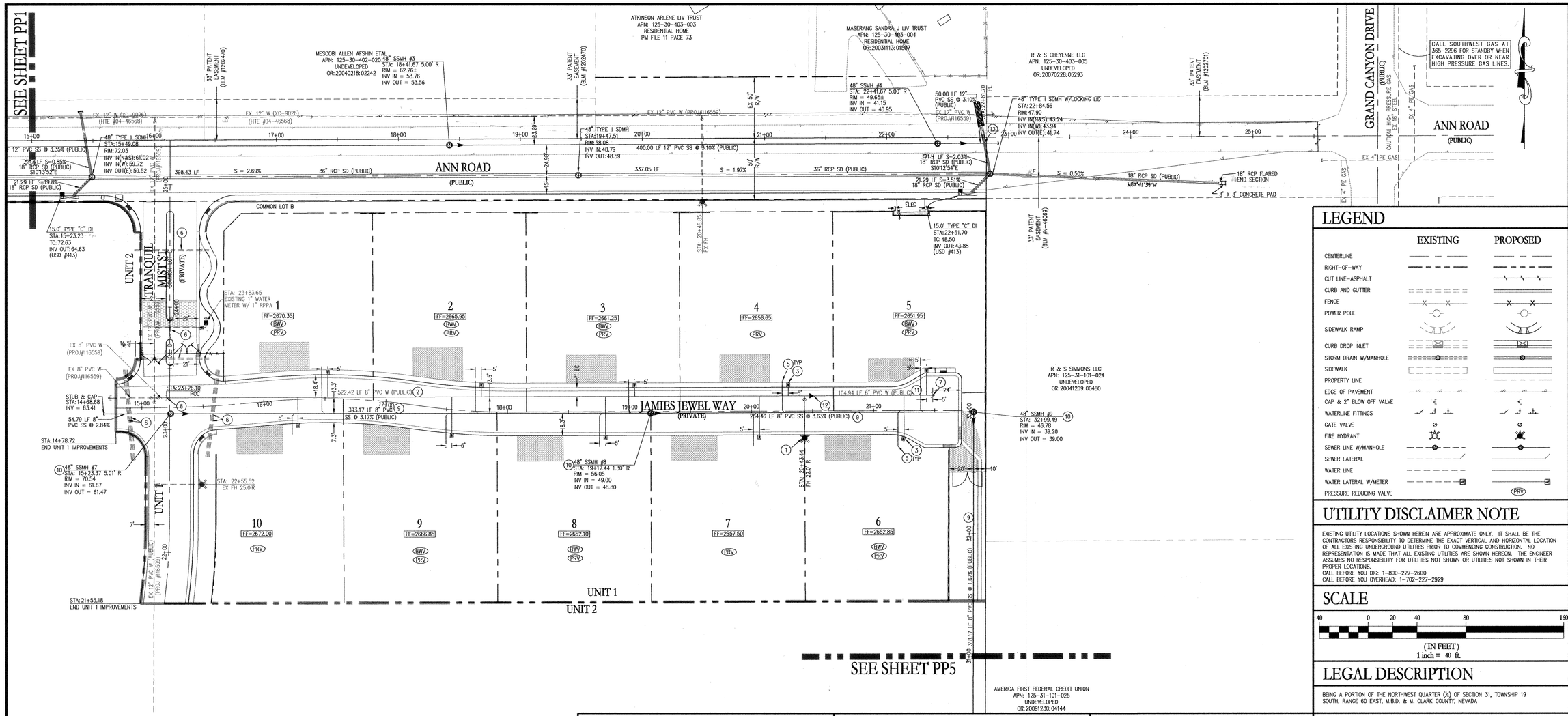


LEGEND

	EXISTING	PROPOSED
CENTERLINE		
RIGHT-OF-WAY		
CUT LINE-ASPHALT		
CURB AND GUTTER		
FENCE	X X	X X
POWER POLE		
SIDEWALK RAMP		
CURB DROP INLET		
STORM DRAIN W/MANHOLE		
SIDEWALK		
PROPERTY LINE		
EDGE OF PAVEMENT		
CAP & 2" BLOW OFF VALVE		
WATERLINE FITTINGS		
GATE VALVE		
FIRE HYDRANT		
SEWER LINE W/MANHOLE		
SEWER LATERAL		
WATER LINE		
WATER LATERAL W/METER		
PRESSURE REDUCING VALVE		(PRV)

