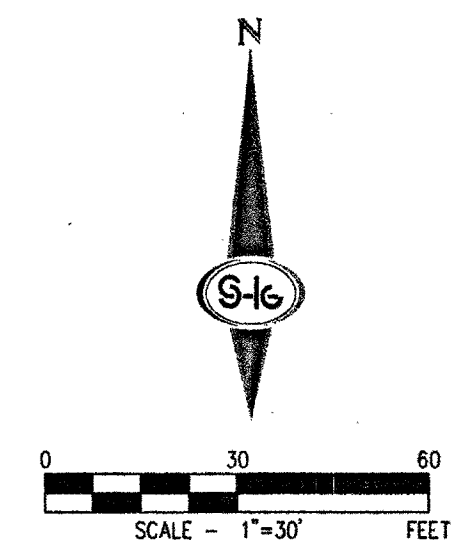
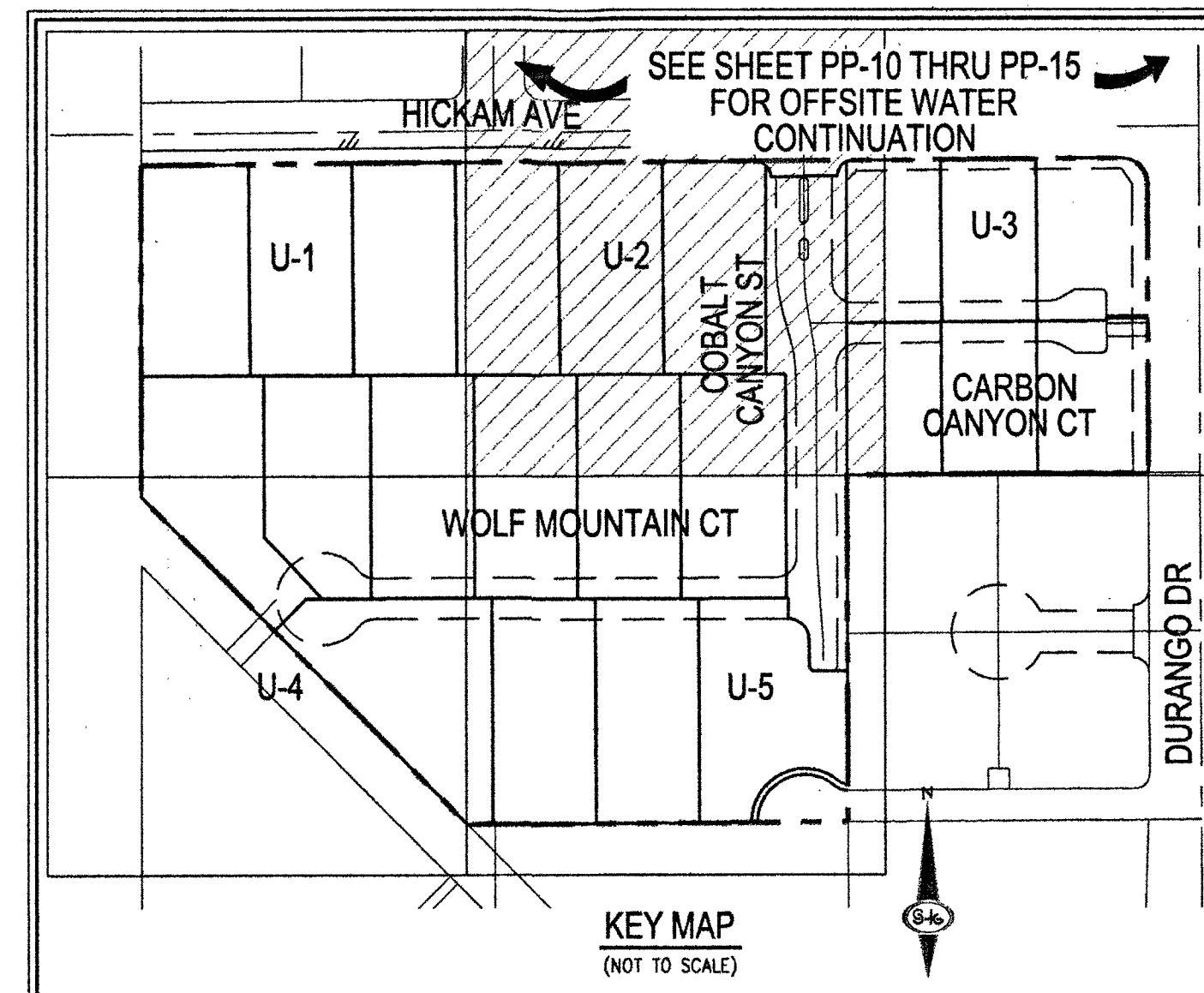


CLV SEWER AS-BUILT



- ## WATER CONSTRUCTION NOTES

- | | |
|----|---|
| 1 | INSTALL 12" PVC WATER PIPE (2538 WP2) |
| 2 | INSTALL 10" PVC WATER PIPE (2538 WP2) |
| 3 | INSTALL 8" PVC WATER PIPE (2538 WP2) |
| 4 | INSTALL 45' BEND PER UDACS PLATE NO. 31 |
| 5 | INSTALL 22.5' HORIZONTAL BEND PER UDACS PLATE NO. 31 |
| 6 | INSTALL CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36 |
| 7 | INSTALL BLUE REFLECTIVE RAISED PAVEMENT MARKERS PER 2009 IFI
APPENDIX C, SECT C107.1 |
| 8 | NOT USED |
| 9 | INSTALL 10" x 6" TEE PER UDACS PLATE NO. 31 |
| 10 | INSTALL 12" x 8" TEE PER UDACS PLATE NO. 31 |
| 11 | INSTALL 12" x 10" REDUCER PER UDACS PLATE NO. 30 |
| 12 | INSTALL 8" x 6" TEE PER UDACS PLATE NO. 31 |
| 13 | INSTALL 12" x 12" TEE PER UDACS PLATE NO. 31 |
| 14 | INSTALL 10" x 10" TEE UDACS PLATE NO. 31 |
| 15 | REMOVE EXISTING CAP AND ADD TO EXISTING WATER CUT
AND REMOVE EX. PIPE 3" MINIMUM FROM END OF MAIN. |
| 16 | INSTALL FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE PER UDACS
PLATE NO. 40 |
| 17 | INSTALL FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE PER UDACS
PLATE NO. 40 |
| 18 | INSTALL 1" COPPER SERVICE W 3/4" METER PER UDACS PLATE NO.
39 |
| 19 | INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30
39 |
| 20 | INSTALL 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30
39 |
| 21 | INSTALL 12" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30
39 |
| 22 | INSTALL STEEL ENCASUREMENT PER UDACS PLATE NO. 22 & 23 |
| 23 | INSTALL 10" x 8" TEE PER UDACS PLATE NO. 31 |
| 24 | INSTALL 8" x 6" REDUCER PER UDACS PLATE NO. 30 |
| 25 | INSTALL 8" PVC WATER PIPE (2538 WP2) |
| 26 | INSTALL 10" x 6" REDUCER PER UDACS PLATE NO. 30 |
| 27 | INSTALL 12" x 6" TEE PER UDACS PLATE NO. 31 |
| 28 | INSTALL SLEEVE FOR WATER SERVICE LATERAL PER DETAIL 21 ON
SHEET D-1 |
| 29 | INSTALL 3" CAP/ IRRIGATION METER & 1" RPPA PER UDACS PLATE NO.
39 & 4 |
| 30 | INSTALL CURB STOP PER DETAIL 23 ON SHEET D-2 |
| 31 | INSTALL SLEEVE FOR FIRE HYDRANT PER DETAIL 22 ON SHEET D-1 |
| 32 | INSTALL 12" x 12" CROSS PER UDACS PLATE NO. 31 |
| 33 | INSTALL FLUSHING VALVE ASSEMBLY PER DETAIL 36 ON SHEET D-2 |



- SEWER CONSTRUCTION NOTES

- | | |
|---|--|
| 1 | INSTALL 8" DIAMETER SANITARY SEWER MAINLINE PER DCSOWS SD-1A, SD-1B, SD-4, SD-7 AND SD-9 |
| 2 | INSTALL 24" LUG |
| 3 | INSTALL 8" PVC SANITARY SEWER PIPE PER DCSOWS SD-27 (PUBLIC) |
| 4 | INSTALL 4" PVC SEWER LATERAL PER DCSOWS SD-22 AND SD-23 |
| 5 | FIELD VERIFY, REMOVE CAP AND CONNECT TO EXISTING SEWER SLUB |
| 6 | INSTALL 8" C-300 SANITARY SEWER PIPE PER DCSOWS SD-27 (PUBLIC) |
| 7 | INSTALL 4" C-300 SANITARY SEWER LATERAL PER DCSOWS SD-22 AND SD-23 |
| ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS | |
| 22 UNITS X 250 GPD/UNIT = 5,500 GPD + 0.0055 MGD | |
| TOTAL PEAK FLOW = 0.0055 X 4.31 (PEAK FLOW)
= 0.0237 MGD | |
| LATERAL MARKING REQUIREMENTS | |
| LATERALS SHALL BE MARKED ACCORDING TO THE 2009 DESIGN MANUAL, CHAPTER 10, REQUIREMENTS FOR WASTEWATER COLLECTIONS SYSTEMS, STANDARD DRAWING 25. A 3M OR GREATER DEPTH OF COVER SHALL BE MARKED WITH A REFLECTOR AT THE MAIN OR MANHOLE. A SECOND MARKER IS TO BE INSTALLED AT THE POINT WHERE THE LATERAL DEPARTS FROM THE MAIN. A 3" WHITE PLASTIC MARK ALSO REQUIRED. A 3'-INCH HIGH "X" STAMPED OR CHISELED INTO THE CURB TO IDENTIFY THE EXACT POINT WHERE THE LATERAL PASSES UNDER THE CURB. | |

