

TRAFFIC SIGNAL NOTES:

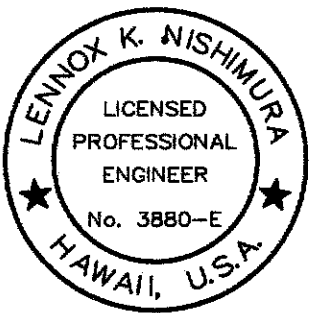
- THE LOCATIONS OF THE TRAFFIC SIGNAL STANDARDS, PEDESTRIAN PUSH BUTTONS, PULLBOXES, CONDUITS SHALL BE STAKED OUT IN THE FIELD BY THE CONTRACTOR AND APPROVAL OF THE LOCATIONS SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION AND INSTALLATION.
- ALL SPLICING SHALL BE DONE IN THE PULLBOXES.
- SHOULD ANY DEFECT BE ENCOUNTERED DURING THE WARRANTY PERIOD, THE MANUFACTURER WILL BE NOTIFIED AND HE SHALL PROMPTLY CORRECT SUCH DEFECT. SERVICE CALL (BY FACTORY QUALIFIED REPRESENTATIVE) DURING THE WARRANTY PERIOD FOR REPAIRS OR OTHER MAINTENANCE SHALL BE ANSWERED WITHIN 24 HOURS AND SHALL BE DONE AT NO EXPENSE TO THE STATE. ALL REPAIRS SHALL BE DONE AS SOON AS POSSIBLE.
- ALL TRAFFIC SIGNAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAY", FEDERAL HIGHWAY ADMINISTRATION (1988) AND AMENDMENTS.
- ALL CONDUITS BETWEEN PULLBOXES AND TRAFFIC SIGNAL STANDARDS SHALL BE CONSIDERED INCIDENTAL TO VARIOUS CONTRACT ITEMS.
- AFTER INSTALLING ALL THE TRAFFIC SIGNAL CABLES, THE CONTRACTOR SHALL DUCT SEAL ALL CONDUITS IN THE PULLBOXES AND TRAFFIC SIGNAL STANDARDS. THE DUCT SEAL MATERIAL SHALL BE APPROVED BY THE TRAFFIC SIGNAL INSPECTOR/ENGINEER AND SHALL BE CONSIDERED INCIDENTAL TO THE DIRECT BURIED AND/ OR CONCRETE ENCASED CONDUITS.
- CONNECTING INTO EXISTING TRAFFIC SIGNAL SYSTEM AND MARKING ALL NECESSARY ADJUSTMENTS SHALL NOT BE PAID FOR SEPARATELY, BUT CONSIDERED INCIDENTAL TO THE VARIOUS TRAFFIC SIGNAL CONTRACT ITEMS.
- THE CONTRACTOR SHALL NOTIFY THE TRAFFIC CONTROL BRANCH, DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU, (PHONE NO. 523-4589) THREE (3) WORKING DAYS PRIOR TO COMMENCING ANY WORK ON THE TRAFFIC SIGNAL SYSTEM.
- THE DEPARTMENT OF TRANSPORTATION SERVICES, CITY & COUNTY OF HONOLULU, WILL ASSIST THE ENGINEER IN CONSTRUCTION INSPECTION FOR THE TRAFFIC SIGNAL SYSTEM.
- THE TRAFFIC SIGNAL SYSTEM SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE TRAFFIC CONTROL BRANCH, DEPARTMENT OF TRANSPORTATION SERVICES, AND PAID FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING TRAFFIC SIGNAL FACILITIES, INCLUDING THE TRAFFIC SIGNAL INTERCONNECT SYSTEM. ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING TRAFFIC SIGNAL FIBER OPTIC CABLE SYSTEM. ANY AND ALL DAMAGES TO THESE FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS COST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY AND COUNTY OF HONOLULU.

HIGHWAY LIGHTING NOTES:

- THE CONTRACTOR SHALL NOTIFY THE STATE HIGHWAYS, HIGHWAY LIGHTING AND TRAFFIC SUPERVISOR 72 HOURS IN ADVANCE BEFORE COMMENCING ANY WORK ON THE HIGHWAY LIGHTING SYSTEM. PHONE: 837-8056.
- THE CONTRACTOR SHALL HAVE ONE SET OF APPROVED PLANS AT THE JOB SITE AT ALL TIMES DURING THE CONSTRUCTION WORK AND RECORD ALL CHANGES WHICH OCCUR DURING CONSTRUCTION OF THE HIGHWAY LIGHTING SYSTEM.
- FINAL ACCEPTANCE AND INSPECTION WILL BE UNDERTAKEN ONLY AFTER ALL WORK HAS BEEN COMPLETED.
- THE CONTRACTOR SHALL MAINTAIN EXISTING CIRCUITING AND OPERATION OF THE LIGHTING SYSTEM DURING THE HOURS OF DARKNESS.
- THE CONTRACTOR SHALL LOCATE EXISTING BURIED UTILITY LINES IN THE VICINITY OF THE EXCAVATION WORK PRIOR TO COMMENCING EXCAVATION. AS A MINIMUM, AN ELECTRONIC MAGNETIC DEVICE FOR DETECTION OF BURIED LINES SHALL BE UTILIZED PRIOR TO EXCAVATION. TRENCHES SHALL BE EXCAVATED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING UTILITIES RESULTING FROM HIS NEGLIGENCE AND SHALL BEAR COST OF REPAIRS TO THE UTILITIES. METHOD OF REPAIR SHALL BE DETERMINED BY THE STATE.

ELECTRICAL SYMBOLS

SYMBOL		DESCRIPTION	REMARKS
EXIST	NEW		
		TRAFFIC LIGHT POLE	
		MAST ARM	
		TRAFFIC SIGNAL HEAD-RED, YELLOW, GREEN ARROW	
		TRAFFIC SIGNAL HEAD-RED, YELLOW, GREEN LEFT TURN ARROW	
		PUSH BUTTON	
		TRAFFIC LIGHT POLE, TYPE I	
		TRAFFIC SIGNAL HEAD-RED, YELLOW, GREEN, GREEN LEFT TURN ARROW	
		PEDESTRIAN SIGNAL	
		PULLBOX (TYPE AS INDICATED)	
		PEDESTRIAN PUSH BUTTON (ARROW DENOTES DIRECTION OF CROSSING)	
		PEDESTRIAN SIGNAL	
		UNDERGROUND TRAFFIC SIGNAL DUCTLINES AND CABLES	
		UNDERGROUND STREET LIGHT DUCTLINES	
		UNDERGROUND FIBER OPTIC DUCTLINES AND CABLE	
		REMOVAL/DEMOLITION	
		DETAIL INDICATOR TOP HALF: DETAIL NUMBER BOTTOM HALF: SHEET ON WHICH SHOWN	
		NOTE INDICATOR, NOTE #1 INDICATED	
		INDICATES DUCT SECTION TYPE.	
		SLPB STREET LIGHT PULLBOX	
		TSPB TRAFFIC SIGNAL PULLBOX	



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

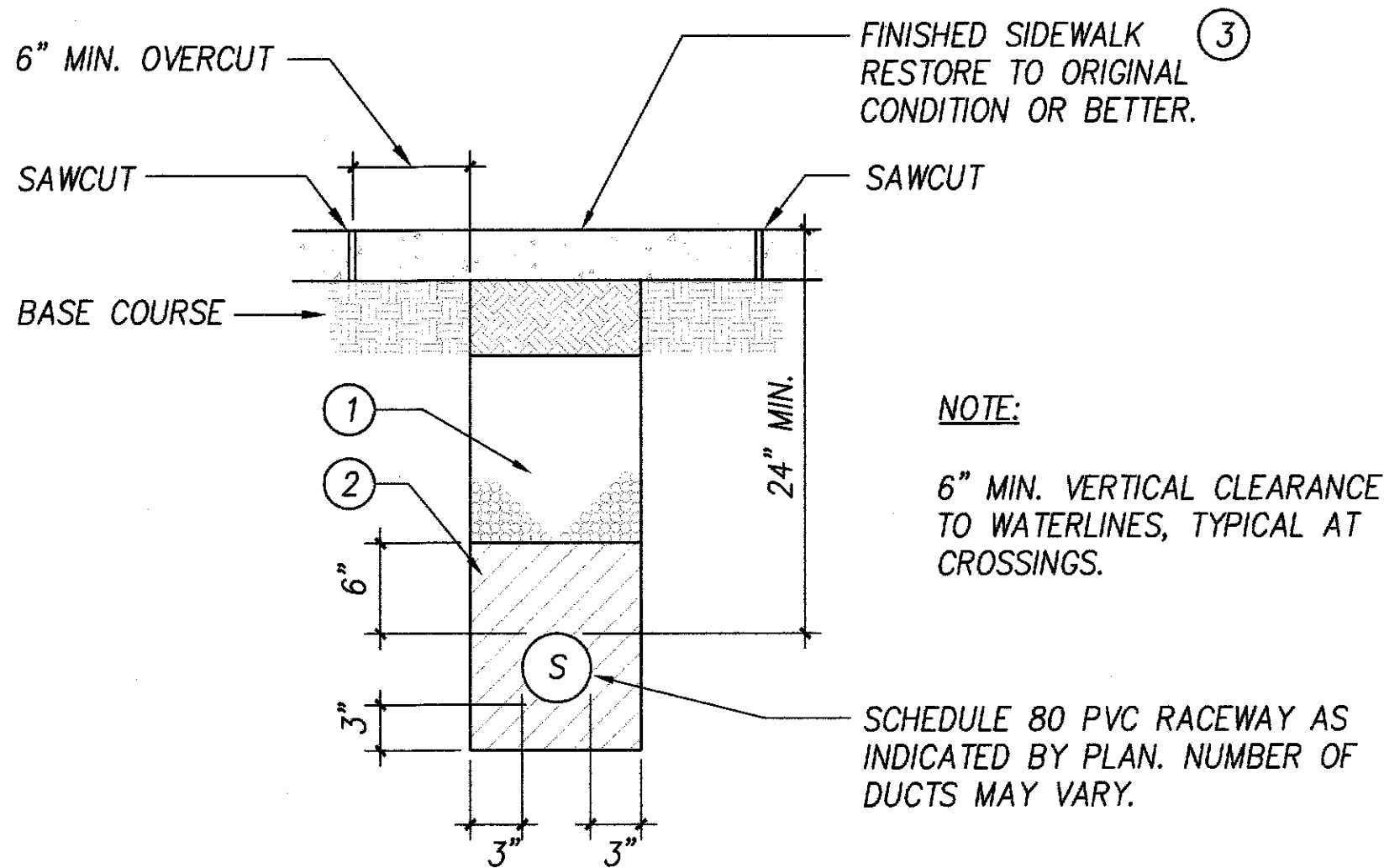
DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
ELECTRICAL NOTES AND  
SYMBOL LIST

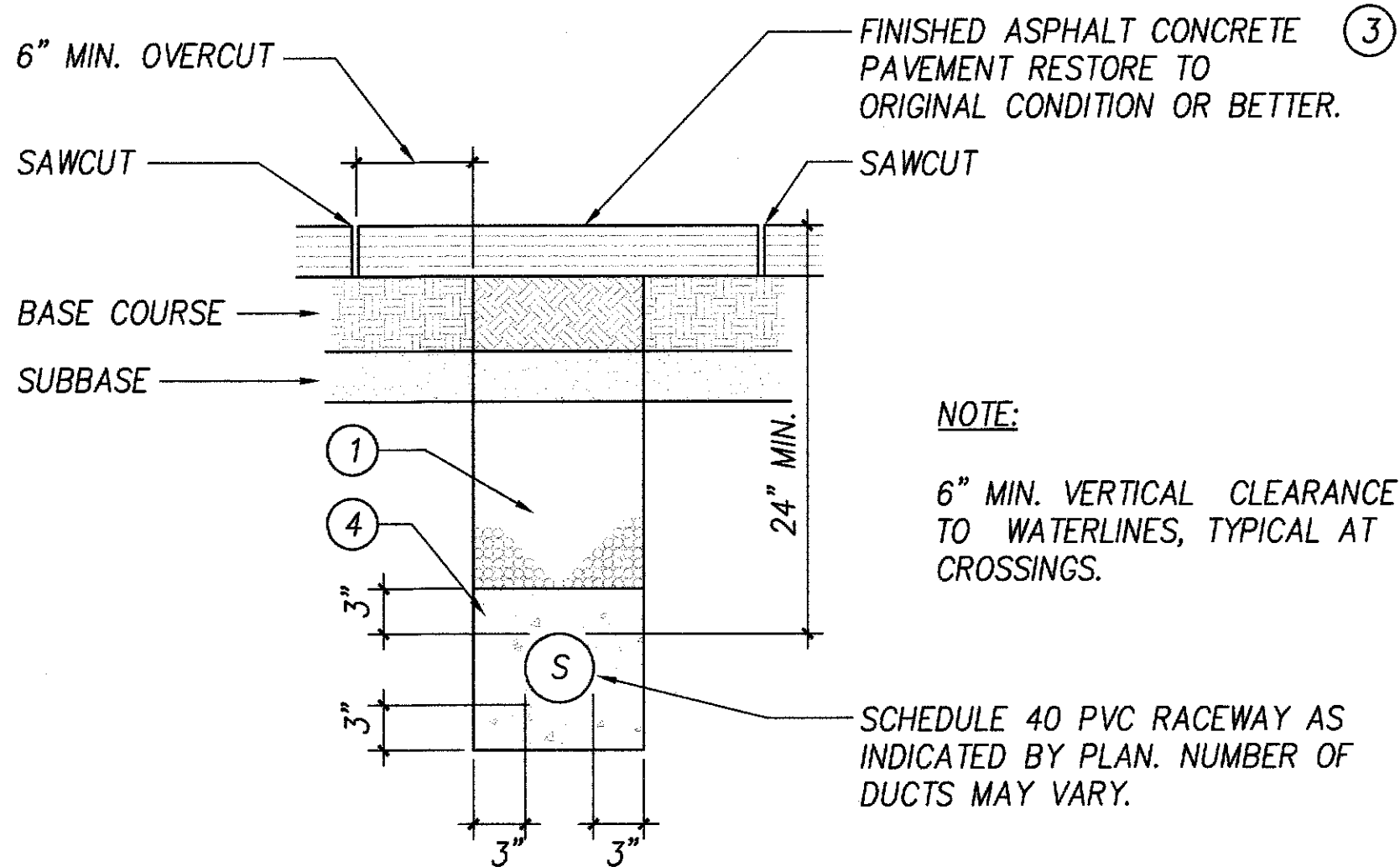
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: August 30, 2004

SHEET No. E-1 OF 40 SHEETS



DIRECT BURIED DUCT TYPE A



ENCASED DUCT TYPE B

TYPICAL DUCT SECTIONS  
NOT TO SCALE

NOTES:

- TYPE "A" BACKFILL - BEACH SAND, EARTH, OR EARTH AND GRAVEL. IF EARTH AND GRAVEL, THE MAXIMUM ROCK SIZE SHALL BE 1" AND THE MIXTURE SHALL NOT CONTAIN MORE THAN 50% BY VOLUME OF ROCK PARTICLES.
- TYPE "B" BACKFILL - BEACH SAND, EARTH, OR EARTH AND GRAVEL. IF EARTH AND GRAVEL, THE MIXTURE MUST PASS A 1/2" MESH SCREEN AND CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES.
- CONCRETE STRUCTURE/PAVEMENT SHALL BE EQUIVALENT OR BETTER THAN EXISTING IN THICKNESS AND QUALITY.
- PROVIDE 3" CONCRETE JACKET SCHEDULE 40 UNDER ROADWAY CONDITIONS.

SURVEY PLANNED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	125	163

# NOTES:

- REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUITS AND CONNECT TO PUSH BUTTONS. SEE  $\frac{2}{E-35}$
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C #14.
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITS AND CONDUITS UNLESS OTHERWISE NOTED.
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 2-2/C #14

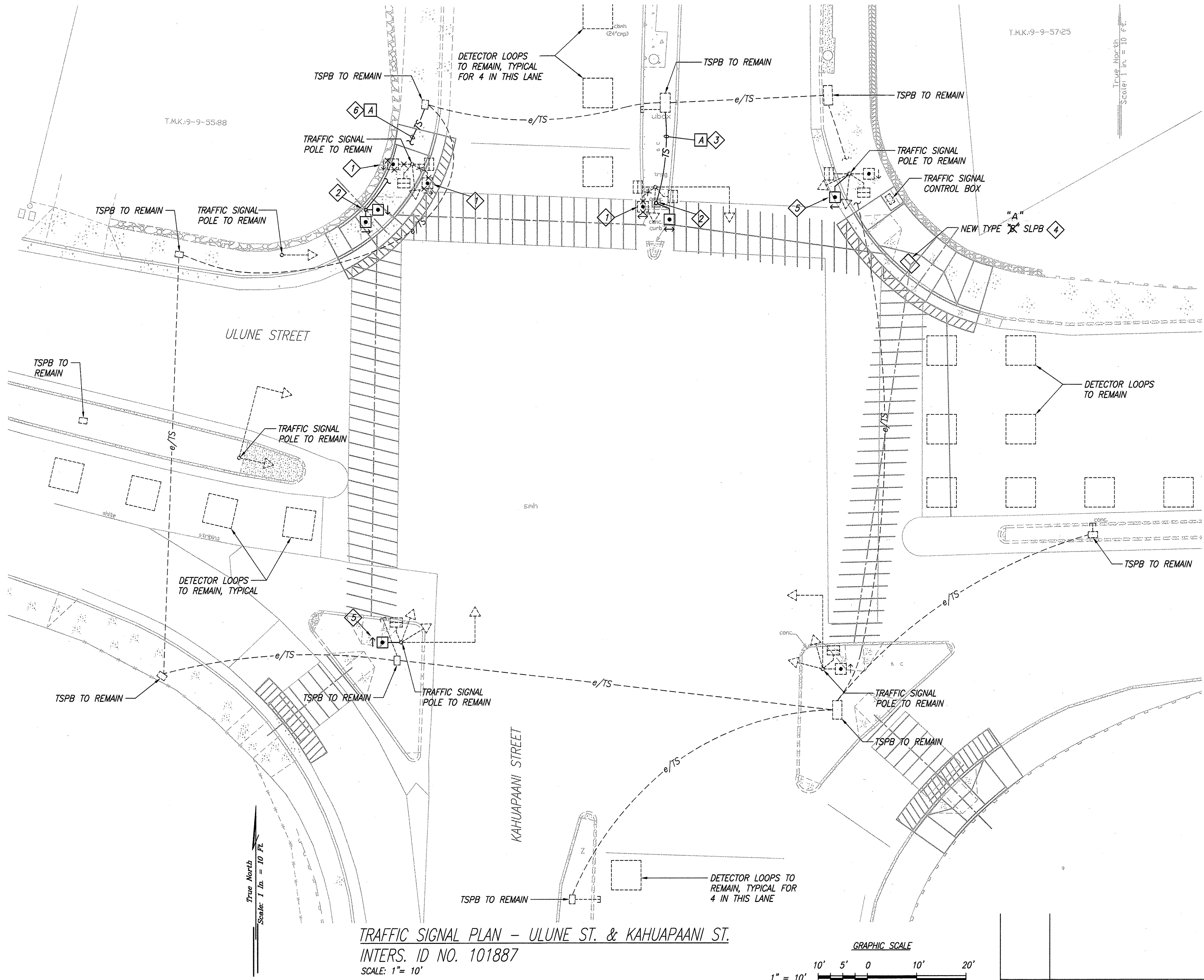


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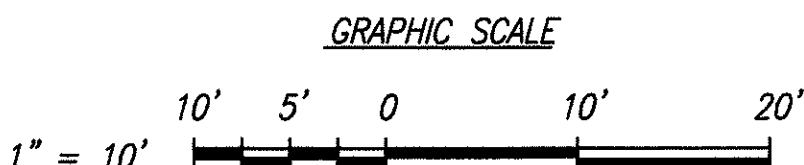
*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE *cc*

DTS, C&C HONOLULU	DRAWING REVIEWED <i>7</i>
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TRAFFIC SIGNAL PLAN ULUNE ST. & KAHUAPAANI ST.  Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 6 Fed. Aid Proj. No. CMAQ-0300(97) Scale: As Shown Date: August 30, 2004 SHEET No. E-2 OF 40 SHEETS <b>"AS-BUILT"</b> 125	



TRAFFIC SIGNAL PLAN - ULUNE ST. & KAHUAPAANI ST.  
INTER. ID NO. 101887  
SCALE: 1" = 10'



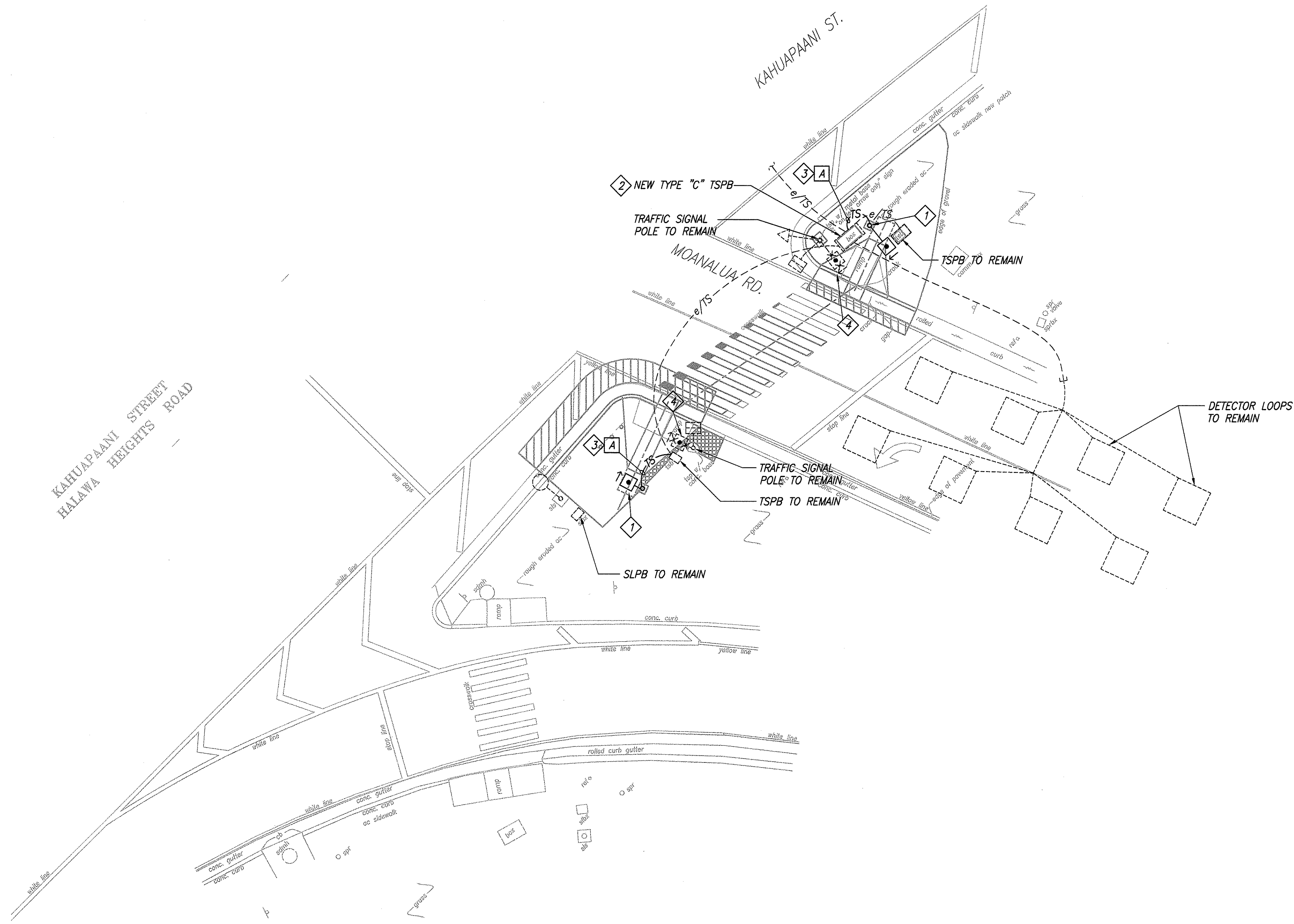
SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	No.



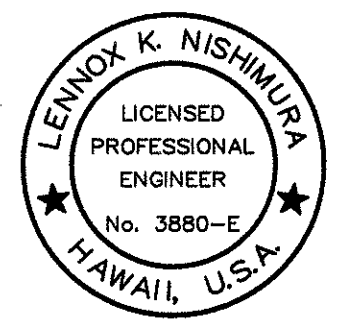
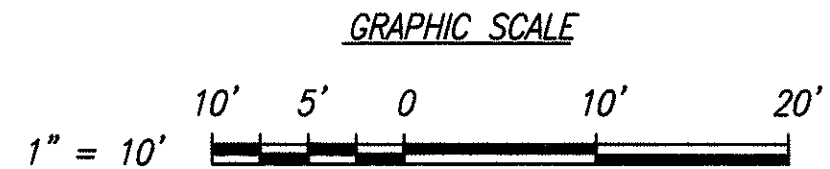
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	126	163

NOTES:

- 1 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE  $\frac{2}{E-35}$
- 2 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.
- 3 TRENCH TO INSTALL NEW CONDUIT 1-2" C WITH 1-2/C #14
- 4 REMOVE EXISTING PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING HOLE.



TRAFFIC SIGNAL PLAN - KAHUAPAANI ST. & MOANALUA OFF RAMP (NORTHBOUND)  
INTERS. ID NO. 101687  
SCALE: 1" = 10'



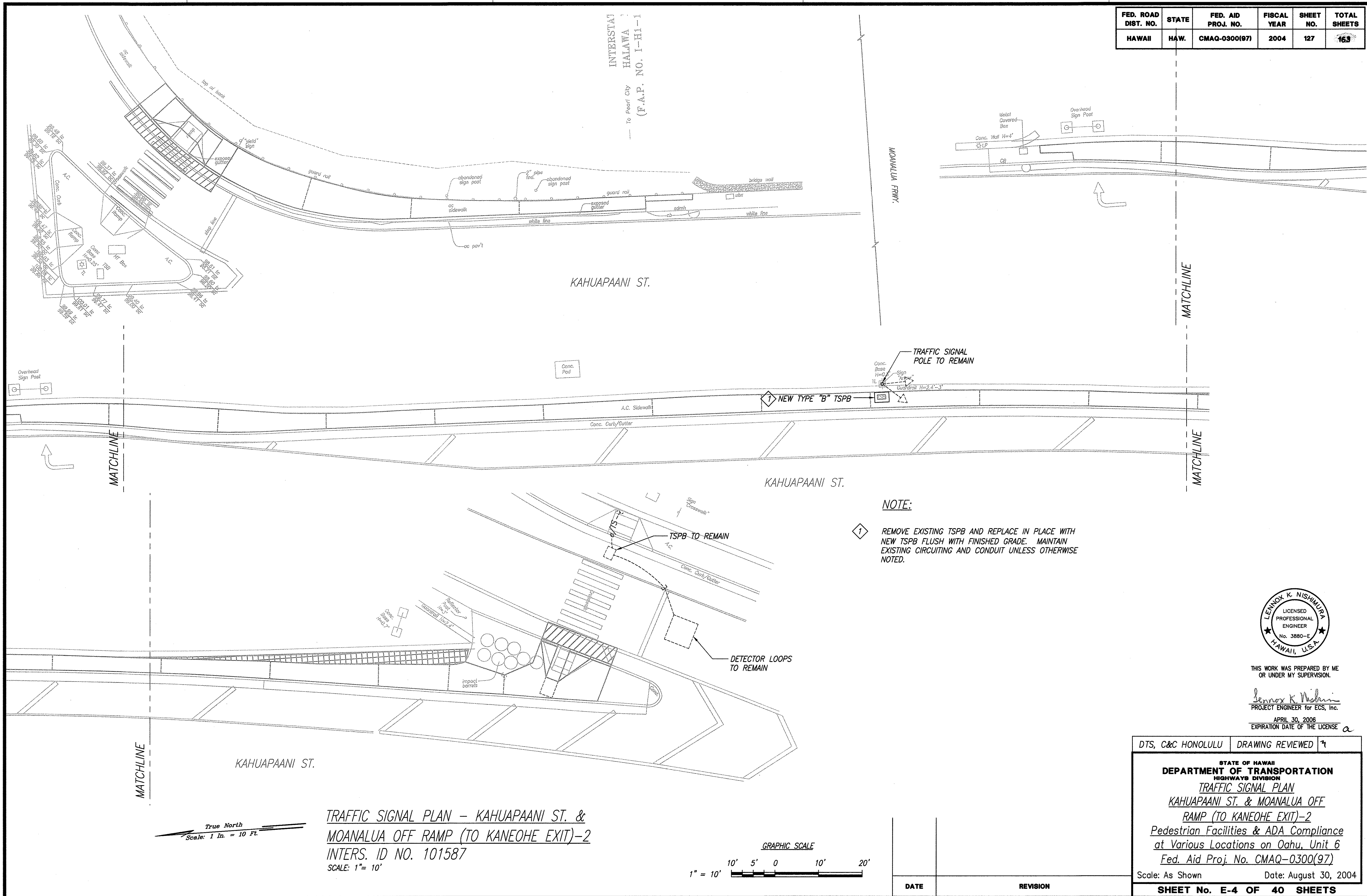
THIS WORK WAS PREPARED BY ME  
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*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.  
APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE *CL*

DTS, C&C HONOLULU		DRAWING REVIEWED	2
<b>STATE OF HAWAII</b> <b>DEPARTMENT OF TRANSPORTATION</b> <b>HIGHWAYS DIVISION</b> <b>TRAFFIC SIGNAL PLAN</b> <b>KAHUPAANI ST. &amp;</b> <b>MOANALUA OFF RAMP (NORTHBOUND)</b> <b>Pedestrian Facilities &amp; ADA Compliance</b> <b>at Various Locations on Oahu, Unit 6</b> <b>Fed. Aid Proj. No. CMAQ-0300(97)</b>			
Scale: As Shown		Date: August 30, 2004	
<b>SHEET No. E-3 OF 40 SHEETS</b>			

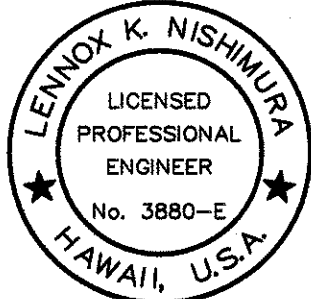
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	127	163



NOTE:

- 1 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND CONDUIT UNLESS OTHERWISE NOTED.



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PROJECT ENGINEER for ECS, Inc.

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EXPIRATION DATE OF THE LICENSE

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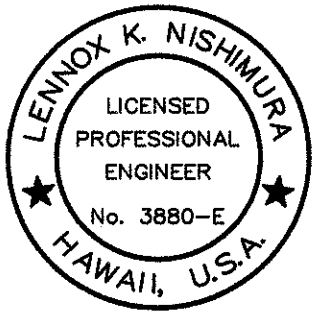
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAHUAPAANI ST. & MOANALUA OFF  
RAMP (TO KANEOHE EXIT)-2  
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)  
Scale: As Shown Date: August 30, 2004  
SHEET No. E-4 OF 40 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	128	163

NOTES:

- 1 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- 2 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUITS AND CONNECT TO PUSH BUTTONS. SEE  $\frac{2}{E-35}$
- 3 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C #14
- 4 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$
- 5 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 2-2/C #14



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APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

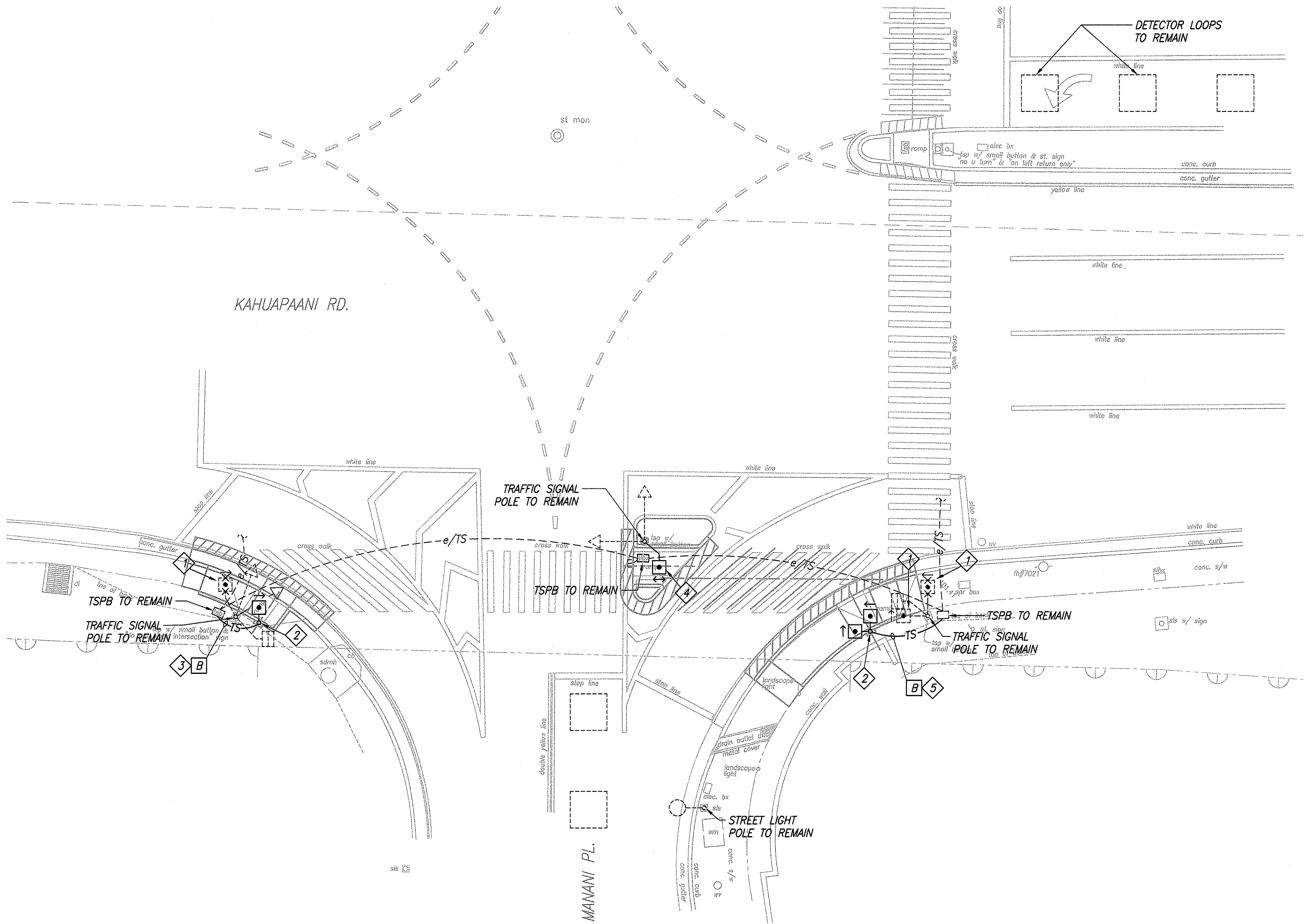
DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAHUAPAANI RD. & MANANAI PL.

