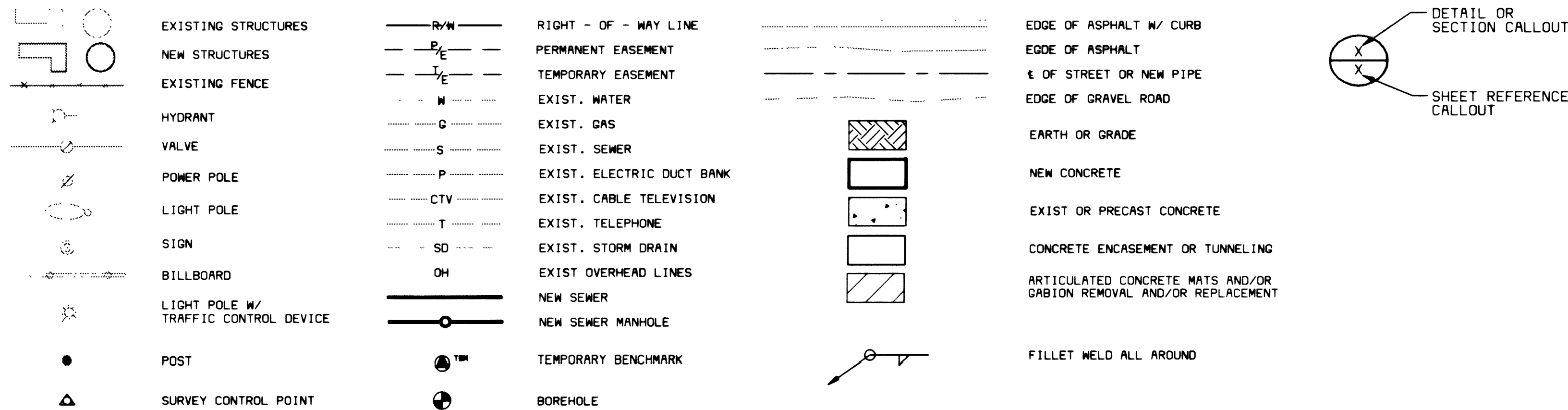


GENERAL SYMBOLS



ABBREVIATIONS

AC	ASPHALT	F&C	FRAME AND COVER	OC	ON CENTER
ACP	ADJUSTABLE	FCA	FLANGED COUPLING ADAPTOR	OD	OUTSIDE DIAMETER
ADJ	ADJUSTABLE	FRP	FIBERGLASS REINFORCED	OH	OVERHEAD
AH	ALUMINUM	FS	PLASTIC	OPNG	OPENING
ANCH	ANCHOR	FT	FAR SIDE	OPP	OPPOSITE
APPROX	APPROXIMATELY	FTG	FEET	PC	POINT OF CURVATURE
@	AT	GA	GAUGE	PCC	POINT OF COMPOUND CURVATURE
BC	BACK OF CURB	CLV	GALVANIZED	PL	PLATE
BK	BACK	GR	GLOBE VALVE	PRC	POINT OF REVERSE CURVATURE
BLOG	BUILDING	GV	GATE VALVE	PRELIM	PRELIMINARY
BM	BENCHMARK	HOPE	HIGH DENSITY	PRV	PRESSURE REDUCING VALVE
BOL	BEGINNING OF LINE	HP	HORIZONTAL	PSI	POUNDS PER SQUARE INCH
BOTT	BOTTOM	HT	HIGH PRESSURE	PT	POINT OF TANGENCY
CCFP	CENTRIFUGALLY CAST	HORIZ	HORIZONTAL	PVC	POLYVINYL CHLORIDE
CIP	CAST IRON PIPE	HP	HIGH PRESSURE	%	PERCENT
CMP	CORRUGATED METAL PIPE	HT	HEIGHT	R	RADIUS
CONC	CONCRETE	ID	INSIDE DIAMETER	RB	RADIUS BEARING
CONN	CONNECTION	INF	INFLUENT	RCB(S)	REINFORCED CONCRETE BOX(ES)
CONT	CONTINUOUS	INV	INVERT	RCP	REINFORCED CONCRETE PIPE W/T-LOCK
CPLG	COUPLING	JT	JOINT	REINF	REINFORCEMENT
CTR	CENTER	JUNC	JUNCTION	REM	REMAINING
CV	CHECK VALVE			RET	RETURN
CY	CUBIC YARD	L	LENGTH	REQ'D	REQUIRED
DET	DETAIL	LF	LINEAR FOOT	RP	RADIUS POINT
DI	DROP INLET	LG	LONG	SD	STORM DRAIN
DIA	DIAMETER	LVWD	LAS VEGAS VALLEY	SECT	SECTION
DIM	DIMENSION	L/W	LOCKING AND WATERTIGHT	SH	SHEET
DIP	DUCTILE IRON PIPE	MAINT	MAINTENANCE	SN	STIFFNESS NUMBER
DIST	DISTRIBUTION	MAT'L	MATERIAL	SQ	SQUARE
DNWS	DOWELS	MAX	MAXIMUM	SS	STAINLESS STEEL
DNLS	DOWELS	MFR	MANUFACTURER	STA	STATION
E	EAST	MH	MANHOLE	STD	STANDARD
EAC	EACH	MIN	MINIMUM	SURF	SURFACE
EF	END CURVE			THK	THICK(NESS)
EL	ELEVATION	N	NORTH	TOC	TOP OF CURB
ELEC	ELECTRICAL	NDOT	NEVADA DEPARTMENT OF	TP	TYPICAL
EOL	END OF LINE	NS	NUMBER	UG	UNDERGROUND
EQ	EQUAL	NTS	NOT TO SCALE	VAC	VACUUM
EW	EACH WAY	*	NUMBER, POUND	VERT	VERTICAL
EXIST	EXISTING			W	WATER
EXP	EXPANSION			W/	WITH
EXT	EXTERIOR				