UTILITY LEGEND

- | | |
|---|------------------------------------|
|  | ROADWAY CENTERLINE |
|  | RIGHT-OF-WAY |
|  | LOT LINE |
|  | CURB AND GUTTER |
|  | EXISTING CURB AND GUTTER |
|  | WATER PIPE FITTING |
|  | WATER GATE VALVE |
|  | FIRE HYDRANT |
|  | REFLECTIVE RAISED PAVEMENT MARKERS |
|  | SANITARY SEWER MANHOLE |
|  | SANITARY SEWER FLOW DIRECTION |
|  | WATER POINT OF CONNECTION |
|  | SEWER POINT OF CONNECTION |
|  | BACK WATER VALVE |
- SEE SHEET C-3 FOR QUANTITIES AND ABBREVIATIONS

WATER NOTES

- [illegible]

SWG DISCLAIMER

THE DATA CONTAINED HEREIN IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SOUTHWEST GAS CORPORATION MAKES NO WARRANTIES AND DOES NOT GUARANTEE THE CORRECTNESS, COMPLETENESS, OR USEFULNESS OF ANY LOSS OR DAMAGE HOWEVER ARISING FROM THE USE OF OR RELIANCE ON THE DATA PROVIDED. THE FIELD LOCATION AND DEPTH OF ALL SOUTHWEST GAS FACILITIES SHOULD BE VERIFIED.

DISCLAIMER NOTE

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FIRE FLOW CALCULATIONS

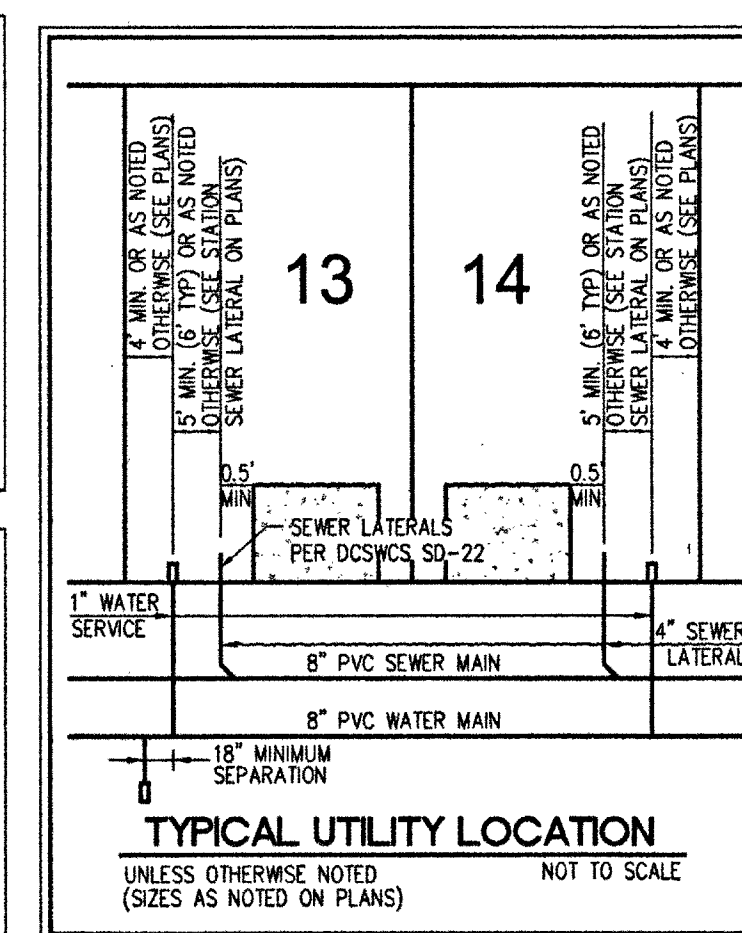
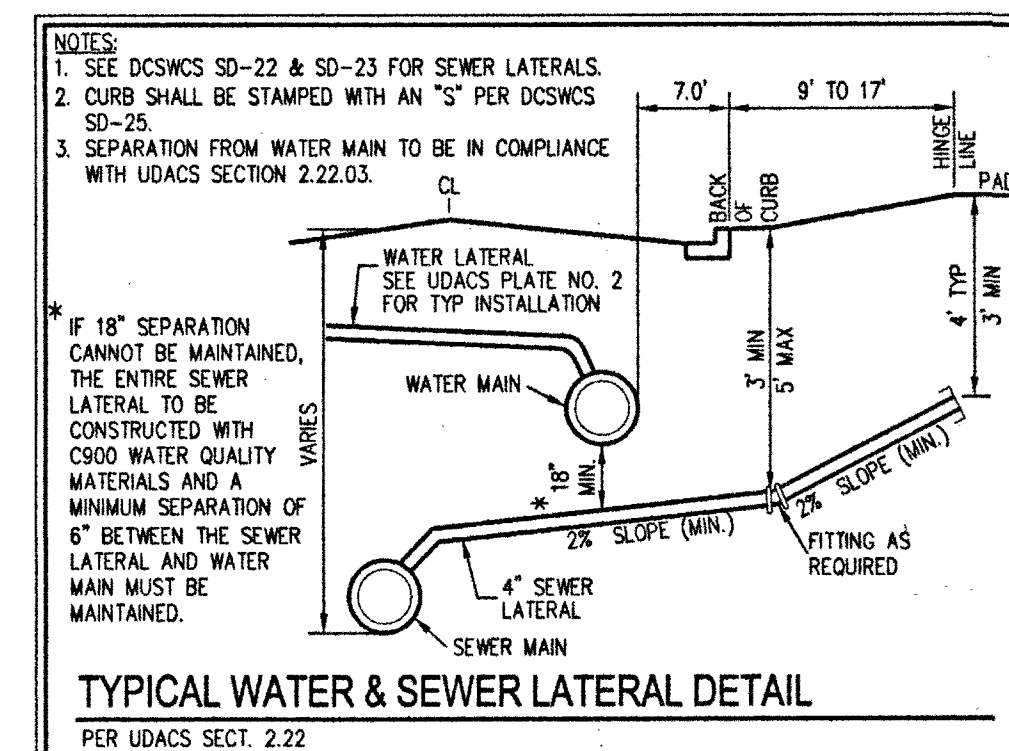
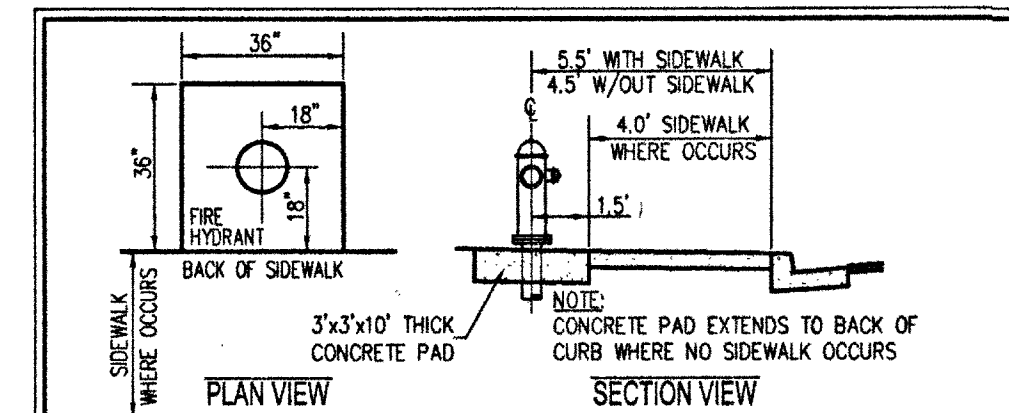
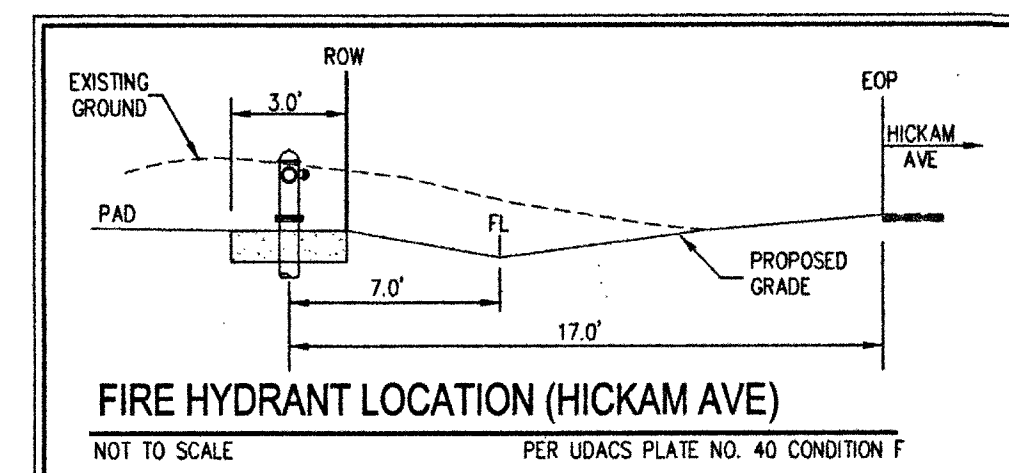
FIRE FLOW REQUIREMENT IS 2.250 GALLONS PER MINUTE AT 20 P.S.I. RESIDUAL PRESSURE.	
USE/OCCUPANCY	<u>SINGLE FAMILY</u>
TYPE OF CONSTRUCTION (IBC)	TYPE V-B
AUTOMATIC FIRE SPRINKLERS	STATUS 1&2 ONLY
SQUARE FOOTAGE (LIVABLE)	<5000
SQUARE FOOTAGE	<6200
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORIES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	4

BASIS OF BEARINGS

NORTH 00°09'04" WEST, BEING THE BEARING OF THE EAST LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 152, PAGE 17 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

BENCHMARK

BENCHMARK NUMBER: 0LV00 4SWW6
BRASS CAP "PLS 7008" AT DURANGO DRIVE AND HICKAM
AVENUE ALIGNMENT
ELEVATION=2395.093 FEET, 730.026 METERS
N.A.V.D. 88 DATUM
PER THE CLARK COUNTY VERTICAL CONTROL V.2003



CLARK COUNTY FIRE DEPT. APPROVAL

BY: SK Kamnits DATE: 7/9/18

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR OR AN APPROVAL OF ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 2,250 GPM AT 20 P.S.I. RESIDUAL. EP18-05704

APPROVED FOR CONSTRUCTION

4 / Shadi
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 125650 FIRST APPROVED DATE: 7/18/11
LYING APPROVED FIRE FLOW 2,250 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

SOUTHWEST GAS APPROVAL

 7-5-18
SOUTHWEST GAS CORPORATION DATE

TO ENSURE LVVWD ACCESS WITHIN EASEMENT

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

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS. IT'S COSTLY.



