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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>APPROVALS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |
| CITY ENGINEER-DAVID BOWERS PE, PTOE #16736                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | DATE |
| <p>APPROVAL OF THESE PLANS BY THE CITY ENGINEER IS LIMITED TO THOSE IMPROVEMENTS CONSTRUCTED IN THE DEDICATED OF RIGHT-OF-WAY, AND/OR DEDICATED EASEMENTS. THIS APPROVAL DOES NOT AUTHORIZE CONSTRUCTION OF ANY IMPROVEMENTS THAT DEViate FROM ADOPTED STANDARDS AND/OR SPECIFICATIONS EXCEPT THOSE SPECIALLY LISTED UNDER DEVIATIONS FORM STANDARDS. THE ENGINEER SHALL RESOLVE ANY DEVIATION OTHER THAN THOSE LISTED IN DEVIATIONS FROM STANDARDS IN FAVOR OF THE UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS, CLARK COUNTY AREA, NEVADA.</p> |      |
| LAS VEGAS FIRE AND RESCUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DATE |
| <p>CHRIS KNIGHT, DIRECTOR<br/>BUILDING AND SAFETY DEPARTMENT</p> <p>THIS PLAN MEETS THE APPLICABLE STANDARDS OF THE PLANNING DEPARTMENT.</p>                                                                                                                                                                                                                                                                                                                                                                                                     |      |
| CENTRAL TELEPHONE COMPANY D/B/A CENTURYLINK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DATE |
| <p>THE AFFIXED CENTURYLINK APPROVAL DOES NOT ASSUME OR GUARANTEE LIABILITY FOR KNOWN OR UNKNOWN CONFLICTS WITH EXISTING OR PROPOSED IMPROVEMENTS. RESOLUTION OF ANY CONFLICT WILL BE ACCOMPLISHED PURSUANT TO LOCAL ORDINANCES, NEVADA REVISED STATUTES AND / OR PUBLIC UTILITY COMMISSION RULES AND REGULATIONS.</p>                                                                                                                                                                                                                            |      |
| APPROVED FOR CONSTRUCTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |
| <p>LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER<br/>PROJECT NO. ##### DATE: _____</p>                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |
| SHEETS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |
| NV ENERGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DATE |
| <p>NV ENERGY ACKNOWLEDGES THAT WE HAVE RECEIVED YOUR PLANS AND WILL PROVIDE SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. NV ENERGY RESERVES THE RIGHT TO ADDRESS ANY EXISTING OR FUTURE CONFLICTS ONCE THE FINAL DESIGN IS COMPLETED. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.</p>                                                                                                                                    |      |
| SOUTHWEST GAS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | DATE |
| COX COMMUNICATIONS LAS VEGAS, INC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DATE |

**BENCHMARK**

CITY OF LAS VEGAS BENCHMARK SLY90 13NES-NAV8D8  
ELEVATION = 710.829 METERS, 2332.11 FEET

RIVET AND 2" ROUND ALUMINUM DISK, STAMPED CITY OF LAS VEGAS BENCHMARK SLY9013NES,  
LOCATED ON THE EAST CORNER OF A POWER POLE FOOTING AT THE SOUTHWEST CORNER OF  
THE INTERSECTION OF CANYON DRIVE AND DECATUR BOULEVARD

THIS IS A COMMON BENCHMARK FOR THE CITY OF LAS VEGAS AND THE CITY OF NORTH LAS  
VEGAS AS SHOWN IN THE CITY OF NORTH LAS VEGAS VERTICAL CONTROL BENCHMARK BOOK,  
REVISED NOVEMBER 1, 2006

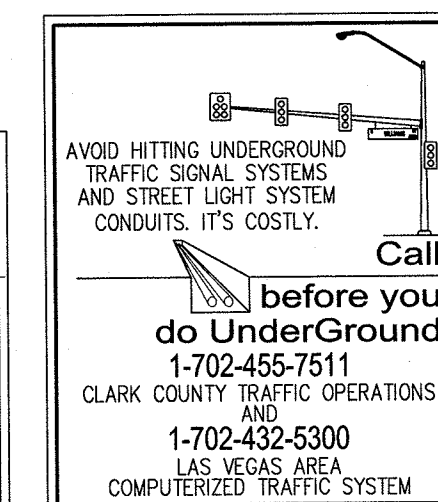
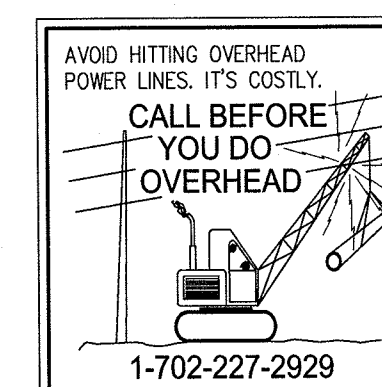
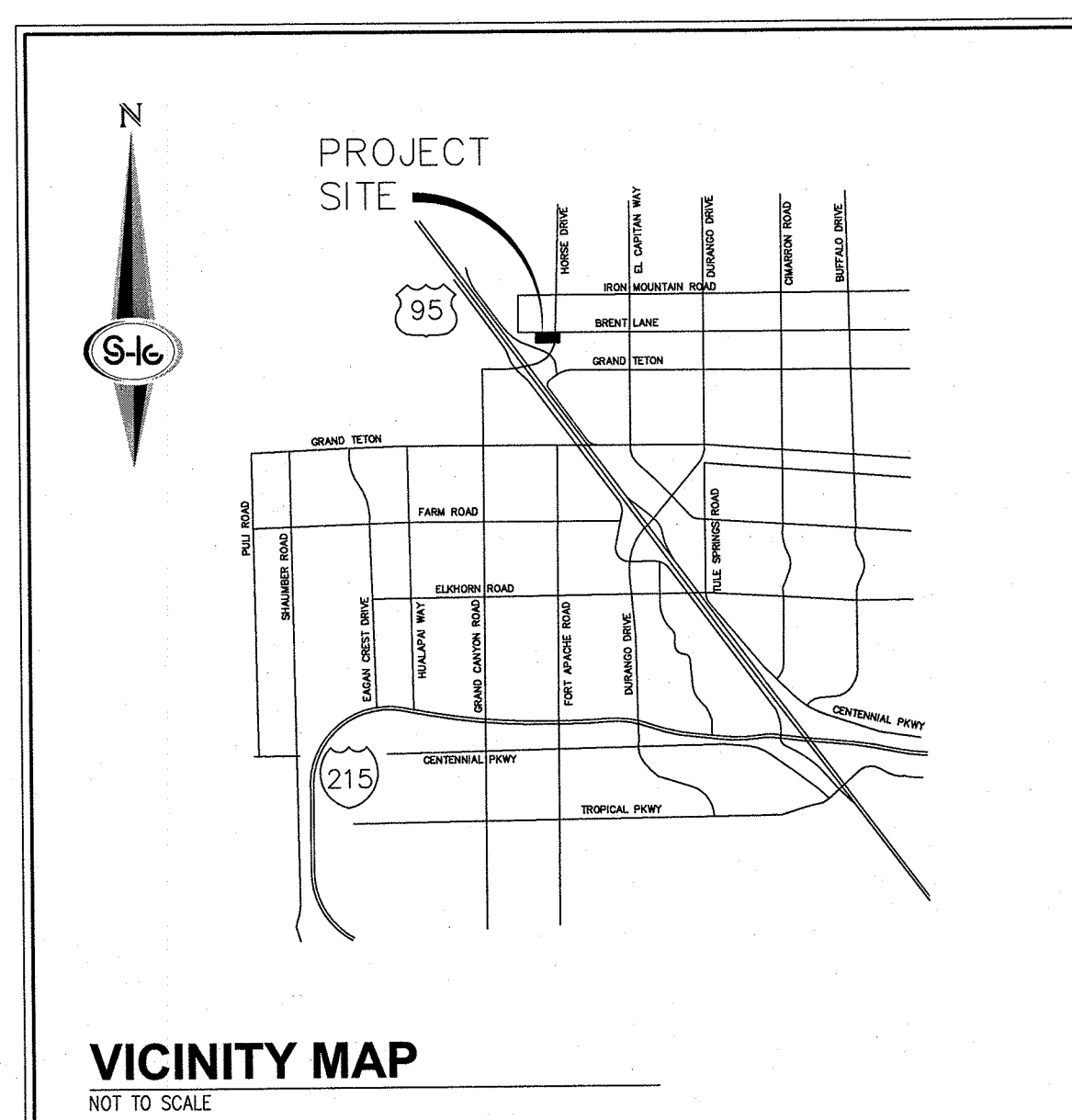
**BASIS OF BEARING**

