

CONSTRUCTION NOTES

- ALL BARRICADING AND TEMPORARY TRAFFIC CONTROL DEVICES OR METHODS USED DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "NEVADA TRAFFIC CONTROL MANUAL," MOST RECENT EDITION, PUBLISHED BY THE STATE OF NEVADA, DEPARTMENT OF HIGHWAYS, EXCEPT AS OTHERWISE PROVIDED IN THE CONTRACT SPECIFICATIONS OR AS REQUIRED BY THE ENGINEER.
- AT THE TIME OF PRE-CONSTRUCTION CONFERENCE, THE CONTRACTOR SHALL FURNISH, FOR APPROVAL, A TRAFFIC BARRICADING PLAN AND METHOD OF MAINTAINING PUBLIC CONVEYANCE AND SAFETY THROUGHOUT THE CONSTRUCTION AREA. TRAFFIC BARRICADING PLANS SHALL COMPLY WITH APPLICABLE PORTIONS OF SECTIONS 624 AND 625 OF THE STANDARD SPECIFICATIONS, THE TRAFFIC CONTROL MANUAL AND APPLICABLE CITY ORDINANCES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERTICAL ADJUSTMENT OF EXISTING SANITARY, WATER AND STORM SEWER MANHOLES TO THE FINAL FINISH GRADES AS NOTED ON THE CONTRACT DRAWINGS, AND IN ACCORDANCE WITH SECTION 609 OF THE "STANDARD SPECIFICATIONS," AND ANY VERTICAL ADJUSTMENTS OF WATER VALVE BOXES AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON THE CONTRACT DRAWINGS.
- NOTICE GRADING AUTHORIZED ONLY AFTER PERMITTEE'S FULL COMPLIANCE WITH FEDERAL ENDANGERED SPECIES ACT.
- THE DESIGN GRADE (DG) INDICATED ON THESE PLANS IS FOR VERTICAL ELEVATION DESIGN CALCULATION PURPOSES AND DOES NOT NECESSARILY REPRESENT THE FINISH IMPROVEMENT GRADES @ CENTERLINE (I.E. THRU MEDIAN AREAS). SEE STANDARD STREET SECTIONS ON SHEET 18.