**Call before you
do UnderGround**
1-702-455-6000
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-432-5300
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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

Call
811
OR
1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

CALL BEFORE YOU DO OVERHEAD

SPECIAL SERVICES

1-702-227-2929

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

[illegible]

PINNACLE HOMES

55
T 20
R 60

DATE: 03/26/18

DRAFTER: EMH
DESIGNER: EMH
CHECKED: KMB
PROJECT NO. PIN1702

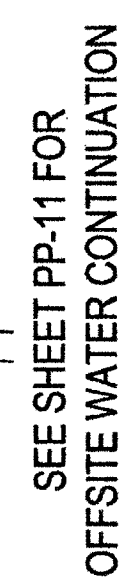


PROFESSIONAL ENGINEER
STATE OF NEVADA
KEVIN M. BROSS
Exp. 12/31/2018
CIVIL
No. 24572

7/2/18

CLV SEWER AS-BUILT

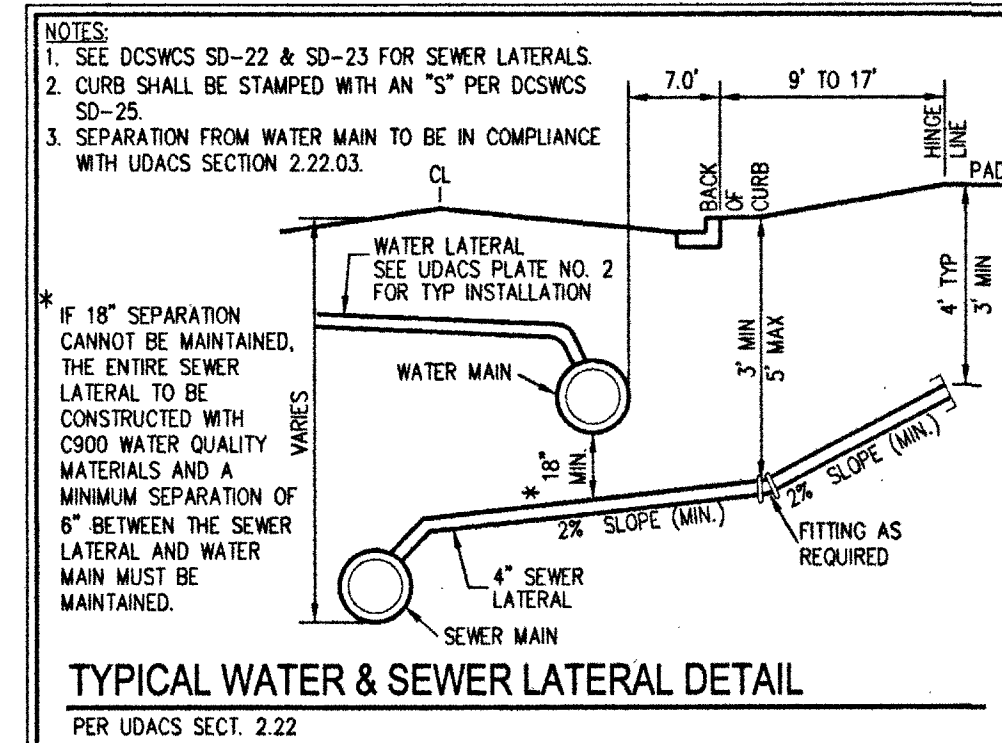
\\pin1702 ere iv\dwg\improv\pin1702 u11 dwg 7/2/2018 6:36 AM Lokela Abad



-
- SEE SHEET PP-10 THRU PP-15
FOR OFFSITE WATER
CONTINUATION
- HICKAM AVE
- U-1
- U-2
- COBALT CANYON ST
- U-3
- CARBON CANYON CT
- WOLF MOUNTAIN CT
- U-4
- U-5
- DURANGO DR
- N
- 340
- KEY MAP
(NOT TO SCALE)

- # UTILITY LEGEND
- | | |
|--|------------------------------------|
| | ROADWAY CENTERLINE |
| | RIGHT-OF-WAY |
| | LOT LINE |
| | CURB AND GUTTER |
| | EXISTING CURB AND GUTTER |
| | WATER PIPE FITTING |
| | WATER GATE VALVE |
| | FIRE HYDRANT |
| | REFLECTIVE RAISED PAVEMENT MARKERS |
| | SANITARY SEWER MANHOLE |
| | SANITARY SEWER FLOW DIRECTION |
| | WATER POINT OF CONNECTION |
| | SEWER POINT OF CONNECTION |
| | BACK WATER VALVE |
- SEE SHEET C-3 FOR QUANTITIES AND ABBREVIATIONS

BENCHMARK NUMBER: OLVOO 45WW6
BRASS CAP "PLS 7008" AT DURANGO DRIVE AND HICKAM
AVENUE ALIGNMENT
ELEVATION=2395.093 FEET, 730.026 METERS
N.A.V.D. 88 DATUM
PER THE CLARK COUNTY VERTICAL CONTROL V.2003



APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR OR AN APPROVAL OF ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 2,250 GPM AT 20 P.S.I. RESIDUAL. *EP/5-00704*

4 / DISHAD
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 125650 FIRST APPROVED DATE: 7/18/18
LWWD APPROVED FIRE FLOW 2,250 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

1. *Journal of Management Studies*, 1997, 34, 1, 1-14.

AVOID HITTING OVERHEAD
POWER LINES. IT'S

CALL BEFORE
YOU DO
OVERHEAD

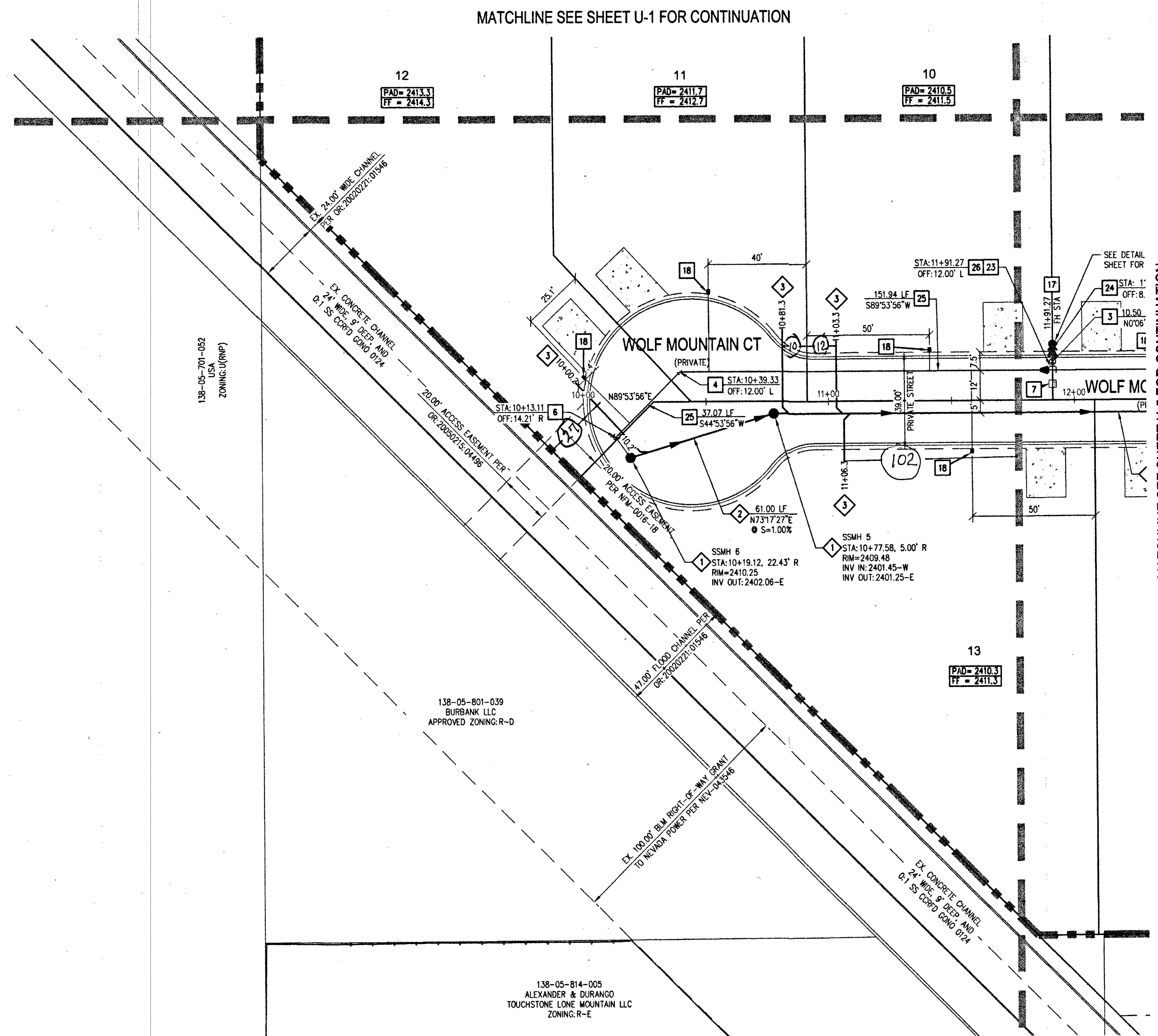
A diagram showing a crane lifting a pipe. The crane is labeled "OVERHEAD" and "PIPE LIFT". The pipe is labeled "PIPE".

