

GENERAL NOTES

DESIGN SPECIFICATIONS:

- 1. AASHTO LRFD Bridge Design Specifications, 1998, with 1999 and 2000 Interim Revisions.
- 2. AASHTO Guide Specifications for Structural Design of Sound Barriers, 1989
- 3. Uniform Building Code (UBC), 1997
- 4. Reinforced Masonry Engineering Handbook, MIA 1998
- 5. Design parameters for CMU wall:
 - a. allowable bearing value = 3,000 psf (for wind or seismic)
 - b. design wind pressure on wall = 30 psf
 - c. seismic acceleration coefficient = 0.18
 - d. passive soil pressure = 300 pcf
 - e. active soil pressure = 40 pcf
 - f. friction coefficient = 0.4
 - g. unit weight of soil backfill = 120 to 140 pcf
 - h. CMU wall shall be solid grouted (all cells grouted)

MATERIALS:

- 1. Reinforced Concrete: f'c = 4,000 psi
- 2. Reinforcing Steel: ASTM A 615, Grade 60
- 3. Admixture in Concrete: See Special Provisions
- 4. All expansion joints, control joints, premolded joint filler and flashing material shall be incidental to concrete and will not be paid for separately.
- 5. Masonry units shall be 8"x8"x16" or 8"x8"x8" concrete hollow block, (see Specifications), Grade N-II. No special inspection. Mortar shall be Type S and reinforcing bars for walls shall be Grade 60. New CMU wall shall be solid grouted (all cells grouted).
- 6. All CMU control joints shall be incidental to CMU Walls and will not be paid for separately.

CONSTRUCTION METHODS:

- 1. Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, 1994 Edition and together with Special Provisions prepared for this project.
- 2. Except as noted otherwise, all dimensions are measured plumb.
- 3. All footings shall bear on firm undisturbed natural soils or properly compacted embankment fill. See Special Provisions - Section 512.
- 4. Excavation for all footings and footing keys shall be accomplished by maintaining as near a vertical cut as possible. In the event of over-excavation, the space between the footing or footing key and ground shall be filled with a minimum of Class D concrete at no cost to the State and as directed by the Engineer.
- 5. Steel reinforcing shall be supported, bent and placed as per the ACI Detailing Manual, 1994.
- 6. The minimum cover measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as noted otherwise:
 - A. Concrete cast or finished to a smooth surface: 2"
 - B. Concrete cast against and permanently exposed to earth: 3"
- 7. At time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings adversely affecting bond capacity.
- 8. Reinforcement, dowels and other embedded items shall be positively secured before pouring.
- 9. All dimensions relating to reinforcing bars (e.g. spacing of bars, etc.) are to centers of bars unless noted otherwise.
- 10. For steel reinforcing, stagger all splices where possible.
- 11. For CMU Walls, provide control joints at 30'-0" maximum spacing, unless noted otherwise.
- 12. Unless noted otherwise, all CMU Walls shall be laid in running bond.
- 13. Provide horizontal bond beams with continuous reinforcing as indicated. Discontinue all horizontal reinforcing at control joints.

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
R1	General Notes, Index to Drawings, Estimated Quantities, Abbreviations and Symbols
R2	CMU Wall Plan, Elevation and Details
R3	CMU Wall Details, Footing Step-up Details, Structural Excavation and Backfill Limits

REFERENCE:

- 1. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.

GENERAL:

