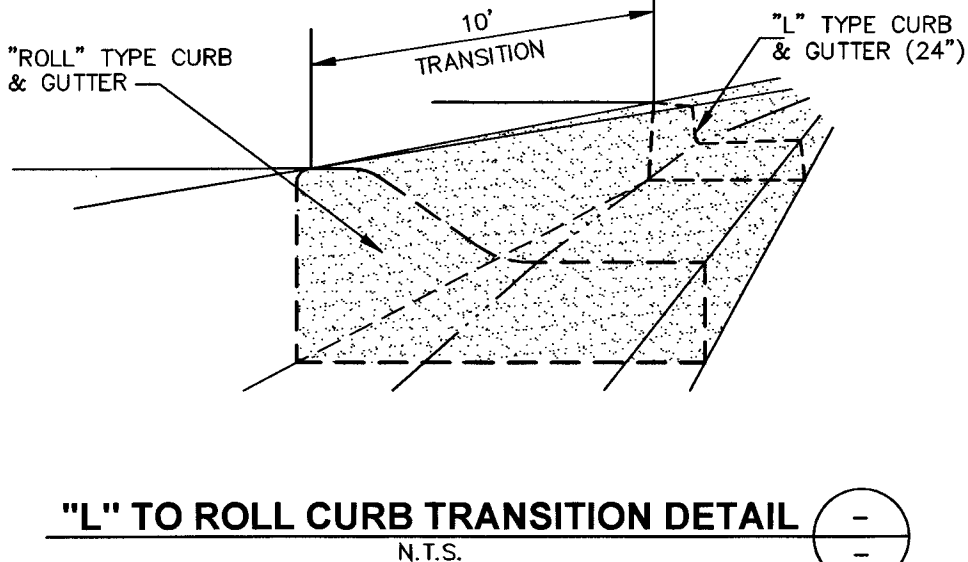


LEGEND

- PROPOSED SCARPING
LOT LINES
PROPOSED SAWCUT
EXISTING INDEX CONTOURS (5' INTERVAL)
EXISTING INTERMEDIATE CONTOURS (1' INTERVAL)
FINISH GRADE CONTOUR (1' INTERVAL)
BOUNDARY
GRADE BREAK
STREET CENTERLINE
DRAINAGE EASEMENT
EX. PATENT EASEMENT
RETAINING WALL
PAD ELEVATION
FINISH FLOOR ELEVATION
SIDEWALK, CURB & GUTTER
AC TO BE REMOVED
- 0.50%
(76.59)
76.59
100.00
AC PAVEMENT
RIP RAP
- DIRECTION OF FLOW
EXISTING SPOT GRADE
PROPOSED SPOT GRADE
PROPERTY LINE DIMENSION



LIST OF BONDABLE DRAINAGE QUANTITIES:

DRAINAGE		PUBLIC PRIVATE	
		LF	SF
1. 24" RCP SD		16	-
2. 29"x45" HERCP		10	-
3. 20" TYPE CM2 DI		2	-
4. 10" TYPE CM2 DI		1	-
5.			
6. CONCRETE VALLEY GUTTER (DRAINAGE EASE.)		SF	2,410
7. CONC. SOLID GROUTING ON WALLS (DE)		LF	363

SIGHT VISIBILITY ZONE NOTE:

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES, AND STREET LIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY LINE THROUGH LANDSCAPED MEDIANS.

EARTHWORK QUANTITIES

CUT (NET): 7,240.1 CY
FILL (NET): 8,214.4 CY
IMPORT: 9,374.3 CY

THIS INFORMATION SHOULD BE USED FOR BIDDING PURPOSES ONLY. ALL CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THEIR OWN EARTHWORK QUANTITIES. THESE ESTIMATES ARE SUBJECT TO CHANGE BASED ON SITE SPECIFIC GEOTECHNICAL EVALUATIONS.

GEOTECHNICAL REPORT

REPORT PREPARED BY: GEOTECH
PROJ. NO.: 12727-LV
DATED: FEB. 22, 2016

PAD, FINISH FLOOR ELEVATION NOTE:

THE FINISH FLOOR ELEVATION IS TO BE CONSTRUCTED AS NOTED ON THIS PLAN. THE PAD ELEVATION IS A FUNCTION OF THE REQUIRED FINISH FLOOR ELEVATION LESS THE STRUCTURAL SECTION OF THE SLAB, BASE AND SUB BASE MATERIAL DETERMINED BY THE STRUCTURAL ENGINEER ASSIGNED TO THIS PROJECT. ALL SUB GRADE, SUBSURFACE, SOIL PREPARATION AND GEOTECHNICAL ENGINEERING PARAMETERS ARE DICTATED BY THE FOLLOWING REPORT
REPORT #12727-LV BY GEOTECH
STAMPED & DATED: FEB. 22, 2016
FLOOD ZONE NOTE:
ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY PANEL 1745E OF 4090, MAP NUMBER 32003C1745E, EFFECTIVE SEPTEMBER 27, 2002, SITE IS LOCATED WITHIN ZONE "X"(UNSHADED), ZONE "X"(UNSHADED) IS DESCRIBED AS AN AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.

STORMWATER MANAGEMENT NOTES:

- THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD CONSTRUCTION DEBRIS, OR POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
- ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNPREDICTED EROSION PROBLEMS OR IF THE SUBMITTED PLANS DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN CLARK COUNTY TITLE 24.40 AND THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
- TEMPORARY OR PERMANENT STABILIZATION PRACTICES WILL BE INSTALLED ON DISTURBED AREAS AS SOON AS PRACTICABLE AND NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SOME EXCEPTIONS MAY APPLY. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI00000, SECTION III.A.12
- AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT AREA EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPs WEEKLY AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVRI00000, SECTION III.A.12
- ACCUMULATED SEDIMENT IN BMPs SHALL BE REMOVED WITHIN 7 DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50% OR MORE.

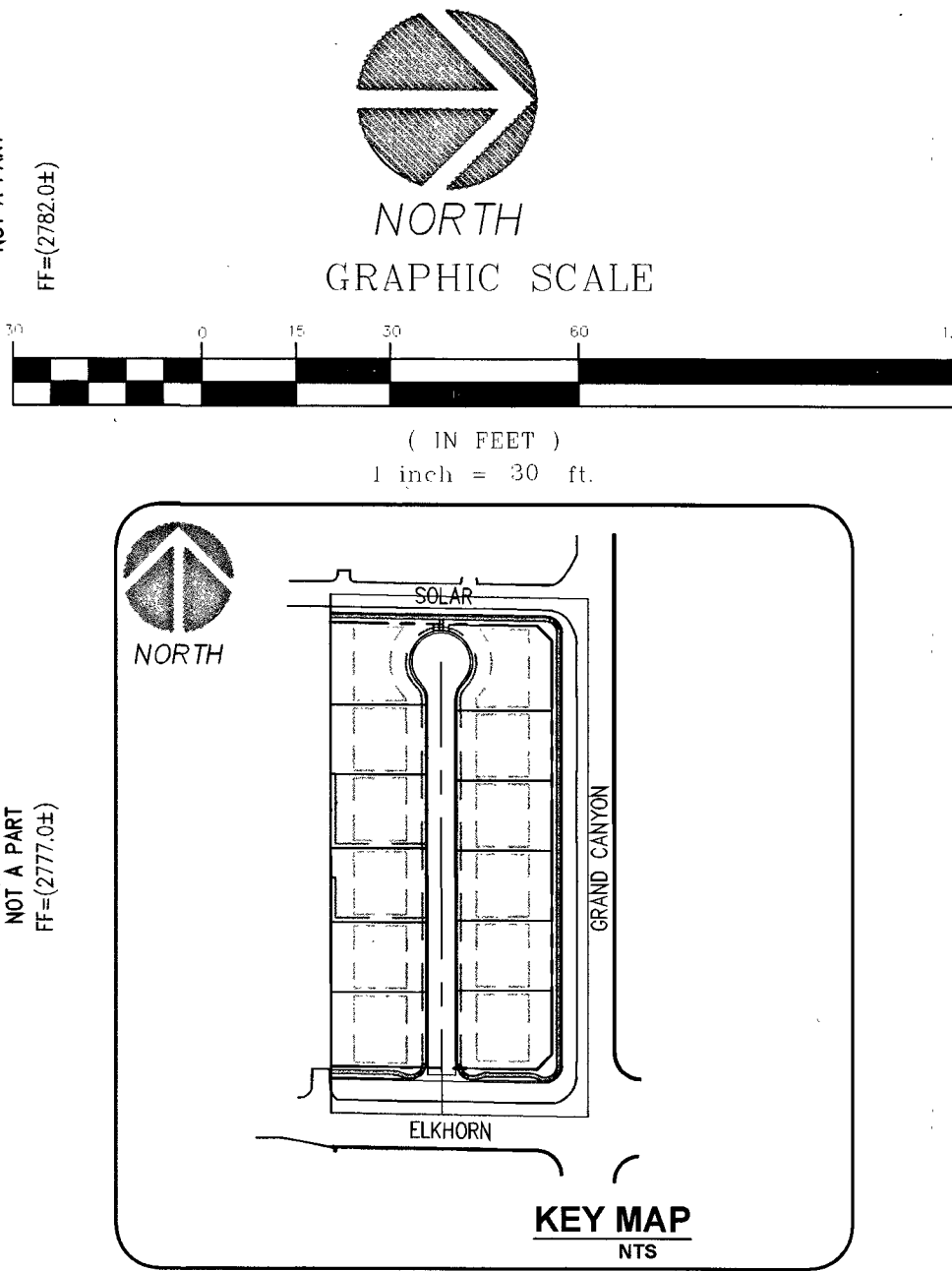
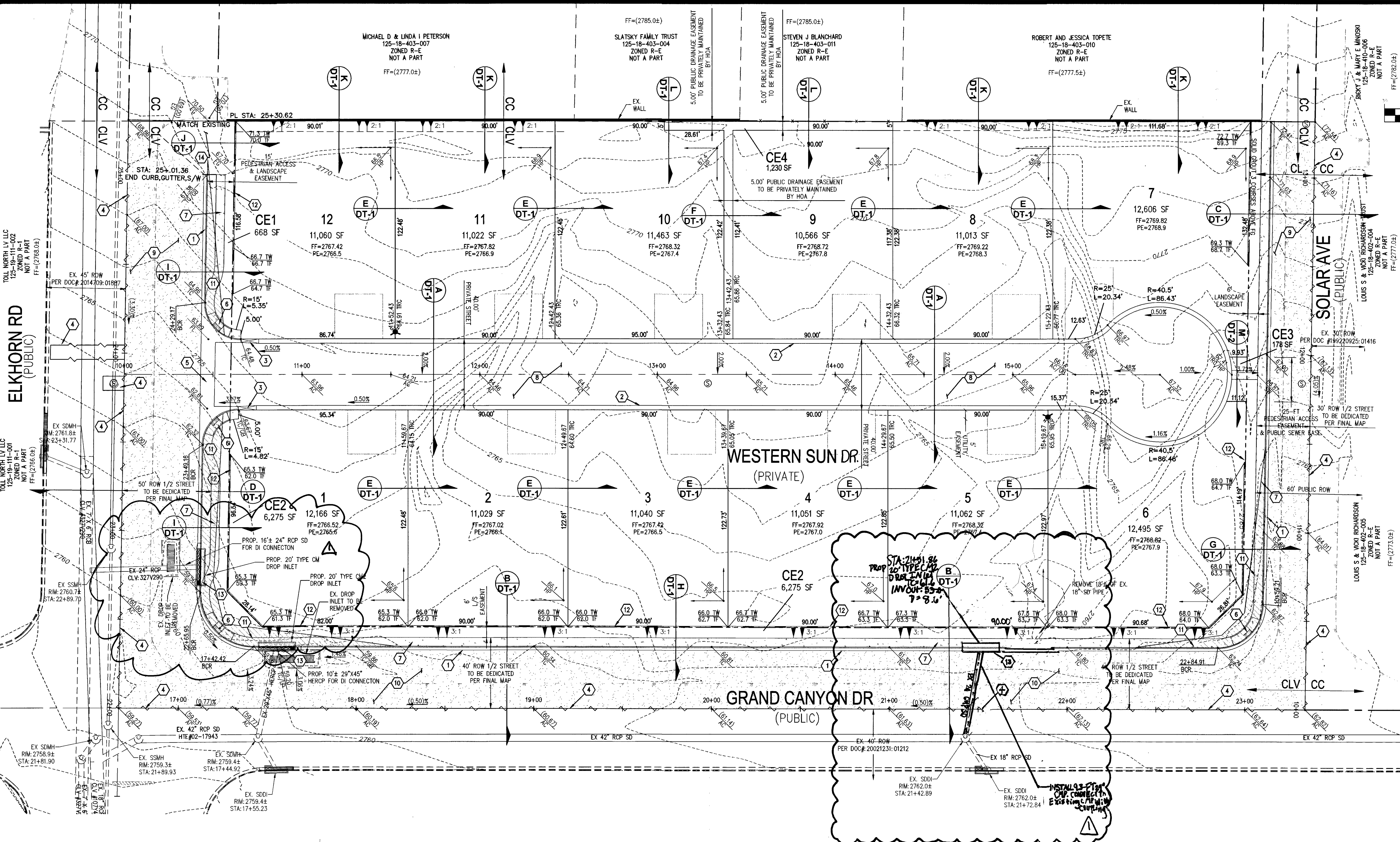
APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO.: 125847 FIRST APPROVED DATE: 12/19/17

GRADING NOTES

- PERFORMANCE ENGINEERING SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY IN THE PLANS OR CONDITIONS IN THE FIELD.
- ALL WORK TO BE PERFORMED OUTSIDE OF THE PROJECT BOUNDARY AND ON PRIVATE PROPERTY SHALL NOT BE PERFORMED UNTIL WRITTEN PERMISSION AND EASEMENT HAVE BEEN OBTAINED FROM THE OFFSITE OWNER AND GIVEN TO THE CLARK COUNTY.
- FOR AREAS THAT ARE FLATTER THAN 3:1 SLOPE, OR LESS THAN 1' ELEVATION DIFFERENCE, SCARPS ARE NOT SHOWN ON PLAN FOR CLARITY PURPOSES.
- ALL SLOPE AREAS SHALL HAVE A MINIMUM ONE FOOT SHOULDER NEXT TO WALL PRIOR TO STARTING SLOPE.
- THERE SHALL BE NO GRUBBING, GRADING OR CLEARING PRIOR TO THE APPROVAL OF THE CIVIL IMPROVEMENT PLANS AND FINAL GRADING PLANS BY THE PUBLIC WORKS DIRECTOR AND THE ISSUANCE OF A GRADING PERMIT. GRUBBING, GRADING AND CLEARING ARE TO OCCUR ONLY WITHIN THE AREAS IDENTIFIED ON THE APPROVED GRADING PLAN.
- ALL PORTIONS OF THE SITE OR LOT TO BE LEFT UNGRADED ARE TO REMAIN UNDISTURBED AREAS AND ARE NOT TO BE USED FOR STOCKPILING OF MATERIALS OR EXCESS FILL.
- DRIVEWAYS PER THE GRADING PLANS SHALL NOT EXCEED 4.0% MAX DRIVEWAY SLOPES.
- FOR ALL TRUNCATED NUMBERS ADD 2700'-FT TO THE ELEVATION.

DRAINAGE STUDY NOTE:

I CERTIFY THAT THIS GRADING PLAN IS IN CONFORMANCE WITH THE APPROVED DRAINAGE STUDY ON FILE AT CITY OF LAS VEGAS FOR THIS PROJECT. DS4891
BY: RAY F. FREDERICKSEN, P.E. No.17471 DATE: 12/19/17



BENCHMARK

CITY OF LAS VEGAS BENCHMARK ID: GLV90 1854
RIVET AND PLATE IN THE TOP OF CURB, NORTHEAST CORNER OF GRAND CANYON DRIVE AND ELKHORN AVENUE.

ELEVATION

ELEVATION= 2756.91 FEET / 815.556 METERS
(NAD 83 DATUM)

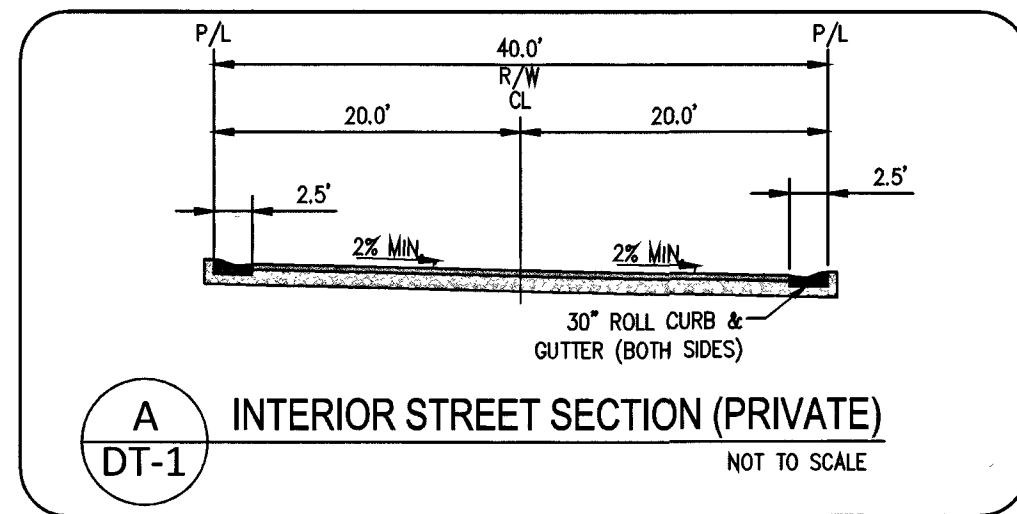
BASIS OF BEARINGS

NORTH 89°07'00" WEST, BEING THE BEARING OF THE CENTERLINE OF ELKHORN AVENUE AND THE NORTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, N.D.M., CLARK COUNTY, NEVADA, BY FILE 76, PAGE 49 OF PARCEL MAPS, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

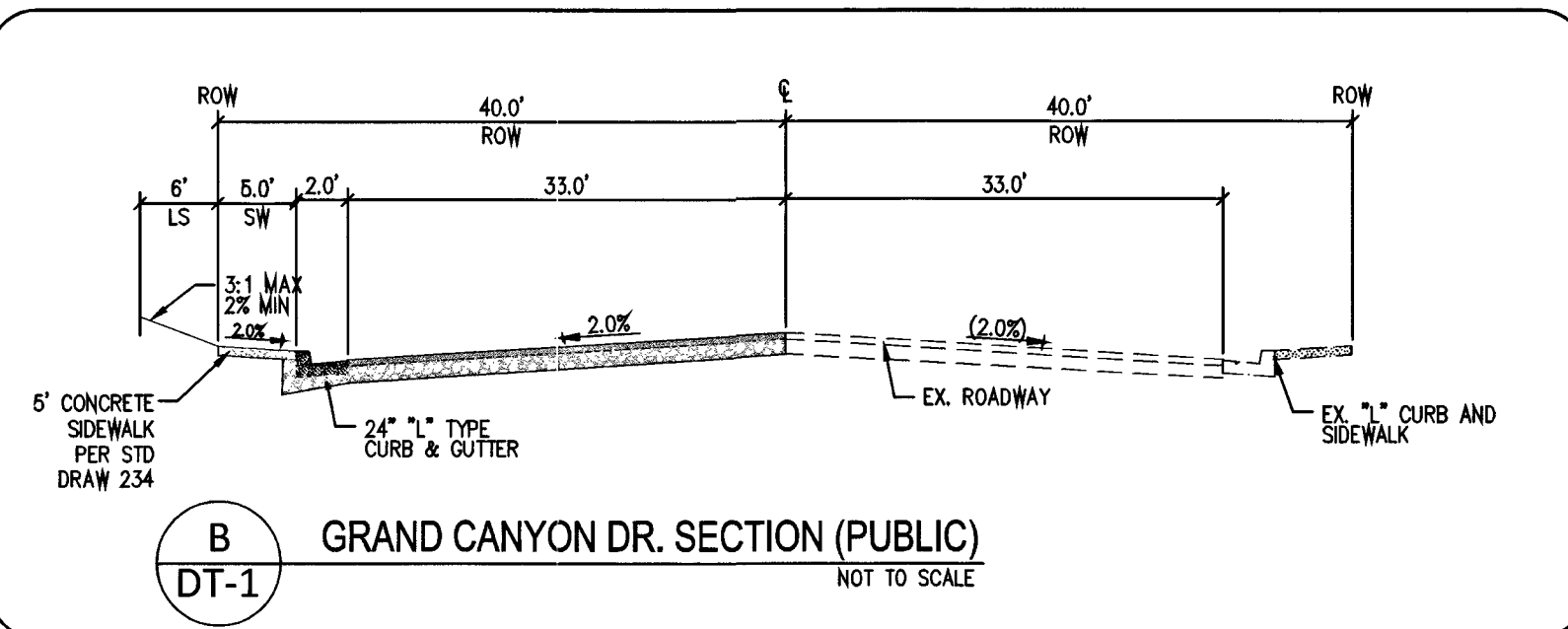
GRADING NOTES

- INSTALL "L" TYPE CURB AND GUTTER PER CAUSD #216
- INSTALL 30" ROLL CURB PER CAUSD #217.1, 217.251
- CONSTRUCT 10'-FT "L" CURB TO ROLL CURB TRANSITION PER DETAIL THIS SHEET
- SAWCUT AND MATCH EXISTING PAVEMENT. DUE TO THE EXISTING FIELD CONDITIONS AND VARYING SLOPES THE LENGTH AND WIDTH OF SAWCUT AND PATCH TO BE DETERMINED BY THE INSPECTOR IN THE FIELD. WIDTHS MAY VARY.
- INSTALL 8'-FT CROSS GUTTER PER CAUSD #228.
- INSTALL SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES PER CAUSD NO. 235. A & B EQUAL 8'-FEET UNLESS OTHERWISE NOTED.
- INSTALL CONCRETE SIDEWALK (4" THICK OVER 6" TYPE 2 AGGREGATE BASE) PER CAUSD #234.
- INSTALL 2.0" AC OVER 4.0" TYPE II, OVER 9" TYPE I AGGREGATE BASE
- INSTALL 3.0" AC OVER 4.0" TYPE II, OVER 12" TYPE I AGGREGATE BASE
- INSTALL 4.5" AC OVER 4.0" TYPE II, OVER 12" TYPE I AGGREGATE BASE
- SIGHT VISIBILITY ZONE.
- CONSTRUCT RETAINING WALL, HEIGHT PER PLAN, STRUCTURAL DESIGN BY OTHERS.
- CONSTRUCT STORM DRAIN DROP INLET LENGTH AND TYPE PER PLAN PER USDOCA DRAWING NO. 421 (STORMWATER QUALITY MANAGEMENT STAMP AND SIGN DETAIL)
- INSTALL TYPE II AGGREGATE. TRANSITION GRADING FROM ASPHALT TO EXISTING DRIVEWAY
- SEE SHEET N-1 FOR LEGEND, GENERAL NOTES, AND QUANTITIES

