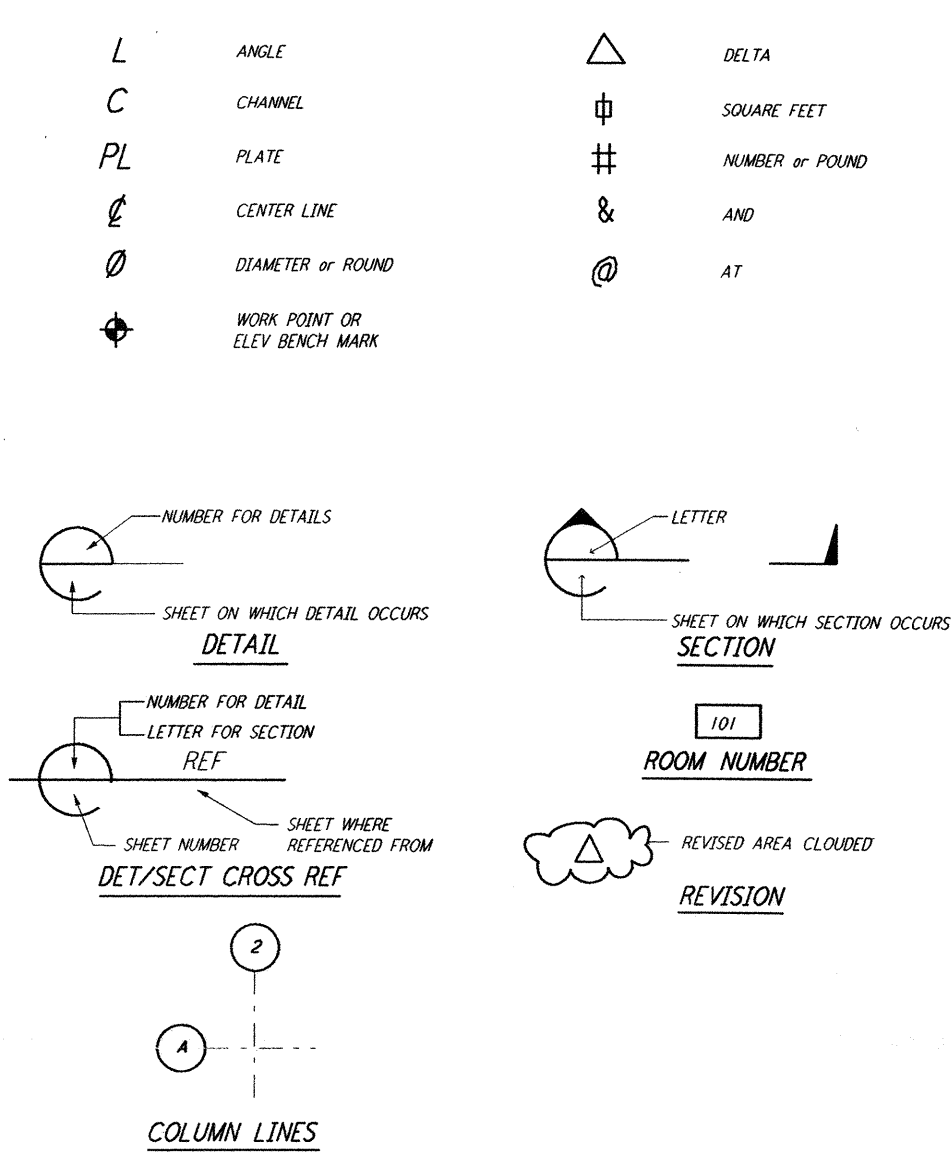


ABBREVIATIONS

AB	ANCHOR BOLT	MAX	MAXIMUM
ACI	AMERICAN CONCRETE INSTITUTE	ME	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	OD	OUTSIDE DIAMETER
BRCC	BRACING	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	CLEAR	PL	PLATE
CLR	CLEAR	PLF	POUNDS PER SQUARE FOOT
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE INCH
COL	COLUMN	PSI	POUNDS PER SQUARE INCH
CONC	CONCRETE	PT	POINT
CONT	CONTINUOUS	R	RADIUS
CU	CUBIC	RD	ROOF DRAIN
DET	DETAIL	REF	REFERENCE
DIM	DIMENSION	REF	REINFORCING STEEL
DL	DEAD LOAD	REQD.	REQUIRED
DO	DITTO	REV	REVISE OR REVISION
DW	DRAWING	SCHED	SCHEDULE
DWL	DRAWING	SECT	SECTION
EA	EACH	SHT	SHEET
EF	EACH FACE	SIM	SIMILAR
EL	ELEVATION	SLV	SHORT LEG VERTICAL
ENCL	ENCLOSURE	SPA	SPACED
ENGR	ENGINEER	ST STL	STAINLESS STEEL
EQ	EQUAL	STD	STANDARD
EQUIP	EQUIPMENT	STIF	STIFFENER
ETC	ETCETERA	SYM	SYMMETRICAL
EW	EACH WAY	T&B	TOP AND BOTTOM
EXIST	EXISTING	THK	THICKNESS
FD	FLOOR DRAIN	TOC	TOP OF CONCRETE
FDM	FOUNDATION	TOP	TOP OF FOOTING
FIN	FINISH	TOS	TOP OF STEEL
FLR	FLOOR	TOW	TOP OF WALL
FLSHG	FLASHING	TYP	TYPICAL
FOC	FACE OF CONCRETE	UON	UNLESS OTHERWISE NOTED
FRMG	FRAMING	VERT	VERTICAL
FS	FAR SIDE	W/	WITH
FT	FOOT, FEET	WP	WATER PROOF
FTG	FOOTING	WP	WORKING POINT
GA	GAUGE	WS	WELDED STUD
GALV	GALVANIZED	WT	WEIGHT
GR	GRADE	WWF	WELDED WIRE FABRIC
HR	HORIZONTAL	WWM	WELDED WIRE MESH
HP	HIGH POINT		
HR	HANDRAIL		
HSB	HIGH STRENGTH BOLT		
ID	INSIDE DIAMETER		
