

ABBREVIATIONS

a	APPROX	APPROXIMATE
AVG	AVERAGE	
ANCH	ANCHOR	
ACP	ASBESTOS CEMENT PIPE	
AVS	AUTOMATIC VALVE STATION	
AUX	AUXILIARY	
APPD	APPROVED	
AC	ASPHALT CONCRETE	
b		
BLDG	BUILDING	
BU	BELL UP	
BFV	BUTTERFLY VALVE	
BF	BALL VALVE	
BLND	BLIND FLANGE	
BSP	BLACK STEEL PIPE	
BC	BENT CURVE	
c		
CB	CATCH BASIN	
CFS	CUBIC FEET PER SECOND	
CHKD PL	CHECKED PLATE	
CI	CAST IRON	
CIP	CAST IRON PIPE	
CISP	CAST IRON SOIL PIPE	
CJ	CONTRACTION JOINT	
CL	CENTERLINE	
CMP	CORRUGATED METAL PIPE	
CMU	CONCRETE MASONRY UNIT	
CNG	COMPRESSED NATURAL GAS	
CO	CLEAN OUT	
COL	COLUMN	
CONC	CONCRETE	
CONT	CONTINUOUS	
CORP	CORPORATION	
CP	CONCRETE PIPE	
CPLG	COUPLING	
CPM	CRITICAL PATH METHOD	
ZS	CHLORINE SOLUTION	
CTR	CENTER	
CU	COPPER	
CU FT	CUBIC FOOT	
CU YD	CUBIC YARD	
CV	CHECK VALVE	
CW	COLD WATER	
CYL	CYLINDER	
d		
DIAG	DIAGONAL	
DIA	DIAMETER	
DWG	DRAWING	
DIP	DUCTILE IRON PIPE	
DMJ	DOUBLE MECHANICAL JOINT	
DEG	DEGREE	
or (°)		
DI	DUCTILE IRON	
DS	DIGESTED SLUDGE	
DG	DRAIN	
DG	DIGESTER GAS	
e		
EA	EACH	
EF	EACH FACE	
EL	ELEVATION	
EM	EACH WAY	
EJ	EXPANSION JOINT	
EFFL	EFFLUENT	
EQUIP	EQUIPMENT	
EXIST	EXISTING	
ELEC	ELECTRICAL	
EC	END CURVE	
f		
FT	FEET	
OR (')		
FTG	FOOTING	
FRP	FIBERGLASS REINFORCED PLASTIC	
FIN	FINISH	
FIG	FIGURE	
FL	FLOOR	
FD	FLOOR DRAIN	
FCA	FLANGED COUPLING ADAPTOR	
FW	FIRE WATER	
FLG	FLANGE	
FE	FIRE EXTINGUISHER	
FOS	FACE OF SLAB	
g		
GALV	GALVANIZED	
GAL	GALLON	
GWB	GYPSPUM WALLBOARD	
GV	GATE VALVE	
GSP	GALVANIZED STEEL PIPE	
h		
HPA	HIGH PRESSURE AIR	
HVAC	HEATING, VENTILATION, AIR CONDITIONING	
HY	HOSE VALVE	
HORIZ	HORIZONTAL	
HMC	HARNESSED MECHANICAL COUPLING	
HWL	HIGH WATER LEVEL	
HW	HOT WATER	
HS	HOSE BIBB	
HRS	HEAT RESERVOIR SUPPLY	
HRR	HEAT RESERVOIR RETURN	
HEX	HEAT EXCHANGER	
i		
ID	INSIDE DIAMETER	
INSUL	INSULATION	
IN	INCH	
or (")		
INSTR	INSTRUMENT (ACTION)	
INFL	INFLUENT	
INV	INVERT	

