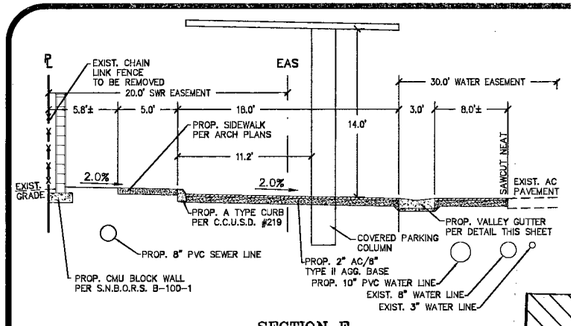
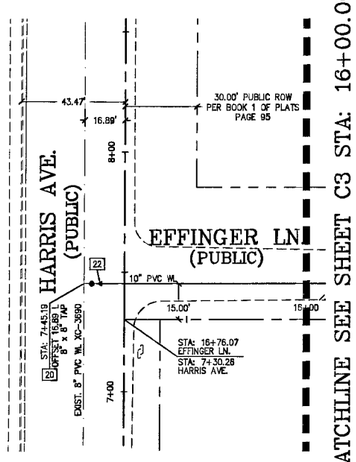
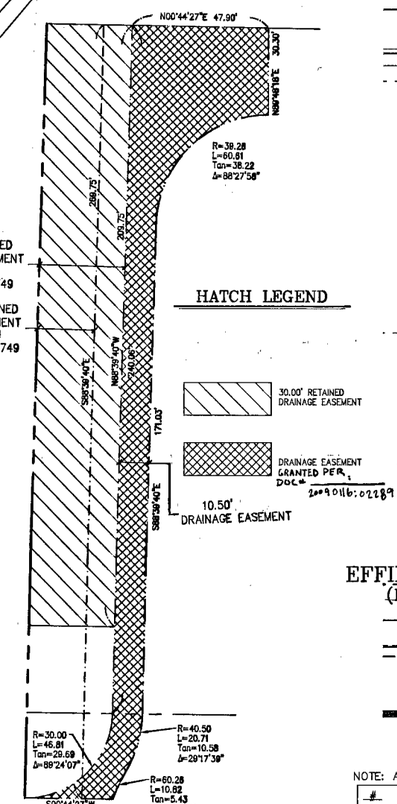


SECTION E

N.T.S.





DRAINAGE EASEMENT DETAIL

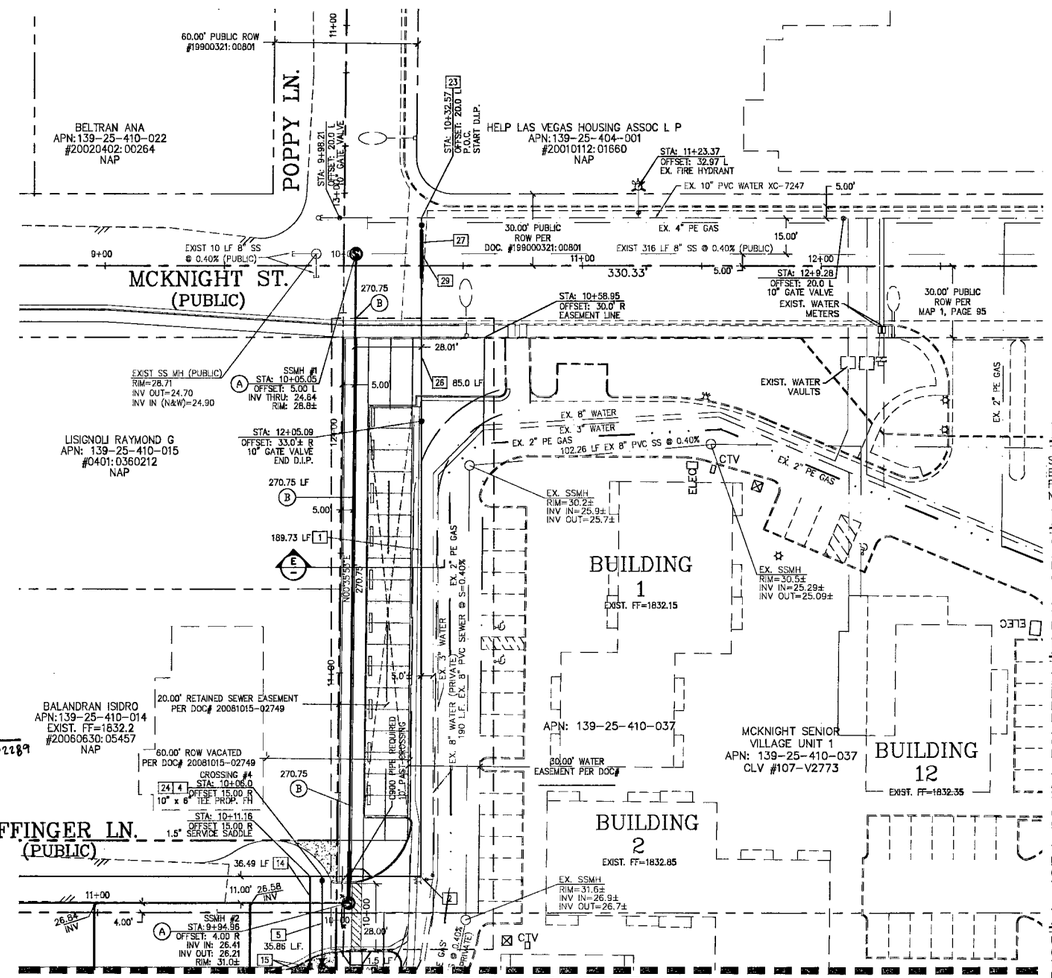
N.T.S.

