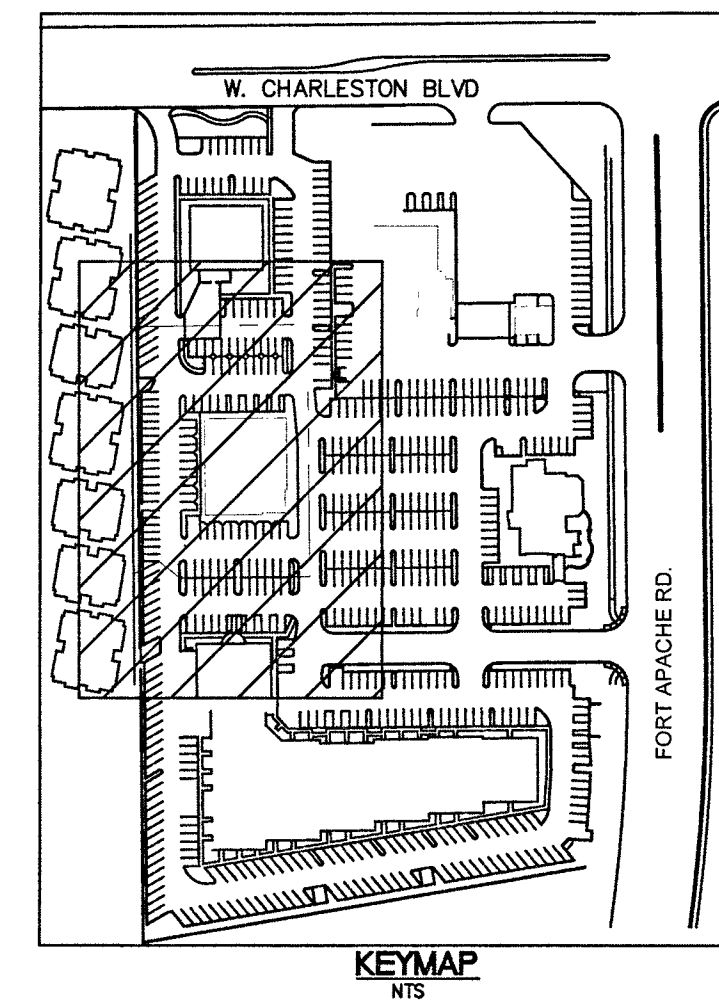
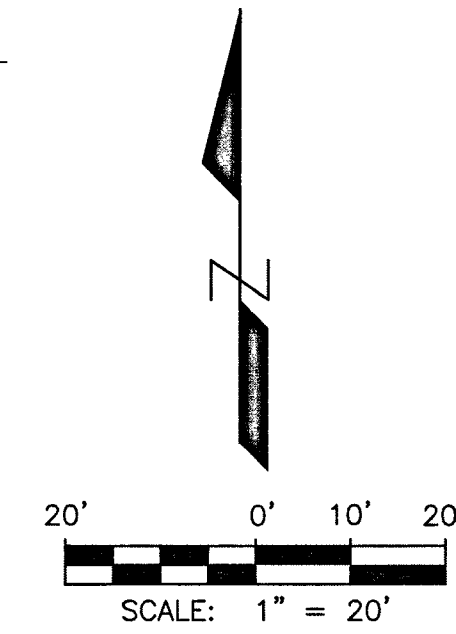


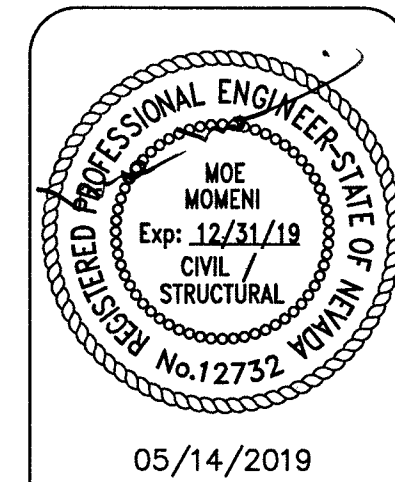
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momen ENGINEERS, LLC.

CIVIL & STRUCTURAL ENGINEERING

3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117

TEL: (702) 902-2444 | FAX: (702) 248-9495 | MOE@MHMENGINEERS.COM



05/14/2019
DATE
137102
PROJECT NUMBER
BP
DRAWN BY
MM
CHECKED BY

PROJECT:
Ft. Apache Commons Office
City of Las Vegas
SWC of W. Charleston Boulevard & Fort Apache Road
DEMOLITION AND REMOVAL PLAN

SHEET:
DM-1
3 OF 9
CLV L18-02661

- ① EXISTING CURB TO BE REMOVED
- ② EXISTING LIGHT TO BE REMOVED
- ③ EXISTING SIGN TO BE REMOVED
- ④ EXISTING PARKING STRIPPING TO BE REMOVED
- ⑤ EXISTING CURB TO REMAIN AND BE PROTECTED IN PLACE
- ⑥ EXISTING UTILITIES TO REMAIN AND BE PROTECTED IN PLACE
- ⑦ EXISTING VALLEY GUTTER TO REMAIN AND BE PROTECTED IN PLACE
- ⑧ SAWCUT AC PAVEMENT PER PLAN AND MATCH EXISTING GRADE
- ⑨ REMOVE AC PAVEMENT AND SUBBASE TO FULL DEPTH.
- ⑩ REMOVE EXISTING VALLEY GUTTER

7LV0032SSW6 - RIVET AND PLATE IN TOP OF CURB @ NW CORNER OF RAMPART AND
CHARLESTON

ELEVATION: 2747.45' (FEET)

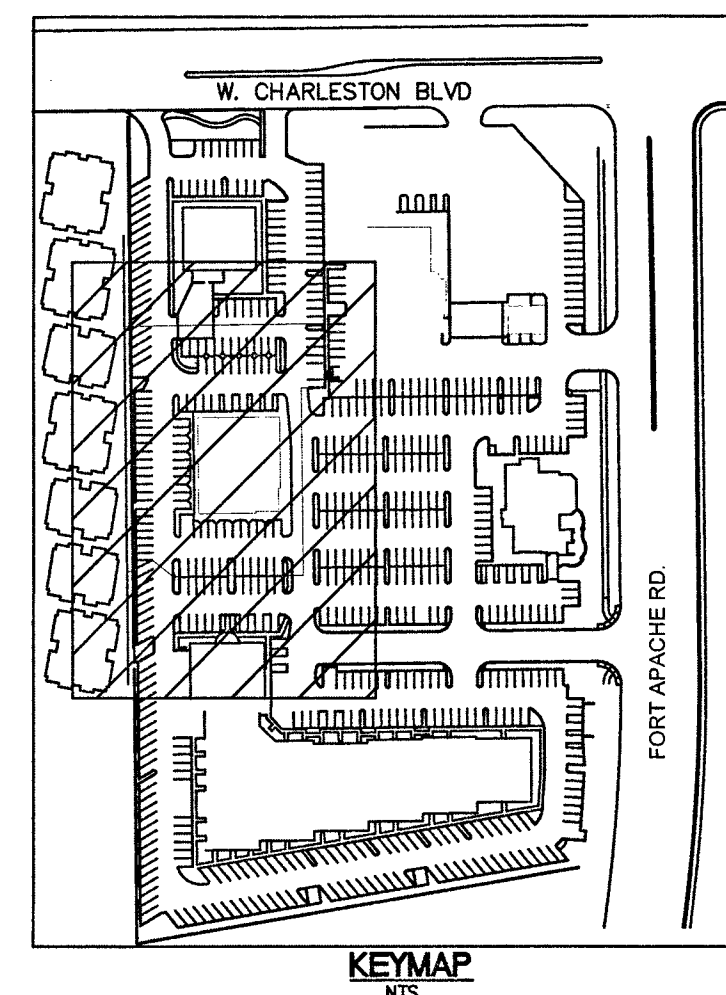
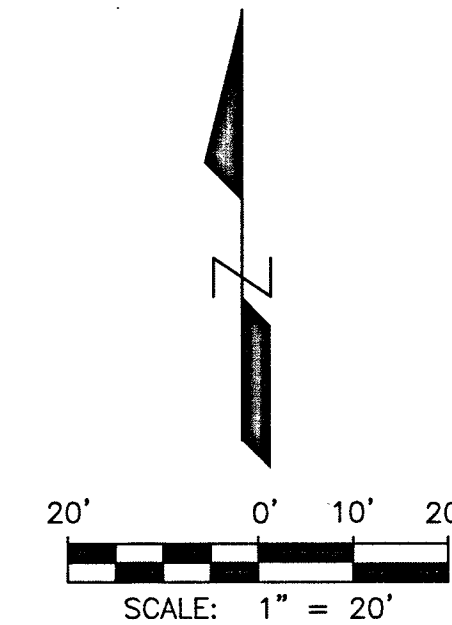
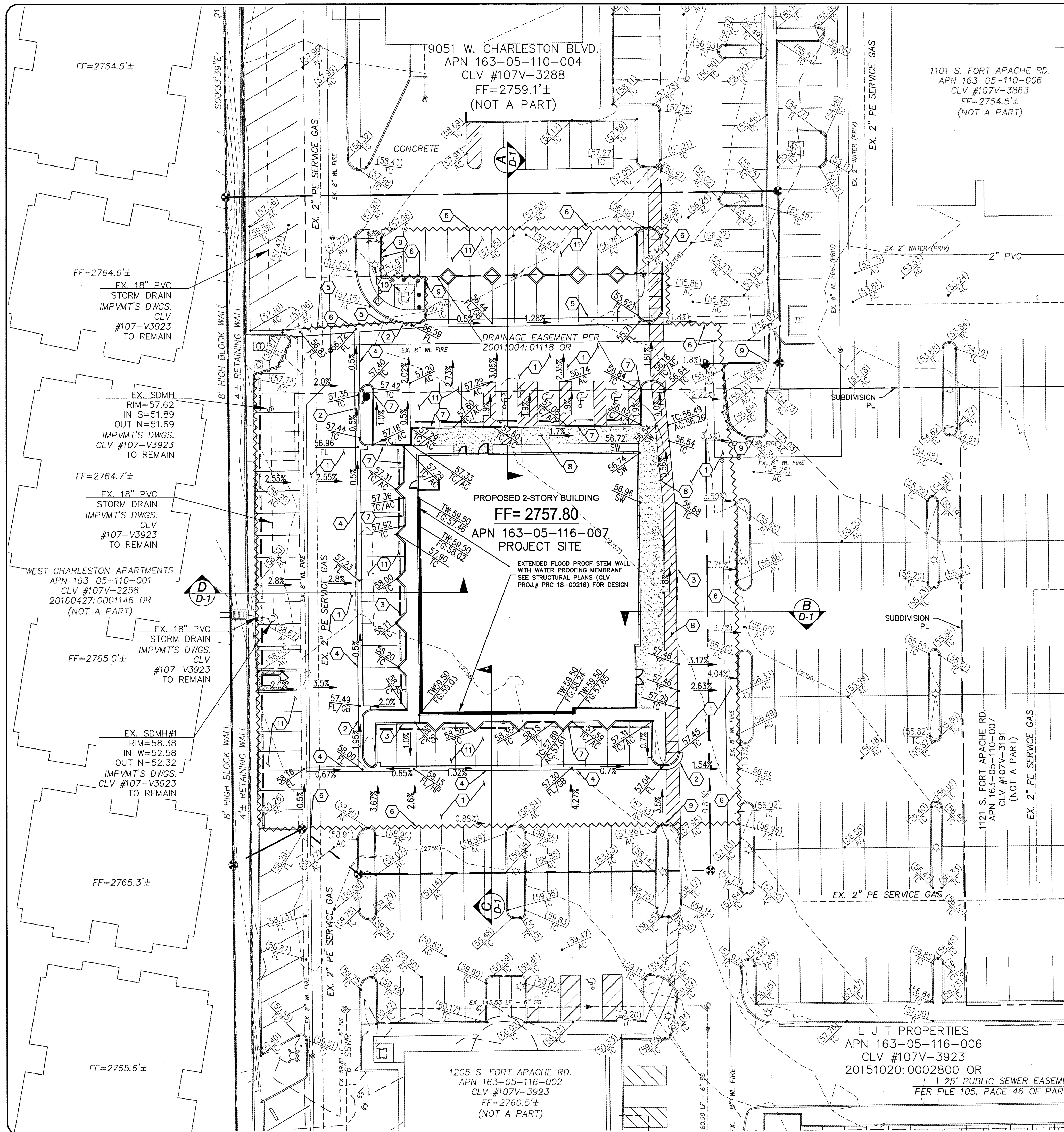
BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

NORTH 89°26'21" EAST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW ¼) OF THE SOUTHWEST QUARTER (SW ¼) OF SECTION 32, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN IN FILE 196, PAGE 66 OF SURVEYS, CLARK COUNTY RECORDS, NEVADA.

THE PARCEL SHOWN IN FILE 196, PAGE 66 OF SURVEYS, LYING WITHIN THE NORTHWEST QUARTER (NW 1/4) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

Call
Before You
Overhead

UTILITY LINES. IT'S COSTLY.
CALL
811



GEOTECHNICAL REPORT:
GEOTECHNICAL REPORT PREPARED BY:
CONSTRUCTION TESTING SERVICES, LLC
3842 EAST POST ROAD
LAS VEGAS, NEVADA 89120
JOB NO.: J5851, DATED: FEB. 7, 2018

GRADING NOTE:
ALL ON-SITE STORM DRAINAGE AND THE ASSOCIATED FACILITIES ARE PRIVATELY OWNED AND TO BE PRIVATELY MAINTAINED BY THE PROPERTY OWNER.

EARTHWORK QUANTITIES:
EARTHWORK QUANTITIES:
CUT = 129 C.Y.
FILL = 404 C.Y.
A. THE ABOVE QUANTITIES DO NOT REFLECT LOSSES DUE TO SHRINKAGE.
B. ALL ON-SITE GRADING SHALL COMPLY WITH THE CONDITIONS SET FORTH IN THE PROJECT GEOTECHNICAL REPORT.

FLOOD ZONE
FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, COMMUNITY PANEL 32003C2145F, EFFECTIVE NOVEMBER 16, 2011, INDICATED THAT THE SUBJECT SITE LIES WITHIN ZONE "X". (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN)

GRADING PLAN CERTIFICATION:
I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED FLOOD STUDY DIS-50424 & 5042B ON FILE AT THE CITY OF LAS VEGAS FOR THE SUBJECT PROJECT.
MOE MOE 11-14-2018
MOE MOE, P.E. #12732 DATE

TRAFFIC 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 TRENDING ACTIVITIES TO THE CITY OF LAS VEGAS'S SATISFACTION. ALL MATERIAL USED SHALL MEET THE CITY OF LAS VEGAS'S SPECIFICATIONS OR 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 INCA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02.
3. CONTRACTOR SHALL CONTACT CITY OF LAS VEGAS DIRECTLY TO SCHEDULE STAFF TO LOCATE UNDERGROUND STREET LIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA A MINIMUM OF 48 HRS NOTICE IS REQUIRED PRIOR TO LOCATES.

