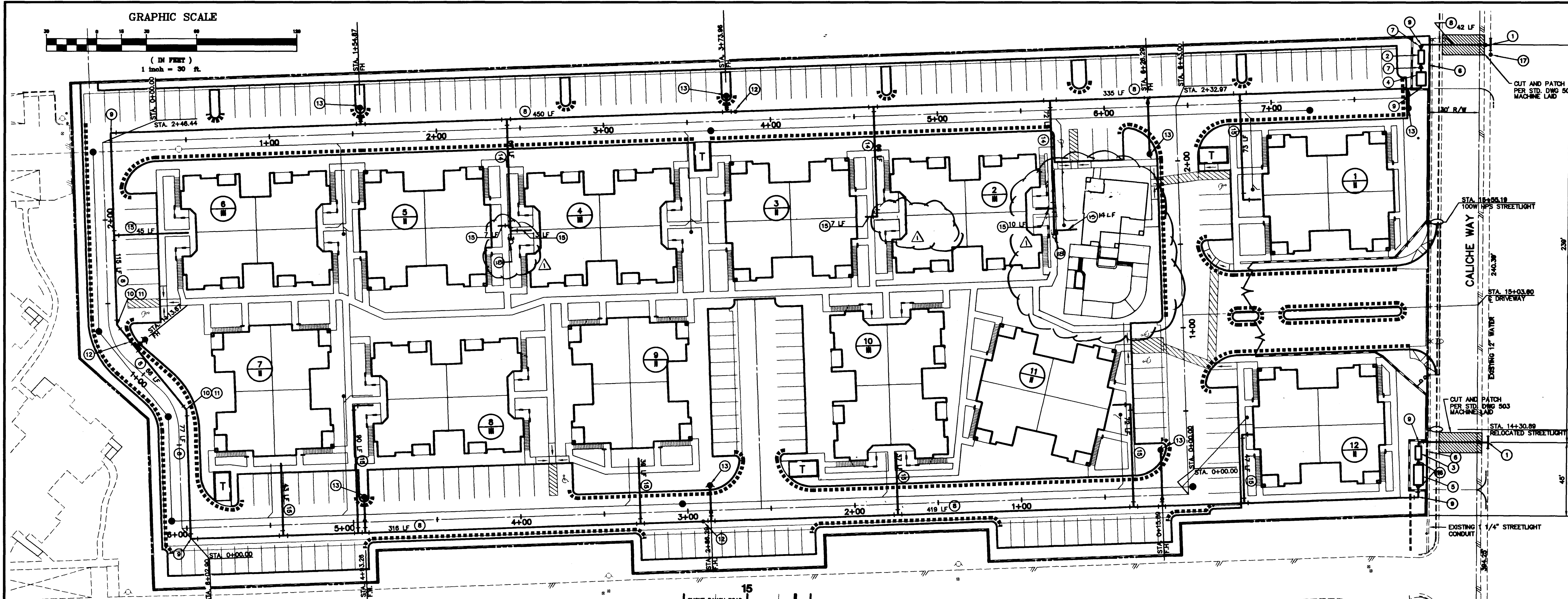
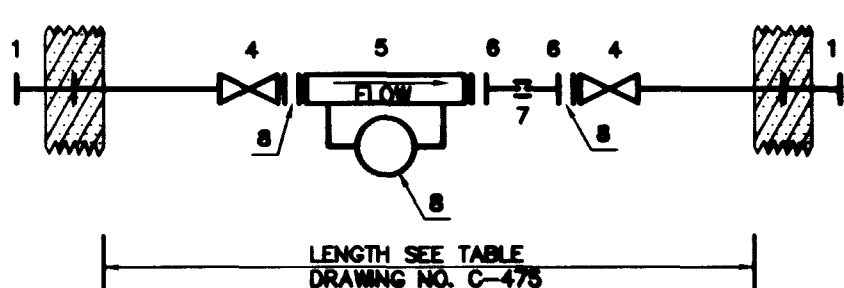




