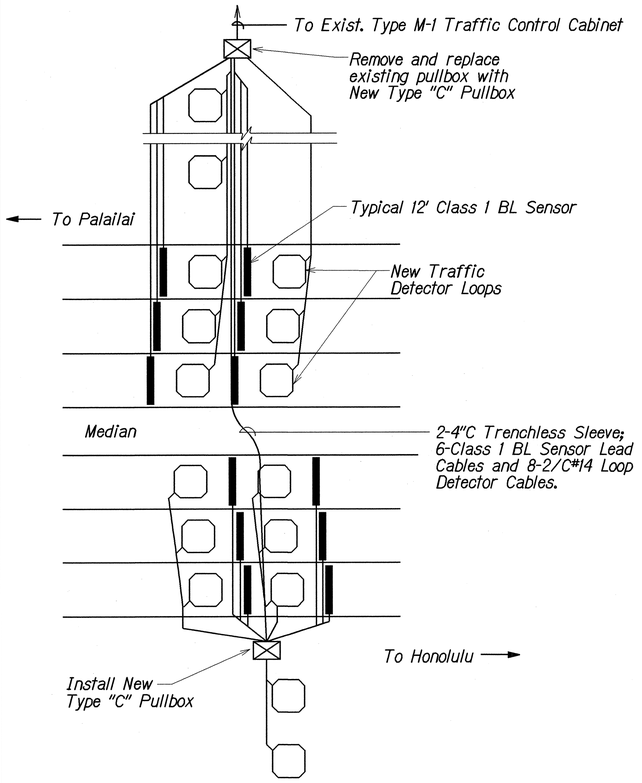
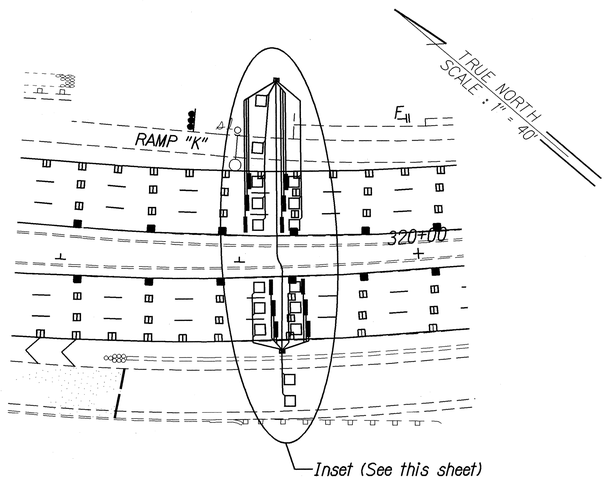
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	DPI-0203(1)	2003	53	234



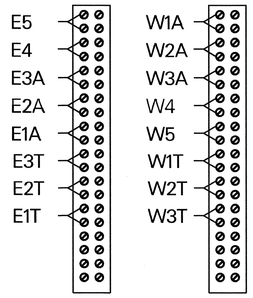
INSET - TRAFFIC COUNTING STATION
Not to Scale



LEGEND:

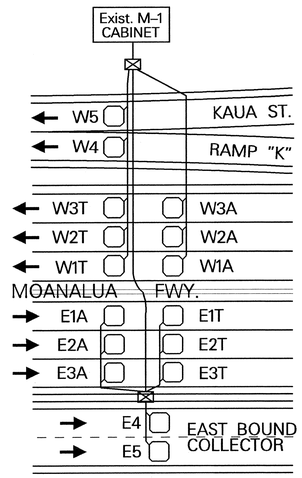
E EAST
W WEST
A APPROACH
T TRAIL

TOP OF TERMINAL BLOCK



BOTTOM OF TERMINAL BLOCK

CONNECTING LAYOUT OF LOOP LEAD-IN WIRES TO TERMINAL BLOCK INSIDE M-1 CABINET



LAYOUT AND LABELING OF LOOPS

NOTE:

Loop layout shown is for illustration purposes only. See Inset for layout details.