GRADING NOTES:
1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS OF EXISTING STRUCTURES INCLUDING LOCATION, ELEVATION, AND DIMENSIONS AND REPORT ALL DISCREPANCIES TO MOMENT ENGINEERS PRIOR TO CONSTRUCTION.
2. ALL IMPROVEMENTS TO BE PROTECTED FROM EROSION DURING CONSTRUCTION THROUGH THE USE OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
3. ADD 2500 TO PLAN GRADES WITH THE EXCEPTION OF FINISHED FLOORS UNLESS NOTED OTHERWISE.
4. CONTRACTOR TO VERIFY ALL HANDICAP ACCESSIBLE ROUTES AND PARKING STALLS ARE IN CONFORMANCE WITH A ACCESSIBILITY GUIDELINES (AUG) DO NOT EXCEED MAXIMUM SLOPES IN ANY DIRECTION PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. MOMENT ENGINEERS ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS DRAWING ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO: WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRRIGATION LINES. ALL EXISTING UTILITIES ARE SHOWN HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION. IF CONFLICTS EXISTS IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE, AND THE PROJECT ENGINEER IMMEDIATELY.
6. 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 THE TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF FRONT ASPHALT GRADE OR PAVEMENT STREET SURFACE. THE RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.
7. CONSTRUCTION OF BLOCK WALLS REQUIRES A SEPARATE BUILDING PERMIT AND APPROVAL BY THE CLARK COUNTY BUILDING DEPARTMENT.

- CONSTRUCTION NOTES:**
- ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH CITY OF LAS VEGAS AND "CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS AND SPECIFICATIONS" (CCAUDS) LATEST EDITION AND/OR REGULATING ENTITY HAVING JURISDICTION.
1. CONSTRUCT 3" AC PAVEMENT SECTION PER DETAIL 1 ON SHEET D-1
2. CONSTRUCT "L" CURB AND GUTTER PER CCAUSD 216
3. CONSTRUCT 6" "A" TYPE CURB PER DETAIL 2 ON SHEET D-1
4. CONSTRUCT 2" WIDE CONCRETE VALLEY GUTTER, SEE DETAIL 4 SHEET D-1
5. CONSTRUCT 3" WIDE CONCRETE VALLEY GUTTER, SEE DETAIL 4 SHEET D-1
6. SAWCUT AC PAVEMENT PER PLAN AND MATCH EXISTING GRADE
7. BEGIN 0" CURB TRANSITION AND INSTALL 0" CURB. SEE DETAIL 3 ON SHEET D-1
8. CONSTRUCT 4" THICK CONCRETE WALKWAY PER CCAUSD 234 (WIDTH PER PLAN). SEE SEPARATE ARCHITECTURAL PLANS FOR DETAILS
9. EXISTING CURB TO REMAIN
10. EXISTING UTILITIES TO BE PROTECTED AND TO REMAIN
11. CONSTRUCT 2" AC PAVEMENT SECTION PER DETAIL 1 ON SHEET D-1

BY	DATE	DESCRIPTION	REVISIONS

momen ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-9485 | MOE@MOMENGINEERS.COM

PROFESSIONAL ENGINEER STATE OF NEVADA
MOE MOE
Exp: 12/31/18
CIVIL
STRUCTURAL
No. 12732
05/14/2019

05/14/2019
DATE
137102
PROJECT NUMBER
BP
DRAWN BY
MM
CHECKED BY

GRADING PLAN
PROJECT: Ft. Apache Commons Office
City of Las Vegas
SVC of W. Charleston Boulevard & Fort Apache Road

BENCHMARK
7LV00325SW6 - RIVET AND PLATE IN TOP OF CURB @ NW CORNER OF RAMPART AND CHARLESTON
ELEVATION: 2747.45' (FEET)
BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

BASIS OF BEARINGS
NORTH 89°28'21" EAST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 32, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN IN FILE 196, PAGE 66 OF SURVEYS, CLARK COUNTY RECORDS, NEVADA.

LEGAL DESCRIPTION
THE PARCEL SHOWN IN FILE 196, PAGE 66 OF SURVEYS, LYING WITHIN THE NORTHWEST QUARTER (NW 1/4) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