1-702-227-2929

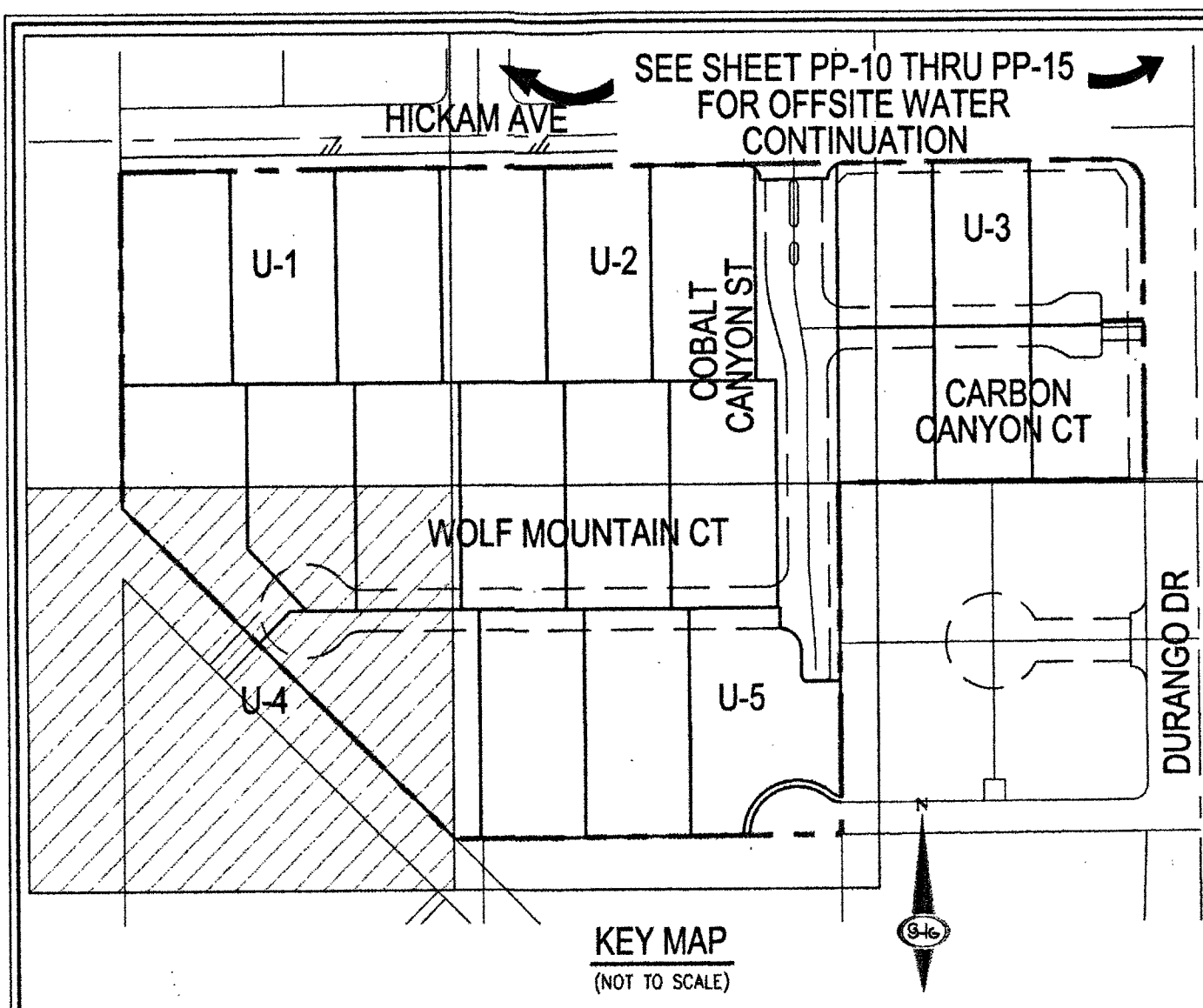
U-3
SHEET 28 OF 49
PW18-10396
L18-00094

CLV SEWER AS-BUILT

CLV SEWER AS-BUILT



- ### WATER CONSTRUCTION NOTES
1. INSTALL 12" PVC WATER PIPE (2538 WP2)
 2. INSTALL 10" PVC WATER PIPE (2538 WP2)
 3. INSTALL 8" PVC WATER PIPE (2538 WP2)
 4. INSTALL 45° BEND PER UDACS PLATE NO. 31
 5. INSTALL 22.5° HORIZONTAL BEND PER UDACS PLATE NO. 31
 6. INSTALL CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36
 7. INSTALL BLUE REFLECTIVE RAISED PAVEMENT MARKERS PER 2009 IFC APPENDIX C, SECT C107.1
 8. NOT USED
 9. INSTALL 10" x 6" TEE PER UDACS PLATE NO. 31
 10. INSTALL 12" x 8" TEE PER UDACS PLATE NO. 31
 11. INSTALL 12" x 10" REDUCER PER UDACS PLATE NO. 30
 12. INSTALL 8" x 6" TEE PER UDACS PLATE NO. 31
 13. INSTALL 12" x 12" TEE PER UDACS PLATE NO. 31
 14. INSTALL 10" x 10" TEE UDACS PLATE NO. 31
 15. FIELD VERIFY, REMOVE CAP AND CONNECT TO EXISTING WATER, CUT AND REMOVE EX. PIPE 3' MINIMUM FROM END OF MAIN
 16. INSTALL FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE PER UDACS PLATE NO. 40
 17. INSTALL FIRE HYDRANT ASSEMBLY W/ 8" GATE VALVE PER UDACS PLATE NO. 40
 18. INSTALL 1" COPPER SERVICE W 3/4" METER PER UDACS PLATE NO. 3
 19. INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
 20. INSTALL 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
 21. INSTALL 12" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30 & 39
 22. INSTALL STEEL ENCASMENT PER UDACS PLATE NO. 22 & 23
 23. INSTALL 10" x 8" TEE PER UDACS PLATE NO. 31
 24. INSTALL 8" x 6" REDUCER PER UDACS PLATE NO. 30
 25. INSTALL 6" PVC WATER PIPE (2538 WP2)
 26. INSTALL 10" x 6" REDUCER PER UDACS PLATE NO. 30
 27. INSTALL 12" x 6" TEE PER UDACS PLATE NO. 31
 28. INSTALL SLEEVE FOR WATER SERVICE LATERAL, PER DETAIL 21 ON SHEET D-1
 29. INSTALL 3/4" IRRIGATION METER & 1" RPPA PER UDACS PLATE NO. 4
 30. INSTALL CURB STOP PER DETAIL 23 ON SHEET D-2
 31. INSTALL SLEEVE FOR FIRE HYDRANT PER DETAIL 22 ON SHEET D-1
 32. INSTALL 12" x 12" CROSS PER UDACS PLATE NO. 31
 33. INSTALL FLUSHING VALVE ASSEMBLY PER DETAIL 36 ON SHEET D-2



- ### SEWER CONSTRUCTION NOTES
1. INSTALL 48" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-14, SD-16, SD-4, SD-7 AND SD-9 (SINGLE 24" LD)
 2. INSTALL 8" PVC SANITARY SEWER PIPE PER DCSWCS SD-17 (PUBLIC)
 3. INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 & SD-25
 4. FIELD VERIFY, REMOVE CAP AND CONNECT TO EXISTING SEWER SUB
 5. INSTALL 8" C-900 SANITARY SEWER PIPE PER DCSWCS SD-17 (PUBLIC)
 6. INSTALL 4" C-900 SANITARY SEWER LATERAL PER DCSWCS SD-22 & SD-25
- ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS
22 UNITS x 250 GPD/UNIT = 5,500 GPD = 0.0055 MGD
TOTAL PEAK FLOW = 0.0055 X 4.31 (PEAK FACTOR) = 0.0237 MGD
- LATERAL MARKING REQUIREMENTS
LATERALS SHALL BE MARKED ACCORDING TO THE 2009 DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTIONS SYSTEMS, STANDARD DRAWING 25. A 3M MARKER BALL IS TO BE INSTALLED OVER THE CONNECTION POINT AT THE MAIN OR MANHOLE. A SECOND MARKER IS TO BE INSTALLED AT THE POINT WHERE THE LATERAL CROSSES THE PROPERTY LINE. A VISUAL MARK IS ALSO REQUIRED. A 3-INCH HIGH "S" STAMPED OR CHISELED INTO THE CONCRETE AT THE POINT DIRECTLY OVER WHERE THE LATERAL PASSES UNDER THE CURB.

