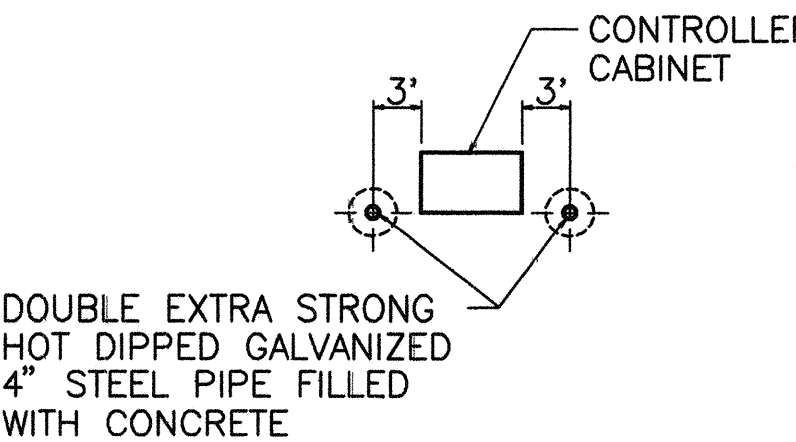


LEGEND

- NEW 12" RYG STANDARD TRAFFIC SIGNAL HEAD.
NEW 12" RY↑ TRAFFIC SIGNAL HEAD.
NEW 12" R ↔ TRAFFIC SIGNAL HEAD
NEW 12" PROGRAMMABLE VISIBILITY HEAD
NEW TYPE I TRAFFIC SIGNAL STANDARD.
NEW TYPE III MAST ARM TRAFFIC SIGNAL STANDARD.
EXISTING TYPE A PULLBOX
NEW TYPE A PULLBOX.
NEW TYPE B PULLBOX.
NEW TYPE B PULLBOX WITH MODIFIED COVER.
NEW 2'X4' PULLBOX
NEW CONTROLLER CABINET.
NEW OPTICOM DETECTOR
NEW LOOP DETECTOR.
TRAFFIC SIGNAL CONDUITS
EXISTING CONDUITS TO BE CUT AND PLUGGED.
EXISTING TO BE REMOVED OR ABANDONED
PAVEMENT MARKING
EXISTING UTILITY LINES AND SIZES AS INDICATED.
W = WATER
S = SEWER
TL = TRAFFIC SIGNAL
SL = STREET LIGHT
E = ELECTRIC
T = TELEPHONE
F = FUEL
PP ○ POWER POLE
GP GUY POLE
GA ANCHOR
WV ○ WATER VALVE
WMH ○ WATER MANHOLE

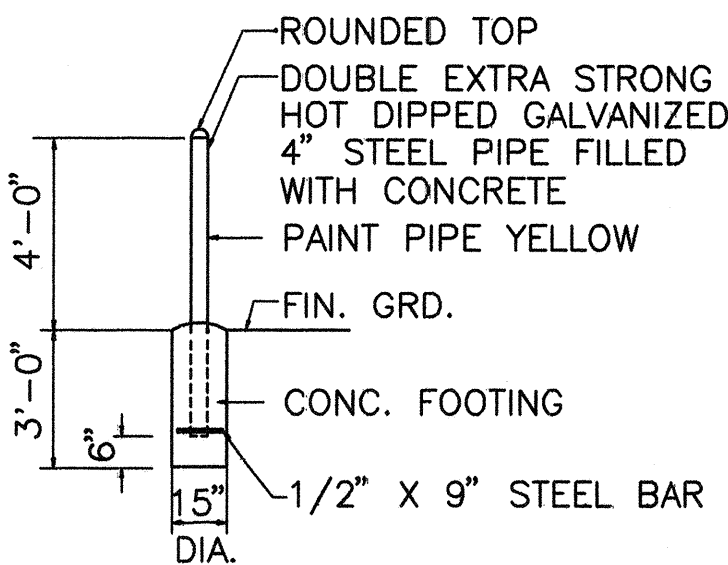
NOTE:

COST OF CONC. FILLED GALVANIZED POSTS SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.



