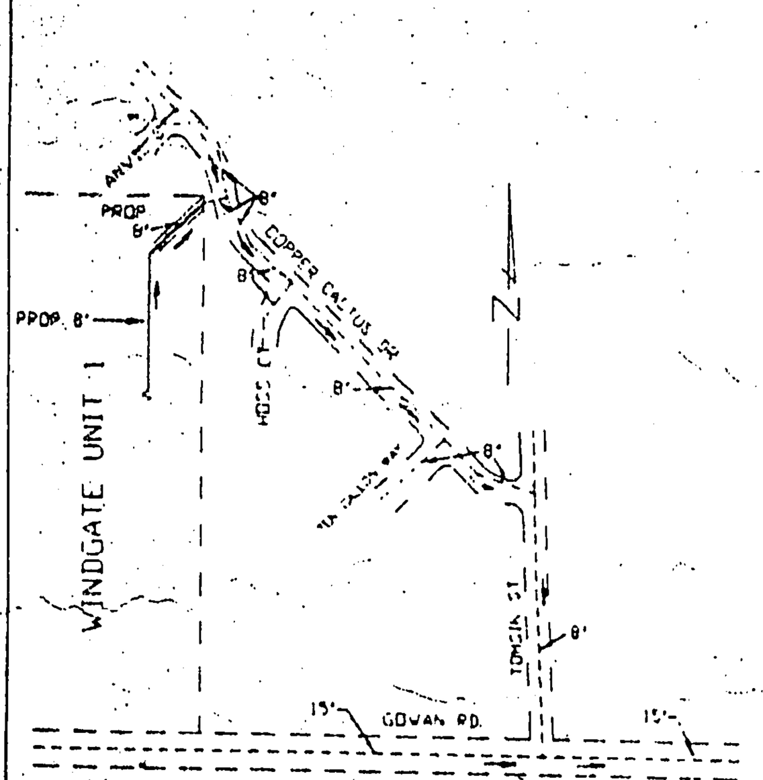
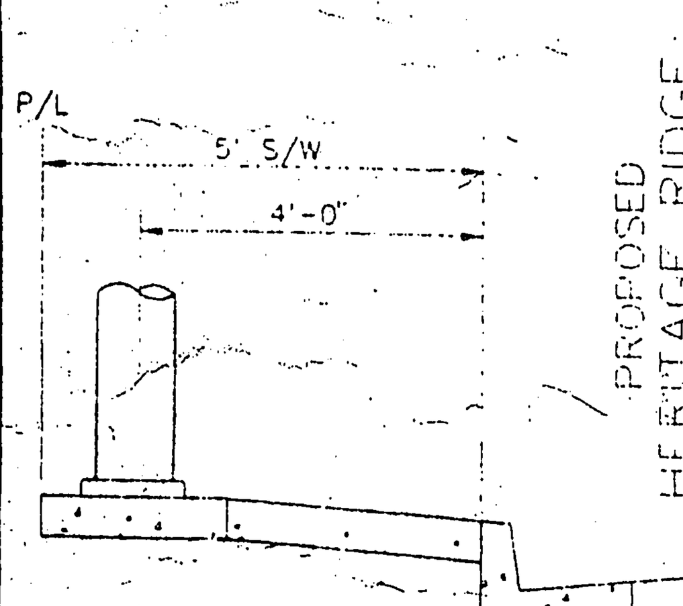
LEGEND

- MH#1 — PROPOSED MANHOLE
- EXISTING MANHOLE
- 4" SEWER HOUSE CONNECTION
- FUTURE 4" SEWER HOUSE CONN.
- WATER VALVE
- FUTURE WATER VALVE
- FIRE HYDRANT
- FUTURE FIRE HYDRANT
- PROPOSED STREET LIGHT, 100W
- PROPOSED STREET LIGHT, 200W
- FUTURE PROPOSED STREET LIGHT, 100W
- EXISTING STREET LIGHT, 250W
- UNIT BOUNDARY LINE
- STREETLIGHT CONDUIT, 1-1/4"



