

| DRAWING LIST | | |
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CITY OF LAS VEGAS SEWER NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CITY ENGINEER.
- CHISEL "S" OR "G" OR "W" IN CURBS WHERE SEWER OR GAS OR WATER LATERALS PASS UNDER THE CURB.
- POLYVINYL CHLORIDE (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II AGGREGATE BASE.
- ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT ROW AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT ROW WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE "Y" OR "S" SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
- WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
- ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA CLASS "A" CONTRACTORS.
- THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR MOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
- INSTALLATION OF CURVED SEWER REQUIRES THE USE OF C-900 PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

DEVIATIONS FROM STANDARDS

THERE ARE NO DEVIATIONS FROM APPLICABLE CITY OF LAS VEGAS STANDARDS, UNLESS STATED IN THE SPECIFICATIONS.

CITY OF LAS VEGAS GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA," LATEST EDITION; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA," LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENTS STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS."
- THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. 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 SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
- 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 IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
- ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
- TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.
- PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
- EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.
- AC PAVEMENT TO BE ONE-HALF INCH (1/2") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
- CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
- SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF TRANSITIONS TO BE AS SHOWN ON PLANS.
- ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY THE SOILS ENGINEER APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
- EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATION.
- 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 N.R.S. NO. 625.550.
- UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.
- WALL NOTES: ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.
- ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
- CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
- MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.

CITY OF LAS VEGAS TRAFFIC NOTES

- ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," LATEST EDITION.
- THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
- BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
- WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCLOSED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD." THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
- IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
- WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5) FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
- ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HEREUNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
- STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO ENSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET-UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHTS OF WAY.
- WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
- GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE NO: 229-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET UP BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
- ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.

