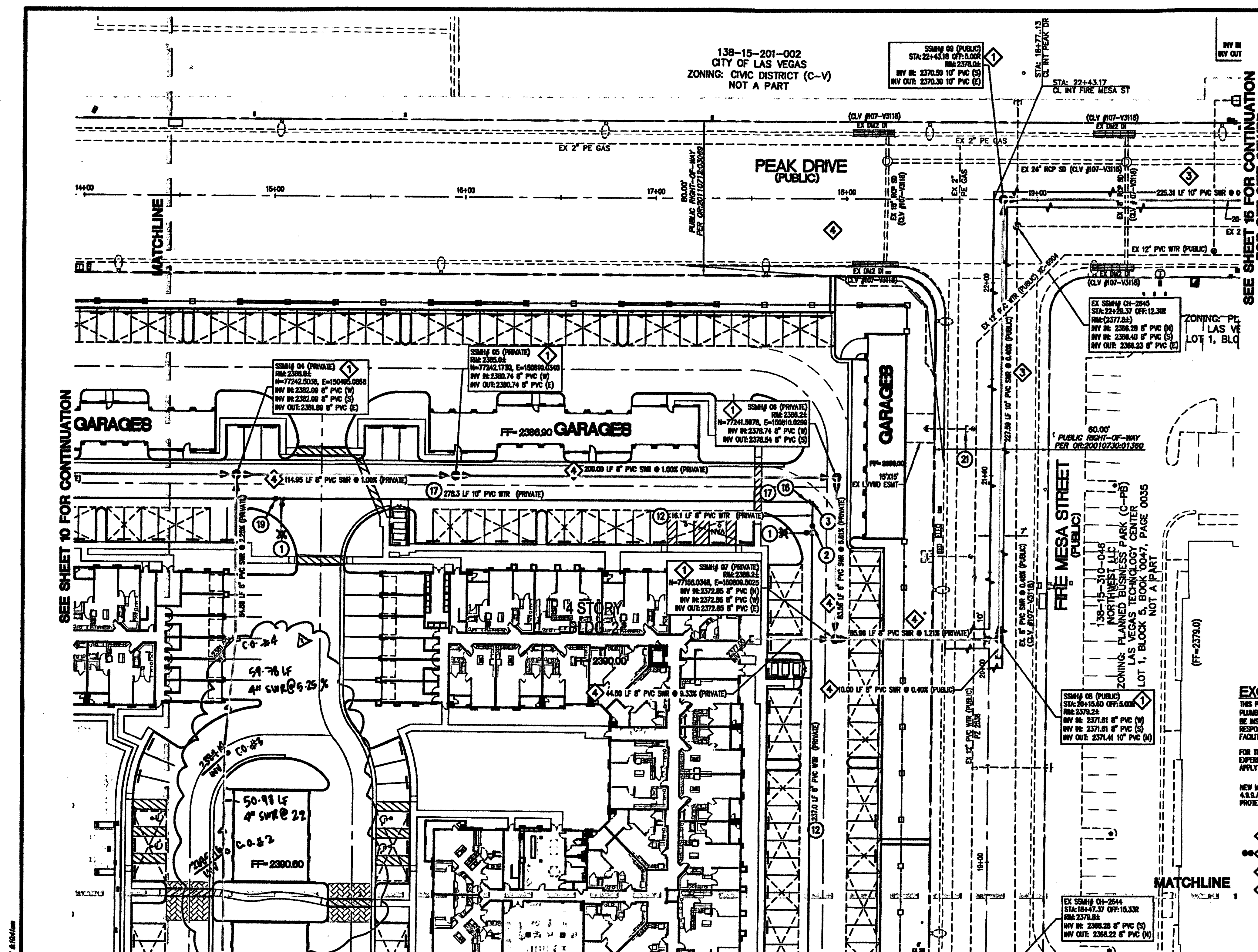
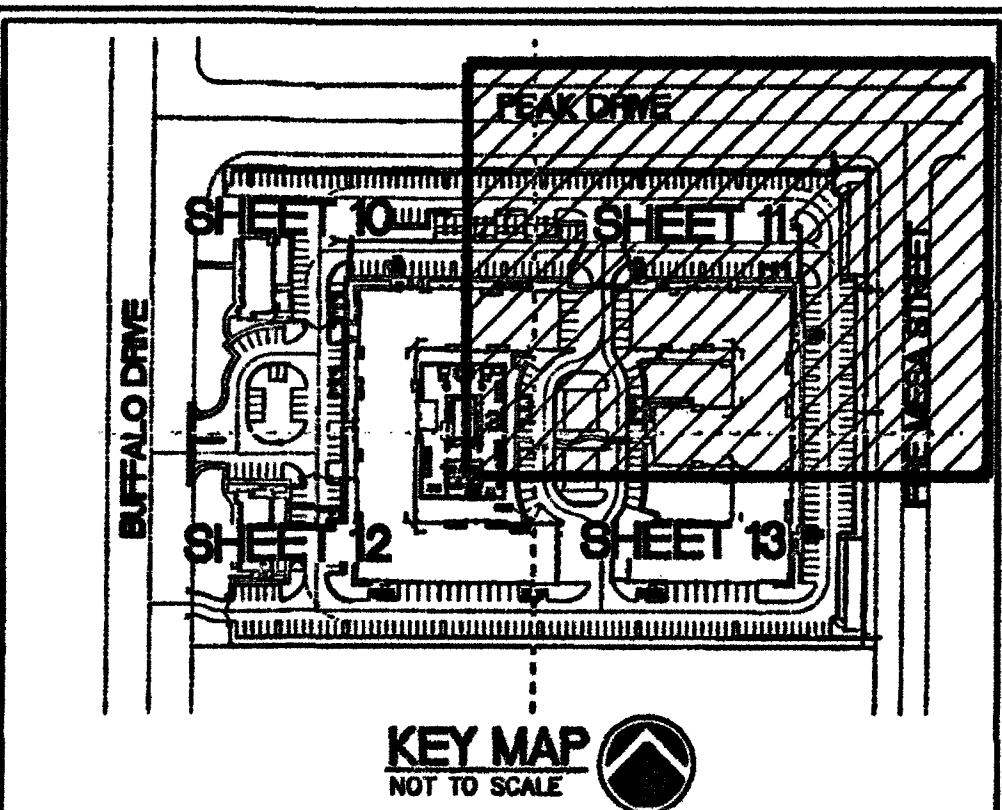




