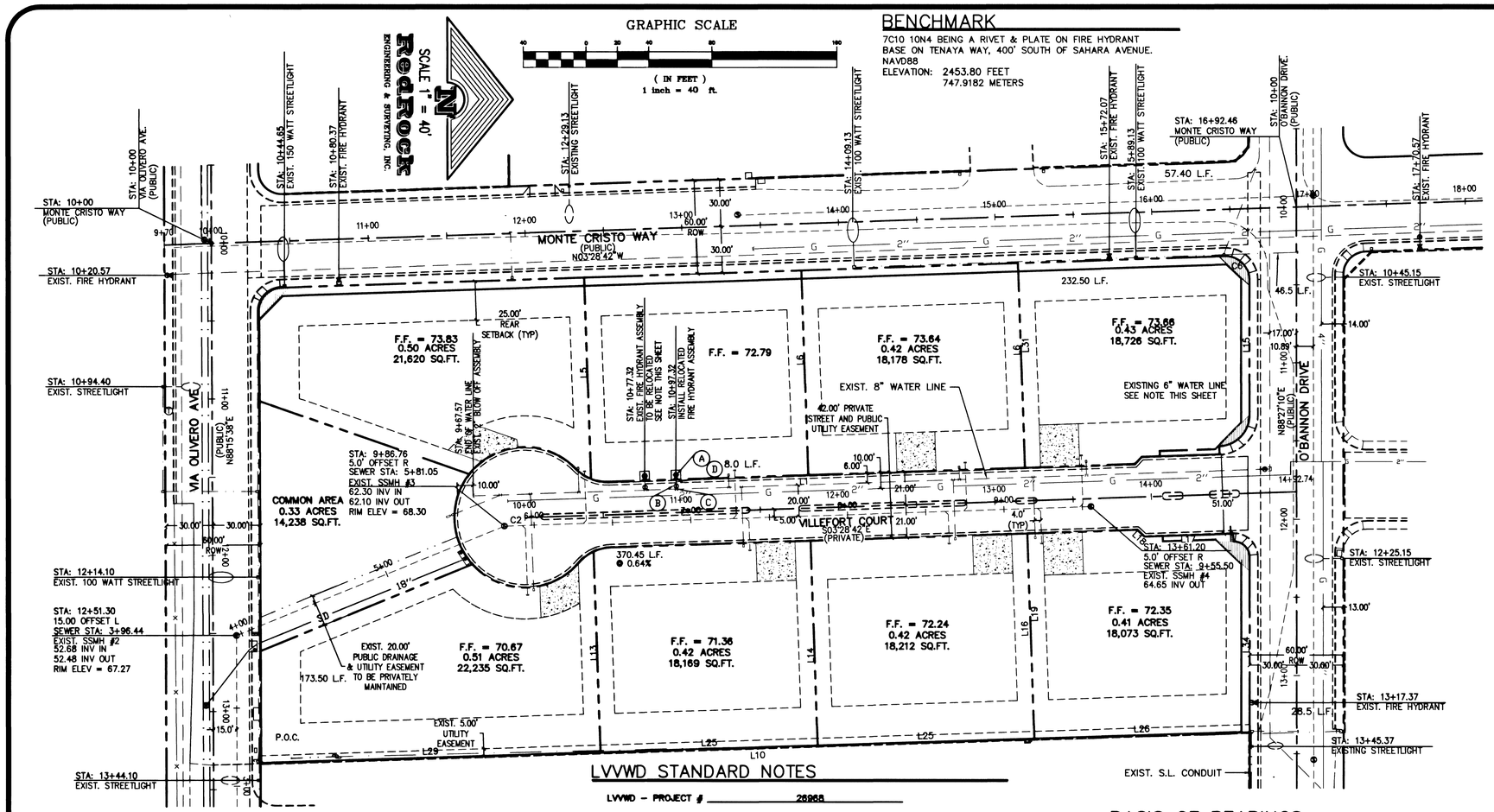


BENCHMARK

7C10 10N4 BEING A RIVET & PLATE ON FIRE HYDRANT BASE ON TENAYA WAY, 400' SOUTH OF SAHARA AVENUE.
NAVD88
ELEVATION: 2453.80 FEET
747.9182 METERS

