

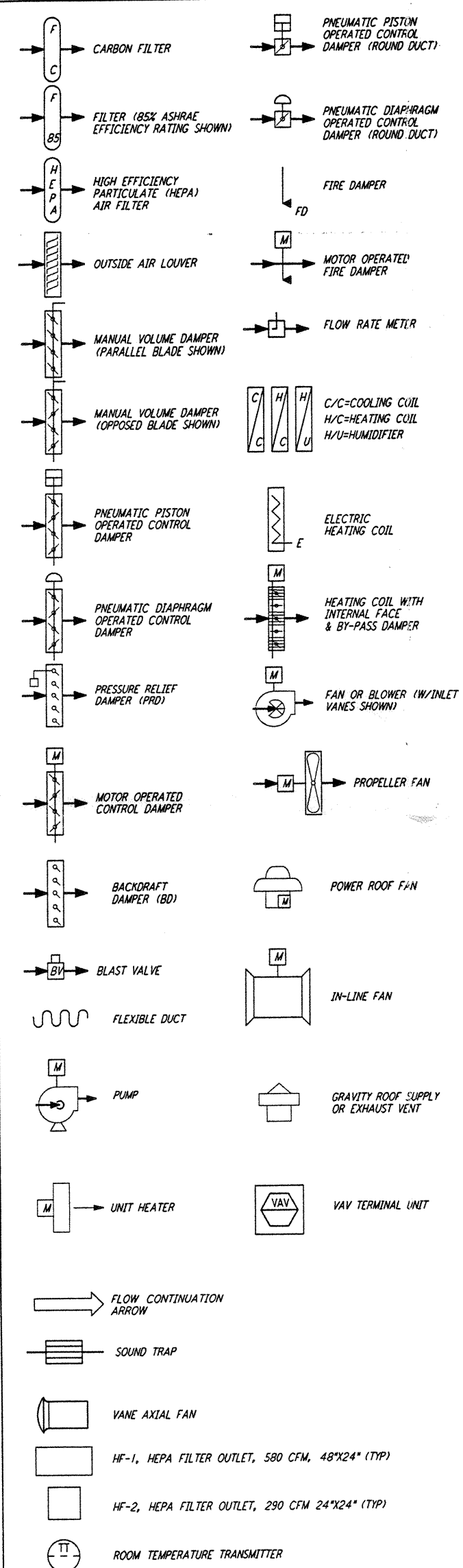
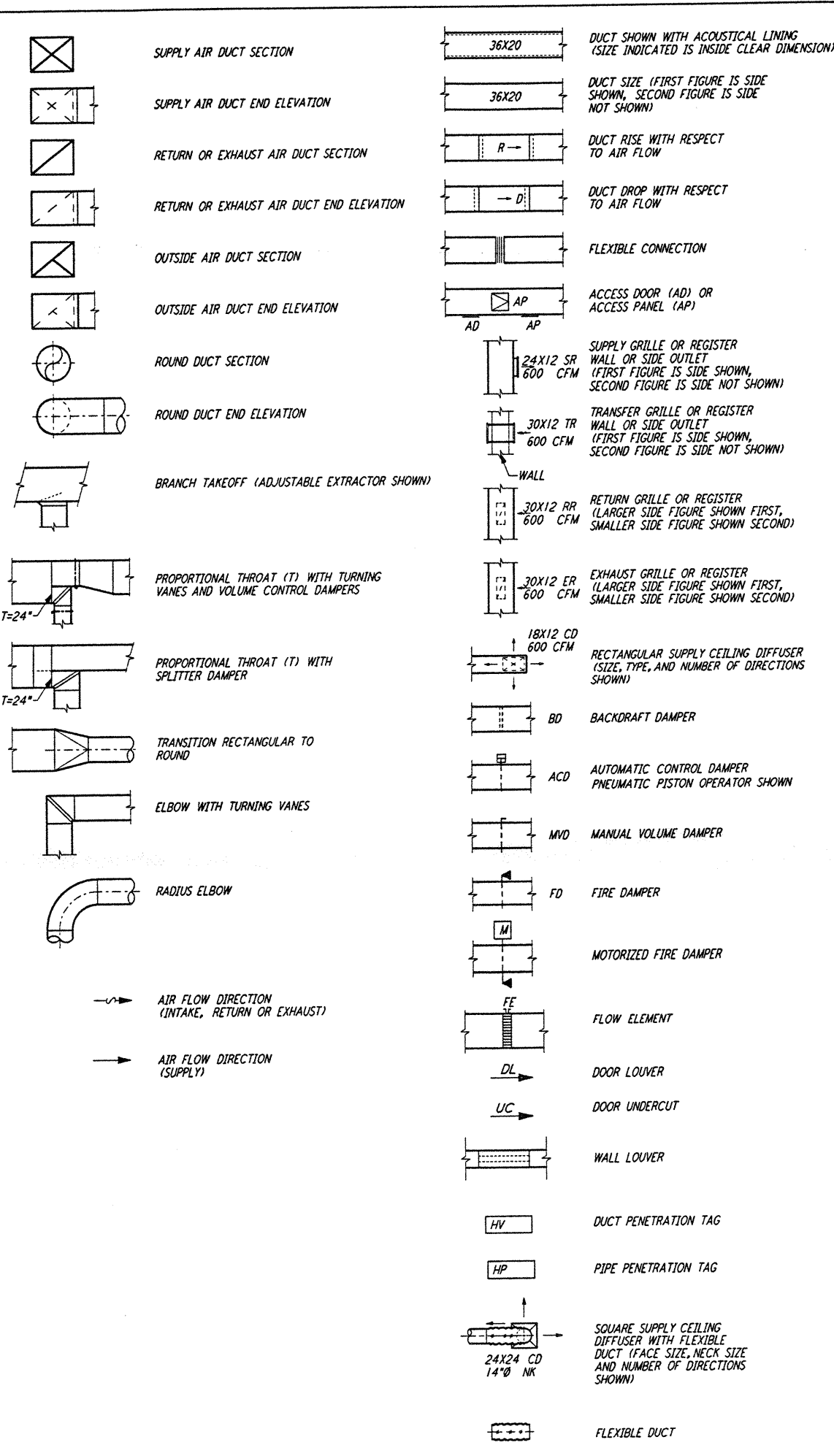
HEATING, VENTILATING AND AIR CONDITIONING LEGEND, SYMBOLS AND ABBREVIATIONS

