

FIRE DEPARTMENT DATA

OCCUPANCY SINGLE FAMILY RESIDENCE
 SQ. FOOTAGE 2,380 SQ.FT.
 HEIGHT TWO STORY
 CONSTRUCTION MATERIALS TYPE V-N
 SPRINKLERS NO
 ESTIMATED FIRE FLOW 1500 GPM AT 20 PSI

FIRE DEPARTMENT NOTES

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT "HYDRANT SPECIFICATIONS", "HYDRANT INSTALLATION SPECIFICATIONS" AND ORDINANCE #3677.
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE:
 A. KENNEDY GUARDIAN
 B. MUELLER A-425 CENTURIAN
 C. CLOW MODEL 2546 MEDALLION
- ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMPLETION OF CONSTRUCTION COMMENCES AND SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING WITH AN ADEQUATE WATER SUPPLY.
- CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT CENTERLINE OF STREET ADJACENT TO FIRE HYDRANT AS REQUIRED IN ORDINANCE #3677 TO IDENTIFY FIRE HYDRANT LOCATIONS.
- CALL THE LAS VEGAS BUILDING DEPARTMENT AT 229-2071 FOR UNDERGROUND INSPECTION, PRESSURE AND FLUSH VERIFICATION OF ALL FIRE HYDRANTS AND FIRE LINES BEFORE COVERING.
- PAINTING OF THE CURBS AND HYDRANT AND ANY WORK NECESSARY FOR PROTECTION OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE #3677 SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- A PERMIT IS REQUIRED FROM THE FIRE DEPARTMENT FOR ON-SITE WATER LINE AND FIRE HYDRANT INSTALLATIONS. THE PERMIT AND CONTRACTORS MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
- A FLOW TEST MUST BE WITNESSED BY THE FIRE DEPARTMENT PRIOR TO OCCUPANCY FOR VERIFICATION OF REQUIRED ON-SITE WATER SUPPLY.
- ALL ON-SITE FIRE MAIN MATERIALS MUST BE U.L. LISTED AND F.M. APPROVED.
- FIRE HYDRANT SPACING:
 RESIDENTIAL - 500 FEET UNSPRINKLERED, 600 FEET SPRINKLERED
 COMMERCIAL, INCL. MULTI-FAMILY - 300 FEET UNSPRINKLERED, 400 FEET SPRINKLERED
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS. (SEE EXCEPTIONS IN UFG 88, SECTION 10.207).
- 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 TURNAROUND AREA. SEE ORDINANCE #3677.
- 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.
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
- NOT MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
- 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 UFG 88, SECTION 10.207).
- 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 TURNAROUND AREA. SEE ORDINANCE #3677.

UTILITY NOTES

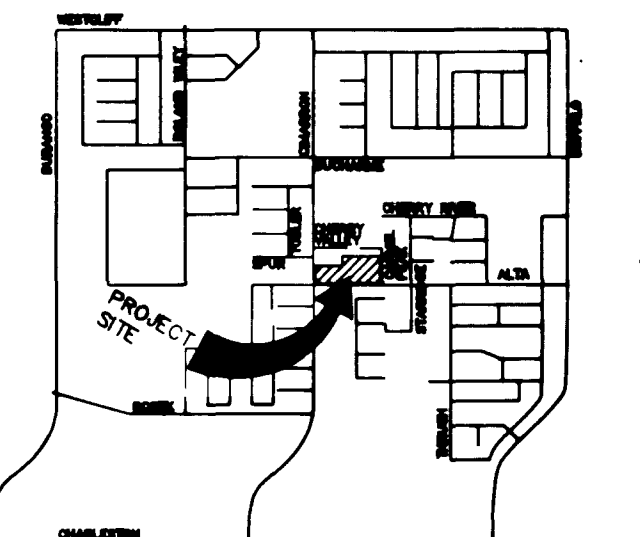
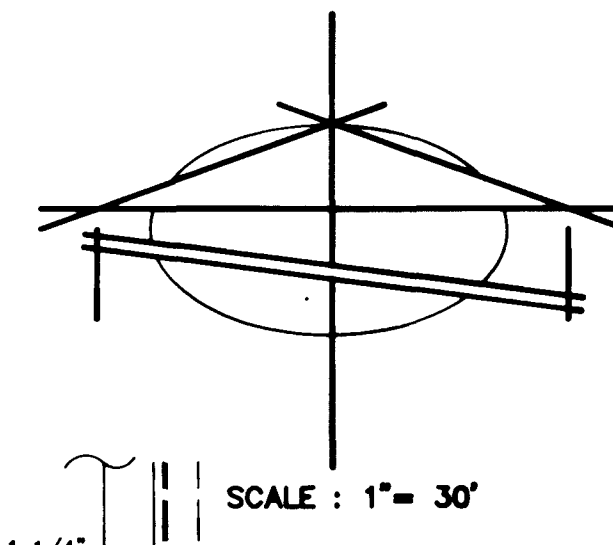
THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON HAS BEEN DETERMINED FROM SURFACE EVIDENCE OF THEIR EXISTENCE OR FROM INFORMATION OBTAINED FROM THE UTILITY COMPANIES. THE ENGINEER ACCEPTS NO LIABILITY FOR THE EXISTENCE OR NON-EXISTENCE OF UTILITY LINES. CONTRACTORS AND OTHERS USING THIS MAP MUST CONFIRM THE LOCATION OF UNDERGROUND LINES OR STRUCTURES WITH THE UTILITY COMPANIES PRIOR TO COMMENCING ANY EXCAVATION.