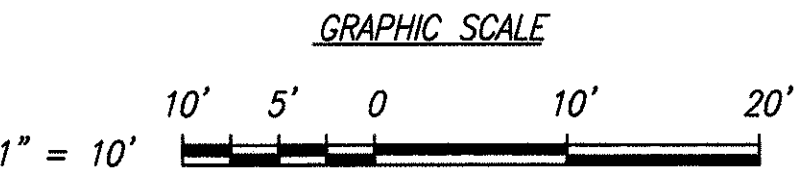
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: August 30, 2004

SHEET No. E-5 OF 40 SHEETS



TRAFFIC SIGNAL PLAN - KAHUAPAANI RD. & MANANAI PL.  
INTERS. ID NO. 101287  
SCALE: 1" = 10'

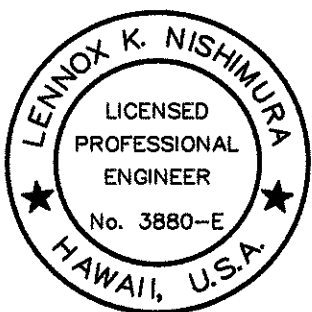


ORIGINAL PLAN	SURVEY PLATTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	129	163

NOTES:

- 1 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- 2 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTONS. SEE 2  
E-35
- 3 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2"C WITH 1-2/C#14
- 4 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITS AND CONDUITS UNLESS OTHERWISE NOTED.
- 5 TRENCH TO INSTALL NEW CONDUIT. 1-2"C WITH 1-2/C #14 AND 1-4/C#14
- 6 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2"C WITH 2-2/C#14
- 7 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE.
- 8 RELOCATED TRAFFIC SIGNAL STANDARD WITH PEDESTRIAN SIGNAL HEAD AND NEW PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PEDESTRIAN SIGNAL HEAD AND PUSH BUTTON. SEE 1 2  
E-36 E-37
- 9 DEMOLISH CONCRETE BASE AND CONDUIT TO 12" BELOW FINISHED GRADE.
- 10 PROVIDE NEW DETECTOR LOOPS. ABANDON EXISTING DETECTOR LOOPS IN PLACE. SEE 1  
E-38
- 11 PROVIDE MICROWAVE ON EXISTING TRAFFIC SIGNAL LIGHT POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE 1  
E-30



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PROJECT ENGINEER for EGS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE a

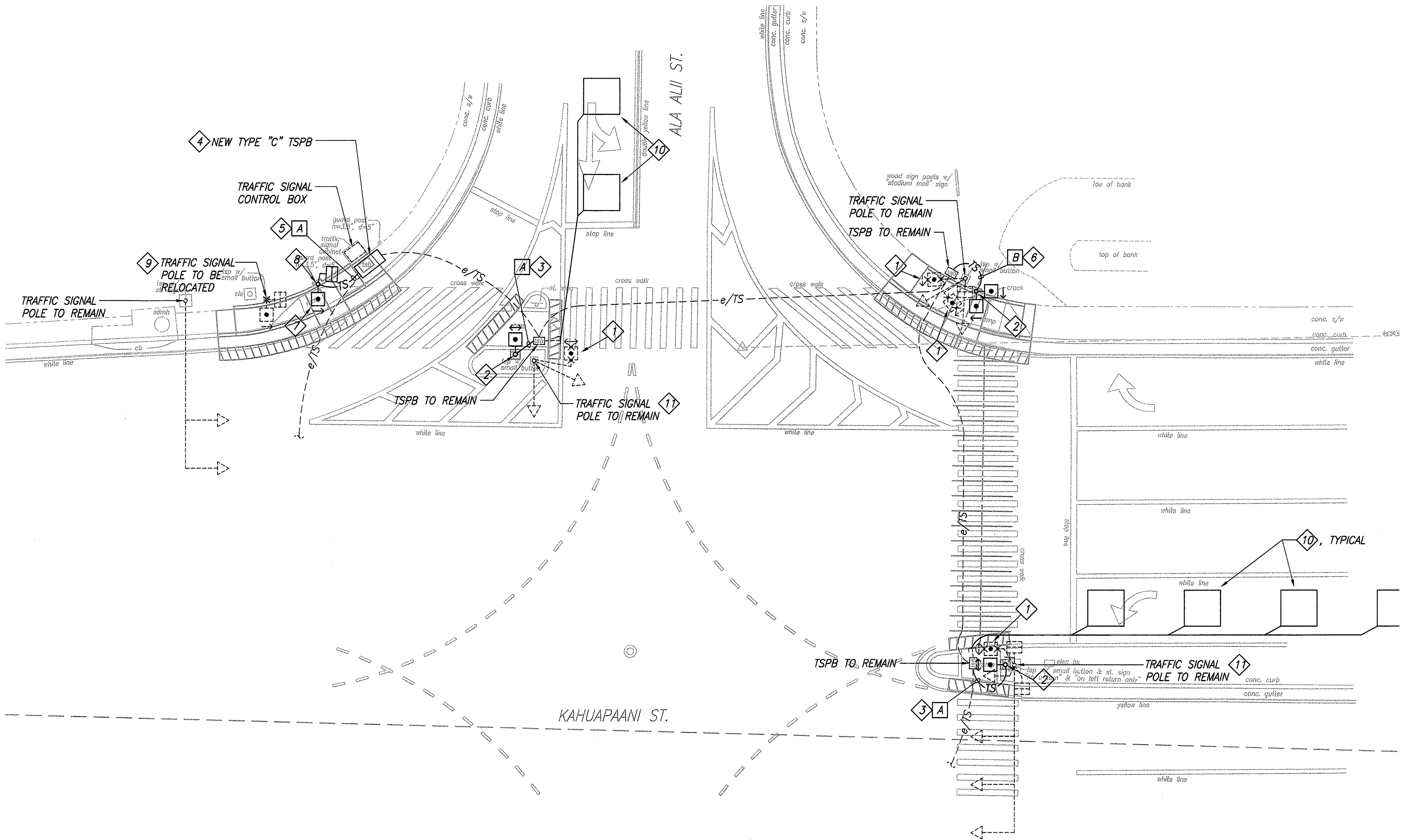
DTS, C&C HONOLULU DRAWING REVIEWED 1

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAHUAPAANI ST. & ALA ALII ST.

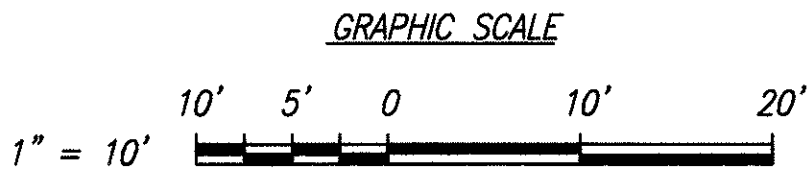
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: August 30, 2004

SHEET No. E-6 OF 40 SHEETS



TRAFFIC SIGNAL PLAN - KAHUAPAANI ST. & ALA ALII ST.  
INTERS. ID NO. 101387  
SCALE: 1"= 10'



DATE REVISION

ORIGINAL PLAN	SURVEY PLATTED BY	DATE
NO. _____	DRAWN BY	_____
	TRACED BY	_____
	CHECKED BY	_____
	CHECKED BY	_____



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	130	163

NOTES:

- REMOVE PEDESTRIAN PUSHBUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- NEW I-7 STANDARD WITH PUSH BUTTON AND TWO (2) PEDESTRIAN SIGNAL HEADS. CONNECT PUSH BUTTON AND PEDESTRIAN SIGNAL HEADS TO EXISTING CIRCUITS. SEE  $\frac{1}{E-36}$
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C#14, 2-4/C#14
- SIGNAL POLE TO BE REMOVED. ONCE REMOVED DEMOLISH FOUNDATION TO 12" BELOW FINISHED GRADE.
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE  $\frac{1}{E-35}$
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$



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PROJECT ENGINEER for EGS, Inc.

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EXPIRATION DATE OF THE LICENSE

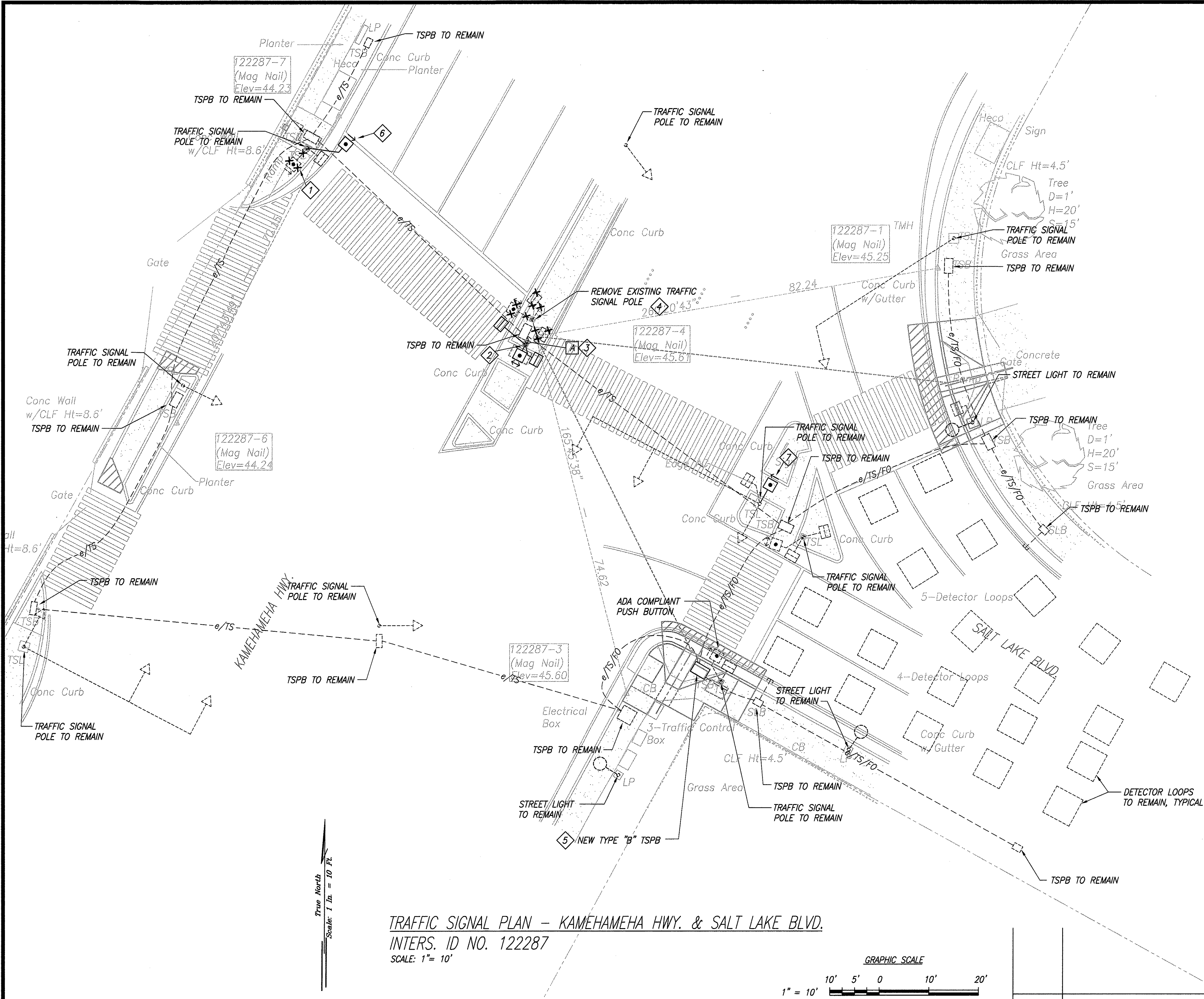
DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAMEHAMEHA HWY. & SALT LAKE BLVD.

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: JULY 19, 2004

SHEET No. E-7 OF 40 SHEETS



TRAFFIC SIGNAL PLAN - KAMEHAMEHA HWY. & SALT LAKE BLVD.  
INTERS. ID NO. 122287  
SCALE: 1"= 10'

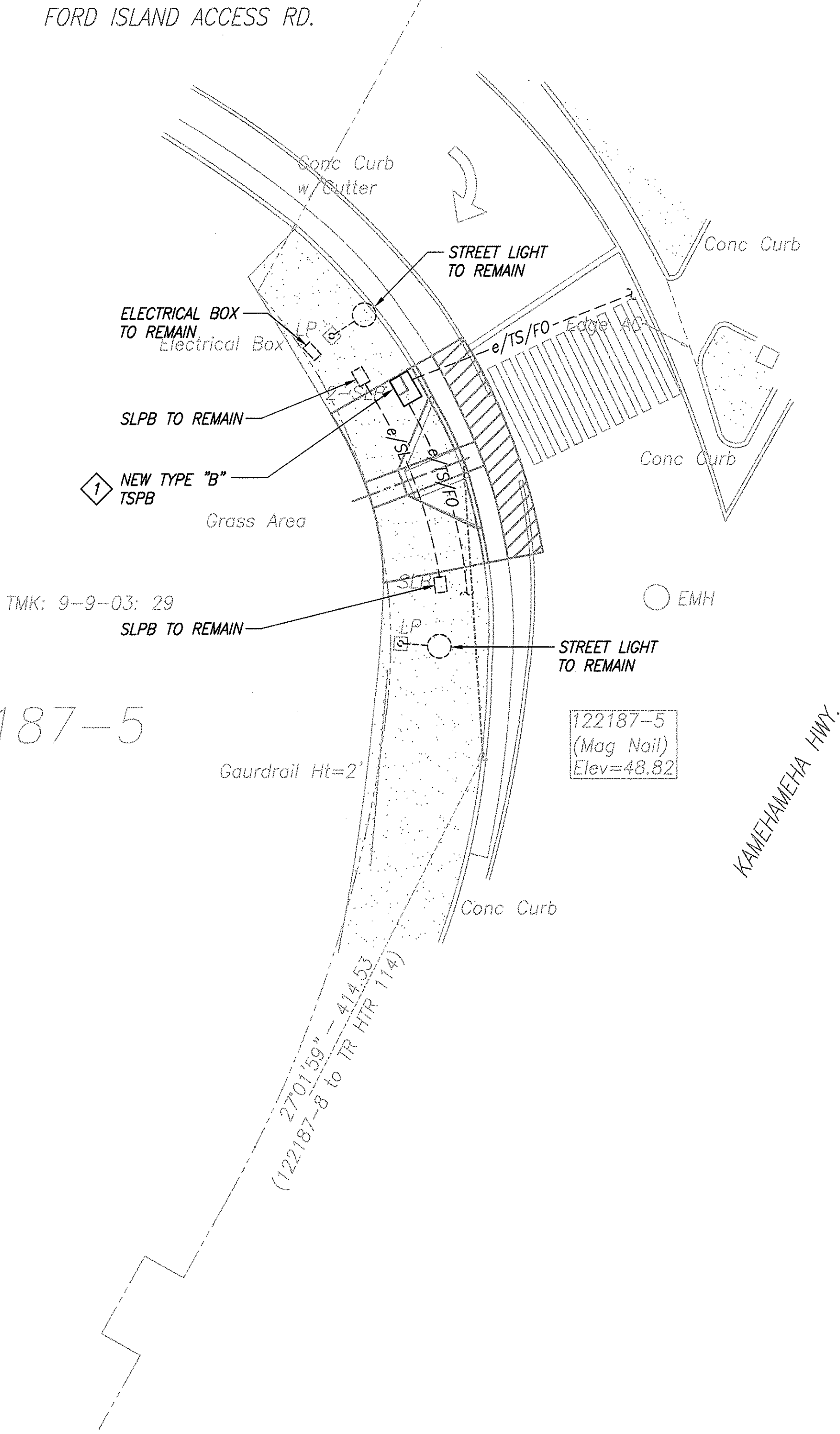
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	131	163

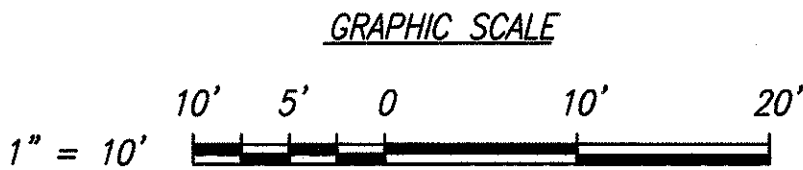
NOTE:

1 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.

Site: #122187-5



TRAFFIC SIGNAL PLAN - KAMEHAMEHA HWY. & FORD ISLAND ACCESS RD.  
 INTERS. ID NO. 122187  
 SCALE: 1" = 10'



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Lennox K. Nishimura  
 PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
 EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
 TRAFFIC SIGNAL PLAN  
 KAMEHAMEHA HWY. & FORD ISLAND ACCESS RD.

Pedestrian Facilities & ADA Compliance  
 at Various Locations on Oahu, Unit 6  
 Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: JULY 19, 2004

SHEET No. E-8 OF 40 SHEETS

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTES BOOK	
QUANTITIES BY	
CHECKED BY	



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	132	163

NOTES:

- 1 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUITS AND CONNECT TO PUSH BUTTONS. SEE  $\frac{2}{E-35}$
- 2 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 2-2/C#14
- 3 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 4 PROVIDE NEW 2-2/C#14 FOR PUSH BUTTONS IN EXISTING CONDUIT. CONNECT EXISTING PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON ON PEDESTAL.
- 5 REMOVE EXISTING TSPB AND REPLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND DUCTLINES UNLESS OTHERWISE NOTED.
- 6 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

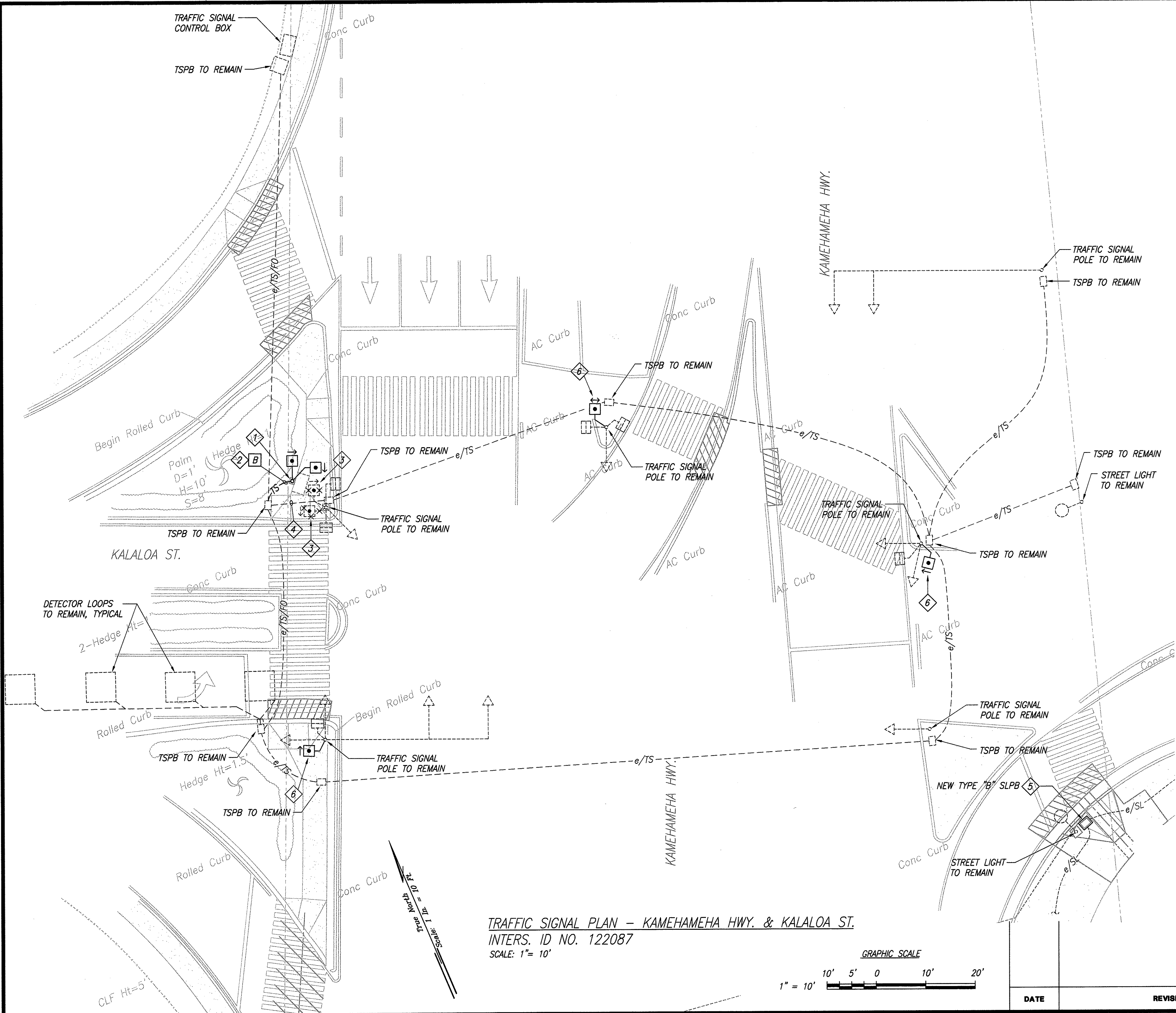
TRAFFIC SIGNAL PLAN  
KAMEHAMEHA HWY. & KALALOA ST.

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown

Date: JULY 19, 2004

SHEET No. E-9 OF 40 SHEETS

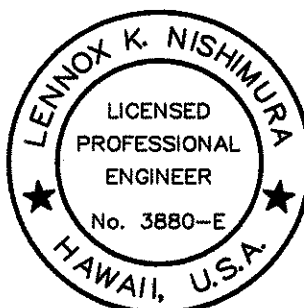


ORIGINAL PLAN	DATE
NOTE BOOK	DESIGNED BY
	QUANTITIES BY
	CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	133	163

NOTES:

- 1 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 2/E-35
- 2 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2"C WITH 1-2/C#14
- 3 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 4 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- 5 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2"C WITH 2-2/C#14
- 6 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1/E-35



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.  
APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

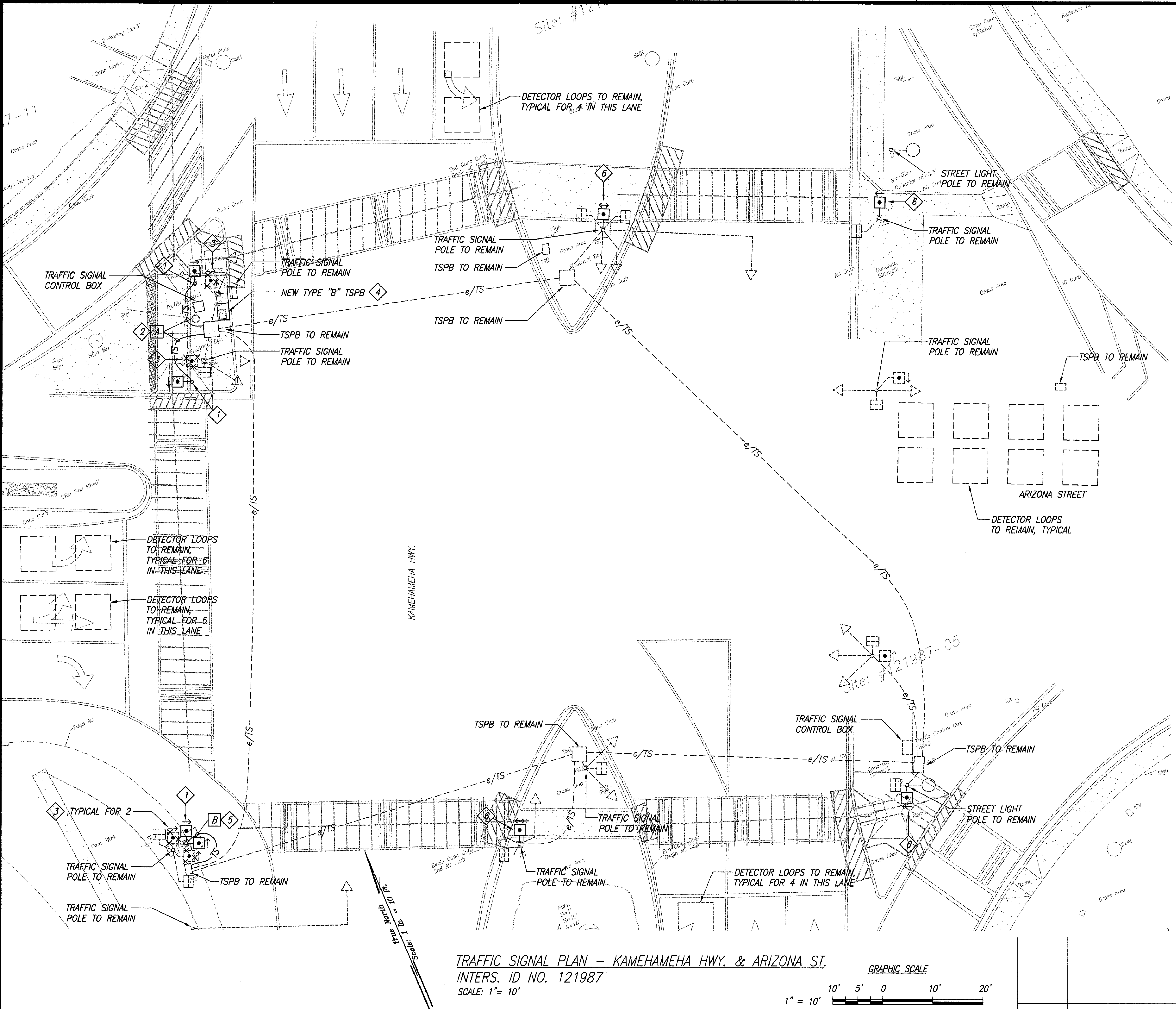
DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAMEHAMEHA HWY. & ARIZONA ST.

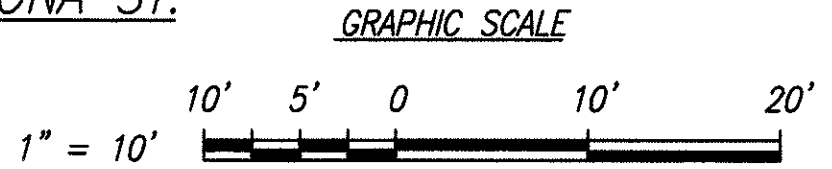
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: JULY 19, 2004

SHEET No. E-10 OF 40 SHEETS



TRAFFIC SIGNAL PLAN - KAMEHAMEHA HWY. & ARIZONA ST.  
INTERS. ID NO. 121987  
SCALE: 1"= 10'



DATE	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

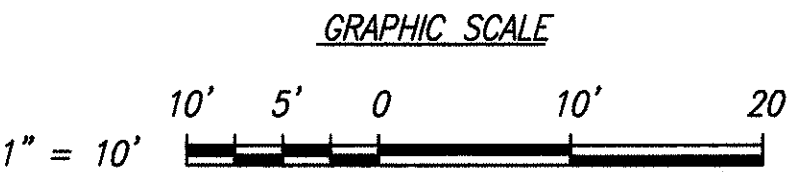


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	134	163

NOTES:

- 1 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUITS AND CONNECT TO PUSH BUTTONS. SEE  $\frac{2}{E-35}$
- 2 TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 2-2/C#14
- 3 REMOVE PEDESTRIAN PUSH BUTTONS AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 4 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- 5 REMOVE EXISTING PEDESTRIAN PUSH BUTTONS AND REPLACE WITH NEW PUSHBUTTONS. RECONNECT PUSH BUTTON CIRCUITS TO NEW PUSH BUTTONS. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$

TRAFFIC SIGNAL PLAN - KAMEHAMEHA HWY.  
& RADFORD DR.  
INTERS. ID NO. 121887  
SCALE: 1"= 10'



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OR UNDER MY SUPERVISION.

*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.  
APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

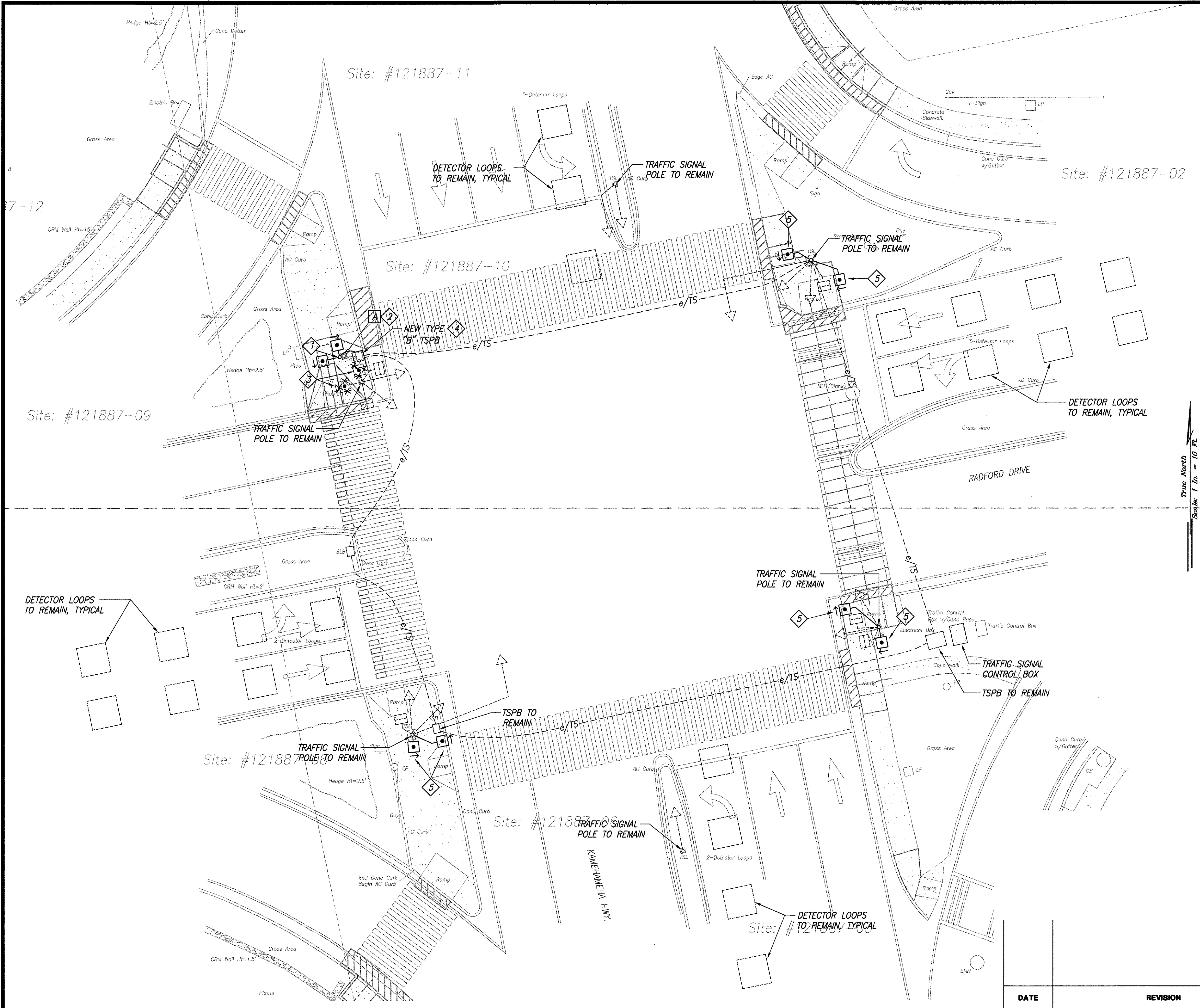
DTS, C&C HONOLULU DRAWING REVIEWED  $\gamma$

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAMEHAMEHA HWY. & RADFORD DR.

