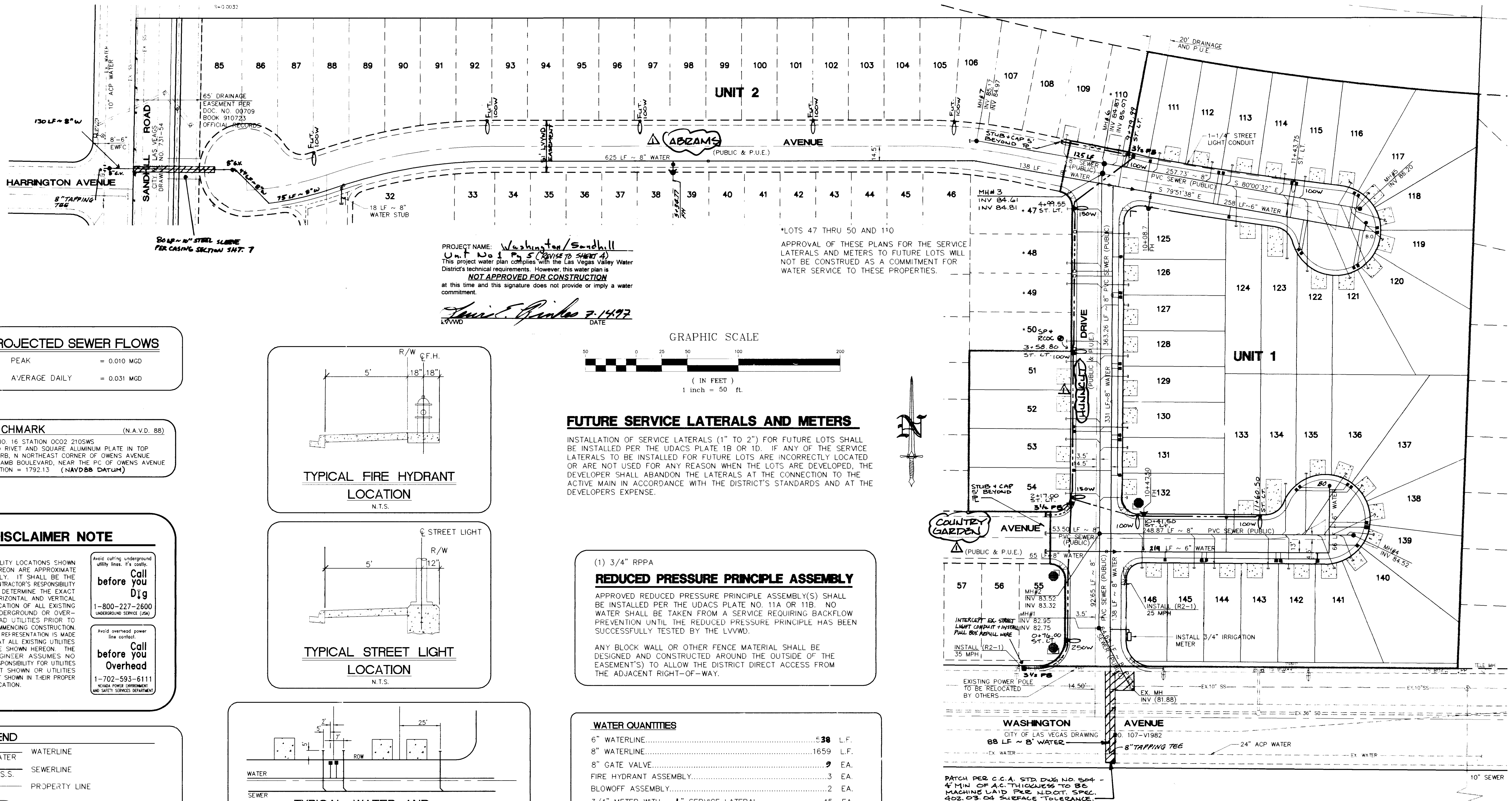




PROJECTED SEWER FLOWS

PEAK = 0.010 MGD
AVERAGE DAILY = 0.031 MGD

BENCHMARK

(N.A.V.D. 88)
B.M. NO. 16 STATION 0202 2105WS
FOUND RIVET AND SQUARE ALUMINUM PLATE IN TOP
OF CURB, N. NORTHEAST CORNER OF OWENS AVENUE
AND LAMB BOULEVARD, NEAR THE P.C. OF OWENS AVENUE
ELEVATION = 1792.13 (N.A.V.D. DATUM)

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 OR OVER-
HEAD 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.