EXISTING CONNECTING SEWERS

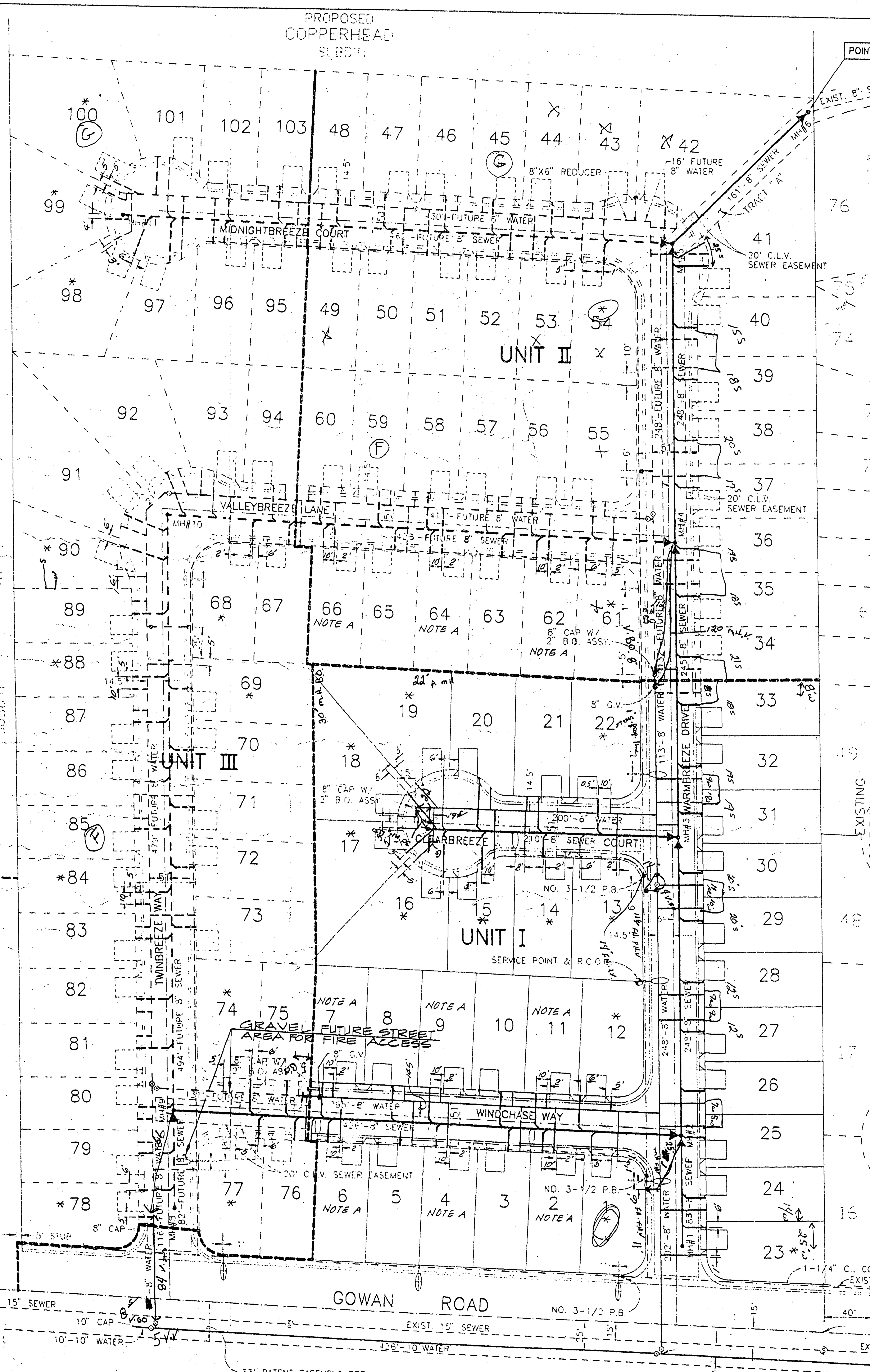


STREET LIGHT DETAIL

N.T.S.

STREET LIGHT NOTE

ALL STREET LIGHTIN INSTALLATION EXCEPT AS NOTED ON THE STREET LIGHTING PLANS SHALL CONFORM TO THE IMPROVEMENT STANDARDS, DEPARTMENT OF PUBLIC WORKS, CLARK COUNTY, NEVADA AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, OFF-SIT IMPROVEMENTS, CLARK COUNTY AREA, NEVADA