FIRE FLOW INFORMATION BLOCK

USE/OCCUPANCY	R-2 APARTMENT
TYPE OF CONSTRUCTION (IBC)	Y-A
FIRE FLOW	4000 GPM @ 20 PSI
AUTOMATIC FIRE SPRINKLERS	YES
NFPA 13	X 13R 130
ESFR	NO
SQUARE FOOTAGE	200,000 SF
LARGEST AREA BETWEEN 4 HOURS WALLS	N/A
BUILDING HEIGHT	67
# OF STORES INCLUDING BASEMENT	4
HIGH PILED COMBUSTIBLE STORAGE	NO
# OF HYDRANTS INSTALLED	6 (FV7)
SPRINKLER SYSTEM - 250 GPM 308 UNITS, 1216 AC	



WASTEWATER FLOW CALCULATION

APARTMENTS - 308 UNITS
WASTEWATER FLOW = 0.70 ERU
1 ERU = 250 GPD
PEAK FACTOR = 3.5

AVERAGE FLOW = 308 x 0.70 x 250 = 53,550 GPD
PEAK FLOW = 3.5 x 53,550 = 187,425 GPD = 0.18 MGD

COMMERCIAL PORTION - 8,000 SF - 57 dFU
WASTEWATER FLOW = 0.45 ERU
1 ERU = 250 GPD
PEAK FACTOR = 3.5

YOGA STUDIO - 9 dFU
1 DRINKING FOUNTAIN x 1 dFU = 1
1 WASH/SINK x 2 dFU = 2
1 WATER CLOSET x 4 dFU = 4
1 URINAL x 2 dFU = 2

PET WASH - 9 dFU
1 DRINKING FOUNTAIN x 1 dFU = 1
1 WASH/SINK x 2 dFU = 2
1 WATER CLOSET x 4 dFU = 4
1 URINAL x 2 dFU = 2
1 FLOOR DRAIN x 0 dFU = 0

RETAIL OFFICE/LEASING OFFICE x 3 UNITS - 27 dFU
1 DRINKING FOUNTAIN x 1 dFU = 1 x 3 UNITS = 3
1 WASH/SINK x 2 dFU = 2 x 3 UNITS = 6
1 WATER CLOSET x 4 dFU = 4 x 3 UNITS = 12
1 URINAL x 2 dFU = 2 x 3 UNITS = 6

MODEL UNIT - 12 dFU
1 BATHUB x 2 dFU = 2
1 DISHWASHER x 2 dFU = 2
1 CLOTHES WASHER x 3 dFU = 3
1 LAUNDRY x 1 dFU = 1
2 WASH/SINK x 2 dFU = 4