IN	INCH		
INFO	INFORMATION		
INSUL	INSULATION		
JST	JOIST		
JT	JOINT		
LB	POUND		
LC	LENGTH		
LL	LIVE LOAD		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LWC	LIGHT WEIGHT CONCRETE		

SYMBOLS



NOTES

FOUNDATIONS

- MAXIMUM ALLOWABLE SOIL BEARING PRESSURE AS PER FINAL GEOTECHNICAL INVESTIGATION FOR "FLASH MOUNTAIN" BY DAMES & MOORE, DATED APRIL 20, 1990, IS AS FOLLOWS:
 - 2.5 KSF FOR FOOTINGS 2 FT. BELOW LOWEST FINISHED GRADE.
 - 4.0 KSF FOR FOOTINGS 4 FT. BELOW LOWEST FINISHED GRADE.
- MINIMUM DEPTH OF FOOTING SHALL BE 4'-0" BELOW THE LOWEST FINISHED GRADE.

STRUCTURAL STEEL

- THE DESIGN, FABRICATION AND ERECTION OF ALL STRUCTURAL STEEL SHALL CONFORM TO AISC "MANUAL OF STEEL CONSTRUCTION" AND WITH LATEST AMENDMENTS SECTION 05120 OF THE SPECIFICATIONS. STRUCTURAL STEEL SHAPES & PLATES SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE NOTED ON PLAN.
- PROVIDE FILLERS AT SPLICES OF PARTS HAVING MORE THAN 1/8" DIFFERENCE IN THICKNESS.
- ALL BEARING STIFFENER PLATES SHALL HAVE A CLOSE BEARING AGAINST THE INNER SURFACES OF BOTH FLANGES.
- DOUBLE ANGLE DIAGONAL BRACING SHALL BE BOLTED TOGETHER WITH A BOLT AND A FILLER PLATE LOCATED AS FOLLOWS:
 - ROOF BRACING AT THE 1/4 POINTS OF LENGTH.
 - WALL BRACING AT THE 1/3 POINTS OF LENGTH.
 - KNEE BRACING AT THE CENTER OF LENGTH.
- PLATE FOR BUILT UP SECTIONS SHALL BE PREPARED BY FLAME CUTTING ONLY. UNIVERSAL ROLLED PLATE WILL NOT BE ACCEPTABLE.

