

AC	ASPHALTIC CONCRETE PAVEMENT
BSW	BACK OF SIDEWALK
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BVC	BEGIN VERTICAL CURVE
CATV	UNDERGROUND CABLE TV
CG	CURB & GUTTER
CONST	CONSTRUCTION
DI	DROP INLET
EG	EXISTING GROUND
ELEC	UNDERGROUND POWER
EOP	EDGE OF EXISTING PAVEMENT
EVC	END VERTICAL CURVE
EX OR EXIST	EXISTING
FC	FACE OF CURB
FG	FINISHED GRADE
FI	FIRE HYDRANT
FL	FLOW LINE
G	GAS
GB	GRADE BREAK
GRND	GROUND
GWA	GUY WIRE ANCHOR
INV	INVERT
LOC	LENGTH OF CURVE
MH	MANHOLE
OHP	OVERHEAD POWER
PAVT	PAVEMENT
PB	PULL BOX
PCC	POINT OF COMPOUND CURVE OR PORTLAND CEMENT CONCRETE
PI	POINT OF INTERSECTION
PR	POINT OF REVERSE CURVE
PVC	POINT OF CURVATURE OF VERTICAL CURVE
PVI	POINT OF INTERSECTION OF VERTICAL CURVE
PVT	POINT OF TANGENCY OF VERTICAL CURVE
R	RADIUS OR RADIAL
RCB	REINFORCED CONCRETE BOX
SD	STORM DRAIN
S	SEWER OR SLOPE
SMH	SEWER MANHOLE
SPECS	SPECIFICATIONS
STA	STATION
SW	SIDEWALK
TBC	TOP BACK OF CURB
TC	TOP OF CURB
TEL	UNDERGROUND TELEPHONE
TG	TOP OF GRATE
TMH	TOP OF MANHOLE
TOC	TOP OF CUT
TOV	TOP OF VAULT SLAB
TRW	TOP OF RETAINING WALL
TV	UNDERGROUND CABLE TV
TW	TOP OF WALL
UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS
USD	UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA
VC	VERTICAL CURVE
VG	VALLEY GUTTER
WV	WATER VALVE

1. 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 issue; the "Uniform Standard Drawings for Public Works Construction, Clark County area Nevada", latest revised edition; the Nevada Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition; "Summerlin Improvements Issued" for work in the Summerlin area; and other applicable approved standards issued by the controlling authority of the Uniform Building Code, and all local city codes and ordinances applicable, except as noted on this sheet as "Deviations from Standards".
2. 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 utilities not shown or not to be shown on the plans. The Contractor shall, at his own expense, locate all underground and overhead interference 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.
3. The Contractor shall take all precautionary measures necessary to protect existing utility lines, structures and street improvements which are to remain in place and all structures and all structures 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.
4. All construction shall be as shown on these plans, any revisions shall have the prior written approval of the City Engineer.
5. Type V cement shall be used in all concrete work. Concrete to be 4500 P.S.I. minimum @ 28 days. Mix designs to be approved by the City, prior to the use on the project. Concrete to have a water cement ratio of 0.50 or less.
6. Permits are required for any work in the public Right-of-way. The Contractor shall secure all permits and inspections required for this construction.
7. Expansion joints required, maximum every 300' in extruded-type curb.
8. AC pavement to be one-half inch ($\frac{1}{2}$ ") above lip of all gutters after compaction, except at sidewalk ramps and cross gutters.
9. Curb and gutter found to be unacceptable to the City of Las Vegas shall be removed and replaced per standard drawing 216.
10. 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.
11. 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.
12. All grading work shall conform to the Technical Specifications Section 02050. Contractor to review Geotechnical Investigation Report prepared by Lowmyer Associates Report No. 2089-3 Dated: July 7, 2005.
13. Exact location of all swout 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 relocations.
14. 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. Statute No. 625.550.
15. 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:

16. All walls, new or existing, are only shown on civil plans for the purpose of recording grading relationships; Road control and sight distance at intersections. New walls require a separate permit and inspection by the Building Department.
17. Asphalt mix design must be submitted and approved by the City Engineer prior to the placement of Asphalt within City Right of Way.
18. 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.
19. Materials, handling and placement of Portland Cement Concrete shall be in accordance with the provisions of Section 02001 of the Clark County Area Specifications (as applicable) and the plans and details shown hereon.

