LAS VEGAS FIRE AND RESCUE GENERAL NOTES

1. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LAS VEGAS FIRE AND RESCUE ADOPTED FIRE CODE ORDINANCE #6325 FOR HYDRANT SPECIFICATIONS AND HYDRANT INSTALLATION SPECIFICATIONS.
2. ONLY FIRE HYDRANTS THAT ARE ON THE LAS VEGAS VALLEY WATER DISTRICT'S – APPROVED PRODUCTS LIST ARE ALLOWED TO BE INSTALLED.
3. A PERMIT IS REQUIRED FROM LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. [IFC SECTION 105.7.12]
4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BEFORE COMMENCEMENT OF ANY COMBUSTIBLE CONSTRUCTION. ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. [IFC SECTION 3310, SECTION 3312]
5. TO IDENTIFY FIRE HYDRANT LOCATIONS, CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF STREET ADJACENT TO THE FIRE HYDRANTS [IFC SECTION 507.5.7.3].
6. ALL UNDERGROUND INSPECTIONS, PRESSURE AND FLUSH VERIFICATIONS OF ALL FIRE HYDRANTS AND FIRE LINES, SHALL BE CONDUCTED BEFORE COVERING THE LINES. CENTER LOADING IS ACCEPTABLE FOR THE HYDRO TESTS WITH PRIOR FIRE PREVENTION APPROVAL. [IFC SECTION 106.3]
7. ALL ON-SITE UNDERGROUND WATER MAINS AND MATERIALS SHALL BE U.L. LISTED, A.W.W.A. APPROVED AND SHALL BE RATED FOR THE APPROPRIATE WORKING PRESSURE. [IFC SECTION 507.2.1]
8. PAINTING OF CURBS, FIRE HYDRANTS, PADS, PROTECTION OF FIRE HYDRANTS FROM PHYSICAL DAMAGE, AND ALL OTHER WORK NECESSARY PER PLANS SHALL BE COMPLETED BEFORE APPROVAL BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION. [IFC SECTION 507]
9. PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED. [IFC SECTION 507]
10. PRIOR TO THE FINAL OCCUPANCY, A FIRE FLOW TEST SHALL BE WITNESSED BY LAS VEGAS FIRE AND RESCUE, FIRE PREVENTION DIVISION TO VERIFY AVAILABILITY OF THE REQUIRED FIRE FLOW. [IFC SECTION 507]
11. FIRE HYDRANTS SPACING SHALL BE AS FOLLOWS: [IFC SECTION C102]
    RESIDENTIAL – 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
    COMMERCIAL – 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.
12. WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS OR NEW STREETS ARE INSTALLED WHERE FIRE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF THE STRUCTURES, FIRE HYDRANTS SHALL BE INSTALLED AT A MAXIMUM 1,000 FOOT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDS. WHERE STREETS ARE PROVIDED WITH MEDIAN DIVIDERS OR HAVE FOUR (4) OR MORE TRAFFIC LANES AND HAVE A TRAFFIC COUNT OF MORE THAN 30,000 PER DAY, HYDRANTS ARE REQUIRED ON EACH SIDE OF THE STREET SPACED AT 500 FEET ON AN ALTERNATING BASIS. [IFC SECTION C102.8]
13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF THE CUL-DE-SAC.
14. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [IFC SECTION C102.12]
15. A MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A ONE-TWO FAMILY DWELLING SHALL NOT EXCEED 300 FT, AS MEASURED BY AN APPROVED ROUTE. [IFC SECTION C102.4]
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FEET, AS MEASURED BY AN APPROVED ROUTE. [IFC SECTION C102.7]
17. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [IFC SECTION C102.6]
18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. [IFC SECTION C104]
19. ALL FIRE APPARATUS ACCESS ROADS SHALL BE PAVED TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES, AND SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF THE FIRE APPARATUS. [IFC SECTION 503.2.3]
20. THE GRADIENT FOR THE FIRE APPARATUS ACCESS ROADS SHALL NOT EXCEED 12%. ANGLES OF APPROACH AND ANGLES OF DEPARTURE SHALL NOT EXCEED 6% FOR 25 FEET PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6%. [IFC SECTION 503.2.7, SECTION 503.2.8]
21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FEET OUTSIDE AND 28 FEET INSIDE TURNING RADIUS. [IFC 503.2.4]
22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13 FEET 6 INCHES. [IFC SECTION 503.2.1]
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 40FT FLOW LINE TO FLOW LINE WITH PARALLEL PARKING PERMITTED ON BOTH SIDES. NOT LESS THAN 32 FT WIDE, FLOW LINE TO FLOW LINE, WHERE PARKING IS PERMITTED ONLY ON ONE SIDE OF THE FIRE APPARATUS ACCESS ROAD. NOT LESS THAN 24 FT WIDE, FLOW LINE TO FLOW LINE, WHERE NO PARKING IS PERMITTED ON EITHER SIDE. FIRE LANES THROUGH PARKING LOTS SHALL NOT BE LESS THAN 24 FT. [IFC SECTION 503.2.1.1]
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL FO THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. THIS DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IIS SPRINKLERED. [IFC SECTION 503.1.1]
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-EANDS OR WITH A SINGLE POINT OF ACCESS IN EXCESS OF 600 FT. COMMERCIAL AND INDUSTRIAL DEVELOPMENTS WHERE BUILDINGS EXCEED 2 STORIES OR 30 FEET IN HEIGHT, OR EXCEEDING 62,000 SQUARE FEET IN AREA. [IFC SECTION 503.1.2]
26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. [IFC SECTION 503.2.5]
27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE DESIGNATED FIRE LANE, ONE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE IN STALLED NO HIGHER THAN 10 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURB ALONG OR ON THE PAVEMENT OR CEMENT (IF NO CURB IS PROVIDED) SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS. [IFC SECTION 503.3]
28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE IFC SECTION 503.6 AND IFC APPENDIX M.

REVISED MARCH 1, 2016

STORMWATER RUNOFF MANAGEMENT

1. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATE IN, THE PUBLIC RIGHTS OF WAYS OF THE CITY OF LAS VEGAS AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
2. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CITY OF LAS VEGAS AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUAL.
3. TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY; REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.5.
4. AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER ANY ACTUAL RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
5. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

LAS VEGAS VALLEY WATER DISTRICT

LVVWD PROJECT # 135667

(REVISED 08/01/2017)

1. NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN APPROVED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, NOTICE SHALL BE GIVEN TO THE LVVWD COMMUNICATION SUPPORT CENTER (258-7171) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. FOR FUTURE INSPECTIONS, NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE REQUESTED LVVWD INSPECTION. WHEN REQUESTING INSPECTIONS, PLEASE REFER TO THE PROJECT # IDENTIFIED ABOVE.
2. ALL WORK SHALL CONFORM TO LVVWD STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS, AND TO THE 2010 EDITION OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS). THE LATEST EDITION OF UDACS SHALL SUPERSEDE ANY CONFLICTS CONTAINED IN THE APPROVED DRAWINGS AND/OR SPECIFICATIONS.
3. ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2 ABOVE, SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT 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 TYPE K 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. ALL WATER AND STORM DRAIN OR SANITARY SEWER CROSSINGS SHALL CONFORM TO SECTION 2.22 OF THE 2010 EDITION OF THE UDACS
9. ALL WATER FACILITIES AND APPURTENANCES SHALL BE DISINFECTED, PRESSURE TESTED, AND HAVE AN ACCEPTABLE PASSING HEALTH WATER SAMPLE OBTAINED, PRIOR TO OPERATION AND USE.
10. THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 OR 258-3802, TWO (2) WORKING DAYS PRIOR TO METER PICKUP.
11. ANY INTERRUPTION OF SERVICE MUST BE PERFORMED IN ACCORDANCE WITH UDACS SECTION 3.14.01, AND APPROVED BY THE LVVWD INSPECTION DIVISION PRIOR TO SHUTDOWN. PROPER WRITTEN NOTIFICATION MUST BE GIVEN TO ALL AFFECTED CUSTOMERS.
12. ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE LISTED ON THE LVVWD APPROVED PRODUCT'S LIST FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS BY SUBMITTING SHOP DRAWINGS.
13. TELEPHONE "CALL BEFORE YOU DIG" AT 811 OR 1-800-227-2600
14. THE INSTALLATION OF LVVWD MUNICIPAL WATER FACILITIES WITHIN ALL STREETS IS ASSUMED TO BE IN COMPLIANCE WITH THE UNIFORM STANDARDS, INCLUDING THE PLACEMENT OF ASPHALT PAVING STREET SURFACES. ANY REPAIR WORK DONE BY THE LVVWD TO THE MUNICIPAL WATER FACILITIES WILL INCLUDE THE PLACEMENT OF AN APPROPRIATELY SIZED ASPHALT REPAIR ON THE STREET SURFACE.

    ANY DECORATIVE PAVING SURFACE WITHIN THE STREET IS THE RESPONSIBILITY OF THE OWNER'S ASSOCIATION, OR THE INDIVIDUAL PROPERTY OWNERS IF NO OWNER'S ASSOCIATION IS IN EXISTENCE, OR THE AGENCY HAVING JURISDICTION. DECORATIVE SURFACE MATERIALS PLACED WITHIN THE TEN FOOT EASEMENT ABUTTING A PUBLIC OR PRIVATE STREET, IF DISTURBED BY THE LVVWD DURING THE REPAIR OR OPERATION OF ITS FACILITIES, WILL BE REPLACED BY LVVWD WITH AN APPROPRIATELY SIZED PLAIN FINISH CONCRETE PATCH. THE LVVWD WILL NOT RESTORE, AND WILL NOT BE RESPONSIBLE FOR THE RESTORATION OF, ANY DECORATIVE PAVING SURFACE WITHIN THE STREET. THE LVVWD WILL NOT ATTEMPT TO MATCH COLOR OR FINISH OF ANY ADJACENT MATERIALS.
15. NO LEAD COMPLIANCE NOTE:
    TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, ALL WATER WORKS BRASS PRODUCTS PROPOSED TO BE RELOCATED, OR INSTALLED AS NEW MUST BE INSTALLED WITH THE LEAD FREE APPROVED PRODUCT. THE OLD LEADED PRODUCT MAY NOT BE REUSED.

CITY OF LAS VEGAS STREETLIGHT NOTES

1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION, AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION, AND ANY ADOPTED SPECIAL AREA STANDARDS.
2. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE TRAFFIC ENGINEER AND THE CITY ENGINEER.
3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.
4. ALL STREET LIGHTING CONDUITS STUB SHALL HAVE AT LEAST ONE GREEN #8 THW WIRE INSTALLED, AS TRACER WIRE. WHEN "EMPTY" CONDUIT IS COMPLETELY INSTALLED FROM PB TO PB, IT SHALL HAVE MINIMUM OF 2 #4 AND 1 #8 THW WIRE WITH THE ENDS TAPED OR "SAFE OFF" PRIOR TO FINAL INSPECTION.
5. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A.
6. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TEFO PRIOR TO ANY PRE-FINAL INSPECTION. THE AS-BUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
7. SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY COMPANY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE PLANS.
8. IT SHALL BE ASSUMED THAT IN THE ABSENCE OF AN EXISTING, WORKABLE CIRCUIT TO ATTACH TO, ALL INSTALLATIONS SHALL REQUIRE A NEW SERVICE FOR OPERATION OF THE CIRCUIT.
9. WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREET LIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED, AT NO EXPENSE TO THE CITY OF LAS VEGAS, BEFORE STREETLIGHT BASES ARE INSTALLED.
10. THE CONTRACTOR SHALL FURNISH COMPLETE SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON PLANS.
11. THE DEVELOPER/OWNER WILL BE REQUIRED TO SUPPLY POWER TO ALL NEW PUBLIC STREET LIGHTS INSTALLED UNDER THIS DESIGN PRIOR TO BOND RELEASE OR PROJECT COMPLETION. THE DEVELOPER/OWNER WILL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH THE INSTALLATION, CONSTRUCTION, ENERGIZING, MAINTENANCE AND OPERATIONAL COST OF SAID STREET LIGHTS PRIOR TO PROJECT COMPLETION. REFER TO THE PLAN FOR ANY NEW SERVICE REQUIREMENTS. THE TRANSFER OF OWNERSHIP FROM THE DEVELOPER/OWNER TO THE CITY OF LAS VEGAS FOR ALL NEW PUBLIC STREET LIGHT/S AND/OR SERVICE/S INSTALLED UNDER THIS PLAN WILL BE IN CONJUNCTION WITH THIS PROJECT COMPLETION. COORDINATE ALL MAINTENANCE AND OPERATIONAL TRANSFERS WITH THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DEPARTMENT (TEFO) AT (702) 229-6331.

REVISED 04/15/10

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. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATIONS.
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 CITY ENGINEER.
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 AGGREGATE BASE.
5. ALL MANHOLES PAVED IN STREETS EIGHTY (80') FOOT R/W AND LARGER SHALL HAVE CONCRETE COLLARS. STREETS LESS THAN EIGHTY (80') FOOT R/W WILL REQUIRE RETROFIT IF PAVING DOES NOT CONFORM TO CITY STANDARDS AT THE MANHOLE.
6. TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO TWELVE INCH (12") DIAMETER. CONNECTIONS TO FIFTEEN INCH (15") OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES. IN LINE "Y" 'S SHALL BE USED ON LINES TWELVE INCHES (12") OR ABOVE.
7. WATER MAINS SHALL BE PROTECTED IN ACCORDANCE WITH LVVWD STANDARDS WHENEVER A SEWER MAIN CROSSES OVER A WATER MAIN OR THE SEWER IS LESS THAN EIGHTEEN INCH (18") UNDER A WATER MAIN.
8. ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CITY OF LAS VEGAS MUST BE STATE OF NEVADA 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 AT ANY LOCATION. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED OR REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY OF LAS VEGAS.
10. INSTALLATION OF CURVED SEWER REQUIRES THE USE OF C-900 PIPE WHICH ALLOWS FOR PIPE DEFLECTION AT THE JOINTS.

REVISED 04/15/10

CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCED WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL NEW STREET ENCROACHMENTS INTO EXISTING CITY STREETS WHERE WARRANTED IMMEDIATELY AFTER FIRST GRADING WORK IS ACCOMPLISHED, AND SHALL MAINTAIN SAID SIGNS UNTIL PERMANENT SIGNS ARE INSTALLED.
4. WHEN A DESIGNATED "SAFE ROUTE TO SCHOOL" IS ENCROACHED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSISTED IN THE SAFE CROSSING THROUGH THAT WORK ZONE, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE A QUALIFIED "CROSSING GUARD". THE GUARD SHALL BE PRESENT FOR THE FULL DURATION OF TIME THAT CHILDREN ARE LIKELY TO BE PRESENT.
5. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY OBSTRUCTION, TEMPORARY REMOVAL OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED WITH LIKE MATERIALS TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PERMANENT SIGNS SHOWN ON THE PLANS. ALL NEW SIGNS SHALL BE FABRICATED WITH DIAMOND GRADE VIP CLASS 6 REFLECTIVE SHEETING OR APPROVED EQUAL. ALL NEW TRAFFIC SIGNS, EXCEPT STREET NAME AND SCHOOL SPEED LIMIT SIGNS, SHALL HAVE 3M SERIES 1160 OR APPROVED EQUIVALENT ANTI-GRAFFITI PROTECTIVE OVERLAY FILM; SCHOOL ZONE SIGNS SHALL HAVE 3M SERIES 1150 ANIT-GRAFFITI PROTECTIVE OVERLAY FILM. STREET NAME SIGNS SHALL CONFORM IN THEIR ENTIRETY TO CURRENT CITY STANDARDS. ALL OTHER SIGNS SHALL BE STANDARD SIZE UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL SIGN POSTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CITY STANDARDS.
7. WHEN A PROPOSED STREET LIGHT STANDARD IS LOCATED WITHIN FIVE (5') FEET OF ANY PROPOSED SIGN SHOWN ON THE PLANS TO BE MOUNTED ON A SIGNPOST, THE SIGN SHALL BE MOUNTED ON THE STREET LIGHT STANDARD AND THE SIGNPOST SHALL BE ELIMINATED.
8. ALL PERMANENT TRAFFIC CONTROL DEVICES CALLED FOR HEREON SHALL BE IN PLACE AND IN FINAL POSITION PRIOR TO ALLOWING ANY PUBLIC TRAFFIC ONTO THE PORTIONS OF THE ROAD(S) BEING IMPROVED HERE UNDER, REGARDLESS OF THE STATUS OF COMPLETION OF PAVING OR OTHER OFF-SITE IMPROVEMENTS CALLED FOR BY THESE PLANS.
9. STREET SIGNS AND STOP SIGNS SHALL BE INSTALLED PER CITY STANDARD SPECIFICATIONS FOR PLACEMENT OF STREET NAME SIGNS.
10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL DEVICES AND FLAGGERS TO INSURE THE SAFETY OF THE PUBLIC IN OR AROUND THE WORK AREA. THE CONTRACTOR SHALL HAVE A CERTIFIED ATSSA TRAFFIC CONTROL TECHNICIAN OR IMSA WORK ZONE SAFETY SPECIALIST SET UP, MAINTAIN AND/OR REMOVE ALL TRAFFIC CONTROL DEVICES IN THE CITY OF LAS VEGAS RIGHT-OF-WAY.
11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE EXPEDITED TO COMPLETION SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO TO THE TRAVELING PUBLIC.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING CITIZENS AREA TRANSIT (C.A.T.) IF THE CONSTRUCTION INTERRUPTS OR RELOCATES A BUS STOP OR HAS AN ADVERSE EFFECT ON BUS SERVICE ON THAT STREET TO ARRANGE FOR TEMPORARY RELOCATION OF STOP.
13. GUARDS SHALL BE OBTAINED BY CONTACTING THE METROPOLITAN POLICE DEPARTMENT SPECIAL EVENTS UNIT (PHONE # 828-3442) WHO WILL PROVIDE OFFICERS PROPERLY TRAINED IN TRAFFIC CONTROL. FEES FOR THE USE OF THESE OFFICERS SHALL BE SET BY METRO AND WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR ALL ARRANGEMENTS WITH METRO.
14. ANY WORK WITHIN 300' OF A SIGNALIZED INTERSECTION WILL BE NIGHT WORK, UNLESS DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING DIVISION (TRANSPORTATION SECTION) THROUGH THE PROJECT'S OFFSITE INSPECTOR PRIOR TO INITIATING PAVING TO RECEIVE DIRECTION FOR ANY PERMANENT OR TEMPORARY MODIFICATIONS TO THE APPROVED DRAWINGS REGARDING FINAL PAVEMENT TRANSITIONS, MARKINGS AND SIGNING THAT ARE REQUIRED TO MATCH ADJACENT ROADWAY SEGMENTS. THE CONTRACTOR SHALL PROVIDE A DRAWING FOR APPROVAL BY THE TRAFFIC ENGINEERING DIVISION DEPICTING ANY ADJUSTMENTS TO THE FINAL PAVEMENT MARKINGS AND SIGNAGE, WHICH MAY INCLUDE OMITTING, ADDING OR MODIFYING PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SUCH THAT ADEQUATE TRANSITIONS AND LANE TERMINATIONS BETWEEN ADJACENT ROADWAY SEGMENTS ARE CONSTRUCTED.