CITY OF LAS VEGAS FIRE DEPARTMENT NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT "HYDRANT SPECIFICATIONS," "HYDRANT INSTALLATION SPECIFICATIONS" AND ORDINANCE #3944.
2. AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
   A. KENNEDY – GUARDIAN MODELS K81A AND K81D
   B. MUELLER – SUPER CENTURION 250 MODEL A-423
   C. CLOW – MEDALLION MODEL F-2546LV
   D. TROY VALVE – PATRIOT MODEL PTB100N NEVADA HYDRANT
3. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCES ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW
4. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF STREET ADJACENT TO THE FIRE HYDRANTS AS REQUIRED BY ORDINACE # 5115.
5. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CALL THE CITY OF LAS VEGAS INSPECTION HOT-LINE AT 229-2071 TO REQUEST AN INSPECTION BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
6. PAINTING OF THE CURBS AND FIRE HYDRANTS AND ALL OTHER WORK NECESSARY AS REQUIRED BY ORDINANCE # 5115, FOR THE PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
7. A PERMIT IS REQUIRED FROM THE CITY OF LAS VEGAS FIRE DEPARTMENT FOR THE ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK.
8. PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED.
9. PRIOR TO THE FINAL OCCUPANCY, A FLOW TEST MUST BE WITNESSED BY THE CITY OF LAS VEGAS FIRE DEPARTMENT TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW.
10. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED, AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE.
11. FIRE HYDRANT SPACING SHALL BE:
    RESIDENTIAL – 500 FEET UNSPRINKLERED; 1,000 FEET SPRINKLERED.
    COMMERCIAL – 300 FEET UNSPRINKLERED; 600 FEET SPRINKLERED.
12. WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT MAXIMUM 1,000 FOOT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS.
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE REQUIRED RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
15. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FEET.
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FEET, AS MEASURED BY AN APPROVED ROUTE.
17. TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM.
18. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN.
19. ALL FIRE APPARATUS ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET (FLOW LINE TO THE FLOW LINE), PROVIDED NO PARKING IS ALLOWED ON EITHER SIDE; 28 FEET (FLOW LINE TO THE FLOW LINE), IF PARALLEL PARKING IS ALLOWED ON ONE SIDE ONLY; AND 36 FEET (FLOW LINE TO THE FLOW LINE), IF PARALLEL PARKING IS ALLOWED ON BOTH SIDES. VERTICAL CLEARANCE SHALL BE NOT LESS THAN 13 FEET 6 INCHES.
20. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS.
21. THE GRADIENT FOR A FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12% ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FEET PRIOR TO OR AFTER THE GRADE CHANGE.
22. THE TURNING RADIUS OF A FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FEET OUTSIDE AND 28 FEET INSIDE TURNING RADIUS.
23. A FIRE APPARATUS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCES (SEE EXCEPTIONS IN UFC 97, SECTION 902.2)
24. ALL DEAD-END FIRE APPARATUS ACCESS ROADS AND OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND AREA HAVING A MINIMUM DIAMETER OF 81 FEET (BACK OF THE CURB TO THE BACK OF THE CURB).
25. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS 100 FEET ALONG ALL DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 10 FEET OF LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURBS ALONG OR ON THE PAVEMENT OR CEMENT IF CURB IS NOT PROVIDED SHALL BE PAINTED WHITE WITH A RED WEATHER RESISTANAT PAINT IN ADDITION TO THE SIGNS.
26. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERENCY VEHICLE DETECTOR/ RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.

GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITION BETWEEN THE NEW CONSTRUCTION AND EXIST. SURFACES TO PROVIDE FOR PROPER DRAINAGE AND INGRESS AND EGRESS TO SAID CONSTRUCTION.
2. ALL DIMENSIONS TO UTILITIES ARE TO CENTERLINE OF PIPE UNLESS INDICATED OTHERWISE.
3. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING UTILITIES AND NOTIFY THE DESIGN ENGINEER IMMEDIATELY ON ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

UTILITY CONSTRUCTION NOTES

		PUBLIC
(A)	FIRE HYDRANT ASSEMBLY PER UDACS PLATE NO. 7	1 EA
(B)	INSTALL 6" GATE VALVE	1 EA
(C)	INSTALL 6" x 8" x 6" TEE	1 EA
(D)	INSTALL 6" PVC WATER LINE	±8.0 L.F.

APPROVALS

CHARLES KAJKOWSKI, JR., P.E. #4784 — DATE 8/7/2002
CITY ENGINEER

APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED RIGHTS-OF-WAY AND/OR DEDICATED EASEMENTS. THIS APPROVAL DOES NOT AUTHORIZE THE CONSTRUCTION OF ANY IMPROVEMENTS THAT DEVIATE FROM ADOPTED STANDARDS AND/OR SPECIFICATIONS, EXCEPT THOSE SPECIFICALLY LISTED UNDER DEVIATIONS FROM STANDARDS; THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN DEVIATIONS FROM STANDARDS IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS CLARK COUNTY AREA NEVADA.

CITY FIRE MARSHALL — DATE 7/29/02

LAS VEGAS VALLEY WATER DISTRICT — DATE

LVVWD STANDARD NOTES

LVVWD – PROJECT # 26955

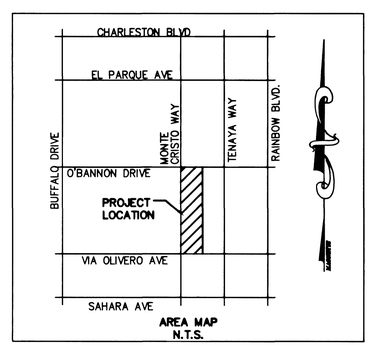
1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, 48 HOUR NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 PM THE BUSINESS DAY PRIOR TO A LVVWD INSPECTION.
   WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. ALL WORK SHALL CONFORM TO THE LVVWD'S STANDARD PLATES, DRAWINGS AND SPECIFICATIONS AND THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS), LATEST EDITION.
3. 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 OFFSITE IMPROVEMENTS CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHER OTHERWISE APPROVED BY THE LVVWD.
5. ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
6. ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
7. ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
8. 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 MAINTAIN 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:
   A. POTABLE WATER SUPPLY QUALITY MATERIAL.
   B. ENCASEMENT WITH FOUR (4) INCH CONCRETE (MINIMUM)
   C. 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 TEN (10) FOOT DISTANCE PERPENDICULAR TO THE WATER MAIN EXTERIOR.
9. 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.
10. ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED AND AN ACCEPTABLE WATER SAMPLE OBTAINED PRIOR TO CONNECTION TO THE LVVWD'S DISTRIBUTION SYSTEM.
11. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PICKUP
12. CONSTRUCTION MAY INTERRUPT SERVICE WITH LVVWD APPROVAL AND PROPER NOTIFICATION. BETWEEN THE HOURS OF 10 PM AND 6 AM, SUNDAY THROUGH THURSDAY CIRCUMSTANCES MAY REQUIRE TEMPORARY SERVICE FEEDS BE INSTALLED WITHOUT LVVWD REIMBURSEMENT. ANY TEMPORARY SERVICE FEEDS MUST HAVE PRIOR LVVWD APPROVAL
13. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD'S PREAPPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATES REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS

REV. JUNE 23, 1996

BASIS OF BEARINGS

SOUTH 03° 40' 50" EAST – BEING THE WEST LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 3, TOWNSHIP 21 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN ON PARCEL MAP IN FILE 31, PAGE 60, CLARK COUNTY RECORDS.



