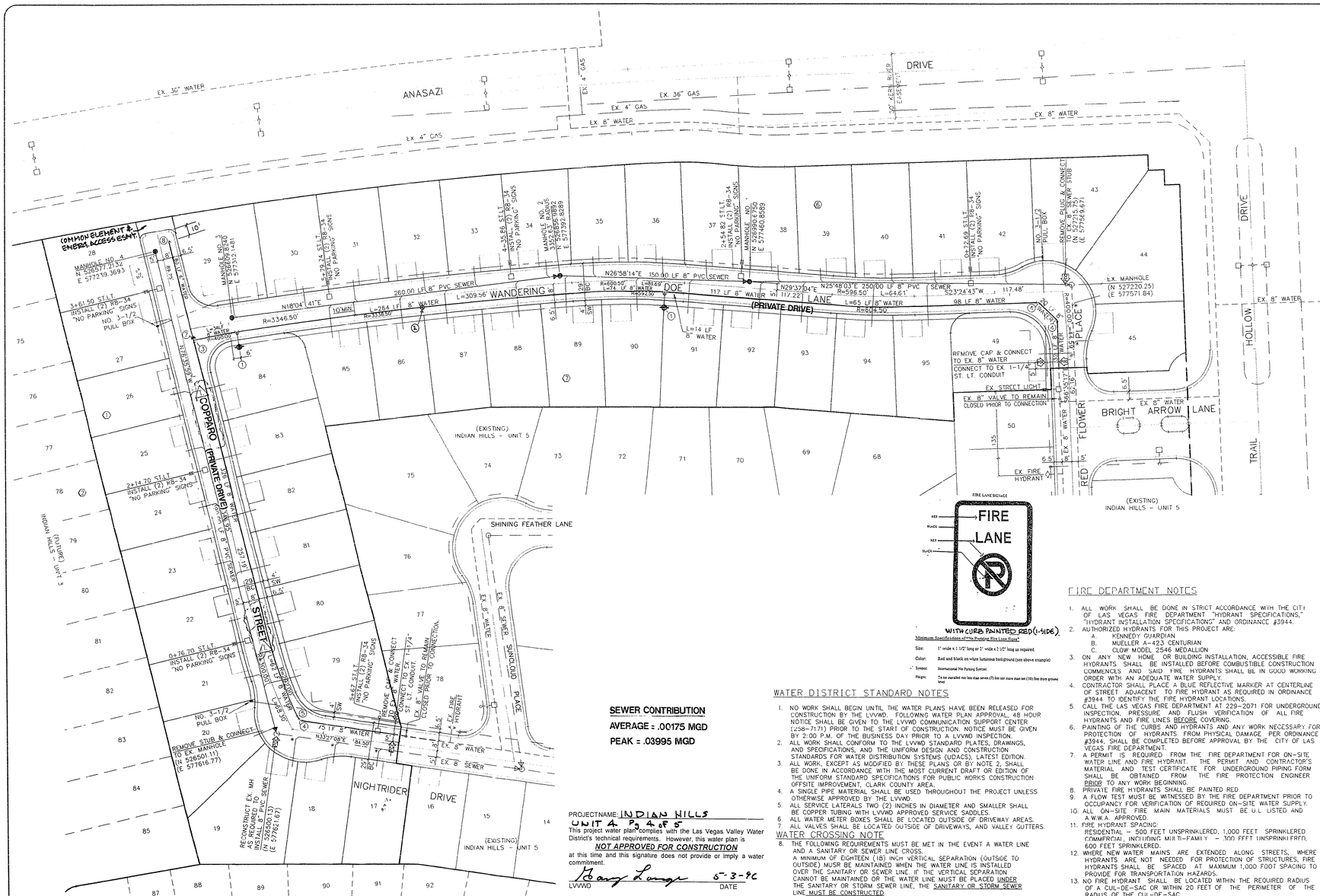
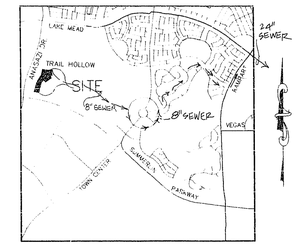