REVISED 4/15/10

CITY OF LAS VEGAS GRADING NOTES

1. IN THE EVENT THAT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER/ENGINEER SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THIS PROJECT AND THE RELATED OFF-SITE WORK, SO AS TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES AND SLOPES SHOWN.
3. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
4. THE CONTRACTOR IS WARNED THAT AN EARTHWORK BALANCE WAS NOT NECESSARILY THE INTENT OF THIS PROJECT. ANY ADDITIONAL MATERIAL REQUIRED OR LEFTOVER MATERIAL FOLLOWING EARTHWORK OPERATIONS BECOMES THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE GRADING CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO PROVIDE FOR THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ASSOCIATED PERMIT.
6. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

	HORIZONTAL	VERTICAL	COMPACTION
A. PAVEMENT AREA SUBGRADE	0.1'±	+0.0' TO –0.1'	SEE SOILS REPORT
B. ENGINEERED FILL	0.5'±	+0.1' TO –0.1'	SEE SOILS REPORT

   COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE. COMPACTION SHALL COMPLY WITH THE REQUIREMENTS OF THE ENGINEER.
7. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
8. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
9. THE CONTRACTOR SHALL MAINTAIN THE STREETS, SIDEWALKS AND ALL OTHER PUBLIC RIGHT- OF-WAY IN A CLEAN, SAFE AND USABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PUBLICLY OWNED PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. ALL ADJACENT PROPERTY, PRIVATE OR PUBLIC SHALL BE MAINTAINED IN A CLEAN, SAFE AND USABLE CONDITION.
10. IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED THAT IS NOT SHOWN ON THESE DRAWINGS, SUCH ITEM SHALL BE PROVIDED, AS DIRECTED BY THE CITY ENGINEER, AT NO EXPENSE TO THE CITY OF LAS VEGAS. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

REVISED 4/15/10

SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION

GENERAL NOTES

1. **IN THE EVENT OF NATURAL GAS EMERGENCIES CALL 911 AND 1-877-860-6020.**
2. **THERE SHALL BE A MINIMUM HORIZONTAL AND VERTICAL CLEARANCE OF 12-INCHES BETWEEN NATURAL GAS FACILITIES AND ANY UNDERGROUND FACILITIES AND/OR STRUCTURES, INCLUDING BUT NOT LIMITED TO WATER, SEWER, STORM DRAIN, COMMUNICATIONS, AND ELECTRIC.**
3. **FOR VALVE ADJUSTMENT CONTACT 702-668-6107 48 HOURS PRIOR TO CONSTRUCTION.**
4. **IN THE EVENT OF A NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND/OR STRUCTURES CONTACT 702-365-2099.**

APPROVED FOR CONSTRUCTION

[signature] 5/9/19

SOUTHWEST GAS CORPORATION — DATE

LEGEND

- PROPOSED UTILITIES
- EXISTING UTILITIES
- FUTURE UTILITIES
- SECTION LINE
- EASEMENT LINE
- RIGHT-OF-WAY LINE
- PROPERTY LINE
- CENTERLINE
- 100 YR HYDRAULIC GRADE LINE
- PROPOSED STORM LINE W/MH
- EXISTING SEWER LINE W/MH
- EXISTING WATER LINE & GATE VALVE
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING CABLE TV
- EXISTING TELEPHONE
- EXISTING OVERHEAD AND POWER POLES
- EXISTING STORM DRAIN
- FUTURE STORM DRAIN (42" RCP)
- EXISTING SIDEWALK AND RAMP
- POST AND CABLE FENCE
- CHAIN LINK FENCE
- FLOOD WALL
- NEW ABANDONED PIPE
- EXISTING ABANDONMENT
- SAWCUT
- CONCRETE ENCASEMENT
- EXISTING GRAVEL ACCESS ROAD TO REMAIN
- STUB & PLUG PIPE
- EDGE OF PAVEMENT
- RETAINING WALL
- EX. WATER VALVE
- (1 / C1) DRAWING NUMBER FOR DETAIL W/ REF. TO THE SHEET WHERE IT IS SHOWN
- BENCHMARK
- POTHOLE LOCATION
- (BWV) SEWER BACK WATER VALVE
- EXISTING NPC RS-100
- EXISTING DROP INLET
- EXISTING GATE VALVE
- EXISTING WATER METER
- EXISTING TRAFFIC SIGNAL PULL BOX
- (T) EXISTING TELEPHONE MANHOLE
- EXISTING POWER POLE
- EXISTING ELEC MARKER
- EXISTING TRAFFIC SIGNAL
- EXISTING FIRE HYDRANT
- EXISTING UTILITY BOX
- EXISTING METER BOX
- 3005 PROPOSED CONTOUR
- (3005) EXISTING CONTOUR
- 60.50 / TC SPOT ELEVATION
- (60.50) / TC EXISTING SPOT ELEVATION
- 1.00% ROAD SLOPE
- EXISTING STREET LIGHT (STLT)
- TOP SLOPE / TOE SLOPE 3:1 SLOPE UNLESS OTHERWISE NOTED ON PLAN
- MATCH LINE
- FF = 2333.25 FINISH FLOOR ELEVATION

ABBREVIATIONS

A	AIR
AC	ASPHALT CONCRETE, ACRE
ACP	ASBESTOS CEMENT PIPE
ADD'L	ADDITIONAL
ADS	ADVANCE DRAINAGE SYSTEM
AP	ANGLE POINT
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE	AVENUE
AVAR	AIR VALVE, AIR RELEASE ASSEMBLY
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BLM	BUREAU OF LAND MANAGEMENT
BLVD	BOULEVARD
BM	BENCHMARK
BO	BLOW-OFF
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BACK OF SIDEWALK
C, ℄	CENTERLINE
C&G	CURB AND GUTTER
CATV	UNDERGROUND CABLE TV
CCBM	CLARK COUNTY BENCH MARK
CCPW	CLARK COUNTY PUBLIC WORKS
CCTV	CLOSED-CIRCUIT TELEVISION
CCWRD	CLARK COUNTY WATER RECLAMATION DISTRICT
CFS	CUBIC FEET PER SECOND
CIP	CAPITAL IMPROVEMENTS PROJECT, CORRUGATED IRON PIPE
CIPM	CURED-IN-PLACE MANHOLE
CIPP	CURED-IN-PLACE PIPE
CIR	CIRCLE
CLR	CLEAR OR CLEARANCE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLV	CITY OF LAS VEGAS
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNLV	CITY OF NORTH LAS VEGAS
CO	CLEANOUT
CONC	CONCRETE
COND	CONDUIT
CONST	CONSTRUCT OR CONSTRUCTION
COORD	COORDINATE
COR	CORNER
CPEP	CORRUGATED POLYETHELYNE PIPE
CT	COURT
CY	CUBIC YARD(S)
Δ	DELTA
DBL	DOUBLE
DCS	DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEM (LATEST EDITION)
DEFL	DEFLECTION
DG	DESIGN GRADE
DIA, ø	DIAMETER
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DR	DRIVE
DS	DOWNSPOUT
DTL	DETAIL
DW	DRIVEWAY
DWG	DRAWING
E	EAST
ECR	END CURB RETURN
EG	EXISTING GRADE
ELE,ELEC	ELECTRICAL
ELEV	ELEVATION
EP, EOP	EDGE OF PAVEMENT
ESMT	EASEMENT
EVC	END VERTICAL CURVE
EXIST,EX	EXISTING
FC	FACE OF CURB
FF, FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE

FH	FIRE HYDRANT
FL	FLOW LINE
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FINISH SURFACE
FT	FOOT/FEET
FTG	FOOTING
FUT	FUTURE
G	GAS
GA	GAGE, GUY ANCHOR
GB	GRADE BREAK
GND	GROUND
GRD	GRADE, GROUND
H, HGT	HEIGHT
HDPE	HIGH DENSITY POLYETHLENE
HDWL	HEADWALL
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HIGH POINT, HIGH PRESSURE
HPS	HIGH PRESSURE SODIUM
IBC	INTERNATIONAL BUILDING CODE
INV	INVERT
INT	INTERIM
JT	JOINT
L	LENGTH
L, LT	LEFT
LF	LINEAR FEET
LIP	LIP OF GUTTER
LN	LANE
LP	LIGHT POLE
LSCP	LANDSCAPE
LVVWD	LAS VEGAS VALLEY WATER DISTRICT
MAX	MAXIMUM
ME	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
MOD	MODIFY/MODIFIED
MON	MONUMENT
MPH	MILES PER HOUR
N	NORTH
NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
NO	NUMBER
NOSHA	STATE OF NEVADA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
NPC	NEVADA POWER COMPANY
NTS	NOT TO SCALE
OC	ON CENTER
OCEWEF	ON CENTER EAST-WEST, EAST-FG
OHC	OVERHEAD COX COMMUNICATION
OHP	OVERHEAD POWER LINE
P	POWER LINE
PB	PULL BOX
PBS	PLANTMIX BITUMINOUS SURFACE
PC	POINT OF CURVE, PRESSURE CLASS
PCC	POINT OF COMPOUND CURVE
PE	PROJECT ENGINEER OR POLYETHYLENE
PED	PEDESTRIAN
PGL	PROFILE GRADE LINE
PH	POTHOLE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
ℙ	PROPERTY LINE
PLCP	POLYURETHANE LINED AND COATED STEEL PIPE
PMF	PAVEMENT MARKING FILM
POB	POINT OF BEGINNING
POC	POINT ON CURVE
P.O.C.	POINT OF CONNECTION
POT	POINT ON TANGENT
PP	POWER POLE
PROP	PROPOSED
PRC	POINT OF REVERSE CURVE
PRVC	POINT OF REVERSE VERTICAL CURVE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PZ	PRESSURE ZONE
R, RAD	RADIAL, RADIUS

R, RT	RIGHT
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REC	RECTANGULAR
REF	REFERENCE
REINF	REINFORCED
REQD	REQUIRED
RIM	TOP OF RIM ELEVATION
RND	ROUND
ROW,R/W	RIGHT OF WAY
RP	RADIUS POINT
RPM	RAISED PAVEMENT MARKERS
RSGV	RESILIENT SEAT GATE VALVE
S	SEWER, SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SECT	SECTION
SF	SQUARE FOOT/FEET
SHLDR	SHOULDER
SHT	SHEET
SIS	SUMMERLIN IMPROVEMENT STANDARDS
SL	STREET LIGHT
SP	SERVICE POINT
SQ	SQUARE
SR	SEWER RECLAIM MAIN
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STA	STATION
ST	STREET
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURE
SVZ	SIGHT VISIBILITY ZONE
SW	SIDEWALK
SWG	SOUTHWEST GAS
T	TELEPHONE OR TOP
TAN	TANGENT
TB	TOP OF BERM
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION ESMT
TEL,TELE	TELEPHONE
TEMP	TEMPORARY
TF	TOP OF FOOTING
TG	TOP OF GRATE
TMH	TOP OF MANHOLE
TOP	TOP OF PIPE
TP	TELEPHONE POLE
TRANS	TRANSITION
TRW	TOP OF RETAINING WALL
TS	TRAFFIC SIGNAL
TW	TOP OF WALL
TYP,(TYP)	TYPICAL
UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (LATEST EDITION)
UG	UNDERGROUND
ULT	ULTIMATE
USD, USDCCA, CCAUSD	UNIFORM STD. DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS CLARK COUNTY AREA, NEVADA (LATEST EDITION)
UT	UNDERGROUND TELEPHONE
VAR	VARIABLE/VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VG	VALLEY GUTTER
VOL	VOLUME
W	WATER, WEST
W/	WITH
WS	WATER SUPPLY
WT	WEIGHT
WTR	WATER
XING	CROSSING
YD	YARD, YARD DRAIN
Z	PRESSURE ZONE

DEVIATION FROM STANDARDS

1. NONE

APPROVED FOR CONSTRUCTION

[signature]

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 135667 FIRST APPROVAL DATE: 5-6-19

ANNE JOHNSON, AIA
architecture • graphic
Anne Johnson, AIA
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NV LIC. #5168

GCW ENGINEERS SURVEYORS
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T: 702.804.2000 gcwengineering.com

STATE OF NEVADA PROFESSIONAL ENGINEER — TODD N. KELLEY — CIVIL — No. 14711 — Exp. 6/30/2019 — 5-1-19

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY, THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED, AFFECTING ALL LABELED SCALES.

REVISIONS	DATE

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	2 OF 17
Phase:	100% DD

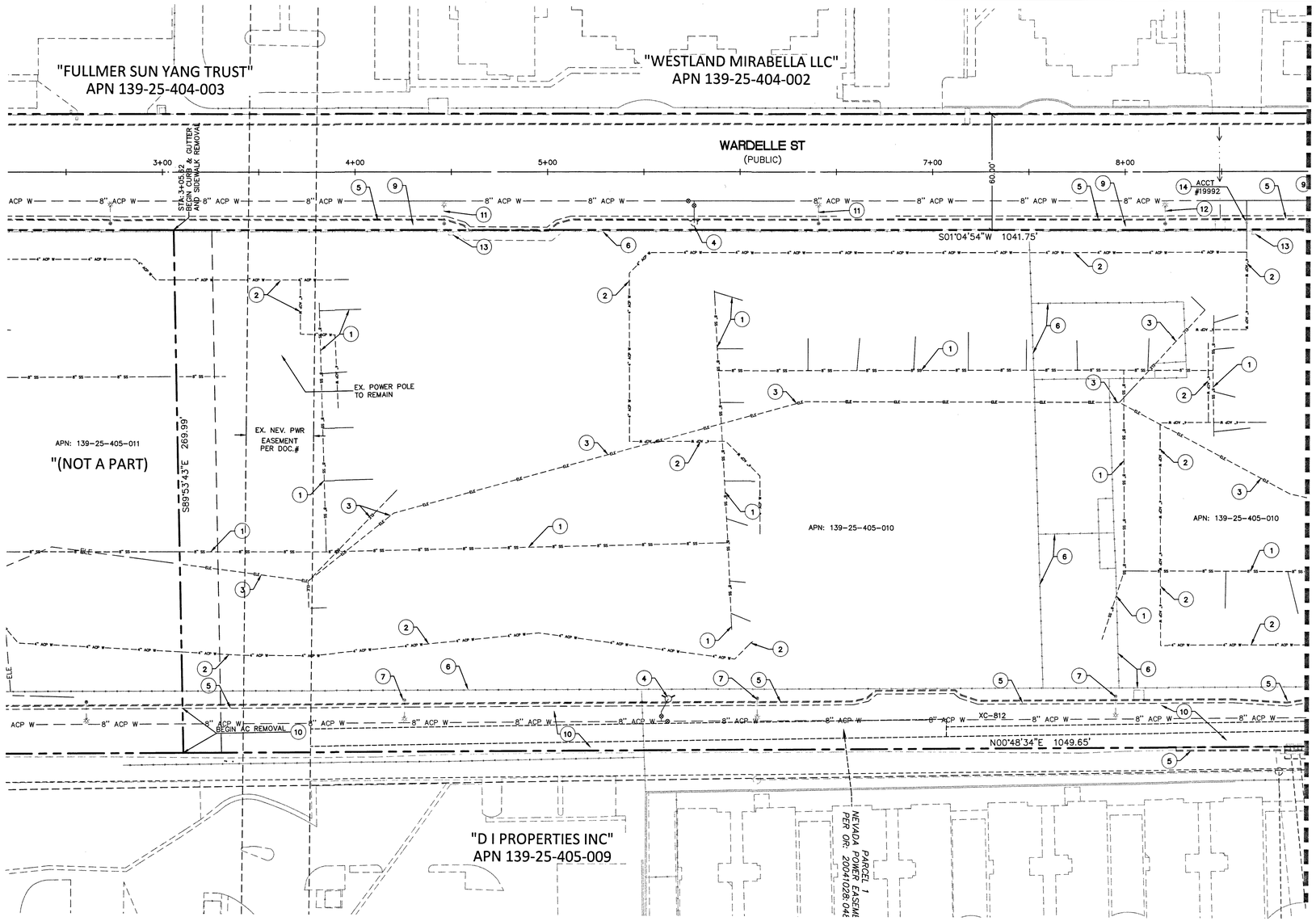
L19-00078
107V7651

CV-2

Plotted On: 04-30-19

GENERAL NOTES AND LEGEND PLAN

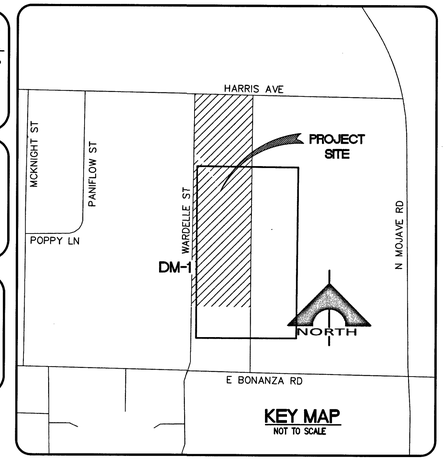
PROJ#:135667A QS:139-25-SW



AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION



DEMOLITION NOTES

1	REMOVE EXISTING SANITARY SEWER PIPE AND STRUCTURES.
2	REMOVE EXISTING WATER PIPE AND WATER FACILITIES.
3	REMOVE EXISTING ELECTRICAL CONDUITS.
4	REMOVE EXISTING FIRE HYDRANT PER LAS VEGAS FIRE AND RESCUE FIRE PREVENTION DIVISION GUIDELINES. SEE SHT. TR-1 FOR NEW FIRE HYDRANT LOCATIONS
5	REMOVE EXISTING CURB AND GUTTER.
6	REMOVE EXISTING FENCE.
7	REMOVE EXISTING LIGHT POLE
8	REMOVE EXISTING SANITARY SEWER. NOTE: CONTRACTOR TO MAINTAIN THE EXISTING SANITARY SEWER SERVICE DURING CONSTRUCTION. REMOVAL OF THE EXISTING ON-SITE SANITARY SEWER FACILITY SHALL BE COORDINATED WITH THE CITY OF LAS VEGAS SEWER DIVISION PRIOR TO REMOVAL WORK.
9	REMOVE EXISTING SIDEWALK.
10	REMOVE EXISTING AC PAVEMENT.
11	RETAIN AND PROTECT EXISTING STREET LIGHT.
12	RELOCATE EXISTING STREET LIGHT. SEE SHEET TR-1.
13	EX. UTIL. BOX TO BE ABANDONED. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER.
14	EXISTING WATER METER, ABANDON SERVICE PER UDACS SSEC. 2.17.04.

NORTH

30' 0' 15' 30'
SCALE: 1" = 30'

NOTE:
PROTECT IN PLACE AND ADJUST LVVWD EXISTING FACILITIES TO FINISH GRADE PER UDACS. ALL LVVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: 8LV0125SSW8

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.000 M (656,166.6667 FTUS)
EASTING AT CENTRAL MERIDIAN: 100,000.000 M (328,083.3333 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:
1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.
2. GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

ABANDONMENT OF EXISTING SERVICES 2 INCH AND SMALLER

IF ANY OF THE EXISTING SERVICES ARE INCORRECTLY LOCATED OR NOT TO BE USED WITH THIS PROJECT, THIS PROJECT SHALL BE ABANDON THE LATERALS AT THE CONNECTION TO THE ACTIVE MAIN IN ACCORDANCE WITH UDACS SECTION 2.17.04 A, AND COORDINATE WITH THE LVVWD INSPECTOR.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 135667 FIRST APPROVAL DATE: 5-6-19

ANNE JOHNSON, AIA
architecture • graphic
Anne Johnson, AIA
1489 W Warm Springs Rd, Suite 110, Henderson, Nevada 89014
NV LIC. #5168

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD LAS VEGAS, NV 89146
T: 702.804.2000 gcwengineering.com

PROFESSIONAL ENGINEER STATE OF NEVADA TODD N. KELLEY Exp. 6/30/2019 CIVIL No. 14711 5-7-19

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

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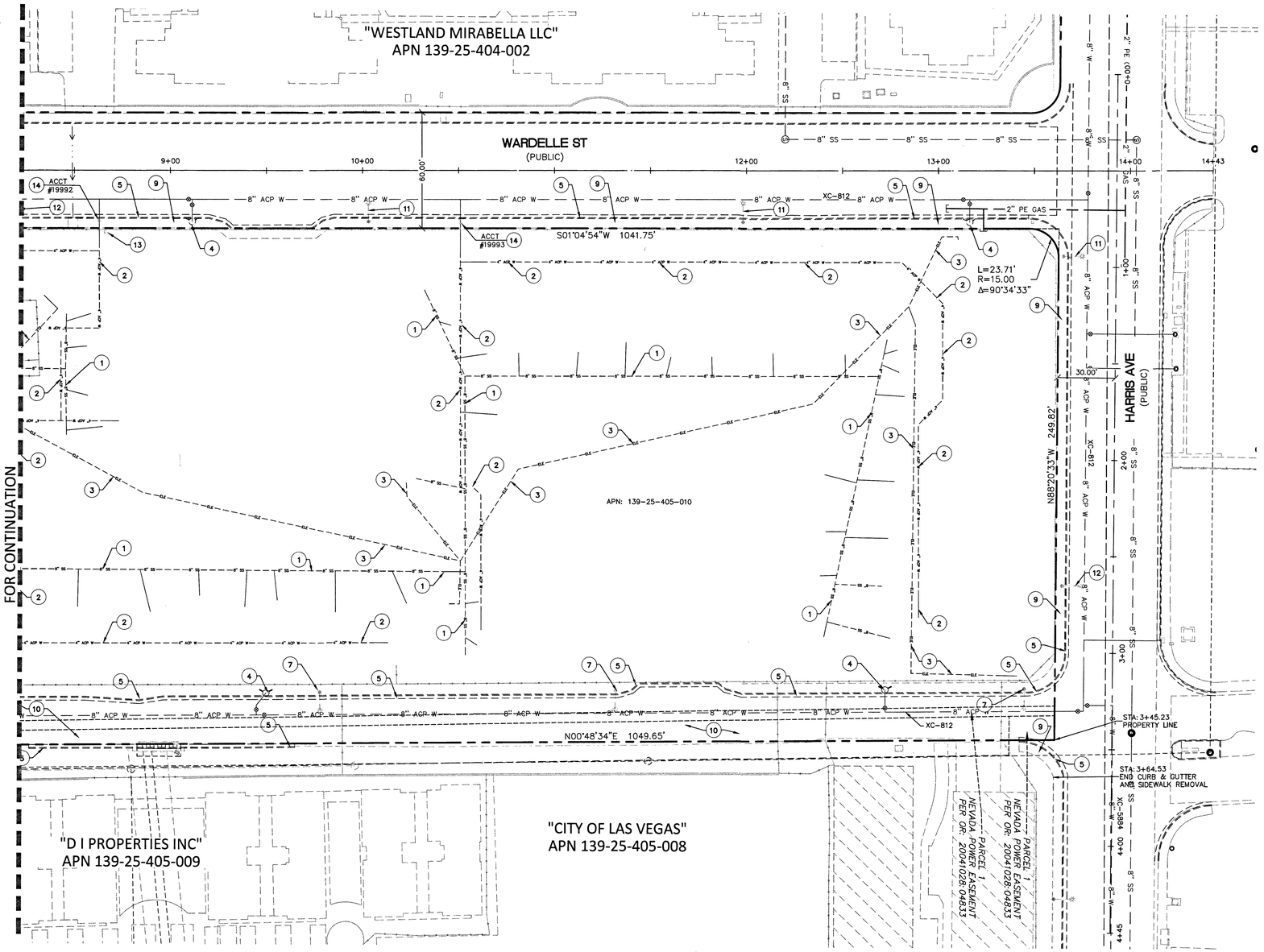
REVISIONS	DATE