AVERAGE FLOW = 57 x 0.45 x 250 = 6,412.50 GPD
PEAK FLOW = 3.5 x 6,412.50 = 22,443.75 GPD = 0.02 MGD

TOTAL AVERAGE FLOW = 59,962.50 GPD
TOTAL PEAK FLOW = 0.18 + 0.02 = 0.20 MGD

LEGEND

SYMBOLS		DESCRIPTION
EXISTING	PROPOSED	
---	---	WATER LINE
---	---	SEWER LINE
---	---	STORM DRAIN LINE
---	---	GAS LINE
---	---	WATER SERVICE LATERAL
---	---	SEWER SERVICE LATERAL
---	---	FIRE HYDRANT W/ASSEMBLY
---	---	SEWER MANHOLE
---	---	STORM DRAIN MANHOLE
---	---	GATE VALVE
---	---	SEWER CLEANOUT
---	---	SIAMSE FDC W/ 4" LINE TO RISER ROOM

- WATER CONSTRUCTION NOTE**
- 1. INSTALL FIRE HYD. W/ASSEM. PER UDACS PLATE #40
 - 2. INSTALL 8" GATE VALVE PER UDACS PLATE #30 & #39
 - 3. INSTALL 8" 90° BEND PER UDACS PLATE #31
 - 4. INSTALL 8" TEE PER UDACS PLATE #31
 - 5. INSTALL 8" 45° BEND PER UDACS PLATE #31
 - 6. INSTALL SIAMSE FDC ON BUILDING
 - 7. INSTALL 8" 90° BEND CONNECT TO EX 8" DIP
 - 8. INSTALL 10" RPDA PER UDACS PLATE #58
 - 9. INSTALL 2" METER AND 2" RPDA PER UDACS PLATES #4 & #5
 - 10. INSTALL 1" METER AND 1" RPDA PER UDACS PLATES #4 & #5
 - 11. INSTALL 8" PVC WATER
 - 12. INSTALL 4" PVC WATER
 - 13. INSTALL 1-1/2" PVC WATER
 - 14. REMOVE CAP & BLOW-OFF AND CONNECT
 - 15. INSTALL 10"X8" REDUCER PER UDACS PLATE #30
 - 16. INSTALL 10" PVC WATER
 - 17. INSTALL 10" 90° BEND PER UDACS PLATE #31
 - 18. INSTALL 10" GATE VALVE PER UDACS PLATE #30 & #39
 - 19. INSTALL 10" TEE PER UDACS PLATE #31
 - 20. ABANDON VALVE, CUT & INSTALL CAP, SEE NOTE
 - 21. INSTALL 10" x 4" TEE PER UDACS PLATE #31
 - 22. INSTALL 8" 90° BEND PER UDACS PLATE #31
 - 23. INSTALL 10" x 8" TEE PER UDACS PLATE #31
 - 24. INSTALL 8" PVC WATER
 - 25. INSTALL 1" RPDA (IRRIGATION) PER UDACS PLATE #4

EXCESSIVE PRESSURE

THIS PROPERTY DOES NOT HAVE STATIC WATER PRESSURE IN EXCESS OF 80 PSI. THE UNIFORM PLUMBING CODE REQUIRES THAT INDIVIDUAL, ON-SITE, PRESSURE-REDUCING VALVES 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 THE LVWD FACILITIES.

FOR THIS PROPERTY, THE STATIC PRESSURE IS 64.13 PSI. EXCESSIVE PRESSURE IS EXPERIENCED WHEN THE FINISHED FLOOR ELEVATION IS LESS THAN 2333.33, WHICH DOES NOT APPLY TO THIS PROJECT.

NEW MANHOLE (S) SHALL CONTAIN CORROSION PROTECTION, SEE DCSMS SECTION 4.9.9.A FOR FACTORY INSTALLED OR 4.9.9.B FOR FIELD INSTALLED CORROSION PROTECTION.

- SEWER CONSTRUCTION NOTE**
- 1. INSTALL 48" STANDARD PRE-CAST MANHOLE BASE PER DCSMS 09 - #20-1A, SD-1B, (SINGLE COVER)
 - 2. INSTALL 6" PVC SEWER LATERAL AS PER DCSMS 09 - #20-22 & SD-23
 - 3. INSTALL 10" PVC SEWER
 - 4. INSTALL 8" PVC SEWER
 - 5. STUB AND CAP ALL LATERALS 6" FROM BUILDING. SEE PLUMBING PLANS FOR CONTINUATION AND CONN. POINT.

OVATION

OVATION DEVELOPMENT
6021 SOUTH FORT APACHE ROAD, #100
LAS VEGAS, NEVADA 89148

DEVELOPER
OVATION DEVELOPMENT
6021 S. FORT APACHE ROAD #100
LAS VEGAS, NV 89148
702-990-2390 (PHONE)
702-990-2391 (FAX)

OWNER
BUFFALO PEAK APTS, LLC
C/O OVATION DEVELOPMENT
6021 S. FORT APACHE ROAD, #100
LAS VEGAS, NV 89148
(702) 990-2390 (PHONE)
(702) 990-2391 (FAX)

UTILITY NOTE

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 OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.

