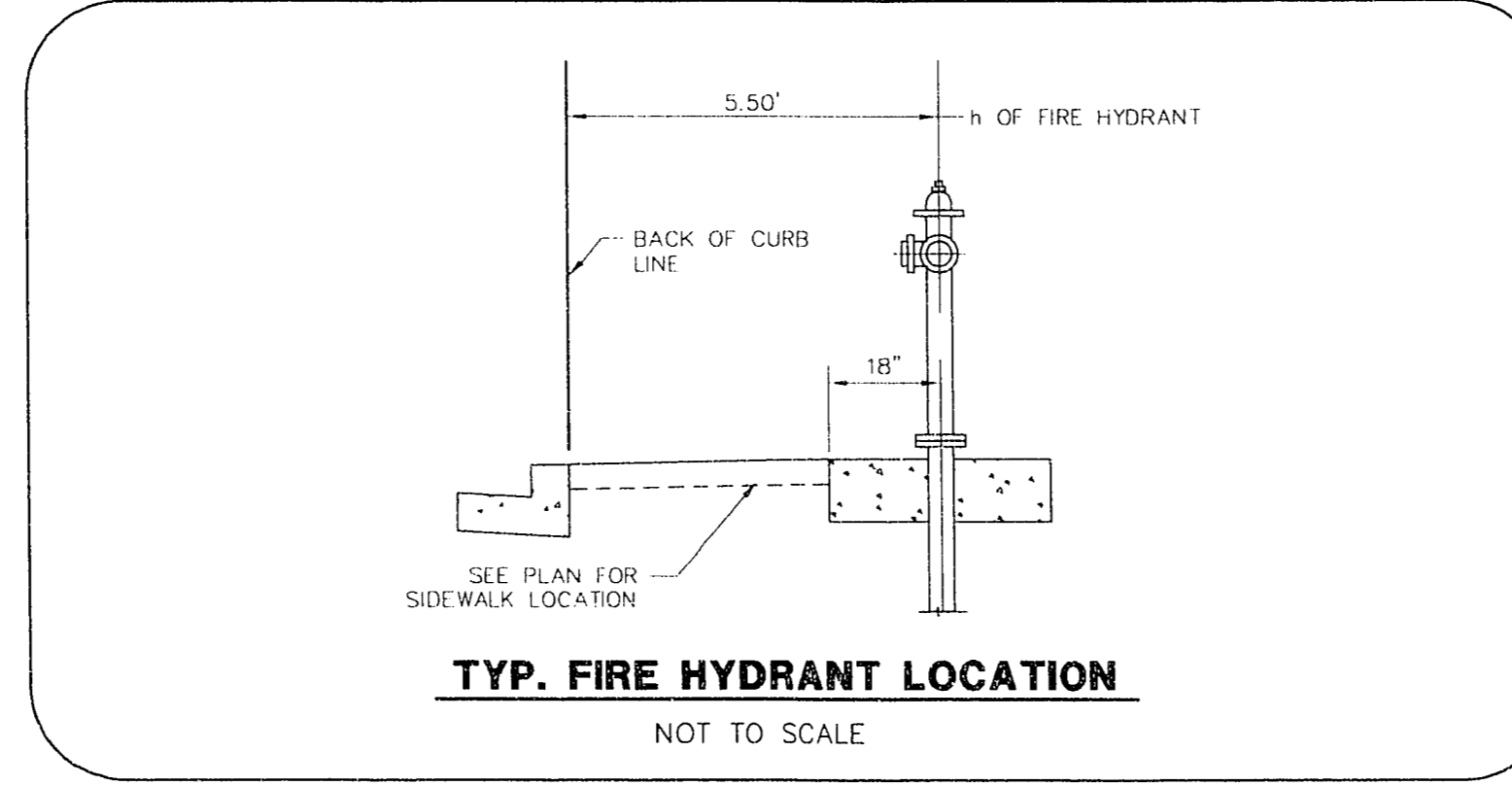