DOUBLE LINE

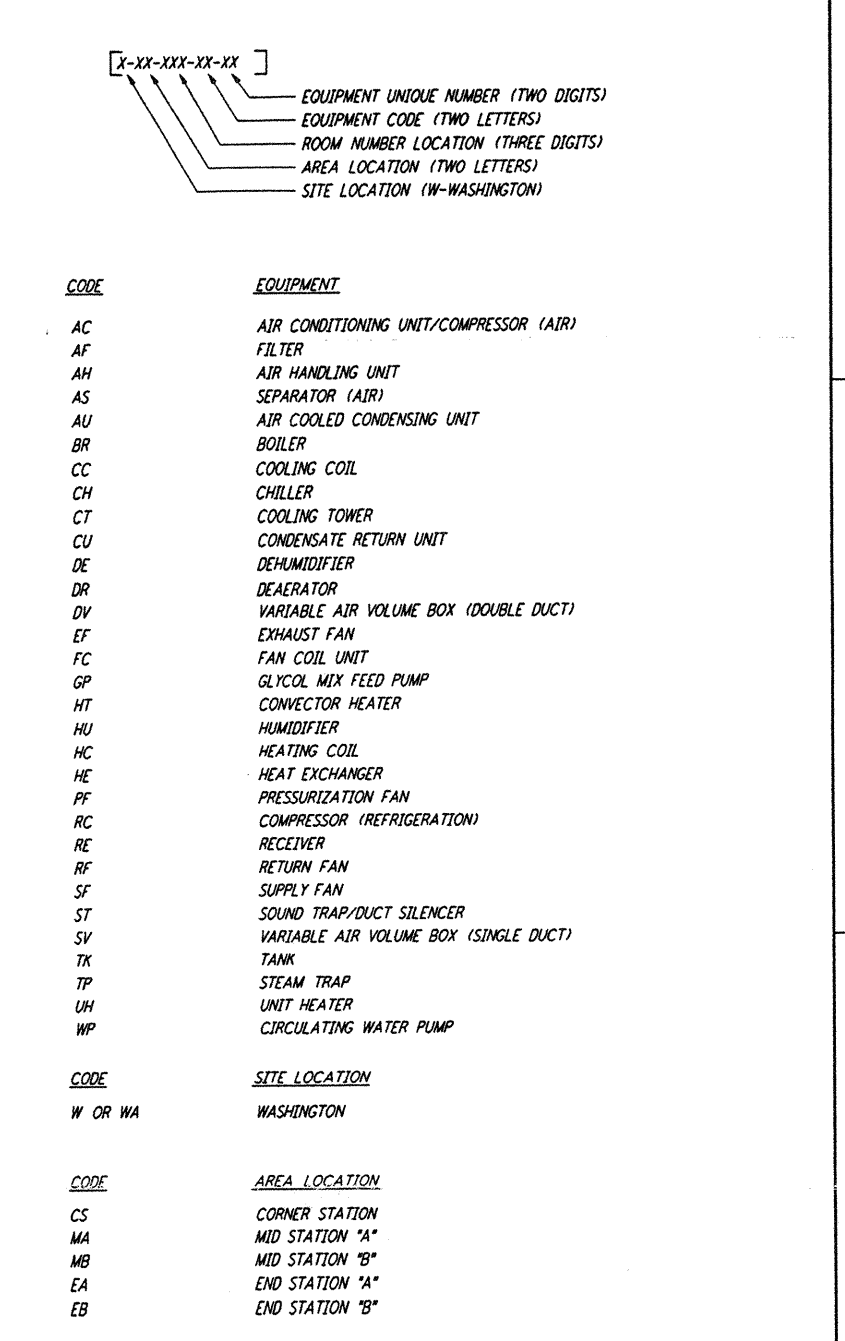
SINGLE LINE

ABBREVIATIONS

EQUIPMENT IDENTIFICATION



ABBREVIATION	WORD OR TERM	ABBREVIATION	WORD OR TERM
ABV	ABOVE	IN	INCH
AC	AIR CONDITIONING	INSTR	INSTRUMENT
ACFM	ACTUAL CUBIC FEET PER MINUTE	INSUL	INSULATION
ACH	AIR CHANGES/HR	IN WC	INCHES WATER COLUMN
AFF	ABOVE FINISHED FLOOR	IN WG	INCHES WATER GAUGE
AFMS	AIR FLOW MEASURING STATION	KW	KILOWATT
AI	ANALOG INPUT	L	LINE
AO	ANALOG OUTPUT	LB	POUND
APPROX	APPROXIMATE	LG	LEVEL GAUGE
ARCH	ARCHITECTURAL	LGTH	LENGTH
ATM	ATMOSPHERE	LRA	LOCKED ROTOR AMPERES LEAVING
AUTO	AUTOMATIC	LVG	LOAD
BD	BACKDRAFT DAMPER	MAINT	MAINTENANCE
BEL	BELOW	MAX	MAXIMUM
BHP	BRAKE HORSEPOWER	MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
BLDG	BUILDING	MCC	MOTOR CONTROL CENTER
BOD	BOTTOM OF DUCT	MECH	MECHANICAL
BOG	BOTTOM OF GRILLE	MFR	MANUFACTURER
BOL	BOTTOM OF LOUVER	MIN	MINIMUM
BOP	BOTTOM OF PIPE	MNTD	MOUNTED
BOR	BOTTOM OF REGISTER	MNTG	MOUNTING
BOT	BOTTOM	MTR	MOTOR
BOU	BOTTOM OF UNIT	NC	NORMALLY CLOSED
BTUH	BRITISH THERMAL UNITS PER HOUR	NEG	NEGATIVE
CL	CENTER LINE	NIC	NOT IN CONTRACT
°C	DEGREES CENTIGRADE	NO	NORMALLY OPEN
C	COMPRESSED AIR	NO. (*)	NUMBER
CAP	CAPACITY	NTS	NOT TO SCALE
CCMS	CENTRAL CONTROL MONITORING SYSTEM	OA	OUTSIDE AIR
CCW	COUNTERCLOCKWISE	OC	OPPOSED BLADE DAMPER
CD	CEILING DIFFUSER	OC	ON CENTER
CFM	CUBIC FEET PER MINUTE	OD	OUTSIDE DIAMETER
CFM	CUBIC FEET PER MINUTE	ODP	OPEN DRIP PROOF
CG	CEILING GRILLE	OPR	OPERATING / OPERATOR
CHR	CHILLED WATER RETURN	OPNG	OPENING
CHS	CHILLED WATER SUPPLY	ORD	ORDER
CLG	COOLING	PD	PRESSURE DROP
CNTFGL	CENTRIFUGAL	PENET	PENETRATIONS