SOUTH 00°08'59" WEST, BEING THE BEARING OF THE EAST LINE OF THE SOUTHEAST QUARTER (SE1/4) OF SECTION 12, TOWNSHIP 19 SOUTH, RANGE 59 EAST, M.D.M. CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 147, PAGE 71 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA

**FLOOD ZONE**

THIS SITE LIES WITHIN ZONE "X" DETERMINED TO BE OUTSIDE OF THE 500 YEAR FLOODPLAN (0.2% ANNUAL CHANCE FLOOD) AS DEPICTED ON FIRM MAP PANEL NUMBER 32003C1735E, DATED SEPTEMBER 27, 2002.

| OWNER/DEVELOPER                                                                                                    | ENGINEER                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SECTION 12, LLC<br>C/O OLYMPIA COMPANIES, LLC<br>11411 SOUTHERN HIGHLANDS<br>PKWY SUITE 300<br>LAS VEGAS, NV 89141 | SLATER HANIFAN GROUP, INC.<br>5740 S. ARVILLE STREET, SUITE 212<br>LAS VEGAS, NV 89119<br>PH: (702) 284-5300<br>FX: (702) 284-5399<br>CONTACT: STEVE JONES |



**S-I-G** **SLATER**  
**HANIFAN**  
**GROUP**  
**CONSULTING ENGINEERS & PLANNERS**  
3000 S. ARVILLE STREET #216, LAS VEGAS, NV 89118  
TEL: (702) 384-5200 FAX: (702) 384-5200

[illegible]

12  
199S  
1600E

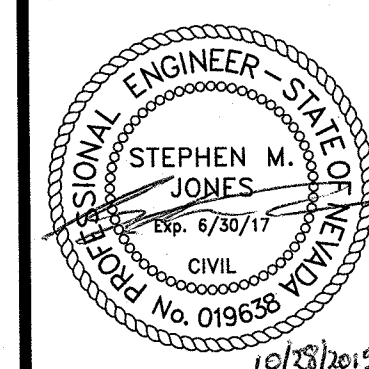
**NINETY-FIVE MANAGEMENT LLC**

**CITY OF LAS VEGAS**

**BRENT LANE STORM DRAIN IMPROVEMENTS**

**COVER SHEET**

|             |                    |
|-------------|--------------------|
| DATE:       | 10/23/15           |
| DRAFTER:    | CS                 |
| DESIGNER:   | SMJ                |
| CHECKED:    | SMJ                |
| PROJECT NO. | <b>OLY1401.004</b> |



**C-1**  
SHEET 1 OF 5

\\sl1401-004-dk1\dwg\imrnav\offsite storm drain\01401-004\_cvr.dwg 10/27/2015 11:33 AM Christopher Soliman

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 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. 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. THE EXISTENCE AND LOCATION 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 INTERFERENCES WHICH MAY AFFECT HIS OPERATION DURING CONSTRUCTION AND 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 (1/2") ABOVE TOP 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 SOLS REPORT AS PREPARED BY GEO. TEX. REPORT # 11687-LVR6, DATED MARCH 7, 2014, 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.E.S. STATUTE NO. 623.380 & CITY OF LAS VEGAS TITLE 18, APPENDIX D.

15. UTILITY COMPANY WATER METERS, 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. ALL ABOVE GROUND UTILITY APPEARANCES SHALL CONFORM TO THE REQUIREMENTS OF 19.12.040.

16. WALL NOTES:  
1. 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 THE CITY OF LAS VEGAS STANDARD 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 OFFSITE INSPECTION AND TESTING SECTION PRIOR TO PROJECT ACCEPTANCE AND BOND RELEASE. THE MAP(S) SHALL INCLUDE THE HORIZONTAL AND VERTICAL (INVERT) LOCATION OF PUBLIC SEWER MANHOLES, STORM DRAIN MANHOLES, STORM DRAIN LATERALS AT THE CONNECTION TO THE STORM DRAIN MAIN AND AT THE CONNECTION TO A DROP INLET, AND THE CONNECTION OF SEWER SERVICE LATERALS TO THE SEWER MAIN AND WHERE THE SEWER SERVICE LATERALS EXITS THE PUBLIC RIGHT-OF-WAY. THE LOCATION SHALL BE DESCRIBED BY STATE PLANE COORDINATES WHICH SHALL BE BASED ON THE "NEVADA COORDINATE SYSTEM OF 1983, EAST ZONE" AS DEFINED BY THE NEVADA REVISED STATUTES CHAPTER 327, AND TIED TO THE CITY OF LAS VEGAS VERTICAL CONTROL BENCHMARK NETWORK. COORDINATES MUST BE CERTIFIED BY A NEVADA PROFESSIONAL LAND SURVEYOR TO HAVE POSITIONAL CERTANTIES OF +/- 0.1 METER (+/- 0.3 FEET). A SEPARATE 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. STORM DRAIN LATERALS REQUIRE THE INSTALLATION OF A MARKER BALL AT THE CONNECTION OF THE STORM DRAIN LATERAL TO THE STORM DRAIN MAIN AND WHERE THE STORM DRAIN LATERAL EXITS THE PUBLIC RIGHT-OF-WAY OR WHERE THE STORM DRAIN LATERAL CONNECTS TO A DROP INLET. THE MARKER BALL SHALL BE 3M 4" MARKER BALL 1404-XR OR APPROVED EQUAL.

23. 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.

24. A SEPARATE BORING PERMIT IS REQUIRED FOR ALL BORING ACTIVITIES.

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. CHSEL "S" OR "C" 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 RETEIROFIT 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 LVMD 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 RECTIFIED 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.

2.3 CITY OF LAS VEGAS TRAFFIC NOTES

1. ALL CONSTRUCTION SIGNING, BARRICADE, 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 TRAFFIC STOP LOCATIONS INTO EXISTING TRAFFIC SIGNALS. 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 ENCOMPASSED UPON BY A CONSTRUCTION WORK ZONE AND PUBLIC WORKS STAFF IDENTIFIES A NEED FOR STUDENTS TO BE ASSURED IN THE 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 MARKINGS, 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 UP CLASS 5 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 NSA 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 808-3440) 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 IDENTIFYING 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, AND THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST REVISION, AND ANY ADOPTED SPECIAL AREA STANDARDS.

2. NO DEVIATION OF STREET LIGHT, PULL BOX, CONDUITS (ETC.) LOCATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF TRAFFIC ENGINEERING AND THE CITY ENGINEER.

3. ALL EXISTING STREET LIGHTING SHALL REMAIN OPERATIONAL DURING CONSTRUCTION.

4. ALL STREET LIGHTING CONDUITS STUB SHALL HAVE AT LEAST ONE GREEN #8 THW WIRE INSTALLED, AS TRACER WIRE. WHEN "EMPTY" CONDUIT IS COMPLETELY INSTALLED FROM PB TO PB, IT SHALL HAVE MINIMUM OF 2 #4 AND 1 #8 THW WIRE WITH THE ENDS TAPED OR "SAFE OFF" PRIOR TO FINAL INSULATION.

5. ANY STRUCTURE SUCH AS BLOCK WALLS, CHAIN LINK FENCES, RETAINING WALLS, ETC., SHALL LEAVE A MINIMUM CLEARANCE IN ACCORDANCE WITH THE USD NO. 320A.

6. AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE TETO PRIOR TO ANY PRE-FINAL INSPECTION. THE ASBUILT DRAWING NEEDS TO BE STAMPED AS-BUILT AND SIGNED BY THE PREPARER.

7. SERVICE POINT SHALL BE COORDINATED WITH NV ENERGY COMPANY, AND WHEREVER POSSIBLE, BE LOCATED NEAR THE CENTER OF THE CIRCUIT. SERVICE POINTS SHALL BE SHOWN ON THE CIVIL PLANS.

