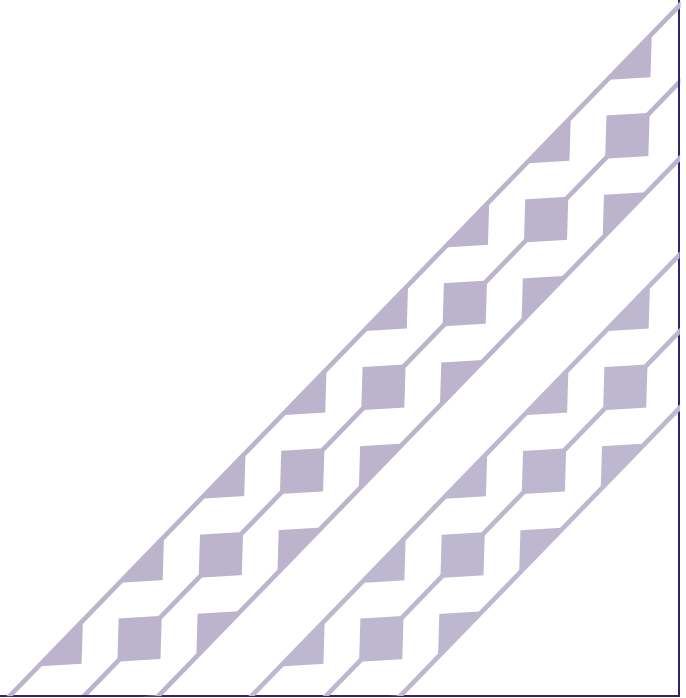




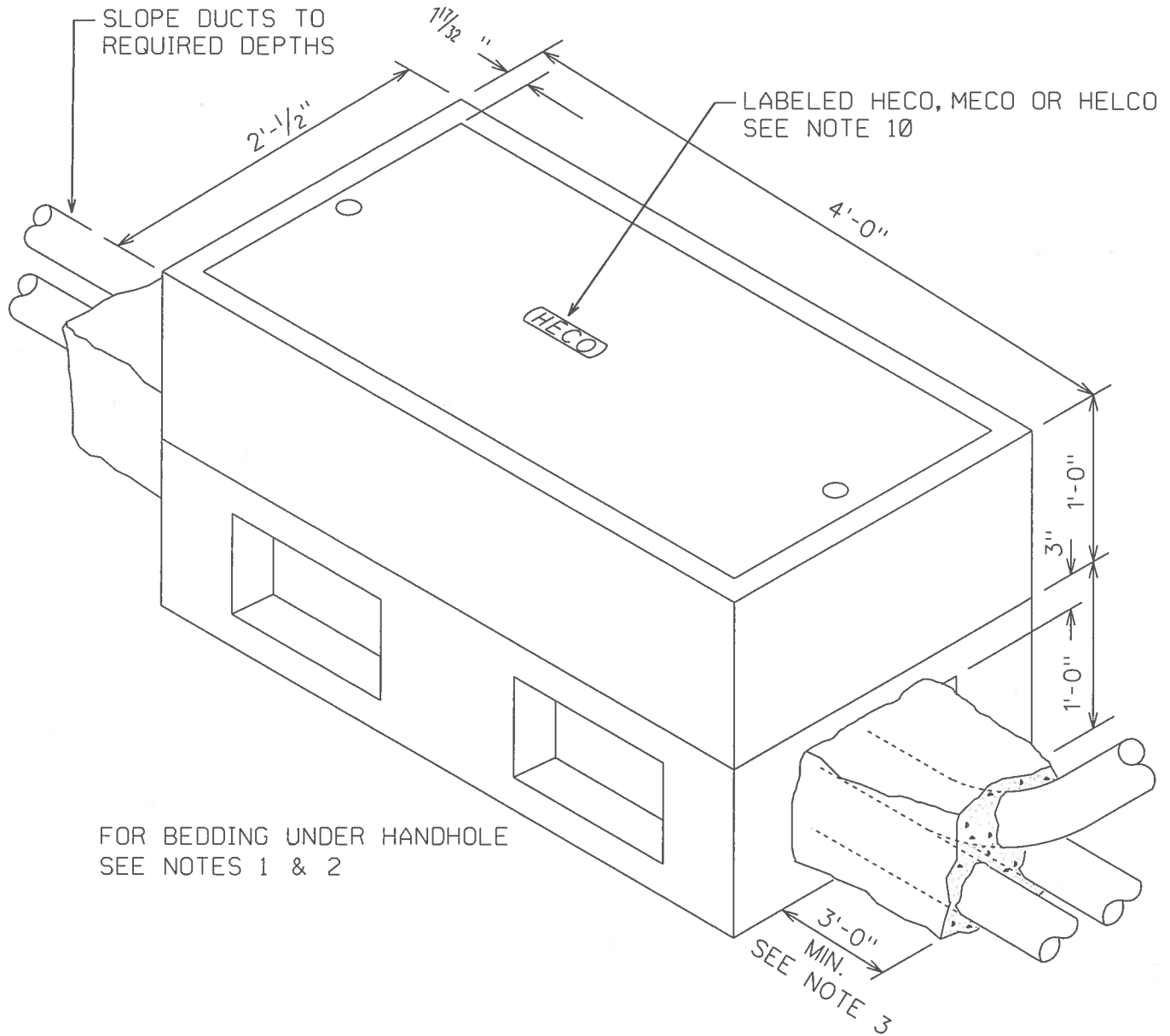
**Hawaiian
Electric**

The information found in this document are general guidelines that may be used to aid in the preparation of your service request proposal. Please be advised that depending on the specific needs and actual conditions of your project, Hawaiian Electric may require your design to comply with different specifications including specifications that include more stringent requirements than those included in these design specification guidelines. For further guidance and clarification on the actual specifications that will apply to your particular project, please refer to instructions issued by Hawaiian Electric's Planner or Engineer who is assigned to your particular (Project/Review Request/...). Additionally, please be advised that Hawaiian Electric reserves the right to require additional modifications to any approved design if it is determined during actual construction that additional modifications must be made to address certain field conditions that were not detected or Hawaiian Electric was unaware of during the design review process.



PURPOSE:

INSTALLATION DETAILS OF PRECAST CONCRETE 2x4 HANDHOLES. INTENDED FOR NEW INSTALLATIONS.



