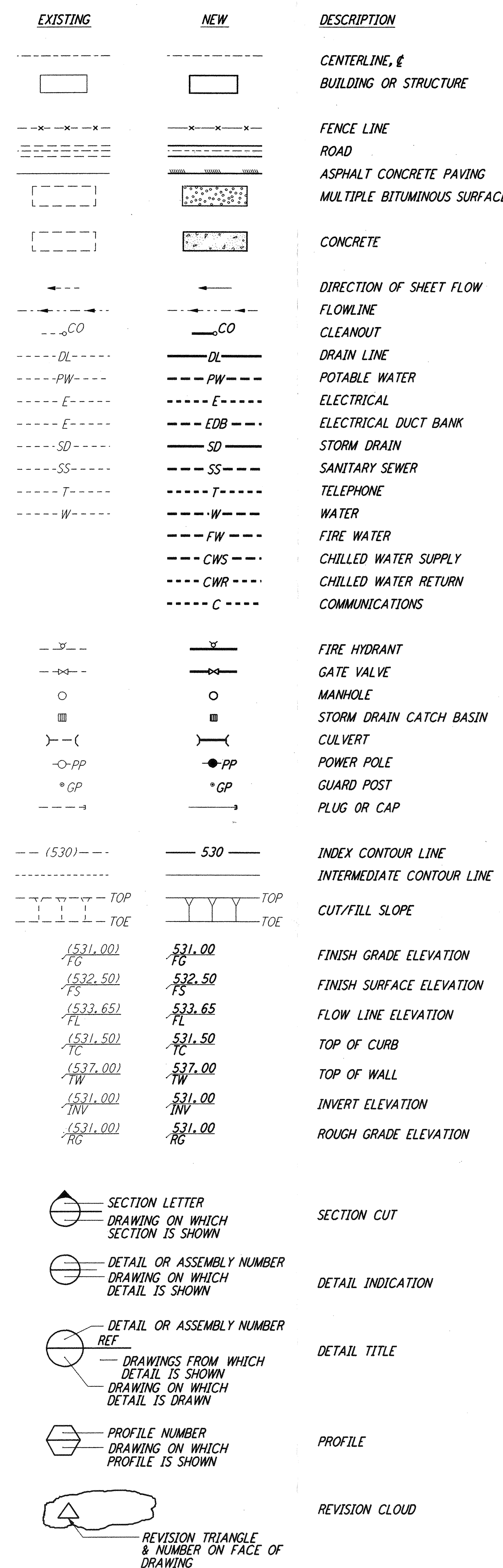


ABBREVIATIONS

GENERAL NOTES

AC	ASPHALTIC CONCRETE	MAX	MAXIMUM
AGOR	AGGREGATE	MH	MANHOLE
APPROX	APPROXIMATELY	MW	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MON	MONUMENT
AVG	AVERAGE	N	NORTH
BC	BEGIN CURVE	NIC	NOT IN CONTRACT
BDG	BOUNDARY	NTS	NOT TO SCALE
BLDG	BUILDING		
BM	BENCH MARK	OC	ON CENTER
BOP	BOTTOM OF PIPE	OD	OUTSIDE DIAMETER
BPG	BEARING		
BVC	BEGIN VERTICAL CURVE		
CB	CATCH BASIN	PC	POINT OF CURVE
C	COMMUNICATION	PCT, %	PERCENT
C TO C	CENTER TO CENTER	PI	POINT OF INTERSECTION
CF	CURB FACE	PIV	POST INDICATOR VALVE
CJ	CONSTRUCTION JOINT	PJVC	POINT OF INTERSECTION, VERTICAL CURVE
CL	CENTERLINE	POC	POINT OF CONNECTION
CLR	CLEAR	POVC	POINT ON VERTICAL CURVE
CMP	CORRUGATED METAL PIPE	PSI	POUND-FORCE PER SQUARE INCH
CO	CLEANOUT, CONDUIT ONLY	PT	POINT OF TANGENCY
	CONTRACTION JOINT	PVC	POLYVINYL CHLORIDE
	COLUMN	PVMT	PAVEMENT
COL	CONCRETE	PW	POTABLE WATER
CONC	CONCRETE	R	RADIUS,
CONSTR	CONSTRUCTION		RIDGE
CONT	CONTINUATION	RAD	RADIUS
CP	CONCRETE PIPE	RCR	REINFORCED-CONCRETE PIPE
CPB	COMMUNICATIONS PULLBOX	RD	ROAD
CS	CARBON STEEL	REDR	REDUCER
CU FT	CUBIC FEET	REF	REFERENCE
CULV	CULVERT	REIN	REINFORCEMENT
CWR	CHILLED WATER RETURN	REQ	REQUIRED
CWS	CHILLED WATER SUPPLY	REV	REVISION
CY	CUBIC YARD	RG	ROUGH GRADE
		R/W	RIGHT-OF-WAY
Δ	DELTA = ANGLE	S	SLOPE,
