

STRUCTURAL NOTES:

GENERAL:

1. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE HAWAII STATE BUILDING CODE (AMENDED IBC, 2018 EDITION) AND THE HAWAII STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, 2005, FOR THE STATE OF HAWAII, UNLESS OTHERWISE INDICATED. HOWEVER, SHOULD THERE BE CONFLICTS, OR WHERE REFERENCE IS MADE TO PERFORMANCE CONFORMING TO OTHER STANDARDS THE MORE STRINGENT SHALL APPLY.
2. THE CONTRACTOR SHALL COMPARE PLANS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS WITH EACH OTHER AND REPORT IN WRITING TO THE HARBORS DIVISION CONSTRUCTION ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
3. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS WITH THE DRAWINGS BEFORE COMMENCING WORK. REPORT IN WRITING TO THE HARBORS DIVISION CONSTRUCTION ENGINEER ALL INCONSISTENCIES AND OMISSIONS.
4. CONTRACTOR SHALL RESOLVE ANY DISCREPANCIES AND QUESTIONS PRIOR TO THE START OF WORK. NO EXTRA PAYMENT SHALL BE ALLOWED ON ACCOUNT OF WORK MADE NECESSARY BY THE CONTRACTORS FAILURE TO VISIT THE SITE AND/OR FAILURE TO RESOLVE DISCREPANCIES AND QUESTIONS.
5. THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND STRUCTURES IN AND ADJACENT TO THE PROJECT SITE. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE HARBORS DIVISION CONSTRUCTION ENGINEER AND PAID FOR BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES.
7. THE CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH OTHER CONTRACTORS WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL ALSO COORDINATE WITH THE HARBORS DIVISION KAUAI DISTRICT MANAGER AND CONSTRUCTION ENGINEER FOR AN APPROVED STAGING AND STORAGE AREA AND FOR RESTRICTIONS OF HARBORS OPERATIONS OVER REPAIR AREAS.
8. THE CONTRACTOR SHALL REMOVE ALL DEBRIS RESULTING FROM HIS/HER WORK AS REQUIRED FOR PUBLIC HEALTH AND SAFETY AND TO THE SATISFACTION OF THE HARBORS DIVISION CONSTRUCTION ENGINEER. SHOULD THE STATE PERFORM ANY OF THE ABOVE WORK DUE TO NON-PERFORMANCE BY THE CONTRACTOR, THE CONTRACTOR AGREES TO REIMBURSE THE STATE FOR ALL COSTS INCURRED.
9. HARBOR OPERATIONS TAKE PRECEDENCE OVER CONSTRUCTION ACTIVITY. THE CONTRACTOR MUST WORK AROUND HARBOR OPERATIONS SO THAT THE PIER AND YARD WILL REMAIN OPERATIONAL. WEEKEND WORK MAY BE REQUIRED AND SHALL BE COORDINATED WITH THE HARBORS DIVISION CONSTRUCTION ENGINEER AND TENANTS IN ADVANCE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING AS REQUIRED FOR STABILITY OF STRUCTURAL MEMBERS AND SYSTEMS.
11. ALL WORK SPECIFIED IN THE CONTRACT BUT NOT LISTED SEPARATELY SHALL BE CONSIDERED INCIDENTAL AND WILL NOT BE PAID FOR SEPARATELY.
12. NOTES AND DETAILS ON THE PLANS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. SHOULD THERE BE CONFLICTS BETWEEN THE REQUIREMENTS OF THE PLANS OR SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY.
13. THE CONTRACTOR SHALL COMPLY WITH THE CLEAN WATER ACT AND THE STATE HARBORS DIVISION STORMWATER MANAGEMENT PROGRAM. NO POLLUTANT IS ALLOWED TO BE DISCHARGED DIRECTLY OR INDIRECTLY THROUGH THE HARBORS SMALL MS4 OR OTHER POTENTIAL PATHWAY INTO HARBOR WATERS.
14. THE CONTRACTOR WILL BE RESPONSIBLE FOR REGULATORY FINES OR PENALTIES THAT MAY BE IMPOSED BY ENVIRONMENTAL REGULATORY AGENCIES (EPA AND/OR STATE DOH) IN THE EVENT OF VIOLATIONS.
15. THE CONTRACTOR SHALL SUBMIT A SITE-SPECIFIC BEST MANAGEMENT PRACTICE PLAN AND HEALTH AND SAFETY PLAN TO THE HARBORS ENGINEERING BRANCH PRIOR TO THE START OF ANY CONSTRUCTION WORK.
16. IN CASE OF RELEASE OF HAZARDOUS SUBSTANCE, OIL OR ENCOUNTER OF CONTAMINATED SOIL, THE CONTRACTOR SHALL NOTIFY APPROPRIATE FACILITY PERSONNEL, EMERGENCY RESPONSE AGENCIES, AND REGULATORY AGENCIES FOLLOWING NOTIFICATION PROCEDURES, AND SHALL NOTIFY THE HARBORS CONSTRUCTION ENGINEER IMMEDIATELY (I.E., WITHIN 24-HOURS). CONTACT INFORMATION MUST BE IN LOCATIONS THAT ARE READILY ACCESSIBLE AND AVAILABLE. CONTRACTOR SHALL NOTIFY THE HDOT HARBORS DIVISION ENGINEERING BRANCH ENVIRONMENTAL HOTLINE (808-587-1962) AND HDOT HARBORS DIVISION CONSTRUCTION ENGINEER OF ANY ILLICIT DISCHARGE AND/OR SPILL/RELEASE THAT OCCURS ONSITE.