FIRE DEPARTMENT NOTES

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT "HYDRANT SPECIFICATIONS", "HYDRANT INSTALLATION SPECIFICATIONS", AND ORDINANCE NO. 3844.
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
A. KENNEDY GUARDIAN
B. MUELLER A-423 CENTURIAN
C. CLOW MODEL 2546 MEDALLION
- ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMPLETION OF CONSTRUCTION AND SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER WITH AN ADEQUATE WATER SUPPLY.
- CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT CENTERLINE OF STREET ADJACENT TO FIRE HYDRANT AS REQUIRED IN ORDINANCE NO. 3844 TO IDENTIFY FIRE HYDRANT LOCATIONS.
- 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.
- PAINTING OF THE CURBS AND HYDRANT AND ANY WORK NECESSARY FOR PROTECTION OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE NO. 3844 SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- A PERMIT IS REQUIRED FROM THE FIRE DEPARTMENT FOR ON-SITE WATERLINE AND FIRE HYDRANT. THE PERMIT AND CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE ANY WORK BEGINNING.
- PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED.
- A FLOW TEST MUST BE WITNESSED BY THE FIRE DEPARTMENT PRIOR TO OCCUPANCY FOR VERIFICATION OF REQUIRED ON-SITE WATER SUPPLY.
- ALL ON-SITE FIRE MAIN MATERIALS MUST BE U.L. LISTED AND A.W.W.A. APPROVED.
- FIRE HYDRANT SPACING:
RESIDENTIAL - 500 FEET UNSPRINKLERED; 1,000 FEET SPRINKLERED.
COMMERCIAL, INCLUDING MULTI-FAMILY - 300 FEET UNSPRINKLERED, 600 FEET SPRINKLERED.
- WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS, WHERE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF STRUCTURES, FIRE HYDRANTS SHALL BE SPACED AT A MAXIMUM 1,000 FOOT SPACING TO PROVIDE FOR TRANSPORTATION HAZARDS.
- 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.
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR OTHER OBSTRUCTION.
- TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS INSTALLED ON A SINGLE SYSTEM.
- NOT MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO SINGLE MAIN BREAK.
- FIRE APPARATUS ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET PROVIDED NO PARKING IS ALLOWED, NOT LESS THAN 28 FEET IF PARALLEL PARKING IS ALLOWED ON ONE SIDE, AND NOT LESS THAN 36 FEET IF PARALLEL PARKING IS ALLOWED ON BOTH SIDES. VERTICAL CLEARANCE SHALL BE NOT LESS THAN 13 FEET 6 INCHES.
- 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.

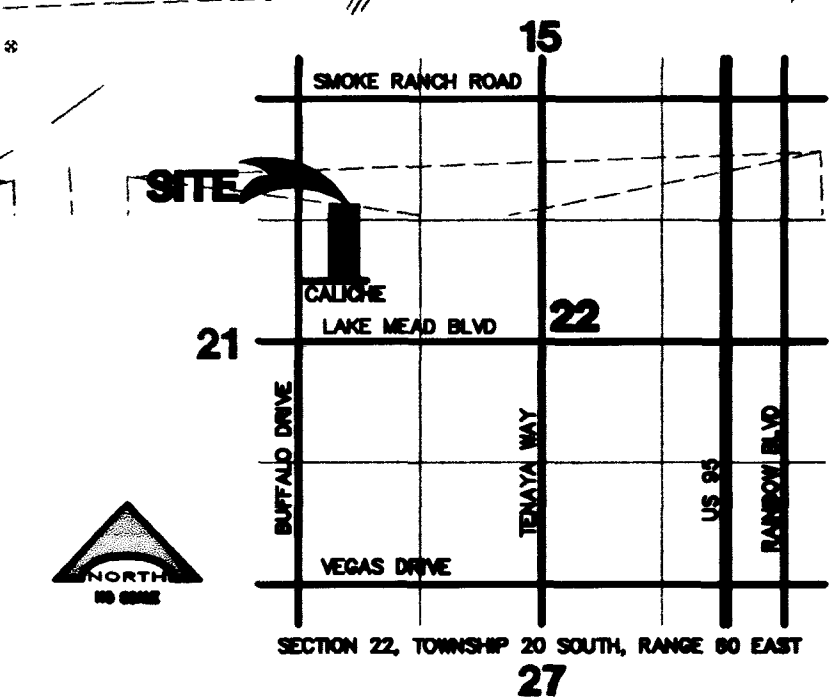
- A FIRE APPARATUS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. (SEE EXCEPTIONS IN UFG 94, SECTION 902.2)
- ALL DEAD END FIRE APPARATUS ACCESS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURNAROUND AREA. SEE ORDINANCE NO. 3844.
- ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, A SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FEET ALONG ALL DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FEET OR LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURBS ALONG OR ON THE PAVEMENT, SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS.
- 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.