BENCH MARK

RIVET & PLATE IN TOP OF CURB NORTHEAST RETURN OF CHARLESTON BLVD. & CIMARRON RD. 0L000 335ES
 ELEVATION = 2591.730

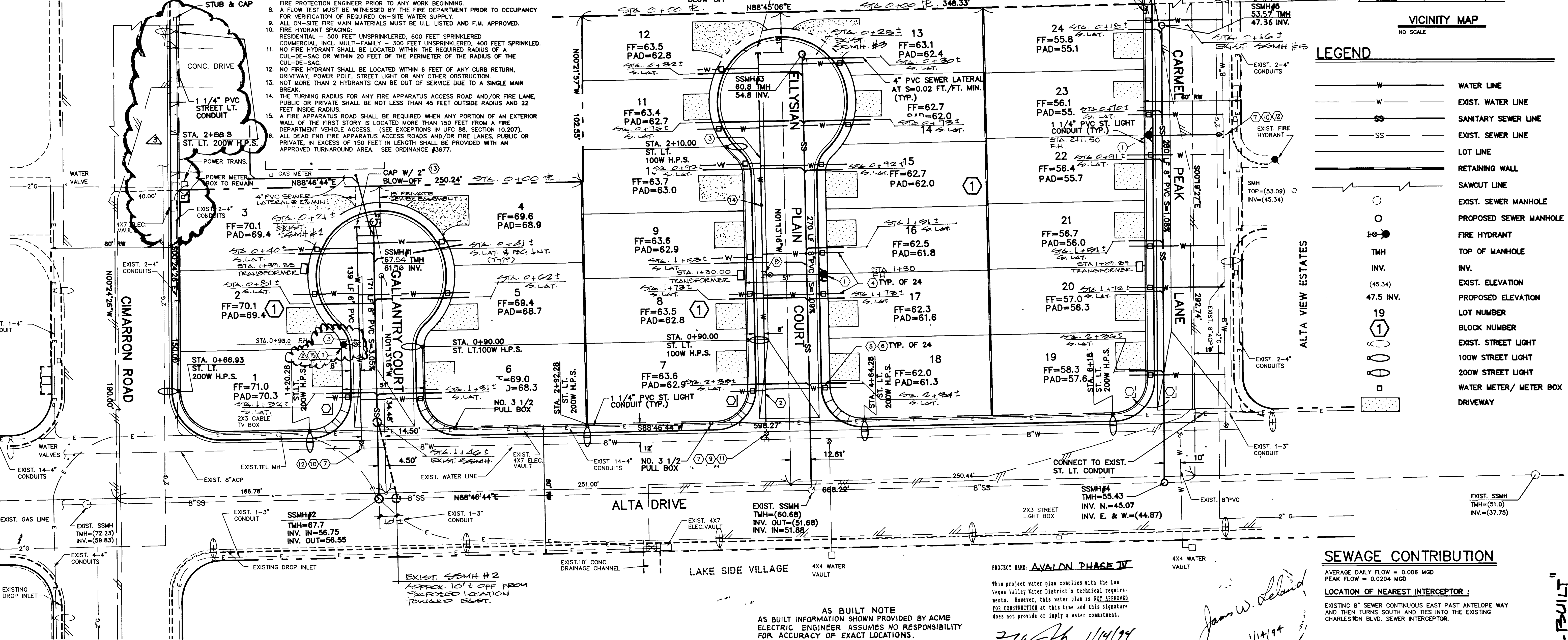
STREET LIGHT NOTES

ALL STREET LIGHT INSTALLATIONS SHALL CONFORM TO THE STANDARD DETAILS AND SPECIFICATIONS OF THE CITY OF LAS VEGAS, AND SHALL ALSO CONFORM TO THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OF OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, LATEST EDITION, UNLESS OTHERWISE NOTED.
 ALL HAND HOLE COVERS MUST BE INSTALLED, POLE CAPS POURED AND PULL BOX LIDS BOLTED DOWN PRIOR TO ENERGIZING CIRCUIT. ALL WIRE MUST HAVE THW INSULATION.



LEGEND

- WATER LINE
- EXIST. WATER LINE
- SANITARY SEWER LINE
- EXIST. SEWER LINE
- LOT LINE
- RETAINING WALL
- EXIST. SEWER MANHOLE
- PROPOSED SEWER MANHOLE
- FIRE HYDRANT
- TOP OF MANHOLE
- EXIST. ELEVATION
- PROPOSED ELEVATION
- LOT NUMBER
- BLOCK NUMBER
- EXIST. STREET LIGHT
- 100W STREET LIGHT
- 200W STREET LIGHT
- WATER METER/ METER BOX
- DRIVEWAY



SEWER NOTES

- ALL CONSTRUCTION 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.
- 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.
- CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
- POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH SAND BEDDING AND BACKFILL OR TYPE II GRAVEL.
- ALL MANHOLES IN PAVED STREETS 80' R/W AND LARGER, SHALL HAVE CONCRETE COLLARS.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO 12" DIA. IN SIZE. CONNECTIONS TO 15" OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES.
- A SEWER MAIN CROSSING OVER A WATER MAIN OR LESS THAN 18" UNDER A WATER MAIN MUST BE REINFORCED CONCRETE ENCASED PIPE FOR A DISTANCE NOT LESS THAN TEN FEET (10') TO EACH SIDE OF THE CENTERLINE OF THE WATER MAIN.
- ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CONTROLLING AGENCY MUST BE CLASS "A" CONTRACTORS.
- 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.

WATER LINE NOTES

- NO WORK SHALL BEGIN ON THE WATER PLANS UNTIL THEY HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVWD. FOLLOWING APPROVAL OF THE PLANS, NOTICE SHALL BE GIVEN TO THE LVWD CUSTOMER SERVICE DEPARTMENT (870-4194), 48 HOURS PRIOR TO ACTUAL CONSTRUCTION, AND 24 HOURS PRIOR TO AN INSPECTION.
- BEFORE YOU DO 1-1/2" AND 2" SERVICE LATERALS, YOU MUST OBTAIN A PERMIT FROM THE LVWD.
- ALL WORK SHALL CONFORM TO LVWD LATEST STANDARD PLATES, DRAWINGS AND SPECIFICATIONS.
- ALL WORK, EXCEPT AS MODIFIED HEREON OR BY NOTE 3, SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT DRAFT OR ADDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA.
- DISTRICT APPROVED SERVICE SADDLES OR TAPPED COLLARS SHALL BE REQUIRED ON ALL 3/4" AND 1" SERVICE LATERALS. SERVICE SADDLES ONLY SHALL BE PERMITTED ON 1-1/2" AND 2" SERVICE LATERALS. DOUBLE TAPPED COLLARS ARE NOT PERMITTED.
- COPPER SERVICE LATERALS: ALL 3/4" TO 2" SERVICE LATERALS SHALL BE OF COPPER TUBING IN ACCORDANCE WITH THE DISTRICT SPECIFICATIONS AND STANDARD PLATES.
- THE MAXIMUM ALLOWABLE JOINT DEFLECTION FOR ACP AND DUCTILE IRON PIPE SHALL BE AS FOLLOWS:

PIPE SIZES	ACP	DUCTILE IRON	SLIP JOINT	MECHANICAL JOINT
6" - 12" INCH	2.5 DEGREES	2.5 DEGREES	2.5 DEGREES	2.5 DEGREES
14" - 16" INCH	2.0 DEGREES	1.5 DEGREES	1.5 DEGREES	1.5 DEGREES
18" - 24" INCH	N/A	1.5 DEGREES	1.5 DEGREES	1.5 DEGREES

AS BUILT NOTE
 AS BUILT INFORMATION SHOWN PROVIDED BY ACME
 ELECTRIC ENGINEER ASSUMES NO RESPONSIBILITY
 FOR ACCURACY OF EXACT LOCATIONS.