D	DUCT	SCH, SCHED	SCHEDULE
DEG	DEGREE	SD	STORM DRAIN
DET	DETAIL	SG	SUBGRADE
DI, Ø	DIAMETER	SHT	SHEET
DL	DRAIN LINE	SIM	SIMILAR
DWG	DRAWING	SO	SQUARE FOOT
		SS	SANITARY SEWER
E	EAST,	STA	STATION
EA	ELECTRICAL	STD	STANDARD
EC	EACH	STL	STEEL
ECB	END CURVE	SW	SIDEWALK
EDB	ELECTRICAL DUCT BANK		
EJ	EXPANSION JOINT	T	TANGENT,
EL, ELEV	ELEVATION (HEIGHT)	TC	TELEPHONE
ELEC	ELECTRICAL	TEL	TOP OF CURB
ELL	ELBOW	TEL	TELEPHONE
EMH	ELECTRICAL MANHOLE	TG	TOP OF GRATE
EPB	ELECTRICAL PULLBOX	TOC	TOP OF CONCRETE
EV	ELECTRICAL VAULT	TOP	TOP OF PIPE
EVC	END VERTICAL CURVE	TOP	TOP OF WALL
EW	EACH WAY	TW	TYPICAL
EXIST, EX	EXISTING	TYP	TYPICAL
FH	FIRE HYDRANT	UG	UNDERGROUND
FIN	FINISH	UON	UNLESS OTHERWISE NOTED
FIN FL	FINISH FLOOR		
FG	FINISH GRADE	VC	VERTICAL CURVE
FL	FLOOR,	VCP	VITRIFIED CLAY PIPE
FLG	FLOW LINE	VERT	VERTICAL
FQP	FLANGE	VOL	VOLUME
FS	FACE OF FLANGE		
FT	FINISH SURFACE	W	WEST,
FW	FOOT, FEET	W	WATER
FTG	FOOTING	W/	WITH
	FIRE WATER	W/O	WITHOUT
		WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
GALV	GALVANIZED	WW	WASTE WATER
GA	GAGE	WWF	WELDED WIRE FABRIC
GB	GRADE BREAK	XFMR	TRANSFORMER
GPM	GALLONS PER MINUTE		
GR	GRADE	YD	YARD
GVL	GRAVEL		
HORIZ	HORIZONTAL		
HP	HIGH POINT		
ID	INSIDE DIAMETER		
IN	INCH		
INCL	INCLUDE		
INTSCT	INTERSECTION		
INV	INVERT		
JB	JUNCTION BOX		
JT	JOINT		
L	LENGTH		
LB	POUND		

