STORMWATER RUNOFF MANAGEMENT

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

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 CLARK COUNTY 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 TITLE 24.40 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.

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 NATURAL GAS CONFLICT WITH PROPOSED UTILITIES AND/OR STRUCTURES CONTACT 702-365-2099

CAUTION: HIGH PRESSURE GAS

CALL SOUTHWEST GAS AT 702-400-1789 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES 48 HOURS PRIOR TO CONSTRUCTION

SOUTHWEST GAS APPROVAL

Pamela Kennedy — SOUTHWEST GAS CORPORATION

3-21-19 — DATE

LEGAL DESCRIPTION

ALL GOVERNMENT LOTS 21, 22, 23 AND 26 OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

CONTAINING 20.47 ACRES, MORE OR LESS

BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

DEVIATIONS FROM STANDARDS

NONE

2.2 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.

LAS VEGAS VALLEY WATER DISTRICT (LVVWD) STANDARD NOTES

LVVWD PROJECT # 136145 (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 AS 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 PATCH 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.

GRADING NOTES

1. INDICATED GRADES OTHER THAN T.C., F.G. & GUTTER F.L. ARE ROUGH GRADES.
2. THE ROUGH GRADING PLANS SHALL BE ON THE JOB SITE AT ALL TIMES. THE ROUGH GRADING SHALL BE FINISHED IN CONFORMANCE WITH THE LINES AND GRADES SHOWN ON THE PLANS. THE GRADING QUANTITIES ARE BASED ON THE ELEVATION AND DETAILS SHOWN ON THE PLANS. ANY DEVIATIONS FROM THE PLANS WILL RESULT IN QUANTITY CHANGES.
3. CARE SHALL BE EXERCISED IN GRADING CORNER LOTS.
4. ROUGH PAD ELEVATIONS SHALL BE GRADED TO WITHIN 0.1' OF THE PAD ELEVATIONS SHOWN ON THE PLANS. WHEN GRADING IS COMPLETE PER THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE LOTS CAN BE INSPECTED. AT THAT TIME THE ENGINEER SHALL ALSO DECIDE IF ANY ADDITIONAL DITCHES OR BERMS ARE REQUIRED. THE CONTRACTOR IS REQUESTED NOT TO REMOVE ANY OF HIS ROUGH GRADING EQUIPMENT UNTIL HE RECEIVES GRADING APPROVAL FROM THE ENGINEER.
5. SOILS REPORT PREPARED BY ANGLE ENGINEERING, PROJECT NO. 26214-1, DATED 06/06/2018.
6. EARTHWORK QUANTITIES (RAW):
 -CUT = 44,425 CUBIC YARDS.
 -FILL = 36,989 CUBIC YARDS

 A) THE ABOVE QUANTITIES DO NOT REFLECT LOSSES DUE TO SUBSIDENCE OR SHRINKAGE.
 B) THE ABOVE QUANTITIES DO REFLECT USING NATIVE MATERIAL IN LIEU OF TYPE I GRAVEL BASE MATERIAL FOR STREET SECTIONS.
 C) THE ABOVE QUANTITIES DO NOT REFLECT ANY EARTHWORK WHICH MAY BE REQUIRED BY THE ENGINEER TO CONSTRUCT ADDITIONAL PROTECTIVE DITCHES OR BERMS NOT SHOWN ON THESE DRAWINGS.

CITY OF 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 ALL 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 105.7.12]
4. ON ANT 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 3310, 3312]
5. TO IDENTIFY THE FIRE HYDRANT LOCATIONS, THE CONTRACTOR SHALL PLACE A BLUE REFLECTIVE MARKER AT THE CENTER LINE OF THE STREET ADJACENT TO THE FIRE HYDRANTS. [IFC 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 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 507.2.1, NFPA 24]
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 507]
9. PRIVATE HYDRANTS SHALL BE PANTED RED. [IFC 507.5.7.1]
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 507]
11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: [IFC 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 OF 1,000 FT 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 FT ON AN ALTERNATING BASIS. [IFC 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 FT OF ANY CURB RETURN, DRIVEWAY, POWER POLE, STREETLIGHT OR ANY OTHER OBSTRUCTION. [IFC 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 C102.4]
16. THE MAXIMUM DISTANCE FROM A FIRE HYDRANT TO A FIRE DEPARTMENT CONNECTION (FDC) SHALL NOT EXCEED 100 FT, AS MEASURED BY AN APPROVED ROUTE. [IFC C102.7]
17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [IFC C102.6]
18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE ARE 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 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 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 503.2.7, 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 FT 6 INS. [IFC 503.2.1]
23. FIRE DEPARTMENT ACCESS ROADS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF NOT LESS THAN 40 FT 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 BE NOT LESS THAN 24 FT. [IFC 503.2.1.1]
24. A FIRE APPARATUS ACCESS ROAD SHALL BE REQUIRED WHEN ANY PORTION OF AN EXTERIOR WALL OF THE FIRST STORY IS LOCATED MORE THAN 150 FT FROM A FIRE DEPARTMENT VEHICLE ACCESS. THE DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IS SPRINKLERED. [IFC 503.1.1]
25. APPROVED SECONDARY FIRE APPARATUS ACCESS SHALL BE PROVIDED FOR 100 OR MORE DWELLING UNITS, ROAD(S) WITH DEAD-ENDS 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 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 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 FEET 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 INSTALLED 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 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 503.6 AND IFC APPENDIX M.

2.5 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.

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, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY ENGINEER. TEMPORARY CONSTRUCTION INCLUDES DITCHES, BERMS, ROAD SIGNS AND BARRICADES, ETC.

UTILITY LOCATION NOTE TO CONTRACTOR

EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATIONS. CALL BEFORE YOU DIG: 1 (800) 227-2600; SOUTHWEST GAS CORPORATION: 702-400-1789 (STANDBY CONTACT NUMBER)

2.1 CITY OF LAS VEGAS GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST REVISED EDITION; THE "SUMMERLIN IMPROVEMENT STANDARDS" FOR WORK IN THE SUMMERLIN AREA; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; THE UNIFORM BUILDING CODE; AND ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE, EXCEPT AS NOTED ON THIS SHEET AS "DEVIATIONS FROM STANDARDS".
2. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. EXISTING UTILITIES AS SHOWN FROM CLV PLANS LIBRARY ARE APPROXIMATE AND FOR RECORD PURPOSES. EXISTING UTILITIES ARE LOCATED ON PLANS ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. EXISTING UTILITY SERVICE LATERALS MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE ALL UNDERGROUND AND OVERHEAD INTERFERENCE'S WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT, AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITY LINES, STRUCTURES AND STREET IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE, AND ALL SUCH IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED SATISFACTORY TO THE CITY ENGINEER AND OWNING UTILITY COMPANY AT THE EXPENSE OF THE CONTRACTOR.
4. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS, ANY REVISIONS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.
5. TYPE V CEMENT SHALL BE USED IN ALL OFF-SITE CONCRETE WORK. CONCRETE TO BE 3000 P.S.I. MINIMUM @ 28 DAYS. MIX DESIGNS TO BE APPROVED BY THE CITY, PRIOR TO THE USE ON THE PROJECT.
6. PERMITS ARE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR THIS CONSTRUCTION.
7. EXPANSION JOINTS REQUIRED, MAXIMUM EVERY 300' IN EXTRUDED-TYPE CURB.
8. AC PAVEMENT TO BE ONE-HALF INCH (½") ABOVE LIP OF ALL GUTTERS AFTER COMPACTION, EXCEPT AT SIDEWALK RAMPS AND CROSS GUTTERS.
9. CURB AND GUTTER FOUND TO BE UNACCEPTABLE TO THE CITY OF LAS VEGAS SHALL BE REMOVED AND REPLACED PER STANDARD DRAWING 216.
10. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF AN INTERSECTION PER STANDARD DRAWING 235. EXACT LOCATION OF RAMPS MAY BE ADJUSTED IN THE FIELD BY A CITY INSPECTOR.
11. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION. THE EXTENT OF THE TRANSITIONS TO BE AS SHOWN ON PLANS.
12. ALL GRADING WORK SHALL CONFORM TO THE SOILS REPORT AS PREPARED BY ANGLE ENGINEERING, REPORT #26214-1, 06/06/2018 APPROVED BY THE CITY ENGINEER, AND AS SHOWN ON THESE PLANS.
13. EXACT LOCATION OF ALL SAWCUT LINES MAY BE ADJUSTED OR DETERMINED IN THE FIELD BY A CITY OF LAS VEGAS ENGINEER IF LOCATION ON PLANS IS NOT CLEARLY SHOWN, OR EXISTING PAVEMENT CONDITION REQUIRES RELOCATIONS.
14. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING PERMANENT SURVEY MONUMENTS. ANY MONUMENTS DISTURBED SHALL BE REPLACED AND ADJUSTED PER AVAILABLE RECORDS IN ACCORDANCE WITH N.R.S. STATUTE NO. 625.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.
15. UTILITY COMPANY METER BOXES, MANHOLE LIDS, VALVE COVERS, ETC., SHALL BE LOCATED OUT OF DRIVEWAYS, DRIVEWAY APRONS, FLOWLINES, AND CROSS GUTTERS UNLESS WRITTEN APPROVAL IS GRANTED BY THE UTILITY COMPANY AND THE CITY ENGINEER.

WALL NOTES:

16. ALL WALLS, NEW OR EXISTING, ARE ONLY SHOWN ON CIVIL PLANS FOR THE PURPOSE OF REVIEWING GRADING RELATIONSHIPS; FLOOD CONTROL AND SIGHT DISTANCE AT INTERSECTIONS. NEW WALLS REQUIRE A SEPARATE PERMIT AND INSPECTION BY THE BUILDING DEPARTMENT.
17. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO THE PLACEMENT OF ASPHALT WITHIN CITY RIGHT OF WAY.
18. CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING INLETS, VALVE BOXES, MANHOLE RIMS, AND SEWER CLEAN OUTS, ETC. TO FINISH GRADE AS APPLICABLE WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.
19. MATERIALS, HANDLING AND PLACEMENT OF PORTLAND CEMENT CONCRETE SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NDOT OR THE CLARK COUNTY AREA SPECIFICATIONS (AS APPLICABLE) AND THE PLANS AND DETAILS SHOWN HEREON.
20. WHEN INSTALLING UNDERGROUND FACILITIES THAT REQUIRE UNDERGROUND LOCATING DEVICES SUCH AS MARKER BALLS, LOCATING RIBBON, ETC, THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO OFFSITE INSPECTION AND TESTING CERTIFYING THAT ALL DEVICES HAVE BEEN PLACED AND VERIFIED TO BE IN GOOD WORKING CONDITION PRIOR TO THE CONSTRUCTION OF ANY ROAD BASE.
21. SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S) SHALL BE PROVIDED TO THE CITY AND APPROVED PRIOR TO ACCEPTANCE OF FACILITY VIDEO INSPECTION. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF THE PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES AND TRANSITION STRUCTURES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND THE CONNECTION TO A DROP INLET, THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXIT THE PUBLIC RIGHT-OF-WAY, SEWER AND STORM DRAIN MAIN ALIGNMENT, INCLUDING DEFLECTION POINTS. THE LOCATION SHALL BE DESCRIBED BY COORDINATES WHICH SHALL BE BASED ON THE OFFICIAL HORIZONTAL AND VERTICAL CONTROL NETWORKS OF THE CITY OF LAS VEGAS. FINAL LOCATION MAP(S) MUST BE SEALED AND CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTAINTIES OF ± 0.09 METERS (± 0.3 FEET) HORIZONTALLY AND VERTICALLY. A SEPARATION ELECTRONIC COMMA DELIMITED FILE FOR THE SANITARY SEWER AND STORM DRAIN COORDINATES SHALL ALSO ACCOMPANY THE SANITARY SEWER AND STORM DRAIN FINAL LOCATION MAP(S).
22. CCTV VIDEO INSPECTION IS REQUIRED FOR ALL SEWER AND STORM DRAINS. THE CCTV VIDEO INSPECTIONS NEED TO BE PERFORMED PER THE DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS LATEST ADDITION.
23. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

2.3 CITY OF LAS VEGAS TRAFFIC NOTES

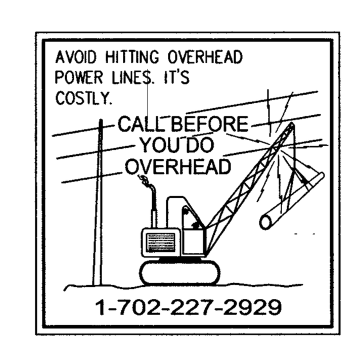
1. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
2. THE STREET SIGN CONTRACTOR SHALL OBTAIN STREET NAMES AND BLOCK NUMBERING FROM THE PLANNING DEPARTMENT PRIOR TO CONSTRUCTION.
3. BEFORE ANY WORK IS STARTED IN THE RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE 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 TRAFFIC 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 ANTI-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 STOPS 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 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 OTHERWISE DIRECTED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
15. THE 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.

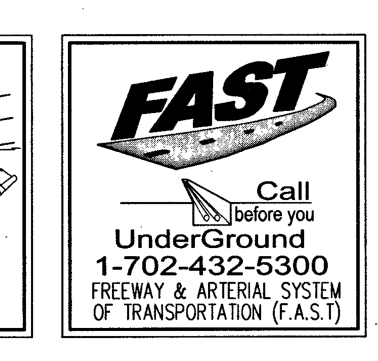
2.4 CITY OF LAS VEGAS STREETLIGHT NOTES

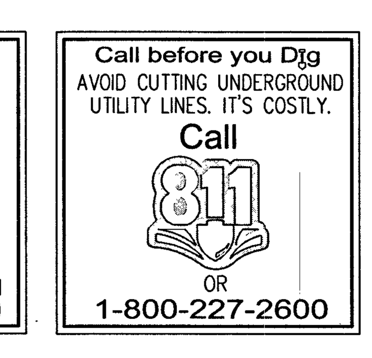
1. ALL STREET LIGHTING INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STREET LIGHTING PLANS, THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA", LATEST REVISION (USS), AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA" (USD), LATEST REVISION.
2. DESIGN PROFESSIONAL AND CONTRACTOR SHALL VERIFY CITY'S LATEST LED FIXTURE SPECIFICATIONS AND APPROVED FIXTURES PER CLV WEBSITE, UNDER BUILDING AND SAFETY FORMS, PRIOR TO ORDERING MATERIALS.
3. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS ETC., LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF TRAFFIC AND CITY ENGINEER. ANY DEVIATION FROM THE PLAN LOCATION WILL REQUIRE COMPLIANCE WITH SECTION 623 OF THE USS.
4. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 623 G.03.01 OF THE USS.
5. ALL EMPTY CONDUIT SHALL HAVE AT LEAST ONE GREEN NO. #8 AWG WIRE INSTALLED AS TRACER WIRE IN ACCORDANCE WITH SECTION 623 G.02.01 OF THE USS PRIOR TO BACKFILLING AND FINAL INSPECTION.
6. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A. WHEN POLE IS INSTALLED BEHIND SIDEWALK, AND SHALL AT NO TIME COMPLETELY ENCLOSE THE STREET LIGHTING POLE.
7. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TRAFFIC ENGINEERING DIVISION PRIOR TO ANY PRE-FINAL INSPECTION. THE ASBUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.
8. SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE PLANS.
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 BEFORE STREETLIGHT BASES ARE INSTALLED. AT NO EXPENSE TO THE CITY OF LAS VEGAS.
10. THE CONTRACTOR SHALL FURNISH COMPLETE CONDUIT, WIRE, ETC. FROM SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON THE PLANS.

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM







107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

RICHMOND AMERICAN HOMES

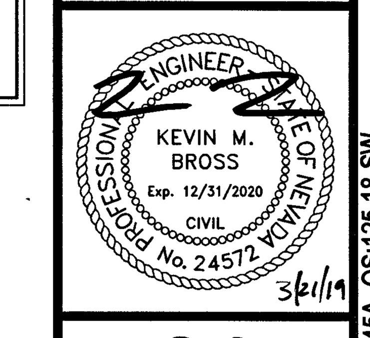
LAS VEGAS, NEVADA

FARM HUALAPAI
STANDARD NOTES

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517



C-2
SHEET 2 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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ABBREVIATIONS

AC	ASPHALTIC CONCRETE OR ACRE	FL	FLOWLINE	PVI	POINT OF VERTICAL INTERSECTION
AGG	AGGREGATE BASE	FT	FEET OR FOOT	QTY	QUANTITY
APN	ASSESSORS PARCEL NUMBER	FUT	FUTURE	R	RADIUS
APPROX OR ~	APPROXIMATE	GRD	GRADE OR GROUND	RCA	REINFORCED CONCRETE ARCH
AVE	AVENUE	GB	GRADE BREAK OR GRADE CHANGE	RCB	REINFORCED CONCRETE BOX
@	AT	GV	GATE VALVE	RCP	REINFORCED CONCRETE PIPE
BC	BEGIN CURVE OR BACK OF CURB	HDPE	HIGH DENSITY POLYETHYLENE	RD	RID
BCR	BEGINNING OF CURB RETURN	HOA	HOME OWNERS ASSOCIATION	RDWY ESMT	ROADWAY EASEMENT
BHW	BOTTOM OF HEADWALL	HORZ	HORIZONTAL	REQD	REQUIRED
BLDG	BUILDING	HP	HIGH POINT	REV	REVISION
BLVD	BOULEVARD	HWL	HIGH WATER LEVEL	RG	ROUGH GRADE
BM	BENCHMARK	HDWL OR HW	HEADWALL	RT OR R	
BVC	BEGIN VERTICAL CURVE	HYD	HYDRAULIC OR HYDRANT	R/W, ROW	RIGHT OF WAY
BWV	BACK WATER VALVE	ID	INSIDE DIAMETER	S	
CC	CLARK COUNTY	IN		SCH	SCHEDULE
CCAUSD	CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS	INT	INTERSECTION	SD	STORM DRAIN
CCPW	CLARK COUNTY PUBLIC WORKS	INV	INVERT ELEVATION	SDDI	STORM DRAIN DROP INLET
CCRFCD	CLARK COUNTY REGIONAL FLOOD DISTRICT	IP	IRON PIPE	SDMH	STORM DRAIN MANHOLE
CCWRD	CLARK COUNTY WATER RECLAMATION DISTRICT	IRRG	IRRIGATION	SEC	SECTION
CE	COMMON ELEMENT	LF	LINEAR FEET	SF	SQUARE FEET
CL,C/L,C	CENTERLINE	LMC	LANDSCAPE MAINTENANCE CORPORATION	SHT	SHEET
CLR	CLEAR OR CLEARANCE	LP	LOW POINT	SLTC	STREET LIGHT & TRAFFIC CONTROL ESMT
CLSM	CONTROLLED LOW STRENGTH MATERIAL	LT OR L	LEFT	SNWA	SOUTHERN NEVADA WATER AUTHORITY
CLV	CITY OF LAS VEGAS	LVVWD	LAS VEGAS VALLEY WATER DISTRICT	SPECS	SPECIFICATIONS
CML&C	CEMENT MORTAR LINED AND COATED	LWL	LOW WATER LEVEL	ST	STREET
CMU	CONCRETE MASONRY UNIT	MAX	MAXIMUM	SSMH	SANITARY SEWER MANHOLE
CNLV	CITY OF NORTH LAS VEGAS	MECH	MECHANICAL	STA	STATION
COH	CITY OF HENDERSON	MH	MANHOLE	STD	STANDARD
CONC	CONCRETE	MIN	MINIMUM	STL	STEEL
CT	COURT	MISC	MISCELLANEOUS	STLT	STREET LIGHT
CY OR CU YD	CUBIC YARD	MUE	MUNICIPAL UTILITY EASEMENT	SW	SIDEWALK
DCWCS	DESIGN AND CONSTRUCTION FOR WASTEWATER COLLECTION SYSTEMS	NDOT	NEVADA DEPARTMENT OF TRANSPORTATION	SWG	SOUTHWEST GAS
		NTS	NOT TO SCALE	SWR OR SS	SANITARY SEWER
DET	DETAIL	NUE	NONEXCLUSIVE UTILITY EASEMENT	SY	SQUARE YARD
DI	DUCTILE IRON OR DRAIN INLET	NVE	NV ENERGY	TAN	TANGENT
DIA, ø	DIAMETER	OC	ON CENTER	TC	TOP OF CURB
DIP	DUCTILE IRON PIPE	OD	OUTSIDE DIAMETER OR OVERALL DIMENSION	TF	TOP OF FLOOR OR TOP OF FOOTING
DR	DRIVE	OFF	OFFSET	TG	TOP OF GRATE
DWG(S)	DRAWING	ORIG	ORIGINAL	THRU	THROUGH
DWY	DRIVEWAY	PAE	PUBLIC OR PEDESTRIAN ACCESS EASEMENT	THW	TOP OF HEADWALL
EA	EACH	PB	PULL BOX	TP	TOP OF PIPE
ECR	END CURB RETURN	PC	POINT OF CURVE	TW	TOP OF WALL
EG	EXISTING GROUND	PCC	POINT OF COMPOUND CURVE	TRW	TOP OF RETAINING WALL
ELEV	ELEVATION	PDE	PUBLIC DRAINAGE EASEMENT	TSW	TOP OF SCREEN WALL
ESMT	EASEMENT	℄ OR PL	PROPERTY LINE	TYP	TYPICAL
EP	EDGE OF PAVEMENT	POB	POINT OF BEGINNING	UDACS	UNIFORM DESIGN AND CONSTRUCTION STANDARDS
ERU	EQUIVALENT RESIDENTIAL UNIT	POC	POINT OF CURVATURE		
EVC	END VERTICAL CURVE	POE	POINT OF ENDING	VC	VERTICAL CURVE
EX OR EXIST	EXISTING	PRC	POINT OF REVERSE CURVATURE	VERT	VERTICAL
FC	FACE OF CURB	PRELIM	PRELIMINARY	VG	VALLEY GUTTER
FF	FINISHED FLOOR	PROP	PROPOSED	W	WROUGHT IRON
FG	FINISHED GRADE	PRV	PRESSURE REDUCING VALVE	WL	WATER LINE
FGH	FINISHED GRADE, HIGH SIDE	PUE	PUBLIC UTILITY EASEMENT	WPZ	WATER PRESSURE ZONE
FGL	FINISHED GRADE, LOW SIDE	PT	POINT OF TANGENT OR POINT	WT	WEIGHT
FH	FIRE HYDRANT	PVC	POLYVINYL CHLORIDE	WTR	WATER LINE

SPECIAL NOTE

IN THE EVENT THAT ANY TEMPORARY CONSTRUCTION ITEM IS REQUIRED WHICH IS NOT SHOWN ON THESE DRAWINGS, THE OWNER AGREES TO PROVIDE AND INSTALL SUCH ITEM AT HIS OWN EXPENSE AND AT THE DIRECTION OF THE CITY OF LAS VEGAS DEPT. OF PUBLIC WORKS. TEMPORARY CONSTRUCTION ITEMS INCLUDE: PAVEMENT TRANSITIONS, PROTECTIVE DITCHES AND BERMS, ROAD SIGNS AND BARRICADES, ETC.

NOTICE TO CONTRACTOR

-QUANTITIES SHOWN ARE ESTIMATES ONLY AND ARE INTENDED TO ILLUSTRATE SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT QUANTITIES INVOLVED.

-EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATIONS. CALL BEFORE YOU DIG: (800) 227-2600

LEGEND

EXISTING	PROPOSED	DESCRIPTION
(1900)	1900	5' CONTOUR
		1' CONTOUR
		STRIPING
		SEWER MANHOLE
		CURB AND GUTTER
EX 8" PVC SS	8" PVC SS	SANITARY SEWER PIPE AND FLOW ARROW
EX 8" PVC WTR	8" PVC WTR	WATER PIPE
		WATER GATE VALVE
		FIRE HYDRANT
		WATER BLOW-OFF
		WATER LATERAL W/ METER
		SANITARY SEWER LATERAL
		STREETLIGHT
		EDGE OF PAVEMENT
		TRAFFIC SIGN
PAD= XXX.X FF = XXX.X	PAD= XXX.X FF = XXX.X	PAD ELEVATION FINISHED FLOOR ELEVATION
(00.00) 00.00	(00.00) 00.00	ELEVATION
		RETAINING WALL
		STORM DRAIN W/ MANHOLE

	EXISTING GAS GATE VALVE
@MH	EXISTING UNKNOWN MANHOLE
GAS	EXISTING GAS, SIZE PER PLAN
	EXISTING POWER POLE
(XX.X)	EXISTING TRAFFIC SIGNAL
	EXISTING WALL
	WATER PIPE FITTING
POC	WATER POINT OF CONNECTION
POC	SEWER POINT OF CONNECTION
	DAYLIGHT LINE
	STREET CENTERLINE
	RIGHT-OF-WAY
	MATCHLINE
	BOUNDARY LINE
	PHASE LINE
℄	PROPERTY LINE
	FLOWLINE
	SAWCUT
FILL / CUT	CUT/FILL TRANSITION LINE
	SIDEWALK
	EX STRIPING TO BE OBLITERATED
	GRADE BREAK LINE
	REFLECTIVE RAISED PAVEMENT MARKERS
BWV	BACK WATER VALVE
	WROUGHT IRON FENCE
	PONY WALL
	DECORATIVE PERIMETER WALL
	DECORATIVE PERIMETER RETAINING WALL
	PROPOSED CURB AND GUTTER WITH RIGHT-OF-WAY AT BACK OF CURB
	EXISTING CURB AND GUTTER WITH RIGHT-OF-WAY AT BACK OF CURB
	FUTURE CURB AND GUTTER WITH RIGHT-OF-WAY AT BACK OF CURB
	PROPOSED SCARP AREA
	DRIVEWAY
	PROPOSED RIP RAP
	SIGHT VISIBILITY ZONE PER STD DWG NO. 201.2
	HANDICAP RAMP
	EQUESTRIAN TRAIL

QUANTITIES

			PRIVATE	PUBLIC
DRAINAGE				
1.	5.0' TYPE "CM2" DROP INLET	EA	–	2
2.	18" RCP CLASS III STORM DRAIN	LF	–	43
3.	2.0' CONCRETE U-CHANNEL	LF	–	430
4.	SIDEWALK UNDERDRAIN	EA	–	1
5.				
6.				
7.				
SEWER SYSTEM				
1.	4" PVC SEWER LATERAL (PRIVATE)	LF	1,619	–
2.	8" PVC SEWER PIPE (PUBLIC)	LF	–	2,820
3.	STANDARD 48" SEWER MANHOLE (PUBLIC)	EA	–	12
4.	8" PVC C900 PIPE (PUBLIC)	LF	–	317
5.	BACKWATER VALVE (PRIVATE)	EA	22	–
6.				
7.				
WATER SYSTEM				
1.	FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40	EA	–	6
2.	6" PVC WATER PIPE (CLASS 150)	LF	–	78
3.	8" PVC WATER PIPE (CLASS 150)	LF	–	3,318
4.	8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39	EA	–	6
5.	8" X 6" TEE PER UDACS PLATE NO. 31	EA	–	6
6.	8" X 8" TEE PER UDACS PLATE NO. 31	EA	–	5
7.	8" 90 DEGREE BEND PER UDACS PLATE NO. 31	EA	–	1
8.	CAP AND 2" BLOW-OFF ASSEMBLY W/CAP PER UDACS PLATE NO. 36	EA	–	3
9.	1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 1	EA	–	22
10.	1" COPPER SERVICE W/ 3/4" METER & 1" RPPA PER UDACS PLATE NO. 4 & 8	EA	–	2
11.	1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 3	EA	–	37
12.	8" X 10" TEE PER UDACS PLATE NO. 31	EA	–	1
13.	45° VERTICAL BEND PER UDACS PLATE NO. 31	EA	–	6
14.	8" DIP WATER PIPE (CLASS 150)	LF	–	264
15.	10" DIP WATER PIPE	LF	–	22
16.	10" X 8" TAPPING SLEEVE W/ 8" TAPPING VALVE PER UDACS 30, 34, 39, AND SECTION 2.24.01A	EA	–	1
17.				
18.				
19.				
STREET IMPROVEMENTS				
1.	4" A.C. PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE	SY	–	3,900
2.	3" A.C. PAVEMENT OVER 9" TYPE II AGGREGATE BASE	SY	–	74
3.	2" A.C. PAVEMENT OVER 4" TYPE II AGGREGATE BASE	SY	11,589	–
4.	STANDARD 24" TYPE "L" CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	–	1,307
3.	STANDARD 30" TYPE "ROLL" CURB & GUTTER W/6" TYPE I AGGREGATE BASE	LF	6,131	–
4.	STANDARD "A" TYPE CURB PER CCAUSD NO. 219	LF	232	–
5.	5' WIDE CONCRETE SIDEWALK W/4" TYPE II AGGREGATE BASE	SF	20,298	–
6.	ADA SIDEWALK RAMPS	EA	12	–
7.	CROSS GUTTER	SF	2,319	–
8.				
9.				
10.				
TRAFFIC SIGNALS				
1.	30" STOP SIGN WITH POST (R1-1)	EA	5	–
2.	9" STREET NAME SIGN (D-3, BROWN W/ WHITE LETTERS)(6 POLES x 2 PER POLE=12)	EA	10	–
3.	BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER	EA	5	–
4.	36" STOP SIGN WITH POST (R1-1)	EA	1	–
5.	12" STREET NAME SIGN (D-3, BROWN W/ WHITE LETTERS)(6 POLES x 2 PER POLE=12)	EA	2	–
6.	18" TYPE A "NO PARKING FIRE LANE" SIGN	EA	6	–
7.				
8.				
9.				
DRY UTILITIES				
1.	250W LED LUMINAIRE STREET LIGHT W/ DECORATIVE POLE	EA	–	6
2.	1-1/4" PVC STREET LIGHT CONDUIT WITH (2) #4 AND (1) #8 CONDUCTORS	LF	–	1,012
3.				
4.				
5.				

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

QUANTITIES AND LEGEND

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
STATE OF NEVADA
PROFESSIONAL ENGINEER
3/21/19

C-3
SHEET 3 OF 34

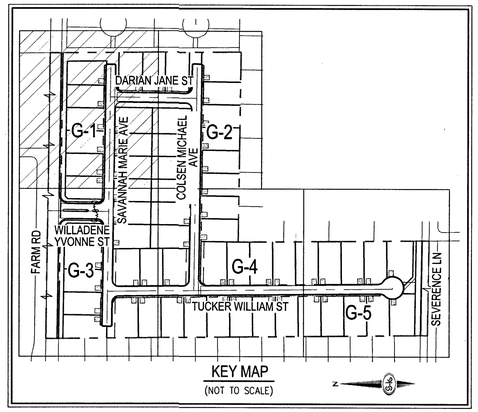
L18-02739

PRO.J#:136145A QS:125-18-SW

L:\ver1517 buffalo farm\dwg\logo\ver1517cr.dwg 3/27/2019 1:51 PM Loreto Abad

SEE SHEET G-2 FOR CONTINUATION

SCALE - 1"=30' (0, 30, 60 FEET)



KEY MAP (NOT TO SCALE)

PRIVATE STREET NOTE

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OWNER RESPONSIBLE TO PROVIDE SURVEY MONUMENTATION AS SHOWN AND TO REPLACE ALL SURVEY MONUMENTATION DAMAGED, DISTURBED, DESTROYED, OR OBSCURED DURING CONSTRUCTION.

ELEVATION NOTE

ADD 2800 TO ALL SPOT GRADES WHERE THE HUNDREDS AND THOUSANDS PLACES ARE OMITTED FOR ACTUAL ELEVATION (I.E. 01.00 REPRESENTS 2801.00)

SOILS REPORT

SOILS REPORT BY ANGLE ENGINEERING
PROJECT NO. 26214-1 DATED 06/06/2018

EARTHWORKS

EARTHWORK QUANTITIES (RAW):
CUT= 44,425 CU YDS
FILL= 36,989 CU YDS

EXPORTED MATERIAL TO BE DISPOSED OF AT AN APPROVED LICENSED DISPOSAL FACILITY OR AT A SITE WITH AN APPROVED AND ACTIVE GRADING PERMIT.

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

GRADING NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
6. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
8. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEEING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.
10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

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 ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY 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 CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE 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 THE 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 A 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 THE 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.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANELS 32003C1745E & 32003C1750E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE "CM2" DROP INLET PER CCAUSD NO. 412.1 AND 421
30. EXISTING 48" STORM DRAIN MANHOLE PER CLV #107Y4803
31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

QUANTITIES		PRIVATE	PUBLIC
DRAINAGE			
1. 5.0' TYPE "CM2" DROP INLET	EA	-	2
2. 18" RCP CLASS III STORM DRAIN	LF	-	43
3. 2.0' CONCRETE U-CHANNEL	LF	-	430

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS5035 ON FILE AT CITY OF LAS VEGAS AND CCPW PW18-18325 FOR THE SUBJECT PROJECT.

KEVIN M. BROSS, P.E. 024572 — DATE 8/2/19

FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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

Call before you Dig AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY. Call 811 OR 1-800-227-2600

107Y5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP DATE	APP
1	UPDATE GRADING FOR C.E. "B"	8/1/19	TM	8/19/19	WP

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI
GRADING PLAN I

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24572 — 8/2/19

G-1
SHEET 4 OF 42

L18-02739

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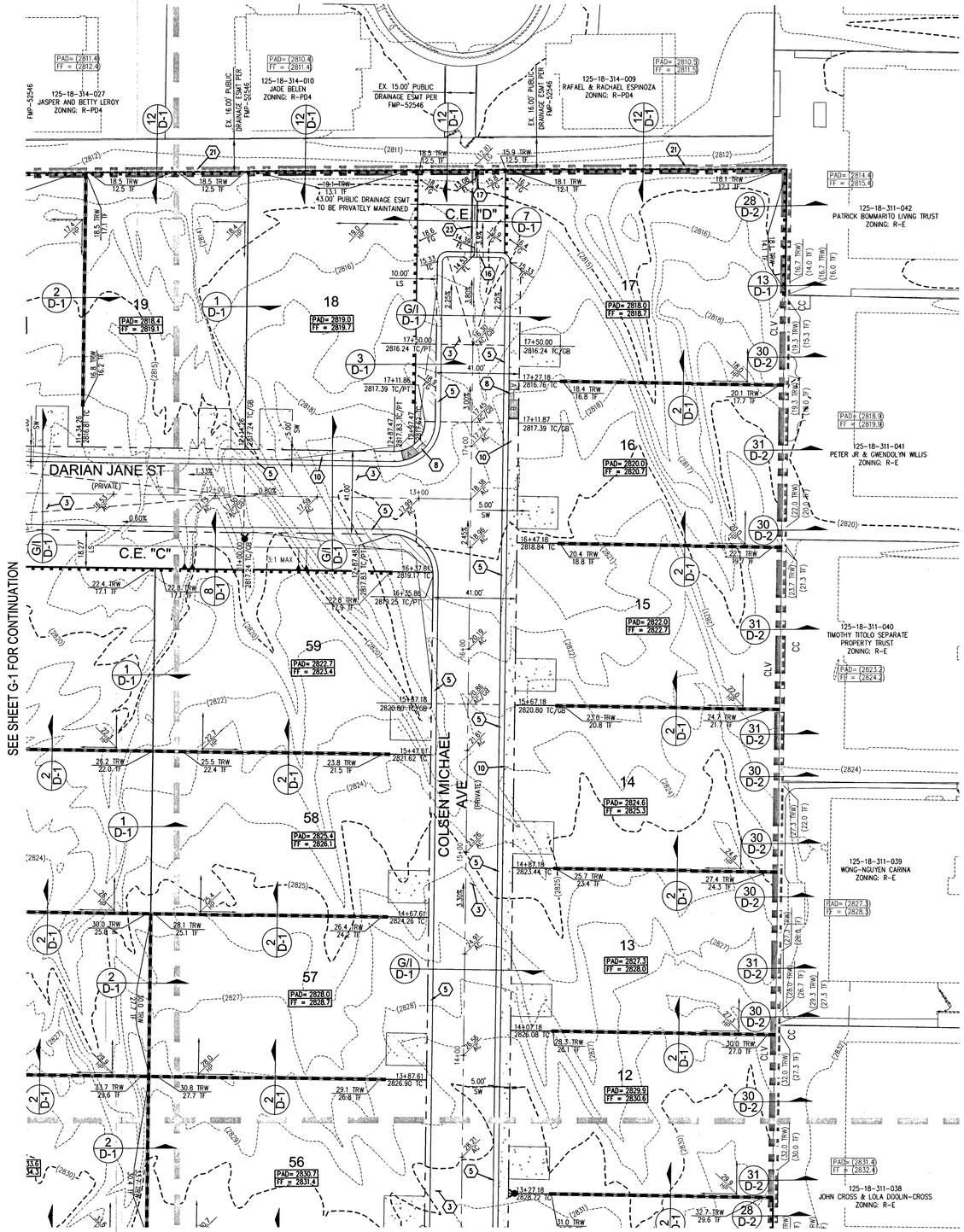

0 30 60
SCALE - 1"=30' FEET

N (G-6)

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SOILS REPORT

SOILS REPORT BY ANGLE ENGINEERING
PROJECT NO. 26214-1 DATED 06/06/2018

EARTHWORKS

EARTHWORK QUANTITIES (RAW):
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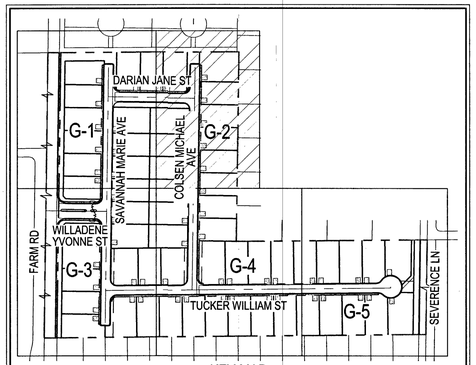

KEY MAP
(NOT TO SCALE)

N (G-6)

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23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
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33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

QUANTITIES		PRIVATE	PUBLIC
DRAINAGE			
1. 5.0' TYPE "CM2" DROP INLET	EA	-	2
2. 18" RCP CLASS III STORM DRAIN	LF	-	43
3. 2.0' CONCRETE U-CHANNEL	LF	-	430

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS5035 ON FILE AT CITY OF LAS VEGAS AND CCFW PW18-18325 FOR THE SUBJECT PROJECT.