1. No work shall begin until the water plans have been approved for construction by the LVVWD. Following water plan approval, notice shall be given to the LVVWD Communication Support Center (258-7171) two (2) working days prior to the start of construction. For future inspections, notice must be given by 2:00 p.m. the business day prior to the requested LVVWD inspection. When requesting inspections, please refer to the project # identified above.
2. All work shall conform the LVVWD Standard Plans, Drawings, and Specifications, and to the 2003 Edition of Uniform Design and Construction Standards for Potable Water Systems (UDACS).
3. 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.
4. A single pipe material shall be used throughout the project unless otherwise approved by the LVVWD.
5. All service laterals two (2) inches in diameter and smaller shall be Type K copper tubing with LVVWD approved service saddles.
6. All water meter boxes shall be located outside of driveway areas.
7. All valves shall be located outside of driveways, valley and curb gutters.
8. All water and storm drain or sanitary sewer crossings shall conform to Section 2.19 of the 2003 Edition of the UDACS.
9. All water facilities shall be filled, disinfected, pressure tested, flushed, filled, and acceptable water sample obtained, prior to connection to the LVVWD distribution system.
10. The contractor must obtain all meters two (2) inches and smaller from LVVWD. Central Stores. Telephone 258-3152 or 258-3802, two (2) working days prior to meter pickup.
11. Any interruption of service must be approved by the LVVWD Inspection Division prior to shutdown. Written notification must be given to all affected customers.
12. All water facility construction materials used must be as listed on the LVVWD Pre-Approved Materials and Manufacturer's Listing for new facilities, latest revision, or specifically approved on these plans.
13. Telephone "Call Before You Dig" at 1-800-227-2600.