UTILITY DISCLAIMER NOTE

EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS 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 OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATIONS.
CALL BEFORE YOU DIG: 1-800-227-2600
CALL BEFORE YOU OVERHEAD: 1-702-227-2929

SCALE

40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

LEGAL DESCRIPTION

BEING A PORTION OF THE NORTHWEST QUARTER (¼) OF SECTION 31, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.B.D. & M. CLARK COUNTY, NEVADA

BASIS OF BEARINGS

S 89°14'18" E, BEING THE NORTH LINE OF THE SE ¼, NW ¼, SECTION 31, T19S, R60E; M.D.M. AS SHOWN ON FILE 97, PAGE 85 OF PARCEL MAPS, CLARK COUNTY, NEVADA OFFICIAL RECORDS.

BENCHMARK

B.M. #9LV90-31C4 CLV RIVET & ROUND PLATE IN CONC PAD WEST SIDE OF GRAND CANYON DR., 120 FEET SOUTH OF WASHBURN ROAD.

ELEVATION = 795.579 M (2010.16 FEET) NAVD 88

NOTE

INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING, PER UDACS PLATE NO. 15

ABBREVIATIONS

AC	ASPHALTIC CONCRETE	OC	ON CENTER
BC	BACK OF CURB	PB	PULL BOX
BCR	BACK OF CURB RADIUS	PC	POINT OF CURVE
BM	BENCHMARK	PCC	POINT OF COMPOUND CURVE
BVC	BEGIN VERTICAL CURVE	PI	POINT OF INTERSECTION
CATV	CABLE TELEVISION	PL	PROPERTY LINE
CC	CLARK COUNTY	PLT	PLATE
CL	CENTERLINE	POC	POINT OF CONNECTION
CLV	CITY OF LAS VEGAS	PP	POWER POLE
CNLV	CITY OF NORTH LAS VEGAS	PRC	POINT OF REVERSE CURVE
CO	CLEAN OUT, SEWER	PT	POINT OF TANGENCY
COH	CITY OF HENDERSON	PVC	POLYVINYL CHLORIDE
CY	CUBIC YARD	R	RADIUS
DCSWCS	DESIGN AND CONSTRUCTION STANDARDS OF WASTE WATER COLLECTION SYSTEMS	RCB	REINFORCED CONCRETE BOX
DG	DESIGN GRADE	RCP	REINFORCED CONCRETE PIPE
DI	DROP INLET	R/W	RIGHT-OF-WAY
DIP	DUCTILE IRON PIPE	RT	RIGHT
EC	END OF CURVE	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	STLT	STREETLIGHT
EVC	END VERTICAL CURVE	SNWA	SOUTHERN NEVADA WATER AUTHORITY
EX	EXISTING	SS	SANITARY SEWER
FF	FINISH FLOOR ELEVATION	STA	STATION
FG	FINISH GRADE	STD	STANDARD
FH	FIRE HYDRANT	SVZ	SIGHT VISIBILITY ZONE
FL	FLOW LINE	SW	SIDEWALK
FT	FEET	TC	TOP OF CURB
GB	GRADE BREAK	TF	TOP OF FOOTING
GFF	GARAGE FINISH FLOOR	TR	TOP OF RETAINING
HP	HIGH POINT	TW	TOP OF WALL
INV	INVERT	TYP	TYPICAL
LF	LINEAR FEET	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
LT	LEFT	USD	UNIFORM STANDARD DRAWING
LVWWD	LAS VEGAS VALLEY WATER DISTRICT	VC	VERTICAL CURVE
MAX	MAXIMUM	VCP	VITRIFIED CLAY PIPE
MH	MANHOLE	VG	VALLEY GUTTER
MIN	MINIMUM	W	WATER
NTS	NOT TO SCALE	ZC	ZERO LIP CURB

LVVWD NOTE

AT THE DIRECTION OF THE DEVELOPER, 3/4" WATER METERS ARE SHOWN TO BE INSTALLED ON THIS PROJECT. METER SIZE HAS BEEN DETERMINED BY FIXTURE UNIT CALCULATIONS BY THE PROJECT ENGINEER PER CHAPTER 6 OF THE UNIFORM PLUMBING CODE.