LOCATION MAP

GRAPHIC SCALE 1" = 40'

ESTIMATED QUANTITIES

WATER

① FIRE HYDRANT ASSEMBLY (INCLUDES 8"X 6" TEE, 6" VALVE, PIPE, & RISER)	2 EA.
② 8" GATE VALVE	1 EA.
③ 8" TEE	1 EA.
④ 8"– 45° BEND	3 EA.
⑤ 8"– 11-1/4° BEND	1 EA.
⑦ 8"X 6" REDUCER	1 EA.
⑧ 2" BLOW OFF ASSEMBLY	1 EA.
1" SERVICE WITH 5/8" METER	47 EA.
6" WATER MAIN	80 L.F.
8" WATER MAIN	1102 L.F.

SEWER

STANDARD MANHOLE	4 EA.
WYES	41 EA.
4" SERVICE LATERAL	953 L.F.
8" PVC SEWER	1050 L.F.
CONNECT 4" SERVICE LATERALS TO EXISTING WYES	6 EA.

STREET LIGHTING

100 WATT LUMINAIRE	8 EA.
"NO PARKING" SIGNS	16 EA.
1-1/4" STREET LIGHT CONDUIT	1235 L.F.
STREET NAME SIGN	6 EA.
STOP SIGN	1 EA.
No. 3-1/2 PULL BOX	3 EA.
POINT OF CONNECTION	
DRIVEWAY LOCATION (SCHEMATIC ONLY)	

FIRE LANE SIGNAGE

FIRE LANE

WITH CURB PAINTED RED (1-SIDE)

Minimum Specifications of This Parking Fire Lane Signs:

Size: 1" wide x 1 1/2" long or 2" wide x 2 1/2" long as required

Color: Red and black on white luminous background (see above example)

Symbol: International No Parking Symbol

Height: To be installed not less than seven (7) feet nor more than ten (10) feet from ground level

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
   B. MUELLER A-423 CENTURIAN
   C. CLOW MODEL 2546 MEDALLION
3. ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMBUSTIBLE CONSTRUCTION COMMENCES AND SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER WITH AN ADEQUATE WATER SUPPLY.
4. CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT CENTERLINE OF STREET ADJACENT TO FIRE HYDRANT AS REQUIRED IN ORDINANCE #3944 TO IDENTIFY THE FIRE HYDRANT LOCATIONS.
5. CALL THE LAS VEGAS FIRE DEPARTMENT AT 229-2071 FOR UNDERGROUND INSPECTION, PRESSURE AND FLUSH VERIFICATION OF ALL FIRE HYDRANTS AND FIRE LINES BEFORE COVERING.
6. PAINTING OF THE CURBS AND HYDRANTS AND ANY WORK NECESSARY FOR PROTECTION OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE #3944, SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
7. A PERMIT IS REQUIRED FROM THE FIRE DEPARTMENT FOR ON-SITE WATER LINE AND FIRE HYDRANT. THE PERMIT AND CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
8. PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED
9. A FLOW TEST MUST BE WITNESSED BY THE FIRE DEPARTMENT PRIOR TO OCCUPANCY FOR VERIFICATION OF REQUIRED ON-SITE WATER SUPPLY.
10. ALL ON-SITE FIRE MAIN MATERIALS MUST BE U.L. LISTED AND A.W.W.A. APPROVED.
11. FIRE HYDRANT SPACING:
    RESIDENTIAL – 500 FEET UNSPRINKLERED, 1,000 FEET SPRINKLERED
    COMMERCIAL, INCLUDING MULTI-FAMILY – 300 FEET UNSPRINKLERED, 600 FEET SPRINKLERED.
12. WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS, WHERE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF STRUCTURES, FIRE HYDRANTS SHALL BE SPACED AT MAXIMUM 1,000 FOOT SPACING TO PROVIDE FOR TRANSPORTATION HAZARDS.
13. NO FIRE HYDRANT 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 HYDRANT SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
15. TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE HYDRANTS INSTALLED ON A SINGLE SYSTEM.
16. NOT MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
17. FIRE APARATUS ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET PROVIDED NO PARKING IS ALLOWED, NOT LESS THAN 28 FEET IF PARRALLEL PARKING IS ALLOWED ON ONE SIDE, AND NOT LESS THAN 36 FEET IF PARRALLEL PARKING IS ALLOWED ON BOTH SIDES. VERTICAL CLEARANCE SHALL BE NOT LESS THAN 13 FEET 6 INCHES.
18. THE TURNING RADIUS FOR ANY FIRE APPARATUS ACCESS ROAD AND/OR FIRE LANE, PUBLIC OR PRIVATE SHALL BE NOT LESS THAN 45 FEET OUTSIDE RADIUS AND 22 FEET INSIDE RADIUS.
19. 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 ACCESS (SEE EXCEPTIONS IN UFC 94, SECTION 902.2).
20. 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. SEE ORDINANCE #3944.
21. 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 OF 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 OR LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURBS ALONG OR ON THE PAVEMENT OR CEMENT IF CURB IS NOT PRESENT, SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS.
22. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS: 1500 gallons per minute at 20 psi residual pressure.