COL	COLUMN	PH	PHASE
COND	CONDENSATE	PL	PLATE
CONN	CONNECTION	PNEU	PNEUMATIC
CONT	CONTINUATION OF CONTROL	PANEL	PANEL
CR	CEILING REGISTER/CONDENSATE RETURN	POC	POINT OF CONNECTION
CS	CARBON STEEL (GALVANIZED)	POS	POSITIVE
CW	CLOCKWISE	PS	PRESSURE
CHR	CONDENSER WATER RETURN	PSIG	POUNDS PER SQUARE INCH GAUGE
CWS	CONDENSER WATER SUPPLY	Δ P	PRESSURE DIFFERENTIAL
D	DRAIN	QTY	QUANTITY
DA	DIRECT ACTING	R	ROWS
DDC	DIRECT DIGITAL CONTROL	RA	RETURN AIR
DDCP	DIRECT DIGITAL CONTROL PANEL	RD	REFRIGERANT DISCHARGE
DET	DETAIL	REF	REFERENCE
DI	DIGITAL INPUT	REG	REGISTER
DISCH	DISCHARGE	REQD	REQUIRED
DN	DOWN	RET	RETURN
DO	DIGITAL OUTPUT	RFGR	REFRIGERANT
DP	DRIP PROOF	RG	RETURN GRILLE
DWS	DRAWING	RH	RELATIVE HUMIDITY
Ø/DIA	DIAMETER	RHC	REHEAT COIL
EA	EACH	RL	REFRIGERANT LIQUID
E/F	EFFICIENCY	RLA	RATED LOAD AMPERES
EG	EXHAUST GRILLE	RM	ROOM
EL	ELEVATION	RPW	REVOLUTIONS PER MINUTE
ELB	ELBOW	RR	RETURN REGISTER
ELECT	ELECTRICAL	RS	REFRIGERANT SUCTION
ENT	ENTERING	RV	REFRIGERANT VENT
EP	EXPLSION PROOF	SA	SUPPLY AIR
EQUIP	EQUIPMENT	SCFM	STANDARD CUBIC FEET PER MINUTE
ER	EXHAUST REGISTER	SCHED	SCHEDULE
ESP	EXTERNAL STATIC PRESSURE	SD	SMOKE DETECTOR
EXFIL	EXFILTRATION	SEC	SECONDARY
EXH	EXHAUST	SF	SUPPLY FAN
*F	DEGREES FAHRENHEIT	SG	SUPPLY GRILLE
*F DB	DEGREES FAHRENHEIT, DRY BULB (AIR)	SHT	SHEET
*F WB	DEGREES FAHRENHEIT, WET BULB (AIR)	SL	SOUND LINING
FC	FAIL CLOSED	SP	STATIC PRESSURE
FD	FIRE DAMPER	SPEC	SPECIFICATION
FIN	FINISHED	SR	SUPPLY REGISTER
FL	FAIL LOCKED	SS	STAINLESS STEEL
FLA	FULL-LOAD AMPERES	STD	STANDARD
FLEX	FLEXIBLE	STL	STEEL
FLG	FLANGE	STM	STEAM
FLOOR	FLOOR	STRUCT	STRUCTURAL
FLTR	FILTER	SV	SOLENOID VALVE
