154307

LEGEND & QUANTITY ESTIMATE

WATER:

- ① FIRE HYDRANT ASSEMBLY (INCLUDES TEE VALVE, RISER, THRUST BLOCK) — 5 EA.
- ② 8" GATE VALVE — 9 EA.
- ③ 8" TEE — 9 EA.
- ④ 8" 45° BEND — 1 EA.
- ⑤ 8" 22½° BEND — 2 EA.
- ⑥ 8" x 6" REDUCER — 2 EA.
- ⑦ 2" BLOW-OFF ASSEMBLY — 6 EA.
- 8" WATER MAIN — 1990 L.F.
- 6" WATER MAIN — 360 L.F.
- 3/4" SERVICE WITH 5/8" METER — 14 EA.
- ⑧ 8" 90° BEND — 1 EA.
- ⑨ 8"x8" MECHANICAL JOINT TAPPING TEE WITH 8" TAPPING VALVE — 1 EA.

SEWER:

- STANDARD MANHOLE — 9 EA.
- 8" SEWER MAIN — 2162 L.F.
- 4" SERVICE LATERALS WITH WYES — 1985 L.F.

STREETLIGHT:

- 100 H.P.S. LUMINAIRE — 13 EA.
- 1½" CONDUIT — 2079 L.F.
- #2-½ PULLBOX — 6 EA.
- POINT OF CONNECTION
- STREET NAME SIGN — 7 EA.
- STOP SIGN — 0 EA.
- DRIVEWAY LOCATION (SCHEMATIC)

OFF-SITE SEWER:

- STANDARD MANHOLE — 1 EA.
- 8" SEWER MAIN — 120 L.F.
- 4" SERVICE LATERAL — 90 L.F.
- WYES — 4 EA.

★ OFF-SITE WYES & LATERALS TO BE INSTALLED WITH THIS UNIT.

FIRE DEPARTMENT NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT "HYDRANT SPECIFICATIONS", "HYDRANT INSTALLATION SPECIFICATIONS" AND ORDINANCE #3677.
2. AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
   A. KENNEDY GUARDIAN
   B. MUELLER A-423 CENTURIAN
   C. CLOW MODEL 2546 MEDALLION
3. ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMBUSTIBLE CONSTRUCTION COMMENCES AND SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER WITH AN ADEQUATE WATER SUPPLY.
4. CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT CENTERLINE OF STREET ADJACENT TO FIRE HYDRANT AS REQUIRED IN ORDINANCE #3677 TO IDENTIFY FIRE HYDRANT LOCATIONS.
5. CALL THE LAS VEGAS BUILDING DEPARTMENT AT 229-2071 FOR UNDERGROUND INSPECTION, PRESSURE AND FLUSH VERIFICATION OF ALL FIRE HYDRANTS AND FIRE LINES BEFORE COVERING.
6. PAINTING OF THE CURBS AND HYDRANT AND ANY WORK NECESSARY FOR PROTECTION OF HYDRANTS FROM PHYSICAL DAMAGE, PER ORDINANCE #3677, SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
7. A PERMIT IS REQUIRED FROM THE FIRE DEPARTMENT FOR ON-SITE WATER LINE AND FIRE HYDRANT. THE PERMIT AND CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
8. A FLOW TEST MUST BE WITNESSED BY THE FIRE DEPARTMENT PRIOR TO OCCUPANCY FOR VERIFICATION OF REQUIRED ON-SITE WATER SUPPLY.
9. ALL ON-SITE FIRE MAIN MATERIALS MUST BE U.L. LISTED AND F.M. APPROVED.
10. FIRE HYDRANT SPACING:
    RESIDENTIAL – 500 FEET UNSPRINKLERED, 600 FEET SPRINKLERED COMMERCIAL, INCLUDING MULTI-FAMILY – 300 FEET UNSPRINKLERED, 400 FEET SPRINKLERED.
11. NO FIRE HYDRANT 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.
12. NO FIRE HYDRANT SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
13. NOT MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
14. THE TURNING RADIUS FOR ANY FIRE APPARATUS ACCESS ROAD AND/OR FIRE LANE, PUBLIC OR PRIVATE, SHALL BE NOT LESS THAN 45 FEET OUTSIDE RADIUS AND 22 FEET INSIDE RADIUS.
15. A FIRE APPARATUS 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 (SEE EXCEPTIONS IN UFC 68, SECTION 10.207).
16. ALL DEAD END FIRE APPARATUS ACCESS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND AREA. SEE ORDINANCE #3677.