LEGEND



- THE TOPOGRAPHY WITHIN THE PROPERTY LINES, WAS GENERATED BY COMPUTER METHODS FROM A SURVEY PERFORMED BY J-U-B ENGINEERS, INC., KENNEWICK, WASHINGTON, DATED SEPTEMBER 23, 1993.
- HORIZONTAL AND VERTICAL DATUMS ARE ALSO FROM THE J-U-B ENGINEERS, INC. SURVEY, AND ARE AS FOLLOWS:  
 HORIZONTAL DATUM: THE COORDINATE GRID SYSTEM ORIGINATES AT THE VERTEX POINT (N 410990.1636, E 1915712.5766) AND IS CONSIDERED COINCIDENT WITH STATE PLANE COORDINATES AT THAT POINT AND ALSO INDICATED AS STATION 0+00.00 FOR EITHER BEAM TUBE ARM. REFERENCE STATE PLANE IS WASHINGTON STATE PLANE LAMBERT SOUTH ZONE NAD 83/91  
 VERTICAL DATUM: NAVD 88 BENCH MARK "McKINLEY"  
 (AVG LAT. 46°27'25.68") GRID FACTOR 0.999917130  
 (AVG ELEV. 532.80') SEA LEVEL FACTOR 0.999974515  
 COMBINED PROJECT SCALE FACTOR = 0.999891645  
 STATE PLANE 999.891645' = 1000.000' MEASURED GROUND.  
 VERTEX 0 ELEVATION = 537.29' PROJECT DATUM
- STRAIGHT GRADE BETWEEN SPOT ELEVATIONS, UNLESS OTHERWISE SHOWN ON PLANS.
- NOTES RELATING TO A SPECIFIC DRAWING WILL BE FOUND ON THE DRAWING FOR WHICH THEY ARE APPLICABLE.
- DIMENSIONS, ELEVATIONS AND LOCATION OF EXISTING UTILITIES, STRUCTURES, OR GRADING ARE TO BE VERIFIED PRIOR TO START OF CONSTRUCTION BY CONTRACTOR. ANY DISCREPANCY WITH THE DRAWINGS SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE CONSTRUCTION MANAGER. ANY ADDITIONAL WORK PERFORMED BY THE CONTRACTOR DUE TO HIS FAILURE TO VERIFY AND SO ADVISE, SHALL BE COMPLETELY AT HIS OWN COST AND AT NO COST TO THE INSTITUTE.
- AN EXISTING 6" WATERLINE IS LOCATED ALONG THE WEST SIDE OF THE SOUTHWEST ARM, WHICH BEGINS AT A WELL PUMP POINT NEAR THE SOUTHWEST END STATION AND TERMINATES AT A POND LOCATED ADJACENT TO THE CORNER STATION PAD ON THE SOUTHWEST SIDE. EXACT LOCATION AND ALIGNMENT SHALL BE VERIFIED IN THE FIELD. APPROXIMATE ALIGNMENT OF WATERLINE IS SHOWN ON SHEETS WA-C-031 THRU WA-C-040. SEE DETAIL 7, SHEET WA-C-055.
- FINISHED SURFACES SHALL BE SLOPED UNIFORMLY FROM HIGH POINTS, RIDGE LINES, AND AROUND FOUNDATIONS TO FLOW LINES AND AREA DRAINS UNLESS INDICATED OTHERWISE.
- STORM DRAIN, SANITARY SEWER, AND UTILITY LINES SHALL BE SLOPED AT A UNIFORM GRADE BETWEEN INVERT ELEVATIONS.
- BORING SUMMARIES ARE FROM A FOUNDATIONS INVESTIGATION CONDUCTED BY DAMES AND MOORE. A COPY OF THE REPORT IS ON FILE WITH THE CLIENT.
- ALL UNDERGROUND PIPES SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION FROM HEAVY MOVING EQUIPMENT.
- WELL PUMP AT SOUTHWEST END STATION SHALL BE ENCLOSED WITH A 7'-9"x8'-HIGH PREFABRICATED SHELTER WITH STANDARD DOOR, ANCHORED TO A NEW 6" THICK CONCRETE SLAB, PER CONTRACTOR DESIGN.
- ALL NEW SIDE SLOPES 3 (HORIZONTAL) : 1 (VERTICAL) OR STEEPER SHALL HAVE A MINIMUM 3 INCHES OF SLOPE PROTECTION MATERIAL.
- ALL UNPAVED FLAT SURFACES, ROADS OR FUTURE PAVED AREAS SHALL CONTINUALLY HAVE DUST CONTROL DURING THE COMPLETE CONSTRUCTION PERIOD, UNTIL PAVED OR BITUMINOUS SURFACE TREATED.
- THE LIGO VERTEX POINT IS DEFINED AS THE INTERSECTION OF THE BEAM TUBE CENTERLINES OR THE (0,0,0) POINT EQUIVALENT TO (NORTH, EAST, ELEVATION) PROJECT COORDINATES DEFINED IN NOTE 2 ABOVE.

STANDARD PLANS

TO THE EXTENT REFERENCED, THE FOLLOWING WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD, BRIDGES AND MUNICIPAL CONSTRUCTION SHALL BE CONSIDERED PART OF THE CONSTRUCTION DOCUMENTS:

PLAN	TITLE	LAST DATE
B-19	HYDRANT SETTING TYPE A & B	10/3/83
C-1	BEAM GUARDRAIL (W BEAM), SHEET 1 OF 2	6/4/93
C-1	BEAM GUARDRAIL (W BEAM), SHEET 2 OF 2	6/4/93
C-2p	GUARDRAIL PLACEMENT	6/19/92
C-7	BEAM GUARDRAIL TERMINAL SECTION (DESIGN G)	1/21/85
H-5c	PAVEMENT MARKINGS	7/17/81
H-6	SURVEY MONUMENTS	7/17/81
L-2	CHAIN LINK FENCE, SHEET 1 OF 2	5/24/91
L-2	CHAIN LINK FENCE, SHEET 2 OF 2	5/24/91
L-3	CHAIN LINK GATES	1/21/85
L-6	ACCESS CONTROL GATE	1/21/85

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REFERENCES	NO.	DATE	BY	CHKD	ENGR	PROJ	DESCRIPTION
	1	5/15/98	WRB	ML	JB	MDW	ISSUED FOR AS-BUILT

FOR CONSTRUCTION
DRAWN WRB 9/28/95
CHECKED ML 7/9/96
ENGINEER JB 7/9/96
PROJ MDW 7/9/96

**AS-BUILT DRAWINGS**

100 WEST WALNUT STREET  
PASADENA, CALIFORNIA

CALIFORNIA INSTITUTE OF TECHNOLOGY  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

**LIGO-D960197-01-0**

LASER INTERFEROMETER  
GRAVITATIONAL-WAVE OBSERVATORY  
SITE NO. 1 - HANFORD, WASHINGTON

TITLE	SCALE	CONTRACT NUMBER	PROJECT NUMBER
CIVIL GENERAL NOTES, LEGEND & ABBREVIATIONS	NONE	PP150969	8094
SHEET NUMBER		WA-C-002	
REVISIONS			