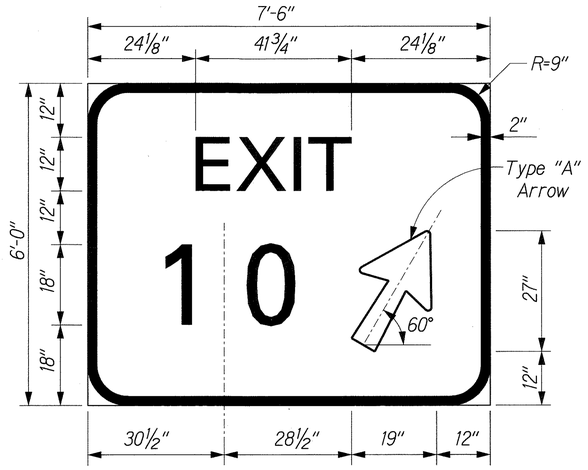
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(245)	2005	104	183



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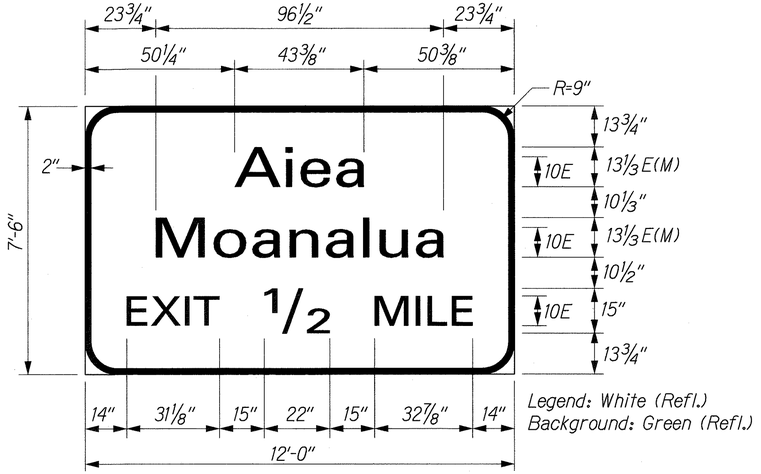
D-1



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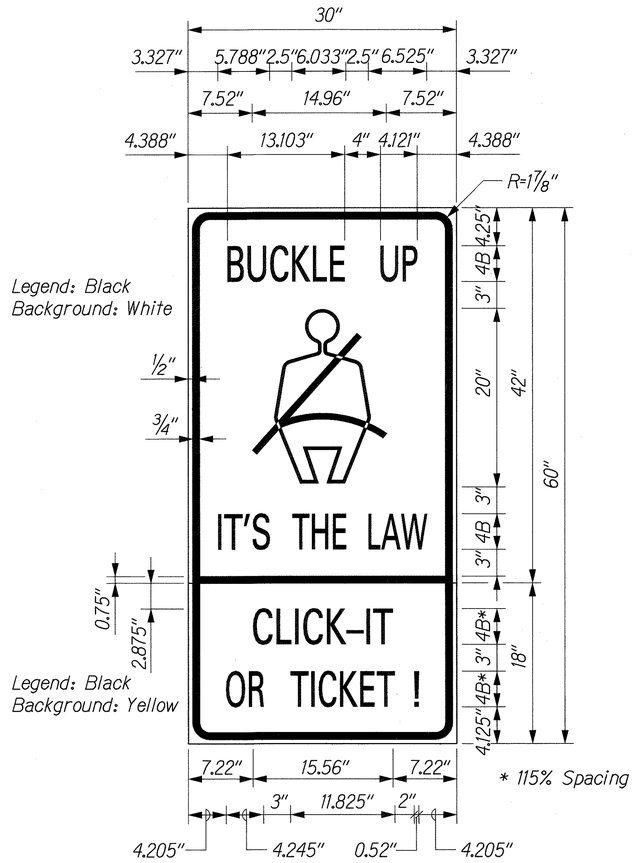