8. IT SHALL BE ASSUMED THAT IN THE ABSENCE OF AN EXISTING, WORKABLE CIRCUIT TO ATTACH TO, ALL INSTALLATIONS SHALL REQUIRE A NEW SERVICE FOR OPERATION OF THE CIRCUIT.

9. WHEREVER THERE IS AN OVERHEAD UTILITY THAT MAY CONFLICT WITH THE INSTALLATION OF STREET LIGHTING CIRCUITS AND/OR POLES, THESE CONFLICTS MUST BE RESOLVED BETWEEN THE DEVELOPER AND THE UTILITIES INVOLVED, AT NO EXPENSE TO THE CITY OF LAS VEGAS, BEFORE STREETLIGHT BASES ARE INSTALLED.

10. THE CONTRACTOR SHALL FURNISH COMPLETE SERVICE TO TRANSFORMERS AND CONTROL SYSTEMS IF REQUIRED ON PLANS.

11. THE DEVELOPER/OWNER WILL BE REQUIRED TO SUPPLY POWER TO ALL NEW PUBLIC STREET LIGHTS INSTALLED UNDER THIS DESIGN PRIOR TO BOND RELEASE OR PROJECT COMPLETION. THE DEVELOPER/OWNER WILL BE RESPONSIBLE FOR ALL ITEMS ASSOCIATED WITH THE INSTALLATION, CONSTRUCTION, ENERGIZING, MAINTENANCE AND OPERATIONAL COST OF SAID STREET LIGHTS PRIOR TO PROJECT COMPLETION. REFER TO THE PLAN FOR ANY NEW SERVICE REQUIREMENTS. THE TRANSFER OF OWNERSHIP FROM THE DEVELOPER/OWNER TO THE CITY OF LAS VEGAS FOR ALL NEW PUBLIC STREET LIGHTS AND/OR SERVICE'S INSTALLED UNDER THIS PLAN DESIGN WILL BE IN CONJUNCTION WITH THIS PROJECT COMPLETION. COORDINATE ALL MAINTENANCE AND OPERATIONAL TRANSFERS WITH THE CITY OF LAS VEGAS TRAFFIC ENGINEERING DEPARTMENT (TEFO) AT (702) 229-6331.

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 UTILITIES 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:

| PAVEMENT AREA      | SUBGRADE | HORIZONTAL   | VERTICAL COMPACTION |
|--------------------|----------|--------------|---------------------|
| B. ENGINEERED FILL | 0.1+     | +0.0 TO -0.1 | SEE SOLS REPORT     |
|                    | 0.5+     | +0.1 TO -0.1 | SEE SOLS 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. 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 MAY REQUEST 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.

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. AUTHORIZED FIRE HYDRANTS ARE AS FOLLOWS:

- KENNEDY – GUARDIAN MODELS K81A AND K81D
- MUELLER – SUPER CENTURION 250, MODEL A-4X3
- CLOW – MEDALLION MODEL #7-2546VLD
- LUSPER – METROFLOW M-43

3. A PERMIT IS REQUIRED FOR LAS VEGAS FIRE AND RESCUE FOR THE INSTALLATION OF ON-SITE WATER LINES AND FIRE HYDRANTS. THE PERMIT AND CONTRACTORS MATERIAL TEST CERTIFICATE FOR UNDERGROUND PIPING FORM SHALL BE OBTAINED FROM THE FIRE PROTECTION ENGINEER BEFORE COMMENCEMENT OF WORK. [FC 105.7.12]

4. ON ANY RESIDENTIAL OR COMMERCIAL INSTALLATIONS, FIRE HYDRANTS SHALL BE INSTALLED AND FIRE APPARATUS ACCESS ROADS SHALL BE MAINTAINED BECOME COMPLETION OF ANY CONSTRUCTION. ALL CONSTRUCTION, ALL FIRE HYDRANTS SHALL BE IN GOOD WORKING ORDER AND SHALL BE CAPABLE OF DELIVERING THE REQUIRED FIRE FLOW. [FC 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. [FC 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. [FC 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. [FC 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 [FC 507]

9. PRIVATE HYDRANTS SHALL BE PAINTED RED. [NFC 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. [FC 507]

11. FIRE HYDRANT SPACING SHALL BE AS FOLLOWS: [FC C102]

- RESIDENTIAL – 500 FT UNSPRINKLERED; 600 FT SPRINKLERED.
- COMMERCIAL – 300 FT UNSPRINKLERED; 400 FT SPRINKLERED.

12. WHERE THE 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 1000 FT SPACING, TO PROVIDE FOR TRANSPORTATION HAZARDOUS MATERIALS 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. [FC C102.8]

13. NO FIRE HYDRANTS SHALL BE LOCATED WITHIN THE RADIUS OF A CUL-DE-SAC OR WITHIN 20 FT 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. [FC 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. [FC 102.4]

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. [FC C102.7]

17. THE MAXIMUM DISTANCE FROM A HYDRANT TO THE END OF A DEAD-END STREET SHALL NOT EXCEED 200 FT. [FC 102.6]

18. TWO (2) SOURCES OF SUPPLY ARE REQUIRED WHENEVER THERE IS 4 OR MORE FIRE HYDRANTS/SPRINKLER LEAD-INS ARE INSTALLED ON A SINGLE SYSTEM. SECTIONAL CONTROL VALVES SHALL BE INSTALLED SO THAT NO MORE THAN 2 FIRE HYDRANTS CAN BE OUT OF SERVICE DUE TO A BREAK IN A WATER MAIN. [FC 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. [FC 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 FT PRIOR TO OR AFTER THE GRADE CHANGE. ADJACENT TO THE STRUCTURES GRADIENT SHALL NOT EXCEED 6% [FC 503.2.7, 503.2.8]

21. THE TURNING RADIUS OF THE FIRE APPARATUS ACCESS ROADS SHALL BE NO LESS THAN 52 FT OUTSIDE AND 28 FT INSIDE TURNING RADIUS. [FC 503.2.4]

22. VERTICAL CLEARANCE OF ALL FIRE APPARATUS ACCESS ROADS SHALL NOT BE LESS THAN 13 FT 6 INS. [FC 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 NOT BE LESS THAN 24 FT. [FC 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. THIS DISTANCE COULD BE INCREASED TO 250 FT IF THE BUILDING IS SPRINKLERED. [FC 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. [FC 503.1.2]

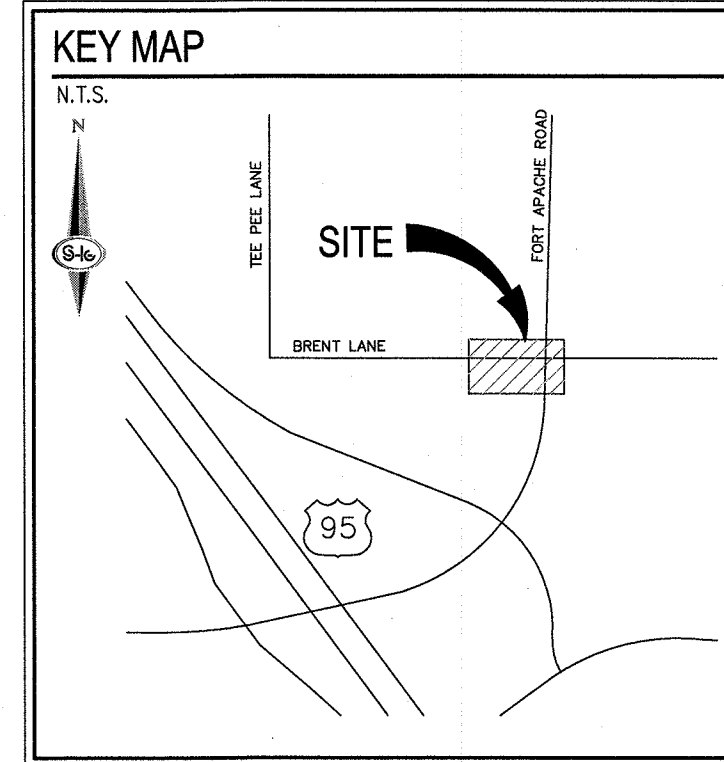
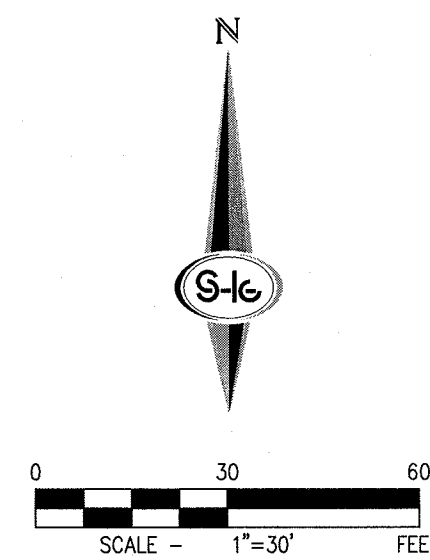
26. ALL DEAD-END FIRE APPARATUS ROADS AND/OR FIRE LANES, PUBLIC OR PRIVATE, IN EXCESS OF 150 FT IN LENGTH SHALL BE PROVIDED WITH AN APPROVED TURN AROUND HAVING A MINIMUM DIAMETER OF 81 FT. [FC 503.2.5]