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: JULY 19, 2004

SHEET No. E-11 OF 40 SHEETS



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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	135	163

NOTES:

- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUITS AND CONNECT TO PUSH BUTTONS. SEE 2  
E-35
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C#14
- REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1  
E-35
- PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE 1  
E-35
- PROVIDE NEW DETECTOR LOOPS. ABANDON EXISTING DETECTOR LOOPS IN PLACE. SEE 1  
E-38
- PROVIDE MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL LIGHT POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE 1  
E-30



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

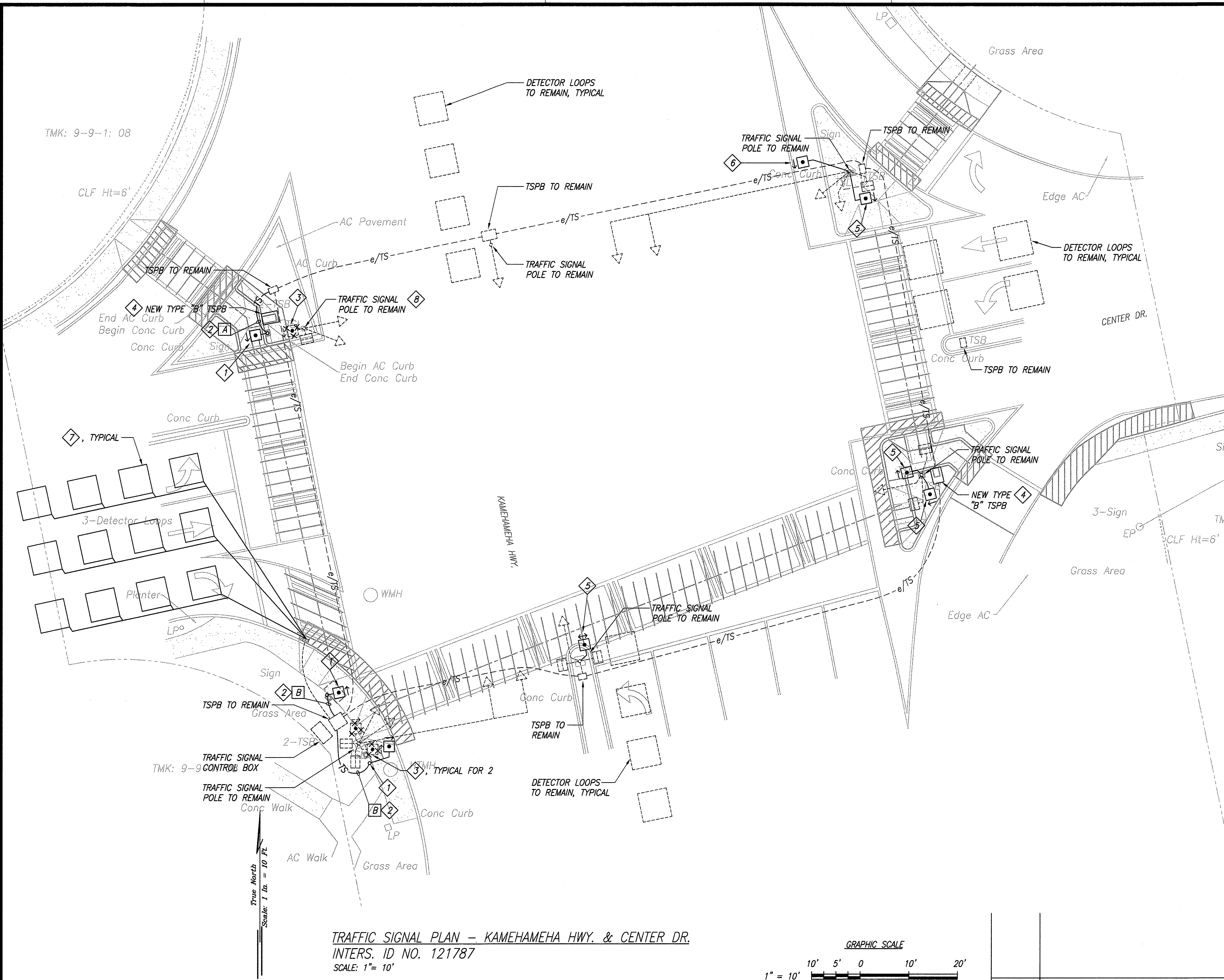
DTS, C&C HONOLULU	DRAWING REVIEWED	7
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAMEHAMEHA HWY. & CENTER DR.

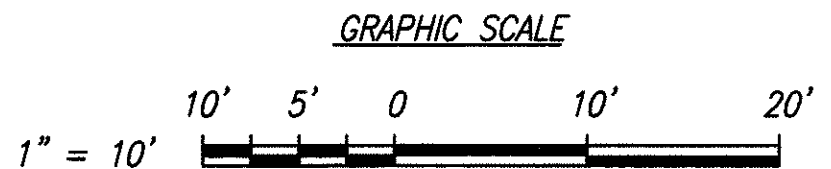
*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown Date: JULY 19, 2004

SHEET No. E-12 OF 40 SHEETS



TRAFFIC SIGNAL PLAN - KAMEHAMEHA HWY. & CENTER DR.  
INTERS. ID NO. 121787  
SCALE: 1"= 10'



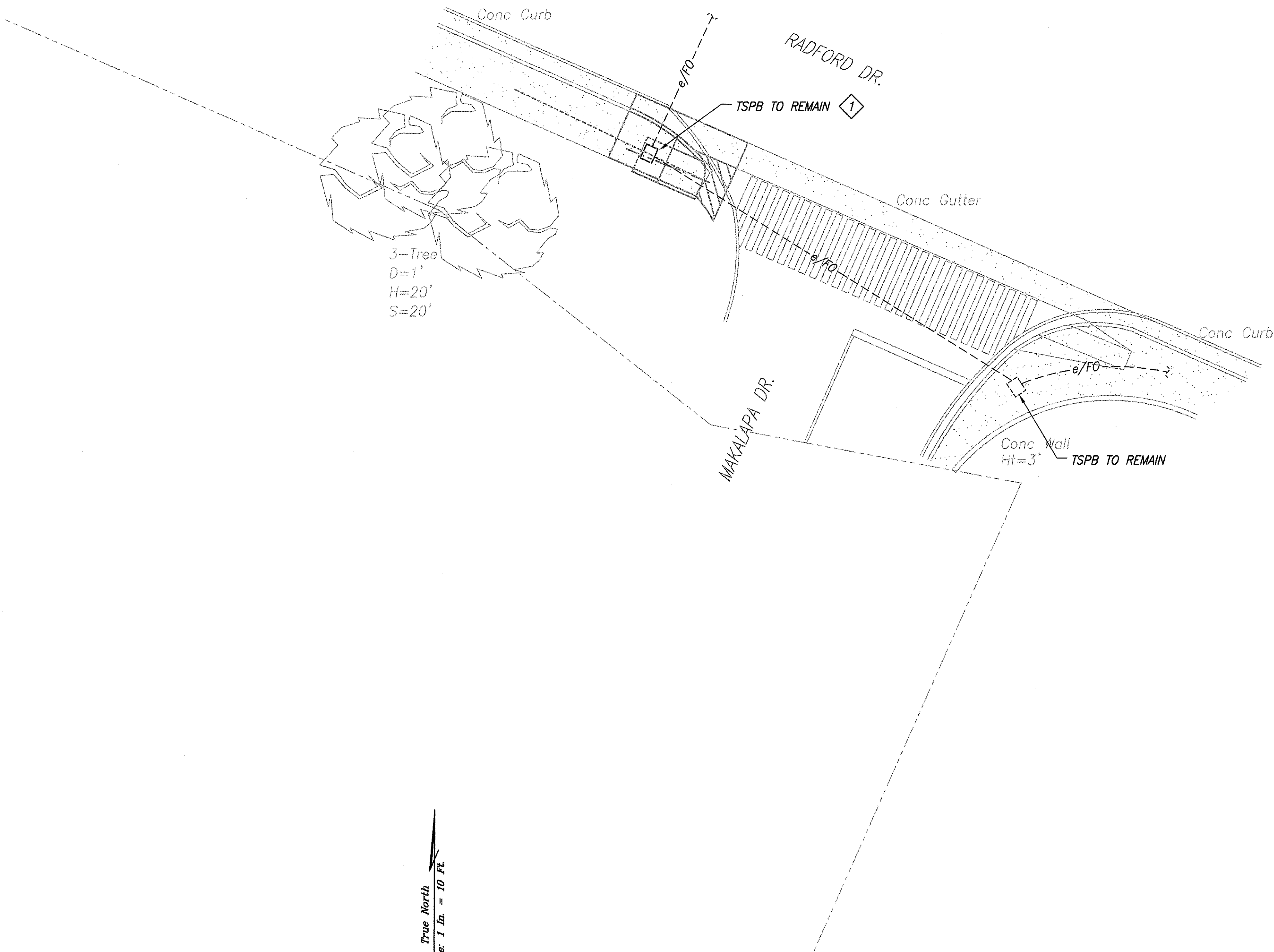
ORIGINAL PLAN	DATE
SURVEY PLATTED BY	
DRAWN BY	
TRACED BY	
CHECKED BY	
NO. _____	



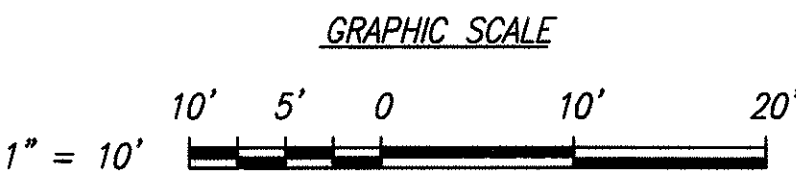
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	136	165

NOTE:

1 ADJUST EXISTING PULLBOX FRAME AND COVER TO MATCH SLOPE OF NEW RAMP. SEE 1  
E-40



TRAFFIC SIGNAL PLAN – RADFORD DR. & MAKALAPA DR.  
 INTERS. ID NO. 102787  
 SCALE: 1" = 10'



THIS WORK WAS PREPARED BY ME  
 OR UNDER MY SUPERVISION.

*Lennox K. Nishimura*  
 PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
 EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED *7*

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
 TRAFFIC SIGNAL PLAN  
 RADFORD DR. & MAKALAPA DR.

*Pedestrian Facilities & ADA Compliance  
 at Various Locations on Oahu, Unit 6  
 Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown Date: JULY 19, 2004

SHEET No. E-13 OF 40 SHEETS

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





FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	C.O. 137 S-7	100

NOTES:

- 1 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- 2 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 

1E-35
- 3 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 4 NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. CONNECT PUSH BUTTONS TO EXISTING CIRCUITS. SEE 

2E-35
- 5 PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE 

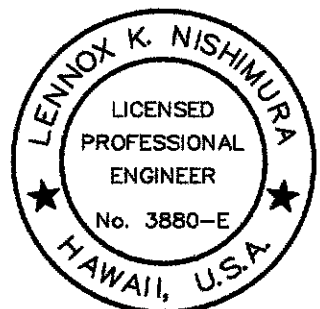
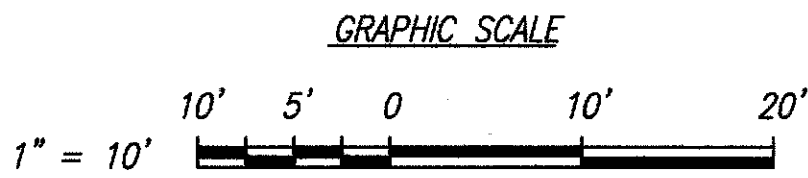
1E-35
- 6 ADJUST EXISTING PULLBOX FRAME AND COVER TO MATCH SLOPE OF NEW RAMP. SEE 

1E-40
- 7 PROVIDE NEW DETECTOR LOOPS. ABANDON EXISTING DETECTOR LOOPS IN PLACE. SEE 

1E-38
- 8 PROVIDE MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL LIGHT POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE 

1E-30

TRAFFIC SIGNAL PLAN - RADFORD DR. & BOUGAINVILLE DR.  
 INTERS. ID NO. 102687  
 SCALE: 1"= 10'



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2008  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU    DRAWING REVIEWED

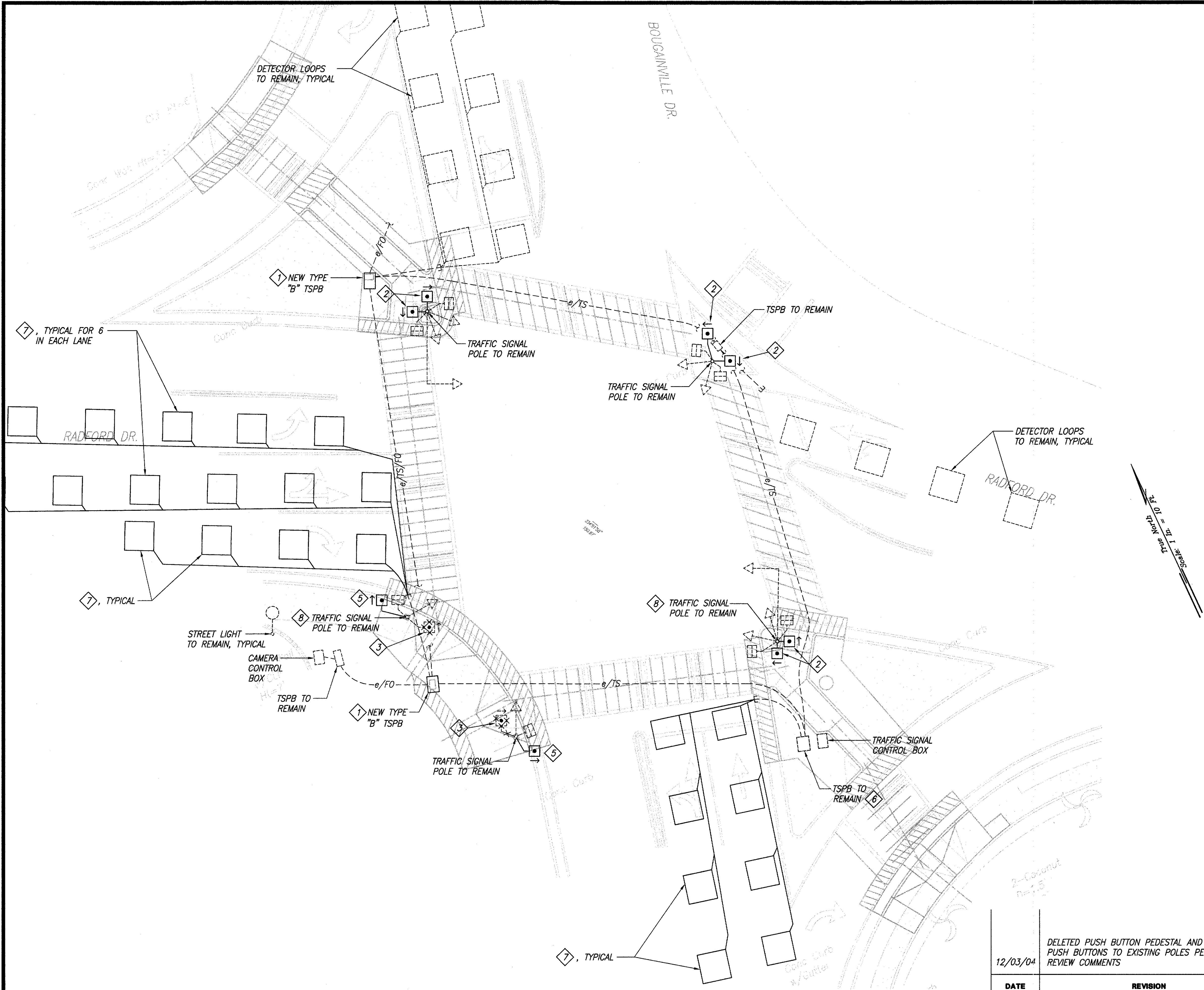
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
 TRAFFIC SIGNAL PLAN  
 RADFORD DR. & BOUGAINVILLE DR.

*Pedestrian Facilities & ADA Compliance  
 at Various Locations on Oahu, Unit 6  
 Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown      Date: August 30, 2004

SHEET No. E-14 OF 40 SHEETS

C.O. 137 S-7



DATE	_____
SURVEY PLATTED BY	_____
DRAWN BY	_____
TRACED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____







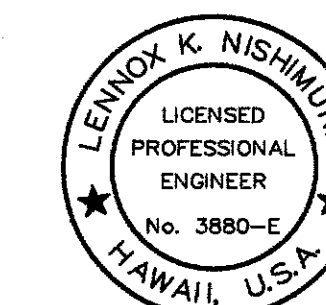




FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	C.O. 140 S-8	100

# NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTONS AND REPLACE WITH NEW PUSH BUTTONS. RECONNECT PUSH BUTTON CIRCUITS TO NEW PUSH BUTTONS PLUG ANY HOLES IN EXISTING POLE. SEE 1  
E-35
- 2 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING TRAFFIC SIGNAL WIRING AND DUCTLINES UNLESS OTHERWISE NOTED.
- 3 ADJUST EXISTING PULLBOX FRAME AND COVER TO MATCH FINISHED GRADE. SEE 1  
E-40
- 4 NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 2  
E-35
- 5 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- 6 ABANDON EXISTING DETECTOR LOOPS IN PLACE, TYPICAL.
- 7 PROVIDE NEW DETECTOR LOOPS, SEE 1  
E-38
- 8 TRENCH TO INSTALL NEW CONDUIT. 1-2" WITH 2-2/C#14
- 9 PROVIDE NEW 1-2/C#14 FOR PUSH BUTTON IN EXISTING CONDUIT. CONNECT EXISTING PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON ON PEDESTAL.
- 10 PROVIDE MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL LIGHT POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE 1  
E-30
- 11 PROVIDE NEW PUSH BUTTON ON EXISTING POLE. PROVIDE NEW 1-2/C #14 FOR PUSH BUTTON IN EXISTING CONDUIT TO TSPB ADJACENT TO ORIGINAL LOCATION. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 1  
E-35



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*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2008  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU      DRAWING REVIEWED

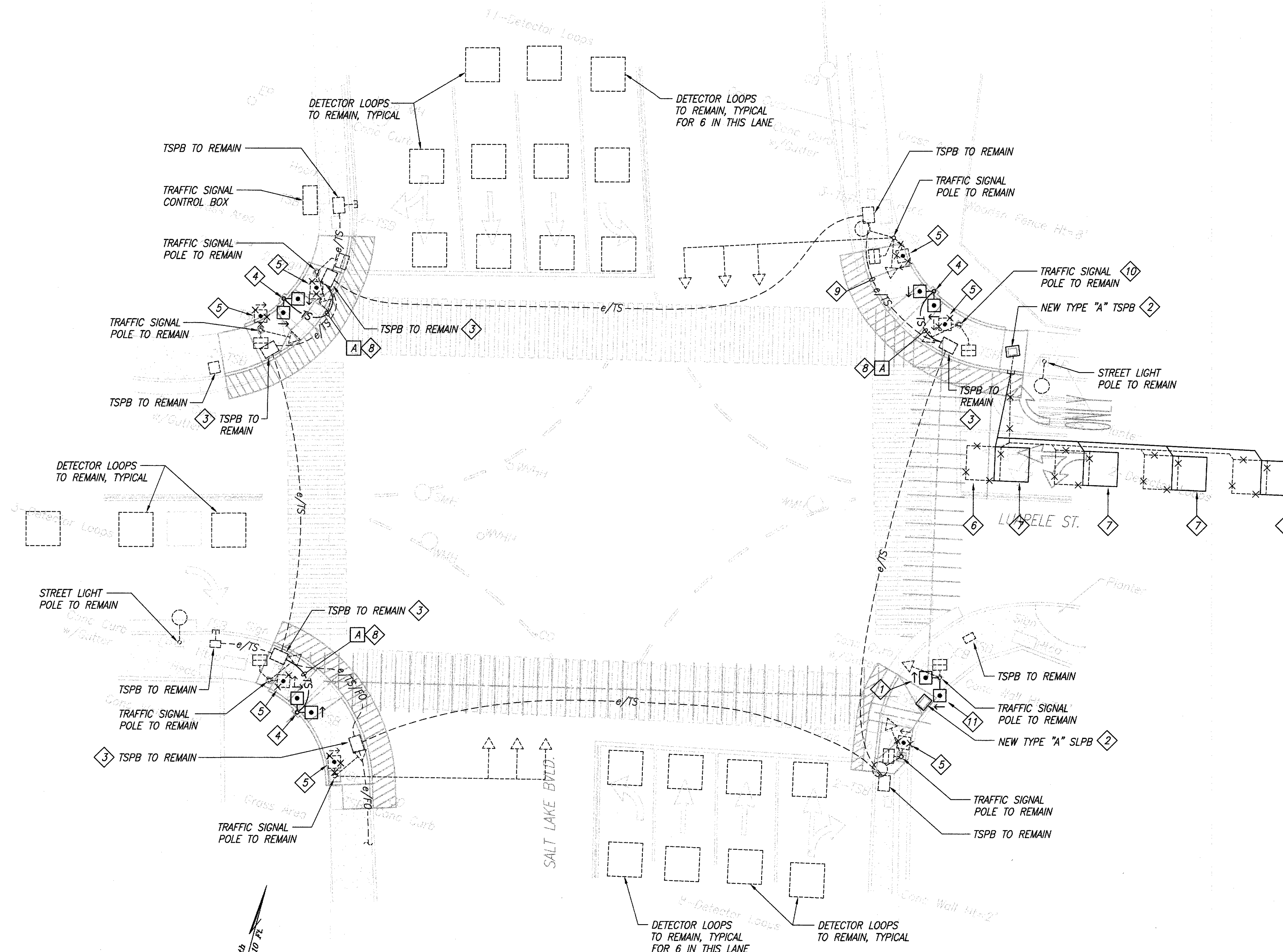
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
SALT LAKE BLVD. & LUAPELE DR.

*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

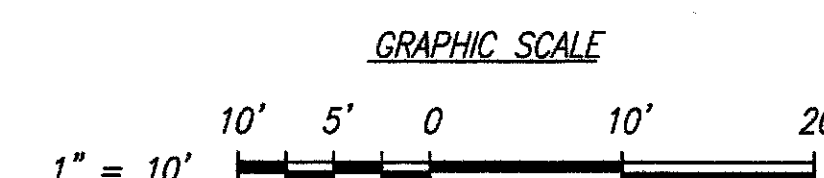
Scale: As Shown      Date: August 30, 2004

SHEET No. E-17 OF 40 SHEETS

C.O. 140 S-8



TRAFFIC SIGNAL PLAN - SALT LAKE BLVD. & LUAPELE DR.  
INTERS. ID NO. 100787  
SCALE: 1"= 10'



12/03/04	RELOCATED PUSH BUTTON PER DCAB REVIEW COMMENTS
DATE	REVISION

ORIGINAL PLAN	DATE
NO. 1	12/03/04
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	
NO. 11	
NO. 12	
NO. 13	
NO. 14	
NO. 15	
NO. 16	
NO. 17	
NO. 18	
NO. 19	
NO. 20	
NO. 21	
NO. 22	
NO. 23	
NO. 24	
NO. 25	
NO. 26	
NO. 27	
NO. 28	
NO. 29	
NO. 30	
NO. 31	
NO. 32	
NO. 33	
NO. 34	
NO. 35	
NO. 36	
NO. 37	
NO. 38	
NO. 39	
NO. 40	

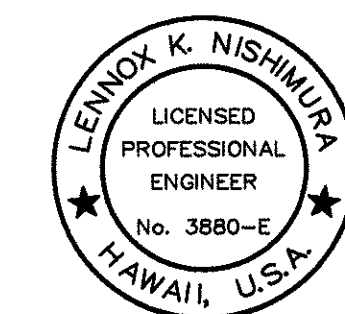
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	141	183

NOTES:

- 1 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE  $\frac{2}{E-35}$
- 2 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C#14
- 3 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 4 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$

Site: #102

TMK: 1-1-07: 38



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

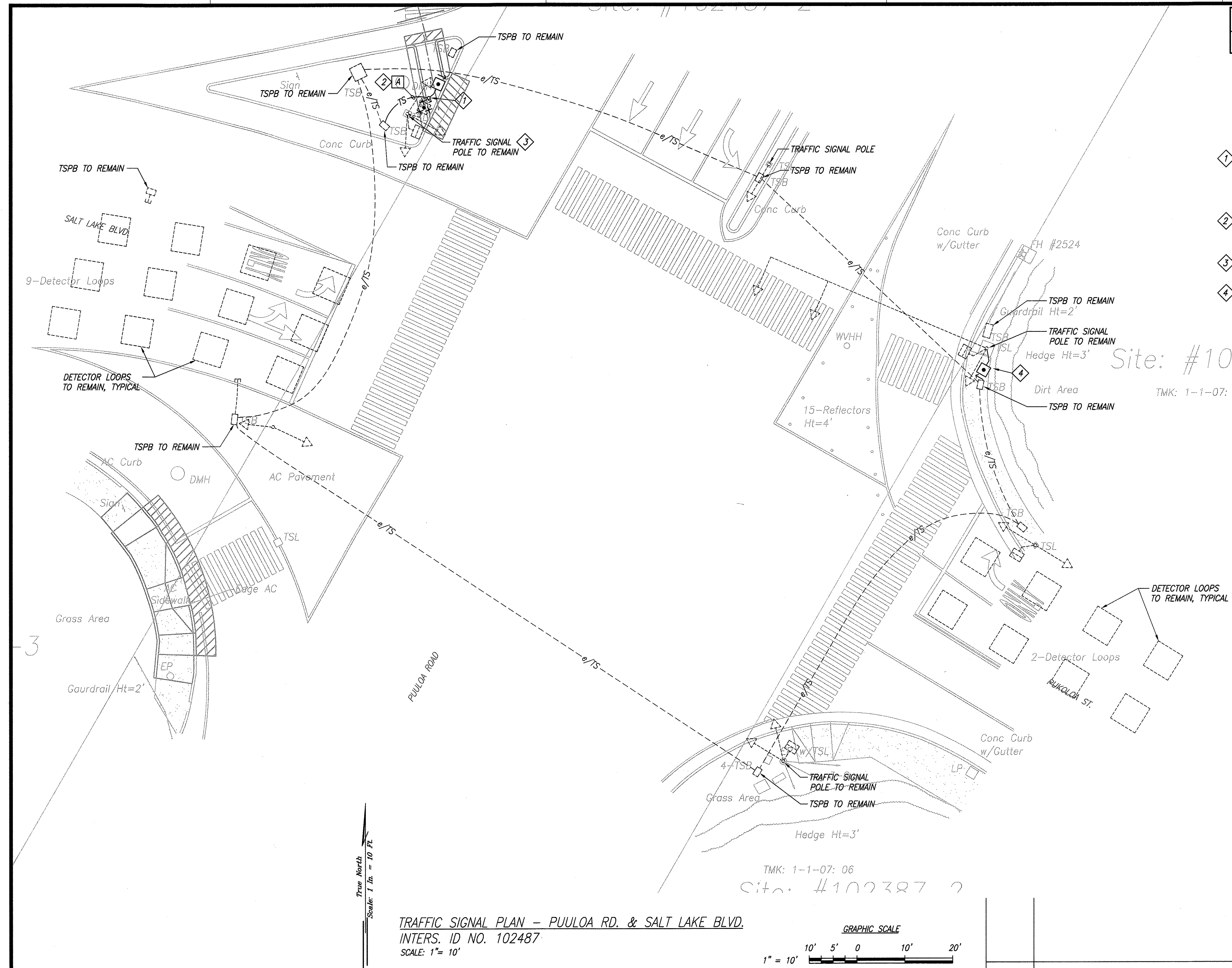
APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU	DRAWING REVIEWED	1
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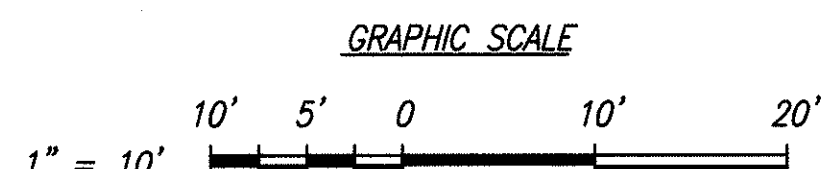
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN  
PUULOA RD. & SALT LAKE BLVD.  
  
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)  
Scale: As Shown Date: JULY 19, 2004

SHEET No. E-18 OF 40 SHEETS



TRAFFIC SIGNAL PLAN - PUULOA RD. & SALT LAKE BLVD.  
INTERS. ID NO. 102487  
SCALE: 1" = 10'



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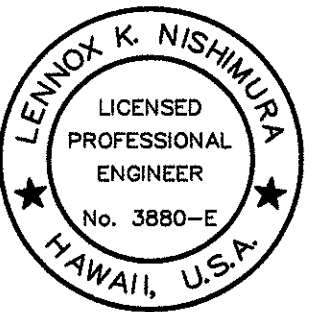
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
TRACED BY	
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	142	163

NOTES:

- REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE  $\frac{2}{E-35}$
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C #14.
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITS AND CONDUITS UNLESS OTHERWISE NOTED.
- TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 2-2/C #14
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$
- REMOVE PUSH BUTTON PEDESTAL, PUSH BUTTON, AND ASSOCIATED WIRING, DEMOLISH BASE TO 12" BELOW GRADE. RESTORE TO MATCH EXISTING.
- ADJUST EXISTING PULLBOX FRAME AND COVER TO MATCH SLOPE OF NEW RAMP. SEE  $\frac{1}{E-40}$
- PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE  $\frac{1}{E-35}$



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

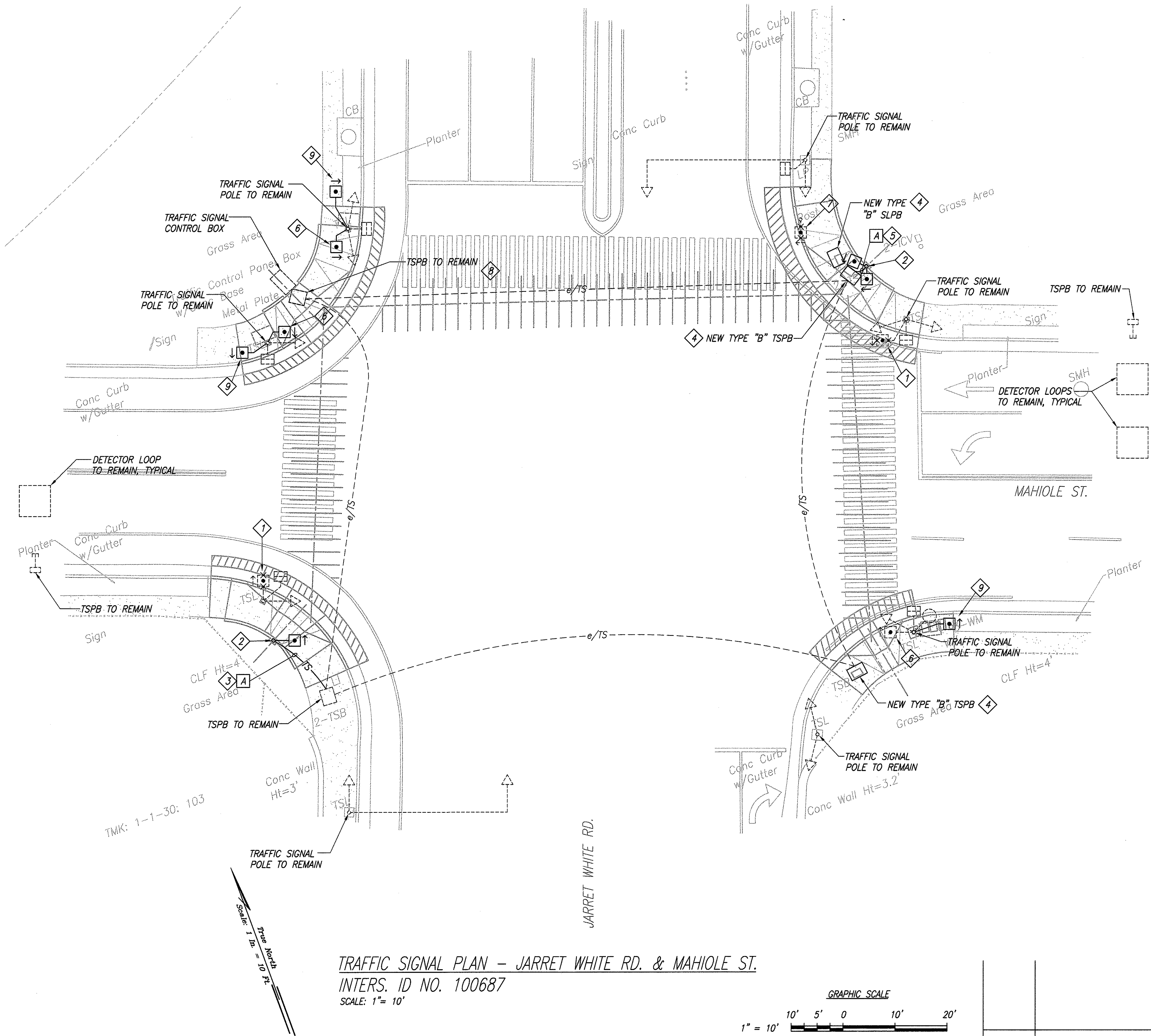
DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
JARRET WHITE RD. & MAHIOLE ST.