Based on:

SQUARE FOOTAGE:	1470 square feet
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	square feet
BUILDING HEIGHT:	feet
NUMBER OF STORIES:	1 floor
TYPE OF CONSTRUCTION:	TYPE 5N
OCCUPANCY:	SINGLE FAMILY
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	

Reviewed By: _____

Date: _____

STREET LIGHT NOTE

ALL STREET LIGHTING INSTALLATION SHALL CONFORM TO THE SUMMERLIN IMPROVEMENT STANDARDS AND SUMMERLIN STANDARD DRAWINGS.

SEWER CONNECTION NOTE:

ONE OR MORE SEGMENTS OF THE DOWNSTREAM SEWER SYSTEM THAT WILL SERVE THIS PROJECT HAS NOT BEEN COMPLETED AND/OR ACCEPTED FOR MAINTENANCE BY THE CITY OF LAS VEGAS ANY WORK DONE ON THIS PROJECT PRIOR TO THE COMPLETION AND/OR ACCEPTANCE OF THE DOWNSTREAM SEWER SYSTEM(S) SHALL BE DONE AT THE DEVELOPER'S OWN RISK. THE CITY OF LAS VEGAS RESERVES THE RIGHT TO PREVENT THE PHYSICAL CONNECTION OF THIS PROJECT INTO THE DOWNSTREAM SEWER SYSTEM UNTIL ALL SEGMENTS HAVE BEEN COMPLETED AND ACCEPTED FOR MAINTENANCE, OR UNTIL SUCH TIME AS THEY ARE DEEMED AVAILABLE FOR SERVICE.

APPROVAL:

LAS VEGAS VALLEY WATER DISTRICT — DATE 5/24/96

CITY OF LAS VEGAS FIRE MARSHALL — DATE 5-2-96 (SEE NOTE)

Paint Curbs Red as required by 901.4.2 of UFC

NEVADA POWER COMPANY — DATE 4/23/96

NEVADA POWER COMPANY APPROVAL IS ONLY FOR THE PLACEMENT AND CLEARANCE OF STREET LIGHT AND SIGNAL LIGHT INSTALLATION.

WATER DISTRICT STANDARD NOTES

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 P.M. OF THE BUSINESS DAY PRIOR TO A LVVWD INSPECTION.
2. ALL WORK SHALL CONFORM TO THE LVVWD 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 IMPROVEMENT, CLARK COUNTY AREA.
4. A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS 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, AND VALLEY GUTTERS.