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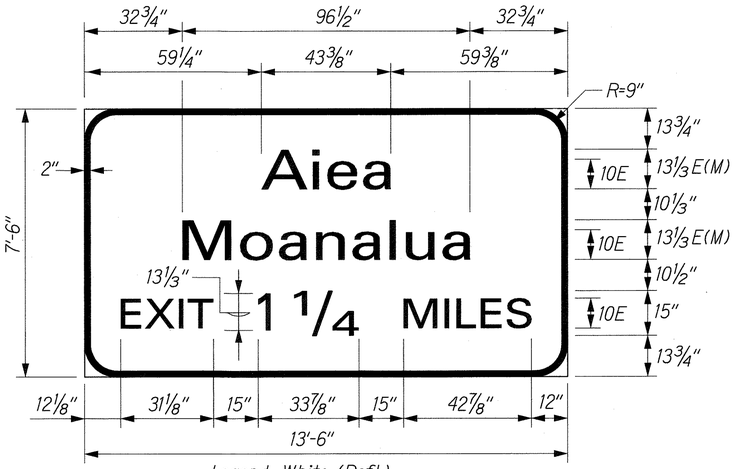
Legend: Black
Background: Yellow

* 115% Spacing

R16-9



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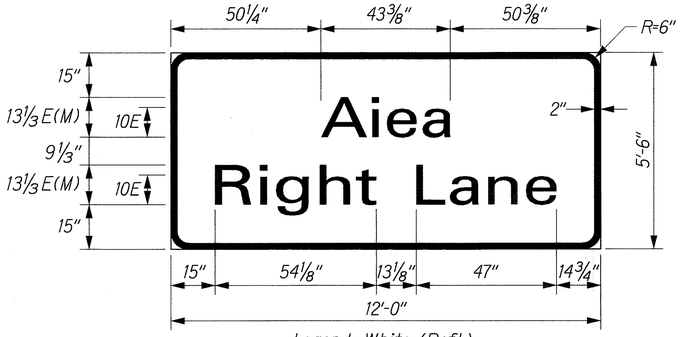

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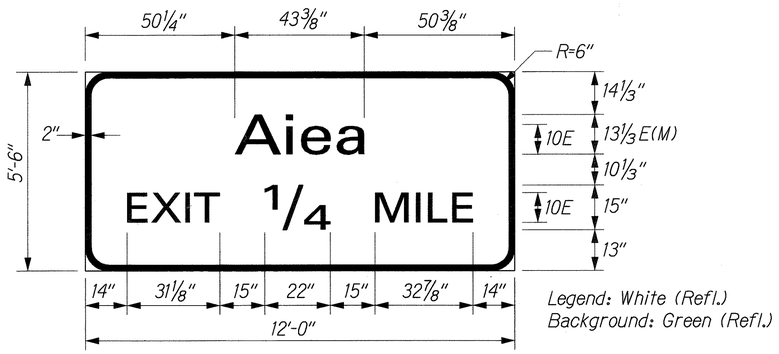