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	3 OF 17
Phase:	100% DD

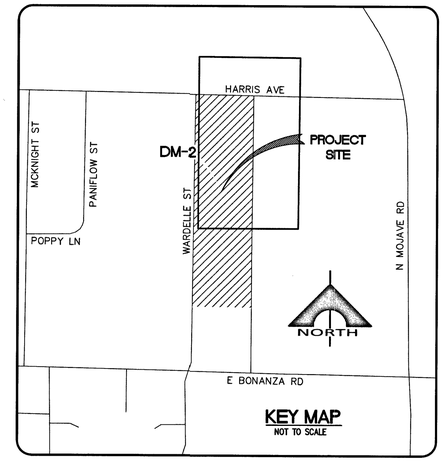
L19-00078
107V7651
DM-1
Plotted On: 04-30-19

DEMOLITION PLAN 1

PROJ#:135667A QS:139-25-SW



MATCHLINE SEE SHEET DM-1
FOR CONTINUATION



KEY MAP
NOT TO SCALE

DEMOLITION NOTES

1	REMOVE EXISTING SANITARY SEWER PIPE AND STRUCTURES.
2	REMOVE EXISTING WATER PIPE AND WATER FACILITIES.
3	REMOVE EXISTING ELECTRICAL CONDUITS.
4	REMOVE EXISTING FIRE HYDRANT PER LAS VEGAS FIRE AND RESCUE FIRE PREVENTION DIVISION GUIDELINES. SEE SHT. TR-1 FOR NEW FIRE HYDRANT LOCATIONS
5	REMOVE EXISTING CURB AND GUTTER.
6	REMOVE EXISTING FENCE.
7	REMOVE EXISTING LIGHT POLE
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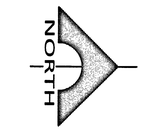

30' 0' 15' 30'
SCALE: 1" = 30'

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FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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Call 811
or
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CITY OF LAS VEGAS BENCHMARK STATION: 8LV0125SSW6

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LINEAR UNIT: US SURVEY FOOT (FTUS)

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2 INCH AND SMALLER

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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 135667 FIRST APPROVAL DATE: 5-6-19

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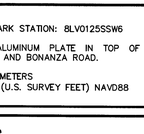

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REVISIONS	DATE

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	4 OF 17
Phase:	100% DD

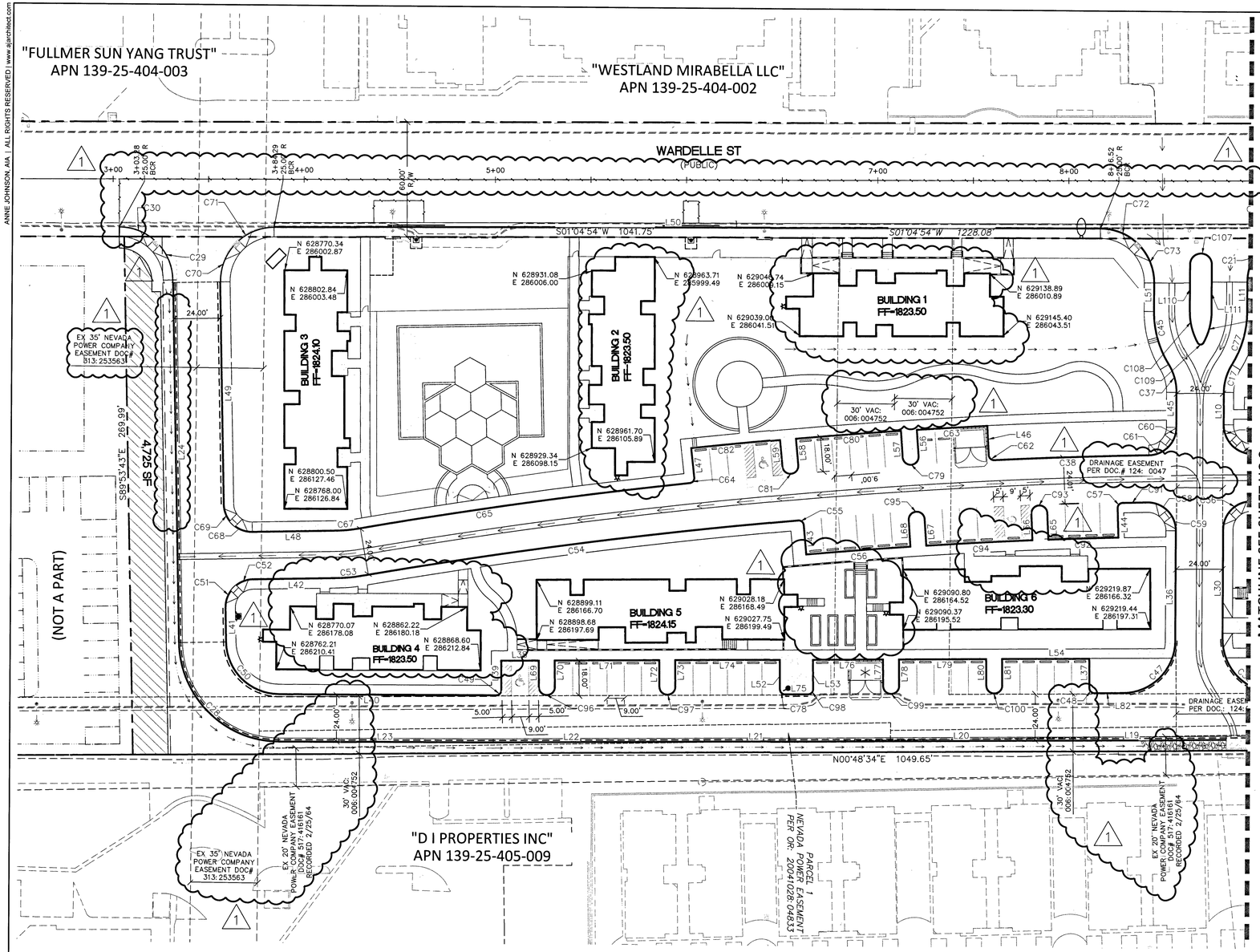
L19-00078
107V7651

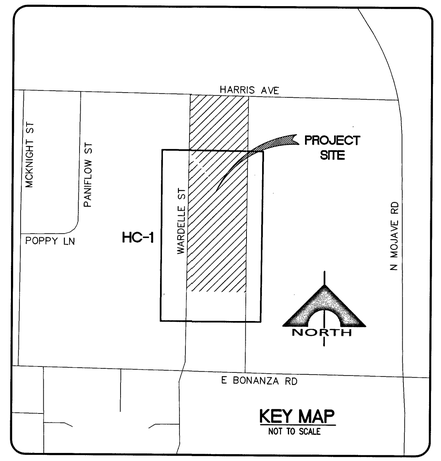
DM-2

Plotted On: 04-30-19

DEMOLITION PLAN 2

PROJ.#:135667A QS:139-25-SW





NORTH

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

30' 0' 15' 30'
SCALE: 1" = 30'

REVISION TABLE: AREA	FOR SHEET HC-1 CHANGE
WARDELLE STREET	SAW-CUT LINE MOVED TO STREET CENTERLINE.
BUILDING #1	BUILDING FOOTPRINT CHANGED, REVISED SIDEWALKS, RAMPS, AND WALK-WALLS.
BUILDING #2	BUILDING FOOTPRINT AND SIDEWALKS CHANGED.
BUILDING #4	BUILDING FOOTPRINT CHANGED, SIDEWALK RAMPS, AND WALK-WALLS REVISED FOR ADA ACCESS.
BUILDINGS #5 AND #6 RISER ROOMS	ADDED STAIRS EXITING THE RISER ROOMS.
BUILDING #6	REVISED SIDEWALK, SIDEWALK STEPS, AND RAMPS FOR ADA ACCESS.
EXISTING EASEMENTS	ADDED EASEMENT INFORMATION.
SOUTH ENTRY DRIVEWAY	REMOVED DIAGONAL PARKING STALLS.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: BLV0125SSW6

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

NOTE:

- TRASH ENCLOSURES PER ARCHITECTURAL PLANS.

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.000 M (656,166.6667 FTUS)
EASTING AT CENTRAL MERIDIAN: 100,000.000 M (328,083.3333 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN: 1.0001 (EXACT)

NOTES:
1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.
2. GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

ANNE JOHNSON, AIA
architecture • graphic
Anne Johnson, AIA
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NV LIC. #5168

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ENGINEERS \ SURVEYORS
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T: 702.804.2000 gcwengineering.com

STATE OF NEVADA
ENGINEER
TODD N. KELLEY
Exp. 6/30/2021
CIVIL
No. 14171
PROFESSIONAL
1-2-2020

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY, THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED AFFECTING ALL LABELED SCALES.

	REVISIONS	DATE
1	V.E. REV.	11.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	5 OF 17
Phase:	100% DD

L19-00078
107V7651

HC-1

Plotted On: 12-30-19

HORIZONTAL CONTROL PLAN 1

"WESTLAND MIRABELLA LLC"
APN 139-25-404-002

WARDELLE ST
(PUBLIC)
60.00' R/W

HARRIS AVE
(PUBLIC)
80.00' R/W

BUILDING 12
FF=1823.05

BUILDING 11
FF=1823.40

BUILDING 10
FF=1823.80

BUILDING 9
FF=1823.20

BUILDING 7
ACTIVITY CENTER
FF=1823.20

BUILDING 8
FF=1822.90

S01°04'54"W 1041.75'

N00°48'34"E 1049.65'

N88°20'33"W 249.82'

DRAINAGE EASEMENT
PER DOC.: 124:0047

EX 20' NEVADA POWER COMPANY EASEMENT DOC# 517:416161 RECORDED 2/25/64

30' VAC. 006:004752

NEVADA POWER EASEMENT PER OR: 20041028:04833 PARCEL 1

"CITY OF LAS VEGAS"
APN 139-25-405-008

MATCHLINE SEE SHEET HC-1
FOR CONTINUATION

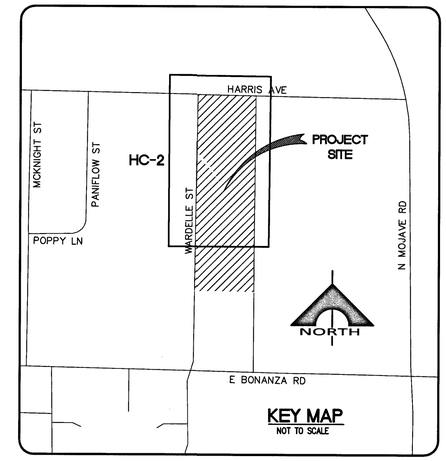
STA: 0+49.98
HARRIS AVE.

STA: 13+92.98
WARDELLE ST.

STA: 6+61.97
ESTABLISHED PER
FOUND MONUMENT
T20S, S¼, S¼, CR61E

FOUND 1 1/2" AL CAP ILLEGIBLE

1/16 SECTION LINE



KEY MAP
NOT TO SCALE

30' 0' 15' 30'
SCALE: 1" = 30'

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REVISION TABLE: **FOR SHEET HC-2**

AREA	CHANGE
WARDELLE STREET	SAW-CUT LINE MOVED TO STREET CENTERLINE.
OFF-SITE HARRIS AVENUE	SAW-CUT LINE MOVED TO BIKE LANE LINE.
BUILDING #7	REVISED SIDEWALK, SIDEWALK STEPS, AND RAMPS FOR ADA ACCESS.
BUILDING #10	BUILDING FOOTPRINT CHANGED, REVISED SIDEWALK, RAMPS, AND WALLS FOR ADA ACCESS.
BUILDING #11	RELOCATED AND FOOTPRINT CHANGED, SIDEWALK, RAMPS, STEPS, AND WALLS REVISED FOR ADA ACCESS.
BUILDING #12	RELOCATED AND FOOTPRINT CHANGED, SIDEWALK, RAMPS, STEPS, AND WALLS REVISED FOR ADA ACCESS.
BUILDING #13	BUILDING REMOVED, REPLACED WITH AN OPEN LANDSCAPE AREA WHERE BUILDING 11 WAS ORIGINALLY LOCATED.
ADA PARKING STALLS	ADDED STALL DIMENSIONS.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: 8LV0125SSW6

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LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
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Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	6 OF 17
Phase:	100% DD

L19-00078
107V7651
HC-2
Plotted On: 12-30-19

HORIZONTAL CONTROL PLAN 2

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	167.89	S88° 20' 33.25"E
L2	21.03	N01° 39' 26.75"E
L3	7.12	N88° 20' 33.25"W
L4	15.50	N86° 44' 38.08"W
L5	15.50	N85° 49' 05.26"W
L6	15.58	N38° 31' 52.17"W
L7	15.71	N79° 20' 26.94"W
L8	15.50	N85° 04' 39.00"W
L9	20.27	N01° 18' 05.50"E
L10	16.88	N88° 38' 30.24"W
L11	15.41	N88° 38' 30.22"W
L12	426.03	N01° 04' 52.63"E
L13	19.29	N87° 25' 04.44"W
L14	26.77	N01° 39' 26.75"E
L15	100.00	S00° 48' 13.45"W
L16	94.00	S00° 48' 13.45"W
L17	94.00	S00° 48' 13.45"W
L18	41.43	S00° 48' 13.45"W
L19	89.60	N00° 48' 13.45"E
L20	94.00	N00° 48' 13.45"E

LINE TABLE		
LINE #	LENGTH	DIRECTION
L21	94.00	N00° 48' 13.45"E
L22	87.78	N00° 48' 13.45"E
L23	100.00	N01° 18' 32.95"E
L24	189.02	S89° 52' 23.06"E
L26	6.92	S88° 20' 33.25"E
L27	15.50	N89° 11' 46.55"W
L28	46.00	N00° 48' 13.45"E
L29	14.50	N89° 11' 46.55"W
L30	57.23	N88° 38' 30.24"W
L31	15.50	N88° 25' 42.19"W
L32	15.50	N85° 25' 30.80"W
L33	14.00	S87° 23' 31.06"E
L34	14.00	N87° 23' 31.06"W
L35	17.32	S88° 20' 33.25"E
L36	57.21	N88° 38' 30.24"W
L37	15.50	N89° 12' 15.52"W
L38	19.97	N00° 47' 44.48"E
L39	15.47	N89° 12' 15.52"W
L40	113.72	S01° 18' 34.68"W
L41	17.74	S89° 52' 23.06"E

LINE TABLE		
LINE #	LENGTH	DIRECTION
L42	43.67	S00° 07' 36.94"W
L43	15.50	N86° 12' 18.22"E
L44	15.50	N89° 37' 12.90"E
L45	18.16	N88° 38' 30.24"W
L46	15.50	S88° 14' 55.88"W
L47	15.50	N85° 05' 12.09"E
L48	43.67	S00° 07' 36.94"W
L49	115.91	S89° 52' 23.06"E
L50	432.23	N01° 04' 52.63"E
L51	14.90	N88° 38' 30.22"W
L52	15.37	S89° 12' 15.52"E
L53	15.50	N89° 13' 53.48"W
L54	46.00	N00° 47' 44.48"E
L55	3.66	N00° 48' 13.45"E
L56	14.00	N87° 24' 56.34"E
L57	14.00	S87° 24' 56.34"W
L58	14.00	N86° 07' 10.39"E
L59	14.00	S86° 07' 10.39"W
L60	15.50	S85° 47' 55.52"E
L61	15.50	N86° 43' 57.31"W

LINE TABLE		
LINE #	LENGTH	DIRECTION
L62	14.00	S87° 23' 10.57"E
L63	14.00	N87° 23' 10.57"W
L64	15.50	N88° 26' 30.21"W
L65	14.00	N88° 46' 25.22"E
L66	14.00	S88° 46' 25.22"W
L67	14.00	N87° 26' 12.62"E
L68	14.00	S87° 26' 12.62"W
L69	13.99	N89° 12' 15.52"W
L70	13.99	S89° 12' 15.52"E
L71	55.03	S00° 47' 44.48"W
L72	14.00	N89° 12' 15.52"W
L73	14.00	S89° 12' 15.52"E
L74	55.00	S00° 47' 44.48"W
L76	36.99	S00° 47' 44.48"W
L77	14.00	N89° 12' 15.52"W
L78	14.00	S89° 12' 15.52"E
L79	46.00	S00° 47' 44.48"W
L80	14.00	N89° 12' 15.52"W
L81	14.00	S89° 12' 15.52"E
L82	14.83	S00° 48' 25.22"W

LINE TABLE		
LINE #	LENGTH	DIRECTION
L83	55.00	S00° 48' 13.45"W
L84	14.00	N89° 12' 15.52"W
L85	14.00	S89° 12' 15.52"E
L86	19.00	S00° 48' 13.45"W
L87	15.50	N89° 12' 15.52"W
L88	47.00	S00° 48' 13.45"W
L89	15.50	S89° 12' 15.52"E
L90	56.00	S00° 48' 13.45"W
L91	14.00	N89° 12' 15.52"W
L92	14.00	S89° 12' 15.52"E
L93	55.00	S00° 48' 13.45"W
L94	14.00	N89° 12' 15.52"W
L95	14.00	S89° 12' 15.52"E
L96	27.55	S00° 48' 13.45"W
L110	24.58	S88° 38' 30.22"E
L111	24.58	N88° 38' 30.22"W

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C1	19.99	28.00	040.90
C2	19.99	28.00	040.90
C3	7.96	15.00	030.39
C4	11.59	15.00	044.28
C5	3.92	2.50	089.94
C6	39.01	2785.50	000.80
C7	3.92	2.50	089.94
C8	34.09	52.50	037.21
C9	3.79	2.50	086.87
C10	29.70	70.50	024.14
C11	19.52	70.50	015.86
C12	3.83	2.50	087.84
C13	170.80	2785.50	003.51
C15	3.94	2.46	091.79
C16	37.24	2803.50	000.76
C17	15.26	27.50	031.79
C18	3.92	2.50	089.94
C19	9.89	15.00	037.78
C20	9.73	15.00	037.16
C21	19.92	28.00	040.76

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C22	19.92	28.00	040.77
C23	31.62	20.00	090.58
C24	19.99	28.00	040.90
C25	19.99	28.00	040.90
C26	10.84	28.00	022.18
C27	38.23	53.00	041.33
C28	81.38	52.50	088.82
C29	19.76	28.00	040.43
C30	19.76	28.00	040.43
C31	11.68	15.00	044.61
C32	21.76	28.00	044.53
C33	3.93	2.50	090.00
C34	5.50	3.50	090.00
C35	43.46	27.50	090.55
C36	22.71	14.50	089.72
C37	15.26	27.50	031.79
C38	81.05	2785.50	001.67
C39	46.99	2733.22	000.99
C40	3.93	2.50	090.06
C41	186.94	2760.50	003.88

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C42	47.18	2803.50	000.96
C43	12.57	4.00	180.00
C44	28.24	2803.50	000.58
C45	29.13	52.50	031.79
C46	39.90	27.50	083.14
C47	42.93	27.50	089.44
C48	3.81	2.50	087.23
C49	3.95	2.50	090.51
C50	42.63	27.50	088.82
C51	9.38	14.50	037.07
C52	9.38	14.50	037.07
C53	15.20	100.00	008.71
C54	228.19	2760.50	004.74
C55	3.93	2.50	090.05
C56	54.99	2741.63	001.15
C57	3.93	2.50	090.06
C58	11.29	14.50	044.61
C59	7.83	14.50	030.95
C60	7.26	14.51	028.68
C61	11.17	14.50	044.14

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C62	3.92	2.50	089.94
C63	37.30	2803.50	000.76
C64	3.92	2.50	089.94
C65	175.41	2785.50	003.61
C67	11.40	75.00	008.71
C68	9.38	14.50	037.07
C69	9.38	14.50	037.07
C70	20.22	28.00	041.38
C71	20.22	28.00	041.38
C72	20.06	28.00	041.04
C73	20.06	28.00	041.04
C77	29.13	52.50	031.79
C78	3.93	2.50	090.00
C79	12.57	4.00	180.00
C80	55.42	2803.50	001.13
C81	12.57	4.00	180.00
C82	47.01	2803.50	000.96
C83	18.88	2742.50	000.39
C84	3.93	2.50	090.06
C85	38.99	2760.50	000.81

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C86	3.93	2.50	090.06
C87	27.82	2712.93	000.59
C88	12.57	4.00	180.00
C89	3.93	2.50	090.06
C90	20.17	2760.50	000.42
C91	12.91	2760.50	000.27
C92	36.99	2725.88	000.78
C93	12.57	4.00	180.00
C94	55.99	2742.73	001.17
C95	12.57	4.00	180.00
C96	12.57	4.00	180.00
C97	12.57	4.00	180.00
C98	3.93	2.50	090.00
C99	12.57	4.00	180.00
C100	12.57	4.00	180.00
C101	12.57	4.00	180.00
C102	3.93	2.50	089.99
C103	3.93	2.50	090.01
C104	12.57	4.00	180.00
C105	12.57	4.00	180.00

CURVE TABLE			
CURVE #	LENGTH	RADIUS	DELTA
C107	17.33	5.50	180.58
C108	16.93	33.50	028.95
C109	3.20	1.50	122.09
C110	16.93	33.50	028.95

REVISION TABLE:	FOR SHEET HC-3
AREA	CHANGE
HORIZONTAL CONTROL CURB DATA TABLES	LINE AND CURVE CURB DATA UPDATED TO REFLECT THE LATEST CHANGES.

BENCHMARK

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1820.07 FEET (U.S. SURVEY FEET) NAVD88

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DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
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STATE OF NEVADA — PROFESSIONAL ENGINEER — TODD N. KELLEY — No. 14711 — Exp. 9/30/2021 — CIVIL
12-2-2020

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
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Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED, AFFECTING ALL LABELED SCALES.