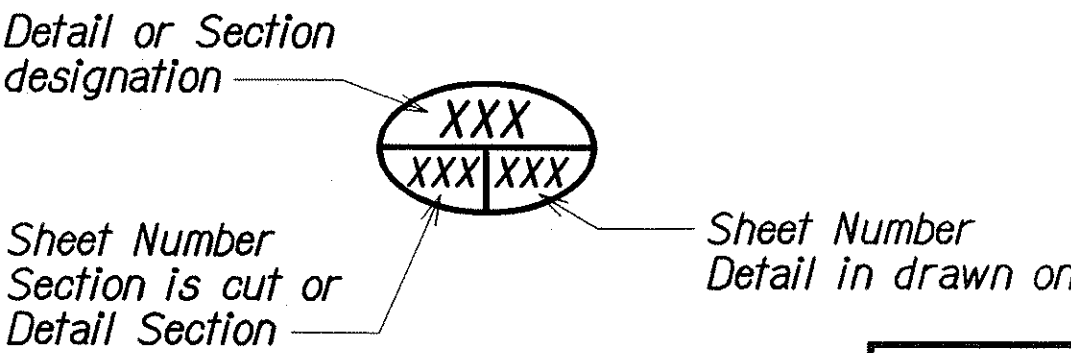
- 1. All items noted incidental will not be paid for separately.
- 2. The Contractor shall verify the locations of all existing utility lines and notify their respective owners before commencing with any work.
- 3. The Contractor shall verify all grades and dimensions in the field before commencing with any work.
- 4. The Contractor shall be solely responsible for the protection of adjacent property, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer. He shall conduct his work in such a manner and provide such temporary shoring other measures as may be necessary to insure the safety of all concerned and to protect existing structures.
- 5. The Contractor, at his own expense, shall keep the project area free from dust nuisance. The work shall be in conformance with the air pollution control standards and regulations of the State of Hawaii Department of Health.
- 6. Unless noted otherwise, chamfer all exposed concrete edges three-quarters (¾) of an inch.
- 7. Contract items will be paid for in units indicated in the Estimated Quantities.
- 8. Clearing and grubbing necessary for the construction of Type L1 CMU Wall and Type L2 CMU Wall shall be considered incidental to Item No's. 512.4000 and 512.5000.
- 9. Structural excavation and structural backfill for concrete footings for CMU Walls shall be considered incidental to Item No. 512.4000, Type L1 CMU Wall and Item No. 512.5000, Type L2 CMU Wall and will not be paid for separately.
- 10. 6" PVC drains shall be provided in CMU walls at eight feet on-center maximum spacing. PVC drains shall be considered incidental to Items No's. 512.4000 and 512.5000.
- 11. The Contractor shall restore the areas disturbed by the CMU wall construction to the existing grade and condition unless otherwise shown on the plans and specifications. All work to restore disturbed areas shall be incidental to Item No's. 512.4000 and 512.5000.
- 12. The Contractor shall provide temporary security fencing (chain link, plywood etc.) to prevent unauthorized persons from gaining access into the Dept. of Transportation property during the construction of the CMU wall and footing. The cost to provide temporary security fencing shall be incidental to Item No. 512.4000, Type L1 CMU Wall and Item No. 512.5000, Type L2 CMU Wall and will not be paid for separately. Temporary security fencing shall be subject to the approval of the Engineer.
- 13. Unless otherwise shown on Plan Sheet R2, the 8 ft. high chain link fence gate shall generally conform to the Standard Detail F-13 of the Standard Details for Parks & Recreation Construction, Department of Parks and Recreation, City and County of Honolulu, May 1990 and shall be incidental to Item No. 512.5000 - Type L2 CMU Wall and will not be paid for separately.
- 14. Unless otherwise shown on Plan Sheet R2, the connection of the exist. 8 ft. high chain link fence to new fence post shall generally conform to Standard Detail F-4 of the Standard Details for Parks & Recreation Construction, Department of Parks and Recreation, City and County of Honolulu, May 1990 and shall be incidental to Item No. 512.5000 - Type L2 CMU Wall and will not be paid for separately.

ESTIMATED QUANTITIES		
ITEM. NO.	DESCRIPTION	UNITS
512.4000	Type L1 CMU Wall	Lump Sum
512.5000	Type L2 CMU Wall	Lump Sum

ABBREVIATIONS

AB	Anchor Bolt	I	Length
Adj.	Adjacent	LC	Length of Curve
Approx.	Approximate	Lg.	Long
		Longit.	Longitudinal
		Lt.	Left
B.	Baseline		
B.F.	Back Face	Max., max.	Maximum
BFE	Bottom Footing Elevation	Min., min.	Minimum
Bal.	Balance		
Beg.	Begin, Beginning	No., #	Number
Bm.	Beam	N.T.S.	Not To Scale
Bot.	Bottom		
CL	Center Line	o/c	On Center
C.L.	Chain Link	OD	Outside Dimension
CMU	Concrete Masonry Unit	o/s	Offset
C.J.	Control Joint	Opp.	Opposite
C.Y., Cu. Yd.	Cubic Yard		
cl.	Clear	PL	Plate
Conc.	Concrete	psi	Pounds per Square Inch
Cont.	Continuous	PVC	Polyvinylchloride
Det.	Detail	R, Rad.	Radius
Desig.	Designation	Rdwy.	Roadway
Dia., Ø	Diameter	Ref.	Reference
Diag.	Diagonal	Req'd	Required
		Reinf.	Reinforcement, Reinforcing
		ret., Ret.	Retaining
Ea.	Each	R/W	Right-of-Way
E.F.	Each Face	Rt.	Right
Elev.	Elevation		
Eq.	Equal	S.Y.	Square Yard
Exist.	Existing	Sect.	Section
Exp.	Expansion	Shld.	Shoulder
		Sht.	Sheet
f, Ftg.	Footing	Spcs.	Spaces
F.F.	Front Face	Spcg.	Spacing
Fin.	Finish	Specs.	Specifications
Flash'g	Flashing	Sta.	Station
Ft.	Feet	Std.	Standard
		Struct.	Structural
Ga.	Gauge	Sfr.	Structure
Galv.	Galvanized	Strm.	Stream
Gr.	Grade		
		T&B	Top and Bottom
h, Ht.	Height	t, thk.	Thick, Thickness
Horiz.	Horizontal	T.O.F.	Top of Footing
HS	High Strength	T.O.W.	Top of Wall
		TS	Tubular Steel
Jt.	Joint	typ., Typ.	Typical
		Vert.	Vertical
		w/	With

SYMBOLS



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GEN. NOTES, INDEX to DWGS, ESTIM.
QUANT'S, ABBREVIATIONS and SYMBOLS
RESURFACING REAR BASEYARD AT KAKOI
Oahu District
Proj. No. HWY-0-01-03M

Scale: As Noted
Date: Oct, 2003

SHEET No. R1 OF 3 SHEETS

ORIGINAL PLAN	DESIGNED BY	DATE
NOTED BY	DESIGNED BY	DATE
QUANTITIES BY	DESIGNED BY	DATE
CHECKED BY	DESIGNED BY	DATE