l	LDG	LANDING
LAB	LABORATORY	
LF	LINEAR FEET	
LMF	LOW WATER LEVEL	
LA	LAVATORY	
LPA	LOW PRESSURE AIR	
LR	LONG RADIUS	
m		
MATL	MATERIAL	
MTL	METAL	
MAX	MAXIMUM	
MH	MANHOLE	
MIN	MINIMUM	
MISC	MISCELLANEOUS	
MFR	MANUFACTURER	
MS	MECHANICAL COUPLING	
MRS	MOISTURE RESISTANT GYPSUM	
MRGB	WALLBOARD	
MECH	MECHANICAL	
MO	MASONRY OPENING	
MGD	MILLION GALLONS PER DAY	
MJ	MECHANICAL JOINT	
n		
NATL	NATIONAL	
NO	NUMBER	
or (#)		
NRS	NONRISING STEM	
NIC	NOT IN CONTRACT	
NPW	NONPOTABLE WATER	
NTS	NOT TO SCALE	
o		
OC	ON CENTER	
OD	OUTSIDE DIAMETER	
OPP	OPPOSITE	
ORIG	ORIGINAL	
OPNG	OPENING	
p		
PL	PLATE	
POT	POINT ON TANGENT	
R	PROPERTY LINE	
PRV	PRESSURE RELIEF VALVE	
PS	PIPE SUPPORT	
PV	PLUG VALVE	
PSP	POUNDS PER SQUARE FOOT	
PSI	POUNDS PER SQUARE INCH	
PREFAB	PREFABRICATED	
PVC	POLYVINYL CHLORIDE	
PW	POTABLE WATER	
PRS	PRESSURE REDUCING STATION	
PG	PRESSURE GAGE	
P	POLYMER	
PE	POLYETHYLENE PIPE	
PI	POINT OF INTERSECTION	
q		
QTY	QUANTITY	
r		
RAD	RADIUS	
REINF	REINFORCE, (ING)	
RR	RAILROAD	
RED	REDUCER	
RCP	REINFORCED CONCRETE PIPE	
RDL	ROOF DRAIN LEADER	
REF	REFERENCE	
REQD	REQUIRED, (ED)	
ROD	RIGHT OF WAY	
RND	ROUND	
RD	ROOF DRAIN	
s		
SS	STAINLESS STEEL	
STA	STATION	
S	SURVEY LINE	
SO	SQUARE	
STD	STANDARD	
SYM	SYMMETRICAL	
SPEC	SPECIFICATION	
SECTION	SECTION	
SQ FT	SQUARE FOOT	
SQ IN	SQUARE INCH	
ST	STREET	
SCH	SCHEDULE	
SHT	SHEET	
STL	STEEL	
SW	SOFT WATER	
SHR	SHOW R	
SEW	SEWER	
t		
TAN	TANGENT	
T&G	TONGUE & GROOVE	
T&B	TOP & BOTTOM	
TH	TEST HOLE	
THP	TYPICAL	
TS	TYPICAL THICKENED SLUDGE	
TOW	TOP OF WALL	
u		
UH	UNIT HEATER	
UR	URINAL	
USG	UNITED STATES GAGE	
v		
VERT	VERTICAL	
VCP	VITRIFIED CLAY PIPE	
VAC	VACUUM	
VC	VICTAULIC COUPLING	
VTR	VENT THRU ROOF	

MECHANICAL SYMBOLS

	CAP
	CLEANOUT
	CROSS
	DRAIN OR BELL-UP
	ELBOW
	FILTER
	FLEXIBLE HOSE OR TUBING
	FLOW ELEMENT
	FLOW TUBE
	GAGE, PRESSURE (W/COCK)
	PINCH VALVE
	LINE SIZE CHANGE (REDUCER)
	LINE TURNING DOWN
	LINE TURNING UP
	ORIFICE PLATE
	WALL SLEEVE
	STRAINER
	TEE
	TRAP
	UNION
	DIAPHRAGM VALVE
	WAFFER BUTTERFLY VALVE
	FLANGED BUTTERFLY VALVE
	VENT
	WYE
	BALL VALVE
	THROTTLING VALVE
	CHECK-VALVE
	GATE VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	PLUG VALVE
	3-WAY VALVE
	4-WAY VALVE
	VACUUM RELIEF VALVE
	HOSE VALVE, HOSE BIBB OR FLUSHING CONNECTION
	SHUTOFF VALVE OR CURBSTOP IN BOX
	BACKFLOW PREVENTER
	SLUICE GATE
	FLANGED COUPLING ADAPTER
	FLANGED JOINT
	MECHANICAL JOINT
	MECHANICAL JOINT OR PUSH ON JOINT
	COUPLING FOR GROOVED PIPE
	BLIND FLANGE
	MECHANICAL COUPLING
	HARNESSED MECHANICAL COUPLING

