C.L.V. FIRE FLOW DATA

FIRE FLOW REQUIREMENT IS 1500 GALLONS PER MINUTE AT 20 POUNDS PER SQUARE INCH RESIDUAL, BASED ON:

LARGEST SQUARE FOOTAGE: 5212

LARGEST AREA BETWEEN AREA SEPARATION WALLS: 5212 S.F.
(AREA SEPARATION WALLS ARE SHOWN ON PLANS)

HEIGHT: TWO STORIES

TYPE OF CONSTRUCTION: V

EXPOSURES: 10 FEET OR MORE

SPRINKLER SYSTEM: NONE

OCCUPANCY: SINGLE FAMILY

ROOF CONSTRUCTION: CONCRETE TILES

CITY OF LAS VEGAS STREET LIGHT NOTES

ALL STREET LIGHT INSTALLATIONS SHALL CONFORM TO THE STANDARD DETAILS AND SPECIFICATIONS OF THE CITY OF LAS VEGAS, AND SHALL ALSO CONFORM TO THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OF OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, LATEST EDITION, UNLESS OTHERWISE NOTED. REFER TO CLARK COUNTY STANDARD DRAWINGS.

ALL HAND HOLE COVERS MUST BE INSTALLED, POLE CAPS SECURED, AND PULL BOX LIDS BOLTED DOWN PRIOR TO ENERGIZING CIRCUIT. ALL WIRE MUST HAVE THW INSULATION. ALL STREET LIGHT LUMINAIRES MUST HAVE MAGNETIC REGULATED BALLASTS.

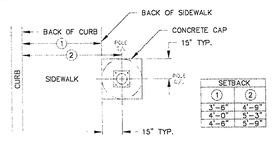
APPROVALS

J. Esparbe — 1/12/94
CITY OF LAS VEGAS FIRE MARSHALL — DATE

1-13-94
LAS VEGAS VALLEY WATER DISTRICT — DATE
(SIGNATURE SHEET 3 ONLY)

Joseph A. Varvo — 1/11/94
NEVADA POWER COMPANY — DATE

THIS APPROVAL IS ONLY FOR THE PLACEMENT AND CLEARANCE OF STREET LIGHT AND SIGNAL LIGHT INSTALLATIONS



BEHIND SIDEWALK

CITY OF LAS VEGAS FIRE DEPT. 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 799-2071 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 contractors 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 A.W.W.A. approved.
10. Fire hydrant spacing:

    Residential- 500 feet unsprinklered, 800 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 88, 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 turnaround area. See Ordinance #3677

DATE: 12/89
REVISED: 1/91

QUANTITIES

STREET LIGHT QUANTITIES

100 W H.P.S. W/ POLE	10 EA.
1 1/4" CONDUIT W/ CABLE	1535 L.F. +

SEWER QUANTITIES

8" SEWER	1780 L.F.
48" MANHOLE	6 EA.
SEWER SERVICE	50 EA.

WATER QUANTITIES

8" WATER	1892 L.F.
(1) 8" GATE VALVE	2 EA.
(2) 8" TEE	1 EA.
(3) 8" - 45° ELB.	4 EA.
STANDARD FIRE HYDRANT ASSEMBLY	3 EA.
3/4" WATER METER W/ SERVICE	49 EA. (2)

PROJECT SEWER FLOW CONTRIBUTIONS

AVERAGE DAILY FLOW	=	0.0125 M.G.D.
PEAK DAILY FLOW	=	0.0438 M.G.D.

WATERLINE CROSSING NOTE

THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT OF A WATER-SEWER/STORM LINE CROSSING:

WHEN PROTECTION OF THE WATERLINE IS CONSIDERED, THE MINIMUM VERTICAL DISTANCE OF 18 INCHES MUST BE MAINTAINED WHEN THE WATERLINE 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 CONCRETE SLEEVING OR WITH WATER QUALITY PIPE.

EACH OF THESE PROVISIONS MUST BE EXTENDED FOR 10 FEET ON EITHER SIDE OF THE WATERLINE AT 90° 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 & 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 "C" 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.
9. 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 APPROVED CONSTRUCTION PLANS.
   SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY.