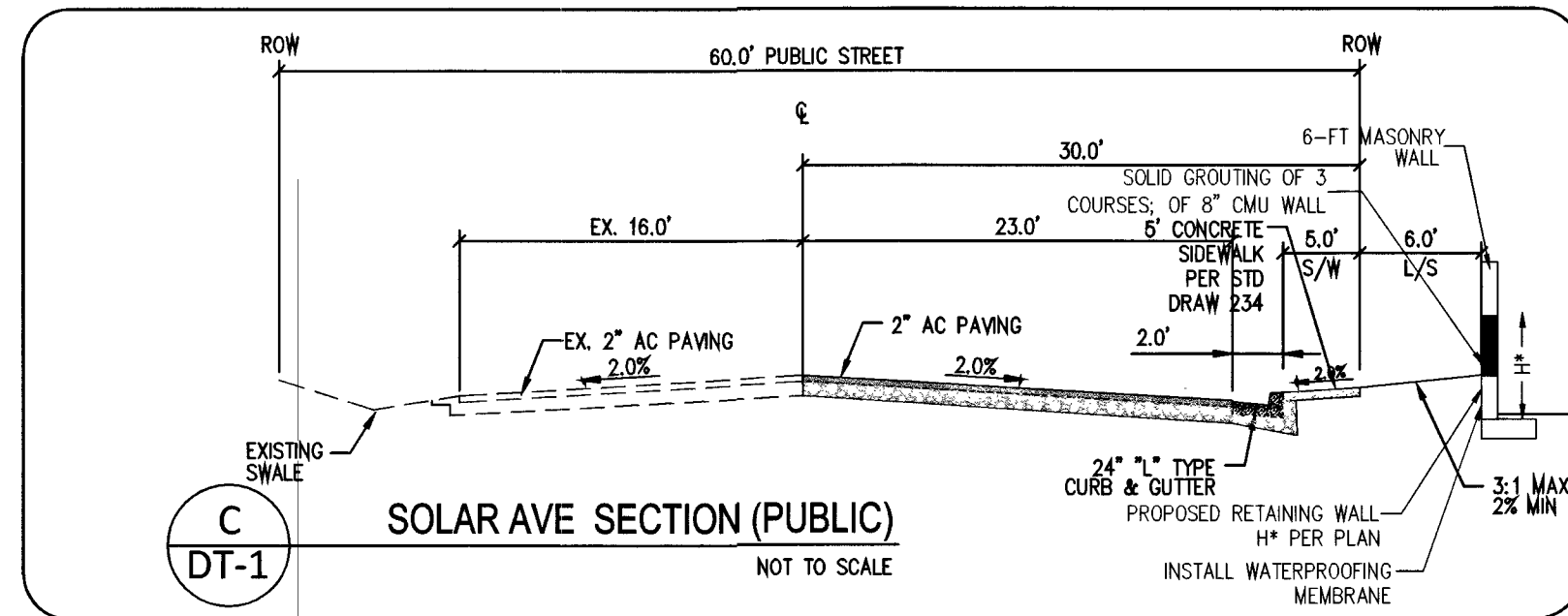
BY DATE APP: DATE
NO REVISION
ELKHORN & GRAND CANYON
LOT 10 SINGLE FAMILY RESIDENTIAL DEVELOPMENT NEVADA
CITY OF LAS VEGAS
SHEET:
GRADING PLAN
THW ENTERPRISES
9205 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131
DESIGNED BY:
RFF
DRAWN BY:
RFF
CHECKED BY:
RFF
SCALE:
1"=30'
PROJECT DATE:
DECEMBER 11, 2017
SHEET
GP-1
3 OF 13
CLV #L17-00900
10745071
PROJ#125847 AGC125-18-SW XC 11993



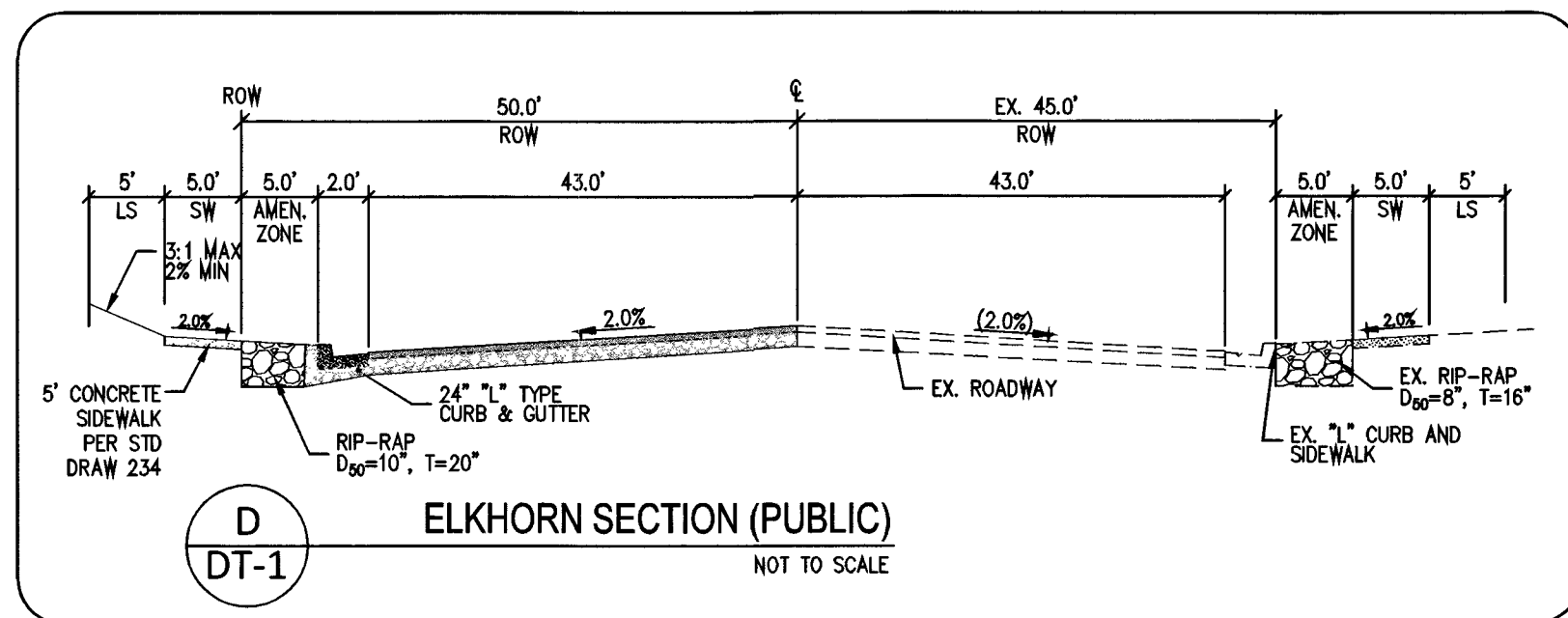
A
DT-1
INTERIOR STREET SECTION (PRIVATE)
NOT TO SCALE



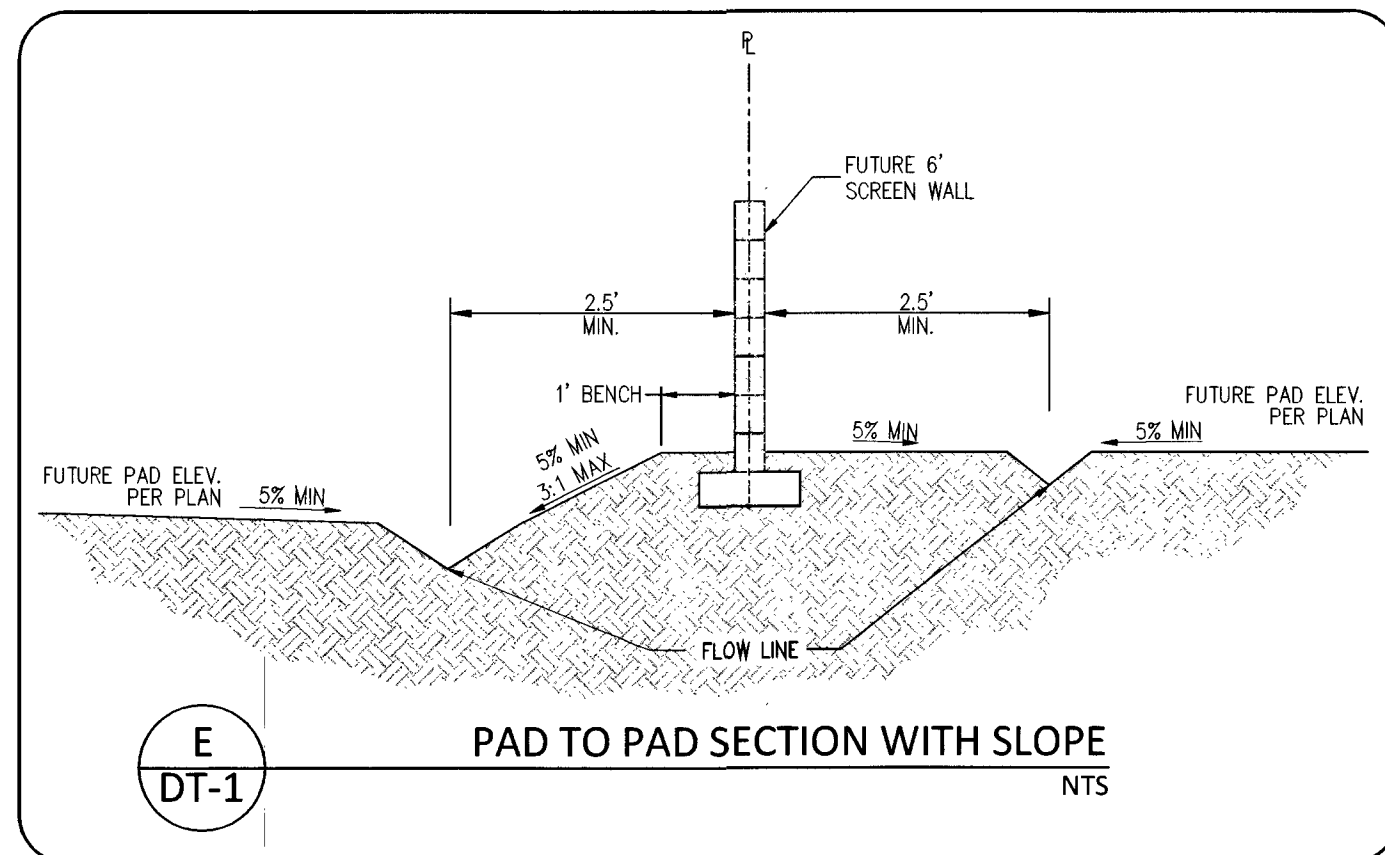
B
DT-1
GRAND CANYON DR. SECTION (PUBLIC)
NOT TO SCALE



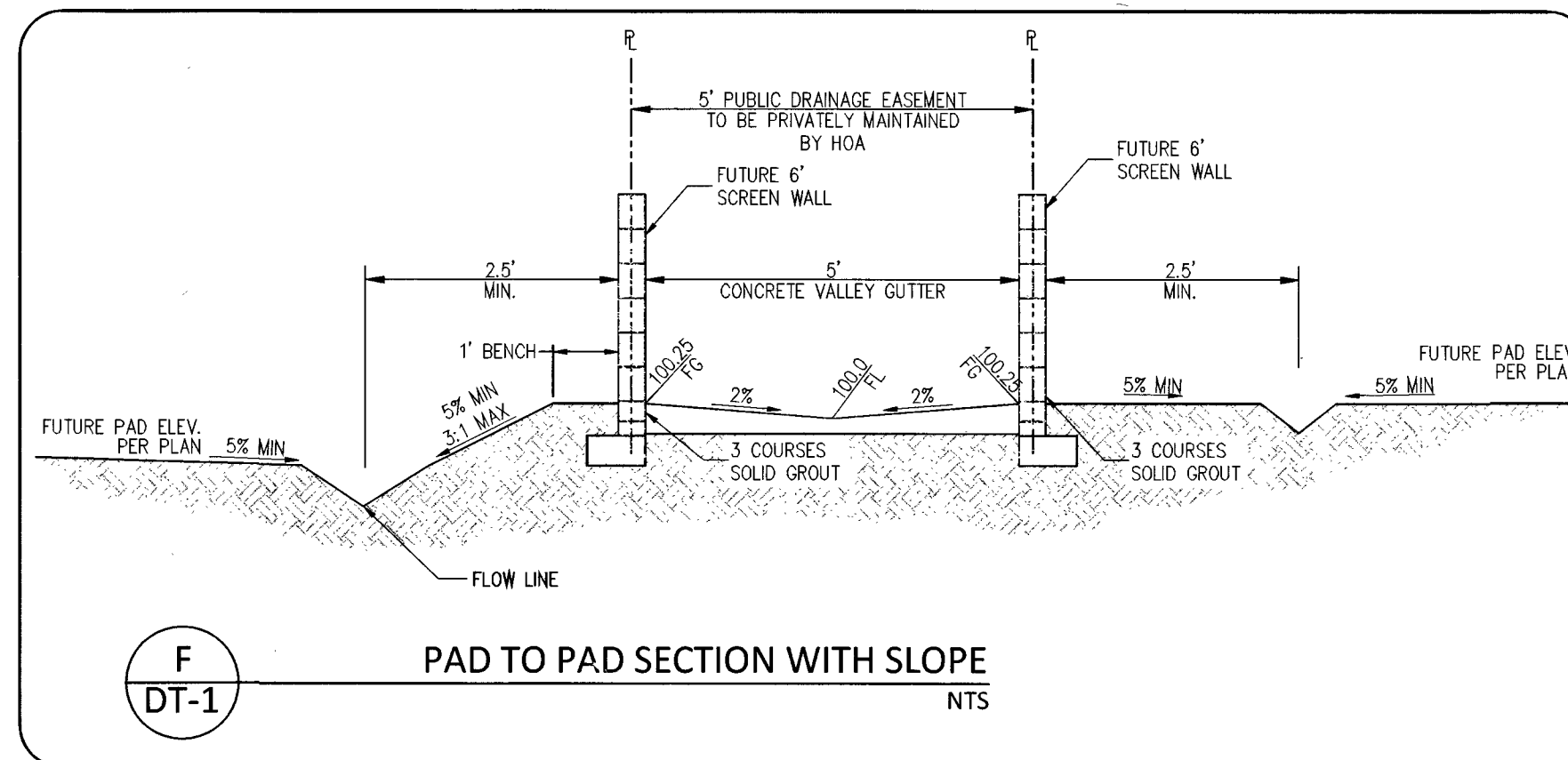
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DT-1
SOLAR AVE SECTION (PUBLIC)
NOT TO SCALE