ANY OPTIONAL FEATURE ADDED TO THE STRUCTURES TO BE BUILT ON THESE LOTS, OR ANY CHANGE IN THE STANDARD FEATURES OF THE STRUCTURES TO BE BUILT ON THESE LOTS WHICH ADDS TO THE TOTAL FIXTURE UNIT COUNT FOR THAT STRUCTURE MAY RESULT IN NON-COMPLIANCE WITH THE UNIFORM PLUMBING CODE.

PRESSURE REDUCING VALVE

LOTS: 1-10
THESE LOTS MAY HAVE STATIC PRESSURE IN EXCESS OF 80 PSI. THE UNIFORM PLUMBING CODE REQUIRES THAT PRIVATE (ON-SITE) PRESSURE REDUCING VALVES BE INSTALLED WHENEVER THE PRESSURE EXCEEDS 80 PSI. PRV'S ARE THE DEVELOPERS RESPONSIBILITY AND WILL NOT BE INSPECTED OR INCLUDED IN THE ACCEPTANCE OF THESE LVVWD FACILITIES.

BACKWATER VALVE

LOTS: 1-3, 5-6, 8-9
THESE LOTS HAVE DRAINAGE PIPING FEATURES THAT ARE LOWER THAN THE NEXT UPSTREAM SEWER MANHOLE COVER AND SHALL HAVE BACKWATER VALVES INSTALLED PER DCSWCS SD-29.

WASTEWATER CALCULATIONS

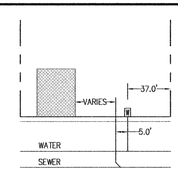
FACILITY TYPE: SINGLE FAMILY RESIDENTIAL
TOTAL UNITS AT BUILD OUT: 10 HOUSES

AVERAGE FLOW (MGD) = 0.0025
PEAK FLOW (MGD) = 0.00875

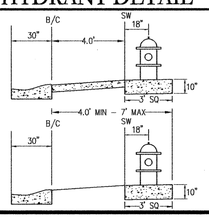
CALCULATIONS:
AVG FLOW = 10 X $\frac{90,000}{365}$ X $\frac{1}{1,000,000}$ = 0.0025 MGD

PEAK FLOW = 0.0025 X 3.5 = 0.00875 MGD

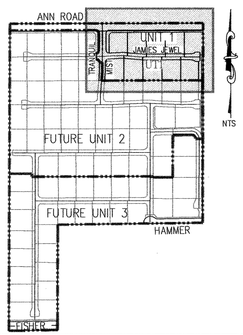
TYPICAL LATERAL LAYOUT



FIRE HYDRANT DETAIL



SITE MAP



SEWER MANHOLE NOTE

REFER TO DCSWCS SD-1A, SD 1B, SD-2 & SD-4 FOR ALL SANITARY SEWER MANHOLES.

UTILITY NOTES

1. ALL WATER FACILITIES CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS" (UDACS), LATEST EDITION.

2. FIRE, WATER, AND SEWER SERVICES, AS APPROVED ON THIS PLAN, ARE INTENDED SPECIFICALLY FOR THE LOT AND USE SHOWN, AND ARE NOT INTENDED TO SERVICE ADDITIONAL PARCELS OR STRUCTURES WHICH MAY BE CREATED IN THE FUTURE. IN THE EVENT THAT THE PARCELS AND/OR LOTS SHOWN ON THIS PLAN ARE FURTHER DIVIDED TO CREATE ADDITIONAL PARCELS OR LOTS, THE OWNER IS REQUIRED TO PROVIDE SEPARATE FIRE, WATER, & SEWER SERVICES TO EACH.

3. WATER AND SEWER LATERALS SHALL BE INSTALLED A MINIMUM OF 48" APART IN SEPARATE TRENCHES. WATER LATERALS SHALL BE A MINIMUM OF 12" ABOVE THE SEWER LATERAL. (REF. UNIFORM PLUMBING CODE)

4. LOCATOR WIRE SHALL BE USED FOR ALL SERVICE LATERALS NOT PERPENDICULAR TO THE MAIN. (TYPICAL)

5. ALL SEWER/STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS" (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

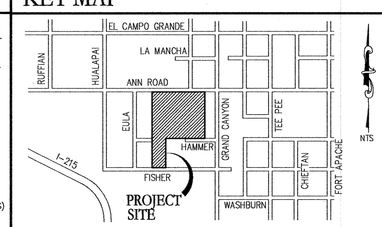
6. ALL WORK TO BE PERFORMED OUTSIDE OF THE PROJECT BOUNDARY AND ON PRIVATE PROPERTY SHALL NOT BE PERFORMED UNTIL WRITTEN PERMISSION AND EASEMENTS HAVE BEEN OBTAINED FROM THE OFFSITE OWNER AND GIVEN TO CLARK COUNTY.

