CITY OF LAS VEGAS FIRE DEPT. 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 #3677.
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 #3677 to identify fire hydrant locations.
5. 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.
6. 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.
7. A permit is required from the Fire Department for on-site water line and fire hydrant. 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.
8. A flow test must be witnessed by the Fire Department prior to occupancy for verification of required on-site water supply.
9. All on-site fire main materials must be U.L. listed and A.W.W.A. approved.
10. Fire hydrant spacing:

    Residential- 500 feet unsprinklered, 600 feet sprinklered
    Commercial, including multi-family- 300 feet unsprinklered, 400 feet sprinklered.
11. 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.
12. No fire hydrant shall be located within 6 feet of any curb return, driveway, power pole, street light or any other obstruction.
13. Not more than 2 hydrants can be out of service due to a single main break.
14. 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.
15. 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 91, Section 10.203).
16. 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
17. 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.

C.L.V. FIRE FLOW DATA

FIRE FLOW REQUIREMENT IS 1500 GALLONS PER MINUTE AT 20 POUNDS PER SQUARE INCH RESIDUAL BASED ON:

LARGEST SQUARE FOOTAGE: 1935

LARGEST AREA BETWEEN AREA SEPARATION WALLS: 1935
(AREA SEPARATION WALLS ARE SHOWN ON PLANS)

HEIGHT: TWO STORIES

TYPE OF CONSTRUCTION: V

EXPOSURES: 10 FEET OR MORE

SPRINKLER SYSTEM: NONE

OCCUPANCY: SINGLE FAMILY

ROOF CONSTRUCTION: CONCRETE TILES

PROJECT SEWER FLOW CONTRIBUTIONS

AVERAGE DAILY FLOW	=	22,250 G.P.D.
PEAK DAILY FLOW	=	67,500 G.P.D.

QUANTITIES

SEWER QUANTITIES

8" SEWER (PUBLIC)	989 L.F.
8" SEWER (PRIVATE)	2,538 L.F.
48" MANHOLE (PUBLIC)	6 EA.
48" MANHOLE (PRIVATE)	10 EA.
SEWER SERVICE (PUBLIC)	17 EA.
SEWER SERVICE (PRIVATE)	73 EA.

STREET SIGN QUANTITIES

STD. ST. SIGN W/ POLE (PER DWG. NO. 250)	7 EA.
R8-3A (NO PARKING SIGN) W/ POLE	11 EA.

WATER QUANTITIES

8" WATER	3,516 L.F.
(1) 8" GATE VALVE	8 EA.
(2) 8" TEE	4 EA.
8" - 45° ELB.	2 EA.
8" - 22 1/2° ELB.	12 EA.
8" - 11 1/4° ELB.	3 EA.
STANDARD FIRE HYDRANT ASSEMBLY	7 EA.
3/4" WATER METER W/ 1" SERVICE	93 EA.
3/4" RPPA	3 EA.

APPROVALS

[signature] 2-8-95
CITY OF LAS VEGAS FIRE MARSHALL — DATE

[signature] 3/24/95
LAS VEGAS VALLEY WATER DISTRICT — DATE
(SIGNATURE SHEET 3 ONLY)

Lee Tupelehake 2/13/95
NEVADA POWER COMPANY — DATE
THIS APPROVAL IS ONLY FOR THE PLACEMENT AND CLEARANCE OF STREET LIGHT AND SIGNAL LIGHT INSTALLATIONS.

CITY OF LAS VEGAS SEWER NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN & 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 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.

REVISED OCT. 2, 1991

REDUCED PRESSURE PRINICIPLE ASSEMBLY

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE DISTRICT'S STANDARD PLATE No.11. 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), SO AS TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S) FROM THE ADJACENT RIGHT-OF-WAY.

NOTE:

ALL STREETS ARE PRIVATE DRIVES, PUE'S'

PROJECT NAME: NORTHSHORE REFLECTIONS
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.

[signature] 2/13/95
LVVWD — Date

LAS VEGAS VALLEY WATER DIST. 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 pm. the business day prior to a LVVWD inspection.
2. All work shall conform to LVVWD Standard Plates, Drawings and Specifications, 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 laterals.
6. All water meter boxes shall be located outside driveway areas.
7. All valves shall be located outside driveways, valley gutters 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 maintained 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.

