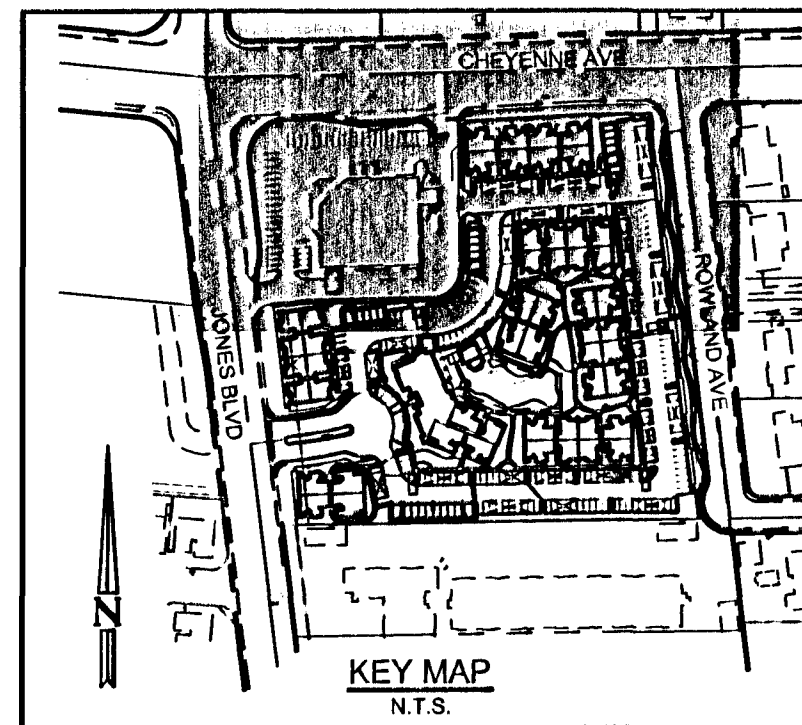




FIRE FLOW CALCULATIONS							
	BUILDING TYPE 1	BUILDING TYPE 2	BUILDING TYPE 3	BUILDING TYPE 4	CLUBHOUSE	BUILDING TYPE L1	BUILDING TYPE L2
FIRE FLOW REQUIREMENTS AT 20 PSI RESIDUAL PRESSURE:	1,500 GPM	1,500 GPM	1,825 GPM	1,500 GPM	1,500 GPM	1,500 GPM	1,500 GPM
BASED ON SQUARE FOOTAGE:	28,119 SQ. FT	23,961 SQ. FT	30,882 SQ. FT	17,508 SQ. FT	16,302 SQ. FT	2,044 SQ. FT	4,088 SQ. FT
LARGEST AREA BETWEEN 4-HOURS AREA SEPARATION WALLS:	NA	NA	NA	NA	NA	NA	NA
BUILDING HEIGHT:	3-STORY	3-STORY	3-STORY	3-STORY	3-STORY	2-STORY	2-STORY
NUMBER OF STORIES:	3	3	3	3	3	2	2
TYPE OF CONSTRUCTION:	V-1HR	V-1HR	V-1HR	V-1HR	V-1HR	V-B	V-B
OCCUPANCY:	R-2	R-2	R-2	R-2	A-3, B	U	B
FULL AUTOMATIC SPRINKLER SYSTEM:	YES	YES	YES	YES	YES	YES	YES

BENCHMARK
NORTH 88°54'28" EAST, BEING THE
CENTERLINE OF CHEYENNE AVENUE AS SHOWN
ON FILE 91 PAGE 9 OF PARCEL MAPS,
OFFICIAL RECORDS, CLARK COUNTY, NEVADA.

BASIS OF BEARING
CITY OF LAS VEGAS BENCHMARK
NUMBER 1LV0012SW, BEING A
RIVET AND PLATE IN TOP OF CURB @
NE CORNER OF CHEYENNE AND JONES.

691.8323 METERS NAVD88 DATUM (PUBLISHED)
2269.13 FEET NAVD 88 DATUM (CONVERTED)

THE DISTRICT CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPLIANCES ARE AVAILABLE.