27. ALL FIRE APPARATUS ACCESS ROADS SHALL BE MARKED BY PLACING APPROVED SIGNS AT THE START OF THE FIRE DEPARTMENT FIRE LANE SIGN AT THE END OF THE FIRE LANE AND WITH SIGNS AT INTERVALS OF 100 FT ALONG THE DESIGNATED FIRE LANES. SIGNS TO BE PLACED ON BOTH SIDES OF AN ACCESS ROADWAY IF NEEDED TO PREVENT PARKING ON EITHER SIDE. SIGNS TO BE INSTALLED NO HIGHER THAN 6 FT OR LESS THAN 6 FT FROM THE ROADWAY LEVEL. THE CURBS 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. [FC 503.3]

28. ELECTRICALLY CONTROLLED ACCESS GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR/RECOVER SYSTEM. SAID SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH FC 503.6 AND IFC APPENDIX M.

ABBREVIATIONS

|             |                                                           |            |                                     |          |                                           |
|-------------|-----------------------------------------------------------|------------|-------------------------------------|----------|-------------------------------------------|
| AC          | ASPHALTIC CONCRETE OR ACRE                                | GV         | GATE VALVE                          | R        | RADIUS                                    |
| AGG         | AGGREGATE BASE                                            | HDPE       | HIGH DENSITY POLYETHYLENE           | RCA      | REINFORCED CONCRETE ARCH                  |
| APN         | ASSESSORS PARCEL NUMBER                                   | HOA        | HOME OWNERS ASSOCIATION             | RCB      | REINFORCED CONCRETE BOX                   |
| APPROX OR ~ | APPROXIMATE                                               | HORIZ      | HORIZONTAL                          | RCF      | REINFORCED CONCRETE PIPE                  |
| AVE         | AVENUE                                                    | HP         | HIGH POINT                          | RD       | ROAD                                      |
| B           | BEGIN CURVE OR BACK OF CURB                               | HWL        | HIGH WATER LEVEL                    | RDWY     | ROADWAY EASEMENT                          |
| BC          | BEGIN CURVE OR BACK OF CURB                               | HDWL OR HW | HEADWALL                            | REQD     | REQUIRED                                  |
| BCR         | BEGINNING OF CURB RETURN                                  | HYD        | HYDRAULIC OR HYDRANT                | REV      | REVISION                                  |
| BHW         | BOTTOM OF HEADWALL                                        | ID         | INSIDE DIAMETER                     | RT OR R  | RIGHT                                     |
| BLDG        | BUILDING                                                  | IN         | INCH                                | R/W, ROW | RIGHT OF WAY                              |
| BLVD        | BOULEVARD                                                 | INT        | INTERSECTION                        | S        | SLOPE                                     |
| BM          | BENCHMARK                                                 | INV        | INVERT ELEVATION                    | SD       | SCHEDULE                                  |
| BVC         | BEGIN VERTICAL CURVE                                      | IP         | IRON PIPE                           | SDH      | STORM DRAIN                               |
| BWV         | BACK WATER VALVE                                          | IRRIG      | IRRIGATION                          | SDMH     | STORM DRAIN MANHOLE                       |
| CC          | CLARK COUNTY                                              | LF         | LINEAR FEET                         | SEC      | SECTION                                   |
| CAOUSD      | CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS               | LP         | LOW POINT                           | SFE      | SQUARE FEET                               |
| CR/CDD      | CLARK COUNTY REGIONAL FLOOD DISTRICT                      | LT OR L    | LEFT                                | SHT      | SHEET                                     |
| CE          | COMMON ELEMENT                                            | LWL        | LOW WATER LEVEL                     | SL       | SLOPE                                     |
| CL/C/L/C    | CENTERLINE                                                | MAX        | MAXIMUM                             | SLTC     | STREET LIGHT AND TRAFFIC CONTROL EASEMENT |
| CLR         | CLEAR OR CLEARANCE                                        | MECH       | MECHANICAL                          | SNWA     | SOUTHERN NEVADA WATER AUTHORITY           |
| CLSM        | CONTROLLED LOW STRENGTH MATERIAL                          | MH         | MANHOLE                             | SPECS    | SPECIFICATIONS                            |
| CML&C       | CEMENT MORTAR LINED AND COATED                            | MIN        | MINIMUM                             | ST       | STREET                                    |
| CMU         | CONCRETE MASONRY UNIT                                     | MISC       | MISCELLANEOUS                       | STL      | STEEL OR STREET LIGHT                     |
| CONC        | CONCRETE                                                  | MUE        | MUNICIPAL UTILITY EASEMENT          | SW       | SIDEWALK                                  |
| CT          | COURT                                                     | NDOT       | NEVADA DEPARTMENT OF TRANSPORTATION | STD      | STANDARD                                  |
| CY OR CU YD | CUBIC YARD                                                | NTE        | NOT TO SCALE                        | STL      | STEEL OR STREET LIGHT                     |
| DWCMS       | DESIGN AND CONSTRUCTION FOR WASTEWATER COLLECTION SYSTEMS | NUE        | NONEXCLUSIVE UTILITY EASEMENT       | SW       | SIDEWALK                                  |
|             |                                                           | NVE        | NEVADA ENERGY                       | SSMH     | SANITARY SEWER MANHOLE                    |
|             |                                                           | OFF        | ON CENTER                           | STD      | STANDARD                                  |
|             |                                                           | OC         | OUTSIDE DIAMETER OR OFFSET          | STL      | STEEL OR STREET LIGHT                     |
|             |                                                           | OR OR OF   |                                     | SW       | SIDEWALK                                  |
|             |                                                           | ORIG       | ORIGINAL                            | SSMH     | SANITARY SEWER MANHOLE                    |
| DET         | DETAIL                                                    | PAE        | PIEDestal OR PEDESTAL               | STD      | STANDARD                                  |
| DIP         | DUCTILE IRON OR DRAIN INLET                               | PB         | PULL BOX                            | STL      | STEEL OR STREET LIGHT                     |
| DIP         | DUCTILE IRON PIPE                                         | PC         | POINT OF CURVE                      | SSMH     | SANITARY SEWER MANHOLE                    |
| DR          | DRIVE                                                     | PCC        | POINT OF COMPOUND                   | STD      | STANDARD                                  |
| DWG(S)      | DRAWING                                                   | PDE        | PUBLIC DRAINAGE EASEMENT            | STL      | STEEL OR STREET LIGHT                     |
| EA          | EACH                                                      | R          | POINT OF CURVE                      | SSMH     | SANITARY SEWER MANHOLE                    |
| EOR         | END CURB RETURN                                           | R          | POINT OF COMPOUND                   | STD      | STANDARD                                  |
| EQ          | EXISTING GROUND                                           | R          | PUBLIC DRAINAGE EASEMENT            | STL      | STEEL OR STREET LIGHT                     |
| ESMT        | ELEVATION                                                 | R          | POINT OF CURVE                      | SSMH     | SANITARY SEWER MANHOLE                    |
| EP          | EASEMENT                                                  | ROB        | POINT OF BEGINNING                  | STD      | STANDARD                                  |
| EP OR EXIST | EDGE OR PAVEMENT                                          | R          | POINT OF BEGINNING                  | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF CURVATURE                  | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF ENDING                     | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | STD      | STANDARD                                  |
|             | EXISTING                                                  | R          | POINT OF REVERSE OR                 | SSMH     | SANITARY SEWER MANHOLE                    |
|             | EXISTING                                                  | R          |                                     |          |                                           |