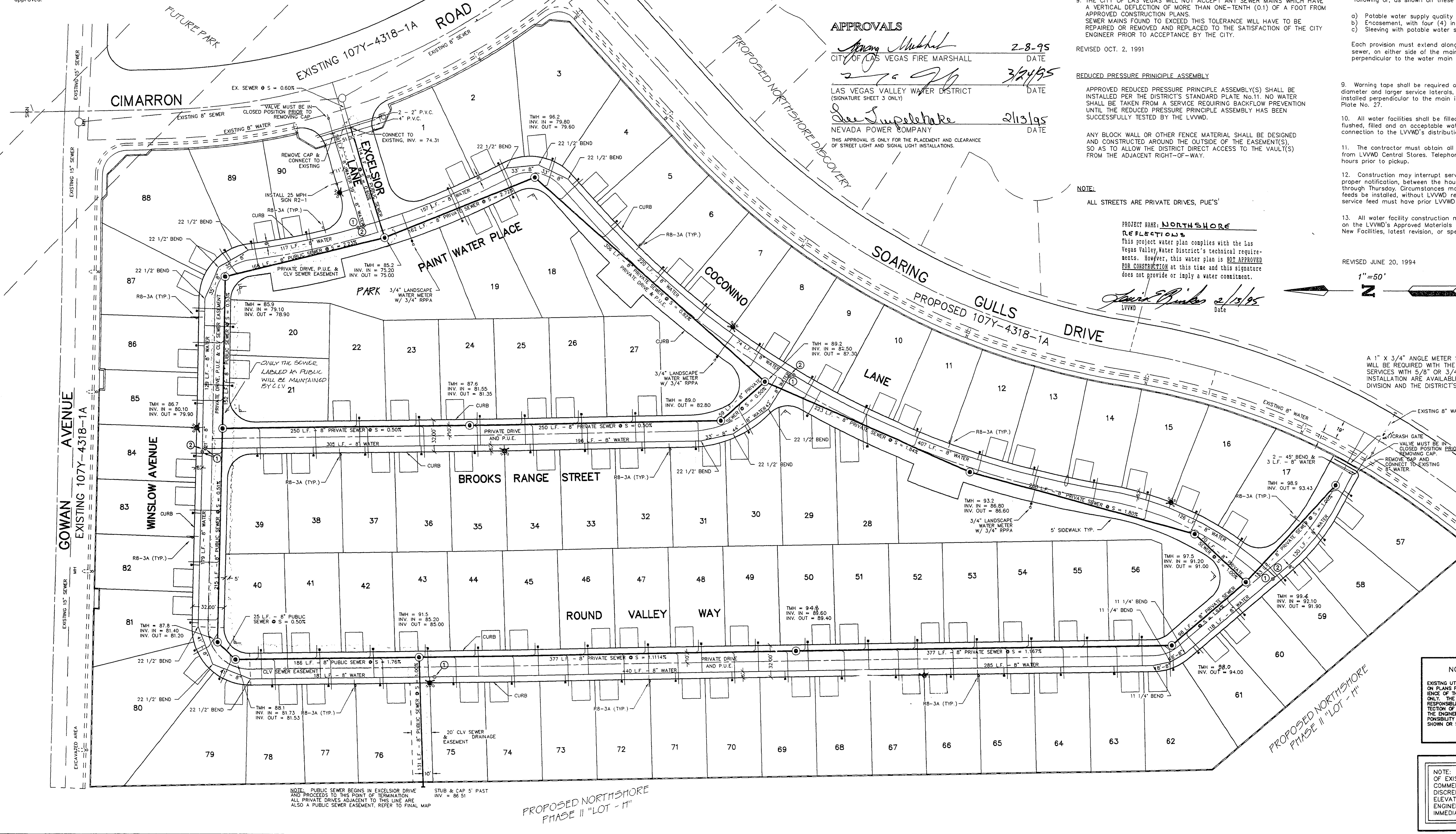
   Each provision must extend along the sanitary or storm sewer, on either side of the main, a minimum 10 foot distance perpendicular to the water main exterior.
9. Warning tape shall be required over all mains, all six (6) inch diameter and larger service laterals, and any service lateral not installed 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 fourty-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 feed must have prior LVVWD approval.
13. All water facility construction materials used must be listed on the LVVWD's Approved Materials and Manufacturers Listing for New Facilities, latest revision, or specifically approved on these plans.

REVISED JUNE 20, 1994

1"=50'

N

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 THE DISTRICT'S INSPECTORS.



NOTE: PUBLIC SEWER BEGINS IN EXCELSIOR DRIVE AND PROCEEDS TO THIS POINT OF TERMINATION. ALL PRIVATE DRIVES ADJACENT TO THIS LINE ARE ALSO A PUBLIC SEWER EASEMENT, REFER TO FINAL MAP

NOTICE!

EXISTING UTILITIES ARE SHOWN ON PLANS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES. THE ENGINEER BEARS NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR SHOWN INCORRECTLY.

AVOID CUTTING UNDERGROUND UTILITIES. IT'S COSTLY.
Call BEFORE YOU Dig
1-800-227-2600
UNDERGROUND SERVICE (USA)

NOTE: CONTRACTOR TO VERIFY DEPTH OF EXISTING SEWER STUB BEFORE COMMENCING CONSTRUCTION. ANY DISCREPANCY IN PLAN AND ACTUAL ELEVATION IS TO BE BROUGHT TO THE ENGINEERS ATTENTION IN WRITING IMMEDIATELY!

REVISION	DATE	BY	APPROVED

SUBMITTED BY: REGISTERED PROFESSIONAL ENGINEER - STATE OF NEVADA, DANIEL W. SULLIVAN, CIVIL, No. 1352 — 2/8/95

ALPHA & ENGINEERING COMPANY
50 So. Jones #202, Las Vegas, NV. 89107
Telephone: (702) 877-1300

TITLE: MASTER UTILITY PLAN

PROJECT: NORTHSHORE REFLECTIONS

JOB #	N4-76-16
NAME	VERTREES/MRA
DATE	2-3-95
SCALE	1" = 50'

PAGE 4 OF 6
7616UT.DWG

11-19-189 307Y-4373