NOTE

INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING, PER UDACS PLATE NO. 15.

NOTE TO CONTRACTOR:

IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE CITY OF LAS VEGAS AND THE CITY OF LAS VEGAS FIRE AND RESCUE ON ROAD CLOSURE AND TEMPORARY ACCESS ISSUES.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK # 01001824
INLET & PLATE IN TOP OF CURB WEST SIDE OF BUFFALO +/- 200 FEET NORTH OF PEAK DRIVE

NAVD 83 DATUM
ELEVATION = 728.145 METERS
ELEVATION = 3382.20 U.S. SURVEY FEET

BASIS OF BEARINGS:

BEING A PORTION OF LOT 1, BLOCK 5 OF "LAS VEGAS TECHNOLOGY CENTER" AS SHOWN BY MAP THEREOF ON FILE IN BOOK 47, PAGE 35 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA, LYING WITHIN THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 15, TOWNSHIP 20 SOUTH, RANGE 30 EAST, NAD 83, CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

CAUTION TO CONTRACTOR!

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CONSTRUCTION NOTES

1. ALL EXISTING UTILITY STRUCTURES WITHIN CONSTRUCTION AREA SHALL BE ADJUSTED TO MATCH FINISH GRADE (I.E. RW, BOX, MAN, ANKOR, BOX, FL, TEL, BOX, ETC.)
2. ALL DIMENSIONS TO UTILITIES ARE TO CENTERLINE OF PIPE UNLESS INDICATED OTHERWISE.
3. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL ALIGNMENT OF EXISTING UTILITIES AND TO NOTIFY THE DESIGN ENGINEER IMMEDIATELY ON ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. SEWER CLEANOUTS IN PAVED AREAS SHALL HAVE VALVE BOXES WITH TRAFFIC BEARING LIDS AND CONCRETE COLLARS.
5. ALL WATER FACILITIES CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR WATER DISTRIBUTION SYSTEM" (UDACS), LATEST EDITION.
6. THE CONTRACTOR IS TO INSTALL A PLASTIC LANDSCAPE METER BOX AT THE LOCATION WHERE THE WATER LATERAL TERMINATES TO EACH BUILDING.

TRENCH & BACKFILL NOTE:

1. TRENCH AND BACKFILL ALL SEWER MAIN PER DCSMS 09-17.
2. TRENCH AND BACKFILL ALL WATER MAINS PER UDACS PLATE 17.
3. TRENCH AND PAVEMENT RESTORATION PER CC AREA STD DWG 5000T, 5000L2, AND 5003

Call Before You Dig
CALL 811
1-800-221-2600
1-800-455-6000
CLARK COUNTY TRAFFIC OPERATIONS
1-800-455-6000

Call Before You UnderGround
1-702-455-6000
CLARK COUNTY TRAFFIC OPERATIONS
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

SEE SHEET 13 FOR CONTINUATION

ABANDONED VALVES CUT AND CAP

ALL VALVES TO BE ABANDONED SHALL BE ABANDONED IN THE CLOSED POSITION, UNLESS SHOWN OTHERWISE, BY REMOVING A MINIMUM OF THE TOP TWENTY-FOUR (24) INCHES OF THE VALVE BOX, AND THEN FILLING THE BOTTOM OF THE BOX WITH A MINIMUM OF SIX (6) INCHES OF SAND OR TYPE II AGGREGATE BASE. THE REMAINING PORTION OF THE VALVE BOX SHALL BE FILLED WITH CONCRETE HAVING A COMPRESSIVE STRENGTH OF AT LEAST TWO THOUSAND (2000) PSI. THE LATERAL MUST BE CUT WITHIN ONE (1) FOOT OF THE ABANDONED VALVE, OR AS SHOWN ON PLANS, AND CAPPED. THE CONTRACTOR SHALL CUT THE EXISTING PIPE WHERE SHOWN ON THE DRAWING AND INSTALL A CAP COMPLETE WITH THRUST BLOCK, WHERE A JOINT OR COUPLING IN THE EXISTING PIPE IS UNCOVERED AT THE CUT AND CAP LOCATIONS. THE INSTALLATION OF A PLUG MAY BE PERMITTED WITH DISTRICT APPROVAL. A CONCRETE THRUST BLOCK SHALL BE INSTALLED AT ALL CAP OR PLUG LOCATIONS IN ACCORDANCE WITH THE PROVISIONS OF UDACS PLATE 31.

WARNING FIRE LINE (NON-POTABLE WATER)

ALL EXISTING, RELOCATED, OR PROPOSED DCA/PPDA INSTALLATIONS TO COMPLY WITH THE FEDERAL SAFE DRINKING WATER ACT, THE FIRE LINE, OR ANY OF ITS COMPONENTS, SHALL NOT BE USED FOR POTABLE WATER AT ANY TIME.