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D-5

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN PANEL LAYOUT DETAILS

INTERSTATE ROUTE H-1 REHABILITATION
EASTBOUND LANES
WAIAU INTERCHANGE TO KAIMAKANI STREET

Scale: None Date: Jan. 24, 2006

RANDALL M. URASAKI
LICENSED PROFESSIONAL ENGINEER
No. 7269-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

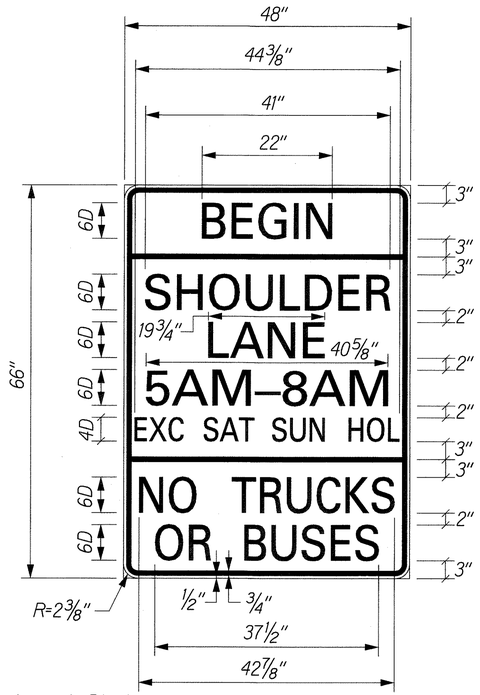
1/30/06

SHEET No. P17 OF 18 SHEETS

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

J:/COE H-1 REHAB/SIGN/SIGNDET2.dgn

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H1-1(245)	2005	105	183



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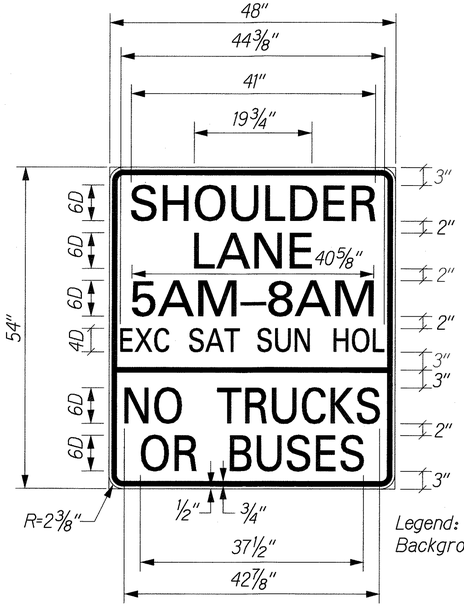

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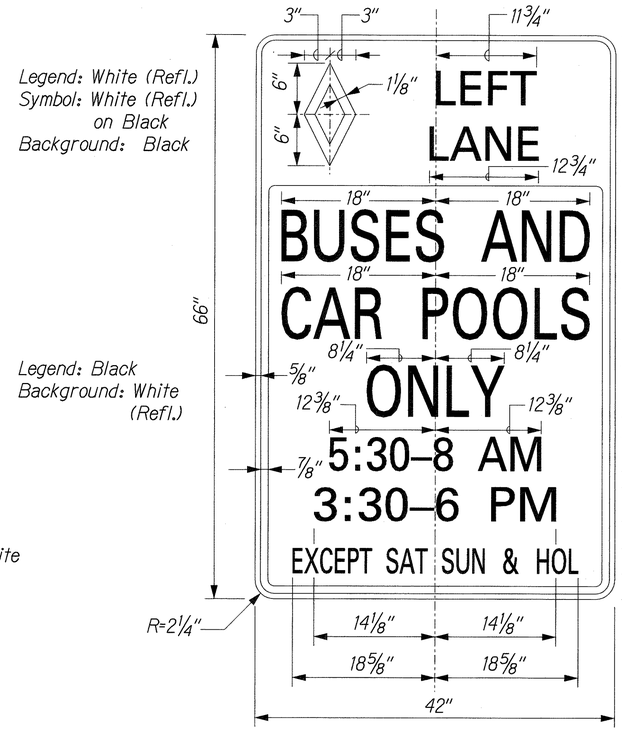

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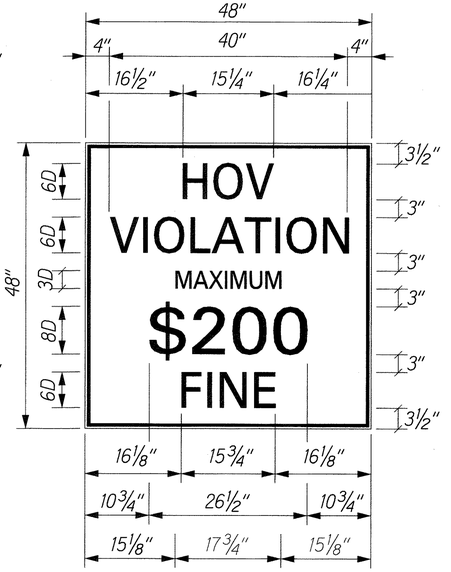
Symbol: White (Refl.) on Black
Background: Black

Legend: Black
Background: White (Refl.)