WATER MAIN JOINT DEFLECTION (PVC, 4"-24")

PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1150 FEET, PER UDACS 2.08.01 AND 2.08.02. FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

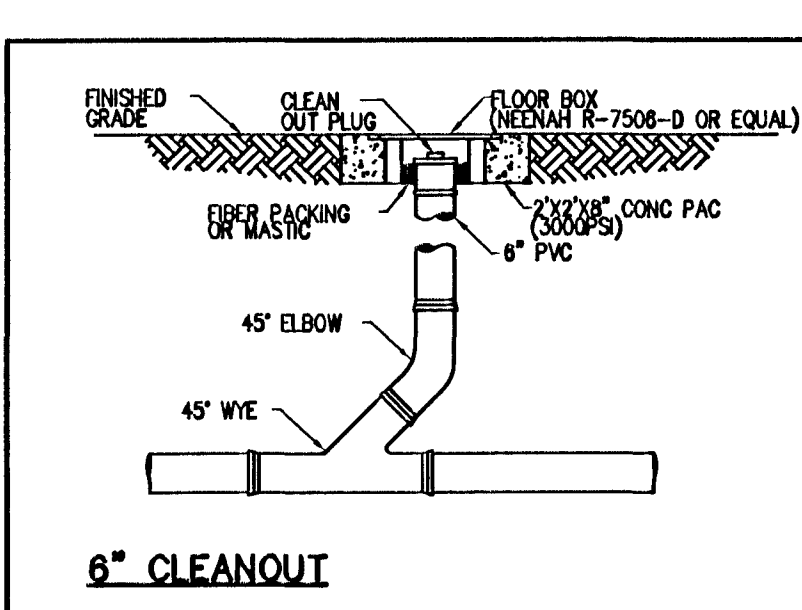
ABANDONED VALVES

ALL VALVES TO BE ABANDONED SHALL BE ABANDONED IN THE CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY-FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF EIGHT (8) INCHES OF SAND OR TYPE II AGGREGATE BASE. THE REMAINING BOTTOM OF THE VALVE BOX SHALL BE FILLING WITH GRAVEL.

GENERAL NOTES:

1. SEE SHEET NT FOR WATER AND UTILITY QUANTITIES
2. ALL WATER FACILITIES CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS", LATEST EDITION
3. WATER AND SEWER SERVICES LATERALS SHALL BE INSTALLED A MINIMUM OF FORTY-FOOT (40') INCHES APART IN SEPARATE TRENCHES. WATER LATERALS SHALL BE A MINIMUM OF TWELVE (12) INCHES ABOVE THE SEWER LATERAL (SEE UNIFORM DESIGN CODE)
4. INSTALL PIPELINE MARKER BARS IN TRENCH ABOVE EACH HORIZONTAL ELEVATION FITTING, PER UOACS PLATE NO. 27
5. SEE SHEET NT FOR SEWER MANHOLE SCHEDULE & STORM DRAIN MANHOLE SCHEDULE
6. ALL COMMON LOTS, PUBLIC DRAINAGE EASEMENTS, & LANDSCAPE EASEMENTS ARE TO BE PRIVATELY MAINTAINED
7. ALL SEWER MANHOLES TO BE 48" STANDARD MANHOLES PER CCSD STD. NO. SD-1 UNLESS LABELED OTHERWISE. (PRIVATE)
8. ALL ONSITE WATER AND SEWER UTILITIES ARE PRIVATE.

	<u>LEGEND</u>	
SEWER MAIN	--- EX. 8" SEWER ---	(PROPOSED) 8" SEWER
SEWER MANHOLE		
SEWER LATERAL	---	---
WATER MAIN	--- EX. 8" WATER ---	8" WATER
WATER METER		
WATER VALVE		
WATER TEE OR BEND	+T+ T+	+T+ T+
FIRE HYDRANT		
STORM DRAIN	--- EX. 24" SD ---	24" SD
STORM DRAIN MANHOLE		
STORM DRAIN INLET		
BACKWATER VALVE REQUIRED		
PRESSURE REDUCING VALVES		



APPROVAL

 5-19-08

LAS VEGAS VALLEY WATER DISTRICT DATE

CITY OF LAS VEGAS FIRE DEPT

APPROVED

BY:  1/14/08 DATE

APPROVAL OF THESE PLANS SHALL NOT BE CONSIDERED TO BE A PERMIT FOR OR AN APPROVAL OF ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OF COUNTY LAWS.