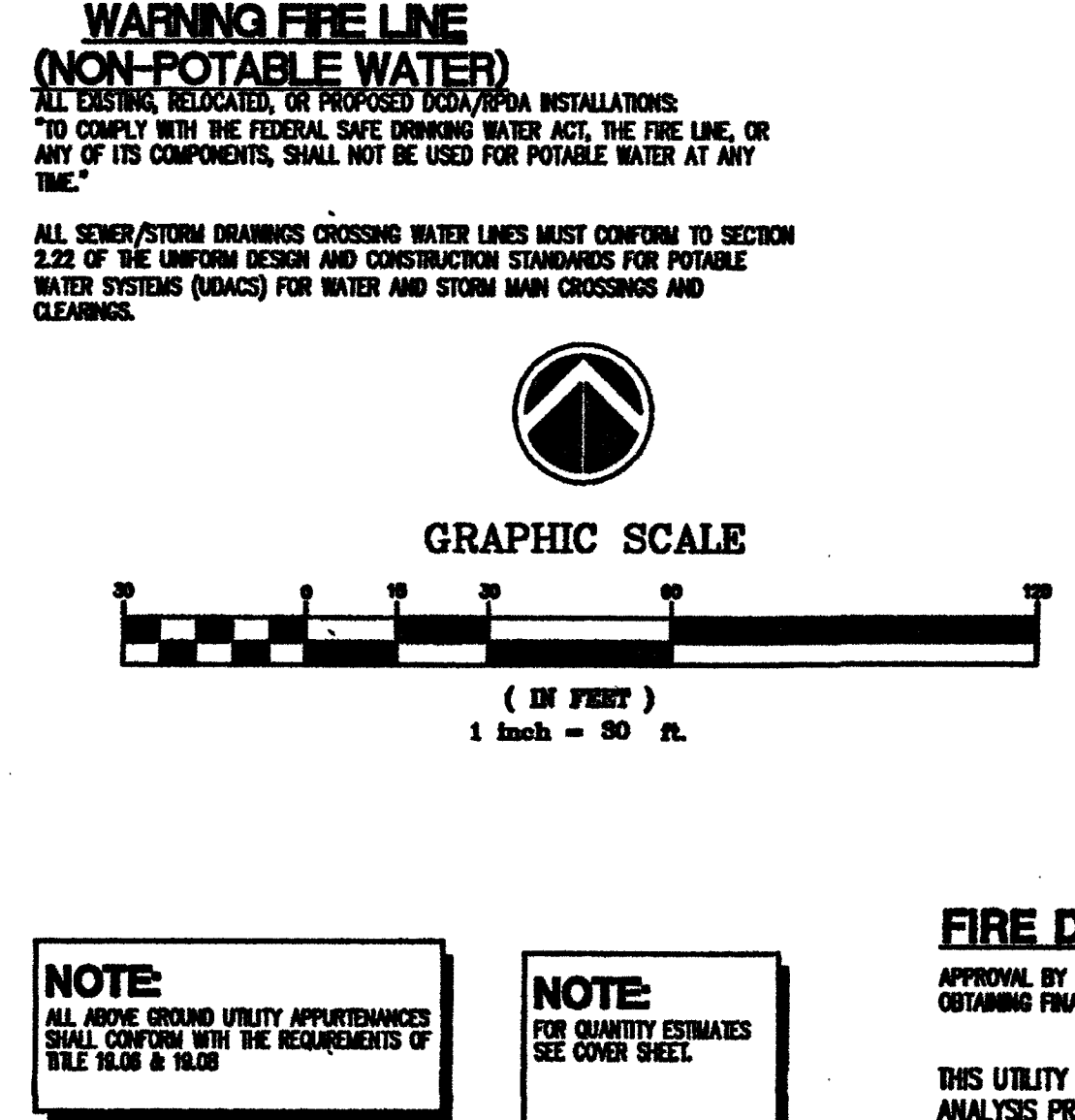
ALL SEWER/STORM DRAININGS CROSSING WATER LINES MUST CONFORM TO SECTION 2.2.2 OF THE UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS (UDACS) FOR WATER AND STORM MAIN CROSSINGS AND CLEARINGS.

WATER MAIN JOINT DEFLECTION (PVC 4"-24")

PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MAXIMUM RADIUS OF CURVATURE 1,100 FEET, PER UDACS 2.07.01 AND 2.07.02. FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

SHUT OFF NOTE

THE DISTRICT CANNOT GUARANTEE A WATER/TIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHALL ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPIDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRAIL SHUTDOWN. CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPOINTMENTS ARE AVAILABLE.