DOUBLE EXTRA STRONG HOT DIPPED GALVANIZED 4" STEEL PIPE FILLED WITH CONCRETE

PLAN



TYP. ELEVATION

PIPE GUARD DETAIL

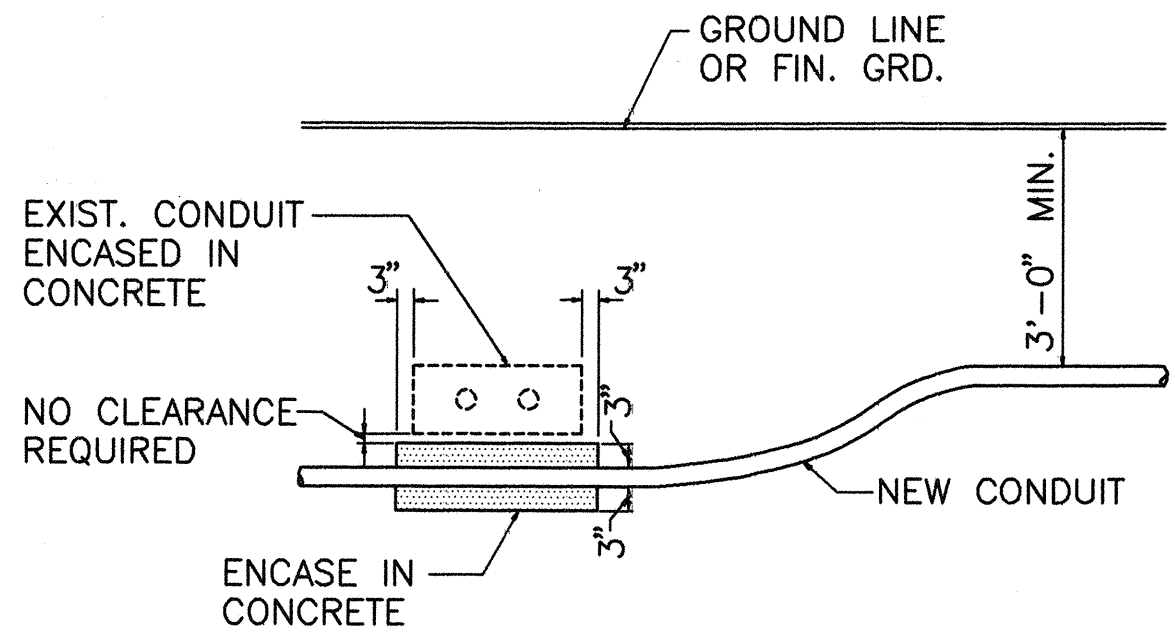
NOT TO SCALE

TRAFFIC SIGNAL NOTES

- ALL TRAFFIC SIGNAL CONTROLLER EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CABINET AND SHALL CONTROL THE TRAFFIC SIGNALS AS CALLED FOR IN THE PLANS.
- SIGNAL INDICATIONS DURING CLEARANCE INTERVAL:
 - IF A SIGNAL IS G OR ←G AND WILL REMAIN G OR ←G DURING THE NEXT PHASE, IT SHALL BE G OR ←G DURING THE CLEARANCE INTERVAL.
 - IF A SIGNAL IS G OR ←G AND WILL BECOME R OR EXTINGUISHED DURING THE NEXT PHASE, IT SHALL BE Y OR ←Y DURING THE CLEARANCE INTERVAL.
 - IF A SIGNAL IS R AND WILL REMAIN R OR BECOMES G DURING THE NEXT PHASE, IT SHALL REMAIN R DURING THE CLEARANCE INTERVAL.
- THE LOOP AMPLIFIER UNITS FURNISHED FOR THIS PROJECT SHALL BE CAPABLE OF OPERATING THE LOOP DETECTOR CONFIGURATIONS SHOWN ON THE PLANS.
- A SOLID #8 BARE COPPER WIRE SHALL BE PULLED WITH THE TRAFFIC CONTROL CABLE FOR EQUIPMENT GROUND. COST SHALL BE INCIDENTAL TO THE INSTALLATION OF THE CONTROL CABLE.
- THE CONTRACTOR SHALL KEEP THE EXISTING TRAFFIC SIGNALS AND INTERSECTION CONTROLLER IN OPERATION UNTIL SUCH TIME THAT THE NEW CONTROLLER IS PLACED IN OPERATION. THE INTERSECTION SHALL NOT BE PLACED OUT OF OPERATION WITHOUT THE PERMISSION OF THE ENGINEER.
- CONDUITS AND CABINET LOCATIONS AS SHOWN ON THE PLANS ARE SCHEMATIC. THEY MAY BE MODIFIED BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER.
- WHEN THE NEW CONTROLLER IS IN SATISFACTORY OPERATION, THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER, CABINET, TRAFFIC SIGNAL POLES, HEADS, AND OTHER APPURTENANCES NOT INCORPORATED INTO THE NEW SYSTEM.
- THE CONTRACTOR SHALL INSTALL NEW CONTROLLER AND CABINET IN THE INDICATED LOCATION.
- COST FOR EXTRA CABLE LENGTHS REQUIRED FROM THE NEW PULLBOX TO THE EXISTING PULLBOX SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE CITY ELECTRICAL AND MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, THREE (3) WORKING DAYS PRIOR TO COMMENCING WORK ON THE TRAFFIC SIGNAL SYSTEM (PHONE 527-5007).
- THE EXISTING TRAFFIC SIGNALS SHALL BE KEPT OPERATIONAL DURING CONSTRUCTION. ANY RELOCATION REQUIRED SHALL BE APPROVED BY THE ELECTRICAL AND MAINTENANCE SERVICES DIVISION, DEPARTMENT OF TRANSPORTATION SERVICES, AND PAID FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING TRAFFIC SIGNAL FACILITIES, INCLUDING THE TRAFFIC SIGNAL INTERCONNECT SYSTEM, AND 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.
- ALL EXISTING PULL BOXES, TRAFFIC SIGNAL POLE AND CONTROLLER BASES NOT INCORPORATED INTO THE NEW TRAFFIC SIGNAL SYSTEM SHALL BE REMOVED TO 12 INCHES BELOW GRADE.
- EXISTING LOOP DETECTORS AND CONDUITS NOT INCORPORATED INTO THE NEW TRAFFIC SIGNAL SYSTEM SHALL BE ABANDONED IN PLACE. ABANDONED CONDUITS SHALL BE PLUGGED WITH CONCRETE. REMOVE UNUSED EXISTING CABLES.
- EXISTING TRAFFIC SIGNAL POLES, HEADS AND CONTROLLER WHICH ARE REMOVED SHALL BE CLEANED AND DELIVERED TO THE CITY BASE YARD OR AS DIRECTED BY THE ENGINEER.
- ALL WORK FOR THE INSTALLATION AND MODIFICATION OF THE TRAFFIC SIGNAL SYSTEM SHALL CONFORM TO THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1985" AND SHEETS T-38, T-39, T-40, T-41, T-42 AND T-43 OF THE "STANDARD PLANS" OF THE DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION AND AS SHOWN ON THESE DRAWINGS.
- SHOULD ANY DAMAGE OCCUR TO THE TRAFFIC SIGNAL LOOPS OR CONDUITS, THE CONTRACTOR SHALL HAVE THE TRAFFIC SIGNAL LOOPS OR CONDUITS REPAIRED AND OPERATIONAL WITHIN FIVE (5) WORKING DAYS OR PROVIDE A MINIMUM OF FOUR (4) MICROWAVE DETECTORS AT EACH AFFECTED INTERSECTION.