	REVISIONS	DATE
1	V.E. REVISIONS	01.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	7 OF 17
Phase:	100% DD

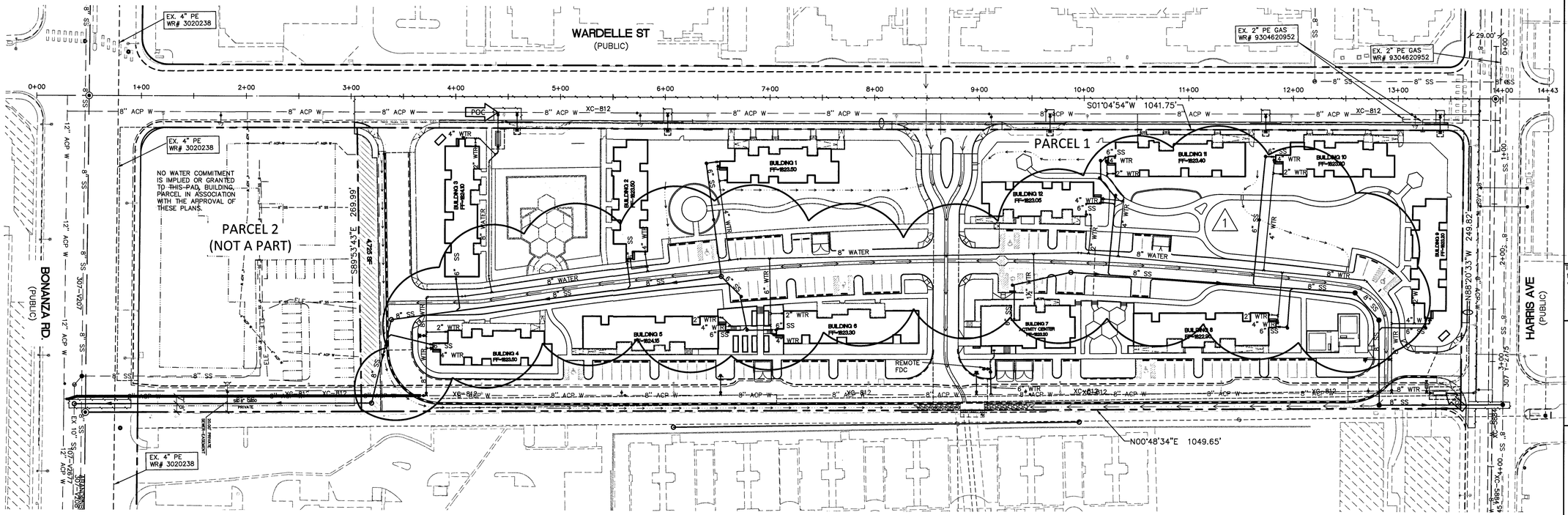
L19-00078
107V7651

HC-3

Plotted On: 12-30-19

HORIZONTAL CONTROL PLAN CURB DATA

"WESTLAND MIRABELLA LLC"
APN 139-25-404-002



"D I PROPERTIES INC"
APN 139-25-405-009

"CITY OF LAS VEGAS"
APN 139-25-405-008

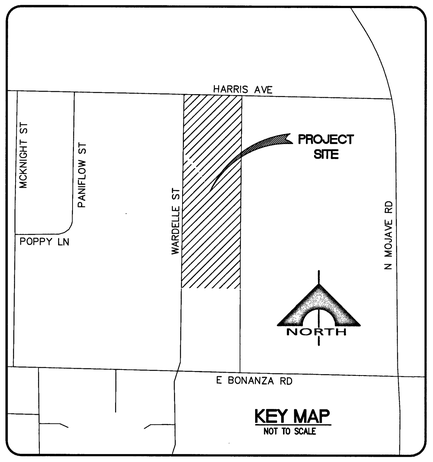
NORTH

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

50' 0' 25' 50' 100'
SCALE: 1" = 50'



KEY MAP
NOT TO SCALE

1

REVISION TABLE:	FOR SHEET MU-1
AREA	CHANGE
ALL ON-SITE BUILDINGS	POINT OF CONNECTION AT EACH BUILDING CHANGED FROM INDIVIDUAL UNIT SERVICES, TO A SINGLE CONNECTION POINT FOR SEWER AND WATER AT EACH BUILDING.
SEWER LATERALS	ALL SEWER LATERALS TO EACH BUILDING WERE RE-SIZED FROM 4" TO 6"

APPROVED FOR CONSTRUCTION
1-14-20
LAS VEGAS FIRE AND RESCUE — DATE
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL

APPROVED FOR CONSTRUCTION
Van Hall 11/23/20
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 135667 FIRST APPROVAL DATE: 5/6/19
LVVWD APPROVED FIRE FLOW: TOTAL 1500 GPM/ONSITE 1500 GPM

SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION
APPROVED FOR CONSTRUCTION
01/30/2020
SOUTHWEST GAS CORP. — DATE

FIRE FLOW CALCULATIONS

BASED ON SQUARE FOOTAGE: 13,020 SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS: N/A SQUARE FEET
BUILDING HEIGHT: 27 FEET
NUMBER OF STORIES: 2 FLOOR
TYPE OF CONSTRUCTION: TYPE V-B
FULL AUTOMATIC FIRE SPRINKLER SYSTEM: YES 13R 1500 GPM
HIGH PILED COMBUSTIBLE STORAGE: NO

FIRE FLOW REQUIREMENT = 1,500 GPM AT 20 PSI RESIDUAL PRESSURE. SPRINKLER DEMAND GPM/HOSE STREAM GPM REFERENCE AMEND IFC SECTION B105.2

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT ACCESS TO THE VAULT(S), BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

REDUCED PRESSURE PRINCIPLE ASSEMBLY (RPPA) (2) 6"

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENTS(S) TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY. EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: BLV0125SSW6

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.000 M (656,166.6667 FTUS)
EASTING AT CENTRAL MERIDIAN: 100,000.000 M (328,083.3333 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN; 1.0001 (EXACT)

NOTES:
1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.
2. GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

ANNE JOHNSON, AIA
architecture • graphic
Anne Johnson, AIA
1489 W Warm Springs Rd, Suite 110, Henderson, Nevada 89014
NV LIC. #5168

GCW
ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD LAS VEGAS, NV 89146
T: 702.804.2000 gcwengineering.com

STATE OF NEVADA — PROFESSIONAL ENGINEER — TODD M. KELLEY — No. 14711 — CIVIL — Exp. 6/30/2021
1-2-2020

Wardelle Street Townhouses
IFB No. B19012
SE corner of N Wardelle St. and E Harris Ave.
APN # 139-25-405-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

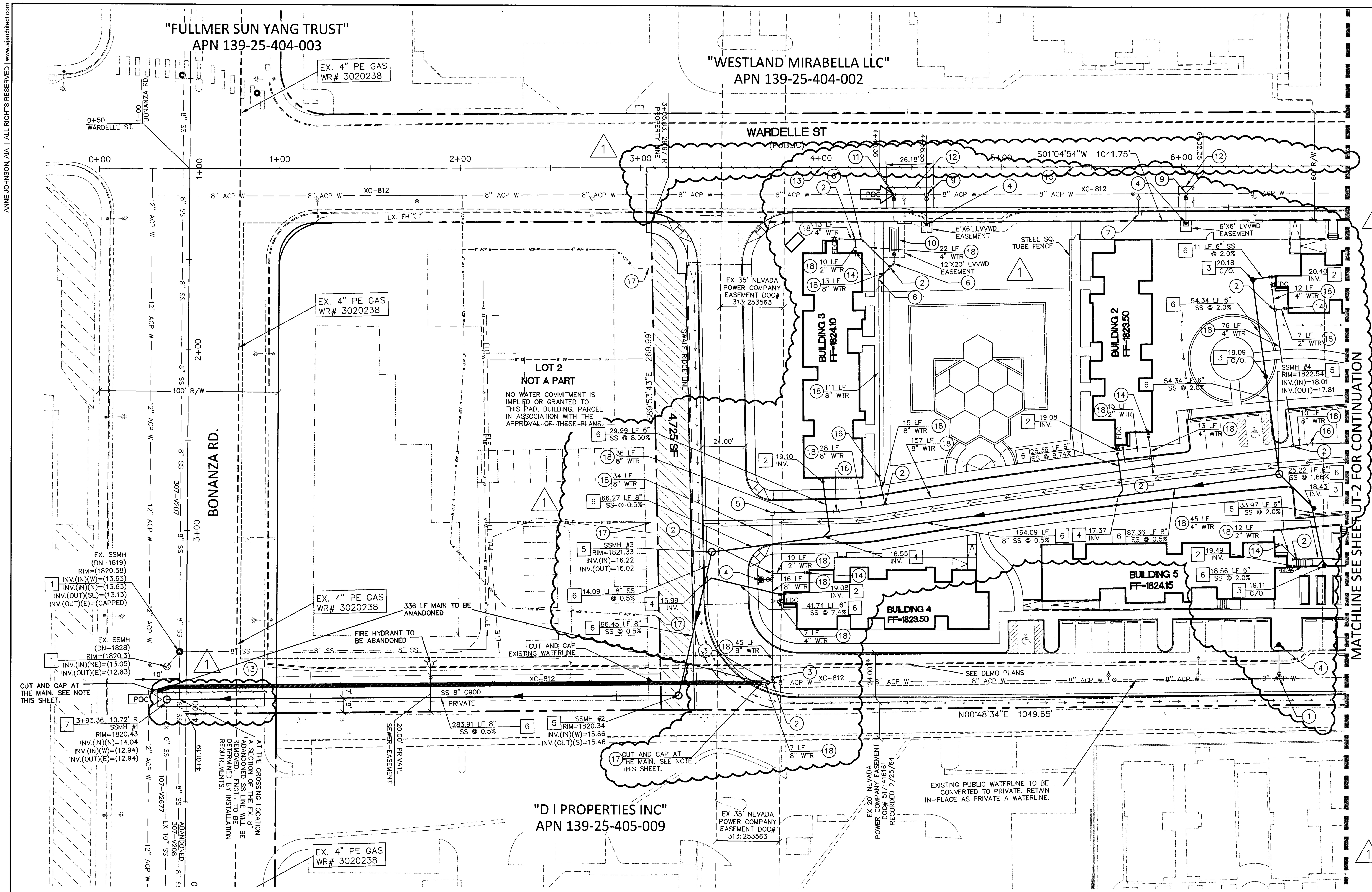
IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED, AFFECTING ALL LABELED SCALES.

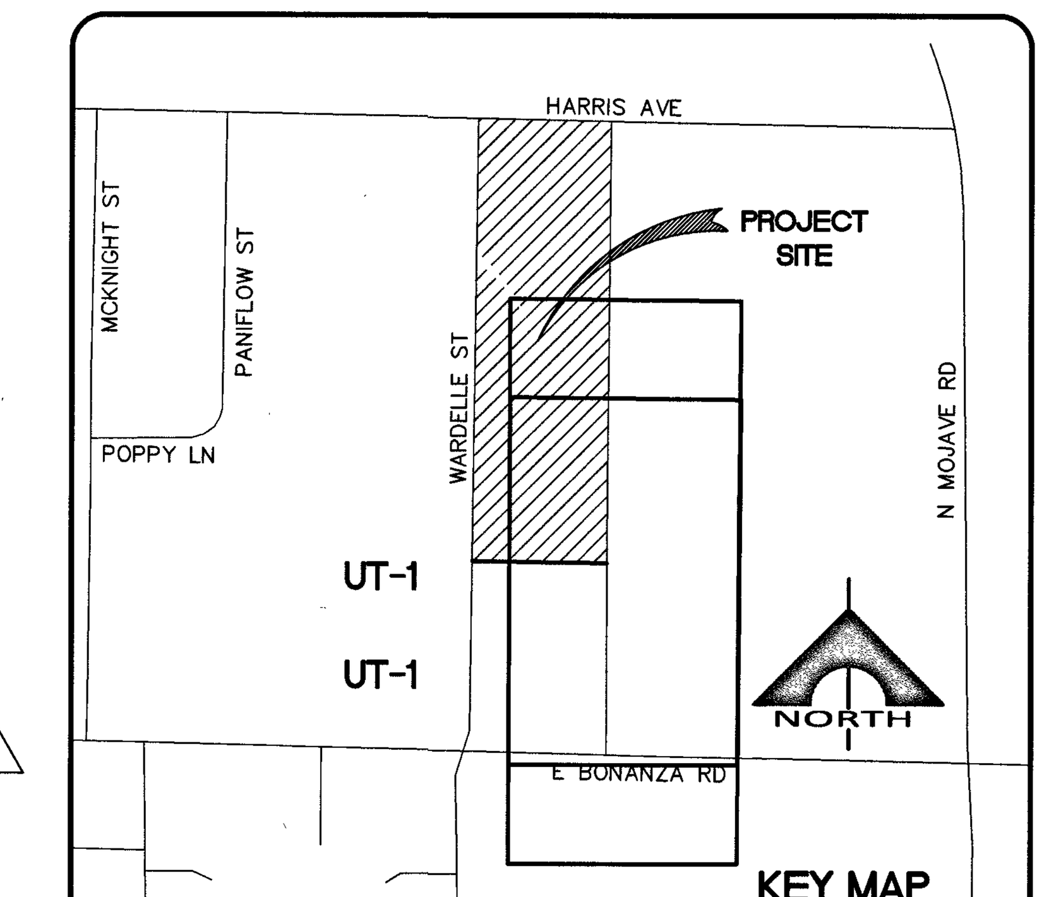
	REVISIONS	DATE
1	V.E. REVS	11.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	8 OF 17
Phase:	100% DD

L19-00078
107V7651
MU-1
Plotted On: 12-30-19

MASTER UTILITY PLAN





KEY MAP
NOT TO SCALE

WATER CONSTRUCTION NOTES

1. INSTALL 8" X 6" TEE PER UDACS PLATE NO. 31.
2. INSTALL TEE PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.
3. INSTALL GATE VALVE PER UDACS PLATE NO. 30 & 39. SEE PLAN FOR SIZE.
4. INSTALL FIRE HYDRANT ASSEMBLY PER UDACS PLATE NO. 40.
5. INSTALL 90° BEND PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.
6. INSTALL 45° BEND PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.
7. REMOVE AND ABANDON EXISTING FIRE HYDRANT ASSEMBLY PER UDACS SECTION 3.21. SEE SHEET TR-1.
8. INSTALL REDUCER PER UDACS PLATE NO. 30, SEE PLAN FOR SIZE.
9. CONNECT TO EXISTING 8" WATER WITH 8"X6" TAPPING SLEEVE AND 6" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39, & SECTION 2.24.01A.
10. INSTALL 4" OCTAVE METER & 6" RPPA PER DETAIL 1 SHEET DT-3
11. CONNECT TO EXISTING 8" WATER WITH 8"X8" TAPPING SLEEVE AND 8" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39, & SECTION 2.24.01A.
12. TRENCH BACK FILL, AND COMPACT TO 95%, AND/OR PER APPROVED GEO TECHNICAL REPORT. REPLACE AC PER ½ STREET IMPROVEMENTS SEE NOTE 13.
13. SAW-CUT TO SMOOTH EDGE AND FEATHER IN TO MATCH EXISTING ASPHALT GRADE. PAVEMENT RESTORATION PER CCAUSD DWG. NO. 500.3, 500.5, & 503.
14. POINT OF CONNECTION, SEE PLUMBING PLANS FOR CONTINUATION.
15. INSTALL 22.5° BEND PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.
16. INSTALL 11.25° BEND PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.
17. CUT AND CAP.
18. INSTALL PVC WATERLINE PER UDACS PLATE NO. 16 & 17.
19. INSTALL ¾" IRRIGATION STUB, WITH RPPA. SEE LANDSCAPING PLANS FOR CONTINUATION AND DETAILS.
20. REMOVE EXISTING METER AND ABANDON SERVICE PER UDACS SEC. 2.17.04
21. INSTALL WYE CONNECTION PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.

SEWER CONSTRUCTION NOTES

1. EX. 48" SSMH PER CLV #307-V469A PROTECT IN PLACE.
2. AT BUILDING POINT OF CONNECTIONS, SEE PLUMBING PLANS FOR CONTINUATION.
3. INSTALL CLEANOUT PER DCSWCS STD. DWG. NO. SD-24
4. ALL SANITARY SEWER LATERAL CONNECTING TO SUB-MAIN, OR MAIN SEWER LINE, TO BE CONNECTED WITH WYE JOINTS. PER DCSWCS STD. SD-20.
5. INSTALL 48" SANITARY SEWER MANHOLE PER DCSWCS STD. DWG. NO. SD-1, SD-4, (PRIVATE).
6. INSTALL PVC SANITARY SEWER PVC LINES (PRIVATE), (SEE PLAN FOR SIZE), PER DCSWCS 2.3.2B SPEC., AND DCSWCS SD-17, SD-22, AND SD-25.
7. INSTALL 48" SANITARY SEWER MANHOLE PER DCSWCS STD. DWG. NO. SD-1, SD-4, (PUBLIC).

CONTRACTOR TO FIELD VERIFY SIZE, LOCATION AND INVERT OF EXISTING PIPE, AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO NEW SEWER CONSTRUCTION

REVISION TABLE: FOR SHEET UT-1

AREA	CHANGE
ON-SITE BUILDINGS	WATER AND SEWER SERVICES CHANGED FROM INDIVIDUAL SERVICE TO EACH UNIT TO A SINGLE SERVICE FOR EACH BUILDING.
WARDELLE STREET	SAW-CUT LINE MOVED TO STREET CENTERLINE.
HARRIS AVENUE	SAW-CUT LINE MOVED TO BIKE LANE LINE.
UTILITY LINE ANNOTATION	ANNOTATION ADDED TO UTILITY LINES FROM TABLE ON UT-3.
SEWER CONSTRUCTION NOTES	SEWER CONSTRUCTION NOTES WERE UPDATED TO 2019 STANDARD DRAWINGS.
SEWER CLEAN-OUT ADJUSTED BETWEEN BUILDING 5 AND 6.	DUE TO RISER ROOM STEPS ADDED, SEWER CLEAN-OUT, NEEDED TO BE REVISED
BONAZA SEWER	ADDED UTILITY TRENCH SAW-CUT LINE.

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FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
or
1-800-227-2600

SCALE: 1" = 30'

NORTH

DRY UTILITY NOTES (LVVWD)

MAINTAN A MINIMUM 3' PARALLEL SEPARATION. MAINTAIN MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSING.

DISPOSAL OF ASBESTOS CEMENT PIPE

DISPOSAL OF ASBESTOS CEMENT PIPE (ACP) SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

ABANDONED VALVES CUT AND CAP

All valves to be abandoned shall be abandoned in the closed position, unless shown otherwise, be 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 portion of the valve box shall be filled with concrete having a compressive strength of at least two thousand (2,000) psi. the lateral must be cut within one (1) foot of the abandoned valve, or as shown on plans, and capped. in accordance with the provisions of UDACS Plate 31.

FIRE FLOW CALCULATIONS

BASED ON SQUARE FOOTAGE:	13,020	SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	N/A	SQUARE FEET
BUILDING HEIGHT:	27	FEET
NUMBER OF STORIES:	2	FLOOR
TYPE OF CONSTRUCTION:	TYPE V-B	
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	YES 13 R 250 GPM	
HIGH PILED COMBUSTIBLE STORAGE:	NO	

FIRE FLOW REQUIREMENT = 1,500 GPM AT 20 PSI RESIDUAL PRESSURE. SPRINKLER DEMAND GPM/HOSE STREAM GPM REFERENCE AMEND IFC SECTION B105.2

SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION

APPROVED FOR CONSTRUCTION

[signature] 1/30/2020

SOUTHWEST GAS CORP. DATE

APPROVED FOR CONSTRUCTION

[signature] 1-14-20

LAS VEGAS FIRE AND RESCUE DATE

FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL

APPROVED FOR CONSTRUCTION

[signature] 1/23/20

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 135667 FIRST APPROVAL DATE: 5/6/19

LVVWD APPROVED FIRE FLOW: TOTAL 1500 GPM/ONSITE 1500 GPM

REDUCED PRESSURE PRINCIPLE ASSEMBLY (RPPA) (2) 6"

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASMENTS(S) TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY. EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

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BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: 8LV0125SSW6

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.000 M (656,166.6667 FTUS)
EASTING AT CENTRAL MERIDIAN: 100,000.000 M (328,083.3333 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN; 1.0001 (EXACT)

NOTES:
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architecture • graphic
Anne Johnson, AIA
1489 W Warm Springs Rd, Suite 110, Henderson, Nevada 89014
NV LIC. #5168

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD LAS VEGAS, NV 89146
T: 702.804.2000 gcwengineering.com

STATE OF NEVADA PROFESSIONAL ENGINEER TODD N. KELLEY CIVIL No. 14711 Exp. 6/30/2021
1-2-2020

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY, THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED, AFFECTING ALL LABELED SCALES.