APPROVALS

APPROVED FOR CONSTRUCTION

Y. Disha
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT# 123532 DATE: 3/21/16
LVWD APPROVED FIRE FLOW 4,000 GPM AT 20 PSI RESIDUAL
K. Jia
CITY OF LAS VEGAS FIRE AND RESCUE
DATE: 3/14/16

FIRE DEPARTMENT APPROVAL

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

THIS UTILITY PLAN CONFORMS TO THE APPROVED NETWORK ANALYSIS PREPARED FOR THIS PROJECT.

CLV# 107V5035
H#57782

UTILITY PLAN 2

BUFFALO-PEAK APARTMENTS
CITY OF LAS VEGAS, NEVADA

Impulse
Civil Engineering & Planning

ASBUILT

Professional Engineer
PETER J. LAS
Exp: 12/21/17
CIVIL
No. 14444 NVEN 40
3/14/16

Approval
CIVIL ENGINEER - PLANNING
SUSAN A. WHITE, SUITE 200
1000 LAS VEGAS BLVD, SUITE 200
LAS VEGAS, NV 89101
PHONE (702) 833-9702
FAX (702) 833-9703

Scale
1" = 30'

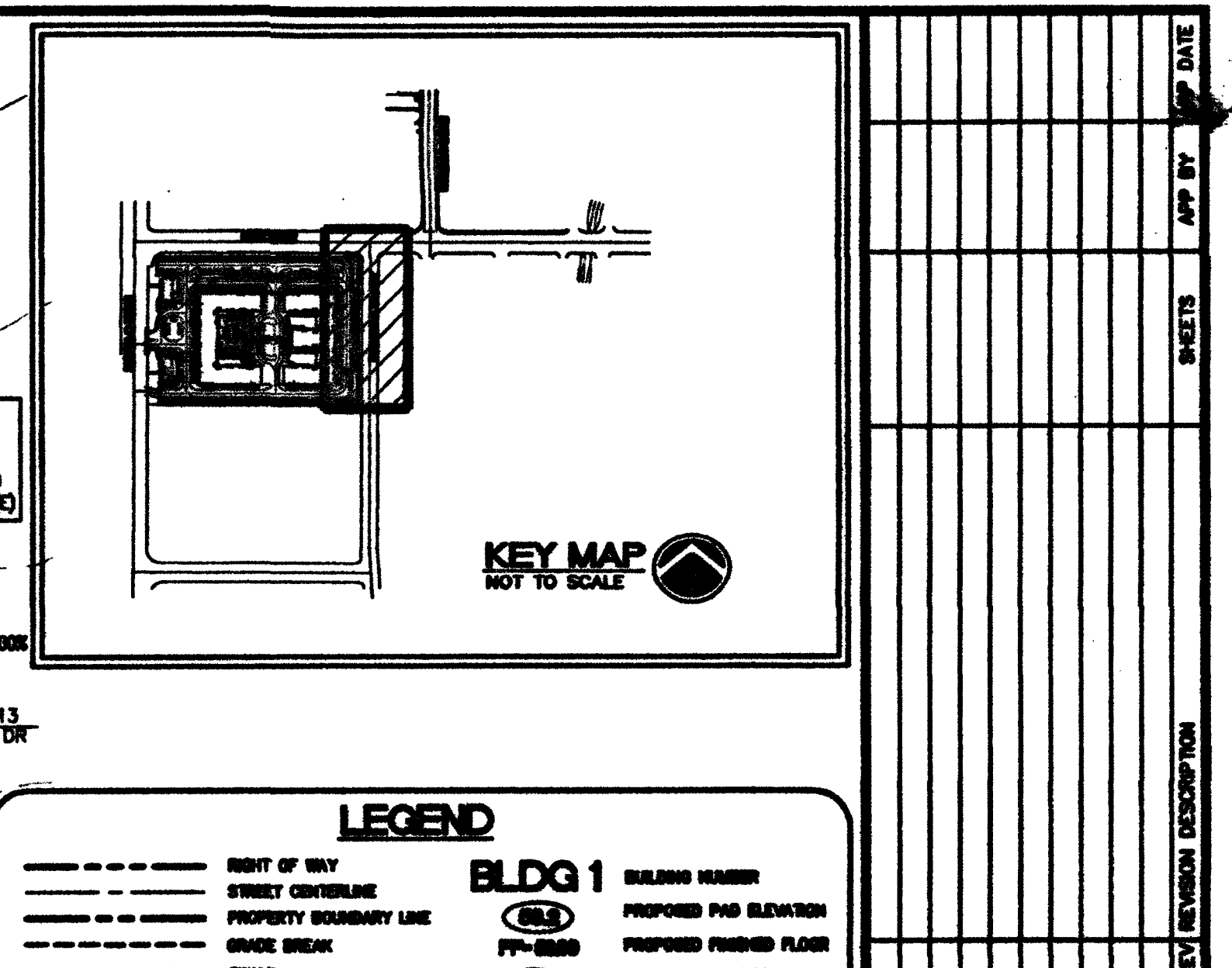
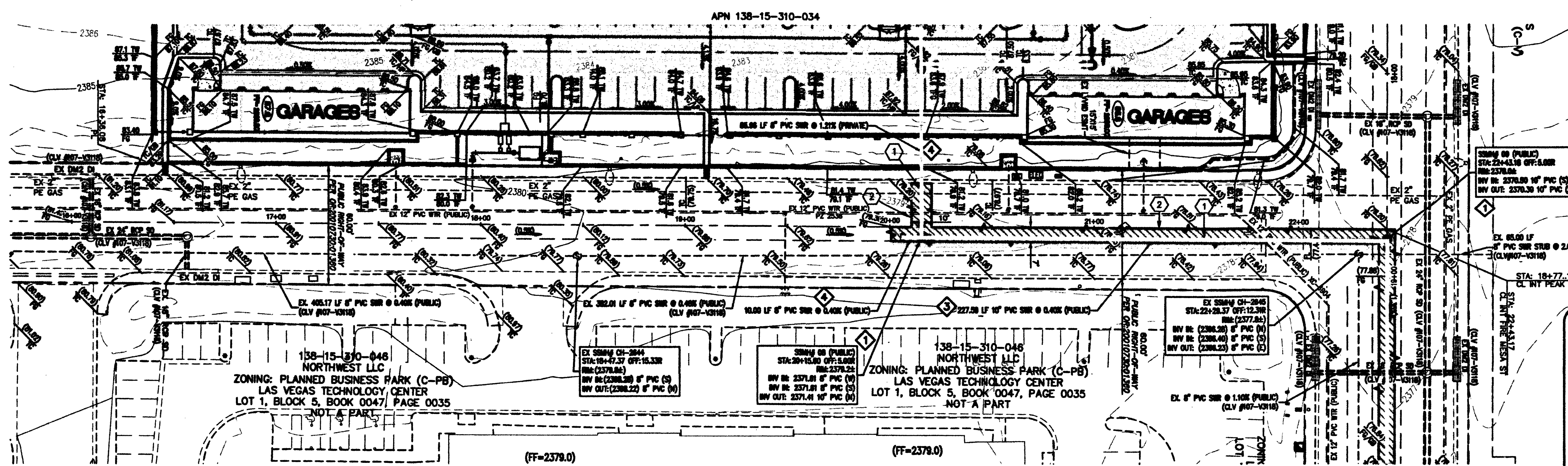
Sheet
11 of 19