LAS VEGAS VALLEY WATER DISTRICT
DATE
PROJECT # H-104702

1. All work shall be done in strict accordance with the City of Las Vegas Fire Department's Ordinance No. 5667, "Hydrant Specifications," and "Hydrant Installation Specification".
2. Authorized hydrants for this project are:
 - A. Kennedy – Guardian models K81A and K81D
 - B. Mueller – Super Centurion 250 Model A-423
 - C. Clow – Medallion model F-2546LV
 - D. Troy Valve – Patriot model 178100N Nevada Hydrant
 - E. U.S. Pipe – Metroflow/W-03
3. On any residential or commercial installations fire hydrants shall be installed and fire apparatus access roads shall be maintained before commencement of any combustible constructions. All fire hydrants shall be in good working order and shall be capable of delivering the required fire flow.
4. To identify the fire hydrant locations, contractor shall place a blue reflective marker at the center line of street adjacent to the fire hydrants as required by Ordinance No. 5667.
5. All underground inspections, pressure and flush verifications of all fire hydrants and fire lines, shall be conducted before covering the lines. Call the City of Las Vegas Inspection Hot-line at 229-2071 to request an inspection by the City of Las Vegas Fire Department.
6. Painting of the curbs and fire hydrants and all other work necessary as required Ordinance No. 5667, for the protection of fire hydrants from physical damage, shall be completed before approval by the City of Las Vegas Fire Department.
7. A permit is required from the City of Las Vegas Fire Department for on-site water lines and fire hydrants. The permit and contractor's material and test certificate for underground piping form shall be obtained from the Fire Protection Engineer before commencement of work.
8. Private fire hydrants shall be painted red.
9. Prior to final occupancy, a flow test must be witnessed by the City of Las Vegas Fire Department to certify the availability of the required fire flow.
10. All on-site underground water mains and materials shall be U.L. listed, A.W.W.A. approved, and shall be rated for the appropriate working pressure.
11. Fire hydrants spacing shall be:
Residential – 500 feet unspinkered; 600 feet sprinklered.
Commercial – 300 feet unspinkered; 400 feet sprinklered.
12. Where new water mains are extended along streets or new streets are installed, fire hydrants are required for protection of the structures, fire hydrants shall be installed at maximum 1,000 foot spacing, to provide for transportation hazards. Where streets are provided with median dividers or have four or more traffic lanes and have a design traffic volume of less than 30,000 per day, hydrants are required on each side of the street spaced at 500 feet on an alternating basis.
13. No fire hydrants shall be located within the required radius of a cul-de-sac or within 20 feet of the perimeter of the radius of the cul-de-sac.
14. No fire hydrants shall be located within 8 feet of any curb return, driveway, power pole, streetlight or any other obstruction.
15. The maximum distance from a fire hydrant to a one-to-two family dwelling shall not exceed 300 feet, as measured by an approved route.
16. The maximum distance from a fire hydrant to a Fire Department Connection (FDC) shall not exceed 100 feet, as measured by an approved route.
17. The maximum distance from a fire hydrant to the end of a dead-end street shall not exceed 200 feet.
18. Two sources of supply are required whenever there are 4 or more fire hydrants/sprinkler lead-ins are installed on a single system. Sectional control valves shall be installed so that the flow of two fire hydrants can be out of service due to a break in a water main.
19. All fire apparatus access roads shall be paved to provide all-weather driving capabilities, and shall be designed and maintained to support the imposed loads of the fire apparatus.
20. The gradient for a fire apparatus access road shall not exceed 12%. Angles of approach and angles of departure shall not exceed 6% for 25 feet prior to or after the grade change. Adjacent to the structures gradient shall not exceed 6%.
21. The turning radius of a fire apparatus access road shall be no less than 52 feet vertical and 28 feet inside turning radius.
22. Outside clearance of all fire apparatus access roads shall be not less than 13 feet 6 inches.
23. Fire department access roads in residential developments (except for the apartment buildings) shall have a minimum unobstructed width of not less than 36 feet flow line to the flow line (this width may be reduced to 24 feet, if all buildings front the street, and the street is at least 24 feet wide if the building is sprinklered, on both sides of the street. Private drive aisles, driveways, etc. shall be allowed to be reduced to minimum width of 24 feet wide flow line to flow line when serving no more than 6 residences, and when on street parking is disallowed.
24. All fire apparatus access roads in commercial developments and apartment complexes shall have a minimum unobstructed width of not less than 24 (flow line to the flow line), provided no parking is allowed on either side: 32 feet (flow line to flow line), if parallel parking is allowed on one side only, and 40 feet (flow line to the flow line) if parallel parking is allowed on both sides. These widths may be reduced by 4 feet if all buildings are sprinklered.
25. A fire department access road shall extend to within 50 feet of a single exterior door providing access to the interior of the building.
26. A fire apparatus access road shall be required when any portion of an exterior wall of the first story is located more than 150 feet from a fire department vehicle access. This distance shall be reduced to 100 feet if the building is sprinklered.
27. Approved secondary fire apparatus access shall be provided for 100 or more dwellings units, road(s) with dead-ends or with a single point of access in excess of 600 feet, and for all commercial, industrial, and multi-family residential developments.
28. All dead-end fire apparatus access roads and fire lines, public or private, in excess of 150 feet in length shall be provided with an approved turn around area having a minimum diameter of 81 feet.
29. All fire apparatus access roads shall be marked by placing approved signs at the start of the designated fire line, one sign at the end of the fire line, and with signs at intervals 100 feet along all designated fire lines. Signs to be placed on both sides of an access roadway if needed to prevent parking on either side. Signs to be installed at higher elevations than 24 feet if the building is sprinklered level. The curbs along or on the pavement or cement if curb is not provided shall be painted with a red weather resistant paint in addition to the signs.
30. Electrically controlled access gates shall be provided with an approved emergency vehicle detector/receiver system. Said system shall be installed in accordance with the City of Las Vegas guidelines for Automatic Emergency Vehicle Access Gates.

1. All street lighting installations shall be in accordance with the street lighting plans, the "Uniform Standard Specifications for Public Works Construction Off-Site Improvements, Clark County Area, Nevada", Latest Revision, and the "Uniform Standard Drawings for Public Works Construction Off-Site Improvements, Clark County Area, Nevada", Latest Revision.
2. No deviation of street light, pull box, conduits (etc.) locations shall be permitted without written approval of the Traffic/Electrical Field Operations Division and the City Engineer. Any deviation from the plan location will require compliance with Section 22.3.0.3 (e) of the Ordinance.
3. All existing street lighting shall remain operational during construction.
4. All empty conduit shall have pull strings installed prior to final inspection.
5. Any structure such as block walls, chain link fences, retaining walls, etc., shall leave a minimum clearance of eighteen inches (18") to the face of each street lighting pole on all sides when streetlight is installed behind sidewalk, and shall at no time completely enclose the street lighting pole.
6. As-built drawings shall be supplied to the Electrical Services Section prior to any as-found inspection. The as-built drawing needs to be stamped as-built and signed by the preparer.
7. Service point shall be coordinated with Nevada Power Company, and wherever possible, be located near the center of the circuit. Service points shall be shown on all plans.
8. It shall be assumed that in the absence of an existing, workable circuit to attach to, all installations shall require a new service for operation of the circuit.
9. Wherever there is an overhead utility that may conflict with the installation of street lighting circuits and/or poles, these conflicts must be resolved between the developer and the utilities involved before streetlight bases are installed at any time in the City of Las Vegas.
10. The Contractor shall furnish complete service to transformers and control systems if required on plans.