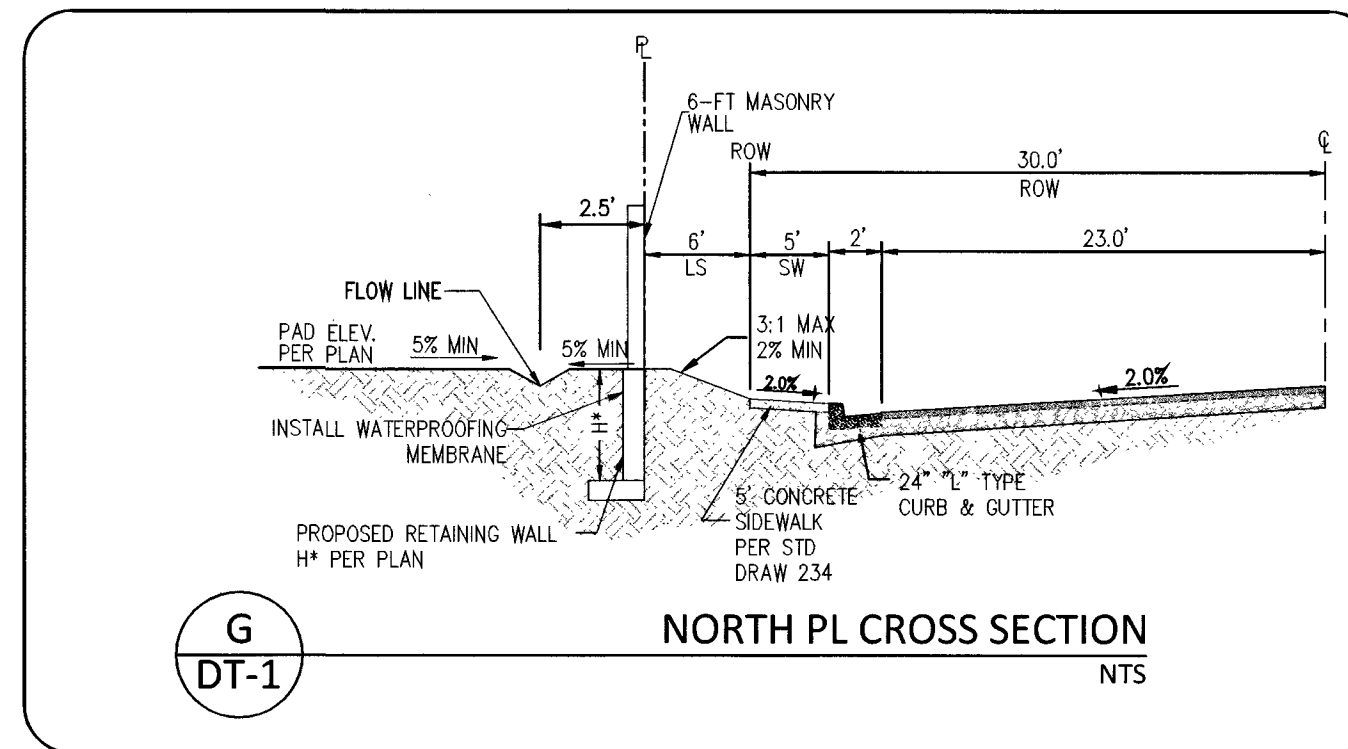
D
DT-1
ELKHORN SECTION (PUBLIC)
NOT TO SCALE



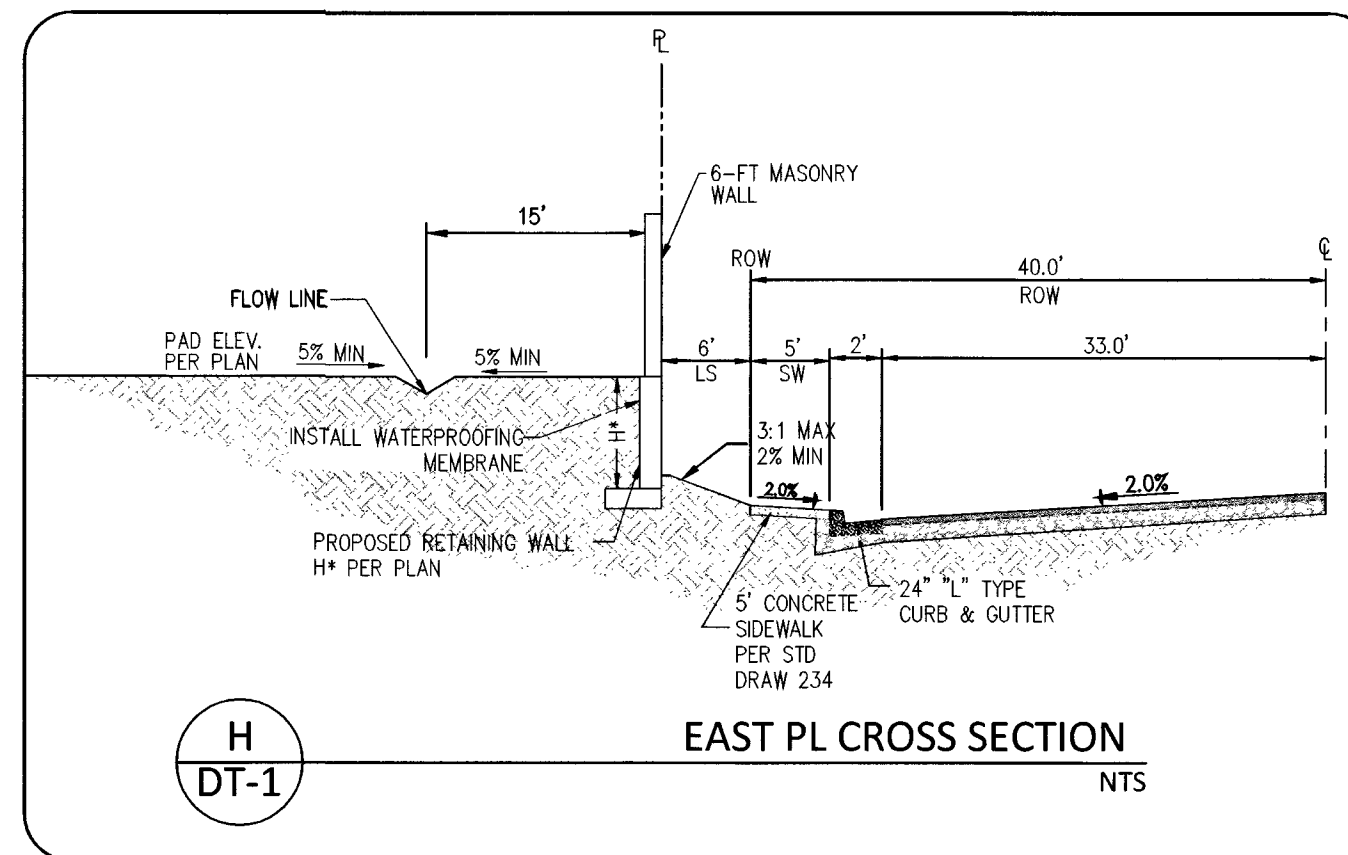
E
DT-1
PAD TO PAD SECTION WITH SLOPE
NTS



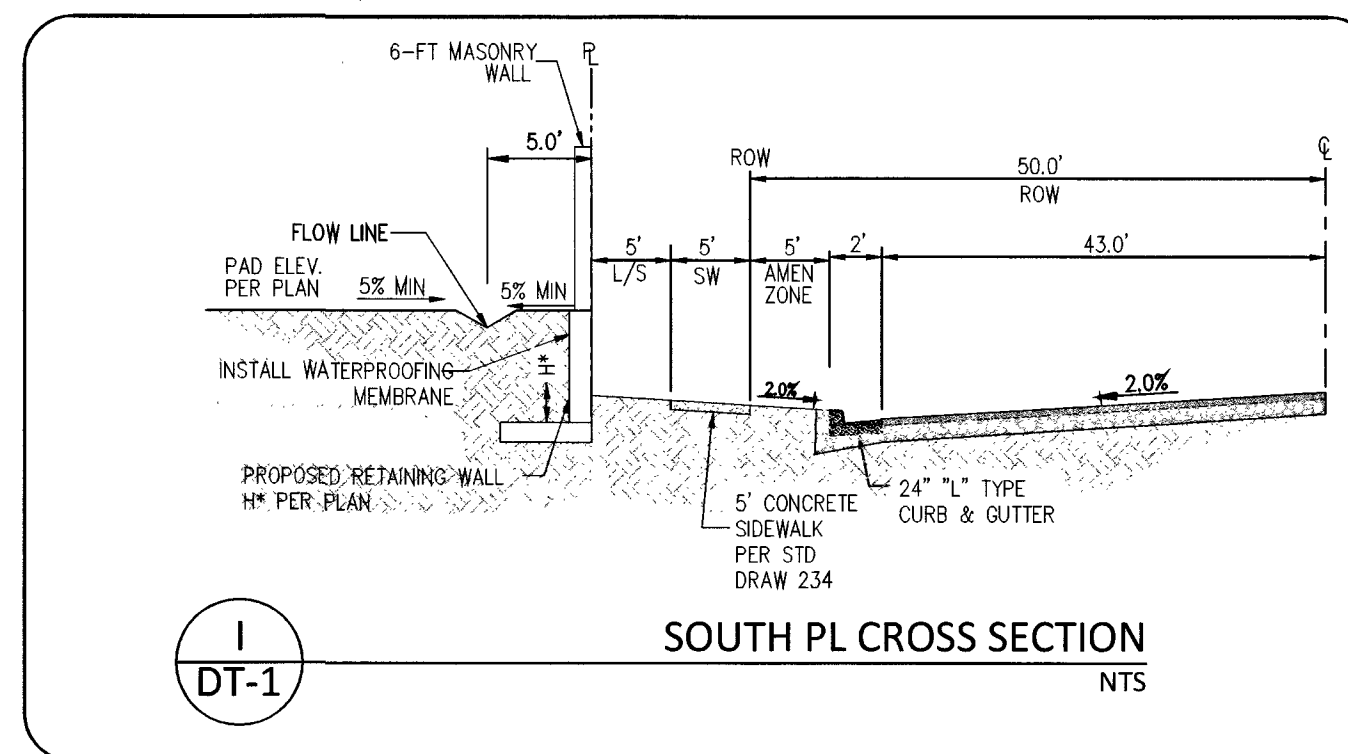
F
DT-1
PAD TO PAD SECTION WITH SLOPE
NTS



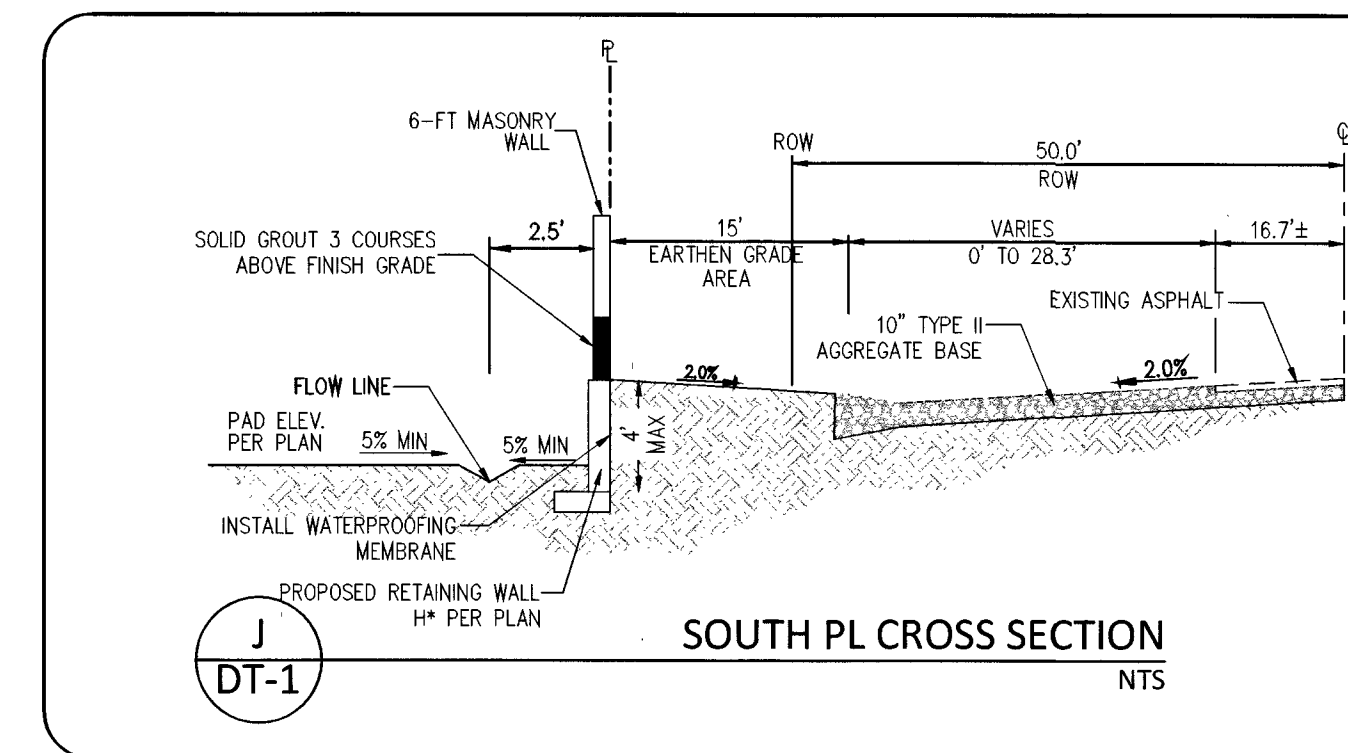
G
DT-1
NORTH PL CROSS SECTION
NTS



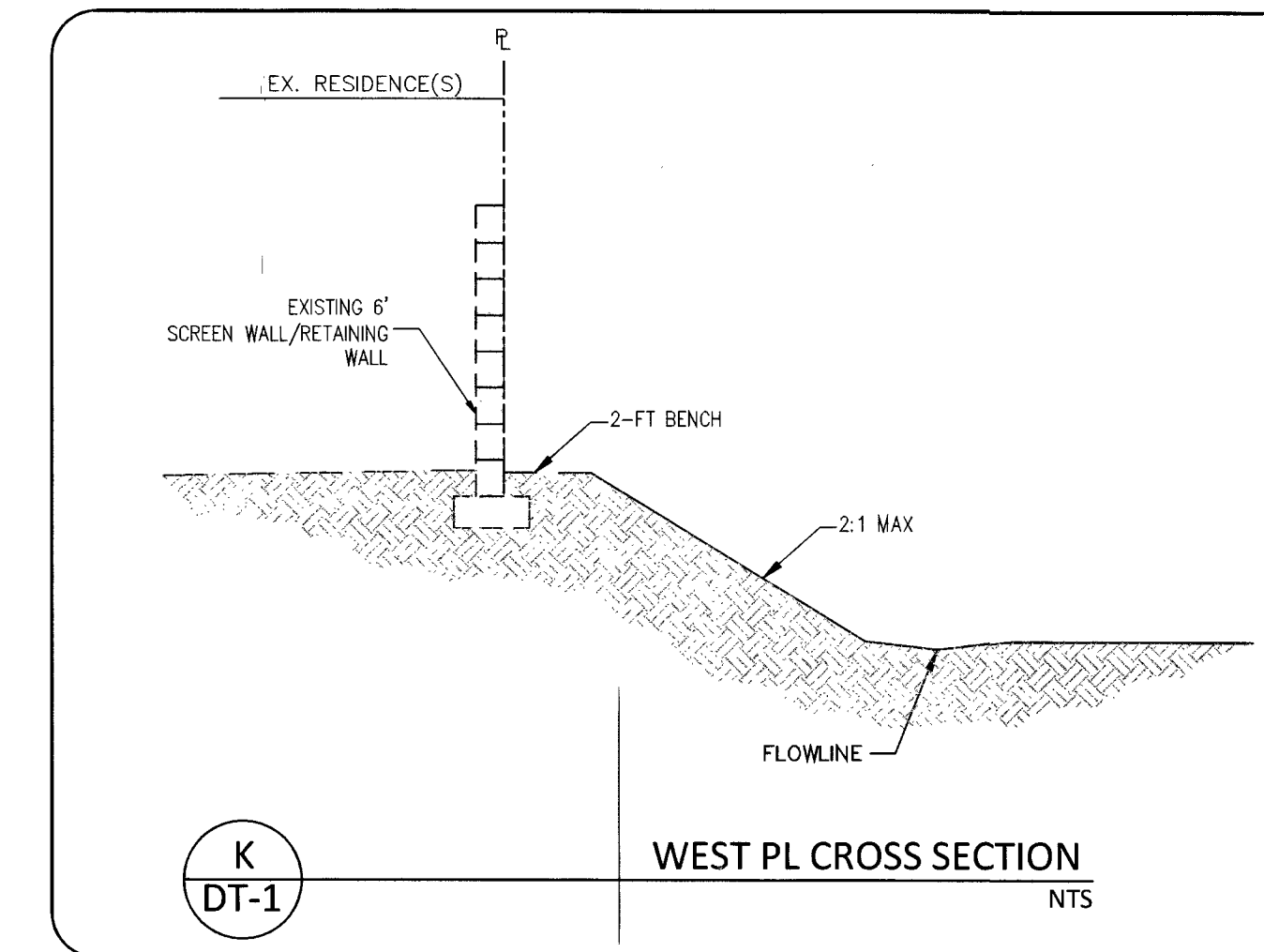
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DT-1
EAST PL CROSS SECTION
NTS



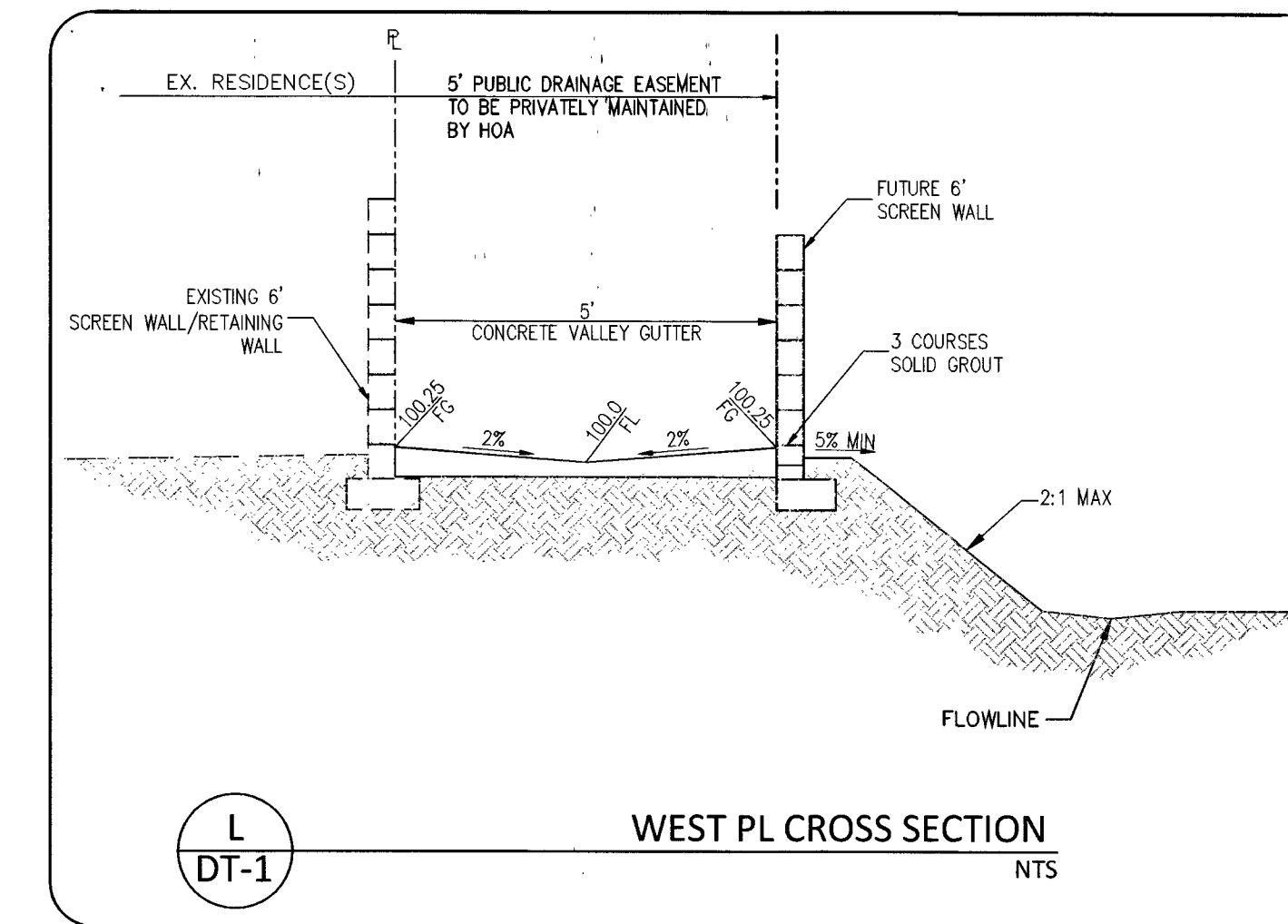
I
DT-1
SOUTH PL CROSS SECTION
NTS



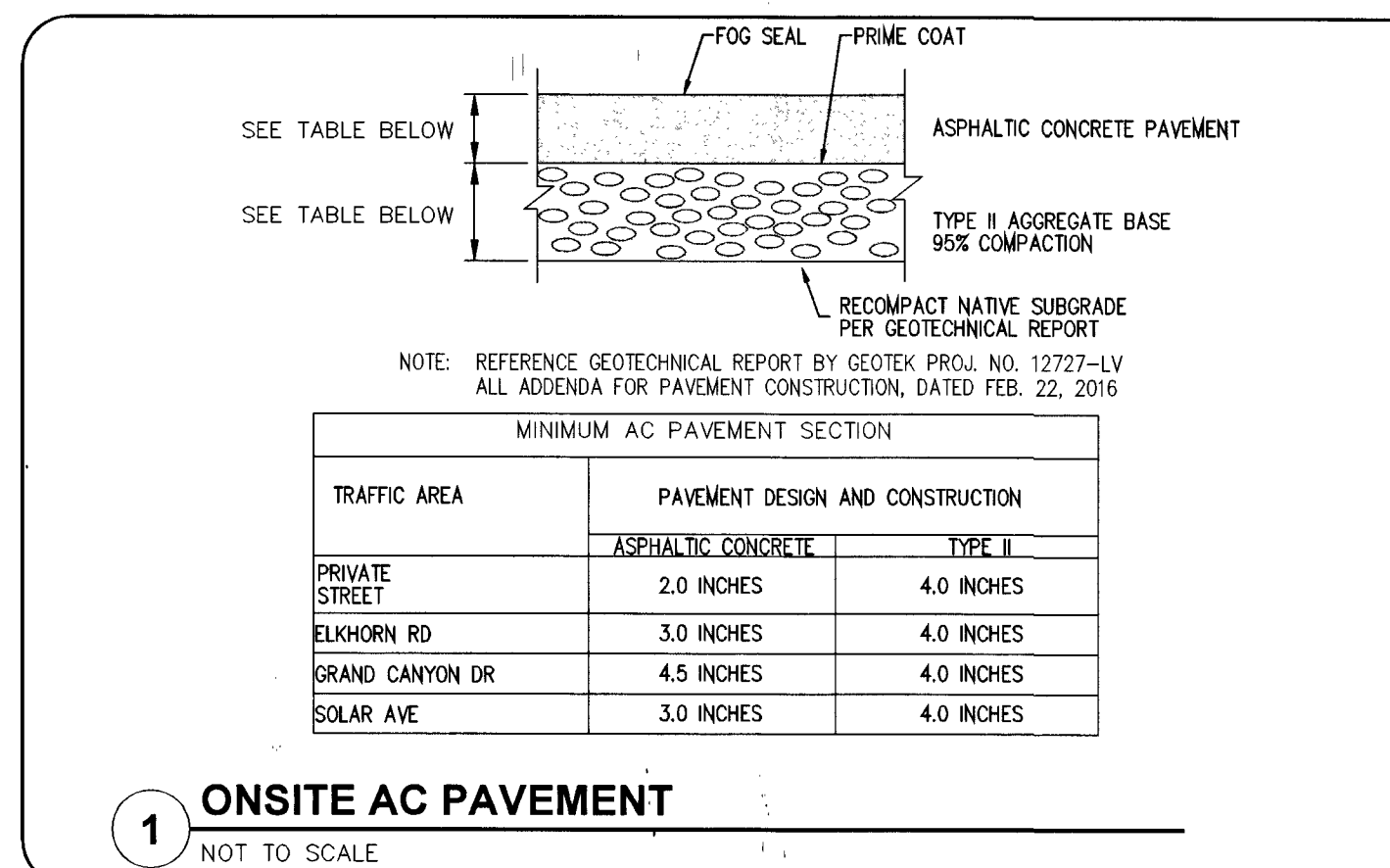
J
DT-1
SOUTH PL CROSS SECTION
NTS



K
DT-1
WEST PL CROSS SECTION
NTS



L
DT-1
WEST PL CROSS SECTION
NTS



1
ONSITE AC PAVEMENT
NOT TO SCALE

NO.	REVISION	BY	DATE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

ELKHORN & GRAND CANYON
12 LOT SINGLE FAMILY RESIDENTIAL DEVELOPMENT
CITY OF LAS VEGAS

DETAIL SHEET 1

PERFORMANCE ENGINEERING
9345 W. SUNSET RD. STE 101 LAS VEGAS, NV 89148
TEL: (702) 668-9770 EMAIL: RAY.F@PERFORMANCEV.COM

DEVELOPER:
THW ENTERPRISES
9205 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

RAY F. FREDERICKSEN
Exp. 06/30/19
CIVIL
No. 17471

DESIGNED BY:
RFF

DRAWN BY:
RFF

CHECKED BY:
RFF

SCALE:
1" = 30'