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811

Call before you dig
Underground

1-702-432-5300
1-702-227-2929

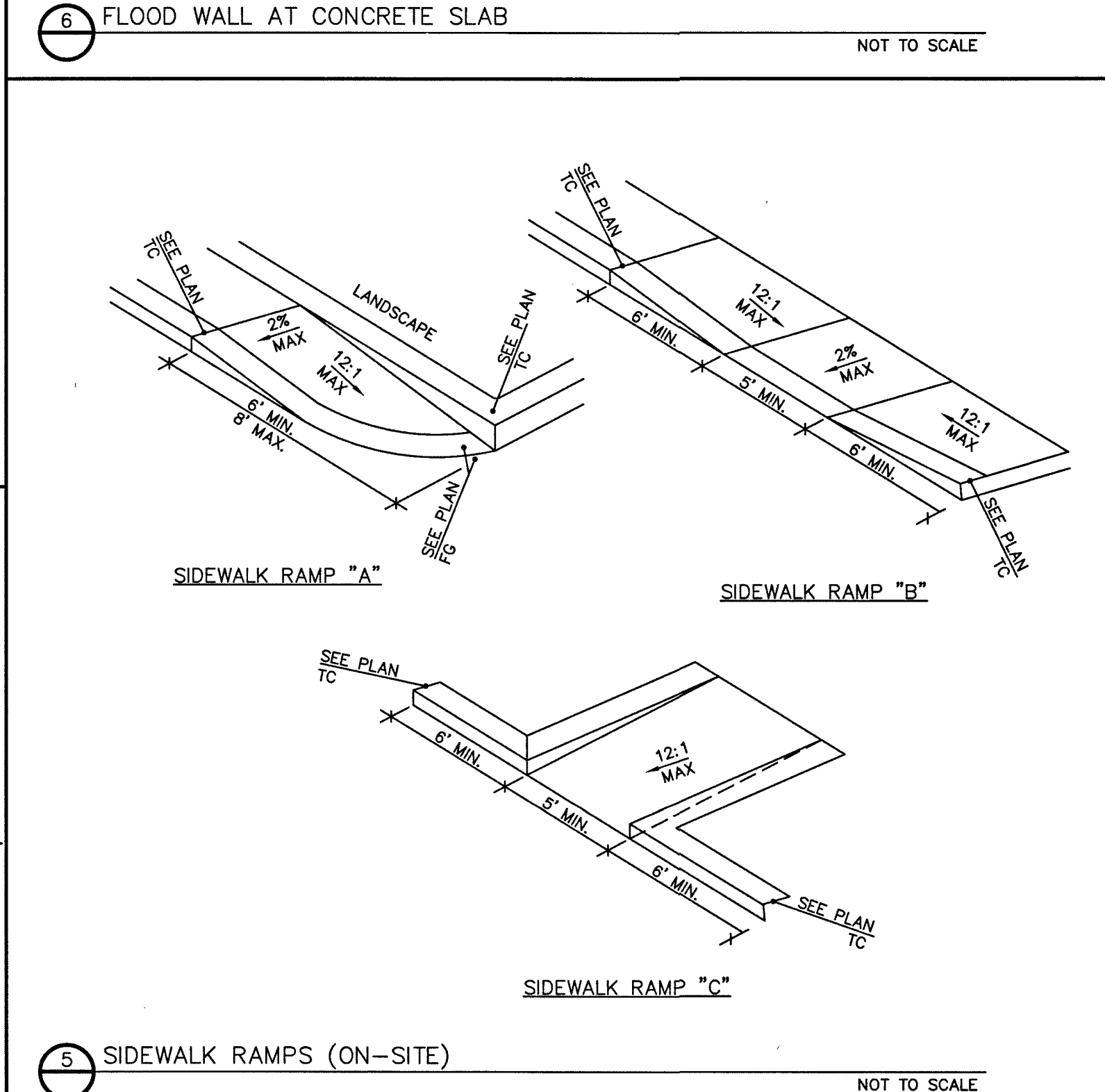
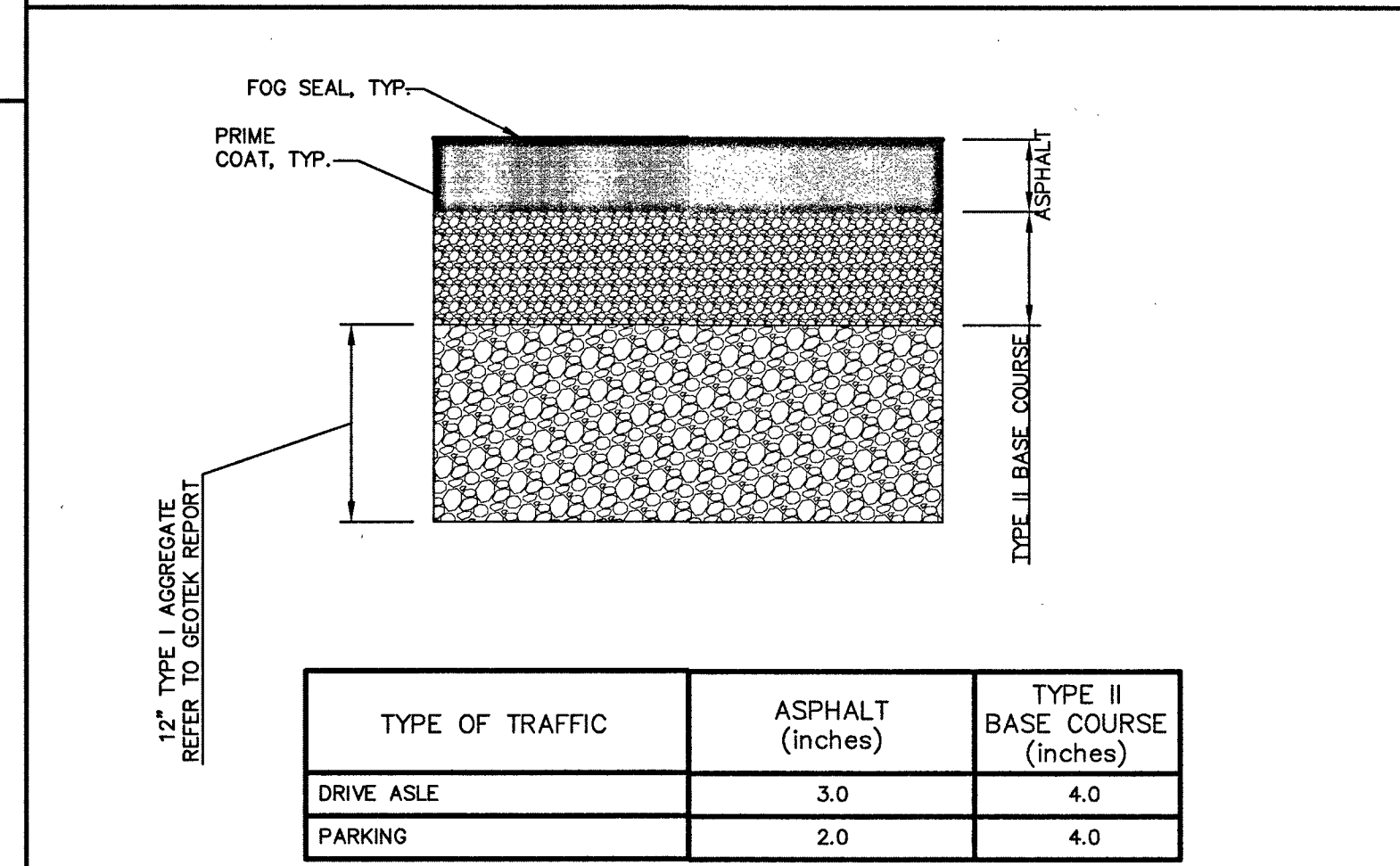
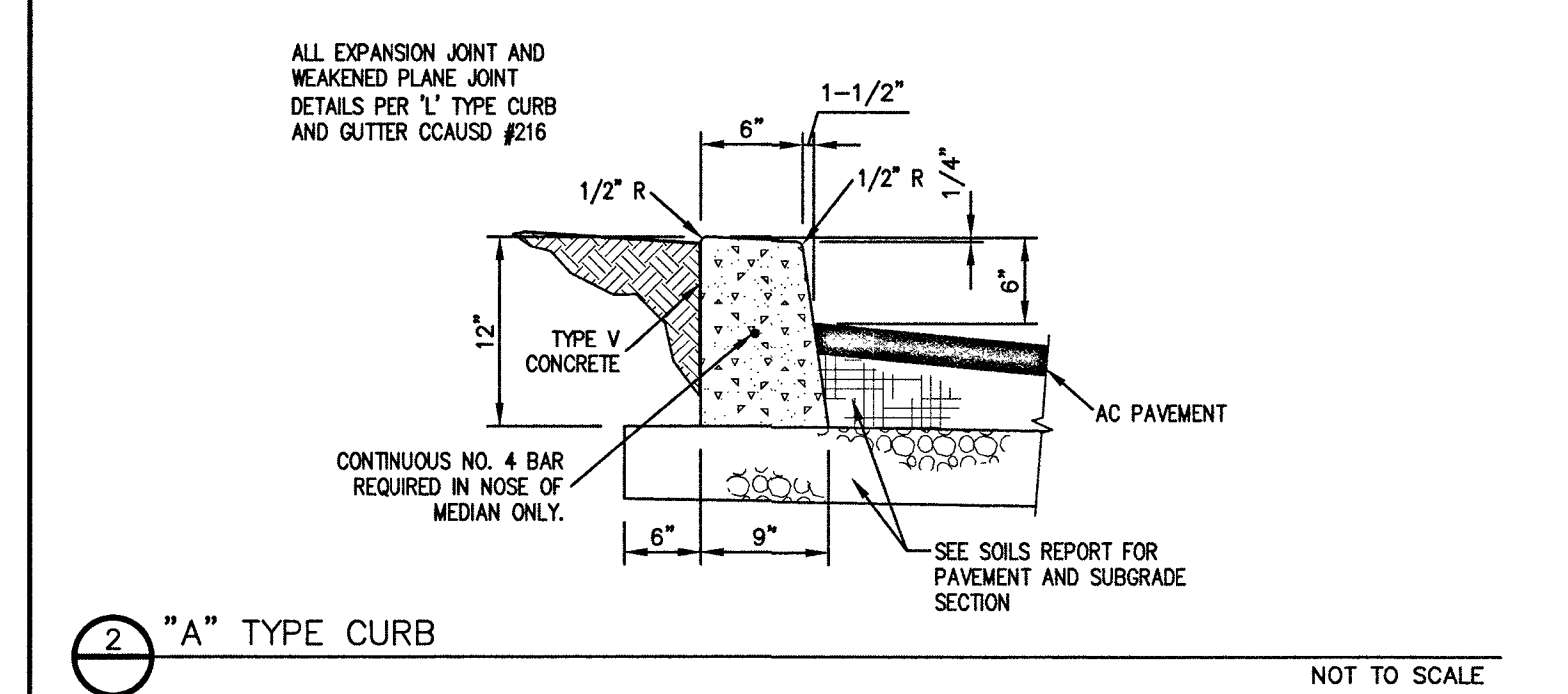
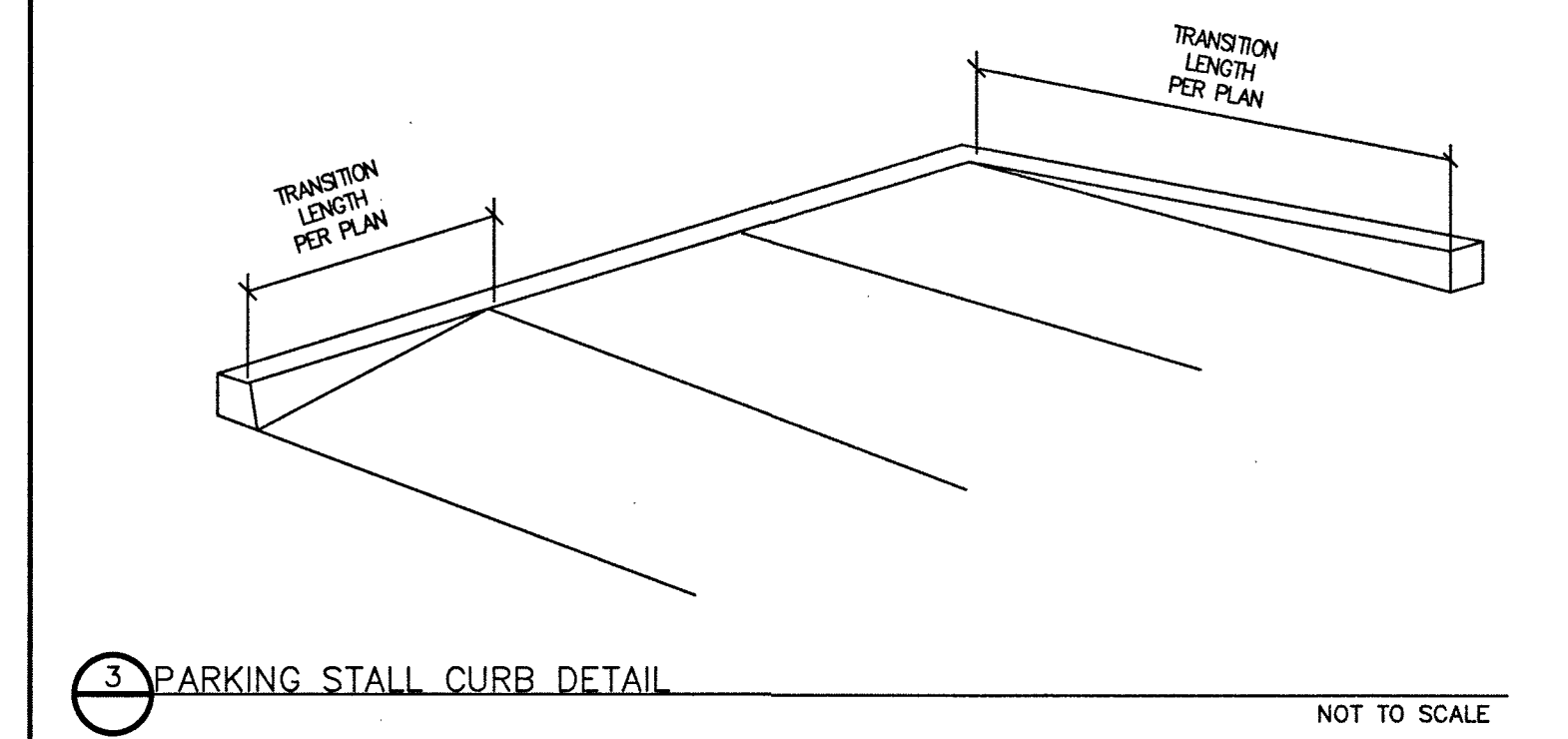
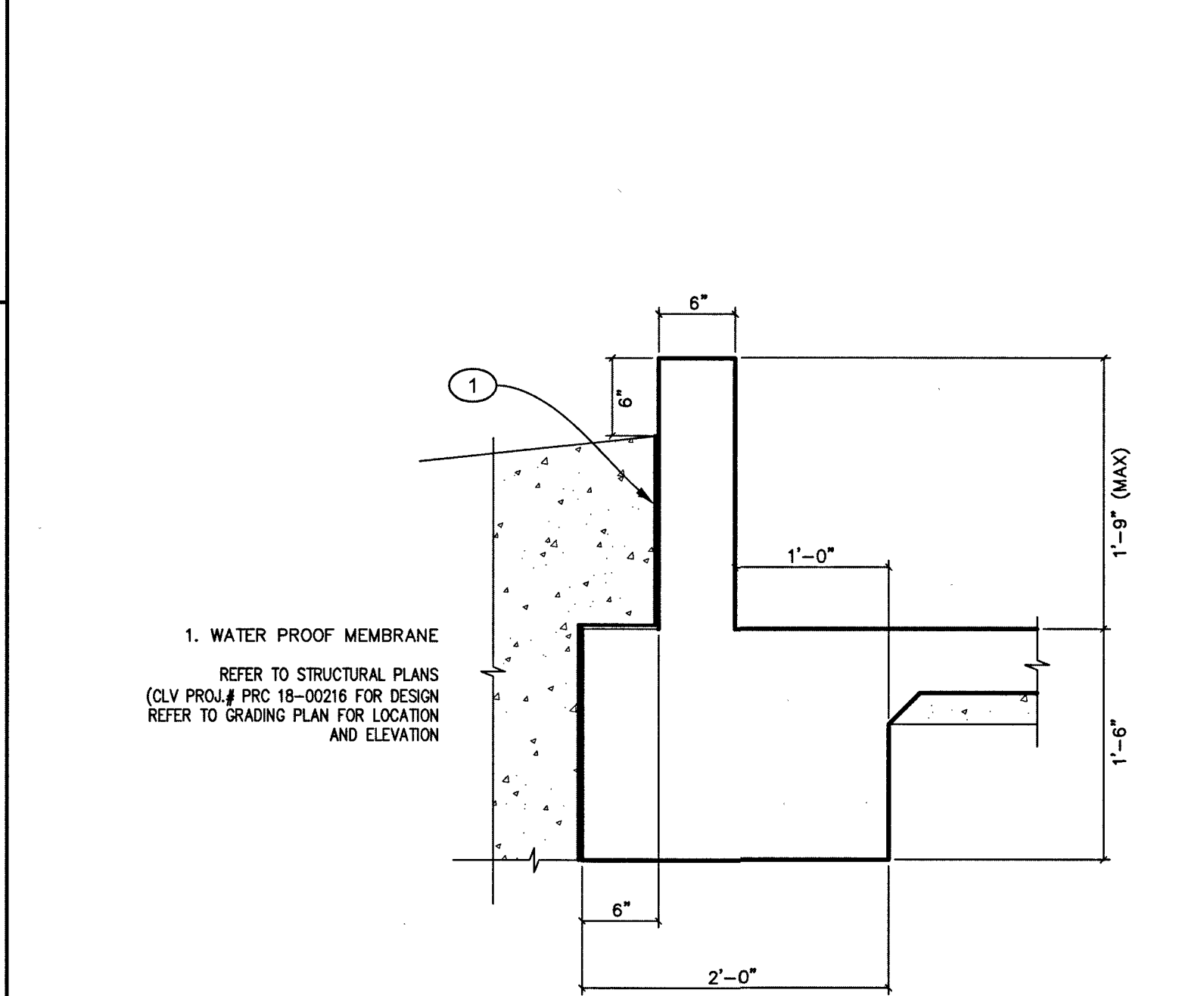
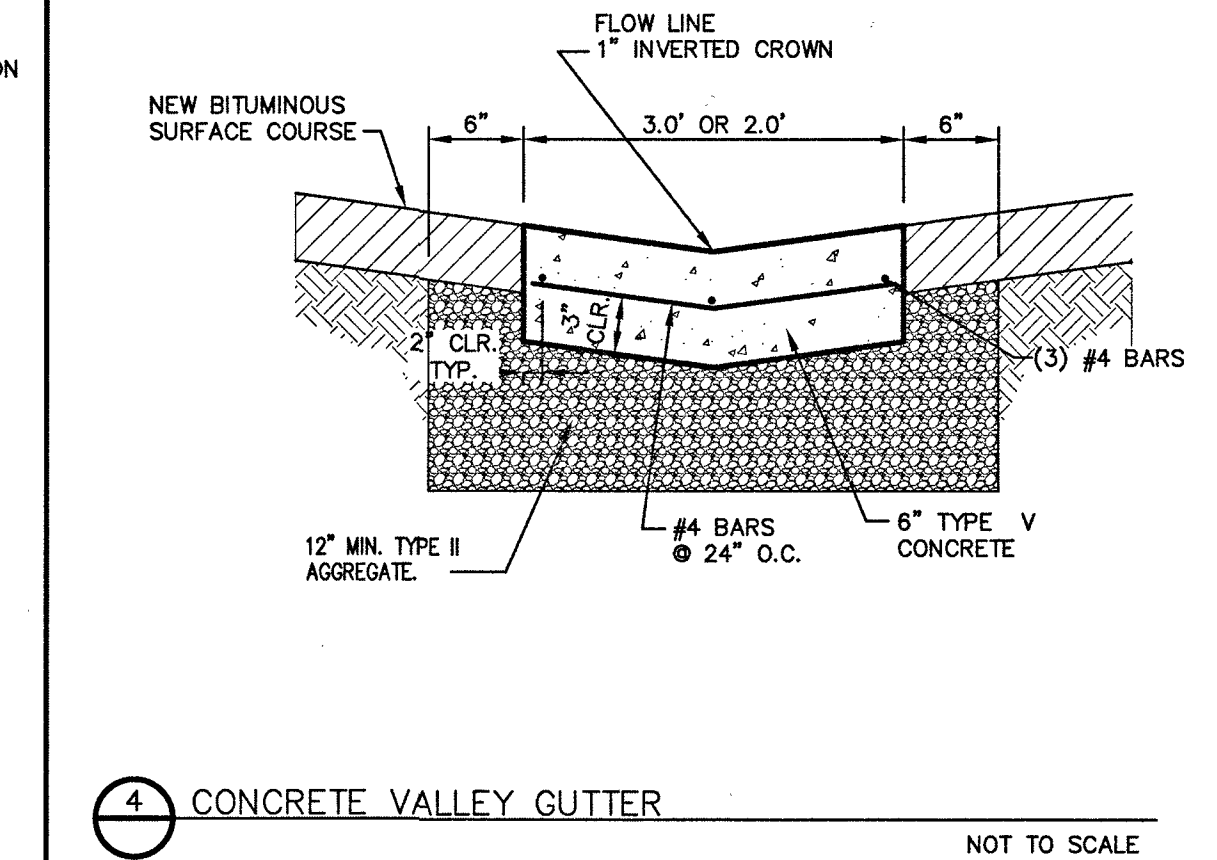
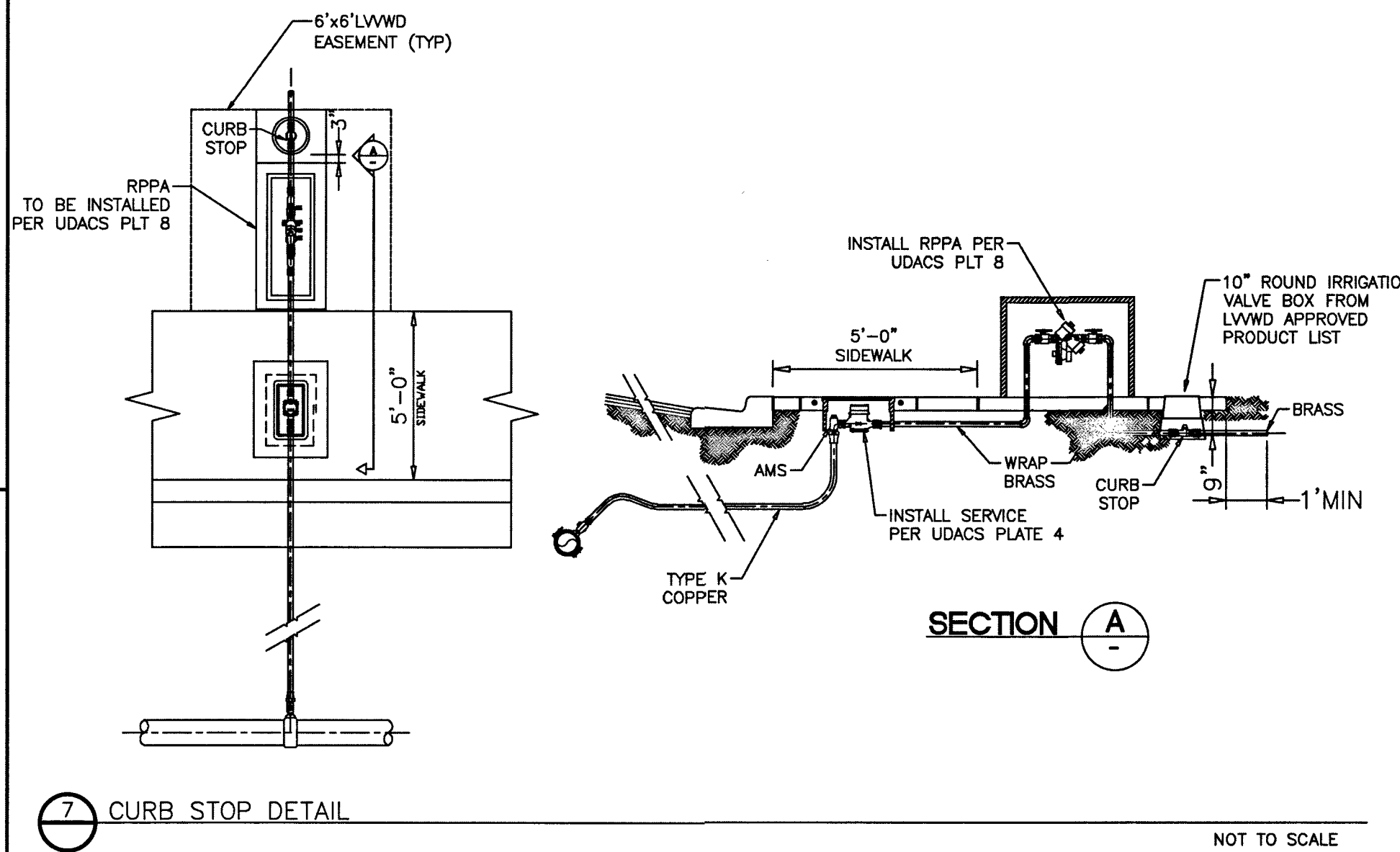
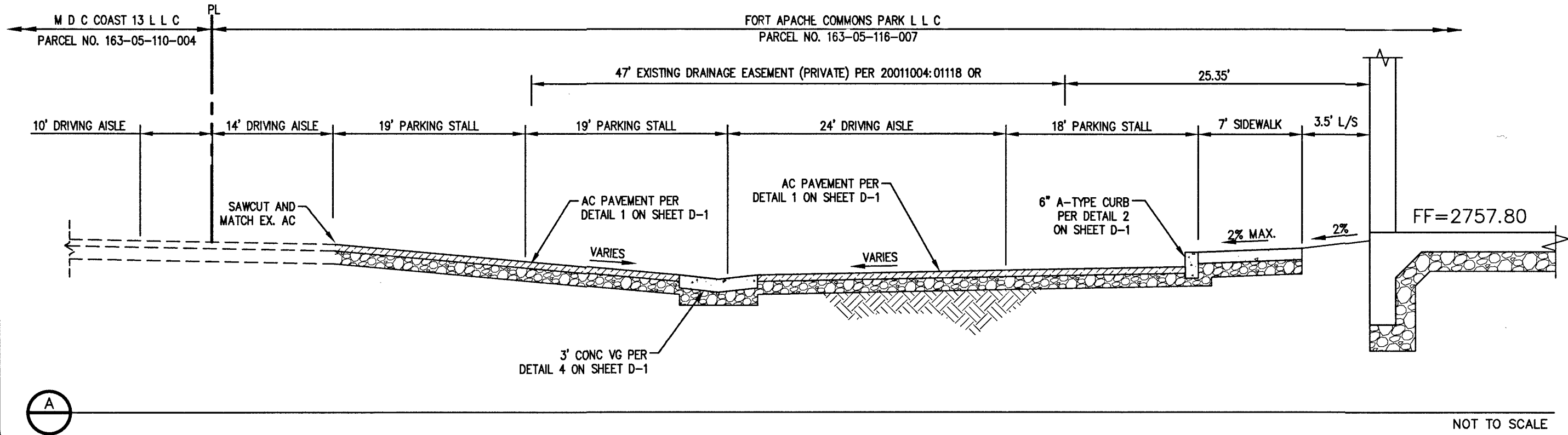
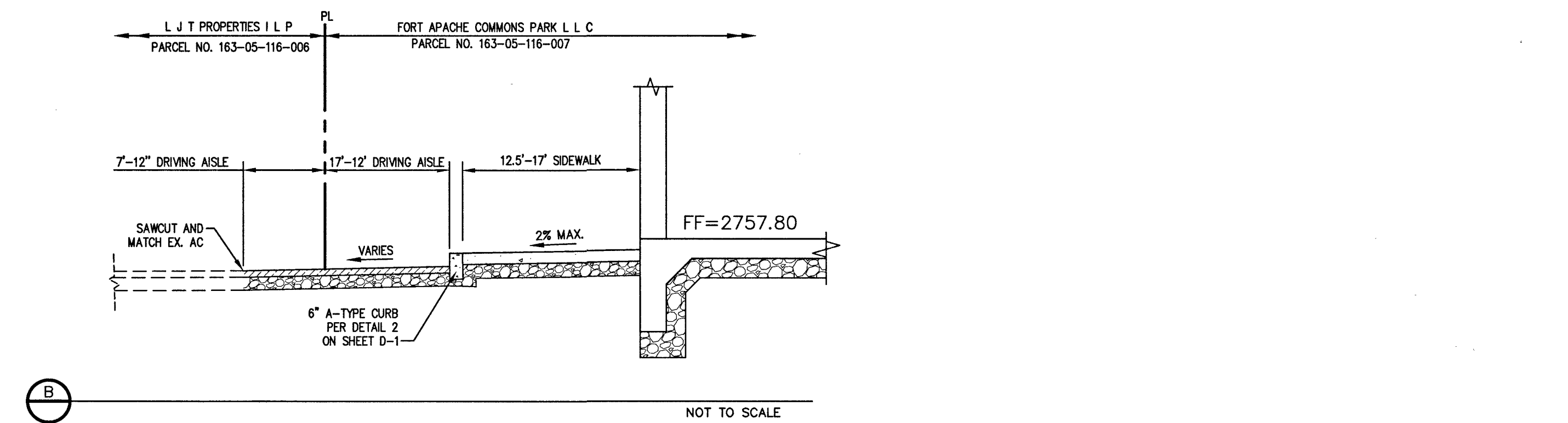
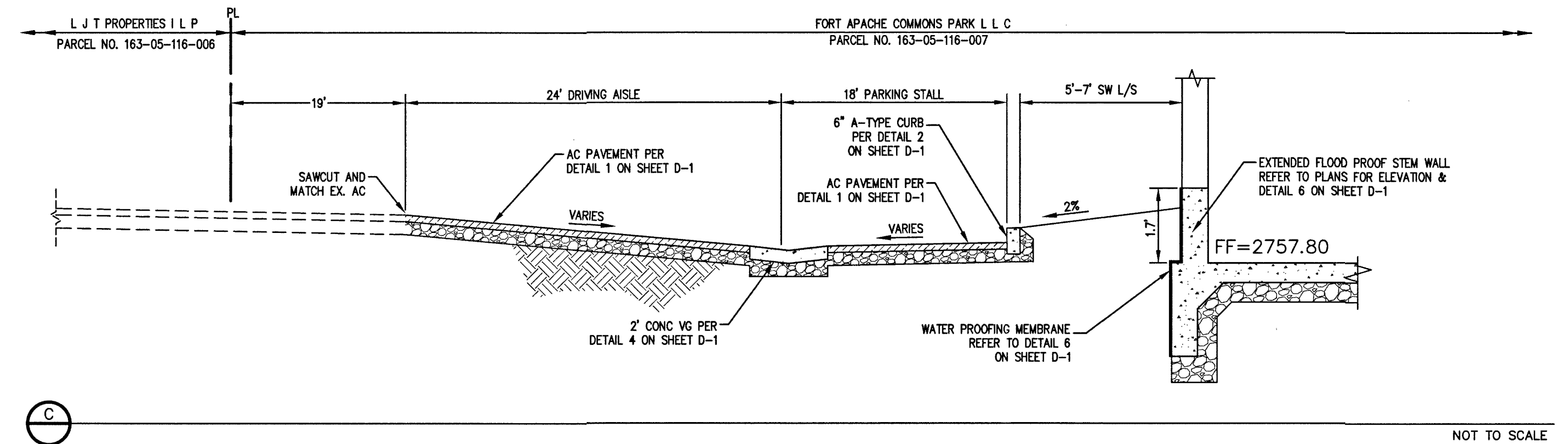
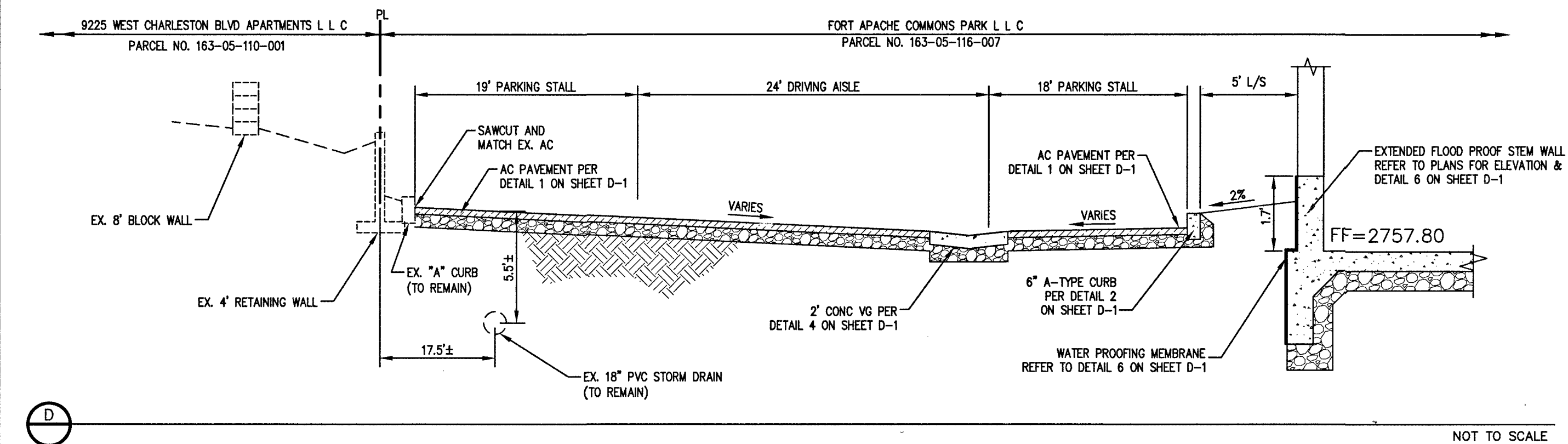
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Underground