	REVISIONS	DATE
1	V.E. REV	11.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	9 OF 17
Phase:	100% DD

L19-00078
107V7651
UT-1

UTILITY PLAN 1

Plotted On: 12-30-19

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call
OR
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"WESTLAND MIRABELLA LLC"
APN 139-25-404-002

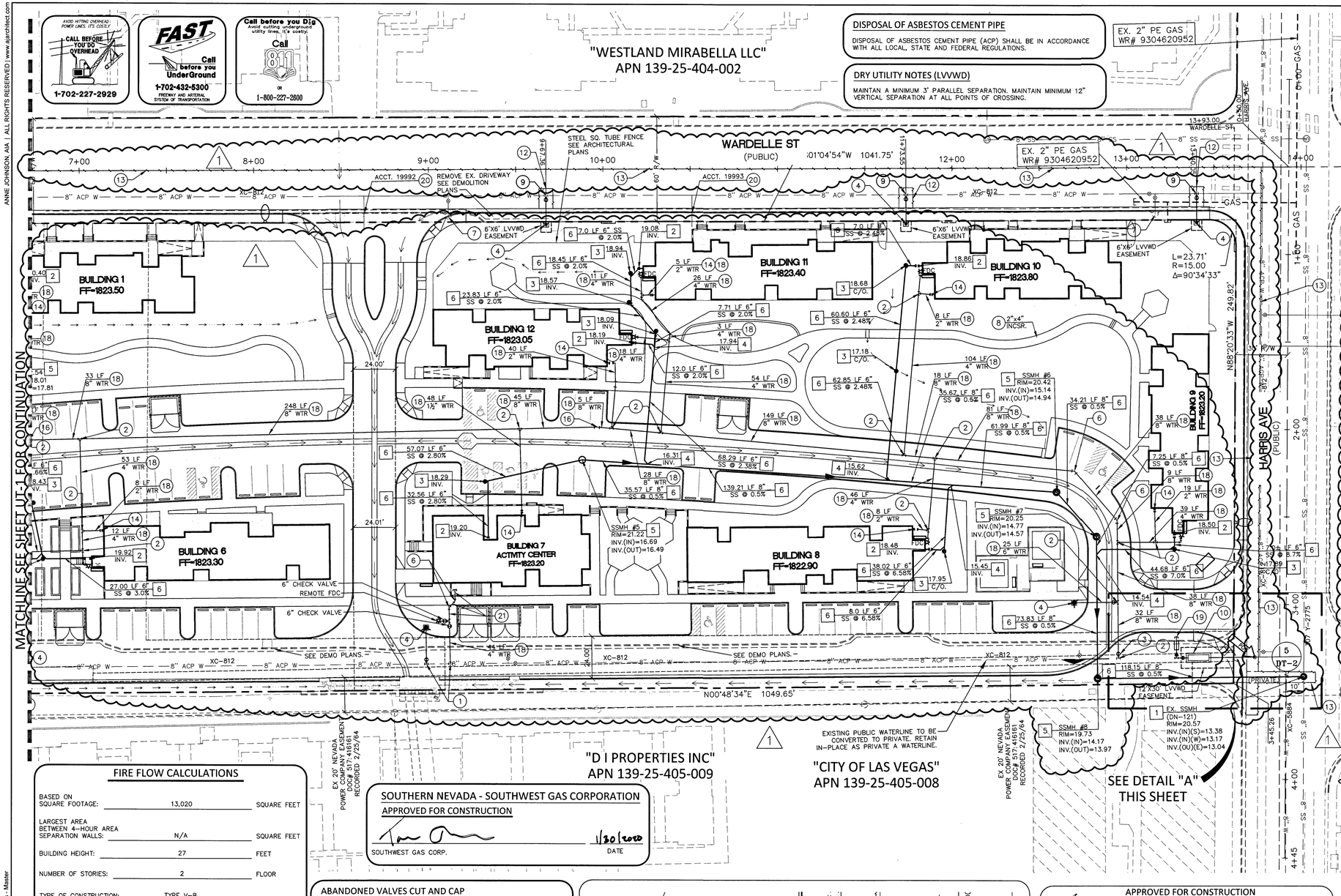
DISPOSAL OF ASBESTOS CEMENT PIPE

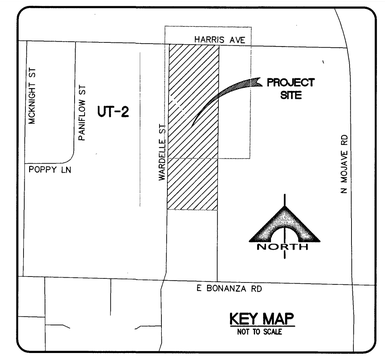
DISPOSAL OF ASBESTOS CEMENT PIPE (ACP) SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

DRY UTILITY NOTES (LVVWD)

MAINTAN A MINIMUM 3' PARALLEL SEPARATION. MAINTAIN MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSING.

EX. 2" PE GAS
WR# 9304620952





KEY MAP
NOT TO SCALE

WATER CONSTRUCTION NOTES

1. INSTALL 8" X 6" TEE PER UDACS PLATE NO. 31.
2. INSTALL TEE PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.
3. INSTALL GATE VALVE PER UDACS PLATE NO. 30 & 39. SEE PLAN FOR SIZE.
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7. REMOVE AND ABANDON EXISTING FIRE HYDRANT ASSEMBLY PER UDACS SECTION 3.21. SEE SHEET TR-1.
8. INSTALL REDUCER PER UDACS PLATE NO. 30, SEE PLAN FOR SIZE.
9. CONNECT TO EXISTING 8" WATER WITH 8"X6" TAPPING SLEEVE AND 6" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39, & SECTION 2.24.01A.
10. INSTALL 4" OCTAVE METER & 6" RPPA PER DETAIL 1 SHEET DT-3
11. CONNECT TO EXISTING 8" WATER WITH 8"X8" TAPPING SLEEVE AND 8" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39, & SECTION 2.24.01A.
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15. INSTALL 22.5° BEND PER UDACS PLATE NO. 31, SEE PLAN FOR SIZE.
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SEWER CONSTRUCTION NOTES

1. EX. 48" SSMH PER CLV #307-V469A PROTECT IN PLACE.
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3. INSTALL CLEANOUT PER DCSWCS STD. DWG. NO. SD-24
4. ALL SANITARY SEWER LATERAL CONNECTING TO SUB-MAIN, OR MAIN SEWER LINE, TO BE CONNECTED WITH WYE JOINTS. PER DCSWCS STD. SD-20.
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6. INSTALL PVC SANITARY SEWER PVC LINES (PRIVATE), (SEE PLAN FOR SIZE), PER DCSWCS 2.3.2B SPEC., AND DCSWCS SD-17, SD-22, AND SD-25.
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CONTRACTOR TO FIELD VERIFY SIZE, LOCATION AND INVERT OF EXISTING PIPE, AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO NEW SEWER CONSTRUCTION

FIRE FLOW CALCULATIONS

BASED ON SQUARE FOOTAGE:	13,020	SQUARE FEET
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION WALLS:	N/A	SQUARE FEET
BUILDING HEIGHT:	27	FEET
NUMBER OF STORIES:	2	FLOOR
TYPE OF CONSTRUCTION:	TYPE V-B	
FULL AUTOMATIC FIRE SPRINKLER SYSTEM:	YES 13 R 250 GPM	
HIGH PILED COMBUSTIBLE STORAGE:	NO	

FIRE FLOW REQUIREMENT = 1,500 GPM AT 20 PSI RESIDUAL PRESSURE. SPRINKLER DEMAND GPM/HOSE STREAM GPM REFERENCE AMEND IFC SECTION 8105.2

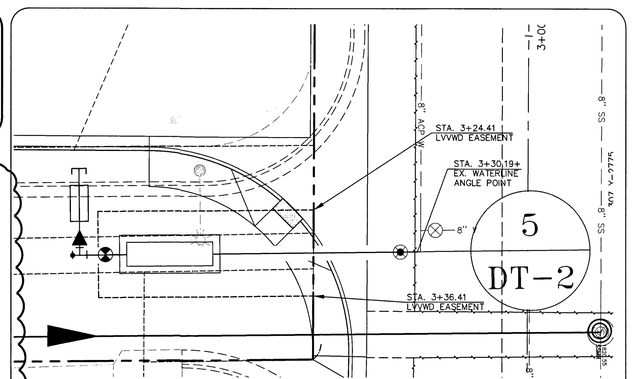
SOUTHERN NEVADA - SOUTHWEST GAS CORPORATION
APPROVED FOR CONSTRUCTION
SOUTHWEST GAS CORP. — DATE 1/30/2020

"D I PROPERTIES INC"
APN 139-25-405-009

"CITY OF LAS VEGAS"
APN 139-25-405-008

ABANDONED VALVES CUT AND CAP

All valves to be abandoned shall be abandoned in the closed position, unless shown otherwise, be 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 portion of the valve box shall be filled with concrete having a compressive strength of at least two thousand (2,000) psi. the lateral must be cut within one (1) foot of the abandoned valve, or as shown on plans, and capped. in accordance with the provisions of UDACS Plate 31.



DETAIL "A" WATER MAIN CONNECTION SECTION

APPROVED FOR CONSTRUCTION
LAS VEGAS FIRE AND RESCUE — DATE 1-14-20
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 135667 FIRST APPROVAL DATE: 5/6/19
LVVWD APPROVED FIRE FLOW: TOTAL 1500 GPM/ONSITE 1500 GPM

REDUCED PRESSURE PRINCIPLE ASSEMBLY (RPPA) (2) 6"

APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASMENTS(S) TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT-OF-WAY. EASEMENTS SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL OR FENCE

TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT ACCESS TO THE VAULT(S), BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: 8LV0125SSW6

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.000 M (656,166.6667 FTUS)
EASTING AT CENTRAL MERIDIAN: 100,000.000 M (328,083.3333 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN; 1.0001 (EXACT)

NOTES:
1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.
2. GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

REVISION TABLE:	FOR SHEET UT-2
AREA	CHANGE
ON-SITE BUILDINGS	SEWER AND WATER SERVICE CHANGED FROM INDIVIDUAL SERVICES TO EACH UNIT TO A SINGLE SERVICE FOR EACH BUILDING.
WARDELLE STREET	SAW-CUT LINE MOVED TO STREET CENTERLINE.
HARRIS AVENUE	SAW-CUT LINE MOVED TO BIKE LANE LINE.
UTILITY LINE ANNOTATION	ANNOTATION ADDED TO UTILITY LINES FROM TABLES ON UT-3.
SEWER CONSTRUCTION NOTES	SEWER CONSTRUCTION NOTES UPDATED TO 2019 STANDARD DRAWINGS.
SEWER CLEAN-OUT ADJUSTED BETWEEN BUILDING 5 AND 6.	DUE TO RISER ROOM STEPS ADDED, SEWER CLEAN-OUT, NEEDED TO BE REVISED

NORTH
30' 0' 15' 30'
SCALE: 1" = 30'

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architecture • graphic
Anne Johnson, AIA
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NV LIC. #5168

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T: 702.804.2000 gcwengineering.com

STATE OF NEVADA — TODD L. LEY — No. 14711 — PROFESSIONAL ENGINEER — 1-2-2020

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-25-404-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED AFFECTING ALL LABELED SCALES.

	REVISIONS	DATE
1	V.E. REVISIONS	11.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	10 OF 17
Phase:	100% DD

L19-00078
107V7651
UT-2

Plotted On: 12-30-19

UTILITY PLAN 2

8" SEWER LINE TABLE			
Line #	Length	MATERIAL	PIPE SLOPE
S1	118.15	PVC	S=0.76%
S2	81.08	PVC	S=0.50%
S3	34.26	PVC	S=0.50%
S4	49.76	PVC	S=0.50%
S5	20.13	PVC	S=0.50%
S6	17.91	PVC	S=0.50%
S7	7.10	PVC	S=0.50%
S8	16.30	PVC	S=0.50%
S9	35.57	PVC	S=0.50%
S10	44.34	PVC	S=0.50%
S11	75.57	PVC	S=0.50%
S12	56.66	PVC	S=0.50%
S21	4.50	PVC	S=0.50%
S22	51.94	PVC	S=0.50%
S23	40.98	PVC	S=0.50%
S24	68.90	PVC	S=0.50%
S25	28.92	PVC	S=0.50%
S27	103.22	PVC	S=0.50%
S101	3.17	PVC	S=0.50%
S111	283.91	PVC	S=0.62%
S112	81.54	PVC	S=0.88%
S136	36.38	PVC	S=0.50%

6" SEWER LINE TABLE			
Line #	Length	MATERIAL	PIPE SLOPE
S28	29.10	PVC	S=1.55%
S29	38.90	PVC	S=1.55%
S30	20.78	PVC	S=1.55%
S31	7.04	PVC	S=1.55%
S32	18.48	PVC	S=1.55%
S33	9.72	PVC	S=1.55%
S34	16.63	PVC	S=1.55%
S35	9.91	PVC	S=1.55%
S36	22.02	PVC	S=1.55%
S37	51.80	PVC	S=2.44%
S38	47.96	PVC	S=1.55%
S39	30.49	PVC	S=1.55%
S40	63.80	PVC	S=1.55%
S41	59.31	PVC	S=1.29%
S42	33.89	PVC	S=1.29%
S43	54.13	PVC	S=1.29%
S44	36.77	PVC	S=1.29%
S45	36.76	PVC	S=1.29%
S46	29.65	PVC	S=2.17%
S47	18.54	PVC	S=2.17%
S48	21.01	PVC	S=2.17%
S49	21.00	PVC	S=2.17%
S50	23.96	PVC	S=2.17%
S51	9.11	PVC	S=2.17%
S53	29.46	PVC	S=2.70%
S54	38.28	PVC	S=2.70%
S55	3.66	PVC	S=2.17%
S56	10.67	PVC	S=1.91%
S57	31.45	PVC	S=1.91%
S58	63.48	PVC	S=1.91%
S102	10.81	PVC	S=1.55%
S103	15.32	PVC	S=1.55%
S104	16.66	PVC	S=1.55%
S108	19.67	PVC	S=1.91%
S126	79.86	PVC	S=2.70%
S127	45.16	PVC	S=1.29%
S128	29.10	PVC	S=2.44%
S129	52.69	PVC	S=2.44%
S130	29.81	PVC	S=2.44%
S131	40.51	PVC	S=3.57%
S132	12.09	PVC	S=3.57%
S133	15.97	PVC	S=3.57%
S137	22.67	PVC	S=3.57%
S138	30.42	PVC	S=2.44%

4" SEWER LINE TABLE			
Line #	Length	MATERIAL	PIPE SLOPE
S59	26.29	PVC	S=20.23%
S60	25.11	PVC	S=19.07%
S61	25.11	PVC	S=17.04%
S62	29.73	PVC	S=15.81%
S63	15.65	PVC	S=26.51%
S64	15.72	PVC	S=26.07%
S65	15.37	PVC	S=24.46%
S66	29.07	PVC	S=15.96%
S67	30.27	PVC	S=15.0%
S68	29.85	PVC	S=14.84%
S69	29.77	PVC	S=15.01%
S70	22.44	PVC	S=23.70%
S71	26.08	PVC	S=20.39%
S72	29.14	PVC	S=16.57%
S73	23.33	PVC	S=9.90%
S74	21.96	PVC	S=6.74%
S75	23.40	PVC	S=3.63%
S76	20.48	PVC	S=16.01%
S77	21.40	PVC	S=8..97%
S78	21.94	PVC	S=3.51%
S79	5.49	PVC	S=67.21%
S80	3.98	PVC	S=71.60%
S81	5.23	PVC	S=21.79%
S82	35.04	PVC	S=9.59%
S83	32.32	PVC	S=9.40%
S84	32.36	PVC	S=7.91%
S85	32.31	PVC	S=6.43%
S86	29.70	PVC	S=11.17%
S87	19.60	PVC	S=5.67%
S88	43.35	PVC	S=5.67%
S90	16.91	PVC	S=2.60%
S91	17.89	PVC	S=9.61%
S92	17.89	PVC	S=6.20%
S93	17.89	PVC	S=3.63%
S94	13.33	PVC	S=2.17%
S95	15.00	PVC	S=19.20%
S96	12.06	PVC	S=17.91%
S97	7.84	PVC	S=13.39%
S98	9.86	PVC	S=13.74%
S99	11.66	PVC	S=17.92%
S100	10.21	PVC	S=12.38%
S107	18.93	PVC	S=2.70%
S109	21.23	PVC	S=5.70%
S110	30.64	PVC	S=5.70%
S113	29.12	PVC	S=18.71%
S114	46.27	PVC	S=12.06%
S115	24.55	PVC	S=14.34%
S116	15.76	PVC	S=2.00%
S117	38.12	PVC	S=15.51%
S120	33.90	PVC	S=2.00%
S121	5.91	PVC	S=46.19%
S122	39.54	PVC	S=5.38%
S124	23.87	PVC	S=2.00%
S125	33.61	PVC	S=2.44%
S134	17.64	PVC	S=12.02%

8" WATERLINE TABLE		
Line #	Length	Direction
W4	37.33	N50°42'04.37"E
W5	274.82	N06°30'56.16"E
W21	35.67	N00°07'36.94"E
W22	265.39	S06°51'10.20"E
W29	14.85	S79°49'53.88"W
W32	12.10	N44°03'49.71"W
W34	37.98	S89°03'49.71"E
W198	13.11	S89°56'41.28"W
W199	33.60	S89°56'41.28"W
W201	325.35	S00°03'18.72"E
W204	78.73	N89°11'03.23"W
W207	93.79	N88°55'07.37"W
W209	110.42	S88°55'06.12"E

6" WATERLINE TABLE		
Line #	Length	Direction
W35	25.01	N00°48'56.77"E
W36	20.84	S89°11'03.23"E
W37	18.60	S89°11'03.23"E
W38	6.53	N00°07'36.94"E
W39	16.50	N88°55'07.37"W
W40	16.50	N88°55'07.37"W
W41	16.50	N88°55'07.37"W
W42	16.50	N88°55'07.37"W
W43	16.50	N88°55'07.37"W

1½" WATERLINE TABLE		
Line #	Length	Direction
W210	46.47	N89°56'41.28"E

4" WATERLINE TABLE		
Line #	Length	Direction
W46	25.53	N01°12'41.83"E
W47	40.07	S82°43'24.46"E
W48	14.67	N83°29'03.84"W
W52	13.95	S89°07'11.09"E
W53	27.32	N00°52'48.91"E
W54	16.29	N51°30'56.16"E
W55	14.79	N88°55'06.12"W
W56	42.74	S83°29'03.84"E
W57	13.58	S01°03'16.55"W
W58	25.41	S88°56'43.45"E
W59	37.29	S89°55'56.40"E
W60	31.05	S01°04'53.88"W
W61	21.23	N89°35'30.97"W
W62	11.30	N02°10'32.16"E
W64	42.05	N89°57'02.87"W
W65	19.71	S45°56'10.29"W
W66	7.47	N43°52'42.12"W
W67	71.71	N88°52'42.12"W
W74	38.05	N46°05'23.81"E
W75	203.58	N00°52'48.91"E

1" WATERLINE TABLE		
Line #	Length	Direction
W80	28.94	N83°29'03.84"W
W81	7.40	N07°07'14.40"E
W82	114.21	N00°15'01.63"E
W92	19.33	N89°56'41.28"E
W93	23.87	N00°03'18.72"W
W96	29.13	N89°55'56.40"W
W99	59.47	N89°56'41.28"E
W101	187.10	S01°03'16.55"W
W109	13.87	S79°49'53.88"W
W110	82.09	N88°55'06.12"W
W115	18.42	S83°08'49.80"W
W116	3.06	N89°45'10.80"W
W117	117.73	S00°15'01.63"W
W124	1.56	N88°55'06.12"W
W127	14.30	S83°08'49.80"W
W128	9.42	N89°55'48.29"W
W130	51.34	N00°02'57.13"E
W205	122.20	N00°15'01.63"E

4" WATERLINE TABLE		
Line #	Length	Direction
W203	13.61	S89°07'11.09"E

¾" WATERLINE TABLE		
Line #	Length	Direction
W134	17.36	S00°02'23.32"W
W135	17.36	S00°02'23.32"W
W136	17.36	S00°02'23.32"W
W137	17.36	S00°02'23.32"W
W138	17.36	S00°02'23.32"W
W139	17.36	S00°02'23.32"W
W140	13.32	S89°07'11.09"E
W141	13.34	S89°07'11.09"E
W142	7.85	S89°07'11.09"E
W143	7.85	S89°07'11.09"E
W144	7.85	S89°07'11.09"E
W145	15.37	N82°43'39.38"W
W146	15.37	S82°41'01.18"E
W147	15.37	S82°41'01.18"E
W148	15.37	S82°41'01.18"E
W149	15.37	S82°41'01.18"E
W150	8.33	N89°54'06.27"W
W151	8.33	N89°55'56.40"W
W152	7.18	N89°54'20.52"W
W153	14.90	S88°55'06.12"E
W154	14.91	S88°55'06.12"E
W155	14.97	S88°55'06.12"E
W156	14.98	S88°55'06.12"E
W157	15.10	S88°55'06.12"E
W158	15.11	S88°55'06.12"E
W159	12.67	N89°56'41.28"E
W160	12.69	N89°56'41.28"E
W161	12.69	N89°56'41.28"E
W162	33.60	N89°56'41.29"E
W163	20.77	N89°55'56.40"W
W164	19.26	N89°56'20.22"W
W165	20.76	N89°55'56.40"W
W166	9.09	S89°29'53.73"E
W167	9.21	S88°56'43.45"E
W168	9.21	S88°56'43.45"E

¾" WATERLINE TABLE		
Line #	Length	Direction
W169	9.21	S88°56'43.45"E
W170	9.21	S88°56'43.45"E
W171	9.21	S88°56'43.45"E
W172	9.21	S88°56'43.45"E
W173	9.21	S88°56'43.45"E
W174	9.21	S88°56'43.45"E
W175	9.21	S88°56'43.45"E
W176	9.73	N89°55'56.40"W
W177	9.40	N89°12'15.52"W
W178	8.75	N89°55'56.40"W
W179	9.68	S00°04'03.60"W
W180	9.28	S00°04'03.60"W
W181	8.90	S00°04'03.60"W
W182	8.76	S00°04'03.60"W
W183	8.72	S00°04'03.60"W
W184	8.72	N02°10'32.16"E
W185	8.72	N02°10'32.16"E
W186	8.72	N02°10'32.16"E
W188	8.72	N02°10'32.16"E
W189	8.72	N02°10'32.16"E
W190	8.72	N02°10'32.16"E
W191	7.01	N89°55'56.40"W
W192	7.02	N89°55'56.40"W
W193	7.02	N89°55'45.51"W
W194	7.02	N89°55'45.51"W
W195	6.60	N89°55'56.40"W
W196	6.61	N89°55'56.40"W
W198	13.11	S89°56'41.28"W
W199	33.60	S89°56'41.28"W

SHEET NOT USE

1

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 135667 FIRST APPROVAL DATE: 5-6-19

ALL WATERLINES INDICATED WITHIN THESE TABLES, ARE PVC PER UDACS PLATE NO. 16 & 17, (SEE PLANS FOR SIZE), UNLESS OTHERWISE SPECIFIED.

