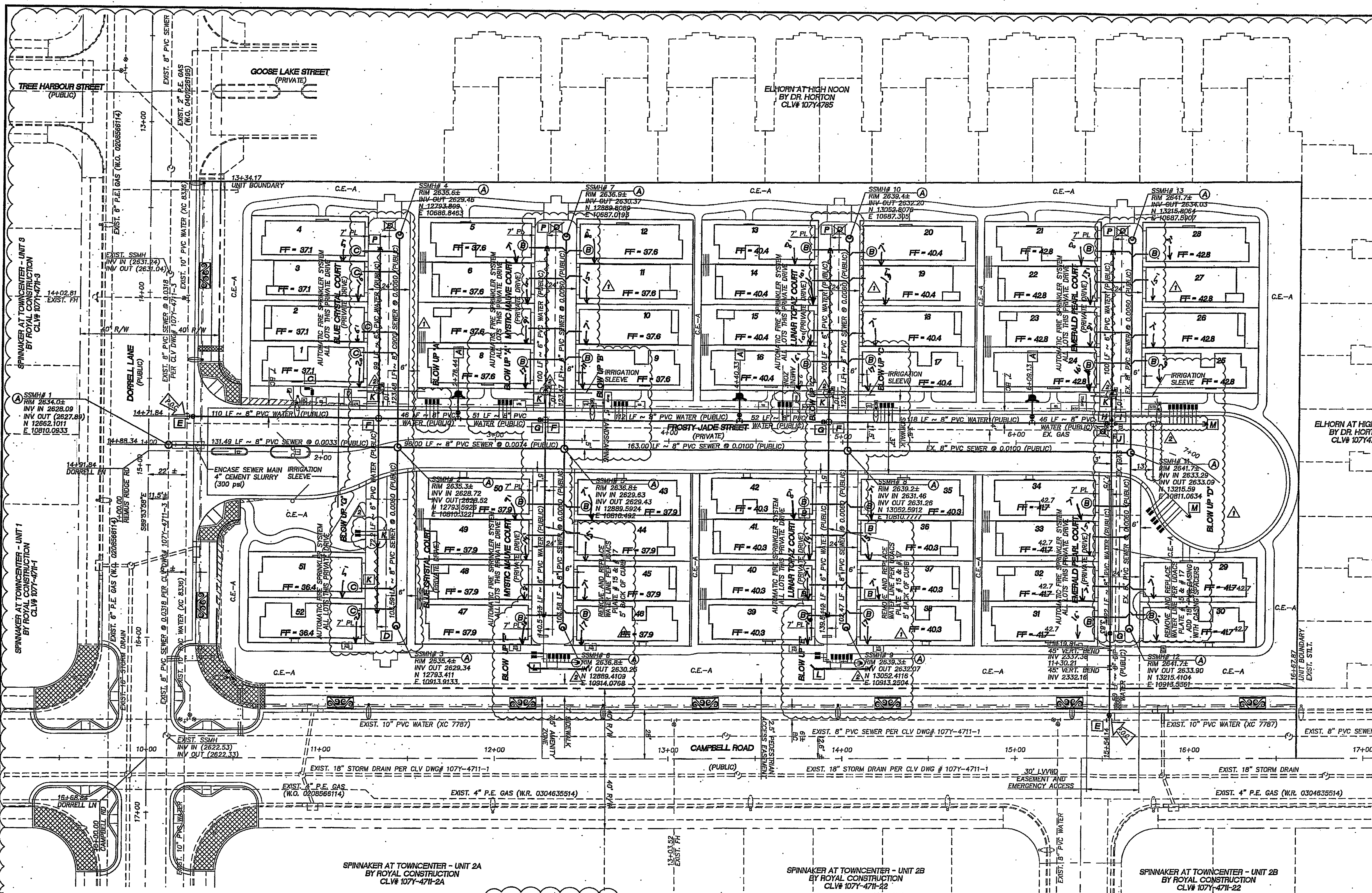




REDUCED PRESSURE PRINCIPLE ASSEMBLY (1) 1'
 APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 11A. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVWD.