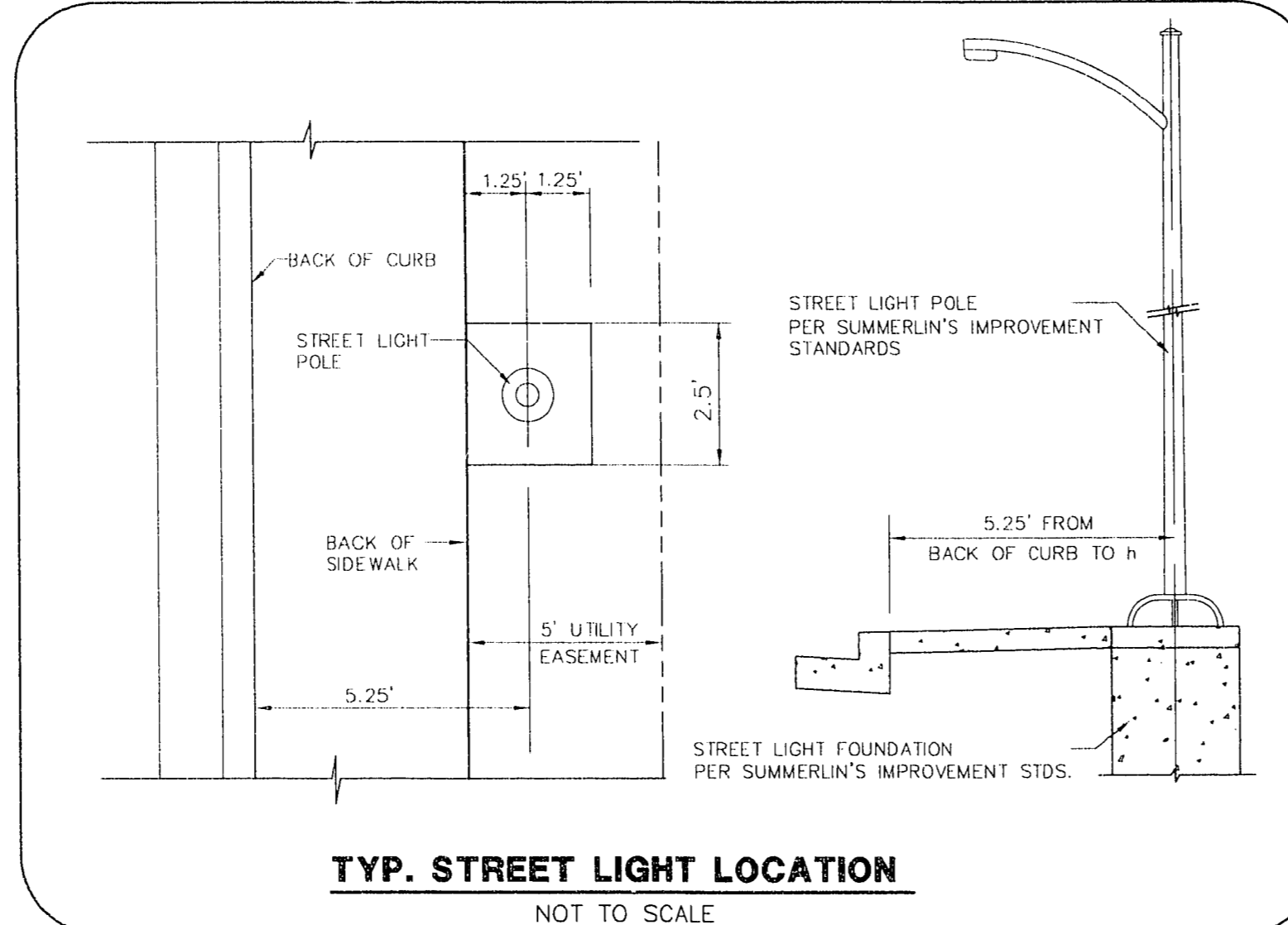