1-702-432-5300
1-702-227-2929

Call before you dig
Underground

1-702-432-5300
1-702-227-2929

NOTE: ALL CONCRETE USED ON SITE SHALL BE SULFATE RESISTANT CONCRETE (TYPE V PORTLAND CEMENT).
PAVEMENT SECTIONS, CONCRETE AND ALL AGGREGATE BASE COMPACTIONS SHALL BE BASED ON GEOTECHNICAL
REPORT BY CONSTRUCTION TESTING SERVICES JOB NO. J5851 AND CLV REQUIREMENT



John M. Momen
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 130255 FIRST APPROVED DATE: 5/23/19
APPROVED FIRE FLOW: TOTAL 1,500 GPM / ON-SITE 1,500 GPM
SHEETS: C-1, C-2, D-1, M-1, U-1, U-2

REVISIONS	DESCRIPTION	DATE	BY	APPROVAL

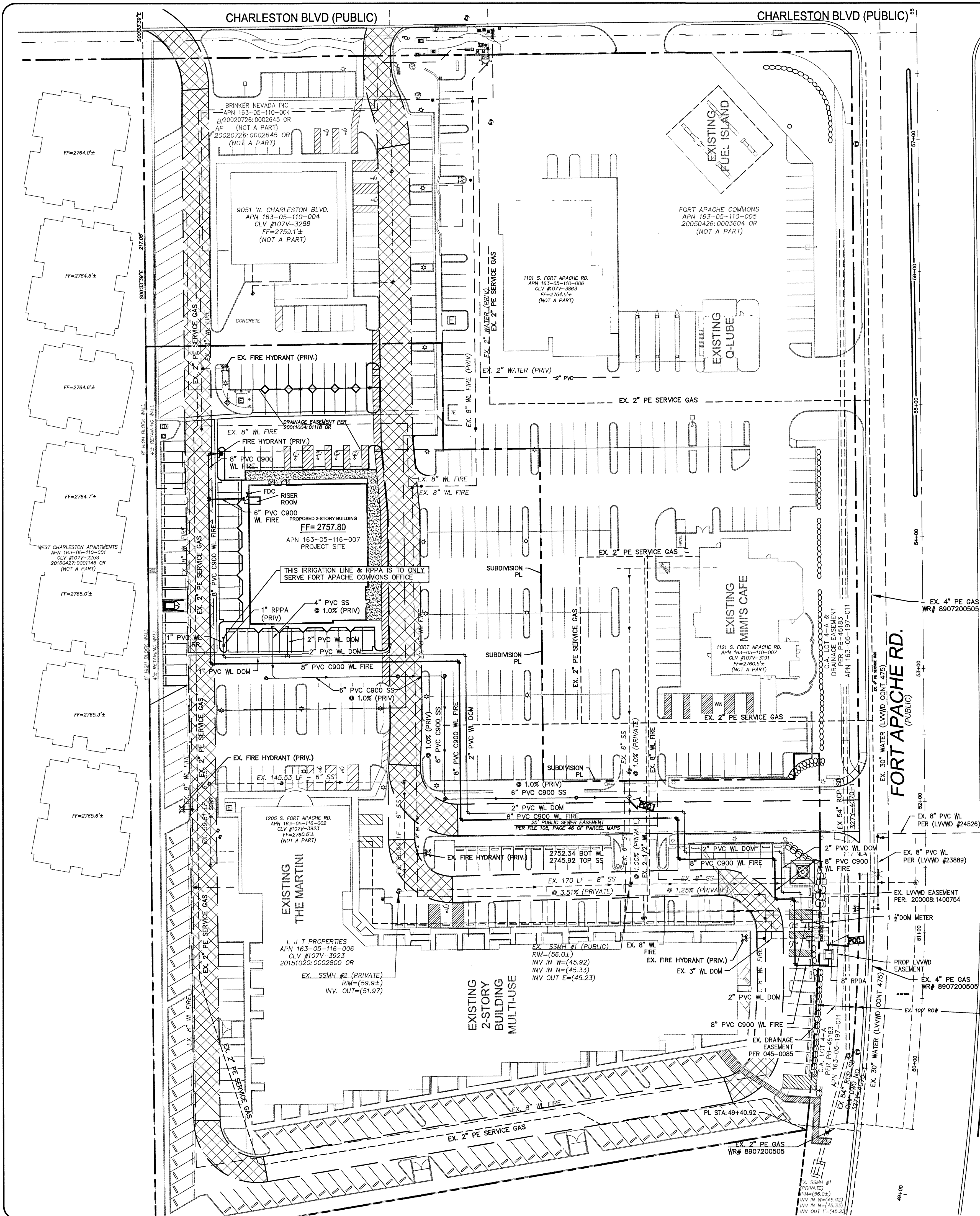
momen ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-9495 | MOE@MHEENGINEERS.COM

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA
MOE MOMEN
Exp: 12/31/19
CIVIL / STRUCTURAL
No. 12732 YOMIN
05/14/2019

05/14/2019
DATE
137102
PROJECT NUMBER
BP
DRAWN BY
MM
CHECKED BY

PROJECT: **Ft. Apache Commons Office**
City of Las Vegas
SVC of W. Charleston Boulevard & Fort Apache Road
DETAIL SHEET

SHEET: **D-1**
5 of 9
CLV L18-02661

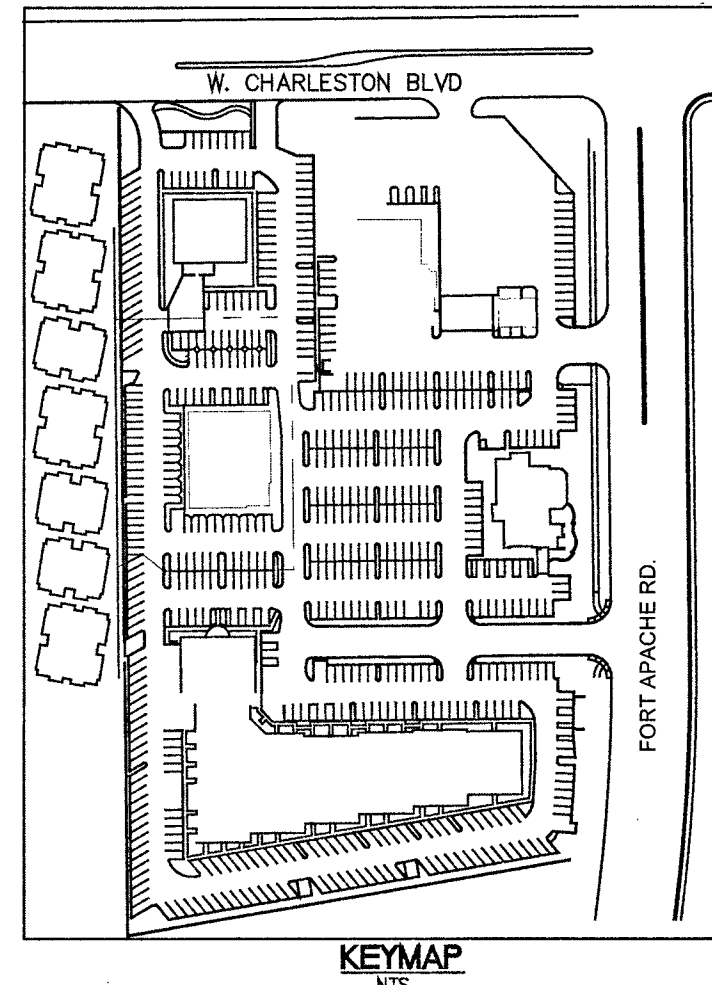
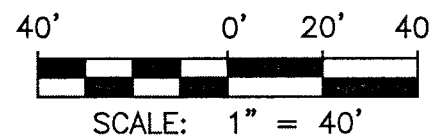


ESTIMATED DAILY SEWER CONTRIBUTIONS

(LIGHT COMMERCIAL)
1.27 ACRES X 4,500 GPD/ACRE = 5,715 GPD
TOTAL AVERAGE CONTRIBUTION = 0.006 MGD
TOTAL PEAK FLOW =
0.006 MGD X 3.4 (PEAK FACTOR) = 0.02 MGD
TOTAL PEAK + 25% WET WEATHER FLOW =
0.02 MGD X 1.25 = 0.025 MGD

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS 1,500 GALLONS PER MINUTE AT 20 P.S.I. RESIDUAL PRESSURE.
BASED ON:
SQUARE FOOTAGE: 18,986 S.F.
LARGEST AREA BETWEEN 4-HOUR AREA SEPARATION FIRE WALLS: 18,986 S.F.
BUILDING HEIGHT: 31.5' FEET
NUMBER OF STORIES: 2 FLOORS
TYPE OF CONSTRUCTION: V-A
OCCUPANCY: B
AUTOMATIC FIRE SPRINKLER SYSTEM: YES
REVIEWED BY: DATE:



REVISIONS	DESCRIPTION	DATE	BY	APPROVAL

TO ENSURE LVVWD ACCESS WITHIN EASEMENT

ALL ABOVE GROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO, LANDSCAPE BOULDER, FENCES / WALLS, AND SIGNS ARE STRICTLY PROHIBITED WITHIN EASEMENT.

