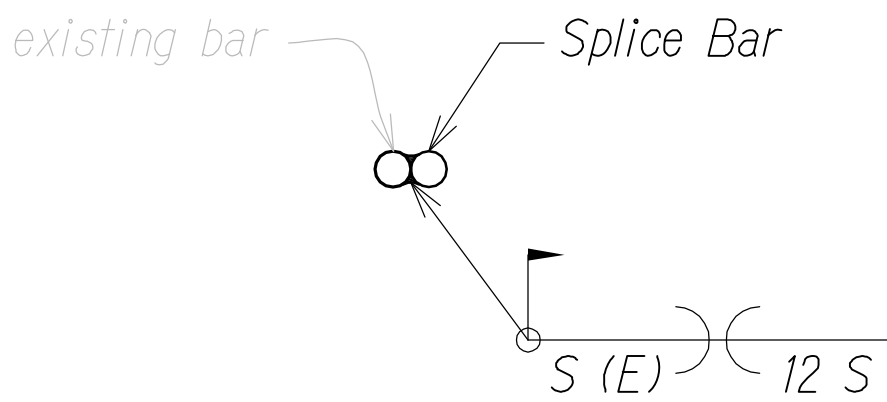
38



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H1-1 (263)	2012	39	46



Splice Bar Identical to Existing Bar and Same Horiz. Plane as Existing Rebar



SPLICE BAR

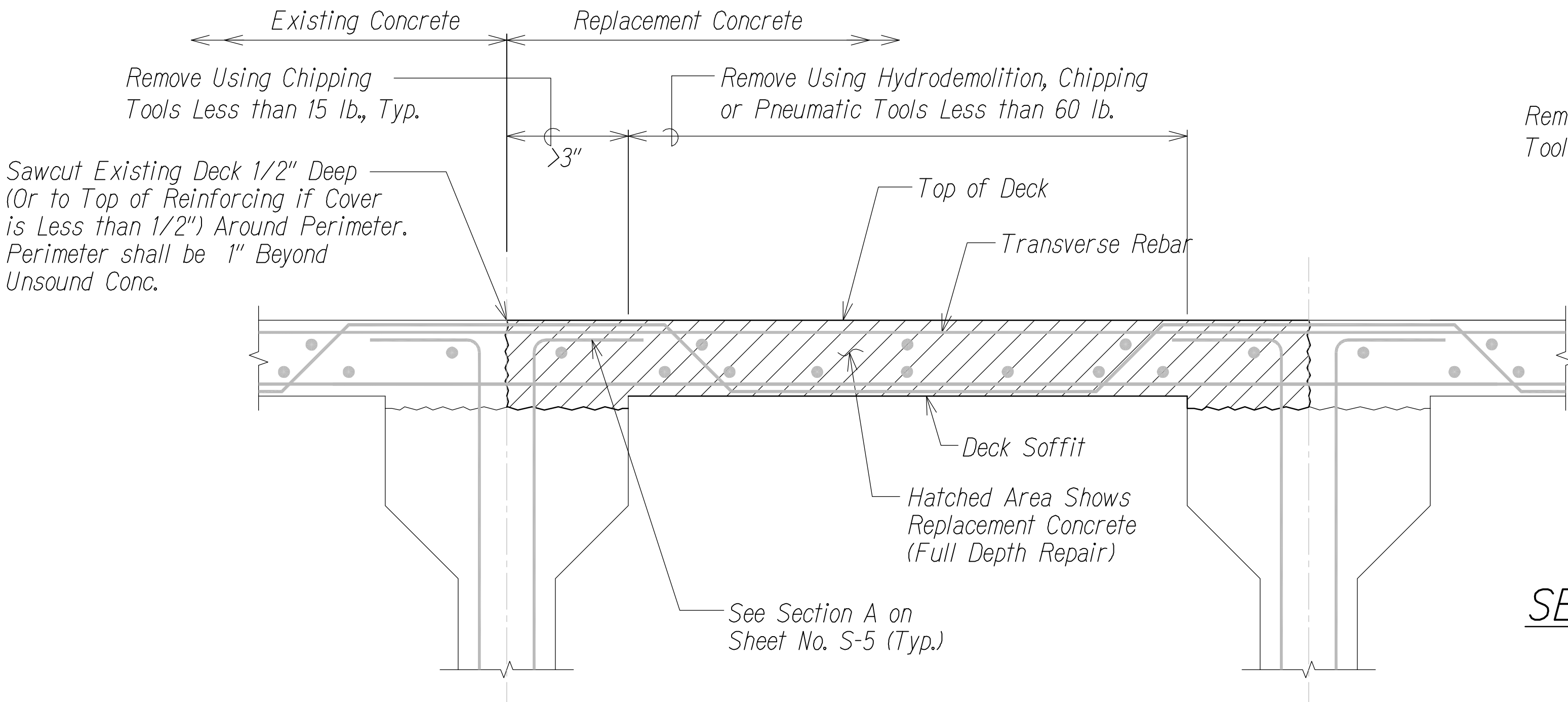
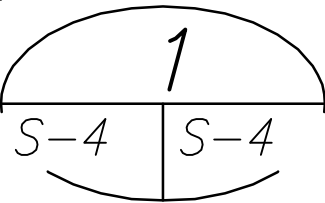
Notes:

1. Splice bars shall be direct lap joint bars in contact with double-flare-V-groove welds. Where  $S$  = radius of reinforcing bar and  $E$  = Effective weld size =  $0.65S$ .
2. New reinforcing steel shall be ASTM A 706. All welded reinforcing steel shall be ASTM A 706 where welded connections are required.
3. All welding shall be done in accordance with the reinf. Steel Welding Code AWS D1.4 and Specification Section 602.
4. Repair material and procedures shall be accepted by the Engineer before use.

PLAN VIEW REINFORCING

BAR LAP WELDS SPLICE DETAIL

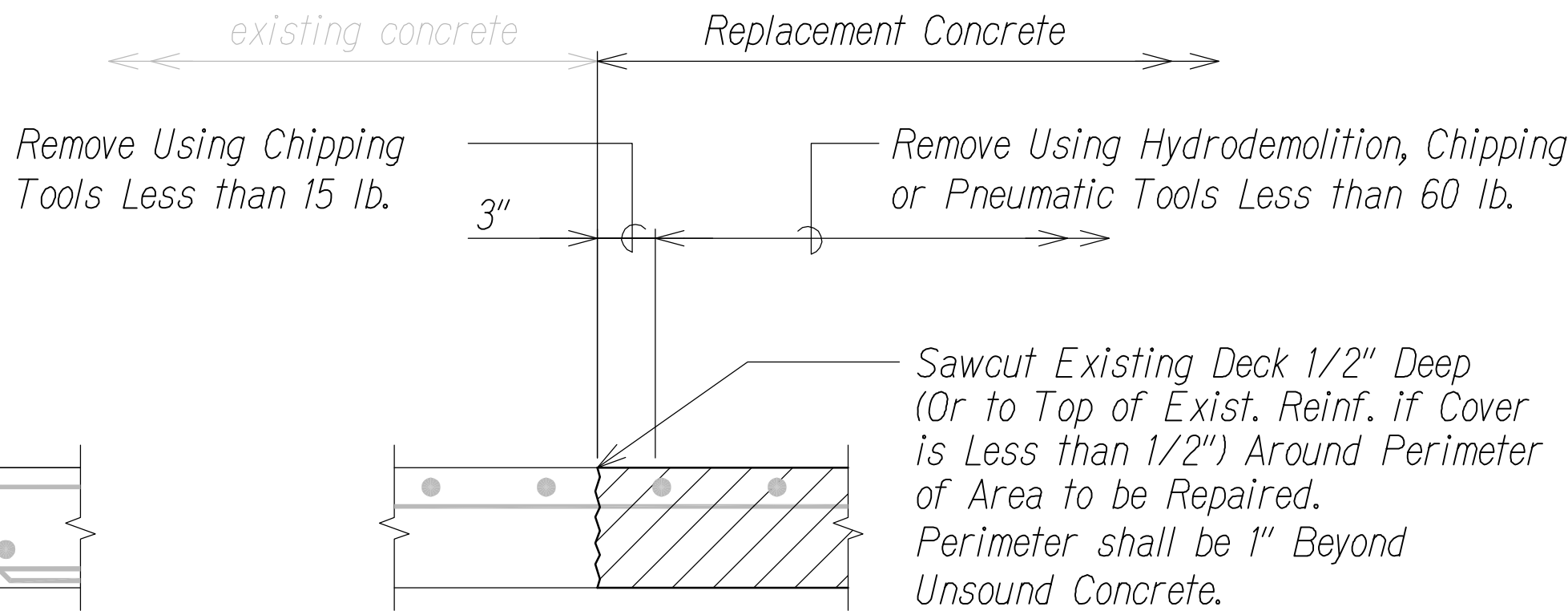
APPLIES TO FULL AND PARTIAL DEPTH REPAIR



SECTION PERPENDICULAR TO TRAFFIC LANES

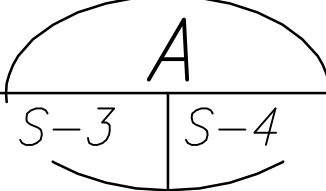
FULL DEPTH REPAIR DETAILS

Scale: Not to Scale



Note:  
Slab Bottom Reinforcing Not Shown

SECTION PARALLEL TO TRAFFIC LANES



LEGEND FOR AS-BUILT POSTINGS

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- Roadway Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