KEVIN M. BROSS, P.E. 024572 — DATE 5/21/19

FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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Call before you Dig AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY. Call 811 OR 1-800-227-2600

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE

RICHMOND AMERICAN HOMES

LAS VEGAS, NEVADA

FARM HUALAPAI
GRADING PLAN II

S18 T20S R59E

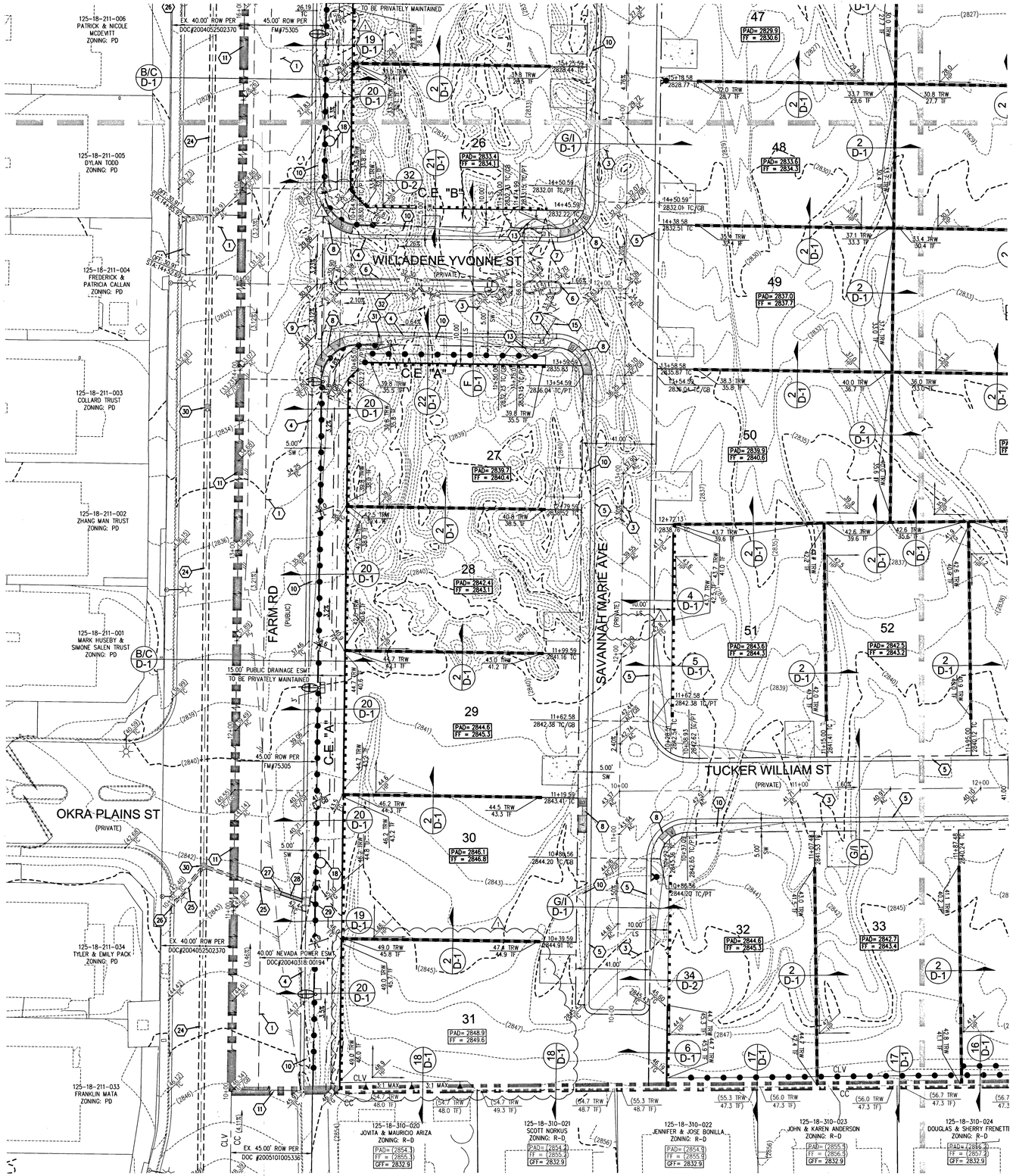
DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

PROFESSIONAL ENGINEER — KEVIN M. BROSS — Exp. 12/31/2020 — CIVIL — NO. 24572 — STATE OF NEVADA — 3/21/19

G-2
SHEET 5 OF 34

L18-02739

F:\rah1517 buffalo farm\dwg\improv\rah1517grd.dwg 3/21/2019 11:10 AM Loredo Abad



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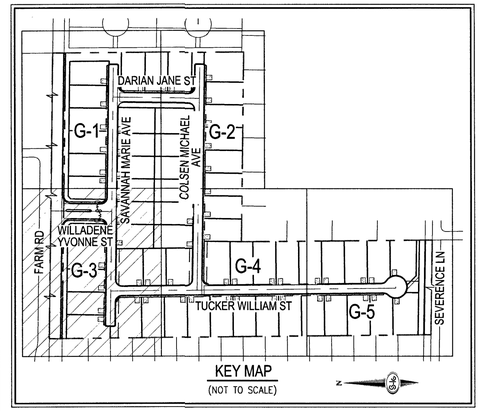

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ADD 2800 TO ALL SPOT GRADES WHERE THE HUNDREDS AND THOUSANDS PLACES ARE OMITTED FOR ACTUAL ELEVATION (I.E. 01.00 REPRESENTS 2801.00)

SOILS REPORT

SOILS REPORT BY ANGLE ENGINEERING
PROJECT NO. 26214-1 DATED 06/06/2018

EARTHWORKS

EARTHWORK QUANTITIES (RAW):
CUT= 44,425 CU YDS
FILL= 36,989 CU YDS

EXPORTED MATERIAL TO BE DISPOSED OF AT AN APPROVED LICENSED DISPOSAL FACILITY OR AT A SITE WITH AN APPROVED AND ACTIVE GRADING PERMIT.

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

DISCLAIMER NOTE

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2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

GRADING NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
6. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
8. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.
10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

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 ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY 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 CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE 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 THE 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 A 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 THE 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.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANELS 32003C1745E & 32003C1750E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
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26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
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33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

QUANTITIES		PRIVATE	PUBLIC
DRAINAGE			
1. 5.0' TYPE "CM2" DROP INLET	EA	–	2
2. 18" RCP CLASS III STORM DRAIN	LF	–	43
3. 2.0' CONCRETE U-CHANNEL	LF	–	430

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS5035 ON FILE AT CITY OF LAS VEGAS AND CCPW PW18-18325 FOR THE SUBJECT PROJECT.

KEVIN M. BROSS, P.E. 024572 — 8/2/19 DATE

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
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OR
1-800-227-2600

107Y3104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	UPDATE GRADING FOR C.E. "B" AND LOT 31	8/1/19	TM	8/1/19	MT

LAS VEGAS, NEVADA

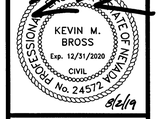
RICHMOND AMERICAN HOMES

FARM HUALAPAI

GRADING PLAN III

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517



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SHEET 6 OF 42

L18-02739

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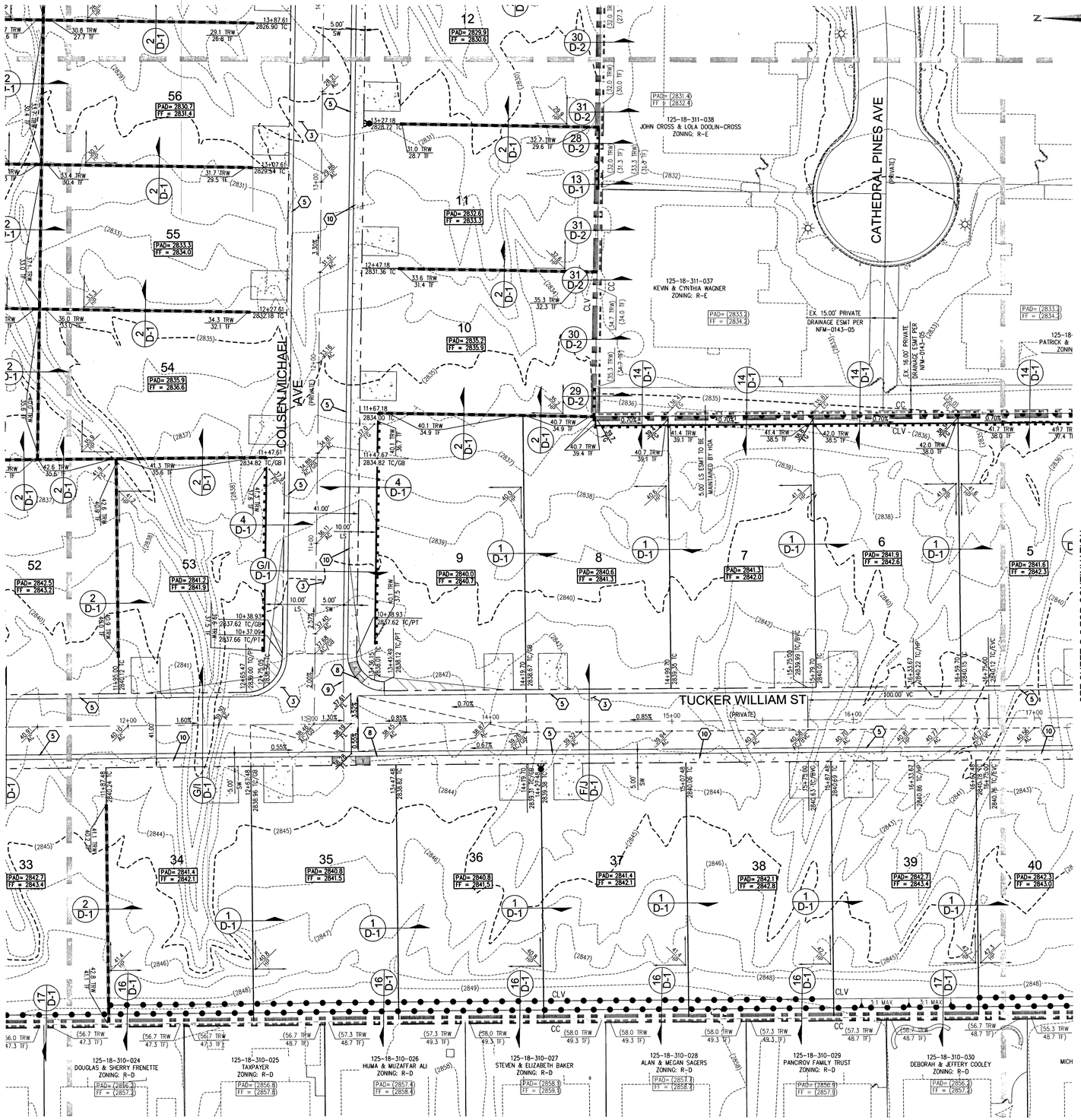
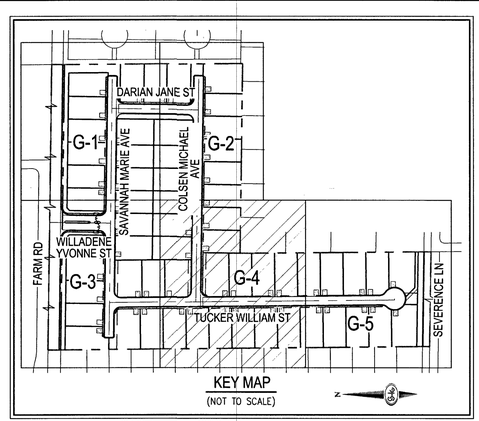
SEE SHEET G-2 FOR CONTINUATION

SEE SHEET G-3 FOR CONTINUATION

SEE SHEET G-5 FOR CONTINUATION

SCALE – 1"=30' (0 30 60 FEET)





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107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI
GRADING PLAN IV

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24571 — 3/21/19

G-4
SHEET 7 OF 34

L18-02739

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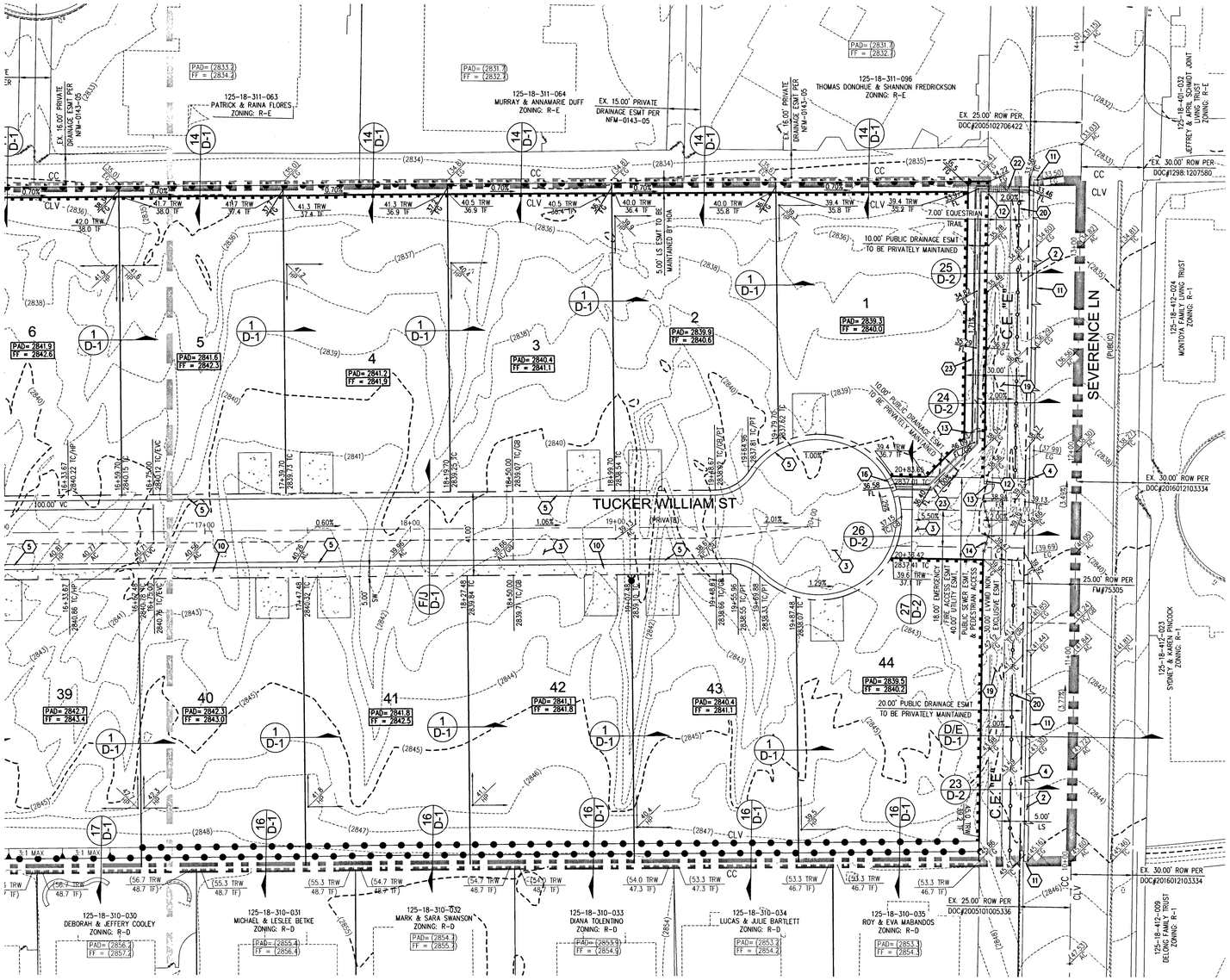

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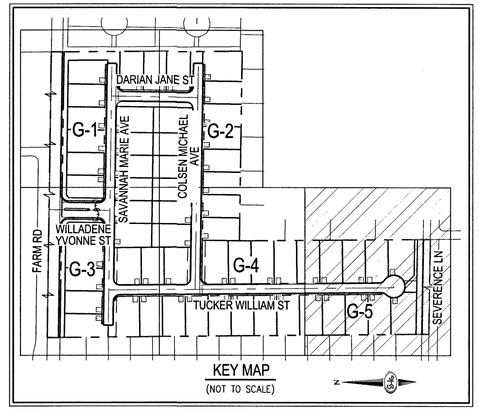
SCALE - 1"=30' FEET



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CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

GRADING NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
6. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
8. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.
10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDELINES

(REQUIRED FOR ALL SITES GREATER THAN 1 ACRE (43,560 SQ.FT.))

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 ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY 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 CLARK COUNTY TITLE 24.40 AND IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE 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 THE 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 A 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 THE 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.

FLOOD ZONE

THE PROJECT SITE IS LOCATED WITHIN A FEMA DESIGNATED ZONE 'X' (UNSHADED) AS DEPICTED ON FLOOD INSURANCE RATE MAP (FIRM) PANELS 32003C1745E & 32003C1750E, DATED SEPTEMBER 27, 2002. A ZONE X (UNSHADED) IS DESCRIBED AS AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE "CM2" DROP INLET PER CCAUSD NO. 412.1 AND 421
30. EXISTING 48" STORM DRAIN MANHOLE PER CLV #107Y4803
31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

QUANTITIES		PRIVATE	PUBLIC
DRAINAGE			
1. 5.0' TYPE "CM2" DROP INLET	EA	–	2
2. 18" RCP CLASS III STORM DRAIN	LF	–	43
3. 2.0' CONCRETE U-CHANNEL	LF	–	430

FLOOD CERTIFICATION

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED TECHNICAL DRAINAGE STUDY DS0035 ON FILE AT CITY OF LAS VEGAS AND CCFW PW18-18325 FOR THE SUBJECT PROJECT.

KEVIN M. BROSS, P.E. 024572 — 3/21/19 DATE

FAST — Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

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

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

GRADING PLAN V

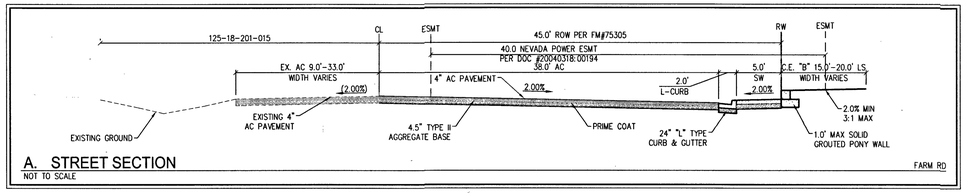
S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS No. 24572 CIVIL Exp. 12/31/2020 STATE OF NEVADA PROFESSIONAL ENGINEER 3/21/19

G-5
SHEET 8 OF 34
L18-02739

J:\rah1517 buffalo farm\dwg\improv\rah1517grd.dwg 3/21/2019 11:11 AM Lalela Abdi



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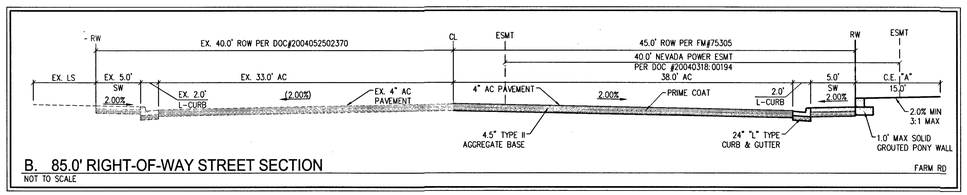

B. 85.0' RIGHT-OF-WAY STREET SECTION
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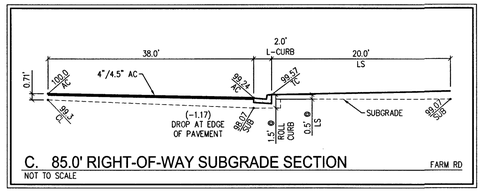

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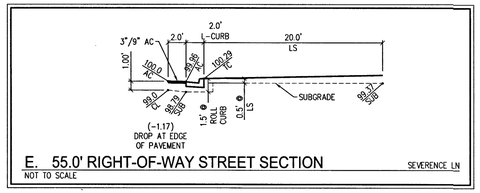

E. 55.0' RIGHT-OF-WAY STREET SECTION
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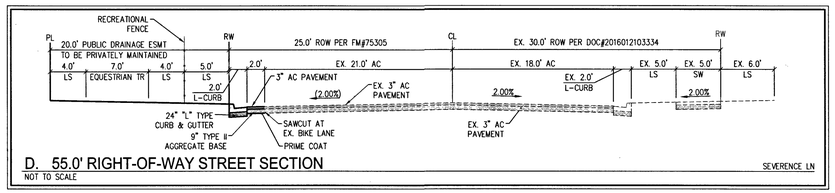

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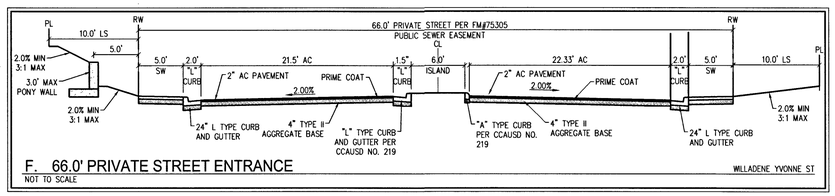

F. 66.0' PRIVATE STREET ENTRANCE
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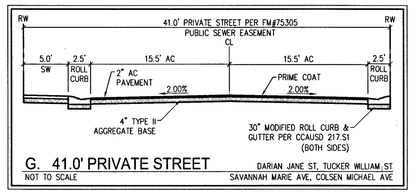

G. 41.0' PRIVATE STREET
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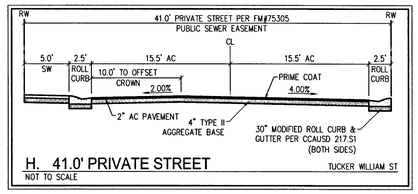

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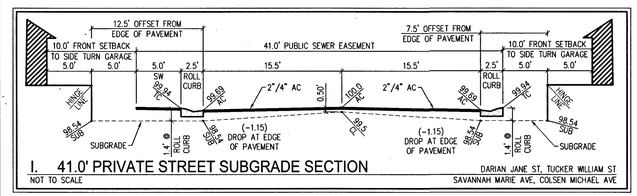

I. 41.0' PRIVATE STREET SUBGRADE SECTION
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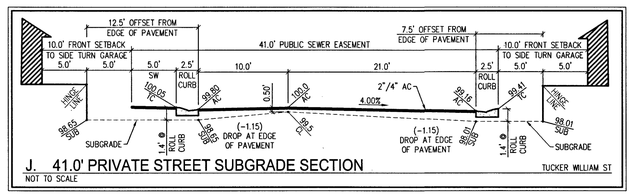

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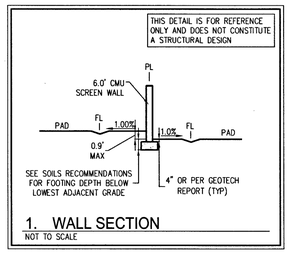

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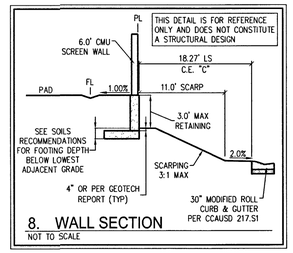

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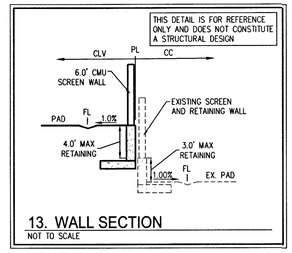

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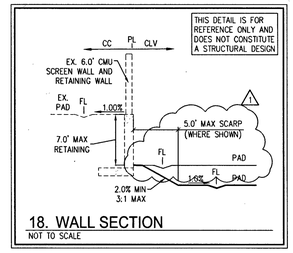

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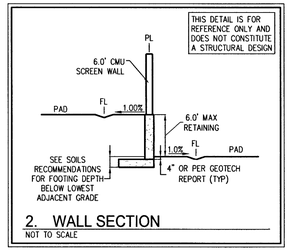

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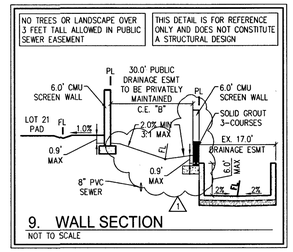

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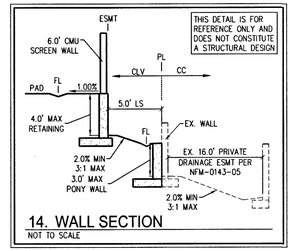

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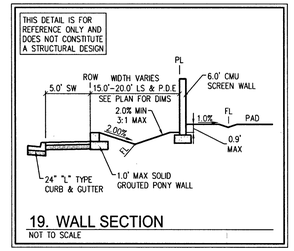

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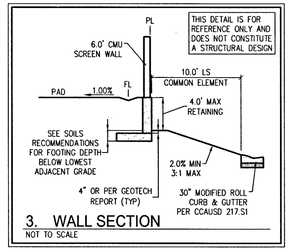

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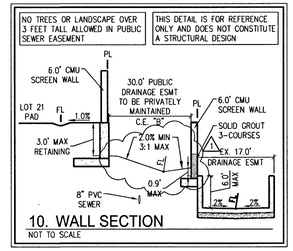

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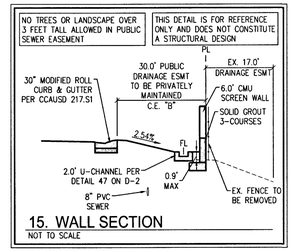

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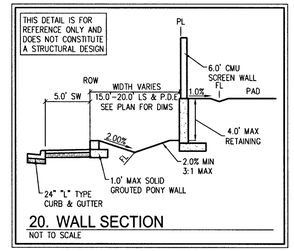

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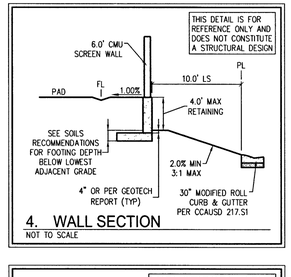

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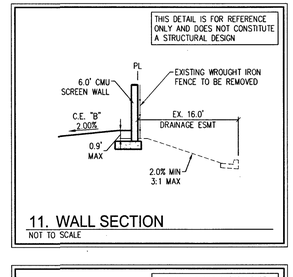

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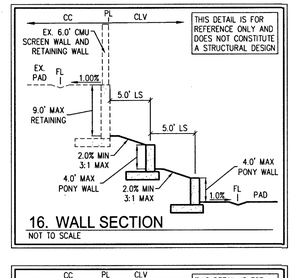

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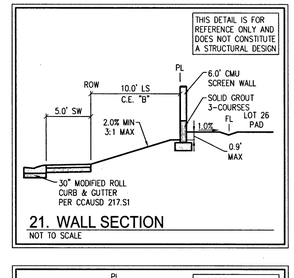

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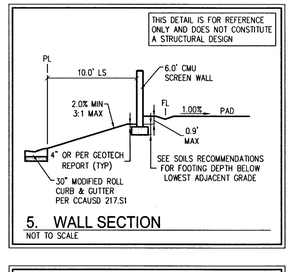

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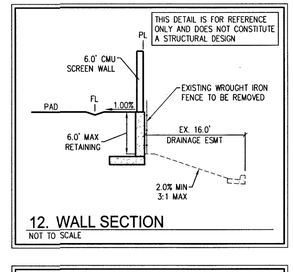

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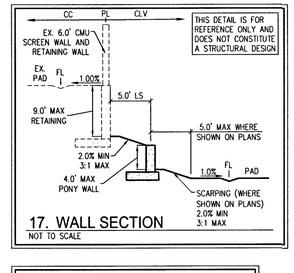

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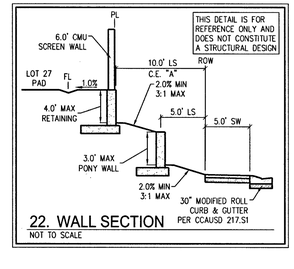

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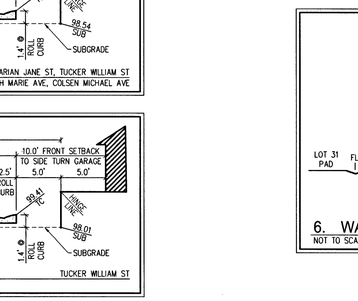

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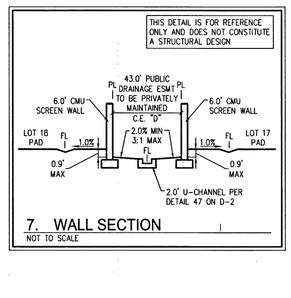

7. WALL SECTION
NOT TO SCALE

WALL FOOTING NOTES

1. PROVIDE MINIMUM 4" COVER FROM TOP OF FOOTING TO LOWEST ADJACENT FINISHED GRADE OR PER GEOTECH REPORT RECOMMENDATION

2. SEE GEOTECH REPORT RECOMMENDATIONS FOR THE FOOTING DEPTH FROM THE LOWEST ADJACENT GRADE TO BOTTOM OF FOOTING

PERIMETER WALL NOTE

PERIMETER WALLS TO BE DECORATIVE AND 20% CONTRASTING

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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CALL BEFORE YOU DIG OVERHEAD
1-702-227-2929

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

10745104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	UPDATE DETAILS FOR C.E. "B" AND LOT 31	8/7/19	TM	9/5/19	MT

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

DETAIL SHEET I

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

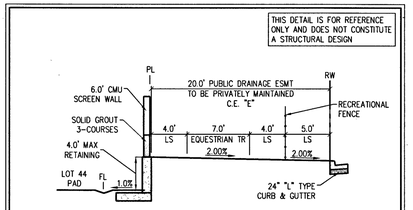
PROJECT NO.
RAH1517

PROFESSIONAL ENGINEER
KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
STATE OF NEVADA
8/2/19

D-1
SHEET 9 OF 42

L18-02739

J:\rah1517 buffalo farm\dwg\improv\rah1517dt1.dwg 8/1/2019 3:42 PM Rhonda Miller



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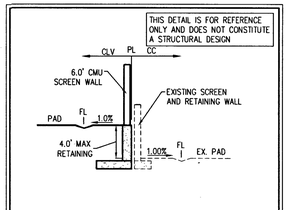

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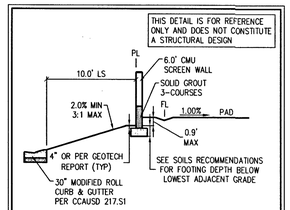

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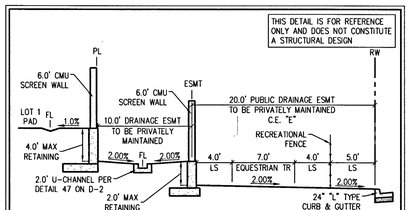

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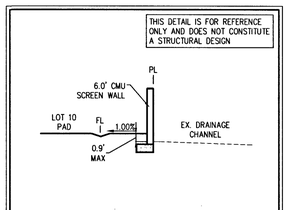

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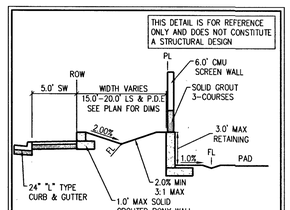

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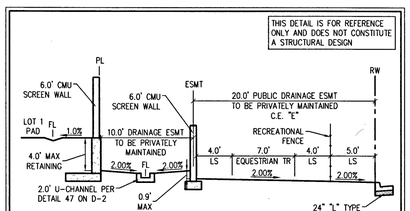

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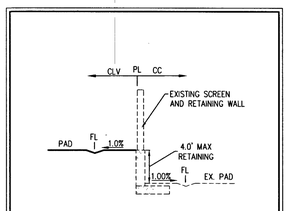

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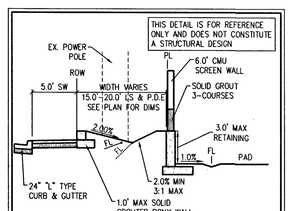

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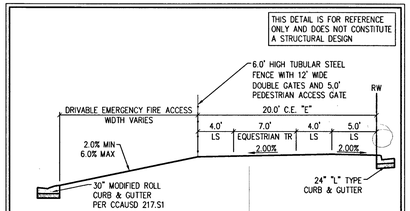

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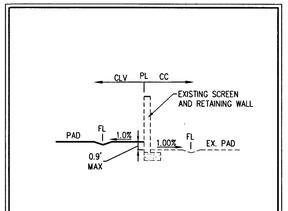

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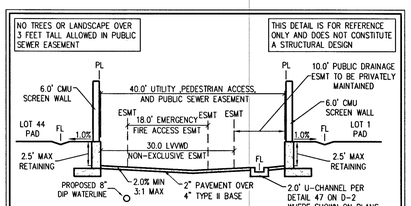

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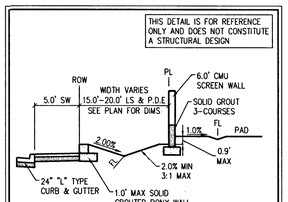

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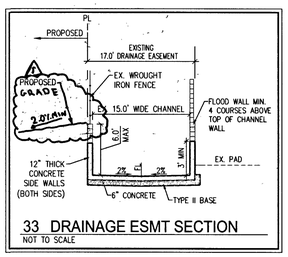
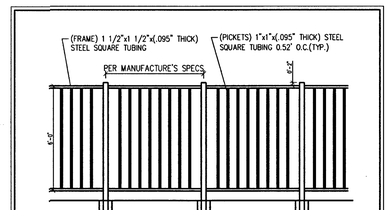


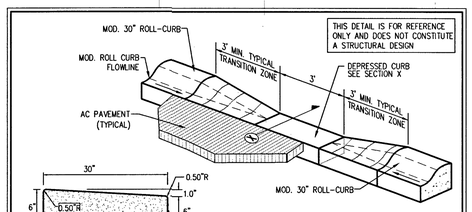
33 DRAINAGE ESMT SECTION

NOT TO SCALE



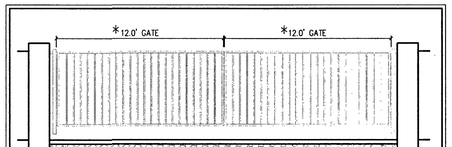
40. TUBULAR STEEL FENCE DETAIL

NOT TO SCALE



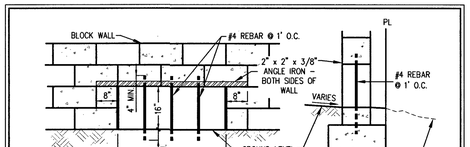
43. MOD. ROLL CURB TRANSITION TO DEPRESSED CURB

NOT TO SCALE



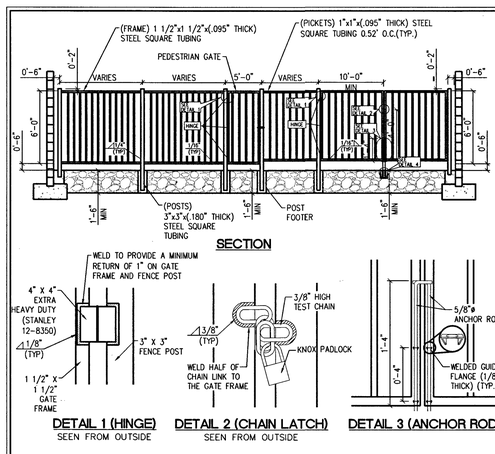
41. TUBULAR STEEL GATES

NOT TO SCALE



44. 48" X 16" BLOCK WALL OPENING

NOT TO SCALE



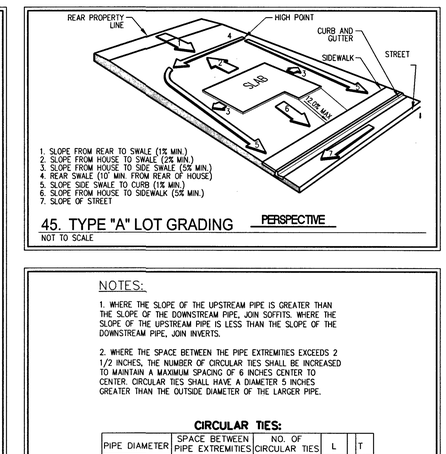
42. TUBULAR STEEL FENCE WITH 5.0' PEDESTRIAN ACCESS GATE DETAIL

NOT TO SCALE

NOTE: POSTS PLACED IN HARDENED CONCRETE REQUIRE AN 8"ø CORING THROUGH THE SLAB AND BASE FULLY GROUTED WITH HIGH STRENGTH GROUT.

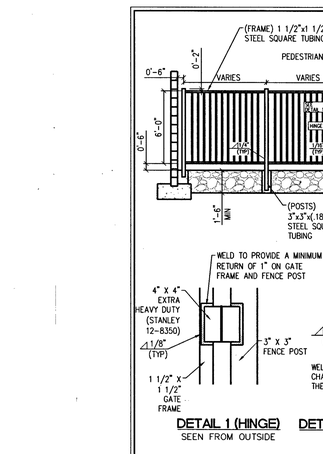
INTERIOR POSTS POURED MONOLITHIC WITH THE SLAB SHALL BE EMBEDDED A MINIMUM OF 18" INTO A 24"X24" FOOTER. END POSTS POURED MONOLITHIC WITH THE SLAB SHALL HAVE FULL EMBEDMENT IN THE SLAB.

NOTE: STEEL WILL BE PRIMERED AND PAINTED WHITE UNLESS OTHERWISE SPECIFIED.



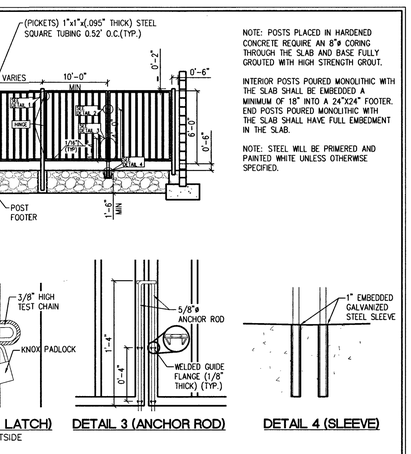
45. TYPE "A" LOT GRADING PERSPECTIVE

NOT TO SCALE



46. 10' TRANSITION FROM 24" "L" CURB & GUTTER TO MODIFIED 30" ROLL CURB & GUTTER

NOT TO SCALE



47. CONCRETE U-CHANNEL

NOT TO SCALE

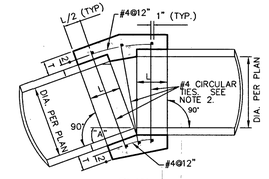
NOTES:

1. WHERE THE SLOPE OF THE UPSTREAM PIPE IS GREATER THAN THE SLOPE OF THE DOWNSTREAM PIPE, JOIN SOFFITS. WHERE THE SLOPE OF THE UPSTREAM PIPE IS LESS THAN THE SLOPE OF THE DOWNSTREAM PIPE, JOIN INVERTS.

2. WHERE THE SPACE BETWEEN THE PIPE EXTREMITIES EXCEEDS 2 1/2 INCHES, THE NUMBER OF CIRCULAR TIES SHALL BE INCREASED TO MAINTAIN A MAXIMUM SPACING OF 6 INCHES CENTER TO CENTER. CIRCULAR TIES SHALL HAVE A DIAMETER 5 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE LARGER PIPE.