- ### UTILITY LEGEND
- ROADWAY CENTERLINE
 - RIGHT-OF-WAY
 - LOT LINE
 - CURB AND GUTTER
 - EXISTING CURB AND GUTTER
 - WATER PIPE FITTING
 - WATER GATE VALVE
 - FIRE HYDRANT
 - REFLECTIVE RAISED PAVEMENT MARKERS
 - SANITARY SEWER MANHOLE
 - SANITARY SEWER FLOW DIRECTION
 - WATER POINT OF CONNECTION
 - SEWER POINT OF CONNECTION
 - BACK WATER VALVE
- SEE SHEET C-3 FOR QUANTITIES AND ABBREVIATIONS

- ### WATER NOTES
1. ALL SEWER/STORM DRAIN 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 CLEARANCES.
 2. INSTALL PIPELINE MARKER BALLS IN TRENCH ABOVE EACH HORIZONTAL ELBOW FITTING PER UDACS PLATE NO. 15.
 3. WATER MAIN JOINT DEFLECTION (W/JD) SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET. PER UDACS 2.07.01 AND 2.07.02, FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
 4. CONTROLLED LOW STRENGTH MATERIAL (CLSM) PROTECT WATER LINES IN PLACE WHEREVER A WATERLINE IS ABOVE A STORM DRAIN OR SEWER WHERE COMPACTION REQUIREMENTS UNDER A WATERLINE CANNOT BE MET. BACKFILL TRENCH WITH CLASS II CONTROLLED LOW STRENGTH MATERIAL (CLSM) TO THE SPRINGLINE OF THE WATERLINE. THIS REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. ADDITIONAL HEALTH REGULATIONS MAY APPLY PER UDACS 2.22.
 5. ADJUST EXISTING WATER VALVE BOXES TO FINISHED GRADE PER UDACS PLATE NO. 39. VALVES SHALL BE ACCESSIBLE AT ALL TIMES.
 6. PROTECT IN PLACE AND ADJUST LVVWD EXISTING FACILITIES TO FINISHED GRADE PER UDACS. ALL LVVWD FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

SWG DISCLAIMER

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FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS 2,250 GALLONS PER MINUTE AT 20 P.S.I. RESIDUAL PRESSURE.	SINGLE FAMILY
USE/OCCUPANCY	TYPE-B
TYPE OF CONSTRUCTION (BC)	LOTS 1&2 ONLY
AUTOMATIC FIRE SPRINKLERS	<5000
SQUARE FOOTAGE (LIVABLE)	<5000
LARGEST AREA BETWEEN 4 HOUR WALLS	N/A
BUILDING HEIGHT	<35
NO OF STORES INCLUDING BASEMENT	2
HIGH PILED COMBUSTIBLE STORAGE	NO
NO OF HYDRANTS INSTALLED	4

BASIS OF BEARINGS

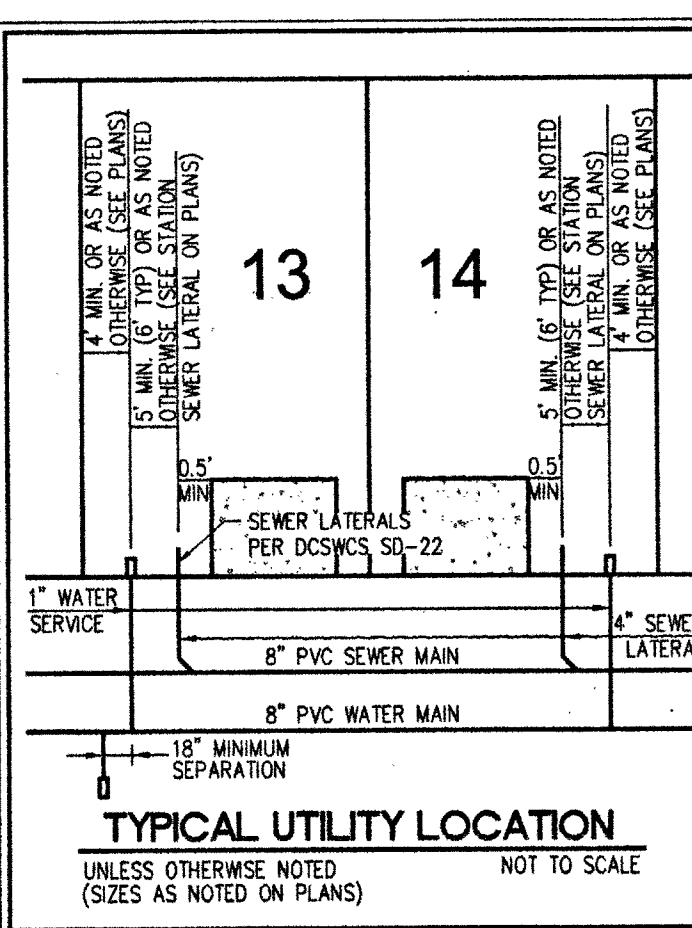
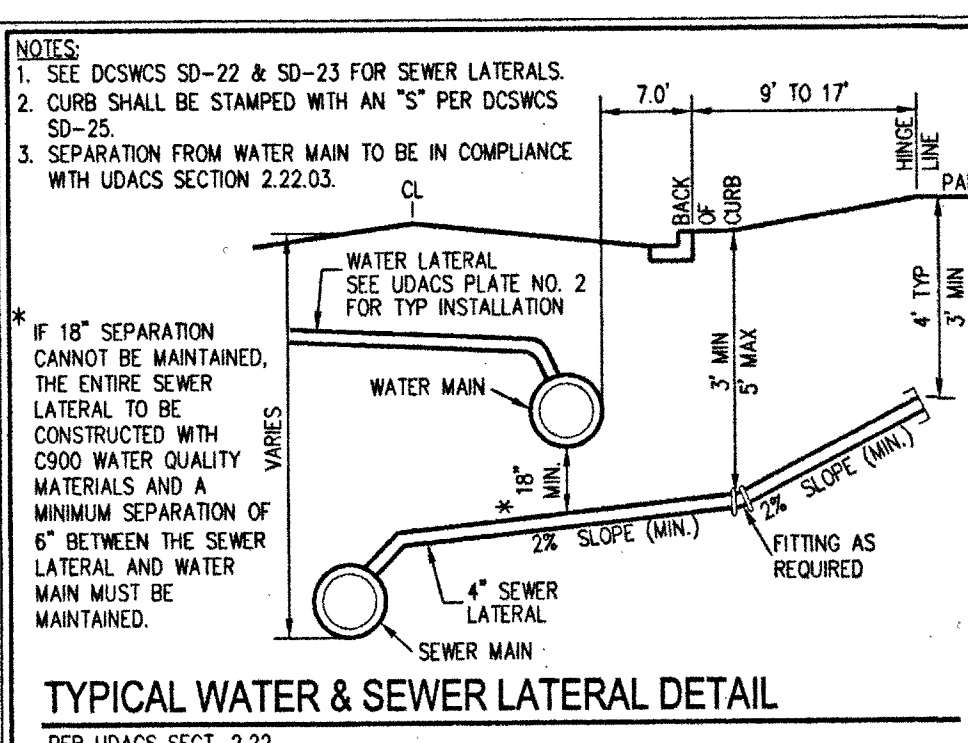
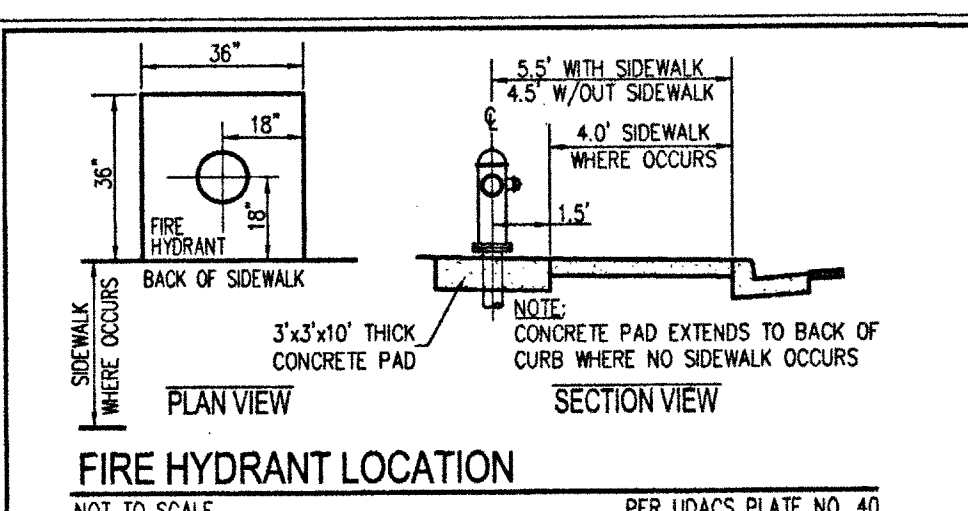
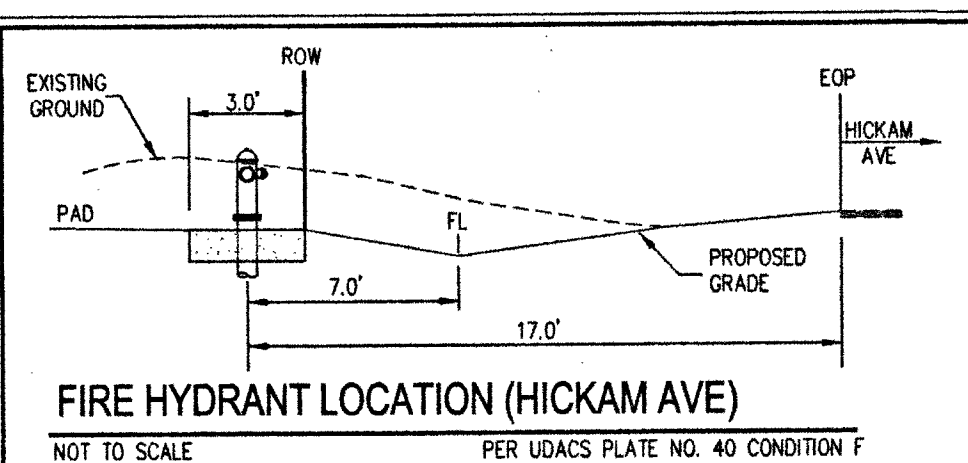
NORTH 00°09'04" WEST, BEING THE BEARING OF THE EAST LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 20, TOWNSHIP 20 SOUTH, RANGE 80 EAST, N.M.S., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 152, PAGE 17 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

BENCHMARK

BENCHMARK NUMBER: 01000 45HW6
BRASS CAP "PLS 7008" AT DURANGO DRIVE AND HICKAM AVENUE ALIGNMENT
ELEVATION=2365.083 FEET, 730.026 METERS
N.A.S.D. 88 DATUM
PER THE CLARK COUNTY VERTICAL CONTROL V.2003

TO ENSURE LVVWD ACCESS WITHIN EASEMENT

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



CLARK COUNTY FIRE DEPT. APPROVAL

BY: *E. Kammala* DATE: 7/9/18
APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR OR AN APPROVAL OF ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 2,250 GPM AT 20 P.S.I. RESIDUAL. *FW18-00704*

APPROVED FOR CONSTRUCTION

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO. 125650 FIRST APPROVED DATE: 7/18/18
LVVWD APPROVED FIRE FLOW 2,250 GPM AT 20 PSI RESIDUAL
MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS. IT'S COSTLY.