7. ALL ONSITE STREETS AND DRAINAGE EASEMENTS ARE TO BE PRIVATELY OWNED AND MAINTAINED.

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS 2,000 GPM AT 20 POUNDS PER SQUARE INCH RESIDUAL.
HYDRANTS TO BE INSTALLED: 1
BASED ON:
SQUARE FOOTAGE: UP TO 6,200 SQ FT
HEIGHT: 35-FT
SPRINKLER SYSTEM: NO
ROOF CONSTRUCTION: TILE
HIGH PILED COMBUSTIBLE STORAGE: NO
LARGEST AREA BETWEEN SEPARATE WALLS: N/A
TYPE OF CONSTRUCTION: V-B
OCCUPANCY: R-3
STORIES: 1-STORY
ESFR SYSTEM: NO

KEY MAP



WATER MAIN JOINT DEFLECTION

(PVC 4"-24")

PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MAXIMUM 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, FITTING SHALL BE USED.

CONSTRUCTION NOTES

1. FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE (UDACS PLT 40) - PUBLIC (SEE FIRE HYDRANT DETAIL THIS SHEET)
2. 8" PVC WATERLINE - PUBLIC
3. 1" COPPER WATER SERVICE W/ 3/4" METER (UDACS PLT 4)
4. NOT USED
5. 4" SEWER LATERAL (DCSWCS SD-22, SEE R/GD1) - PRIVATE
6. (4) 4" IRRIGATION SLEEVES
7. CAP AND 2" BLOW OFF VALVE (UDACS PLT 36) - PUBLIC
8. REMOVE CAP AND BLOWOFF AND CONNECT TO EXISTING STUB (UDACS PLT. 36)
9. 8" PVC SEWER - PUBLIC
10. 48" SEWER MANHOLE (DCSWCS SD-1A) - PUBLIC
11. 6" PVC WATERLINE - PUBLIC
12. 8"X6" WATERLINE REDUCER - PUBLIC (UDACS PLT 30)
13. ENCASE SEWER IN 4" CONCRETE 10' EACH SIDE OF CROSSING (DCSWCS SD-21)

APPROVAL SIGNATURES

FOR DMG 12/22/10
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER (PROJ# 116616) DATE

Steven W. Walts 3 DEC 2010
CLARK COUNTY FIRE DEPARTMENT 10-33552/1PH DATE
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 = 2,000 G.P.M. AT 20 PSI RESIDUAL. 307V1051-1

Call Before You Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
CALL 811 OR 1-800-227-2600 AND CLARK COUNTY TRAFFIC OPERATIONS 1-800-455-7544

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS. IT'S COSTLY.
Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

12584

FILE NAME: WLL06BMP.DWG

NO.	DESCRIPTION	BY	DATE	APPR.
	REVISIONS			

WILLIAM LYON HOMES
6030 S. JONES BLVD STE# 100
LAS VEGAS, NV 89118
(702) 302-8844 FAX: (702) 302-8233

TANEY ENGINEERING
5670 S. PILOT ROAD STE# G
LAS VEGAS, NV 89119
(702) 263-8200 FAX: (702) 263-8220

ANN AND GRAND CANYON - UNIT 1
(SERENITY RIDGE)
A RESIDENTIAL SUBDIVISION

UTILITY PLAN

REGISTERED PROFESSIONAL ENGINEER ROBERT D. CUNNINGHAM Exp. 12-31-12 CIVIL No. 15726 STATE OF NEVADA 12/1/10
ENGINEER'S SEAL

DATE:	12/1/10
SCALE:	1"=40'
JOB NO:	WLL-10-068
DESIGNED BY:	MC
CHECKED BY:	RDC
SHEET NAME:	UT1
SHEET:	6 OF 16

H39676

10-26897