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| AC | ASPHALTIC CONCRETE |
| ACP | ASBESTOS CEMENT PIPE |
| ADDL | ADDITIONAL |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE |
| APN | ASSESSOR PARCEL NUMBER |
| APPROX | APPROXIMATE |
| APVVD | APPROVED |
| ASPH | ASPHALT |
| ASSY | ASSEMBLY |
| ASTM | AMERICAN SOCIETY OF TESTING MATERIALS |
| AV | AIR VENT/AIR VALVE |
| AVAR | AIR VACUUM AIR RELEASE VALVE |
| AWG | AMERICAN WIRE GAUGE |
| AWWA | AMERICAN WATER WORKS ASSOCIATION |
| BFV | BUTTERFLY VALVE |
| BLVD | BOULEVARD |
| BM | BENCHMARK |
| BOC | BACK OF CURB |
| BOT | BOTTOM |
| BPV | BACK PRESSURE VALVE |
| BRG | BEARING |
| BUR | BURIED |
| C | CONDUIT |
| C&G | CURB & GUTTER |
| CAV | COMBINATION AIR VALVE |
| CCUSD | CLARK COUNTY UNIFORM STANDARD DRAWINGS |
| CIP | CAST IRON PIPE/CAST IN PLACE |
| CL OR C | CENTERLINE |
| CLR | CLEAR |
| CLSM | CONTROLLED LOW STRENGTH MATERIAL |
| CLV | CITY OF LAS VEGAS |
| CMP | CORRUGATED METAL PIPE |
| CMU | CONCRETE MASONRY UNIT |
| CNLV | CITY OF NORTH LAS VEGAS |
| COH | CITY OF HENDERSON |
| CONC | CONCRETE |
| CONT | CONTINUE OR CONTINUOUS |
| CPVC | CHLORINATED POLYVINYL CHLORIDE PIPE |
| CTV | CABLE TELEVISION |
| CU | CUBIC/COPPER |
| CV | CONTROL VALVE |
| D OR Δ | DELTA ANGLE |
| D/W | DRIVEWAY |
| DEMO | DEMOLITION |
| DET | DETAIL |
| DI | DROP INLET OR DUCTILE IRON |
| DIA OR Ø | DIAMETER |
| DIAG | DIAGONAL |
| DIM | DIMENSION |
| DIP | DUCTILE IRON PIPE |
| DISCH | DISCHARGE |
| DISTR | DISTRIBUTION |
| DR | DRIVE |
| DWG | DRAWING |
| E TRANS | ELECTRICAL TRANSFORMER |
| EA | EACH |
| EC | EPOXY COATED/END OF CURB |
| ECC | ECCENTRIC |
| ELEC | ELECTRICAL |
| ELEV | ELEVATION |
| ELV | ELECTRICAL MANHOLE |
| ELL | ELBOW |
| ENGR | ENGINEER |
| EOP | EDGE OF PAVEMENT |
| EOS | EDGE OF SHOULDER |
| EST | ESTIMATE |
| EXIST | EXISTING |
| FG | FINISHED GRADE |
| FH | FIRE HYDRANT |
| FIG | FIGURE |
| FL OR E | FLOW LINE |
| FLG | FLANGE |
| FO | FIBER OPTIC |
| FRP | FIRE RETARDANT POLYESTER RESIN/ FIBERGLASS REINFORCED POLYMER |
| G | GAS |
| GA | GAGE |
| GALV | GALVANIZED |
| GBV | GRADE BREAK |
| GND | GROUND |
| GRD | GRADE |
| GV | GATE VALVE |
| HB | HOSE BIBB |
| HD | HEAD |
| HDR | HEADER |
| HMWPE | HIGH MOLECULAR WEIGHT POLYETHYLENE |
| HORIZ | HORIZONTAL |
| HP | HORSEPOWER |
| HPI | HORIZONTAL POINT OF INTERSECTION |
| HPG | HIGH PRESSURE GAS |
| HV | HOSE VALVE |
| HWY | HIGHWAY |
| ID | INSIDE DIAMETER |
| INT | INTERIOR |
| INV | INVERT |
| LF | LINEAR FOOT |
| LN | LANE |
| LT | LEFT/LIGHT |
| LVVWD | LAS VEGAS VALLEY WATER DISTRICT |
| MATL | MATERIAL |
| MAX | MAXIMUM |
| MC | MORTAR COATED |
| MEAS | MEASUREMENT |
| MECH | MECHANICAL |
| MFR | MANUFACTURER |
| MG | MILLION GALLONS |
| MGD | MILLION GALLONS PER DAY |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MJ | MECHANICAL JOINT |
| MKR | MARKER |
| MLCP | MORTAR LINED & COATED PIPE |
| MLTC | MORTAR LINED AND TAPE COATED PIPE |
| MON | MONUMENT |
| MOV | MOTOR OPERATED VALVE |
| MPT | MALE PIPE THREAD |
| MSD | MAIN SERVICE DISTRIBUTION |
| MDS | MATERIAL SAFETY DATA SHEET |
| MTD | MOUNTED |
| N/A | NOT APPLICABLE |
| NoOCL | SODIUM HYPOCHLORITE |
| NAV/D | NORTH AMERICAN VERTICAL DATUM |
| NCS | NEVADA COORDINATE SYSTEM |
| NDOT | NEVADA DEPARTMENT OF TRANSPORTATION |
| NF | NORTH FACE |
| NFFA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NG | NATURAL GROUND |
| NIC | NOT IN CONTRACT |
| NIP | NOT IN PROJECT |
| NOM | NOMINAL |
| NOSHA | NEVADA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| NPC | NEVADA POWER COMPANY |
| NPS | NOMINAL PIPE SIZE |
| NTS | NOT TO SCALE |
| O/O | OUT TO OUT |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| ODF | OUTSIDE FACE |