TYPICAL DETAILS

INTERSTATE ROUTE H-1  
PEARL CITY AND WAIMALU  
VIADUCT IMPROVEMENTS

FEDERAL AID PROJECT NO. BR-H1-1 (263)  
Scale: As Noted Date: July 2016

SHEET No. S-3 OF 10 SHEETS

"AS-BUILT"

39

QC/QA REVIEW	100%	DATE AUGUST 8, 2012
BY		
BY		
BY		
BY		

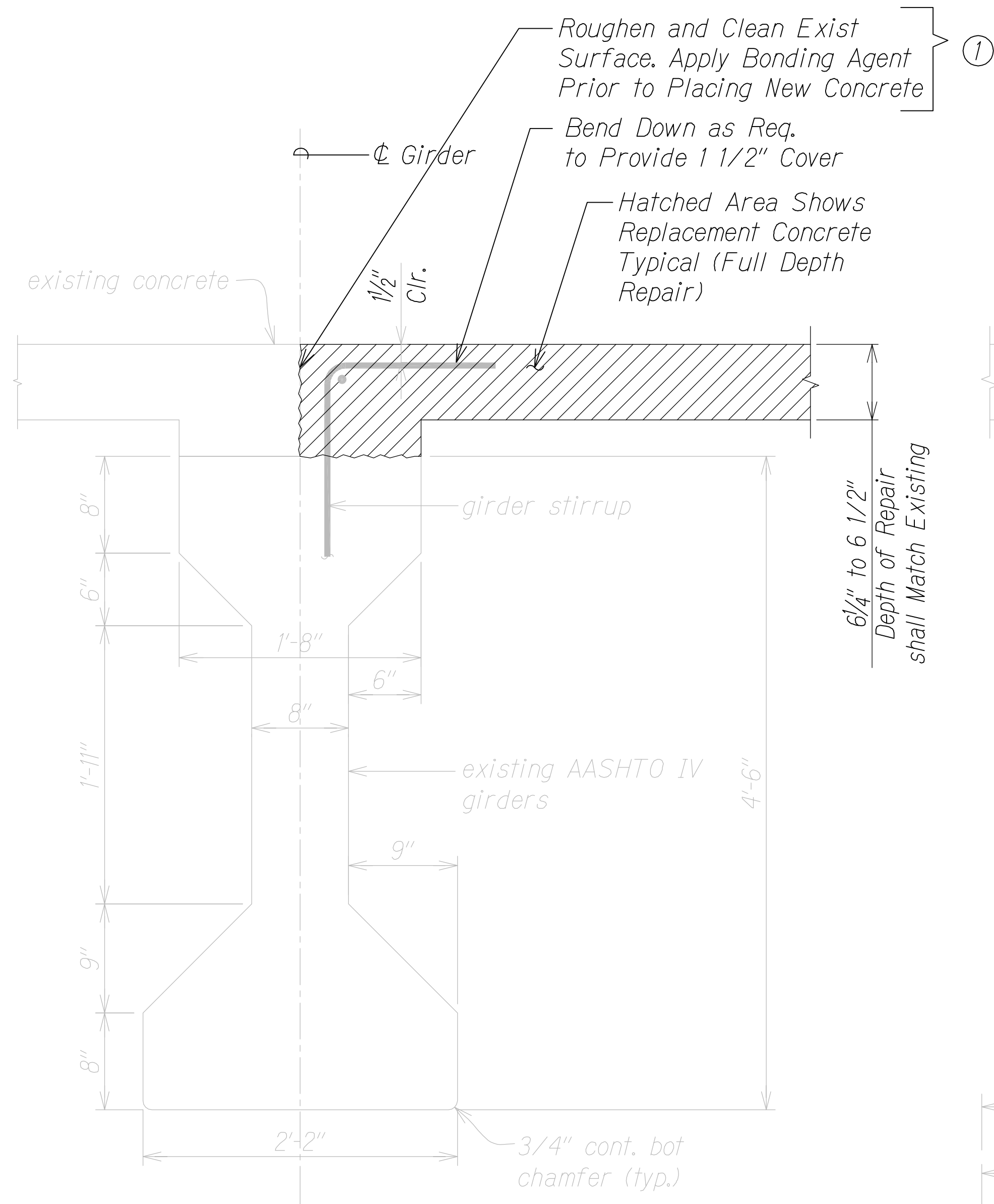
ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
No.	