ESTIMATE OF QUANTITIES

WATER

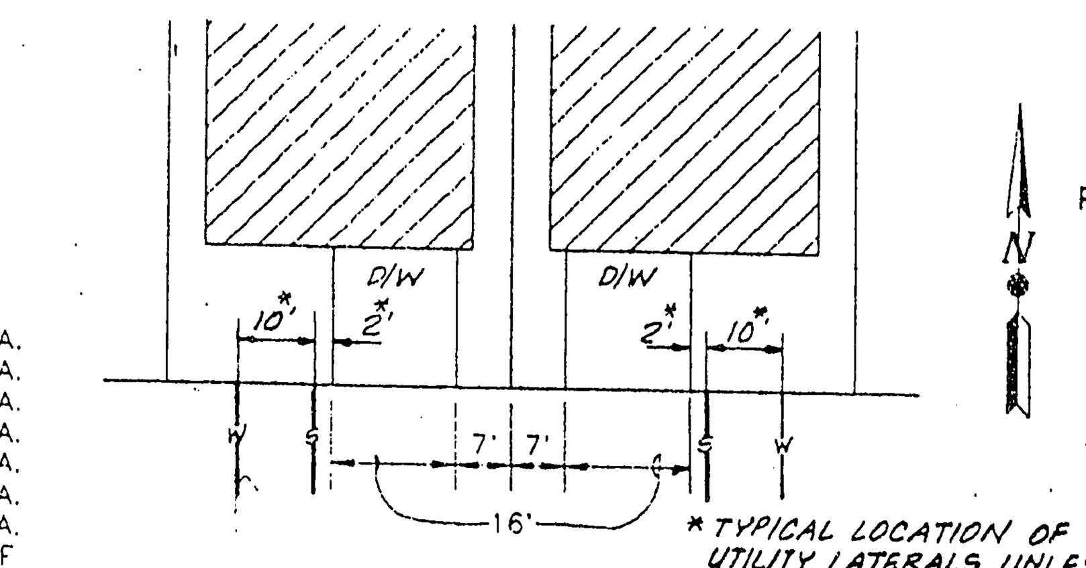
10"X10"X8" TEE	2	EA.
8" TEE	2	EA.
8"X8"X6" TEE	1	EA.
10" GATE VALVE	1	EA.
8" GATE VALVE	4	EA.
STD. 6" FIRE HYDRANT ASSY.	2	EA.
2" BLOWOFF ASSY.	3	EA.
10" WATER MAIN	1227	LF
8" WATER MAIN	858	LF
6" WATER MAIN	200	LF
3/4" WATER SERVICE W/ 5/8" METER	33	EA.

SEWER

STD. 4' DIA. MANHOLE	8	EA.
4" WYE	45	EA.
8" SEWER MAIN	1621	LF

STREET LIGHTS

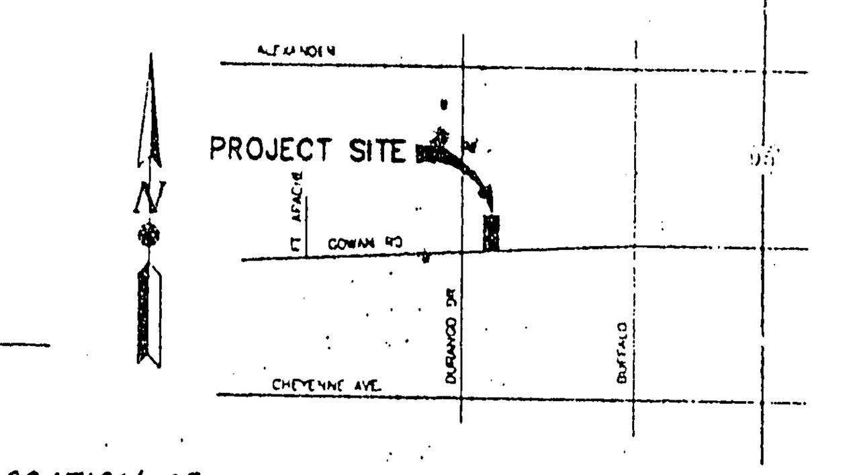
100 WATT	6	EA.
200 WATT	3	EA.
#3-1/2 PULL BOX	3	EA.
1-1/4" CONDUIT	1570	LF



* TYPICAL LOCATION OF UTILITY LATERALS UNLESS NOTED.

TYPICAL DRIVEWAY LOCATION

N.T.S.



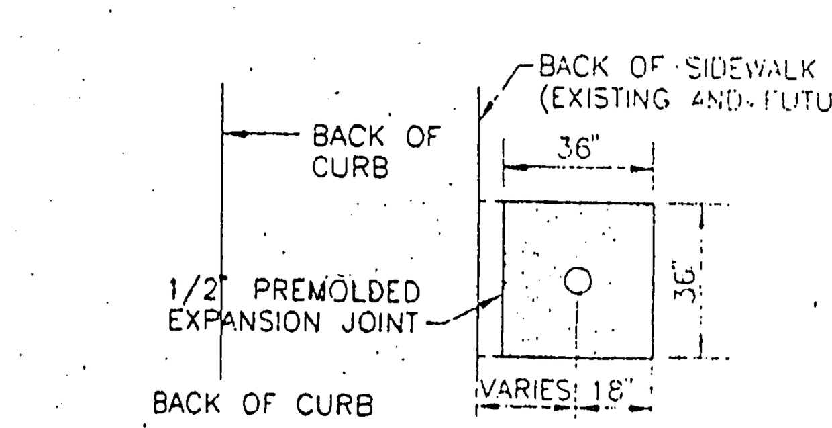
VICINITY MAP

N.T.S.

NOTES:

1. NO HYDRANT SHALL BE LOCATED WITHIN 15' OF ANY DRIVEWAY, 6' OF POWER POLE, LIGHT STANDARD, OR ANY OTHER OBSTRUCTION.
2. THE FIRE HYDRANT SHALL BE PLACED BEHIND THE SIDEWALK.