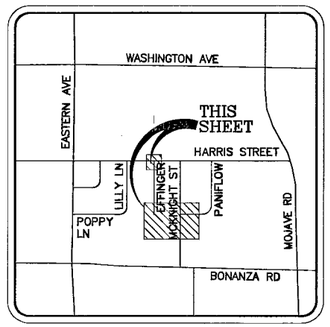
HATCH LEGEND

30.00' RETAINED DRAINAGE EASEMENT

DRAINAGE EASEMENT GRANTED PER DOC# 20090116:02289

10.50' DRAINAGE EASEMENT





VICINITY MAP

NTS

BASIS OF BEARING

SOUTH 89°39'40" EAST– BEING THE CENTERLINE OF BONANZA RD. AS SHOWN PER THAT MAP RECORDED IN FILE 82 OF SURVEYS, PAGE 99, CLARK COUNTY RECORDS, NEVADA.

BENCHMARK

CITY OF L.V. DATUM
2LV01-25SSWB
RIVET & PLATE IN TOP OF CURB @ NE CORNER OF BONANZA & MCKNIGHT

557.2567 METERS
1828.266 U.S. SURVEY FEET
NAVD 88 DATUM FEET=METERS(3937/1200)

LEGAL DESCRIPTION

A.P.N. #139-25-410-043, #139-25-410-042, #139-25-410-007
LOTS ONE (1) THRU SIX (6), INCLUSIVE AND LOTS NINETEEN (19) THRU TWENTY FOUR (24), INCLUSIVE, IN BLOCK 13 OF TANKEL'S NORTH ADDITION NO.2 AS SHOWN BY MAP THEREOF ON FILE IN BOOK 1 OF PLATS, PAGE 95, IN OFFICE OF THE COUNTY RECORDER OF CLARK COUNTY, NEVADA.

TOGETHER WITH THAT PORTION OF VACATED GAY STREET AND VACATED SHELBY STREET APPURTENANT THERETO AS VACATED BY THAT CERTAIN ORDER OF VACATION RECORDED OCTOBER 6, 1997 IN BOOK 971006 AS DOCUMENT NO. 00833, OFFICIAL RECORDS.

TOGETHER WITH THAT PORTION OF VACATED EFFINGER LANE APPURTENANT THERETO AS VACATED BY THAT CERTAIN ORDER OF VACATION RECORDED IN BOOK 761 AS DOCUMENT NO. 611340 OFFICIAL RECORDS.

DISCLAIMER NOTE

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 LOCATION.

DEMOLITION NOTE

REMOVE EXISTING FENCES, WALLS, SIDEWALK, AND CURB AS NEEDED

NOTES:

ALL SEWER/STORM DRAIN CROSSING WATER LINES MUST CONFORM TO SECTION 2.19 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

LOCATOR WIRE SHALL BE USED FOR ALL SERVICE LATERALS NOT PERPENDICULAR TO THE MAIN. (TYPICAL)
ALL WATER FACILITIES CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS" (UDACS), LATEST EDITION.

WATER AND SEWER SERVICE LATERALS SHALL BE INSTALLED A MINIMUM OF FORTY-EIGHT (48) INCHES APART IN SEPERATE TRENCHES. WATER LATERALS SHALL BE A MINIMUM OF TWELVE (12) INCHES ABOVE THE SEWER LATERAL (REF. UNIFORM PLUMBING CODE).

INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING, PER UDACS PLATE NO. 27.