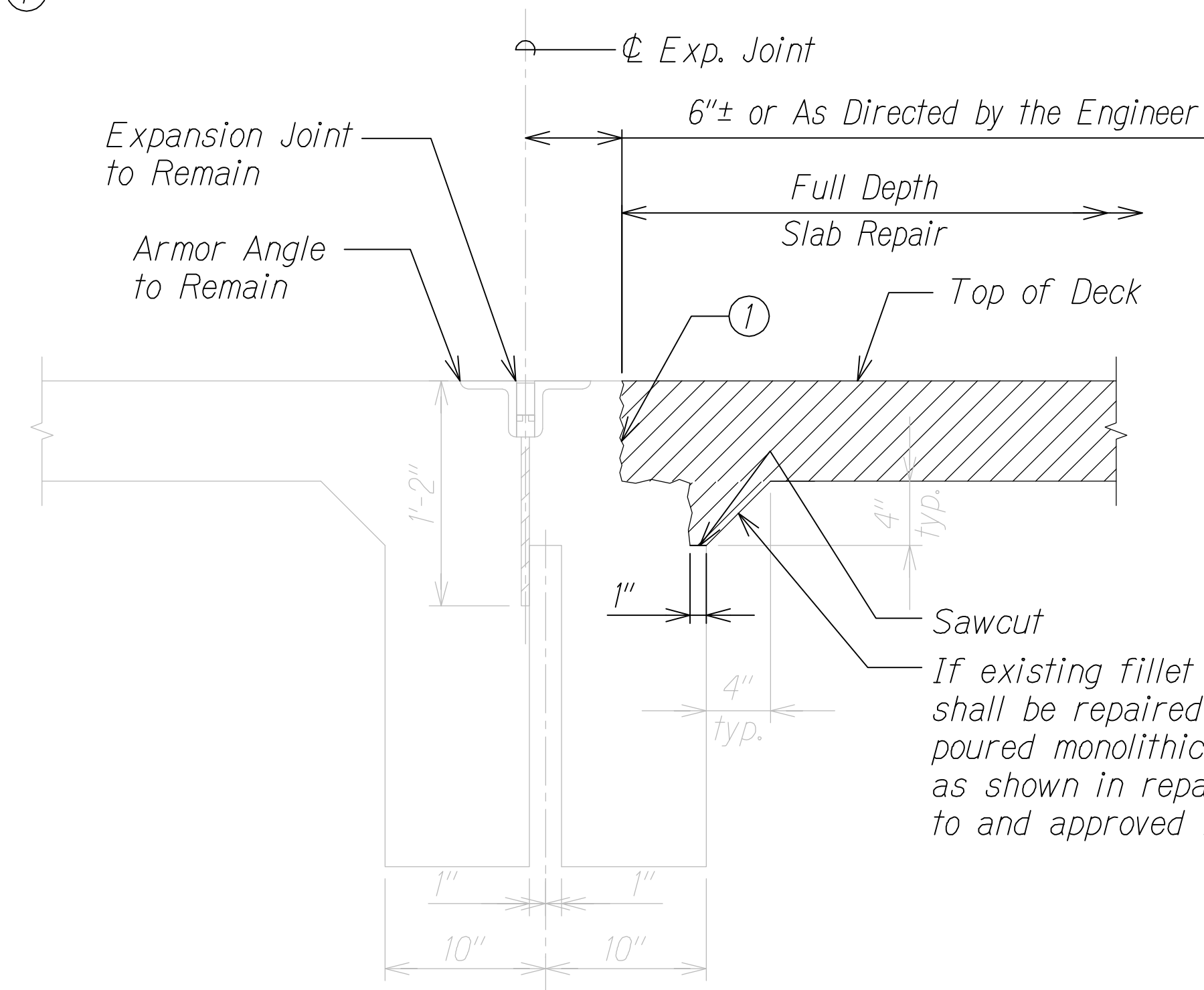
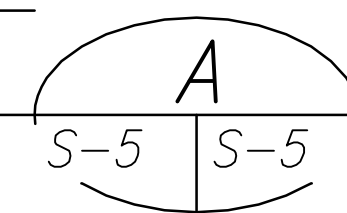
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*Matthew K. Fujioka*  
SIGNATURE  
4/30/18  
EXPIRATION DATE OF THE LICENSE