NOTE A: WATER AND SEWER LATERALS ARE REVERSED ON THESE LOTS.



FIRE HYDRANT LOCATION CLV DWG. NO. 516

N.T.S.

BENCHMARK

RIVET ANMD SQUARE ALUMINUM PLATE IN A CONCRETE MONUMENT, 25 FT. NORTH AND 45 FT. WEST OF DURANGO AND GILMORE
ELEV: 2414.58

0 50 100 200

1" = 50'

NORTH

NOTE:

CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING UTILITIES AND TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

FIRE FLOW REQUIREMENT IS 1500 GALLONS/MIN. AT 20 LBS./SQ. IN. RESIDUAL.

BASED ON-

SQUARE FOOTAGE: 2000
LARGEST AREA BETWEEN SEPARATION WALLS N/A
HEIGHT 16'±
TYPE OF CONSTRUCTION STUCCO
EXPOSURES. N/A
SPRINKLER SYSTEM, N/A
OCCUPANCY SINGLE FAMILY
ROOF CONSTRUCTION TILE

REVIEWED BY:

DATE

PROVIDE FIRE LANE IDENTIFICATION PER CITY ORD 3677

WATER CROSSING NOTE

THE FOLLOWING ARE THE REQUIREMENTS THAT MUST BE MET WHEN THERE IS A WATER-SEWER CROSSING

WHEN PROTECTION OF THE WATERLINE IS CONSIDERED, THE MINIMUM VERTICAL DISTANCE OF 18 INCHES MUST BE MAINTAINED WHEN THE WATER LINE IS INSTALLED OVER THE SEWER/STORM LINE. IF THIS DISTANCE CANNOT BE MAINTAINED BECAUSE OF PHYSICAL OBSTRUCTIONS OR THE WATERLINE MUST BE PLACED UNDER THE SEWER/STORM LINE, THE SEWER/STORM LINE MUST BE CONSTRUCTED WITH ANY ONE OF THE FOLLOWING:

A. EXTRA HEAVY CAST IRON OR DUCTILE IRON PIPE
B. WATER SUPPLY QUALITY MATERIAL
C. ENCASEMENT WITH 4 INCHES MINIMUM OF CONCRETE OR SLEEVING WITH WATER QUALITY PIPE

EACH OF THESE PROVISIONS MUST BE EXTENDED FOR 10 FEET ON EITHER SIDE OF THE WATERLINE AT 90 DEGREES TO THE CROSSING.

LAS VEGAS VALLEY 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. THE BUSINESS DAY PRIOR TO AN 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 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 OF A WATERLINE 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 TH 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) 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 THE 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 P.M. AND 6 A.M., 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 MUST BE AS LISTED ON THE LVVWD'S PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

SEWER CONTRIBUTION (ESTIMATED)

UNIT I:

AVERAGE = 8,250 GAL/DAY
PEAK = 13,200 GAL/DAY

PROJECT NAME: Windgate Unit No 1 Pg 2 of 7

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] 9/07/94

Call before you Dig. It's a Law. 1-800-227-2600

APPROVED FOR SEWER & WATER LINE CONSTRUCTION

This is a preliminary approval for sewer and/or water line construction only. Construction of these lines performed prior to final approval of construction plans shall be at the owners risk.

11-16-94

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 #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 & FLUSH VERIFICATION OF ALL FIRE HYDRANTS & FIRE LINES BEFORE COVERING.
6. PAINTING OF THE CURBS AND HYDRANTS 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-SIT 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. NO 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 & 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 EXCEPTION IN UFC 88, SECTION 10.207)
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 TURN AROUND 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.

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 I 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 [illegible] 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 [illegible] 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.

APPROVALS

[signature] LAS VEGAS VALLEY WATER DISTRICT	9/12/94 DATE
J. Lozando CITY OF LAS VEGAS FIRE DEPARTMENT	8/24/94 DATE
[signature] NEVADA POWER COMPANY	8/1/94 DATE

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

PROFESSIONAL ENGINEER STATE OF NEVADA — MICHAEL J. CREHAN CIVIL No. 10664 — 9/21/94

REVISIONS

Standage & Truitt Engineering, Ltd.
CIVIL ENGINEERING AND SURVEYING
5855 W. CHARLESTON BLVD.
LAS VEGAS, NEVADA 89117

CONTENT: UTILITY PLAN-PHASE I

PROJECT: WINDGATE UNIT I

MICHAEL J. CREHAN CIVIL No. 10664 — 9/9/94

DATE: MAY 1994
JOB NO. 94042
DRAWN BY:

SHEET NO. 2 OF 7

"AsBuilt" 3074-4343-1