ALL SEWERLINES INDICATED WITHIN THESE TABLES, ARE PVC SANITARY SEWER LATERALS, (PRIVATE), (SEE PLAN FOR SIZE), PER DCSWCS SD-17, SD-22, AND SD-25. UNLESS OTHERWISE SPECIFIED.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: BLV0125SSW6

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

BASIS OF BEARINGS

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LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

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SCALE FACTOR ON CENTRAL MERIDIAN; 1.0001 (EXACT)

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T: 702.804.2000 gcwengineering.com

STATE OF NEVADA — PROFESSIONAL ENGINEER — TODD N. KELLEY — No. 17821 — CIVIL — Exp. 6/30/2021 — 5-1-19

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY, THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED, AFFECTING ALL LABELED SCALES.

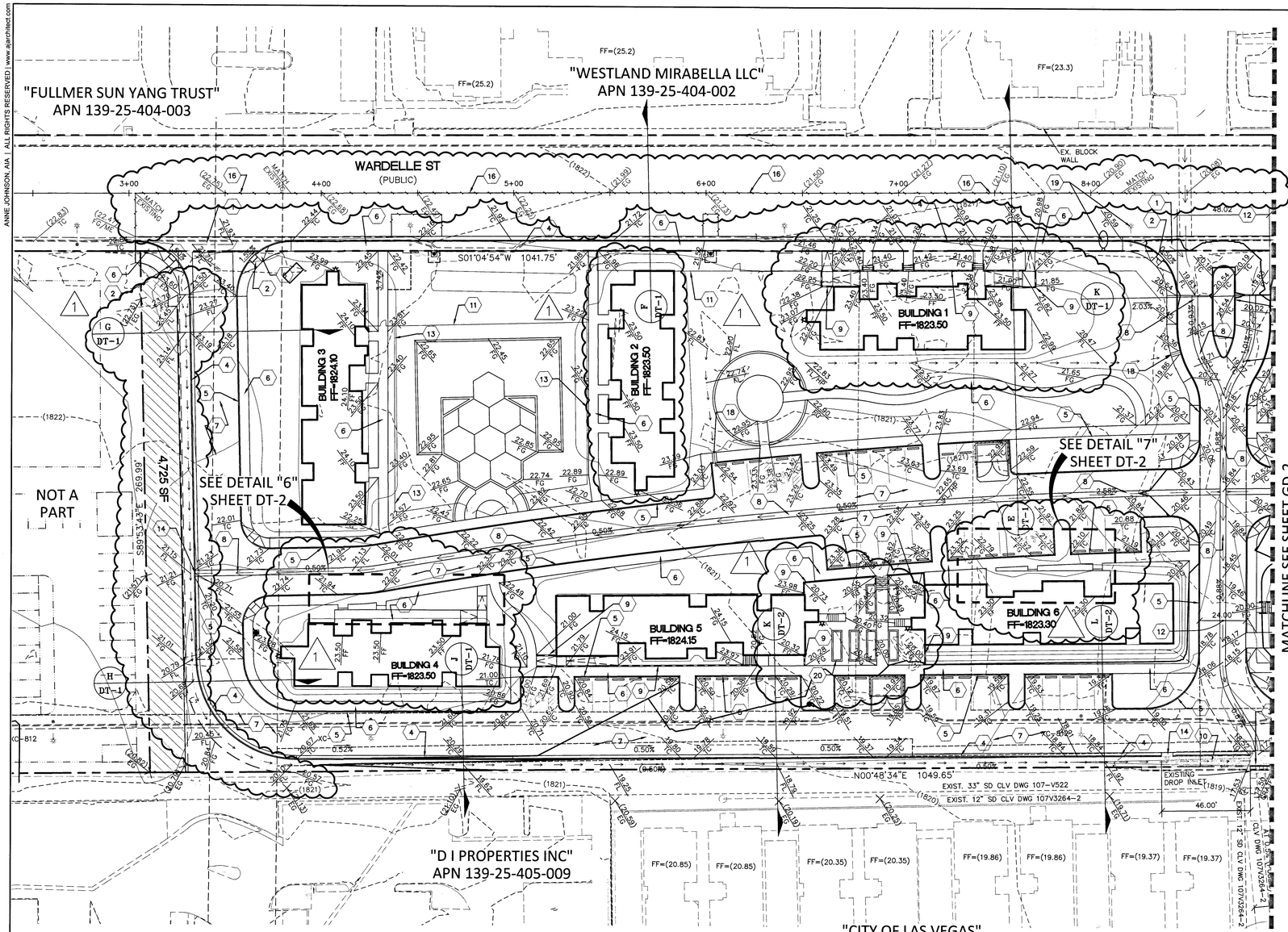
	REVISIONS	DATE
1	SB 2/26/20	

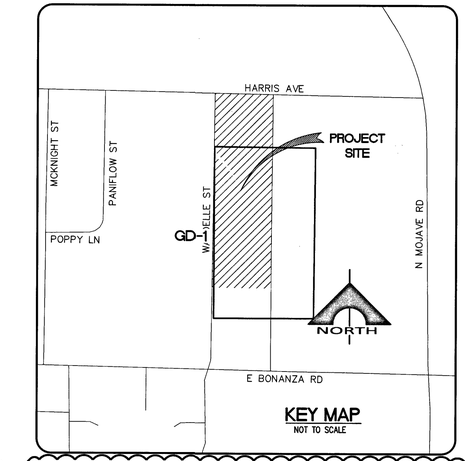
Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	11 OF 17
Phase:	100% DD

L19-00078
107V7651
UT-3
Plotted On: 04-30-19

UTILITY WATER AND SEWER LINE TABLES.

PRO.#:135667A QS:139-25-SW





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. INSTALL DRIVEWAY MATCH EX. CURB FL
2. INSTALL SIDEWALK RAMP CASE II ("A", "B" PER PLAN) PER CCAUSD 235, AND/OR (SEE DETAIL 2 ON SHEET DT-3)
3. FOR DETAIL GRADING AT THE EXISTING DROP INLET, SEE DETAIL 4 ON SHEET DT-2.
4. INSTALL "L" CURB & GUTTER PER CCAUSD DWG NO. 216.
5. INSTALL 6" "A" TYPE CURB PER CCAUSD DWG NO. 219.
6. INSTALL 4" THICK CONCRETE WALKWAY PER CCAUSD 234, AND/OR (SEE DETAIL 3 ON SHEET DT-3).
7. INSTALL AC PAVEMENT SECTION PER DETAIL 1 ON SHEET DT-2.
8. INSTALL 3' WIDE CONCRETE VALLEY GUTTER, SEE DETAIL 2 SHEET DT-2.
9. INSTALL RETAINING WALL, SEE ARCHITECTURAL PLANS FOR DETAILS.
10. INSTALL (5.5' WIDE BMP DRAINAGE RIP-RAP SWALE SEE PLAN FOR SIZE).
11. INSTALL TUBULAR STEEL FENCE, AND GATES, SEE ARCHITECTURAL PLANS FOR DETAILS.
12. PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA.
13. INSTALL CHAINLINK FENCE, AND GATES, SEE ARCHITECTURAL PLANS FOR DETAILS.
14. CURB OPENING WITH "0" TO 6" CURB TRANSITION FOR "A" AND "L" CURB CONDITIONS PER DETAIL 3 SHEET DT-2
15. INSTALL STEPS SEE ARCHITECTURAL PLANS FOR DETAILS.
16. SAW-CUT TO SMOOTH EDGE AND FEATHER IN TO MATCH EXISTING AC GRADE. PAVEMENT RESTORATION PER CCAUSD DWG. NO. 500.3, 500.5 AND 503.
17. NOT USED.
18. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD DWG NO. 236
19. EXISTING STREET LIGHT TO BE RELOCATED. SEE PLAN FOR NEW LOCATION.
20. FOR LANDSCAPE PLANTERS SEE ARCHITECTURAL PLANS.

NORTH

30' 0' 15' 30'
SCALE: 1" = 30'

1

REVISION TABLE:	FOR SHEET GD-1
AREA	CHANGE
WARDELLE STREET	SAW-CUT LINE MOVED TO STREET CENTERLINE.
HARRIS AVENUE	SAW-CUT LINE MOVED TO BIKE LANE LINE.
SOUTH DRIVE ENTRANCE, & SOUTH LANDSCAPE SWALE	DIAGONAL PARKING STALLS REMOVED, SOUTH DRAINAGE SWALE RE-ALIGNED, RE-GRADED.
BUILDING #1	BUILDING FOOTPRINT CHANGED, REVISED SIDEWALK, STEPS, RAMPS FOR ADA ACCESS.
BUILDING #2	BUILDING FOOTPRINT CHANGED, REVISED SIDEWALK.
BUILDING #4	BUILDING FOOTPRINT CHANGED, REVISED SIDEWALK, STEPS, RAMPS FOR ADA ACCESS. FOR DETAIL GRADING SEE DETAIL 6 ON SHEET DT-2.
BUILDING #6	REVISED SIDEWALK, STEPS, RAMPS FOR ADA ACCESS. FOR DETAIL GRADING SEE DETAIL 7 ON SHEET DT-2.
BUILDINGS #5 AND #6 RISER ROOMS	ADDED STAIRS EXITING THE RISER ROOMS FOR BUILDINGS #5, AND #6.

NOTE:

GRADE TAG DESIGNATIONS

TC – TOP OF CURB
FG – FINISH GRADE
ME – MATCH EXISTING
FL – FLOW LINE
TG – TOP OF GRATE

XX.XX TC | XX.XX FG | XX.XX ME | XX.XX FL | XX.XX TG

DRAINAGE CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY DS #5037 – ON FILE AT THE CITY OF LAS VEGAS FOR THIS PROJECT.

TODD N. KELLEY, PE NO. 14711 — DATE 1-2-2020

NOTE:

PROPERTY OWNER IS RESPONSIBLE TO MAINTAIN THE BEST MANAGEMENT PRACTICE SUCH AS BUT NOT LIMITED TO THE REMOVAL OF ACCUMULATED SEDIMENT AND DEBRIS AND CARE OF THE VEGETATION.

FLOOD ZONE NOTE

THE SITE IS LOCATED ON THE FEDERAL EMERGENCY AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) CONTAINING COMMUNITY PANEL 32003C2186F, DATED NOVEMBER 16, 2011. THIS PANEL SHOWS THAT THE PROJECT IS LOCATED WITHIN A ZONE "X". ZONE "X" DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. THIS PROJECT IS NOT LOCATED WITHIN A FEMA DESIGNATED SPECIAL FLOOD HAZARD AREA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: 8LV0125SSW6

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.000 M (656,166.6667 FTUS)
EASTING AT CENTRAL MERIDIAN: 100,000.000 M (328,083.3333 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN; 1.0001 (EXACT)

NOTES:
1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.
2. GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

FAST — Call before you UnderGround — 1-702-432-5300 — FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig — Avoid cutting underground utility lines. It's costly. — Call 811 or 1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY. — CALL BEFORE YOU DO OVERHEAD — 1-702-227-2929

ANNE JOHNSON, AIA
architecture • graphic
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1489 W Warm Springs Rd, Suite 110, Henderson, Nevada 89014
NV LIC. #5168

GCW ENGINEERS \ SURVEYORS
1555 S. RAINBOW BLVD LAS VEGAS, NV 89146
T: 702.804.2000 gcwengineering.com

STATE OF NEVADA — ENGINEER — TODD N. KELLEY — Exp. 6/30/2021 — CIVIL — No. 14711 — PROFESSIONAL — 1-2-2020

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY, THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED AFFECTING ALL LABELED SCALES.

	REVISIONS	DATE
1	V.E. REVIEW	11.21.19

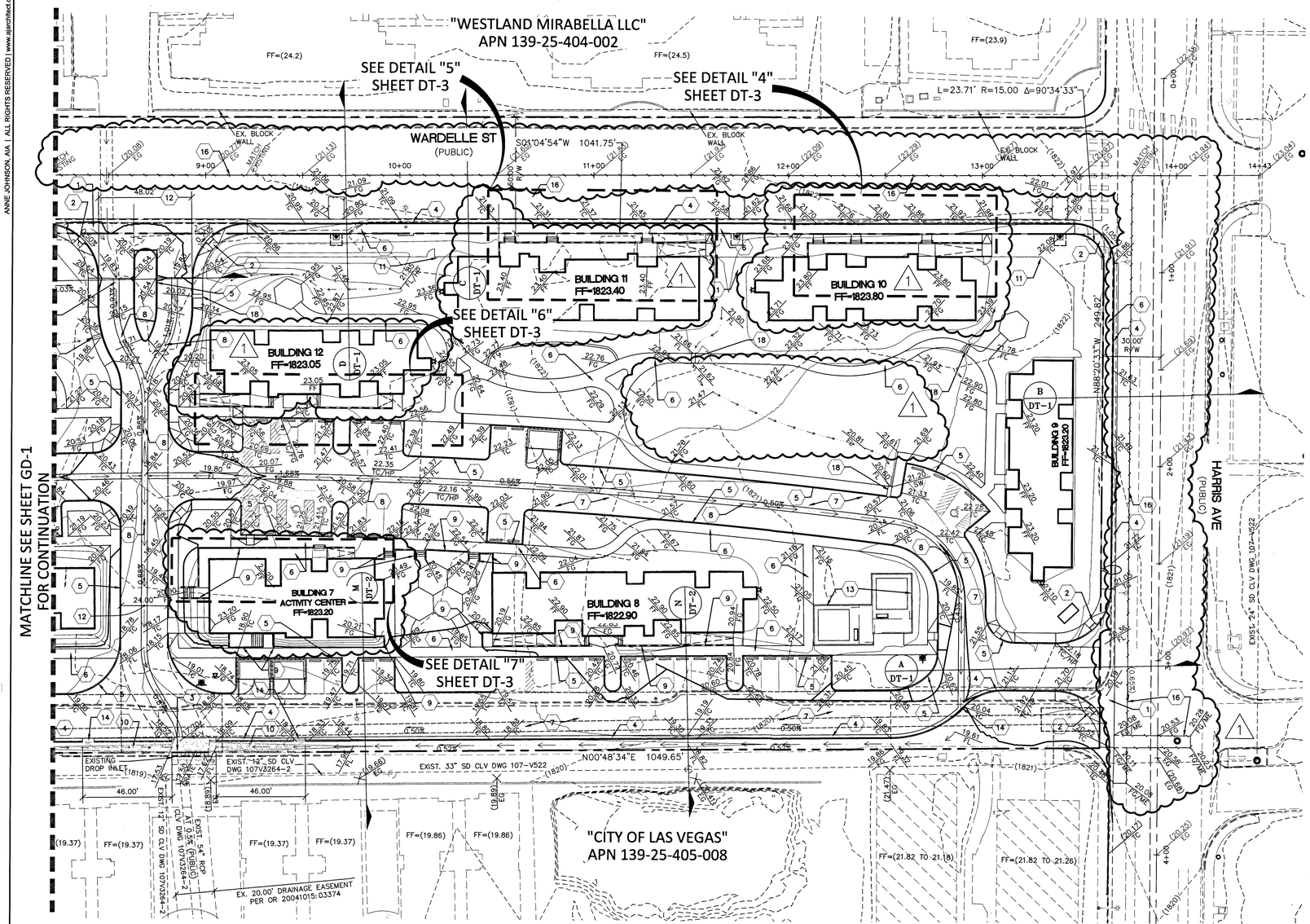
Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	12 OF 17
Phase:	100% DD

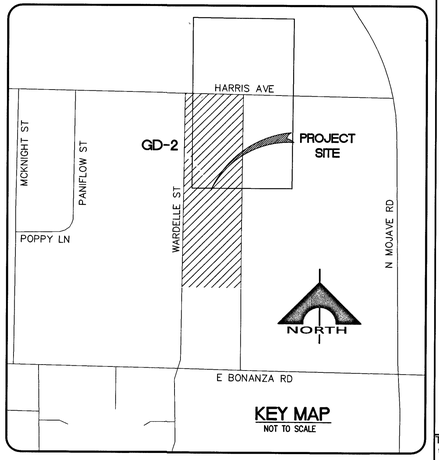
L19-00078
107V7651

GD-1

Plotted On: 12-30-19

GRADING PLAN 1





KEY MAP
NOT TO SCALE

CONSTRUCTION NOTES

1. INSTALL DRIVEWAY MATCH EX. CURB FL
2. INSTALL SIDEWALK RAMP CASE II ("A", "B" PER PLAN) PER CCAUSD 235, AND/OR (SEE DETAIL 2 ON SHEET DT-3)
3. FOR DETAIL GRADING AT THE EXISTING DROP INLET, SEE DETAIL 4 ON SHEET DT-2.
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1

REVISION TABLE:	FOR SHEET GD-2
AREA	CHANGE
WARDELLE STREET	SAW-CUT LINE MOVED TO STREET CENTERLINE.
HARRIS AVENUE	SAW-CUT LINE MOVED TO BIKE LANE LINE.
BUILDING #7	REVISED SIDEWALK, STEPS, RAMPS, FOR ADA ACCESS. FOR DETAIL GRADING SEE DETAIL 7 ON SHEET DT-3.
BUILDING #10	BUILDING FOOTPRINT, REVISED SIDEWALK, STEPS, RAMPS, AND WALLS FOR ADA ACCESS. FOR DETAIL GRADING SEE DETAIL 4 ON SHEET DT-3.
BUILDING #11	BUILDING 11 WAS RELOCATED, FOOT-PRINT CHANGED, SIDEWALK, STEPS, RAMPS, AND WALLS ADJUSTED FOR ADA ACCESS. FOR DETAIL GRADING SEE DETAIL 5 ON SHEET DT-3.
BUILDING #12	BUILDING 12 WAS RELOCATED, FOOT-PRINT CHANGED, SIDEWALK, STEPS, RAMPS, AND WALLS ADJUSTED FOR ADA ACCESS. FOR DETAIL GRADING SEE DETAIL 6 ON SHEET DT-3.
BUILDING #13	BUILDING REMOVED, REPLACED WITH AN OPEN LANDSCAPE AREA.