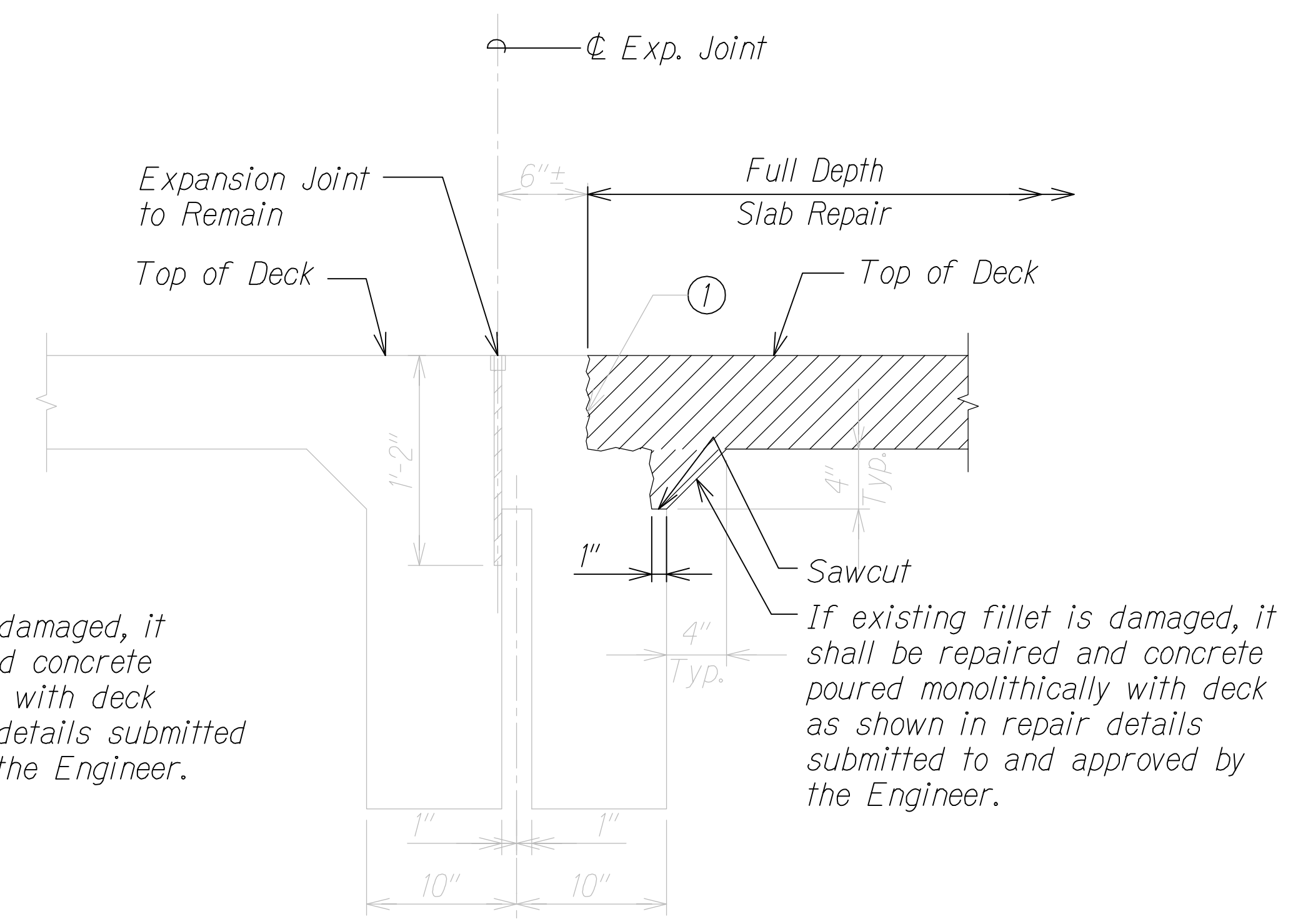
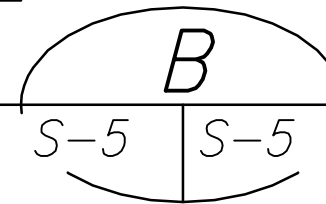
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (263)	2012	40	46



