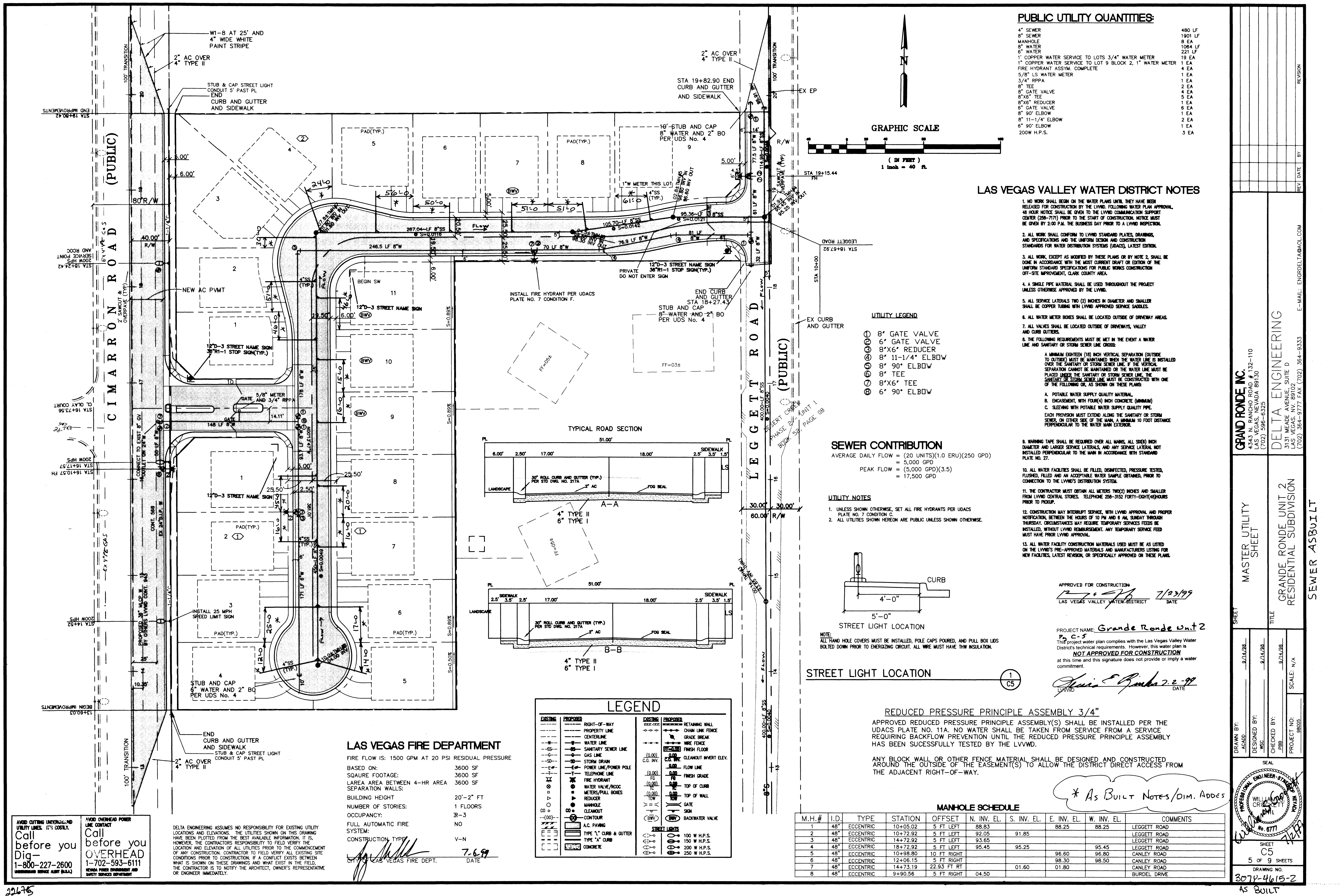




PUBLIC UTILITY QUANTITIES:

4" SEWER	480 LF
8" SEWER	1901 LF
MANHOLE	8 EA
8" WATER	1064 LF
6" WATER	221 LF
1" COPPER WATER SERVICE TO LOTS 3/4" WATER METER	1 EA
1" COPPER WATER SERVICE TO LOT 9 BLOCK 2, 1" WATER METER	1 EA
FIRE HYDRANT ASSY. COMPLETE	4 EA
5/8" LS WATER METER	1 EA
3/4" RPPA	1 EA
8" TEE	2 EA
8" GATE VALVE	4 EA
8"x6" TEE	5 EA
8"x6" REDUCER	1 EA
8" GATE VALVE	6 EA
8" 90° ELBOW	1 EA
8" 11-1/4" ELBOW	2 EA
6" 90° ELBOW	1 EA
200W H.P.S.	3 EA

LAS VEGAS VALLEY WATER DISTRICT NOTES

- NO WORK SHALL BEGIN ON THE WATER PLANS UNTIL THEY HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVWD. FOLLOWING WATER PLAN APPROVAL, 48 HOUR NOTICE SHALL BE GIVEN TO THE LVWD 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 LVWD INSPECTION.
- ALL WORK SHALL CONFORM TO LVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS AND THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS), 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 OFF-SITE IMPROVEMENT, CLARK COUNTY AREA.
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVWD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVWD 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 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:
 - POTABLE WATER SUPPLY QUALITY MATERIAL.
 - ENCASEMENT, WITH FOUR (4) INCH CONCRETE (MINIMUM).
 - 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 LVWD'S DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVWD CENTRAL STORES. TELEPHONE 258-3152 FORTY-FOUR (40) HOURS PRIOR TO PICKUP.
- CONSTRUCTION MAY INTERRUPT SERVICE WITH LVWD APPROVAL AND PROPER NOTIFICATION BETWEEN THE HOURS OF 10 PM AND 4 AM SUNDAY THROUGH THURSDAY. CIRCUMSTANCES MAY REQUIRE TEMPORARY SERVICE FEEDS BE INSTALLED, WITHOUT LVWD REMBURSEMENT. ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVWD APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVWD'S PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

UTILITY LEGEND

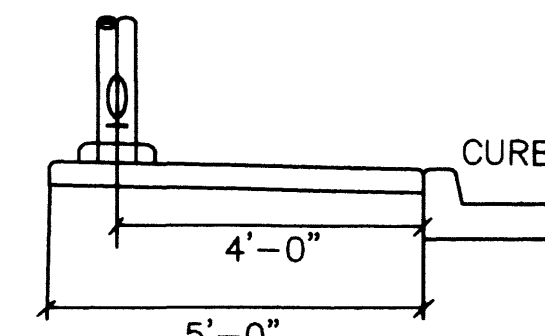
- 8" GATE VALVE
- 6" GATE VALVE
- 8"x6" REDUCER
- 8" 11-1/4" ELBOW
- 8" 90° ELBOW
- 8" TEE
- 8"x6" TEE
- 6" 90° ELBOW

SEWER CONTRIBUTION

AVERAGE DAILY FLOW = (20 UNITS)(1.0 ERU)(250 GPD) = 5,000 GPD
PEAK FLOW = (5,000 GPD)(3.5) = 17,500 GPD

UTILITY NOTES

- UNLESS SHOWN OTHERWISE, SET ALL FIRE HYDRANTS PER UDACS PLATE NO. 7 CONDITION C.
- ALL UTILITIES SHOWN HEREON ARE PUBLIC UNLESS SHOWN OTHERWISE.



STREET LIGHT LOCATION

REDUCED PRESSURE PRINCIPLE ASSEMBLY 3/4"

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 11A. NO WATER SHALL BE TAKEN FROM SERVICE FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVWD.

ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY.