NOTE:

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XX.XX TC | XX.XX FG | XX.XX ME | XX.XX FL | XX.XX TG

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TODD N. KELLEY, PE NO. 14711 — DATE 2-18-2020

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STATE OF NEVADA — TODD N. KELLEY — No. 14711 — PROFESSIONAL ENGINEER — CIVIL — Ex. 6/30/2021 — 2-18-2020

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

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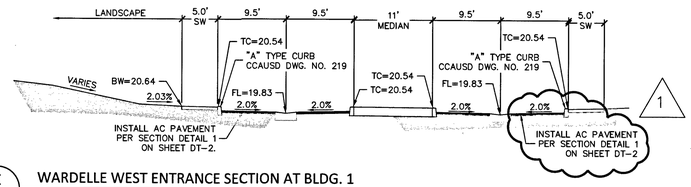
REVISIONS	DATE
1 V.E. REVIEW	11.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	13 OF 17
Phase:	100% DD

L19-00078
107V7651
GD-2

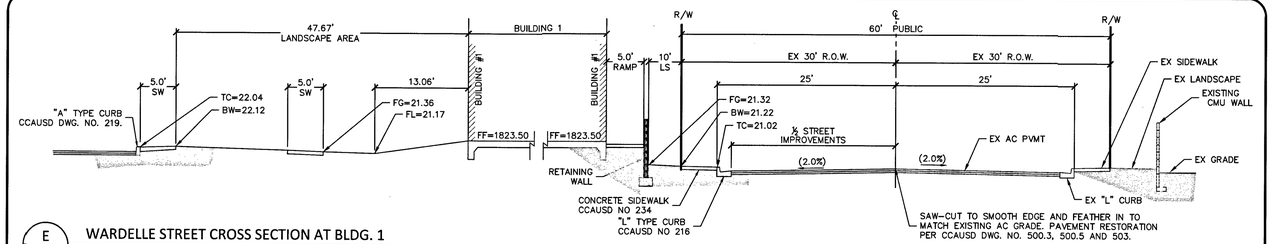
Plotted On: 02-18-20

GRADING PLAN 2



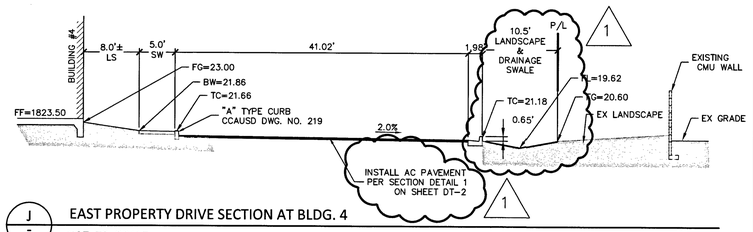
K — WARDELLE WEST ENTRANCE SECTION AT BLDG. 1

NOT TO SCALE



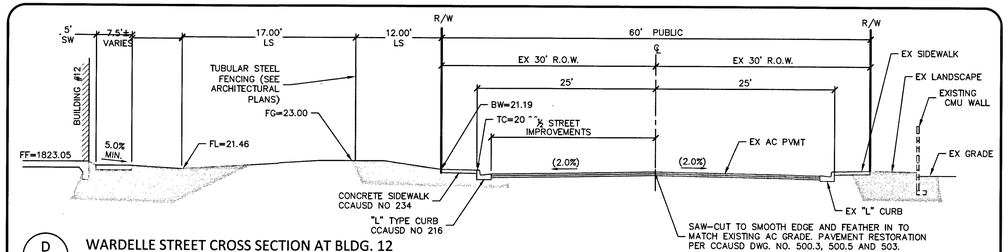
E — WARDELLE STREET CROSS SECTION AT BLDG. 1

NOT TO SCALE



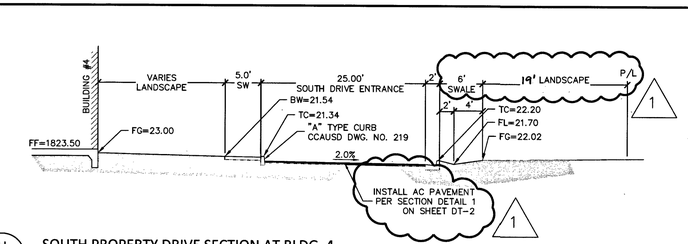
J — EAST PROPERTY DRIVE SECTION AT BLDG. 4

NOT TO SCALE



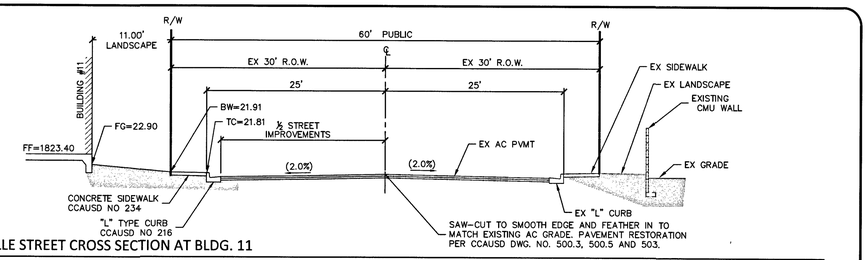
D — WARDELLE STREET CROSS SECTION AT BLDG. 12

NOT TO SCALE



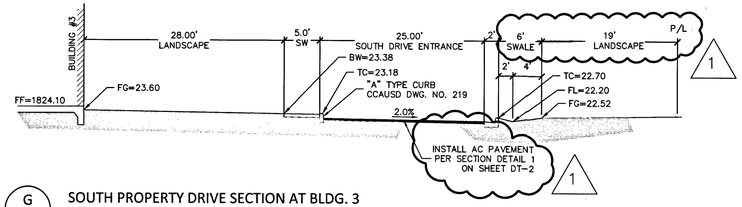
H — SOUTH PROPERTY DRIVE SECTION AT BLDG. 4

NOT TO SCALE



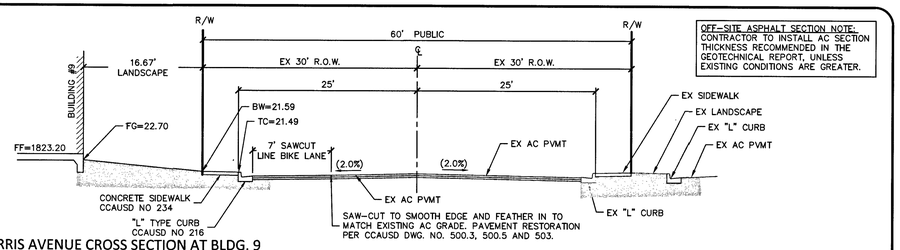
C — WARDELLE STREET CROSS SECTION AT BLDG. 11

NOT TO SCALE



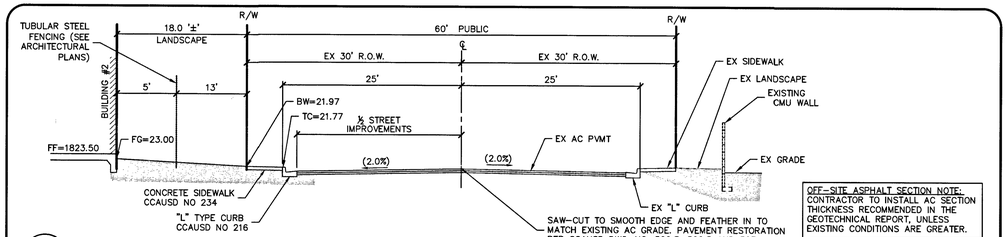
G — SOUTH PROPERTY DRIVE SECTION AT BLDG. 3

NOT TO SCALE



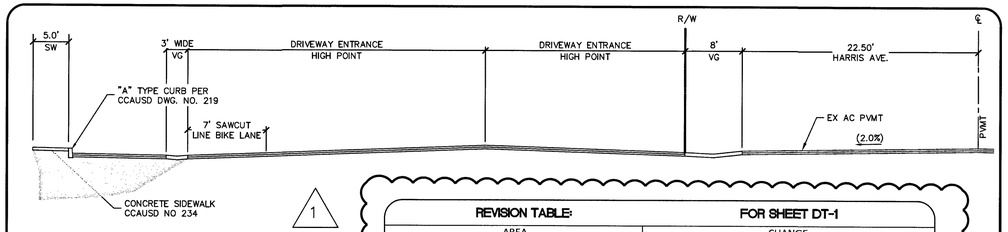
B — HARRIS AVENUE CROSS SECTION AT BLDG. 9

NOT TO SCALE



F — WARDELLE STREET CROSS SECTION AT BLDG. 2

NOT TO SCALE



A — HARRIS AVENUE ENTRANCE SECTION

NOT TO SCALE

REVISION TABLE: AREA	FOR SHEET DT-1 CHANGE
DETAILS G, H, J, K	AC PAVEMENT SECTION CALL-OUT.
DETAIL J	REMOVED RIP-RAP FROM DRAINAGE SWALE TO MATCH GRADING PLANS.

ANNE JOHNSON, AIA
architecture • graphic
Anne Johnson, AIA
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Wardelle Street Townhouses
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SE corner of N Wardelle St. and E Harris Ave.
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	REVISIONS	DATE
1	V.E. REVISIONS	01.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	14 OF 17
Phase:	100% DD

L19-00078
107V7651
DT-1

Plotted On: 01-02-20

SECTION AND DETAILS

CONSTRUCTION NOTES

1. INSTALL DRIVEWAY MATCH EX. CURB FL
2. INSTALL SIDEWALK RAMP CASE II ("A", "B" PER PLAN) PER CCAUSD 235, AND/OR (SEE DETAIL 2 ON SHEET DT-3)
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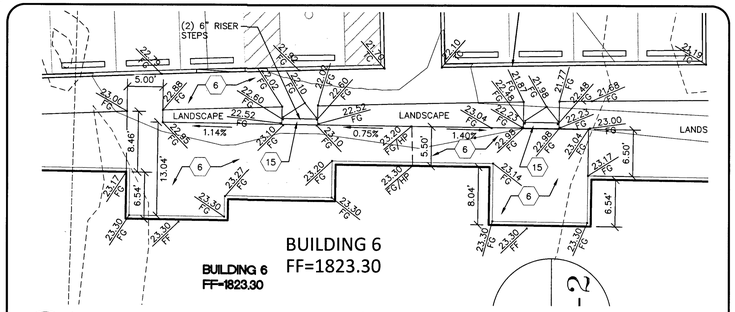
19. EXISTING STREET LIGHT TO BE RELOCATED. SEE PLAN FOR NEW LOCATION.
20. FOR LANDSCAPE PLANTERS SEE ARCHITECTURAL PLANS.

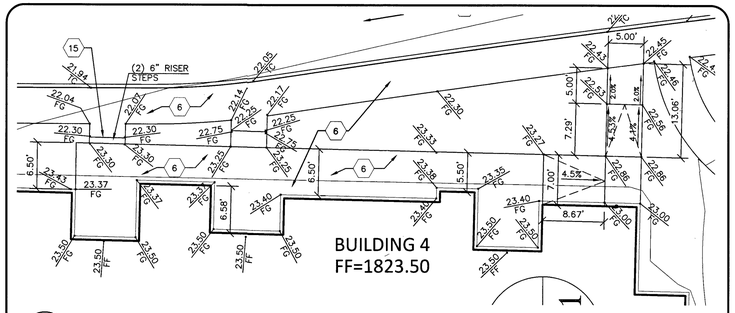
1

REVISION TABLE:	FOR SHEET DT-2
AREA	CHANGE
DETAILS 6 & 7,	ADDED DETAILS FOR ADA ACCESS GRADING.
DETAIL K, L, M, AND N	REMOVED RIP-RAP FROM DRAINAGE SWALE TO MATCH GRADING PLANS.



7 — ADA ACCESS GRADING DETAIL FOR BUILDING 6

NOT TO SCALE

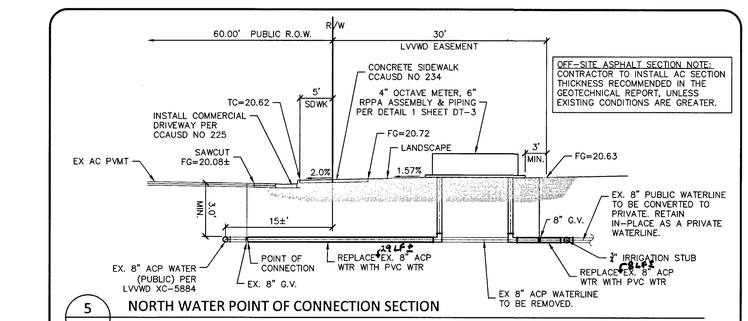


6 — ADA ACCESS GRADING DETAIL FOR BUILDING 4

NOT TO SCALE

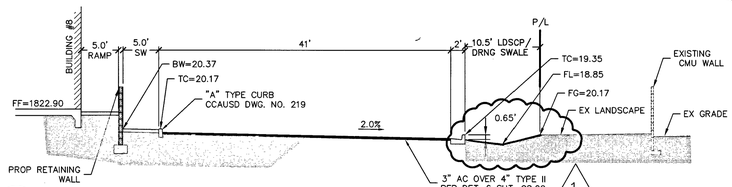
APPROVED FOR CONSTRUCTION
Las Vegas Valley Water District Engineering Services
Project No. 135667 First Approved Date: 5/6/19
LVVWD Approved Fire Flow: Total 1500 GPM / Onsite 1500 GPM

1



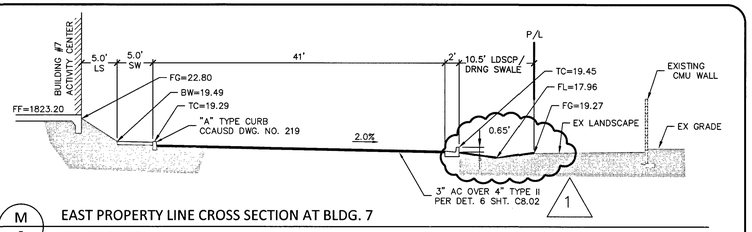
5 — NORTH WATER POINT OF CONNECTION SECTION

NOT TO SCALE



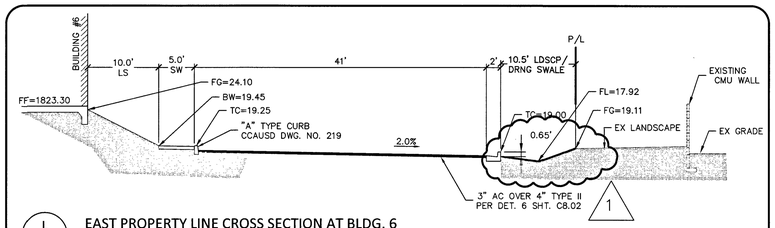
N — EAST PROPERTY LINE CROSS SECTION AT BLDG. 8

NOT TO SCALE



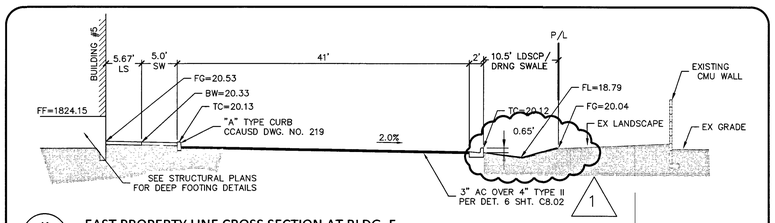
M — EAST PROPERTY LINE CROSS SECTION AT BLDG. 7

NOT TO SCALE



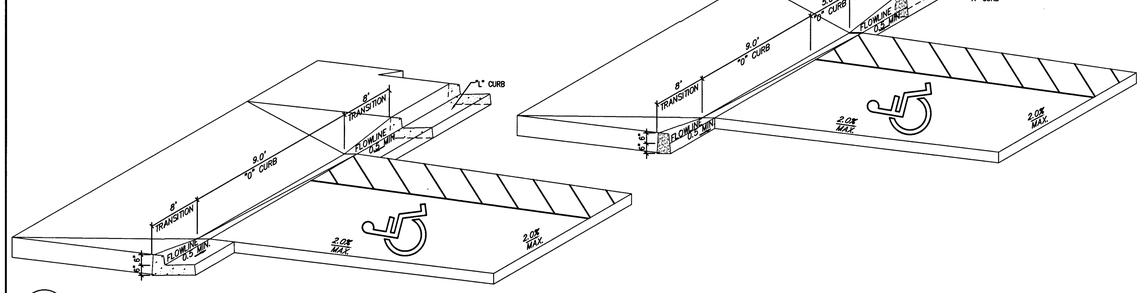
L — EAST PROPERTY LINE CROSS SECTION AT BLDG. 6

NOT TO SCALE



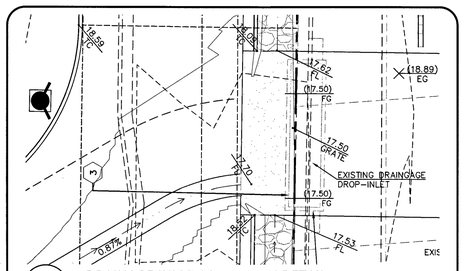
K — EAST PROPERTY LINE CROSS SECTION AT BLDG. 5

NOT TO SCALE



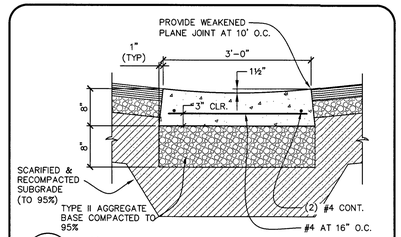
3 — 6" "L" and "A" CURB TO 0" CURB FACE TRANSITION

NOT TO SCALE



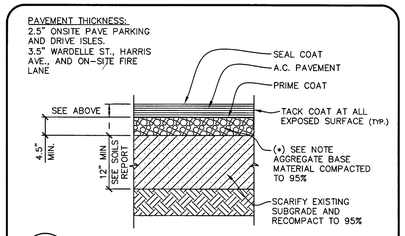
4 — DRAINAGE INLET COLLECTION DETAIL

NOT TO SCALE



2 — 3' WIDE CONCRETE VALLEY GUTTER

NOT TO SCALE



1 — PAVEMENT & CONCRETE SECTION

NOT TO SCALE

* FOR 2" AC OR LESS, BASE MATERIAL SHALL BE TYPE III, ALL OTHER CASES, BASE MATERIAL SHALL BE TYPE II

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T: 702.804.2000 gcwengineering.com

STATE OF NEVADA — PROFESSIONAL ENGINEER — TODD N. KELLEY — No. 14717 — Exp. 9/30/2021 — CIVIL
12-2-2019

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

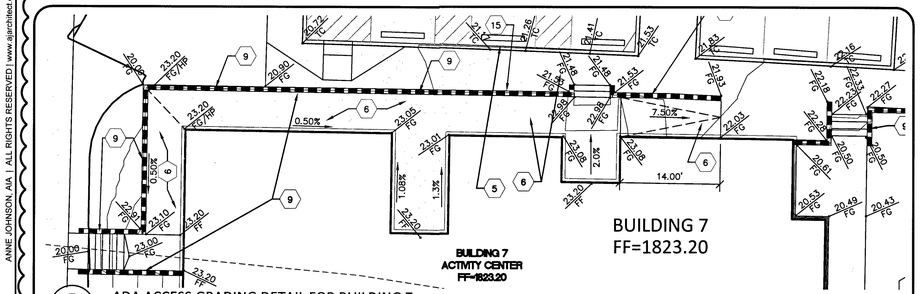
IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY, THIS DRAWING WILL HAVE BEEN ENLARGED, OR REDUCED, AFFECTING ALL LABELED SCALES.

	REVISIONS	DATE
1	V.E. REVISIONS	11.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	15 OF 17
Phase:	100% DD

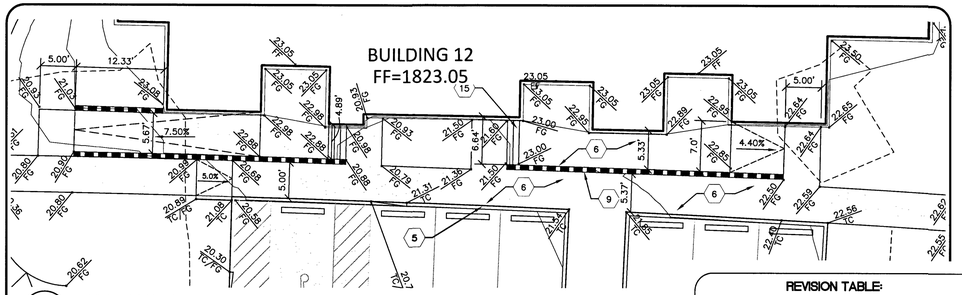
L19-00078
107V7651
DT-2
Plotted On: 12-30-19

SECTION AND DETAILS



7 — ADA ACCESS GRADING DETAIL FOR BUILDING 7

NOT TO SCALE



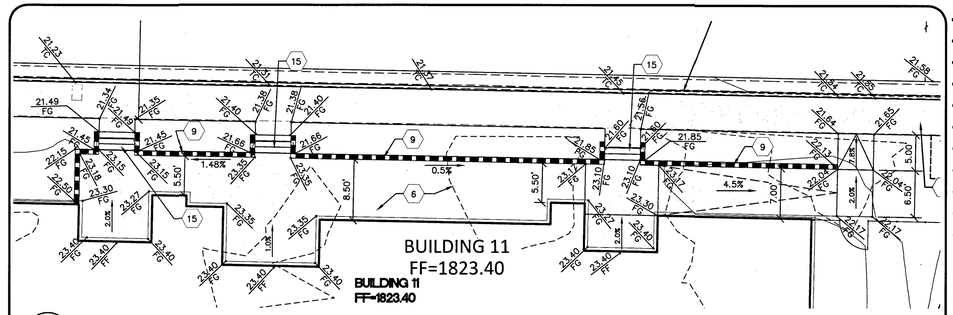
6 — ADA ACCESS GRADING DETAIL FOR BUILDING 12

NOT TO SCALE

CONSTRUCTION NOTES

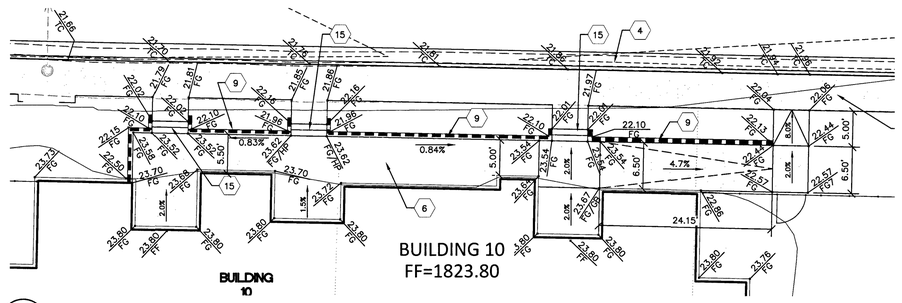
1. INSTALL DRIVEWAY MATCH EX. CURB FL.
2. INSTALL SIDEWALK RAMP CASE II ("A", "B" PER PLAN) PER CCAUSD 235, AND/OR (SEE DETAIL 2 ON SHEET DT-3)
3. FOR DETAIL GRADING AT THE EXISTING DROP INLET, SEE DETAIL 4 ON SHEET DT-2.
4. INSTALL "L" CURB & GUTTER PER CCAUSD DWG NO. 216.
5. INSTALL 6" "A" TYPE CURB PER CCAUSD DWG NO. 219.
6. INSTALL 4" THICK CONCRETE WALKWAY PER CCAUSD 234, AND/OR (SEE DETAIL 3 ON SHEET DT-3).
7. INSTALL AC PAVEMENT SECTION PER DETAIL 1 ON SHEET DT-2.
8. INSTALL 3' WIDE CONCRETE VALLEY GUTTER, SEE DETAIL 2 SHEET DT-2.
9. INSTALL RETAINING WALL, SEE ARCHITECTURAL PLANS FOR DETAILS.
10. INSTALL (5.5' WIDE BMP DRAINAGE RIP-RAP SWALE SEE PLAN FOR SIZE).
11. INSTALL TUBULAR STEEL FENCE, AND GATES, SEE ARCHITECTURAL PLANS FOR DETAILS.
12. PUBLIC DRAINAGE EASEMENT TO BE PRIVATELY MAINTAINED BY THE HOA.
13. INSTALL CHAINLINK FENCE, AND GATES, SEE ARCHITECTURAL PLANS FOR DETAILS.
14. CURB OPENING WITH "0" TO 6" CURB TRANSITION FOR "A" AND "L" CURB CONDITIONS PER DETAIL 3 SHEET DT-2
15. INSTALL STEPS SEE ARCHITECTURAL PLANS FOR DETAILS.
16. SAW-CUT TO SMOOTH EDGE AND FEATHER IN TO MATCH EXISTING AC GRADE. PAVEMENT RESTORATION PER CCAUSD DWG. NO. 500.3, 500.5 AND 503.
17. NOT USED.
18. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD DWG NO. 236
19. EXISTING STREET LIGHT TO BE RELOCATED. SEE PLAN FOR NEW LOCATION.
20. FOR LANDSCAPE PLANTERS SEE ARCHITECTURAL PLANS.