CONSTRUCTION NOTES

- LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPE-LINES, CONDUITS, CABLES, ETC., SHOWN ON PLANS ARE APPROXIMATE ONLY. IT IS NOT THE INTENT OF THESE PLANS TO SHOW THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES WITH THE RESPECTIVE OWNERS. EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN COST.
- THE CONTRACTOR SHALL VERIFY AND CHECK ALL DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION.
- THE CONTRACTOR SHALL NOTIFY ALL AGENCIES TO VERIFY THE ACTUAL LOCATION OF ALL UTILITIES IN THE PROJECT AREA PRIOR TO EXCAVATING. THE CONTRACTOR SHALL COORDINATE ALL WORK.
- THE CONTRACTOR SHALL TONE AND LOCATE EXISTING UTILITIES ALONG DUCTLINE PRIOR TO EXCAVATION.
- THE LOCATIONS OF THE NEW TRAFFIC SIGNAL STANDARDS, TRAFFIC SIGNAL STANDARDS WITH MAST-ARM, PEDESTRIAN PUSH BUTTONS, TRAFFIC CONTROLLER, PULLBOXES, CONDUITS AND LOOP DETECTORS 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 TRAFFIC SIGNAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," FEDERAL HIGHWAY ADMINISTRATION (1988) AND AMENDMENTS.
- LOCATIONS OF NEW PAV'T. STRIPING, MARKERS, AND MARKINGS (PAVEMENT ARROW, STOP LINES, CROSSWALK, ETC.) SHOWN ON THE PLANS SHALL BE VERIFIED WITH THE ENGINEER PRIOR TO THE INSTALLATION OF THE TRAFFIC SIGNAL SYSTEM.
- MAINTENANCE OF TRAFFIC THROUGH THE CONSTRUCTION AREA SHALL BE IN ACCORDANCE WITH PART VI OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", FEDERAL HIGHWAY ADMINISTRATION (1988) AND AS SPECIFIED IN THE SPECIAL PROVISIONS. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE BARRICADES, BLINKERS, CONSTRUCTION SIGNS, ETC., FOR THE SAFETY OF THE MOTORING PUBLIC.



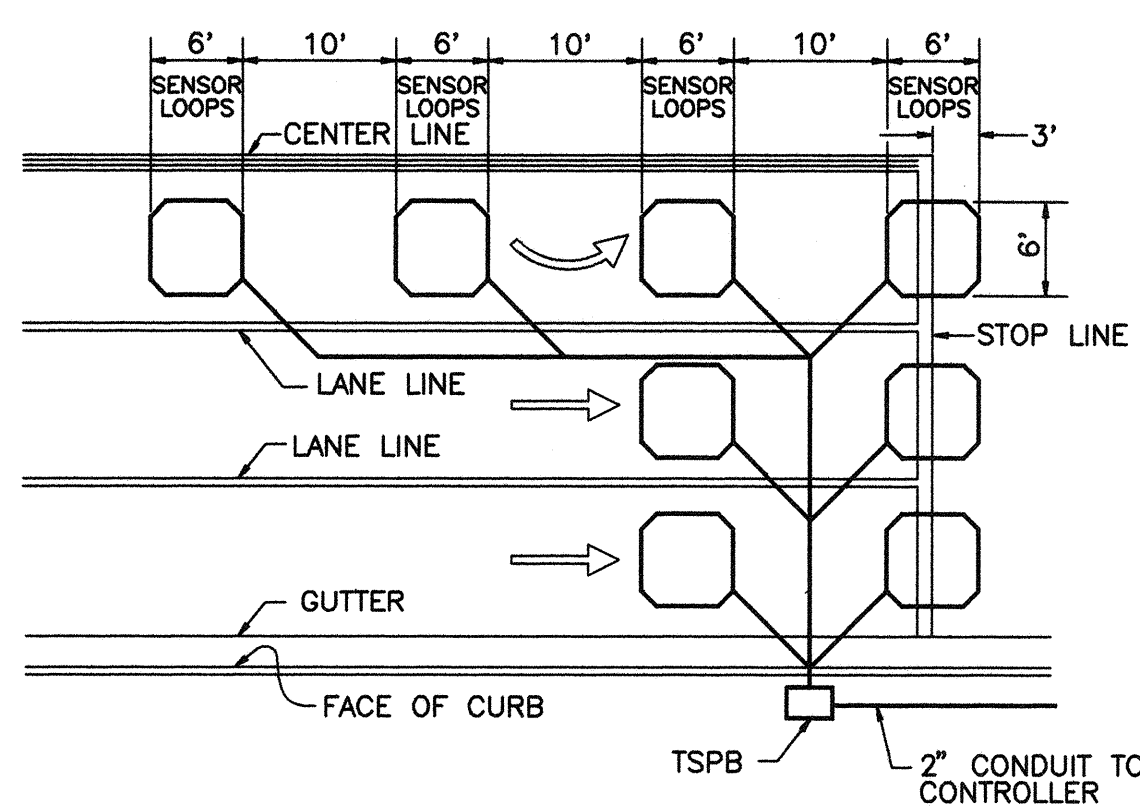
CONDUIT BY-PASS DETAIL

NOT TO SCALE

	REVISION	DATE	BRIEF	MADE BY	APPROVED
	ATA AUSTIN, TSUTSUMI & ASSOCIATES, INC. ENGINEERS, SURVEYORS • HONOLULU, HAWAII				
	FORT WEAVER ROAD INTERSECTION AND IROQUOIS POINT ROAD IMPROVEMENTS				
	TRAFFIC SIGNAL LEGEND, NOTES AND DETAILS				
DESIGNED BY	ET	DRAWN BY	PP	CHECKED BY	TSK
APPROVED	SUBMITTED BY		DATE		
FIRM MEMBER		DATE			