WATER NOTES AND QUANTITIES

NOTE: ALL QUANTITIES ARE ALL PUBLIC UNTIL AFTER THE DEVICES, THEN PRIVATE

#	ITEM	QNTY	UNIT
1	INSTALL 10" PVC WATER LINE	960	LF
2	INSTALL 10" 90° ELL. PER UDACS PLATE# 5	2	EA
3	INSTALL 10" GATE VALVE PER UDACS PLATE# 3 & 8	2	EA
4	INSTALL 10" x 6" TEE PER UDACS PLATE# 5	4	EA
5	INSTALL 6" PVC WATER LINE	328	LF
6	INSTALL 6" 90° ELL. PER UDACS PLATE# 5	1	EA
7	INSTALL 6" DCDA PER UDACS PLATE# 11C	1	EA
9	INSTALL FIRE HYDRANT ASSEMBLEY PER UDACS PLATE# 7	2	EA
10	INSTALL FREE STANDING FDC PER DETAIL PER SHEET C7	1	EA
11	INSTALL 3" PVC WATER LINE	513	LF
12	INSTALL 3" 90° ELL. PER UDACS PLATE# 5	2	EA
13	INSTALL 3" x 3" TEE PER UDACS PLATE# 5	2	EA
14	INSTALL 1.5" TYPE "K" COPPER WATER LINE	77	LF
15	INSTALL 1.5" WATER METER WITH 1-1/2" RPPA PER UDACS PLATE# 1C & 11A	1	EA
16	INSTALL 3" x 1.5" REDUCER PER UDACS PLATE# 3	2	EA
17	INSTALL 1" PVC WATER LINE	104	LF
18	INSTALL 1" 90° ELL. PER UDACS PLATE# 5	1	EA
19	INSTALL 1" x 3" TEE PER UDACS PLATE# 5	1	EA
20	INSTALL 8" x 8" M.J.(OR APPROVED EQUAL) TAPPING SLEEVE WITH 8" TAPPING VALVE PER UDACS PLATE# 8 & 22	1	EA
21	INSTALL 6" GATE VALVE PER UDACS PLATE# 3 & 8	2	EA
22	INSTALL 10" x 8" REDUCER PER UDACS PLATE# 3	2	EA
23	INSTALL 10" x 10" M.J.(OR APPROVED EQUAL) TAPPING SLEEVE WITH 10" TAPPING VALVE PER UDACS PLATE# 8 & 22	1	EA
24	NOT USED	3	EA
25	INSTALL 1.5" BRASS WATER LINE	3	LF
26	INSTALL 10" D.I.P. WATER LINE	85	LF
27	INSTALL STEEL CASING PER UDACS PLATE# 16 (21' LENGTHS)	–	EA
28	INSTALL 45° VERTICAL BENDS PER UDACS PLATE# 5	–	EA
29	INSTALL SEWER & WATER CROSSING PER UDACS PLATE# 15	–	EA

SEWER NOTES AND QUANTITIES

NOTE: ALL QUANTITIES ARE PRIVATE UNLESS OTHERWISE NOTED

#	ITEM	QNTY	UNIT
A	INSTALL 48" SEWER MANHOLE (PUBLIC)	3	EA
B	INSTALL 8" PVC SEWER MAIN (PUBLIC)	281	LF
C	INSTALL 6" PVC SEWER LATERAL (1.0% MIN. SLOPE) (PRIVATE)	489	LF
D	INSTALL 6" SANITARY SEWER DOUBLE CLEANOUT (PRIVATE)	5	EA
E	INSTALL 6" SANITARY SEWER CLEANOUT AT 100' INTERVALS (PRIVATE)	3	EA
F	INSTALL 4" PVC SEWER LATERAL (1.0% MIN. SLOPE) (PRIVATE)	41	LF
G	INSTALL 8" C900 SEWER MAIN (PUBLIC)	404	LF

UTILITY NOTES

1. ALL DIMENSIONS TO UTILITIES ARE TO CENTER OF MANHOLE OR PIPE UNLESS INDICATED OTHERWISE.
2. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING UTILITIES AND NOTIFY THE DESIGN ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
3. UDACS = UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS
4. ALL QUANTITIES SHOWN ARE APPROXIMATE
5. 18" MIN. VERTICAL CROSSING BETWEEN SEWER MAINS AND WATER MAINS PER UDACS–SECTION 2.19
6. ALL ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF TITLE 13.12.060
7. FOR WATER & SEWER CROSSINGS SEE DETAIL ON SHEET C7A & C8

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

FOR LEGEND & ABBREVIATIONS SEE SHEET C1

DOUBLE CHECK DETECTOR ASSEMBLY (DCDA) (1) 8"
THE DOUBLE CHECK DETECTOR ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE NO. 11C. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) SO AS 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.