WATER NOTES

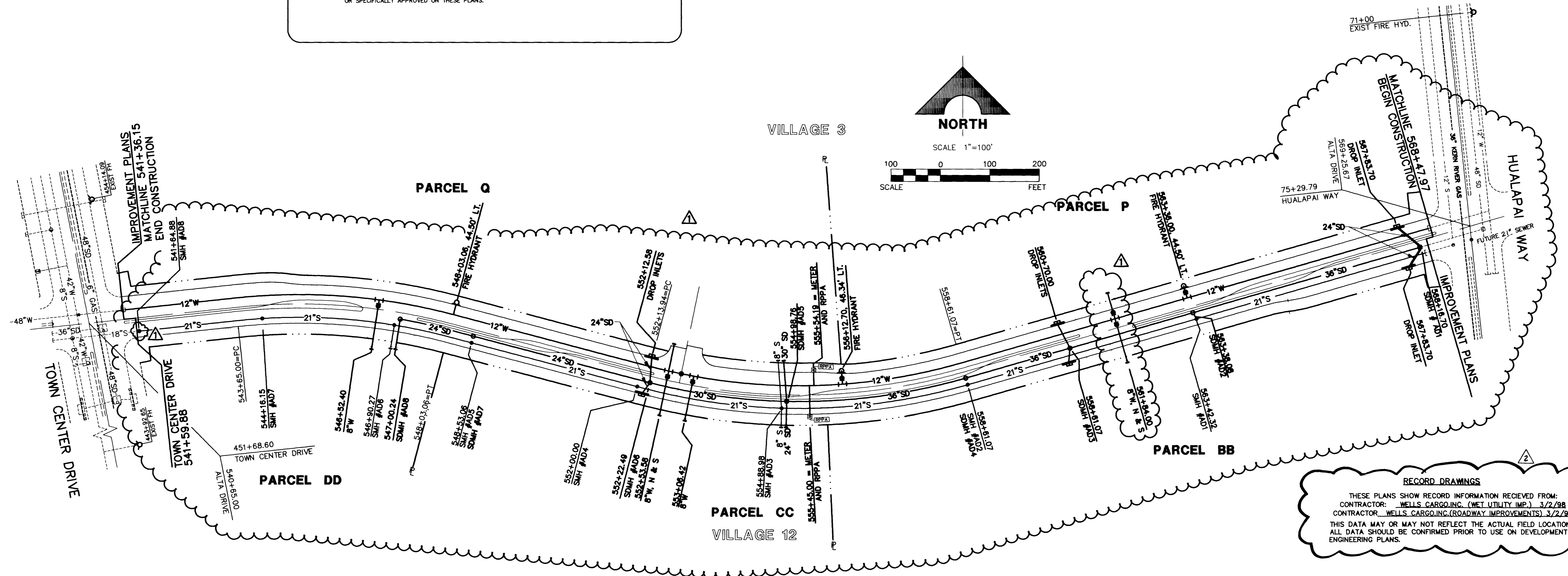
- NO WORK SHALL BEGIN UNTIL THE WATER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE LVVWD. FOLLOWING WATER PLAN APPROVAL, 48 HOUR NOTICE SHALL BE GIVEN TO THE LVVWD CUSTOMER SERVICE DEPARTMENT (258-7171) PRIOR TO THE START OF CONSTRUCTION. NOTICE MUST BE GIVEN BY 2:00 P.M. THE BUSINESS DAY PRIOR TO THE LVVWD INSPECTION.
- ALL WORK SHALL CONFORM TO THE LVVWD'S STANDARD PLATES, DRAWINGS, AND SPECIFICATIONS AND THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEMS (UDACS), LATEST EDITION.
- ALL WORK, EXCEPT AS MODIFIED BY THESE PLANS OR BY NOTE 2, SHALL BE DONE IN ACCORDANCE WITH THE MOST CURRENT DRAFT OR EDITION OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFFSITE IMPROVEMENT, CLARK COUNTY AREA.
- A SINGLE PIPE MATERIAL SHALL BE USED THROUGHOUT THE PROJECT UNLESS OTHERWISE APPROVED BY THE LVVWD.
- ALL SERVICE LATERALS TWO (2) INCHES IN DIAMETER AND SMALLER SHALL BE COPPER TUBING WITH LVVWD APPROVED SERVICE SADDLES.
- ALL WATER METER BOXES SHALL BE LOCATED OUTSIDE OF DRIVEWAY AREAS.
- ALL VALVES SHALL BE LOCATED OUTSIDE OF DRIVEWAYS, VALLEY AND CURB GUTTERS.
- THE FOLLOWING REQUIREMENTS MUST BE MET IN THE EVENT A WATER LINE AND SANITARY OR STORM SEWER LINE CROSS:
 - A MINIMUM EIGHTEEN (18) INCH VERTICAL SEPARATION (OUTSIDE TO OUTSIDE) MUST BE MAINTAINED WHEN THE WATER LINE IS INSTALLED OVER THE SANITARY OR STORM SEWER LINE. IF THE VERTICAL SEPARATION CANNOT BE MAINTAINED OR THE WATER LINE MUST BE PLACED UNDER THE SANITARY OR STORM SEWER LINE, THE SANITARY OR STORM SEWER LINE MUST BE CONSTRUCTED WITH ONE OF THE FOLLOWING OR, AS SHOWN ON THESE PLANS:
 - A POTABLE WATER SUPPLY QUALITY MATERIAL.
 - B ENCASEMENT, WITH FOUR (4) INCH CONCRETE (MINIMUM).
 - C SLEEVING WITH POTABLE WATER SUPPLY QUALITY PIPE.
- EACH PROVISION MUST EXTEND ALONG THE SANITARY OR STORM SEWER, ON EITHER SIDE OF THE MAIN, A MINIMUM 10 FOOT DISTANCE PERPENDICULAR TO THE WATER MAIN EXTERIOR.
- WARNING TAPE SHALL BE REQUIRED OVER ALL MAINS, ALL SIX (6) INCH DIAMETER AND LARGER SERVICE LATERALS, AND ANY SERVICE LATERAL NOT INSTALLED PERPENDICULAR TO THE MAIN IN ACCORDANCE WITH STANDARD PLATE NO. 27.
- ALL WATER FACILITIES SHALL BE FILLED, DISINFECTED, PRESSURE TESTED, FLUSHED, FILLED AND AN ACCEPTABLE WATER SAMPLE OBTAINED, PRIOR TO CONNECTION TO THE LVVWD'S DISTRIBUTION SYSTEM.
- THE CONTRACTOR MUST OBTAIN ALL METERS TWO (2) INCHES AND SMALLER FROM LVVWD CENTRAL STORES. TELEPHONE 258-3152 FORTY-EIGHT (48) HOURS PRIOR TO PICKUP.
- CONSTRUCTION MAY INTERRUPT SERVICE, WITH LVVWD APPROVAL AND PROPER NOTIFICATION, BETWEEN THE HOURS OF 10 PM AND 6 AM, SUNDAY THROUGH THURSDAY. CIRCUMSTANCES MAY REQUIRE TEMPORARY SERVICE FEES BE INSTALLED, WITHOUT LVVWD REIMBURSEMENT ANY TEMPORARY SERVICE FEED MUST HAVE PRIOR LVVWD APPROVAL.
- ALL WATER FACILITY CONSTRUCTION MATERIALS USED MUST BE AS LISTED ON THE LVVWD'S PRE-APPROVED MATERIALS AND MANUFACTURERS LISTING FOR NEW FACILITIES, LATEST REVISION, OR SPECIFICALLY APPROVED ON THESE PLANS.