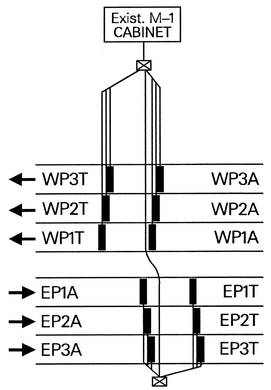
TERMINAL BLOCK WIRING DETAILS
Not to Scale

PIEZO SENSOR LAYOUT NOTES

1. All Class 1 BL sensor cables shall be "home run" to the existing Junction box.
2. Connection of Class 1 BL sensor to the existing system shall be done by others.

LEGEND:

- Loop Detector
- Type "C" Pullbox
- Class 1 BL Sensor (Piezo)



LAYOUT AND LABELING OF CLASS 1 BL SENSORS

GENERAL NOTES

1. The locations of new inductance loops, pullboxes and cabinets/junction boxes shall be staked out in the field by the Contractor and approved by the Engineer prior to installation.
2. The Contractor shall inform the Engineer at least three days prior to saw-cutting pavement and installing inductance loops.
3. Continuity of inductance loops and lead-in wires shall be tested and warranted for one year from date of acceptance by the Contractor.
4. Upon completion of sleeve, pull in in-bound lanes loop detectors cable and Class 1 BL sensor cables. Cables shall be tested for acceptance before and after installation into sleeve.
5. The Contractor shall restore all affected areas to their original condition. This item of work shall not be paid for separately, but shall be considered incidental to work of other paid items.
6. The Contractor shall verify the locations of the existing utilities and underground structures whether or not shown on plans.
7. The Contractor shall assume that existing underground utilities not shown on the plans may exist, therefore, he shall contact the different utility companies for information and toning.
8. The Contractor shall be held liable for any damages incurred to the existing utilities and underground structures as a result of his operations. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company at no cost to the STATE.
9. Changes to the contract plans and specifications shall not be permitted, unless otherwise authorized by the Engineer upon written justification and request for approval by the Contractor.
10. Highway crossing sleeve shall be provided with 36" cover.

LOOP LAYOUT NOTES

1. Detector loop shall consist of three turns of 1/C #12 cable meeting IMSA SPEC 51-5 or equivalent embedded in a 3/8" minimum sawcut, except as noted.
2. Loop and lead-in to the first pullbox shall be one continuous wire. Lead-in wires from the same loop shall be twisted in pairs, two turns per foot. DO NOT twist one loop-pairs with another loop-pairs.
3. All lead-in wires shall be crimped with open end lugs that will fit into the terminal board slots snugly.
4. Stagger traffic loops on roadway less than 12 foot lane width.
5. The Contractor shall connect the inductance wires on each terminal slot.
6. The left lane in the direction of traffic flow is designated as Lane 1, and the lane next to its right as Lane 2 and so on as indicated on plans.
7. Vacuum and clean sawcut thoroughly before installing sensors and/or cables and filling with hot tar or epoxy sealant.
8. All loop lead-in wires in all enclosures including pullboxes shall be identified and labeled by direction of traffic flow and lane numbers as shown on plans.
9. All cables and wires terminated within an enclosure shall have a minimum 12" additional slack.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY M. Takahiji	
NOTE BOOK	TRACED BY	
	DESIGNED BY Steven Yoshida	
	QUANTITIES BY	
N:\moatcsp	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