CONNECTIONS

- PLATE FOR BOLTED SHEAR PLATE CONNECTIONS SHALL BE THE SAME THICKNESS AS THE BEAM WEB WITH A MINIMUM THICKNESS OF 3/8" UNLESS OTHERWISE NOTED. DIAGONAL GUSSET PLATE CONNECTIONS SHALL HAVE A MINIMUM THICKNESS OF 1/2" (UNLESS OTHERWISE NOTED) AND THE NET AREA THROUGH THE BOLTS HOLES SHALL DEVELOP THE SHEAR VALUE OF THE BOLTS. ALL CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS. LOAD INDICATOR WASHERS SHALL BE USED WITH ALL ASTM A325F BOLTS.
- ALL BOLTS SHALL BE 3/8" Ø ASTM A325F BOLTS, UNLESS OTHERWISE NOTED.
- ALL STIFFENERS SHALL HAVE A MINIMUM THICKNESS OF 3/8", UNLESS OTHERWISE NOTED.
- ALL COLD-FORMED PURLIN AND GIRT CONNECTIONS SHALL HAVE A MINIMUM OF 2-3/8" Ø ASTM A307 BOLTS.

WELDING

- ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1-90 STRUCTURAL WELDING CODE AND SECTION 05120 OF THE SPECIFICATION.
- ALL WELDING PROCEDURE SPECIFICATIONS AND WELDING PROCEDURE QUALIFICATIONS, WELDERS, AND WELDING OPERATORS SHALL BE FULLY QUALIFIED IN ACCORDANCE WITH AWS D1.1-90.
- LENGTHS OF WELDS SHOWN ARE EFFECTIVE LENGTHS AS SPECIFIED IN AISC SPECIFICATIONS. WHERE LENGTH OF WELD IS NOT SHOWN, IT SHALL BE FULL LENGTH OF JOINT. ALL BUTT WELDS SHALL BE FULL PENETRATION WELDS, UNLESS OTHERWISE NOTED.
- ALL WELDING ELECTRODES SHALL BE E70XX.
- WITH REFERENCE TO MINIMUM SIZE OF FILLET WELD REQUIREMENTS IN SECTION 1.17 OF AISC SPECIFICATIONS, MINIMUM SIZE OF FILLET WELDS WHEN NOT SPECIFIED ON WELD SYMBOLS SHALL BE AS FOLLOWS:
 - 1/4" WELD FOR MATERIAL THICKNESS UP TO AND INCLUDING 3/8"
 - 3/8" WELD FOR MATERIAL THICKNESS OVER 3/8" TO 1 1/2"
- WELDING PROCEDURES AND SEQUENCES SHALL BE PLANNED TO MINIMIZE WELD SHRINKAGE THAT COULD RESULT IN LAMELLAR TEARING, AND APPROVED BY OWNERS REPRESENTATIVE.
- GRIND SMOOTH WELDED JOINTS WHERE FLUSH SURFACE IS REQUIRED.

METAL DECK

- ALL METAL DECKING SHALL BE IN ACCORDANCE WITH SECTION OF THE SPECIFICATIONS.
- ROOF DECK SHALL HAVE SINGLE RIBS 3" DEEP AND MADE OUT OF 22 GAGE STEEL WITH MINIMUM I=0.655 IN⁴/FOOT OF WIDTH AND MINIMUM S(I)=0.394 IN³/FOOT WIDTH AND S(X)=0.454 IN³/FOOT WIDTH. ATTACHMENT OF ROOF DECK TO SUPPORTS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS. THE ATTACHMENT SHALL BE CAPABLE OF RESISTING 40 PSF NET UPLIFT AND 300 POUNDS PER LINEAR FOOT OF SHEAR.