SEWER NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS AND THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, AS AMENDED. IN ALL CASES, THESE STANDARDS SHALL SUPERSEDE THE UNIFORM STANDARD SPECIFICATIONS. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF THE CONTENTS OF THE ABOVE SPECIFICATION BOOKS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM CONSTRUCTION AS PER PLANS. ANY ADDITIONS, DELETIONS, OR CHANGES SHALL FIRST MEET WITH THE APPROVAL OF THE CONTROLLING AGENCY.
- CHISEL "S" OR "G" IN CURBS WHERE SEWER OR GAS LATERALS PASS UNDER THE CURB.
- POLYVINYL (PVC) SEWER PIPE SHALL MEET ASTM D-3034 SDR 35 SPECIFICATIONS, INSTALLED WITH THE SAND BEDDING AND BACKFILL OF TYPE II GRAVEL.
- ALL MANHOLES IN PAVED STREETS 80' R/W AND LARGER, SHALL HAVE CONCRETE COLLARS.
- TEE SADDLES SHALL BE USED TO CONNECT SEWER LATERALS TO EXISTING MAIN LINES UP TO 12" DIA. SIZE. CONNECTIONS TO 15" OR LARGER MAINS SHALL REQUIRE SPECIAL PROCEDURES.
- A SEWER MAIN CROSSING OVER A WATER MAIN OR LESS THAN 18" UNDER A WATER MAIN, MUST BE REINFORCED CONCRETE ENCASED FOR A DISTANCE NOT LESS THAN TEN FEET (10') TO EACH SIDE OF THE WATER MAIN.
- ALL CONTRACTORS INSTALLING SEWER MAINS THAT WILL BE UNDER THE JURISDICTION OF THE CONTROLLING AGENCY MUST BE CLASS "A" NEVADA CONTRACTORS.
- THE CITY OF LAS VEGAS WILL NOT ACCEPT ANY SEWER MAINS WHICH HAVE A VERTICAL DEFLECTION OF MORE THAN ONE TENTH (0.1) OF A FOOT FROM THE APPROVED CONSTRUCTION PLANS. SEWER MAINS FOUND TO EXCEED THIS TOLERANCE WILL HAVE TO BE REPAIRED OR REMOVED AND REPLACED TO THE SATISFACTION OF THE CITY ENGINEER PRIOR TO ACCEPTANCE BY THE CITY.
- HORIZONTAL CURVED SEWER ALIGNMENT NOTES:
 - A LINE AND GRADE STAKES @ 25' MAX INTERVALS
 - B 10" DIA SEWER @ 350' MIN RADIUS, 1.64' DEFLECTION PER 20' JOINT, 45' MAX DELTA
 - C 12" DIA SEWER @ 450' MIN RADIUS, 1.36' DEFLECTION PER 20' JOINT, 45' MAX DELTA