R3-14f



R3-14g

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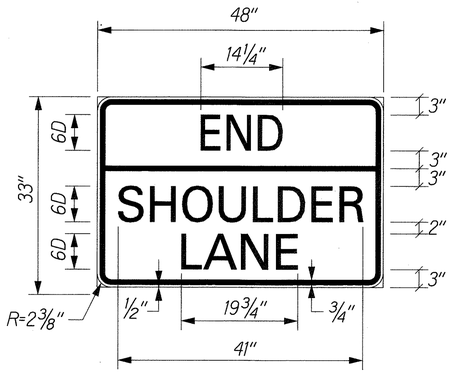

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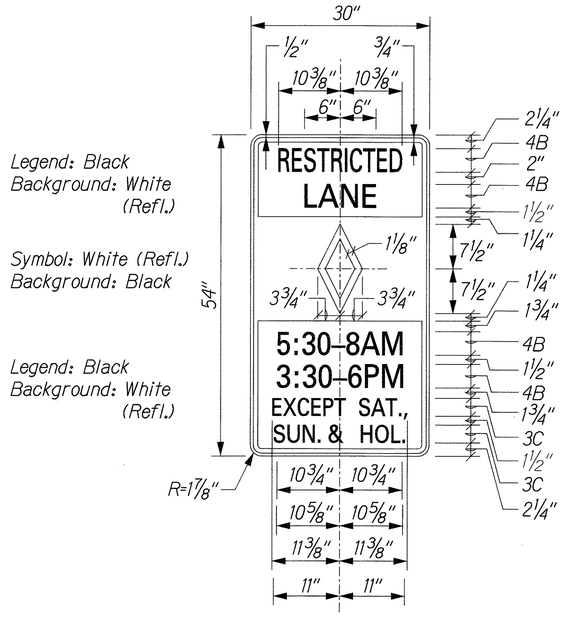
R16-8c



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Symbol: White (Refl.)
Background: Black

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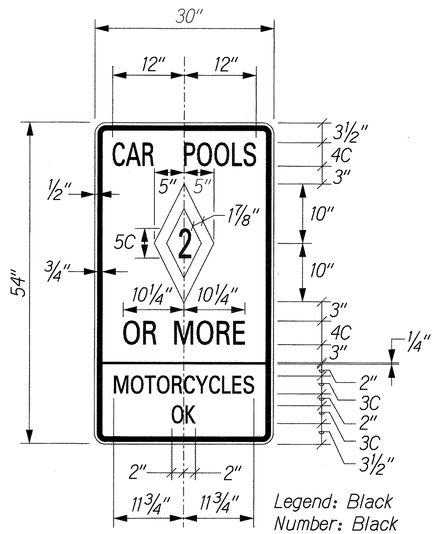
Background: White (Refl.)

R3-14d



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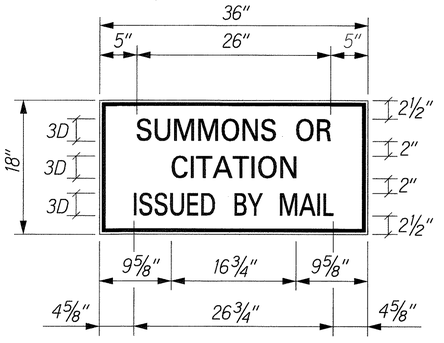
R3-14e



R3-14c

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

H:/COE H-1 REHAB/SIGN/SIGNDET1.dgn

RANDALL M. URASAKI
LICENSED PROFESSIONAL ENGINEER
No. 7269-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

1/30/06

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN PANEL LAYOUT DETAILS

INTERSTATE ROUTE H-1 REHABILITATION
EASTBOUND LANES
WAIAU INTERCHANGE TO KAIMAKANI STREET

Scale: None Date: Jan. 24, 2006

SHEET No. P18 OF 18 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(245)	2005	106	183