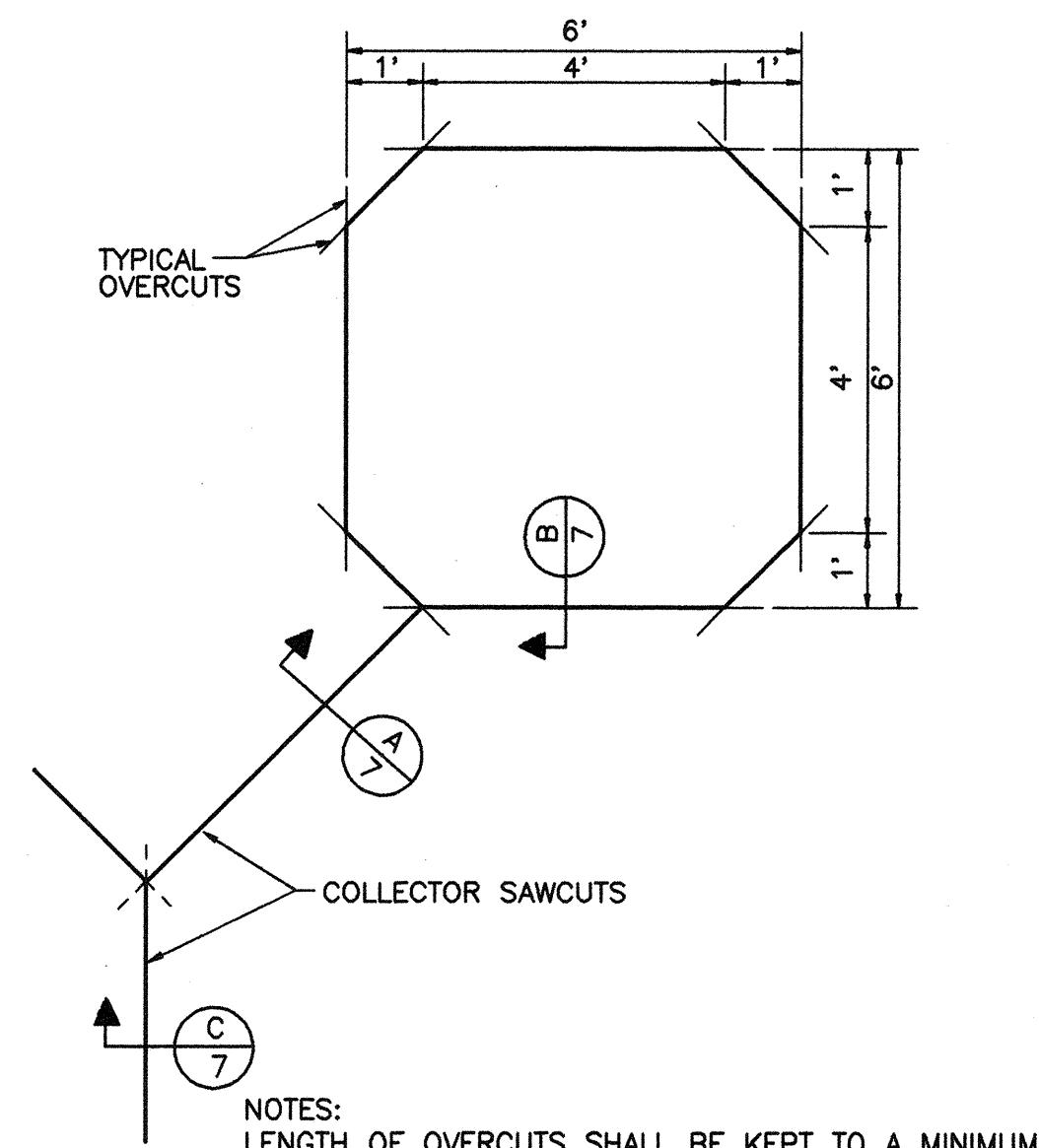
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RECORD DRAWINGS

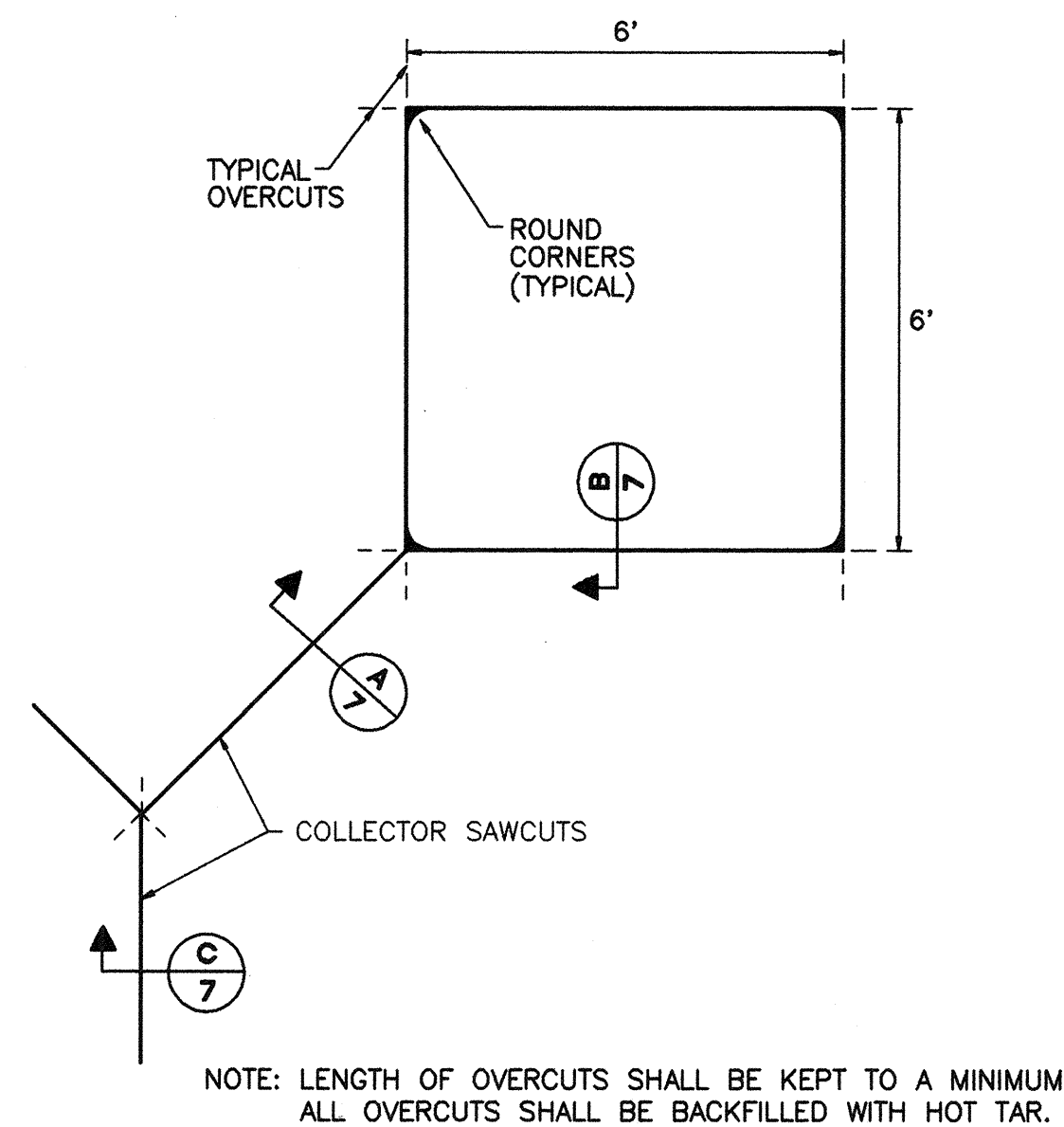


- NOTES:**
1. CENTER SENSOR LOOPS IN LANES.
 2. COLLECTOR CABLES SHALL BE TWISTED 2 TURNS PER FOOT.
 3. NUMBER OF LOOPS AND LOCATIONS VARY. SEE PROJECT PLANS.
 4. NUMBER AND LOCATIONS OF COLLECTOR SAWCUTS MAY BE VARIED IN THE FIELD TO SUIT.