ITEM NO.	DESCRIPTION	QTY.
1.	FLANGED SCHED 40 FABRICATED STEEL EPOXY COATED AND LINED WALL SPOOL WITH THRUST RING.	2
4.	FLANGED GATE VALVE	2
5.	SENSUS 8" X 2" OR 6" X 2" OR APPROVED EQUAL	2
6.	FLANGED X PLAIN END SCHED 40 FABRICATED STEEL EPOXY COATED AND LINED SPOOL	2
7.	SLEEVE TYPE COUPLING	1
8.	INSTALL ADJUSTABLE PIPE SUPPORTS, GRINNELL NO. 284 OR APPROVED EQUAL	3

NOTES: ALL PIPING, FITTINGS, AND APPURTENANCES SHALL CONFORM TO APPLICABLE DISTRICT SPECIFICATIONS.

THIS PROPERTY MAY HAVE STATIC WATER PRESSURE IN EXCESS OF 80 PSI. THE UNIFORM PLUMBING CODE REQUIRES THAT INDIVIDUAL, ON-SITE (PRIVATE), PRESSURE REDUCING VALVES BE INSTALLED WHENEVER THE PRESSURE EXCEEDS 80 PSI. PRVS ARE THE DEVELOPER'S RESPONSIBILITY AND WILL NOT BE INSPECTED OR INCLUDED IN THE ACCEPTANCE OF LVVMD FACILITIES.



WATER CONSTRUCTION NOTES & ESTIMATE OF QUANTITIES

1. 12" x 12" x 8" TAPPING TEE W/TAPPING VALVE	2 EA
2. 6" x 2" METER W/8"-3" x 6" CONCRETE VAULT	1 EA
3. 8" x 2" METER W/8"-0" x 6"-6" CONCRETE VAULT	1 EA
4. 8" DCVA	1 EA
5. 10" DCVA	1 EA
6. 10" x 30' EASEMENT TO LVVMD	2 EA
7. 8" x 6" REDUCER	2 EA
8. 8" PVC WATER	1862 LF
9. 8" x 90° ELBOW	6 EA
10. 8" x 22 1/2' ELBOW	2 EA
11. 8" x 11 1/4' ELBOW	2 EA
12. 8" GATE VALVE	3 EA
13. FIRE HYDRANT ASSEMBLY (INSTALL PER STD. DWG. 516)	7 EA
14. 3" PVC WATER	205 LF
15. 2" PVC WATER	508 LF
16. 10" x 8" REDUCER	2 EA
17. 12" GATE VALVE	1 EA

DISCLAIMER NOTE

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

Call before you dig
1-800-227-2600
UNIVERSITY MICROFILMS

Call before you overhead
1-702-593-6111
LAS VEGAS VALLEY WATER DISTRICT

BENCH MARK

OLV00-2164
ELEVATION = 740.034 METERS (2427.93 FEET) NAVD 88
RIVET & PLATE IN TOP OF CURB, NW RETURN OF BUFFALO DRIVE AND LAKE MEAD BOULEVARD.