*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown Date: August 30, 2004

SHEET No. E-19 OF 40 SHEETS



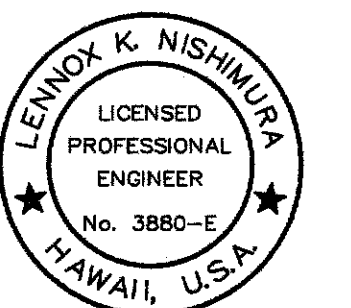
TRAFFIC SIGNAL PLAN - JARRET WHITE RD. & MAHIOLE ST.  
INTERS. ID NO. 100687  
SCALE: 1" = 10'

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	C.O. 142 S-9	100

# NOTES:

- REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE  $\frac{2}{E-35}$
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C #14.
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITS AND CONDUITS UNLESS OTHERWISE NOTED.
- TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 2-2/C #14.
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$
- REMOVE PUSH BUTTON PEDESTAL, PUSH BUTTON, AND ASSOCIATED WIRING, DEMOLISH BASE TO 12" BELOW GRADE. RESTORE TO MATCH EXISTING.
- ADJUST EXISTING PULLBOX FRAME AND COVER TO MATCH SLOPE OF NEW RAMP. SEE  $\frac{1}{E-40}$
- PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE  $\frac{1}{E-35}$



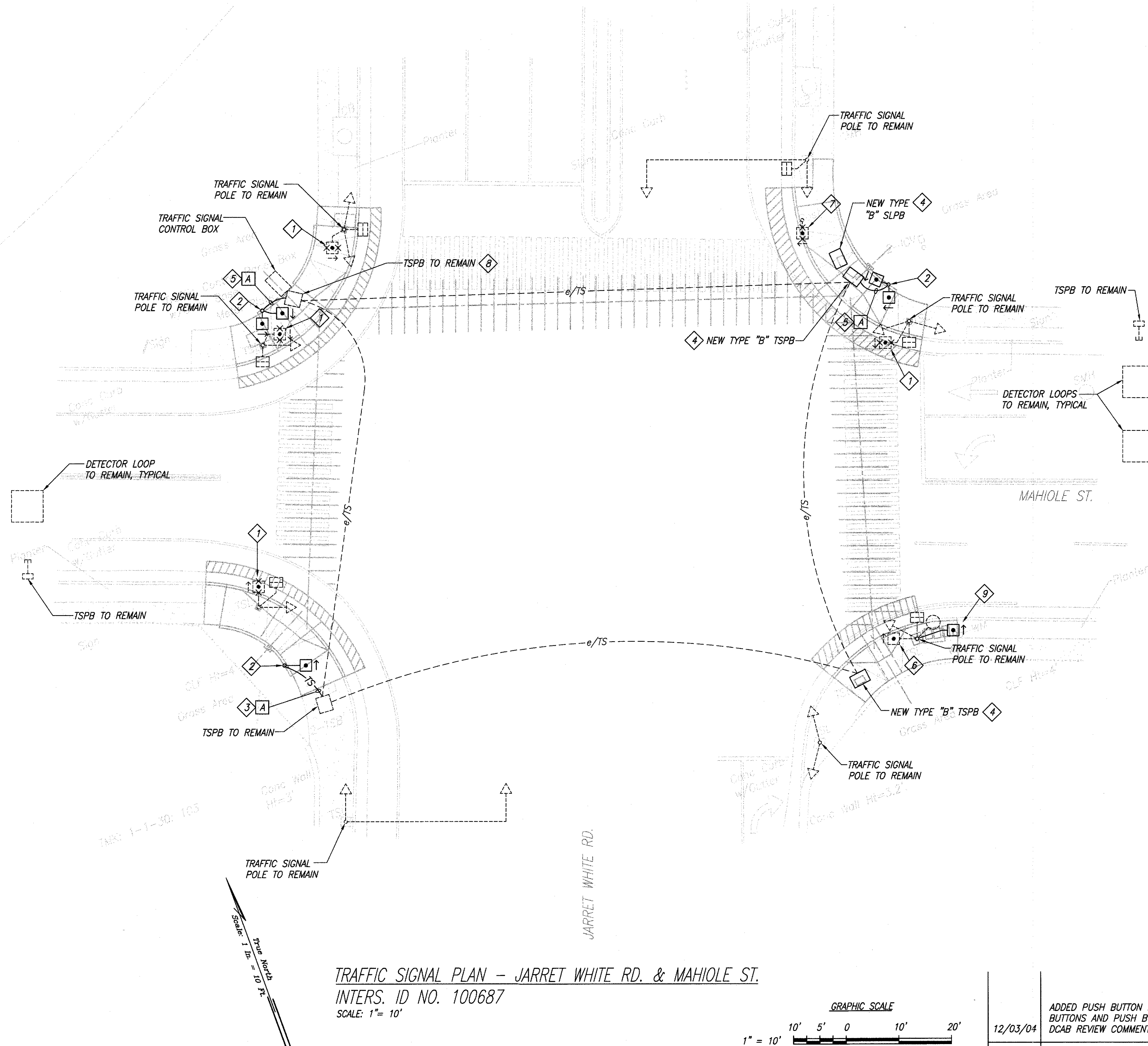
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

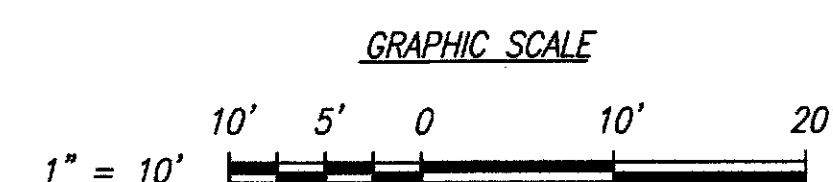
APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU	DRAWING REVIEWED
<b>STATE OF HAWAII</b> <b>DEPARTMENT OF TRANSPORTATION</b> <b>HIGHWAYS DIVISION</b> <b>TRAFFIC SIGNAL PLAN</b> <b>JARRET WHITE RD. &amp; MAHIOLE ST.</b>  <b>Pedestrian Facilities &amp; ADA Compliance</b> <b>at Various Locations on Oahu, Unit 6</b> <b>Fed. Aid Proj. No. CMAQ-0300(97)</b> Scale: As Shown Date: August 30, 2004 <b>SHEET No. E-19 OF 40 SHEETS</b>	

C.O. 142 S-9



TRAFFIC SIGNAL PLAN - JARRET WHITE RD. & MAHIOLE ST.  
INTERS. ID NO. 100687  
SCALE: 1" = 10'



DATE	REVISION
12/03/04	ADDED PUSH BUTTON PEDESTAL, RELOCATED PUSH BUTTONS AND PUSH BUTTON PEDESTALS PER DCAB REVIEW COMMENTS

DATE	_____
SURVEY PLANNED BY	_____
DRAWN BY	_____
TRACED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	143	163

NOTES:

- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 2  
E-35
- REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1  
E-35
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITING AND CONDUIT UNLESS OTHERWISE NOTED.
- TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 2-2/C #14
- PROVIDE NEW DETECTOR LOOPS. ABANDON EXISTING DETECTOR LOOPS IN PLACE. SEE 1  
E-38
- PROVIDE MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL LIGHT POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE 1  
E-30



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APRIL 30, 2008  
EXPIRATION DATE OF THE LICENSE *a*

DTS, C&C HONOLULU    DRAWING REVIEWED *7*

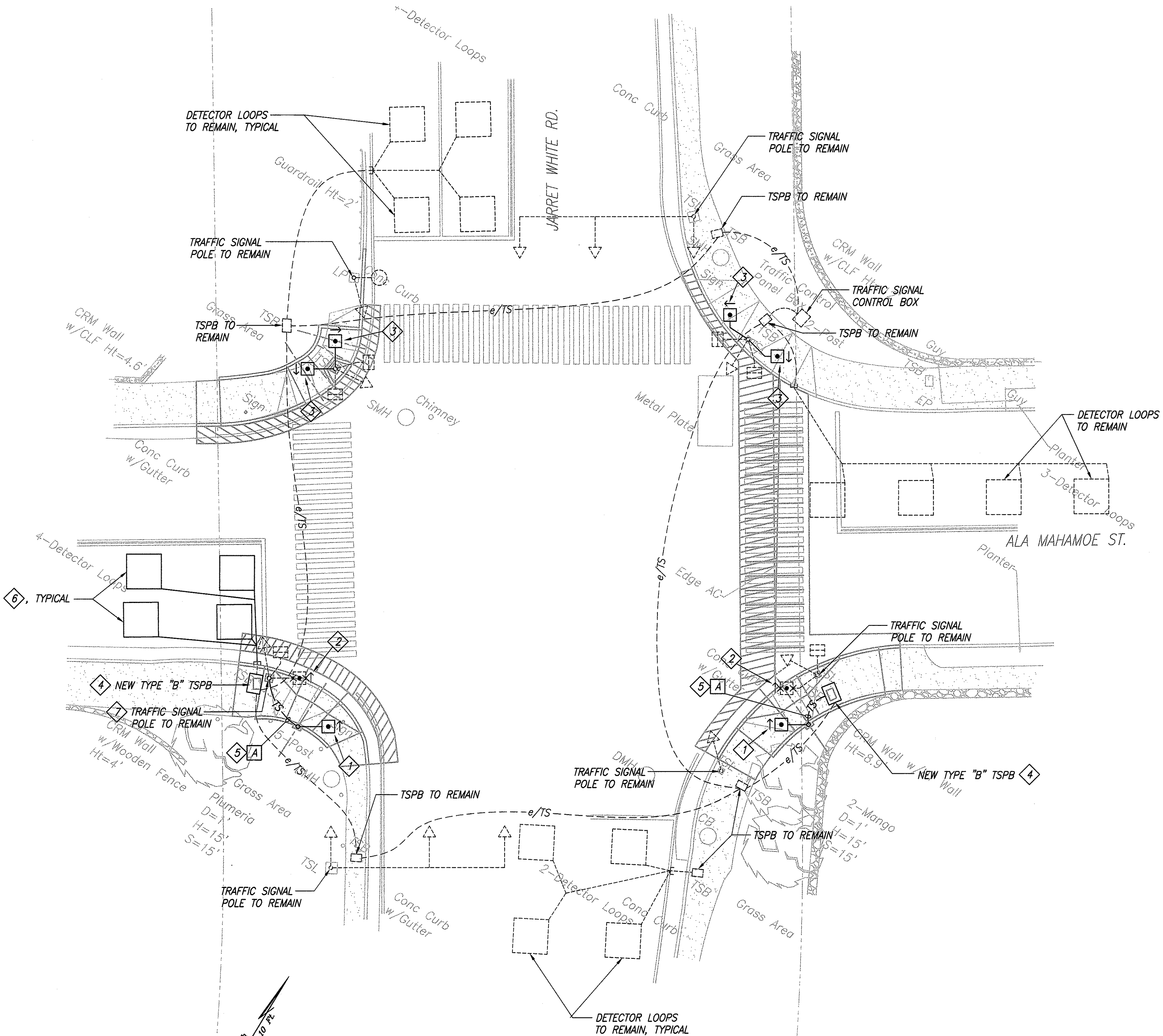
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN  
JARRET WHITE RD. & ALA MAHAMOE ST.

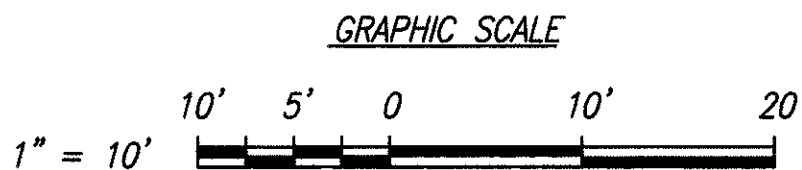
*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown    Date: August 30, 2004

SHEET No. E-20 OF 40 SHEETS

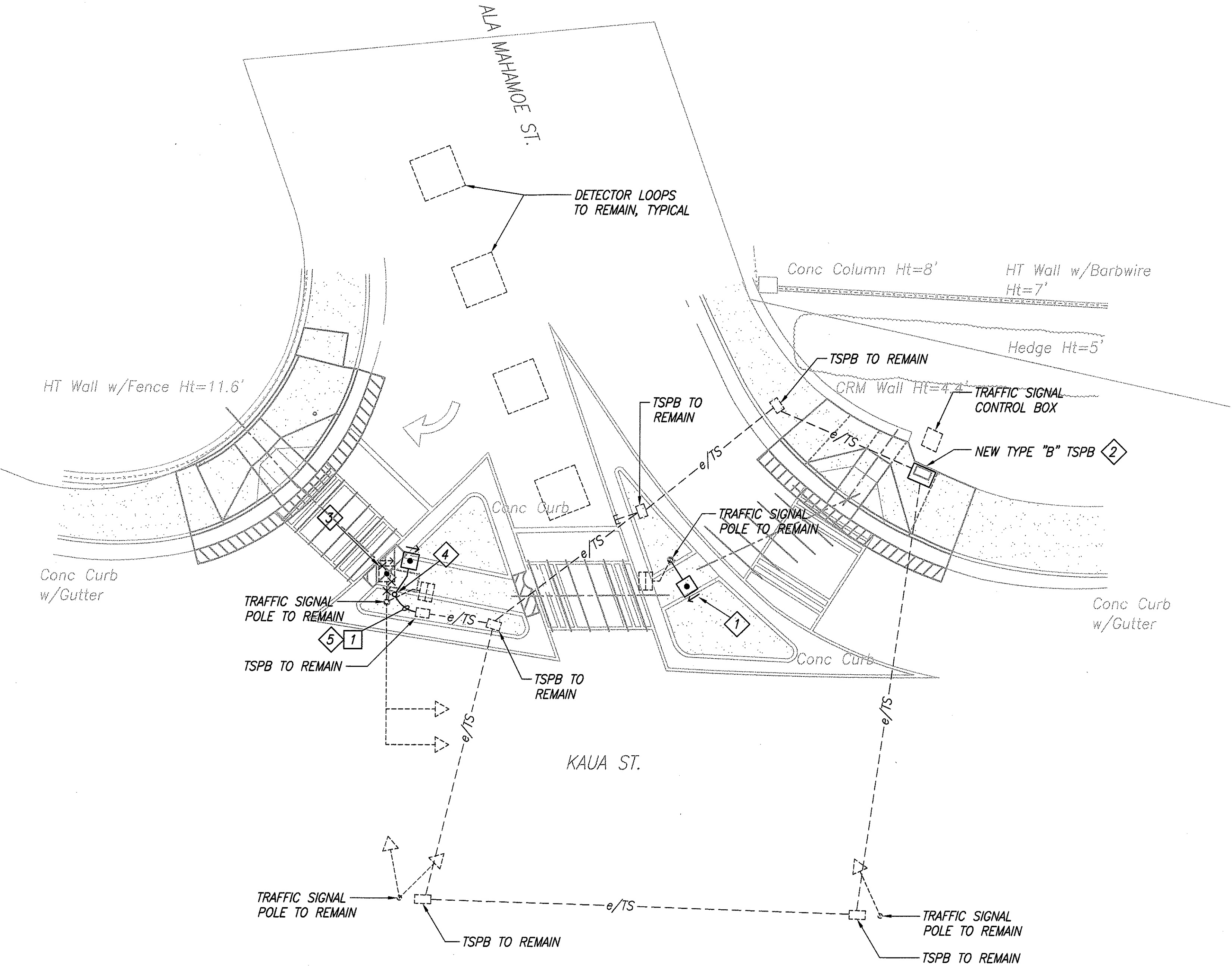


TRAFFIC SIGNAL PLAN - JARRET WHITE RD. & ALA MAHAMOE ST.  
INTERS. ID NO. 100587  
SCALE: 1" = 10'



ORIGINAL PLAN	DATE
NOTE BOOK	DESIGNED BY
	QUANTITIES BY
	CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	144	163



# NOTES:

- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1  
E-35
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. MAINTAIN EXISTING CIRCUITS AND CONDUITS UNLESS OTHERWISE NOTED. 2  
E-35
- REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 2  
E-35
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2"C WITH 1-2/C#14.



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*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KAU A ST. & ALA MAHAMOE ST.

*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown Date: JULY 19, 2004

SHEET No. E-21 OF 40 SHEETS

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











FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	148	163

NOTES:

- 1

REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- 2

REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 3

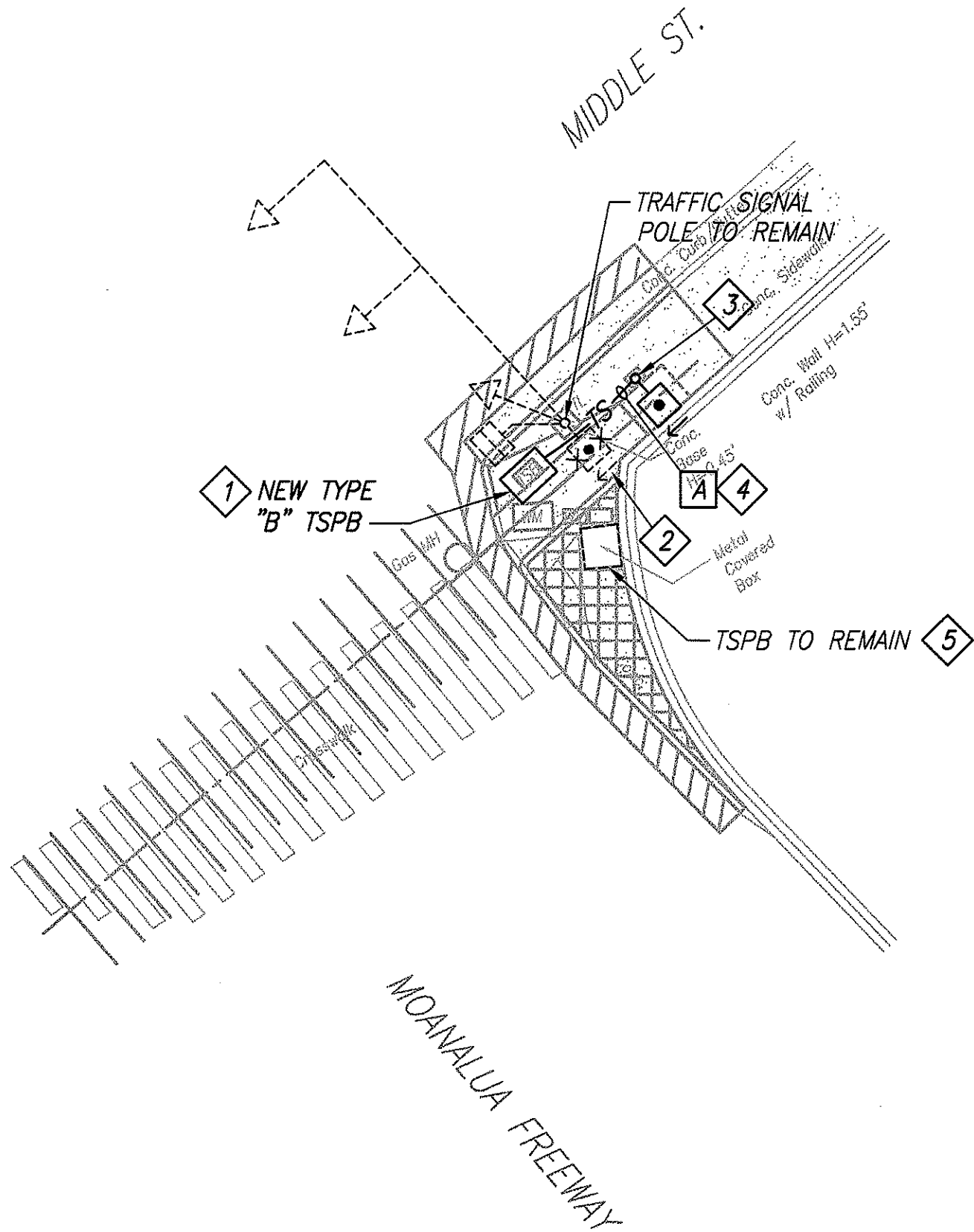
PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 

2  
E-35
- 4

TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 1-2/C#14
- 5

ADJUST EXISTING PULLBOX FRAME AND COVER TO MATCH SLOPE OF NEW RAMP. SEE 

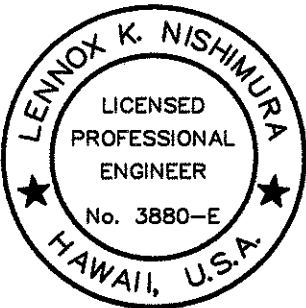
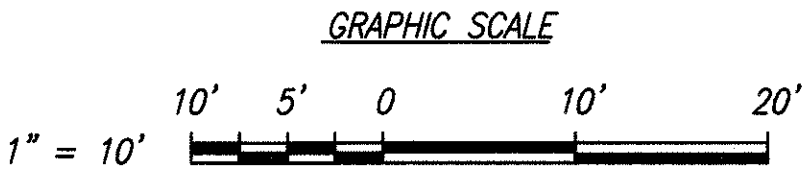
1  
E-40



TRAFFIC SIGNAL PLAN – MIDDLE ST. & MOANALUA FREEWAY OFF RAMP (EASTBOUND)  
 INTERS. ID NO. 72987  
 SCALE: 1" = 10'

True North  
 Scale: 1 in. = 10 ft.

DESIGNED BY	DATE
CHECKED BY	
NOTES	
ORIGINAL PLAN	
NO. _____	



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 OR UNDER MY SUPERVISION.

*Lennox K. Nishimura*  
 PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
 EXPIRATION DATE OF THE LICENSE *a*

DTS, C&C HONOLULU    DRAWING REVIEWED    *7*

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

MIDDLE ST. & MOANALUA FREEWAY

OFF RAMP (EASTBOUND)

Pedestrian Facilities & ADA Compliance

at Various Locations on Oahu, Unit 6

Fed. Aid Proj. No. CMAQ-0300(97)

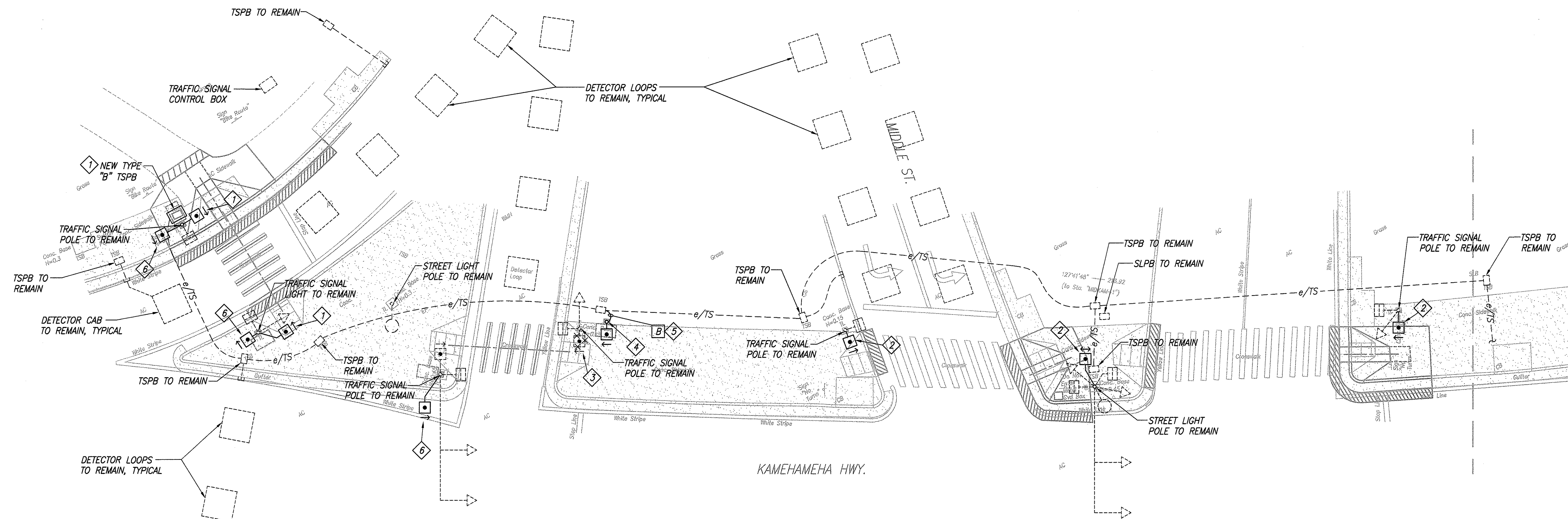
Scale: As Shown

Date: August 30, 2004

SHEET No. E-25 OF 40 SHEETS



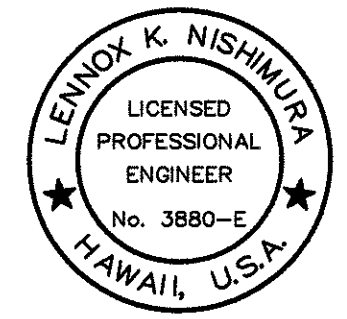
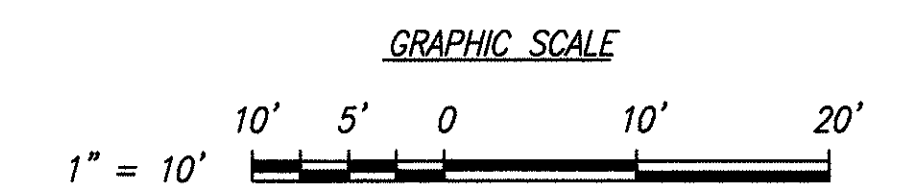
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	149	163



TRAFFIC SIGNAL PLAN - MIDDLE ST. & KAMEHAMEHA HWY.  
INTERS. ID NO. 72187  
SCALE: 1" = 10'

NOTES:

- 1 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- 2 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1 E-35
- 3 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 4 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 2 E-35
- 5 TRENCH TO INSTALL NEW CONDUIT. NEW LINE RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C#14
- 6 PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE 1 E-35



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2008  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU	DRAWING REVIEWED	7
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
MIDDLE ST. & KAMEHAMEHA HWY.

*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown Date: August 30, 2004

SHEET No. E-26 OF 40 SHEETS

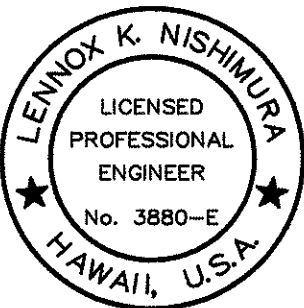




FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	151	163

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE  $\frac{1}{E-35}$
- 2 NEW I-7 STANDARD WITH PUSH BUTTON AND PEDESTRIAN SIGNAL HEAD. CONNECT PUSH BUTTON AND PEDESTRIAN SIGNAL HEAD TO EXISTING CIRCUITS. SEE  $\frac{1}{E-36}$
- 3 TRENCH TO INSTALL NEW CONDUITS. 1-2" WITH 1-2/C#14, 1-4/C#14
- 4 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 5 REMOVE PEDESTRIAN SIGNAL HEAD AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 6 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- 7 ADJUST EXISTING PULLBOX FRAME AND COVER TO MATCH SLOPE OF NEW RAMP. SEE  $\frac{1}{E-40}$



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*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE  $\alpha$

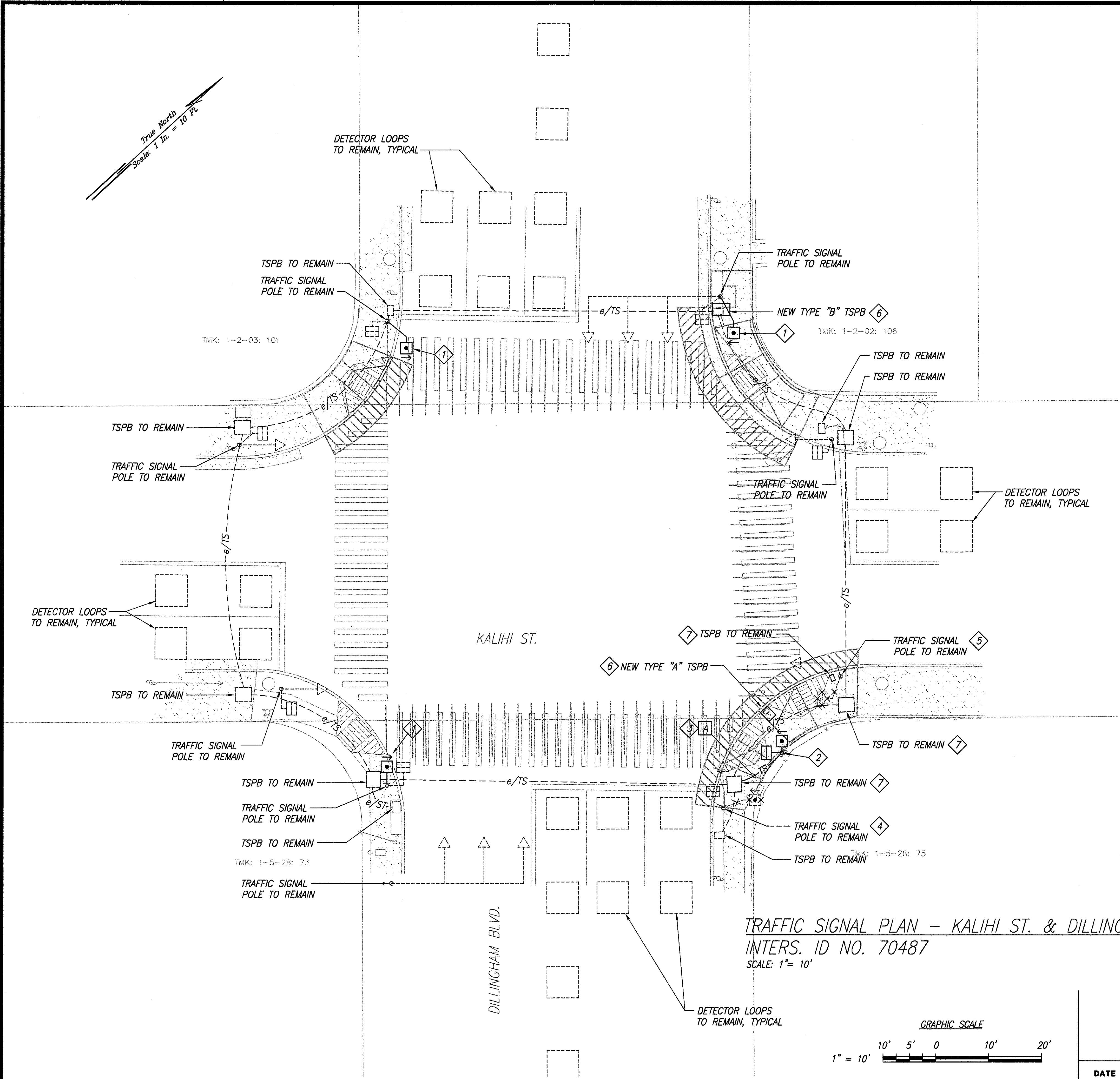
DTS, C&C HONOLULU DRAWING REVIEWED  $\gamma$

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KALIHI ST. & DILLINGHAM BLVD.