CIRCULAR TIES:

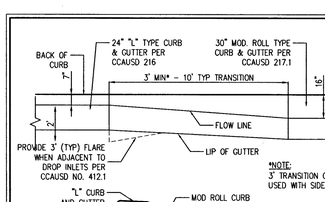
PIPE DIAMETER	SPACE BETWEEN PIPE EXTREMITIES	NO. OF CIRCULAR TIES	L	T
18"	2 1/2"	3	12"	5"
24"	2 1/2"	3	12"	6"
30"	2 1/2"	3	12"	7"
36"	2 1/2" or less	4	18"	9"
60"	2 1/2" or less	5	21"	11"

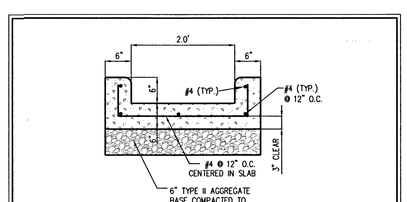


PLAN

48. CONCRETE COLLAR DETAIL

NOT TO SCALE





107Y5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP DATE	APP
1	UPDATE DETAILS PER C.E. "B"	8-1-19	TN	9/20/19	MF

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

DETAIL SHEET II

S18 T19S R60E

DATE: 3/18/19

DRAFTER: EMH

DESIGNER: EMH

CHECKED: KMB

PROJECT NO.
RAH1517

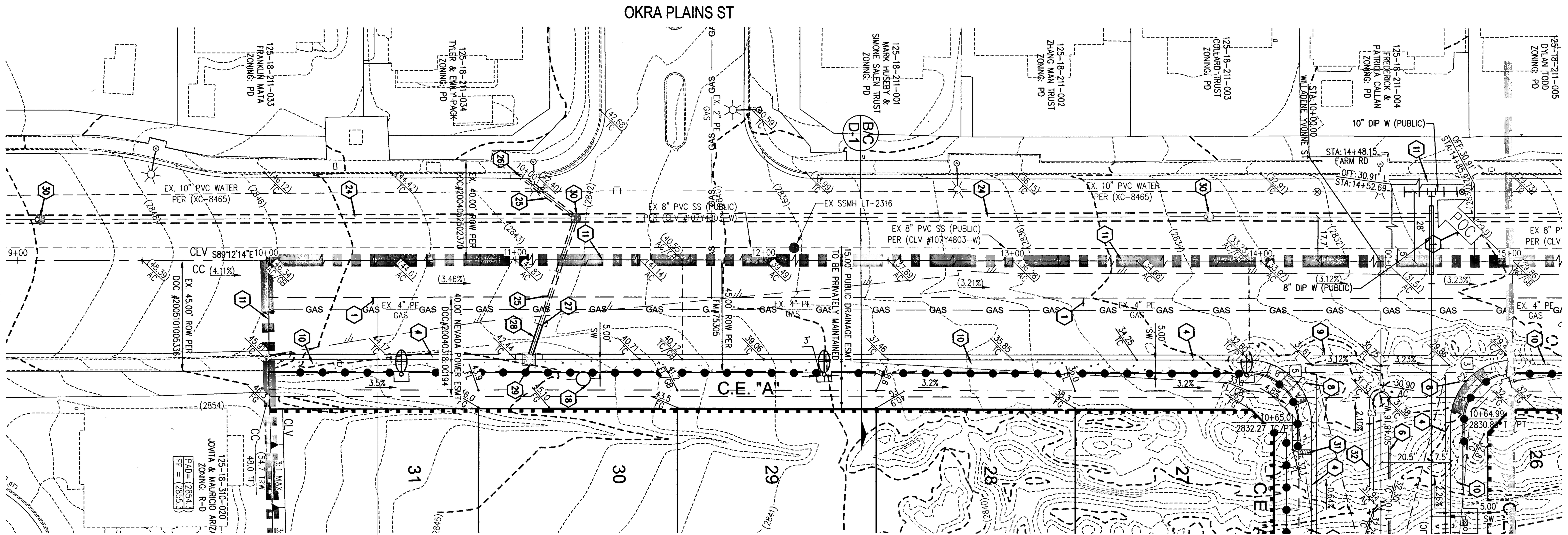
KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
PROFESSIONAL ENGINEER
STATE OF NEVADA
3/21/19

D-2
SHEET 10 OF 42

L18-02739

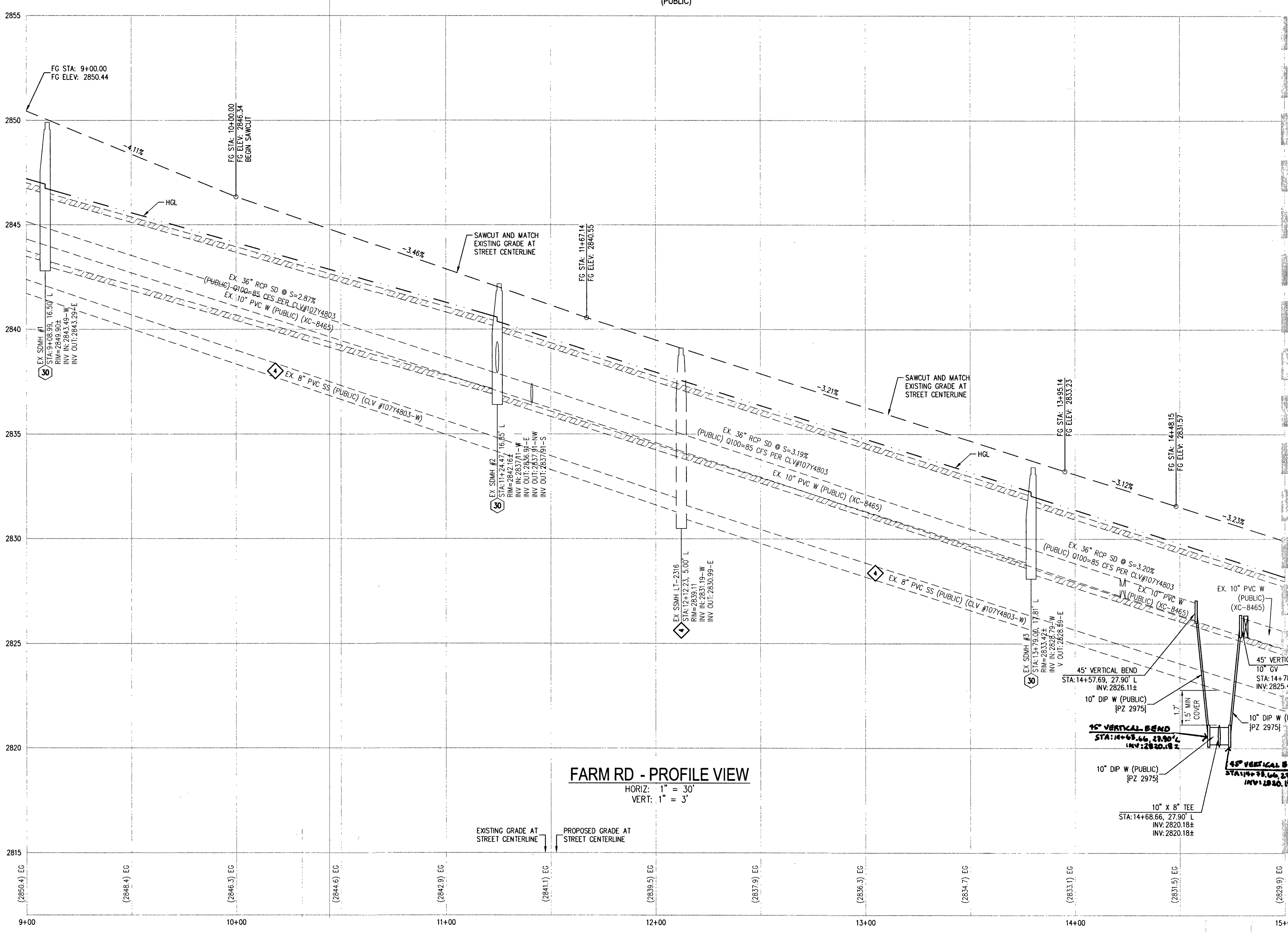
PROJ.#:136145A QS:125-18-SW

J:\Van1517 Buffalo farm\dwgs\micro\Van1517dtl.dwg 3/21/2019 11:51 AM Loreto Abad



FARM RD - PLAN VIEW
(PUBLIC)

FARM RD
SEE SHEET PP-2 FOR CONTINUATION



FARM RD - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 3'

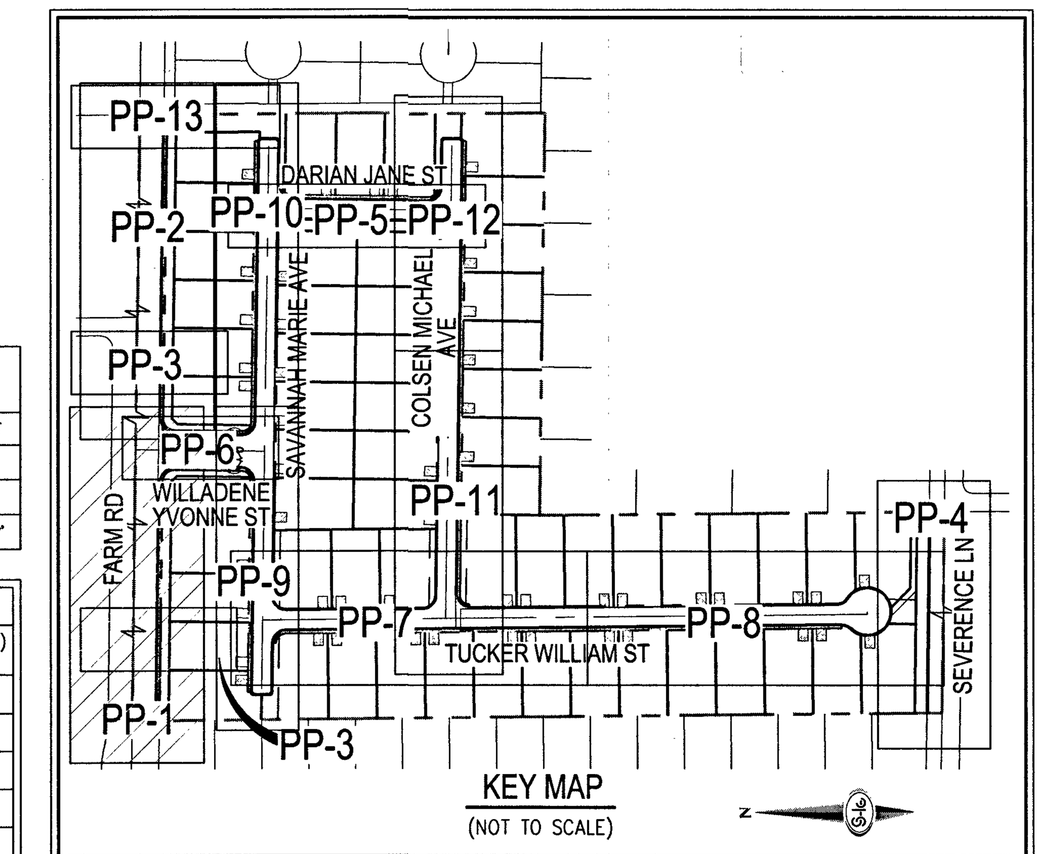
SCALE - 1"=30' (0 30 60 FEET)

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	39.27'	25.00'	90°00'30"	25.00'
C2	39.27'	25.00'	89°59'30"	25.00'
C3	9.42'	3.00'	180°00'00"	INFINITY

RAMP TRANSITION LENGTHS

RAMP NO.	GRADE % "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
2	-5 TO -4.01	4.5'	15.0'
3	-4 TO -3.01	4.5'	12.0'
4	-3 TO -2.01	4.5'	9.5'
5	-2 TO 2	8.0'	8.0'
6	2.01 TO 3	9.5'	4.5'
7	3.01 TO 4	12.0'	4.5'
8	4.01 TO 5	15.0'	4.5'
9	5.01 TO 6	21.5'	4.5'



KEY MAP
(NOT TO SCALE)

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

GRADING NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
6. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
8. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.
10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY (1) 1"
APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. DISCLAIMER: EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE 'CM2' DROP INLET PER CCAUSD NO. 412.1 AND 421
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31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

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3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 60" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ COROSSION PROTECTION PER DCSWCS 3.16.8.B
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APPROVED FOR CONSTRUCTION

[signature]
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3-21-19
SOUTHWEST GAS CORPORATION DATE

FAST
Call before you UnderGround
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FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
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Call 811
OR
1-800-227-2600

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

RICHMOND AMERICAN HOMES

LAS VEGAS, NEVADA

FARM HUALAPAI
PLAN AND PROFILE - FARM ROAD I

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

PROFESSIONAL ENGINEER STATE OF NEVADA
KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
3/21/19

PP-1
SHEET 11 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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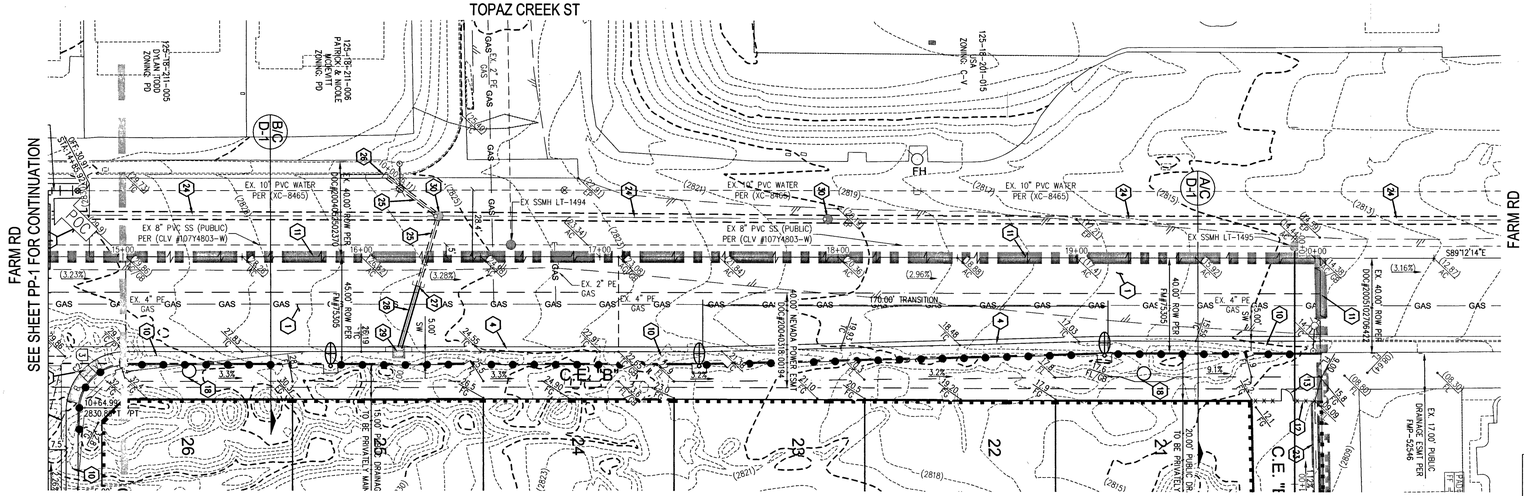

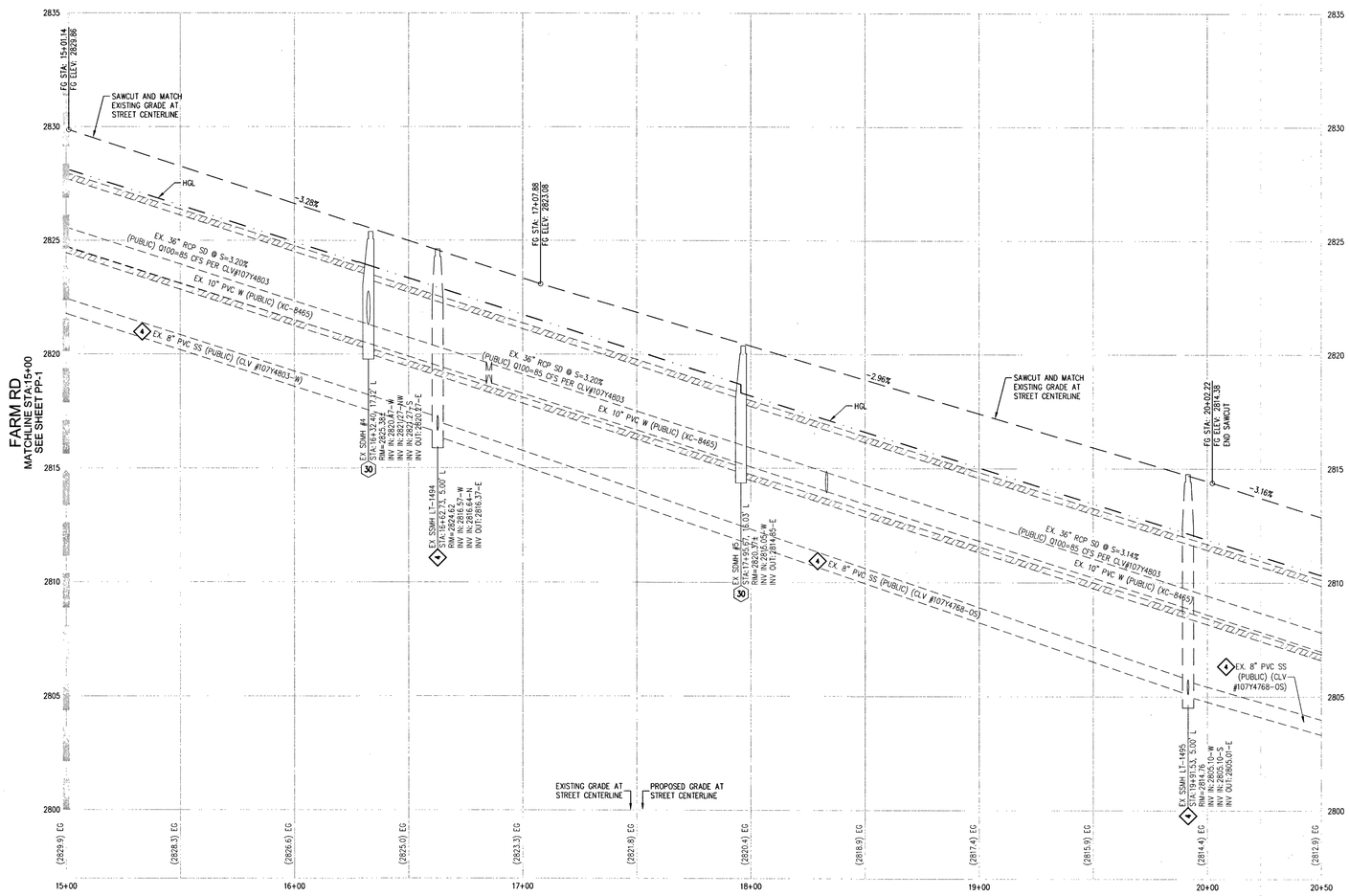

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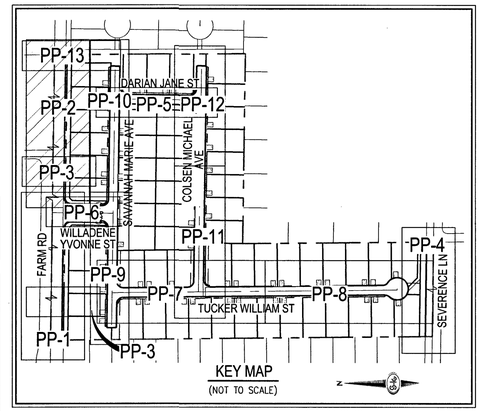
SCALE - 1"=30' FEET



N

CURVE TABLE				
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12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
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14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
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SOUTHWEST GAS APPROVAL

Pamela Kennedy 3-21-19
SOUTHWEST GAS CORPORATION DATE

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107V5104

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a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI
PLAN AND PROFILE - FARM ROAD II

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24572 PROFESSIONAL ENGINEER STATE OF NEVADA
3/21/19

PP-2
SHEET 12 OF 34

L18-02739

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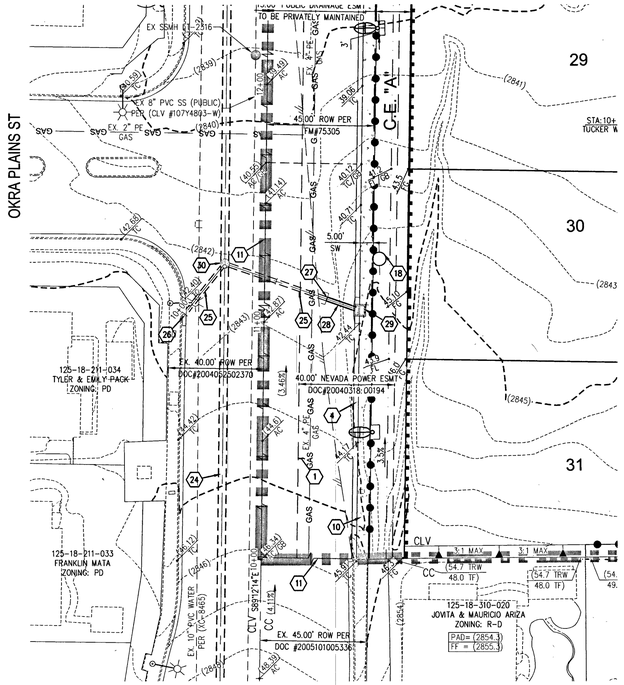
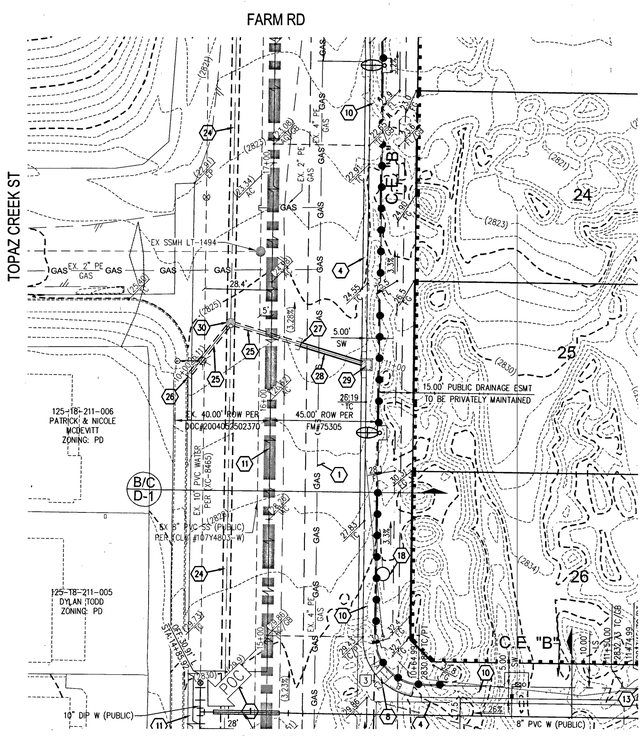
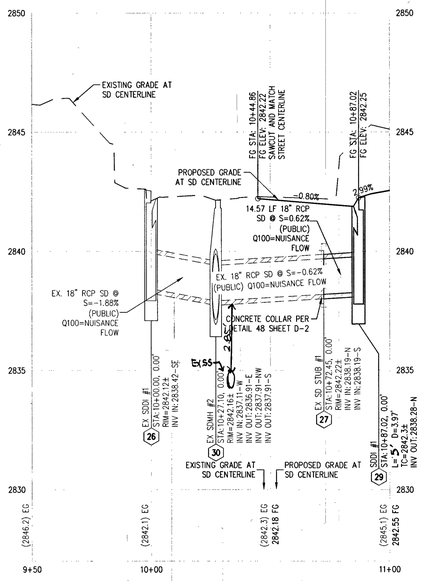
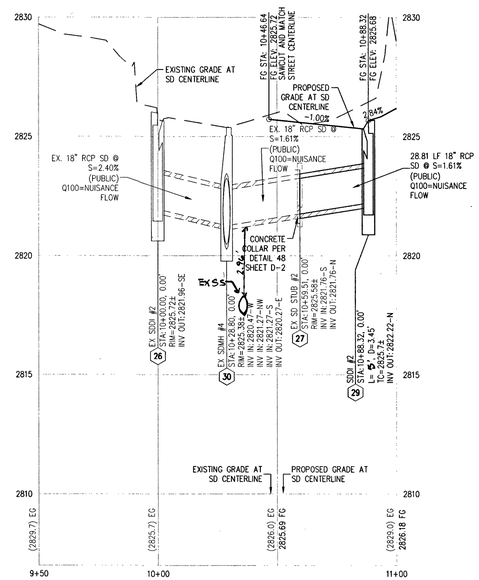






WEST STORM DRAIN LATERAL - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 3'



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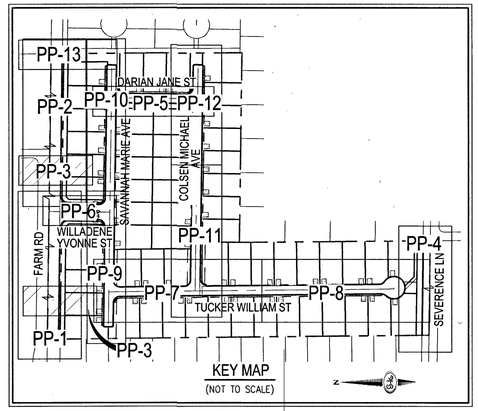
SCALE - 1"=30' FEET



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21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE 'CM2' DROP INLET PER CCAUSD NO. 412.1 AND 421
30. EXISTING 48" STORM DRAIN MANHOLE PER CLV #107Y4803
31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 60" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
8. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-4, SD-9, AND SD-13 "B" WITH 24" SINGLE LID
9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3-21-19
SOUTHWEST GAS CORPORATION DATE

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300
FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

RICHMOND AMERICAN HOMES

LAS VEGAS, NEVADA

FARM HUALAPAI
PLAN AND PROFILE - SD LATERALS

T18
T19S
R60E

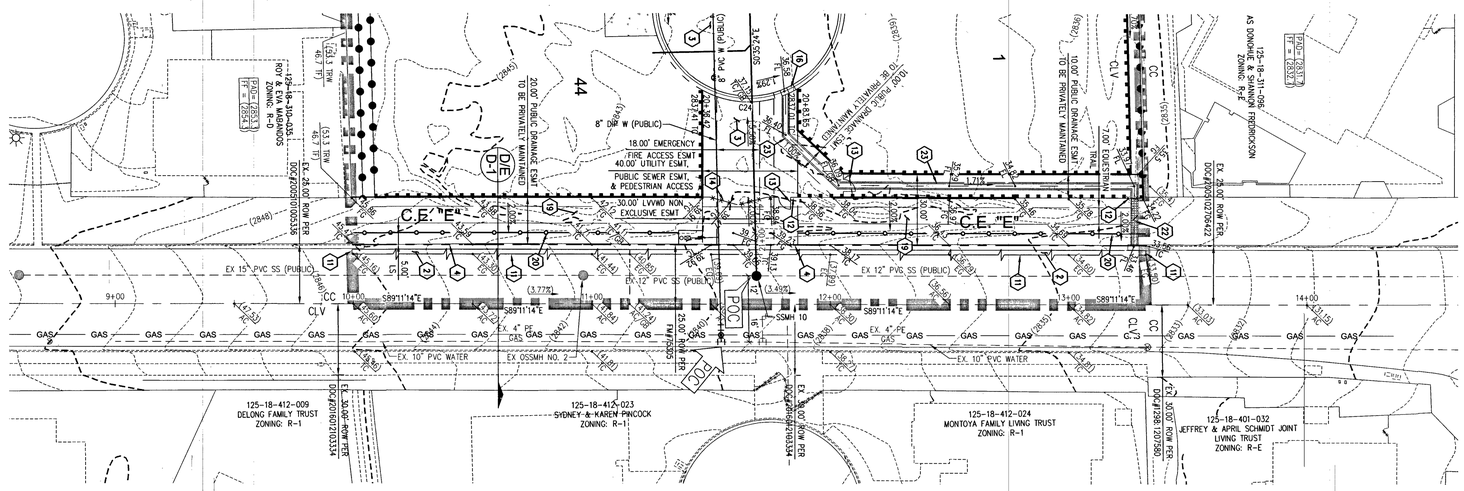
DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

PP-3
SHEET 13 OF 34

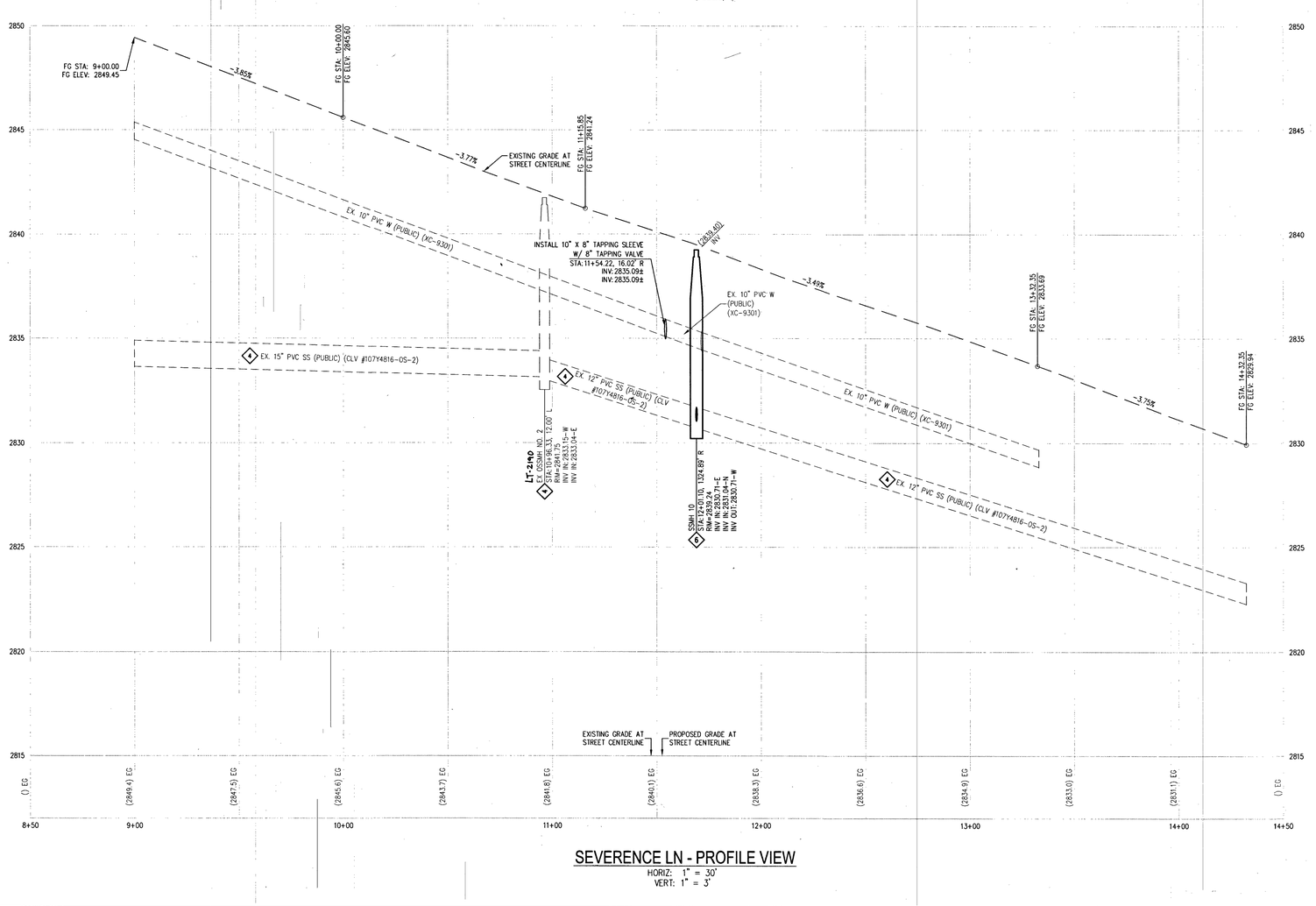
L18-02739

J:\rah1517 buffalo farm\dwg\improv\rah1517prp.dwg, 3/21/2019 11:12 AM, Lesley Abod



SEVERENCE LN - PLAN VIEW

(PUBLIC)



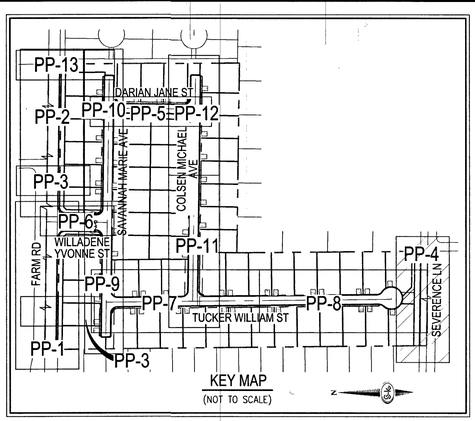
SEVERENCE LN - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 3'

SCALE - 1"=30' (0, 30, 60 FEET)

CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C24	199.48'	40.50'	282°12'09"	32.68'

RAMP TRANSITION LENGTHS			
RAMP NO.	GRADE % "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
2	-5 TO -4.01	4.5'	15.0'
3	-4 TO -3.01	4.5'	12.0'
4	-3 TO -2.01	4.5'	9.5'
5	-2 TO 2	8.0'	8.0'
6	2.01 TO 3	9.5'	4.5'
7	3.01 TO 4	12.0'	4.5'
8	4.01 TO 5	15.0'	4.5'
9	5.01 TO 6	21.5'	4.5'



KEY MAP
(NOT TO SCALE)

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

DISCLAIMER NOTE

1) EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

GRADING NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
6. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CITY OF LAS VEGAS BUILDING DEPARTMENT.
8. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.
10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC, 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY (1) 1"
   APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. DISCLAIMER: EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
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6. INSTALL 60" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
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9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3.21.19
SOUTHWEST GAS CORPORATION DATE

FAST Call before you UnderGround 1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

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

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - SEVERENCE LANE

S18 T21S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24572 STATE OF NEVADA PROFESSIONAL ENGINEER
3/21/19

PP-4
SHEET 14 OF 34
L18-02739

PROJ#:136145A QS:125-18-SW

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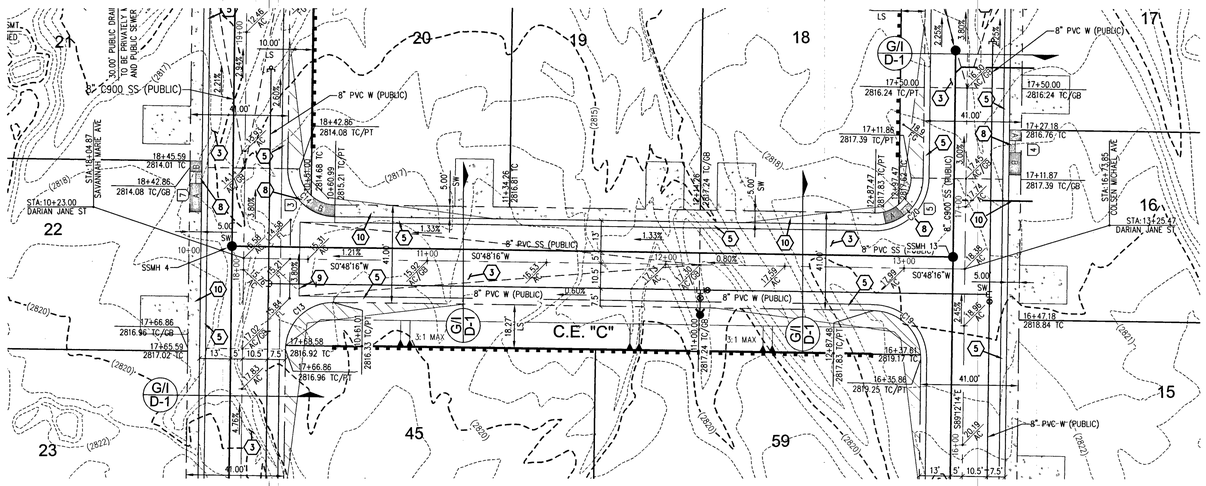
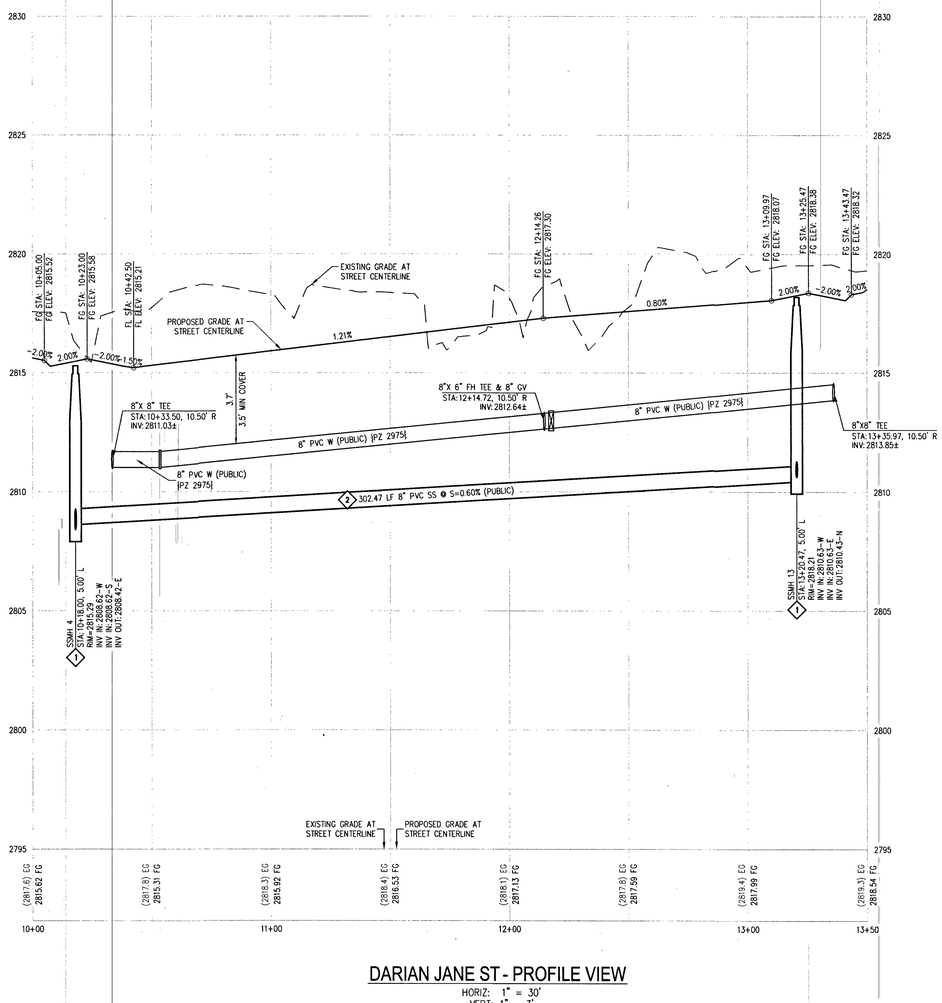


DARIAN JANE ST - PLAN VIEW

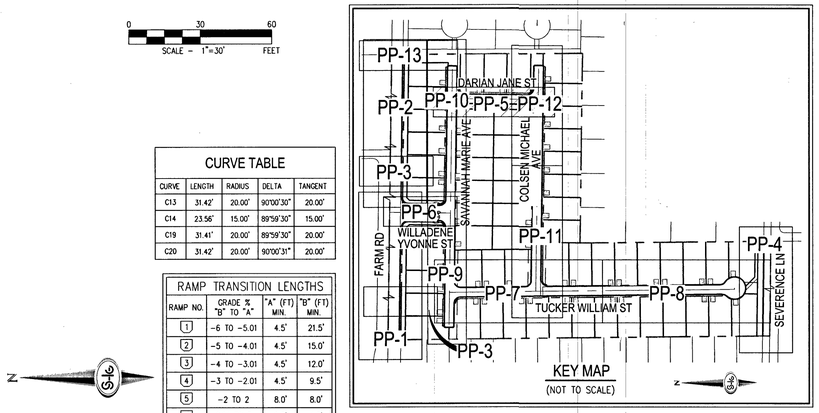
(PRIVATE)



DARIAN JANE ST - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 3'

0 30 60
SCALE - 1"=30' FEET



CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C13	31.42'	20.00'	90°00'30"	20.00'
C14	23.56'	15.00'	89°59'30"	15.00'
C19	31.41'	20.00'	89°59'30"	20.00'
C20	31.42'	20.00'	90°00'31"	20.00'

RAMP TRANSITION LENGTHS			
RAMP NO.	GRADE % "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
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12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
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1. WATER MAIN JOINT DEFLECTION (PVC, 4" - 24")
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3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 16.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
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SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
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9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP

LAS VEGAS, NEVADA

S18 T19S R60E

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - DARIAN JANE STREET

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24577 STATE OF NEVADA PROFESSIONAL ENGINEER 3/21/19