PROJECT DATE:
DECEMBER 11, 2017

SHEET
DT-1
4 OF 13

CLV #L17-00900
107X5071

NO.	REVISION	BY	DATE	APP.	DATE
1					
2					
3					
4					
5					
6					

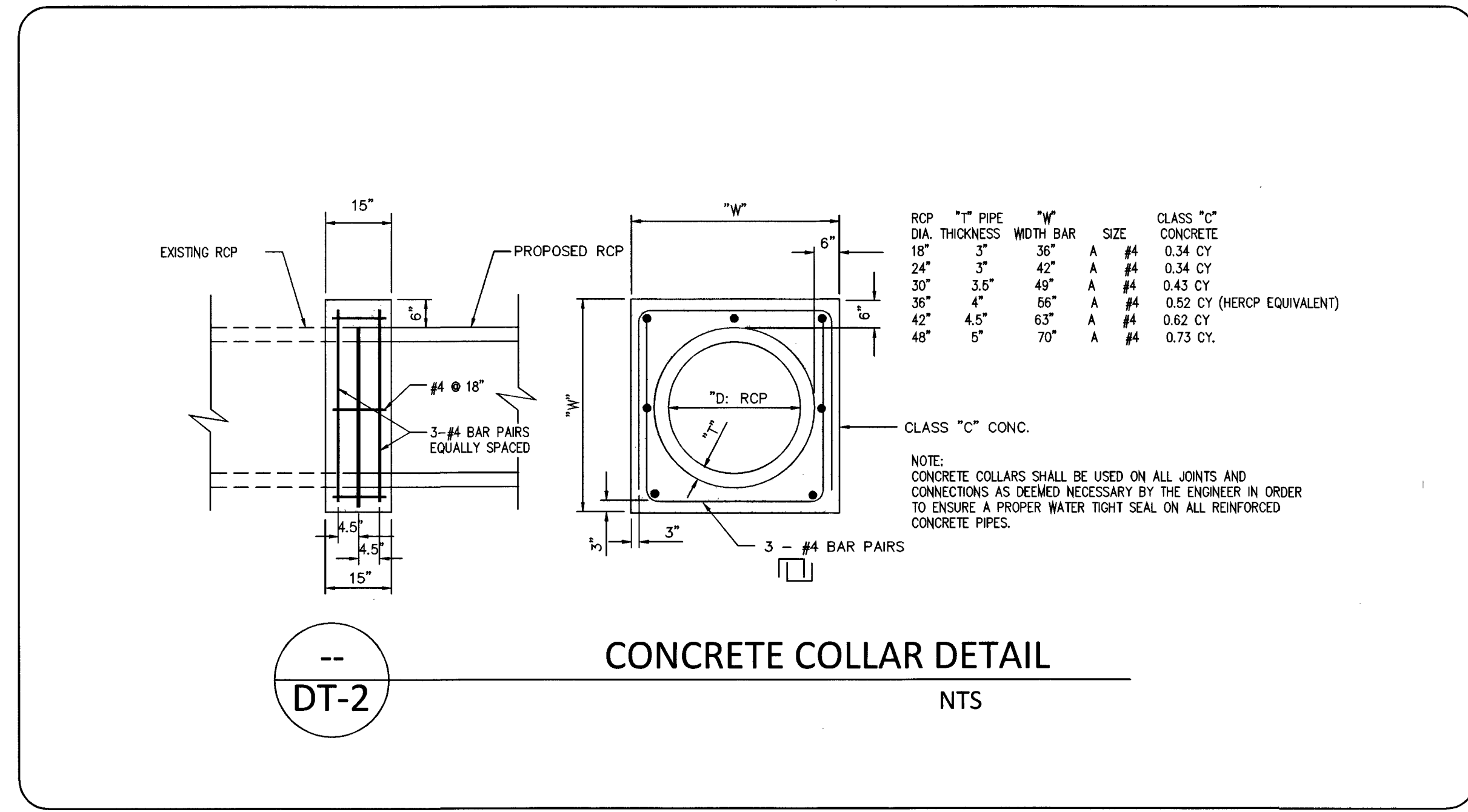
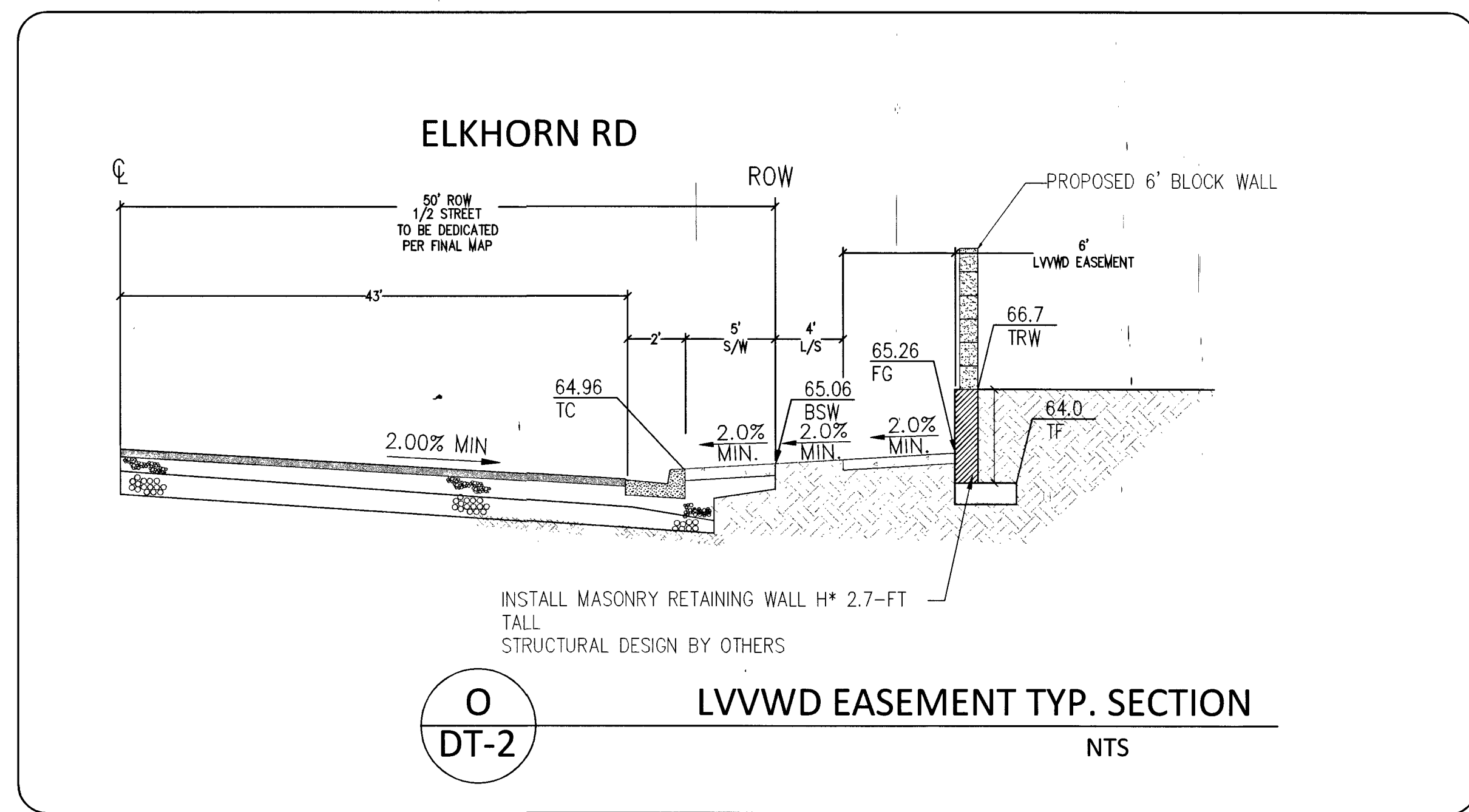
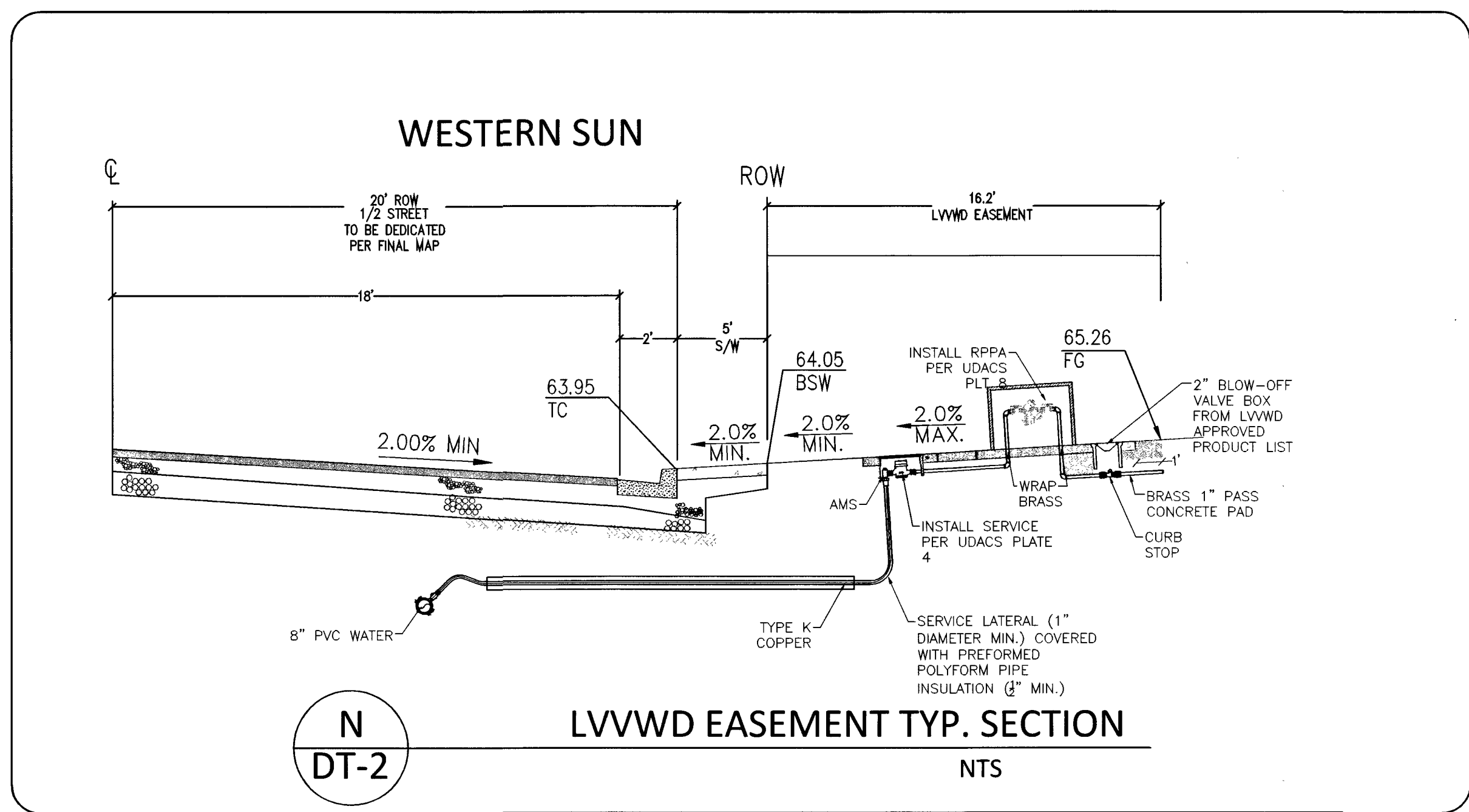
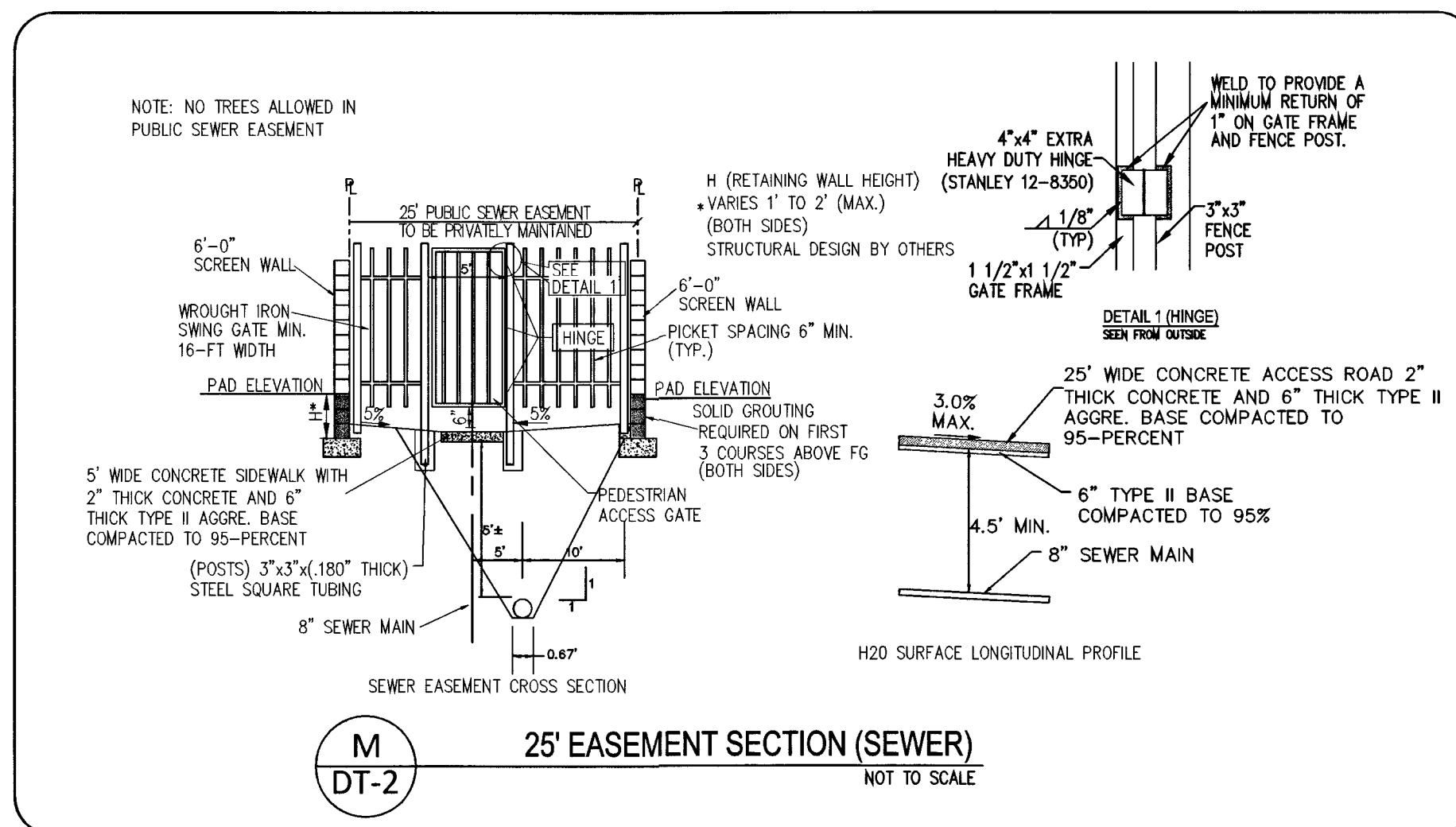
ELKHORN & GRAND CANYON
12 LOT SINGLE FAMILY RESIDENTIAL DEVELOPMENT
CITY OF LAS VEGAS
SHEET:
DETAIL SHEET 2

PERFORMANCE
ENGINEERING
9345 W. SUNSET RD. STE 101 LAS VEGAS, NV 89148
TEL: (702) 669-9770 EMAIL: RAY.F@PERFORMANCE.COM

DEVELOPER:
THW ENTERPRISES
9205 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

DESIGNED BY:
RFF
DRAWN BY:
RFF
CHECKED BY:
RFF
SCALE:
1" = 30'
PROJECT DATE:
DECEMBER 11, 2017
SHEET
DT-2
5 OF 13
CLV #L17-00900
10745071

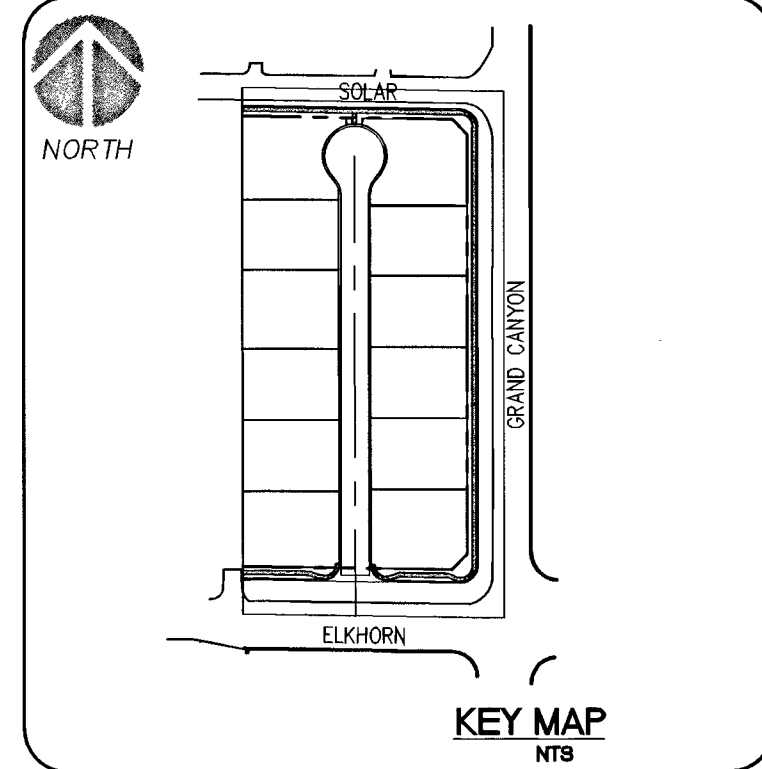
APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES MANAGER
DATE: 12/19/17 PROJECT NO. 125847
LVVWD APPROVED FIRE FLOW 2,000 GPM AT 20 PSI RESIDUAL



FAST
Call before you dig
UnderGround
1-702-432-5300
FIREWAY AND ARTERIAL
SYSTEM OF TRANSPORTATION

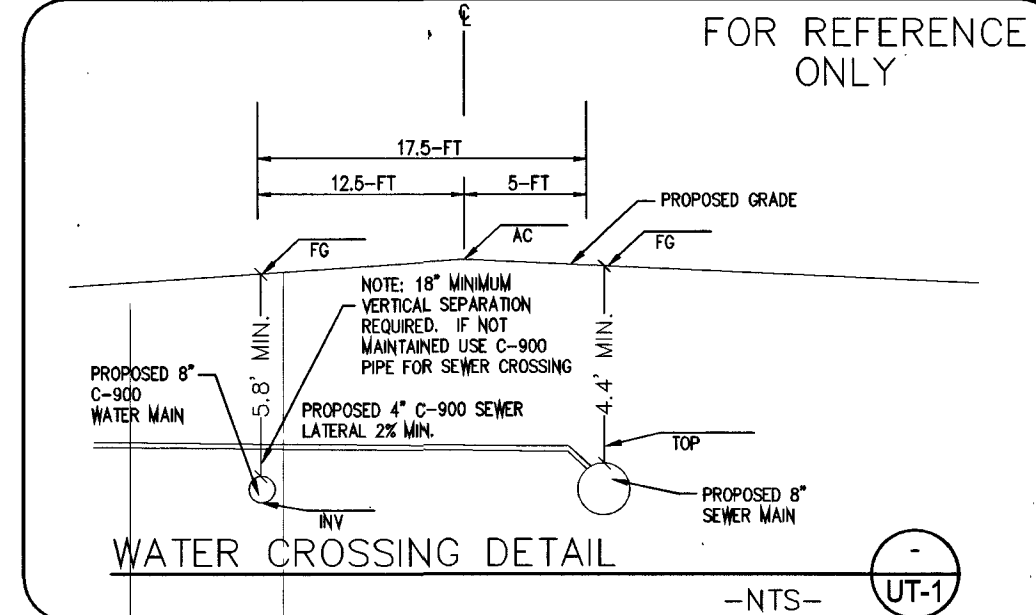
CALL BEFORE YOU DIG
AVOID CUTTING UNDERGROUND
UTILITY LINES ITS COSTLY.
CALL 811
1-800-227-2600

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

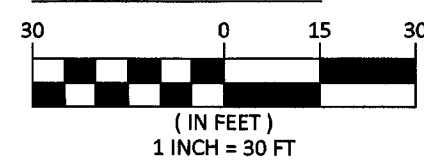


METER BOX NOTE

METER BOXES SHALL NOT BE LOCATED IN DRIVEWAY OR STREETS
PER UDACS 2.18.04(A) & PLATE NO. 3.



GRAPHIC SCALE



BASIS OF BEARINGS

NORTH 89°07'00" WEST, BEING THE BEARING OF THE CENTERLINE OF
ELKHORN AVENUE AND THE NORTH LINE OF THE SOUTHWEST QUARTER
SW 1/4 OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST
M.D.M., CLARK COUNTY, NEVADA, BY FILE 76, PAGE 49 OF PARCEL
MAPS, OFFICIAL RECORDS OF CLARK, COUNTY, NEVADA.

BENCHMARK

CITY OF LAS VEGAS BENCHMARK ID: 1854

RIVET AND PLATE IN THE TOP OF CURB, NORTHEAST CORNER OF
GRAND CANYON DRIVE AND ELKHORN ROAD.

ELEVATION = 2756.91 FEET / 815.556 METERS
(NAVD 88 DATUM)

SEWER CONSTRUCTION NOTES

1. **SS STD PER DESIGN AND CONSTRUCTION STANDARDS WASTEWATER COLLECTION SYSTEMS, LATEST EDITION
2. INSTALL 8" PVC SEWER LINE PER DCSWCS DWG. NO. SD-17.
3. INSTALL 4" (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. SD-22 AND SD-25.
4. INSTALL 48-INCH SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4&SD-9 WITH 24" SINGLE LID.
5. SAWCUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503.
6. NEW MANHOLES TO HAVE PRECAST BASE.
7. EX. SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER DCSWCS SD-4 & SD-5 IF APPLICABLE.
8. INSTALL 4" C-900 (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. SD-22 AND SD-25.