|    |                                                                                                          |
|----|----------------------------------------------------------------------------------------------------------|
| 1  | INSTALL 6"X5" NADP, TYPE 2 DROP INLET, SEE SHEET D-1 FOR DETAILS, W/STORMWATER STAMP, PER CAUSAD NO. 421 |
| 2  | INSTALL 48" TYPE II MANHOLE, PER CAUSAD NO. 405                                                          |
| 3  | INSTALL CLASS III RCP STORM DRAIN, SIZE PER PLAN (PUBLIC)                                                |
| 4  | REMOVE EXISTING 18" RCP STORM DRAIN & INSTALL CLASS III RCP STORM DRAIN, SIZE PER PLAN (PUBLIC)          |
| 5  | REMOVE EXISTING 24" RCP STORM DRAIN & INSTALL CLASS III RCP STORM DRAIN, SIZE PER PLAN (PUBLIC)          |
| 6  | PROTECT EXISTING UTILITIES IN PLACE                                                                      |
| 7  | SAWCUT EXISTING PAVEMENT, PER CAUSAD NO. 500.4                                                           |
| 8  | REMOVE & REPLACE EXISTING A-TYPE CURB, PER CAUSAD NO. 219                                                |
| 9  | TYPE I MAINTENANCE ROAD, SEE DETAIL 1, SHEET D-1                                                         |
| 10 | NADP CONCRETE APRON, SEE DETAIL SHEET D-1                                                                |
| 11 | REMOVE EXISTING STORM DRAIN MANHOLE & INSTALL 48" TYPE II MANHOLE, PER CAUSAD NO. 405                    |
| 12 | REMOVE EXISTING STORM DRAIN MANHOLE & INSTALL 60" TYPE III MANHOLE, PER CAUSAD NO. 406                   |

SEE SHEET C-2 FOR ABBREVIATIONS, LEGEND & QUANTITIES

1. FINAL GRASSES ADJACENT TO STRUCTURES SHALL BE IN CONFORMANCE WITH IBCO 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 THE PLANS.
5. SEE DETAIL SHEET FOR STREET SECTIONS AND DETAILS.
6. ALL PUBLIC AND PRIVATE DRAINAGE IMPROVEMENTS TO BE BONDED FOR AND SPECIFIED.
7. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITY STRUCTURES AND FACILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
8. CONTRACTOR TO CONSTRUCTURE AND MAINTAIN ALL EXISTING UTILITY STRUCTURES. CONSTRUCTION ENGINEER/OWNER SHALL BE NOTIFIED OF PRIOR DAMAGE TO EXISTING FACILITIES PRIOR TO CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR/REPLACING FACILITIES IF ENGINEER/OWNER IS NOTIFIED OF EXISTING DAMAGE PRIOR TO CONSTRUCTION COMMENCING.
9. NO STRUCTURE, VEGETATION, OR OBJECTS OF ANY KIND ARE PERMITTED OVER TWENTY-FOUR (24) INCHES IN HEIGHT (MEASURED FROM THE TOP OF THE ADJACENT CURB) IF CURB EXISTENCE IS NOT SHOWN. NO FLAG POLES OR GRADING PERMITS SHALL INCLUDE THE CONSTRUCTION OF RETAINING WALLS AND OTHER STRUCTURES. SEPARATE PERMITS AND APPLICATIONS ARE REQUIRED FOR THESE. (APPENDIX SECTION J105.1 AS AMENDED).
10. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE SPECIAL INSPECTION PER SECTION 1704. (APPENDIX SECTION J105.2).
11. OWNER RESPONSIBLE TO PROVIDE SURVEY DOCUMENTATION AS SHOWN AND TO PROVIDE SURVEY DATA FOR UTILITY INFORMATION DAMAGED, DISTURBED, OR OBSOBERED DURING CONSTRUCTION.

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY DS #4698 ON FILE AT CITY OF LAS VEGAS FOR THE SUBJECT PROJECT.

STEPHEN M. JONES, P.E. 019638 DATE \_\_\_\_\_

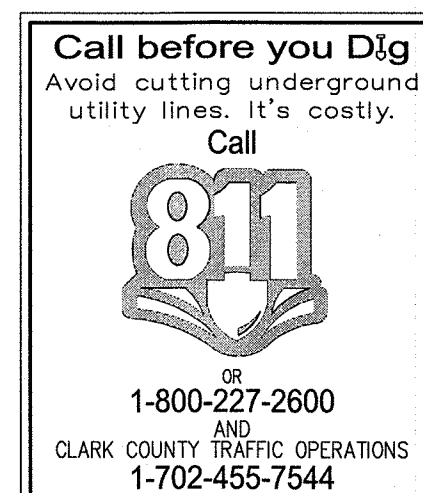
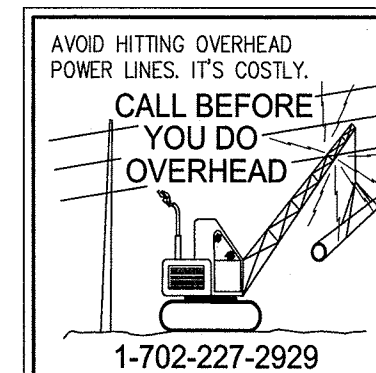
USDA BRASS CAP ON AN IRON PIPE, 140' SOUTHWEST OF TELEPHONE  
POLE #26994T, SOUTHWEST CORNER OF THE U.S. 95/KYLE CANYON  
TURNOFF.  
ELEVATION = 2817.62 FEET, 858.813 METERS  
N.A.V.D. 88 DATUM  
PER THE CLARK COUNTY VERTICAL CONTROL LAST REVISED 2003

SOUTH 00°08'59" WEST, BEING THE BEARING OF THE EAST LINE OF THE  
SOUTHEAST QUARTER (SE1/4) OF SECTION 12, TOWNSHIP 19 SOUTH  
RANGE 59 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA  
AS SHOWN BY MAP THEREOF IN BOOK 147, PAGE 71 OF PLATS IN THE  
CLARK COUNTY RECORDER'S OFFICE, NEVADA.

THIS SITE LIES WITHIN ZONE "X" DETERMINED TO BE OUTSIDE OF THE 500 YEAR FLOODPLAN (0.2% ANNUAL CHANCE FLOOD) AS DEPICTED ON FIRM MAP PANEL NUMBER 32003C1735E, DATED SEPTEMBER 27, 2002.

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. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IMPROVEMENTS THE CONTRACTOR SHALL VERIFY CROSS SLOPES FROM EXISTING PAVEMENT TO PROPOSED EDGE OF PAVEMENT OR PROJECTED LIFT 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.

[illegible]

**NINETY-FIVE MANAGEMENT LLC**

## BRENT LANE STORM DRAIN IMPROVEMENTS STORM DRAIN PLAN

12  
19S  
60E

DATE: 10/23/15

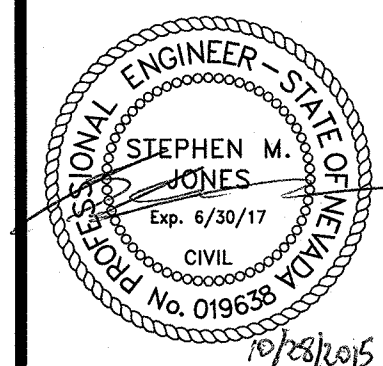
DRAFTER: CS

DESIGNER: SMU

CHECKED: SMJ

PROJECT NO.