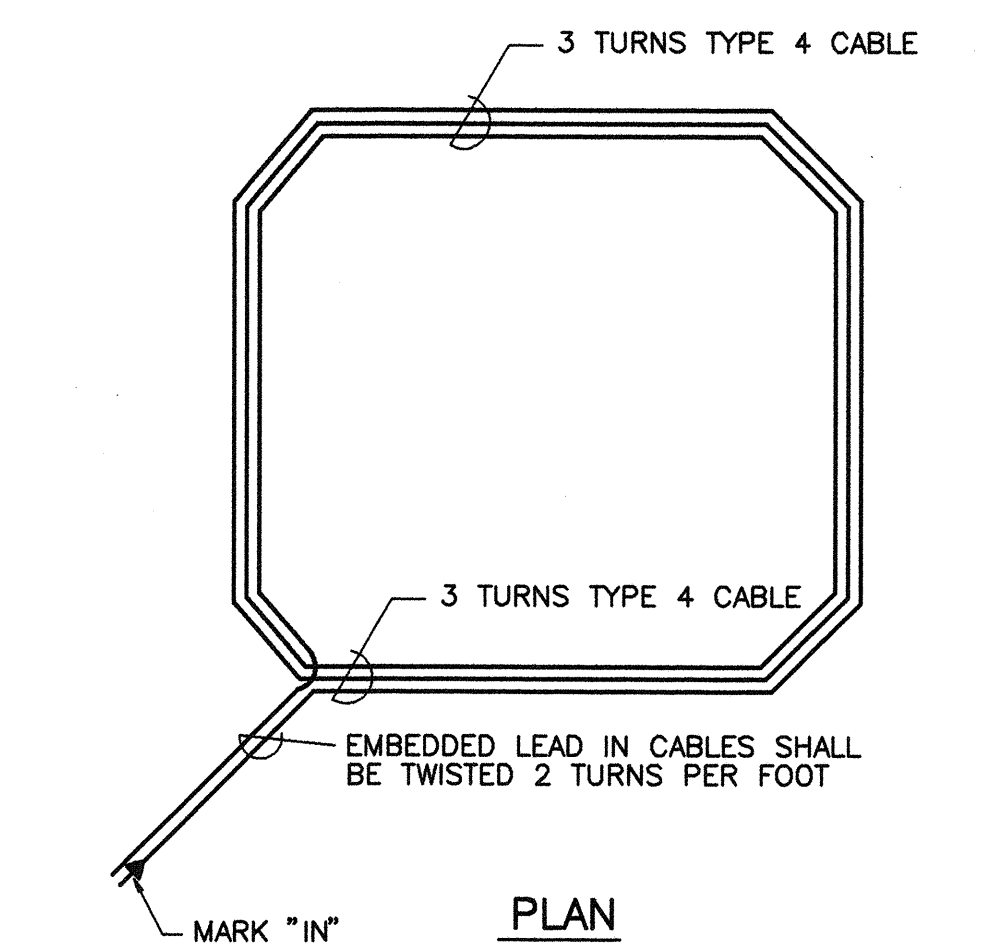
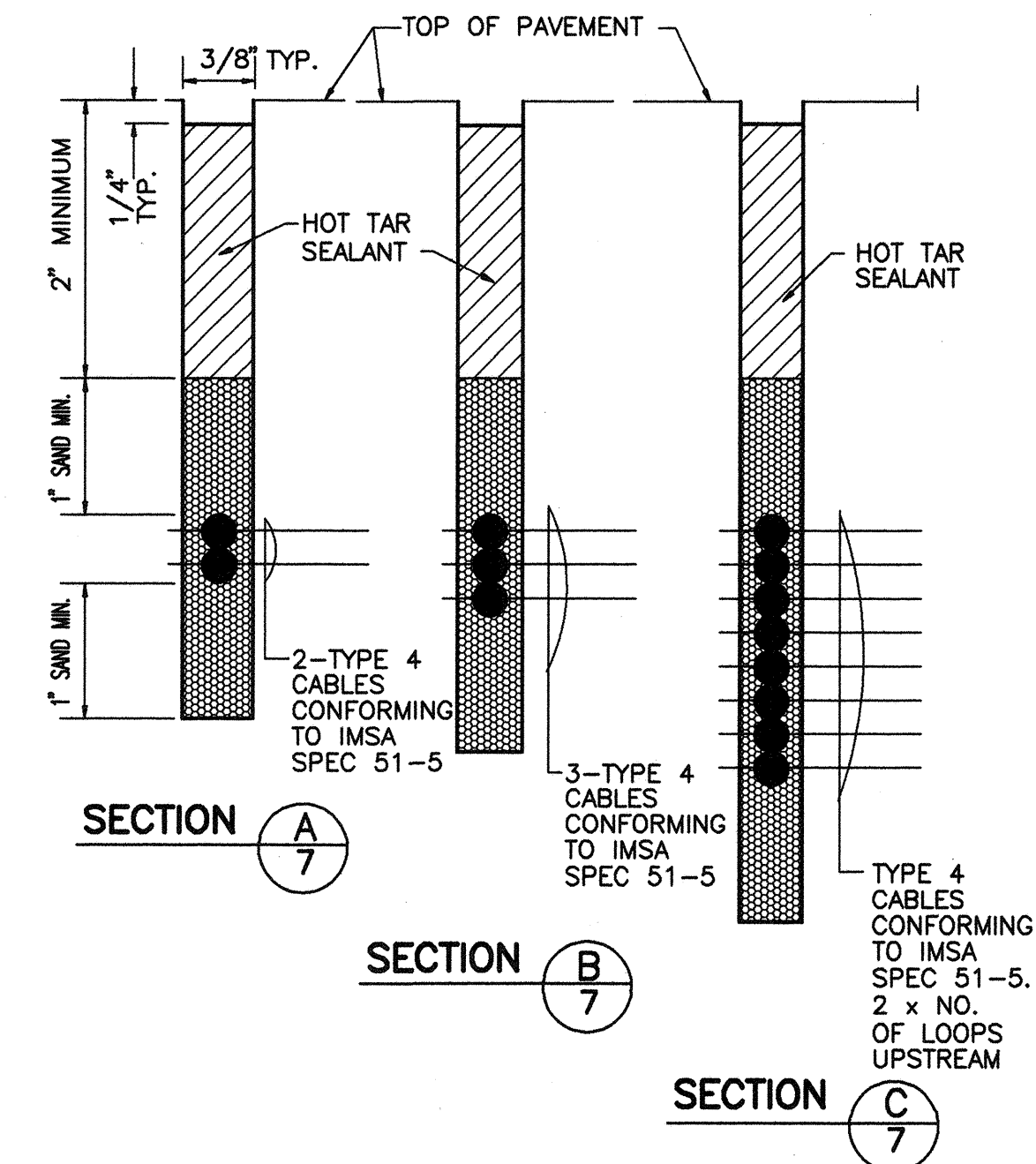
TYPICAL SENSOR LOOP LAYOUT