DATE
03/05/16

BY
REH

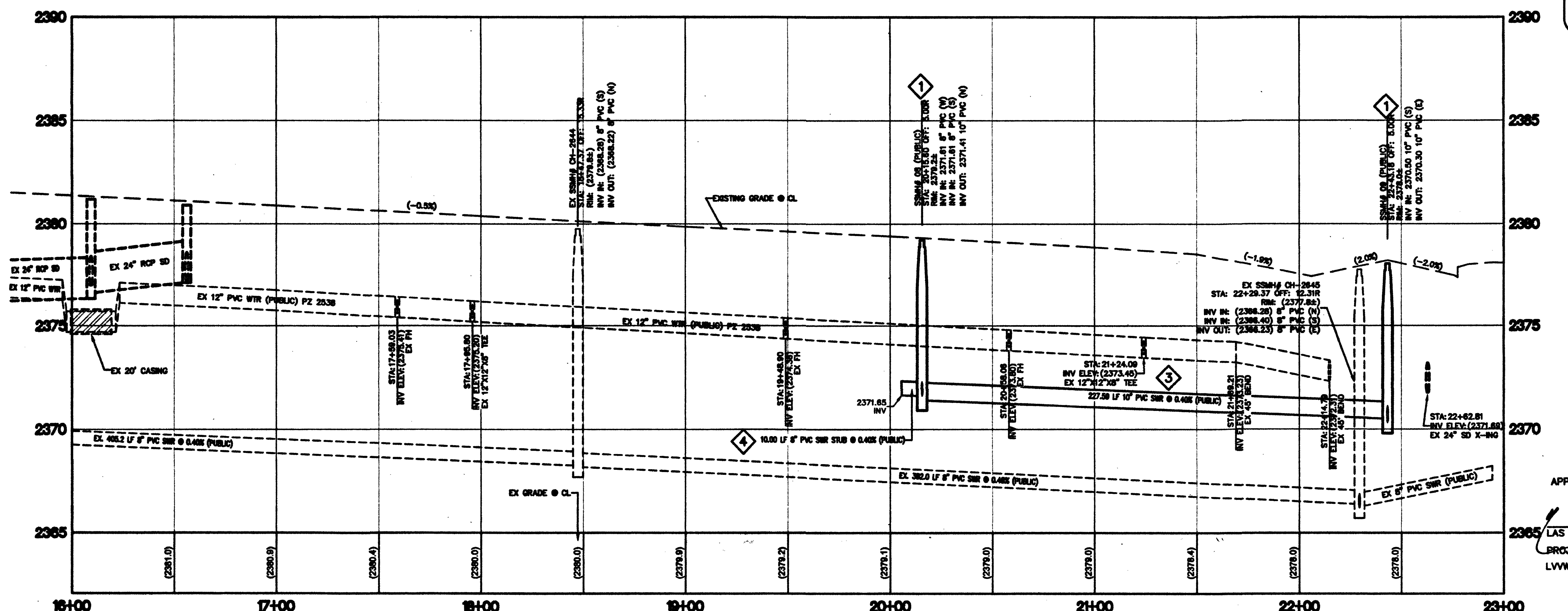
DATE
03/05/16

SCALE
1" = 30'



LEGEND

RIGHT OF WAY	BLDG 1	BLDG 1
STREET CENTERLINE	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
PROPERTY BOUNDARY LINE	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
GRADE BREAK	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
SHOULDER	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
SHOULDER LINE	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
EDGE OF EXISTING ASPHALT	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
EXISTING CHAIN LINK FENCE	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
PROPOSED WROUGHT IRON FENCE	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
PROPOSED LOW WALL WITH 1/2" FENCE	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
PROPOSED RETAINING WALL	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
SHOULDER	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
EXISTING CONTOUR MINOR	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
EXISTING CONTOUR MAJOR	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
COVERED PARKING	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
MATCH LINE	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION
	PROPOSED PAV ELEVATION	PROPOSED PAV ELEVATION



SEWER CONSTRUCTION NOTE

- INSTALL 48" STANDARD PRE-CAST MANHOLE BASE PER DCSMCS 100 - 800-1A, 800-1B (SINGLE COVER)
- NOT USED
- INSTALL 10" PVC SEWER
- INSTALL 8" PVC SEWER

CONSTRUCTION NOTES

- TRENCH BACKFILL AND AC PAVEMENT RESTORATION PER CCASD # 503, 500.3, 500.4 AND 500.5
- SAWCUT AND MATCH

ASBUILT

APPROVED FOR CONSTRUCTION

D. SHARIF
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
PROJECT # 123532 DATE: 3/21/16
LVWD APPROVED FIRE FLOW 4,000 GPM AT 20 PSI RESIDUAL

CAUTION TO CONTRACTOR I

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Call Before You Dig

CALL 811

1-800-227-2629

CLARK COUNTY TRAFFIC OPERATIONS

1-800-455-6000

TRENCH & BACKFILL NOTE

- TRENCH AND BACKFILL ALL SEWER MAIN PER DCSMCS 100-17.
- TRENCH AND BACKFILL ALL WATER MAIN PER DCSMCS 100-17.
- TRENCH AND PAVEMENT RESTORATION PER CC AREA STD DNG 0002, 0002.2, AND 503

BENCHMARK

CITY OF LAS VEGAS BENCHMARK # 0100000

MARK & PLATE IN TOP OF CURB WEST SIDE OF BUFFALO +/- 200 FEET NORTH OF PEAK DRIVE

BASIS OF BEARINGS

BEING A PORTION OF LOT 1, BLOCK 5 OF "LAS VEGAS TECHNOLOGY CENTER" AS SHOWN BY MAP THEREON ON FILE IN BOOK 47, PAGE 35 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA, LYING WITHIN THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 15, TOWNSHIP 20 SOUTH, RANGE 60 EAST, N.M.S., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA.

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GRAPHIC SCALE

1 inch = 50 feet

Ovation

Ovation Development
6021 SOUTH FORT APACHE ROAD, #100
LAS VEGAS, NEVADA 89148

DEVELOPER

Ovation Development
6021 S. FORT APACHE ROAD #100
LAS VEGAS, NV 89148
702-990-2390 (PHONE)
702-990-2391 (FAX)

OWNER

Buffalo Peak Apts, LLC
C/O Ovation Development
6021 S. FORT APACHE ROAD, #100
LAS VEGAS, NV 89148
(702) 990-2390 (PHONE)
(702) 990-2391 (FAX)

Impulse

Civil Engineering & Planning

CLV# 107V5035
H#57782

SHEET 14 of 19

APPROVED FOR CONSTRUCTION

DATE: 3/21/16

PROJECT # 123532

LVWD APPROVED FIRE FLOW 4,000 GPM AT 20 PSI RESIDUAL

CLV# 107V5035

H#57782

SHEET 14 of 19

LET 16 of 19 SHEETS