**OLY1401.004**



SD-1

SHEET 3 OF 5

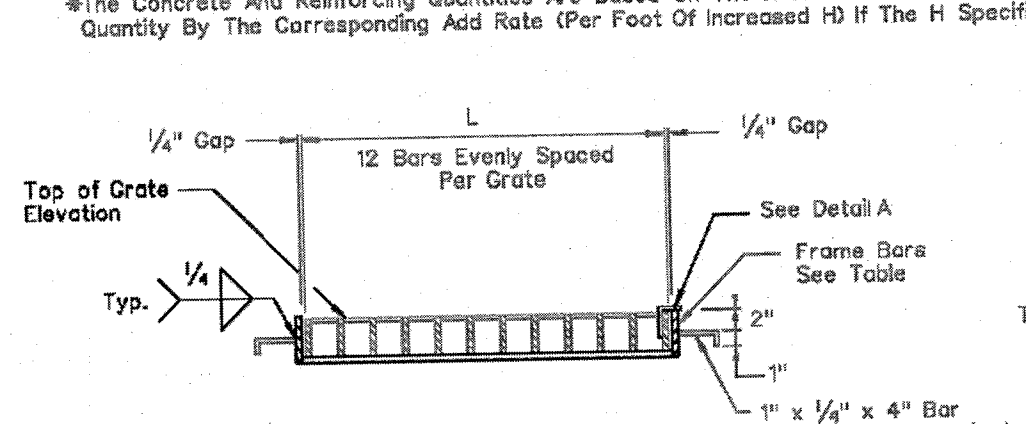


| BILL OF MATERIALS<br>(RCP HDPE CMP) |                    |                |                  |                     |                |                  |                       |                |                  |
|-------------------------------------|--------------------|----------------|------------------|---------------------|----------------|------------------|-----------------------|----------------|------------------|
| PIPE<br>SIZE<br>(INCH)              | SINGLE (ONE GRATE) |                |                  | DOUBLE (TWO GRATES) |                |                  | TRIPLE (THREE GRATES) |                |                  |
|                                     | * CONCRETE (CY)    | * REINF. (LB.) | STR. STEEL (LB.) | * CONCRETE (CY)     | * REINF. (LB.) | STR. STEEL (LB.) | * CONCRETE (CY)       | * REINF. (LB.) | STR. STEEL (LB.) |
| 15                                  | 0.71               | 0.19           | 36               | 1.41                | 0.38           | 72               | 2.12                  | 0.57           | 108              |
| 18                                  | 0.89               | 0.20           | 40               | 1.78                | 0.46           | 80               | 2.67                  | 0.69           | 120              |
| 24                                  | 1.08               | 0.22           | 48               | 2.16                | 0.50           | 96               | 3.24                  | 0.82           | 144              |
| 30                                  | 1.28               | 0.24           | 63               | 2.56                | 0.58           | 126              | 3.84                  | 0.96           | 180              |
| 36                                  | 1.50               | 0.26           | 81               | 3.00                | 0.66           | 150              | 4.50                  | 1.10           | 216              |
| 42                                  | 1.71               | 0.28           | 90               | 3.42                | 0.72           | 180              | 5.13                  | 1.18           | 252              |
| 48                                  | 1.94               | 0.30           | 95               | 3.88                | 0.78           | 190              | 5.82                  | 1.26           | 285              |

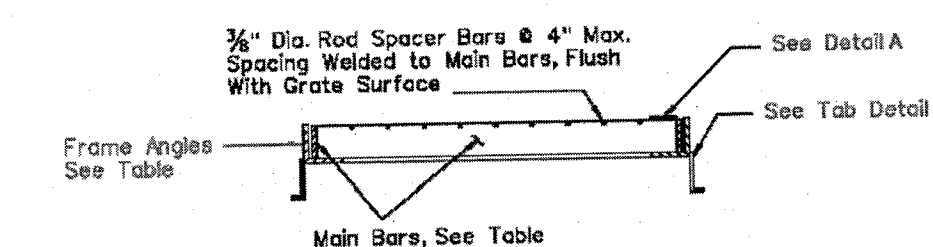
\*The Concrete And Reinforcing Quantities Are Based On The H Min. Shown. Increase The Concrete And Reinforcing Base Quantity By The Corresponding Add Rate (Per Foot Of Increased H) If The H Specified Is Larger Than H Min.

TABLE OF DIMENSIONS  
(RCP HDPE CMP)

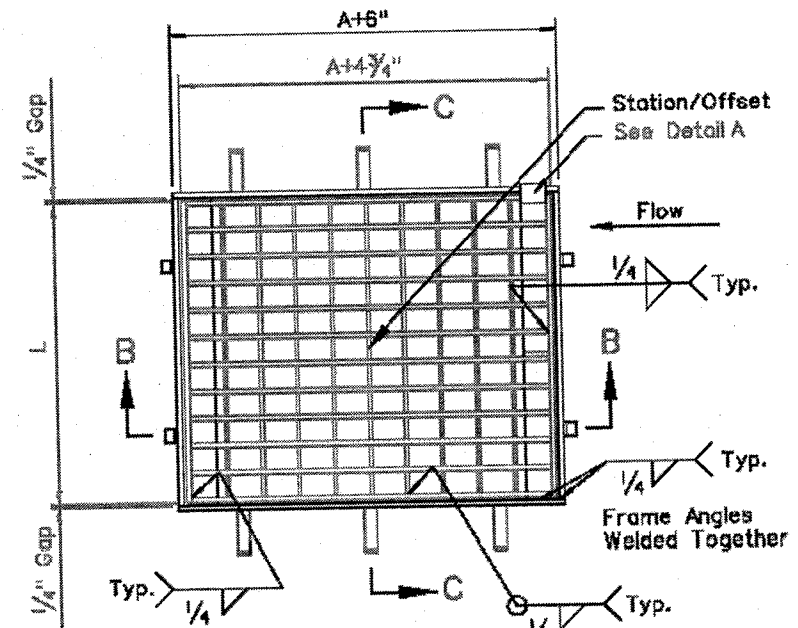
| PIPE<br>SIZE<br>(INCH) | A<br>(INCH) | H<br>Min.<br>(FT) | MAIN<br>BARS<br>(INCH) | FRAME<br>ANGLES<br>(INCH) | FRAME<br>BARS<br>(INCH) | L (FT) |
|------------------------|-------------|-------------------|------------------------|---------------------------|-------------------------|--------|
| 15                     | 2'          | 2.50              | 3/4" X 3/4"            | 4" X 3" X 3/4"            | 4" X 3/4"               | 2      |
| 18                     | 2' 6"       | 3.00              | 4/4" X 3/4"            | 5" X 3" X 3/4"            | 5" X 3/4"               | 2      |
| 24                     | 3'          | 3.50              | 4/4" X 3/4"            | 5" X 3" X 3/4"            | 5" X 3/4"               | 2      |
| 30                     | 4'          | 4.00              | 4/4" X 3/4"            | 5" X 3" X 3/4"            | 5" X 3/4"               | 2      |
| 36                     | 4'          | 4.50              | 5/4" X 3/4"            | 6" X 3/2" X 3/4"          | 6" X 3/4"               | 2      |
| 42                     | 6'          | 5.00              | 5/4" X 3/4"            | 6" X 3/2" X 3/4"          | 6" X 3/4"               | 2      |
| 48                     | 6'          | 5.50              | 5/4" X 3/4"            | 6" X 3/2" X 3/4"          | 6" X 3/4"               | 2      |