PURLINS AND GIRTS

- COLD-FORMED PURLINS AND GIRTS SHALL CONFORM TO ASTM A607 GRADE 50.

GRATING

- ALL PLATFORM GRATING SHALL BE PRESSURE WELDED GALVANIZED STEEL GRATING WITH 1" X 1/2" PLAIN BEARING BARS AT 12" ON CENTER WITH CROSS BARS AT 4" ON CENTER UNLESS OTHERWISE NOTED.
- CONNECT GRATING WITH NO. 14 X 1 1/2" SELF TAPPING CADMIUM PLATED SCREWS WITH HEXAGONAL HEADS IN STANDARD GRATING SADDLE CLIPS AT EACH OF 4 CORNERS AND AT 2'-0" ON CENTER AT ALL SUPPORTING MEMBERS.

LIGHT GAGE METAL

- FOR PHYSICAL PROPERTIES OF LIGHT GAGE SECTIONS SEE SCHEDULE ON DRAWING S-110. ALL MEMBERS SHALL BE "UNIMAST INC." OR EQUAL.

CONCRETE

- ALL CONCRETE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF DIVISION 3 (CONCRETE) OF THE SPECIFICATIONS. (REGULAR WEIGHT AND LIGHT WEIGHT)
- STRUCTURAL CONCRETE SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED. ALL CONCRETE SHALL BE REGULAR WEIGHT CONCRETE UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60 (UNLESS OTHERWISE NOTED). SPLICES AND HOOKS SHALL CONFORM TO ACI 318-89. SPLICES SHALL BE CLASS B UNLESS OTHERWISE NOTED. MINIMUM LAP SHALL BE 30 DIAMETERS. STIRRUP AND TIE HOOKS SHALL HAVE 135-DEGREE BENDS.
- LOCATION OF ALL CONSTRUCTION JOINTS OR OTHER TYPES OF JOINTS, OTHER THAN SPECIFIED, SHALL BE APPROVED BY THE OWNERS REPRESENTATIVE BEFORE PLACING.
- MINIMUM CONCRETE COVER PROVIDED FOR REINFORCEMENT SHALL BE IN ACCORDANCE WITH SECTION 03200 OF THE SPECIFICATION.
- ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND OTHER INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- EXISTING FACILITIES AND UTILITIES SHALL BE PROTECTED DURING EXCAVATION AND FOUNDATION CONSTRUCTION.
- EXISTING PAVEMENT SHALL BE SAW CUT AND BROKEN OUT TO CLEAN, STRAIGHT EDGES OF DEMOLITION AREAS.
- EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED ON DRAWINGS.
- EXCAVATING AND BACKFILLING SHALL BE IN ACCORD WITH SECTION 02226 OF THE SPECIFICATIONS.
- CONSTRUCTION JOINTS SHALL BE CLEANED AND ROUGHENED TO 1/4" AMPLITUDE.
- THE 5" SLAB ON GRADE SHALL BE REINFORCED WITH #4 BARS AT 12" ON CENTER EACH WAY. IN AREAS INSIDE OF BUILDINGS THE SUBGRADE SHALL BE COVERED WITH 10 MILL POLYETHYLENE SHEETING MOISTURE BARRIER AND THE SHEETING SHALL BE COVERED WITH 2" LAYER OF CLEAN SAND.
- FOR THICKENED SLAB ON GRADE BELOW FLUME SEE DRAWINGS S-511 AND S-512.
- ALL LIGHT WEIGHT CONCRETE FLOORS OVER STEEL DECK SHALL BE REINFORCED WITH #4 REBARS AT 16" ON CENTER EACH WAY WITH MINIMUM COVER OF 1 1/2" FROM TOP OF CONCRETE.
- ALL CONCRETE NOTCHES (1 1/2" DEEP KEYS) SHOWN ON DRAWINGS, MAY BE REPLACED WITH 3/4" X 1" BEVELLED BOARD ACTING AS FORMWORK, WHERE "1" IS ONE INCH LESS THAN THE ADJOINING CONCRETE WALL OR SLAB.
- SAWCUTS IN CONCRETE SHALL BE MADE 8 TO 12 HOURS AFTER CONCRETE PLACEMENT.