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION IS REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LVHMD.

[illegible]

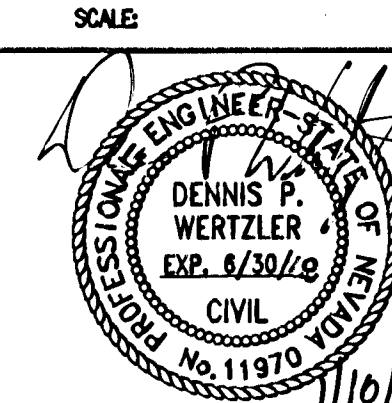
TRAMMELL CROW RESIDENTIAL
7373 N. SCOTTSDALE RD, SUITE C-228 SCOTTSDALE, AZ 85253
PHONE (480) 596-6696 FAX (480) 596-8848

DRC  **Development Resource Consultants, Inc.**
Civil Engineering Land Surveying Land Planning
9330 WEST MARTIN AVENUE
LAS VEGAS, NV 89148 (702) 270-6119

JONES AND CHEYENNE

UTILITY PLAN 2

DATE: DEC. 2007
DRAWN BY: TMG
DESIGNED BY: TMG
CHECKED BY: DPW
ADA CHECKED:
PROJECT NO: LV08-401



SHEET **UP2**
10 OF 19 SHEET
DRAWING NO. 107N5000

DISCLAIMER NOTE:

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND OR OVERHEAD 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. CONTRACTOR TO NOTIFY ENGINEER OF ANY CHANGES OR DISCREPANCIES.

Call before you Overhead
1-702-593-6111
NEVADA POWER ENVIRONMENT AND

AVOID HITTING UNDERGROUND
TRAFFIC SIGNAL SYSTEMS AND
STREET LIGHT SYSTEM CONDUITS
IT'S COSTLY

CALL BEFORE YOU
DO UNDERGROUND

1-702-229-6611

UTILITY DEMAND	
USE	QUANTITY
MULTI-FAMILY	198,580 SQ FT (161 UNITS & 1 CLUBHOUSE)

WATER METER SUMMARY TABLE			
SIZE	TYPE	USE	QTY
2"	RD	DOMESTIC	2

NOTE
ALL ABOVE GROUND UTILITY APPURTENANCES SHALL
CONFORM TO THE REQUIREMENTS OF TITLE
19.12.040

CROSSING NOTE
ALL SEWER/STORM DRAIN CROSSING WATER LINES
MUST CONFORM TO SECTION 2.19 OF THE UNIFORM
DESIGN AND CONSTRUCTION STANDARDS FOR
POTABLE WATER SYSTEMS (UDACS) FOR WATER
AND STORM DRAIN CROSSINGS AND CLEARANCES

NOTE
NO STRUCTURE, VEGETATION, OR OBJECT OF ANY KIND IS PERMITTED TWENTY-FOUR (24) INCHES IN HEIGHT OR OVER (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXISTS) WITHIN THE

NOTE:
CALL SOUTHWEST GAS AT (702) 365-2296 FOR STANDBY WHEN EXCAVATING
OVER OR NEAR HIGH PRESSURE GAS LINES

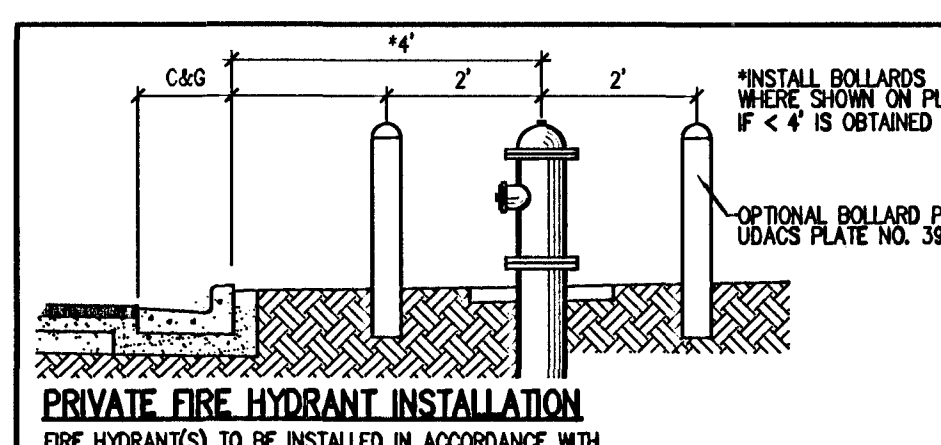
REDUCED PRESSURE PRINCIPLE ASSEMBLY (2) 2"