LAS VEGAS FIRE & RESCUE NOTES

FIRE FLOW IS BASED ON TABLE 8.10.1 IFC 2012, APPENDIX B. BUILDING HEIGHT, NUMBER OF STORIES, AND TYPE OF CONSTRUCTION ARE ALL DETERMINED BASED ON THE GUIDELINES AND DEFINITIONS OUTLINE IN IFC APPENDIX B. ANY PERMITTED REDUCTIONS IN THE REQUIRED FIRE FLOW ARE OUTLINED IN SNFC 8105.2. IN DETERMINING THE MINIMUM NUMBER OF HYDRANTS REQUIRED, THE MAXIMUM FLOW FROM EACH HYDRANT SHALL BE 1500 GPM. HYDRANT SPACING SHALL BE PER IFC APPENDIX C / SNFC SECTION C105.1. THIS CHART SHALL BE PROVIDED FOR THE LARGEST BUILDING FOR EACH CONSTRUCTION TYPE; AND FOR EACH SPRINKLERED/NON SPRINKLERED BUILDING TYPE IF APPLICABLE.

LVVWD UDACS STANDARDS (DRY UTILITIES)

MAINTAIN MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSING. MAINTAIN A MINIMUM 3" PARALLEL SEPARATION. ANY EXCAVATION EXPOSING LVVWD FACILITIES 24" IN DIAMETER AND LARGER MUST REMAIN OPEN UNTIL INSPECTED BY LVVWD. NO BACKFILL MATERIALS IS TO BE PLACED IN THE EXCAVATION UNTIL APPROVED BY THE LVVWD INSPECTOR. ANY DAMAGE TO THE FACILITIES MUST BE REPORTED TO LVVWD IMMEDIATELY. CONTACTOR TO CALL (702) 258-7171 TO SCHEDULE LVVWD INSPECTION.

PRESSURE REDUCING VALVE (PRV) NOTE:

THIS PROPERTY MAY HAVE STATIC PRESSURE IN EXCESS OF 80 PSI. THE UNIFORM PLUMBING CODE REQUIRES THE INDIVIDUAL, ON-SITE (PRIVATE), PRESSURE REDUCING VALVES (PRV) BE INSTALLED WHENEVER THE PRESSURE EXCEEDS 80 PSI. PRVS ARE THE DEVELOPER'S RESPONSIBILITY, AND WILL NOT BE INSPECTED OR INCLUDED IN THE ACCEPTANCE OF LVVWD FACILITIES.

GENERAL NOTES

- 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 BE AN APPROVED EQUIVALENT.
- IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN INSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.G.01.02.
- CONTRACTOR SHALL CONTACT CLARK COUNTY TRAFFIC OPERATIONS DIRECTLY AT 455-8000 TO SCHEDULE COUNTY STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA A MINIMUM OF 48 HRS NOTICE IS REQUIRED PRIOR TO LOCATES. HOURS OF OPERATION: 6:30 AM - 3:00 PM, MONDAY THROUGH FRIDAY EXCLUDING HOLIDAYS.
- THE PROJECT SITE LIES ALONG THE BOUNDARY BETWEEN THE AGENCY'S 2745 AND 2860 PRESSURE ZONES.
- 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.
- ALL ON-SITE WATER IS "PRIVATE" UNLESS NOTED OTHERWISE.
- THE CONTRACTOR IS TO VERIFY THE ACTUAL FIELD CONDITIONS OF THE LOT AND INSTALL SEWER CHECK VALVE WHERE REQUIRED PER THE LATEST EDITION OF THE UNIFORM PLUMBING CODE.
- FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
- INSTALL PIPELINE MARKER BOLLARDS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.

(1) 8" REDUCED PRESSURE DETECTOR ASSEMBLY RPDA

THE REDUCED PRESSURE DETECTOR ASSEMBLY SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE NO. 56. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) SO AS 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. INSTALL VEHICULAR PROTECTION BOLLARDS AS NEEDED PER UDACS PLATE NO. 75.

(1) 1.5" PRIVATE REDUCED PRESSURE PRINCIPLE ASSEMBLY RPPA

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 CORRESPONDING AGENCY. 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.

WARNING FIRE LINE (NON-POTABLE WATER)

ALL EXISTING, RELOCATED OR PROPOSED CDCA/RPDA INSTALLATIONS:

"TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, THE FIRE LINE OR ANY OF ITS COMPONENTS, SHALL NOT BE USED FOR POTABLE DRINKING WATER AT ANY TIME"

UTILITY CONSTRUCTION NOTES

WE ENGINEERS ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS PLAN ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO, THE WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRRIGATION LINES PRIOR TO THE START OF CONSTRUCTION. IF CONFLICTS EXIST IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE, AND THE PROJECT ENGINEER IMMEDIATELY.

BENCHMARK

7LV00325SW8 - RIVET AND PLATE IN TOP OF CURB @ NW CORNER OF RAMPART AND CHARLESTON
ELEVATION: 2747.45' (FEET)
BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

BASIS OF BEARINGS

NORTH 89°26'21" EAST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 32, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN IN FILE 196, PAGE 68 OF SURVEYS, CLARK COUNTY RECORDS, NEVADA.

LEGAL DESCRIPTION

NORTHWEST QUARTER (NW 1/4) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M.

FIRE DEPARTMENT APPROVAL

APPROVAL BY THE FIRE DEPARTMENT HAVING JURISDICTION REQUIRED PRIOR TO OBTAINING FINAL APPROVAL FROM THE LVVWD

APPROVAL

Chris [Signature]
SOUTHWEST GAS

5/20/19
DATE

APPROVAL

[Signature]
LAS VEGAS FIRE & RESCUE

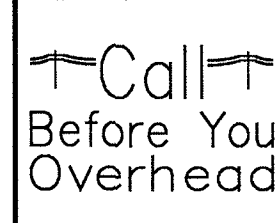
5/21/19
DATE

APPROVED FOR CONSTRUCTION

[Signature]
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 136255 FIRST APPROVED DATE: 5/23/19
LVVWD APPROVED FIRE FLOW: TOTAL 1,500 GPM / ONSITE 1,500 GPM
SHEETS: C-1, C-2, D-1, MU, U-1, U-2

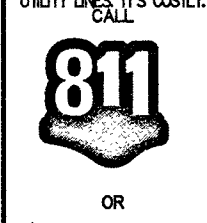
AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.



AVOID HITTING UNDERGROUND UTILITY LINES. IT'S COSTLY.

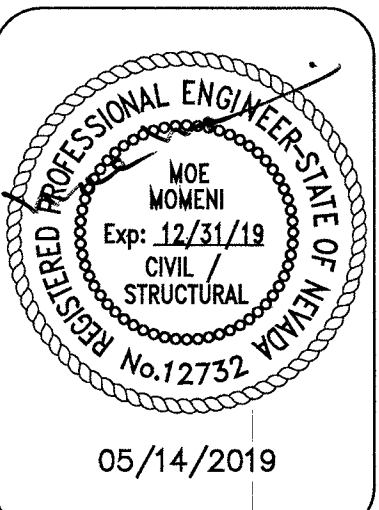


Call before you Dig. AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.



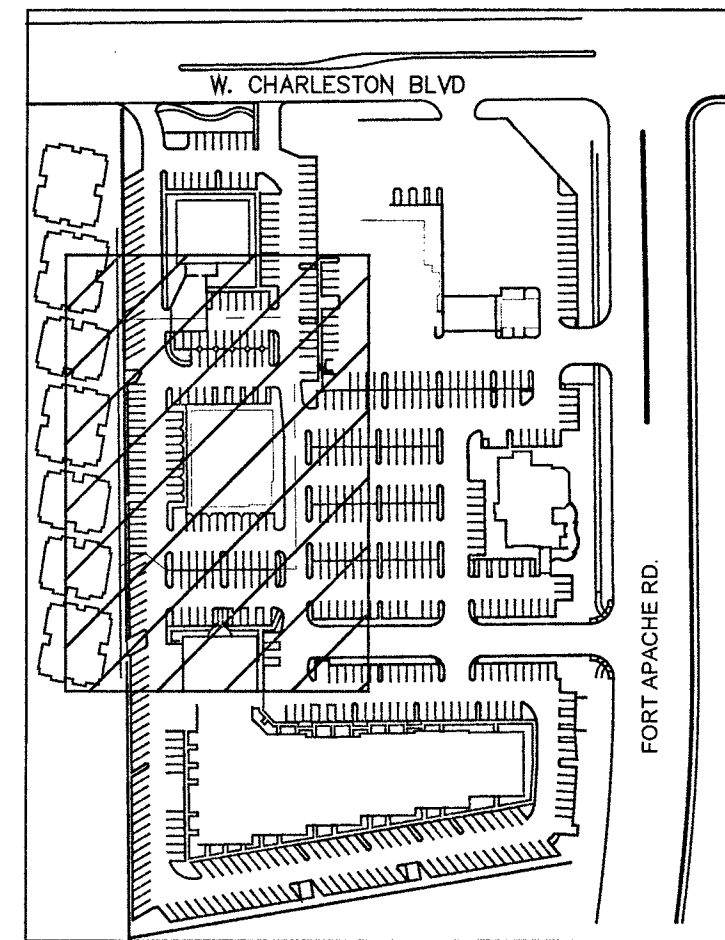
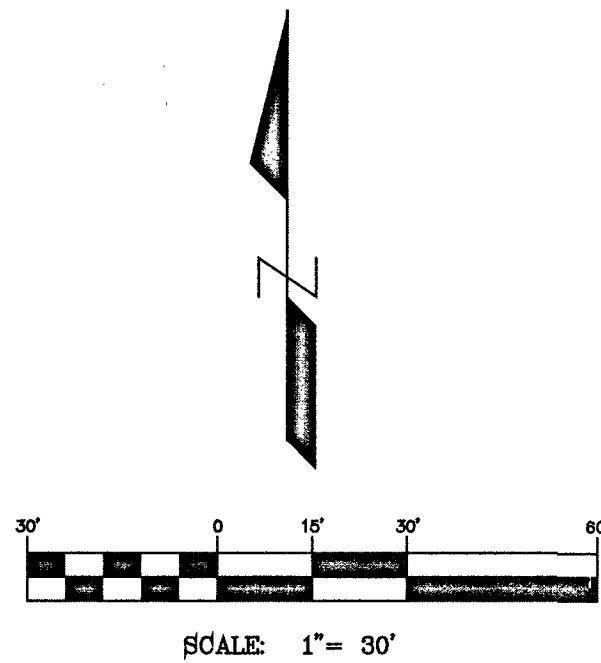
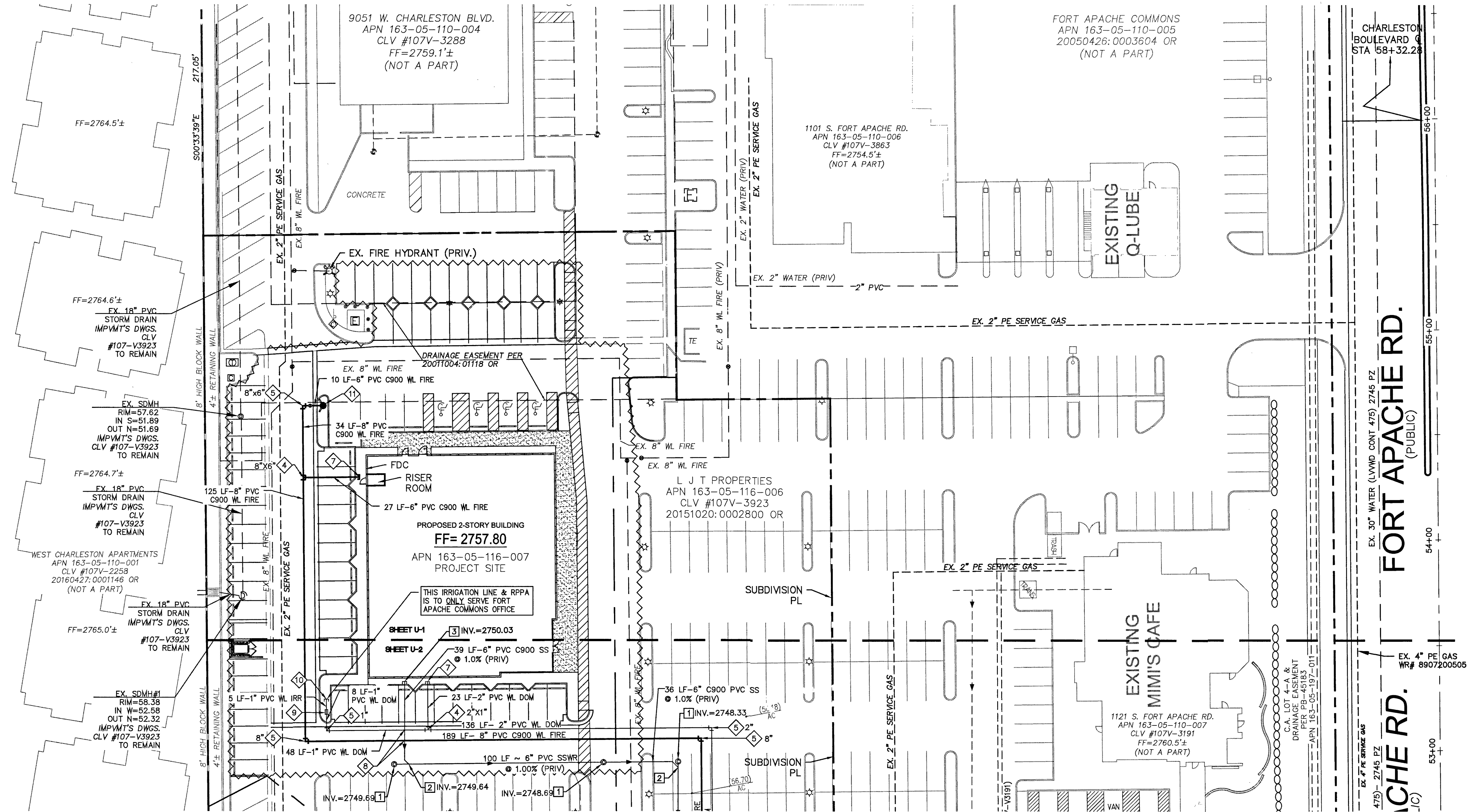
1-702-227-2929
1-800-227-2600

momeni ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-9485 | MDE@MHIENGINEERS.COM