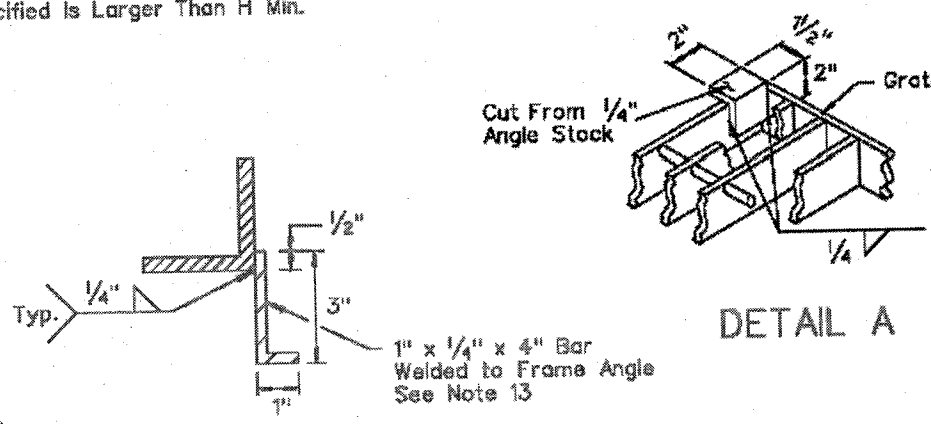
SECTION C-C



SECTION B-B



GRATE AND FRAME



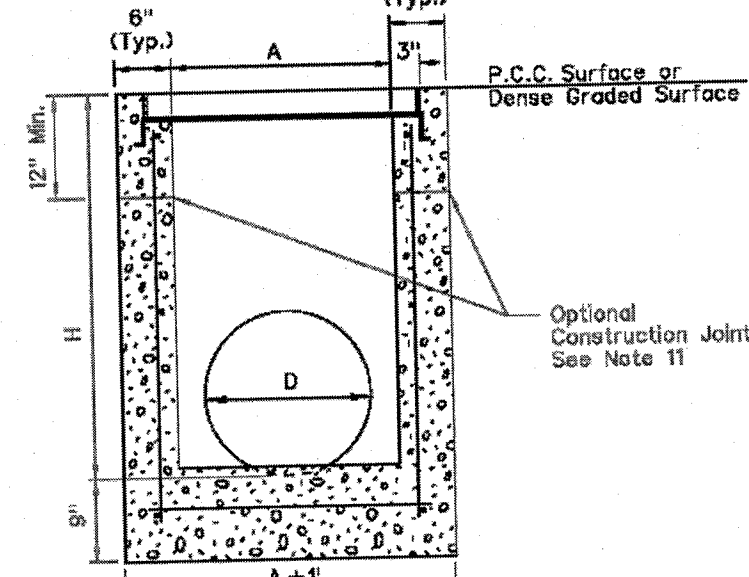
TAB DETAIL

NOTES:

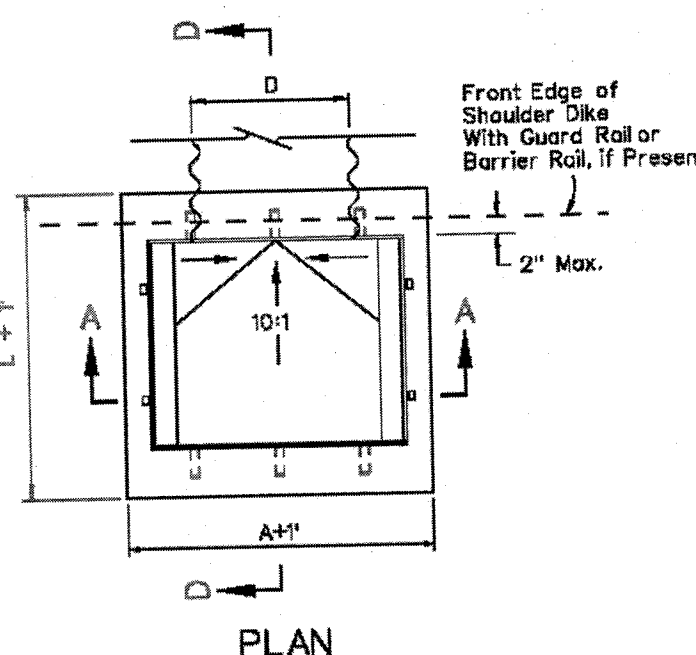
1. ALL CONCRETE SHALL BE CLASS A OR AA.
2. REINFORCING STEEL SHALL BE NO. 4 BARS WITH MAXIMUM SPACING AT 18" CENTERS, WELDED TIGHTLY AT ALL INTERSECTIONS AND EMBEDDED 2" CLEAR OF ALL CONCRETE SURFACES.
3. EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1".
4. DIMENSIONS MAY BE VARIED TO FIT LOCAL CONDITIONS IF ORDERED BY THE ENGINEER.
5. COMMERCIAL PREFABRICATED GRATINGS APPROVED BY THE BRIDGE DIVISION MAY BE USED IN LIEU OF THE FIELD-WELDED GRATING SHOWN ABOVE.
6. EXTREME LOW COVER SITUATIONS TO BE REVIEWED BY HYDRAULICS ENGINEER.
7. SLOPE CATCH BASIN FLOORS 10:1 FROM ALL DIRECTIONS TOWARD OUTLET PIPE. IF BASIN IS USED AS A JUNCTION, SHAPE FLOW LINE(S) TO OUTLET PIPE AND PROVIDE A 10:1 SLOPE TO FLOW LINE(S).
8. SEE SHEET R-2.9.1 FOR DETAILS IF CONNECTING HDPE PIPE.
9. A SINGLE TYPE 2 DROP INLET SHALL BE CONSTRUCTED UNLESS A DOUBLE OR TRIPLE IS SPECIFIED.
10. SINGLE GRATE CONFIGURATION SHOWN FOR CLARITY. OUTSIDE DIMENSIONS OF EACH GRATE SHALL MEASURE 2' BY A+4 3/4".
11. RUN REBAR CONTINUOUS THRU CONSTRUCTION JOINT. JOINT MUST BE A MINIMUM OF 3" FROM HORIZONTAL BARS.
12. WELD ONE TAB ON 6" OF GRATE AND REMAINING TWO TABS 6" FROM EDGE OF FRAME. SIX TABS PER INLET, THREE TABS ON EACH SIDE.
13. WELD TABS 6" FROM EDGE OF FRAME. FOUR TABS PER GRATE, TWO ON EACH SIDE.

DESIGN NOTES:

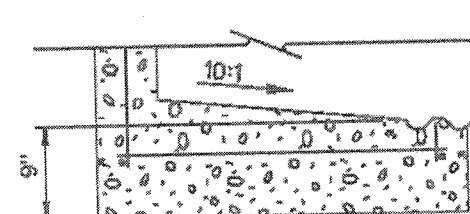
- D1. ADDITIONAL PIPE PENETRATIONS MAY BE PLACED IN ANY WALL.