ESTIMATE OF QUANTITIES

DESCRIPTION	QUANTITIES	
GRADING CUT (RAW-SITE)	CY	19,949
GRADING FILL (RAW-SITE)	CY	8,929
STREET IMPROVEMENTS		
2" AC PAVE. W/4" TYPE II G.B. & 6" TYPE I G.B. (40' BC TO BC)	SY	7,058
"L" TYPE CURB W/6" TYPE II GB	LF	3,176
4" CONC. SIDEWALK W/5" TYPE II G.B.	SF	5,390
16' WIDE DRIVEWAY DEPRESSION W/6" TYPE 2 G.B. (80 SF)	SF	4,480
8' WIDE CONC. VALLEY GUTTER W/10" TYPE 1 G.B.	SF	1,467
SIDEWALK RAMP	SF	266
SEWER-PUBLIC		
STANDARD 4" DIA. MANHOLE	EA	6
8" P.V.C. SEWER PIPE	LF	1,739
4" P.V.C. SEWER PIPE LATERALS	LF	1,232
SEWER WYES	EA	56
4" SEWER BACKWATER VALVE	EA	40
DRAINAGE		
STANDARD 4" DIA. MANHOLE	EA	-
18" RCP STORM DRAIN PIPE	LF	-
5' TYPE "A" DROP INLET	LF	-
WATER		
8" WATER MAIN	LF	1,614
STD. FIRE HYDRANT W/6" G.V. & 6" LATERAL	EA	4
3/4" WATER SERVICE W/METER W/BOX & COVER	EA	56
8" GATE VALVE	EA	6
8" TEE	EA	2
STREET LIGHTING		
100 W. LUMINAIRE - HPS (TYPE 3B)	EA	9
1-1/4" P.V.C. STREET LIGHTING CONDUIT	LF	1,577
NO. 3-1/2" PULL BOX	EA	3
MISCELLANEOUS		
6" D-3 STREET NAME SIGNS (D-3, 2 PER POLE)	EA	6

NOTICE TO CONTRACTOR

QUANTITIES SHOWN ARE ESTIMATES ONLY AND ARE INTENDED TO ILLUSTRATE SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT QUANTITIES INVOLVED.



LAS VEGAS VALLEY WATER DISTRICT STANDARD NOTES

- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, 48 HOURS NOTICE SHALL BE GIVEN TO THE LVVWD CUSTOMER SERVICE DEPARTMENT (258-7171) PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO A LVVWD INSPECTION.
- ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, LATEST EDITION.
- 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.
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVVWD 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 GUTTERS.
- THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT A WATER LINE AND SANITARY OR STORM SEWER LINE CROSS:
 - A. A MINIMUM 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 OR 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 MATERIALS.
 - 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 WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD'S DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE: 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PICKUP.
- CONSTRUCTION MAY INTERRUPT SERVICE, WITH LVVWD 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 LVVWD REIMBURSEMENT. ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVVWD APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD'S APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

APPROVED FOR CONSTRUCTION
M. Poreyrooke 12-29-94
 LAS VEGAS VALLEY WATER DISTRICT DATE

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 #3677.
- 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 COMBUSTIBLE CONSTRUCTION COMMENCES 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 #3677 TO IDENTIFY FIRE HYDRANT LOCATIONS.
- CALL THE LAS VEGAS BUILDING DEPARTMENT AT 299-2071 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 #3677 SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- 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.
- 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, 600 FEET SPRINKLERED
 - COMMERCIAL, INCLUDING MULTI-FAMILY - 300 FEET UNSPRINKLERED, 400 FEET SPRINKLERED.
- 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 ANY OTHER OBSTRUCTION.
- NOT MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
- 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 UFC 91, SECTION 10.203.)
- 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.
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECOVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.

WATER-SEWER/STORM DRAIN CROSSING

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

WHEN PROTECTION OF THE WATER LINE 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:

- EXTRA HEAVY CAST IRON OR DUCTILE IRON PIPE (PVC LINED)
- WATER SUPPLY QUALITY MATERIAL (PVC LINED)
- ENCASEMENT, WITH 4 INCHES MINIMUM CONCRETE SLEEVING OR WITH WATER QUALITY PIPE (PVC LINED)

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

SEWAGE CONTRIBUTION

56 UNITS x 2.3 PERSONS PER UNIT = 128.8 PEOPLE
 AVE. FLOW: 128.8 PEOPLE x 120 GPD/PERSONS = 15,456 GPD
 PEAK FLOW: 15,456 GPD x 1.6 PEAKING FACTOR = 24,730 GPD