FIRE DEPARTMENT NOTES

- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CITY OF LAS VEGAS FIRE DEPARTMENT "HYDRANT SPECIFICATIONS", "HYDRANT INSTALLATION SPECIFICATIONS" AND ORDINANCE #3944.
 - A - KENNEDY GUARDIAN
 - B - MUELLER A-423 CENTURIAN
 - C - CLOW MODEL 2546 MEDALLION
- AUTHORIZED HYDRANTS FOR THIS PROJECT ARE
- ON ANY NEW HOME OR BUILDING INSTALLATION, ACCESSIBLE FIRE HYDRANTS SHALL BE INSTALLED BEFORE COMBUSTIBLE CONSTRUCTION COMMENCES AND SAID FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER WITH AN ADEQUATE WATER SUPPLY.
- CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT CENTERLINE OF STREET ADJACENT TO FIRE HYDRANT AS REQUIRED IN ORDINANCE #3944 TO IDENTIFY THE FIRE HYDRANT LOCATIONS.
- CALL THE LAS VEGAS FIRE DEPARTMENT AT 229-2071 FOR UNDERGROUND INSPECTION, PRESSURE AND FLUSH VERIFICATION OF ALL FIRE HYDRANTS AND FIRE LINES BEFORE COVERING.
- PAINTING OF THE CURBS AND HYDRANT AND ANY WORK NECESSARY FOR PROTECTION OF HYDRANTS FROM PHYSICAL DAMAGE PER ORDINANCE #3944 SHALL BE COMPLETED BEFORE APPROVAL BY THE CITY OF LAS VEGAS FIRE DEPARTMENT.
- A PERMIT IS REQUIRED FROM THE FIRE DEPARTMENT FOR ON-SITE WATERLINE AND FIRE HYDRANT. THE PERMIT AND CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER PRIOR TO ANY WORK BEGINNING.
- PRIVATE FIRE HYDRANTS SHALL BE PAINTED RED.
- A FLOW TEST MUST BE WITNESSED BY THE FIRE DEPARTMENT PRIOR TO OCCUPANCY FOR VERIFICATION OF REQUIRED ON-SITE WATER SUPPLY.
- ALL ON-SITE FIRE MAIN MATERIALS MUST BE U.L LISTED AND A W/W APPROVED.
- FIRE HYDRANT SPACING:
 - RESIDENTIAL - 500 FEET UNSPRINKLERED; 1000 FEET SPRINKLERED.
 - COMMERCIAL INCLUDING MULTI-FAMILY - 300 FEET UNSPRINKLERED; 600 FEET SPRINKLERED.
- WHERE NEW WATER MAINS ARE EXTENDED ALONG STREETS, WHERE HYDRANTS ARE NOT NEEDED FOR PROTECTION OF STRUCTURES, FIRE HYDRANTS SHALL BE SPACED AT MAXIMUM 1,000 FOOT SPACING TO PROVIDE FOR TRANSPORTATION HAZARDS.
- NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE REQUIRED RADIUS OF A CUL-DE-SAC OR WITHIN 20 FEET OF THE PERIMETER OF THE RADIUS OF A
- NO FIRE HYDRANT SHALL BE LOCATED WITHIN 6 FEET OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREET LIGHT OR ANY OTHER OBSTRUCTION.
- TWO SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 4 OR MORE FIRE HYDRANTS INSTALLED ON A SINGLE SYSTEM.
- NOT MORE THAN 2 HYDRANTS CAN BE OUT OF SERVICE DUE TO A SINGLE MAIN BREAK.
- FIRE APPARATUS ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED WIDTH OF NOT LESS THAN 20 FEET PROVIDED NO PARKING IS ALLOWED, NOT LESS THAN 28 FEET IF PARALLEL PARKING IS ALLOWED ON ONE SIDE, AND NOT LESS THAN 36 FEET IF PARALLEL PARKING IS ALLOWED ON BOTH SIDES. VERTICAL CLEARANCE SHALL NOT BE LESS THAN 13 FEET 6 INCHES.
- THE TURNING RADIUS FOR ANY FIRE APPARATUS ACCESS ROAD AND/OR FIRE LANE, PUBLIC OR PRIVATE SHALL BE NOT LESS THAN 45 FEET OUTSIDE RADIUS AND 22 FEET INSIDE RADIUS.
- A FIRE APPARATUS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FEET FROM A FIRE DEPARTMENT VEHICLE ACCESS (SEE EXCEPTIONS IN UFC 91, SECTION 10.203).
- ALL DEAD END FIRE APPARATUS ACCESS ROADS AND/OR FIRE LANES PUBLIC OR PRIVATE IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURNAROUND AREA. SEE ORDINANCE #3677.
- 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 FEET ALONG ALL 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 INSTALLED NO HIGHER THAN 10 FEET OR LESS THAN 6 FEET FROM ROADWAY LEVEL. THE CURBS ALONG OR ON THE PAVEMENT OR CEMENT IF CURB IS NOT PRESENT, SHALL BE PAINTED WITH A RED WEATHER RESISTANT PAINT IN ADDITION TO THE SIGNS.
- ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECEIVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAS VEGAS GUIDELINES FOR AUTOMATIC EMERGENCY VEHICLE ACCESS GATES.



RECORD DRAWINGS
 THESE PLANS SHOW RECORD INFORMATION RECEIVED FROM:
 CONTRACTOR: WELLS CARGO, INC. (MET UTILITY IMP.) 3/2/98
 CONTRACTOR: WELLS CARGO, INC. (ROADWAY IMPROVEMENTS) 3/2/98
 THIS DATA MAY OR MAY NOT REFLECT THE ACTUAL FIELD LOCATIONS.
 ALL DATA SHOULD BE CONFIRMED PRIOR TO USE ON DEVELOPMENT OR
 ENGINEERING PLANS.