WATER CONSTRUCTION NOTES

1. UDACS: UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS, CURRENT EDITION
2. INSTALL PVC WATER LINE (C-900, CL-150) PER UDACS PLATE NO. 17.
3. WET TAP AND CONNECT TO EXISTING WATER LINE PER UDACS PLATE NO. 34, 39 & SEC 2.24.01.B.
4. INSTALL FIRE HYDRANT ASSEMBLY WITH GATE VALVE PER UDACS PLATE NO. 39 & 41.
5. INSTALL GATE VALVE (SAME SIZE AS LINE) PER UDACS PLATE No. 30 & 39.
6. INSTALL CAP W/2" B.O. (SAME SIZE AS LINE). PER UDACS PLATE 36.
7. INSTALL 8" X 6" REDUCER, PER UDACS PLATE 30.
8. INSTALL 1" METER PER UDACS PLATE 3. (DOMESTIC)
9. INSTALL 8" X 6" TEE PER UDACS PLATE 31.
10. INSTALL 1" RPPA PER UDACS PLATE 8 (IRRIGATION)
11. INSTALL 1" METER PER UDACS PLATE 4. (IRRIGATION)
12. SAWCUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503.
13. INSTALL TWO (2) 4" IRRIGATION SLEEVES
14. INSTALL 1" SERVICE SADDLE WITH CORP STOP PER UDACS PLATE 4 FOR IRRIGATION PURPOSES
15. INSTALL CURB STOP

PUBLIC QUANTITIES

ITEM	DESCRIPTION	QUANTITY	PER
1	8" SEWER	814.6	LF
2	4" SEWER LATERAL	420	LF
3	48" SS MANHOLE > 6' < 18'	4	EA
4	6" WATER	98.4	LF
5	6" DIP WTR	532.1	LF
6	1" COPPER WATER	25	LF
7	1" COPPER WATER	243.8	LF
8	FIRE HYDRANT	2	EA
9	8" X 6" TEE	2	EA
10	8" X 6" REDUCER	1	EA
11	6" CAP AND 2" BLOW OFF	1	EA
12	1" DOMESTIC METER	1	EA
13	1" RPPA	1	EA

ESTIMATED AVERAGE DAILY SEWER CONTRIBUTIONS:

12 UNITS X 250 GPD/UNIT = 3,000 GPD
TOTAL AVERAGE CONTRIBUTION = 3,000 GPD
TOTAL PEAK FLOW = 0.0030 X 3.50 (PEAK FACTOR) X 1.25 = 0.0131 MGD

- (BWV) INSTALL SEWER BACKWATER VALVE
- (PRV) INSTALL PRESSURE REDUCING VALVE

DEPTH OF COVER DURING CONSTRUCTION

MAINTAIN MINIMUM TWENTY-FOUR (24) INCH COVER PER UDACS SEC 2.08.04. GRADING MUST BE COMPLETED PRIOR TO WATERLINE INSTALLATION.

FOR ALL DRY UTILITY CROSSINGS

- MAINTAIN MINIMUM 12" VERTICAL SEPARATION AT ALL POINTS OF CROSSINGS
- MAINTAIN MINIMUM 3' PARALLEL SEPARATION
- ANY EXCAVATION AT BACK OF CURB MUST REMAIN OPEN FOR INSPECTION OF COPPER SERVICE LATERALS. ANY COPPER SERVICE LATERAL KNICKED, BENT OR OTHERWISE DAMAGED MUST BE REPLACED FROM THE MAIN TO THE ANGLE METER STOP.

CUT-OFF WALLS:

NO CUT-OFF WALLS ARE BEING PROPOSED WITH THIS PROJECT.

THE DISTRICT CAN NOT GUARANTEE A WATERTIGHT SHUTDOWN WHERE CONNECTIONS OR REPAIRS TO EXISTING FACILITIES ARE REQUIRED. THE CONTRACTOR SHOULD ENSURE ALL LABOR AND EQUIPMENT IS AVAILABLE TO REMOVE FUGITIVE WATER THAT MAY IMPEDE CONSTRUCTION AT ALL TIMES. COORDINATION WITH INSPECTION DIVISION MUST TAKE PLACE PRIOR TO ANY TRIAL SHUTDOWN.

CONTRACTOR TO INSTALL TEMPORARY SERVICE TO ENSURE PROPER SHUTDOWN IN THE EVENT NO OTHER APPURTENANCE IS AVAILABLE.

FIRE FLOW INFORMATION BLOCK

USE/OCCUPANCY: RESIDENTIAL
TYPE OF CONSTRUCTION (BC): TYPE V-N
FIRE FLOW: 2,000 GPM @ 20 PSI
AUTOMATIC SPRINKLERS: YES (N)
NFA: 13 / 13R / 13D
ESFR: YES (N)
SQUARE FOOTAGE: 6,200 S.F. (MAX)
LARGEST AREA BETWEEN 4 HOUR WALLS: N/A
BUILDING HEIGHT: 35' MAX
OF STORIES INCLUDING BASEMENT: 2
HIGH PILED COMBUSTIBLE STORAGE: YES (N)
OF HYDRANTS INSTALLED: 2

METER SIZE NOTE
LVVWD WILL NOT SIGN OFF ON THE BUILDING PERMIT WITHOUT VERIFICATION OF THE FIXTURE UNITS TO ENSURE THE 1-INCH METER WILL MEET THE DEVELOPMENT NEED BASED ON THE 3RD EDITION OF THE UDACS - "TABLE A". SHOULD IT BE DETERMINED THAT THE 1-INCH IS NOT ADEQUATE, THE SERVICE LATERAL MUST BE CUT AND CAPPED AT THE MAIN AND A NEW LATERAL THAT MATCHES THE SIZE OF THE REQUIRED METER MUST BE INSTALLED.

WATER MAIN JOINT DEFLECTION (PVC 4"-24")
PVC PIPE SHALL BE DEFLECTED AT THE JOINT ONLY. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE ONE (1) DEGREE PER JOINT WITH A MINIMUM RADIUS OF CURVATURE OF 1,150 FEET, PER UDACS 2.07.01 AND 2.07.02.

FOR CHANGES IN DIRECTION EXCEEDING THE MAXIMUM ALLOWABLE JOINT DEFLECTION, FITTINGS SHALL BE USED.

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

EASEMENT WITH TREES, SHRUBS, DECORATIVE ROCKS, BLOCK WALL OR FENCE
TREES, SHRUBS, OR DECORATIVE ROCKS, AND ANY BLOCK WALL OR OTHER FENCE MATERIAL, SHALL BE DESIGNED AND CONSTRUCTED AROUND THE EASEMENT(S) TO ALLOW THE DISTRICT DIRECT ACCESS TO THE VAULT(S), BACKFLOW ASSEMBLIES, AND PIPING FROM THE ADJACENT RIGHT-OF-WAY.

DEEP FIRE HYDRANT INSTALLATION:
FIRE HYDRANT(S) TO BE INSTALLED IN ACCORDANCE WITH THE UDACS STANDARD PLATE NO. 41, SECTION 2.21.01.

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

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

NOTE:
ALL ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF TITLE 19.12.040.

- NOTES:**
1. REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS OR PAVEMENT MARKINGS) UNDER CLARK COUNTY JURISDICTION THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITY TO CLARK COUNTY SATISFACTION. ALL MATERIALS USED SHALL MEET CLARK COUNTY'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 THE CONTRACTOR, THE CONTRACTOR WILL HIRE AN INSA LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATIONS NO. 623 G.01.02.
 3. CONTRACTOR SHALL CONTACT CLARK COUNTY TRAFFIC OPERATIONS @ 455-7511 TO SCHEDULE COUNTY TRAFFIC STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO THIS OPERATION. HOURS OF OPERATION ARE: 6:30AM - 3:00PM, MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS.
 4. TRENCH BACKFILL PER CCAUSD STD. DWG. NO. 503 AND 504.1.

ELKHORN & GRAND CANYON
12 LOT SINGLE FAMILY RESIDENTIAL DEVELOPMENT
CITY OF LAS VEGAS
SHEET:

PERFORMANCE
ENGINEERING
9345 W. SUNSET RD. STE 101 LAS VEGAS, NV 89148
TEL: (702) 566-9770 EMAIL: RAY@PERMANVEL.COM

DEVELOPER:

THM ENTERPRISES
9208 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

APPROVED FOR CONSTRUCTION
RAY F. FREDERICKSEN
CIVIL
No. 17471
12/11/17

DESIGNED BY:

RFF

DRAWN BY:

RFF

CHECKED BY:

RFF

SCALE:

1" = 30'

PROJECT DATE:

DECEMBER 11, 2017

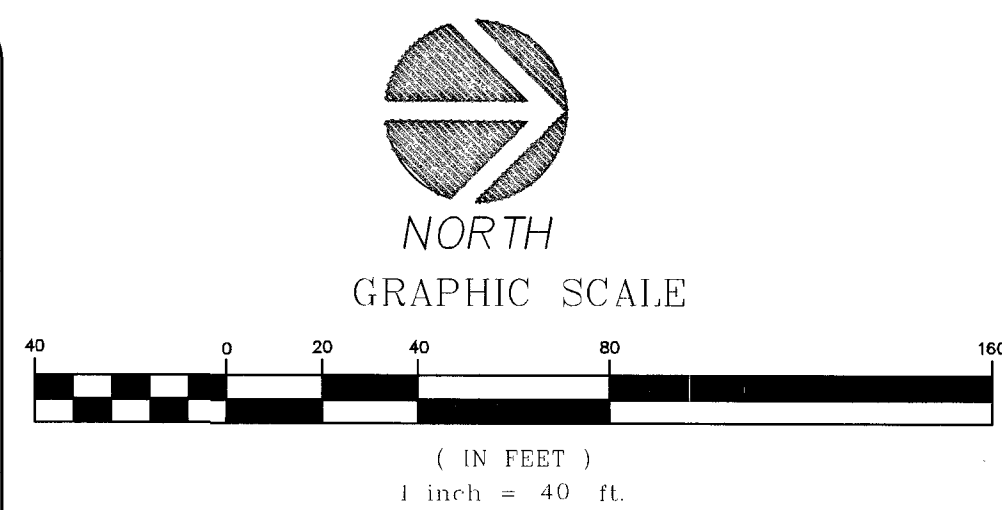
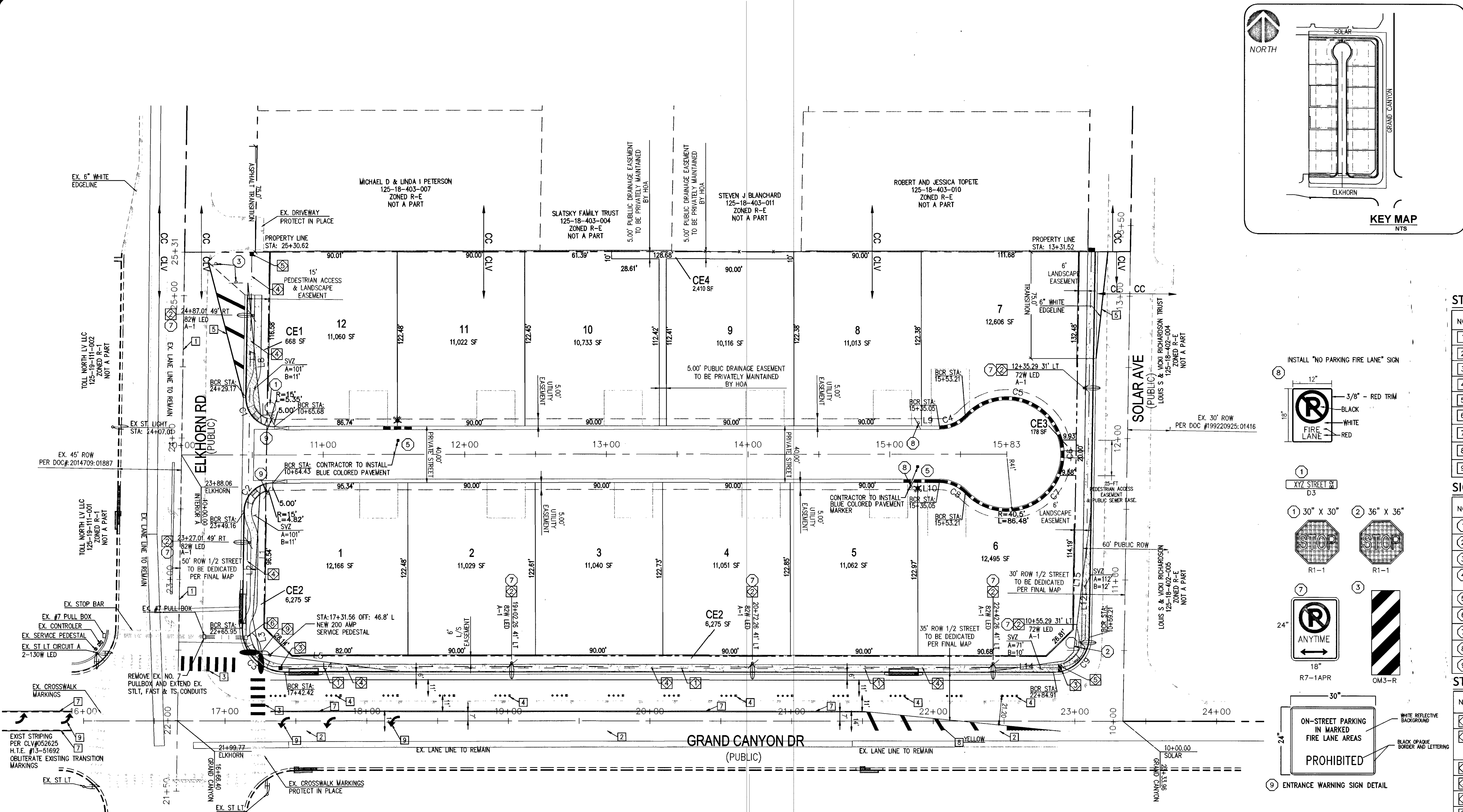
SHEET

UT-1

6 OF 13

CLV #L17-00900

1075071



BENCHMARK
CITY OF LAS VEGAS BENCHMARK ID: 61Y90 1854
RIVET AND PLATE IN THE TOP OF CURB, NORTHEAST CORNER OF GRAND CANYON DRIVE AND ELKHORN AVENUE.
ELEVATION= 2756.91 FEET / 815.556 METERS
(NAVD 88 DATUM)

BASIS OF BEARINGS
NORTH 89°07'00" WEST, BEING THE BEARING OF THE CENTERLINE OF ELKHORN AVENUE AND THE NORTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, BY FILE 76, PAGE 49 OF PARCEL MAPS, OFFICIAL RECORDS OF CLARK, COUNTY, NEVADA.

STRIPING CONSTRUCTION NOTES

NO.	ITEM	CCAUSS: UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA.
1	INSTALL TYPE 1 CENTERLINE PER CCAUSD NO. 244	
2	EXISTING CONTINUOUS LEFT TURN LANE STRIPING TO REMAIN	
3	INSTALL STOP BAR AND CROSSWALK PER CCAUSD STD DWG NO. 254	
4	INSTALL TYPE 4 LANE LINE PER USDOCA DWG. NO. 244.1 USING AGENCY APPROVED MATERIALS	
5	INSTALL 6-INCH SOLID WHITE LINE USING PAINT OR TAPE	
6	INSTALL PAVEMENT MARKING USING REFLECTIVE PAINT OR TAPE	
7	INSTALL TYPE 2 CENTERLINE PER CCAUSD NO. 244	
8	INSTALL TRANSITION STRIPING PER CCAUSD STD DWG NO. 245	
9	INSTALL TURN LANE AND ARROW PAVEMENT MARKINGS PER CCAUSD NO. 246	

SIGNAGE CONSTRUCTION NOTES

NO.	ITEM	CCAUSS: UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA.
1	INSTALL 30" X 30" R1-1 STOP SIGN AND (2) 12-INCH D3 "STREET NAME" SIGN PER USDOCA DWG NO. 249.1	
2	INSTALL 36" X 36" R1-1 STOP SIGN AND (2) 12-INCH D3 "STREET NAME" SIGN PER USDOCA DWG NO. 249.1	
3	INSTALL (OM3-R) SIGN 25-FT O.C. IN TAPER.	
4	PAINTED RED CURB (NO PARKING FIRE LANE EVERY 50') PAINT ON ASPHALT IF NO CURB USE WHITE LETTERING: 4 INCHES MINIMUM HEIGHT WITH A STROKE OF NOT LESS THAN 3/4 INCHES TO FIT ON CURB	
5	INSTALL BLUE REFLECTIVE MARKER (RFW) & 30' RED PAINT ON THE CURB IN FRONT OF FH	
6	INSTALL W4-2R "LANE ENDS" SIGN	
7	INSTALL R7-1APR "NO PARKING" SIGN	
8	INSTALL "NO PARKING FIRE LANE" SIGN	
9	INSTALL "NO PARKING IN MARKED FIRE LANES" SIGN PER DETAIL THIS SHEET.	

STREETLIGHT CONSTRUCTION NOTES

NO.	ITEM	CCAUSS: UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA.
1	INSTALL 4" PVC F.A.S.T. CONDUIT WITH #8 BARE TRACER WIRE	
2	INSTALL 72 WATT LED STREET LIGHT ASSEMBLY WITH LOCKING HAND HOLE COVER, PER USDOCA DWG. NO. 314, 320 AND 321 (POLE HANDHOLE COVER SHALL BE WELDED SHUT)	
3	INSTALL "P30" PULLBOX W/ "FIBER OPTIC" INSCRIBED ON LID PER CCAUSD 623G.03.01	
4	INSTALL 1-1/4" STREETLIGHT CONDUIT WITH (2) #4 & (1) #8 THW COPPER CONDUCTORS. INSTALL RED OR ORANGE WARNING TAPE DIRECTLY ABOVE STREETLIGHT CONDUITS.	
5	INSTALL 3-1/2" PULL BOX PER USDOCA DWG. NO. 323 AND 326	
6	INSTALL NO. 7 PULL BOX PER USDOCA DWG. NO. 707	
7	INSTALL TWO (2) 4-INCH PVC CONDUITS FOR IRRIGATION PURPOSES	
8	NOT USED	
9	INSTALL TRAFFIC SIGNAL POLE WITH TWO (2) - 400 WATT EQUIVALENT LED STREET LIGHTS AND RELATED APPURTENANCES FOR SIGNALIZED INTERSECTION PER USDOCA NO. 889 (1 of 2) WITH 200 AMP SERVICE PEDESTAL	

GENERAL NOTES:

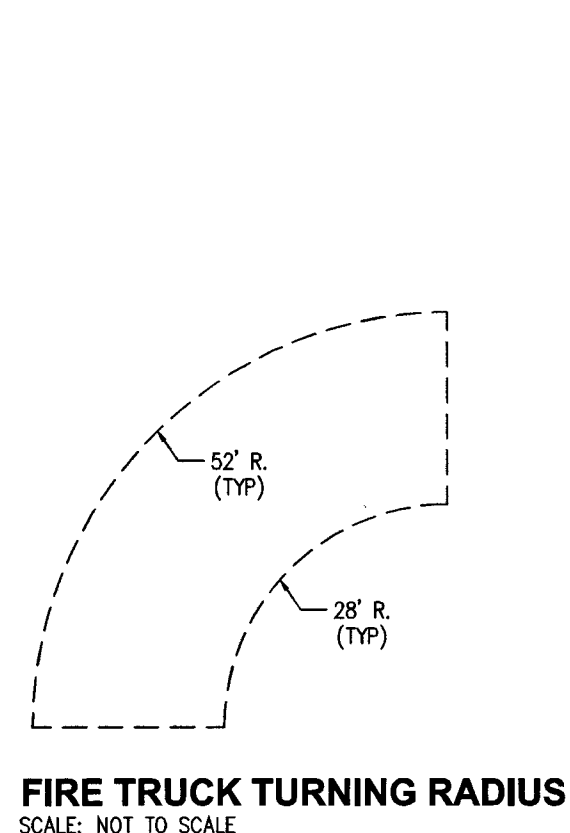
- ALL WORK SHALL BE IN ACCORDANCE WITH UNIFORM STANDARD DRAWINGS CLARK COUNTY AREA.
- ALL STREET LIGHTING CONDUIT IS 1-1/4" CONDUIT, 2-#4, 1-#8 THW COPPER CONDUCTORS PER USDOCA DWG. NO. 501 AND 733, UNLESS OTHERWISE NOTED.
- ALL STREETLIGHT ASSEMBLIES ARE 250 W HIGH LED UNLESS NOTED OTHERWISE.
- FOR NEW CURB AND SIDEWALK CONSTRUCTION, ITS CONDUIT SHALL BE CONSTRUCTED BEHIND CURB UNDER SIDEWALK

CITY OF LAS VEGAS FIRE DEPARTMENT APPROVAL

BY *K. J. J. J.* DATE *12/12/17*

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 2,000 GPM AT 20 PSI RESIDUAL



FIRE TRUCK TURNING RADIUS
SCALE: NOT TO SCALE

LINE TABLE

Line #	Length	Direction
L1	94.67	S86° 47' 08.53"E
L2	83.21	S89° 07' 00.00"E
L3	24.78	S78° 31' 20.17"W
L4	79.54	N0° 00' 21.00"W
L5	98.17	S7° 20' 26.66"W
L6	80.67	S89° 07' 00.00"E
L7	99.15	S84° 30' 48.39"W
L8	12.62	N0° 04' 03.06"W
L9	15.37	S0° 05' 00.19"E
L10	87.41	N89° 05' 43.00"W
L11	46.40	S0° 00' 21.00"E
L12	98.81	S82° 54' 22.61"E

CURVE TABLE

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	22.08	20.00	63.26	N59° 15' 19"E	20.98
C2	22.08	20.00	63.26	S57° 29' 19"E	20.98
C3	47.59	30.00	90.89	N45° 26' 20"E	42.75
C4	20.34	25.00	46.61	N23° 23' 09"W	19.78
C5	86.43	40.50	122.28	S14° 26' 59"W	70.94
C6	20.21	40.50	28.59	S89° 53' 06"W	20.00
C7	86.48	40.50	122.34	N14° 38' 53"W	70.96
C8	20.34	25.00	46.61	S23° 13' 09"W	19.78
C9	38.87	25.00	89.09	N44° 33' 02"W	35.07

NOTES:

- REPLACE ALL TRAFFIC CONTROL DEVICES (SIGNS OR PAVEMENT MARKINGS) UNDER CITY OF LAS VEGAS JURISDICTION THAT ARE DISTURBED, DESTROYED, MOVED OR MODIFIED BY TRENCHING ACTIVITY TO CITY OF LAS VEGAS SATISFACTION. ALL MATERIALS USED SHALL MEET CITY'S SPECIFICATIONS, OR WILL BE AN APPROVED EQUIVALENT.
- IN THE EVENT THAT THE TRAFFIC SIGNAL CONDUITS, LOOP DETECTORS OR ASSOCIATED EQUIPMENT ARE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR WILL HIRE AN IN-SITU LEVEL II ELECTRICAL CONTRACTOR TO MAKE REPAIRS PER UNIFORM SPECIFICATIONS NO. 623 G.01.02.
- CONTRACTOR SHALL CONTACT CITY OF LAS VEGAS TRAFFIC OPERATIONS @ 702-229-1000 TO SCHEDULE CITY TRAFFIC STAFF TO LOCATE UNDERGROUND STREETLIGHTING AND SIGNAL FACILITIES IN THE PROJECT AREA. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO THIS OPERATION. HOURS OF OPERATION ARE 6:30AM - 3:00PM, MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS.
- TRENCH BACKFILL PER CCAUSD STD. DWG. NO. 503 AND 500.4, AND 500.5.

