

ABBREVIATIONS

AB	ANCHOR BOLT	MAX	MAXIMUM
ACI	AMERICAN CONCRETE INSTITUTE	MB	MACHINE BOLT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MECH	MECHANICAL
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECTURAL	MFR	MANUFACTURER
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MIN	MINIMUM
AWS	AMERICAN WELDING SOCIETY	MISC	MISCELLANEOUS
B/B	BACK TO BACK	MPH	MILES PER HOUR
B/P	BASE PLATE	NS	NEAR SIDE
BM	BEAM	NTS	NOT TO SCALE
BOF	BOTTOM OF FOOTING	OC	ON CENTER
BOS	BOTTOM OF STEEL BRACING	OD	OUTSIDE DIAMETER
BRGG		OH	OPPOSITE HAND
C	CAMBER	OPNG	OPENING
CC OR C/C	CENTER TO CENTER	OPP	OPPOSITE
CG	CENTER OF GRAVITY	OTO	OUT TO OUT
CJ	CONSTRUCTION JOINT	PCF	POUNDS PER CUBIC FOOT
CLG	CEILING	PL	PLATE
CLR	CLEAR	PSF	POUNDS PER SQUARE FOOT
CMU	CONCRETE MASONRY UNIT	PSI	POUNDS PER SQUARE INCH
COL	COLUMN	PT	POINT
CONC	CONCRETE	R	RADIUS
CONT	CONTINUOUS	RD	ROOF DRAIN
CU	CUBIC	REF	REFERENCE
DET	DETAIL	REIN. OR BARS	REINFORCING STEEL
DIAG	DIAGONAL	REQD.	REQUIRED
DIM	DIMENSION	REV	REVISE OR REVISION
DL	DEAD LOAD	SCHED	SCHEDULE
DO	DITTO	SECT	SECTION
DWG	DRAWING	SHF	SHIFT
DWL	DOWEL	SIM	SIMILAR
EA	EACH	SLV	SHORT LEG VERTICAL
EF	EACH FACE	SPA	SPACED
EL	ELEVATION	ST STL	STAINLESS STEEL
ENCL	ENCLOSURE	STD	STANDARD
ENGR	ENGINEER	STIF	STIFFENER
EQ	EQUAL	SYM	SYMMETRICAL
EQUIP	EQUIPMENT	T&B	TOP AND BOTTOM
ETC	ETCETERA	THK	THICKNESS
EW	EACH WAY	TOC	TOP OF CONCRETE
EXIST	EXISTING	TOF	TOP OF FOOTING
FD	FLOOR DRAIN	TOS	TOP OF STEEL
FDM	FOUNDATION	TOW	TOP OF WALL
FIN	FINISH	TYP	TYPICAL
FLR	FLOOR	UON	UNLESS OTHERWISE NOTED
FLSHG	FLASHING	VERT	VERTICAL
FOC	FACE OF CONCRETE	W/	WITH
FRMG	FRAMING	WP	WORKING POINT
FS	FAR SIDE	WS	WEIGHT
FT	FOOT, FEET	WT	WEIGHT
FTG	FOOTING	WWF	WELDED WIRE FABRIC
GA	GAUGE	WWM	WELDED WIRE MESH
GALV	GALVANIZED		
GR	GRADE		
HORIZ	HORIZONTAL		
HP	HIGH POINT		
HR	HANDRAIL		
HSB	HIGH STRENGTH BOLT		
ID	INSIDE DIAMETER		
IN	INCH		
INFO	INFORMATION		
INSUL	INSULATION		
JST	JOIST		
JT	JOINT		
LB	POUND		
LG	LENGTH		
LL	LIVE LOAD		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LWC	LIGHT WEIGHT CONCRETE		

SYMBOLS

L	ANGLE	△	DELTA
C	CHANNEL	⊕	SQUARE FEET
PL	PLATE	#	NUMBER or POUND
⊕	CENTER LINE	&	AND
∅	DIAMETER or ROUND	@	AT
⊕	WORK POINT OR ELEV BENCH MARK		

DETAIL

NUMBER FOR DETAILS
 SHEET ON WHICH DETAIL OCCURS

SECTION

LETTER
 SHEET ON WHICH SECTION OCCURS

REF

NUMBER FOR DETAIL
 LETTER FOR SECTION

ROOM NUMBER

101

REVISION

REVISED AREA CLOUDED

DET/SECT CROSS REF

SHEET NUMBER
 SHEET WHERE REFERENCED FROM

COLUMN LINES

2
 A

MATERIALS LEGEND

	CONCRETE		WELDED WIRE FABRIC
	EARTH		STRUCTURAL BACKFILL

GENERAL NOTES

GENERAL

1. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THE WORK AND SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCY WITH THE INFORMATION SHOWN ON THE DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.

FOUNDATIONS AND SOILS

1. ALLOWABLE SOIL BEARING PRESSURE IS 2000 PSF ON FOOTINGS WITH A MINIMUM OF 2'-0" DEPTH. 1/3" INCREASE IN ALLOWABLE BEARING VALUES ARE PERMITTED FOR SHORT DURATION LOADINGS RESULTING FROM WIND OR SEISMIC.
2. FOUNDATION AND SOIL REQUIREMENTS ARE BASED ON SOIL REPORT BY DAMES AND MOORE; REPORT NO. 177-004-0016 DATED: FEBRUARY 10, 1993.