WATER CROSSING NOTE

8. THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT A WATER LINE AND A SANITARY OR SEWER LINE CROSS.
   A MINIMUM OF EIGHTEEN (18) INCH VERTICAL SEPARATION (OUTSIDE TO OUTSIDE) MUSR BE MAINTAINED WHEN THE WATER LINE IS INSTALLED OVER THE SANITARY OR 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 WATER PIPE.
   EACH PROVISION MUST EXTEND ALONG THE SANITARY OR STORM SEWER, ON EITHER SIDE OF THE MAIN, A MINIMUM 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. TELEPJONE 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PICKUP.
12. CONSTRUCTION MAY INTERRUPT SERVICE, WITH LVVWD APPROVAL AND PROPER NOTIFICATION BETWEEN THE HOURS OF 10PM AND 6AM, SUNDAY THROUGH THURSDAY. CIRCUMSTANCES MAY REQUIRE TEMPORARY SERVICE FEEDS BE INSTALLED, WITHOUT LVVWD REIMBURSEMENT. ANY TEMPORARY SRVICE FEED MUST HAVE PRIOR LVVWD APPROVAL.
13. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD PREAPPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

A 1" x 3/4" angle meter stop and 3/4" meter box will be required with the 1" service laterals for all services with 5/8" or 3/4" services. Details of the above installation are available from the Engineering Services Division and from the District's Inspectors. ESN.049

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.PRV'S ARE THE DEVELOPER'S RESPONSIBILITY AND WILL NOT BE INSPECTED OR INCLUDED IN THE ACCEPTANCE OF LVVWD FACILITIES.

CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IN ALL CASES, THESE STANDARDS SHALL SUPERSEDE THE UNIFORM STANDARD SPECIFICATIONS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATION BOOKS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CONTROLLING AGENCY.
3. CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
4. POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OF TYPE II GRAVEL.
5. ALL MANHOLES IN PAVED STREETS 80" R/W AND LARGER, SHALL HAVE CONCRETE COLLARS.
6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO 12" DIA. SIZE. CONNECTIONS TO 15" OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES.
7. A SEWER MAIN CROSSING OVER A WATER MAIN OR LESS THAN 18" UNDER A WATER MAIN, MUST BE REINFORCED CONCRETE ENCASED FOR A DISTANCE NOT LESS THAN TEN FEET (10') TO EACH SIDE OF THE CENTERLINE OF THE WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CONTROLLING AGENCY MUST BE CLASS "A" CONTRACTORS.
9. THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY.

SEWER CONTRIBUTION

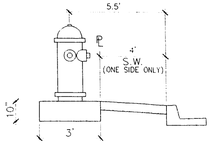
AVERAGE = .00175 MGD

PEAK = .03995 MGD

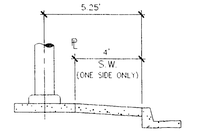
PROJECTNAME: INDIAN HILLS UNIT 4 Pg 4 of 5

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 — DATE 5-3-96



FIRE HYDRANT DETAIL



STREET LIGHT DETAIL

2 working days Call before you Dig 1-800-227-2600

BENCHMARK

CONTROL POINT "SPANKY" A BRASS CAP SET IN CONCRETE, STAMPED "#42", SET BY G.C. WALLACE ENGINEERING AND USED FOR BENCHMARK FOR SUMMERLIN CONSTRUCTION

ELEVATION = 2824.36 **(SUMMERLIN DATUM) = PROJECT DATUM**
ELEV. EQUATION **: SUMMERLIN ELEV. - 0.217 = NGVD'29 ELEV.**
ELEVATION EQUATION: NGVD ELEV. + 2.437 = NAVD'88 ELEV.

REV	DATE	BY	REVISION
1	7-31-96	MDM	REV STREET NAME RJR 8/20/96

PLASTER DEVELOPMENT

CITY OF LAS VEGAS

CONSULTING ENGINEERS • PLANNERS • LAND SURVEYORS
2727 SOUTH RAINBOW BOULEVARD
LAS VEGAS, NEVADA 89102-5148 PHONE (702) 873-7550 FAX (702) 362-2597

TITLE: **MASTER UTILITY PLAN**

PROJECT: **INDIAN HILLS UNIT 4**

SEAL: CIVIL ENGINEER STATE OF NEVADA JOSEPH P. HOMAN 11907 — 5-9-96

WO NO.	4820-4
BY	RJR
DATE	FEB.,1996
SCALE HORIZ.	1"=40'
VERT.	NONE
SHEET	4 OF 5 SHEETS

11-23-15

307Y-4H10-H