STREETLIGHT CIRCUIT CAPACITY VERIFICATION FOR CIRCUIT "B" EXIST. SUNSET RD.

IS THERE AN EXISTING SERVICE PEDESTAL IN THE FIELD (NOT PROPOSED) ADJACENT TO THIS PROPERTY THAT MIGHT BE ABLE TO BE USED TO POWER THIS PROJECT'S STREETLIGHTS? (CIRCLE)	YES	CONTACT CLARK COUNTY TRAFFIC OPERATIONS AT 702-455-6000 TO PERFORM CIRCUIT CAPACITY VERIFICATION
(NO)	NO	INSTALL A NEW PEDESTAL

SERVICE PEDESTAL LOCATION: NWC GRAND CANYON & ELKHORN
CLARK COUNTY (COMPLETE IF EXISTING SERVICE)

DATE OF CAPACITY VERIFICATION

PERSON WHO DID THE VERIFICATION

OFF-SITE PLANS ENGINEER

PERSON WHO DID THE CALCULATIONS RAY FREDERICKSEN, P.E.

CONSULTING ENGINEERING FIRM PERAMANCE ENGINEERING

CAPACITY CALCULATIONS

	60	AMPS
1. CIRCUIT CAPACITY:	60	AMPS
2. MAXIMUM CONTINUOUS CURRENT DRAW (80%)	48	AMPS
3. EXISTING CIRCUIT LOAD (ENTER 0 IF NEW)	0	AMPS
4. AVAILABLE (2 MINUS 3)	48.0	AMPS

PROPOSED LUMINAIRE LOAD TO CIRCUIT: A-1

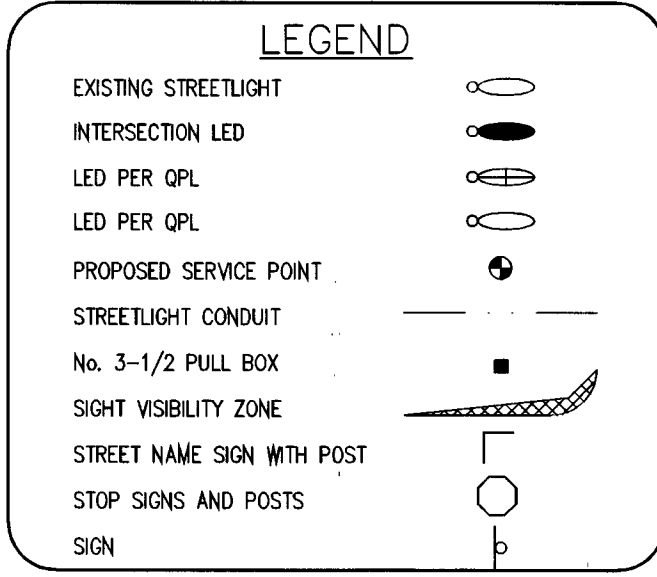
	4.9	AMPS
5. 7 NUMBER OF 82 WATT LED STLS @ 0.7 AMPS/EA	4.9	AMPS
6. 2 NUMBER OF 130 WATT SED TLS @ 1.0 AMPS/EA	2.0	AMPS
7. TOTAL PROPOSED ADDITIONAL LOAD (5+6)	6.9	AMPS
REMAINING AVAILABLE LOAD (4 MINUS 7)	41.1	AMPS

FIRE HYDRANT PAVEMENT MARKER NOTE:

- INSTALL BLUE COLORED REFLECTIVE RAISED PAVEMENT MARKERS ADJACENT TO THE FIRE HYDRANT ON ALL IMPROVED FIRE APPARATUS ACCESS ROADWAYS WITH HARD SURFACES, INCLUDING BOTH PUBLIC AND PRIVATE ROADS, STREET, AND FIRE LANES.
- ON ROADWAYS WITH NO PARKING PERMITTED ON THE HYDRANT SIDE; EIGHT (8) FEET FROM THE FACE OF THE CURB ON THE HYDRANT SIDE.
 - ON ROADWAYS WITH PARKING PERMITTED ON THE HYDRANT SIDE; (16) FEET FROM THE FACE OF THE CURB ON THE HYDRANT SIDE.

FIRE LANE NOTES:

- INSTALL RED PAINT ON ALL CURBS ADJACENT TO FIRE LANE ON BOTH SIDES OF THE ROADWAY. USE WHITE PAINT TO STENCIL "FIRE LANE - NO PARKING" EVERY 50 FEET ALONG RED CURB.
- MINIMUM INSIDE RADIUS = 28' FACE OF CURB
MINIMUM OUTSIDE RADIUS = 52' FACE OF CURB
- EXISTING/PROPOSED FIRE HYDRANT
- BLUE REFLECTIVE MARKER FOR FIRE HYDRANTS
- 24' FIRE LANE (TYPICAL)
- INDICATES RED PAINTED CURB WITH "NO PARKING - FIRE LANE" PAINTED EVERY 100 FT. PER FIRE DEPARTMENT GUIDELINES.



SIGHT VISIBILITY ZONE NOTE:

NO WALLS, FENCES, SHRUBS, UTILITY APPURTENANCES OR ANY OTHER OBJECT, OTHER THAN TRAFFIC CONTROL DEVICES, FIRE HYDRANTS, TREES AND STREETLIGHT POLES, MAY BE CONSTRUCTED OR INSTALLED WITHIN THE SIGHT VISIBILITY ZONE UNLESS SAID OBJECT IS MAINTAINED AT LESS THAN 24 INCHES IN HEIGHT, MEASURED FROM TOP OF CURB, OR WHERE NO CURB EXISTS, A HEIGHT OF 27 INCHES MEASURED FROM THE TOP OF ADJACENT ASPHALT, GRAVEL OR PAVEMENT STREET SURFACE. THIS RESTRICTION EXTENDS ALONG THE SIGHT VISIBILITY ZONE THROUGH LANDSCAPED MEDIANS.

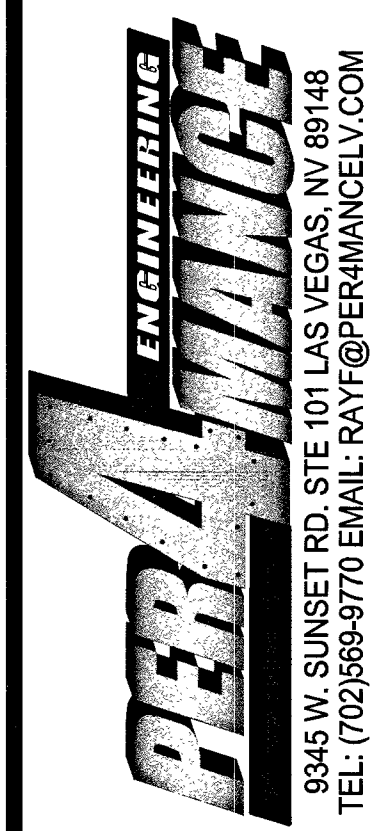
ELKHORN & GRAND CANYON
12 LOT SINGLE FAMILY RESIDENTIAL DEVELOPMENT
CITY OF LAS VEGAS

STREETLIGHT AND TRAFFIC CONTROL PLAN

BY DATE: 12/12/17

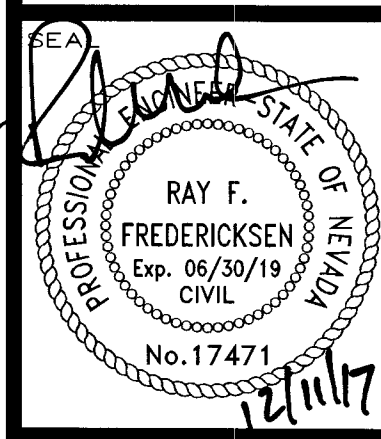
REVISION

NO.	REVISION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		



DEVELOPER:

THM ENTERPRISES
9205 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131



DESIGNED BY: RFF

DRAWN BY: RFF

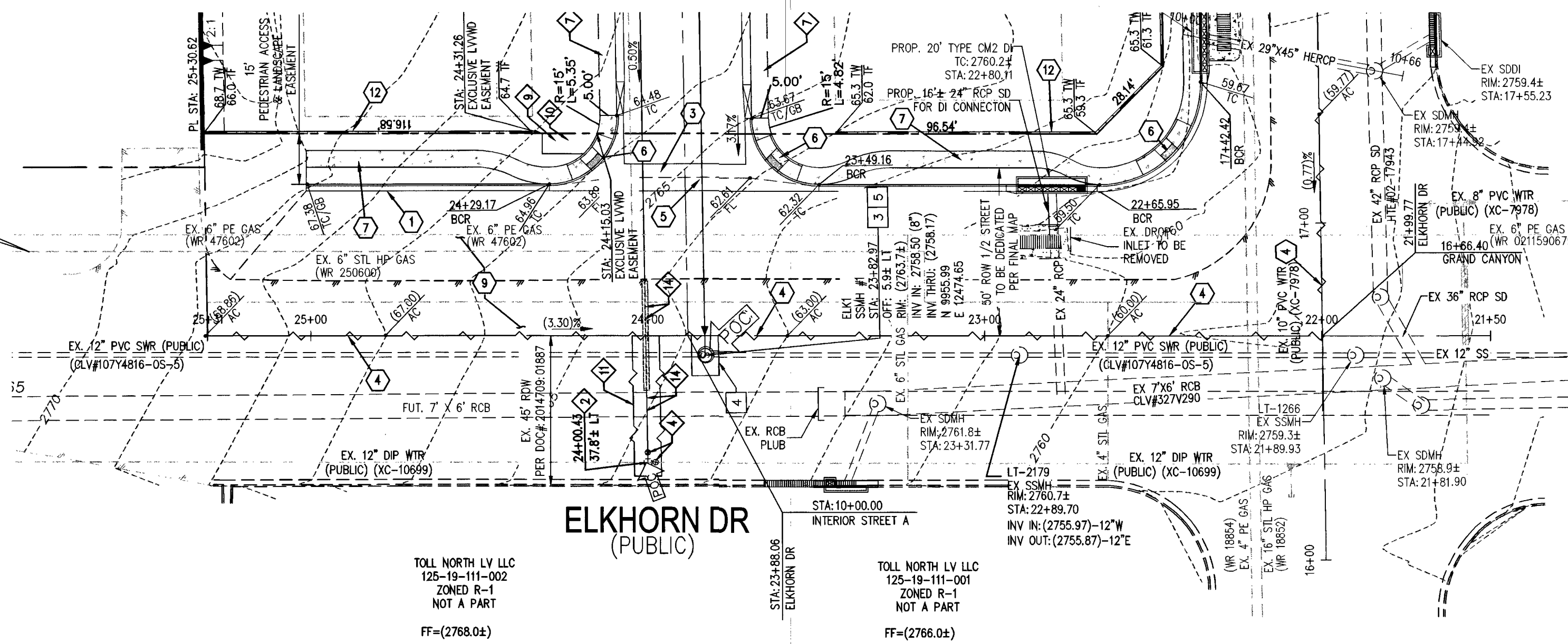
CHECKED BY: RFF

SCALE: 1" = 30'

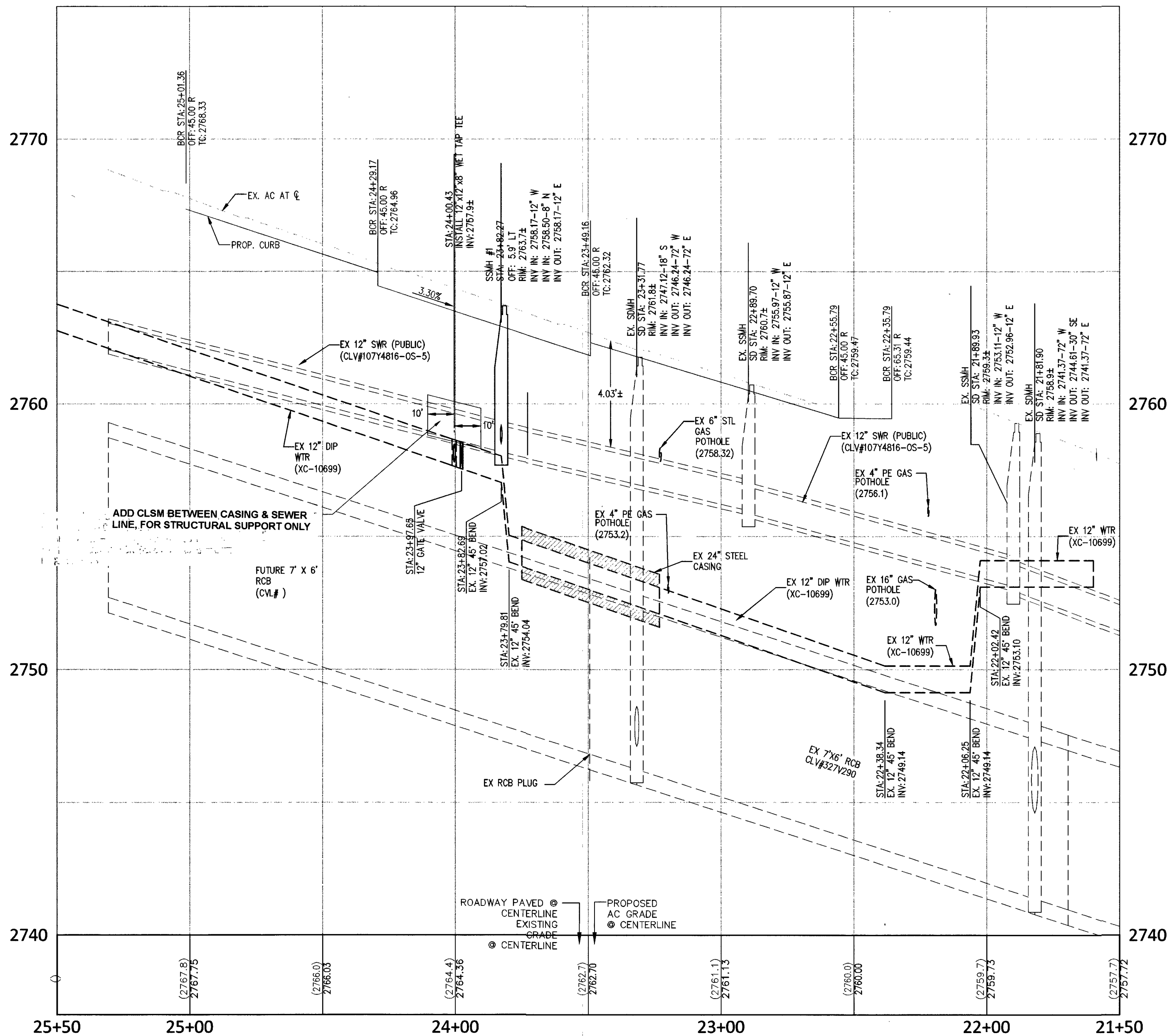
PROJECT DATE: DECEMBER 11, 2017

SHEET
TR-1
7 OF 13
CLV #L17-00900
1015501

CAUTION:
HIGH PRESSURE GAS!
CONTACT SOUTHWEST GAS AT 702-400-1789
FOR STANDBY WHEN EXCAVATING OVER
OR NEAR HIGH PRESSURE GAS LINES



PLAN VIEW
SCALE: 1"=30'



PROFILE VIEW
H: 1"=30'
V: 1"=3'

BENCHMARK

CITY OF LAS VEGAS BENCHMARK ID: 6LV90 1854

RIVET AND PLATE IN THE TOP OF CURB, NORTHEAST CORNER OF GRAND CANYON DRIVE AND ELKHORN AVENUE.

ELEVATION= 2756.91 FEET / 815.556 METERS
(NAVD 88 DATUM)

BASIS OF BEARINGS

NORTH 89°07'00" WEST, BEING THE BEARING OF THE CENTERLINE OF ELKHORN AVENUE AND THE NORTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 50 EAST, W.D.M., CLARK COUNTY, NEVADA, BY FILE 76, PAGE 49 OF PARCEL MAPS, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

GRADING NOTES

1. INSTALL "L" TYPE CURB AND GUTTER PER CCAUSD #216
2. INSTALL 30" ROLL CURB PER CCAUSD #217.1, 217.251
3. CONSTRUCT 10-FT "L" CURB TO ROLL CURB TRANSITION PER DETAIL THIS SHEET
4. SAWCUT AND MATCH EXISTING PAVEMENT. DUE TO THE EXISTING FIELD CONDITIONS AND VARYING SLOPES THE LENGTH AND WIDTH OF SAWCUT AND PATCH TO BE DETERMINED BY THE INSPECTOR IN THE FIELD. WIDTHS MAY VARY.
5. INSTALL 8-FT CROSS GUTTER PER CCAUSD #228.
6. INSTALL SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES PER CCAUSD NO. 235. A & B EQUAL 8-FEET UNLESS OTHERWISE NOTED.
7. INSTALL CONCRETE SIDEWALK (4" THICK OVER 6" TYPE 2 AGGREGATE BASE) PER CCAUSD #234.
8. INSTALL 2.0" AC OVER 4.0" TYPE II, OVER 9" TYPE I AGGREGATE BASE
9. INSTALL 3.0" AC OVER 4.0" TYPE II, OVER 12" TYPE I AGGREGATE BASE
10. INSTALL 4.5" AC OVER 4.0" TYPE II, OVER 12" TYPE I AGGREGATE BASE
11. SIGHT VISIBILITY ZONE.
12. CONSTRUCT RETAINING WALL, HEIGHT PER PLAN. STRUCTURAL DESIGN BY OTHERS
13. CONSTRUCT STORM DRAIN DROP INLET LENGTH AND TYPE PER PLAN PER UDSCA DRAWING NO. 421 (STORMWATER QUALITY MANAGEMENT STAMP AND SIGN DETAIL)
14. INSTALL TYPE II AGGREGATE, TRANSITION GRADING FROM ASPHALT TO EXISTING DRIVEWAY

SEE SHEET N-1 FOR LEGEND, GENERAL NOTES, AND QUANTITIES

SEWER CONSTRUCTION NOTES

- | NO. | ITEM | *SS STD PER DESIGN AND CONSTRUCTION STANDARDS WASTEWATER COLLECTION SYSTEMS, LATEST EDITION |
|-----|---|---|
| 1 | INSTALL 8" C-900 PVC SEWER LINE PER DCSWCS DWG. NO. SD-17. | |
| 2 | INSTALL 4" PVC (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. SD-22. | |
| 3 | INSTALL 48-INCH SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4&50-9 W/24" SINGLE LID. | |
| 4 | SAWCUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503 | |
| 5 | NEW MANHOLES TO HAVE PRECAST BASE | |
| 6 | EX. SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER DCSWCS SD-4 & SD-5 IF APPLICABLE. | |