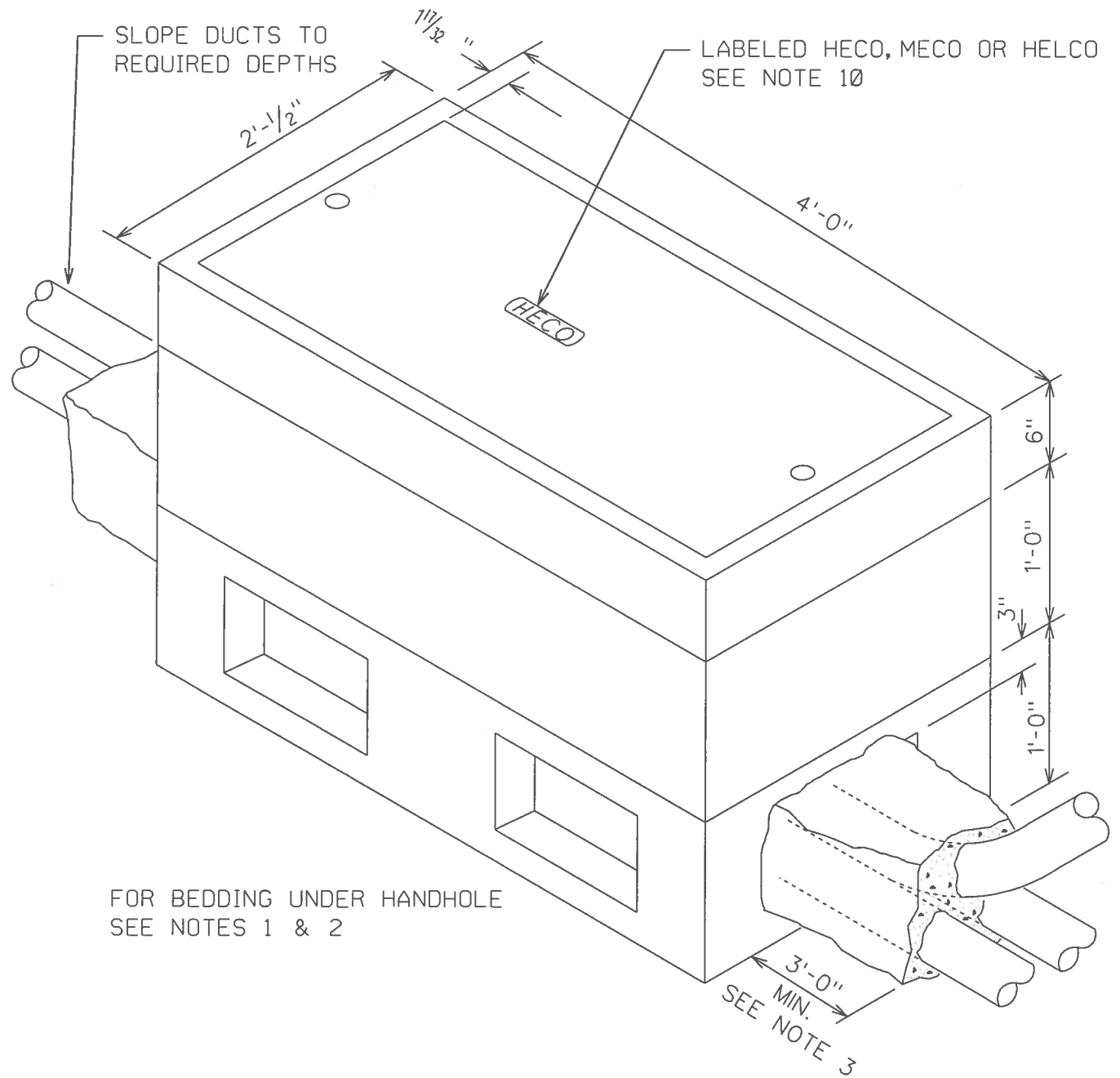
2x4 PRECAST HANDHOLE
TYPICAL ASSEMBLY FOR 75ØV & BELOW

REVISION

DATE INITIAL

9-14-70	TN	9-14-70	TN	11-23-70	RDL	11-23-70	RDL	11-7-74	RM	TN	10-10-89	RM	FK	11-01-82	CT	BN
SUPERSEDES																
ENGINEERING STANDARD HAWAIIAN ELECTRIC CO. INC.																

DRAWN	CT	DESIGNED	ST	APPO	JAR	RDL	VEC	REDRAWN	
2' x 4' PRECAST CONCRETE HANDHOLE								ORIGINAL	OCT. 1969
								30-2005	REV
								SHEET	1 of 3
								6	



**2x4 PRECAST HANDHOLE
TYPICAL ASSEMBLY FOR 751V TO 15,000V**

REVISION
DATE
INITIAL

DRAWN CT DESIGNED DH *OK* APPD *JV arnest*

REDRAWN

SUPERSEDES

2' x 4' PRECAST CONCRETE HANDLE

ORIGINAL 11-02

ENGINEERING STANDARD
HAWAIIAN ELECTRIC CO. INC.

30-2005 REV 0

SHEET 2 of 3

c:\users\ctonokaw\dgn\ug sids\pst302005.0200
ctonokaw
17-MAY-2002 10:01

NOTES:

1. Handhole shall be installed on top a 5" thick, 3B fine rock bed. If HECO/MECO/HELCO primary ducts are to by-pass under the handhole, the primary ducts shall be encased such that a "floor" is formed under the handhole.
2. Bedding material beneath the 3B fine rock bed as well as the backfill material shall meet HECO Specification CS 7001 latest edition.
3. Ducts entering/exiting the handhole shall have a 3" concrete encasement and shall extend for at least 3'-0" along the duct. Refer to project drawings if more encasement along the ductline is required.