05/14/2019	DATE
137102	PROJECT NUMBER
BP	DRAWN BY
MM	CHECKED BY

Ft. Apache Commons Office
City of Las Vegas
SVC of W. Charleston Boulevard & Fort Apache Road
MASTER UTILITY PLAN &
FIRE ACCESS PLAN



WATER CONSTRUCTION NOTES:

- NOT ALL NOTES USED ON THIS SHEET
- 1. INSTALL 1-1/2" METER AND RPPA PER UDACS PLATES #4 & 8. INSTALL CURB STOP PER DETAIL 7 ON D-1
- 2. INSTALL IN-LINE 8" GATE VALVE PER UDACS PLATE #39 W/ANCHOR BLOCK PER UDACS PLATE #30
- 3. INSTALL IN-LINE REDUCER W/ANCHOR BLOCK PER UDACS PLATE #30, SIZE PER PLAN
- 4. INSTALL TEE W/ THRUST BLOCKS (FOR PIPES 4" OR GREATER) PER UDACS PLATE #31, SIZE PER PLAN
- 5. INSTALL 90° BEND W/ THRUST BLOCKS (FOR PIPES 4" OR GREATER) PER UDACS PLATE #31, SIZE PER PLAN
- 6. CONTRACTOR TO POT-HOLE & VERIFY DEPTH & LOCATION PRIOR TO PROPOSED CONNECTION AND/OR CROSSING
- 7. STUB & CAP WATER SERVICE. REFER TO PLUMBING AND/OR FIRE SPRINKLER PLANS FOR CONTINUATION. CONTRACTOR TO INSTALL REDUCERS/INCREASERS AS NECESSARY.
- 8. WATER CROSSING PER UDACS SECTION 2.22.02 OR 2.04.06 (DRY UTILITIES). SEE CROSSING NOTE THIS SHEET.
- 9. INSTALL 1" RPPA PER UDACS PLATE #8 (PRIVATE)
- 10. STUB & CAP WATER SERVICE FOR LANDSCAPING. REFER TO LANDSCAPE ARCH. PLANS FOR BACKFLOW PREVENTION AND CONTINUATION.
- 11. INSTALL FIRE HYDRANT & GATE VALVE PER UDACS PLATE #40 (PRIVATE). SEE DETAIL 8 ON SHEET D-1 FOR PLACEMENT.
- 12. INSTALL 8" RPPA PER UDACS PLATE #56
- 13. REMOVE EX CAP & BLOW-OFF VALVE & CONNECT TO EX LATERAL AS SHOWN

SEWER CONSTRUCTION NOTES:

- NOT ALL NOTES USED ON THIS SHEET
 - 1. INSTALL SANITARY SEWER CLEAN OUT PER DCSWS DWG NO. SD-26 TRAFFIC RATED LID
 - 2. INSTALL 6" SEWER CONNECTION PER DCSWS DWG NO. SD-22, SD-23 & SD-25 AS REQUIRED
 - 3. STUB & CAP SEWER SERVICE. REFER TO PLUMBING PLANS FOR CONTINUATION. CONTRACTOR TO INSTALL REDUCERS & CLEAN-OUTS AS NECESSARY.
 - 4. CONTRACTOR TO POT-HOLE & VERIFY DEPTH & LOCATION PRIOR TO PROPOSED CONNECTION AND/OR CROSSING
- ALL SEWER/STORM DRAIN CROSSINGS MUST COMPLY WITH UDACS SECTION 2.22.
- ALL DRY UTILITY CROSSINGS MUST CONFORM TO UDACS SECTION 2.04.06.

REVISIONS	DATE	DESCRIPTION	BY	APPROVAL

moment ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
 3110 S. DURANGO DRIVE, SUITE 205
 LAS VEGAS, NEVADA 89117
 TEL: (702) 902-2444 | FAX: (702) 248-9495 | MOE@MOMENGINEERS.COM

PROFESSIONAL ENGINEER
 MOE MOMEN
 Exp: 12/31/19
 CIVIL / STRUCTURAL
 No. 12752 NV/ENR 10
 05/14/2019

05/14/2019
DATE
137102
PROJECT NUMBER
BP
DRAWN BY
MM
CHECKED BY

PROJECT: Ft. Apache Commons Office
 City of Las Vegas
 SWG of W. Charleston Boulevard & Fort Apache Road

UTILITY PLAN 1

SHEET:	U-1
7	of 9
CLV L18-02661	

UTILITY CONSTRUCTION NOTES

ME ENGINEERS ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS PLAN ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO, THE WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRRIGATION LINES PRIOR TO THE START OF CONSTRUCTION. IF CONFLICTS EXIST IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE, AND THE PROJECT ENGINEER IMMEDIATELY.

GENERAL NOTES

- 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 BE AN APPROVED EQUIVALENT.
- 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.
- CONTRACTOR SHALL CONTACT CLARK COUNTY TRAFFIC OPERATIONS DIRECTLY AT 455-6000 TO SCHEDULE COUNTY STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA. A MINIMUM OF 48 HRS NOTICE IS REQUIRED PRIOR TO LOCATES. HOURS OF OPERATION: 6:30 AM - 3:00 PM, MONDAY THROUGH FRIDAY EXCLUDING HOLIDAYS.
- THE PROJECT SITE LIES ALONG THE BOUNDARY BETWEEN THE AGENCY'S 2745 AND 2860 PRESSURE ZONES.
- ALL SEWER/STORM DRAIN 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.
- ALL ON-SITE WATER IS "PRIVATE" UNLESS NOTED OTHERWISE.
- THE CONTRACTOR IS TO VERIFY THE ACTUAL FIELD CONDITIONS OF THE LOT AND INSTALL SEWER CHECK VALVE WHERE REQUIRED PER THE LATEST EDITION OF THE UNIFORM PLUMBING CODE.
- FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALKS.
- INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.

LVVWD UDACS STANDARDS (DRY UTILITIES)

MAINTAIN MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSING
 MAINTAIN A MINIMUM 3" PARALLEL SEPARATION
 ANY EXCAVATION EXPOSING LVVWD FACILITIES 24" IN DIAMETER AND LARGER MUST REMAIN OPEN UNTIL INSPECTED BY LVVWD. NO BACKFILL MATERIALS IS TO BE PLACED IN THE EXCAVATION UNTIL APPROVED BY THE LVVWD INSPECTOR. ANY DAMAGE TO THE FACILITIES MUST BE REPORTED TO LVVWD IMMEDIATELY. CONTACTOR TO CALL (702) 258-7171 TO SCHEDULE LVVWD INSPECTION

PRESSURE REDUCING VALVE (PRV) NOTE:

THIS PROPERTY MAY HAVE STATIC PRESSURE IN EXCESS OF 80 PSI. THE UNIFORM PLUMBING CODE REQUIRES THE INDIVIDUAL, ON-SITE (PRIVATE), PRESSURE REDUCING VALVES (PRV) BE INSTALLED WHENEVER THE PRESSURE EXCEEDS 80 PSI. PRVS ARE THE DEVELOPER'S RESPONSIBILITY, AND WILL NOT BE INSPECTED OR INCLUDED IN THE ACCEPTANCE OF LVVWD FACILITIES.

LAS VEGAS FIRE & RESCUE NOTES

FIRE FLOW IS BASED ON TABLE B 105.1 IFC 2012, APPENDIX B
 BUILDING HEIGHT, NUMBER OF STORIES, AND TYPE OF CONSTRUCTION ARE ALL DETERMINED BASED ON THE GUIDELINES AND DEFINITIONS OUTLINE IN IFC APPENDIX B
 ANY PERMITTED REDUCTIONS IN THE REQUIRED FIRE FLOW ARE OUTLINED IN SNF B105.2
 IN DETERMINING THE MINIMUM NUMBER OF HYDRANTS REQUIRED, THE MAXIMUM FLOW FROM EACH HYDRANT SHALL BE 1500 GPM. HYDRANT SPACING SHALL BE PER IFC APPENDIX C / SNF SECTION C105.1
 DEVELOPMENT WITH MULTIPLE BUILDINGS: THIS CHART SHALL BE PROVIDED FOR THE LARGEST BUILDING FOR EACH CONSTRUCTION TYPE; AND FOR EACH SPRINKLERED/NON SPRINKLERED BUILDING TYPE IF APPLICABLE

WARNING FIRE LINE (NON-POTABLE WATER) ALL EXISTING, RELOCATED OR PROPOSED DCDARPPA INSTALLATIONS:

TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, THE FIRE LINE OR ANY OF ITS COMPONENTS, SHALL NOT BE USED FOR POTABLE DRINKING WATER AT ANY TIME

FIRE DEPARTMENT APPROVAL

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

TO ENSURE LVVWD ACCESS WITHIN EASEMENT

ALL ABOVE GROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO, LANDSCAPE BOULDERS, FENCES / WALLS, AND SIGNS ARE STRICTLY PROHIBITED WITHIN EASEMENT.

(1) 8" REDUCED PRESSURE DETECTOR ASSEMBLY RPPA

THE REDUCED PRESSURE DETECTOR ASSEMBLY SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE NO. 56.
 ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) SO AS TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT OF WAY.
 EASEMENT(S) SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.
 INSTALL VEHICULAR PROTECTION BOLLARDS AS NEEDED PER UDACS PLATE NO. 75.

(1) 1.5" PRIVATE REDUCED PRESSURE PRINCIPLE ASSEMBLY RPPA

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 CORRESPONDING AGENCY. 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. EASEMENT(S) SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION.

ESTIMATED DAILY SEWER CONTRIBUTIONS

(LIGHT COMMERCIAL)
 1.27 ACRES X 4,500 GPD/ACRE = 5,715 GPD
 TOTAL AVERAGE CONTRIBUTION = 0.006 MGD
 TOTAL PEAK FLOW =
 0.006 MGD X 3.4 (PEAK FACTOR) = 0.02 MGD
 TOTAL PEAK + 25% WET WEATHER FLOW =
 0.02 MGD X 1.25 = 0.025 MGD

FIRE FLOW CALCULATIONS

BASED ON:	
1.27 ACRES	15,000 SF
UNIFORM AREA WITHIN 4-HOUR	15,000 SF
AREA SEPARATION THE WALLS	21.5 FEET
BUILDING HEIGHT	2 FLOORS
NUMBER OF STORIES	2 FLOORS
TYPE OF CONSTRUCTION	1-4
COEFFICIENT	YES
AUTOMATIC FIRE SPRINKLER SYSTEM	YES
REVIEWED BY:	DATE:

APPROVAL

 SOUTHWEST GAS CORPORATION
 DATE: 5/20/19

APPROVAL

 LAS VEGAS FIRE & RESCUE
 DATE: 5/21/19

APPROVED FOR CONSTRUCTION

 LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
 PROJECT NO. 136255 FIRST APPROVED DATE: 5/23/19
 LVVWD APPROVED FIRE FLOW: TOTAL 1,500 GPM / ON SITE 1,500 GPM
 SHEETS: C-1, C-2, D-1, MU, U-1, U-2

BENCHMARK

7LV0032SSW6 - RIVET AND PLATE IN TOP OF CURB @ NW CORNER OF RAMPART AND CHARLESTON
 ELEVATION: 2747.45' (FEET)
 BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

BASIS OF BEARINGS

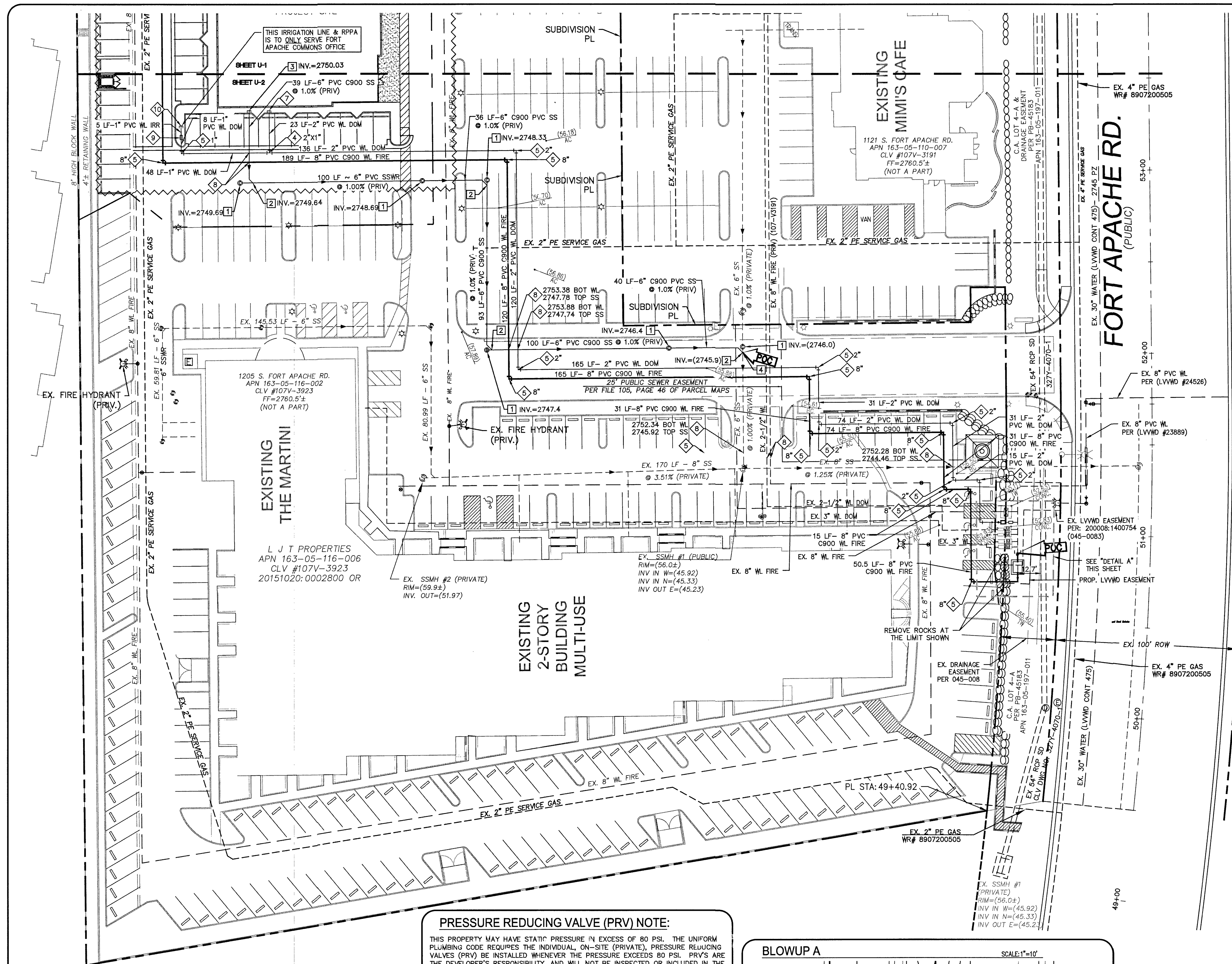
NORTH 89°26'21" EAST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 32, TOWNSHIP 20 SOUTH, RANGE 60 EAST, W.D.M., AS SHOWN IN FILE 196, PAGE 66 OF SURVEYS, CLARK COUNTY RECORDS, NEVADA.