PP-5
SHEET 15 OF 34

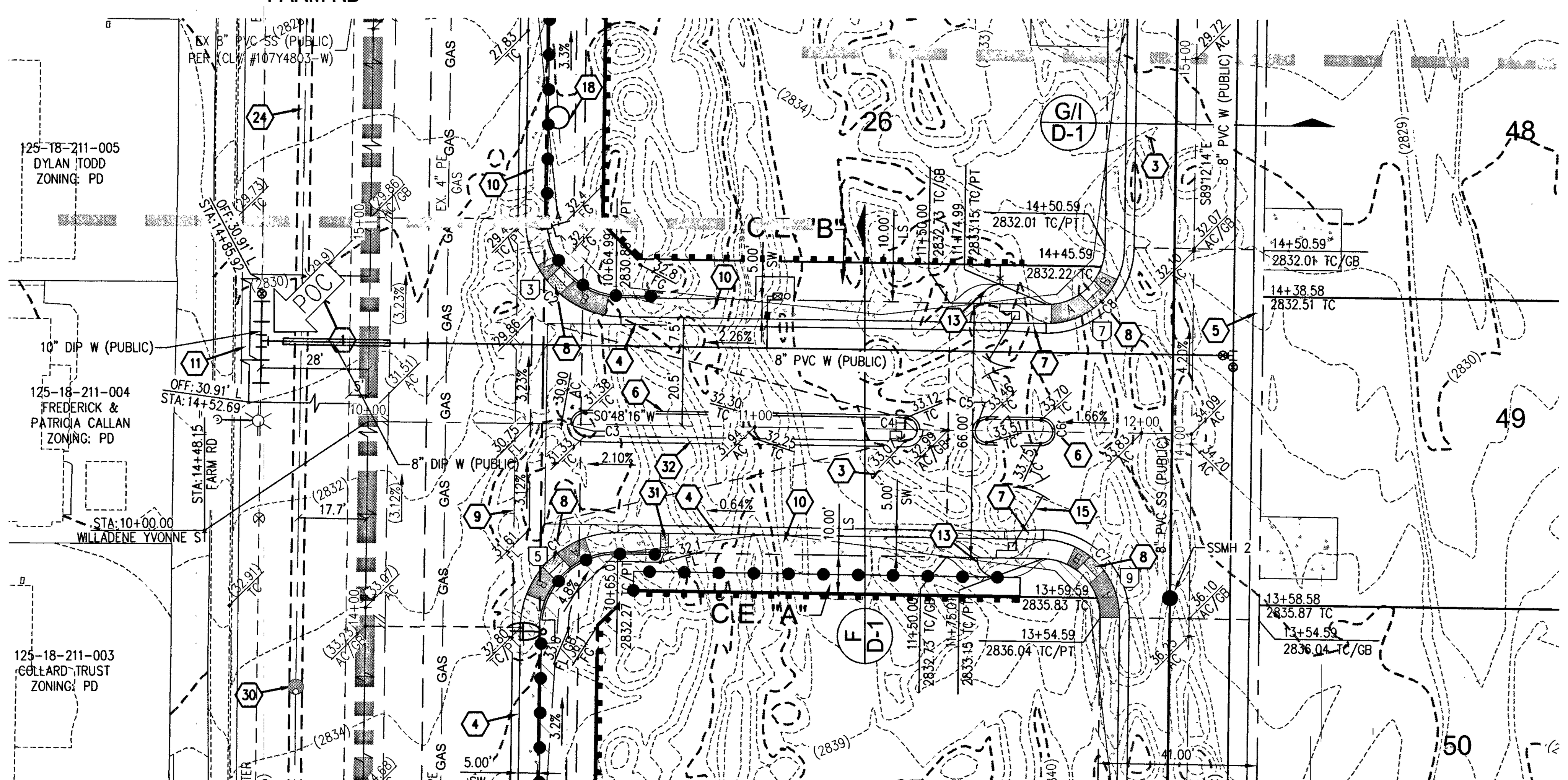
L18-02739

PROJ#:136145A QS:125-18-SW

J:\Von1517 buffalo from Vons\Improv\Von1517imp.dwg 3/21/2019 11:13 AM Lokeb Abat

FARM RD

SAVANNAH MARIE AVE

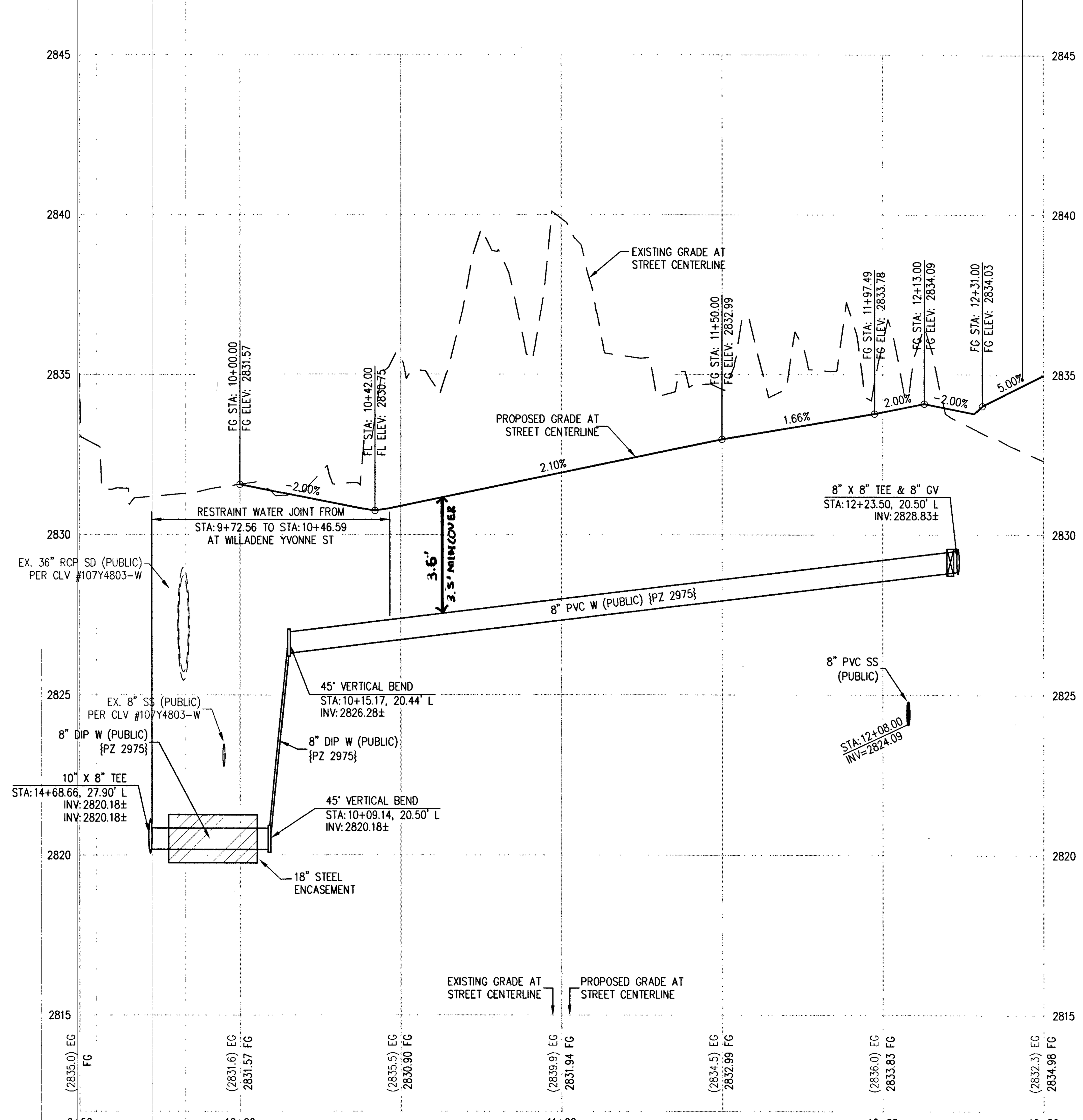


FARM RD

SAVANNAH MARIE AVE

WILLADENE YVONNE ST - PLAN VIEW

(PRIVATE)



WILLADENE YVONNE ST - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 3'

j:\rah1517 buffalo farm\dwg\improv\rah1517pnp.dwg 3/21/2019 11:13 AM Lokela Abad

0 30 60
SCALE - 1"=30' FEET

CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	39.27'	25.00'	90°00'30"	25.00'
C2	39.27'	25.00'	89°59'30"	25.00'
C3	9.42'	3.00'	180°00'00"	INFINITY
C4	9.42'	3.00'	180°00'00"	INFINITY
C5	9.42'	3.00'	180°00'00"	INFINITY
C6	9.42'	3.00'	180°00'00"	INFINITY
C7	31.41'	20.00'	89°59'30"	20.00'
C8	31.42'	20.00'	90°00'30"	20.00'

RAMP TRANSITION LENGTHS			
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3	-4 TO -3.01	4.5'	12.0'
4	-3 TO -2.01	4.5'	9.5'
5	-2 TO 2	8.0'	8.0'
6	2.01 TO 3	9.5'	4.5'
7	3.01 TO 4	12.0'	4.5'
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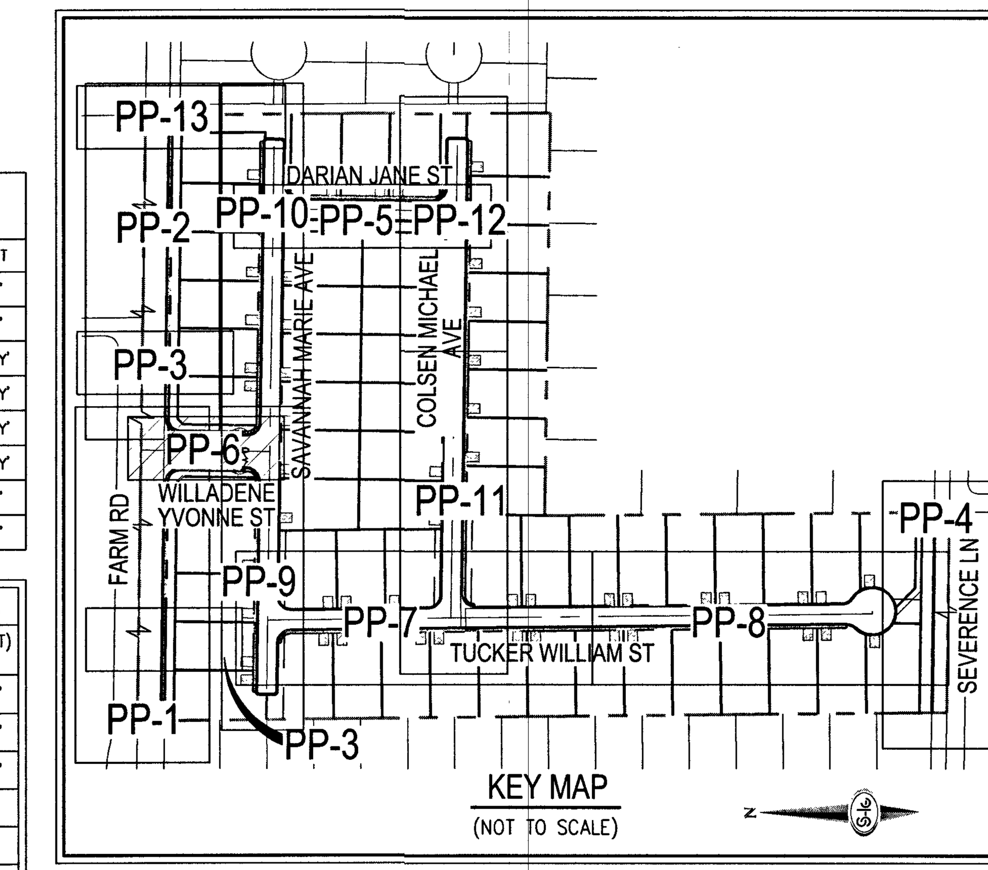

KEY MAP
(NOT TO SCALE)

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

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10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

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   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
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GRADING NOTES

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2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE 'CM2' DROP INLET PER CCAUSD NO. 412.1 AND 421
30. EXISTING 48" STORM DRAIN MANHOLE PER CLV #107Y4803
31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

SEWER CONSTRUCTION NOTES

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9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

APPROVED FOR CONSTRUCTION

[signature]
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3-21-19
SOUTHWEST GAS CORPORATION DATE

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
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107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - WILLADENE YVONNE STREET

S18 T19S R60E

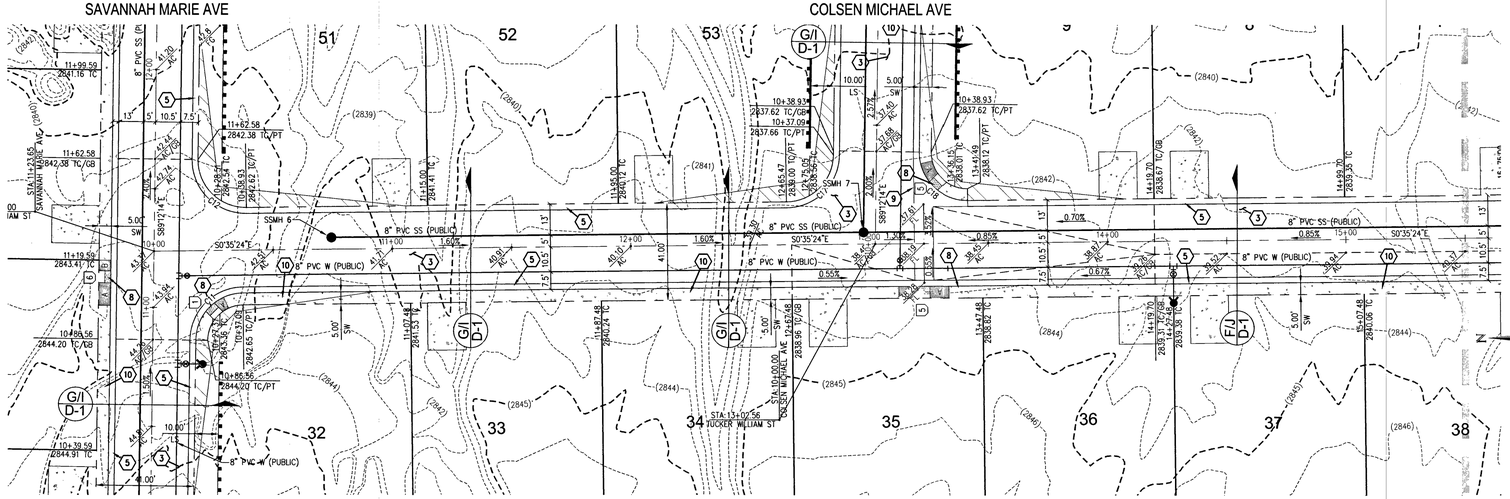
DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. **RAH1517**

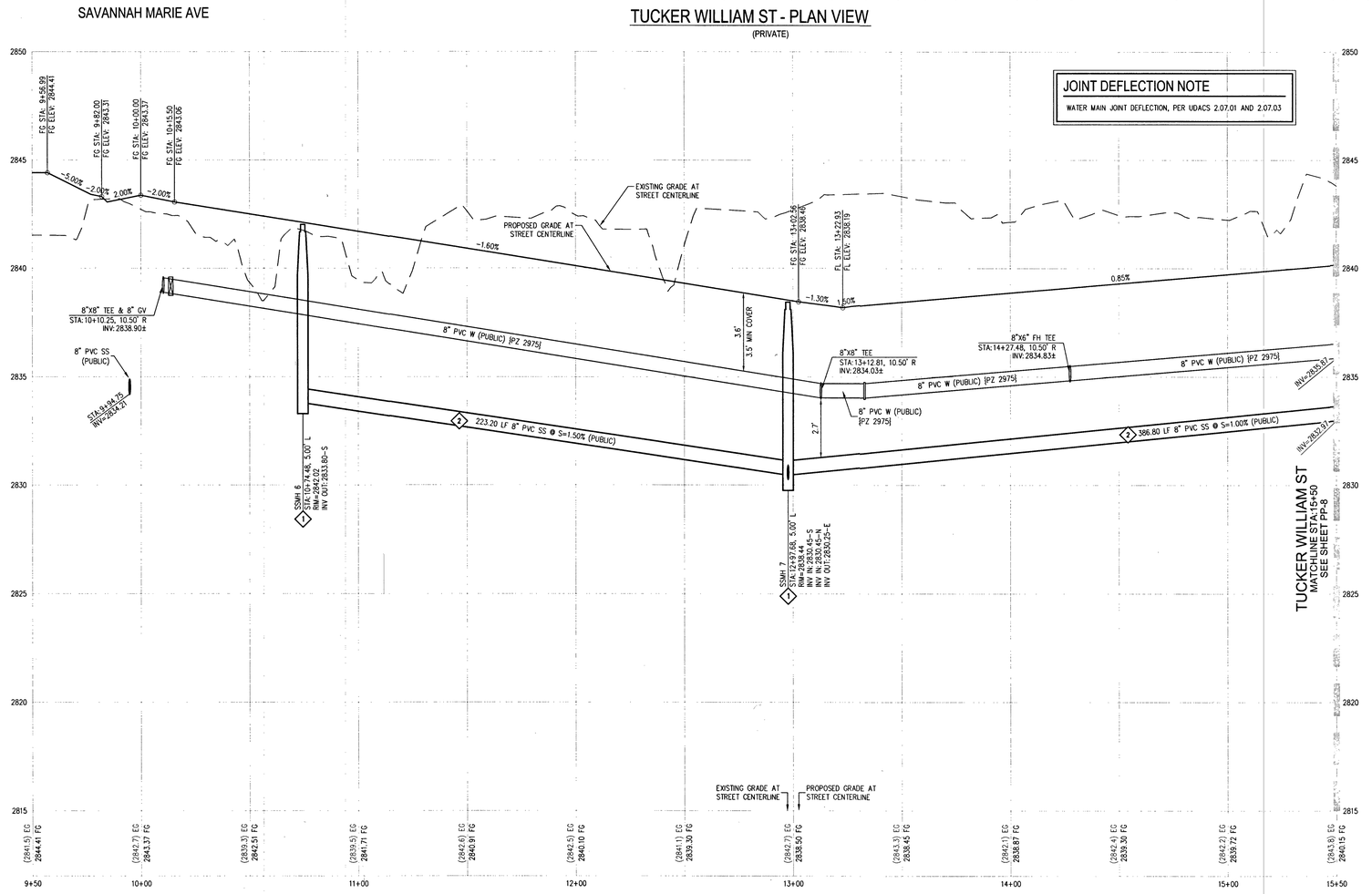
PROFESSIONAL ENGINEER STATE OF NEVADA
KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
3/21/19

PP-6
SHEET 16 OF 34

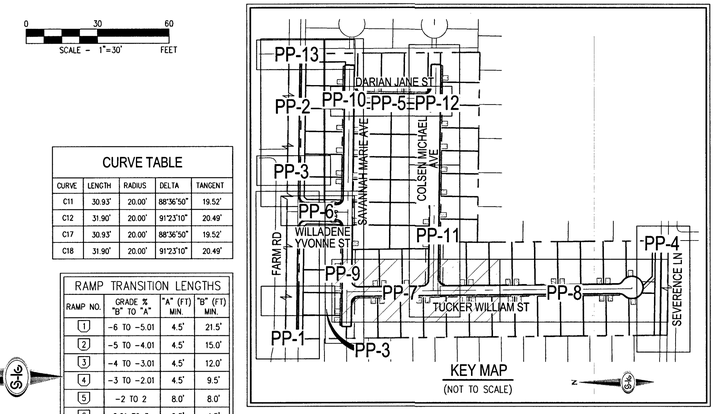
L18-02739

PROJ#:136145A QS:125-18-SW





TUCKER WILLIAM ST - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 3'



TUCKER WILLIAM ST
SEE SHEET PP-8 FOR CONTINUATION

CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C11	30.93'	20.00'	88°36'50"	19.52'
C12	31.90'	20.00'	91°23'10"	20.49'
C17	30.93'	20.00'	88°36'50"	19.52'
C18	31.90'	20.00'	91°23'10"	20.49'

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JOINT DEFLECTION NOTE

WATER MAIN JOINT DEFLECTION, PER UDACS 2.07.01 AND 2.07.03

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9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
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11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE "CM2" DROP INLET PER CCAUSD NO. 412.1 AND 421
30. EXISTING 48" STORM DRAIN MANHOLE PER CLV #107Y4803
31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 60" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.8
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
8. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-4, SD-9, AND SD-13 "B" WITH 24" SINGLE LID
9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

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

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - TUCKER WILLIAM STREET I

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

PP-7
SHEET 17 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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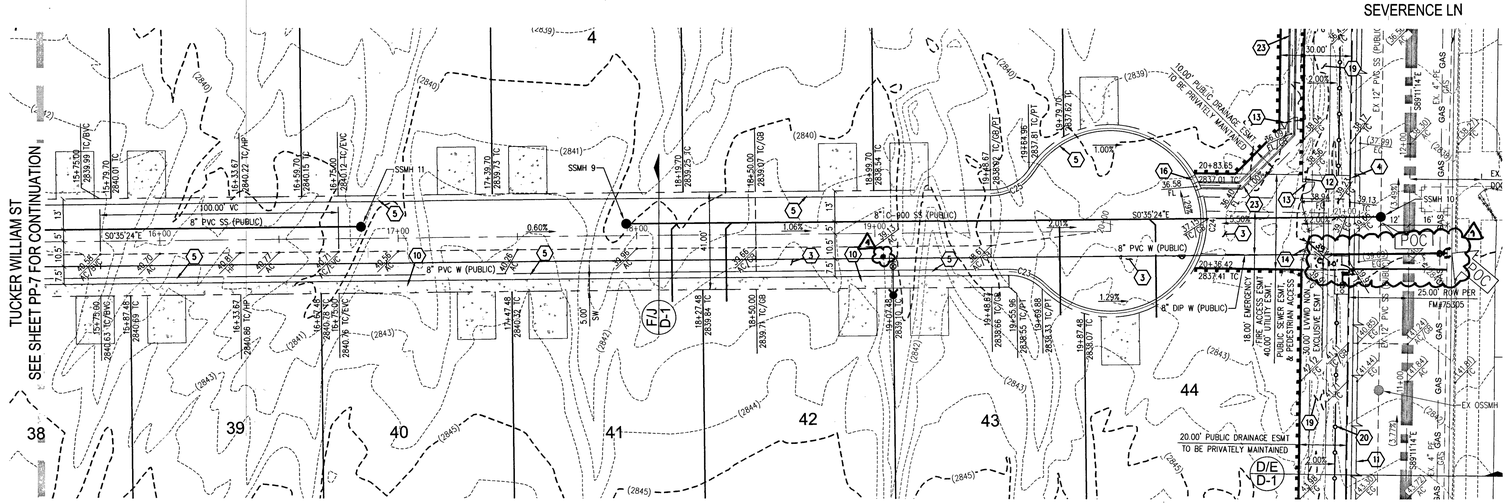
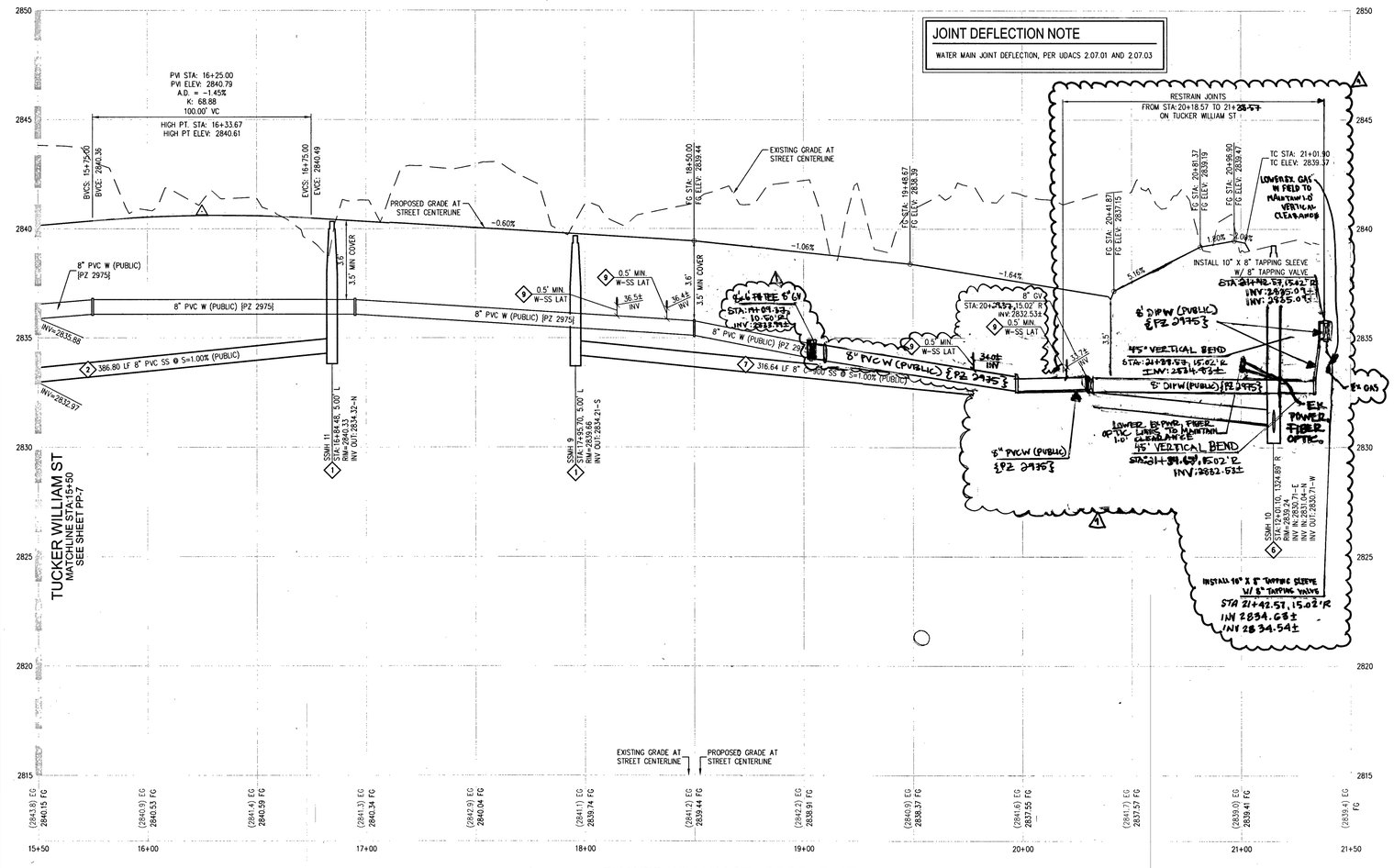


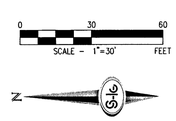
TUCKER WILLIAM ST - PLAN VIEW
(PRIVATE)



TUCKER WILLIAM ST - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 3'

JOINT DEFLECTION NOTE

WATER MAIN JOINT DEFLECTION, PER UDACS 2.07.01 AND 2.07.03



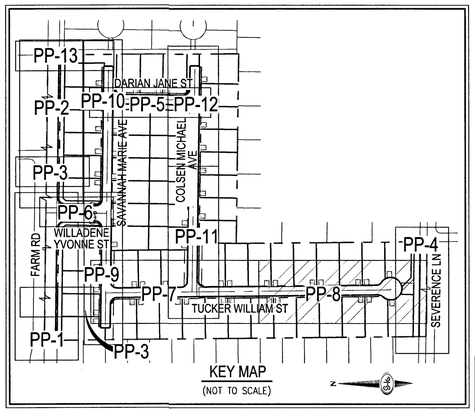
CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT
C23	15.50'	19.50'	45°32'57"	8.19'
C24	199.48'	40.50'	282°12'09"	32.68'
C25	19.28'	19.50'	56°39'12"	10.51'

RAMP TRANSITION LENGTHS

RAMP NO.	GRADE % "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
2	-5 TO -4.01	4.5'	15.0'
3	-4 TO -3.01	4.5'	12.0'
4	-3 TO -2.01	4.5'	9.5'
5	-2 TO 2	8.0'	8.0'
6	2.01 TO 3	9.5'	4.5'
7	3.01 TO 4	12.0'	4.5'
8	4.01 TO 5	15.0'	4.5'
9	5.01 TO 6	21.5'	4.5'

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES



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2) FOR ROADWAY WIDENING AND HALF STREET IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT SAWCUT LINE TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIP OF CURB PRIOR TO SUBGRADE PREPARATION AND CONSTRUCTION OF PROPOSED CURB LINE. IF MINIMUM OR MAXIMUM CROSS SLOPES DO NOT MEET AGENCY STANDARDS THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

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4. MAXIMUM/MINIMUM SLOPES AND MINIMUM STREET SECTIONS NOT TO EXCEED THAT SHOWN ON GEOTECH REPORT.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
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8. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.
10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

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1. WATER MAIN JOINT DEFLECTION (PVC, 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY (1) 1"
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3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
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GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
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20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE 'CM2' DROP INLET PER CCAUSD NO. 412.1 AND 421
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31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

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2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
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6. INSTALL 60" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
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9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE: 4-18-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

SOUTHWEST GAS APPROVAL

SOUTHWEST GAS CORPORATION — DATE 3-21-19

FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

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

Call before you Dig AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY. Call 811 OR 1-800-227-2600

107Y5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	ADD GATE VALVE, SLEEVE, FIRE HYDRANT, AND REVISE WATERLINE TO MEET CRITERIA	6-11-19	TM	6/18/19	CWE

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES
FARM HUALAPAI
PLAN AND PROFILE - TUCKER WILLIAM STREET II

S18 R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

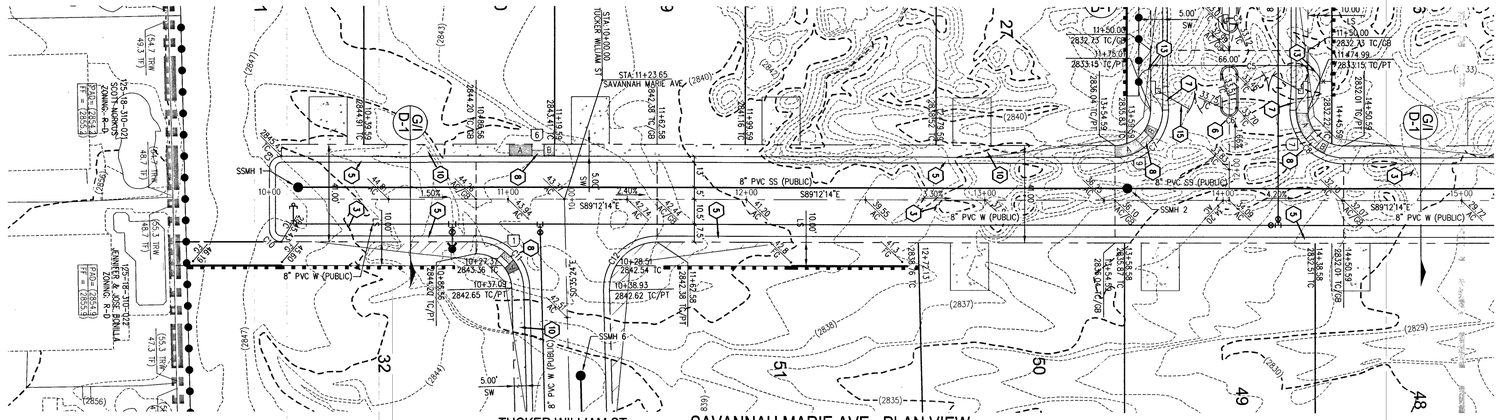
KEVIN M. BROSS — Exp. 12/31/2020 — CIVIL — No. 24572 — STATE OF NEVADA — PROFESSIONAL ENGINEER
3/21/19

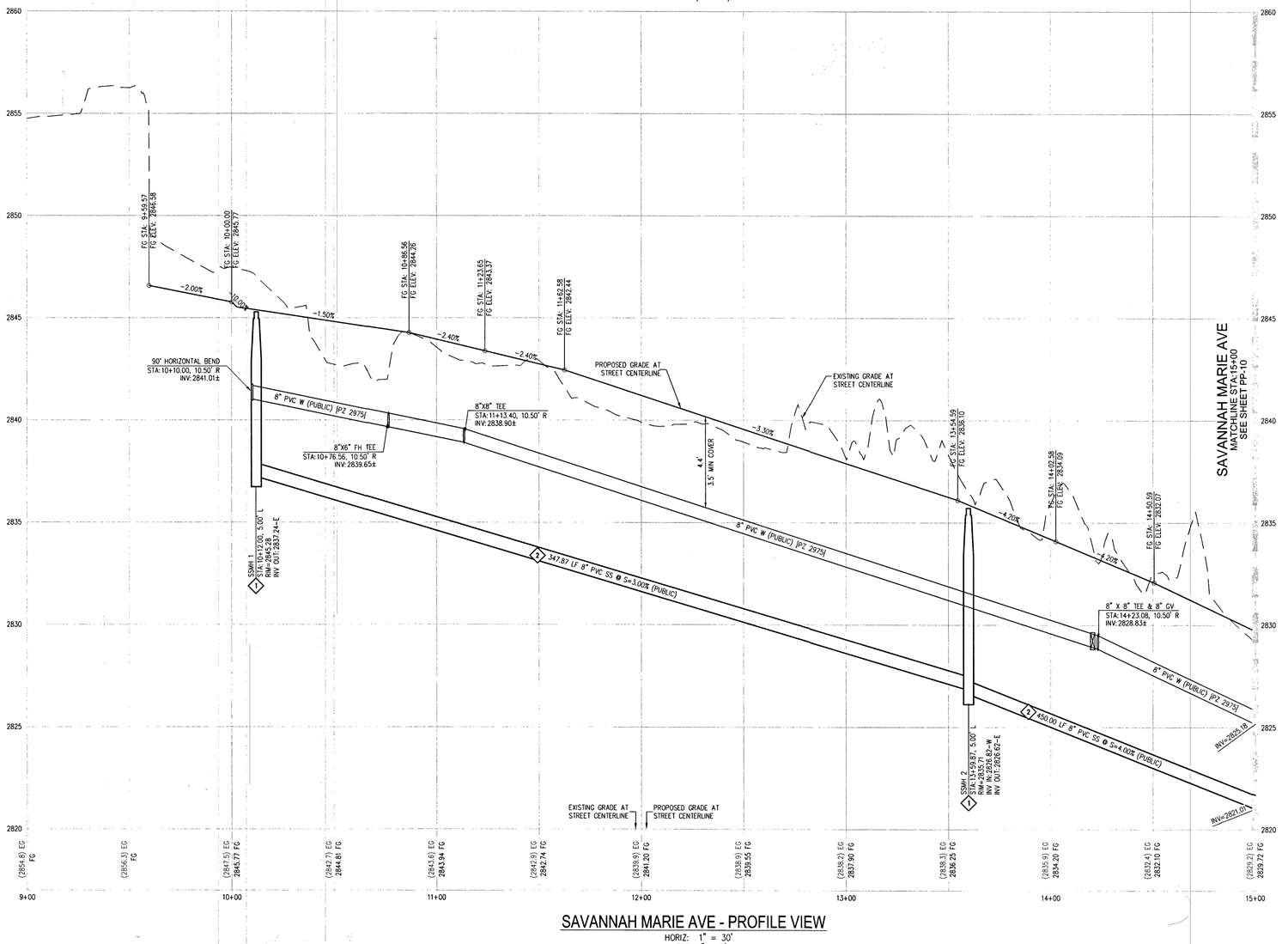
PP-8
SHEET 18 OF 42

L18-02739

PROJ.#:136145A QS:125-18-SW

J:\rah1517 buffalo farm\dwg\improv\rah1517imp.dwg 3/21/2019 11:14 AM Lakelo Abod





0 30 60
SCALE - 1"=30' FEET

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT
C4	9.42'	3.00'	180°00'00"	INFINITY'
C5	9.42'	3.00'	180°00'00"	INFINITY'
C6	9.42'	3.00'	180°00'00"	INFINITY'
C7	31.41'	20.00'	89°59'30"	20.00'
C8	31.42'	20.00'	90°00'30"	20.00'
C9	7.85'	5.00'	90°00'00"	5.00'
C10	7.85'	5.00'	90°00'00"	5.00'
C11	30.93'	20.00'	88°36'50"	19.52'
C12	31.90'	20.00'	91°23'10"	20.49'

RAMP TRANSITION LENGTHS

RAMP NO.	GRADE % "S" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
2	-5 TO -4.01	4.5'	15.0'
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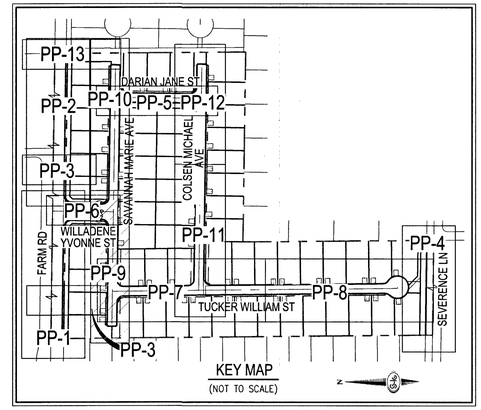
7	3.01 TO 4	12.0'	4.5'
8	4.01 TO 5	15.0'	4.5'
9	5.01 TO 6	21.5'	4.5'

SAVANNAH MARIE AVE
SEE SHEET PP-10 FOR CONTINUATION

N

S-16



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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE: 4-18-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

FAST
Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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

GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
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24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
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2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 60" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
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107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300
FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - SAVANNAH MARIE AVENUE I

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

ENGINEER KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24572 STATE OF NEVADA
3/24/19

PP-9
SHEET 19 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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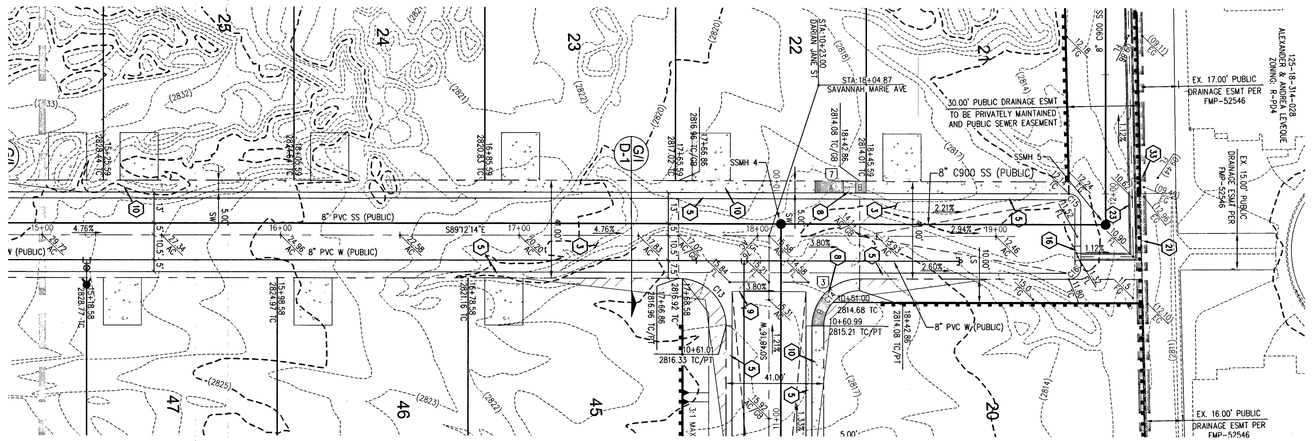
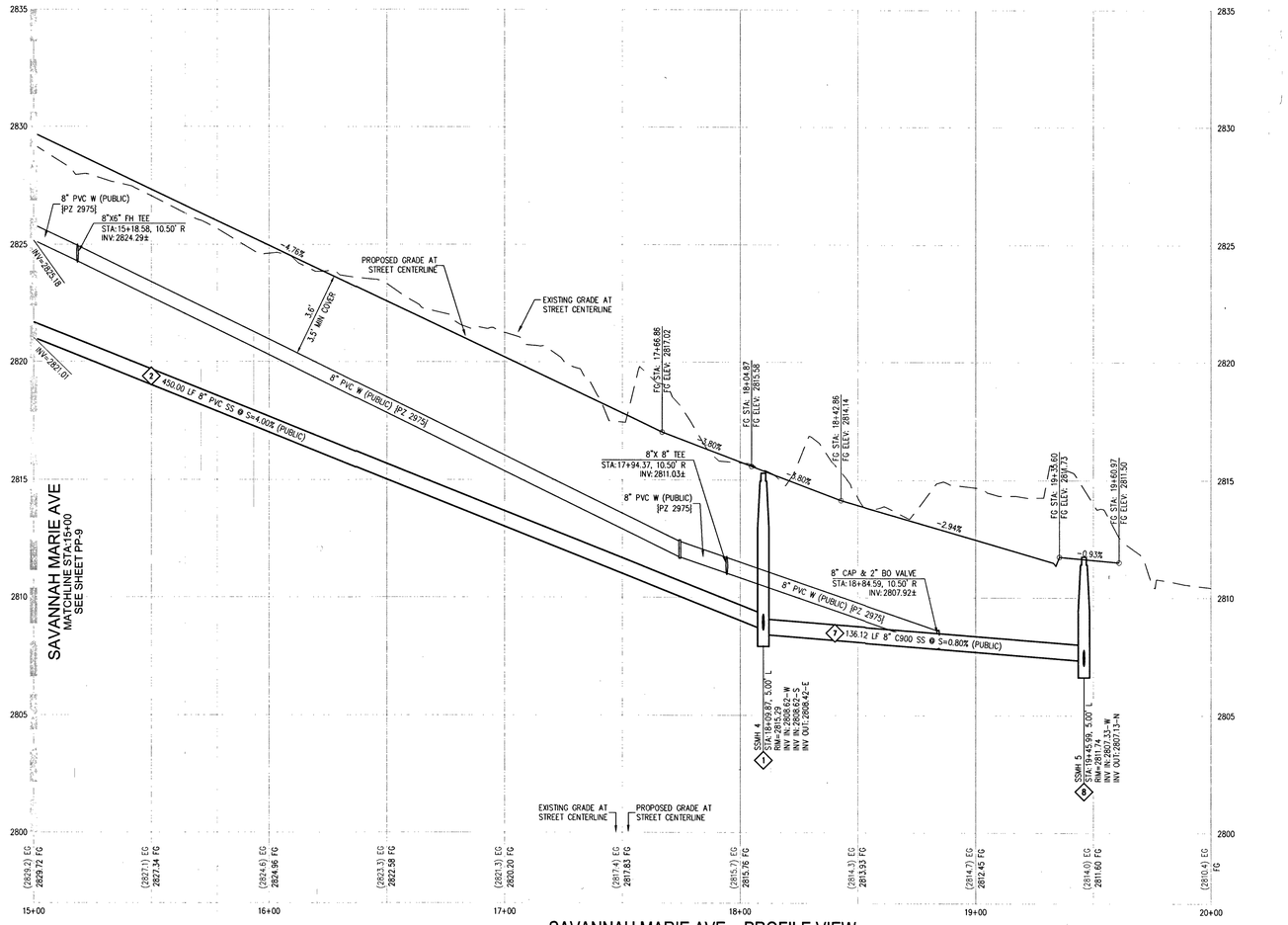


SAVANNAH MARIE AVE - PLAN VIEW
(PRIVATE)

DARIAN JANE ST



SAVANNAH MARIE AVE - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 3'

0 30 60
SCALE - 1"=30' FEET

CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C13	31.42'	20.00'	90°00'30"	20.00'
C14	23.56'	15.00'	89°59'30"	15.00'
C15	7.85'	5.00'	90°00'00"	5.00'
C16	7.85'	5.00'	90°00'00"	5.00'

RAMP TRANSITION LENGTHS			
RAMP NO.	GRADE % "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
2	-5 TO -4.01	4.5'	15.0'
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5	-2 TO 2	8.0'	8.0'
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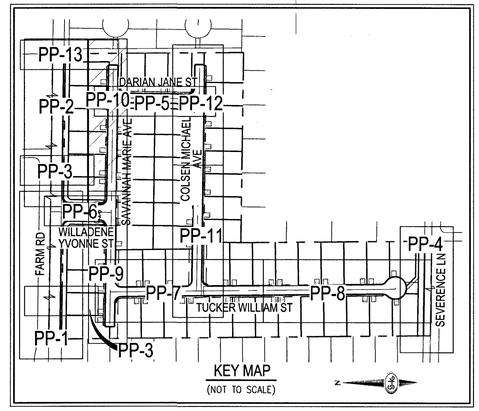

KEY MAP
(NOT TO SCALE)

CALL SOUTHWEST GAS AT 702-651-2111 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

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9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND IS PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB IF CURB EXIST) WITHIN THE SIGHT VISIBILITY ZONES.
10. CURB FLOW LINES LESS THAN 0.60% GRADE SHALL BE WATER TESTED. ANY CURB THAT DOES NOT FLOW SHALL BE REMOVED AND REPLACED AT NO COST TO THE CITY.

WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC, 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY (1) 1"
   APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
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MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

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107V5104

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a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI
PLAN AND PROFILE - SAVANNAH MARIE AVENUE II

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24572 PROFESSIONAL ENGINEER STATE OF NEVADA 3/21/19

PP-10
SHEET 20 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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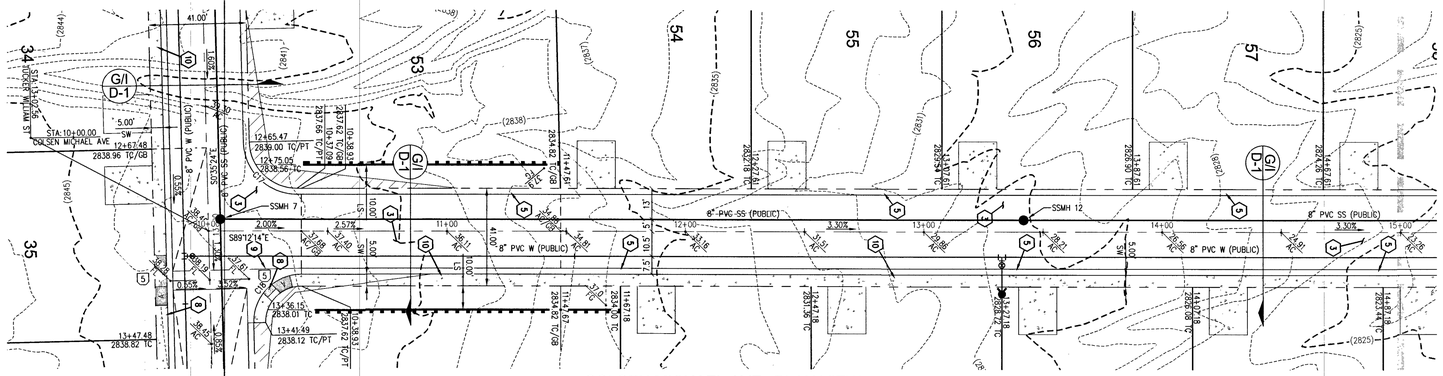
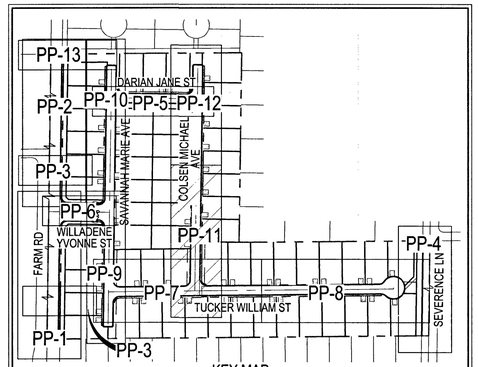


COLSEN MICHAEL AVE - PLAN VIEW
(PRIVATE)

COLSEN MICHAEL AVE
SEE SHEET PP-12 FOR CONTINUATION

SCALE - 1"=30' (0, 30, 60 FEET)



KEY MAP
(NOT TO SCALE)

CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C17	30.93'	20.00'	88°36'50"	19.52'
C18	31.90'	20.00'	91°23'10"	20.49'

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23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE "CM2" DROP INLET PER CCAUSD NO. 412.1 AND 421
30. EXISTING 48" STORM DRAIN MANHOLE PER CLV #107Y4803
31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC, 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY (1) 1"
   APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8 NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. DISCLAIMER: EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

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1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
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9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

COLSEN MICHAEL AVE - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 3'

COLSEN MICHAEL AVE
MATCHLINE STA:15+00
SEE SHEET PP-12

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE: 4-18-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - COLSEN MICHAEL AVENUE I

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24572 STATE OF NEVADA PROFESSIONAL ENGINEER
3/21/19

PP-11
SHEET 21 OF 34

L18-02739

PRO.#:136145A QS:125-18-SW

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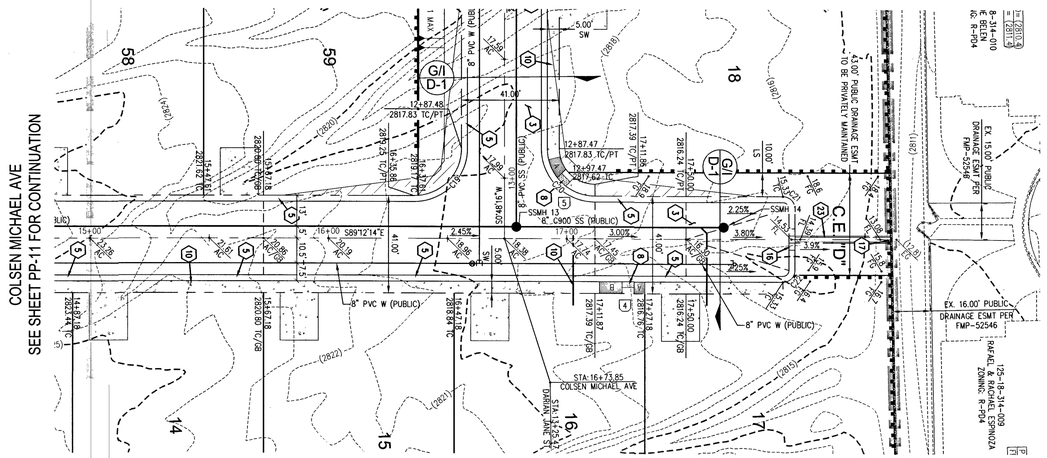
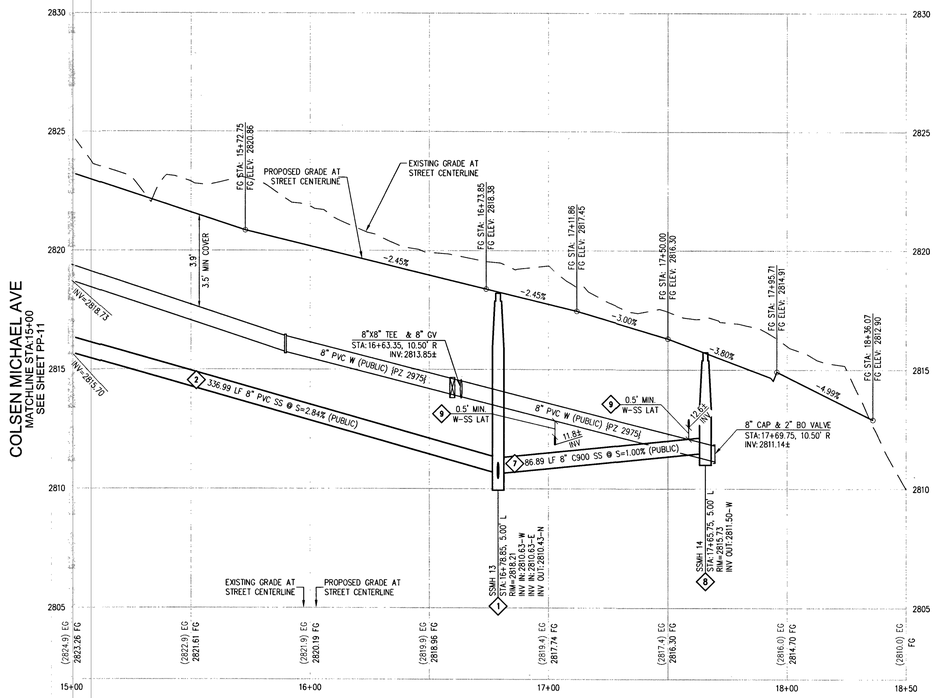
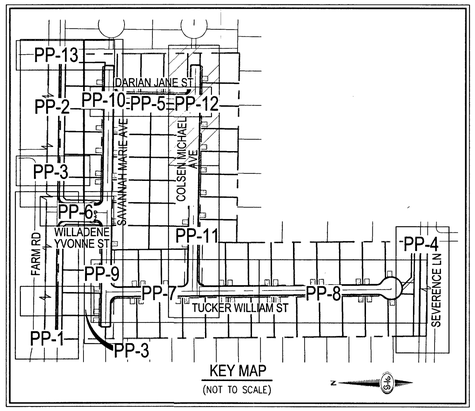


COLSEN MICHAEL AVE - PLAN VIEW
(PRIVATE)



COLSEN MICHAEL AVE - PROFILE VIEW
HORIZ: 1" = 30'
VERT: 1" = 3'

0 30 60
SCALE - 1"=30' FEET



KEY MAP
(NOT TO SCALE)

CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C19	31.41'	20.00'	89°59'30"	20.00'
C20	31.42'	20.00'	90°00'31"	20.00'
C21	7.85'	5.00'	90°00'00"	5.00'
C22	7.85'	5.00'	90°00'00"	5.00'

RAMP TRANSITION LENGTHS			
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2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
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APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136145 FIRST APPROVED DATE: 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW _____ GPM

FAST
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FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
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107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - COLSEN MICHAEL AVENUE II

S16 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

PROFESSIONAL ENGINEER STATE OF NEVADA
KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
3/21/19

PP-12
SHEET 22 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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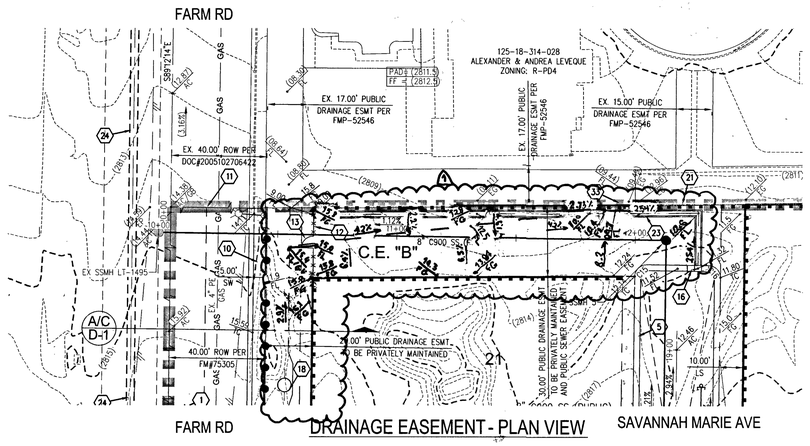
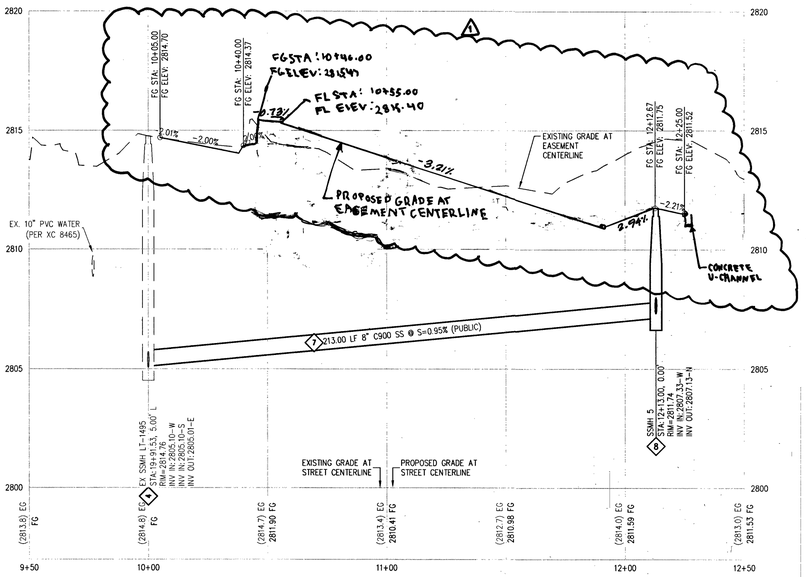
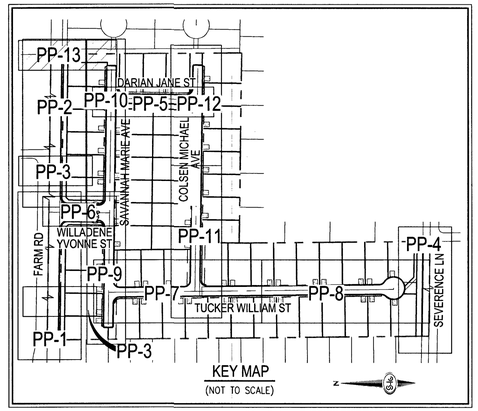




DRAINAGE EASEMENT - PROFILE VIEW

HORIZ: 1" = 30'
VERT: 1" = 3'

0 30 60
SCALE - 1"=30' FEET



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CURVE	LENGTH	RADIUS	DELTA	TANGENT
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3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. DISCLAIMER: EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

GRADING NOTES

1. INSTALL 4" ASPHALT PAVEMENT OVER 4.5" TYPE II AGGREGATE BASE
2. INSTALL 3" ASPHALT PAVEMENT OVER 9" TYPE II AGGREGATE BASE
3. INSTALL 2" ASPHALT PAVEMENT OVER 4" TYPE II AGGREGATE BASE
4. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 216
5. CONSTRUCT 30" ROLL CURB AND GUTTER PER CCAUSD NO. 217.1
6. CONSTRUCT "A" TYPE CURB PER CCAUSD NO. 219
7. CONSTRUCT 10' TRANSITION FROM ROLLED CURB TO "L" TYPE CURB PER DETAIL 46 SHEET D-2
8. CONSTRUCT SIDEWALK RAMPS USING ARMOR TILE TRUNCATED DOMES OR EQUIVALENT PER CCAUSD NO. 235, CASE I
9. CONSTRUCT 8' CROSS GUTTER PER CCAUSD NO. 228
10. CONSTRUCT 5' WIDE SIDEWALK PER CCAUSD NO. 234 (4" THICK W/ 5" TYPE II AGGREGATE BASE)
11. SAWCUT AND MATCH EXISTING IMPROVEMENTS PER CCAUSD NO. 503 & 500.2
12. INSTALL 6' HIGH TUBULAR STEEL FENCE PER DETAIL 40 ON SHEET D-2
13. INSTALL 5' PEDESTRIAN ACCESS GATE PER DETAIL 42 ON SHEET D-2
14. INSTALL 12' MINIMUM WIDTH DOUBLE GATES PER DETAIL 41 ON SHEET D-2
15. INSTALL 6' HIGH WROUGHT IRON FENCE WITH VEHICLE GATE ELECTRICALLY-POWER WITH BATTERY BACK-UP AND AVI LOOP
16. INSTALL DEPRESSED CURB PER DETAIL 43 ON SHEET D-2
17. INSTALL BLOCK WALL OPENING PER DETAIL 44 ON SHEET D-2
18. EXISTING POWER POLE TO REMAIN
19. INSTALL EQUESTRIAN TRAIL
20. INSTALL RECREATIONAL FENCE
21. EXISTING WROUGHT IRON FENCE TO BE REMOVED
22. INSTALL METAL PLATE OVER CONCRETE U-CHANNEL AT EQUESTRIAN TRAIL
23. INSTALL 2.0' CONCRETE U-CHANNEL PER DETAIL 47 ON SHEET D-2
24. EXISTING 36" RCP SD PER CLV #107Y4803
25. EXISTING 18" CLASS III RCP SD LATERAL PER CLV #107Y4803
26. EXISTING DROP INLET PER CLV #107Y4803
27. CONNECT TO EXISTING STORM DRAIN LATERAL AND INSTALL CONCRETE COLLAR PER DETAIL 48 ON SHEET D-2
28. INSTALL 18" RCP STORM DRAIN LATERAL
29. INSTALL 5.0' TYPE 'CM2' DROP INLET PER CCAUSD NO. 412.1 AND 421
30. EXISTING 48" STORM DRAIN MANHOLE PER CLV #107Y4803
31. INSTALL SIDEWALK UNDERDRAIN PER CCAUSD NO. 236
32. CONSTRUCT "L" TYPE CURB AND GUTTER PER CCAUSD NO. 219
33. REMOVE EXISTING CHANNEL WALL AT U-CHANNEL OUTLET

SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 60" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
8. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-4, SD-9, AND SD-13 "B" WITH 24" SINGLE LID
9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3.21.19
SOUTHWEST GAS CORPORATION DATE

FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

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

107Y5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP	APP DATE
1	UPDATE GRADING FOR L.S. "B"	6-1-19	RM	EJ	6/20/19

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

PLAN AND PROFILE - DRAINAGE EASEMENT

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

PROFESSIONAL ENGINEER — KEVIN M. BROSS — Exp. 12/31/2020 — CIVIL — No. 24577 — STATE OF NEVADA — 3/21/19

PP-13
SHEET 23 OF 42

L18-02739

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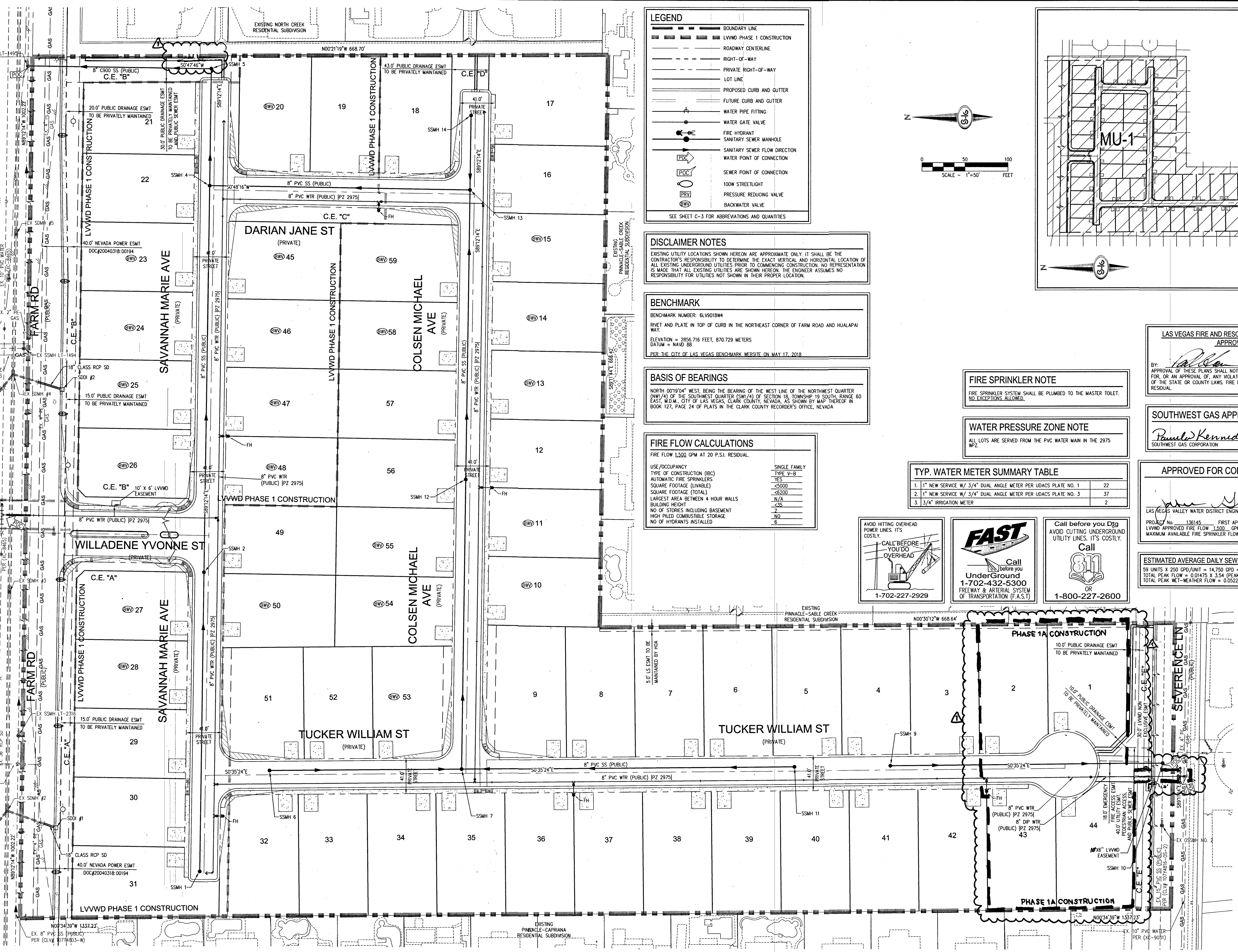

LEGEND

	BOUNDARY LINE
	LVVWD PHASE 1 CONSTRUCTION
	ROADWAY CENTERLINE
	RIGHT-OF-WAY
	PRIVATE RIGHT-OF-WAY
	LOT LINE
	PROPOSED CURB AND GUTTER
	FUTURE CURB AND GUTTER
	WATER PIPE FITTING
	WATER GATE VALVE
	FIRE HYDRANT
	SANITARY SEWER MANHOLE
	SANITARY SEWER FLOW DIRECTION
POC	WATER POINT OF CONNECTION
POC	SEWER POINT OF CONNECTION
	100W STREETLIGHT
PRV	PRESSURE REDUCING VALVE
BWV	BACKWATER VALVE

SEE SHEET C-3 FOR ABBREVIATIONS AND QUANTITIES

DISCLAIMER NOTES

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

FIRE FLOW CALCULATIONS

FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

USE/OCCUPANCY	SINGLE FAMILY
TYPE OF CONSTRUCTION (IBC)	TYPE V-B
AUTOMATIC FIRE SPRINKLERS	YES
SQUARE FOOTAGE (LIVABLE)	<5000
SQUARE FOOTAGE (TOTAL)	<6200
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	6

SCALE - 1"=50' (0, 50, 100 FEET)

FIRE SPRINKLER NOTE

FIRE SPRINKLER SYSTEM SHALL BE PLUMBED TO THE MASTER TOILET. NO EXCEPTIONS ALLOWED.

WATER PRESSURE ZONE NOTE

ALL LOTS ARE SERVED FROM THE PVC WATER MAIN IN THE 2975 WPZ.

TYP. WATER METER SUMMARY TABLE

1.	1" NEW SERVICE W/ 3/4" DUAL ANGLE METER PER UDACS PLATE NO. 1	22
2.	1" NEW SERVICE W/ 3/4" DUAL ANGLE METER PER UDACS PLATE NO. 3	37
3.	3/4" IRRIGATION METER	2

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

FAST
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FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT APPROVED

BY: [signature] 3/19/19
APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3-21-19
SOUTHWEST GAS CORPORATION DATE

APPROVED FOR CONSTRUCTION

[signature]
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT No. 136145 FIRST APPROVED DATE 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS

59 UNITS X 250 GPD/UNIT = 14,750 GPD = 0.01475 MGD
TOTAL PEAK FLOW = 0.01475 X 3.54 (PEAK FACTOR) = 0.05222 MGD
TOTAL PEAK WET-WEATHER FLOW = 0.05222 MGD X 1.25 = 0.06527 MGD

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	ADD PHASE 1A CONSTRUCTION LIMITS ON, REVISE 3rd METER AND REVISE DRAINAGE CHANNEL	8-1-19	TM	9/19/19 LVVWD	CLV 9/30/19

RICHMOND AMERICAN HOMES

LAS VEGAS, NEVADA

FARM HUALAPAI
MASTER UTILITY PLAN

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

PROFESSIONAL ENGINEER STATE OF NEVADA
KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
3/18/19

PROJ#:136145A QS:125-18-SW

MU-1
SHEET 24 OF 42

L18-02739

107Y5104

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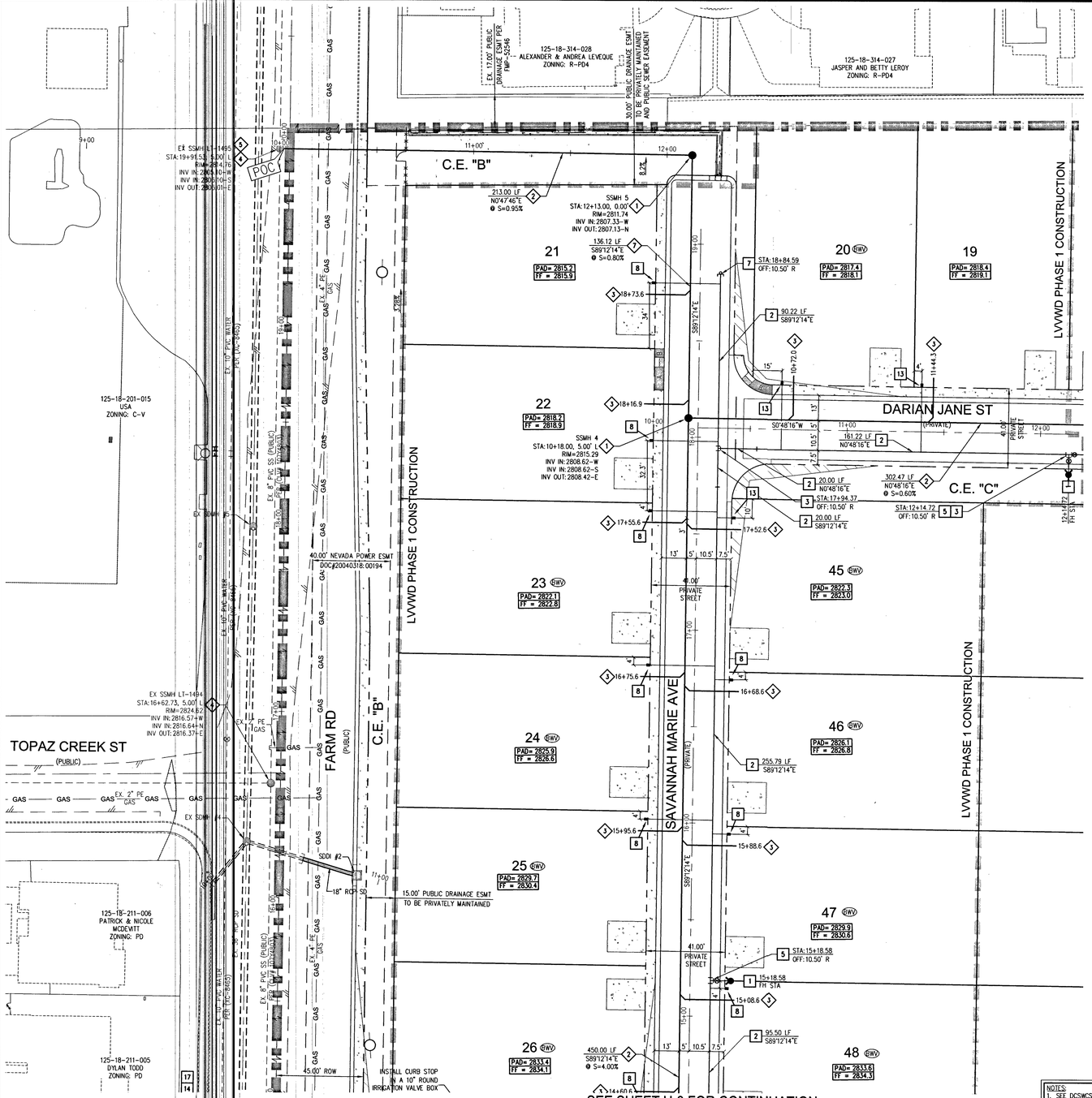
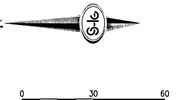
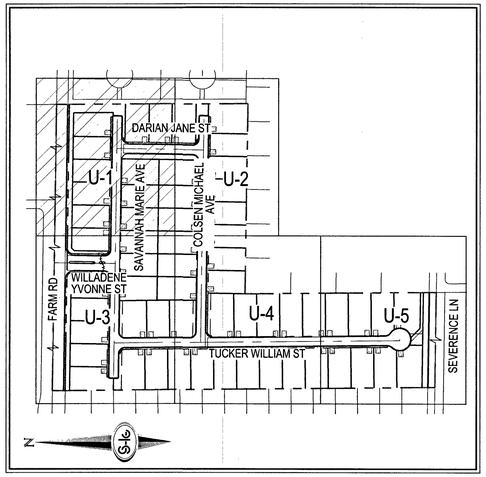
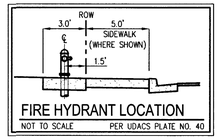


SEE SHEET U-2 FOR CONTINUATION

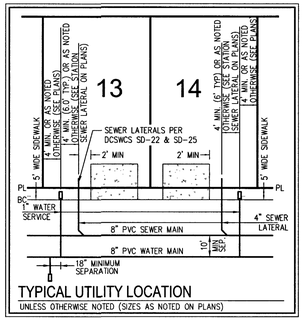






FIRE HYDRANT LOCATION

NOT TO SCALE — PER UDACS PLATE NO. 40



TYPICAL UTILITY LOCATION

UNLESS OTHERWISE NOTED (SIZES AS NOTED ON PLANS)

FIRE FLOW CALCULATIONS

FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

USE/OCCUPANCY	SINGLE FAMILY
TYPE OF CONSTRUCTION (IBC)	TYPE V-B
AUTOMATIC FIRE SPRINKLERS	YES
SQUARE FOOTAGE (LIVABLE)	<5000
SQUARE FOOTAGE (TOTAL)	<6200
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	6

BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

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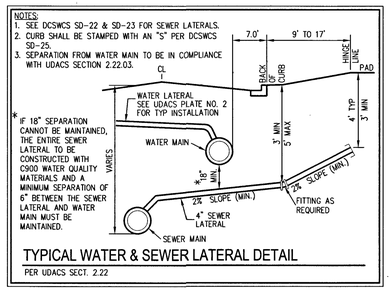
PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT No. 136145 FIRST APPROVED DATE 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM



TYPICAL WATER & SEWER LATERAL DETAIL

PER UDACS SECT. 2.22

WATER NOTES

1. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40
2. INSTALL 8" PVC WATER PIPE [2975 WPZ]
3. INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
4. INSTALL 8" X 8" TEE PER UDACS PLATE NO. 31
5. INSTALL 8" X 6" TEE PER UDACS PLATE NO. 31
6. INSTALL HORIZONTAL 90° BEND PER UDACS PLATE NO. 31
7. INSTALL CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36
8. INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 1
9. INSTALL 10" X 8" TAPPING SLEEVE WITH 8" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39 AND SECTION 2.24.01A
10. FIELD VERIFY LOCATION AND CONNECT TO EXISTING WATER
11. INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-4
12. INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-5
13. INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 3
14. INSTALL 45° VERTICAL BEND PER UDACS PLATE NO. 31
15. INSTALL 8" DIP WATER PIPE [2975 WPZ]
16. INSTALL 10" DIP WATER PIPE [2975 WPZ]
17. INSTALL 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
18. INSTALL 10" X 8" TEE PER UDACS PLATE NO. 31
19. INSTALL STEEL ENCASEMENT FOR WATER LINE PER UDACS 2.22.02.B.3(B), PLATE NO. 22 & 23. SEE STEEL ENCASEMENT NOTE ON SHEET U-3

SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
8. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-4, SD-9, AND SD-13 "B" WITH 24" SINGLE LID
9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS

59 UNITS X 250 GPD/UNIT = 14,750 GPD = 0.01475 MGD
TOTAL PEAK FLOW = 0.01475 X 3.54 (PEAK FACTOR) = 0.05222 MGD
TOTAL PEAK WET-WEATHER FLOW = 0.05222 MGD X 1.25 = 0.06527 MGD

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WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY NOTE
   APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. CONTROLLED LOW STRENGTH MATERIAL (CLSM) PROTECT WATERLINES IN PLACE. WHEREVER A WATERLINE IS ABOVE A STORM DRAIN OR SEWER WHERE COMPACTION REQUIREMENTS UNDER A WATERLINE CANNOT BE MET, BACKFILL TRENCH WITH CLASS I CONTROLLED LOW STRENGTH MATERIAL (CLSM) TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.22.
9. ANNULAR SPACE BETWEEN PIPE AND CASING SHALL BE FILLED WITH CLASS I CLSM. SEE UDACS PLATES 17 AND 19, FOR BEDDING AND BACKFILL REQUIREMENTS.
10. INSTALL WATERLINE IS STEEL CASING PER UDACS PLATE NO. 21 AND 23. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF PIPE, DUCTILE IRON PIPE WITH RESTRAINED JOINTS IS REQUIRED. IN ADDITION, THRUST BLOCKS ARE TO BE INSTALLED AT THE UPPER BENDS.

GENERAL NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
5. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CLARK COUNTY BUILDING DEPARTMENT.
6. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
7. NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.
8. IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN NASA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3-21-19
SOUTHWEST GAS CORPORATION — DATE

LEGEND

LVVWD PHASE 1 CONSTRUCTION BOUNDARY

WATER PRESSURE ZONE NOTE

ALL LOTS ARE SERVED FROM THE PVC WATER MAIN IN THE 2975 WPZ.

STEEL ENCASEMENT NOTE

INSTALL WATERLINE IN STEEL CASING PER UDACS PLATES NO.22 AND 23. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF THE CASING FROM THE UPPER BENDS THROUGHOUT THE LOWERED SECTION OF THE PIPE, DUCTILE IRON PIPE WITH RESTRAINED JOINTS IS REQUIRED.

FIRE SPRINKLER NOTE

FIRE SPRINKLER SYSTEM SHALL BE PLUMBED TO THE MASTER TOILET. NO EXCEPTIONS ALLOWED

LVVWD EASEMENT NOTE

ALL LVVWD EASEMENTS FOR RPPA LOCATIONS WILL BE CLEAR OF OBSTRUCTIONS AND THE RPPA WILL BE INSTALLED WITHIN A LEVEL SURFACE PER UDACS PLATE 8.