SHEET LIST

GENERAL NOTES

COVER	LEGEND, ABBREVIATIONS, SHEET LIST, LOCATION MAP AND GENERAL NOTES
1	INDEX MAP, VICINITY MAP & SURVEY DATA
2	PLAN & PROFILE STA 0+00 TO STA 11+00
3	PLAN & PROFILE STA 11+00 TO STA 22+00
4	PLAN & PROFILE STA 22+00 TO STA 33+00
5	PLAN & PROFILE STA 33+00 TO STA 44+00
6	PLAN & PROFILE STA 44+00 TO STA 55+00
7	PLAN & PROFILE STA 55+00 TO STA 66+00
8	PLAN & PROFILE STA 66+00 TO STA 77+00
9	PLAN & PROFILE STA 77+00 TO STA 88+00
10	PLAN & PROFILE STA 88+00 TO STA 99+00
11	PLAN & PROFILE STA 99+00 TO STA 110+00
12	PLAN & PROFILE STA 110+00 TO STA 121+00
13	PLAN & PROFILE STA 121+00 TO STA 132+00
14	PLAN & PROFILE STA 132+00 TO STA 143+00
15	PLAN & PROFILE STA 143+00 TO STA 154+00
16	PLAN & PROFILE STA 154+00 TO STA 165+00
17	PLAN & PROFILE STA 165+00 TO STA 176+00
18	PLAN & PROFILE STA 176+00 TO STA 187+00
19	PLAN & PROFILE STA 187+00 TO STA 198+00
20	PLAN & PROFILE STA 198+00 TO STA 209+00
21	PLAN & PROFILE STA 209+00 TO STA 220+00
22	PLAN & PROFILE STA 220+00 TO STA 225+35.37
23	MANHOLE SCHEDULE & MANHOLE DETAILS
24	REINFORCEMENT, MANHOLE COVER & CROSS SECTIONS AND DETAILS
25	MANHOLES, TYPICAL TRENCH & ANCHOR BOLT DETAILS
26	FLOW MONITORING STATIONS, CLARK CO. CONNECTION LOCATION AND PLUGGED SEWER SCHEMATIC
27	DISCHARGE AND WETWELL DEMOLITION
28	MANHOLES #1 & 45
29	PLAN & SECTIONS
30	ARLINGTON/CHARLESTON MANHOLE #15
31	PLAN & SECTIONS
32	CCFP MANHOLE DETAILS
33	CHARLESTON BLVD MH #46, PR & DETS
34	MANHOLES #44, 47 & 50, PR & DETS
	STANDARD CONCRETE DETAILS

- THESE NOTES APPLY TO ALL SHEETS.
- ALL ITEMS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED.
- SEWER SLOPES ARE CALCULATED BASED ON DISTANCES FROM CENTER-TO-CENTER OF MANHOLES.
- INVERT ELEVATIONS SHOWN FOR MANHOLES ARE BASED ON SEWER PIPE MEASURED FROM CENTERLINE TO CENTERLINE OF MANHOLES. SEE MANHOLE SCHEDULE SH 24 FOR MANHOLE DIAMETERS.
- ALL STATIONS ARE SEWER LINE STATIONS UNLESS OTHERWISE NOTED.
- SEE SPECIFICATIONS FOR AVAILABILITY OF GEOTECHNICAL INVESTIGATION INFORMATION.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AS NECESSARY TO PERFORM WORK AS SHOWN.
- UTILITY SERVICE LATERALS ARE NOT SHOWN. CONTRACTOR SHALL ASSUME THE EXISTENCE OF AT LEAST ONE SERVICE LATERAL OF EACH UTILITY TYPE PER RESIDENCE ADJACENT TO THE PROJECT WORK AREA. CONTRACTOR SHALL, AT HIS SOLE EXPENSE, IDENTIFY AND LOCATE ALL SERVICE LATERALS WHICH MAY INTERFERE WITH HIS WORK AND TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME.
- UTILITY SERVICE SHALL BE MAINTAINED TO RESIDENCES AND BUSINESSES FOR THE DURATION OF CONSTRUCTION.