| OHP | OVER HEAD POWER |
| OHTEL | OVER HEAD TELEPHONE |
| OPER | OPERATOR |
| OPNG | OPENING |
| OPP | OPPOSITE |
| ORF | ORIFICE |
| ORIG | ORIGINAL |
| OS&Y | OUTSIDE SCREW & YOKE |
| OSHA | OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| P | POLE/PRESSURE/PIPE/POWER |
| P/L / E | PROPERTY LINE |
| PAVMT | PAVEMENT |
| PB | PULL BOX |
| PC | PRESSURE CLASS |
| PCCP | PRESTRESSED CONCRETE CYLINDER PIPE |
| PDL | PUMP DISCHARGE LINE |
| PE | PLAIN END/POLYETHYLENE PIPE |
| PG | PRESSURE GAGE |
| PH | PHASE |
| PI | POINT OF INTERSECTION |
| PHYD | POST HYDRANT |
| PL | PLACE/PLATE/PARCEL LINE |
| PLS | PROFESSIONAL LAND SURVEYOR |
| POB | POINT OF BEGINNING |
| POE | POINT OF END |
| POLY | POLYETHYLENE |
| PP | POWER POLE |
| PRC | PRECAST REINFORCED CONCRETE |
| PRELIM | PRELIMINARY |
| PROP | PROPOSED |
| PRV | PRESSURE REGULATING VALVE |
| PS | PRESSURE SWITCH/PUMP STATION |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PT | POINT/POINT OF TANGENCY |
| PV | PLUG VALVE |
| PVC | POLYVINYL CHLORIDE PIPE |
| QS | QUAD SHEET |
| QTR | QUARTER |
| QTY | QUANTITY |
| R | RADIUS |
| RCB | REINFORCED CONCRETE BOX |
| RCP | REINFORCED CONCRETE PIPE |
| RD | ROAD |
| REC | RECESSED |
| RECT | RECTANGULAR |
| RED | REDUCER |
| REF | REFERENCE (DIMENSION) |
| REG | REGULATING (REGULATOR) |
| REINF | REINFORCED (REBAR) |
| REQD | REQUIRED |
| REV | REVISION OR REVERSE |
| RF | RAISED FACE |
| RME | RESIDENTIAL MAIN EXTENSION |
| R/W | RIGHT-OF-WAY (ROW) |
| RPM | REVOLUTIONS PER MINUTE |
| RPS | REVOLUTIONS PER SECOND |
| RT | RIGHT/RING TITE |
| RV | RELIEF VALVE |
| SA | SAMPLE LINE |
| SC | SAW CUT |
| SCCP | STEEL CYLINDER CONCRETE PIPE |
| SCH | SCHEDULE |
| SD | STORM DRAIN |
| SEC | SECTION/SECOND(ARY) |
| SHLDR | SHOULDER |
| SHT | SHEET |
| SIG | SIGNAL |
| SIM | SIMILAR |
| SL | SLOPE |
| SLV | SLEEVE |
| SMH | SEWER MANHOLE |
| SNVA | SOUTHERN NEVADA WATER AUTHORITY |
| SNWS | SOUTHERN NEVADA WATER SYSTEM |
| SO | STUBOUT |
| SPC | STATE PLANE COORDINATES |
| SPEC(S) | SPECIFICATION(S) |
| SQ | SQUARE |
| SQ FT | SQUARE FOOT (FEET) |
| SR | SAMPLE RETURN |
| SS | SANITARY SEWER |
| ST | STREET |
| STA | STATION |
| STD | STANDARD |
| STIR | STRIP |
| STL | STEEL |
| STLT | STREET LIGHT |
| SSTL | STAINLESS STEEL |
| SV | SOLENOID VALVE |
| SW | SIDEWALK |
| SWG | SOUTHWEST GAS |
| SYM | SYMBOL |
| SYMM | SYMMETRICAL |
| SYS | SYSTEM |
| T&B | TOP & BOTTOM |
| TAN | TANGENT |
| TBE | THREAD BOTH ENDS |
| TBM | TEMPORARY BENCH MARK |
| TC | TOP OF CURB |
| TD | TRENCH DRAIN |
| TDH | TOTAL DYNAMIC HEAD |
| TELMH | TELEPHONE MANHOLE |
| OPER | OPERATOR |
| THK | THICK(NESS) |
| THR BLK | THRUST BLOCK |
| THRD | THREADED |
| TMH | TOP OF MANHOLE |
| TOE | THREAD ONE END |
| TOF | TOP OF FOOTING |
| TOGR | TOP OF GRATE |
| TOP | TOP OF PIPE |
| TOR | TOP OF RIM |
| TOS | TOP OF SLAB |
| TOSW | TOP OF SIDEWALK |
| TOW | TOP OF WALL |
| TP | TELEPHONE POLE/TOP OF PIPE |
| (TYP) | TYPICAL |
| UDACS | UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS, CLARK COUNTY, NV |
| UE | UNDERGROUND ELECTRIC |
| UFC | UNIFORM FIRE CODE |
| UG | UNDERGROUND |
| UGC | UNDERGROUND CONDUIT |
| UGP | UNDERGROUND POWER |
| UGTEL | UNDERGROUND TELEPHONE |
| UNO | UNLESS NOTED OTHERWISE |
| UPC | UNIFORM PLUMBING CODE |
| USGS | UNITED STATES GEODETIC SURVEY |
| UTIL | UTILITIES |
| VAC | VACUUM |
| VAR | VARIABLE |
| VB | VALVE BOX |
| VCP | VITRIFIED CLAY PIPE |
| VERT | VERTICAL |
| VG | VALLEY GUTTER |
| VPI | VERTICAL POINT OF INTERSECTION |
| VT | VENT |
| W | WEST/WATER |
| WF | WIDE FLANGE |
| WI | WROUGHT IRON |
| WM | WATER METER |
| WSP | WELDED STEEL PIPE |
| WSTP | WATER STOP |
| WT | WEIGHT |
| WV | WATER VALVE |