WATER CONSTRUCTION NOTES

- | NO. | ITEM | UDACS: UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS, CURRENT EDITION |
|-----|---|---|
| 1 | INSTALL PVC WATER LINE (C-900, CL-150) PER UDACS PLATE NO. 17. | |
| 2 | WET TAP AND CONNECT TO EXISTING WATER LINE PER UDACS PLATE NO. 34, 39 & SEC. 2.24.01.B. | |
| 3 | INSTALL FIRE HYDRANT ASSEMBLY WITH GATE VALVE PER UDACS PLATE, NO. 39 & 41 | |
| 4 | INSTALL GATE VALVE (SAME SIZE AS LINE) PER UDACS PLATE NO. 30 & 39 | |
| 5 | INSTALL CAP W/2" B.O. (SAME SIZE AS LINE) PER UDACS PLATE 36 | |
| 6 | INSTALL 8" x 6" REDUCER, PER UDACS PLATE 30. | |
| 7 | INSTALL 1" METER PER UDACS PLATE 3. (DOMESTIC) | |
| 8 | INSTALL 8" x 6" TEE PER UDACS PLATE 31. | |
| 9 | INSTALL 1" RPPA PER UDACS PLATE 8 (IRRIGATION) | |
| 10 | INSTALL 1" METER PER UDACS PLATE 4 (IRRIGATION) | |
| 11 | SAWCUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503 | |
| 12 | INSTALL TWO (2) 4" IRRIGATION SLEEVES | |
| 13 | INSTALL 1" SERVICE SADDLE WITH CORP STOP PER UDACS PLATE 4 FOR IRRIGATION PURPOSES | |
| 14 | INSTALL 45" DIP BEND. | |

APPROVED FOR CONSTRUCTION

DISHAR
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO: 125847 FIRST APPROVED DATE: 12/19/17

ELKHORN & GRAND CANYON
CITY OF LAS VEGAS

REVISION
NO. 1
DATE 12/19/17

PLAN AND PROFILE
ELKHORN RD

PERFORMANCE
ENGINEERING
9345 W. SUNSET RD. STE 101 LAS VEGAS, NV 89148
TEL: (702) 569-9770 EMAIL: RAY@PERMANCENGINEERING.COM

DEVELOPER:

THM ENTERPRISES
9205 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

DESIGNED BY:
RAY F. FREDERICKSEN
Exp. 06/30/19
No. 17471

DRAWN BY:
RFF

CHECKED BY:
RFF

SCALE:
1"=30'

PROJECT DATE:
DECEMBER 11, 2017

SHEET
PP-1
8 OF 13

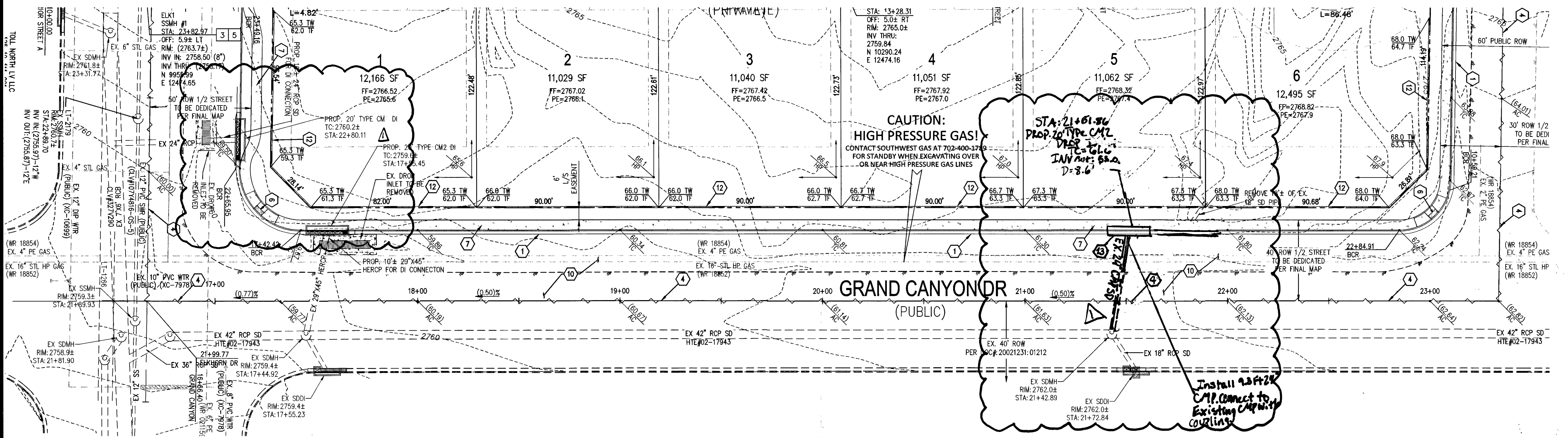
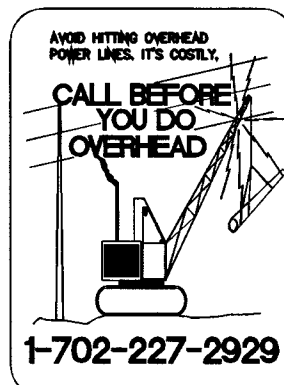
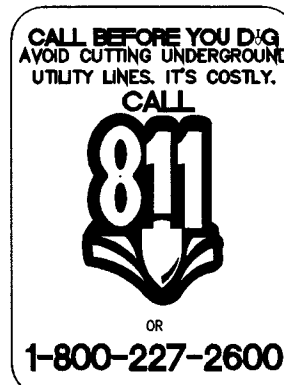
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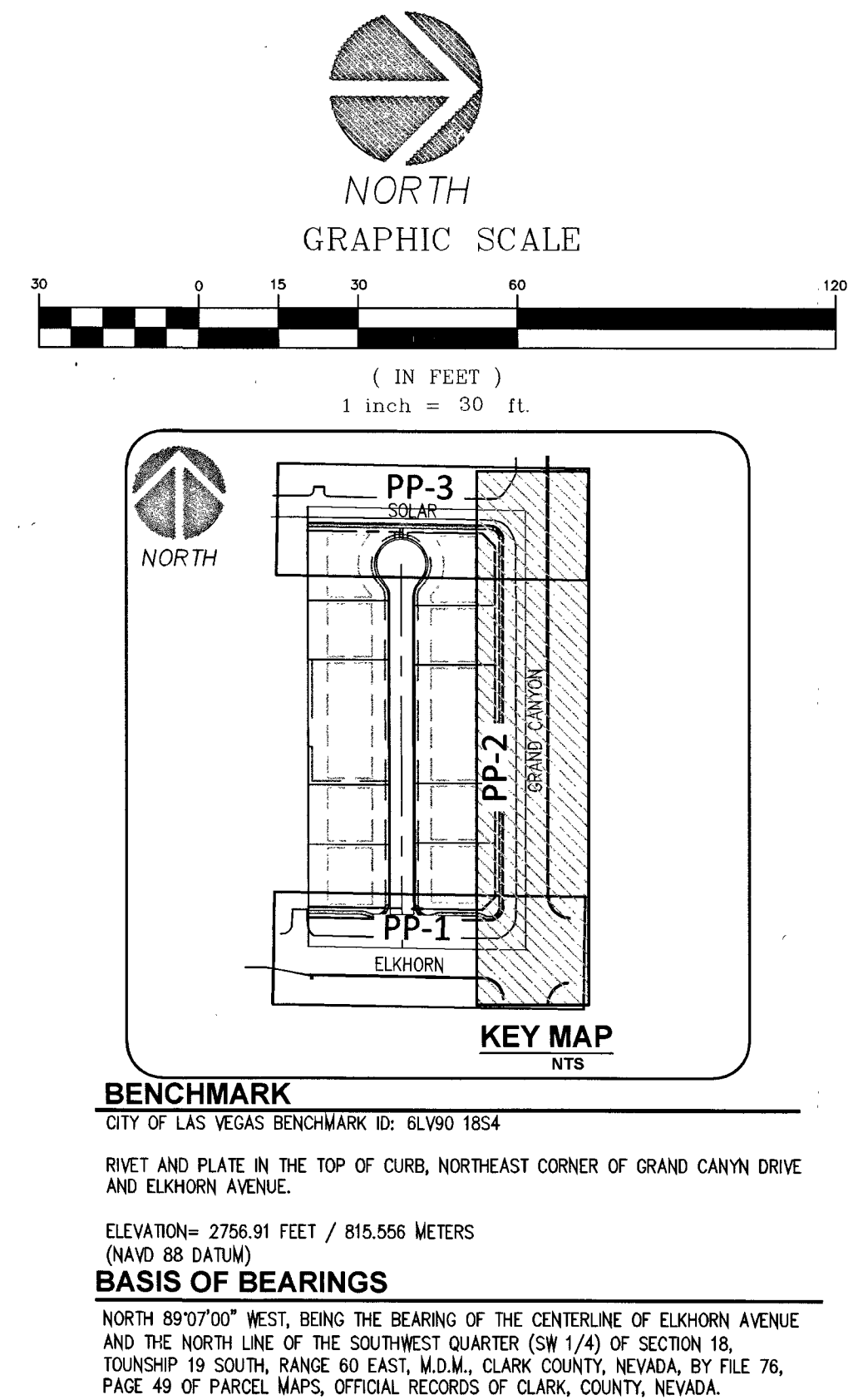
FAST
Call before you
Underground
1-702-432-5300
PREPARE AND AVOID
SYSTEMS OF TRANSPORTATION

CALL BEFORE YOU DO
AVOID CUTTING UNDERGROUND
UTILITY LINES. IT'S COSTLY.
CALL
811
1-800-227-2600

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



PLAN VIEW
SCALE: 1"=30'



GRADING NOTES

1. INSTALL 1" TYPE CURB AND GUTTER PER CCAUSD #216
2. INSTALL 30" ROLL CURB PER CCAUSD #217.1, 217.251
3. CONSTRUCT 10-FT 1" CURB TO ROLL CURB TRANSITION PER DETAIL THIS SHEET
4. SAWCUT AND MATCH EXISTING PAVEMENT. DUE TO THE EXISTING FIELD CONDITIONS AND VARYING SLOPES THE LENGTH AND WIDTH OF SAWCUT AND PATCH TO BE DETERMINED BY THE INSPECTOR IN THE FIELD. WIDTHS MAY VARY.
5. INSTALL 8-FT CROSS GUTTER PER CCAUSD #228
6. INSTALL SIDEWALK RAMP USING ARMOR TILE TRUNCATED DOMES PER CCAUSD NO. 235. A & B EQUAL 8-FEET UNLESS OTHERWISE NOTED.
7. INSTALL CONCRETE SIDEWALK (4" THICK OVER 6" TYPE 2 AGGREGATE BASE) PER CCAUSD #234
8. INSTALL 2.0" AC OVER 4.0" TYPE II, OVER 9" TYPE I AGGREGATE BASE
9. INSTALL 3.0" AC OVER 4.0" TYPE II, OVER 12" TYPE I AGGREGATE BASE
10. INSTALL 4.5" AC OVER 4.0" TYPE II, OVER 12" TYPE I AGGREGATE BASE
11. SIGHT VISIBILITY ZONE.
12. CONSTRUCT RETAINING WALL, HEIGHT PER PLAN, STRUCTURAL DESIGN BY OTHERS
13. CONSTRUCT STORM DRAIN DROP INLET LENGTH AND TYPE PER PLAN, PER USDOCA DRAWING NO. 421 (STORMWATER QUALITY MANAGEMENT STAMP AND SIGN DETAIL)
14. INSTALL TYPE II AGGREGATE - TRANSITION GRADING FROM ASPHALT TO EXISTING DRIVEWAY. SEE SHEET W-1 FOR LEGEND, GENERAL NOTES, AND QUANTITIES

SEWER CONSTRUCTION NOTES

- | NO. | ITEM |
|-----|--|
| 1 | INSTALL 8" C-900 PVC SEWER LINE PER DCSWCS DWG. NO. SD-17. |
| 2 | INSTALL 4" PVC (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. SD-22 |
| 3 | INSTALL 48-INCH SEWER MANHOLE PER DCSWCS SD-1A, SD-1B, SD-4&50-9 W/24" SINGLE LID. |
| 4 | SAWCUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503 |
| 5 | NEW MANHOLES TO HAVE PRECAST BASE |
| 6 | EX. SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER DCSWCS SD-4 & SD-5 IF APPLICABLE |

WATER CONSTRUCTION NOTES

- | NO. | ITEM |
|-----|--|
| 1 | INSTALL PVC WATER LINE (C-900, CL-150) PER UDACS PLATE NO. 17. |
| 2 | WET TAP AND CONNECT TO EXISTING WATER LINE PER UDACS PLATE NO. 34, 39 & SEC 2.24.01.B. |
| 3 | INSTALL FIRE HYDRANT ASSEMBLY WITH GATE VALVE PER UDACS PLATE NO. 39 & 41 |
| 4 | INSTALL GATE VALVE (SAME SIZE AS LINE) PER UDACS PLATE NO. 30 & 39 |
| 5 | INSTALL CAP W/2" B.O. (SAME SIZE AS LINE), PER UDACS PLATE 36 |
| 6 | INSTALL 8" x 6" REDUCER, PER UDACS PLATE 30. |
| 7 | INSTALL 1" METER PER UDACS PLATE 3. (DOMESTIC) |
| 8 | INSTALL 8" x 6" TEE PER UDACS PLATE 31. |
| 9 | INSTALL 1" RPPA PER UDACS PLATE 8 (IRRIGATION) |
| 10 | INSTALL 1" METER PER UDACS PLATE 4 (IRRIGATION) |
| 11 | SAWCUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503 |
| 12 | INSTALL TWO (2) 4" IRRIGATION SLEEVES |
| 13 | INSTALL 1" SERVICE SADDLE WITH CORP STOP PER UDACS PLATE 4 FOR IRRIGATION PURPOSES |
| 14 | INSTALL 45 DIP BEND. |

PROFILE VIEW
H: 1"=30'
V: 1"=3'

APPROVED FOR CONSTRUCTION
[Signature]
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO: 125847 FIRST APPROVED DATE: 12/19/17

BY DATE APP. DATE
NO. REVISION
ELKHORN & GRAND CANYON
CITY OF LAS VEGAS
LO SINGLE FAMILY RESIDENTIAL DEVELOPMENT
CITY OF LAS VEGAS
SHEET:
PLAN AND PROFILE
GRAND CANYON DR

ENGINEERING
PERFORMANCE
9345 W. SUNSET RD. STE 101 LAS VEGAS, NV 89148
TEL: (702) 569-9770 EMAIL: RAY@PERMANENCE.COM

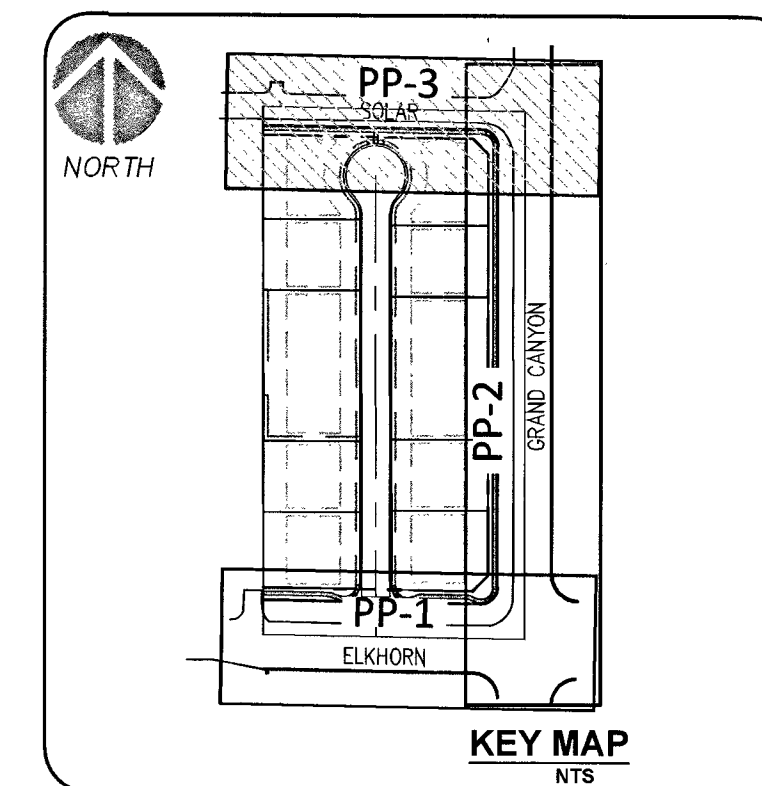
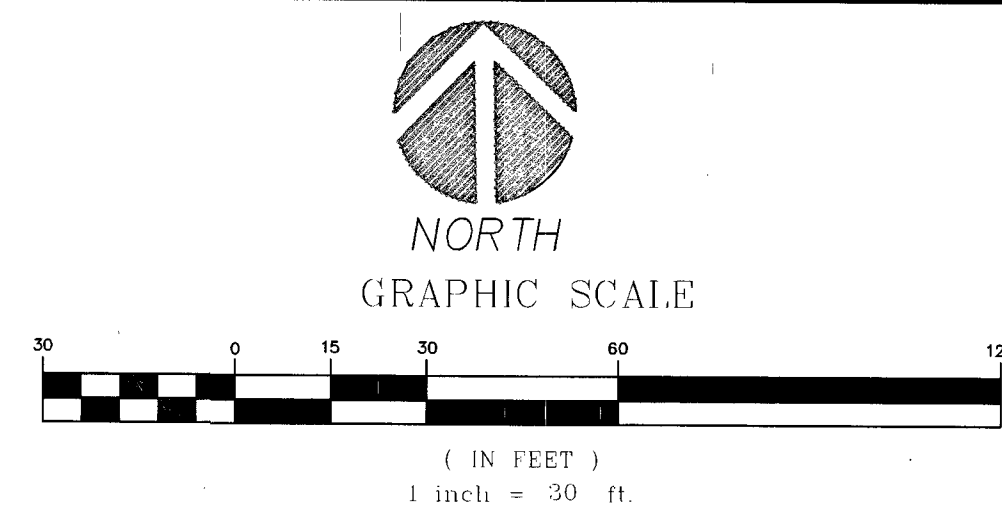
DEVELOPER:
THW ENTERPRISES
9205 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

SEALED
PROFESSIONAL ENGINEER
RAY F. FREDERICKSON
Exp. 06/30/19
CIVIL
No. 17471

DESIGNED BY:
RFF
DRAWN BY:
RFF
CHECKED BY:
RFF
SCALE:
1"=30'

PROJECT DATE:
DECEMBER 11, 2017

SHEET
PP-2
9 OF 13
CLV #L17-00900
10155071



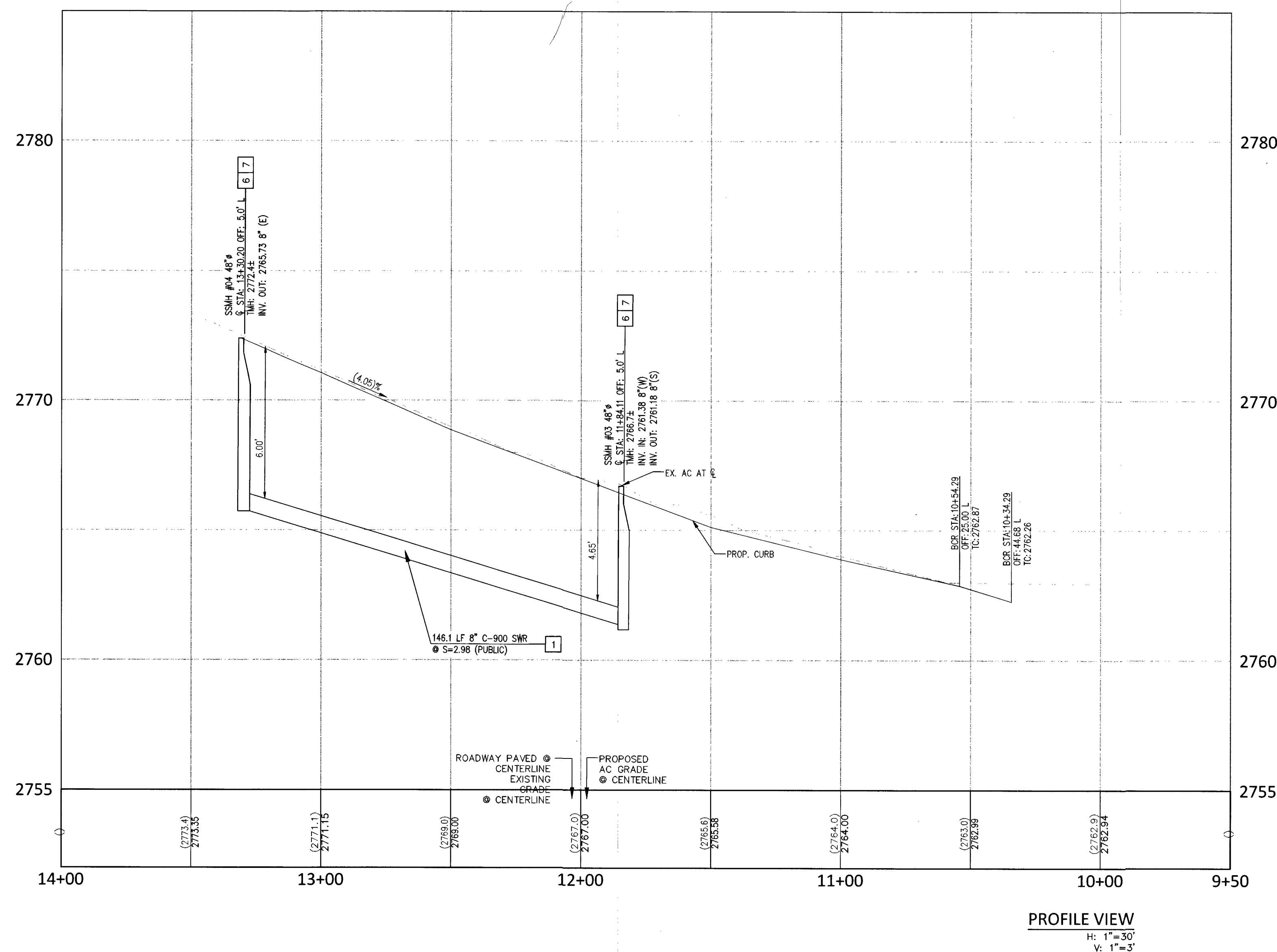
BENCHMARK
CITY OF LAS VEGAS BENCHMARK ID: 6LV90 1054

RIVET AND PLATE IN THE TOP OF CURB, NORTHEAST CORNER OF GRAND CANYON DRIVE
AND ELKHORN AVENUE.