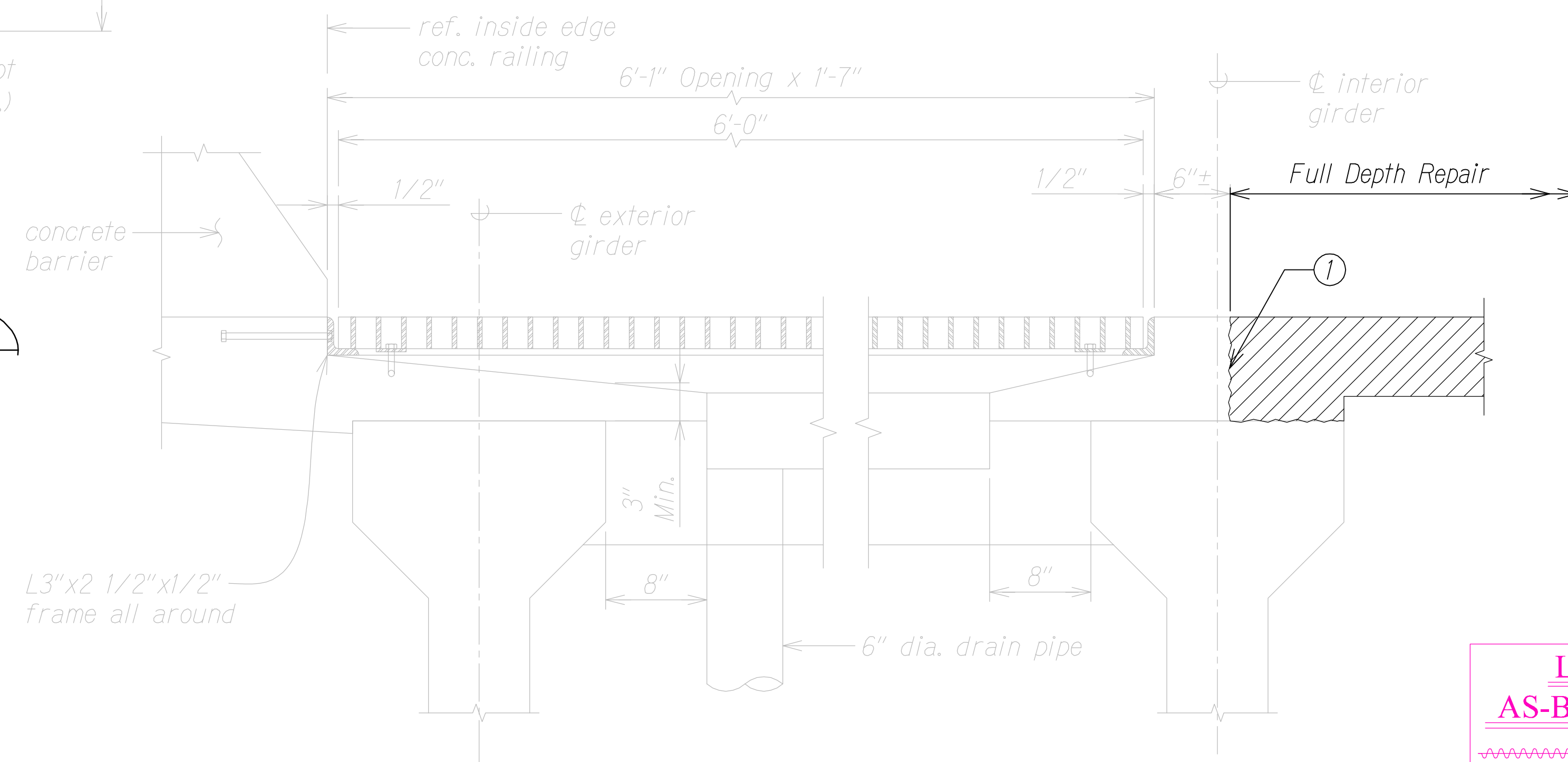
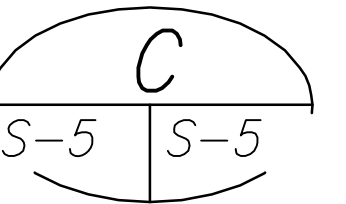
TYPICAL AASHTO IV  
GIRDER SECTION  
Scale: 1-1/2" = 1'-0"



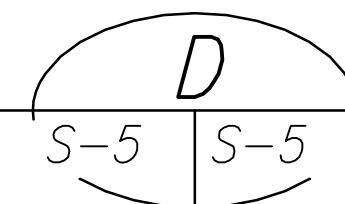
SECTION AT EXPANSION  
JOINTS WITH ARMOR ANGLE  
Scale: 1-1/2" = 1'-0"



SECTION AT EXPANSION  
JOINTS WITHOUT ARMOR ANGLE  
Scale: 1-1/2" = 1'-0"



SECTION AT EXISTING* DRAIN INLETS  
Scale: 1-1/2" = 1'-0"



Notes:

Existing grates and frames to remain.

* As shown in original contract construction drawings, see Structural Note 1.c. on sheet no. S-0.

Existing Reinforce to Remain.  
Do Not Damage Reinf.