REVISED OCT. 2, 1991

LAS VEGAS VALLEY WATER DIST. NOTES

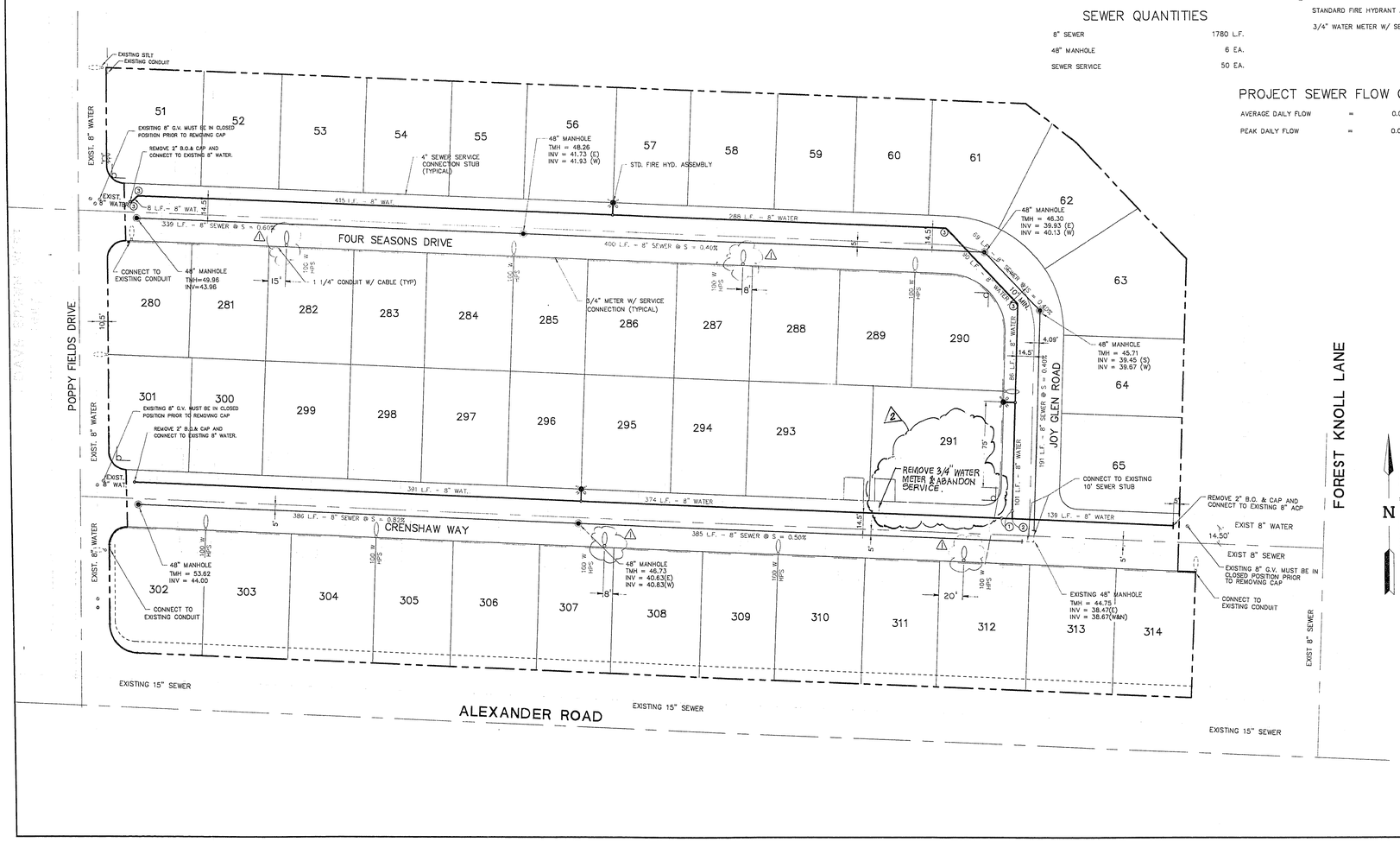
1. No work shall begin on the water plans until they have been released for construction by the LVVWD. Following approval of the plans, notice shall be given to the LVVWD Customer Service Department (870-4194) 48 hours prior to actual construction, and 24 hours prior to an inspection.
2. Call Before 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	Ductile iron slip joint	Ductile iron mechanical joint
6 inch	2.5 degrees	2.5 degrees	3.1 degrees
8-12 inch	2.5 degrees	2.5 degrees	2.5 degrees
14-16 inch	2 degrees	1.5 degrees	1.5 degrees
18-24 inch	N/A	1.5 degrees	1.5 degrees

On PVC pipe, the maximum offset for a 20' length of factory belled pipe shall be 16 inches for 6" pipe, 12 inches for 8" pipe, and 9 inches for 10" and 12" pipe.

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 tap shall be required in accordance with Standard Plate No. 27 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 lateral(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.



NOTICE!

EXISTING UTILITIES ARE SHOWN ON PLANS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES. THE ENGINEER BEARS NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR SHOWN INCORRECTLY.

AVOID CUTTING UNDERGROUND UTILITIES. IT'S COSTLY.
Call BEFORE YOU Dig
1-800-227-2600
UNDERGROUND SERVICE (USA)

NOTE: CONTRACTOR TO VERIFY DEPTH OF EXISTING SEWER STUB BEFORE COMMENCING CONSTRUCTION. ANY DISCREPANCY IN PLAN AND ACTUAL ELEVATION IS TO BE BROUGHT TO THE ENGINEERS ATTENTION IN WRITING IMMEDIATELY!

REVISION	DATE	BY	REMARKS
1	2-94	MA	REMOVED 4 STREET LIGHTS
2	4-4-95		REMOVED LOT 292 PER AMENDED MAP.

SUBMITTED BY: DANIEL SULLIVAN, CIVIL ENGINEER, STATE OF NEVADA, 6-11-1

ALPHA & ENGINEERING COMPANY
56 So. Jones #204, Las Vegas, Nev. 89107
Telephone: (702) 877-1300

TITLE: MASTER UTILITY PLAN
PROJECT: DAVE BROWN WEST - UNIT 7B

JOB #	N3-86-01
NAME	SULLIVAN/jc
DATE	11-2-93
SCALE	1" = 50'

PAGE 3 OF 5
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