CLARK COUNTY GENERAL NOTES

- CONTRACTOR SHALL CONFORM TO THE STIPULATIONS OF THE CLARK COUNTY ENCROACHMENT PERMIT INCLUDED WITH THE SPECIFICATIONS.
- CURB AND GUTTER WITH A GRADE OF LESS THAN 4/10 OF ONE PERCENT SHALL BE CONSTRUCTED BY FORMING. EACH JOINT SHALL BE CHECKED FOR GRADE PRIOR TO CONSTRUCTION AND WATER TESTED AS SOON AS POSSIBLE AFTER CONSTRUCTION.
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR INDICATED IN THE SPECIFICATIONS, ALL OFF-SITE IMPROVEMENT CONSTRUCTION SHALL CONFORM TO THE UNIFORM STANDARD SPECIFICATIONS AND IMPROVEMENT DRAWINGS, LATEST REVISION.
- FINAL ASPHALTIC CONCRETE (AC) PAVEMENT SURFACES SHALL BE ONE-HALF INCH ABOVE THE LIP OF THE GUTTER (INCLUDING OPEN GRADE).

LAS VEGAS VALLEY WATER DISTRICT

STANDARD NOTES

- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, 48 HOUR NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO A LVVWD INSPECTION.
- ALL WORK SHALL CONFORM TO THE LVVWD'S STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS AND THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS), LATEST EDITION.
- ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2, SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
- ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
- ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
- THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT A WATER LINE AND SANITARY OR STORM SEWER LINE CROSS:
 - POTABLE WATER SUPPLY QUALITY MATERIAL.
 - ENCASEMENT, WITH FOUR (4) INCH CONCRETE (MINIMUM)
 - SLEEVING WITH POTABLE WATER SUPPLY QUALITY PIPE.
 EACH PROVISION MUST EXTEND ALONG THE SANITARY OR STORM SEWER, ON EITHER SIDE OF THE MAIN, A MINIMUM 10 FOOT DISTANCE PERPENDICULAR TO THE WATER MAIN EXTERIOR.
- WARNING TAPE SHALL BE REQUIRED OVER ALL MAINS, ALL SIX (6) INCH DIAMETER AND LARGER SERVICE LATERALS, AND ANY SERVICE LATERAL NOT INSTALLED PERPENDICULAR TO THE MAIN IN ACCORDANCE WITH STANDARD PLATE NO. 27.
- ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD'S DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PICKUP.
- CONSTRUCTION MAY INTERRUPT SERVICE, WITH LVVWD APPROVAL AND PROPER NOTIFICATION, BETWEEN THE HOURS OF 10 PM AND 6 AM, SUNDAY THROUGH THURSDAY. CIRCUMSTANCES MAY REQUIRE TEMPORARY SERVICE FEEDS BE INSTALLED, WITHOUT LVVWD REIMBURSEMENT. ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVVWD APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD'S PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

APPROVED FOR CONSTRUCTION ESN 018
 SANDHILL RELIEF SEWER
 1ST APPROVAL 11-20-97
 Jimmy P. Kordwina 2/3/98
 LAS VEGAS VALLEY WATER DISTRICT DATE

LOCATION MAP

NO SCALE

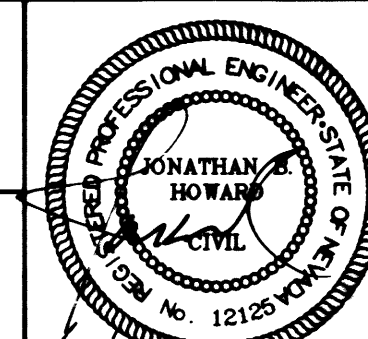
CITY OF LAS VEGAS

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LVVWD SPECIFICATIONS AND THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA" LATEST ISSUE, AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY, THE UNIFORM BUILDING CODE, AND ALL LOCAL CITY AND COUNTY CODES AND ORDINANCES APPLICABLE.
- THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO THE SAME.
- THE CONTRACTOR SHALL IMPLEMENT, AT HIS SOLE EXPENSE, APPROPRIATE MEASURES AS NECESSARY TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT DURING PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL IMPLEMENT, AT HIS SOLE EXPENSE, ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING CONDUCT OF WORK IN THE VICINITY OF UNDERGROUND AND OVERHEAD POWER, UNDERGROUND GAS, AND SIMILAR UTILITIES.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE AND ALL SUCH UTILITIES, IMPROVEMENTS, OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER OR OWNING UTILITY COMPANY AT THE SOLE EXPENSE OF THE CONTRACTOR.
- PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH NRS STATUTE NO 625.550.

CITY OF LAS VEGAS
 DEPARTMENT OF PUBLIC WORKS
 SANDHILL RELIEF SEWER

LEGEND, ABBREVIATIONS, SHEET LIST,
 LOCATION MAP & GENERAL NOTES



DRAWING

307-V758

SHEET
 OF 34

BID DOCUMENT
 PRINTED FEBRUARY 20, 1998

DESIGNED SBH/DBH
 DETAILLED JWL/PAT
 CHECKED RHS
 APPROVED [Signature]
 DATE 2-23-98

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PROJECT NO.
 77949