*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown Date: JULY 19, 2004

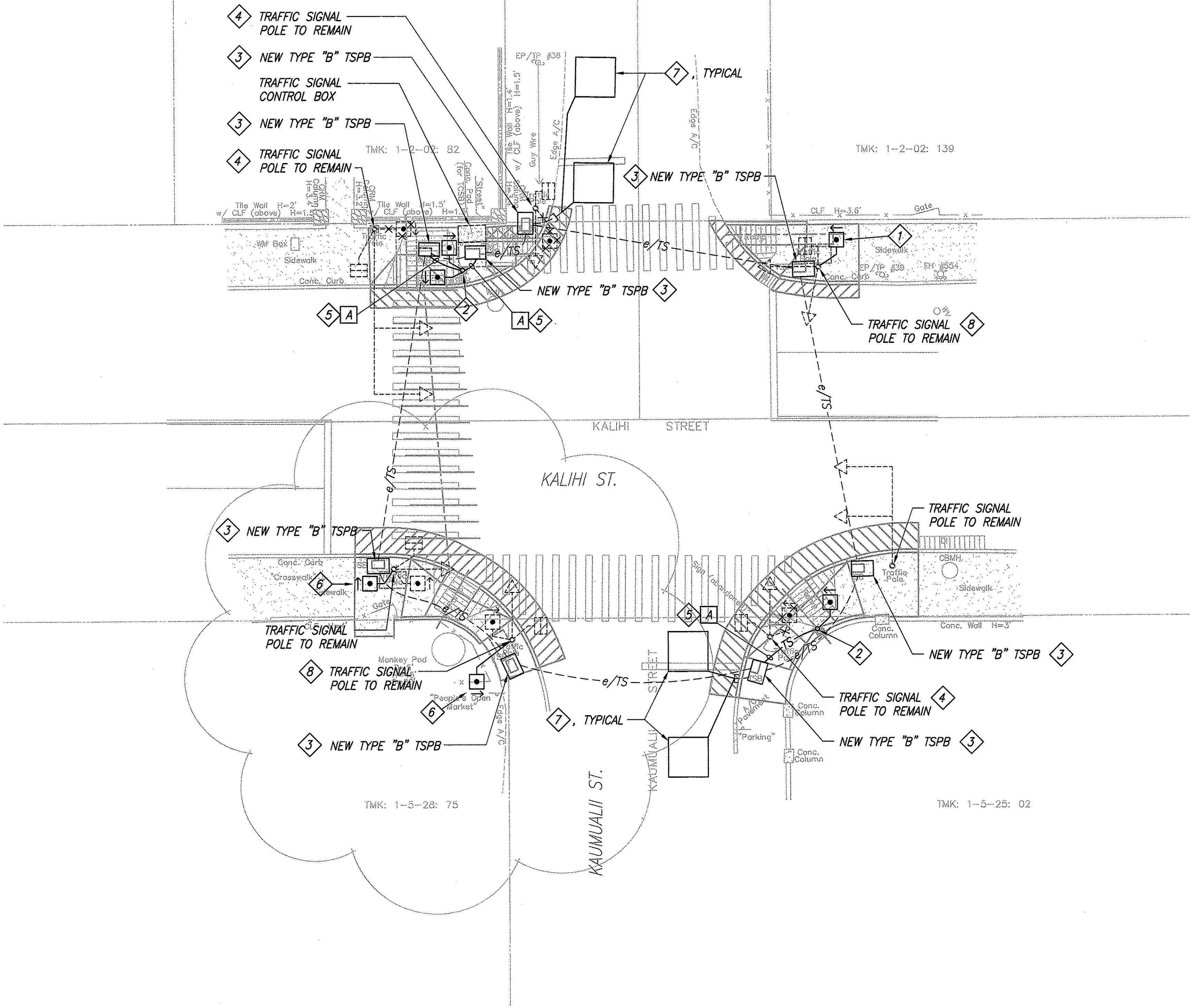
SHEET No. E-28 OF 40 SHEETS



TRAFFIC SIGNAL PLAN - KALIHI ST. & DILLINGHAM BLVD.  
INTERS. ID NO. 70487  
SCALE: 1" = 10'

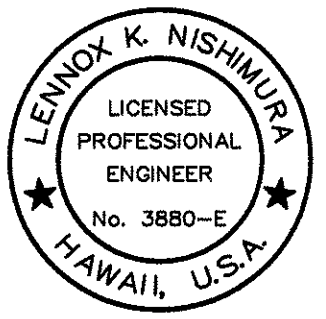
DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
ORIGINAL PLAN	_____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	152	163



NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1/E-35
- 2 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUITS AND CONNECT TO PUSH BUTTONS. SEE 2/E-35
- 3 REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- 4 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED CONDUCTORS. PLUG ANY HOLES IN EXISTING POLE.
- 5 TRENCH TO INSTALL NEW CONDUIT. 1-2" WITH 1-2/C#14
- 6 PROVIDE NEW PUSH BUTTON ON EXISTING POLE. CONNECT TO EXISTING PUSH BUTTON CIRCUIT. SEE 1/E-35
- 7 PROVIDE NEW DETECTOR LOOPS. ABANDON EXISTING DETECTOR LOOPS IN PLACE. SEE 1/E-38
- 8 PROVIDE MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL LIGHT POLE PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE 1/E-30



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PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED 7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KALIHI ST. & KAUMUALII ST.

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

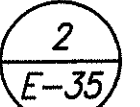
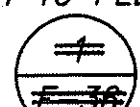
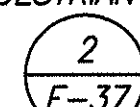

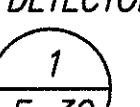
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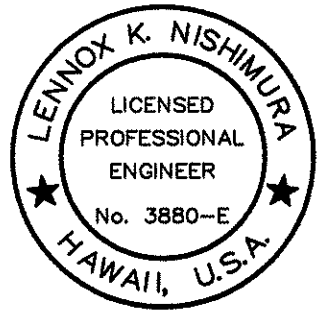
SHEET No. E-29 OF 40 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	153	163

NOTES:

- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE  E-35
- TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 1-2/C#14
- SAWCUT AND TRENCH TO INSTALL NEW CONDUITS. RESTORE TO MATCH EXISTING. 1-2" C WITH 26/C#14, 1#10 GND 1-2" C WITH 1-2/C#14 2-2" C SPARE
- SAWCUT AND TRENCH TO INSTALL NEW CONDUITS. RESTORE TO MATCH EXISTING. 1-2" C WITH 26/C#14, 1#10 GND 1-2" C WITH 2/C#14 1-2" C WITH 2#10, 1#10 GND 2-2" C SPARE
- TRENCH TO INSTALL NEW CONDUITS. RESTORE TO MATCH EXISTING. 1-2" C WITH 2/C#14 1-2" C WITH 2#10, 1#10 GND
- DEMOLISH EXISTING TRAFFIC SIGNAL PULLBOX. REMOVE ALL CABLES, WIRING AND CONDUIT.
- TRENCH TO INSTALL NEW CONDUIT. 1-2" C WITH 1-4/C#14, 1-2/C#14
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- RELOCATED TRAFFIC SIGNAL STANDARD WITH PEDESTRIAN SIGNAL HEAD ~~AND NEW PUSH BUTTON~~. EXTEND EXISTING CIRCUIT AND CONNECT TO PEDESTRIAN SIGNAL HEAD ~~AND PUSH BUTTON~~. SEE  E-36  E-37
- RELOCATE TRAFFIC SIGNAL STANDARD ADJACENT TO EXISTING LOCATION. DEMOLISH CONCRETE BASE AND CONDUIT TO 12" BELOW FINISHED GRADE.
- PROVIDE NEW DETECTOR LOOPS. ABANDON EXISTING DETECTOR LOOPS IN PLACE. SEE  E-38
- PROVIDE MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL LIGHT POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE  E-30



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED 7

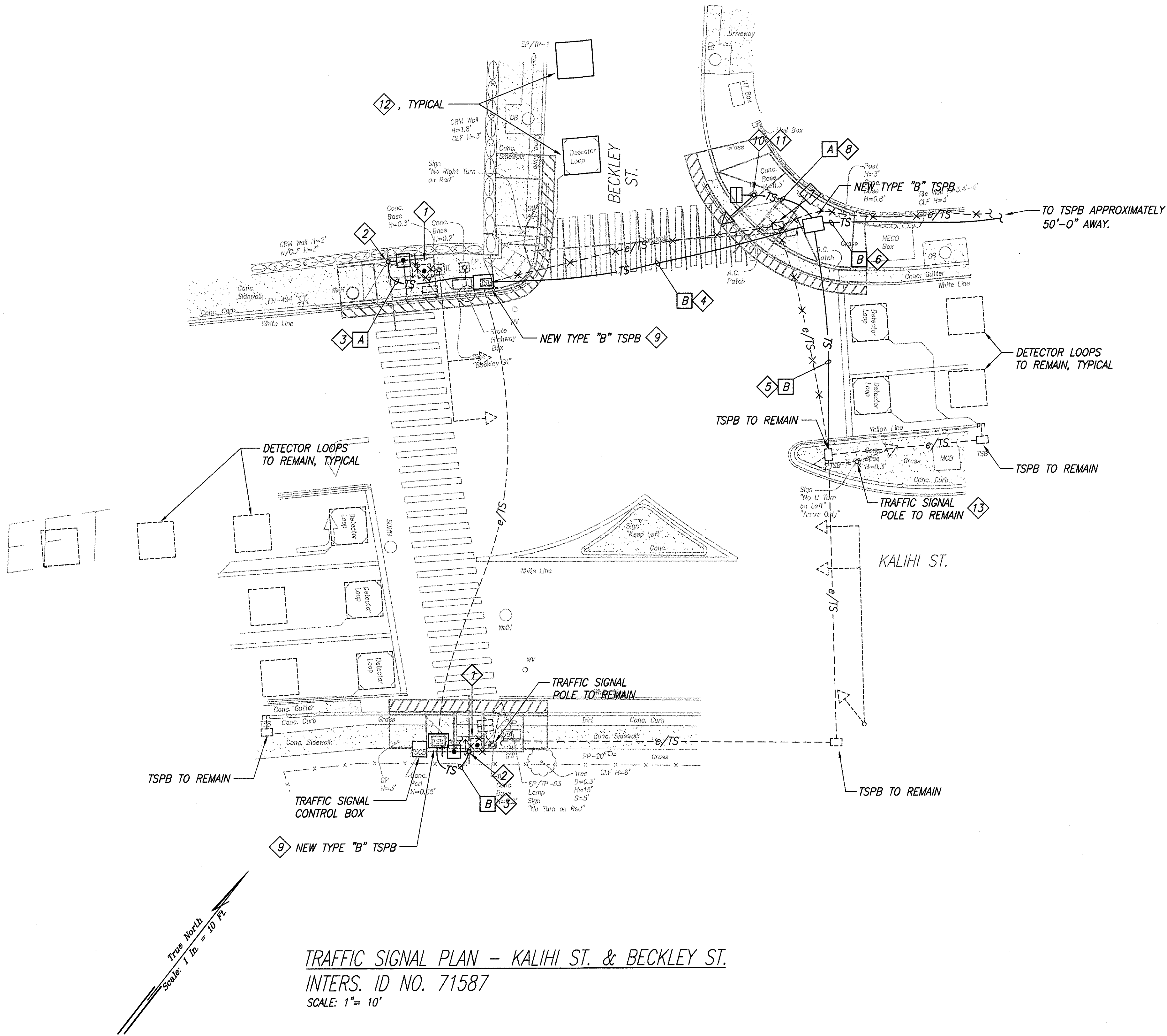
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KALIHI ST. & BECKLEY ST.

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

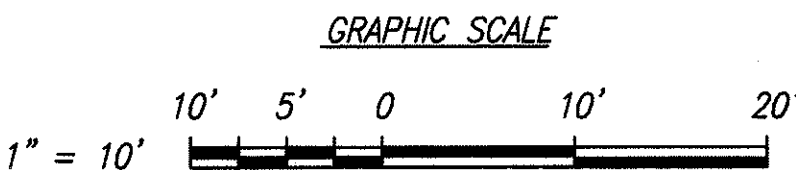
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SHEET No. E-30 OF 40 SHEETS

"AS-BUILT" 153



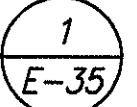

TRAFFIC SIGNAL PLAN - KALIHI ST. & BECKLEY ST.  
INTERS. ID NO. 71587  
SCALE: 1" = 10'



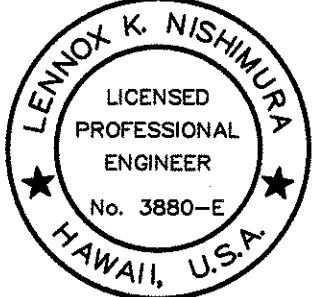
DATE	
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	154	163

NOTES:

- 1 REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON PLUG ANY HOLES IN EXISTING POLE. SEE 
- 2 PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTON. EXTEND EXISTING CIRCUIT AND CONNECT TO PUSH BUTTON. SEE 
- 3 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 1-2/C#14.
- 4 REMOVE PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- 5 SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING. 1-2" C WITH 2-2/C#14

TRAFFIC SIGNAL PLAN - KALIHI ST. & SCHOOL ST.  
INTERS. ID NO. 72087  
SCALE: 1" = 10'



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

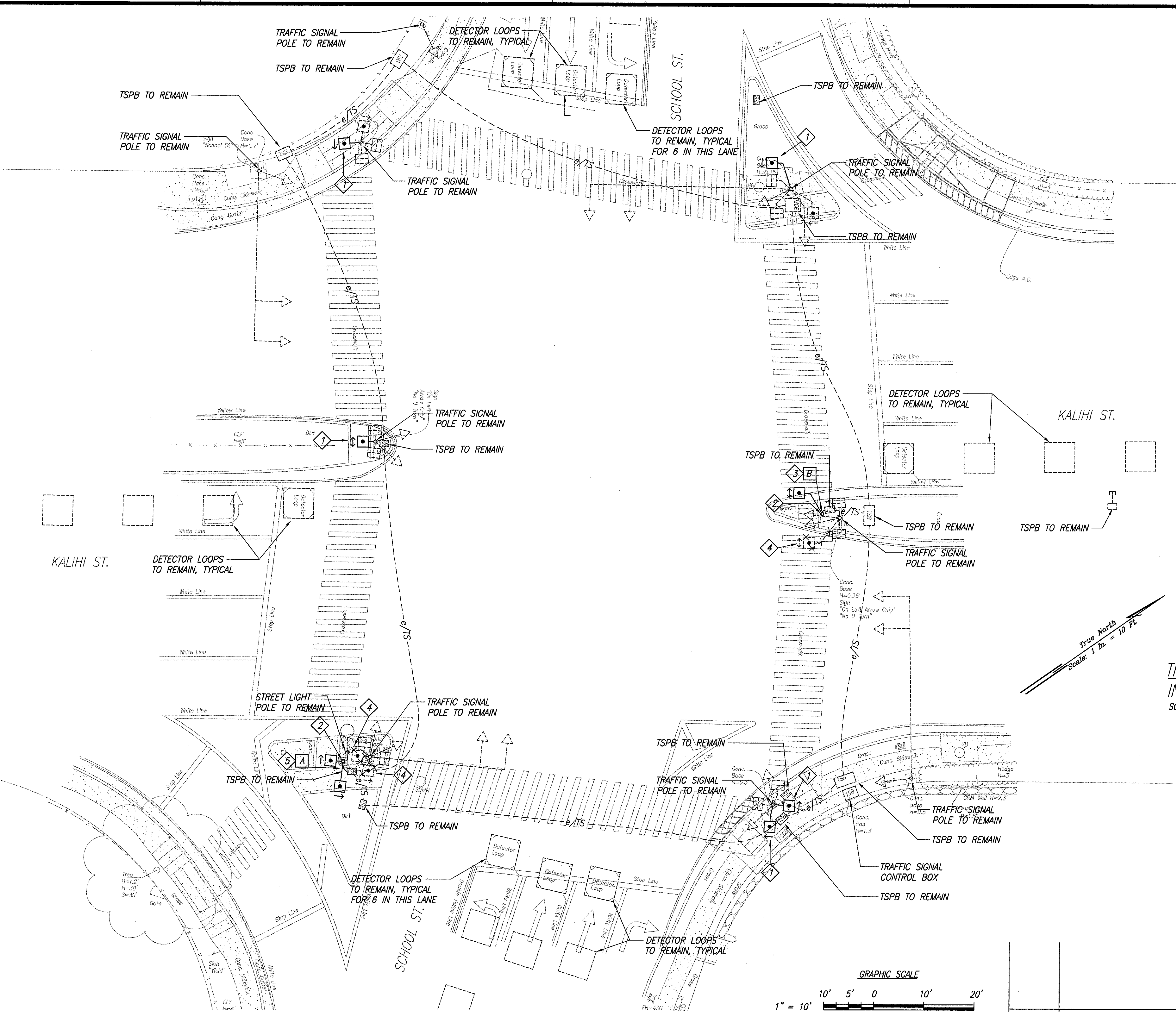
DTS, C&C HONOLULU DRAWING REVIEWED 

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
KALIHI ST. & SCHOOL ST.

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

Scale: As Shown Date: August 30, 2004

SHEET No. E-31 OF 40 SHEETS



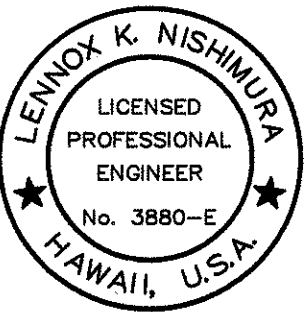
DATE	
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
No.	



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	155	163

NOTES:

- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND ASSOCIATED WIRING. PLUG ANY HOLES IN EXISTING POLE.
- PROVIDE NEW PUSH BUTTON PEDESTAL WITH PUSH BUTTONS. EXTEND EXISTING CIRCUITS AND CONNECT TO PUSH BUTTONS. SEE 2  
E-35
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING.  
1-2" C WITH 1-2/C#14
- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE.
- REMOVE EXISTING TSPB AND REPLACE IN PLACE WITH NEW TSPB FLUSH WITH FINISHED GRADE. EXISTING CONDUITS TO REMAIN UNLESS NOTED OTHERWISE.
- SAWCUT AND TRENCH TO INSTALL NEW CONDUIT. RESTORE TO MATCH EXISTING.  
1-2" C WITH 2-2/C#14



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*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

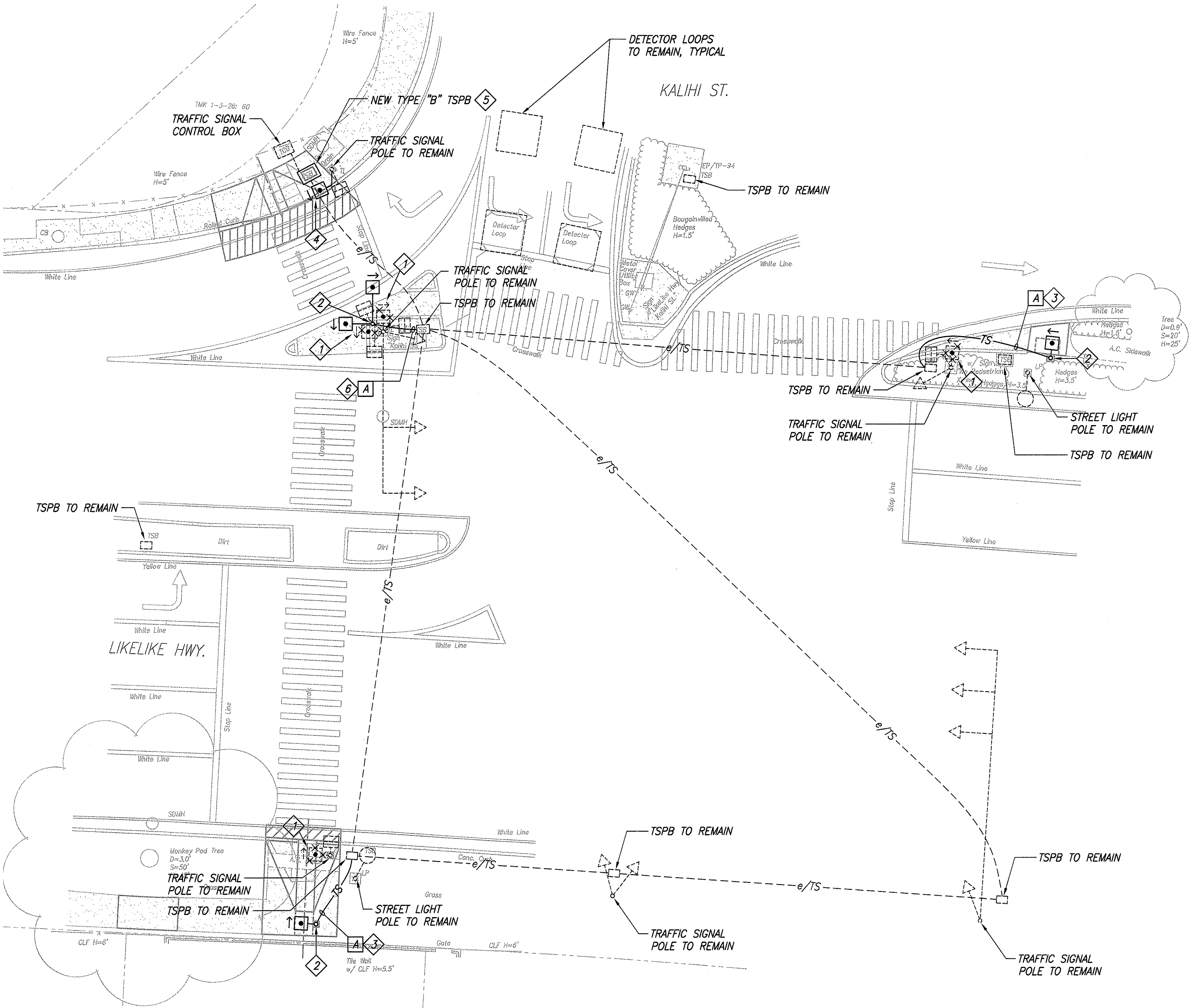
DTS, C&C HONOLULU      DRAWING REVIEWED      7

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL PLAN  
LIKELIKE HWY. & KALIHI ST.

*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown      Date: August 30, 2004

SHEET No. E-32 OF 40 SHEETS



True North  
Scale: 1" = 10' Ft.

TRAFFIC SIGNAL PLAN - LIKELIKE HWY. & KALIHI ST.  
INTERS. ID NO. 40188  
SCALE: 1" = 10'

GRAPHIC SCALE

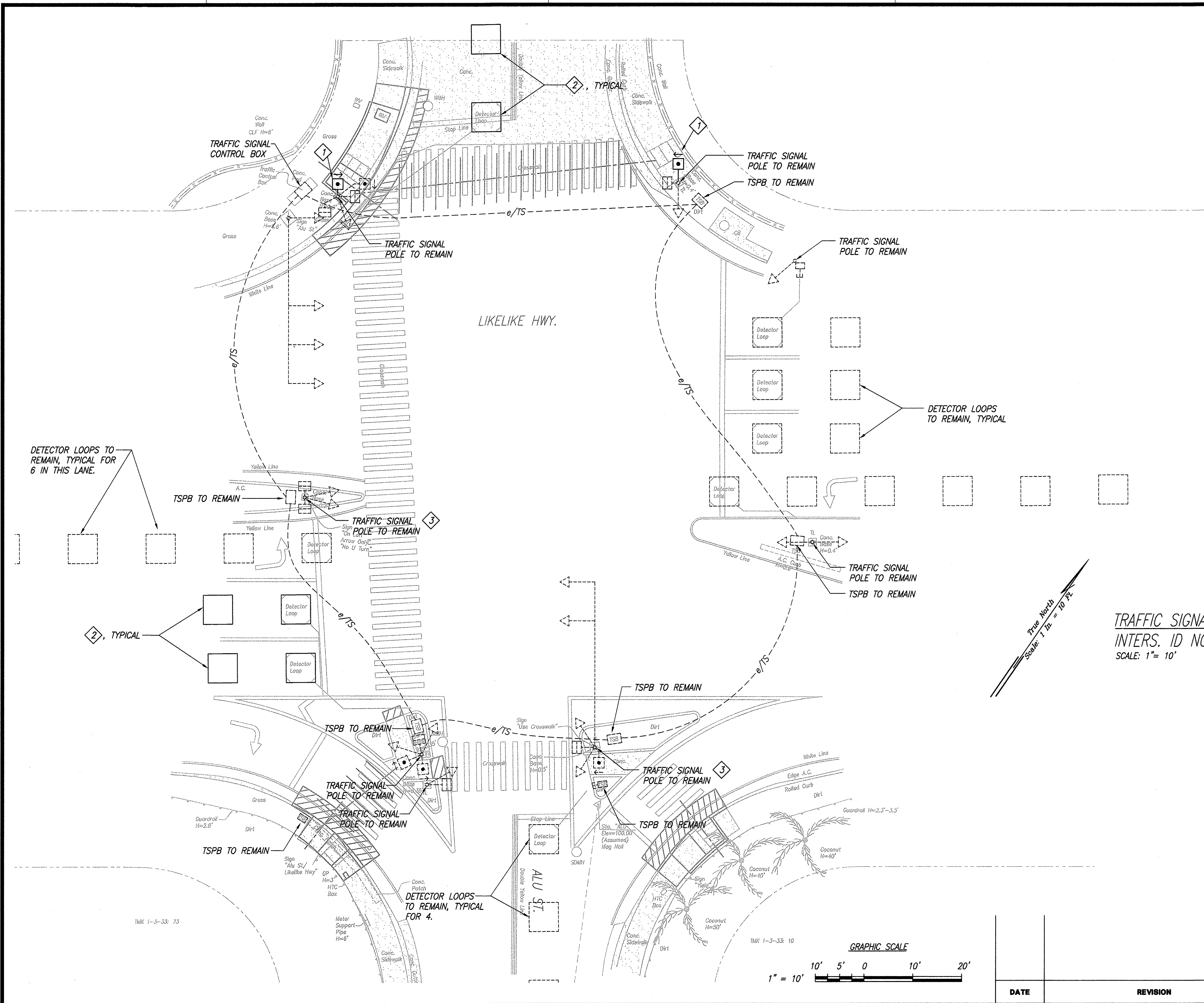


DATE      REVISION

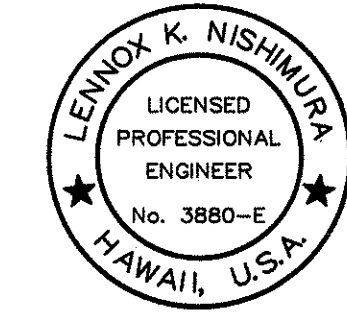
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	156	163

NOTES:

- REMOVE EXISTING PEDESTRIAN PUSH BUTTON AND REPLACE WITH NEW PUSH BUTTON. RECONNECT PUSH BUTTON CIRCUIT TO NEW PUSH BUTTON. PLUG ANY HOLES IN EXISTING POLE. SEE 1  
E-35
- PROVIDE NEW DETECTOR LOOPS. ABANDON EXISTING DETECTOR LOOPS IN PLACE. SEE 1  
E-38
- PROVIDE MICROWAVE DETECTOR ON EXISTING TRAFFIC SIGNAL LIGHT POLE. PROVIDE NEW CONDUCTORS IN EXISTING CONDUITS FROM THE MICROWAVE DETECTOR TO THE TRAFFIC SIGNAL CONTROL BOX. SEE 1  
E-30



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



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*Lennox K. Nishimura*  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE *a*

DTS, C&C HONOLULU	DRAWING REVIEWED <i>ty</i>
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TRAFFIC SIGNAL PLAN LIKELIKE HWY. & ALU ST.	
<i>Pedestrian Facilities &amp; ADA Compliance            at Various Locations on Oahu, Unit 6            Fed. Aid Proj. No. CMAQ-0300(97)</i>	
Scale: As Shown	Date: August 30, 2004
SHEET No. E-33 OF 40 SHEETS	



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	157	163

# GENERAL HANDHOLE NOTES:

- PROVIDE A MINIMUM OF ONE 16Ø x 3.0M COPPERCLAD GROUND ROD IN EACH HANDHOLE. WHEN DIRECTED BY THE TRAFFIC SIGNAL INSPECTOR/ENGINEER, INSTALL ADDITIONAL GROUND RODS. COST OF GROUND RODS SHALL BE INCIDENTAL TO THE HANDHOLES.
- ALL PRE-CAST CONCRETE HANDHOLES SHALL BE MANUFACTURED IN TWO PIECES.
- THE HANDHOLE WITH COVER SHALL BE CAPABLE OF SUPPORTING AN MS 18 LOADING.
- THE MAXIMUM WEIGHT OF THE HANDHOLE COVER SHALL NOT EXCEED 27 KILOGRAMS.
- THE OPENINGS FOR THE CONDUITS ON ALL HANDHOLES SHALL BE PRE-CAST CONCRETE KNOCKOUTS.
- AFTER INSTALLING THE CONDUITS IN THE OPENINGS OF THE HANDHOLES, THE CONTRACTOR SHALL FILL THE EXCESS OPENING IN THE PRE-CAST KNOCKOUTS WITH CONCRETE MORTAR.
- PRIOR TO INSTALLING THE HANDHOLES, THE CONTRACTOR SHALL LEVEL THE BOTTOM OF THE TRENCH AND ACHIEVE A MINIMUM OF 95% RELATIVE COMPACTION OF THE BOTTOM OF THE TRENCH.
- ALL CONCRETE SHALL BE CLASS A (25MPA, MIN.)
- REBARS SHALL BE GRADE 300 AND ALL LAPPED SPLICES SHALL BE 360mm MINIMUM.
- THE #57 OR #67 SIZE AGGREGATE SHALL CONFORM TO LATEST VERSION OF AASHTO M43 (ASTM D 448).