CONCRETE

1. PORTLAND CEMENT SHALL BE TYPE I OR II CONFORMING TO ASTM C150.
2. CONCRETE SHALL BE NORMAL WEIGHT AND SHALL HAVE A COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.
3. ALL STEEL REINFORCEMENT, ANCHOR BOLTS AND OTHER EMBEDDED ITEMS SHALL BE SECURED IN PLACE, INSPECTED AND APPROVED BY THE CONSTRUCTION MANAGER PRIOR TO CONCRETE PLACEMENT.
4. CONTINUOUS INSPECTION BY THE CONSTRUCTION MANAGER IS REQUIRED DURING CONCRETE PLACEMENT.
5. ALL CONCRETE MIX DESIGNS SHALL BE SUBMITTED TO THE CONSTRUCTION MANAGER FOR REVIEW 3 WEEKS PRIOR TO SCHEDULED CONCRETE PLACEMENT.
6. ALL EXPOSED EDGES SHALL BE CHAMFERED TO 3/8" UNLESS OTHERWISE NOTED ON THE DESIGN DRAWINGS.
7. CONTACT SURFACE AT CONSTRUCTION JOINTS WITHOUT A SHEAR KEY SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" THROUGHOUT.
8. TEST RESULTS AND INSPECTOR'S REPORTS SHALL BE SUBMITTED TO THE CONSTRUCTION MANAGER FOR REVIEW.
9. NO SAWCUTTING OF CONCRETE WALLS OR SLABS SHALL BE PERFORMED WITHOUT PRIOR WRITTEN APPROVAL FROM THE CONSTRUCTION MANAGER.

STEEL REINFORCEMENT FOR CONCRETE

1. STEEL REINFORCEMENT SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, GRADE 60.
2. STEEL REINFORCEMENT SHALL HAVE THE FOLLOWING MINIMUM CONCRETE COVER UNLESS OTHERWISE NOTED:
 CONCRETE CAST AGAINST EARTH ----- 3"
 CONCRETE EXPOSED TO EARTH OR WEATHER: #6 BARS & LARGER ----- 2"
 (INCLUDING VAPOR BARRIER) #5 BARS & SMALLER ----- 1 1/2"
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER: SLABS & WALLS ----- 3/4"
3. ALL CONCRETE STEEL REINFORCEMENT SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 318-89 AND ACI 315-80.
4. MINIMUM SPLICE LENGTH SHALL BE 2'-0".

STRUCTURAL AND MISC METAL WORKS

1. STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36.
2. ALL WELDING AND ELECTRODES SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1 STRUCTURAL WELDING CODE.
3. FIELD WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS AND SHALL BE CONTINUOUSLY INSPECTED AND APPROVED BY THE CONSTRUCTION MANAGER.
4. ALL STRUCTURAL STEEL SHALL BE FABRICATED BY AN APPROVED FABRICATION SHOP.
5. CONTRACTOR SHALL SUBMIT STRUCTURAL AND MISCELLANEOUS METAL WORK SHOP DRAWINGS TO THE CONSTRUCTION MANAGER FOR REVIEW AND APPROVAL PRIOR TO START OF FABRICATION.
6. HEADED ANCHORS SHALL BE "NELSON" TYPE H4L OR S3L, FLUX FILLED, MADE FROM COLD DRAWN STEEL GRADES C-1010 THROUGH C-1020 PER ASTM A108 OR APPROVED EQUAL. ANCHORS SHALL BE WELDED PER THE MANUFACTURER'S SPECIFICATIONS.

DESIGN LOADS - FOR THE BEAM TUBE ENCLOSURE

1. DEAD LOADS: ACTUAL LOAD
2. LIVE LOADS: SNOW LOADS --- 20 PSF
3. LATERAL LOADS: PER UBC 1994
 - A) SEISMIC LOADS: ZONE 2B
 IMPORTANCE FACTOR 1.0
 COEFFICIENT R_w 4.0
 - B) WIND LOADS: BASIC WIND VELOCITY - 70 MPH
 WIND EXPOSURE C
 IMPORTANCE FACTOR 1.0
4. CONSTRUCTION LOADS:
 - A) HANDLING AND TRANSPORTATION LOADS INCLUDING IMPACT.
 - B) ERECTION LOADS DUE TO FOUNDATION SLAB ALLOWABLE TOLERANCES - 1/4" INCH OF VERTICAL DISPLACEMENT BETWEEN OPPOSITE DIAGONAL ENDS OF SEGMENT BASE.

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8				H				DRAWN	MCS
7				G				CHECKED	
6				F				ENGINEER	
5				E				PROJ MGR	
4				D					
3				C					
2				B					
1				A	10-31-95	TDM	PRELIMINARY DESIGN REVIEW		
NO.	DATE	APRO BY	DESCRIPTION OF REVISION	NO.	DATE	APRO BY	ISSUED FOR		

DATE	10-31-95
DRAWN	MCS
CHECKED	
ENGINEER	
PROJ MGR	

PARSONS

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 PASADENA, CALIFORNIA

LIGO

CALIFORNIA INSTITUTE OF TECHNOLOGY
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

LASER INTERFEROMETER
 GRAVITATIONAL-WAVE OBSERVATORY
 SITE NO. 2 - LIVINGSTON, LOUISIANA

SCALE: NONE CONTRACT NUMBER: PPI50969 PROJECT NUMBER: 8094

GENERAL NOTES, ABBREVIATIONS & LEGEND

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