REVISION TABLE:	FOR SHEET DT-3
AREA	CHANGE
DETAILS 4, 5, 6, & 7	ADDED DETAILS FOR ADA ACCESS GRADING



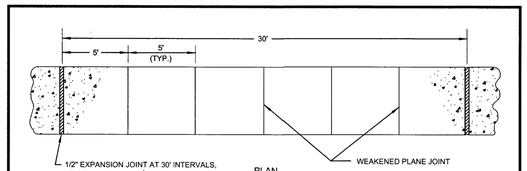
4 — ADA ACCESS GRADING DETAIL FOR BUILDING 11

NOT TO SCALE



5 — ADA ACCESS GRADING DETAIL FOR BUILDING 10

NOT TO SCALE



NOTES:

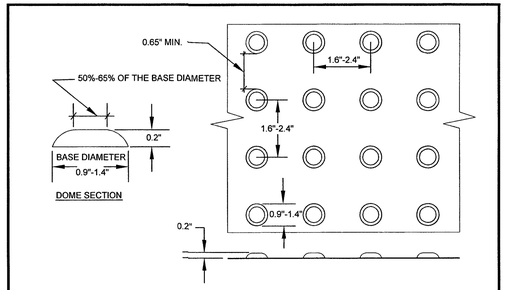
1. ON ALL CURB RETURNS A 1/2" EXPANSION JOINT SHALL BE CONSTRUCTED BETWEEN THE BACK OF CURB AND THE SIDEWALK FOR THE ENTIRE LENGTH OF THE RETURN.
2. THE TYPE II AGGREGATE BASE THICKNESS IS SHOWN ON THE TYPICAL SECTION DRAWINGS 202 - 207.
3. LONGITUDINAL WEAKENED PLANE JOINT REQUIRED AT MIDPOINT OF SIDEWALK 10' OR WIDER.

AGENCY APPROVED	B	C	H	L	M	N

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA
302	AGGREGATE BASE	SIDEWALK
501	CONCRETE	
502	CONCRETE STRUCTURES	
707	JOINT MATERIAL	
		DATE 01-01-17 | DWG. NO. 234

3 — STANDARD SIDEWALK DESIGN DETAIL

NOT TO SCALE



DETECTABLE WARNING DETAILS (TRUNCATED DOMES)

GRADE (%) "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
-6 TO -5.01	4.5	21.5
-5 TO -4.01	4.5	15.0
-4 TO -3.01	4.5	12.0
-3 TO -2.01	4.5	9.5
-2 TO 2	8.0	8.0
2.01 TO 3	9.5	4.5
3.01 TO 4	12.0	4.5
4.01 TO 5	15.0	4.5
5.01 TO 6	21.5	4.5

TABLE 1. TRANSITION LENGTHS FOR 1:12 SIDE SLOPES

GRADE (%) "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
-6 TO -5.01	4.0	12.5
-5 TO -4.01	4.0	10.0
-4 TO -3.01	4.0	8.5
-3 TO -2.01	4.0	7.5
-2 TO 2	6.5	6.5
2.01 TO 3	7.5	4.0
3.01 TO 4	8.5	4.0
4.01 TO 5	10.0	4.0
5.01 TO 6	12.5	4.0

TABLE 2. TRANSITION LENGTHS FOR 1:10 SIDE SLOPES

NOTE:
CHARTS APPLY TO CURB WITH 6" CURB FACE. IF CURB HAS GREATER THAN A 6" CURB FACE, A SPECIAL DESIGN IS REQUIRED.

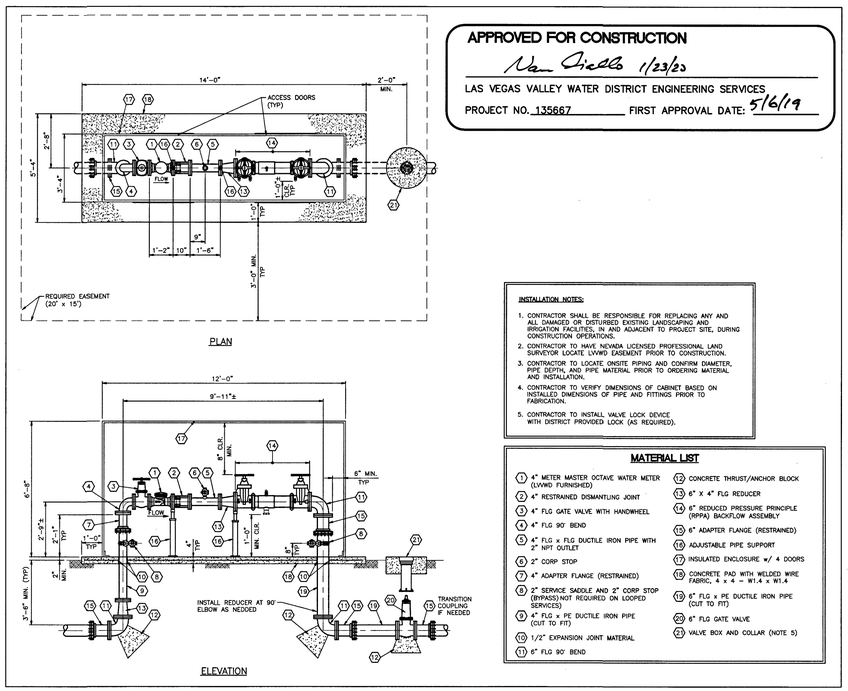
AGENCY APPROVED	B	C	H	L	M	N

SPECIFICATION REFERENCE		UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA
302	AGGREGATE BASE	SIDEWALK RAMP DETAILS
501	CONCRETE	
502	CONCRETE STRUCTURES	
		DATE 6-8-06 | DWG. NO. 235 | SHEET 4 OF 4

2 — TRUNCATED DOME DETAIL

NOT TO SCALE

1



APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 135667 FIRST APPROVAL DATE: 5/6/19

INSTALLATION NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY AND ALL DAMAGED OR DISTURBED EXISTING LANDSCAPING AND IRRIGATION FACILITIES, IN AND ADJACENT TO PROJECT SITE, DURING CONSTRUCTION OPERATIONS.
2. CONTRACTOR TO HAVE NEVADA LICENSED PROFESSIONAL LAND SURVEYOR LOCATE LVVWD EASEMENT PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO LOCATE ONSITE PIPING AND CONFIRM DIAMETER, PIPE DEPTH, AND PIPE MATERIAL PRIOR TO ORDERING MATERIAL AND INSTALLATION.
4. CONTRACTOR TO VERIFY DIMENSIONS OF CABINET BASED ON INSTALLED DIMENSIONS OF PIPE AND FITTINGS PRIOR TO FABRICATION.
5. CONTRACTOR TO INSTALL VALVE LOCK DEVICE WITH DISTRICT PROVIDED LOCK (AS REQUIRED).

MATERIAL LIST

1	4" METER MASTER OCTAVE WATER METER (LVVWD FURNISHED)	12	CONCRETE THRUST/ANCHOR BLOCK
2	4" RESTRAINED DISMANTLING JOINT	13	6" X 4" FLG REDUCER
3	4" FLG GATE VALVE WITH HANDWHEEL	14	6" REDUCED PRESSURE PRINCIPLE (RPPA) BACKFLOW ASSEMBLY
4	4" FLG 90° BEND	15	6" ADAPTER FLANGE (RESTRAINED)
5	4" FLG x PLG DUCTILE IRON PIPE WITH 2" NPT OUTLET	16	ADJUSTABLE PIPE SUPPORT
6	2" CORP STOP	17	INSULATED ENCLOSURE w/ 4 DOORS
7	4" ADAPTER FLANGE (RESTRAINED)	18	CONCRETE PAD WITH WELDED WIRE FABRIC, 4 x 4 – W1.4 x W1.4
8	2" SERVICE SADDLE AND 2" CORP STOP (BYPASS) NOT REQUIRED ON LOOPED SERVICES)	19	6" FLG x PE DUCTILE IRON PIPE (CUT TO FIT)
9	4" FLG x PE DUCTILE IRON PIPE (CUT TO FIT)	20	6" FLG GATE VALVE
10	1/2" EXPANSION JOINT MATERIAL	21	VALVE BOX AND COLLAR (NOTE 5)
11	6" FLG 90° BEND		

1 — 4" OCTAVE METER & 6" RPPA DETAIL

NOT TO SCALE

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NV LIC. #5168

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1555 S. RAINBOW BLVD LAS VEGAS, NV 89146
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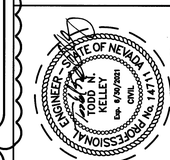


12-2-19

Wardelle Street Townhouses
IFB No. B19012

SE corner of N Wardelle St. and E Harris Ave.
APN # 139-254-100-39, 40, 41
Las Vegas, Nevada, 89101
Southern Nevada Regional Housing Authority, (SNRHA)

IF THE ABOVE DIMENSION DOES NOT MEASURE ONE INCH (1") EXACTLY, THIS DRAWING WILL HAVE BEEN ENLARGED OR REDUCED, AFFECTING ALL LABELED SCALES.

	REVISIONS	DATE
1	V.E. REVISIONS	11.21.19

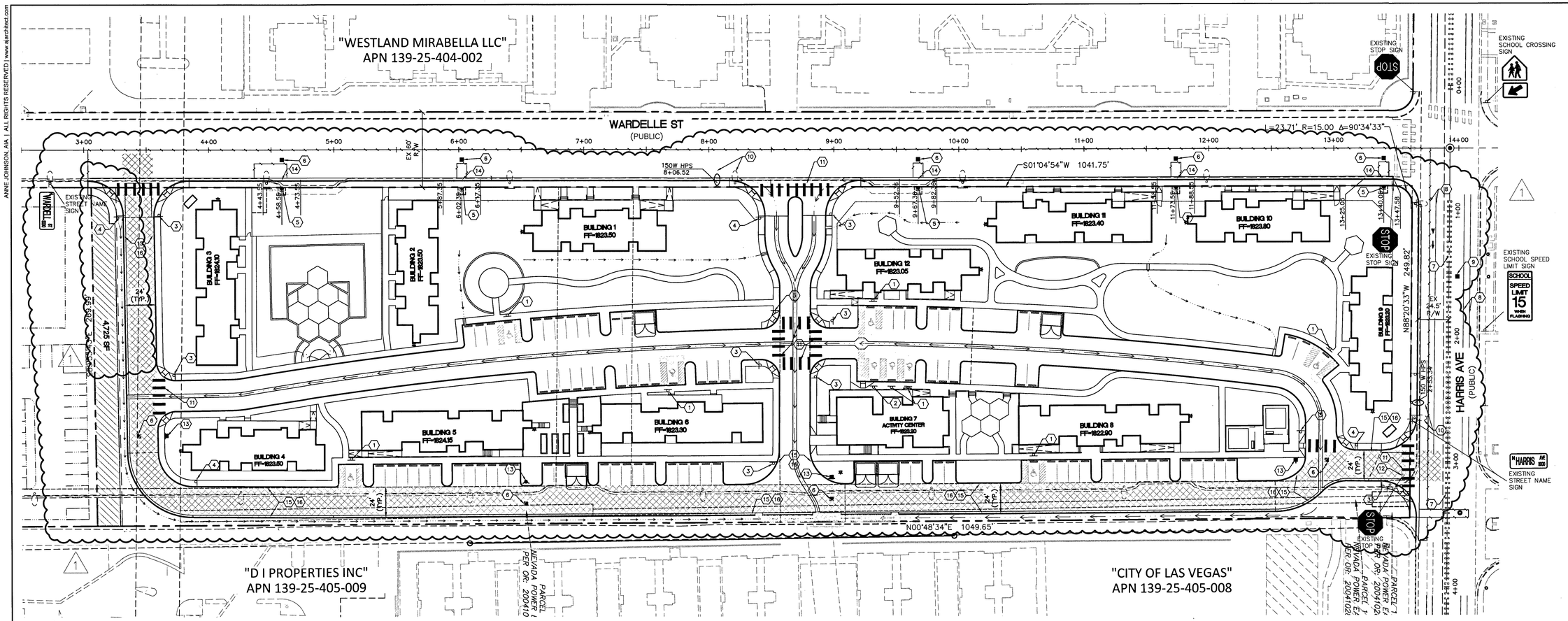
Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	16 OF 17
Phase:	100% DD

L19-00078
107V7651

DT-3

Plotted On: 12–30–19

SECTION AND DETAILS



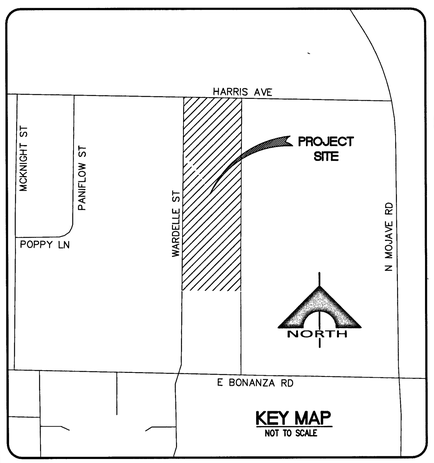
NORTH

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

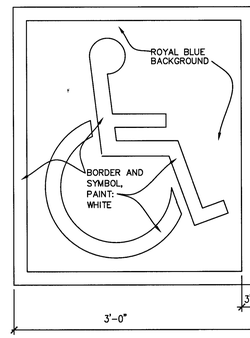
FAST
Call before you UnderGround
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600

40' 0' 20' 40'
SCALE: 1" = 40'

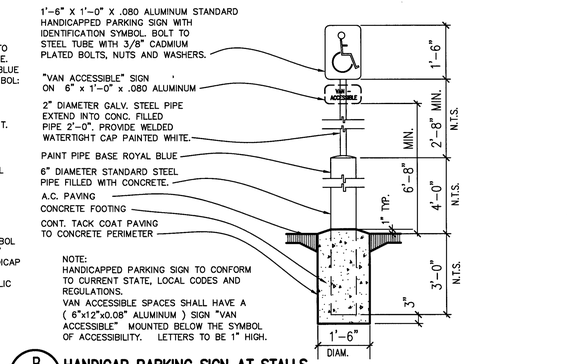


KEY MAP
NOT TO SCALE



NOTES:
1. ALL STROKES TO BE MIN. 3" WIDE. FIELD: ROYAL BLUE BORDER & SYMBOL: WHITE.
2. PROVIDE TWO COATS OF PAINT. DRY BETWEEN COATS.
3. LOCATE SYMBOL AT CENTER OF STALL WHERE SHOWN ON SITE PLAN.
4. HANDICAP SYMBOL TO COMPLY W/ CURRENT HANDICAP REQUIREMENTS OF LOCAL PUBLIC AGENCY, ETC.

A WHEELCHAIR SYMBOL

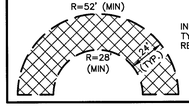


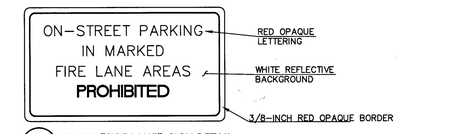
NOTE:
HANDICAPPED PARKING SIGN TO CONFORM TO CURRENT STATE, LOCAL CODES AND REGULATIONS.
VAN ACCESSIBLE SPACES SHALL HAVE A (6"x12"x0.08" ALUMINUM) SIGN "VAN ACCESSIBLE" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY. LETTERS TO BE 1" HIGH.

B HANDICAP PARKING SIGN AT STALLS

FIRE LANE LEGEND

- INDICATES RED PAINTED CURB WITH "NO PARKING – FIRE LANE" PAINTED EVERY 50 FT. PER LAS VEGAS FIRE & RESCUE FIRE PREVENTION DIVISION GUIDELINES.
- INDICATES PROPOSED LOCATION OF FIRE LANE SIGNS TO BE PLACED AT EVERY ENTRANCE STATING "ON-STREET PARKING IN FIRE LANES PROHIBITED". FIRE LANE SIGNS SHALL CONFORM TO LAS VEGAS FIRE & RESCUE FIRE PREVENTION DIVISION GUIDELINES.
- INDICATES PROPOSED LOCATION OF BLUE FIRE HYDRANT REFLECTIVE MARKER PER LAS VEGAS FIRE & RESCUE FIRE PREVENTION DIVISION GUIDELINES.
- FIRE DEPARTMENT CONNECTION
- INDICATES 24' MINIMUM WIDTH FIRE LANE AND TYPICAL TURNING RADIUS PER LAS VEGAS FIRE & RESCUE FIRE PREVENTION DIVISION GUIDELINES.





A TYPE B "FIRE LANE" SIGN DETAIL
24"X18"

B R1-1
36"X36"

C TYPE C FIRE LANE SIGN

ON-SITE SIGNAGE CONSTRUCTION NOTES

NO.	ITEM
	UDACS: UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA
1	INSTALL HANDICAP PARKING SIGN–INSTALL R7-8 (12"x16") WITH $100.00 FINE IF USED BY OTHERS. NRS 484-408 ANSI 4.3 AND 4.28/ FOR INSTALLATION SEE USD #249.1.
2	INSTALL R7-8B, VAN ACCESSIBILITY, SIGN
3	INSTALL R1-1 "STOP" SIGN PER USDCCA DWG. NO. 249.1 AND PER DETAIL 'B' ON THIS SHEET.
4	INSTALL TYPE B "FIRE LANE" SIGN PER DETAIL "A" ON THIS SHEET.
5	INSTALL PUBLIC FIRE HYDRANT PER UDACS PLATE NO. 40. PAINT YELLOW.
6	INSTALL BLUE REFLECTIVE RAISE PAVEMENT MARKER.
7	EXISTING TYPE 1 CENTERLINE TO REMAIN.
8	EXISTING BICYCLE LANE LINE WITH MARKINGS TO REMAIN.
9	EXISTING BLUE REFLECTIVE PAVEMENT MARKER TO REMAIN.
10	REMOVE EXISTING STREETLIGHT AND RELOCATION TO NEW LOCATION.
11	INSTALL CROSSWALK MARKINGSS – TYPE 1 PER USDCCA DWG. NO. 254.
12	REMOVE EXISTING STOP SIGN AND RELOCATE TO NEW LOCATION.
13	INSTALL PRIVATE FIRE HYDRANT PER UDACS PLATE NO. 40. PAINT RED.
14	PAINT CURB RED PER IFC 507.5.7.2 (SOUTHERN NEVADA FIRE CODE AMENDMENTS)
15	INSTALL TYPE C FIRE LANE SIGN (CURB PAINT MARKING) AT 50' O.C. ALONG FIRE ACCESS LANE.
16	INSTALL RED PAINTED CURB ALONG FIRE ACCESS LANE.

REVISION TABLE:	FOR SHEET TR-1
AREA	CHANGE
ON-SITE	ADJUSTED BUILDING FOOTPRINTS, AND REMOVED DIAGONAL PARKING STALLS AT THE SOUTH DRIVE ENTRANCE

APPROVED FOR CONSTRUCTION

LAS VEGAS FIRE AND RESCUE
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL

DATE:

BENCHMARK

CITY OF LAS VEGAS BENCHMARK STATION: 8LV0125SSW6

DESCRIPTION: RIVET AND ALUMINUM PLATE IN TOP OF CURB NORTHWEST CORNER OF MANNING STREET AND BONANZA ROAD.

ELEVATION: 554.758 METERS
1820.07 FEET (U.S. SURVEY FEET) NAVD88

BASIS OF BEARINGS

GRID NORTH AS DEFINED BY THE CENTRAL MERIDIAN OF THE NEVADA COORDINATE REFERENCE SYSTEM (NCRS), LAS VEGAS ZONE, NORTH AMERICAN DATUM OF 1983; SAID MERIDIAN BEING COINCIDENT WITH 114°58' WEST OF THE GREENWICH MERIDIAN.

LINEAR UNIT: US SURVEY FOOT (FTUS)

DATUM (REFERENCE FRAME): NAD 83 (2011) EPOCH 2010.00
NEVADA COORDINATE REFERENCE SYSTEM (NCRS)

LAS VEGAS

PROJECTION: TRANSVERSE MERCATOR
STANDARD PARALLEL (AND LATITUDE OF GRID ORGIN): 36°15'00"N
LONGITUDE OF CENTRAL MERIDIAN: 114°58'00"W
NORTHING AT GRID ORIGIN: 200,000.000 M (656,166.6667 FTUS)
EASTING AT CENTRAL MERIDIAN: 100,000.000 M (326,083.3333 FTUS)
SCALE FACTOR ON CENTRAL MERIDIAN; 1.0001 (EXACT)

NOTES:
1. ALL DISTANCES AND BEARINGS SHOWN HEREON ARE PROJECTED (GRID) VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT PROJECTED (GRID) DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.
2. GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

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NV LIC. #5168

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REVISIONS	DATE
1 V.E. REVIEW	11.21.19

Date:	02/12/2019
Scale:	AS NOTED
Drawn:	DRL
Job:	17008
Sheet:	17 OF 17
Phase:	100% DD

L19-00078
107V7651

TR-1

Plotted On: 12-30-19

STRIPING AND SIGNAGE PLAN