



- ### GENERAL NOTES
- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS AND/OR PAVEMENT MARKINGS) UNDER CLARK COUNTY'S JURISDICTION, THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITIES TO CLARK COUNTY'S SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S SPECIFICATIONS OR WILL BE AN APPROVED EQUIVALENT.
  - IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN MSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.0.01.02.
  - ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
  - THE CONTRACTOR IS TO VERIFY THE ACTUAL FIELD CONDITIONS OF ALL LOTS AND INSTALL SEWER CHECK VALVES WHERE REQUIRED PER THE LATEST EDITION OF THE UNIFORM PLUMBING CODE.
  - FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.

- ### WATER NOTES
- 8" PVC WATER PIPE (2860 HP2)
  - 8" PVC WATER PIPE (2860 HP2)
  - 8" DIP WATER PIPE (CLASS 53)
  - 8" x 6" TEE PER UDACS PLATE NO. 31
  - 8" x 6" TEE PER UDACS PLATE NO. 31
  - 10" x 8" TAPPING SLEEVE WITH 8" TAPPING VALVE PER UDACS PLATE NO. 34, 39, & UDACS SECTION 2.24.01A
  - 12" x 8" TAPPING SLEEVE WITH 8" TAPPING VALVE PER UDACS PLATE NO. 34, 39, & UDACS SECTION 2.24.01B
  - 1 DEGREE MAXIMUM JOINT DEFLECTION PER UDACS SECTION 2.07.01
  - 5 DEGREE BEND WITH RESTRAINED JOINTS
  - 11.25 DEGREE BEND PER UDACS PLATE NO. 31
  - 22.5 DEGREE BEND PER UDACS PLATE NO. 31
  - 8" x 6" REDUCER PER UDACS PLATE NO. 30
  - 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 36
  - CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36
  - FIRE HYDRANT ASSEMBLY W/8" GATE VALVE PER UDACS PLATE NO. 40
  - 1" COPPER SERVICE W/ 1" BRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8 (BRASS BETWEEN METER AND RPPA)
  - POINT OF CURVATURE OF WATER MAIN USING 1" JOINT DEFLECTION PER UDACS SECTION 2.07.01
  - 45 DEGREE BEND PER UDACS PLATE NO. 31
  - 45 DEGREE BEND, SEE SHEET U-1 FOR PROFILE AND WATER LINE QUANTITIES.

- ### SEWER NOTES
- 8" PVC SANITARY SEWER PIPE
  - INSTALL MANHOLE CONCRETE COLLAR PER DCSWCS SD-4
  - 36" DIAMETER SANITARY SEWER MANHOLE WITH INTERIOR ELASTOMERIC JOINT SEALANT IN COMPLIANCE WITH ASTM C520.
  - INSTALL 4" PVC SANITARY SEWER LATERAL, PLUG AND 4" x 4" POST PER DCSWCS SD-22
  - ADJUST PROPOSED MANHOLE TO EXISTING GRADE
  - 8" x 300 WATER QUALITY PIPE (SANITARY SEWER)
  - 36" DIAMETER SANITARY SEWER MANHOLE WITH INTERIOR ELASTOMERIC JOINT SEALANT IN COMPLIANCE WITH ASTM C520.

Call before you Dig  
 811  
 1-800-227-2600  
 CLARK COUNTY  
 1-702-455-6000

Call before you do UnderGround  
 1-702-455-6000  
 9 AM - 5 PM  
 1-702-432-5300  
 TRUCK AND ORIGINAL SYSTEM OF TRANSPORTATION

**DISCLAIMER NOTE**  
 EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND 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 IN THEIR PROPER LOCATION.

**WATER MAIN JOINT DEFLECTION (DIP, 4" - 12")**  
 8" DIAMETER WATER MAIN JOINT DEFLECTION SHALL BE (2.5) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 415' (18" SEC)/460' (20" SEC), PER UDACS 2.07.03.  
 FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

**REDUCED PRESSURE PRINCIPLE ASSEMBLY**  
 APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. 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 EASEMENT(S) 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 MAIN JOINT DEFLECTION (DIP, 4" - 24")**  
 12" DIAMETER WATER MAIN JOINT DEFLECTION SHALL BE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.  
 FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

APPROVED FOR CONSTRUCTION  
 Dina Haddad  
 LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER  
 DATE 07/11/13 PROJECT NO. 121258L  
 LVWD APPROVED FIRE FLOW 1750 GPM AT 20 PSI RESIDUAL

**ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS**  
 183 UNITS X 250 GPD/UNIT = 45,750 GPD  
 TOTAL AVERAGE CONTRIBUTION = 45,750 GPD = 0.04575 MGD  
 TOTAL PEAK FLOW = 0.04575 MGD X 3.5 (PEAK FACTOR) = 0.16013 MGD

**NOTE**  
 PER 19.08 & 19.12 ALL ABOVE-GROUND UTILITY BOXES SHALL BE FULLY SCREENED FROM ALL RIGHTS OF WAY.

**FIRE FLOW CALCULATIONS**  
 FIRE FLOW REQUIREMENT IS 1750 GALLONS PER MINUTE AT 20 P.S.I. RESIDUAL PRESSURE.  
 USE/OCCUPANCY: SINGLE FAMILY  
 TYPE OF CONSTRUCTION (BC): TYPE V-B  
 AUTOMATIC FIRE SPRINKLERS: N/A  
 SQUARE FOOTAGE: 2,400  
 LARGEST AREA BETWEEN 4 HOUR WALLS: N/A  
 BUILDING HEIGHT: 2  
 NO OF STORIES INCLUDING BASEMENT: 2  
 HIGH PILED COMBUSTIBLE STORAGE: N/A  
 NO OF HYDRANTS INSTALLED: 12

**BENCHMARK**  
 RIVET & PLATE ON NORTHEAST OF HEADWALL ON THE WEST SIDE OF GRAND TETON DR. 200' SSE OF FORT APACHE & RAMEL, 7190 SWINGWAY  
 NAVD 88 ELEV.=814.651 METERS=2672.73 FEET

**BASIS OF BEARING**  
 NORTH 00°49'23" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW/4) OF THE SOUTHWEST QUARTER (SE/4) OF SECTION 7, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D. OF THE CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREIN IN BOOK 1221, PAGE 37 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

APPROVAL  
 Dina Haddad 7/16/13  
 LAS VEGAS FIRE AND RESCUE  
 DATE

PROFESSIONAL ENGINEER - STATE OF NEVADA  
 TODD L. STEADHAM  
 CIVIL  
 No. 015799  
 7/16/13  
 H # 48480

**SLATER HANFAN GROUP**  
**CONSULTING ENGINEERS & PLANNERS**  
 5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118  
 PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP.	VER.
1	UPDATE SEWER PER POWER REC. 10/26/13	10/26/13	DRH	DRH	1

**DR. HOBSON**  
**GRAND TETON AND TEE PEE**  
**UTILITY PLAN IV**

DATE: 04/09/13  
 DRAFTER: DSP  
 DESIGNER: DSP  
 CHECKED: DJP  
 PROJECT NO.  
**DRH1213-000**

PROFESSIONAL ENGINEER - STATE OF NEVADA  
 DARRIN J. PAPP  
 CIVIL  
 No. 15815  
 7/16/13  
**U-4**  
 SHEET 42 OF 47  
 107 Y 4986