1. All construction signing, barricading, and traffic delineation shall conform to the "Nevada Work Zone Traffic Control Handbook", Latest Edition, and to the "Manual on Uniform Traffic Control Devices", Latest Edition.
2. The Street Sign Contractor shall obtain street names and block numbering from the Planning Department prior to construction.
3. 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 without warranted immediate removal. First grading work is accomplished, and shall maintain said signs until permanent signs are installed.
4. When a designated "Safe Route To School" is encroached upon by a construction work zone and Public Works Staff identifies a need for students to be assisted in the safe crossing through the 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.
5. If the improvements necessitate the obliteration, temporary obstruction, temporary removal or relocation of any existing traffic pavement marking, such as pavement markings shall be replaced with like materials to the satisfaction of the City Traffic Engineer.
6. 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.
7. 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.
8. All permanent traffic control devices called for herein shall be in place and in final position prior to allowing any public traffic onto the portions of the road(s) to be improved and prior to the resurfacing, the completion of paving or other off-site improvements called for by these plans.
9. Street signs and stop signs shall be installed per City Standard Specifications for placement of street name signs.
10. The Contractor shall provide barricades, signs, flashers, other equipment and flag persons necessary to insure the safety of workers and visitors.
11. 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.
12. The Contractor shall be responsible for notifying Citizens Area Transit (C.A.T.) if construction interrupts or relocates a bus stop or causes an adverse effect on bus service on that street to arrange for temporary relocation of stop.
13. 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 the City and will be paid by the Contractor. The Contractor is responsible for all arrangements with Metro.
14. Any work within a signalized intersection will be night work, unless directed by the City of Las Vegas Traffic Engineer.

DEVIATION FROM THE USD NO. 222a. THE DRIVEWAY RADIUS
(STA 12+60.80, 29.93' LT) HAS BEEN MINIMIZED TO 15 FEET DUE TO
EGRESS ONLY DESIGN.

	CONTROL LINE
	CENTERLINE
	EASEMENT LINE
	RIGHT-OF-WAY LINE OR PROPERTY LINE
	GRADE BREAK
	EXISTING UNDERGROUND TELEPHONE CABLE
	EXISTING OVERHEAD TELEPHONE CABLE
	EXISTING SANITARY SEWER LINE
	EXISTING WATER LINE
	EXISTING STORM DRAIN LINE
	EXISTING UNDERGROUND POWER LINE
	EXISTING OVERHEAD POWER LINE
	EXISTING GAS LINE
	EXISTING CONTOUR (CONTOUR INTERVAL 1')
	EXISTING CURB & GUTTER
	EXISTING MANHOLE OR VAULT
	EXISTING STORM DRAIN INLET
	EXISTING FIRE HYDRANT
	PROPOSED FIRE HYDRANT—PRIVATE
	PROPOSED STREET SIGN
	PROPOSED STREET LIGHT
	PROPOSED POWER OR TELEPHONE POLE
	EXISTING POWER OR TELEPHONE POLE
	DESIGN ELEVATION
	EXISTING ELEVATION
	EXISTING STREET LIGHT
	EXISTING WATER METER
	EXISTING STREET SIGN
	CURVE NUMBER SYMBOL
	LINE NUMBER SYMBOL
	PROPOSED ASPHALT SAWCUT LINE