Call before you Dig
1-702-455-6000
CLARK COUNTY TRAFFIC OPERATIONS
1-702-432-5300
FREEWAY AND AIRPORT SYSTEM OF TRANSPORTATION

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

Call
811
OR
1-800-227-2600

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.

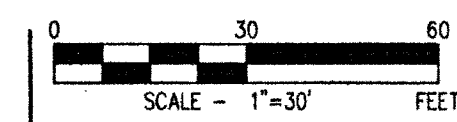
CALL BEFORE YOU DO OVERHEAD
1-702-227-2929

SLATER HANIFAN GROUP
CONSULTING ENGINEERS & PLANNERS
5740 S. ARVILLE STREET #216 LAS VEGAS, NV 89118
PHONE (702) 284-5300
FAX (702) 284-5389

CLARK COUNTY, NEVADA
DATE: 7/9/18
APP. DATE: 7/9/18
BY: *E. Kammala*
DESCRIPTION: CLV SEWER AS-BUILT

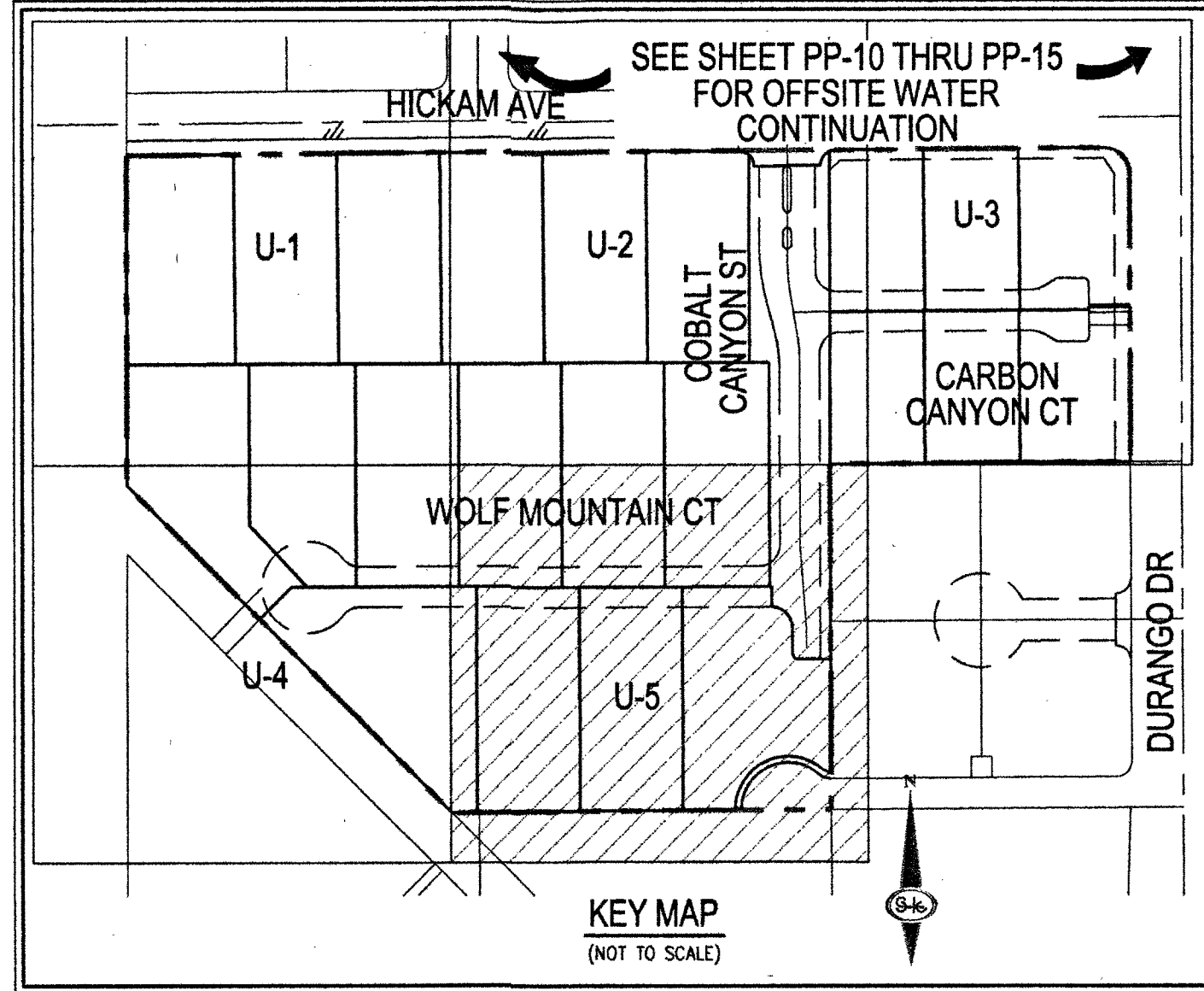
PINNACLE HOMES
ELK RIDGE ESTATES IV
UTILITY PLAN IV

U-4
SHEET 29 OF 44
FW18-10396
L18-00094



WATER CONSTRUCTION NOTES

- | | |
|----|--|
| 1 | INSTALL 12" PVC WATER PIPE (2538 WPZ) |
| 2 | INSTALL 10" PVC WATER PIPE (2538 WPZ) |
| 3 | INSTALL 8" PVC WATER PIPE (2538 WPZ) |
| 4 | INSTALL 45' BEND PER UDACS PLATE NO. 31 |
| 5 | INSTALL 22.5' HORIZONTAL BEND PER UDACS PLATE NO. 31 |
| 6 | INSTALL CAP AND 2" BLOW-OFF VALVE PER UDACS PLATE NO. 36 |
| 7 | INSTALL BLUE REFLECTIVE RAISED PAYMENT MARKERS PER 2009 FCG
APPENDIX C, SECTION C107.1 |
| 8 | NOT USED |
| 9 | INSTALL 10" X 6" TEE PER UDACS PLATE NO. 31 |
| 10 | INSTALL 12" X 8" TEE PER UDACS PLATE NO. 31 |
| 11 | INSTALL 12" X 10" REDUCER PER UDACS PLATE NO. 30 |
| 12 | INSTALL 8" X 6" TEE PER UDACS PLATE NO. 31 |
| 13 | INSTALL 12" X 12" TEE PER UDACS PLATE NO. 31 |
| 14 | INSTALL 10" X 10" TEE UDACS PLATE NO. 31 |
| 15 | FIELD VERIFY, REMOVE CAP AND CONNECT TO EXISTING WATER. CUT
AND REMOVE EX. PIPE 3' MINIMUM FROM END OF MAN. |
| 16 | INSTALL FIRE HYDRANT ASSEMBLY W/6" GATE VALVE PER UDACS
PLATE NO. 40 |
| 17 | INSTALL FIRE HYDRANT ASSEMBLY W/ 6" GATE VALVE PER UDACS
PLATE NO. 40 |
| 18 | INSTALL 1" COPPER SERVICER W 3/4" METAL PER UDACS PLATE NO. 31 |
| 19 | INSTALL 8" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30
& 39 |
| 20 | INSTALL 10" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30
& 39 |
| 21 | INSTALL 12" GATE VALVE WITH VALVE BOX PER UDACS PLATE NO. 30
& 39 |
| 22 | INSTALL STEEL ENCASMENT PER UDACS PLATE NO. 22 & 23 |
| 23 | INSTALL 10" X 8" TEE PER UDACS PLATE NO. 31 |
| 24 | INSTALL 8" X 6" REDUCER PER UDACS PLATE NO. 30 |
| 25 | INSTALL 6" PVC WATER PIPE (2538 WPZ) |
| 26 | INSTALL 10" X 6" REDUCER PER UDACS PLATE 30 |
| 27 | INSTALL 12" X 6" TEE PER UDACS PLATE 31 |
| 28 | INSTALL SLEEVE FOR WATER SERVICE LATERAL PER DETAIL 21 ON
SHEET D-1 |
| 29 | INSTALL 3/4" IRRIGATION WATER & 1" RPPA PER UDACS PLATE NO. 4
& 8 |
| 30 | INSTALL CURB STOP PER DETAIL 23 ON SHEET D-2 |
| 31 | INSTALL SLEEVE FOR FIRE HYDRANT PER DETAIL 22 ON SHEET D-1 |
| 32 | INSTALL 12" X 12" CROSS PER UDACS PLATE NO. 31 |
| 33 | INSTALL FLUSHING VALVE ASSEMBLY PER DETAIL 36 ON SHEET D-2 |