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

EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

WATER NOTES AND QUANTITIES

A	INSTALL FIRE HYDRANT ASSEMBLY PER UDACS STD. PLATE NO. 7	3 EA
B	1" METER AND 1" TYPE K COPPER LATERAL PER UDACS STD. PLATE NO. 1D	52 EA
C	1" IRRIGATION METER PER UDACS PLATE #1D	1 EA
D	6" CAP AND 2" BLOWOFF ASSEMBLY PER UDACS STD. PLATE NO. 4A	0 7 EA
E	10"x8" MECHANICAL TAPPING TEE WITH 8" TAPPING VALVE	2 EA
F	8"x 6" CROSS PER UDACS STD. PLATE NO. 5	3 EA
G	8" GATE VALVE PER UDACS STD. PLATE NO. 8	4 EA
H	8" TEE PER UDACS STD. PLATE NO. 5	1 EA
I	8"x6" REDUCER	2 EA
	6" PVC WATERLINE	517 LF
	8" PVC WATERLINE	656 LF
J	INSTALL 8"x6" CROSS PER UDACS PLATE NO. 31.	1 EA
K	CUT AND CAP EX. 6" PVC AND ABANDON IN PLACE	4 EA
L	INSTALL 90° BENDS PER UDACS PLATE NO. 31. (SAME SIZE AS LINE)	2 EA
M	6" CAP AND 2" BLOWOFF PER UDACS PLATE #5B	8 EA
N	INSTALL 6"x6" TEE PER UDACS PLATE NO. 31.	1 EA
O	INSTALL 45° BENDS PER UDACS PLATE NO. 31. (SAME SIZE AS LINE)	1 EA
P	ABANDON BLOW OFF VALVES IN PLACE IN ALL STUD STREETS WHERE WATER MAIN IS BEING ABANDONED IN PLACE	

SEWER NOTES AND QUANTITIES

A	CONSTRUCT 48" STANDARD ECCENTRIC MANHOLE PER DCSWCS PLATE SD-1	13 EA
B	INSTALL SEWER LATERAL PER DCSWCS PLATE SD-17	681 LF
C	INSTALL C900 SEWER LATERAL PER DCSWCS PLATE SD-17	126 LF
	8" PVC SEWERLINE	1233 LF
	8" C900 SEWERLINE	227 LF

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS: 1500 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.

BASED ON:	
SQUARE FOOTAGE:	1535 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR:	
AREA SEPARATION WALLS:	35 SQUARE FEET
BUILDING HEIGHT:	2 FEET
NUMBER OF STORIES:	2 FLOORS
TYPE OF CONSTRUCTION:	V-N
OCCUPANCY:	RESIDENTIAL
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	YES
REVIEWED BY:	
DATE:	

APPROVED FOR CONSTRUCTION
 1ST APPROVED 1/17/2006
 LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
 DATE 3/30/15 PROJECT NO. 111397
 LVWD APPROVED FIRE FLOW 1500 GPM AT 20 PSI RESIDUAL