Avoid cutting underground
utility lines. If a utility
is cut, call
before you dig
1-800-227-2600
UNDERGROUND SERVICE (USA)

Avoid overhead power
line contact.
Call
before you
overhead
1-702-593-6111
NEVADA POWER CORPORATION
AND SAFETY SERVICES DEPARTMENT

LEGEND

- 8" WATER WATERLINE
- 8" S.S. SEWERLINE
- PROPERTY LINE
- 100W HPS STREET LIGHT
- EXISTING STREETLIGHT
- WATER SERVICE LATERAL W/METER AND METER BOX
- WATER SERVICE LATERAL W/CORP. STOP AND METER BOX W/METER
- SANITARY SEWER LATERAL
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEAN-OUT
- FIRE HYDRANT ASSEMBLY (INCLUDES 8"x6" TEE & 6" GATE VALVE)
- BLOW-OFF ASSEMBLY
- STREET NAME SIGN
- 36" STOP SIGN - R1-1
- 1 1/4" PVC ELEC. CONDUIT
- PULL BOX
- 8" TEE
- GATE VALVE
- 8" CROSS
- 8" X 6" REDUCER

TYPICAL FIRE HYDRANT LOCATION

N.T.S.

TYPICAL STREET LIGHT LOCATION

N.T.S.

TYPICAL WATER AND SEWER SERVICE LOCATIONS

FIRE FLOW CALCULATIONS

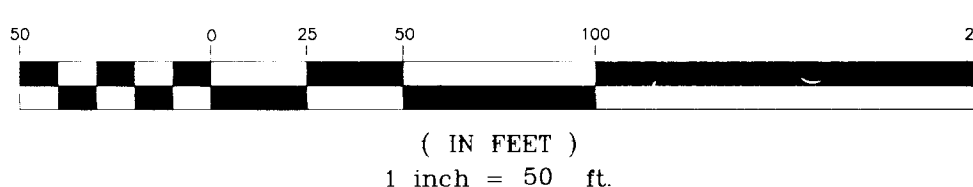
FIRE FLOW REQUIREMENT IS: 1500 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.

BASED ON:
SQUARE FOOTAGE 2250 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: N/A SQUARE FEET
BUILDING HEIGHT: 34' FEET
NUMBER OF STORIES: 2 FLOOR
TYPE OF CONSTRUCTION: V/NA
OCCUPANCY: RESIDENTIAL
FULL AUTOMATIC FIRE SPRINKLER SYSTEM: N/A
REVIEWED BY: *[Signature]*
DATE: 7/8/97

CITY OF LAS VEGAS FIRE DEPARTMENT

DATE: 7/8/97

GRAPHIC SCALE



FUTURE SERVICE LATERALS AND METERS

INSTALLATION OF SERVICE LATERALS (1" TO 2") FOR FUTURE LOTS SHALL BE INSTALLED PER THE UDACS PLATE 18 OR 10. IF ANY OF THE SERVICE LATERALS TO BE INSTALLED FOR FUTURE LOTS ARE INCORRECTLY LOCATED OR ARE NOT USED FOR ANY REASON WHEN THE LOTS ARE DEVELOPED, THE DEVELOPER SHALL ABANDON THE LATERALS AT THE CONNECTION TO THE ACTIVE MAIN IN ACCORDANCE WITH THE DISTRICT'S STANDARDS AND AT THE DEVELOPER'S EXPENSE.

(1) 3/4" RPPA

REDUCED PRESSURE PRINCIPLE ASSEMBLY

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 11A OR 11B. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE 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.