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

RICHMOND AMERICAN HOMES

FARM HUALAPAI

UTILITY PLAN I

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS — Exp. 12/31/2020 — CIVIL — No. 24572 — STATE OF NEVADA — PROFESSIONAL ENGINEER
3/18/19

U-1
SHEET 25 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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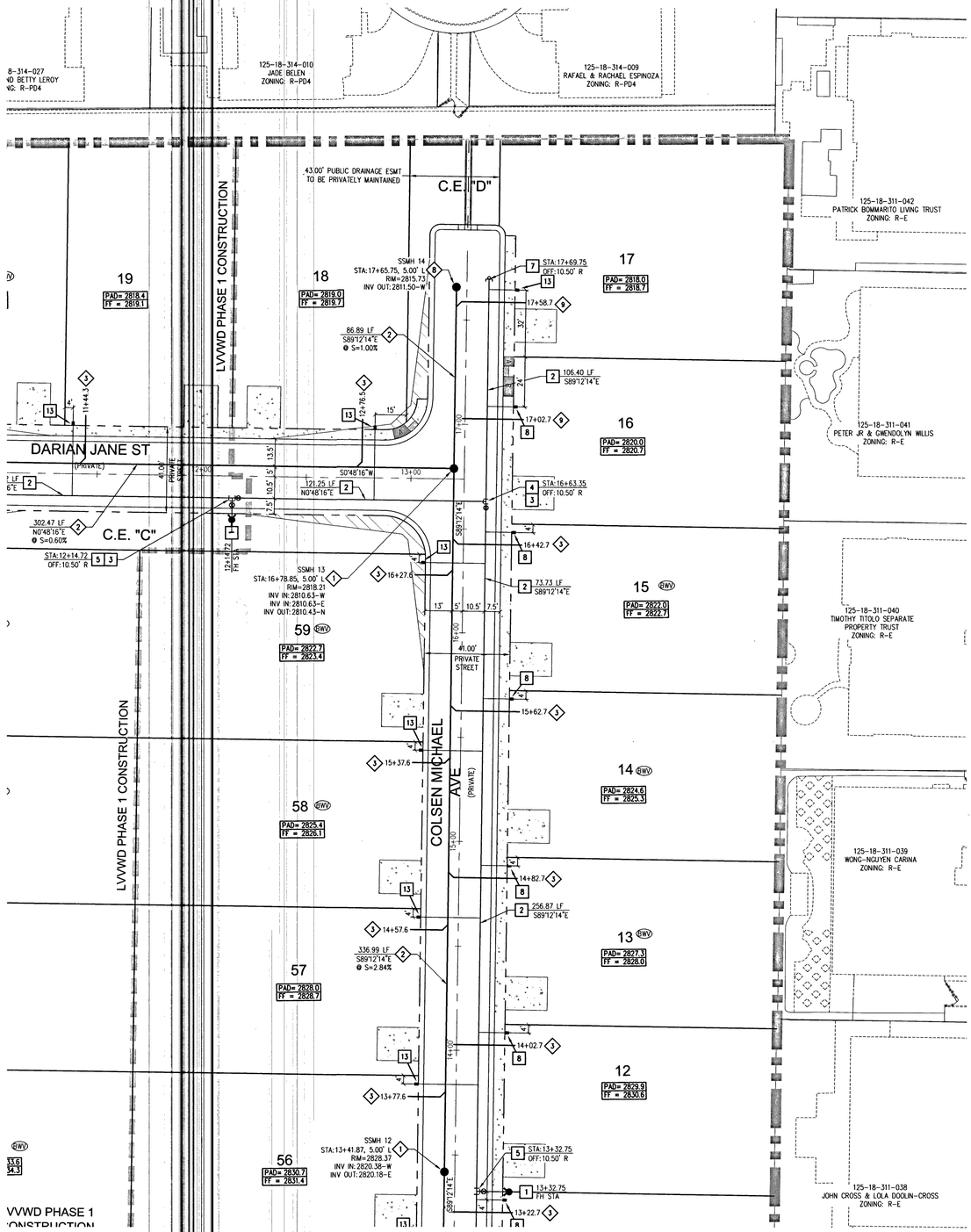
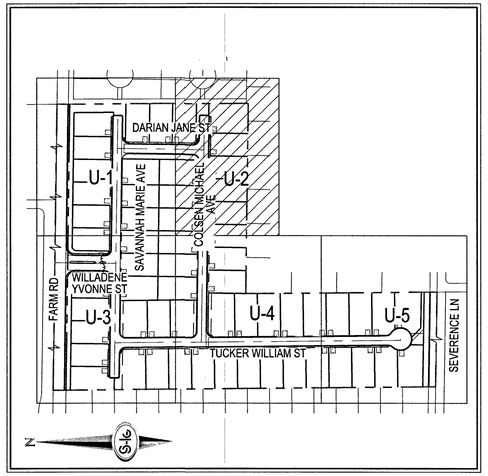
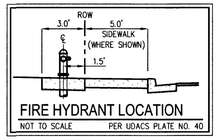
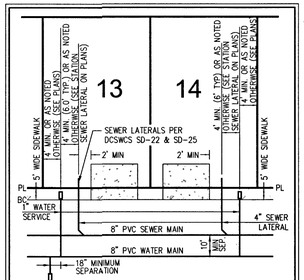






FIRE HYDRANT LOCATION

NOT TO SCALE — PER UDACS PLATE NO. 40



TYPICAL UTILITY LOCATION

UNLESS OTHERWISE NOTED (SIZES AS NOTED ON PLANS)

FIRE FLOW CALCULATIONS

FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

USE/OCCUPANCY	SINGLE FAMILY
TYPE OF CONSTRUCTION (IBC)	TYPE V-B
AUTOMATIC FIRE SPRINKLERS	YES
SQUARE FOOTAGE (LIVABLE)	<5000
SQUARE FOOTAGE (TOTAL)	<6200
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	6

BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT No. 136145 FIRST APPROVED DATE 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

WATER NOTES

1. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40
2. INSTALL 8" PVC WATER PIPE [2975 WPZ]
3. INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
4. INSTALL 8" X 8" TEE PER UDACS PLATE NO. 31
5. INSTALL 8" X 6" TEE PER UDACS PLATE NO. 31
6. INSTALL HORIZONTAL 90° BEND PER UDACS PLATE NO. 31
7. INSTALL CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36
8. INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 1
9. INSTALL 10" X 8" TAPPING SLEEVE WITH 8" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39 AND SECTION 2.24.01A
10. FIELD VERIFY LOCATION AND CONNECT TO EXISTING WATER
11. INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-4
12. INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-5
13. INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 3
14. INSTALL 45° VERTICAL BEND PER UDACS PLATE NO. 31
15. INSTALL 8" DIP WATER PIPE [2975 WPZ]
16. INSTALL 10" DIP WATER PIPE [2975 WPZ]
17. INSTALL 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
18. INSTALL 10" X 8" TEE PER UDACS PLATE NO. 31
19. INSTALL STEEL ENCASEMENT FOR WATER LINE PER UDACS 2.22.02.B.3(B), PLATE NO. 22 & 23. SEE STEEL ENCASEMENT NOTE ON SHEET U-3

SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ COROSSION PROTECTION PER DCSWCS 3.16.8.B
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
8. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-4, SD-9, AND SD-13 "B" WITH 24" SINGLE LID
9. INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS

59 UNITS X 250 GPD/UNIT = 14,750 GPD = 0.01475 MGD
TOTAL PEAK FLOW = 0.01475 X 3.54 (PEAK FACTOR) = 0.05222 MGD
TOTAL PEAK WET-WEATHER FLOW = 0.05222 MGD X 1.25 = 0.06527 MGD

DISCLAIMER NOTE

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC, 4" – 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY NOTE
   APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. CONTROLLED LOW STRENGTH MATERIAL (CLSM) PROTECT WATERLINES IN PLACE. WHEREVER A WATERLINE IS ABOVE A STORM DRAIN OR SEWER WHERE COMPACTION REQUIREMENTS UNDER A WATERLINE CANNOT BE MET, BACKFILL TRENCH WITH CLASS I CONTROLLED LOW STRENGTH MATERIAL (CLSM) TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.22.
9. ANNULAR SPACE BETWEEN PIPE AND CASING SHALL BE FILLED WITH CLASS I CLSM. SEE UDACS PLATES 17 AND 19, FOR BEDDING AND BACKFILL REQUIREMENTS.
10. INSTALL WATERLINE IS STEEL CASING PER UDACS PLATE NO. 21 AND 23. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF PIPE. DUCTILE IRON PIPE WITH RESTRAINED JOINTS IS REQUIRED. IN ADDITION, THRUST BLOCKS ARE TO BE INSTALLED AT THE UPPER BENDS.

GENERAL NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
5. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CLARK COUNTY BUILDING DEPARTMENT.
6. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
7. NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.
8. IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN IMSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02

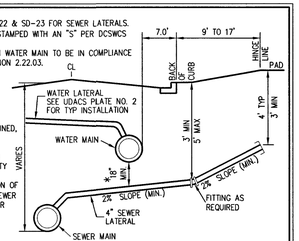
LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

NOTES:
1. SEE DCSWCS SD-22 & SD-23 FOR SEWER LATERALS.
2. CURB SHALL BE STAMPED WITH AN "S" PER DCSWCS SD-25.
3. SEPARATION FROM WATER MAIN TO BE IN COMPLIANCE WITH UDACS SECTION 2.22.03.



* IF 18" SEPARATION CANNOT BE MAINTAINED, THE ENTIRE SEWER LATERAL TO BE CONSTRUCTED WITH C900 WATER QUALITY MATERIALS AND A MINIMUM SEPARATION OF 6" BETWEEN THE SEWER LATERAL AND WATER MAIN MUST BE MAINTAINED.

TYPICAL WATER & SEWER LATERAL DETAIL

PER UDACS SECT. 2.22

WATER PRESSURE ZONE NOTE

ALL LOTS ARE SERVED FROM THE PVC WATER MAIN IN THE 2975 WPZ.

FIRE SPRINKLER NOTE

FIRE SPRINKLER SYSTEM SHALL BE PLUMBED TO THE MASTER TOILET. NO EXCEPTIONS ALLOWED

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

LVVWD EASEMENT NOTE

ALL LVVWD EASEMENTS FOR RPPA LOCATIONS WILL BE CLEAR OF OBSTRUCTIONS AND THE RPPA WILL BE INSTALLED WITHIN A LEVEL SURFACE PER UDACS PLATE 8.

LEGEND

LVVWD PHASE 1 CONSTRUCTION BOUNDARY

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 & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811 OR 1-800-227-2600

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

RICHMOND AMERICAN HOMES

FARM HUALAPAI

UTILITY PLAN II

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

KEVIN M. BROSS — Exp. 12/31/2020 — CIVIL — No. 24572 — STATE OF NEVADA — PROFESSIONAL ENGINEER — 3/18/19

U-2
SHEET 26 OF 34

L18-02739

PROJ#:136145A QS:125-18-SW

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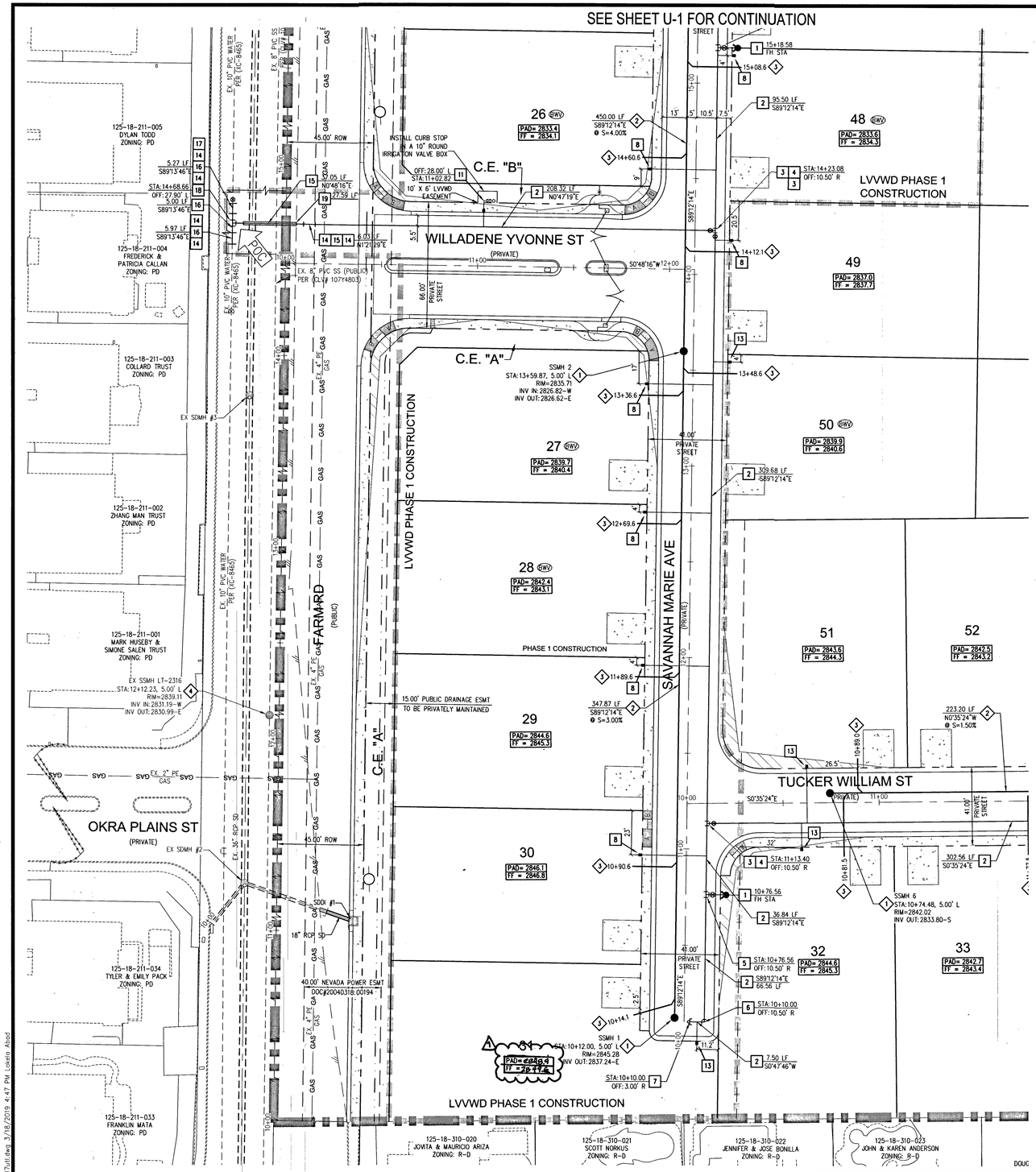

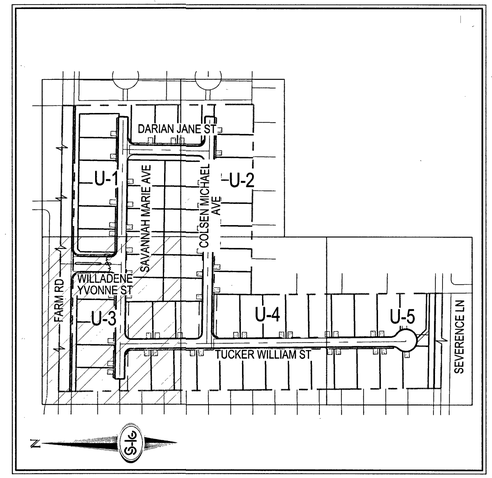

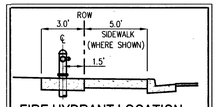

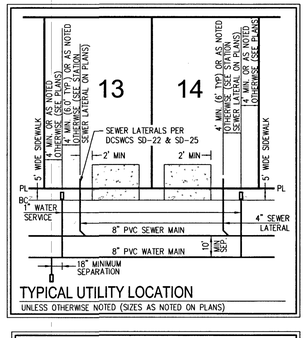

TYPICAL UTILITY LOCATION

UNLESS OTHERWISE NOTED (SIZES AS NOTED ON PLANS)

WATER NOTES

1. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40
2. INSTALL 8" PVC WATER PIPE [2975 WPZ]
3. INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
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19. INSTALL STEEL ENCASEMENT FOR WATER LINE PER UDACS 2.22.02.B.3(B), PLATE NO. 22 & 23. SEE STEEL ENCASEMENT NOTE ON SHEET U-3

WATER NOTES

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FIRE FLOW CALCULATIONS

FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

USE/OCCUPANCY	SINGLE FAMILY
TYPE OF CONSTRUCTION (IBC)	TYPE V-B
AUTOMATIC FIRE SPRINKLERS	YES
SQUARE FOOTAGE (LIVABLE)	<5000
SQUARE FOOTAGE (TOTAL)	<6200
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	6

SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
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4. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
5. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CLARK COUNTY BUILDING DEPARTMENT.
6. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
7. NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED AREAS.
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BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT No. 136145 FIRST APPROVED DATE 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS

59 UNITS X 250 GPD/UNIT = 14,750 GPD = 0.01475 MGD
TOTAL PEAK FLOW = 0.01475 X 3.54 (PEAK FACTOR) = 0.05222 MGD
TOTAL PEAK WET-WEATHER FLOW = 0.05222 MGD X 1.25 = 0.06527 MGD

DISCLAIMER NOTE

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

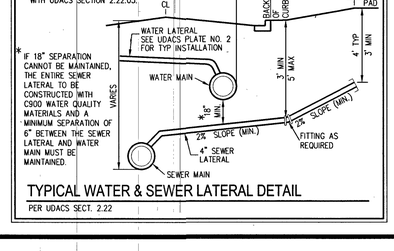
LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

NOTES:
1. SEE DCSWCS SD-22 & SD-23 FOR SEWER LATERALS.
2. CURB SHALL BE STAMPED WITH AN "S" PER DCSWCS SD-25.
3. SEPARATION FROM WATER MAIN TO BE IN COMPLIANCE WITH UDACS SECTION 2.22.03.



* IF 18" SEPARATION CANNOT BE MAINTAINED, THE ENTIRE SEWER LATERAL TO BE CONSTRUCTED WITH CSDD WATER QUALITY MATERIALS AND A MINIMUM SEPARATION OF 6" BETWEEN THE SEWER LATERAL AND WATER MAIN MUST BE MAINTAINED.

TYPICAL WATER & SEWER LATERAL DETAIL

PER UDACS SECT. 2.22

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

1-702-227-2929

FAST Call before you UnderGround 1-702-432-5300 FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811 OR 1-800-227-2600

LEGEND

LVVWD PHASE 1 CONSTRUCTION BOUNDARY

WATER PRESSURE ZONE NOTE

ALL LOTS ARE SERVED FROM THE PVC WATER MAIN IN THE 2975 WPZ.

FIRE SPRINKLER NOTE

FIRE SPRINKLER SYSTEM SHALL BE PLUMBED TO THE MASTER TOILET. NO EXCEPTIONS ALLOWED

STEEL ENCASEMENT NOTE

INSTALL WATERLINE IN STEEL CASING PER UDACS PLATES NO.22 AND 23. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF THE CASING FROM THE UPPER BENDS THROUGHOUT THE LOWERED SECTION OF THE PIPE, DUCTILE IRON PIPE WITH RESTRAINED JOINTS IS REQUIRED.

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3.21.19
SOUTHWEST GAS CORPORATION DATE

LVVWD EASEMENT NOTE

ALL LVVWD EASEMENTS FOR RPPA LOCATIONS WILL BE CLEAR OF OBSTRUCTIONS AND THE RPPA WILL BE INSTALLED WITHIN A LEVEL SURFACE PER UDACS PLATE 8.

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

SEE SHEET U-4 FOR CONTINUATION

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP.	APP. DATE
1	UPDATE PHASE BOUNDARY PER CLIENT	9/9/19	LM		

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

UTILITY PLAN III

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. RAH1517

PROFESSIONAL ENGINEER KEVIN M. BROSS Exp. 12/31/2020 CIVIL No. 24572 STATE OF NEVADA 3/18/19

U-3
SHEET 27 OF 42

PROJ.#: 136145A QS: 125-18-SW

L18-02739

107Y5104

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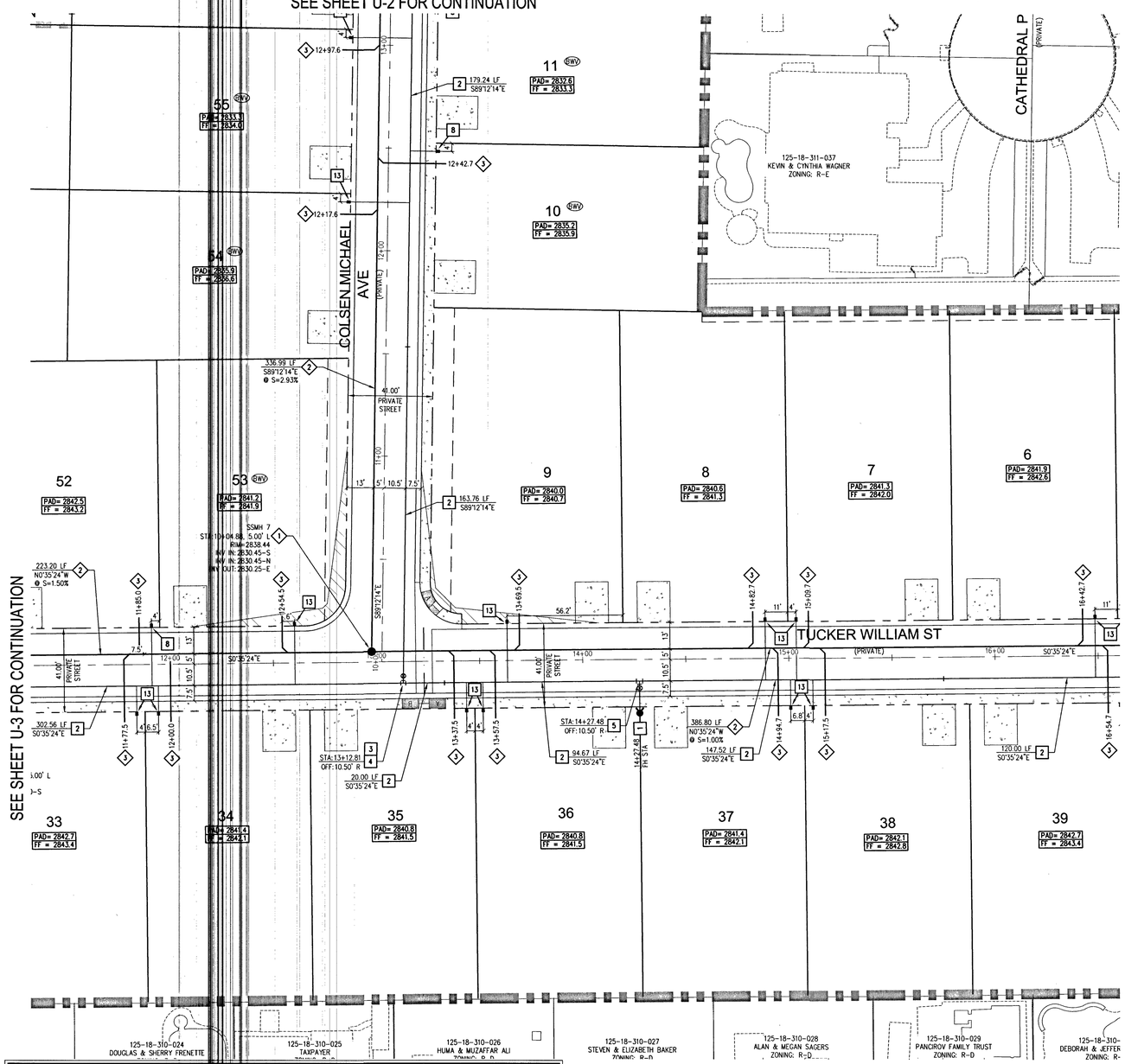

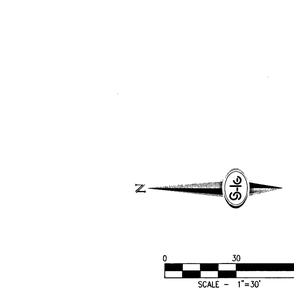

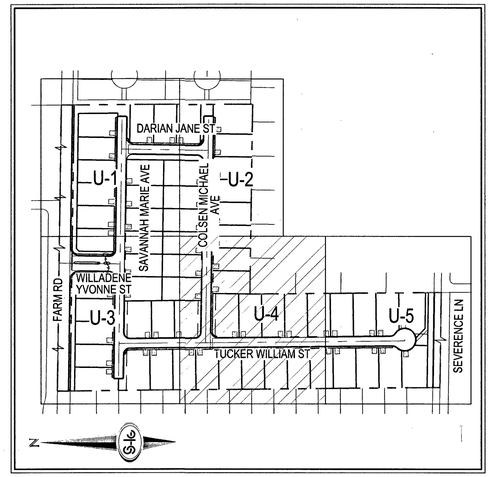

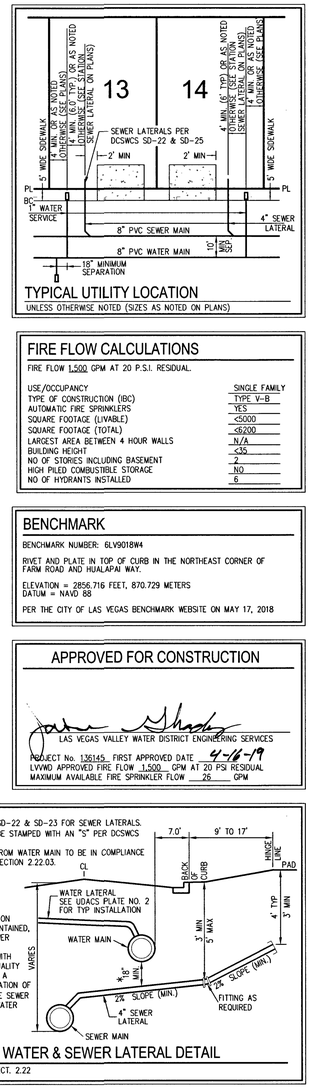

WATER NOTES

1. INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40
2. INSTALL 8" PVC WATER PIPE [2975 WPZ]
3. INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
4. INSTALL 8" X 8" TEE PER UDACS PLATE NO. 31
5. INSTALL 8" X 6" TEE PER UDACS PLATE NO. 31
6. INSTALL HORIZONTAL 90° BEND PER UDACS PLATE NO. 31
7. INSTALL CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36
8. INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 1
9. INSTALL 10" X 8" TAPPING SLEEVE WITH 8" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39 AND SECTION 2.24.01A
10. FIELD VERIFY LOCATION AND CONNECT TO EXISTING WATER
11. INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-4
12. INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-5
13. INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 3
14. INSTALL 45° VERTICAL BEND PER UDACS PLATE NO. 31
15. INSTALL 8" DIP WATER PIPE [2975 WPZ]
16. INSTALL 10" DIP WATER PIPE [2975 WPZ]
17. INSTALL 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
18. INSTALL 10" X 8" TEE PER UDACS PLATE NO. 31
19. INSTALL STEEL ENCASEMENT FOR WATER LINE PER UDACS 2.22.02.B.3(B), PLATE NO. 22 & 23. SEE STEEL ENCASEMENT NOTE ON SHEET U-3

WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC: 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY NOTE
   APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. CONTROLLED LOW STRENGTH MATERIAL (CLSM) PROTECT WATERLINES IN PLACE. WHEREVER A WATERLINE IS ABOVE A STORM DRAIN OR SEWER WHERE COMPACTION REQUIREMENTS UNDER A WATERLINE CANNOT BE MET, BACKFILL TRENCH WITH CLASS I CONTROLLED LOW STRENGTH MATERIAL (CLSM) TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.22.
9. ANNULAR SPACE BETWEEN PIPE AND CASING SHALL BE FILLED WITH CLASS I CLSM. SEE UDACS PLATES 17 AND 19, FOR BEDDING AND BACKFILL REQUIREMENTS.
10. INSTALL WATERLINE IS STEEL CASING PER UDACS PLATE NO. 21 AND 23. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF PIPE. DUCTILE IRON PIPE WITH RESTRAINED JOINTS IS REQUIRED. IN ADDITION, THRUST BLOCKS ARE TO BE INSTALLED AT THE UPPER BENDS.

FIRE FLOW CALCULATIONS

FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

USE/OCCUPANCY	SINGLE FAMILY
TYPE OF CONSTRUCTION (IBC)	TYPE V-B
AUTOMATIC FIRE SPRINKLERS	YES
SQUARE FOOTAGE (LIVABLE)	<5000
SQUARE FOOTAGE (TOTAL)	<6200
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	6

SEWER CONSTRUCTION NOTES

1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2. INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4. PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5. FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
7. INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
8. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-4, SD-9, AND SD-13 "B" WITH 24" SINGLE LID
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BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

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DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

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MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

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LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

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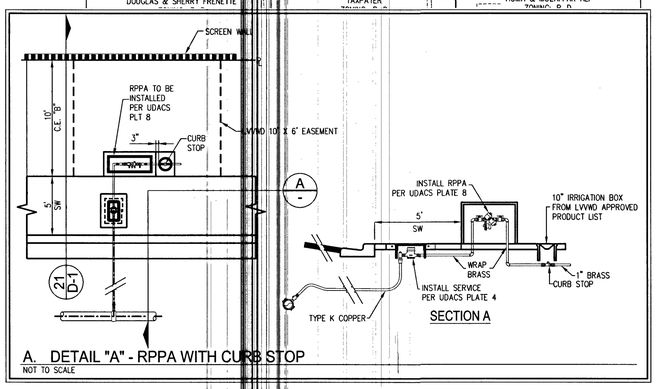

WATER PRESSURE ZONE NOTE

ALL LOTS ARE SERVED FROM THE PVC WATER MAIN IN THE 2975 WPZ.

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FIRE SPRINKLER NOTE

FIRE SPRINKLER SYSTEM SHALL BE PLUMBED TO THE MASTER TOILET. NO EXCEPTIONS ALLOWED

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

NOTES:
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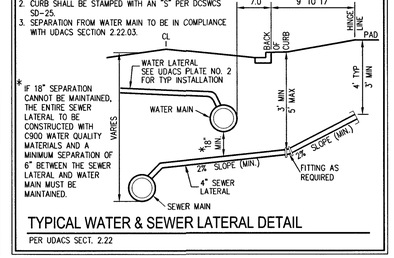

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TYPICAL WATER & SEWER LATERAL DETAIL
PER UDACS SECT. 2.22

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

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FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

Call before you Dig
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Call 811 OR 1-800-227-2600

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI
UTILITY PLAN IV

S18 R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO.
RAH1517

KEVIN M. BROSS
Exp. 12/31/2020
CIVIL
No. 24572
PROFESSIONAL ENGINEER OF NEVADA
3/18/19

U-4
SHEET 28 OF 34
L18-02739

PROJ#:136145A QS:125-18-SW

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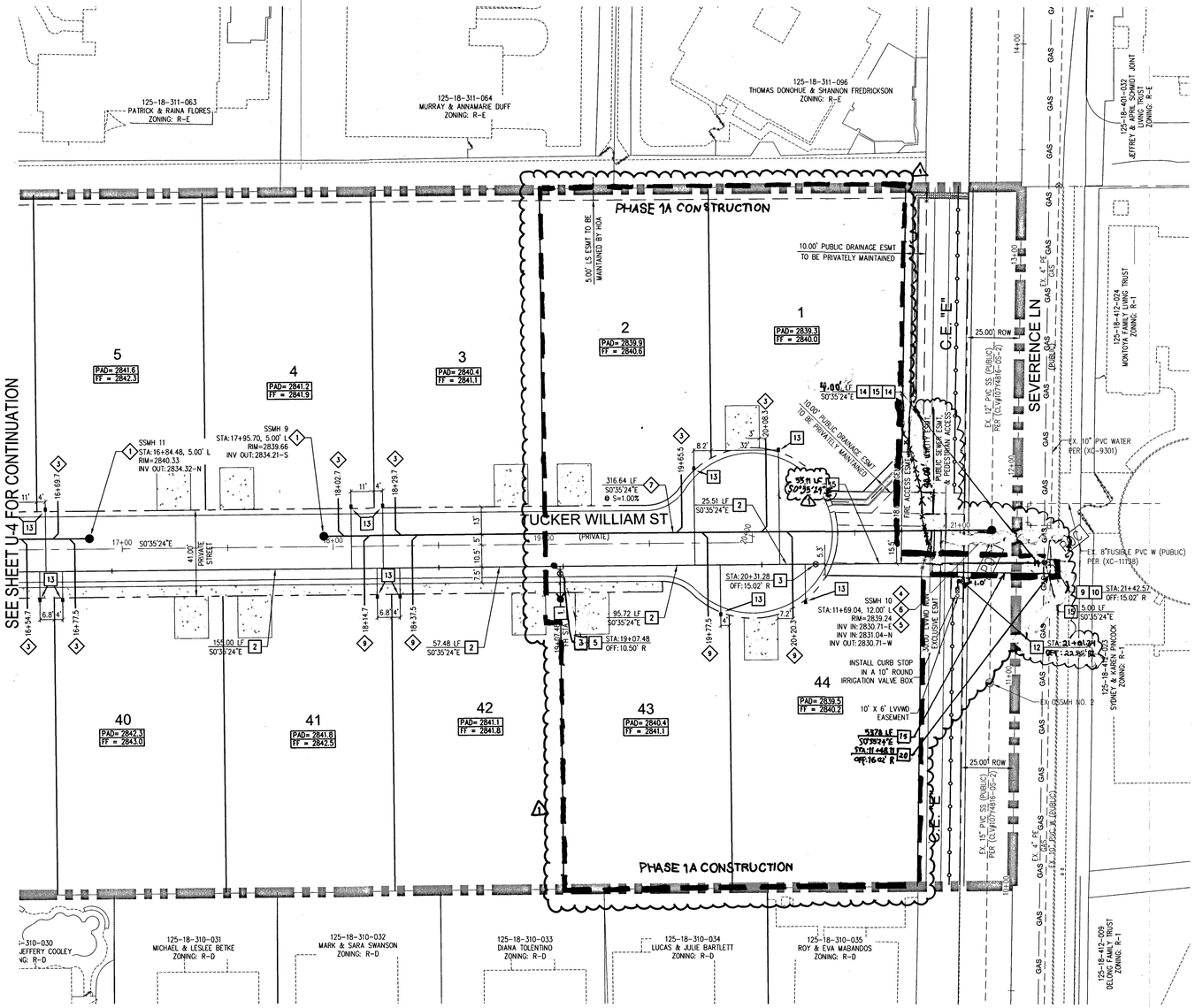
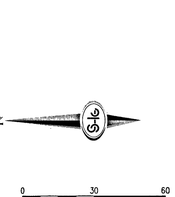
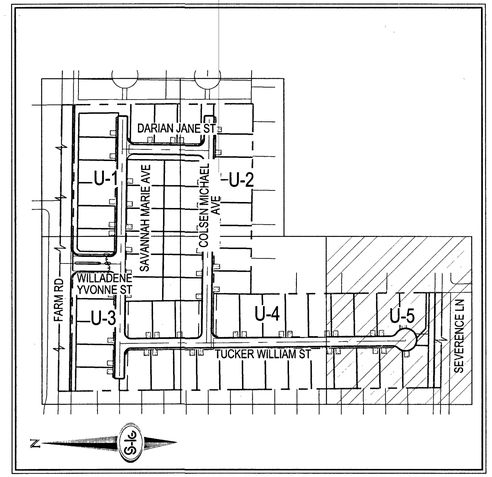
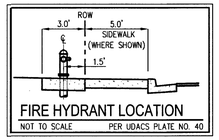


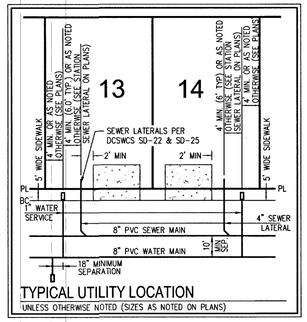






FIRE HYDRANT LOCATION

NOT TO SCALE — PER UDACS PLATE NO. 40



TYPICAL UTILITY LOCATION

UNLESS OTHERWISE NOTED (SIZES AS NOTED ON PLANS)

FIRE FLOW CALCULATIONS

FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

USE/OCCUPANCY	SINGLE FAMILY
TYPE OF CONSTRUCTION (IBC)	TYPE V-B
AUTOMATIC FIRE SPRINKLERS	YES
SQUARE FOOTAGE (LIVABLE)	<5000
SQUARE FOOTAGE (TOTAL)	<6200
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	6

BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT No. 136145 FIRST APPROVED DATE 4-16-19
LVVWD APPROVED FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

WATER NOTES

1	INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS PLATE NO. 40
2	INSTALL 8" PVC WATER PIPE [2975 WPZ]
3	INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
4	INSTALL 8" X 8" TEE PER UDACS PLATE NO. 31
5	INSTALL 8" X 6" TEE PER UDACS PLATE NO. 31
6	INSTALL HORIZONTAL 90° BEND PER UDACS PLATE NO. 31
7	INSTALL CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36
8	INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 1
9	INSTALL 10" X 8" TAPPING SLEEVE WITH 8" TAPPING VALVE PER UDACS PLATE NO. 30, 34, 39 AND SECTION 2.24.01A
10	FIELD VERIFY LOCATION AND CONNECT TO EXISTING WATER
11	INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-4
12	INSTALL 1" COPPER SERVICE W/ 3/4" IRRIGATION METER AND 1" RPPA PER UDACS PLATE NO. 4 & 8. SEE "DETAIL A" ON SHEET U-5
13	INSTALL 1" COPPER SERVICE W/ 3/4" METER PER UDACS PLATE NO. 3
14	INSTALL 45° VERTICAL BEND PER UDACS PLATE NO. 31
15	INSTALL 8" DIP WATER PIPE [2975 WPZ]
16	INSTALL 10" DIP WATER PIPE [2975 WPZ]
17	INSTALL 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
18	INSTALL 10" X 8" TEE PER UDACS PLATE NO. 31
19	INSTALL STEEL ENCASEMENT FOR WATER LINE PER UDACS 2.22.02.B.3(B). PLATE NO. 22 & 23. SEE STEEL ENCASEMENT NOTE ON SHEET U-3

WATER NOTES

1. WATER MAIN JOINT DEFLECTION (PVC, 4" - 24")
   PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.
   FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
2. REDUCED PRESSURE PRINCIPLE ASSEMBLY NOTE
   APPROVED REDUCED PRESSURE PRINCIPLE ASSEMBLY(S) SHALL BE INSTALLED PER THE UDACS PLATE NO. 8. NO WATER SHALL BE TAKEN FROM A SERVICE REQUIRING BACKFLOW PREVENTION UNTIL THE REDUCED PRESSURE PRINCIPLE ASSEMBLY HAS BEEN SUCCESSFULLY TESTED BY THE LVVWD. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) 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.
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
5. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
6. THE LVVWD CANNOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.
7. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCES ARE AVAILABLE.
8. CONTROLLED LOW STRENGTH MATERIAL (CLSM) PROTECT WATERLINES IN PLACE. WHEREVER A WATERLINE IS ABOVE A STORM DRAIN OR SEWER WHERE COMPACTION REQUIREMENTS UNDER A WATERLINE CANNOT BE MET, BACKFILL TRENCH WITH CLASS I CONTROLLED LOW STRENGTH MATERIAL (CLSM) TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.22.
9. ANNULAR SPACE BETWEEN PIPE AND CASING SHALL BE FILLED WITH CLASS I CLSM. SEE UDACS PLATES 17 AND 19, FOR BEDDING AND BACKFILL REQUIREMENTS.
10. INSTALL WATERLINE IS STEEL CASING PER UDACS PLATE NO. 21 AND 23. MINIMUM 18-INCH CLEARANCE IS REQUIRED ABOVE THE TOP OF PIPE, DUCTILE IRON PIPE WITH RESTRAINED JOINTS IS REQUIRED. IN ADDITION, THRUST BLOCKS ARE TO BE INSTALLED AT THE UPPER BENDS.

SEWER CONSTRUCTION NOTES

1	INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4 AND SD-9 WITH 24" SINGLE LID
2	INSTALL 8" SANITARY SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
3	INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 AND SD-25
4	PROTECT SEWER APPURTENANCES IN PLACE. REF. PLANS FOR DETAILS
5	FIELD VERIFY LOCATION AND CONNECT TO EXISTING SEWER
6	INSTALL 48" DIAMETER SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BASE PER DCSWCS SD-4, SD-7 AND SD-9 W/ CORROSION PROTECTION PER DCSWCS 3.16.8.B
7	INSTALL 8" C900 SEWER PIPE (PUBLIC) PER DCSWCS SD-15 AND SD-17
8	INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-4, SD-9, AND SD-13 "B" WITH 24" SINGLE LID
9	INSTALL 4" C-900 PVC SANITARY SEWER LATERAL PER DCSWCS SD-17, SD-22, SD-23 AND SD-25

ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS

59 UNITS X 250 GPD/UNIT = 14,750 GPD = 0.01475 MGD
TOTAL PEAK FLOW = 0.01475 X 3.54 (PEAK FACTOR) = 0.05222 MGD
TOTAL PEAK WET-WEATHER FLOW = 0.05222 MGD X 1.25 = 0.06527 MGD

DISCLAIMER NOTE

EXISTING UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

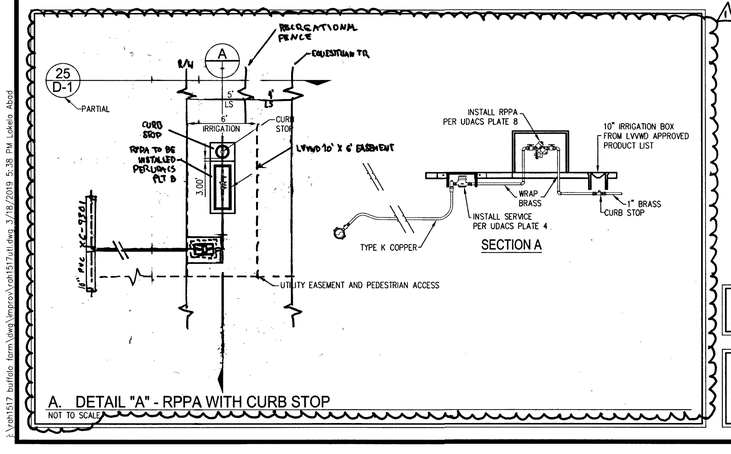
GENERAL NOTES

1. FINAL GRADES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBC 2012, SECTION 2304.11.2.2.
2. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO THE ENGINEER.
3. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION BY SWPPP.
4. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND INSPECTED.
5. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CLARK COUNTY BUILDING DEPARTMENT.
6. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR TO PROTECT IN PLACE DURING CONSTRUCTION. ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLEPING FACILITIES IF ENGINEER/OWNER IS NOT NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
7. NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.
8. IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN IMSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT
APPROVED

BY: _____ 3/19/19

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.



A. DETAIL "A" - RPPA WITH CURB STOP

NOT TO SCALE

WATER NOTES CONT.