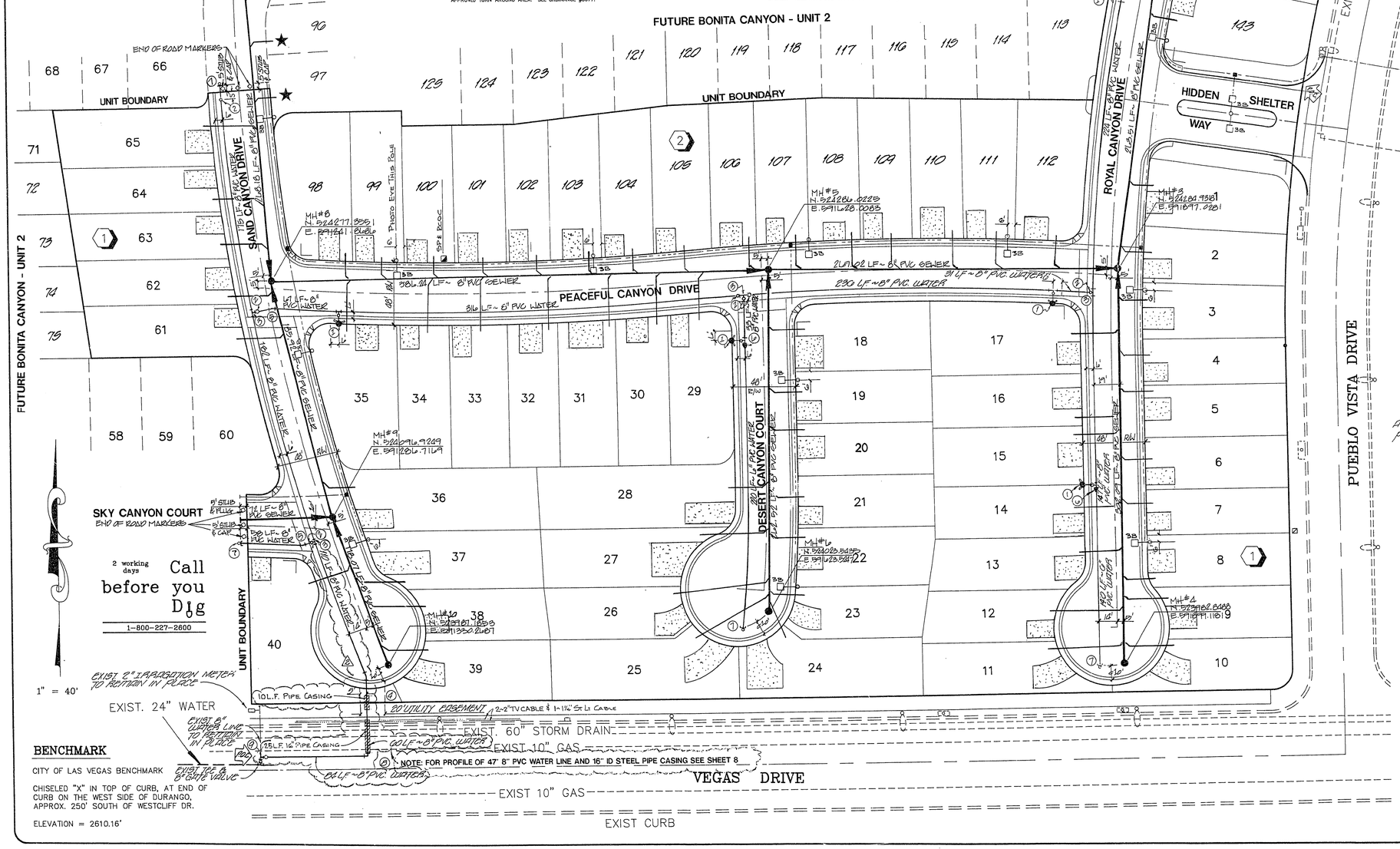
LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES

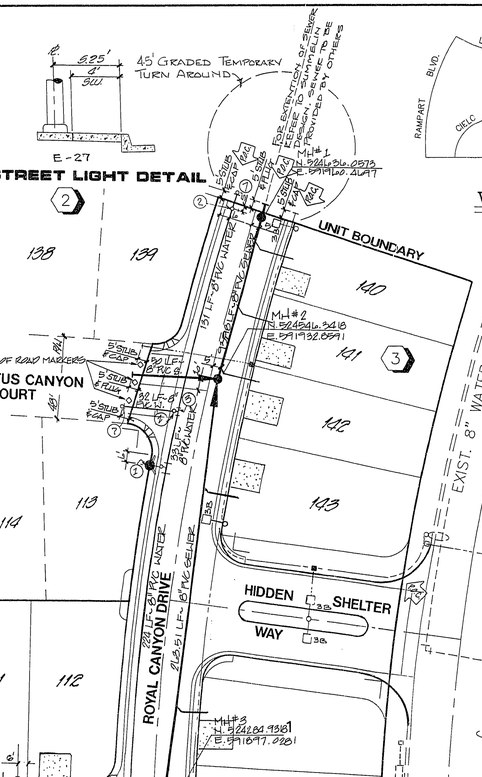
1. NO WORK SHALL BEGIN ON THE WATER PLANS UNTIL THEY HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING APPROVAL OF THE PLANS, NOTICE SHALL BE GIVEN TO THE LVVWD CUSTOMER SERVICE DEPARTMENT (870-4194) 48 HOURS PRIOR TO ACTUAL CONSTRUCTION, AND 24 HOURS PRIOR TO AN INSPECTION.
2. CALL BEFORE YOU DIG 1-800-227-2600.
3. ALL WORK SHALL CONFORM TO LVVWD LATEST STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS.
4. ALL WORK, EXCEPT AS MODIFIED HEREON OR BY NOTE 3, SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT DRAFT OR ADDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENTS, CLARK COUNTY AREA.
5. DISTRICT APPROVED SERVICE SADDLES OR TAPPED COLLARS SHALL BE REQUIRED ON ALL 3/4" AND 1" SERVICE LATERALS. SERVICE SADDLES ONLY SHALL BE PERMITTED ON 1-1/2" AND 2" SERVICE LATERALS. DOUBLE TAPPED COLLARS ARE NOT PERMITTED.
6. COPPER SERVICE LATERALS: ALL 3/4" TO 2" SERVICE LATERALS SHALL BE OF COPPER TUBING IN ACCORDANCE WITH THE DISTRICT'S SPECIFICATIONS AND STANDARD PLATES.
7. THE MAXIMUM ALLOWABLE JOINT DEFLECTION FOR ACP AND DUCTILE IRON PIPE SHALL BE AS FOLLOWS:

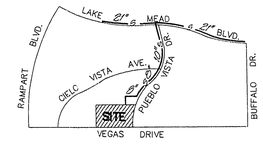
PIPE SIZES	ACP	SLIP JOINT	DUCTILE IRON MECHANICAL JOINT	DUCTILE IRON
6 INCH	2.5 DEGREES	2.5 DEGREES	3.5 DEGREES	3.5 DEGREES
8-12 INCH	2.5 DEGREES	2.5 DEGREES	2.5 DEGREES	2.5 DEGREES
14-16 INCH	2.0 DEGREES	1.5 DEGREES	1.5 DEGREES	1.5 DEGREES
18-24 INCH	N/A	1.5 DEGREES	1.5 DEGREES	1.5 DEGREES

IF THESE OFFSETS CONFLICT WITH THE PIPE MANUFACTURERS RECOMMENDATION, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

8. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
9. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS AND VALLEY GUTTERS.
10. DETECTOR TAPE SHALL BE REQUIRED IN ACCORDANCE WITH STANDARD PLATE NO. WHERE INDICATED, AND AS FOLLOWS:
    A) OVER ALL MAINS NOT INSTALLED 6 FEET FROM BACK OF CURB.
    B) OVER ALL SERVICE LATERALS NOT INSTALLED AT RIGHT ANGLES TO MAIN.
11. ALL WATER MAINS SHALL BE PRESSURE TESTED AT 200 PSI FOR A CONTINUOUS TWO HOUR PERIOD, IN ACCORDANCE WITH DISTRICT STANDARDS.
12. ALL WATER MAINS SHALL BE DISINFECTED, FLUSHED, AND AN ACCEPTABLE HEALTH SAMPLE OBTAINED, PRIOR TO THE CONNECTION OF THE WATER MAIN(S) AND/OR LATERALS(S) TO THE DISTRICTS' SYSTEM.
13. CONTRACTOR TO OBTAIN ALL METERS 2" AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PICKUP.







VICINITY MAP

FIRE HYDRANT DETAIL

STREET LIGHT NOTE

ALL STREET LIGHTING INSTALLATION SHALL CONFORM TO SUMMERLIN STREET LIGHT TECHNICAL DESIGN REQUIREMENT DWG. NO. E-1 AND SUMMERLIN STREET LIGHT POLE, ARM AND FIXTURE DETAIL DWG. NO. E-2

ALL HAND HOLE COVERS MUST BE INSTALLED, POLE CAPS POURED, AND PULL BOX LIDS BOLTED DOWN PRIOR TO ENERGIZING CIRCUIT. ALL WIRE MUST HAVE THW INSULATION.