WATER QUANTITIES

6" WATERLINE.....	538 L.F.
8" WATERLINE.....	1659 L.F.
8" GATE VALVE.....	9 EA.
FIRE HYDRANT ASSEMBLY.....	3 EA.
BLOWOFF ASSEMBLY.....	2 EA.
3/4" METER WITH 1" SERVICE LATERAL.....	45 EA.
8" TAPPING TEE.....	1 EA.
8" TEE.....	3 EA.
8"x8" CROSS.....	1 EA.
8" 22 1/2" BEND.....	1 EA.
3/4" IRRIGATION METER, W/ 1" SERVICE LATERAL.....	1 EA.
8" X 6" REDUCER.....	2 EA.
3/4" RPPA.....	1 EA.
8" 45° BEND.....	1 EA.

NOTES TO CONTRACTOR:

QUANTITIES SHOWN ARE APPROXIMATIONS ONLY AND ARE INTENDED TO ILLUSTRATE SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT QUANTITIES INVOLVED.

NOTES:

- SEE UTILITY NOTES SHEET 2
- 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 CONSTRUCTION.
- DRIVEWAY LOCATIONS SHOWN ARE GRAPHIC REPRESENTATIONS ONLY. DIMENSIONS AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

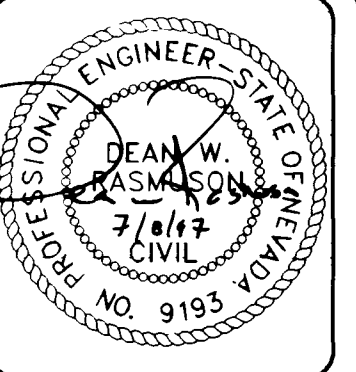
SEWER QUANTITIES

8" P.V.C. SEWER LINE.....	1210 L.F.
48" DIA. MANHOLES.....	7 EA.
4" P.V.C. SEWER LINE.....	1630 L.F.

APPROVALS

[Signature] 7-27-98
LAS VEGAS VALLEY WATER DISTRICT DATE
[Signature] 7/8/97
CITY OF LAS VEGAS FIRE DEPARTMENT DATE
[Signature] 7-29-97
NEVADA POWER COMPANY DATE

THIS APPROVAL IS FOR THE PLACEMENT AND CLEARANCE OF STREET LIGHT AND SIGNAL LIGHT INSTALLATIONS ONLY.

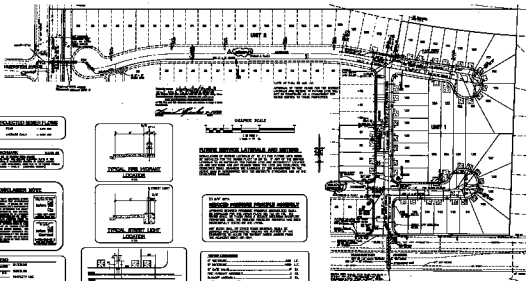


DESIGNED BY:	DATE:
CHECKED BY:	REVISION:
NO. 1	REVISE STREET NAMES PER FINAL MAP HS 5/1/98

UTILITY PLAN
WASHINGTON & SANDHILL
UNIT 1
REX & FRAN CALLAWAY FAMILY TRUST
CITY OF LAS VEGAS, NEVADA

ORION ENGINEERING AND SURVEYING, INC.
2700 CHANDLER AVENUE, SUITE B-1
LAS VEGAS, NEVADA 89120
(702) 739-5921 FAX (702) 739-5929

SHEET 4
of 9



INDICATING BUILDING FLOOR

Floor
Level only
Level only

INDICATING BUILDING FLOOR

Floor
Level only
Level only

INDICATING BUILDING FLOOR

Floor
Level only
Level only

LEGEND

Floor
Level only
Level only



TYPICAL FIRE HYDRANT LOCATION



TYPICAL STREET LIGHT LOCATION



TYPICAL CORNER AND INSIDE STREET LOCATION

THE FLOOR PLAN

Floor
Level only
Level only



CLERK WORKING LAYOUT AND METHOD

CLERK WORKING LAYOUT AND METHOD

IN APT

IN APT

APPROXIMATE

APPROXIMATE

APPROXIMATE

APPROXIMATE

APPROXIMATE

APPROXIMATE



North arrow pointing upwards.

North arrow pointing upwards.

North arrow pointing upwards.