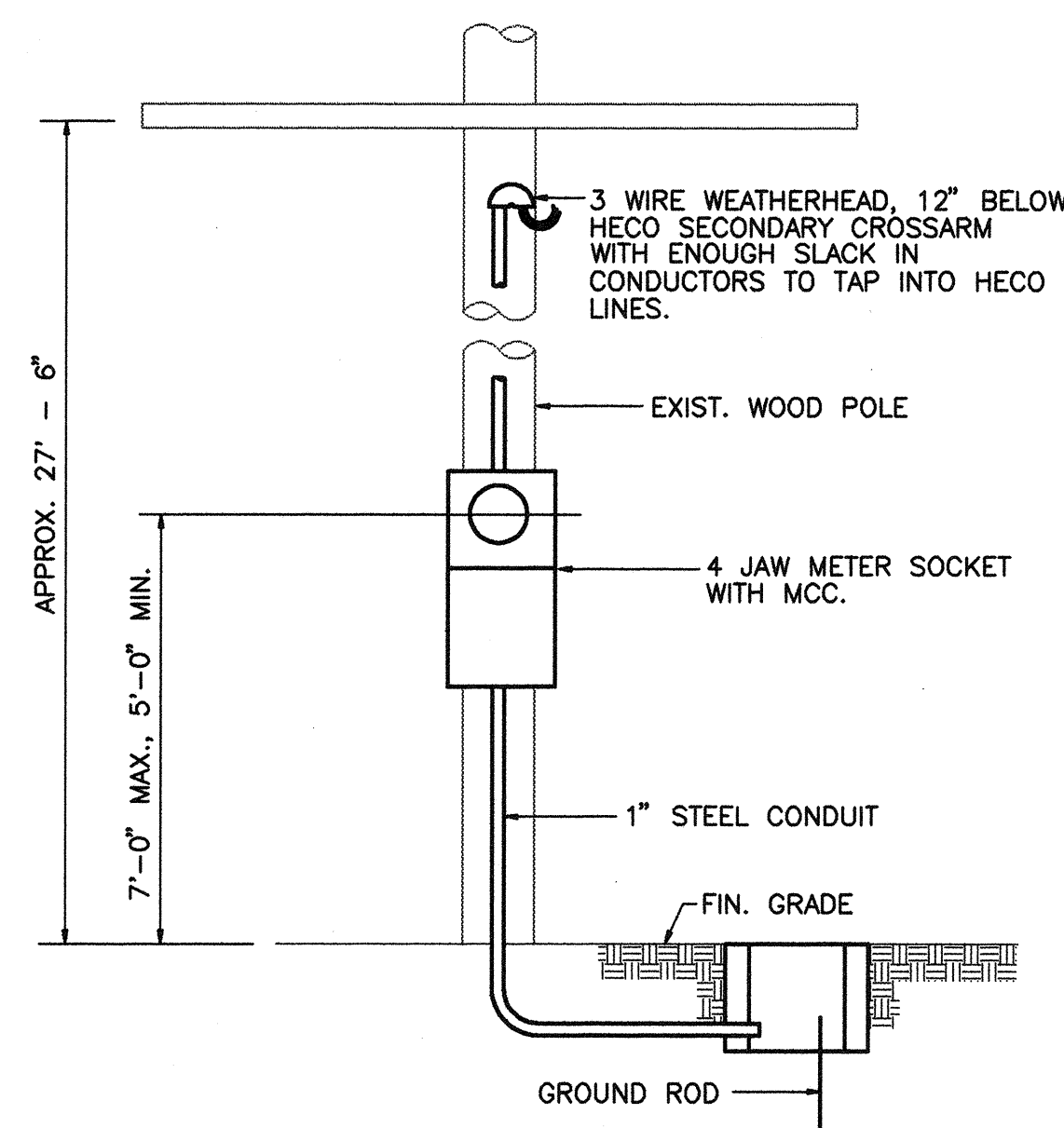
TYPICAL SENSOR LOOP SAWCUT DETAIL



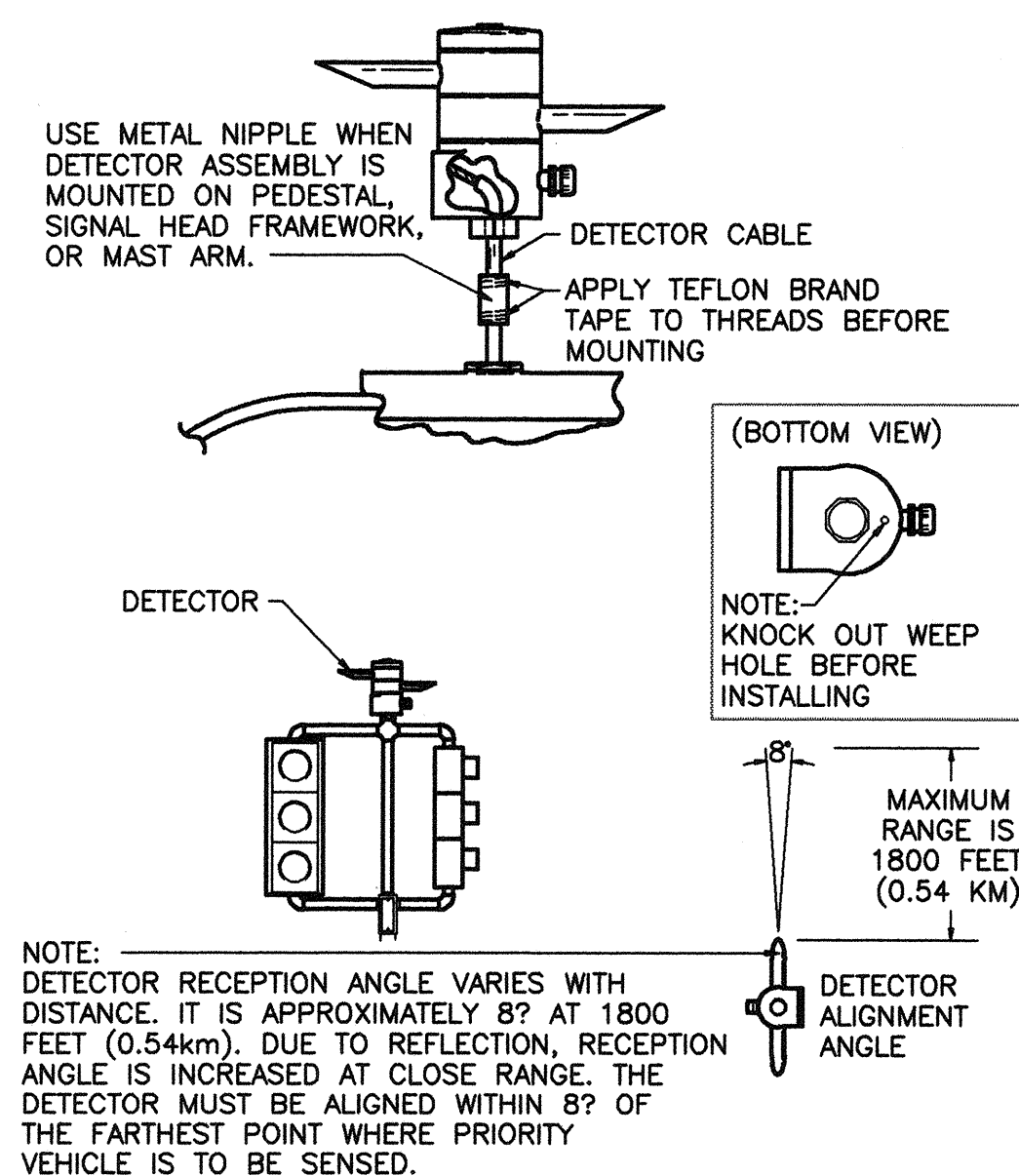
ALTERNATE SENSOR LOOP SAWCUT DETAIL



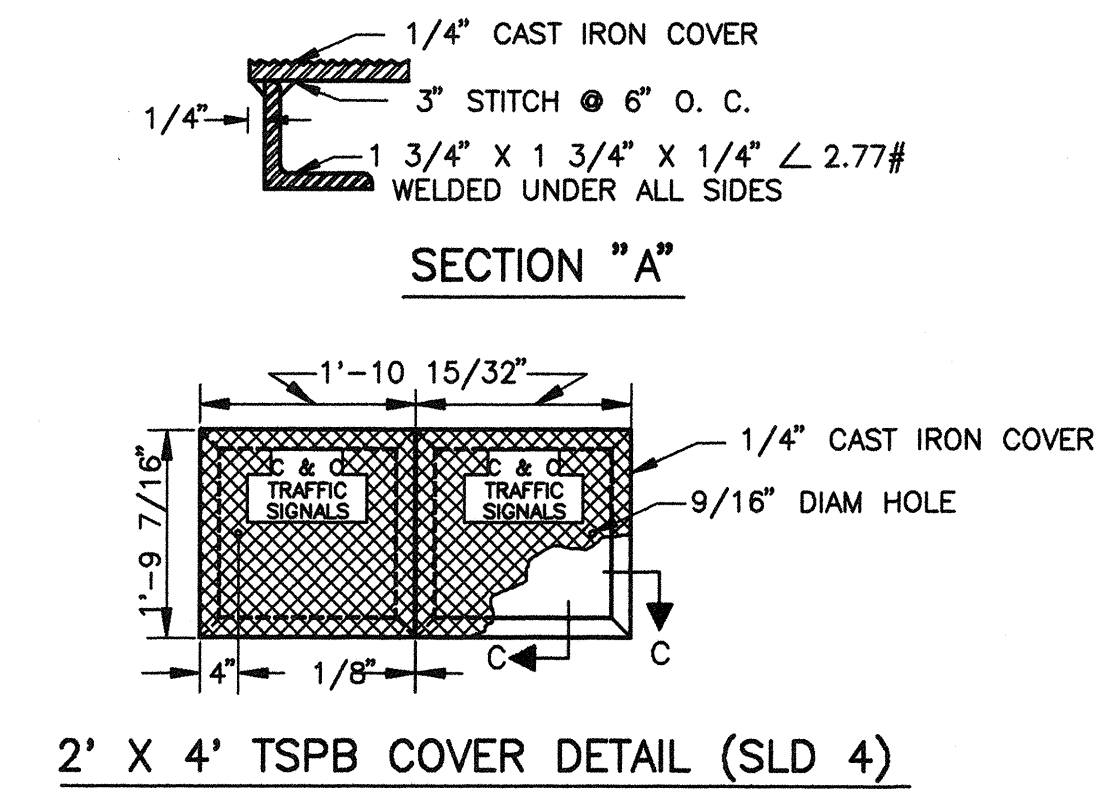
TYPICAL SENSOR LOOP WIRING DIAGRAM



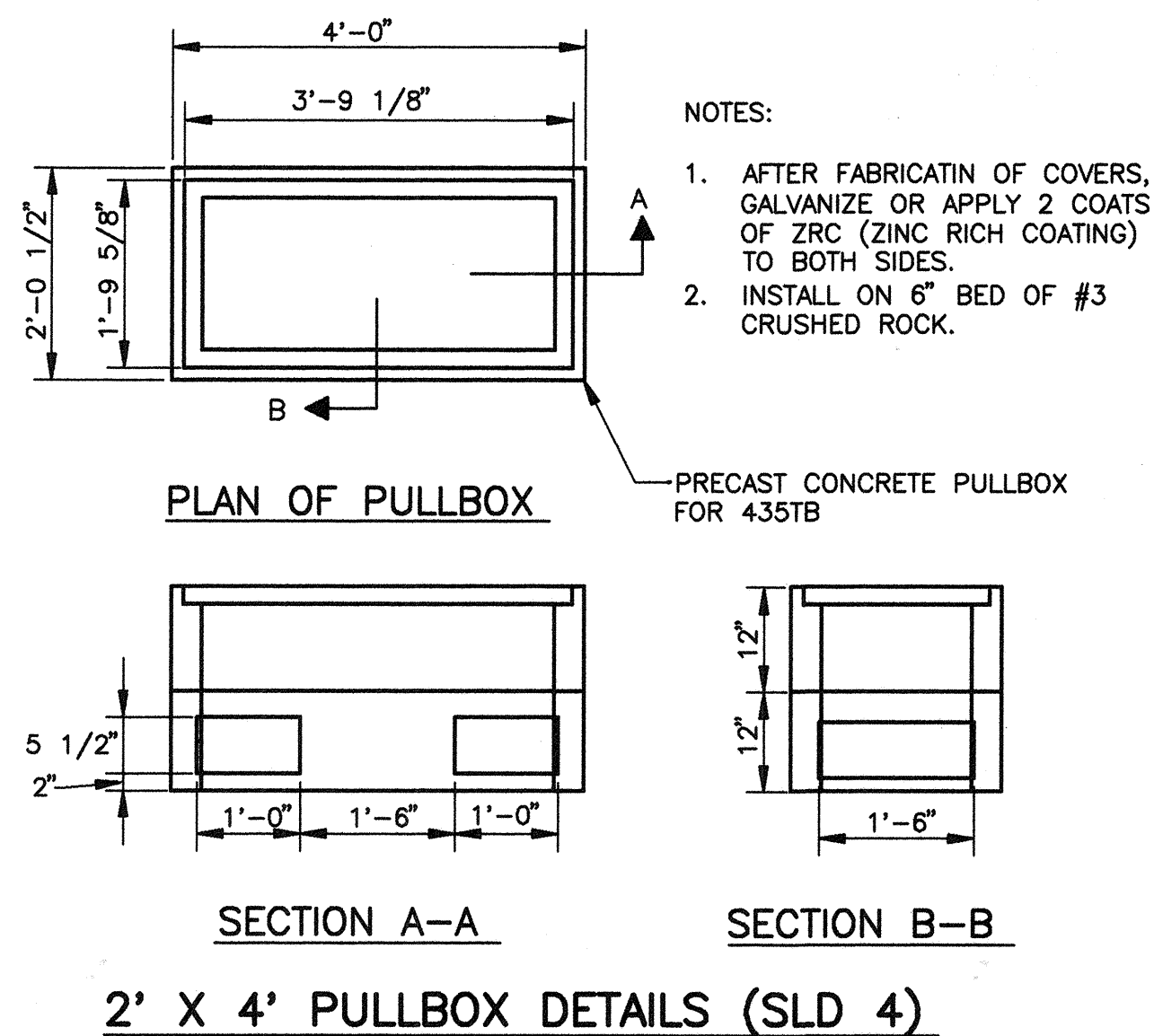
**NEW METER INSTALLATION
ON EXIST. WOOD POLE**



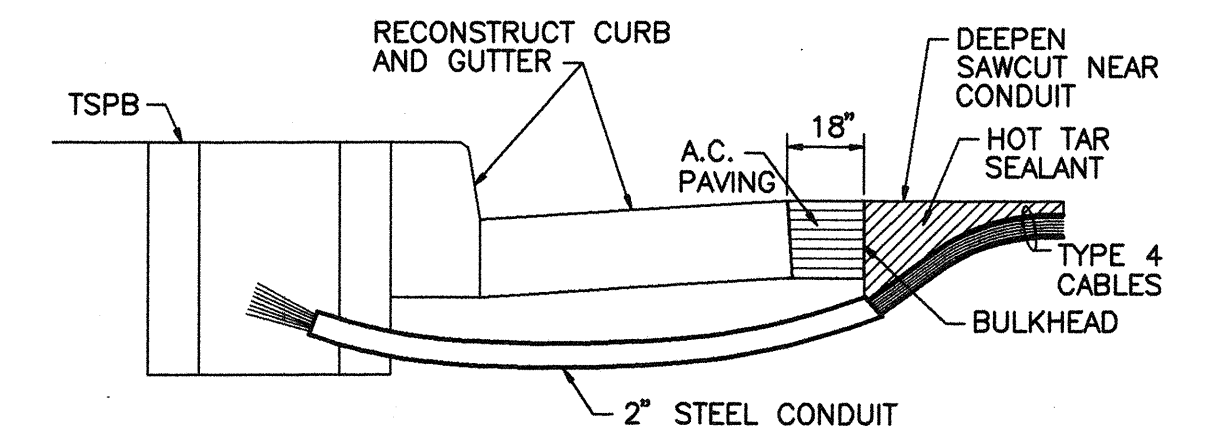
**TYPICAL PEDESTAL/MAST ARM INSTALLATION
OF EVP DETECTOR**
NOT TO SCALE



2' X 4' TSPB COVER DETAIL (SLD 4)



2' X 4' PULLBOX DETAILS (SLD 4)



- 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 A.C.
 5. RECONSTRUCT CURB AND GUTTER AS REQUIRED.

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

PMT-76A-01-97

REVISION	DATE	BRIEF	MADE BY	APPROVED

AUSTIN, TSUTSUMI & ASSOCIATES, INC.
ENGINEERS, SURVEYORS • HONOLULU, HAWAII

**FORT WEAVER ROAD INTERSECTION AND
IROQUOIS POINT ROAD IMPROVEMENTS**

TRAFFIC SIGNAL DETAILS

DESIGNED BY: _____ DRAWN BY: _____ CHECKED BY: _____

APPROVED: _____ SUBMITTED BY: _____

CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY SUPERVISION

DATE: _____ FIRM MEMBER: _____ DATE: _____