WATER CROSSING NOTE

THE FOLLOWING ARE THE REQUIREMENTS THAT MUST BE MET WHEN THERE IS A WATER-SEWER CROSSING:

WHEN PROTECTION OF THE WATERLINE IS CONSIDERED, THE MINIMUM VERTICAL DISTANCE OF 18 INCHES MUST BE MAINTAINED WHEN THE WATER LINE IS INSTALLED OVER THE SEWER/STORM LINE. IF THIS DISTANCE CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS OR THE WATERLINE MUST BE PLACED UNDER THE SEWER/STORM LINE, THE SEWER/STORM LINE MUST BE CONSTRUCTED WITH ANY ONE OF THE FOLLOWING:

A. EXTRA HEAVY CAST IRON OR DUCTILE IRON PIPE
B. WATER SUPPLY QUALITY MATERIAL
C. ENCASEMENT WITH 4 INCHES MINIMUM OF CONCRETE OR SLEEVING WITH WATER QUALITY PIPE

EACH OF THESE PROVISIONS MUST BE EXTENDED FOR 10 FEET ON EITHER SIDE OF THE WATERLINE AT 90 DEGREES TO THE CROSSING.

CITY OF LAS VEGAS SEWER NOTES

1. 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. IN ALL CASES, THESE STANDARDS SHALL SUPERSEDE THE UNIFORM STANDARD SPECIFICATIONS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATION BOOKS.
2. 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 CONTROLLING AGENCY.
3. CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II GRAVEL.
5. ALL MANHOLES IN PAVED STREETS 80' R/W AND LARGER, SHALL HAVE CONCRETE COLLARS.
6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO 12" DIA. SIZE. CONNECTIONS TO 15" OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES.
7. A SEWER MAIN CROSSING OVER A WATER MAIN OR LESS THAN 18" UNDER A WATER MAIN, MUST BE REINFORCED CONCRETE ENCASED FOR A DISTANCE NOT LESS THAN TEN FEET (10') TO EACH SIDE OF THE CENTERLINE OF THE WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CONTROLLING AGENCY MUST BE CLASS "A" CONTRACTORS.

AVERAGE DAILY FLOW = 16,000 GPD
PEAK DAILY FLOW = 28,000 GPD

LAS VEGAS FIRE DEPARTMENT

FIRE FLOW REQUIREMENT IS 1500 GALLONS PER MINUTE AT 20 POUNDS PER SQUARE INCH RESIDUAL.
BASED ON:
SQUARE FOOTAGE 3060 SQ. FT.
LARGEST AREA BETWEEN SEPERATION WALLS 10'
HEIGHT 2 STORY - 24'
TYPE OF CONSTRUCTION V
EXPOSURES NONE
SPRINKLER SYSTEM NO
OCCUPANCY SINGLE FAMILY
ROOF CONSTRUCTION CERAMIC TILE
REVIEWED BY:
DATE:
PROVIDE FIRE LANE IDENTIFICATION PER CITY ORD. 3677

APPROVALS:

CITY OF LAS VEGAS FIRE MARSHALL	7/13/93	DATE
LAS VEGAS VALLEY WATER DISTRICT	7/13/93	DATE
NEVADA POWER COMPANY	6/30/93	DATE

NEVADA POWER COMPANY APPROVAL IS ONLY FOR THE PLACEMENT AND CLEARANCE OF STREET LIGHTS AND SIGNAL LIGHT INSTALLATION.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK
CHISELED "X" IN TOP OF CURB, AT END OF CURB ON THE WEST SIDE OF DURANGO, APPROX. 250' SOUTH OF WESTCLIFF DR.
ELEVATION = 2610.16'

REV	DATE	BY	REVISION
1	8/12/93	CMK	REVISED WATERLINE PER LVVWD
2	8/16/93	CMK	REVISED STREET LIGHTS PER CITY
3	8/16/93	CMK	REVISED COVER TO SEWER PER CITY

PLASTER DEVELOPMENT CO.
CITY OF LAS VEGAS, NEVADA

CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7550 FAX (702) 362-2597

TITLE: MASTER UTILITY PLAN
PROJECT: BONITA CANYON UNIT - 1

SEAL
4-6-93

WO NO.	4407-1
BY	KFN\EEB
DATE	2/26/93
SCALE	1"=40'
SHEET	7 OF 11 SHEETS

10-30-29

3074-4267-1