NOTES:

1. The Contractor shall plan his working items to fit the available construction hours as indicated in Special Provisions Section 645-Work Zone Traffic Control.
2. For safety of motorists, begin the construction of bridge parapet modifications (excluding the end post modifications) from abutment B (Koko Head Abutment) toward Abutment A (Ewa Abutment).
3. Remove the existing end post concrete as shown. The exposed rebars shall remain and be cleaned for end post modification.
4. The interface between new and old concrete shall be roughened, cleaned and free of laitance. Drill hole 1/8" larger in diameter than dowel to be inserted into existing concrete, clean the hole, install epoxy adhesive rebar anchor dowel per manufacturer's recommendation. The embedment of the epoxy adhesive rebar anchor shall have the minimum depth as shown on the plans.
5. The dowel holes shall be drilled as shown whenever possible into the existing concrete surfaces. When the drill contacts any existing rebar, the hole shall be filled with epoxy and a replacement hole shall be drilled so that the spacing of dowels will be maintained. Contractor shall not cut existing rebar. The Contractor shall locate all rebar before drilling by using non-destructive techniques.
6. Prior to removal of end post concrete, Contractor shall record the name and date of structure. The same name and date of structure shall be placed on the same side of the finished end post.
7. For letter size and detail of name and date of structure, see Standard Plan B-01.
8. The portions of required Terminal Connector bolt holes through new concrete shall be preformed and the portion of bolt holes through existing end post concrete shall be drilled. In order to match the locations of the preformed holes in new concrete as shown, the Contractor may cut the existing rebars during drilling. After drilling, coat the perimeter of the drilled hole with bituminous material to protect the existing rebars. The bituminous material shall meet the requirements of ASTM D449.
9. Use fast-settings concrete for all concrete. The fast-setting concrete shall attain a minimum cylinder compressive strength of 3000 psi in 12 hours or less. Install metal guardrail terminal connectors and open the lanes to traffic only after tests indicate the minimum strength of concrete is obtained.
10. All rebars shall be ASTM A615 Grade 60.
11. All anchor bolts connecting thrie beam to concrete end posts shall be high strength conforming to the requirements of AASHTO M164 and shall be galvanized.
12. All open joints in existing concrete parapet shall be maintained.
13. All anchor bolts for light standards shall be A193/A193M class 2, grade B8MN.
    All anchor bolt nuts for light standards shall be ASTM A194/A194M grade 8MNA.
    All anchor bolt washers for light standards shall be ASTM A240 type 316.
14. The existing Hwy Light poles and electrical services shall remain during the construction of this project. Remove the existing light poles and terminate the existing electrical services only after the new light poles and conduits are connected and are in operation.
15. The Contractor shall provide safety devices to protect pedestrians and vehicles moving underneath Waimalu Viaduct during construction.
16. Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4"x3/4".