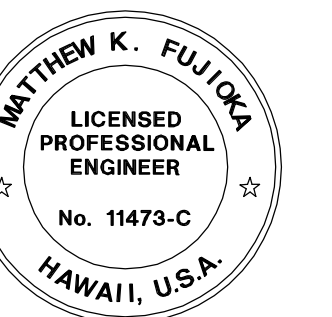
LEGEND FOR AS-BUILT POSTINGS	
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Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS

INTERSTATE ROUTE H-1
PEARL CITY AND WAIMALU
VIADUCT IMPROVEMENTS
FEDERAL AID PROJECT NO. BR-HI-1 (263)
Scale: As Noted Date: July 2016

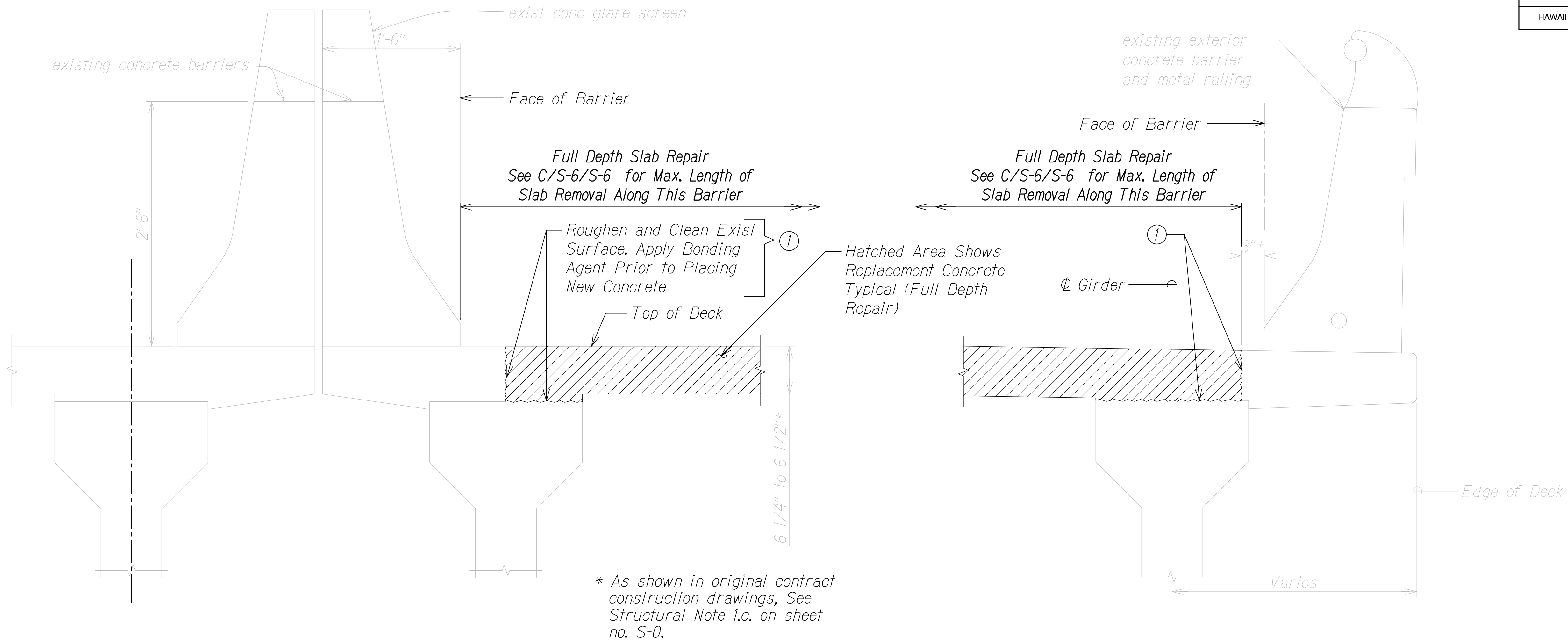
SHEET No. S-4 OF 10 SHEETS



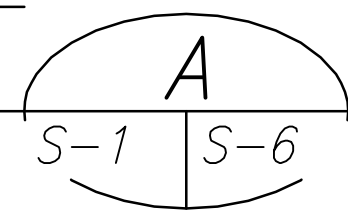
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EXPIRATION DATE OF THE LICENSE: 4/30/18