4. For handholes that contain voltages of 751v to 15,000v, a 5/8" diameter, 8'-0" long copper clad ground rod shall be installed. The ground rod shall be installed in a corner 6" from each wall and 6" above the floor grade.
5. This handhole is designed for use in areas NOT subjected to vehicular traffic.
6. All joints shall be sealed with a joint sealer.
7. All sections of the handhole MUST BE pre-casted by a HECO/MECO/HELCO approved manufacturer. Refer to the HECO Specification CS 9401 latest edition for approval process.
8. All excavation and installations must be approved and inspected by a HECO/MECO/HELCO inspector prior to backfilling or concrete encasing facilities.
9. Refer to the following Material Standard Drawings for each section of the 2x4 pre-casted Handhole.

11310	12" Body
11311	6" Extension
11312	Cover
11313	Base Riser with Knockouts
10. Cover shall be stamped with appropriate company name HECO, MECO or HELCO.
11. Maximum depth of handhole is 30" ((1)-1'-0" Base riser, (1)-1'-0" Body & (1)-6" extension).
12. If concrete and polymer sections are used together, they must interlock and fit together properly.

REVISION
DATE
INITIAL

	DRAWN	CT	DESIGNED	DH <i>de</i>	APPD	<i>JV arimoto</i>	REDRAWN
SUPERSEDES						ORIGINAL 11-02	
ENGINEERING STANDARD HAWAIIAN ELECTRIC CO. INC.						2' x 4' PRECAST CONCRETE HANDHOLE	
						30-2005	REV 0
						SHEET 3 of 3	

c:\users\ctonokaw\dgn\ug sids\pst302005.0300
ctonokaw
17-MAY-2002 10:01