TABLE I - LOCATIONS OF CONCRETE SPALL AND REPAIR AT EXISTING CONCRETE RAILING

LOCATIONS (See Sht. No. S2)	TYPE	DESCRIPTIONS OF EXISTING CONCRETE RAILING CONDITIONS
(4)(5)(6)(7)(8)(9)(10)	Type I	Concrete spalled. Spall area: 10" long parallel to traffic with dimension a=10"
(11) to (12)	Type I	Concrete spalled and 3 rebars exposed. Spall area: 2'-3" long parallel to traffic with dimension a=10"
(13)(14)	Type I	Concrete spalled. Spall area: 10" long parallel to traffic with dimension a=10"
(15) to (16)	Type I	Concrete spalled and 3 rebars exposed. Spall area: 2'-3" long parallel to traffic with dimension a=10"
(17)	Type I	Concrete spalled and 1 rebar exposed. Spall area: 10" long parallel to traffic with dimension a=10"
(18)(19)(20)	Type I	Concrete spalled. Spall area: 10" long parallel to traffic with dimension a=10"
(21)(22)(23)(24)(25)(26)	Type I	Concrete spalled and 1 rebar exposed. Spall area: 10" long parallel to traffic with dimension a=10"
(27)	Type I	Concrete spalled and 5 rebars exposed. Spall area: 3'-6" long parallel to traffic with dimension a=10"
(28)(29)(30)(31)(32)(33)(34)	Type I	Concrete spalled and 2 rebars exposed. Spall area: 1'-6" long parallel to traffic with dimension a=10"
(35)(36)	Type I	Concrete spalled and 3 rebars exposed. Spall area: 2'-3" long parallel to traffic with dimension a=10"
(37)	Type III	Concrete spalled and 5 rebars exposed. Spall area: 3'-6" long parallel to traffic with dimension c=2"
(38)	Type III	Concrete spalled and 3 rebars exposed. Spall area: 2'-3" long parallel to traffic with dimension c=2"
(39)	Type III	Concrete spalled and 2 rebars exposed. Spall area: 1'-6" long parallel to traffic with dimension c=2"
(40)	Type III	Concrete spalled and 10 rebars exposed. Spall area: 7'-6" long parallel to traffic with dimension c=2"
(41)(42)(43)(44)(45)(46)	Type I	Concrete spalled and 1 rebar exposed. Spall area: 10" long parallel to traffic with dimension a=10"
(47)	Type III	Concrete spalled and 16 rebars exposed. Spall area: 12'-0" long parallel to traffic with dimension c=2"
(48)	Type III	Concrete spalled and 7 rebars exposed. Spall area: 6'-0" long parallel to traffic with dimension c=2"
(49)	Type III	Concrete spalled and 8 rebars exposed. Spall area: 7'-0" long parallel to traffic with dimension c=2"
(50)	Type III	Concrete spalled and 18 rebars exposed. Spall area: 14'-0" long parallel to traffic with dimension c=2"
(51)	Type III	Concrete spalled and 4 rebars exposed. Spall area: 3'-0" long parallel to traffic with dimension c=2"
(52)	Type III	Concrete spalled and 5 rebars exposed. Spall area: 3'-6" long parallel to traffic with dimension c=2"
(52)	Type I	Concrete spalled and 5 rebars exposed. Spall area: 4'-0" long parallel to traffic with dimension a=10"
(53)	Type III	Concrete spalled and 7 rebars exposed. Spall area: 6'-0" long parallel to traffic with dimension c=2"
(54)	Type I	Concrete spalled and 1 rebar exposed. Spall area: 10" long parallel to traffic with dimension a=10"
(55)	Type III	Concrete spalled and 4 rebars exposed. Spall area: 3'-0" long parallel to traffic with dimension c=2"
(56)	Type III	Concrete spalled and 4 rebars exposed. Spall area: 3'-6" long parallel to traffic with dimension c=2"
(56)	Type I	Concrete spalled and 4 rebars exposed. Spall area: 3'-6" long parallel to traffic with dimension a=10"
(57)	Type I	Concrete spalled and 9 rebars exposed. Spall area: 7'-0" long parallel to traffic with dimension a=10"
(58)	Type I	Concrete spalled and 9 rebars exposed. Spall area: 7'-0" long parallel to traffic with dimension a=10"
(58)	Type III	Concrete spalled and 9 rebars exposed. Spall area: 7'-0" long parallel to traffic with dimension c=2"
(59)	Type I	Concrete spalled and 4 rebars exposed. Spall area: 3'-6" long parallel to traffic with dimension a=10"
(59)	Type III	Concrete spalled and 4 rebars exposed. Spall area: 3'-6" long parallel to traffic with dimension c=2"

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

J:/COE HI-REHAB/STRUCT/ST-DET1.dgn

HUI PANG CHEN
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No. 3865-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Hui Pang Chen

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIMALU VIADUCT
NOTES AND TABLE

INTERSTATE ROUTE H-1 REHABILITATION
EASTBOUND LANES
WAIAU INTERCHANGE TO KAIMAKANI STREET

Scale: As Shown Date: Jan. 24, 2006

SHEET No. 51 OF 14 SHEETS