CITY OF LAS VEGAS FIRE DEPARTMENT
 DATE

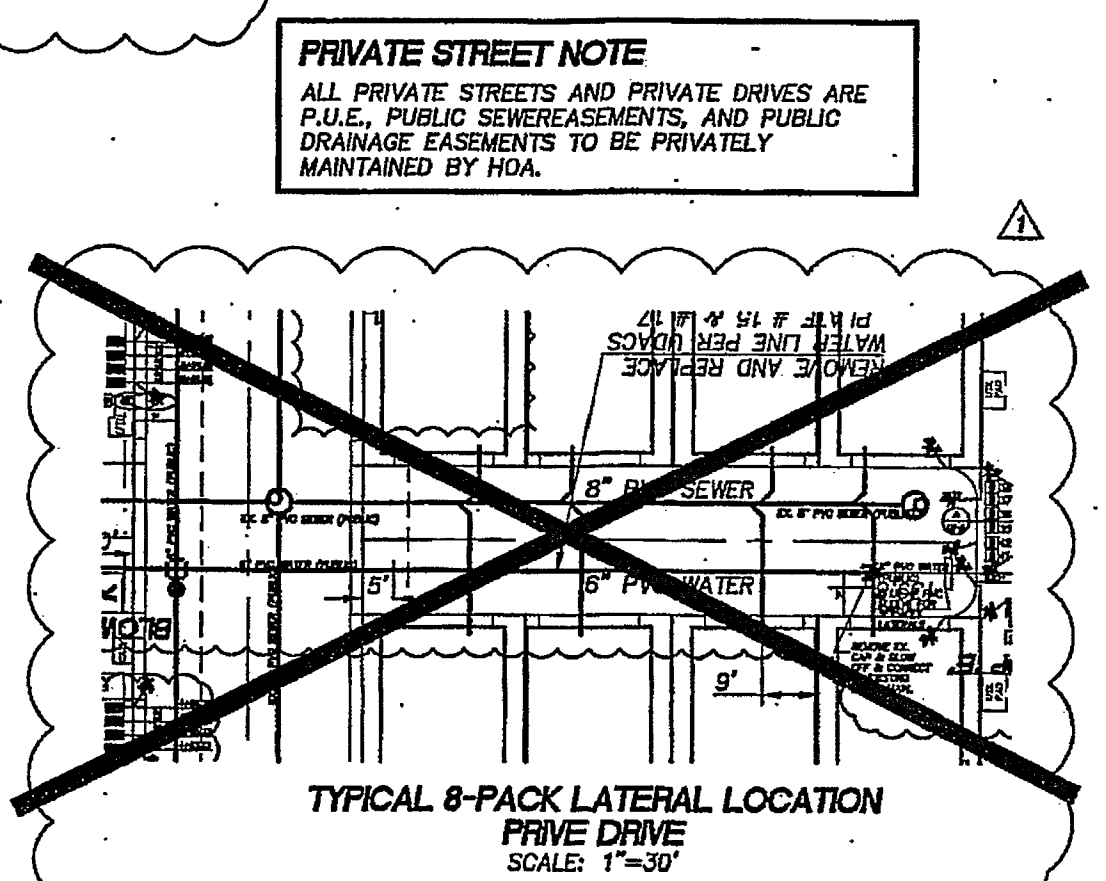
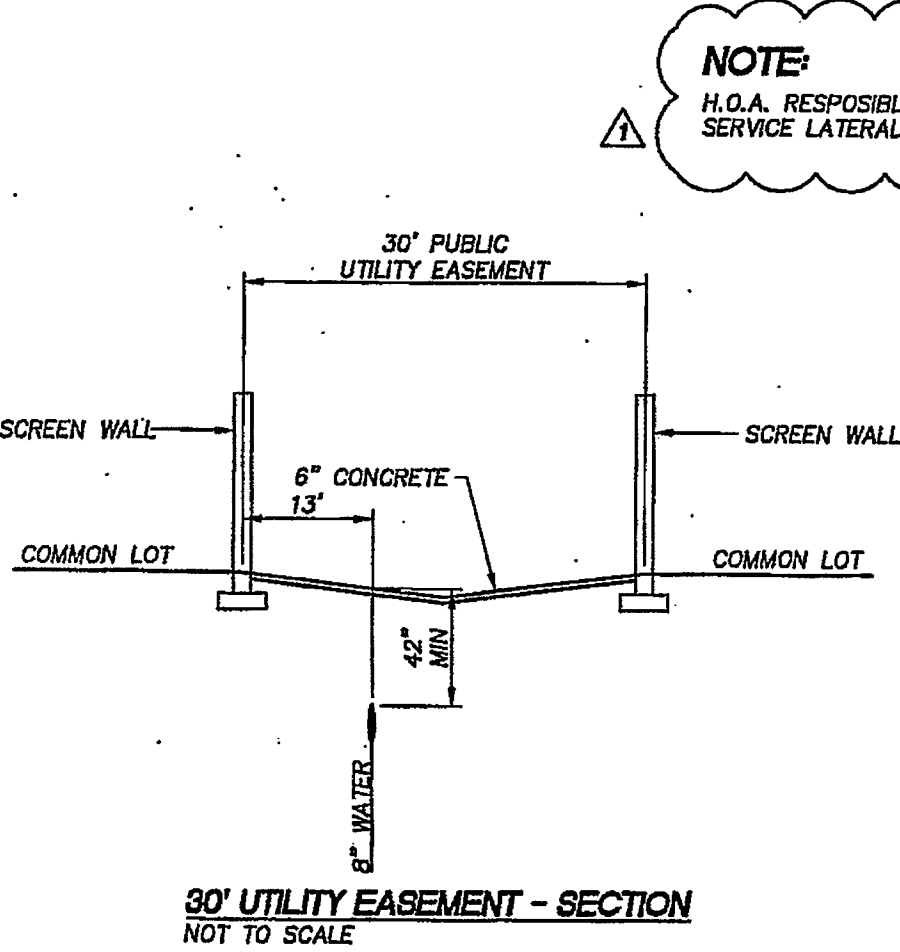
BENCHMARK
 CITY OF LAS VEGAS VERTICAL CONTROL POINT "BLV90 1855", BEING A RIVET PLATE IN A CONCRETE CINDER, NORTHWEST CORNER OF ELKHORN AND FORT APACHE.
 ELEVATION: 2875.26 (FEET) 895.424 (METERS)
 CITY OF LAS VEGAS VERTICAL CONTROL BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

BASIS OF BEARING
 NORTH 89°54'17" EAST, BEING THE SOUTH LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 20, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.J.M., CLARK COUNTY, NEVADA AS SHOWN IN FILE 118 OF SURVEYS AT PAGE 89, OFFICIAL RECORDS, COUNTY OF CLARK, STATE OF NEVADA.