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UOAC'S PRACTICE NO. 11A. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE PRINCIPLE ASSEMBLY(S) TO ALLOW THE DISTRICT TO EXERCISE ITS FULL AND UNIMPEDED RIGHT-OF-WAY EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

DOUBLE CHECK DETECTOR ASSEMBLY (DCA)(2) 1

THE DOUBLE CHECK DETECTOR ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE NO. 11C ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) AS ALLOWED BY DISTRICT DIRECTOR. ACCESS FROM THE UNLAWFUL RIGHT-OF-WAY/EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

SEWER CONSTRUCTION NOTES	
1	SEWER POINT OF CONNECTION
2	INSTALL 48" STANDARD MANHOLE PER UDS SD-26
3	STUB AND CAP 8" PVC SEWER
4	CONCRETE ENCASEMENT PER STD DWG NO 2.19.02 3B
5	INSTALL C900 WATER QUALITY PIPE PER STD DWG NO 2.19.02 3A



NDOT NOTE:
NDOT PERMIT REQUIRED FOR ALL WORK IN
NDOT RIGHT OF WAY

WATER CONSTRUCTION NOTES

- 1 WATER POINT OF CONNECTION
- 2 INSTALL 6" X 6" MECHANICAL JOINT TAPPING SLEEVE W/6" TAPPING VALVE PER
- 3 UDACS PLATE NO. 7
- 4 INSTALL 10" DCDA PER UDACS PLATE NO. 11C
- 5 INSTALL 2" METER PER UDACS PLATE NO. 1D, AND 2" RPFA PER UDACS PLATE NO. 11A
- 6 REMOVE CAP AND CONNECT TO EXISTING 8" WATER
- 7 INSTALL 10" X 8" REDUCER WITH ANCHOR BLOCKS PER UDACS PLATE NO. 3
- 8 INSTALL 8" TEE WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 9 INSTALL 3" X 2" REDUCER WITH ANCHOR BLOCKS PER UDACS PLATE NO. 3
- 10 INSTALL 8" 90° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 11 INSTALL 8" 45° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 12 INSTALL 8" 22.5° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 13 INSTALL 8" 11.25° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 14 INSTALL 8" 6° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 15 INSTALL 8" X 6" REDUCER WITH ANCHOR BLOCKS PER UDACS PLATE NO. 3
- 16 INSTALL 8" X 6" TEE WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 17 INSTALL 6" 90° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 18 INSTALL 6" 45° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 19 INSTALL 6" TEE WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 20 INSTALL 6" GATE VALVE WITH THRUST BLOCKS PER UDACS PLATE NO. 3 & 8
- 21 INSTALL 6" GATE VALVE WITH THRUST BLOCKS PER UDACS PLATE NO. 3 & 8
- 22 INSTALL 6" PVC FIRE WATER (PVC)
- 23 ONE HOUR RATED RISER ROOM WITH EXTERIOR DOOR AND KNOX LOCK
- 24 INSTALL FIRE DEPARTMENT CONNECTION (FDC)
- 25 INSTALL 6" 11.25° BEND WITH THRUST BLOCKS PER UDACS PLATE NO. 5
- 26 INSTALL 3" DOMESTIC WATER (PVC)
- 27 INSTALL 2" DOMESTIC WATER (PVC)
- 28 INSTALL 8" X 2" SERVICE SADDLE PER UDACS PLATE NO. 1D
- 29 INSTALL FIRE HYDRANT ASSEMBLY PER UDACS PLATE NO. 7
- 30 INSTALL 2" DOMESTIC WATER (COPPER)