SEWER CONSTRUCTION NOTES

- | | |
|---|--|
| 1 | INSTALL 8" DIAMETER SANITARY SEWER MANHOLE PER DCSWCS SD-1, SD-1B, SD-4, SD-7 AND SD-9 PER DCSWCS SD-10 (PUBLIC) |
| 2 | INSTALL 8" PVC SANITARY SEWER PIPE PER DCSWCS SD-17 (PUBLIC) |
| 3 | INSTALL 4" PVC SEWER LATERAL PER DCSWCS SD-22 & SD-23 |
| 4 | FIELD VERIFY, REMOVE CAP AND CONNECT TO EXISTING SEWER STUB |
| 5 | INSTALL 8" C-900 SANITARY SEWER PIPE PER DCSWCS SD-17 (PUBLIC) |
| 6 | INSTALL 4" C-900 SANITARY SEWER LATERAL PER DCSWCS SD-22 & SD-23 |
- ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS:
 22 UNITS X 250 GPD/UNIT = 5,500 GPD = 0.0055 MGD
 TOTAL DAILY FLOW = 0.0055 X 843 (PEAK FACTOR) =
 0.0237 MGD
- LATERAL MARKING REQUIREMENTS**
- LATERALS SHALL BE MARKED ACCORDING TO THE 2006 ILLINOIS CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTIONS SYSTEMS, STANDARD DRAWING 25. A 3M MARKER SHALL BE INSTALLED OVER THE CONNECTION POINT AT THE MAIN OR MANHOLE. A SECOND MARKER IS TO BE INSTALLED 10 FEET DOWN THE LATERAL LINE ACROSS THE PROPERTY LINE. A VISUAL MARK IS ALSO REQUIRED, A 3-INCH HIGH "X" STAMPED OR CHISELED INTO THE CURB AND DIRECTLY OVER WHERE THE LATERAL PASSES UNDER THE CURB.

UTILITY LEGEND

- | | |
|--|------------------------------------|
| | ROADWAY CENTERLINE |
| | RIGHT-OF-WAY |
| | LOT LINE |
| | CURB AND GUTTER |
| | EXISTING CURB AND GUTTER |
| | WATER PIPE FITTING |
| | WATER GATE VALVE |
| | FIRE HYDRANT |
| | REFLECTIVE RAISED PAVEMENT MARKERS |
| | SANITARY SEWER MANHOLE |
| | SANITARY SEWER FLOW DIRECTION |
| | WATER POINT OF CONNECTION |
| | SEWER POINT OF CONNECTION |
| | BACK WATER VALVE |
- SEE SHEET C-3 FOR QUANTITIES AND ABBREVIATIONS

WATER NOTES

- ALL SEWER/ STORM DRAIN CROSSING WATER LINES MUST CONFORM TO SECTION 2.22.2 OF THE UNIFORM STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION (UNIFORM STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION) WATER SYSTEMS (UDS) FOR WATER AND STORM MAIN CROSSINGS.
2. ALL EXISTING WATER MAINS SHALL BE MARKED WITH EACH HORIZONTAL ELBOW FITTING OR 42" PIPES SHALL BE MARKED WITH TRENCH ABOVE OR BELOW THE WATER MAIN.
3. WATER MAIN JOINT DEFLECTION (DIP - 42" PIPES) SHALL BE LIMITED TO 1/8" PER JOINT. ONLY THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF 10' PER JOINT. IT IS FURTHER NOTED THAT 0.707% FOR CHANGES IN DEFLECTION EXCEEDING THE ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.
4. CONTROL LOW STRENGTH MATERIAL (CSM) SHALL BE USED TO REPAIR ALL EXISTING WATER LINES. IS NOT ALLOWED FOR A WATER LINE IS ABOVE A STORM DRAIN OR SEWER OR PROTECTIVE STRUCTURE. THE STRENGTH OF WATER CANNOT BE MET, BACKFILL TRENCH WITH CLASS II CONTROLLED LOW STRENGTH MATERIAL (CLSM) SHALL BE SPRUNG TO THE MINIMUM REQUIREMENT IS FOR STRUCTURAL SUPPORT ONLY. THE MINIMUM SPRING SHALL BE 10' TO 12' UDS 2.22.2.
5. ALL EXISTING WATER MAIN BOXES TO FINISHED GRADE PER UDS PLACE 39.36 VALVES SHALL BE ACCESSIBLE AT ALL TIMES.
6. ALL EXISTING WATER MAINS SHALL BE ADJUST LYMWD EXISTING FACILITIES TO FINISHED GRADE PER UDS. ALL EXISTING FACILITIES SHALL BE ACCESSIBLE AT ALL TIMES.

SWG DISCLAIMER

THE DATA CONTAINED HEREIN IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SOUTHWEST GAS CORPORATION MAKES NO WARRANTIES AND DOES NOT GUARANTEE THE CORRECTNESS, COMPLETENESS, OR USEFULNESS OF ANY LOSS OR DAMAGE HOWEVER ARISING FROM THE USE OF OR RELIANCE ON THE DATA PROVIDED. THE FIELD LOCATION AND DEPTH OF ALL SOUTHWEST GAS FACILITIES SHOULD BE VERIFIED.

DISCLAIMER NOTE

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

FIRE FLOW CALCULATIONS

FIRE FLOW REQUIREMENT IS 2,250 GALLONS PER MINUTE AT 20 P.S.I. RESIDUAL PRESSURE.	
USE/OCCUPANCY	<u>SINGLE FAMILY</u>
TYPE OF CONSTRUCTION (IBC)	<u>TYPE V-B</u>
AUTOMATIC FIRE SPRINKLERS	<u>LOTS 1&2 ONLY</u>
SQUARE FOOTAGE (LIVABLE)	<u><\$500</u>
SQUARE FOOTAGE	<u><\$200</u>
LARGEST AREA BETWEEN 4 HOUR WALLS	<u>N/A</u>
BUILDING HEIGHT	<u><35</u>
NO OF STORES INCLUDING BASEMENT	<u>2</u>
HIGH PILED COMBUSTIBLE STORAGE	<u>NO</u>
NO OF HYDRANTS INSTALLED	<u>4</u>