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PROJECT ENGINEER FOR ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

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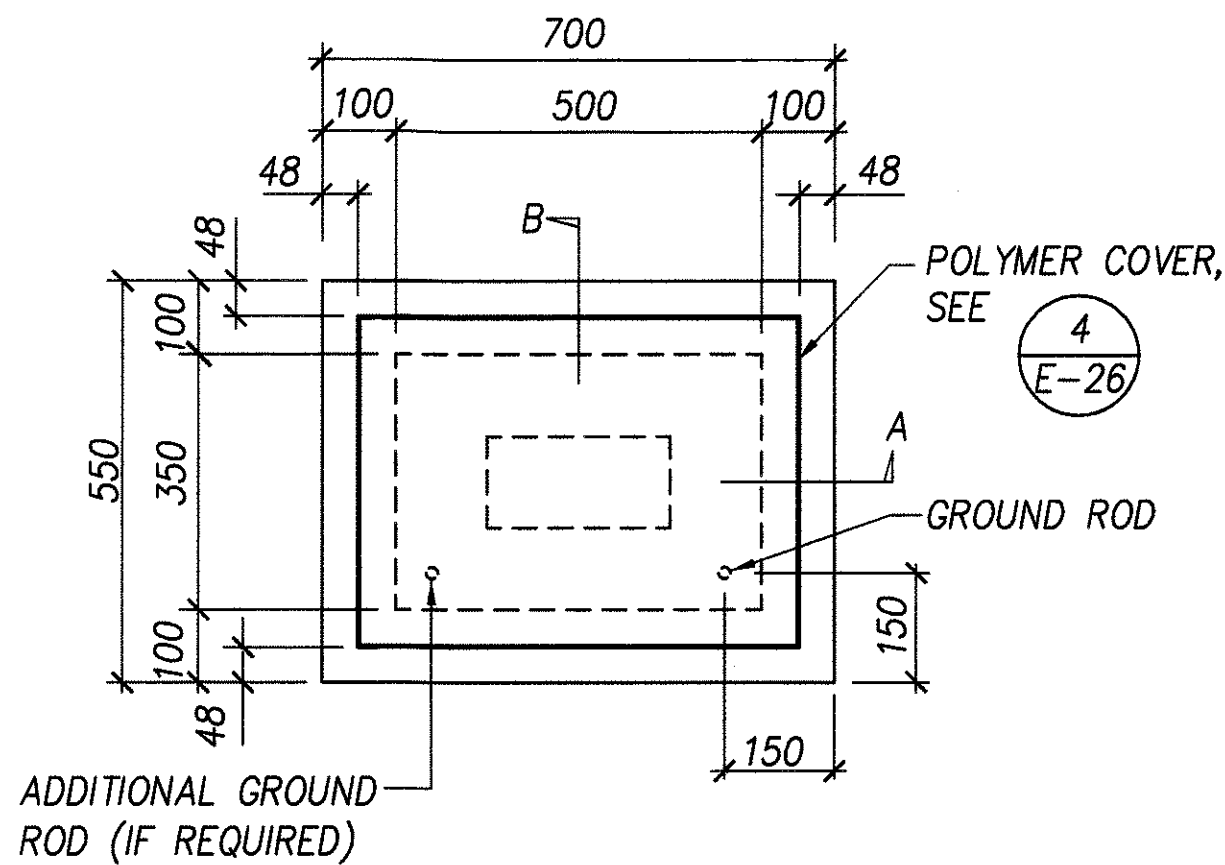
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

## PULLBOX DETAILS

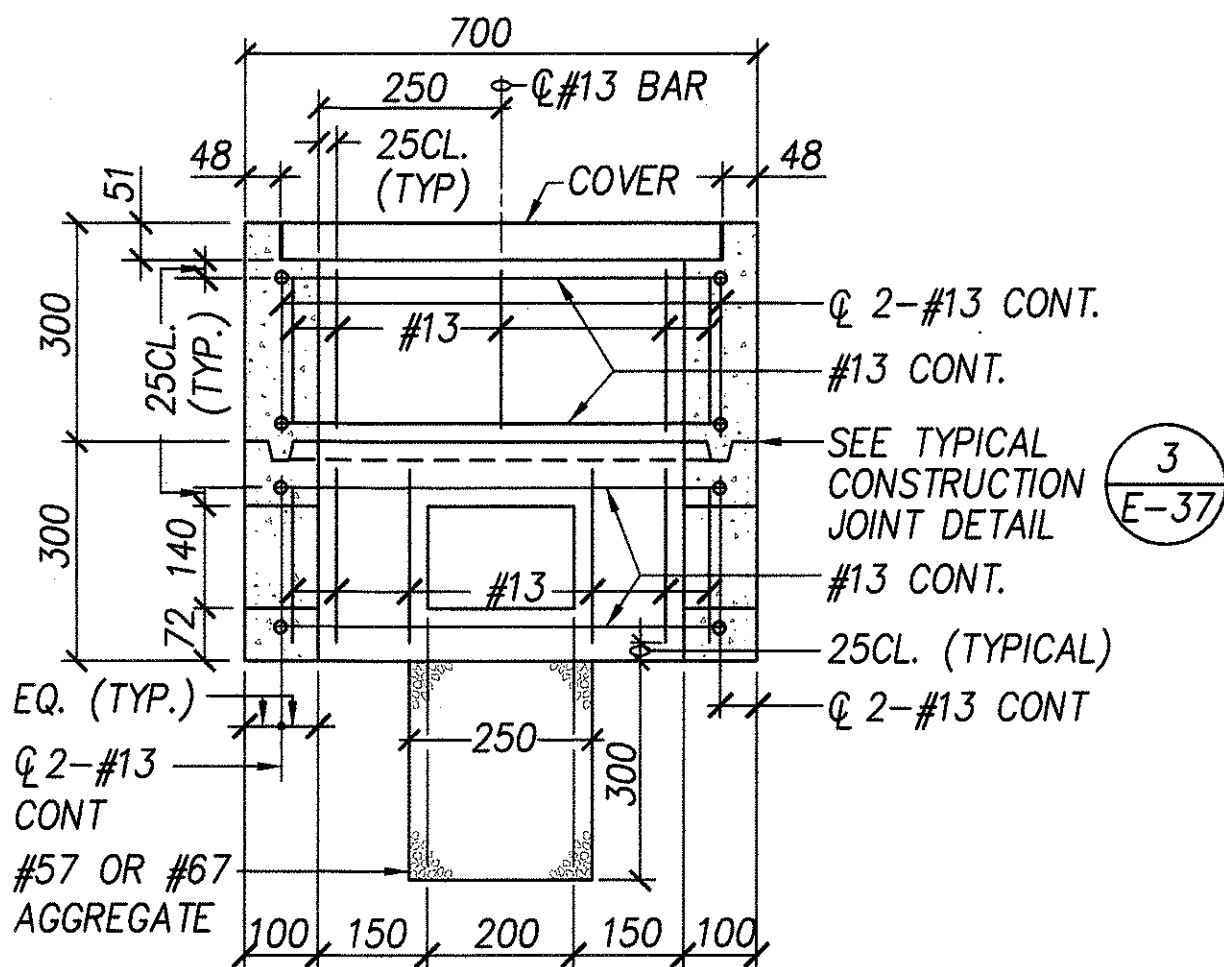
*Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)*

Scale: As Shown                      Date: August 30, 2004

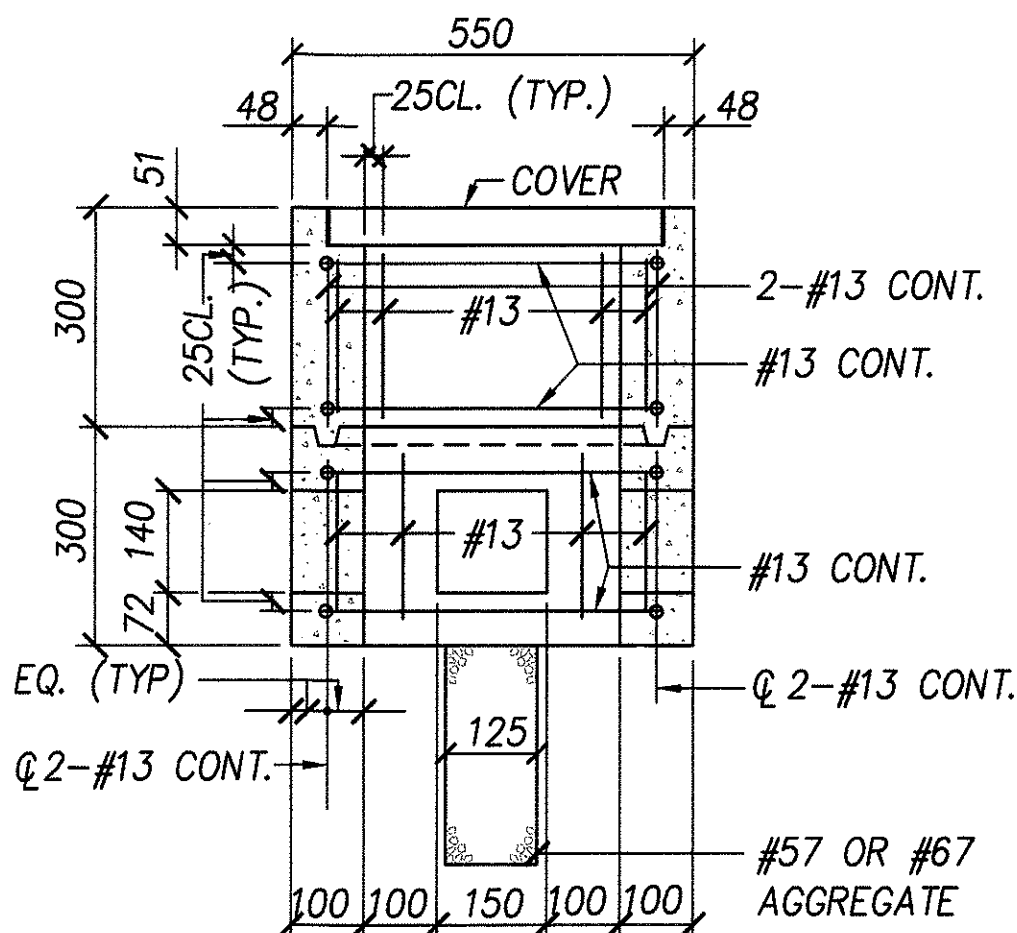
**SHEET No. E-34 OF 40 SHEETS**



PLAN

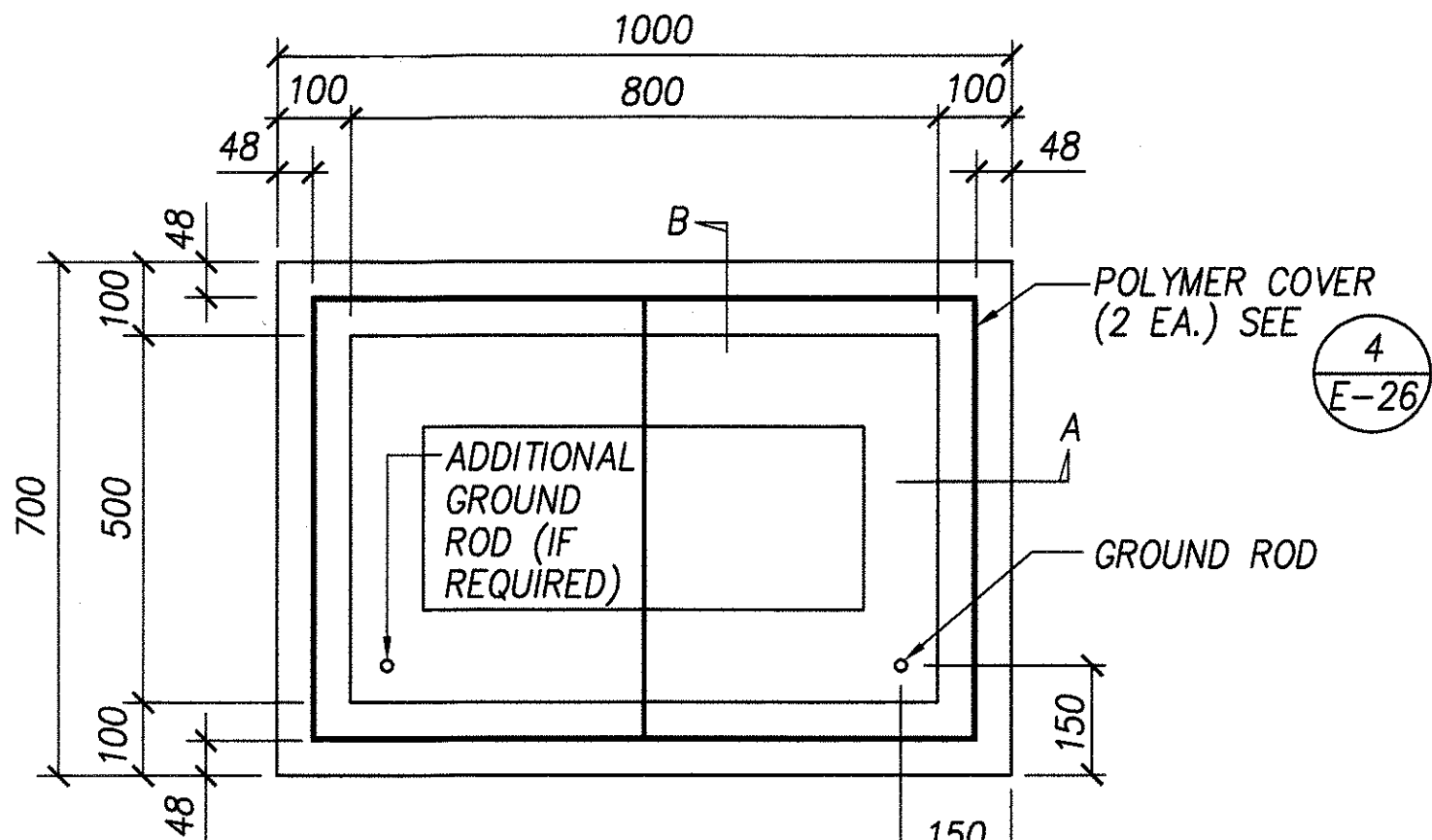


SECTION A-A

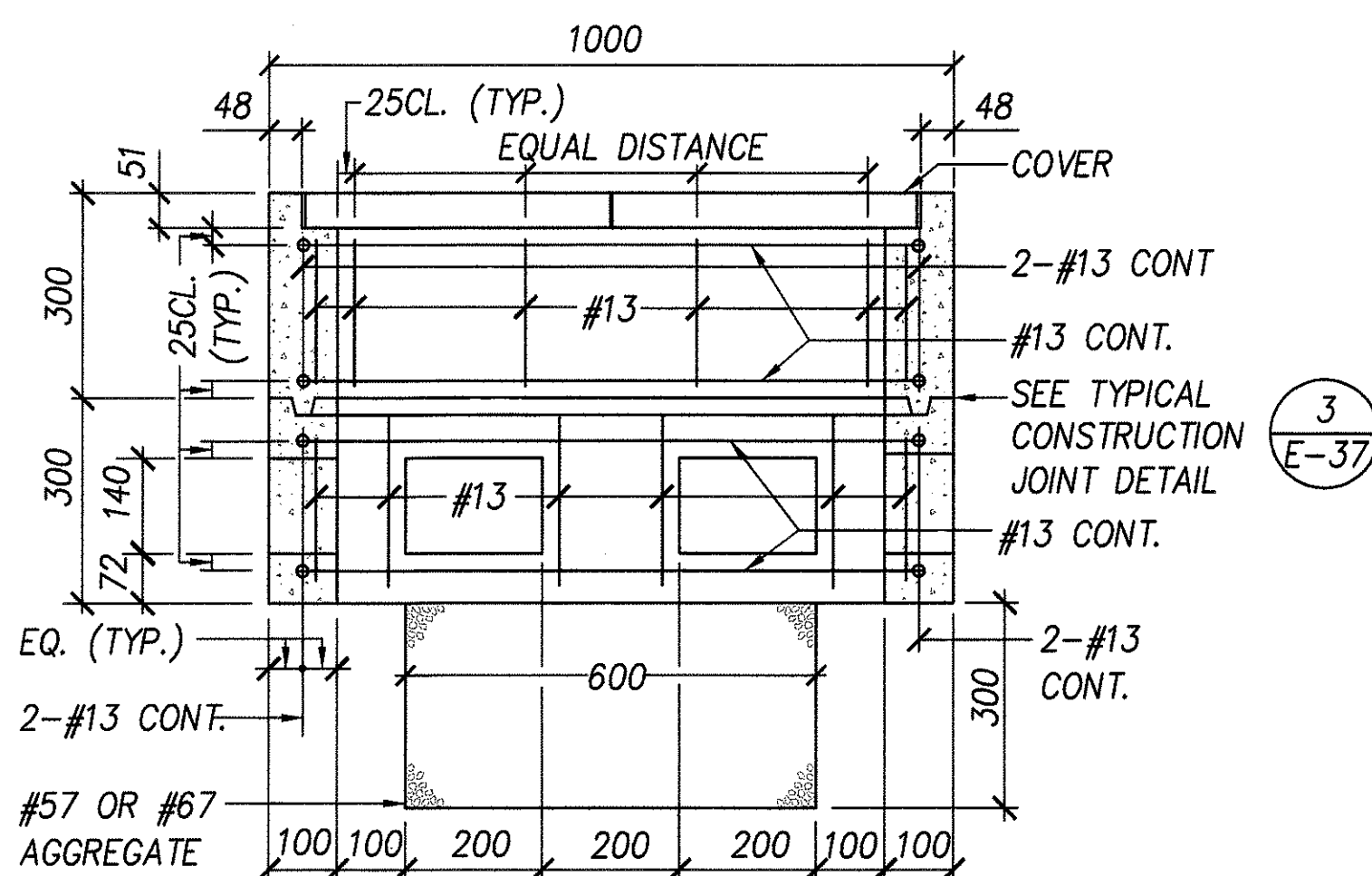


SECTION B-B

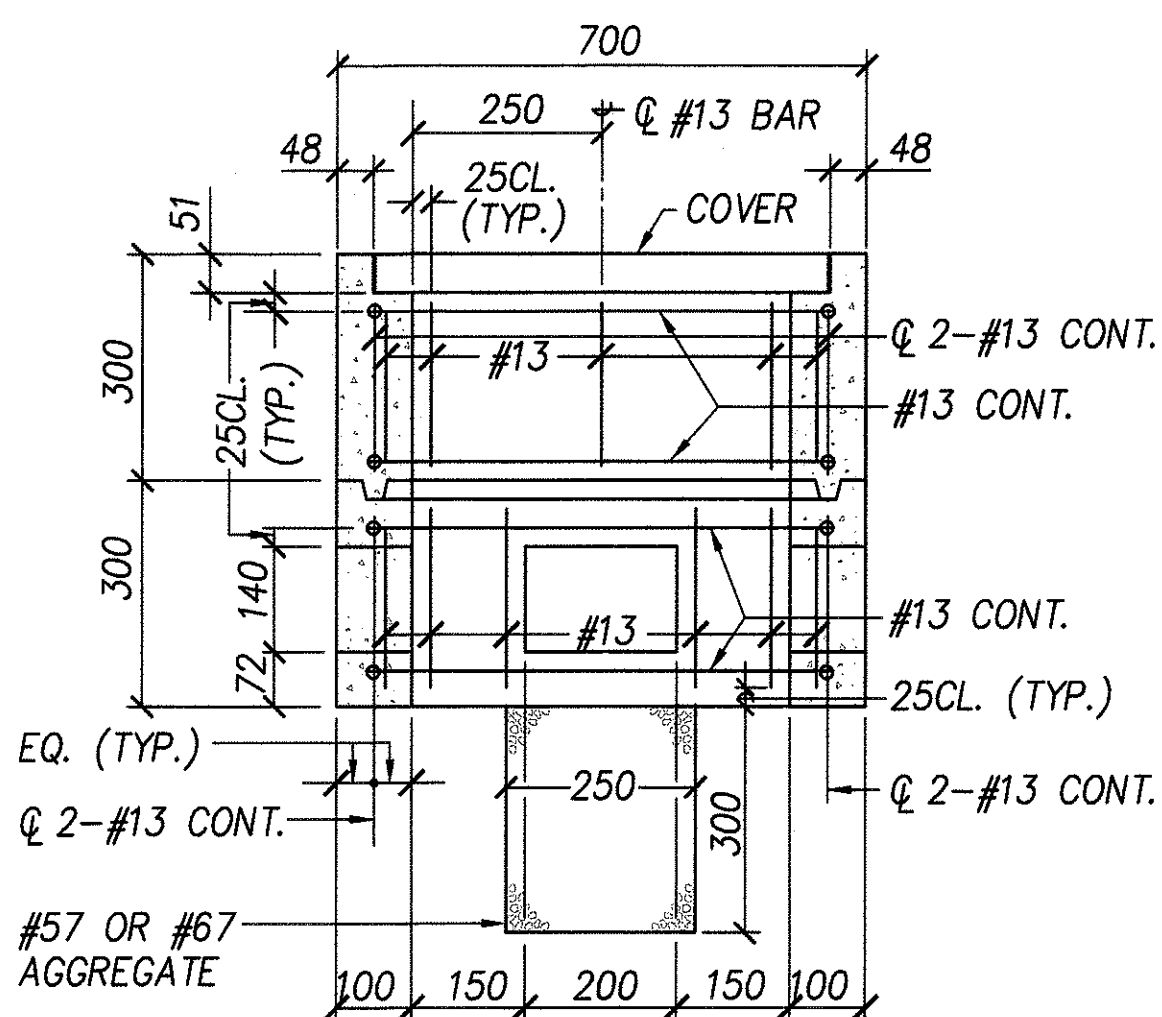
**1** TYPE "A" HANDHOLE  
E-34 NOT TO SCALE



PLAN

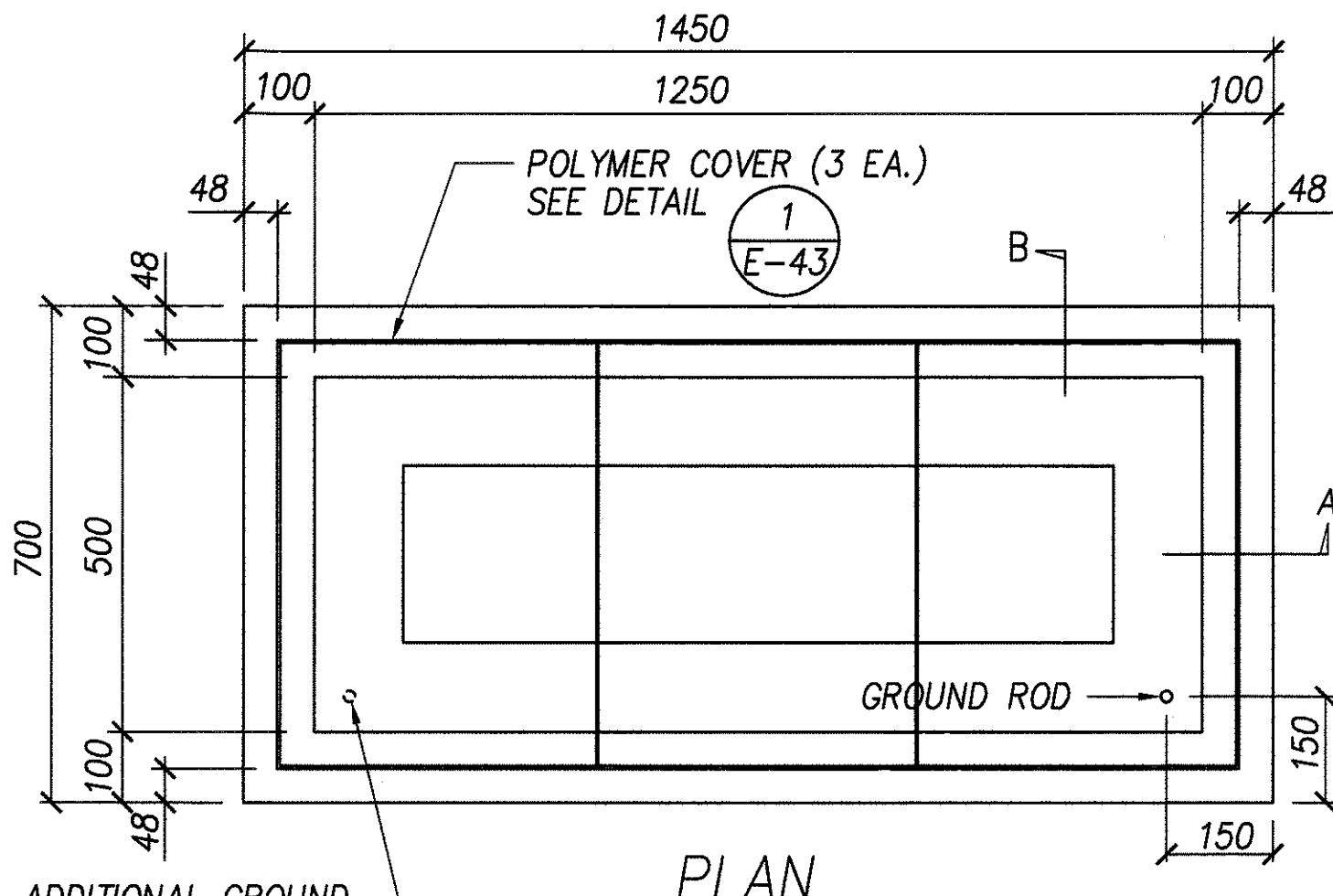


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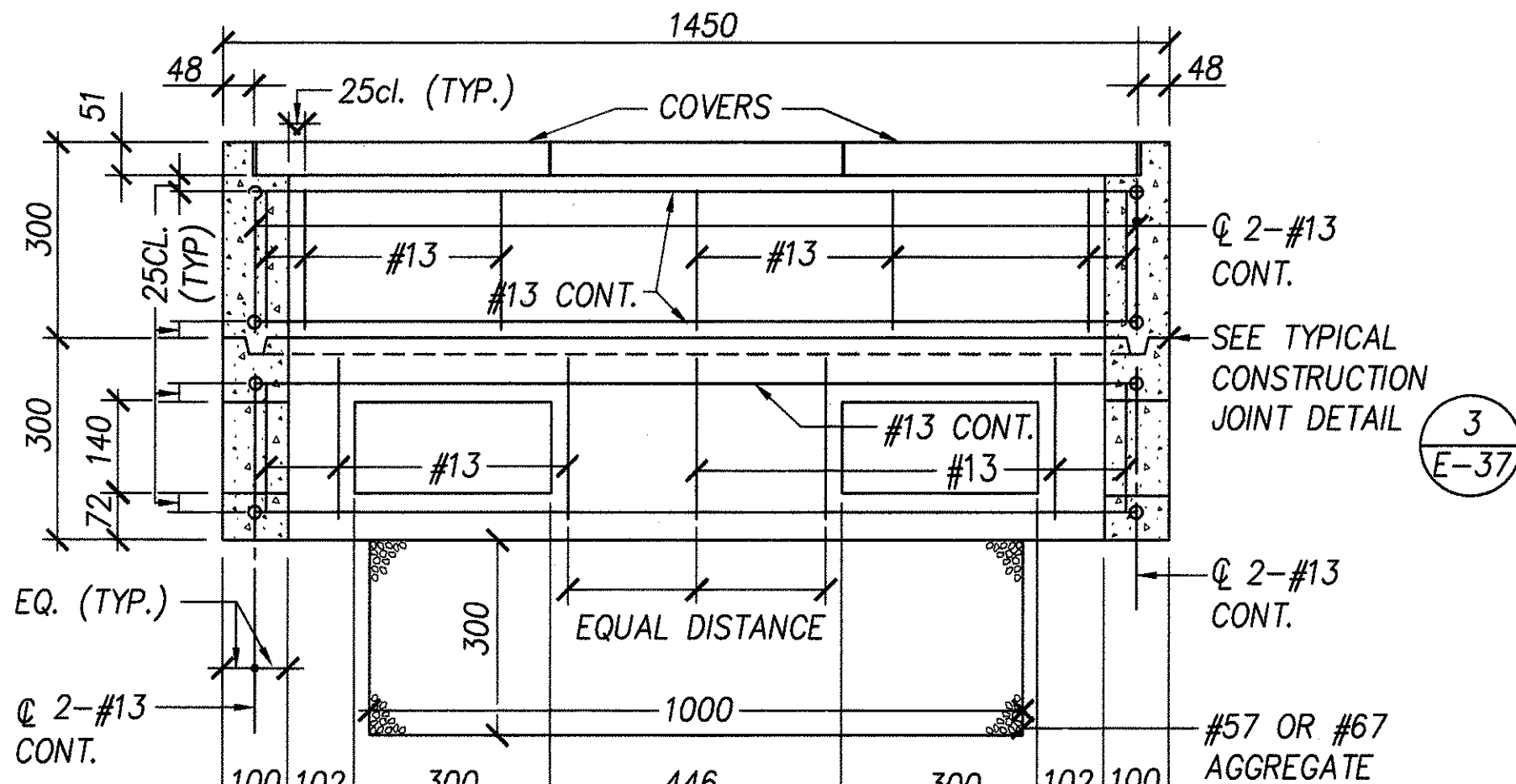


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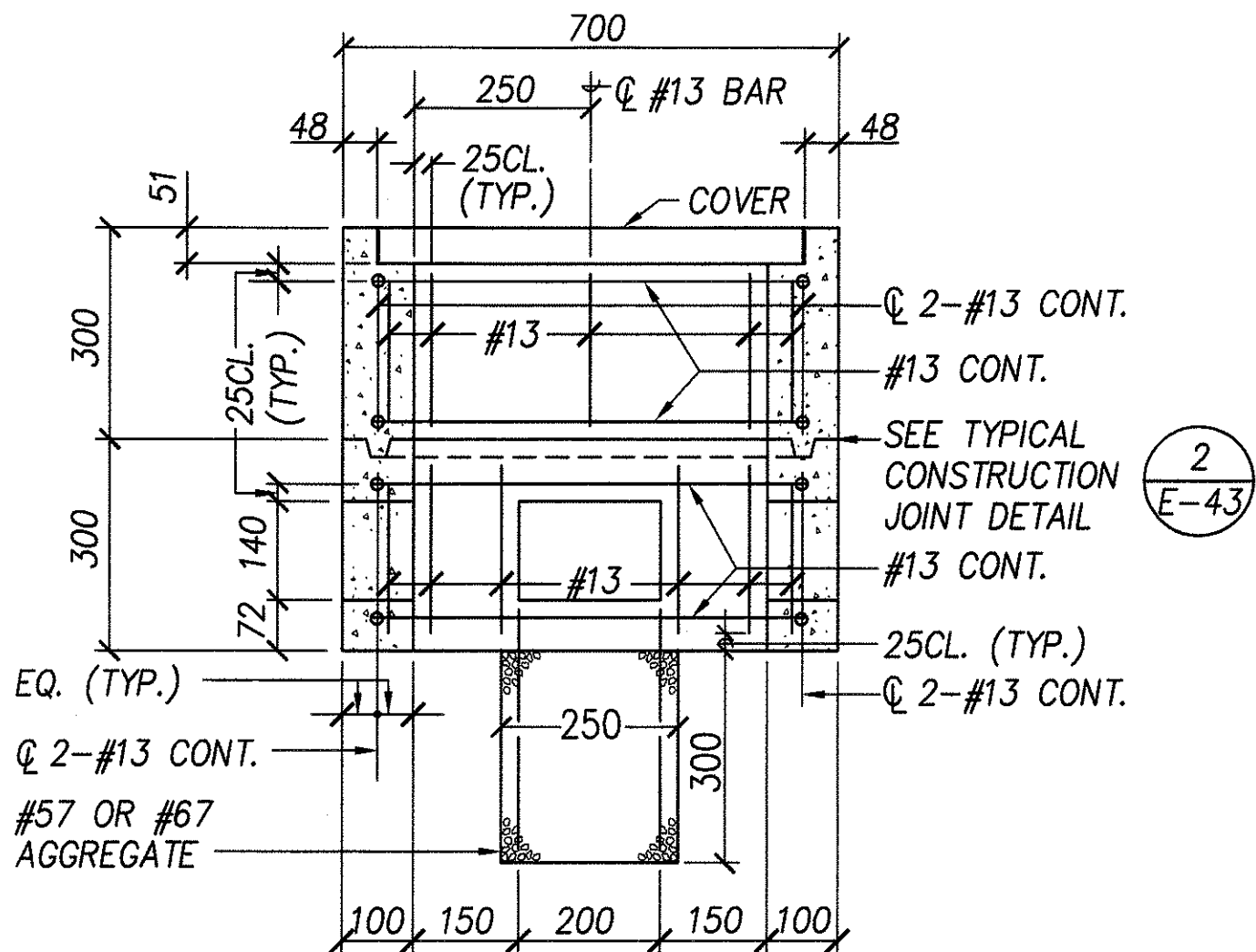
**2** TYPE "B" HANDHOLE  
E-34 NOT TO SCALE



PLAN



SECTION A-A



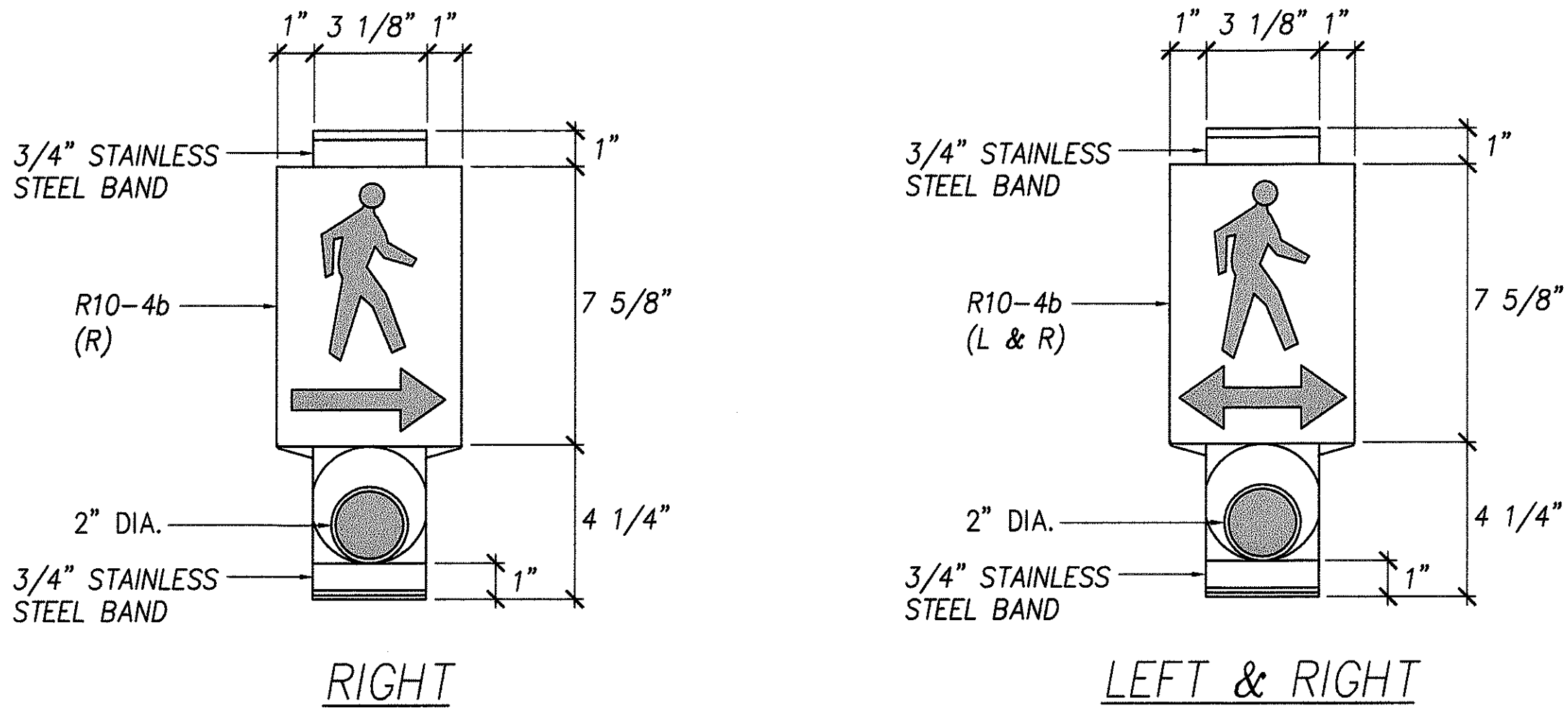
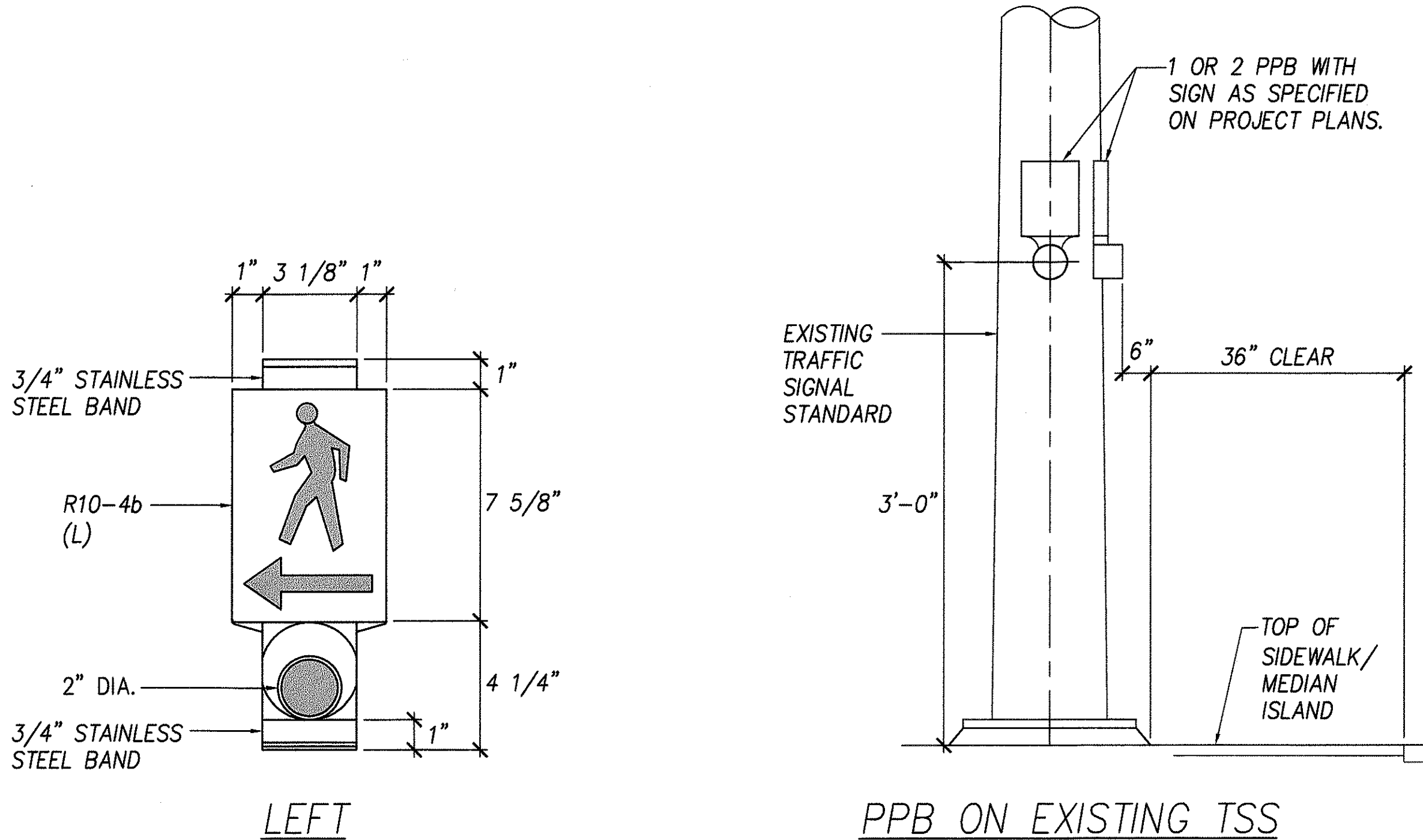
SECTION B-B