ABBREVIATIONS

| | |
|---------|--|
| LF | LINEAR FOOT |
| LN | LANE |
| LT | LEFT/LIGHT |
| LVVWD | LAS VEGAS VALLEY WATER DISTRICT |
| MATL | MATERIAL |
| MAX | MAXIMUM |
| MC | MORTAR COATED |
| MEAS | MEASUREMENT |
| MECH | MECHANICAL |
| MFR | MANUFACTURER |
| MG | MILLION GALLONS |
| MGD | MILLION GALLONS PER DAY |
| MH | MANHOLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MJ | MECHANICAL JOINT |
| MKR | MARKER |
| MLCP | MORTAR LINED & COATED PIPE |
| MLTC | MORTAR LINED AND TAPE COATED PIPE |
| MON | MONUMENT |
| MOV | MOTOR OPERATED VALVE |
| MPT | MALE PIPE THREAD |
| MSD | MAIN SERVICE DISTRIBUTION |
| MDS | MATERIAL SAFETY DATA SHEET |
| MTD | MOUNTED |
| N/A | NOT APPLICABLE |
| NoOCL | SODIUM HYPOCHLORITE |
| NAV/D | NORTH AMERICAN VERTICAL DATUM |
| NCS | NEVADA COORDINATE SYSTEM |
| NDOT | NEVADA DEPARTMENT OF TRANSPORTATION |
| NF | NORTH FACE |
| NFFA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NG | NATURAL GROUND |
| NIC | NOT IN CONTRACT |
| NIP | NOT IN PROJECT |
| NOM | NOMINAL |
| NOSHA | NEVADA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| NPC | NEVADA POWER COMPANY |
| NPS | NOMINAL PIPE SIZE |
| NTS | NOT TO SCALE |
| O/O | OUT TO OUT |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| ODF | OUTSIDE FACE |
| OHP | OVER HEAD POWER |
| OHTEL | OVER HEAD TELEPHONE |
| OPER | OPERATOR |
| OPNG | OPENING |
| OPP | OPPOSITE |
| ORF | ORIFICE |
| ORIG | ORIGINAL |
| OS&Y | OUTSIDE SCREW & YOKE |
| OSHA | OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| P | POLE/PRESSURE/PIPE/POWER |
| P/L / E | PROPERTY LINE |
| PAVMT | PAVEMENT |
| PB | PULL BOX |
| PC | PRESSURE CLASS |
| PCCP | PRESTRESSED CONCRETE CYLINDER PIPE |
| PDL | PUMP DISCHARGE LINE |
| PE | PLAIN END/POLYETHYLENE PIPE |
| PG | PRESSURE GAGE |
| PH | PHASE |
| PI | POINT OF INTERSECTION |
| PHYD | POST HYDRANT |
| PL | PLACE/PLATE/PARCEL LINE |
| PLS | PROFESSIONAL LAND SURVEYOR |
| POB | POINT OF BEGINNING |
| POE | POINT OF END |
| POLY | POLYETHYLENE |
| PP | POWER POLE |
| PRC | PRECAST REINFORCED CONCRETE |
| PRELIM | PRELIMINARY |
| PROP | PROPOSED |
| PRV | PRESSURE REGULATING VALVE |
| PS | PRESSURE SWITCH/PUMP STATION |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PT | POINT/POINT OF TANGENCY |
| PV | PLUG VALVE |
| PVC | POLYVINYL CHLORIDE PIPE |
| QS | QUAD SHEET |
| QTR | QUARTER |
| QTY | QUANTITY |
| R | RADIUS |
| RCB | REINFORCED CONCRETE BOX |
| RCP | REINFOR |