FO	FALL OPEN	SW	SWITCH
FP	FIRE PROTECTION	TA	THROW AWAY
FPI	FINS PER INCH	TEFC	TOTALLY ENCLOSED FAN COOLED
FPW	FEET PER MINUTE	TEMP	TEMPERATURE
FT	FEET	TS	TRANSFER GRILLE
FT ²	SQUARE FEET	TOC	TOP OF CONCRETE
FT ³	CUBIC FEET	TOD	TOP OF DUCT
FURN	FURNISHED	TOS	TOP OF STEEL
FWD CRV	FORWARD CURVED	TR	TRANSFER REGISTER
GA	GAUGE	TRF	TRANSFER
GAL	GALLON	TSP	TOTAL STATIC PRESSURE
GALV	GALVANIZED	TYP	TYPICAL
GFE	GOVERNMENT FURNISHED EQUIPMENT	UC	UNDERCUT DOOR
GPM	GALLONS PER MINUTE	UG	UNDERGROUND
H	HIGH	UV	UNIT VENTILATOR
HD	HEAD	V	VENT
HDR	HEADER	VEL	VELOCITY
HEPA	HIGH EFFICIENCY PARTICULATE AIR FILTER	VERT	VERTICAL
HF	HEPA FILTER OUTLET	VFD	VARIABLE FREQUENCY DRIVE
HOA	HAND/OFF/AUTO	VIV	VARIABLE INLET VANES
HORIZ	HORIZONTAL	W	WIDE
HP	HORSEPOWER	W/	WITH
HR	HOUR	WC	WATER COLUMN
HTG	HEIGHT	WG	WATER GAUGE
HTG	HEATING, VENTILATING AND AIR CONDITIONING	WRK	WORK
HWR	HEATING HOT WATER RETURN	WN	WELD NECK
HWS	HEATING HOT WATER SUPPLY	WP	WORKING POINT
HZ	HERTZ	WTR	WATER
ID	INSIDE DIAMETER		
I.E.	THAT IS		

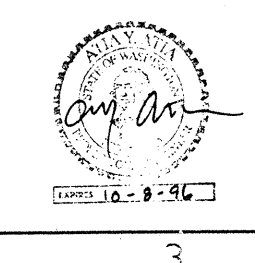


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ISSUED FOR CONSTRUCTION	DATE	BY
DRAWN	CLP	6-24-96
CHECKED	MC	7/3/96
ENGINEER	AP	7/13/96
PROJ	MANO	7/18/96

NO.	DATE	BY	CHKD	ENGR	PROJ	DESCRIPTION

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PARSONS

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CALIFORNIA INSTITUTE OF TECHNOLOGY
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LASER INTERFEROMETER
GRAVITATIONAL-WAVE OBSERVATORY
SITE NO. 1 - HANFORD, WASHINGTON

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