FIRE HYDRANT RELOCATION AND LATERAL ABANDONMENT

(EXISTING LATERAL TO BE ABANDONED)

WHERE SHOWN ON THE DRAWING(S), THE CONTRACTOR SHALL ABANDON THE EXISTING FIRE HYDRANT(S) BY REMOVING BOTH THE UPPER AND LOWER BARRELS OF THE FIRE HYDRANT SO THAT NO PORTION OF THE REMAINING FIRE HYDRANT ASSEMBLY IS CLOSER THAN 2 FEET TO THE EXISTING GRADE. THE EXISTING HYDRANT SHALL BE INSTALLED AT THE NEW LOCATION AS INDICATED ON THE DRAWING, IN ACCORDANCE WITH STANDARD PLATE NO. 7. THE EXISTING VALVE SHALL BE ABANDONED IN A CLOSED POSITION AND A MINIMUM OF THE TOP 12 INCHES OF THE VALVE BOX REMOVED. THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST 2,000 PSI. THE REMAINING PORTION OF THE HOLE MAY BE FILLED WITH CONCRETE OR ASPHALT CEMENT. THE LATERAL SHALL BE CUT AND CAPPED WHERE INDICATED. WHERE A JOINT OR COUPLING IN THE EXISTING PIPE IS UNCOVERED AT THE CUT AND CAP LOCATION, THE INSTALLATION OF A PLUG MAY BE PERMITTED, WITH AGENCY APPROVAL. A CONCRETE THRUST BLOCK SHALL BE INSTALLED AT ALL CUT AND CAP LOCATIONS IN ACCORDANCE WITH THE PROVISIONS OF STANDARD PLATE NO. 5.

PROJECT NAME: Villa Fort Court & O'Bannon
PCN: RedRock-Tenaya-P2-C1
This project water plan complies with the Las Vegas Valley Water District's technical requirements. However, this water plan is
NOT APPROVED FOR CONSTRUCTION
at this time and this signature does not provide or imply a water commitment.
LVVWD #52 — DATE 7/30/02

FIRE FLOW CALCULATIONS

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

BASED ON:

SQUARE FOOTAGE:	3500	SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	0	SQUARE FEET
BUILDING HEIGHT:	30	FEET
NUMBER OF STORIES:	TWO	FLOOR
TYPE OF CONSTRUCTION:	V-N	
OCCUPANCY:	RESIDENTIAL	
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	☐ YES	☒ NO

REVIEWED BY: — DATE: 7/29/02

AVOID CUTTING UNDERGROUND UTILITIES. IT'S COSTLY.
CALL BEFORE YOU 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
1-702-593-6111 NEVADA POWER, ENVIRONMENTAL AND SAFETY SERVICES DEPT.

43405

REV:	DATE:	BY:	REVISION:

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS TO THE ENGINEER AT LEAST 24 HOURS PRIOR TO THE COMMENCEMENT OF WORK. THESE PLANS AND DRAWINGS, SPECIFICATIONS AND COPIES THEREOF FURNISHED BY THE ENGINEER ARE AND SHALL REMAIN THE PROPERTY OF THE ENGINEER. THE PLANS AND DRAWINGS ARE TO BE USED ONLY TO BE CONSIDERED PRELIMINARY AND USED AT THE THE OWNER/DEVELOPER/CONTRACTORS RISK. THE REPRODUCTION, IN WHOLE OR IN PART, OR USE OF THESE PLANS AND DRAWINGS WITHOUT ANY USE OF THIS DRAWING IN WHOLE OR IN PART, BY ANY MEANS WHATSOEVER, IS STRICTLY PROHIBITED EXCEPT WITH WRITTEN CONSENT OF THE ENGINEER.

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

MONTE CRISTO COURT
FIRE HYDRANT RELOCATION
VILLEFORT COURT & O'BANNON DRIVE
LAS VEGAS, NEVADA

DRAWN BY : M.B.
DESIGNED BY : M.B.
CHECKED BY : W.D.C.
DATE : 06/10/02
JOB # : R98002
APN : —
SECT 3 T 21S R 60E
SCALE : HORIZ 1" = 40'
VERT 1" = 4'

PROFESSIONAL ENGINEER — STATE OF NEVADA — WILLIAM D. CHILDS — CIVIL — NO. 9911

SHEET #
C1
1 OF 1

565-372