20 METER 5/8" X 10" SERVICE ASSEMBLY PER UDACS PLATE NO. 9 AND 34

SOUTHWEST GAS APPROVAL

Pamela Kennedy 3.21.19
SOUTHWEST GAS CORPORATION DATE

FIRE SPRINKLER NOTE

FIRE SPRINKLER SYSTEM SHALL BE PLUMBED TO THE MASTER TOILET.
NO EXCEPTIONS ALLOWED.

WATER PRESSURE ZONE NOTE

ALL LOTS ARE SERVED FROM THE PVC WATER MAIN IN THE 2975 WPZ.

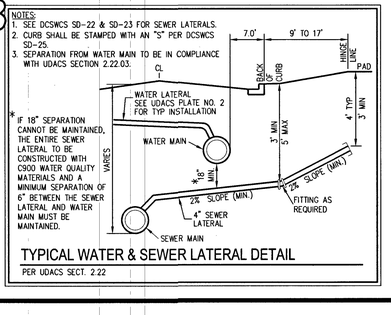
LVVWD EASEMENT NOTE

ALL LVVWD EASEMENTS FOR RPPA LOCATIONS WILL BE CLEAR OF OBSTRUCTIONS AND THE RPPA WILL BE INSTALLED WITHIN A LEVEL SURFACE PER UDACS PLATE 8.

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

NOTES:
1. SEE DCSWCS SD-22 & SD-23 FOR SEWER LATERALS.
2. CURB SHALL BE STAMPED WITH AN "S" PER DCSWCS SD-25.
3. SEPARATION FROM WATER MAIN TO BE IN COMPLIANCE WITH UDACS SECTION 2.22.03.



* IF 18" SEPARATION CANNOT BE MAINTAINED, THE ENTIRE SEWER LATERAL TO BE CONSTRUCTED WITH C900 WATER QUALITY MATERIALS AND A MINIMUM SEPARATION OF 6" BETWEEN THE SEWER LATERAL AND WATER MAIN MUST BE MAINTAINED.

TYPICAL WATER & SEWER LATERAL DETAIL

PER UDACS SECT. 2.22

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 & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811
OR
1-800-227-2600

107Y5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.
1	ADD PHASE 1A CONSTRUCTION LINES & ETC. REVISE PER NOTES & COMMENTS, ADD DETAILS	6-1-19	TCM	6/19/19	MF

LAS VEGAS, NEVADA

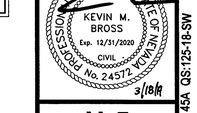
RICHMOND AMERICAN HOMES

FARM HUALAPAI

UTILITY PLAN V

S18 R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO.
RAH1517



U-5

SHEET 29 OF 42

L18-02739

PROJ#:136145A QS:125-18-SW

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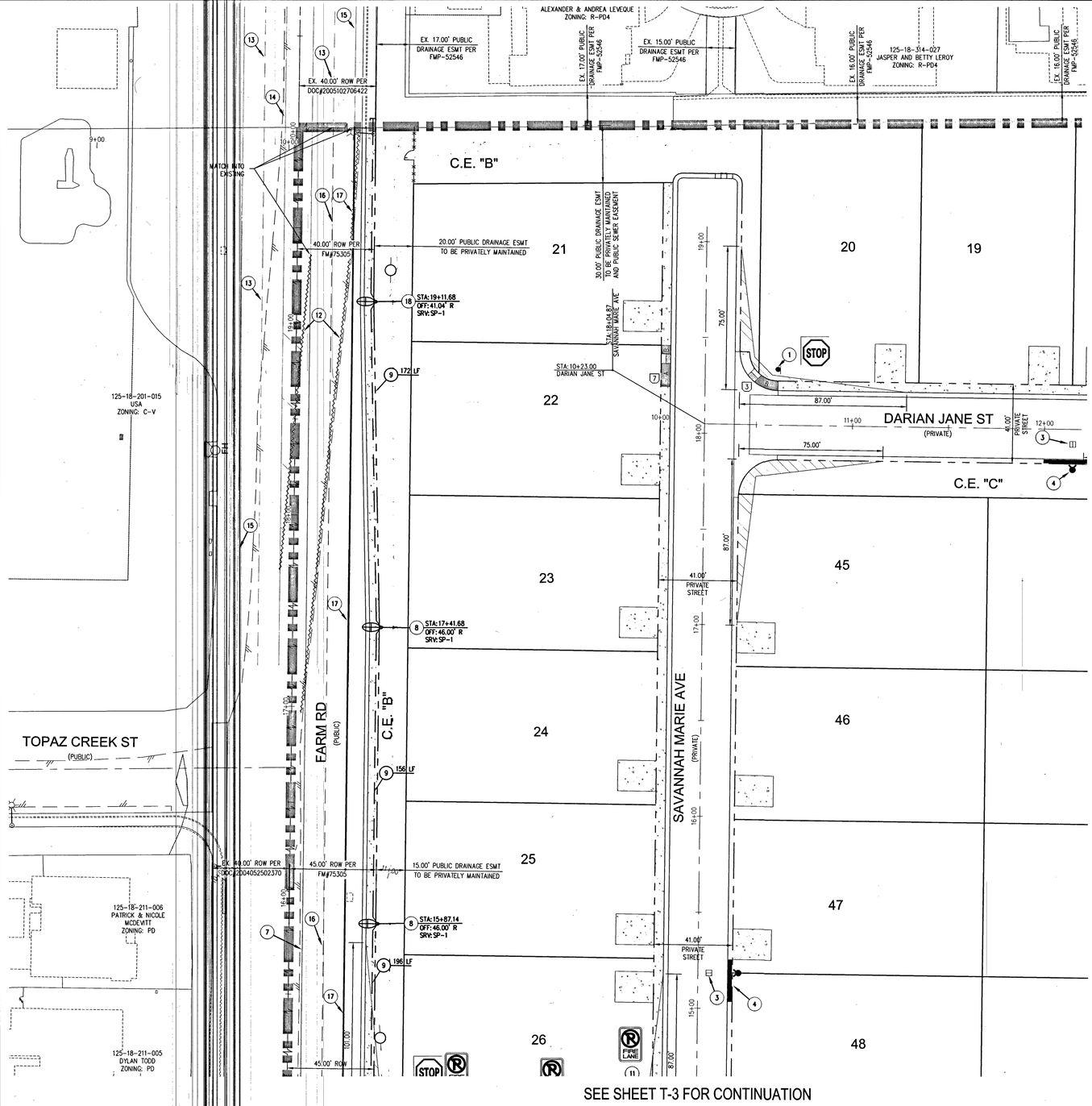
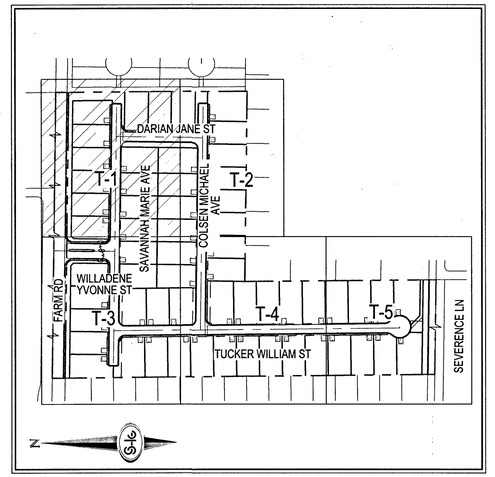


SEE SHEET T-2 FOR CONTINUATION

N

SCALE - 1"=30' (0, 30, 60 FEET)

RAMP TRANSITION LENGTHS			
RAMP NO.	GRADE % "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
2	-5 TO -4.01	4.5'	15.0'
3	-4 TO -3.01	4.5'	12.0'
4	-3 TO -2.01	4.5'	9.5'
5	-2 TO 2	8.0'	8.0'
6	2.01 TO 3	9.5'	4.5'
7	3.01 TO 4	12.0'	4.5'
8	4.01 TO 5	15.0'	4.5'
9	5.01 TO 6	21.5'	4.5'



STREETLIGHT CIRCUIT CAPACITY FOR CIRCUIT "SP1"		
IS THERE AN EXISTING SERVICE PEDESTAL IN THE FIELD (NOT PROPOSED) ADJACENT TO THIS PROPERTY THAT MIGHT BE ABLE TO BE USED TO POWER THIS PROJECT'S STREETLIGHTS? (CIRCLE)	YES	CONTACT CLARK COUNTY TRAFFIC OPERATIONS AT 455-6000 TO PERFORM CIRCUIT CAPACITY VERIFICATION.
	NO	INSTALL A NEW PEDESTAL.
SERVICE PEDESTAL LOCATION: SOUTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY		
CLARK COUNTY (COMPLETE IF EXISTING SERVICE)		
DATE OF CAPACITY VERIFICATION	1/28/19	
PERSON WHO DID THE VERIFICATION	MARC OLSON	
ENGINEER OF THE OFFSITE PLANS		
PERSON WHO DID THE CALCULATIONS	LOKELA ABAD	
CONSULTING ENGINEERING FIRM	SLATER HANIFAN GROUP	
CAPACITY CALCULATIONS		
1 CIRCUIT CAPACITY	60	AMPS
2 MAXIMUM CONTINUOUS CURRENT DRAW (80%)	48	AMPS
3 EXISTING CIRCUIT LOAD (ENTER 0 IF NEW)	13.3	AMPS
4 AVAILABLE (2 MINUS 3)	34.7	AMPS
PROPOSED LUMINAIRE LOAD TO CIRCUIT:		
5 0 NUMBER OF 100 WATT STLTS @ 1.0 AMPS/EA	-	AMPS
6 6 NUMBER OF 250 WATT STLTS @ 1.5 AMPS/EA	9	AMPS
7 TOTAL PROPOSED ADDITIONAL LOAD (5 PLUS 6)	9	AMPS
REMAINING AVAILABLE LOAD (4 MINUS 7)	25.7	AMPS

TRAFFIC NOTES

1. INSTALL 30" STOP SIGN (R1-1) AND TWO (2) 9" STREET NAME SIGNS (D3-1) (PRIVATELY MAINTAINED)
2. INSTALL 36" STOP SIGN (R1-1) AND TWO (2) 12" STREET NAME SIGNS (D3-1) (PRIVATELY MAINTAINED)
3. INSTALL BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER
4. PAINT CURB RED (15' EACH SIDE OF FIRE HYDRANT FOR A TOTAL OF 30' CURB LENGTH PERMITTING)
5. INSTALL MEDIAN NOSE MARKINGS PER CCAUSD NO. 248
6. EXISTING SIGN TO BE REMOVED
7. INSTALL TYPE II CENTERLINE PER CCAUSD NO. 244
8. INSTALL LED STREET LIGHT "OPL" FOR 85' R/W PER CCAUSD #300.53 & #314 W/ FOUNDATION PER CCAUSD #320 & #321
9. INSTALL 1-1/4" STREET LIGHT CONDUIT W/ (2) #4 AND (1) #8 GND. AVOIDING FIRE HYDRANTS WHERE NEEDED
10. PAINT CURB RED PER IFC 503.3 AND GENERAL NOTE #27
11. INSTALL 18" TYPE A "NO PARKING FIRE LANE" PER IFC 503.3.1
12. EXISTING STRIPING TO BE OBLITERATED
13. EXISTING TYPE IV LANE LINE PER L17-00976
14. EXISTING TYPE II CENTERLINE PER L17-00976
15. EXISTING 6" SOLID WHITE LINE PER L17-00976
16. INSTALL TYPE IV LANE LINE PER CCAUSD NO. 244.1
17. INSTALL 6" SOLID WHITE LINE PER CCAUSD NO. 244.9
18. INSTALL LED STREET LIGHT "OPL" FOR 80' R/W PER CCAUSD #300.53 & #314 W/ FOUNDATION PER CCAUSD #320 & #321
19. FIELD VERIFY AND CONNECT TO EX. CONDUIT

SIGN LEGEND

- STREET NAME SIGN (PER PRIVATE STREET STDS)
- STOP SIGN W/POST (R1-1)
- TRAFFIC SIGN (AS INDICATED)
- REFLECTIVE RAISED PAVEMENT MARKERS
- SIGHT VISIBILITY ZONE
- EXISTING STRIPING
- PROPOSED STRIPING
- OM3-R SIGN
- "NO PARKING FIRE LANE" SIGN

SEE SHEET C-3 FOR ABBREVIATIONS AND QUANTITIES

TRAFFIC GENERAL NOTES

1. REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS AND/OR PAVEMENT MARKINGS), UNDER CITY OF LAS VEGAS JURISDICTION, THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITIES TO CLARK COUNTY'S SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S SPECIFICATIONS OR WILL WILL BE AN APPROVED EQUIVALENT.
2. IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN NASA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02
3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
4. THE CONTRACTOR IS TO VERIFY THE ACTUAL FIELD CONDITIONS OF ALL LOTS AND INSTALL SEWER CHECK VALVES WHERE REQUIRED PER THE LATEST EDITION OF THE UNIFORM PLUMBING CODE.
5. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

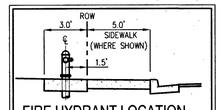
PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.



FIRE HYDRANT LOCATION
NOT TO SCALE — PER UDACS PLATE NO. 40

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300
FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

RICHMOND AMERICAN HOMES

LAS VEGAS, NEVADA

FARM HUALAPAI
TRAFFIC PLAN I

S18 T19S R60E

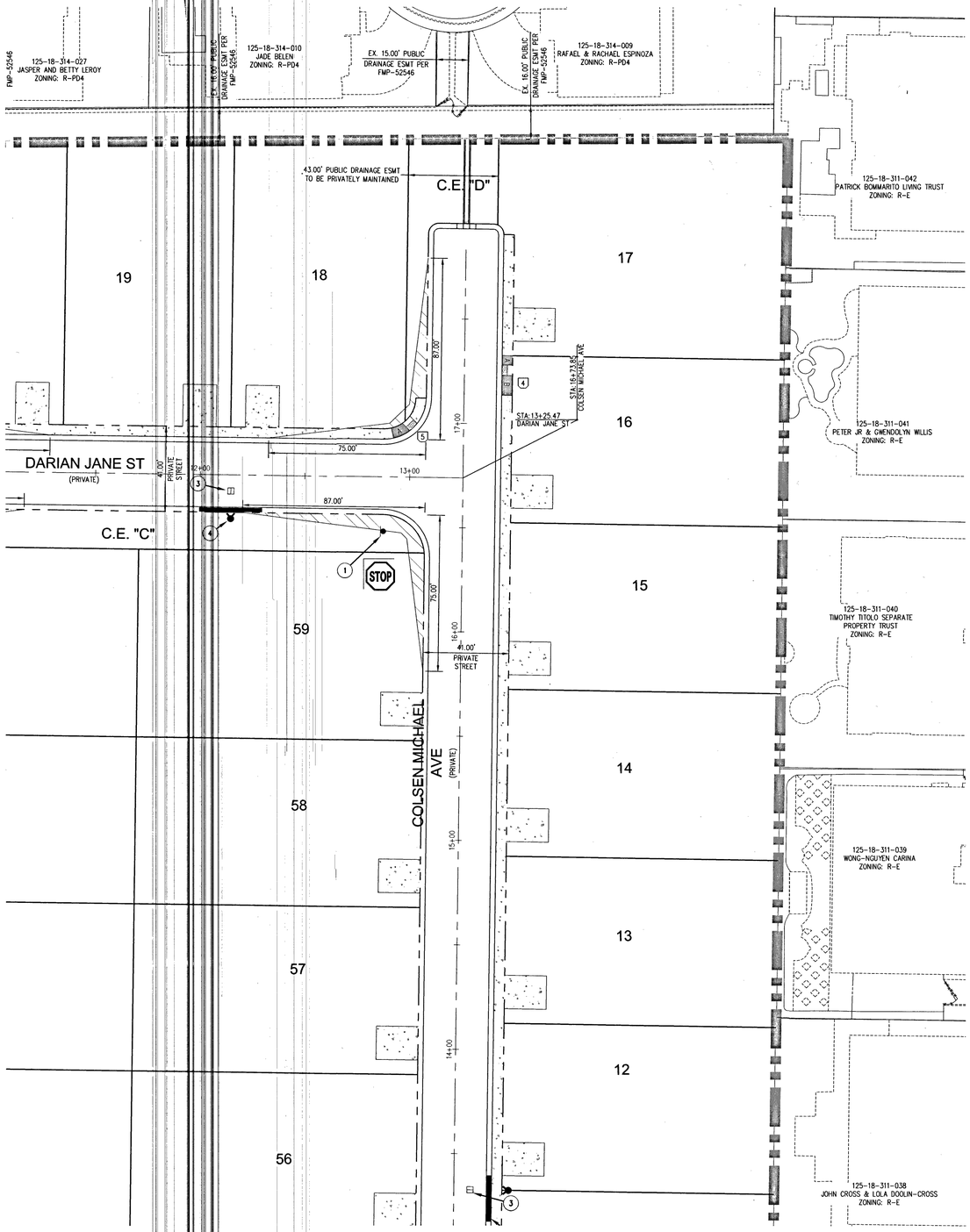
DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

T-1
SHEET 30 OF 34

L18-02739

J:\rah1517 buffalo farm\dwg\micro\rah1517tf.dwg 3/19/2019 8:10 AM Lokela Abad



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0 30 60

SCALE - 1"=30' FEET

RAMP TRANSITION LENGTHS			
RAMP NO.	GRADE % "B" TO "A"	"A" (FT) MIN.	"B" (FT) MIN.
1	-6 TO -5.01	4.5'	21.5'
2	-5 TO -4.01	4.5'	15.0'
3	-4 TO -3.01	4.5'	12.0'
4	-3 TO -2.01	4.5'	9.5'
5	-2 TO 2	8.0'	8.0'
6	2.01 TO 3	9.5'	4.5'
7	3.01 TO 4	12.0'	4.5'
8	4.01 TO 5	15.0'	4.5'
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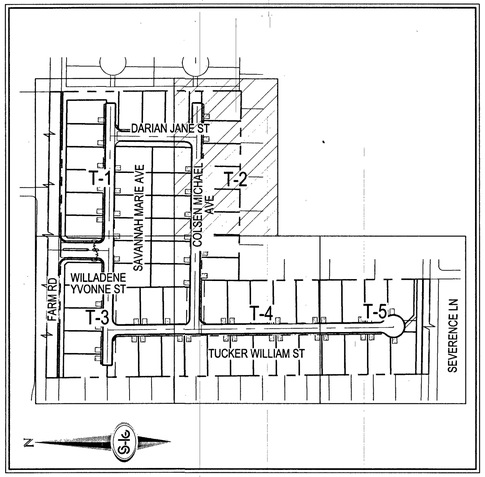

TRAFFIC NOTES

1. INSTALL 30" STOP SIGN (R1-1) AND TWO (2) 9" STREET NAME SIGNS (D3-1) (PRIVATELY MAINTAINED)
2. INSTALL 36" STOP SIGN (R1-1) AND TWO (2) 12" STREET NAME SIGNS (D3-1) (PRIVATELY MAINTAINED)
3. INSTALL BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKER
4. PAINT CURB RED (15' EACH SIDE OF FIRE HYDRANT FOR A TOTAL OF 30', CURB LENGTH PERMITTING)
5. INSTALL MEDIAN NOSE MARKINGS PER CCAUSD NO. 248
6. EXISTING SIGN TO BE REMOVED
7. INSTALL TYPE II CENTERLINE PER CCAUSD NO. 244
8. INSTALL LED STREET LIGHT 'OPL' FOR 85' R/W PER CCAUSD #300.53 & #314 W/ FOUNDATION PER CCAUSD #320 & #321
9. INSTALL 1-1/4" STREET LIGHT CONDUIT W/ (2) #4 AND (1) #8 GND. AVOIDING FIRE HYDRANTS WHERE NEEDED
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11. INSTALL 18" TYPE A "NO PARKING FIRE LANE" PER IFC 503.3.1
12. EXISTING STRIPING TO BE OBLITERATED
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19. FIELD VERIFY AND CONNECT TO EX. CONDUIT

SIGN LEGEND

- STREET NAME SIGN (PER PRIVATE STREET STDS)
- STOP — STOP SIGN W/POST (R1-1)
- TRAFFIC SIGN (AS INDICATED)
- REFLECTIVE RAISED PAVEMENT MARKERS
- SIGHT VISIBILITY ZONE
- EXISTING STRIPING
- PROPOSED STRIPING
- OM3-R SIGN
- "NO PARKING FIRE LANE" SIGN

SEE SHEET C-3 FOR ABBREVIATIONS AND QUANTITIES

TRAFFIC GENERAL NOTES

1. REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS AND/OR PAVEMENT MARKINGS), UNDER CLARK COUNTY'S JURISDICTION, THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITIES TO CLARK COUNTY'S SATISFACTION. ALL MATERIAL USED SHALL MEET CLARK COUNTY'S SPECIFICATIONS OR WILL WILL BE AN APPROVED EQUIVALENT.

2. IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN IMSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.6.01.02

3. ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.

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5. FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.

BASIS OF BEARINGS

NORTH 00°19'04" WEST, BEING THE BEARING OF THE WEST LINE OF THE NORTHWEST QUARTER (NW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 127, PAGE 24 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

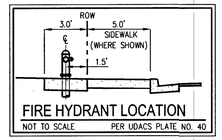
PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.



FIRE HYDRANT LOCATION

NOT TO SCALE — PER UDACS PLATE NO. 40

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

FAST Call before you UnderGround
1-702-432-5300
FREEWAY & ARTERIAL SYSTEM OF TRANSPORTATION (F.A.S.T.)

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811 OR 1-800-227-2600

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI
TRAFFIC PLAN II

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

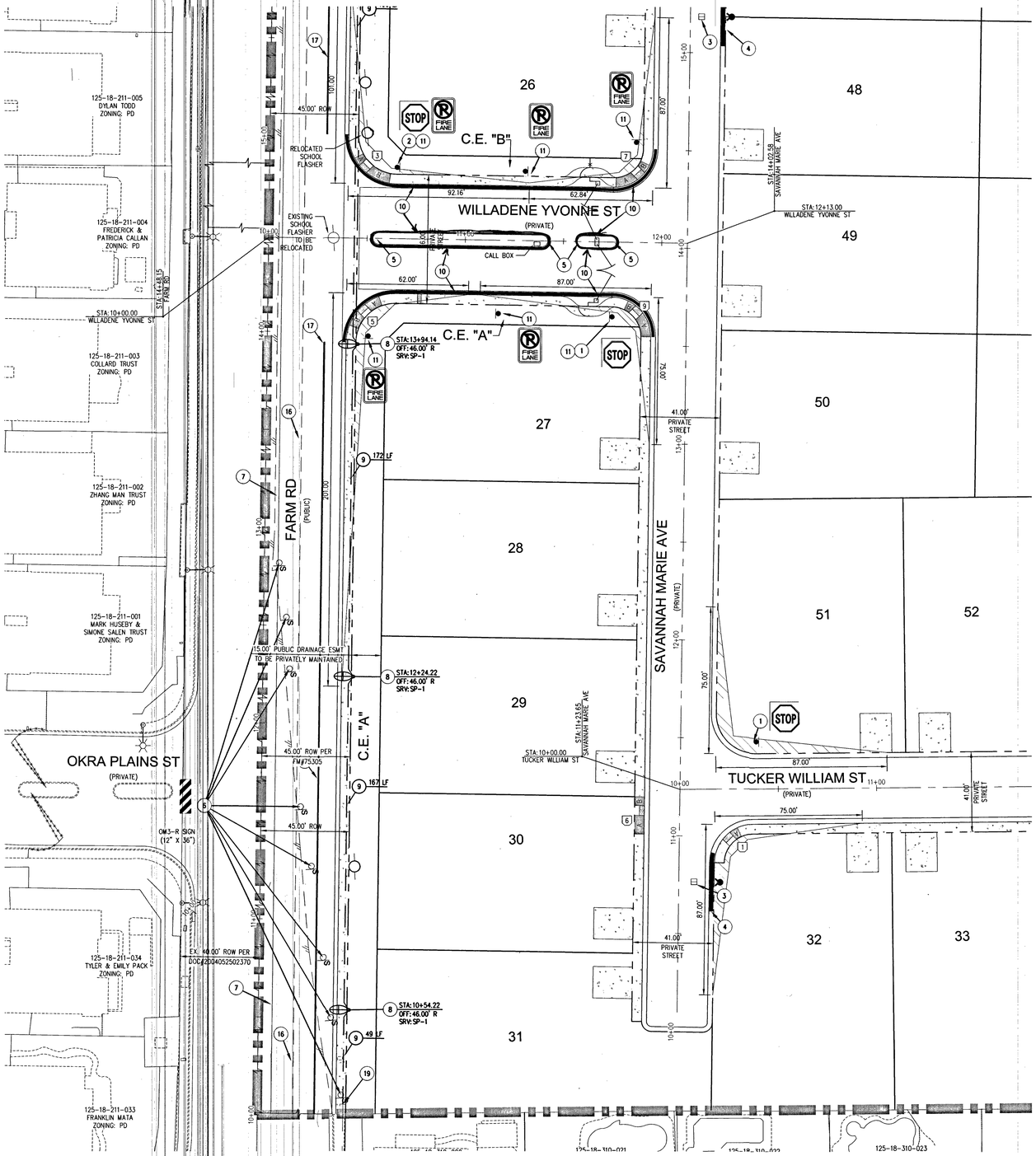
PROFESSIONAL ENGINEER — KEVIN M. BROSS — Exp. 12/31/2020 — CIVIL — No. 24572 — STATE OF NEVADA
3/18/19

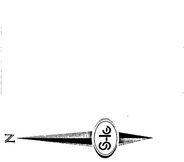
T-2
SHEET 31 OF 34

L18-02739

J:\rah1517 buffalo farm\dwg\macro\rah1517trf.dwg 3/18/2019 5:35 PM Lakela Abad

SEE SHEET T-1 FOR CONTINUATION





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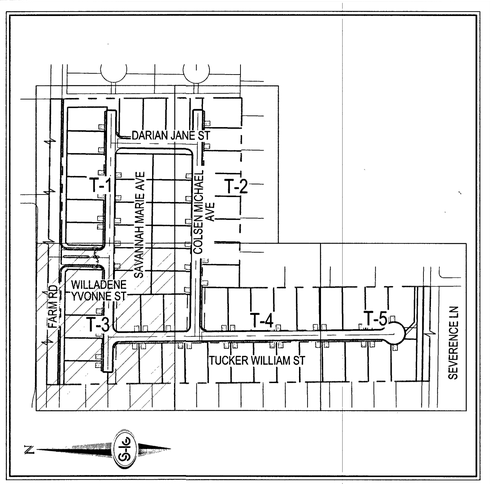

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BENCHMARK NUMBER: 6LV9018W4

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ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

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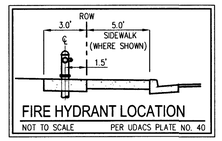


107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

S18 T19S R60E

RICHMOND AMERICAN HOMES

FARM HUALAPAI
TRAFFIC PLAN III

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

T-3
SHEET 32 OF 34

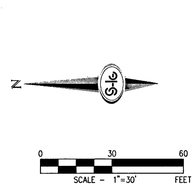
L18-02739

J:\rah1517 Buffalo Farm\Dwg\Improv\rah1517tf.dwg, 3/19/2019 8:12 AM, Loedis Abad

SEE SHEET T-2 FOR CONTINUATION

SEE SHEET T-3 FOR CONTINUATION

SEE SHEET T-5 FOR CONTINUATION



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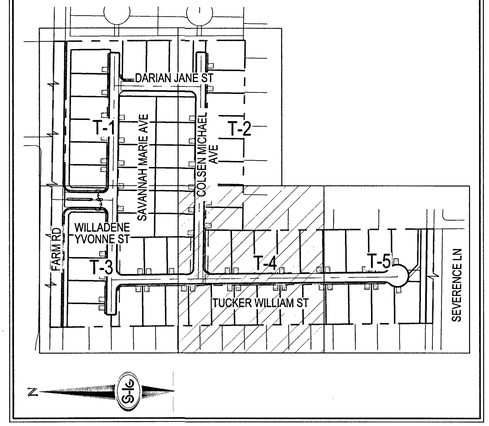

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BENCHMARK

BENCHMARK NUMBER: 6LV9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

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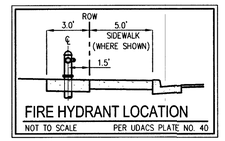

107V5104

SLATER HANIFAN GROUP
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5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

RICHMOND AMERICAN HOMES

FARM HUALAPAI

TRAFFIC PLAN IV

S18 T19S R60E

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

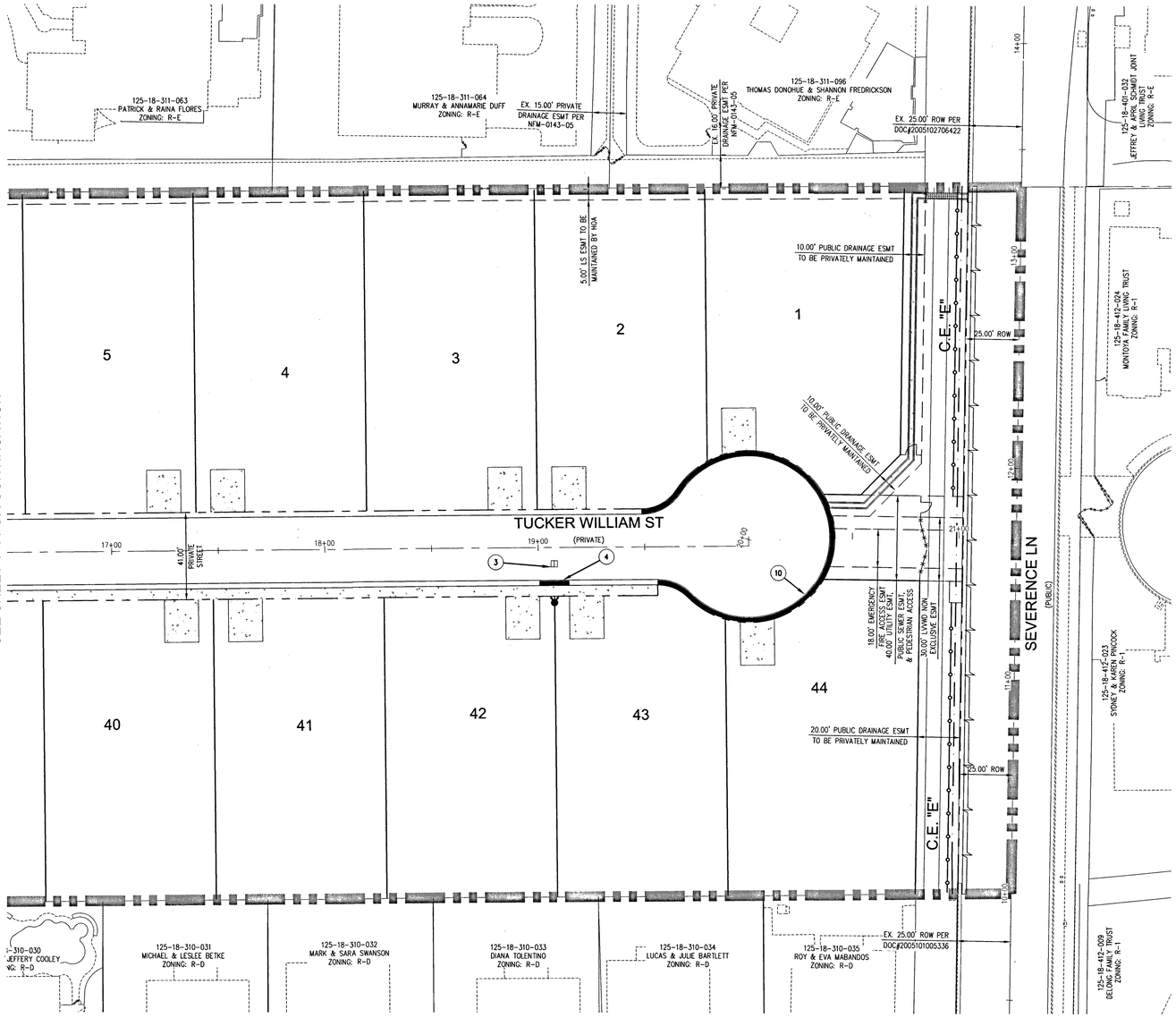
PROJECT NO.
RAH1517

PROFESSIONAL ENGINEER STATE OF NEVADA
KEVIN M. BROSS
Exp. 12/31/2020
No. 24572
CIVIL
3/18/19

T-4
SHEET 33 OF 34

L18-02739

J:\rah1517 buffalo farm\dwg\Entrance\rah1517trf.dwg 3/18/2019 5:35 PM Loleta Abod



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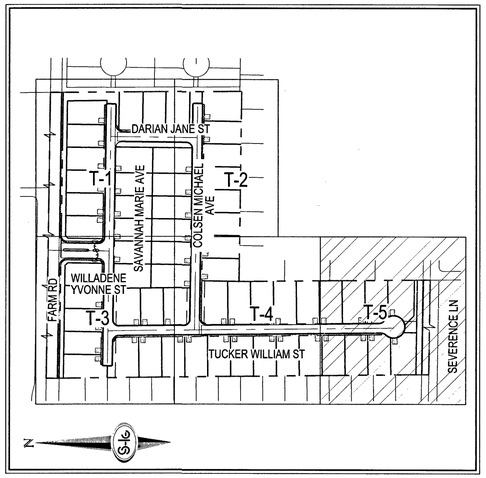

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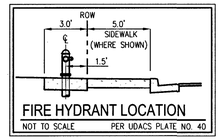

FIRE HYDRANT LOCATION
NOT TO SCALE — PER UDACS PLATE NO. 40

BASIS OF BEARINGS

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BENCHMARK NUMBER: EL9018W4

RIVET AND PLATE IN TOP OF CURB IN THE NORTHEAST CORNER OF FARM ROAD AND HUALAPAI WAY.

ELEVATION = 2856.716 FEET, 870.729 METERS
DATUM = NAVD 88

PER THE CITY OF LAS VEGAS BENCHMARK WEBSITE ON MAY 17, 2018

LAS VEGAS FIRE AND RESCUE FIRE DEPARTMENT

APPROVED

BY: _____ 3/19/19

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 P.S.I. RESIDUAL.

107V5104

SLATER HANIFAN GROUP
a Westwood team
5740 S. ARVILLE STREET #216, LAS VEGAS, NV 89118
PHONE (702) 284-5300 FAX (702) 284-5399

NO.	DESCRIPTION	DATE	BY	APP. DATE	APP.

LAS VEGAS, NEVADA

S18 T19S R60E

RICHMOND AMERICAN HOMES

FARM HUALAPAI

TRAFFIC PLAN V

DATE: 3/18/19
DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB

PROJECT NO.
RAH1517

T-5
SHEET 34 OF 34

L18-02739

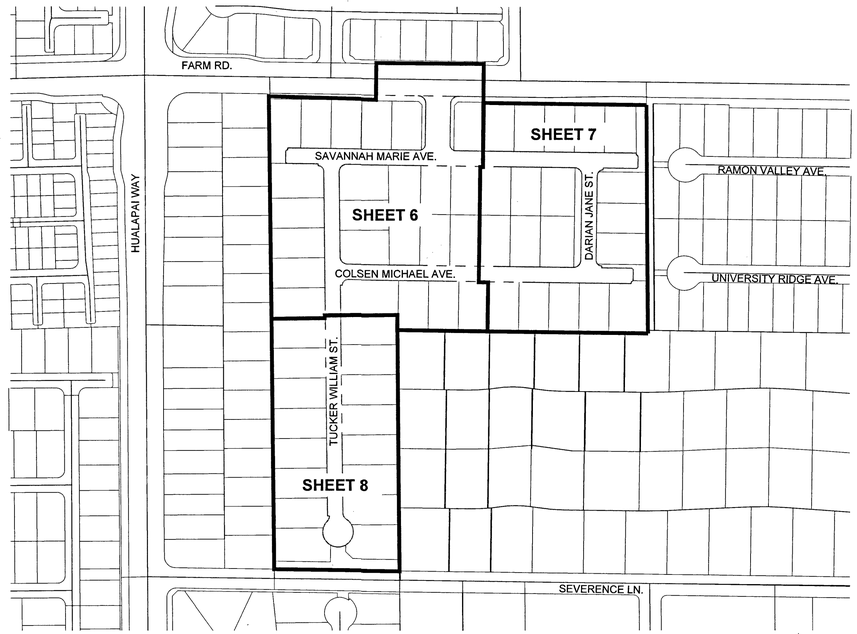
J:\Vah1517 buffalo farm\dwg\Improv\Vah1517trf.dwg 3/18/2019 5:36 PM Loaded Abcd

LEGEND

- EXISTING GAS MAIN
- EXISTING GAS SERVICE
- GAS LINE TO BE ABANDONED
- STEEL RISER
- ANODELESS RISER
- GASLIGHT
- GAS VALVE
- EXCESS FLOW VALVE
- RELIEF VALVE
- COUPLINGS
- BOND OVER
- TEST POINT
- INSULATOR
- REGULATOR STATION
- RECTIFIER
- ANODE
- SCADA
- METER SET ASSEMBLY
- PURGE POINT
- BRANCH,CVT,LINE STOPPER
- GAS LINE TO BE ABANDONED
- PROPOSED GAS MAIN
- PROPOSED GAS SERVICE
- EXISTING EASEMENT
- ROW LINE
- PROPERTY LINE
- STREET CENTERLINE
- EDGE OF PAVEMENT
- CABLE LINE - UNDERGROUND
- ELECTRIC - OVERHEAD
- ELECTRIC - UNDERGROUND
- FIBER OPTIC - UNDERGROUND
- PHONE - OVERHEAD
- PHONE - UNDERGROUND
- RECLAIMED WATER
- SEWER
- STORMWATER
- WATER
- UTILITY PEDESTALS
- FIRE HYDRANT
- MANHOLE
- WATER VALVE
- SURVEY MONUMENT
- POWER POLE
- GAS FLOW ARROW

N

N.T.S.



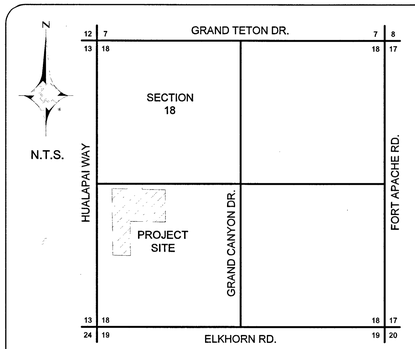
SHEET INDEX MAP

SHEET INDEX

1	COVERSHEET
2	SIGNATURE SHEET
3-5	NOTES AND STANDARD DETAILS
6-8	PLAN SHEET

N

N.T.S.



LOCATION MAP
T19S R60E S18

City of Las Vegas

Total footage located in Public ROW 18'

APPROVED FOR CONSTRUCTION
THIS APPROVAL IS FOR WORK IN CLV R/W OR CLV EASEMENTS ONLY. OBTAINING PERMISSION OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

Approval _____ Date _____

811 Know what's **below.** **Call** before you dig.

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PERMIT INFORMATION	ISOLATION AREA	LOCATION	ATLAS OR TILE
CITY OF LAS VEGAS TAX CODE: 02-0200	ISO_21_DIST_327	T19S R60E S18 M.D.M.	x579y562

D_N_VALLEY_W	
SYSTEM MAOP:	60
SYSTEM MOP:	55
N/A	
SYSTEM MAOP:	N/A
SYSTEM MOP:	N/A

JOB TYPE	
HP SERVICE	☐
DISTRIBUTION	☒
FEEDER	☐
TRANS. BY DEF	☐
TRANS > 20%	☐

WR NO.
3796565
RELATED WR NO.S
N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 1 OF 8		SCALE N.T.S.	DATE 03/27/2019
DWN. BY SEI		CHKD. BY DF	APPVD. BY BWJ

FARM HUALAPAI

L18-02739 1074S104 Sheet 35 of 42

PRESSURE TEST PERFORMED BY AND VERIFIED BY SIGNATURES

I HAVE **PERFORMED** THE PRESSURE TESTS AS SHOWN ON THE AS-BUILT AND IN ACCORDANCE WITH THE OPERATIONS MANUAL.