LAS VEGAS VALLEY WATER DISTRICT NOTES

- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVMD. APPROXIMATELY 48 HOURS NOTICE SHALL BE GIVEN TO THE LVVMD COMMUNICATIONS 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 LVVMD INSPECTION.
- ALL WORK SHALL CONFORM TO LVVMD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND THE UNIFORM STANDARD SPECIFICATIONS FOR WATER DISTRIBUTION SYSTEMS (UDACS), LATEST EDITION.
- ALL WORK, EXCEPT AS MODIFIED BY THESE STANDARDS 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 LVVMD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVVMD 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 CUTTERS.
- THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT A WATER LINE AND SANITARY OR STORM SEWER LINE CROSS:
A. A MINIMUM OF EIGHTEEN (18) INCH VERTICAL SEPARATION (OUTSIDE TO OUTSIDE) MUST BE MAINTAINED WHEN THE WATER LINE IS INSTALLED OVER THE SANITARY OR STORM SEWER LINE. IF THE VERTICAL SEPARATION CANNOT BE MAINTAINED, THE WATER LINE MUST BE PLACED UNDER THE SANITARY OR STORM SEWER LINE. THE SANITARY OR STORM SEWER LINE MUST BE CONSTRUCTED WITH ONE OF THE FOLLOWING OR, AS SHOWN ON THESE PLANS:
A. POTABLE WATER SUPPLY QUALITY MATERIAL.
B. ENCASEMENT WITH FOUR (4) INCH CONCRETE (MINIMUM).
C. 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 SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVMD'S DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVMD CENTRAL STORES. TELEPHONE 258-3152 FORTY-FOUR (48) HOURS PRIOR TO PICKUP.
- CONSTRUCTION MAY INTERRUPT SERVICE, WITH LVVMD 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 LVVMD REIMBURSEMENT. ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVVMD APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE LISTED ON THE LVVMD'S PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

LEGEND

- W — EXISTING WATER LINE
- SS — EXISTING SEWER LINE
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING MANHOLE
- PROPOSED WATERLINE
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED MANHOLE
- CLEANOUT
- FIRE LANE — PAINT CURB RED AND INSTALL "NO PARKING" SIGNS

FIRE FLOW CALCULATIONS

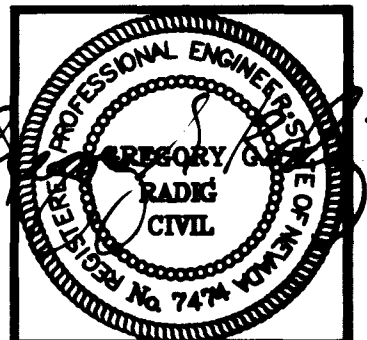
FIRE FLOW REQUIREMENT IS: 3500 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.

BASED ON:
SQUARE FOOTAGE: 16,124 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: N/A SQUARE FEET
BUILDING HEIGHT: 35' FEET
NUMBER OF STORIES: 2 FLOOR(S)
TYPE OF CONSTRUCTION: V-W
OCCUPANCY:
FULL AUTOMATIC FIRE SPRINKLER SYSTEM: N/A

REVIEWED BY: *R. Miller*
DATE: 6/26/97

APPROVALS

R. Miller 6/26/97
LAS VEGAS VALLEY WATER DISTRICT
DATE
R. Miller 6/26/97
DATE
C.L.V. FIRE DEPARTMENT
APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 3500 GPM AT 20 P.S.I. RESIDUAL.



DESIGNED BY: PK
JOB NUMBER: 812-002-962
DRAWN BY: RO
CHECKED BY: DATE: 2-21-97
REVISION: DATE: 6-25-97
APPROVED BY: DATE: 6-25-97

L. R. NELSON CONSULTING ENGINEERS, INC.
3035 East Patrick Lane Suite 9
Las Vegas, Nevada 89120
(702) 798-7978
(702) 451-2286 FAX

WATER PLAN
LAKE MEAD CONDOMINIUMS
WARMINGTON HOMES
CITY OF LAS VEGAS, NEVADA

SHEET NUMBER
3
OF 5 SHEETS
812-002-962

107-V2686