LEGAL DESCRIPTION

NORTHWEST QUARTER (NW 1/4) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, W.D.M.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
 Call before you dig.
 811
 1-702-227-2929
 1-702-432-5300
 1-800-227-2800

107V7772



SEWER CONSTRUCTION NOTES:

- NOT ALL NOTES USED ON THIS SHEET
 - INSTALL SANITARY SEWER CLEAN OUT PER DCSWCS DWG NO. SD-26 TRAFFIC RATED LID
 - INSTALL 6" SEWER CONNECTION PER DCSWCS DWG NO. SD-22, SD-23 & SD-25 AS REQUIRED
 - STUB & CAP SEWER SERVICE. REFER TO PLUMBING PLANS FOR CONTINUATION. CONTRACTOR TO INSTALL REDUCERS & CLEAN-OUTS AS NECESSARY.
 - CONTRACTOR TO POTHOLE & VERIFY DEPTH & LOCATION PRIOR TO PROPOSED CONNECTION AND/OR CROSSING
- ALL SEWER/STORM DRAINS CROSSINGS MUST COMPLY WITH UDACS SECTION 2.22.
- ALL DRY UTILITY CROSSINGS MUST CONFORM TO UDACS SECTION 2.04.06.

FIRE FLOW CALCULATIONS	
FIRE FLOW REQUIREMENT IS 1,000 GALLONS PER MINUTE AT 20 PSI RESIDUAL PRESSURE.	
SQUARE FOOTAGE	10,000 SF
LARGEST AREA BETWEEN 4-HOUR FIRE SEPARATION WALLS	10,000 SF
BUILDING HEIGHT	3.5 FLOORS
NUMBER OF STORIES	3 FLOORS
TYPE OF CONSTRUCTION	V-A
OCCUPANCY	B
AUTOMATIC FIRE SPRINKLER SYSTEM	YES
REVIEWED BY:	DATE:

ESTIMATED DAILY SEWER CONTRIBUTIONS

(LIGHT COMMERCIAL)
 1.27 ACRES X 4,500 GPD/ACRE = 5,715 GPD
 TOTAL AVERAGE CONTRIBUTION = 0.006 MGD
 TOTAL PEAK FLOW = 0.006 MGD X 3.4 (PEAK FACTOR) = 0.02 MGD
 TOTAL PEAK + 25% NET WEATHER FLOW = 0.02 MGD X 1.25 = 0.025 MGD

UTILITY CONSTRUCTION NOTES

WE ENGINEERS ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THIS PLAN ARE FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO, THE WATER, FIRE, SANITARY SEWER, STORM SEWER, TELEPHONE, POWER, GAS, AND IRRIGATION LINES PRIOR TO THE START OF CONSTRUCTION. IF CONFLICTS EXIST IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE, AND THE PROJECT ENGINEER IMMEDIATELY.

WATER CONSTRUCTION NOTES:

- NOT ALL NOTES USED ON THIS SHEET
- INSTALL 1-1/2" METER AND RPPA PER UDACS PLATES #4 & #8. INSTALL CURB STOP PER DETAIL 7 ON D-1
- INSTALL IN-LINE 8" GATE VALVE PER UDACS PLATE #39 W/ANCHOR BLOCK PER UDACS PLATE #30
- INSTALL IN-LINE REDUCER W/ANCHOR BLOCK PER UDACS PLATE #30, SIZE PER PLAN
- INSTALL TEE W/ THRUST BLOCKS (FOR PIPES 4" OR GREATER) PER UDACS PLATE #31, SIZE PER PLAN
- INSTALL 90° BEND W/ THRUST BLOCKS (FOR PIPES 4" OR GREATER) PER UDACS PLATE #31, SIZE PER PLAN
- CONTRACTOR TO POTHOLE & VERIFY DEPTH & LOCATION PRIOR TO PROPOSED CONNECTION AND/OR CROSSING
- STUB & CAP WATER SERVICE. REFER TO PLUMBING AND/OR FIRE SPRINKLER PLANS FOR CONTINUATION. CONTRACTOR TO INSTALL REDUCERS/INCREASERS AS NECESSARY.
- WATER CROSSING PER UDACS SECTION 2.22.02 OR 2.04.06 (DRY UTILITIES). SEE CROSSING NOTE THIS SHEET.
- INSTALL 1" RPPA PER UDACS PLATE #8 (PRIVATE)
- STUB & CAP WATER SERVICE FOR LANDSCAPING. REFER TO LANDSCAPE ARCH. PLANS FOR BACKFLOW PREVENTION AND CONTINUATION.
- INSTALL FIRE HYDRANT & GATE VALVE PER UDACS PLATE #40 (PRIVATE). SEE DETAIL 8 ON SHEET D-1 FOR PLACEMENT.
- INSTALL 8" RPPA PER UDACS PLATE #56
- REMOVE EX. CAP & BLOW-OFF VALVE & CONNECT TO EX. LATERAL AS SHOWN

BENCHMARK

7LV00325SW6 - RIVET AND PLATE IN TOP OF CURB @ NW CORNER OF RAMPART AND CHARLESTON
 ELEVATION: 2747.45' (FEET)
 BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

BASIS OF BEARINGS

NORTH 89°28'21" EAST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 32, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN IN FILE 196, PAGE 66 OF SURVEYS, CLARK COUNTY RECORDS, NEVADA.

LEGAL DESCRIPTION

NORTHWEST QUARTER (NW 1/4) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M.

FIRE DEPARTMENT APPROVAL

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

APPROVAL: *[Signature]* 5/28/19
 DATE: 5/28/19
 APPROVAL: *[Signature]* 5/28/19
 DATE: 5/28/19
 APPROVAL: *[Signature]* 5/28/19
 DATE: 5/28/19

APPROVAL: *[Signature]* 5/28/19
 DATE: 5/28/19
 APPROVAL: *[Signature]* 5/28/19
 DATE: 5/28/19

APPROVAL FOR CONSTRUCTION
 LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
 PROJECT NO. 136255 FIRST APPROVED DATE: 5/23/19
 LVVWD APPROVED FIRE FLOW: TOTAL 1,500 GPM / ON-SITE 1,500 GPM
 SHEETS: C-1, C-2, D-1, M, U-1, U-2

Call before you dig
 811
 1-800-432-5300
 1-702-227-2929

BY	DATE	DESCRIPTION	REVISIONS

momeni ENGINEERS, LLC.
 CIVIL & STRUCTURAL ENGINEERING
 3110 S. DURANGO DRIVE, SUITE 205
 LAS VEGAS, NEVADA 89117
 TEL: (702) 902-2444 | FAX: (702) 248-9495 | MOE@MHIENGINEERS.COM

PROFESSIONAL ENGINEER STATE OF NEVADA
 MOE MOMENI
 Exp: 12/31/19
 CIVIL STRUCTURAL
 No. 12752
 05/14/2019

05/14/2019	DATE
137102	PROJECT NUMBER
BP	DRAWN BY
MM	CHECKED BY

Ft. Apache Commons Office
 City of Las Vegas
 SWC of W. Charleston Boulevard & Fort Apache Road
 PROJECT: **UTILITY PLAN II**

PRESSURE REDUCING VALVE (PRV) NOTE:

THIS PROPERTY MAY HAVE STATIC PRESSURE IN EXCESS OF 80 PSI. THE UNIFORM PLUMBING CODE REQUIRES THE INDIVIDUAL, ON-SITE (PRIVATE), PRESSURE REDUCING VALVES (PRV) BE INSTALLED WHENEVER THE PRESSURE EXCEEDS 80 PSI. PRV'S ARE THE DEVELOPER'S RESPONSIBILITY, AND WILL NOT BE INSPECTED OR INCLUDED IN THE ACCEPTANCE OF LVVWD FACILITIES.

(1) 8" REDUCED PRESSURE DETECTOR ASSEMBLY RPDA

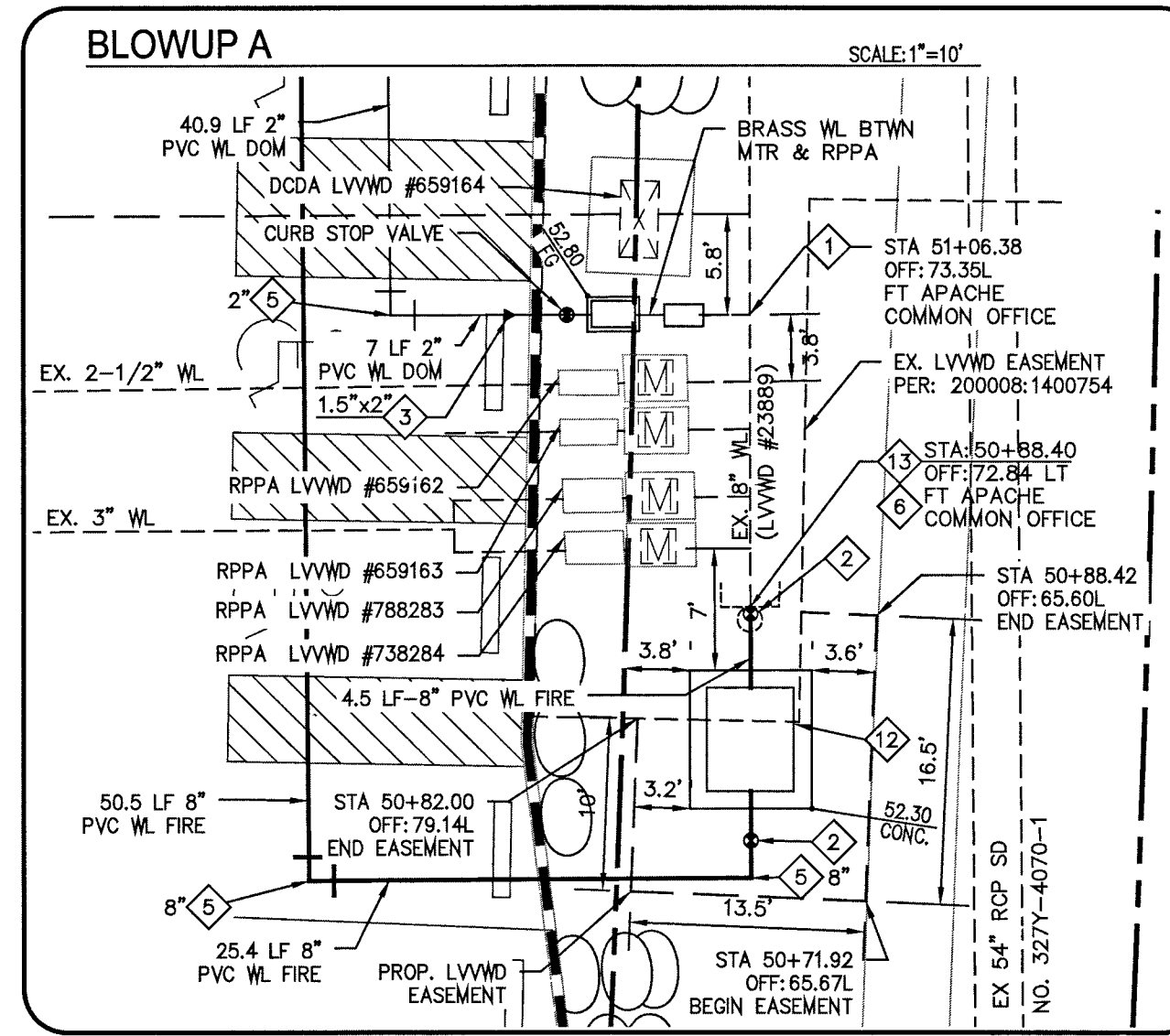
THE REDUCED PRESSURE DETECTOR ASSEMBLY SHALL BE INSTALLED IN ACCORDANCE WITH THE UDACS PLATE NO. 56. ANY BLOCK WALL OR OTHER FENCE MATERIAL SHALL BE DESIGNED AND CONSTRUCTED AROUND THE OUTSIDE OF THE EASEMENT(S) SO AS TO ALLOW THE DISTRICT DIRECT ACCESS FROM THE ADJACENT RIGHT OF WAY. EASEMENT(S) SHALL BE CLEARLY MARKED OR STAKED PRIOR TO THE START OF CONSTRUCTION. INSTALL VEHICULAR PROTECTION BOLLARDS AS NEEDED PER UDACS PLATE NO. 75.

TO ENSURE LVVWD ACCESS WITHIN EASEMENT

ALL ABOVE GROUND OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO, LANDSCAPE BOLLARDS, FENCES / WALLS, AND SIGNS ARE STRICTLY PROHIBITED WITHIN EASEMENT.

LAS VEGAS FIRE & RESCUE NOTES

FIRE FLOW IS BASED ON TABLE B 105.1 IFC 2012, APPENDIX B BUILDING HEIGHT, NUMBER OF STORIES, AND TYPE OF CONSTRUCTION ARE ALL DETERMINED BASED ON THE GUIDELINES AND DEFINITIONS OUTLINED IN IFC APPENDIX B ANY PERMITTED REDUCTIONS IN THE REQUIRED FIRE FLOW ARE OUTLINED IN SNFC B105.2. IN DETERMINING THE MINIMUM NUMBER OF HYDRANTS REQUIRED, THE MAXIMUM FLOW FROM EACH HYDRANT SHALL BE 1500 GPM. HYDRANT SPACING SHALL BE PER IFC APPENDIX C / SNFC SECTION C105.1. DEVELOPMENT WITH MULTIPLE BUILDINGS: THIS CHART SHALL BE PROVIDED FOR THE LARGEST BUILDING FOR EACH CONSTRUCTION TYPE; AND FOR EACH SPRINKLERED/NON SPRINKLERED BUILDING TYPE IF APPLICABLE.