**3** TYPE "C" PULLBOX  
(OLD TYPE "D")  
E-34 NOT TO SCALE

SURVEY PLATTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

DATE                      REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	158	163



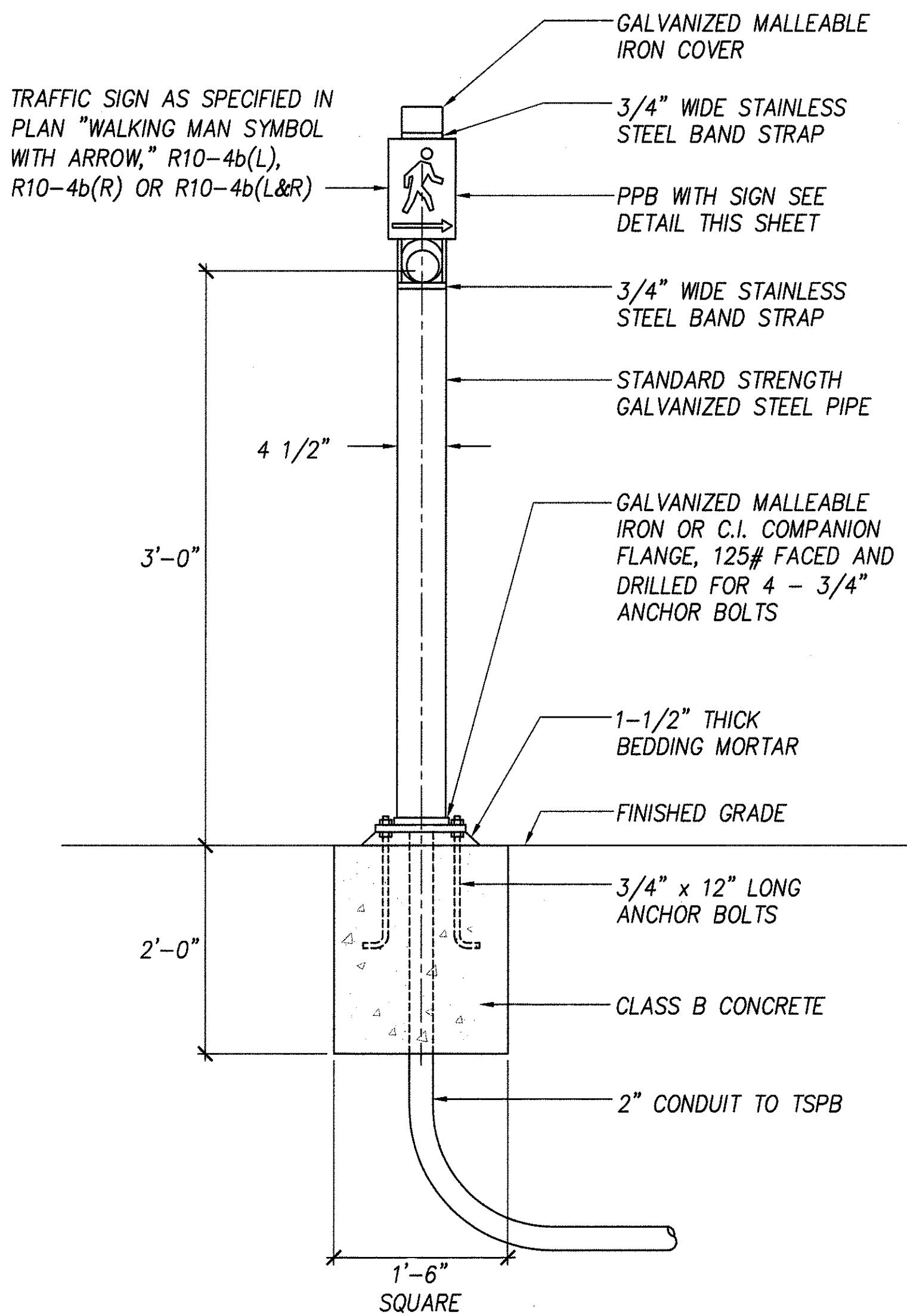
NOTES:

THE COLOR SCHEME SHALL BE:

WHITE - MAN, ARROW AND PUSH BUTTON

BLACK - BACKGROUND

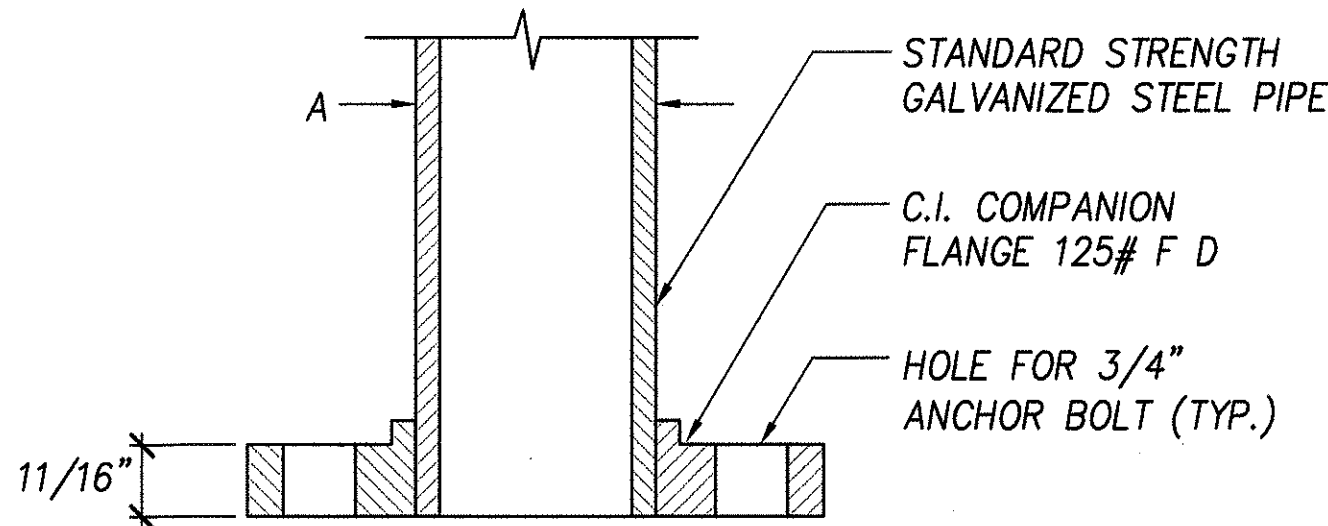
1 PEDESTRIAN PUSH BUTTON DETAILS  
E-35 NOT TO SCALE



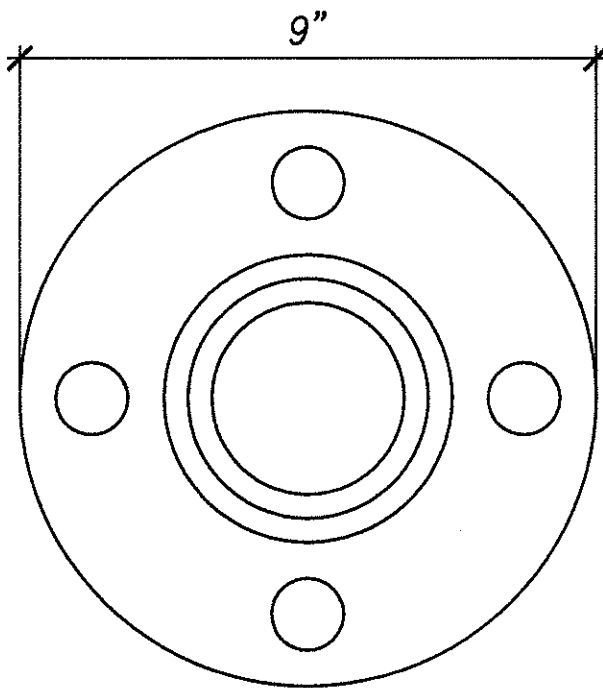
NOTES:

1. CONDUITS SHALL PROTRUDE 2" MAX. ABOVE FINISHED SURFACE OF FOUNDATION.
2. CONDUITS SHALL SLOPE AWAY FROM POST FOUNDATION.
3. REFER TO TRAFFIC SIGNAL PLAN(S) FOR NUMBER OF PEDESTRIAN PUSH BUTTONS TO BE PROVIDED.

2 PPB POST AND FOOTING DETAIL  
E-35 NOT TO SCALE



SECTION



TOP VIEW

3 FLANGE DETAIL  
E-35 NOT TO SCALE



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED 2

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

PUSH BUTTON DETAILS

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

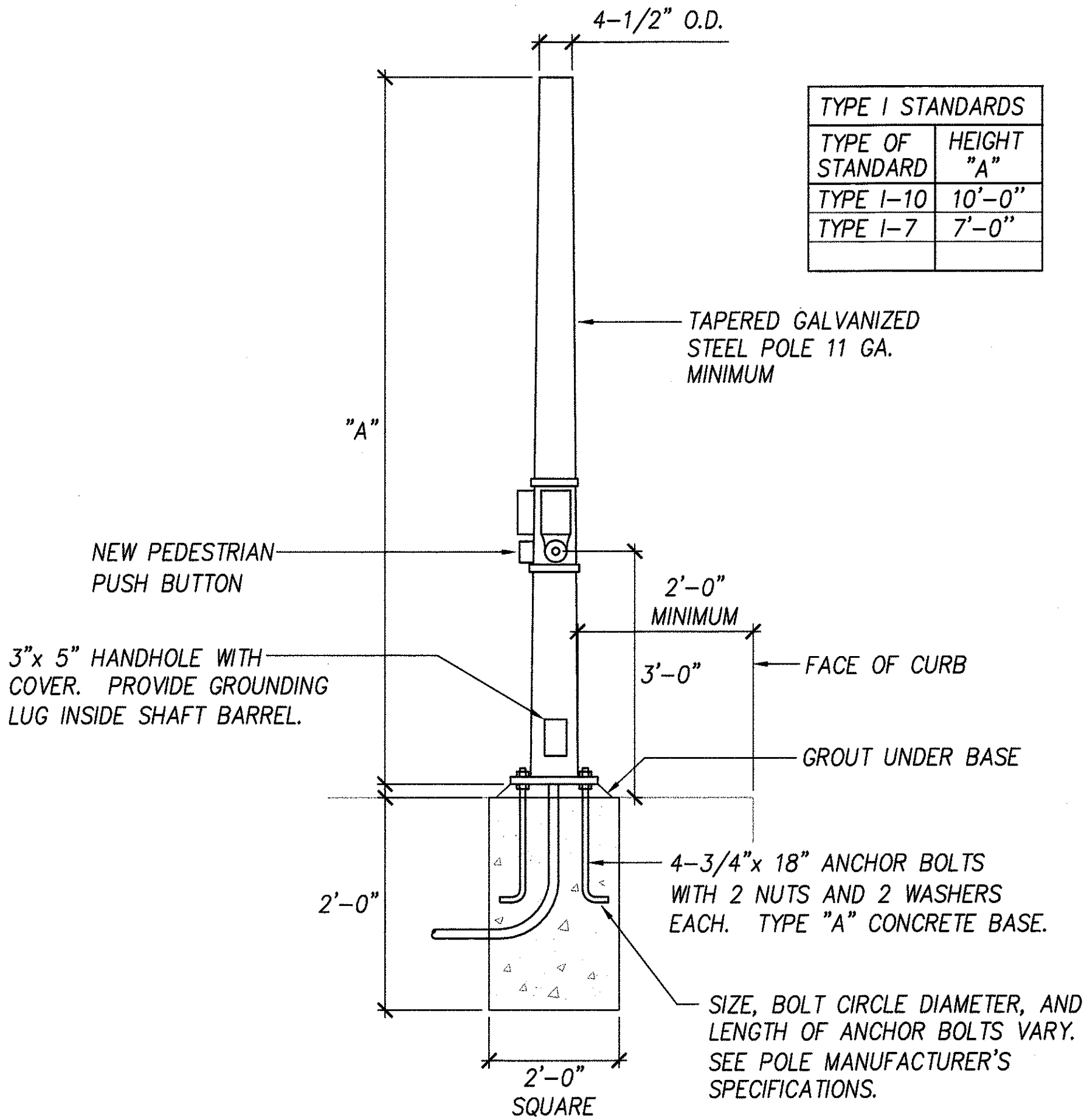
Scale: As Shown Date: August 30, 2004

SHEET No. E-35 OF 40 SHEETS

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



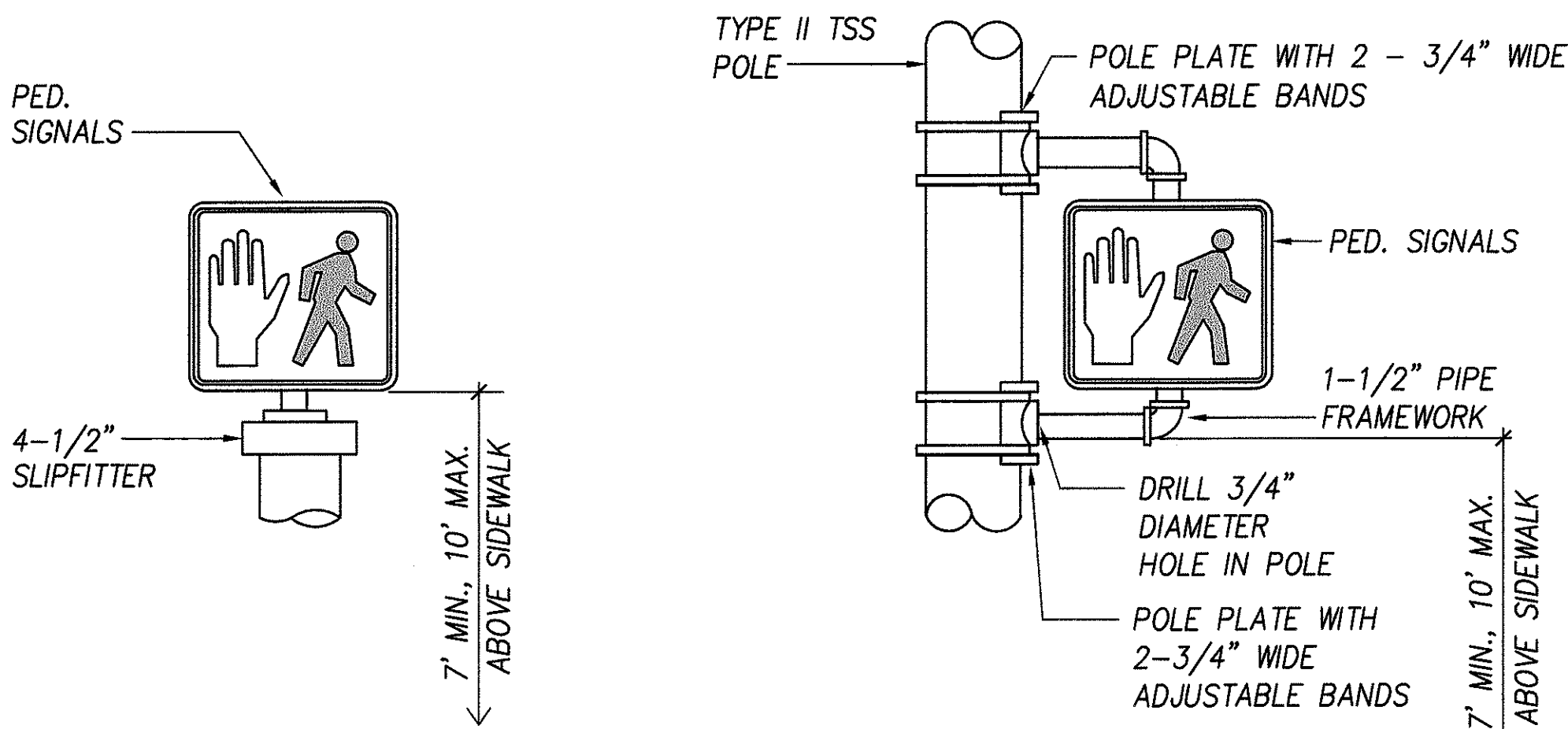
TYPE I STANDARDS	
TYPE OF STANDARD	HEIGHT "A"
TYPE I-10	10'-0"
TYPE I-7	7'-0"



#### NOTES:

- STANDARDS SHALL BE DESIGNED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS.
- CONCRETE SHALL BE CLASS "B".
- TYPE "1" CONCRETE BASE SHALL BE USED FOR TYPE I, TRAFFIC SIGNAL STANDARDS.
- CONDUIT BEND IS INCIDENTAL TO CONCRETE BASE.
- SUBMIT SHOP DRAWINGS FOR APPROVAL.

1 SIGNAL POLE WITH PUSH BUTTON  
E-36 NOT TO SCALE



TOP OF POLE-ONE WAY  
(TP-1W)

BRACKET MOUNT-ONE WAY  
(B-1W)

BRACKET MOUNT - TWO WAY  
(B-2W)

#### PEDESTRIAN SIGNAL MOUNTING



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Lennox K. Nishimura  
PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2008  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU DRAWING REVIEWED 1

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL  
MISCELLANEOUS DETAILS

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

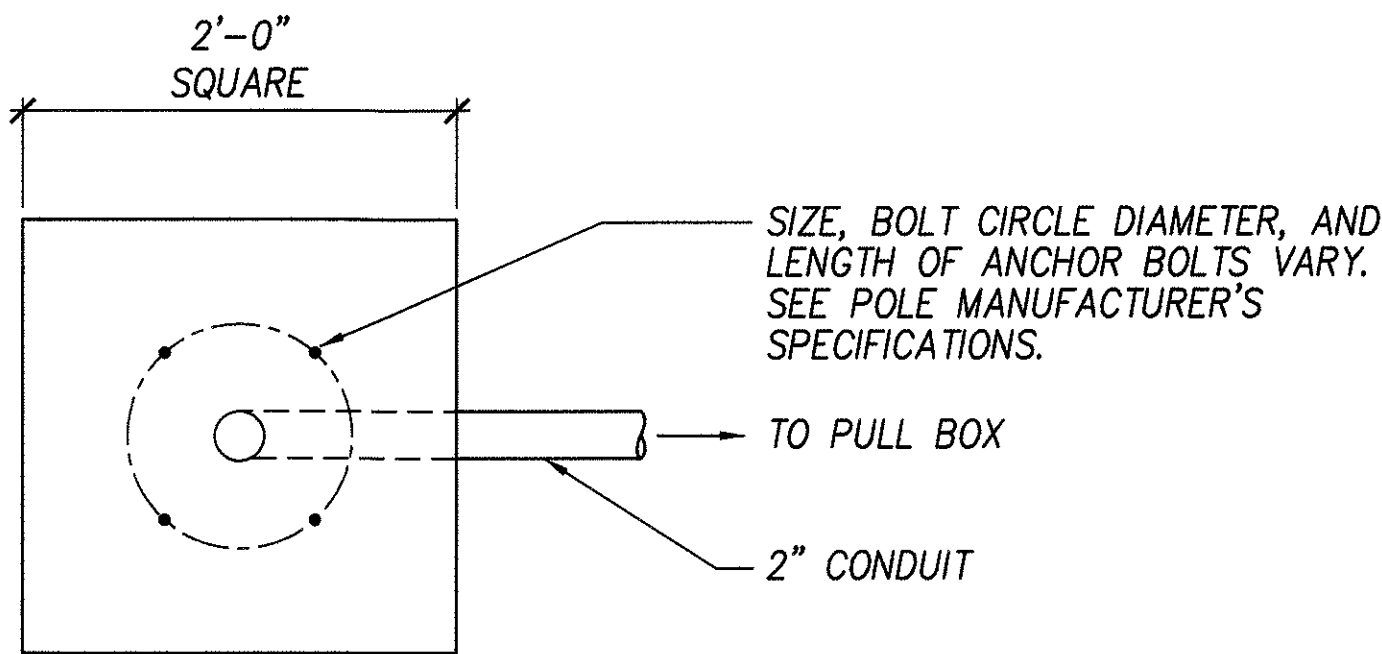
Scale: As Shown Date: August 30, 2004

SHEET No. E-36 OF 40 SHEETS

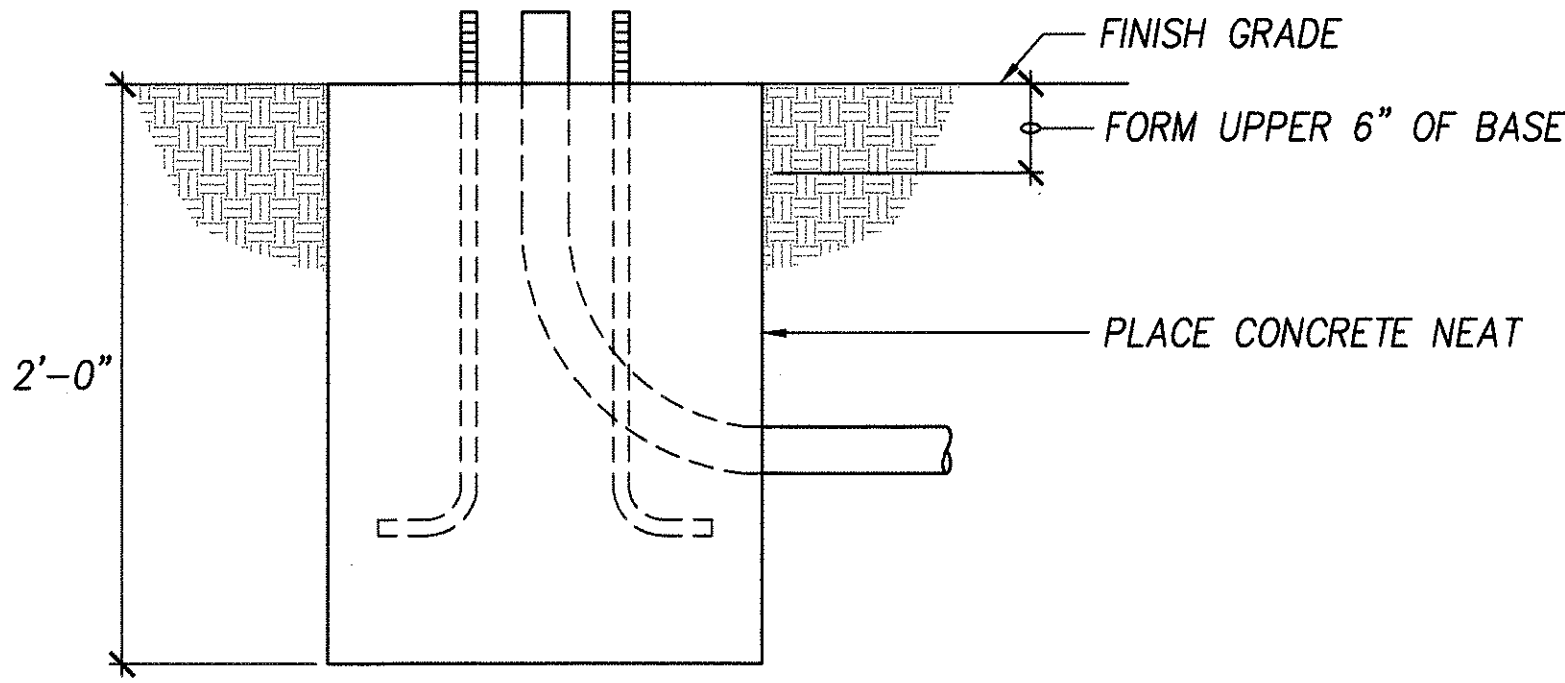
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	160	163

### NOTES:

1. CONCRETE SHALL BE CLASS "B".
2. TYPE "1" CONCRETE BASE SHALL BE USED FOR TYPE I, TRAFFIC SIGNAL STANDARDS.
3. CONDUIT BEND IS INCIDENTAL TO CONCRETE BASE.

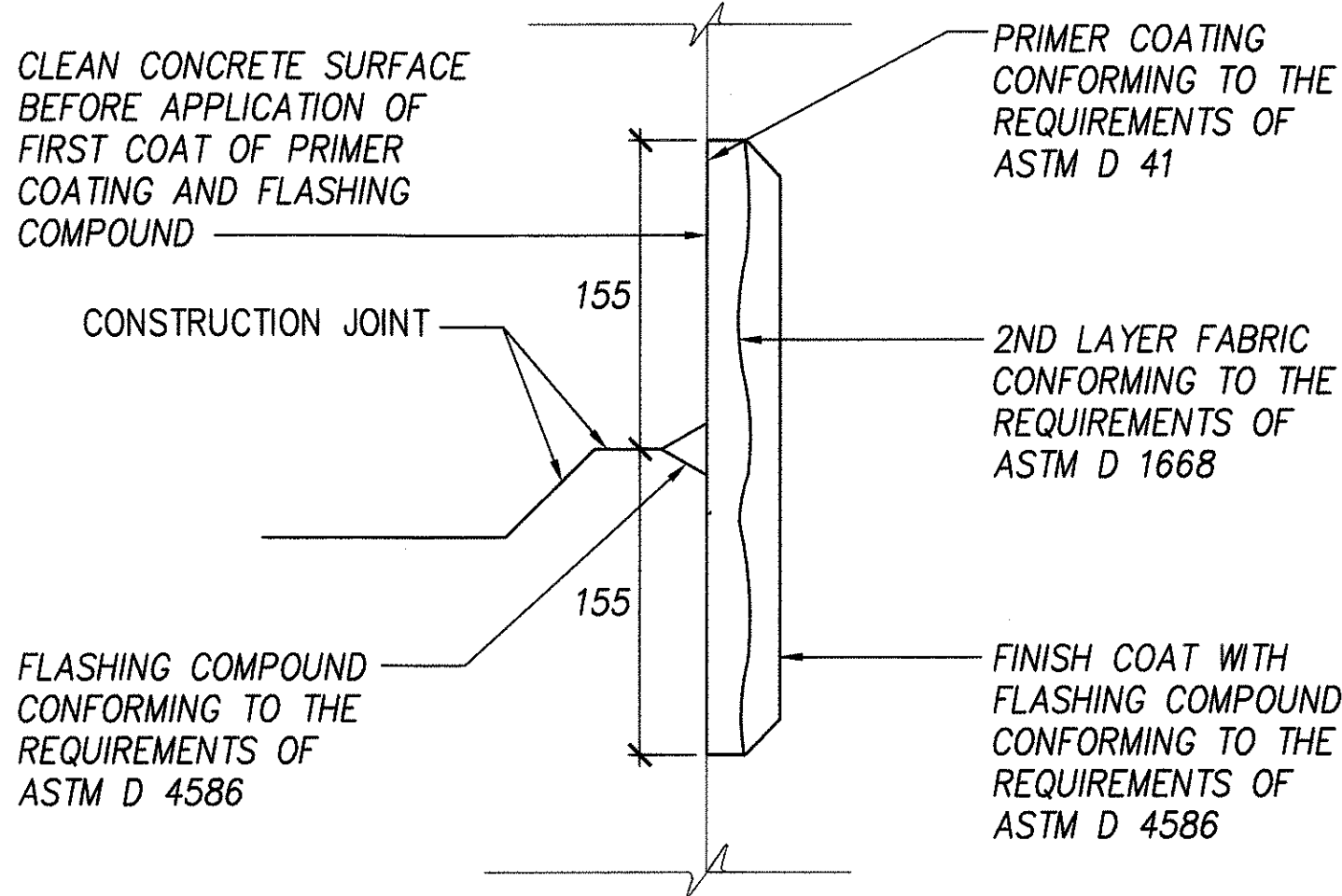


PLAN-SECTION

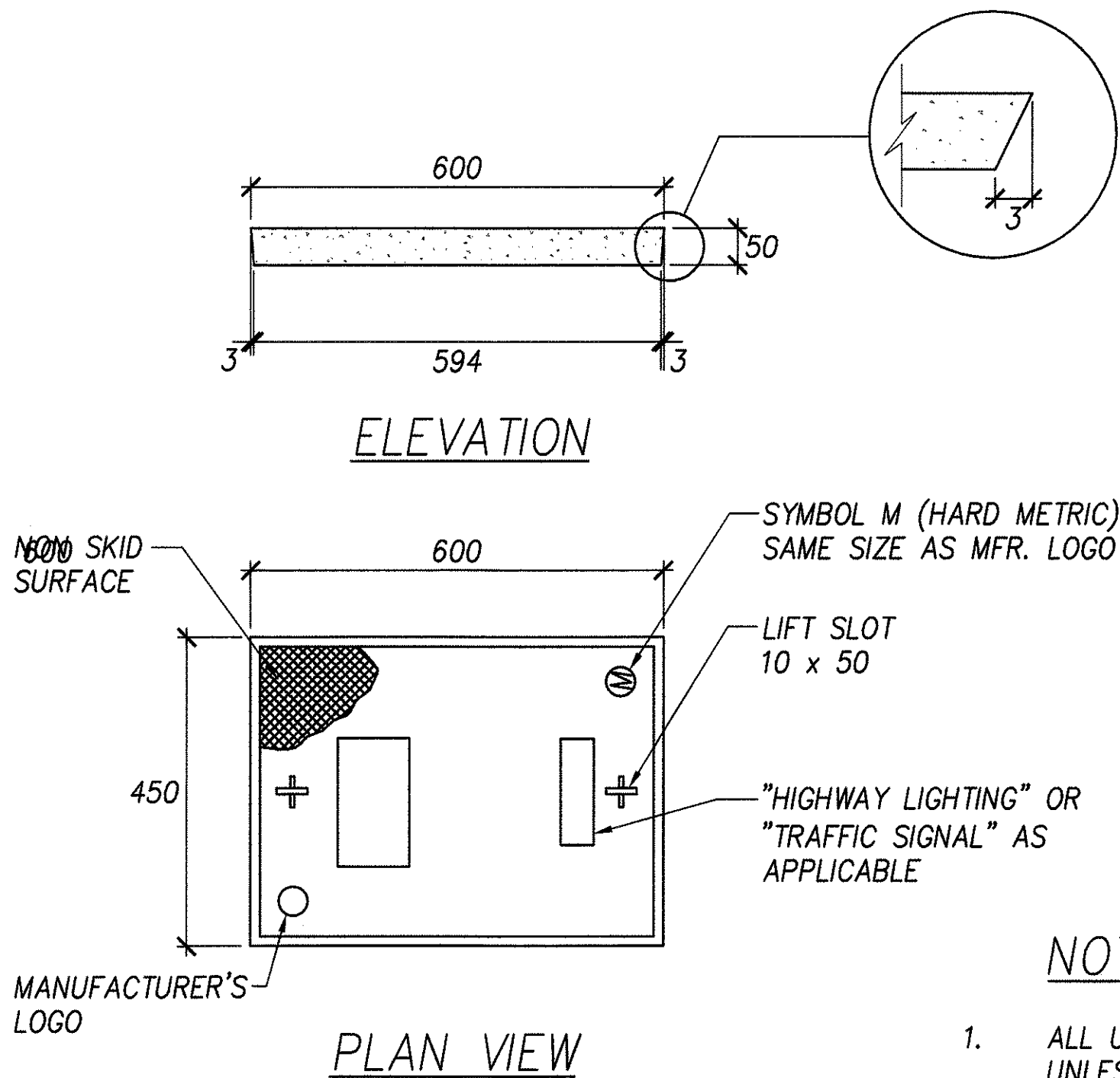


VERTICAL SECTION

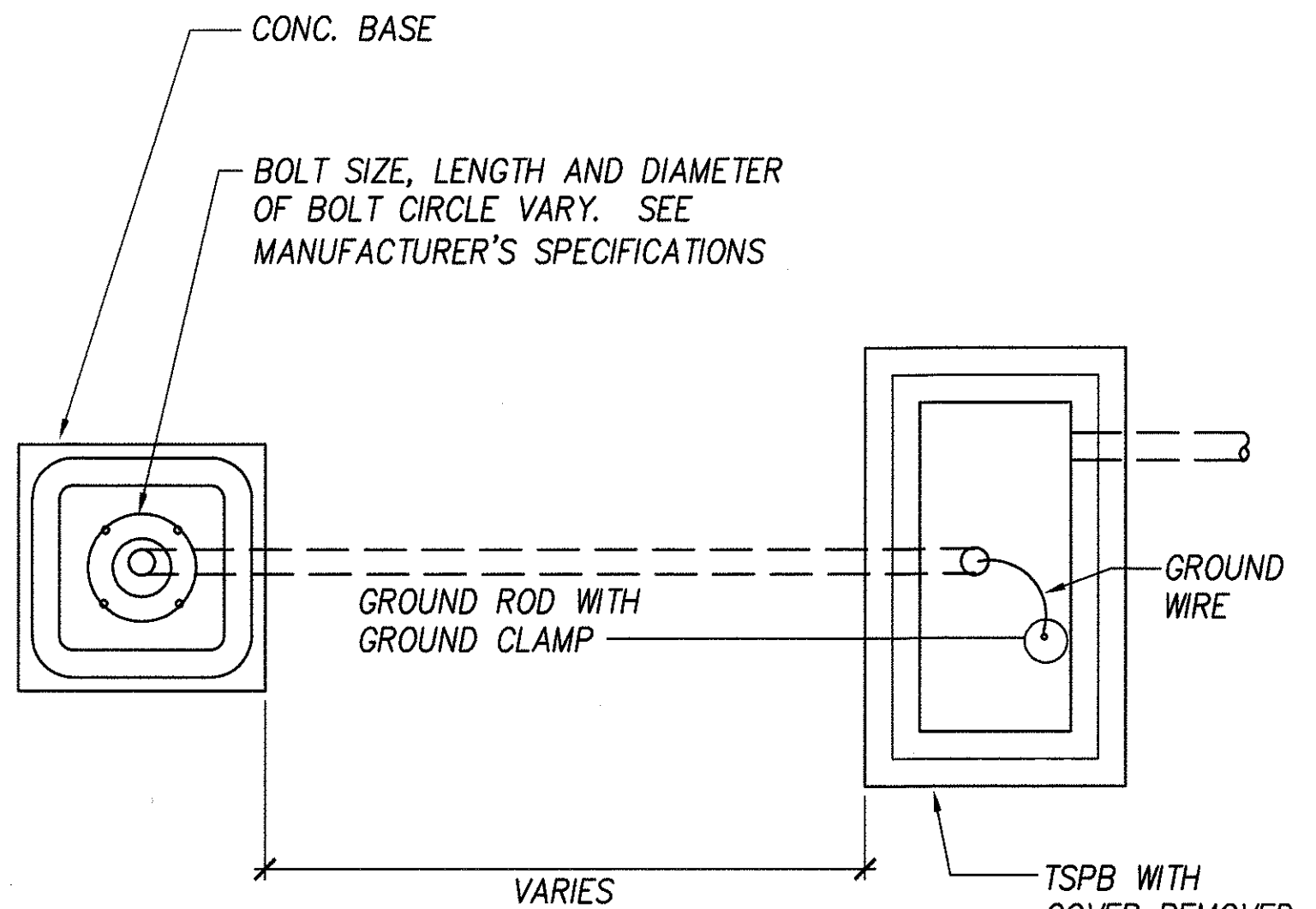
### 1 TYPE "A" CONCRETE BASE E-37 NOT TO SCALE