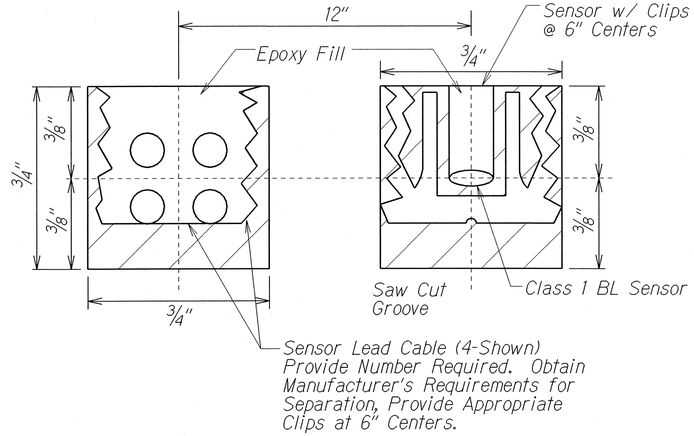
COUNTING STATION PLAN

MOANALUA FREEWAY PAVEMENT IMPROVEMENTS
Halawa Interchange to Kahauiki Interchange
Federal Aid Project No. DPI-0203(1)

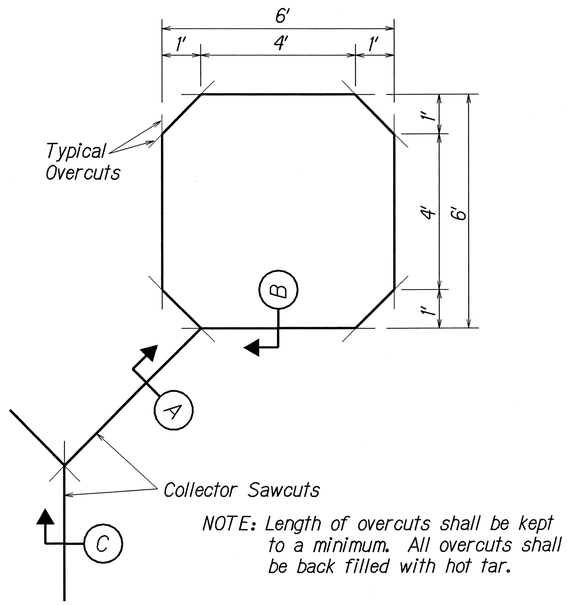
Not To Scale Date: June 2002

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	DPI-0203(1)	2003	54	234

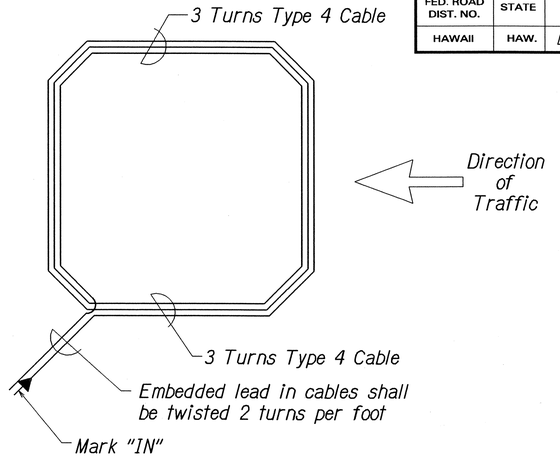


CLASS 1 BL SENSOR AND LEAD INSTALLATION DETAIL

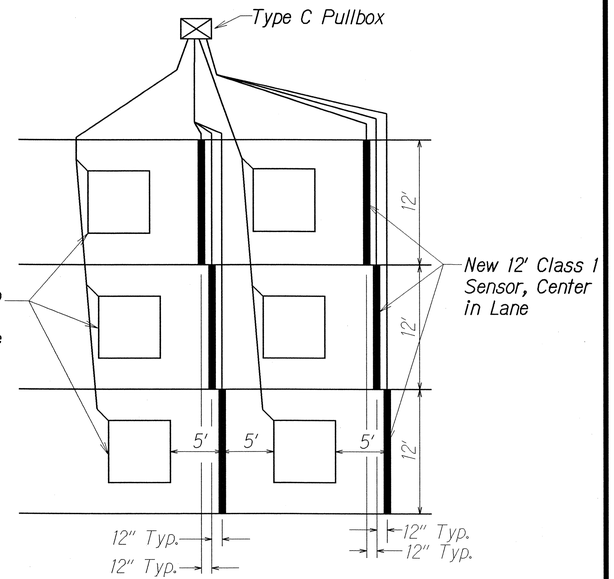


NOTE: Length of overcuts shall be kept to a minimum. All overcuts shall be back filled with hot tar.