I HAVE **VERIFIED** THE PRESSURE TESTS AS SHOWN ON THE AS-BUILT AND IN ACCORDANCE WITH THE OPERATIONS MANUAL.

PRESSURE TEST #____ PERFORMED BY_____ DATE _____

SWG VERIFIED BY_____ DATE _____

PURGE PLAN PERFORMED BY SIGNATURES

PURGE PLAN WAS COMPLETED IN ACCORDANCE WITH THE OPERATIONS MANUAL GUIDELINES:

PERFORMED BY_____ DATE _____ SHEET#_____

LOCATION _____

PIPE JOINER VISUAL INSPECTION CERTIFICATION

I HAVE VISUALLY INSPECTED ALL HEATED FUSIONS, SOLVENT, CEMENT, MECHANICAL JOINTS, AND WELDS THAT I HAVE PERFORMED

NAME _____ PJQ# _____

2ND VISUAL INSPECTION CERTIFICATION

I HAVE VISUALLY INSPECTED ALL HEATED FUSIONS, SOLVENT, CEMENT AND MECHANICAL JOINTS THAT HAVE BEEN PERFORMED (INSPECTION OF FINAL JOINT ON PLASTIC PIPE ONLY)

NAME _____ PJQ# _____

CONSTRUCTION

INSPECTOR _____ PJQ#_____

FOREMAN _____ PJQ#_____

REVIEWED BY _____ PJQ#_____

<INPUT COMPANY NAME>

AS-BUILT DRAWING-PRESSURE TEST DATA TEST #____

DESCRIPTION: TEST MEDIUM: ☐ AIR ☐ NITROGEN ☐ WATER ☐ NATURAL GAS — TEST METHOD: ☐ GAUGE ☐ CHART ☐ SOAP

TEST POINTS _____

PIPE DIA. _____

TOTAL LENGTH _____

PIPE TYPE _____ GAUGE SN#_____

MIN. DURATION _____ PRESS REC SN#_____

PRESSURE (ALL TESTS) (START)_____ (STOP)_____

PRESSURE (CHART ONLY) (MIN) _____ (MAX) _____

TIME (START)_____ (STOP)_____

DATE (START)_____ (STOP)_____

INTERMEDIATE LEAK TEST YES ☐ NO ☐

LEAK SURVEY WR# (NATURAL GAS TEST ONLY)_____

ANY LEAKS OR FAILURES ON A TEST YES ☐ NO ☐

IF YES, NOTE THE LEAKS AND FAILURES AND THEIR DISPOSITION:

_____

PERFORMED BY (PRINT NAME AND EMPLOYEE # OR CONTRACTOR #):

_____

<INPUT COMPANY NAME>

AS-BUILT DRAWING-PRESSURE TEST DATA TEST #____

DESCRIPTION: TEST MEDIUM: ☐ AIR ☐ NITROGEN ☐ WATER ☐ NATURAL GAS — TEST METHOD: ☐ GAUGE ☐ CHART ☐ SOAP

TEST POINTS _____

PIPE DIA. _____

TOTAL LENGTH _____

PIPE TYPE _____ GAUGE SN#_____

MIN. DURATION _____ PRESS REC SN#_____

PRESSURE (ALL TESTS) (START)_____ (STOP)_____

PRESSURE (CHART ONLY) (MIN) _____ (MAX) _____

TIME (START)_____ (STOP)_____

DATE (START)_____ (STOP)_____

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LEAK SURVEY WR# (NATURAL GAS TEST ONLY)_____

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<INPUT COMPANY NAME>

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TEST POINTS _____

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TOTAL LENGTH _____

PIPE TYPE _____ GAUGE SN#_____

MIN. DURATION _____ PRESS REC SN#_____

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PRESSURE (CHART ONLY) (MIN) _____ (MAX) _____

TIME (START)_____ (STOP)_____

DATE (START)_____ (STOP)_____

INTERMEDIATE LEAK TEST YES ☐ NO ☐

LEAK SURVEY WR# (NATURAL GAS TEST ONLY)_____

ANY LEAKS OR FAILURES ON A TEST YES ☐ NO ☐

IF YES, NOTE THE LEAKS AND FAILURES AND THEIR DISPOSITION:

_____

PERFORMED BY (PRINT NAME AND EMPLOYEE # OR CONTRACTOR #):

_____

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D_N_VALLEY_W		N/A	
SYSTEM MAOP:	60	SYSTEM MAOP:	N/A
SYSTEM MOP:	55	SYSTEM MOP:	N/A

JOB TYPE	
HP SERVICE	☐
DISTRIBUTION	☒
FEEDER	☐
TRANS. BY DEF	☐
TRANS > 20%	☐

WR NO.	RELATED WR NO.S
3796565	N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 2 OF 8		SCALE N.T.S.	DATE 03/27/2019
DWN. BY SEI		CHKD. BY DF	APPVD. BY BWJ

FARM HUALAPAI

L18-02739 10745104

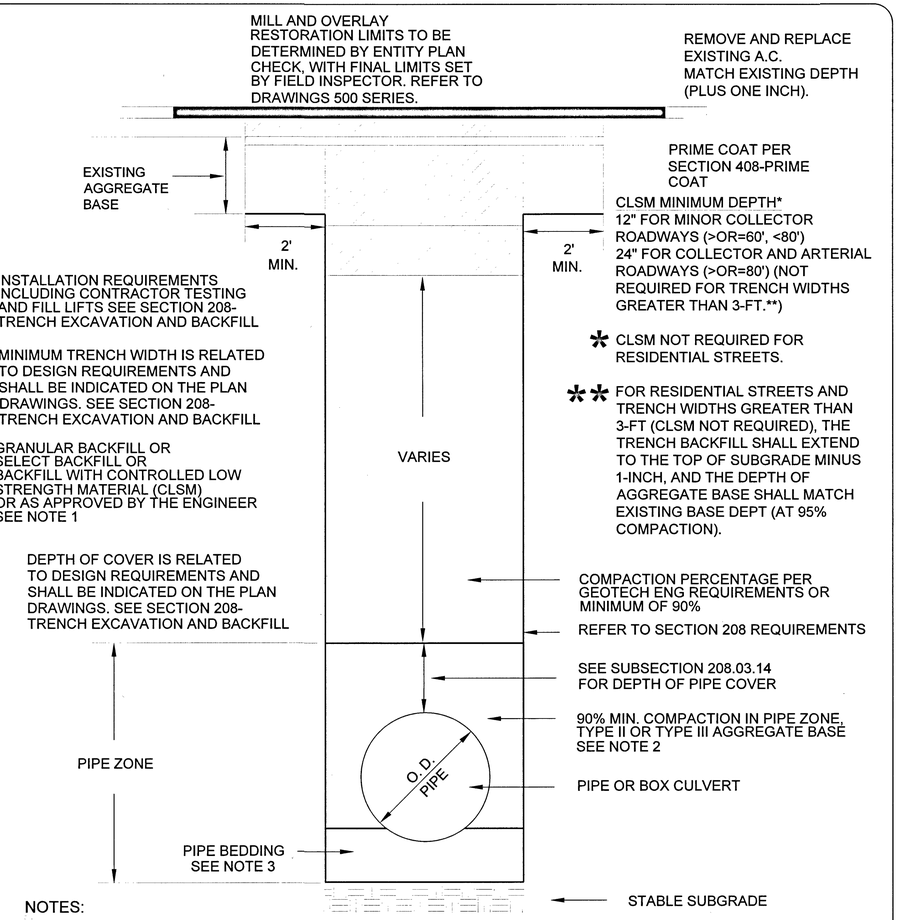
GENERAL NOTES:

1. SUGGESTED GAS LOCATIONS ARE TO CLEAR SUBSTRUCTURES. LOCATE IN FIELD.
2. ALL PIPELINE CONSTRUCTION SHALL CONFORM TO APPLICABLE JURISDICTION SPECIFICATIONS..
3. DO NOT SCALE THIS DRAWING.
4. CHANGE IN PROPOSED MAIN LOCATION MUST BE AUTHORIZED BY SWG ENGINEER PRIOR TO INSTALLATION.
5. GAS MAINS SHALL BE PURGED PER OPERATIONS MANUAL.
6. ALL EXISTING UTILITY LOCATIONS TO BE VERIFIED PRIOR TO START OF CONSTRUCTION.
7. TRENCH IS TO BE EXCAVATED TO THE DEPTH AND WIDTH AS INDICATED ON THE TRENCH DETAIL(S).
8. CONTACT ENGINEERING FOR BYPASS INFORMATION.
9. ALL MAIN TIE-INS REQUIRING TEES ARE TO BE FULL-FLOW TEES UNLESS OTHERWISE STATED..
10. ALL SHORING REQUIREMENTS SHALL CONFORM TO APPLICABLE PORTIONS OF THE OPERATIONS MANUAL.
11. REQUEST FOR SURVEYING AND/OR STAKING WILL BE SUBMITTED TO ENGINEERING 72 HOURS IN ADVANCE, MINIMUM.
12. TRENCHING AND PAVEMENT REPLACEMENT SHALL CONFORM WITH RTC STANDARD 503, 500.5, AND UNIFORM STANDARD SPEC SECTION 208.
13. MINIMUM TEST DURATION REQUIREMENTS AND GUIDELINES FOR MAIN INSTALLATION IN SYSTEMS <60PSIG ARE:

A. MINIMUM TEST DURATION IS 8 HOURS FOR PIPES 1-1/4-INCHES OR GREATER, WITH FOOTAGES BETWEEN 3,001 FEET AND 10,000 FEET.

B. ALL FOOTAGES GREATER THAN 3,000 FEET REQUIRE A CHART.

C. CONSTRUCTION SHALL CONTACT ENGINEERING FOR MINIMUM TEST DURATIONS IF THE FOOTAGE TO BE TESTED EXCEEDS 10,000 FEET.



NOTES:

1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

RTC STD DWG 503

ABBREVIATIONS:

AA	ALDYL-A PIPE
ABND	ABANDONED
AC	ASPHALTIC CONCRETE
AC#	ACCELERATED CONSTRUCTION
ACP	ASBESTOS CEMENT PIPE
APN	ASSESSOR PARCEL NUMBER
BLVD	BOULEVARD
BM	BENCHMARK
BO	BLOW OFF
BTU	BRITISH THERMAL UNIT
CIP	CAST IRON PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CP	CATHODIC PROTECTION
D	INSIDE DIAMETER
DDCA	DESIGN DATA COLLECTION APPLICATION
DET	DETAIL
DIP	DUCTICLE IRON PIPE
DIA	DIAMETER
DIMP	DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM
DP	DESIGN PRESSURE
DWG	DRAWING
EFV	EXCESS FLOW VALVE
EG	EXISTING GRADE
ELEC	ELECTRICAL
ELEV	ELEVATION
EMS	ELECTRONIC MARKING SYSTEM
E.P	END POINT
EPR	ELECTRONIC PRESSURE RECORDERS
ESMT	EASEMENT
EX	EXISTING
FERC	FEDERAL ENERGY REGULATORY COMMISSION
FH	FIRE HYDRANT
GIR	GAS INFRASTRUCTURE REPLACEMENT
GPR	GAS PRESSURE REGULATOR
HCA	HIGH CONSEQUENCE AREA
HDD	HEATING DEGREE DAY
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH PRESSURE
HOP	HISTORIC OPERATING PRESSURE
HVTT	HIGH VOLUME TAPPING TEE
IN	INCH(ES)
IPS	IRON PIPE SIZE
JT	JOINT TRENCH
MAOP	MAXIMUM ALLOWABLE OPERATING PRESSURE
M&C	MEASUREMENTS & CONTROL
MCFH	THOUSAND CUBIC FEET PER HOUR
MH	MANHOLE
MOP	MAXIMUM OPERATING PRESSURE
MP	MANUFACTURER'S PRESSURE RATING
MSA	METER SET ASSEMBLY
MVP	MAPPING VERIFICATION PROCEDURE
NAP	NOT A PART
NTSB	NATIONAL TRANSPORTATION SAFETY BOARD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OHE	OVERHEAD ELECTRIC
P	POWER
PAOP	POTENTIONAL ALLOWABLE OPERATING PRESSURE
PCC	PORTLAND CEMENT CONCRETE
PE	POLYETHYLENE PIPE
PH	POT HOLE
PHMSA	PIPELINE & HAZARDOUS MATERIALS SAFETY ADMINISTRATION
PL	PROPERTY LINE
PIC	POTENTIAL IMPACT CIRCLE
PLS	PRESSURE LIMITING STATION
P.O.B	POINT OF BEGINNING
PP	POWER POLE
PROP	PROPOSED
PQF	PREQUALIFIED FITTING
PSIG	POUNDS PER SQUARE INCH (GAUGE)
PVC	POLYVINYL CHLORIDE
PUE	PUBLIC UTILITY EASEMENT
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FOOT
SHT	SHEET
SLSV	SERVICE LINE SHUT-OFF VALVE
SMYS	SPECIFIED MAXIMUM YIELD STRENGTH
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STL	STEEL
SWG	SOUTHWEST GAS
TDS	TEST DATA SHEET
TEL	TELEPHONE
TB	THRUST BLOCK
TOP	TOP OF PIPE
TP	TEST POINT
TS	TECHNICAL SERVICE NOTE
TRIMP	TRANSMISSION INTEGRITY MANAGAMENT PROGRAM
TYP	TYPICAL
U.E.	UTILITY EASEMENT
UGE	UNDERGROUND ELECTRIC
UOC	UNUSUAL OPERATING CONDITION
USD	UNIFORM STANDARD DRAWING
UGT	UNDERGROUND TELEPHONE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VG	VALLEY GUTTER
VSP	VINTAGE STEEL PIPE
W	WATER
WMS	WORK MANAGEMENT SYSTEM
WR	WORK REQUEST
WT	WALL THICKNESS
WV	WATER VALVE
YD	YARD(S)

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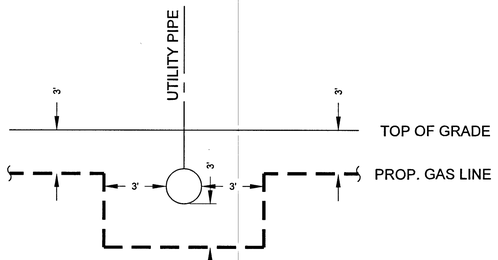
D_N_VALLEY_W		JOB TYPE	
SYSTEM MAOP:	60	HP SERVICE	☐
SYSTEM MOP:	55	DISTRIBUTION	☒
N/A		FEEDER	☐
SYSTEM MAOP:	N/A	TRANS. BY DEF	☐
SYSTEM MOP:	N/A	TRANS > 20%	☐

WR NO.	RELATED WR NO.S
3796565	N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 3 OF 8		SCALE N.T.S.	DATE 03/27/2019
DWN. BY SEI		CHKD. BY DF	APPVD. BY BWJ

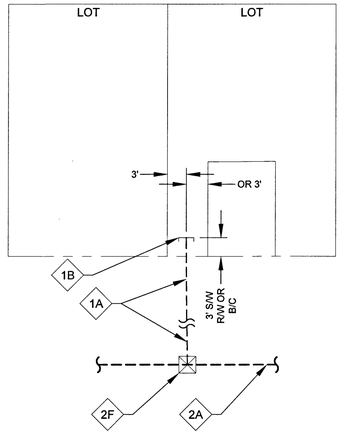
FARM HUALAPAI

L18-02739 107Y5104 Sheet 37 of 42

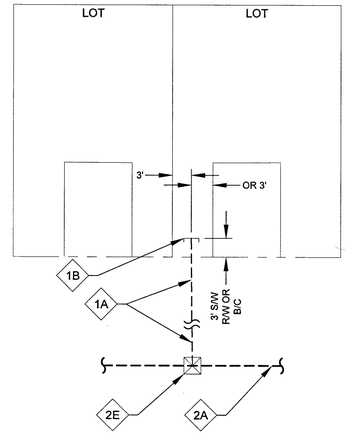


TYPICAL UTILITY CROSSING DETAIL
NOT TO SCALE

DESIGN PIPE SUMMARY	
DESIGN QTY.	DESCRIPTION
3,055'	2" PE8100
1,077'	1" PE8100



TYPICAL RESIDENTIAL SINGLE SERVICE LATERAL DETAIL
4A / 4
N.T.S.



TYPICAL RESIDENTIAL BRANCH SERVICE LATERAL DETAIL
4B / 4
N.T.S.

2" DISTRIBUTION MATERIALS LIST						
CODE	DESIGN QTY.	AS-BUILT QTY.	STOCK ID	DESCRIPTION	SEAM	COATING
2A	0'	0'	100-5101	2" PE8100 MAIN	N/A	N/A
2E	13	0'	160-8394	2" X 1" PE TAPPING TEE W/1800 EFV	N/A	N/A
2F	30	0	160-8577	2" X 1" PE TAPPING TEE W/1200 EFV	N/A	N/A

1 1/4" AND BELOW, DISTRIBUTION MATERIALS LIST						
CODE	DESIGN QTY.	AS-BUILT QTY.	STOCK ID	DESCRIPTION	SEAM	COATING
1A	1,077'	0'	101-8526	1" PE SERVICE	N/A	N/A
1B	43	0'	850-8773	1" PE CAP	N/A	N/A

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SYSTEM MOP:	N/A

JOB TYPE
HP SERVICE ☐
DISTRIBUTION ☒
FEEDER ☐
TRANS. BY DEF ☐
TRANS > 20% ☐

WR NO.
3796565

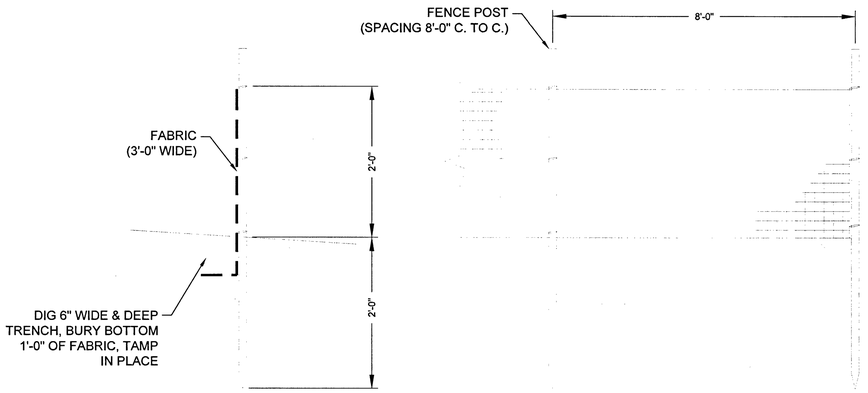
RELATED WR NO.S
N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 4 OF 8		SCALE N.T.S.	DATE 03/27/2019
DWN. BY SEI		CHKD. BY DF	APPVD. BY BWJ

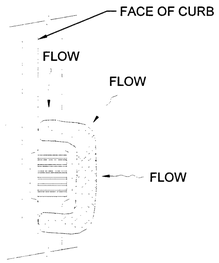
FARM HUALAPAI

L18-02739 10745104

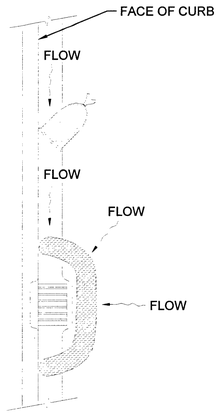
TYPICAL SWPPP BMP DETAILS



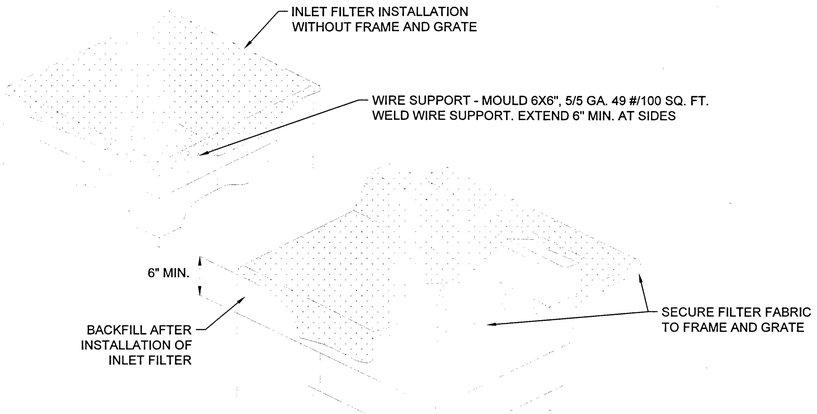
1 - SILT FENCE N.T.S.



2 - FIBER ROLL N.T.S.

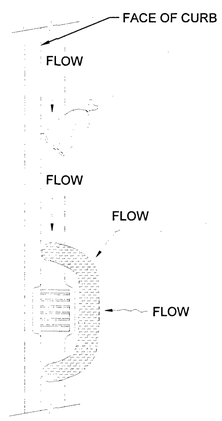


3 - SAND BAG/ ROLL N.T.S.

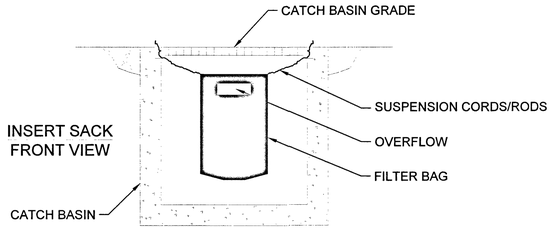


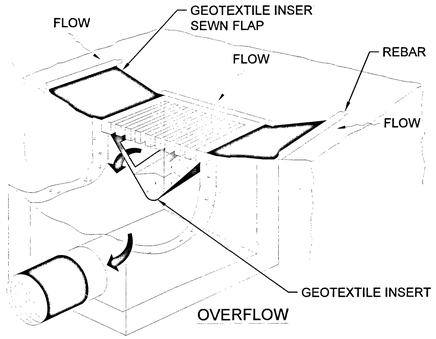
NOTE:
1. CONTRACTOR IS TO CLEAN DRAIN INLET FILTER AFTER EVERY STORM.
2. CONTRACTOR IS TO REMOVE FABRIC JUST PRIOR TO PAVING.

4 - DRAIN INLET FILTER N.T.S.



5 - GRAVEL BAG/ ROLL N.T.S.





NOTE:
RECESSED CURB INLET MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS.
SIZE OF FILTER FABRIC INLET SACK TO BE DETERMINED BY MANUFACTURER.

6 - SEDIMENT FILTER BAG N.T.S.

SWPPP NOTES

1. SOUTHWEST GAS CORPORATION, IT'S CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL INSTALL ONE OF THE APPROPRIATE BMPS FOR THE PROTECTION OF EXISTING STORM DRAIN INLETS, WITHIN OR SIGNIFICANTLY NEAR ANY IMPROVED RIGHT-OF-WAY, FROM DEBRIS AND SEDIMENT RESULTING FROM CONSTRUCTION OF NATURAL GAS FACILITIES.
2. SOUTHWEST GAS CORPORATION, IT'S 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 ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY 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, USING BEST MANAGEMENT PRACTICES DETAILED ON THIS SHEET.
3. ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF SOUTHWEST GAS CORPORATION, IT'S CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE LISTED BMPS ON THIS SHEET DOT NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE CLARK COUNTY CODE - CHAPTER 24.40/STORM SEWER SYSTEM DISCHARGE AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
4. ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.

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SOUTHWEST GAS CORPORATION

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REVISIONS				
NO.	DESCRIPTION	BY	DATE	APPVD.

PERMIT INFORMATION	ISOLATION AREA	LOCATION	ATLAS OR TILE
CITY OF LAS VEGAS TAX CODE: 02-0200	ISO_21_DIST_327	T19S R60E S18 M.D.M.	x579y562

D_N_VALLEY_W	
SYSTEM MAOP:	60
SYSTEM MOP:	55
N/A	
SYSTEM MAOP:	
SYSTEM MOP:	

JOB TYPE
- HP SERVICE ☐
- DISTRIBUTION ☒
- FEEDER ☐
- TRANS. BY DEF ☐
- TRANS > 20% ☐

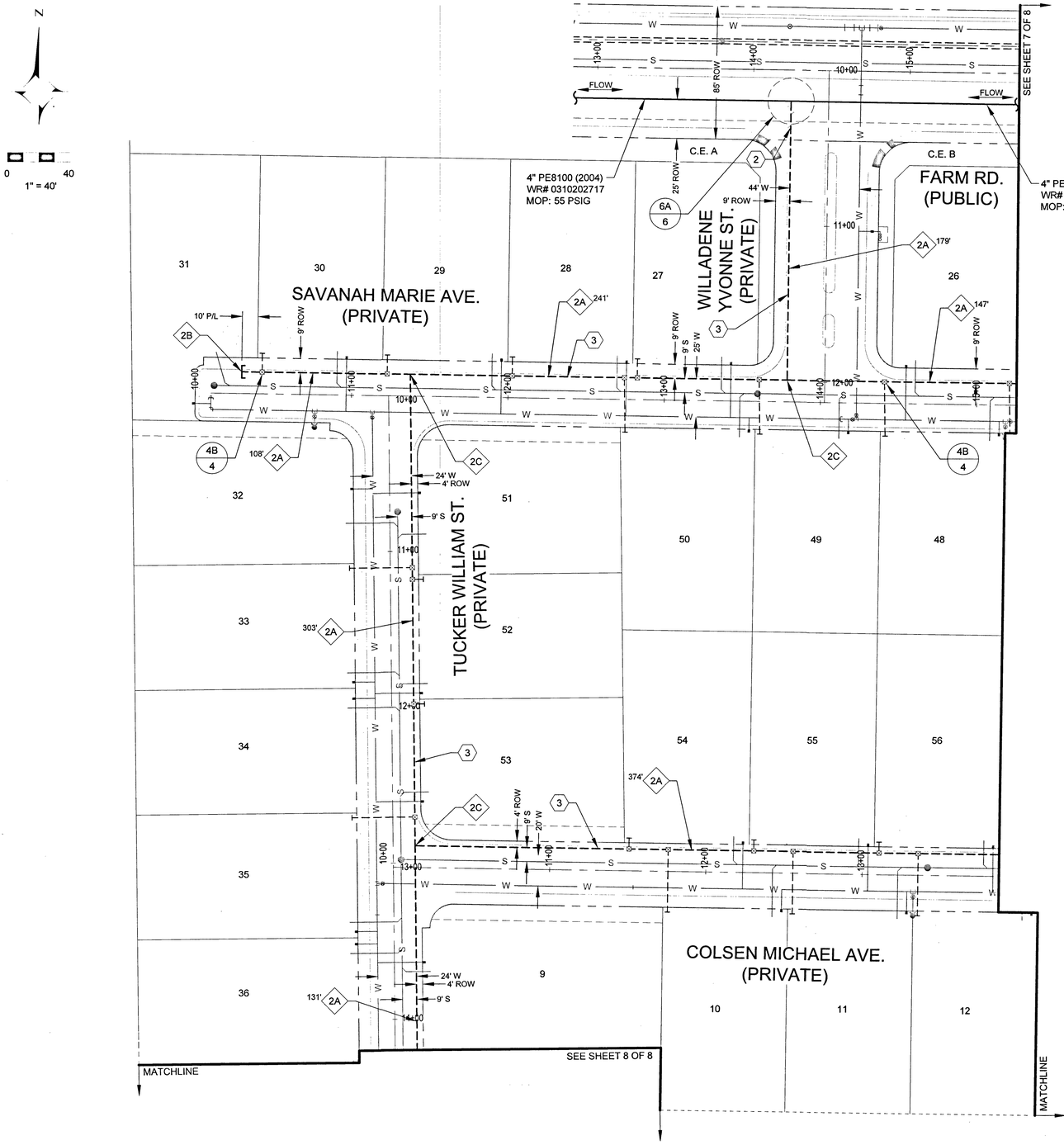
WR NO. 3796565

RELATED WR NO.S N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 5 OF 8		SCALE N.T.S.	DATE 03/27/2019
DWN. BY SEI		CHKD. BY DF	APPVD. BY BWJ

FARM HUALAPAI

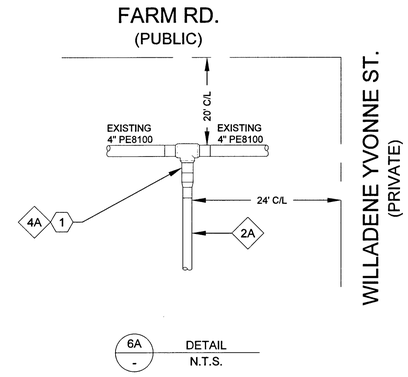
L18-02739 10745104



CONSTRUCTION NOTES	
1	TIE NEW 2" PE8100 TO EXISTING 4" PE8100 (2004), SEE DETAIL "6A"
2	RTC STANDARD 500.5, 18' PAVEMENT CUT & REPAIR
3	RTC STANDARD 503

4" DISTRIBUTION MATERIALS LIST						
CODE	DESIGN QTY.	AS-BUILT QTY.	STOCK ID	DESCRIPTION	SEAM	COATING
4A	1	0'	160-8174	4"X2" PE HIGH VOLUME TAPPING TEE	N/A	N/A

2" DISTRIBUTION MATERIALS LIST						
CODE	DESIGN QTY.	AS-BUILT QTY.	STOCK ID	DESCRIPTION	SEAM	COATING
2A	1,483'	0'	100-5101	2" PE 8100 PIPE	N/A	N/A
2B	1	0	140-3060	2" PE CAP	N/A	N/A
2C	3	0	140-3074	2" PE FULL FLOW TEE	N/A	N/A



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REVISIONS				
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CITY OF LAS VEGAS TAX CODE: 02-0200	ISO_21_DIST_327	T19S R60E S18 M.D.M.	x579y562

D_N_VALLEY_W	
SYSTEM MAOP:	60
SYSTEM MOP:	55
N/A	
SYSTEM MAOP:	N/A
SYSTEM MOP:	N/A

JOB TYPE	
HP SERVICE	☐
DISTRIBUTION	☒
FEEDER	☐
TRANS. BY DEF	☐
TRANS > 20%	☐

WR NO.
3796565
RELATED WR NO.S
N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 6 OF 8		SCALE 1" = 40'	DATE 03/27/2019
DWN. BY SEI	CHKD. BY DF		APPVD. BY BWJ

FARM HUALAPAI

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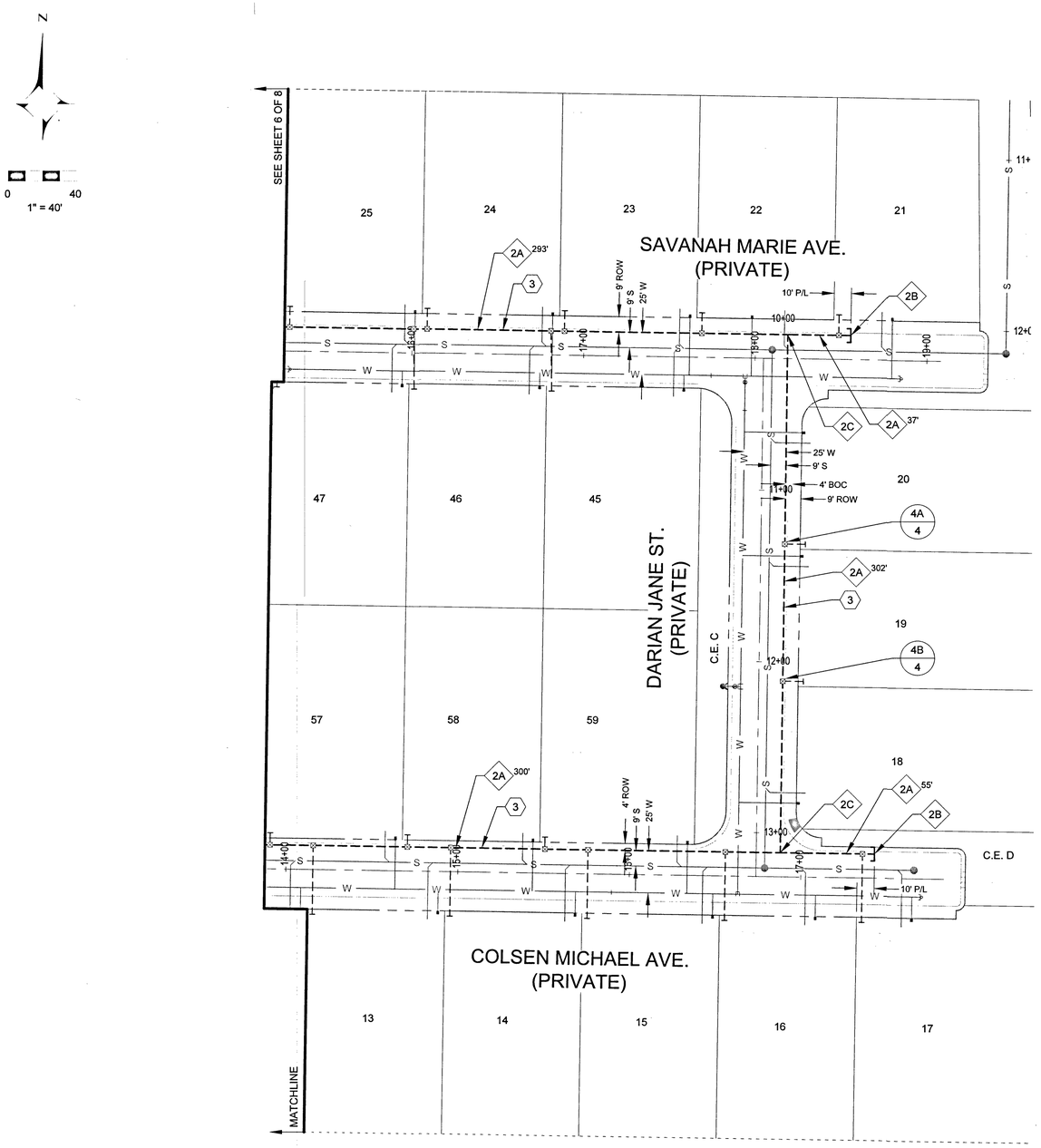

CONSTRUCTION NOTES	
1	TIE NEW 2" PE8100 TO EXISTING 4" PE8100 (2004), SEE DETAIL "6A"
2	RTC STANDARD 500.5
3	RTC STANDARD 503

2" DISTRIBUTION MATERIALS LIST						
CODE	DESIGN QTY.	AS-BUILT QTY.	STOCK ID	DESCRIPTION	SEAM	COATING
2A	987'	0'	100-5101	2" PE 8100 PIPE	N/A	N/A
2B	2	0	140-3060	2" PE CAP	N/A	N/A
2C	2	0	140-3074	2" PE FULL FLOW TEE	N/A	N/A

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SYSTEM MAOP:	N/A
SYSTEM MOP:	N/A

JOB TYPE	
HP SERVICE	☐
DISTRIBUTION	☒
FEEDER	☐
TRANS. BY DEF	☐
TRANS > 20%	☐

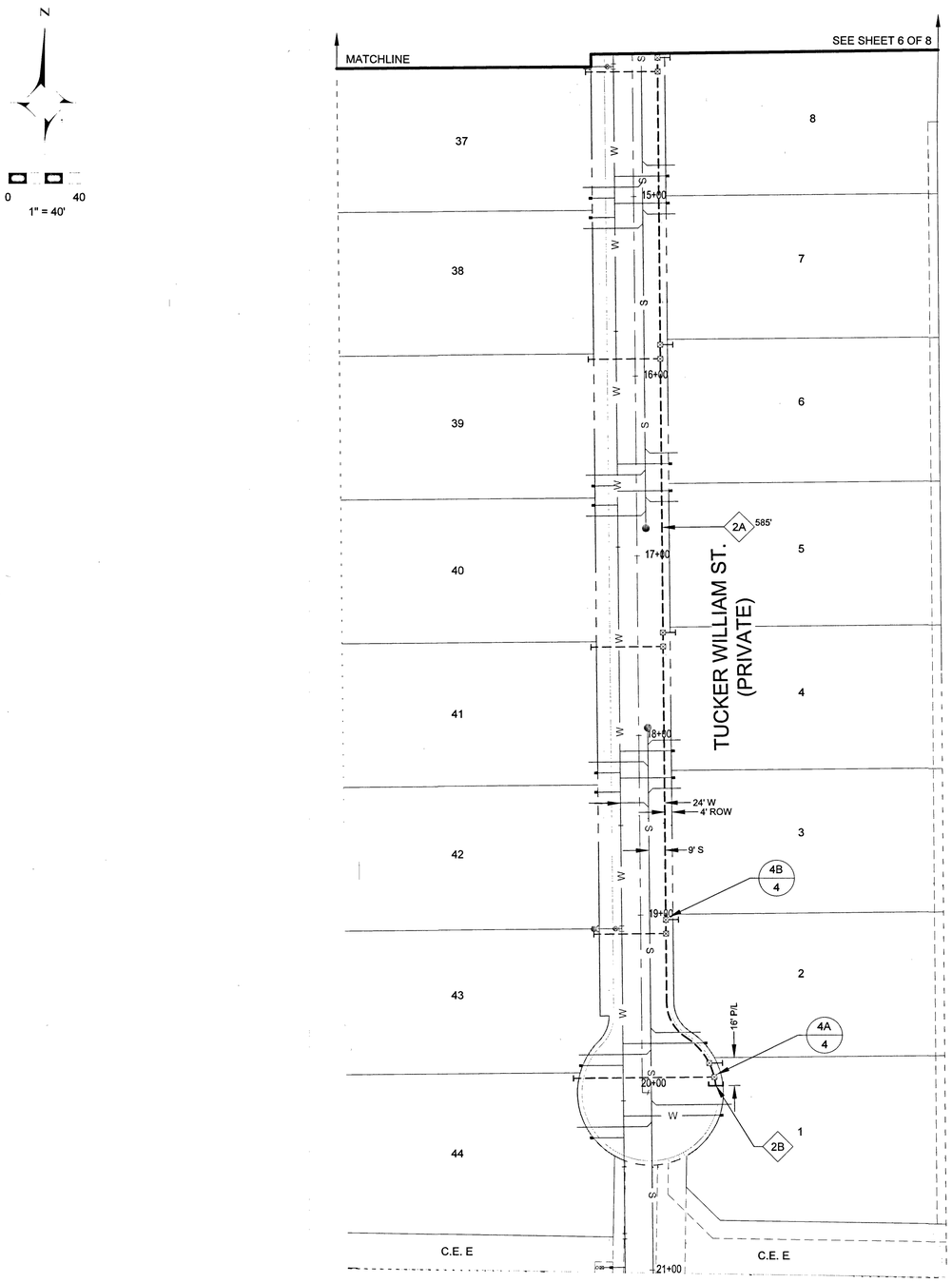
WR NO.
3796565
RELATED WR NO.S
N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 7 OF 8		SCALE 1" = 40'	DATE 03/27/2019
DWN. BY SEI		CHKD. BY DF	APPVD. BY BWJ

FARM HUALAPAI

L18-02739 10745104

Sheet 41 of 42



CONSTRUCTION NOTES	
3	RTC STANDARD 503

2" DISTRIBUTION MATERIALS LIST

CODE	DESIGN QTY.	AS-BUILT QTY.	STOCK ID	DESCRIPTION	SEAM	COATING
2A	585'	0'	100-5101	2" PE 8100 PIPE	N/A	N/A
2B	1	0	140-3060	2" PE CAP	N/A	N/A

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SYSTEM MOP:	55
N/A	
SYSTEM MAOP:	N/A
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JOB TYPE	
HP SERVICE	☐
DISTRIBUTION	☒
FEEDER	☐
TRANS. BY DEF	☐
TRANS > 20%	☐

WR NO.
3796565
RELATED WR NO.S
N/A

ENGINEER/TECHNICIAN	DAVID FRIEDLANDER		PHONE: (702)365-2203
ACCOUNT REP.	TONY STIPANOV		PHONE: (702)365-2053
PROJECT CONTACT	DAVE VON OY		PHONE: (702)379-7577
SHEET NO. 8 OF 8		SCALE 1" = 40'	DATE 03/27/2019
DWN. BY SEI		CHKD. BY DF	APPVD. BY BWJ

FARM HUALAPAI

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