ESTIMATE OF QUANTITY

STREET LIGHTS		WATER	
100 W HPS LUMINAIRE W/ 11 GA. POLE	3 EA.	1" FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE	3 EA.
200 W HPS LUMINAIRE W/ 11 GA. POLE	6 EA.	6" PVC LATERAL	140 LF
1 1/4" PVC CONDUIT	1380 LF	6" PVC WATER LINE	235 LF
NO. 3 1/2 CONC. PULL BOX W/ METAL COVER	3 EA.	3/4" SERVICE SADDLE & COPPER LATERAL	24 EA.
		5/8" WATER METER (FROM LVWD)	24 EA.
		METER BOX	24 EA.
		WET TAP	3 X EA. Δ
		8" X 8" X 6" TEE	1 EA.
		8" X 8" X 8" TAPPING TEE - MECH. JOINT	1 EA.
		8" X 8" X 8" TAPPING TEE	2 X EA. Δ
		8" TAPPING VALVE W/ BOX & COVER	1 EA.
		6" TAPPING VALVE W/ BOX & COVER	2 X EA. Δ
		6" CAP & 2" BLOW-OFF ASSEMBLY	2 EA.
		8" X 6" REDUCER	1 EA.
		6" TEE	1 EA. Δ

SEWAGE CONTRIBUTION

AVERAGE DAILY FLOW = 0.006 MGD
 PEAK FLOW = 0.0204 MGD
 LOCATION OF NEAREST INTERCEPTOR:
 EXISTING 8" SEWER CONTINUOUS EAST PAST ANTELOPE WAY
 AND THEN TURNS SOUTH AND TIES INTO THE EXISTING
 CHARLESTON BLVD. SEWER INTERCEPTOR.

APPROVALS

SEE SHEET C-1 OF 11
 NEVADA POWER COMPANY DATE
 APPROVAL OF THESE PLANS IS FOR THE PLACEMENT
 AND CLEARANCE OF STREET LIGHTS AND TRAFFIC SIGNAL
 INSTALLATION ONLY.
 LAS VEGAS VALLEY WATER DISTRICT DATE
 J. Lopardo 5/25/94
 CITY FIRE MARSHALL 1/13/94
 DATE

FIRE DEPARTMENT DATA

PROPERTY	SPRING 1992 REVENUE
ANNUAL	1,000,000
QUARTERLY	250,000
MONTHLY	62,500
WEEKLY	15,625
DAILY	3,906

FIRE DEPARTMENT METTER

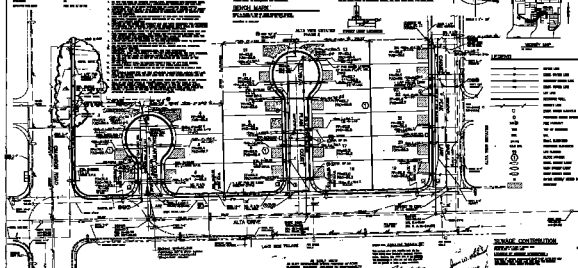
1. **THE STATE OF TEXAS, County of _____, do hereby certify that**
2. **_____ is the true and correct**
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IDENTITY NOTES

JIMMYE MASON
 1000 S. 10TH ST.
 DENVER, CO 80202
 303-733-1111

STREET LIGHT MOUNTS

NAME: _____
 ADDRESS: _____
 CITY: _____



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ESTIMATE OF QUANTITY

PROBLEM 1.10
 Find the Fourier transform of the signal
 $x(t) = 2\cos(100\pi t) \cos(200\pi t)$
 and use the result to find the Fourier transform of
 $y(t) = 2\cos(100\pi t) \sin(200\pi t)$.

SOLUTION
 We use the identity
 $\cos A \cos B = \frac{1}{2} [\cos(A+B) + \cos(A-B)]$
 to write
 $x(t) = \cos(300\pi t) + \cos(100\pi t)$
 and use the Fourier transform pair
 $\cos(\omega_0 t) \leftrightarrow \pi [\delta(\omega - \omega_0) + \delta(\omega + \omega_0)]$
 to find
 $X(\omega) = \pi [\delta(\omega - 300\pi) + \delta(\omega + 300\pi) + \delta(\omega - 100\pi) + \delta(\omega + 100\pi)]$

SEWAGE CONTAMINATION

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ABSTRACT

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