1st app'd 2/22/96
 LVVWD
 DATE 6/06/96

RECOMMENDED BY	DATE	APPROVAL
BERT A. WALLACE, INC.	7/24/94	
ADD RECORD DRAWING INFO	DATE	APPROVAL
ADD SEWER MAIN LOCATIONS	DATE	APPROVAL
ADD WATER MAIN LOCATIONS	DATE	APPROVAL
ADD FIRE HYDRANT LOCATIONS	DATE	APPROVAL

RECOMMENDED BY: BERT A. WALLACE, INC. 1955 SOUTH RAINBOW BLVD., LAS VEGAS, NEVADA 89102
 G.C. WALLACE, INC. Engineering/Architecture
 SUMMERLIN ALTA DRIVE UTILITY MASTER PLAN
 SHEET 4 OF 16

JOB NO. 82003.207

S.T.S. ALTAUTMA.DWG, 04/19/96

GENERAL NOTES

1. ALL UTILITIES SHOWN ON THIS PLAN ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE APPROPRIATE AGENCIES.

3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.

4. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES NOT TO BE REMOVED.

5. THE CONTRACTOR SHALL MAINTAIN THE EXISTING GRADE AND EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

WATER NOTES

1. ALL WATER MAINS SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR ALL WATER MAINS TO PREVENT SAGGING.

3. THE CONTRACTOR SHALL INSTALL VALVES AT REGULAR INTERVALS AND AT ALL CHANGES IN DIRECTION.

4. THE CONTRACTOR SHALL PROVIDE ADEQUATE FLUSHING AND TESTING OF ALL WATER MAINS PRIOR TO FINAL ACCEPTANCE.

5. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL WATER MAIN INSTALLATIONS AND REPAIRS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE WATER UTILITY COMPANY.

7. THE CONTRACTOR SHALL PROTECT ALL EXISTING WATER MAINS NOT TO BE REMOVED.

8. THE CONTRACTOR SHALL MAINTAIN THE EXISTING GRADE AND EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

SEWER NOTES

1. ALL SEWER MAINS SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR ALL SEWER MAINS TO PREVENT SAGGING.

3. THE CONTRACTOR SHALL INSTALL VALVES AT REGULAR INTERVALS AND AT ALL CHANGES IN DIRECTION.

4. THE CONTRACTOR SHALL PROVIDE ADEQUATE FLUSHING AND TESTING OF ALL SEWER MAINS PRIOR TO FINAL ACCEPTANCE.

5. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL SEWER MAIN INSTALLATIONS AND REPAIRS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE SEWER UTILITY COMPANY.

7. THE CONTRACTOR SHALL PROTECT ALL EXISTING SEWER MAINS NOT TO BE REMOVED.

8. THE CONTRACTOR SHALL MAINTAIN THE EXISTING GRADE AND EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

PILE DRILLING NOTES

1. ALL PILE DRILLING SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE PILE DRILLING MANUAL.

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE SUPPORT FOR ALL PILE DRILLING EQUIPMENT.

3. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL PILE DRILLING OPERATIONS.

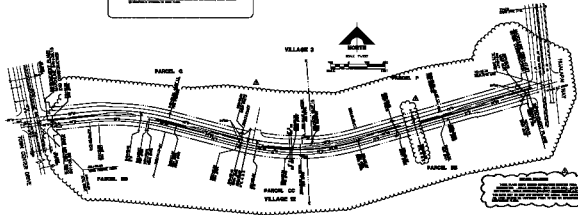
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE PILE DRILLING COMPANY.

5. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES NOT TO BE REMOVED.

6. THE CONTRACTOR SHALL MAINTAIN THE EXISTING GRADE AND EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

7. THE CONTRACTOR SHALL PROVIDE ADEQUATE FLUSHING AND TESTING OF ALL PILE DRILLING OPERATIONS.

8. THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL PILE DRILLING OPERATIONS.



THIS PLAN AND SPECIFICATIONS SHALL BE USED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE PILE DRILLING MANUAL AND THE RECORD DRAWINGS.

BY: *[Signature]*
DATE: *[Date]*



SCALE: 1" = 100'

DATE: 10/15/2010

PROJECT: UTILITY MAINS PLAN

DESIGNED BY: [Name]

CHECKED BY: [Name]

APPROVED BY: [Name]