REDUCED PRESSURE PRINCIPLE ASSEMBLY (2) 1-1/2"

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 LVVWD. 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 (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 MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS, 2.06.01 AND 2.06.02.

FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

STEEL CASING

INSTALL WATERLINE IN STEEL CASING PER UDACS PLATES # 15 & 16. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE CASING. FROM THE UPPER BENDS THROUGHOUT THE LOWERED SECTION OF THE PIPE, DUCTILE IRON PIPE (D.I.P.) WITH RESTRAINED JOINTS IS REQUIRED. DINADDITION, THRUST BLOCKS ARE TO BE INSTALLED AT THE UPPER BENDS. ANNULAR SPACE BETWEEN PIPE AND CASING SHALL BE FILLED WITH CLASS I CLSM

SCALE 1" = 30'

RedRock ENGINEERING & SURVEYING, INC.

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS: 3938 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.

BASED ON: (PHASE I + PHASE II)

SQUARE FOOTAGE: 128,872 SQUARE FEET

LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: _____ SQUARE FEET

BUILDING HEIGHT: 48 FEET

ROOF CONSTRUCTION: [BUILT UP]

TYPE OF CONSTRUCTION: III-A

OCCUPANCY: RESIDENTIAL

FIRE SPRINKLER SYSTEM: YES

11607

AVOID CUTTING UNDERGROUND UTILITIES. IT'S COSTLY.
CALL BEFORE YOU "811" DIg
1-800-227-2600 UNDERGROUND SERVICE (USA)

NOTICE !
EXISTING UTILITIES ARE LOCATED ON THE PLANS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE ENGINEER BEARS NO RESPONSIBILITY FOR THE LOCATION OF UTILITIES SHOWN OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES BEFORE STARTING CONSTRUCTION AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES WITH THE UTILITY COMPANIES.

AVOID OVERHEAD POWER LINE CONTACT
CALL BEFORE YOU OVERHEAD
1-702-227-2929 NEVADA POWER (UNDERGROUND AND SAFETY SERVICES DEPT.)

FIRE HYDRANT NOTE

FIRE HYDRANTS TO BE INSTALLED IN ACCORDANCE WITH THE UDACS STANDARD PLATE NO. 7

FIRE DEPARTMENT APPROVAL

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LVVWD

APPROVALS

CITY FIRE MARSHAL — DATE 1.8.09
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 3938 GPM AT 20 PSI RESIDUAL PRESSURE

LAS VEGAS VALLEY WATER DISTRICT — DATE
PROJECT #115694

H# 28915

REV. #:	REVISION DESCRIPTION	SHT. #:	APP. BY:	DATE:

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS TO THE ENGINEER PRIOR TO COMMENCING WORK. THESE DRAWINGS ARE NOT TO BE SCALED. ALL DIMENSIONS TO BE FIELD VERIFIED. THESE DRAWINGS ARE THE PROPERTY OF THE ENGINEER AND REMAIN HIS SOLE PROPERTY, UNTIL SIGNED BY THE PRIVILEGED AUTHORITIES THESE PLANS ARE TO BE RETAINED BY THE ENGINEER. THE REPRODUCTION, ALTERATION OR REPUBLICATION OF THESE DOCUMENTS ARE TO BE ACCEPTED OR SUITABLY ACCOUNTED FOR TO THE ENGINEER ON WHOSE BEHALF THEY WERE PREPARED. THESE DOCUMENTS MAY NOT BE REPRODUCED OR PROMULGATED EXCEPT WITH WRITTEN CONSENT OF THE ENGINEER. ©2005 RAMBOA, INC. STRICTLY

RedRock ENGINEERING & SURVEYING, INC.
2001 SOUTH RAINBOW BLVD., STE. B
LAS VEGAS, NEVADA 89146
PHONE (702) 363-8188
FAX (702) 363-3433

MCKNIGHT SENIOR VILLAGE – UNIT 2

UTILITY PLAN EAST

EFFINGER LANE & POPPY LANE
LAS VEGAS, NEVADA

DRAWN BY: FS
DESIGNED BY: FS
CHECKED BY: WDC
DATE: APRIL 2008
JOB #: 26080
APN: VARIES
SECT 25 T 20 S R 61 E
SCALE: HORIZ 1" = 30' VERT 1" = NA

PROFESSIONAL ENGINEER — STATE OF NEVADA — WILLIAM D. CHILDS — Exp. 12-31-10 — CIVIL — No. 9117

SHEET #
C4
4 OF 12

10/7/5/71