Description	Off-site Quantity	On-site Quantity	Per
CONCRETE PAVEMENT 6"	0	4430	s y
TYPICAL AGG. BASE	83	598	c y
24" 1" TYPE CURB & GUTTER	0	470	lf
12" TYPE CURB	0	1251	lf
4" CONC. SIDEWALK	0	4181	s f
SINGLE LIGHT SINGLE (INCL. FOUNDATION)	0	9	ea
SINGLE LIGHT DOUBLE (INCL. FOUNDATION)	0	2	ea
1 1/4" STREET LIGHT CONDUIT WITH WIRE	0	400	lf
3/4" CONDUIT WITH WIRE	0	112	lf
1" CONDUIT WITH WIRE	0	0	lf
2" CONDUIT WITH WIRE	0	60	lf
3" CONDUIT WITH WIRE	150	120	lf
#6 PULL BOX	2	1	ea
8" WATER MAIN	24	362	lf
1" WATER SERVICE	23	70	lf
2" WATER SERVICE	17	0	lf
3" WATER SERVICE	0	342	lf
1" METER WITH RPRA	1	0	ea
2" METER WITH RPRA	1	0	ea
FIRE HYDRANT ASSEMBLY	0	1	ea
8" DCA	0	1	ea
6"X6" 45 DEG. WYE	0	1	ea
6"X4" 45 DEG. WYE	0	1	ea
6" SEWER LINE	0	149	lf
6"X4" SEWER ECCENTRIC REDUCER	0	1	ea
6" SEWER CLEANOUT	0	1	ea
4" SEWER LINE	0	197	lf
4" SEWER CLEANOUT	0	4	ea
SAND/OL. SEPARATOR	0	1	ea
8" CONCRETE CROSS GUTTER	2502	0	s f
EMERGENCY FLASHER	5	0	ea
STREET/STOP SIGNS	7	10	ea
PAVEMENT MARKINGS	120	975	lf
BUMPER BLOCKS	0	4	ea
ROUGH GRADING	0	23174	c y
TRASH ENCLOSURE WALL	0	33	lf
GENERATOR ENCLOSURE WALL	0	53	lf
4" RETAINING WALL	0	512	lf
2" GAS LINE	0	0	lf
NEVADA POWER ELECTRIC LINE	0	0	lf
ELECTRIC GENERATOR	0	1	ea
ELECTRIC TRANSFORMER	0	1	ea
SPRINT TELEPHONE LINE	0	0	lf
COX COMMUNICATIONS CATV	0	0	lf
SIDEWALK DRAIN	0	1	ea

1. In the event that any unforeseen conditions not covered by these notes are encountered during grading operations, the Owner/Engineer shall be immediately notified for direction.
2. It shall be the responsibility of the Contractor to perform all necessary cuts and fills within the limits of this project and the related off-site work, so as to generate the desired subgrade, finish grades and slopes shown.
3. Contractor shall take full responsibility for all excavation. Adequate shoring shall be provided by the Contractor to prevent undermining of any existing or any adjacent features or facilities and/or caving of the excavation.
4. The Grading Contractor is responsible to coordinate with the owner to provide for the requirements of the project Storm Water Pollution Prevention Plan (SWPPP) and associated permit.
5. Contractor shall grade to the lines and elevations shown on the plans within the following horizontal and vertical tolerances and degrees of compaction, in the areas indicated:

	<u>Horizontal</u>	<u>Vertical Compaction</u>
A. Pavement Area Subgrade	0.1" +	+0.0' to -0.1' See Soils Report
B. Engineered Fill	0.5' +	+0.1' to -0.1' See Soils Report

Compaction Testing will be performed by the owner or his representative. Compaction shall comply with the requirements of the engineer.

6. All cut and fill slopes shall be protected until effective erosion control has been established.
7. The use of potable water without a special permit for building or construction purposes including consolidation of backfill or dust control is prohibited. The Contractor shall obtain all necessary permits for construction water.
8. The Contractor shall maintain the streets, sidewalks and all other public right-of-way in a clean, safe and usable condition. All spills of soil, rock or construction debris shall be promptly removed from the publicly owned property during construction and upon completion of the project. All adjacent private, private or public shall be maintained in a clean, safe and usable condition.
9. In the event that any temporary construction item is required that is not shown on these drawings, such item shall be provided as directed by the City Engineer at no expense to the City of Las Vegas. Temporary construction includes ditches, berms, road signs and barricades, etc.

DESC.	NAVD 88 DATUM	NAVD 88 DATUM
U.S.C. & G.S. BRASS DISC SET IN ROCK ON THE EAST SIDE OF CHARLESTON BOULEVARD AND SOUTH OF THE RED ROCK DETENTION BASIN. (CLV BM No. D368 3)	3246.71 (FEET)	989.599 (METERS)

NORTH 89°45'05" EAST BEING THE SOUTH LINE OF THE
SOUTHWEST QUARTER (SW 1/4) OF SECTION 35, TOWNSHIP 20
SOUTH, RANGE 59 EAST, M.D.M., AS SHOWN BY MAP ON FILE
IN FILE #1, PAGE 28 OF PARCEL MAPS IN THE CLARK
COUNTY RECORDER'S OFFICE, CLARK COUNTY, NEVADA.

SHEET
C-2
2 OF 21 SHTS
CLV DWG NO.
630-102