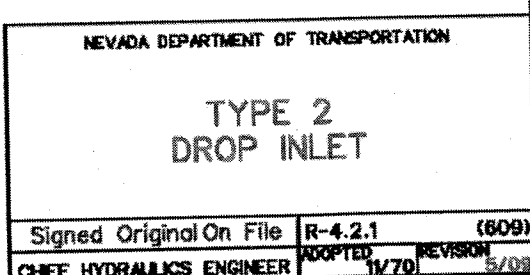
SECTION A-A



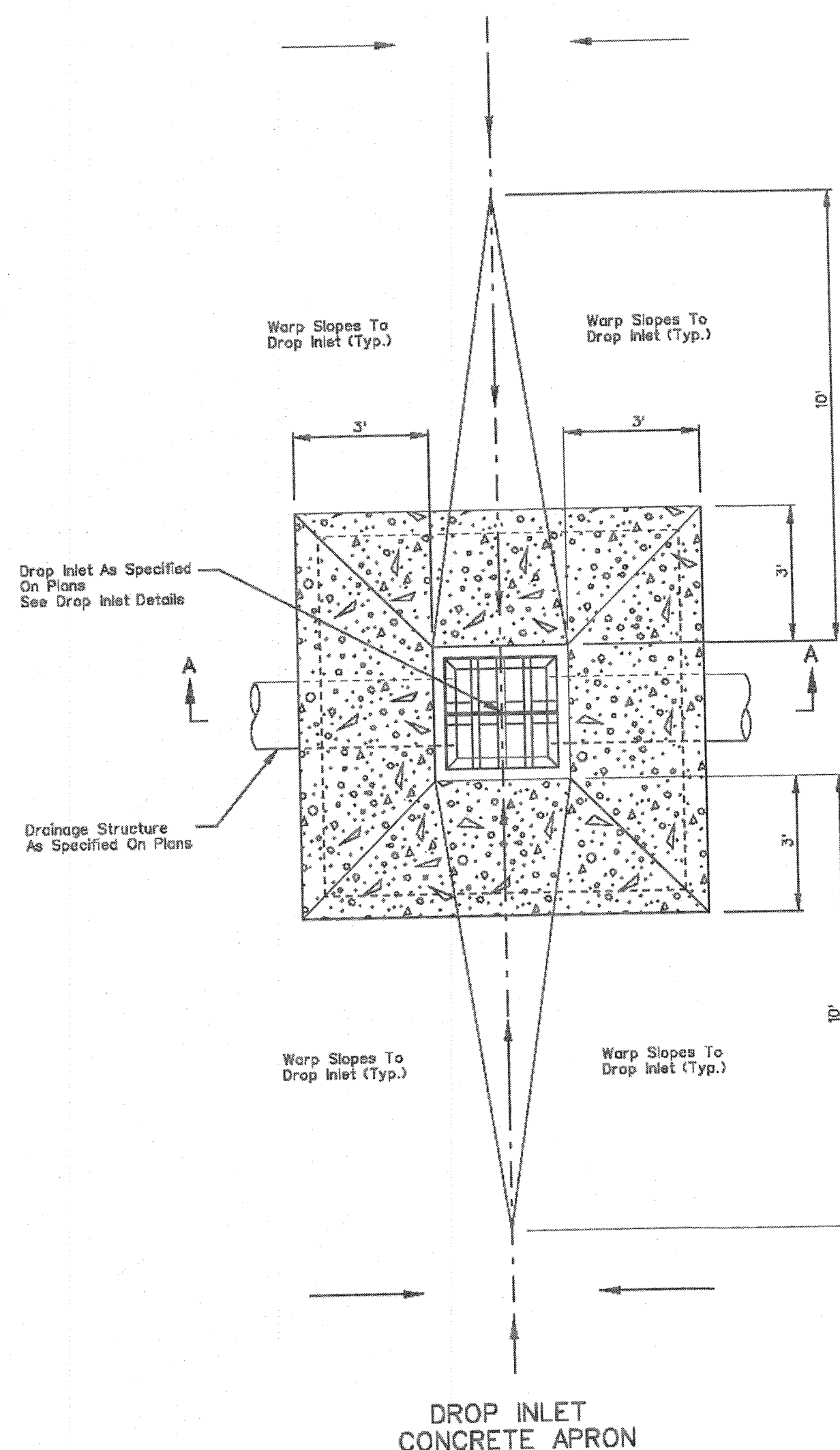
PLAN



SECTION D-D

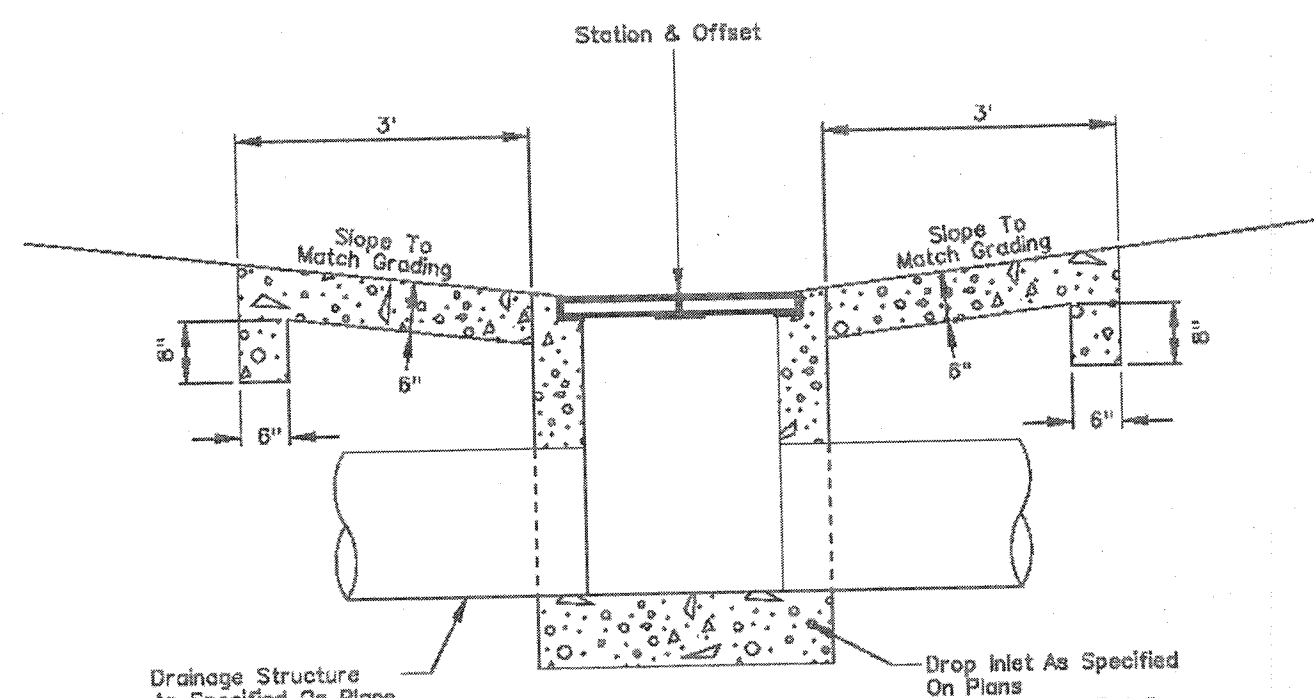


TYPE 2  
DROP INLET

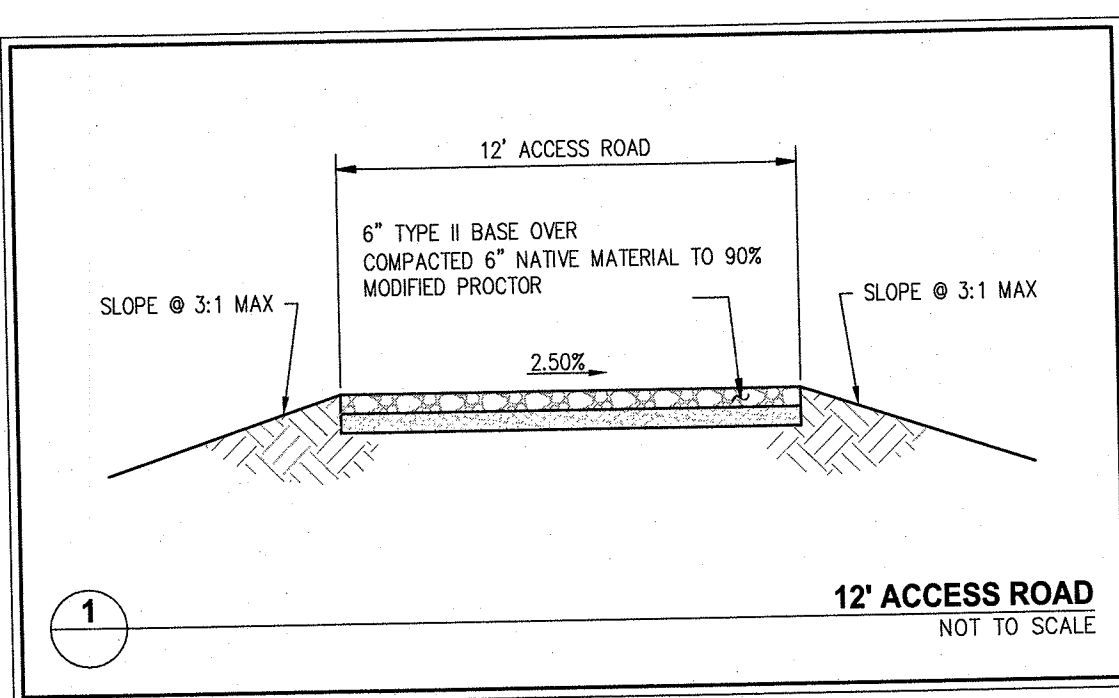
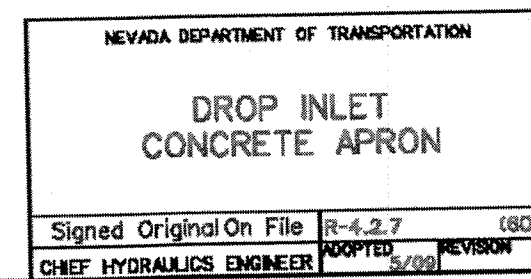


GENERAL NOTES:

1. CONCRETE SHALL BE CLASS A OR AA.



SECTION A-A



12' ACCESS ROAD  
NOT TO SCALE

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

CITY OF LAS VEGAS  
NINETY-FIVE MANAGEMENT LLC  
BRENT LANE STORM DRAIN IMPROVEMENTS  
DETAIL SHEET

12  
189  
606

DATE: 10/23/15  
DRAFTER: CS  
DESIGNER: SMJ  
CHECKED: SMJ  
PROJECT NO.  
OLY1401.004

PROFESSIONAL ENGINEER - STATE OF NEVADA  
STEPHEN M. JONES  
Exp. 6/30/17  
CIVIL  
No. 019638  
10/23/2015

D-1  
SHEET 5 OF 5