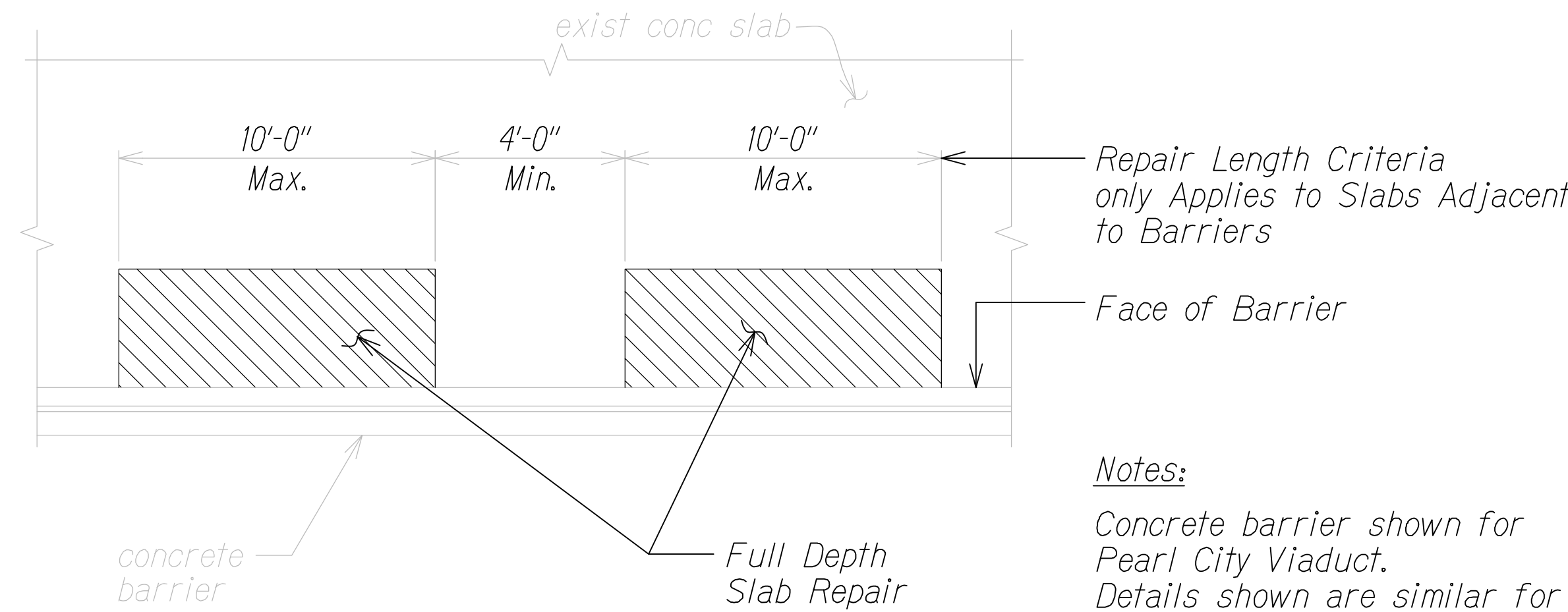
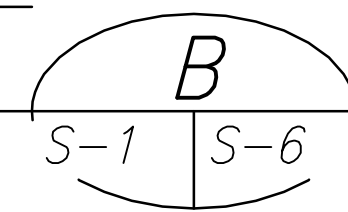
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-HI-1 (263)	2012	41	46



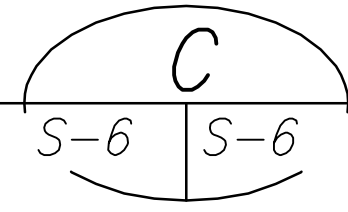
TYPICAL SECTION
CONCRETE BARRIER CURB
Scale: 1-1/2" = 1'-0"



TYPICAL SECTION
EXTERIOR BARRIER
Scale: 1-1/2" = 1'-0"



PLAN
Scale: Not to Scale



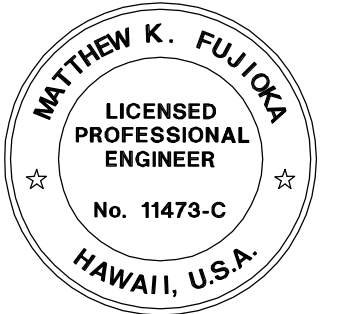
Notes:
Concrete barrier shown for Pearl City Viaduct. Details shown are similar for Waimalu Viaduct.
Exist Reinf to Remain. do Not Damage Reinf. See S-3 & S-4 for Repair Details.

LEGEND FOR AS-BUILT POSTINGS	
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Roadway	Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS**  
INTERSTATE ROUTE H-1  
PEARL CITY AND WAIMALU  
VIADUCT IMPROVEMENTS  
FEDERAL AID PROJECT NO. BR-HI-1 (263)  
Scale: As Noted Date: July 2016

SHEET No. S-5 OF 10 SHEETS



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QC/QA REVIEW	100%	DATE	AUGUST 8, 2012
BY			
BY			
BY			
BY			

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