GENERAL NOTES

- 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 BE AN APPROVED EQUIVALENT.
- IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL PRIOR TO THE START OF CONSTRUCTION, IF CONFLICTS EXIST IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE PROJECT ARCHITECT, OWNER'S REPRESENTATIVE, AND THE PROJECT ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL CONTACT CLARK COUNTY TRAFFIC OPERATIONS DIRECTLY AT 455-6000 TO SCHEDULE COUNTY STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA A MINIMUM OF 48 HRS NOTICE IS REQUIRED PRIOR TO LOCATES. HOURS OF OPERATION: 6:30 AM - 3:00 PM, MONDAY THROUGH FRIDAY EXCLUDING HOLIDAYS.
- THE PROJECT SITE LIES ALONG THE BOUNDARY BETWEEN THE AGENCY'S 2745 AND 2860 PRESSURE ZONES.
- ALL SEWER/ STORM DRAINS CROSSING WATER LINES MUST CONFORM TO SECTION 2.22 OF THE UDACS DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARANCES.
- ALL ON-SITE WATER IS "PRIVATE" UNLESS NOTED OTHERWISE.
- THE CONTRACTOR IS TO VERIFY THE ACTUAL FIELD CONDITIONS OF THE LOT AND INSTALL SEWER CHECK VALVE WHERE REQUIRED PER THE LATEST EDITION OF THE UNIFORM PLUMBING CODE.
- FITTINGS SHALL NOT FALL UNDER CURBS, GUTTERS OR SIDEWALK.
- INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.

WARNING FIRE LINE (NON-POTABLE WATER) ALL EXISTING, RELOCATED OR PROPOSED DCDA/RPDA INSTALLATIONS:

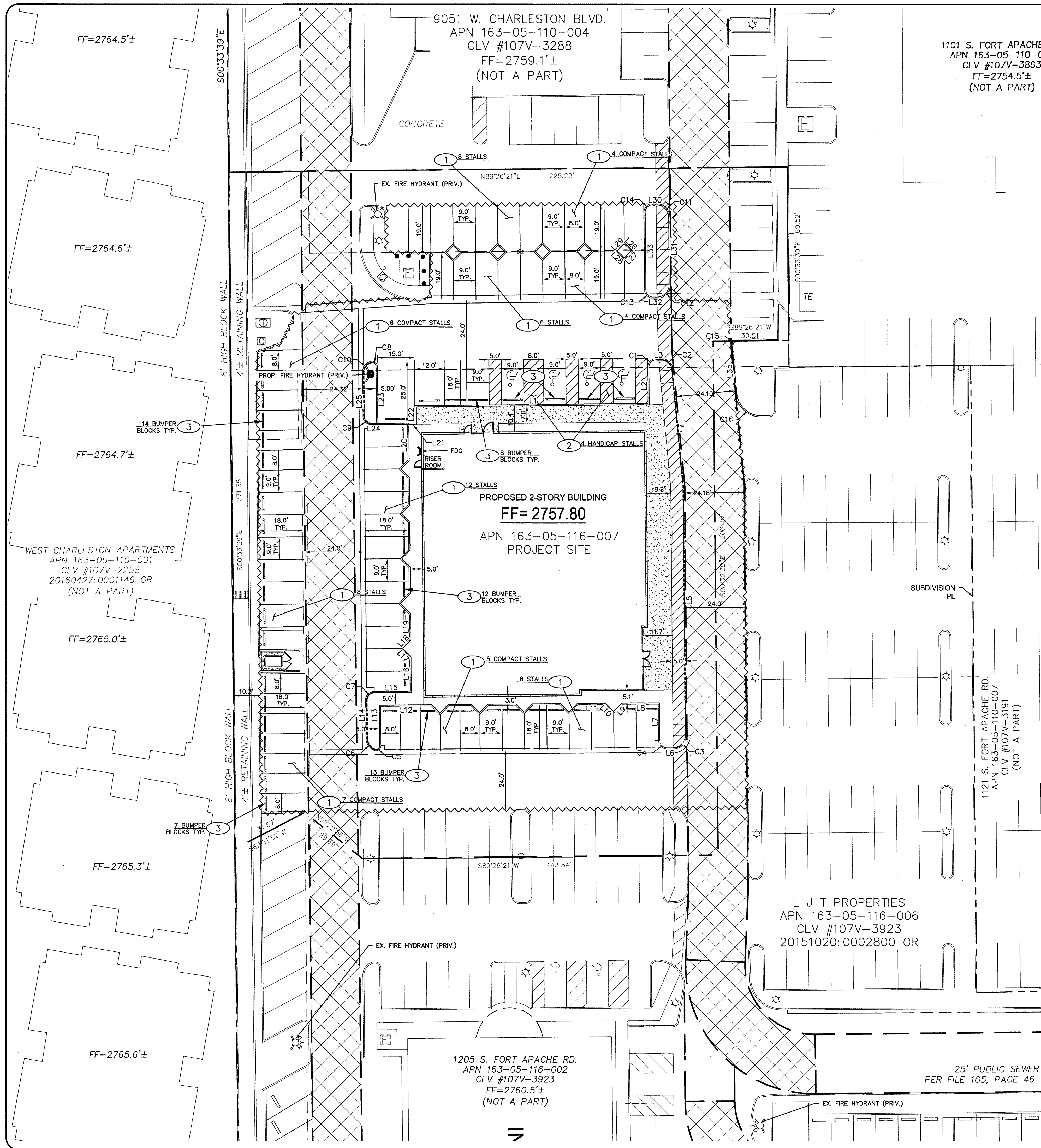
"TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, THE FIRE LINE OR ANY OF ITS COMPONENTS, SHALL NOT BE USED FOR POTABLE DRINKING WATER AT ANY TIME"

LVVWD UDACS STANDARDS (DRY UTILITIES)

MAINTAIN MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSING MAINTAIN A MINIMUM 3" PARALLEL SEPARATION
 ANY EXCAVATION EXPOSING LVVWD FACILITIES 24" IN DIAMETER AND LARGER MUST REMAIN OPEN UNTIL INSPECTED BY LVVWD. NO BACKFILL MATERIALS IS TO BE PLACED IN THE EXCAVATION UNTIL APPROVED BY THE LVVWD INSPECTOR. ANY DAMAGE TO THE FACILITIES MUST BE REPORTED TO LVVWD IMMEDIATELY. CONTACTOR TO CALL (702) 258-7171 TO SCHEDULE LVVWD INSPECTION

(1) 1.5" PRIVATE REDUCED PRESSURE PRINCIPLE ASSEMBLY RPPA

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 CORRESPONDING AGENCY. 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.



LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	94.00'	N89°26'22"E
L2	15.00'	N00°33'38"W
L3	1.84'	N89°26'21"E
L4	47.02'	S05°27'20"E
L5	99.62'	S00°33'39"E
L6	2.33'	S89°26'21"W
L7	15.00'	N00°33'39"W
L8	15.17'	S89°29'58"W
L9	4.71'	S44°29'58"W
L10	4.71'	N45°30'02"W
L11	11.34'	S89°29'58"W
L12	21.17'	S89°29'58"W
L13	16.28'	S00°33'39"E
L14	15.09'	N00°33'34"W
L15	15.00'	N89°26'26"E
L16	14.17'	N00°33'34"W
L17	4.71'	N45°33'34"W
L18	4.71'	N44°26'26"E
L19	10.64'	N00°33'34"W
L20	14.67'	N00°33'34"W

LINE TABLE		
LINE #	LENGTH	DIRECTION
L21	3.00'	N89°26'22"E
L22	7.00'	N00°33'38"W
L23	22.95'	S00°33'38"E
L24	2.00'	S89°26'22"W
L25	17.50'	N00°33'34"W
L26	4.00'	N45°33'38"W
L27	4.00'	N44°26'22"E
L28	4.00'	S45°33'38"E
L29	4.00'	S44°26'22"W
L30	1.48'	N89°26'22"E
L31	27.00'	S00°30'58"E
L32	1.46'	S89°26'22"W
L33	31.00'	N00°33'38"W
L34	16.21'	N89°04'35"E
L35	18.19'	N05°27'20"W

CURVE TABLE				
CURVE #	LENGTH	RADIUS	DELTA	TANGENT
C1	4.71'	3.00'	89°59'59"	3.00'
C2	6.68'	4.50'	85°06'17"	4.13'
C3	7.85'	5.00'	90°00'00"	5.00'
C4	4.71'	3.00'	90°00'00"	3.00'
C5	3.02'	1.50'	115°20'10"	2.37'
C6	5.64'	5.00'	64°39'56"	3.16'
C7	4.71'	3.00'	90°00'00"	3.00'
C8	2.66'	1.50'	101°32'13"	1.84'
C9	4.71'	3.00'	89°59'55"	3.00'
C10	5.48'	4.00'	78°27'43"	3.27'
C11	7.86'	5.00'	90°02'40"	5.00'
C12	7.85'	5.00'	89°57'20"	5.00'
C13	4.71'	3.00'	90°00'00"	3.00'
C14	4.71'	3.00'	90°00'00"	3.00'
C15	4.12'	2.50'	94°31'56"	2.71'
C16	15.06'	10.00'	86°18'29"	9.38'

TRAFFIC NOTES:

- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS AND/OR PAINT MARKINGS) UNDER CITY OF LAS VEGAS JURISDICTION, THAT ARE DISTURBED, DESTROYED, MOVED OR DAMAGED BY TRENCHING ACTIVITIES TO THE CITY OF LAS VEGAS'S SATISFACTION. ALL MATERIAL USED SHALL MEET THE CITY OF LAS VEGAS'S SPECIFICATIONS OR WILL BE AN APPROVED EQUIVALENT.
- IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY CONTRACTOR, THE CONTRACTOR WILL HIRE AN IN-STATE LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATION NO. 623.6.01.02.
- CONTRACTOR SHALL CONTACT CITY OF LAS VEGAS DIRECTLY TO SCHEDULE START TO LOCATE UNDERGROUND STREET LIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA A MINIMUM OF 48 HRS NOTICE IS REQUIRED PRIOR TO LOCATES.

APPROVAL:

[Signature]
LAS VEGAS FIRE AND RESCUE

5/21/17
DATE

LEGEND:	
	STREET CENTERLINE
	PROPOSED STREET LIGHT CONDUIT
	INSTALL RED PAINTED CURB/PAVEMENT WITH STENCIL "NO PARKING FIRE LANE" - TYPE C SIGN MINIMUM DIMENSION OF 36 INCHES WIDE BY 4 INCHES HIGH. WHITE LETTERS ON RED ENAMEL BACKGROUND PER CITY OF LAS VEGAS FIRE & RESCUE FIRE PREVENTION DIVISION REQUIREMENT
	HANDICAP ACCESS ROUTE
	FIRE ACCESS ROUTE
	SIGHT VISIBILITY RESTRICTION ZONE (SVRZ); NOTHING OVER 24" IN HEIGHT ALLOWED IN SVRZ EXCEPT TRAFFIC CONTROL DEVICES AND STREETLIGHT POLES. SEE DETAIL THIS SHEET.
	PRE-CAST CONC. BUMPER BLOCKS PER DWG NO. 238 OR OWNER APPROVED EQUIVALENT
	BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKERS
	TRAFFIC SIGNS PER PLAN
	FIRE HYDRANT
	EXISTING ON-SITE STREET LIGHT
	FIRE DEPARTMENT CONNECTION (FDC)
	FIRE ROUTE TURNING RADIUS

TRAFFIC CONSTRUCTION NOTES

- STRIPE PARKING STALLS USING 4" WHITE PAINT. SEE PLAN FOR DIMENSIONS AND STALL COUNT.
- STRIPE A.D.A. PARKING IN ACCORDANCE WITH ICC/ANSI A117.1-2003 REQUIREMENTS.
- INSTALL PRE-CAST CONC. BUMPER BLOCKS PER DWG NO. 238 OR OWNER APPROVED EQUIVALENT.
- INSTALL "RESERVED PARKING" (R7-B) SIGN WITH POST PER CALSD NO. 254.

SEE SHEET C-2 FOR CITY OF LAS VEGAS GENERAL NOTES.

BENCHMARK

7LV0032SSW6 - RIVET AND PLATE IN TOP OF CURB @ NW CORNER OF RAMPART AND CHARLESTON

ELEVATION: 2747.45' (FEET)

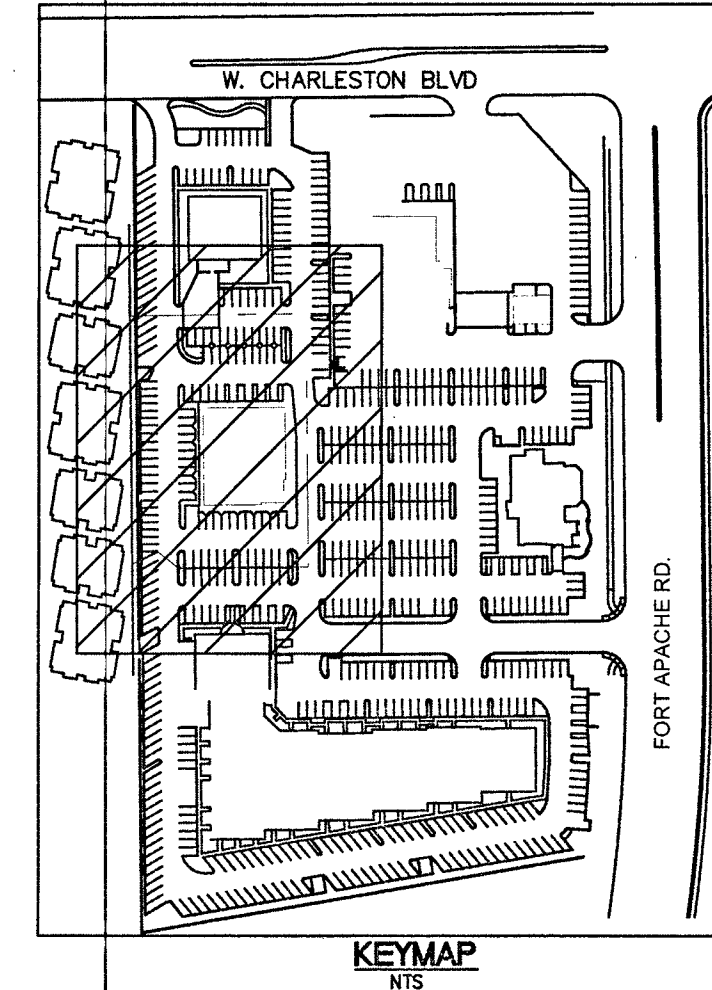
BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).

BASIS OF BEARINGS

NORTH 89°26'21" EAST, BEING THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW ¼) OF THE SOUTHWEST QUARTER (SW ¼) OF SECTION 32, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., AS SHOWN IN FILE 196, PAGE 66 OF SURVEYS, CLARK COUNTY RECORDS, NEVADA.

LEGAL DESCRIPTION

NORTHWEST QUARTER (NW ¼) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M.



momeni ENGINEERS, LLC.
CIVIL & STRUCTURAL ENGINEERING
3110 S. DURANGO DRIVE, SUITE 205
LAS VEGAS, NEVADA 89117
TEL: (702) 902-2444 | FAX: (702) 248-9485 | MOE@MWHENGINEERS.COM

PROFESSIONAL ENGINEER
MOMENI
Exp. 12/31/19
CIVIL / STRUCTURAL
No. 12732
05/14/2019

05/14/2019
DATE
137102
PROJECT NUMBER
BP
DRAWN BY
MM
CHECKED BY

Ft. Apache Commons Office
City of Las Vegas
SVC of W. Charleston Boulevard & Fort Apache Road

HORIZONTAL CONTROL & TRAFFIC PLAN

SHEET: **HC-1**
9 OF 9
CLV L18-02661