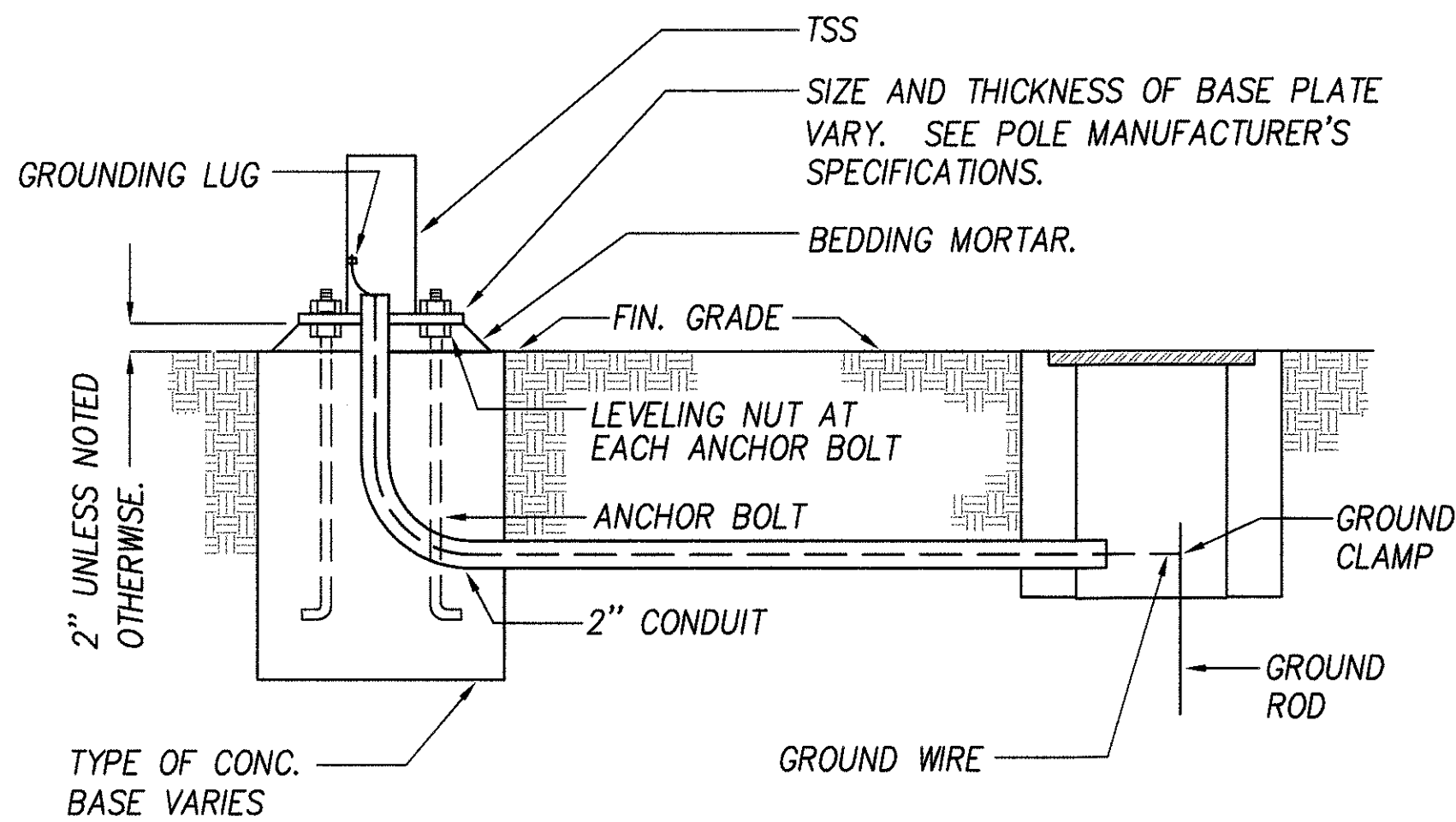
### 3 TYPICAL FLASHING COMPOUND E-37 NOT TO SCALE



### 4 POLYMER CONCRETE COVER E-37 NOT TO SCALE



PLAN

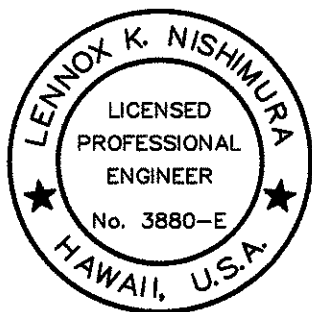


SECTION

### 2 TYPICAL STANDARD AND PEDESTAL INSTALLATION E-37 NOT TO SCALE

### NOTES:

1. ALL UNITS ON THIS SHEET ARE INDICATED IN METRIC UNLESS OTHERWISE NOTED.
2. COVER SHALL BE LABELED TO IDENTIFY THE SYSTEM FOR WHICH THE BOX IS APART OF.



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Lennox K. Nishimura  
PROJECT ENGINEER for EGS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU	DRAWING REVIEWED	ty
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TRAFFIC SIGNAL  
MISCELLANEOUS DETAILS

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 6  
Fed. Aid Proj. No. CMAQ-0300(97)

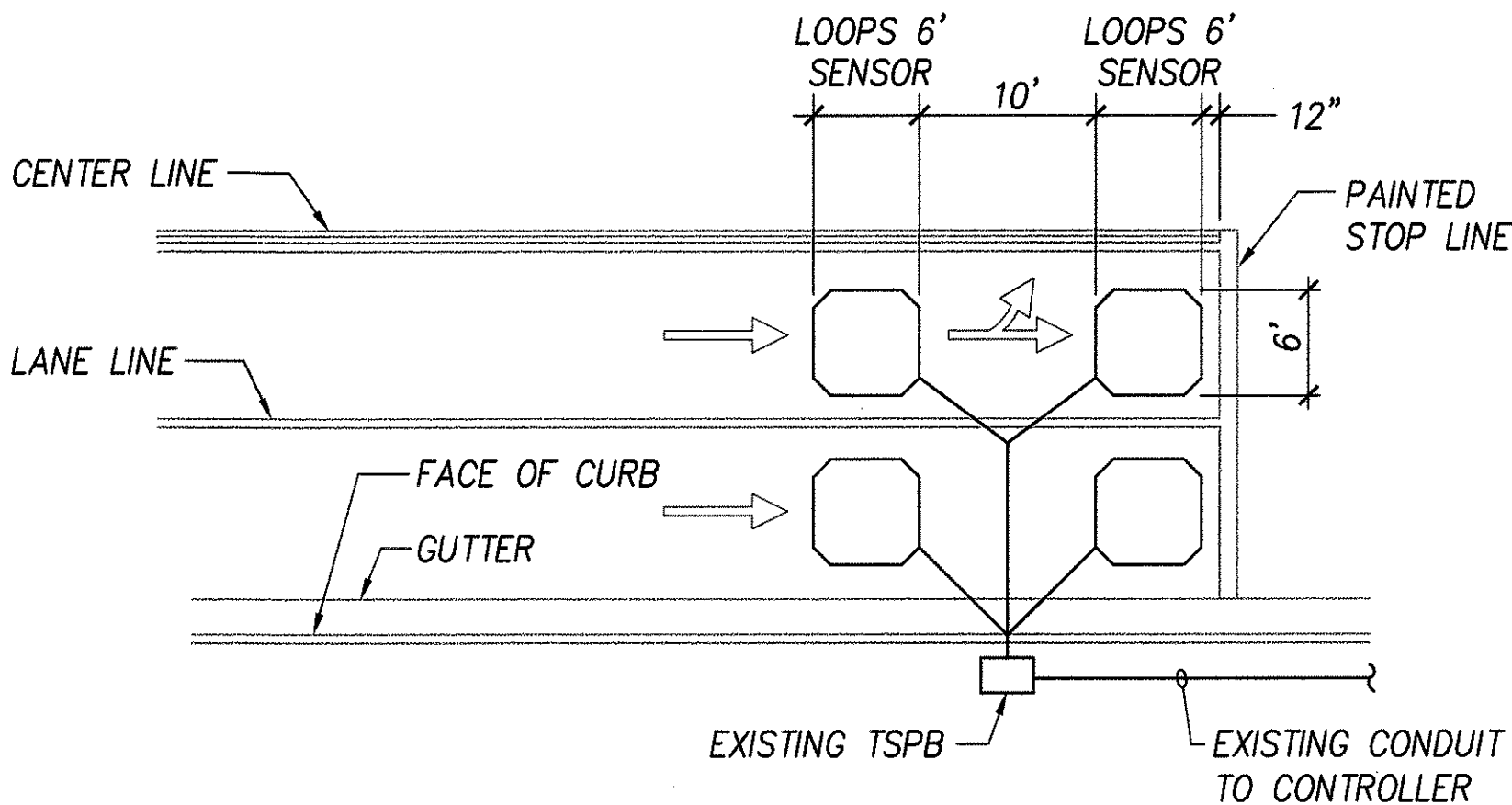
Scale: As Shown Date: August 30, 2004

SHEET No. E-37 OF 40 SHEETS

DATE REVISION



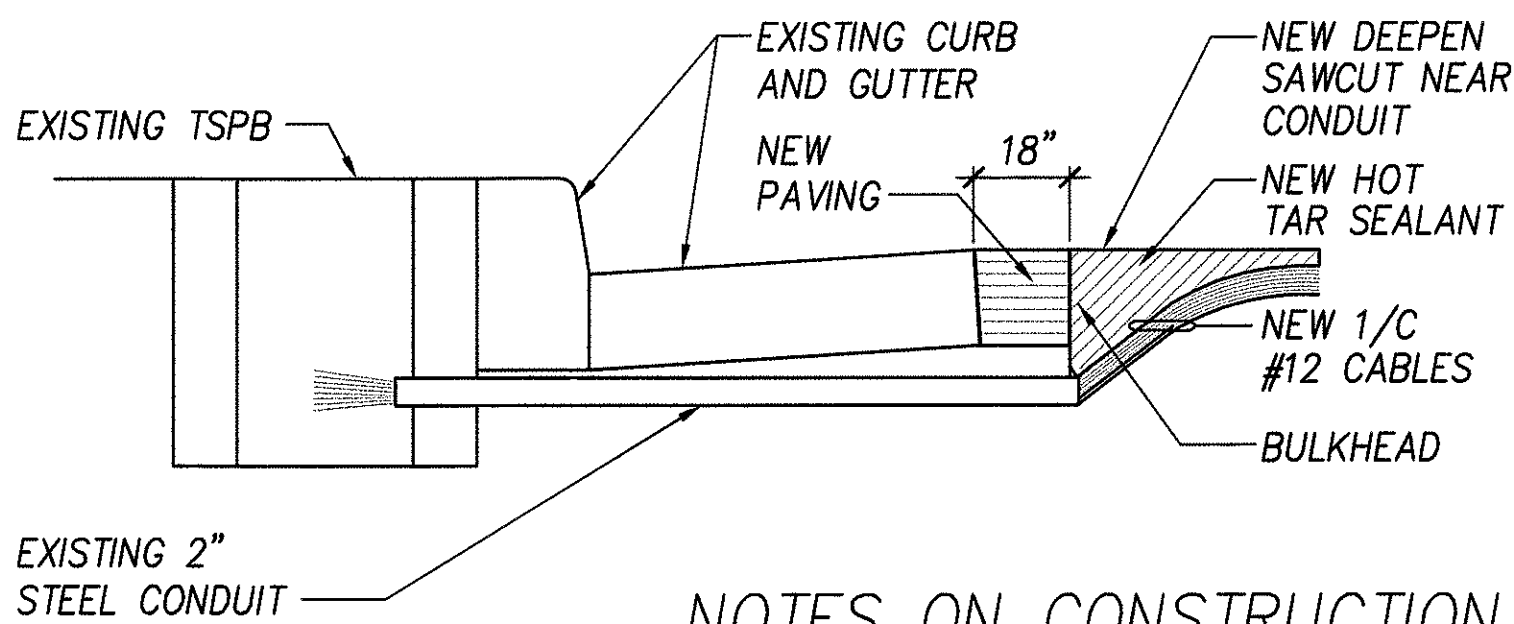
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	161	163



**NOTES:**

1. CENTER SENSOR LOOPS IN LANES.
2. COLLECTOR CABLES SHALL BE TWISTED 2 TURNS PER FOOT.
3. NUMBER OF LOOPS AND LOCATIONS VARY. SEE PROJECT PLANS.
4. NUMBER AND LOCATIONS OF COLLECTOR SAWCUTS MAY BE VARIED IN THE FIELD TO SUIT.
5. COORDINATE FINAL LOCATION OF SENSORS WITH CIVIL STRIPING PLAN.

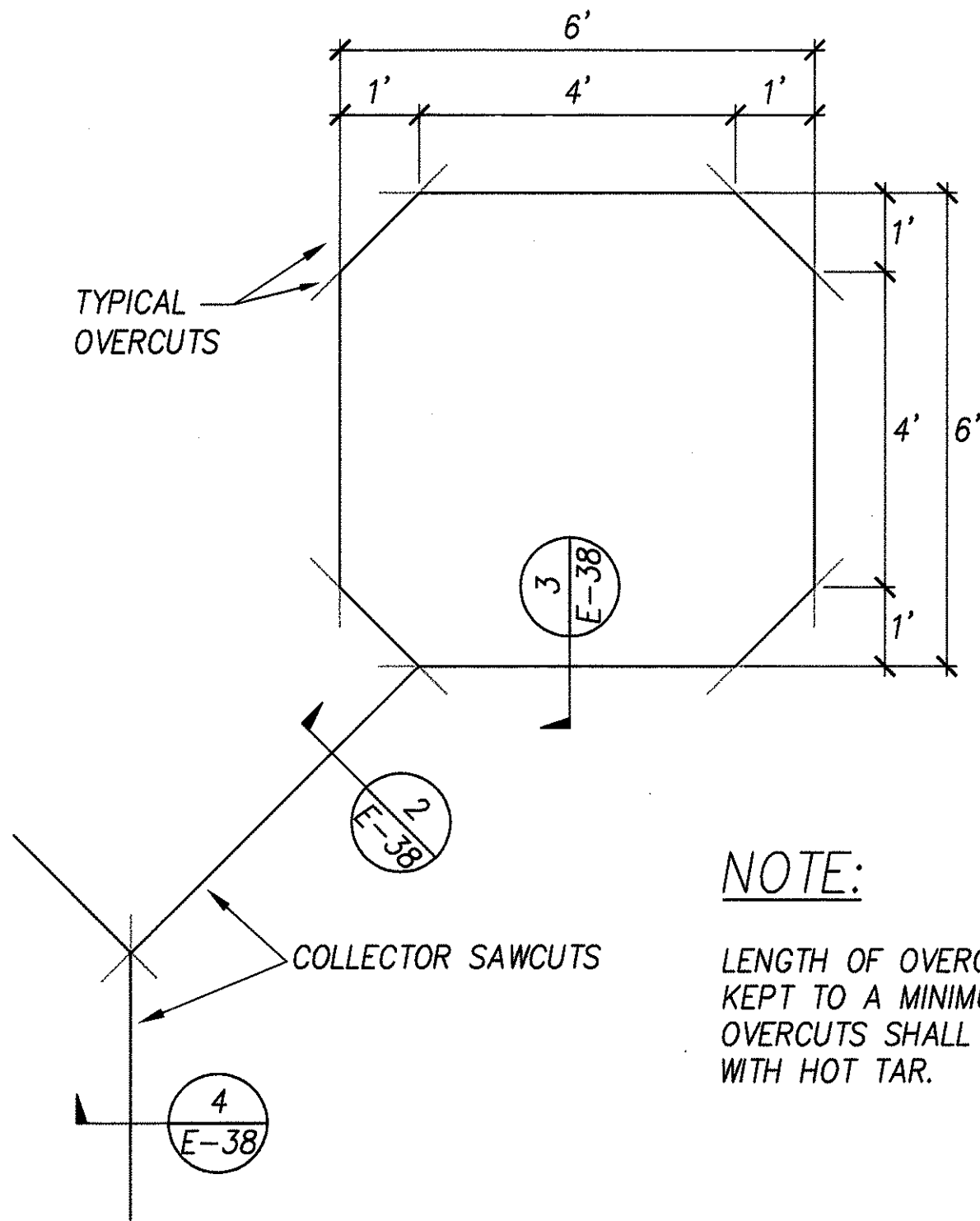
**1** TYPICAL SENSOR LOOP LAYOUT  
E-38 NOT TO SCALE



**NOTES ON CONSTRUCTION AT END OF SAWCUT**

1. SEAL ROADWAY END OF CONDUIT AFTER INSTALLATION OF CONDUCTORS
2. INSTALL BULKHEAD ACROSS CONDUIT TRENCH.
3. PLACE HOT TAR IN SAWCUT.
4. BACKFILL OVER CONDUIT WITH NEW PAVING.
5. RECONSTRUCT CURB AND GUTTER AS REQUIRED.

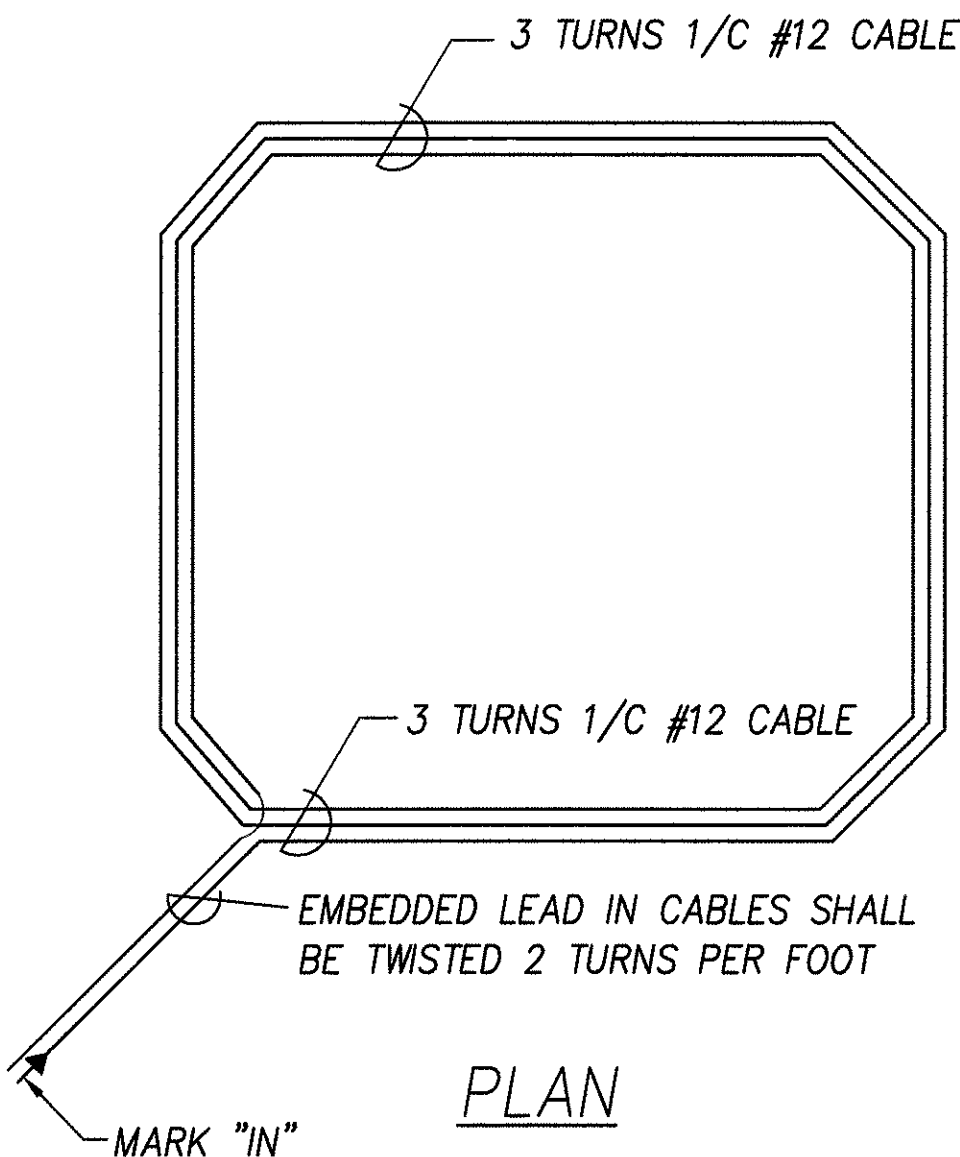
**DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY**



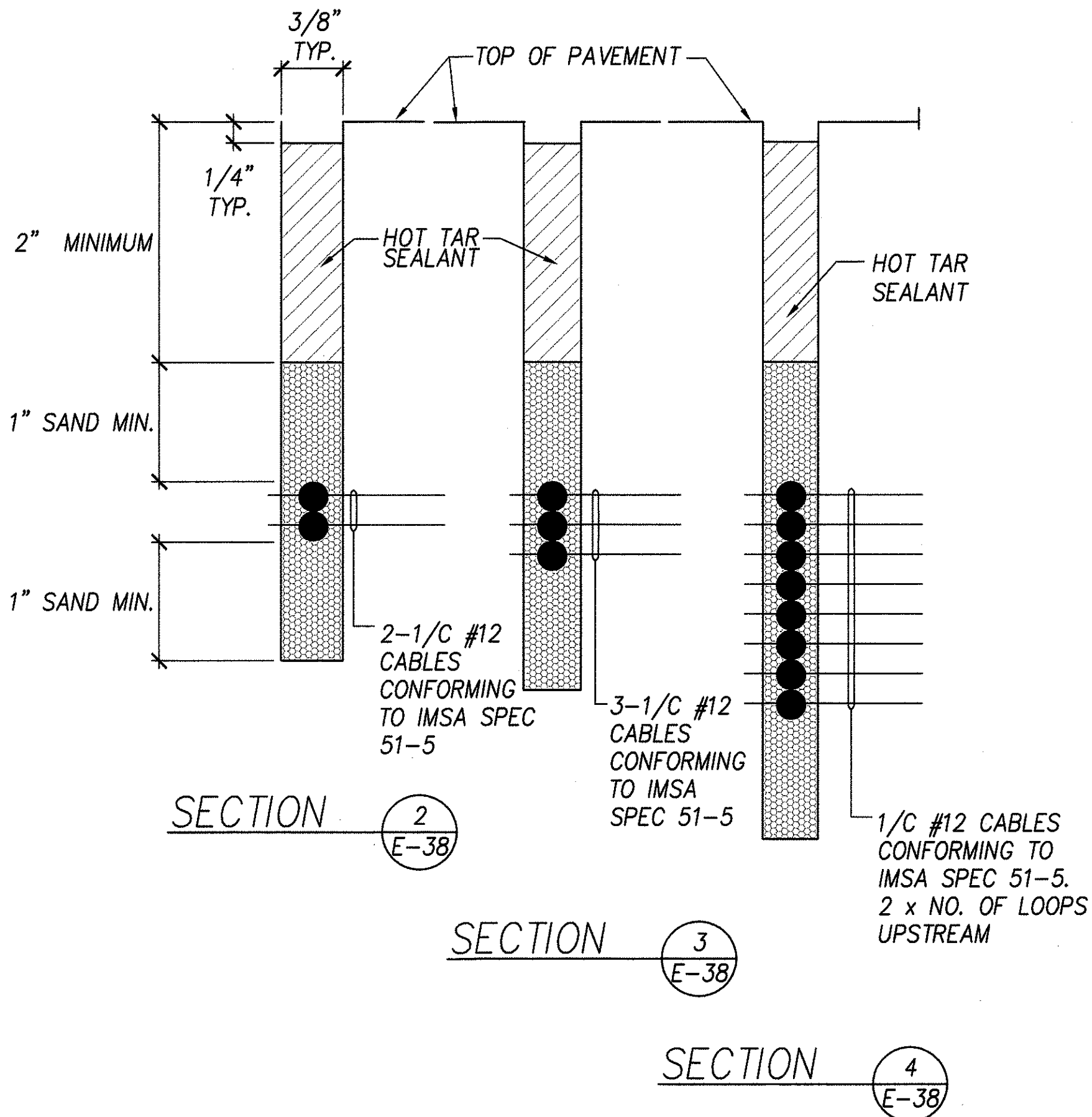
**NOTE:**

LENGTH OF OVERCUTS SHALL BE KEPT TO A MINIMUM. ALL OVERCUTS SHALL BE BACKFILLED WITH HOT TAR.

**TYPICAL SENSOR LOOP SAWCUT DETAIL**



**TYPICAL SENSOR LOOP WIRING DIAGRAM**  
NOT TO SCALE



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PROJECT ENGINEER for ECS, Inc.

APRIL 30, 2006  
EXPIRATION DATE OF THE LICENSE

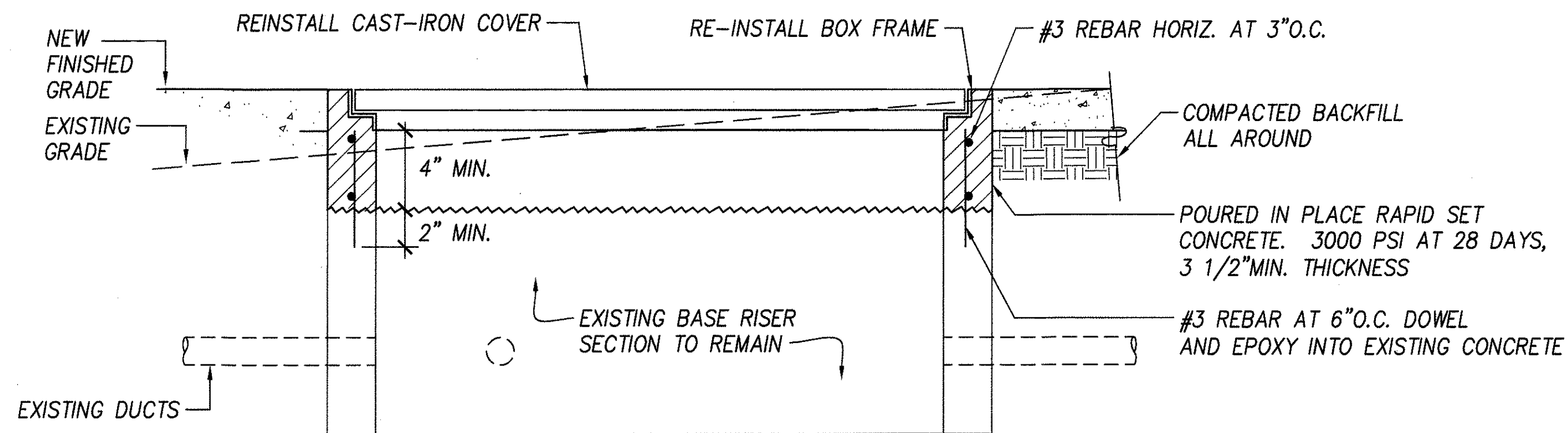
DTS, C&C HONOLULU	DRAWING REVIEWED	7
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
<u>DETECTOR LOOP DETAILS</u>		
<u>Pedestrian Facilities &amp; ADA Compliance</u> <u>at Various Locations on Oahu, Unit 6</u> <u>Fed. Aid Proj. No. CMAQ-0300(97)</u>		
Scale: As Shown	Date: August 30, 2004	
SHEET No. E-38 OF 40 SHEETS		

SURVEY PLANNED BY	DATE
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ORIGINAL PLAN	
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(97)	2004	163	163



1 TRAFFIC SIGNAL/STREET LIGHT BOX ADJUSTMENT  
E-40 NOT TO SCALE

SURVEY PLANNED BY	DATE
DRAWN BY	
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ORIGINAL PLAN	
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PROJECT ENGINEER for ECS, Inc.

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EXPIRATION DATE OF THE LICENSE

DTS, C&C HONOLULU	DRAWING REVIEWED	2
STATE OF HAWAII <b>DEPARTMENT OF TRANSPORTATION</b> HIGHWAYS DIVISION <u>PULLBOX ADJUSTMENT</u> <u>DETAILS</u>  <i>Pedestrian Facilities &amp; ADA Compliance</i> <i>at Various Locations on Oahu, Unit 6</i> <i>Fed. Aid Proj. No. CMAQ-0300(97)</i> Scale: As Shown      Date: August 30, 2004 <b>SHEET No. E-40 OF 40 SHEETS</b>		

DATE	REVISION