CONCRETE ANCHOR STUDS

- HEADED CONCRETE ANCHOR STUDS SHALL BE 3/8" X 5 1/2" LONG BEFORE WELDING, WITH A 1 1/2" Ø HEAD. THE STUDS SHALL CONFORM TO ASTM A108 AND SHALL BE WELDED TO THE BEAMS AS REQUIRED BY THE MANUFACTURER.
- THE REQUIRED NUMBER OF STUDS PER BEAM IS SHOWN THUS: ON THE FRAMING PLANS. THE STUDS SHALL BE EQUALLY SPACED ACROSS THE SPAN OF THE BEAM OR GIRDER. WHERE A GIRDER SHOWS THE REQUIRED NUMBER OF STUDS IN THREE PLACES, THE STUDS SHALL BE EQUALLY SPACED BETWEEN ADJACENT BEAMS SUPPORTED BY THE GIRDER.

ANCHOR BOLTS & EXPANSION ANCHORS

- FOR ANCHOR BOLT DETAILS SEE DRAWING S-102

MASONRY

- WALLS SHALL BE REGULAR WEIGHT HOLLOW CONCRETE MASONRY UNITS (F_w=1500 PSI WITH ALL CELLS GROUTED SOLID (U_{ON}), ACCORDING TO SECTION 04220 OF THE SPECIFICATIONS.
- THE MORTAR SHALL BE S-TYPE (F_w=1800 PSI) CONSISTING OF ONE PART OF CEMENT 1/2 TO 1/2 PART OF HYDRATED LIME OR LIME PUTTY AND DAMP LOOSE AGGREGATE 2 1/2 TO 3 TIMES THE SUM OF VOLUMES OF CEMENT AND LIME. THE GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.

FIREPROOFING

- THE STEEL MEMBERS CARRYING VERTICAL LOADS SHALL BE FIREPROOFED WITH CEMENTITIOUS SPRAY-ON FIRE PROOFING ACCORDING TO SECTION 07255 OF THE SPECIFICATIONS.
- THE FOLLOWING FIREPROOFING SHALL BE APPLIED TO:
- ROOF PURLINS AND GIRDS - ONE HOUR IF THE ASSEMBLY IS LESS THAN 20 FEET ABOVE FINISHED FLOOR BELOW. NO FIREPROOFING IF IT IS MORE THAN 20 FEET ABOVE FLOOR. NO FIREPROOFING OF UNDERSIDE OF DECKING PER UNDERWRITERS LABORATORY DESIGN NUMBER P920.
 - FLOOR BEAMS & GIRDS - ONE HOUR. NO FIREPROOFING OF UNDERSIDE OF DECK IS REQUIRED.
 - COLUMNS SUPPORTING FLOORS SHALL HAVE 2 HOUR FIREPROOFING. COLUMNS SUPPORTING ONLY THE ROOF REQUIRE ONE HOUR FIREPROOFING.
 - VERTICAL STEEL BRACING SHALL HAVE THE SAME FIREPROOFING AS COLUMNS.