	EXISTING PIPE IN SECTION
	NEW PIPE IN SECTION
	FIRE HYDRANT
	EXPANSION ANCHOR
	POTABLE COLD WATER PIPING
	POTABLE HOT WATER PIPING
	DRAINAGE VENT
	DRAINAGE BELOW GROUND
	AIR
	ALUM
	CHLORINE SOLUTION
	CHLORINE DRAIN
	CHLORINE GAS
	DRAINAGE
	ELECTRICAL CONDUIT
	FIRE WATER
	NATURAL GAS
	HIGH PRESSURE AIR
	NONPOTABLE WATER
	POLYMER
	POTABLE WATER
	PRIMARY SLUDGE
	DIGESTER GAS
	DIGESTER SUPERNATANT LIQUOR
	SAMPLE
	SEWER
	SOFT COLD WATER
	SCUM
	SOFT WATER
	WASTE ACTIVATED SLUDGE
	DIGESTED SLUDGE
	THICKENED SLUDGE
	WELL WATER
	COMPRESSED NATURAL GAS
	HEAT RESERVOIR SUPPLY
	HEAT RESERVOIR RETURN
	DIGESTER GAS
	ACID WASTE

MATERIAL SYMBOLS IN SECTION

	ASPHALT PAVEMENT
	CAST-IN-PLACE CONCRETE
	PRECAST CONCRETE
	EXISTING CONCRETE
	GROUT
	GRAVEL
	SAND, EXCEPT 3/4" DRAIN BACKFILL WHERE INDICATED EARTH OR GRADE
	BACKFILL, GRADE WHERE INDICATED
	STEEL (DUCTILE IRON WHERE INDICATED)
	CONCRETE MASONRY UNIT
	BATT OR FILL INSULATION
	RIGID INSULATION
	ROOF INSULATION
	CONTINUOUS LUMBER
	INTERMITTENT BLOCKING
	WOOD

MATERIAL SYMBOLS IN PLAN

	CHECKED PLATE
	GRATING
	CONCRETE PAVEMENT & SIDEWALK
	ASPHALT PAVEMENT
	GRAVEL ROAD
	RIGID INSULATION
	MASONRY

ELECTRICAL

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GENERAL SYMBOLS AND DESIGNATIONS

SECTION OR DETAIL TITLE IDENTIFICATION

Section letter or detail number

Sheet from which section or detail is taken

SECTION MARKER

Section letter

Sheet on which section is drawn

DETAIL MARKER

Detail number

Sheet on which detail is drawn

OPENING DESIGNATIONS

WINDOW

DOOR

LOUVER

ELEVATION MARKER

ELEVATION NUMBER

SHEET ON WHICH ELEVATION IS DRAWN

EXIST

EMBANKMENT SLOPE

DRAINAGE FLOW

CHAIN LINK FENCE

IDENTIFICATION AND APPROXIMATE LOCATION OF SOIL TEST HOLE

POWER POLE

TELEPHONE POLE

CONCRETE BLOCKING

PROPERTY LINE

ROOM IDENTIFICATION & SLUDGE BED

CENTERLINE

TELEPHONE LINE

HANDRAIL

NORTH

FINISHED GRADE

NEW ELEVATION

EXISTING ELEVATION

POWER LINE

EXISTING CONTOURS

NEW CONTOURS

GENERAL NOTES:

- ADD 1,600 FT. TO ALL 2-DIGIT ELEVATIONS.
- ALL WORK IS NEW UNLESS INDICATED AS EXISTING.
- ALL NEW WORK IS DONE UNDER CONTRACT 1 UNLESS INDICATED BY OTHERS.

CULP AVESNER/CULP
CAMERON PARK, CALIFORNIA
SAN VA ANA, CALIFORNIA
DATE: 11/14/14

Job No. 740.11
Designed: TJB
Drawn: TJB, GWS
Checked: [Signature]
Reviewed: [Signature]

City of Las Vegas
WASTEWATER TREATMENT PLANT
Contract No. 11-1-1
Main Plant Expansion

ABBREVIATIONS & SYMBOLS

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