Avoid cutting underground utility lines. It's costly.
 Call before you dig
 1-800-227-2600
 (Nevada Service Only)

Avoid overhead power line contact.
 Call before you Overhead
 1-702-227-2929
 (Nevada Service Only)

Underground
 1-702-227-2929
 (Nevada Service Only)



UTILITY NOTES

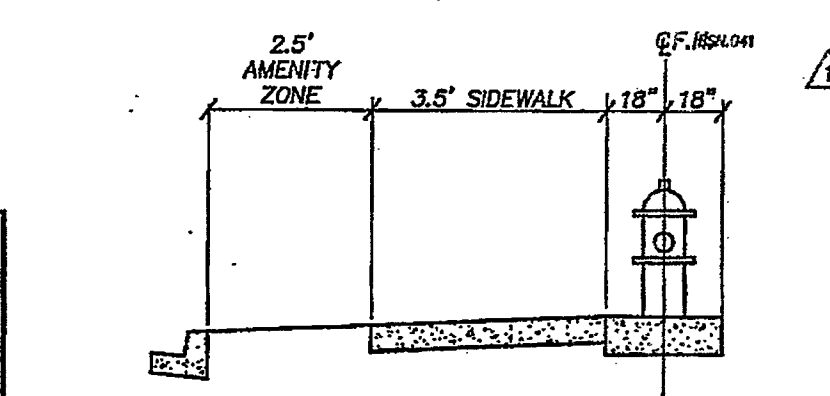
- NOTIFY THOMSON CONSULTING ENGINEERS IMMEDIATELY OF ANY DISCREPANCIES IN THE PLANS OR CONDITIONS IN THE FIELD.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL LOCATE AND VERIFY SIZE, MATERIAL, DEPTH, CONDITION, PRESSURE, AND LOCATION OF ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. THOMSON CONSULTING ENGINEERS SHALL BE CONTACTED ONE THE UTILITIES ARE LOCATED.
- PLANS MAY NOT INDICATE ALL EXISTING UTILITY LINES. CONTRACTOR IS TO EXERCISE EXTREME CAUTION DURING EXCAVATION IN ORDER TO AVOID DAMAGING ANY EXISTING UTILITY LINES. IF THE UTILITY LINES ARE DAMAGED BY THE CONTRACTOR, SUCH DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR TO SAWCUT AND REMOVE EXISTING ASPHALT AND CONCRETE AS NECESSARY FOR UTILITY TRENCHES, BACKFILL AND PATCH ALL TRENCHES ACCORDING TO CITY OF LAS VEGAS STANDARDS.
- ALL WATER FACILITIES CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR DISTRIBUTIONS" (UDACS), LATEST EDITION.
- CONTRACTOR TO FIELD VERIFY LOCATION AND INVERT OF MANHOLE PRIOR TO CONSTRUCTION. THOMSON CONSULTING ENGINEERS SHALL BE CONTACTED ONCE THIS INFORMATION HAS BEEN OBTAINED.

DISCLAIMER NOTE
 EXISTING 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 LOCATIONS.

NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES ARE ENCOUNTERED.

SEWER CONTRIBUTION
 52 UNITS @ 1 ERU PER UNIT (90,000 GPD/ERU) = 4,680,000 GPD
 365 DAYS PER YEAR
 AVERAGE DAILY FLOW = 12,822 GPD
 PEAK FACTOR = 3.3
 APPROXIMATE PEAK FLOW = 42,313 GPD

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 LVWD FACILITIES.



TYPICAL FIRE HYDRANT LOCATION
 NOT TO SCALE

DESIGNED BY: J. THOMSON

CHECKED BY: J. THOMSON

SCALE: 1"=30'

PROJECT NO. 111397

REV. DATE: 3/30/15

THOMSON CONSULTING ENGINEERS

3161 E. WARM SPRINGS ROAD, SUITE 200

LAS VEGAS, NEVADA 89120

702-932-6125 FAX: 702-932-6125

ROYAL CONSTRUCTION

SPINNAKER VILLAGE IV

UTILITY PLAN

APPROVED FOR CONSTRUCTION

JOSEPH D. THOMSON

11/19/2015

6/30/16

6 OF 14

10714917

4# 8949

Sewer As Built