FOUNDATION DESIGN CRITERIA:

1. WIND

a. BASIC WIND SPEED=130 MPH

b. EXPOSURE D

c. TOPOGRAPHIC FACTOR Kzt=1.60

d. DIRECTIONALITY FACTOR Kd=1.00

e. RISK CATEGORY II

FOUNDATION:

1. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATION FROM SURFACE WATER, GROUND WATER, OR SEEPAGE.
2. NOTIFY THE HARBORS DIVISION CONSTRUCTION ENGINEER IF THE WATER TABLE RISES TO WITHIN 3 FEET OR LESS OF THE EXISTING GRADE OR WHERE THE UNDERLYING SOILS ARE SOFT/LOOSE, COMPRESSIBLE, SUBJECT TO SHRINK/SWELL TENDENCIES.
3. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL UNDERPINNING, CRIBBING, SHEETING, AND SHORING NECESSARY TO PRESERVE EXCAVATIONS AND EARTH BANKS.
4. OVEREXCAVATE BELOW BOTTOM OF CONCRETE SLAB AS SHOWN AND PROVIDE STABILIZATION LAYER. STABILIZATION LAYER SHALL BE PLACED ON UNDISTURBED IN-SITU FIRM SOILS. BOTTOM OF OVEREXCAVATION SHALL BE COMPACTED TO PROVIDE A RELATIVELY FIRM AND SMOOTH BEARING SURFACE PRIOR TO PLACEMENT OF STABILIZATION LAYER. IF SOFT AND/OR LOOSE MATERIALS ARE ENCOUNTERED AT THE BOTTOM OF OVEREXCAVATION, THEY SHALL BE REMOVED TO EXPOSE THE UNDERLYING FIRM MATERIALS. THE STABILIZATION LAYER SHALL CONSIST OF SELECT GRANULAR MATERIAL (NO. 38 FINE) WRAPPED IN A NON-WOVEN FILTER FABRIC (MIRAFI 180N OR APPROVED EQUAL) COMPACTED TO MINIMUM OF 90% RELATIVE COMPACTION.

