


SYMBOLS AND ABBREVIATIONS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(58)	2008	8	26

<p>φ And @ At ∅ Diameter ≥ Greater Than or Equal to ≤ Less Than or Equal to # Number</p> <p>Abut. Abutment Abbr. Abbreviation Add. Additional, Added Alt. Alternate AB Anchor Bolt AC Asphaltic Concrete Approx. Approximate Az. Azimuth</p> <p>Bk. Back Bal. Balance B Baseline Bm. Beam Brg, Brgs. Bearing, Bearings BVC Beginning of Vertical Curve Bet. Between BF Both Faces, Back Face BW Both Ways BFE Bottom of Footing Elevation Bot, Bott, B Bottom Br. Bridge Blt. Bolt</p> <p>Cant. Cantilever CIP Cast-in-Place C Centerline CG Center of Gravity cgs Center to Gravity of Strands cc Center to Center Cl. Class Clr. Clearance Col. Column Conc. Concrete Conn. Connection Const. Construction CJ Construction Joint Cntl. Jt. Control Joint CLSM Controlled Low Strength Material Cont. Continuous CF Cubic Feet CY, Cu. Yd. Cubic Yard</p>	<p>Det. Detail Dia. Diameter Diaph. Diaphragm Dim. Dimension Dist. Distance DO Ditto Dwls. Dowels Dn. Down DbI. Double DI Drain Inlet, Ductile Iron Dwg, Dwgs. Drawing, Drawings DS Drilled Shaft</p> <p>EA, Ea, ea Each EF Each Face EFH Each Face Horizontal EFV Each Face Vertical EW Each Way EP Edge of Pavement EPS Expanded Polystyrene E East Elec. Electrical EMH Electrical Manhole El, Elev. Elevation Emb. Embankment Embed. Embedded, Embedment EVC End of Vertical Curve Eq. Equal Est. Estimated Exc. Excavation Excl. Excluding Exist, Ex. Existing Exp, (E) Expansion EJ Expansion Joint Ext. Exterior</p> <p>FF Far Face, Front Face F'c Specified Strength of Concrete F'ci Strength of Concrete at Time of Initial Prestress Ft. Feet, Foot Fig. Figure Fin. Gr. Finish Grade (F) Fixed FB Flat Bar Ftg. Footing FA Force Account</p> <p>Ga. Gage, Gauge Galv. Galvanized GFRP Glass Fiber Reinforced Polymer Gr. Grade Grd. Ground GRP Grouted Rubble Pavement</p>	<p>Ht. Height (H) Hinge Horiz, H Horizontal HS High strength HECO Hawaiian Electric Company</p> <p>IB Inbound In. Inch ID Inside Diameter IF Inside Face Int. Interior Inv. Invert</p> <p>Jt. Joint</p> <p>K Kips KF Kip Foot KSF Kips Per Square Foot KSI Kips Per Square Inch KLF Kips Per Linear Foot</p> <p>L Length lb, lbs, LBS. Pound, Pounds Ltg. Std. Lighting Standard LF Linear Feet/Foot Lin. Ft. Linear Feet/Foot LS Lump Sum Longit. Longitudinal</p> <p>M Modified MH Manhole Max. Maximum Mech. Mechanical Min. Minimum Misc. Miscellaneous MPH Miles Per Hour</p> <p>NF Near Face N North NIC Not in Contract No. Number NTS Not to Scale</p> <p>O/S Offset OC On Center Opr'g Opening OB Outbound OD Outside Diameter</p>	<p>P(e) Effective Prestressing Force PP Precast Plank Perf. Perforated PL Plate PCC Portland Cement Concrete PC Point of Curvature PCF Pounds per Cubic Foot PSF Pounds per Square Foot PSI Pounds per Square Inch PLF Pounds per Linear Foot PI Point of Intersection of Tangents PIVC Point of Intersection of Vertical Curve PT Point of Tangency, Post Tensioned Pt, Pts. Point, Points PRC Point of Reverse Curvature PVC Polyvinyl Chloride Prestr. Prestressed P/S Prestressed Strands PB Pull Box</p> <p>Q Flow Rate</p> <p>Rad, R Radius RF Rear Face Rebar Reinforcing Bar Ref. Reference Reinf. Reinforced, Reinforcing, Reinforcement Req'd. Required Ret. Retaining ROW Right of Way Rdwy. Roadway</p> <p>Sect. Section SDMH Sewer Drain Manhole Sht. Sheet Sl. Slope S South Spc, Spg. Spaces, Spacing Sprd. Spread Spec. Specification SF Square Feet SY Square Yard SS Stainless Steel Std. Standard Sta. Station Stagg. Staggered Stiff. Stiffener Stirr. Stirrup Str. Straight Struct. Structure SE Super Elevation Symm. Symmetrical</p> <p>Tan. Tangent Temp. Temporary Thk. Thick T Top T#B Top and Bottom TOD Top of Deck TFE Top of Footing Elevation Tot. Total Transv. Transverse TS Structural Tubing Typ. Typical</p> <p>Undergrd. Underground UNO Unless Noted Otherwise</p> <p>Var. Varies Vert, V Vertical VC Vertical Curve</p> <p>W/C Water/Cement Ratio w/ With W West WWF Welded Wire Fabric WW Wing Wall WP Work Point, Working Point WS Water Surface</p> <p>Yr. Year</p>
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ORIGINAL PLAN	DATE
DRAWN BY	DATE
CHECKED BY	DATE
NOTED BY	DATE
QUANTITIES BY	DATE
CHECKED BY	DATE
No.	No.


 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 Signature: *David K. Fujiwara*
 EXPIRATION DATE OF THE LICENSE: 4-30-10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SYMBOLS AND ABBREVIATIONS

HAWAII BELT ROAD
SEISMIC RETROFIT OF VARIOUS BRIDGES
Vicinity Of Papaikou, Phase 2
Federal-aid Project No. Br-019-2(58)
 Scale: NONE Date: Mar. 2007

SHEET No. 50.3 OF 12 SHEETS