BASIS OF BEARINGS

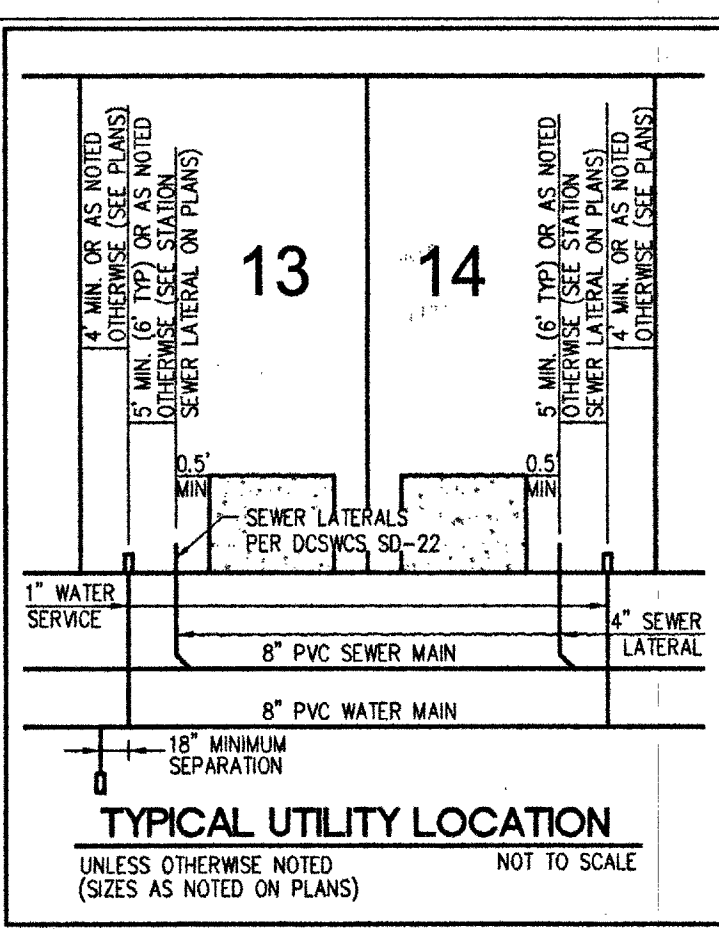
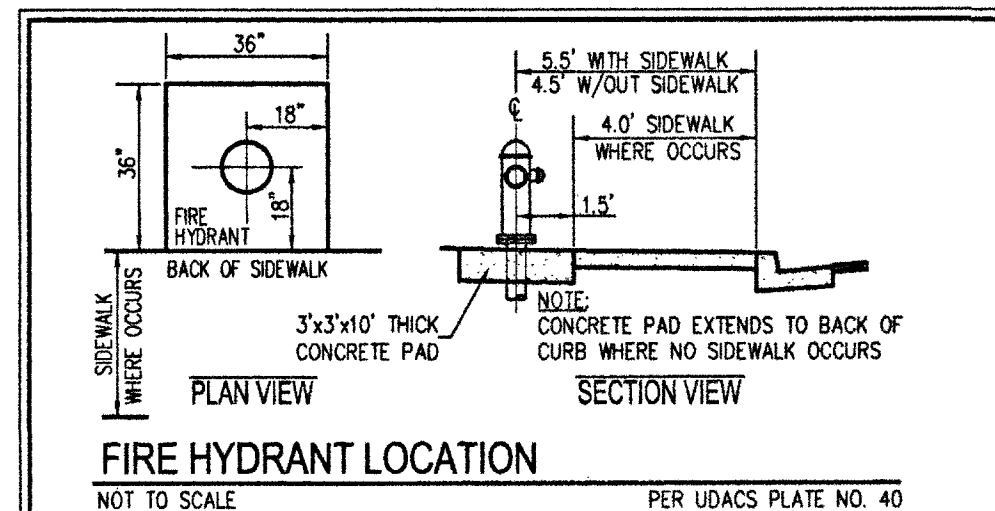
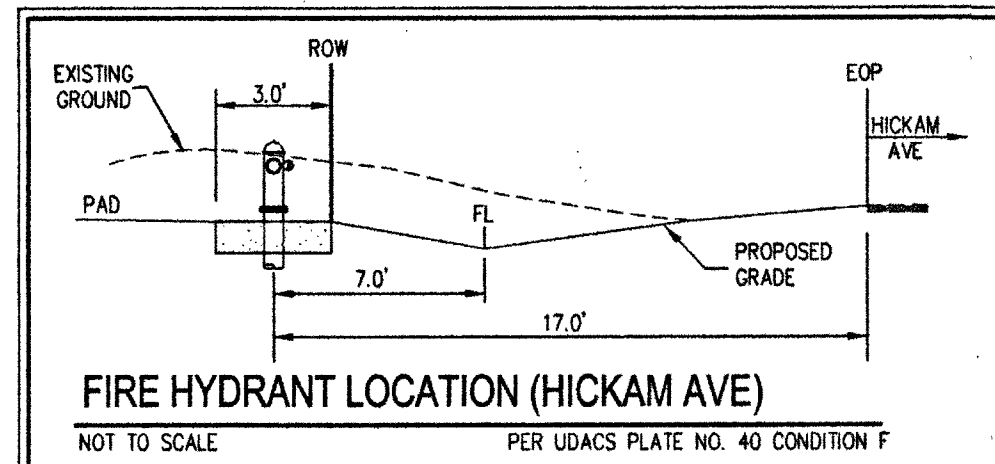
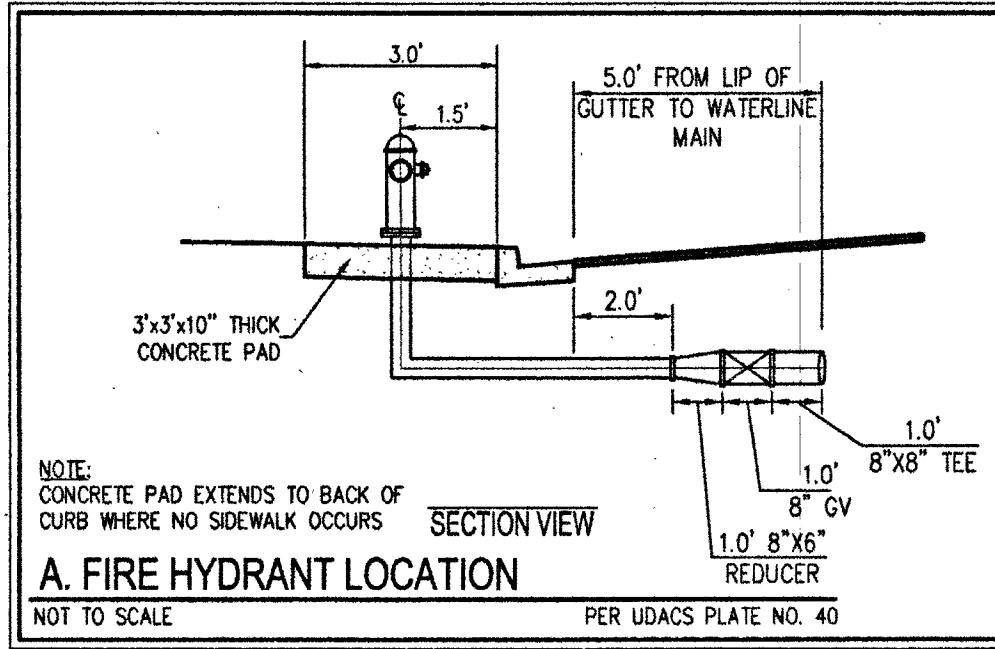
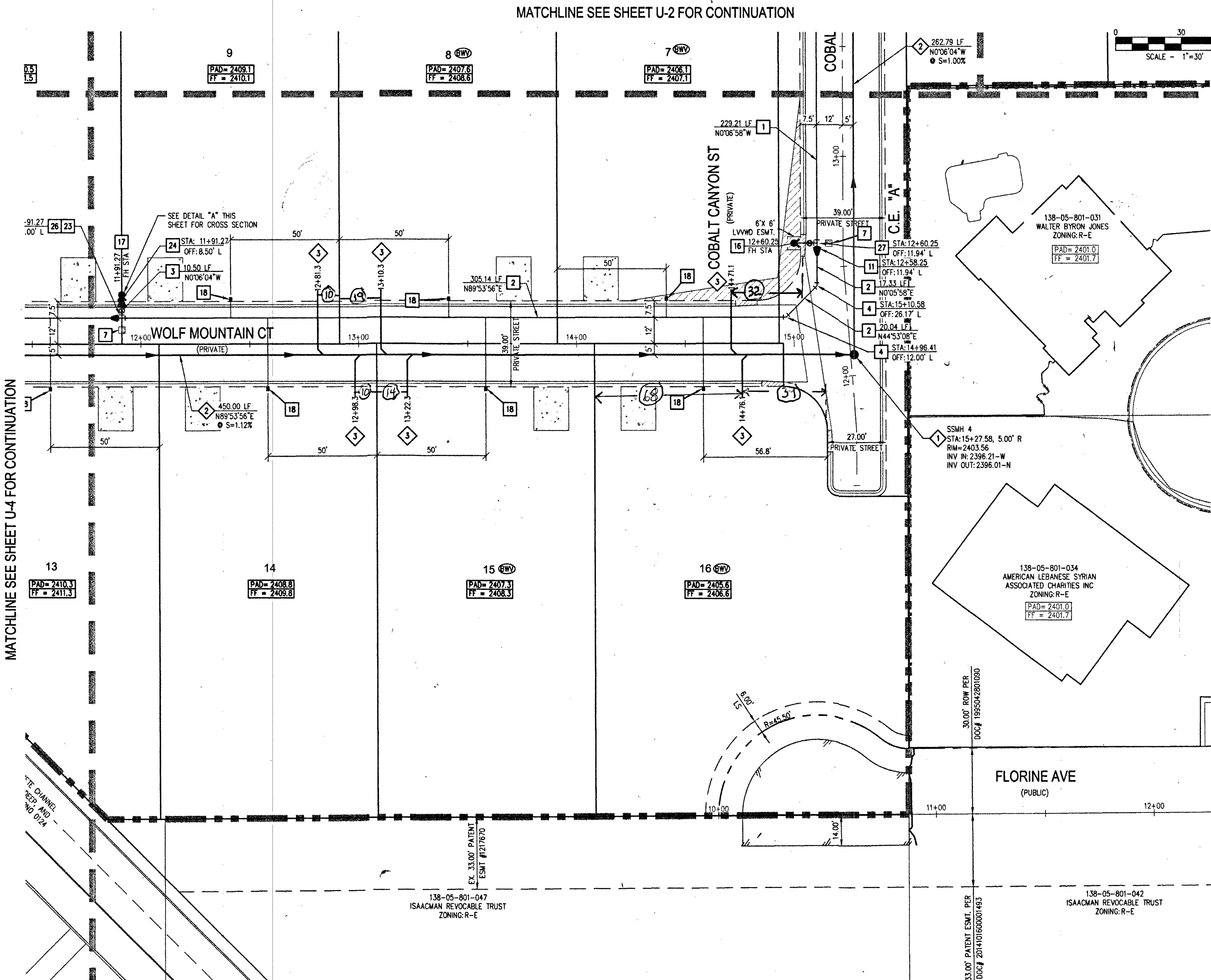
NORTH 00°09'04" WEST, BEING THE BEARING OF THE EAST LINE OF THE SOUTHEAST QUARTER (SE 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 5, TOWNSHIP 20 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, AS SHOWN BY MAP THEREOF IN BOOK 152, PAGE 17 OF PLATS IN THE CLARK COUNTY RECORDER'S OFFICE, NEVADA.

BENCHMARK

BENCHMARK NUMBER: 01V00 4SWW6
BRASS CAP "PLS 7008" AT DURANGO DRIVE AND HICKAM
AVENUE ALIGNMENT
ELEVATION=2395.093 FEET, 730.026 METERS
N.A.V.D. 88 DATUM
PER THE CLARK COUNTY VERTICAL CONTROL V.2003

TO ENSURE 1 VWD ACCESS WITHIN EASEMENT

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



CLARK COUNTY FIRE DEPT. APPROVAL

BY: 87Kamunila DATE: 7/9/88

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR OR AN APPROVAL OF ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 2,250 GPM AT 20 P.S.I. RESIDUAL EP15-00704

APPROVED FOR CONSTRUCTION

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Disbadi

LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES

PROJECT NO. 125650 FIRST APPROVED DATE: 7/18/11

LVWD NO. APPROVED FIRE FLOW 2,250 GPM AT 20 PSI RESIDUAL

MAXIMUM AVAILABLE FIRE SPRINKLER FLOW 26 GPM

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS. IT'S COSTLY.



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do UnderGround**

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CLARK COUNTY TRAFFIC OPERATIONS
AND

1-702-432-5300

FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

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

AVOID HITTING OVERHEAD
POWER LINES. IT'S
COSTLY.

CALL BEFORE
YOU DO
OVERHEAD

1-702-227-2929

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**PINNACLE HOMES
ELK RIDGE ESTATES
UTILITY PLAN V**

CLV SEWER AS-BUILT



PROFESSIONAL ENGINEER - STATE OF NEVADA
PROF. KEVIN M. BROSS
Exp. 12/31/2018
CIVIL
No. 24577
7/2/18