TYPICAL SENSOR LOOP SAWCUT DETAIL

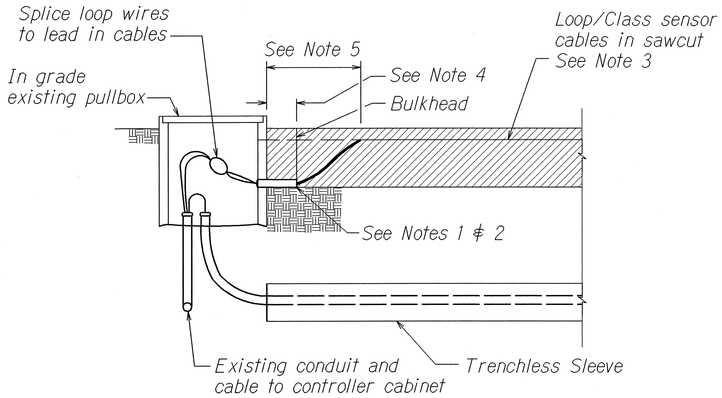


TYPICAL SENSOR LOOP WIRING DIAGRAM



TYPICAL SENSOR LAYOUT

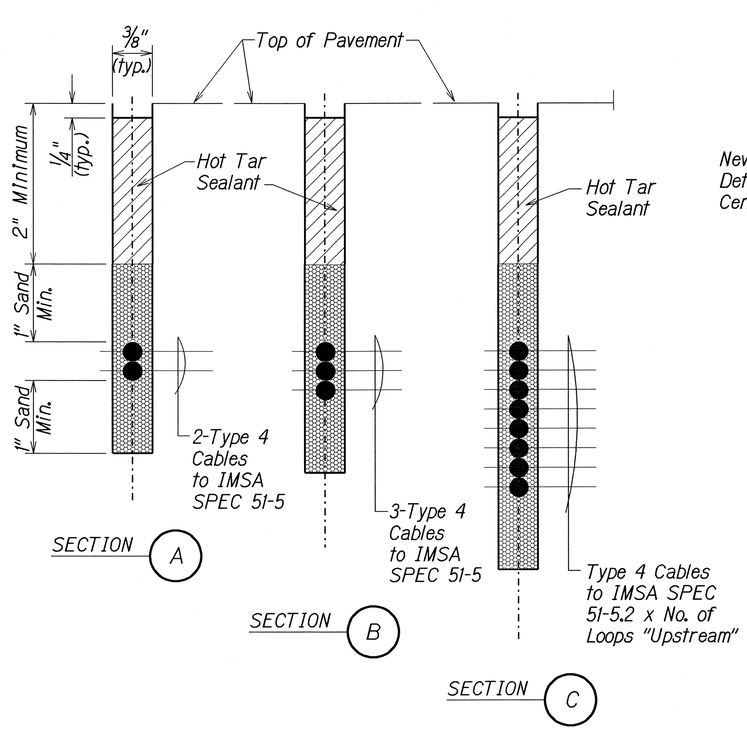
Not to Scale



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 applied rubberized sealant or expoxy filler in sawcut as indicated per contract.
4. Backfill over conduit with new A.C.
5. Where pavement extends to pullbox, continue sawcut to pullbox location and core side of pullbox for entrance of loop cables. After installation of cables, provide waterproof sealant around cable entrance.

DETAIL OF LOOP DETECTOR INSTALLATION AT EDGE OF ROADWAY



TYPICAL SECTION THROUGH SENSOR LOOP

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY M. Takafuji	
NOTE BOOK	TRACED BY	
td2.may	DESIGNED BY Steven Yoshida	
N.Tmoatcsd	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

COUNTING STATION DETAILS

MOANALUA FREEWAY RESURFACING
Halawa Interchange to Kahauiki Interchange
Federal Aid Project DPI-0203(1)

Not to Scale — Date: June 2002

SHEET No. 2 OF 2 SHEETS