MANHOLE SCHEDULE

M.H.#	I.D.	TYPE	STATION	OFFSET	N. INV. EL.	S. INV. EL.	E. INV. EL.	W. INV. EL.	COMMENTS
1	48"	ECCENTRIC	10+05.02	5 FT LEFT	88.83		88.25	88.25	LEGGETT ROAD
2	48"	ECCENTRIC	10+72.92	5 FT LEFT	92.05	91.85			LEGGETT ROAD
3	48"	ECCENTRIC	14+72.92	5 FT LEFT	93.65				LEGGETT ROAD
4	48"	ECCENTRIC	18+72.92	5 FT LEFT	95.45	95.25		95.45	LEGGETT ROAD
5	48"	ECCENTRIC	10+98.80	10 FT RIGHT			96.60	96.80	CANLEY ROAD
6	48"	ECCENTRIC	12+06.15	5 FT RIGHT			98.30	98.50	CANLEY ROAD
7	48"	ECCENTRIC	14+73.19	22.93 FT RT		01.60	01.80		CANLEY ROAD
8	48"	ECCENTRIC	9+90.56	5 FT RIGHT	04.50				BURDEL DRIVE

LAS VEGAS FIRE DEPARTMENT

FIRE FLOW IS: 1500 GPM AT 20 PSI RESIDUAL PRESSURE
BASED ON:
SQUARE FOOTAGE: 3600 SF
LAREA AREA BETWEEN 4-HR AREA SEPARATION WALLS: 3600 SF
BUILDING HEIGHT: 20'-2" FT
NUMBER OF STORIES: 1 FLOORS
OCCUPANCY: R-3
FULL AUTOMATIC FIRE SYSTEM: NO
CONSTRUCTION TYPE: V-N
DATE: 7-6-99

EXISTING	PROPOSED	EXISTING	PROPOSED
RIGHT-OF-WAY	RIGHT-OF-WAY	RETAINING WALL	RETAINING WALL
PROPERTY LINE	PROPERTY LINE	CHAIN LINK FENCE	CHAIN LINK FENCE
CENTERLINE	CENTERLINE	GRADE BREAK	GRADE BREAK
WATER LINE	WATER LINE	WIRE FENCE	WIRE FENCE
SANITARY SEWER LINE	SANITARY SEWER LINE	FINISH FLOOR	FINISH FLOOR
GAS LINE	GAS LINE	CLEANOUT INVERT ELEV.	CLEANOUT INVERT ELEV.
STORM DRAIN	STORM DRAIN	FLOW LINE	FLOW LINE
POWER LINE/POWER POLE	POWER LINE/POWER POLE	FINISH GRADE	FINISH GRADE
TELEPHONE LINE	TELEPHONE LINE	TOP OF CURB	TOP OF CURB
FIRE HYDRANT	FIRE HYDRANT	TOP OF WALL	TOP OF WALL
WATER VALVE/ROSC	WATER VALVE/ROSC	GATE	GATE
METERS/PULL BOXES	METERS/PULL BOXES	SEAL	SEAL
REDUCER	REDUCER	BACKWATER VALVE	BACKWATER VALVE
MANHOLE	MANHOLE		
CLEANOUT	CLEANOUT		
CONTOUR	CONTOUR		
A.C. PAVING	A.C. PAVING		
TYPE 1" CURB & GUTTER	TYPE 1" CURB & GUTTER		
TYPE "A" CURB	TYPE "A" CURB		
CONCRETE	CONCRETE		

Call before you Dig- 1-800-227-2600
Call before you OVERHEAD 1-702-593-6111

GRANDE RONDE INC.
4343 N. RANCHO ROAD # 132-110
LAS VEGAS, NEVADA 89130
(702) 596-6325

DELTA ENGINEERING
3131 MEADE AVENUE, SUITE D
LAS VEGAS, NV 89102
(702) 364-9777 FAX (702) 364-9333
E-MAIL: ENGRDELTA@AOL.COM

MASTER UTILITY SHEET

GRANDE RONDE UNIT 2
RESIDENTIAL SUBDIVISION

SEWER ASBUILT

DRAWN BY: AZAD

DESIGNED BY: MSC

CHECKED BY: PBB

PROJECT NO: 98005

DATE: 9/14/98

DATE: 9/14/98

DATE: 9/14/98

SCALE: N/A

SEAL

PROFESSIONAL ENGINEER-STATE OF NEVADA
WILLIAM C. BROWN
No. 6771

SHEET C5
5 OF 9 SHEETS
DRAWING NO. 3074-4615-2
AS BUILT