LAS VEGAS FIRE DEPARTMENT

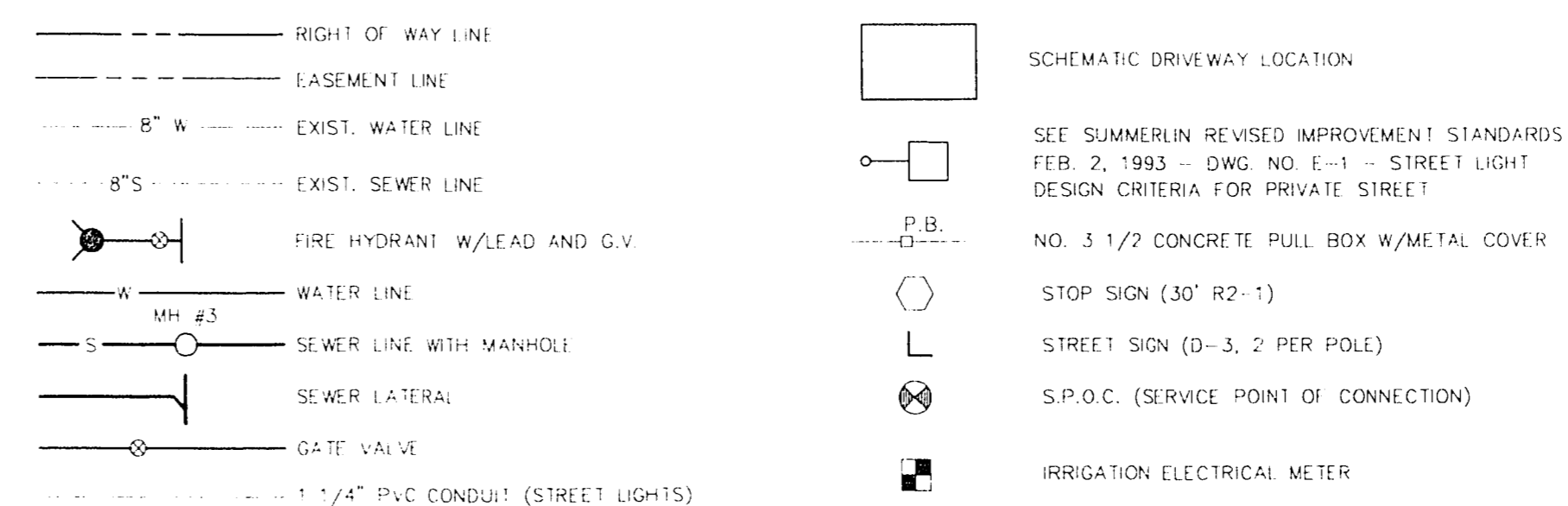
Fire flow Requirement is 1500 gallons per minute at 20 pounds per square inch residual.

Based on:

Square footage	2000
Largest area between area separation walls	N/A
Height	2-STORY
Type of Construction	TYPE 5
Exposures	N/A
Sprinkler System	N/A
Occupancy	SINGLE FAMILY
Roof Construction	TILE

APPROVED BY: *Mary Marshall* 12-10-94
 FIRE MARSHALL, CITY OF LAS VEGAS Date:

LEGEND



AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call before you Dig
 1-800-227-2600
 UNDERGROUND SERVICE ALERT (USA)

RECOMMENDED PROFESSIONAL ENGINEER - STATE OF NEVADA
 PAUL H. ANDERSON
 LICENSE NO. 7942
 REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA
 LICENSE NO. 7942
 REVISIONS: 7942
 DATE: 12-10-94
 G.C. WALLACE, INC.
 Engineering/Architecture
 1555 SOUTH RAINBOW BLVD., LAS VEGAS, NEVADA 89102
 (702) 361-1200
 LEWIS HOMES OF NEVADA
 ASPENGLIN IN THE CROSSING UNIT NO. 2
 UTILITY PLAN 1
 SHEET
 3
 OF 11 SHEETS

5543.9040

PLOT 10 11/29/94
 AG2-1 Q3.DWG

11-18-11 7

307Y-4362-2