NOTES

INSPECTIONS AND APPROVALS

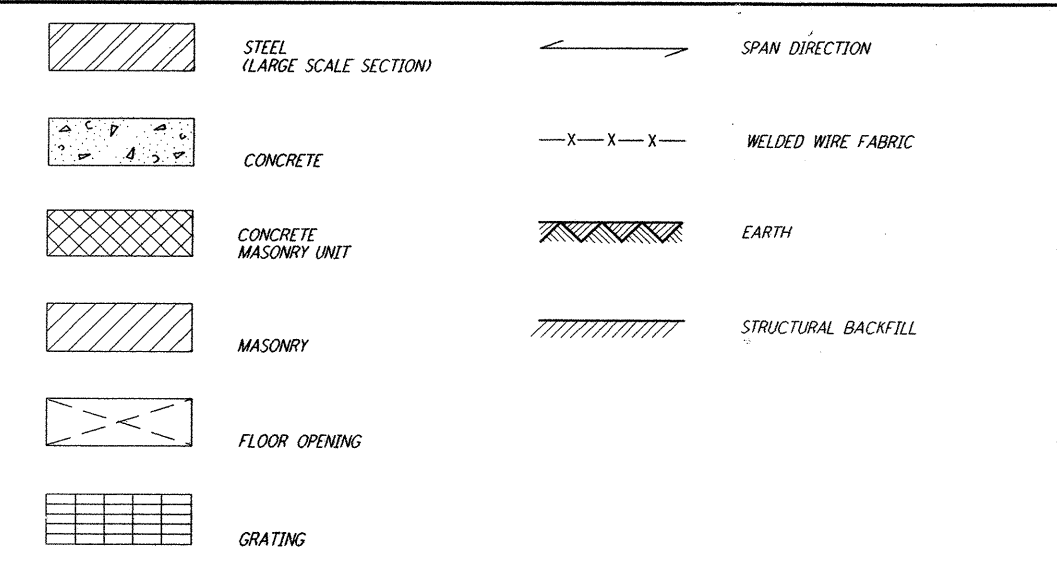
GENERAL

- PROFESSIONAL SOILS ENGINEER REGISTERED IN THE STATE OF FLORIDA SHALL INSPECT AND APPROVE ALL FOOTING EXCAVATIONS PRIOR TO PLACING CONCRETE ACCORDING TO SECTION 02226 OF THE SPECIFICATION.
- CONTINUOUS INSPECTION BY AN INSPECTOR, APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY SHALL BE PROVIDED FOR THE FOLLOWING FIELD WORK:
 - PLACEMENT OF CONCRETE
 - FIELD WELDING
 - INSTALLATION OF HIGH STRENGTH BOLTS
- FIELD WELDERS AND WELDING OPERATORS SHALL BE FULLY QUALIFIED IN ACCORDANCE WITH AWS D1.1 AND BE APPROVED BY THE DEPARTMENT OF BUILDING AND SAFETY.
- THE CONSTRUCTION SHALL COMPLY WITH REQUIREMENTS OF THE 1988 EPCOT BUILDING CODE.

GENERAL

- ALL STRUCTURAL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE JOB SPECIFICATIONS AND STANDARDS.
- ALL SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD PRIOR TO FABRICATION.
- NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED, SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STEEL SHALL BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER OF RECORD.
- PAINTING AND SHOP PRIMING WHERE REQUIRED SHALL BE IN ACCORDANCE WITH SECTION 05120 AND SECTION 09900 OF THE SPECIFICATIONS.
- FOR TYPICAL DETAILS SEE DRAWINGS S-101 THROUGH S-108.
- THE TOP FLANGE OF BEAMS SUPPORTING COMPOSITE SLABS WITH WELDED-STUD SHEAR CONNECTORS SHALL NOT BE PRIME COATED.
- CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED TO MAINTAIN THE ALIGNMENT OF BUILDING AND RETAINING WALLS UNTIL ALL CONNECTIONS ARE COMPLETED AND SLAB AND WALLS CONSTRUCTED.
- PRIOR TO PLACING FOUNDATIONS, REFER TO UNDERDRAIN SYSTEM DRAWINGS.

MATERIALS LEGEND



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

100 WEST WALNUT STREET
PASADENA, CALIFORNIA

CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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

SCALE: CONTRACT NUMBER: PROJECT NUMBER:
NONE PP150969 8094

GENERAL NOTES,
ABBREVIATIONS & LEGEND

SHEET NUMBER: REVISIONS:
LA-S-001

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