CONCRETE:

1. CONCRETE CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE ACI 318-14.
2. FORMED CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI.
3. CONCRETE FOR LIGHT POLES SHALL INCLUDE SILICA FUME AND CORTEC MCI 2005 NS MIGRATING CORROSION INHIBITING ADMIXTURE, OR APPROVED EQUAL.
4. CONCRETE FOR HANDHOLES SHALL INCLUDE CRYSTALLINE WATERPROOFING ADMIXTURE (KRYTON KIM OR XYPEX C1000). THE WATERPROOFING ADMIXTURE SHALL BE APPLIED AT A DOSAGE OF 2% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIAL.
5. CONCRETE DELIVERY TICKETS SHALL RECORD ALL FREE WATER IN THE MIX: AT BATCHING BY PLANT, FOR CONSISTENCY BY DRIVER, AND ANY ADDITIONAL REQUEST BY CONTRACTOR IF PERMITTED BY THE MIX DESIGN.
6. MAXIMUM WATER TO CEMENTITIOUS MATERIALS RATIO SHALL BE 0.40.
7. REINFORCING BARS, ANCHOR BOLTS, INSERTS, AND OTHER ITEMS TO BE CAST IN THE CONCRETE SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT OF CONCRETE.
8. NON-SHRINK GROUT SHALL BE A PREMIXED NON-METALLIC FORMULA, CAPABLE OF DEVELOPING A MINIMUM 1-DAY COMPRESSIVE STRENGTH OF 3,000 PSI AND 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI.
9. ASPHALT PAVEMENT FOR WEARING SURFACE SHALL BE STATE MIX III.

REINFORCING STEEL:

1. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.
2. CLEAR CONCRETE COVER FOR REINFORCING BARS SHALL BE TWO INCHES MINIMUM, UNLESS OTHERWISE NOTED.
3. BAR BENDS AND HOOKS SHALL BE STANDARD HOOKS IN ACCORDANCE WITH ACI 318.
4. REINFORCING STEEL SHALL BE SPLICED AS INDICATED ON PLANS.
5. ANTI-CORROSION COATING WITH A MINIMUM 7 DAY OPEN TIME FOR REINFORCING STEEL SHALL BE ARMATEC 110 EPOCEM BY SIKA OR APPROVED EQUAL.
6. TIE WIRE SHALL BE PLASTIC-COATED, STAINLESS STEEL, OR MADE OF DIELECTRIC OR OTHER ACCEPTABLE MATERIAL. ALL LOOSE REINFORCING STEEL SHALL BE SECURED WITH TIES AT ALL INTERSECTIONS WITH ADJACENT REINFORCING STEEL.
7. EPOXY FOR GROUTING OF DOWELS IN CRACKED OR UNCRACKED CONCRETE SHALL BE SET-3G BY SIMPSON STRONG-TIE OR APPROVED EQUAL.

COATING:

1. LIGHT POLES SHALL BE PREPARED AND COATED IN THE SHOP. COATING SHALL BE APPLIED TO THE EXTERIOR OF THE LIGHT POLES AND BASE PLATE INCLUDING THE UNDERSIDE OF THE BASE PLATE. COATING SHALL ALSO BE APPLIED TO THE POLE INTERIORS AT THE BASE AS SHOWN.
2. CONCRETE PEDESTAL AND NON-SHRINK GROUT SHALL BE FIELD COATED.
3. COATING COLOR SHALL BE OSHA YELLOW.
4. HIGH SOLIDS EPOXY COATING SHALL BE AMERLOCK 400 AS MANUFACTURED BY PPG PROTECTIVE AND MARINE COATINGS, OR APPROVED EQUAL.
5. ENGINEERED SILOXANE COATING SHALL BE PSX 700 AS MANUFACTURED BY PPG PROTECTIVE AND MARINE COATINGS, OR APPROVED EQUAL.

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	REVISION	DATE	DESCRIPTION	BY	APPROVED
	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION				
	JOB TITLE REPAIR LIGHT POLES AND PEDESTALS AT NAWILIWILI HARBOR, KAUAI, HAWAII				
	SHEET TITLE STRUCTURAL NOTES				
	DESIGNED BY: GO		JOB NUMBER S70146		SHEET S-1 3 of 17 SHTS.
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