ELEVATION= 2756.91 FEET / 815.556 METERS
(NAVD 88 DATUM)

BASIS OF BEARING

NORTH 89°07'00" WEST, BEING THE BEARING OF THE CENTERLINE OF ELKHORN AVENUE
AND THE NORTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 18,
TOWNSHIP 36 NORTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA. BY FILE 76,
PAGE 49 OF PARCEL MAPS, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.



- ## GRADING NOTES
1. INSTALL "L" TYPE CURB AND GUTTER PER CAUSAUD #216
 2. INSTALL 30" ROLL CURB PER CAUSAUD #217.1, 217.251
 3. CONSTRUCT 10-FT "L" CURB TO ROLL CURB TRANSITION PER DETAIL TH SHEET
 4. SAWCUT AND MATCH EXISTING PAVEMENT. DUE TO THE EXISTING FIELD CONDITIONS AND VARYING SLOPES, THE LENGTH AND WIDTH OF SAWCUT AND MATCH ARE TO BE DETERMINED BY THE INSPECTOR IN THE FIELD. WIDTHS MAY VARY.
 5. INSTALL 8-Ft CROSS GUTTER PER CAUSAUD #228.
 6. INSTALL SIDEWALK RAMP USING 8-Footer UPRIGHT TRUNCATED DUMPS PER CAUSAUD NO. 235. A & B EQUAL 8-FEET UNLESS OTHERWISE NOTED.
 7. INSTALL CONCRETE SIDEWALK (4" THICK OVER 6" TYPE 2 AGGREGATE BASE PER CAUSAUD #234.
 8. INSTALL 2.0" AC OVER 4.0" TYPE II, OVER 9" TYPE 1 AGGREGATE BASE
 9. INSTALL 3.0" AC OVER 4.0" TYPE II, OVER 12" TYPE 1 AGGREGATE BASE
 10. INSTALL 4.5" AC OVER 4.0" TYPE II, OVER 12" TYPE 1 AGGREGATE BASE
 11. SIGHT VISIBILITY ZONE.
 12. CONSTRUCT RETAINING WALL, HEIGHT PER PLAN.
 13. STRUCTURAL DESIGN OTHERS.
 14. CONSTRUCT STORM DRAIN DROP INLET LENGTH AND TYPE PER PLAN PER USDOCA DRAWING NO. 421 (STORMWATER QUALITY MANAGEMENT STAMP AND SIGN DETAIL).
 15. INSTALL SHEET N-1 AGGREGATE TRANSITION GRADING FROM ASPHALT TO EXISTING DRIVEWAY
- SEE SHEET N-1 FOR LEGEND, GENERAL NOTES, AND QUANTITIES

SEWER CONSTRUCTION NOTES

NO.	ITEM	**S STD PER DESIGN AND CONSTRUCTION STANDARD WASTEWATER COLLECTION SYSTEMS, LATEST EDITION
1	INSTALL 8" C-900 PVC SEWER LINE PER DCSMCS DWG. NO. SD-17.	
2	INSTALL 4" PVC (PRIVATE) SEWER LATERAL PER DCSMCS DWG. NO. SD-22.	
3	INSTALL 48-INCH SEWER MANHOLE PER DCSMCS SD-1A, SD-1B, SD-4&SD-9 W/2" SINGLE U/L SAWCUT TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3 & #503.	
4	NEW MANHOLES TO HAVE PRECAST BASE	
5	EX. SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER DCSMCS SD-4 & SD-5 IF	

WATER CONSTRUCTION NOTES

NO.	ITEM	UDACS: UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS, CURRENT EDITION
1	INSTALL PVC WATER LINE (C-900, CL=150) PER UDACS PLATE NO. 17.	
2	WET TAP AND CONNECT TO EXISTING WATER LINE PER UDACS PLATE NO. 34, 39 AND SEC. 2.2.40 U.S.	
3	INSTALL FIRE HYDRANT ASSEMBLY WITH GATE VALVE PER UDACS PLATE, NO. & 40.	
4	INSTALL GATE VALVE (SAME SIZE AS LINE) PER UDACS PLATE NO. 30 & 39	
5	INSTALL CAP W/2" B.O. (SAME SIZE AS LINE), PER UDACS PLATE 36	
6	INSTALL 8" x 6" REDUCER, PER UDACS PLATE 30.	
7	INSTALL 1" METER PER UDACS PLATE 3. (DOMESTIC)	
8	INSTALL 8" x 6" TEE PER UDACS PLATE 31.	
9	INSTALL 1" RPPA PER UDACS PLATE 8 (IRRIGATION)	
10	INSTALL 1" METER PER UDACS PLATE 4 (IRRIGATION)	
11	SANIT. TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.5, #500.3, AND #503.	
12	INSTALL TWO (2) 4" IRRIGATION SLEEVES	
13	INSTALL 1" SERVICE SADDLE WITH CORP STOP PER UDACS PLATE 4 FOR IRRIGATION PURPOSES	
14	INSTALL 45° DIP BEND.	

ELKHORN & GRAND CANYON
12 LOT SINGLE FAMILY RESIDENTIAL DEVELOPMENT
CITY OF LAS VEGAS NEVADA

PLAN AND PROFILE

SHEET:

SOLAR AVE

PERFORMANCE **ENGINEERING**

9345 W. SUNSET RD. STE 101 LAS VEGAS, NV 89148
TEL: 773.660.0370 FAX: 773.660.0371
E-MAIL: PA@PERFORMANCE.V.COM

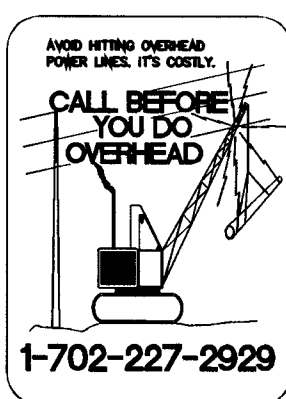
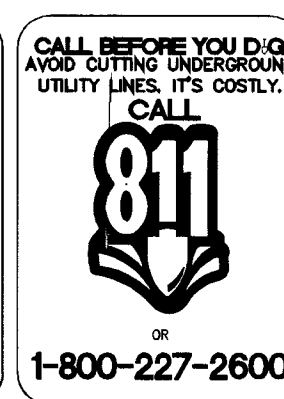
DEVELOPER:

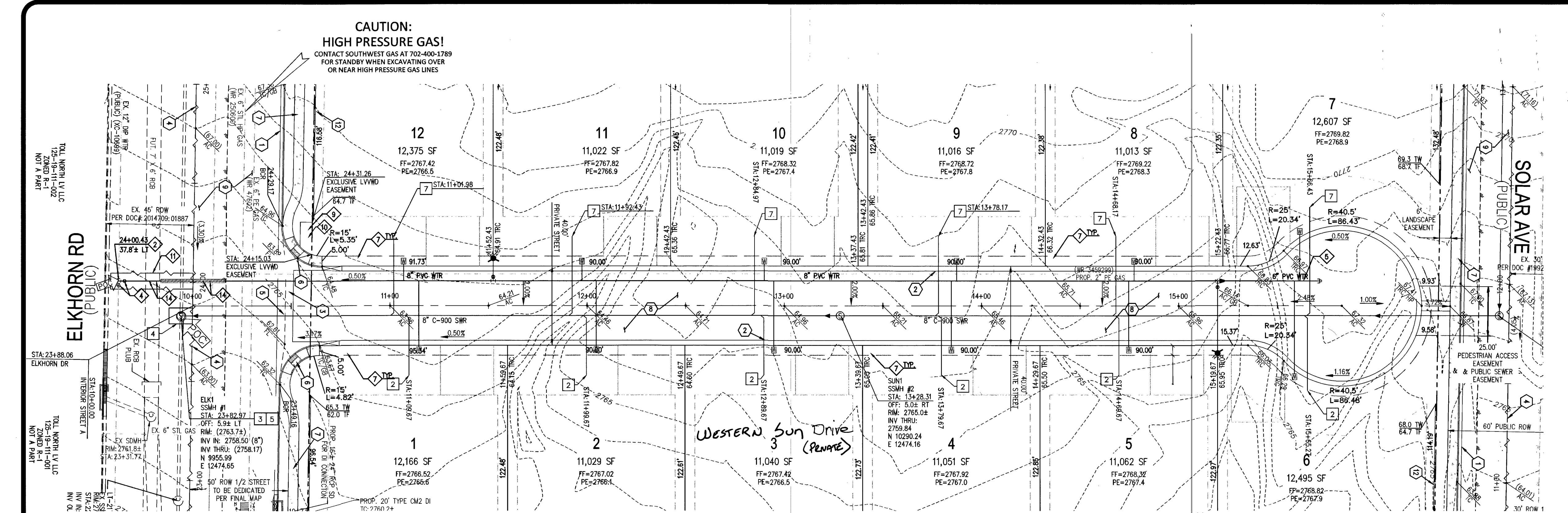
THM ENTERPRISES
9205 W. RUSSELL RD., STE. 23
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

Professional Engineer Seal for Ray F. Frederickson, State of Nevada, No. 17471, Exp. 06/30/19.

DESIGNED BY: RFF
DRAWN BY: RFF
CHECKED BY: RFF
SCALE: 1"=30'
PROJECT DATE: DECEMBER 11, 2017

SHEET
PP-3
10 OF 13
CLV #L17-00900
10785071

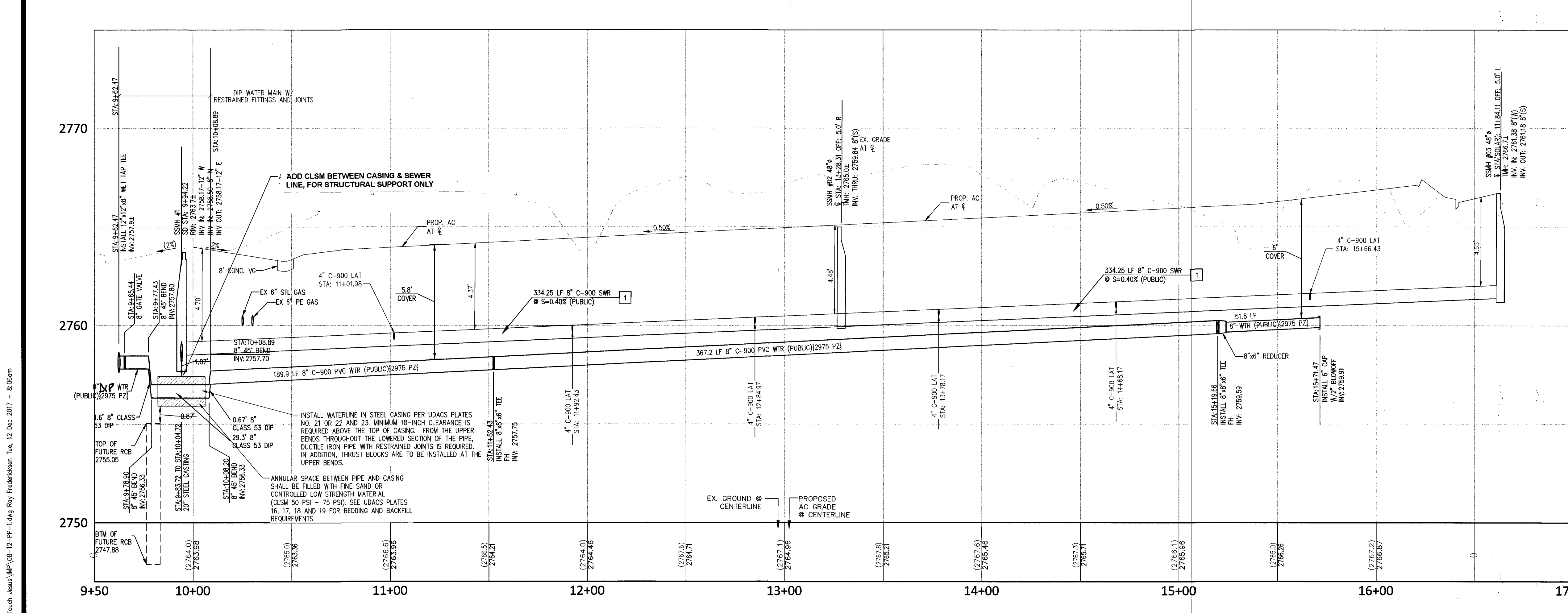




CAUTION: HIGH PRESSURE GAS!
CONTACT SOUTHWEST GAS AT 702-400-1789 FOR STANDBY WHEN EXCAVATING OVER OR NEAR HIGH PRESSURE GAS LINES

BENCHMARK
CITY OF LAS VEGAS BENCHMARK ID: 6LV90 1854
RIVET AND PLATE IN THE TOP OF CURB, NORTHEAST CORNER OF GRAND CANYON DRIVE AND ELKHORN AVENUE.
ELEVATION= 2756.91 FEET / 815.556 METERS (NAVD 88 DATUM)

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GRADING NOTES

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- CONSTRUCT 10-FT "L" CURB TO CURB TRANSITION PER DETAIL THIS SHEET
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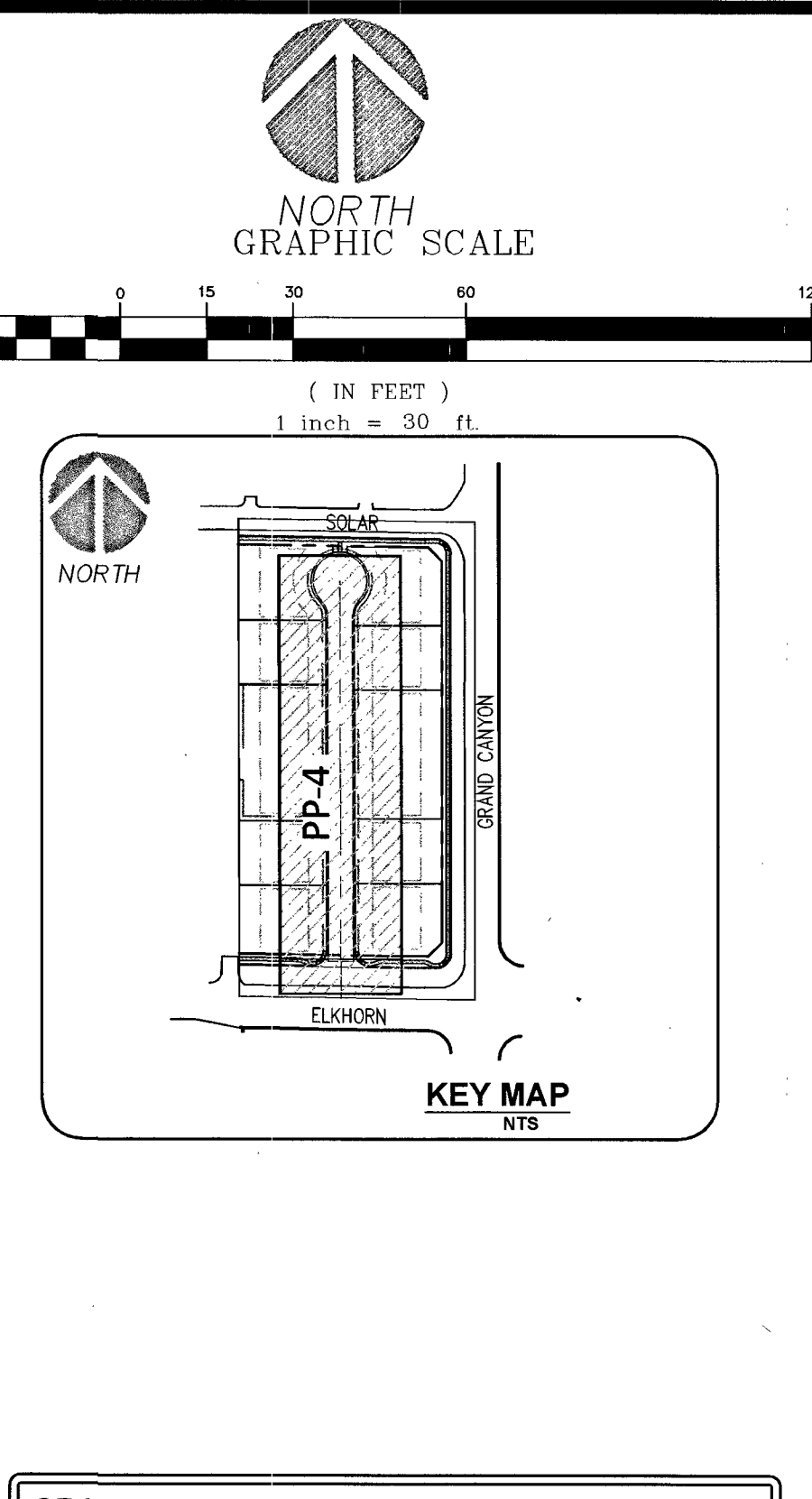
SEE SHEET N-1 FOR LEGEND, GENERAL NOTES, AND QUANTITIES

SEWER CONSTRUCTION NOTES

NO.	ITEM	*SS STD PER DESIGN AND CONSTRUCTION STANDARDS WASTEWATER COLLECTION SYSTEMS, LATEST EDITION
1	INSTALL 8" C-900 PVC SEWER LINE PER DCSWCS DWG. NO. 30-17.	
2	INSTALL 4" PVC (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. 30-22	
3	INSTALL 48-INCH SEWER MANHOLE PER DCSWCS 30-1A, 30-1B, 30-1C, 30-1D, 30-1E, 30-1F, 30-1G, 30-1H, 30-1I, 30-1J, 30-1K, 30-1L, 30-1M, 30-1N, 30-1O, 30-1P, 30-1Q, 30-1R, 30-1S, 30-1T, 30-1U, 30-1V, 30-1W, 30-1X, 30-1Y, 30-1Z	
4	SAW-CUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.3, #500.3, AND #503	
5	NEW MANHOLES TO HAVE PRECAST BASE	
6	EX SEWER MANHOLE, PROTECT IN PLACE, ADJUST RIM PER DCSWCS 30-4 & 30-5 IF APPLICABLE	
7	INSTALL 4" C-900 (PRIVATE) SEWER LATERAL PER DCSWCS DWG. NO. 30-22	

WATER CONSTRUCTION NOTES

NO.	ITEM	UDACS, UNIFORM DESIGN AND CONSTRUCTION STANDARDS FOR POTABLE WATER SYSTEMS, CURRENT EDITION
1	INSTALL PVC WATER LINE (C-900, CL-150) PER UDACS PLATE NO. 17.	
2	WET TAP AND CONNECT TO EXISTING WATER LINE PER UDACS PLATE NO. 34, 35 & SEC. 2.24.01.8.	
3	INSTALL FIRE HYDRANT ASSEMBLY WITH GATE VALVE PER UDACS PLATE NO. 39	
4	INSTALL GATE VALVE (SAME SIZE AS LINE) PER UDACS PLATE NO. 30 & 39	
5	INSTALL CAP W/ 2" B.O. (SAME SIZE AS LINE), PER UDACS PLATE 36	
6	INSTALL 8" x 6" REDUCER, PER UDACS PLATE 30.	
7	INSTALL 1" METER PER UDACS PLATE 31. (DOMESTIC)	
8	INSTALL 8" x 6" TEE PER UDACS PLATE 31.	
9	INSTALL 1" RPPA PER UDACS PLATE 8 (IRRIGATION)	
10	INSTALL 1" METER PER UDACS PLATE 4 (IRRIGATION)	
11	SAW-CUT, TRENCH, BACKFILL AND RESTORATION PER CCAUSD #500.3, #500.3, AND #503	
12	INSTALL TWO (2) 4" IRRIGATION SLEEVES	
13	INSTALL 1" SERVICE SADDLE WITH CORP STOP PER UDACS PLATE 4 FOR IRRIGATION PURPOSES	
14	INSTALL 45 DIP BEND.	



DESIGNED BY:
RFF

DRAWN BY:
RFF

CHECKED BY:
RFF

SCALE:
1" = 30'

PROJECT DATE:
DECEMBER 11, 2017

SHEET
PP-4
11 OF 13

CLV #L17-00900
10745071

APPROVED FOR CONSTRUCTION
LAS VEGAS VALLEY WATER DISTRICT ENGINEERING SERVICES
PROJECT NO: 125847 FIRST APPROVED DATE: 12/19/17

ELKHORN & GRAND CANYON
12 LOT SINGLE FAMILY RESIDENTIAL DEVELOPMENT
CITY OF LAS VEGAS

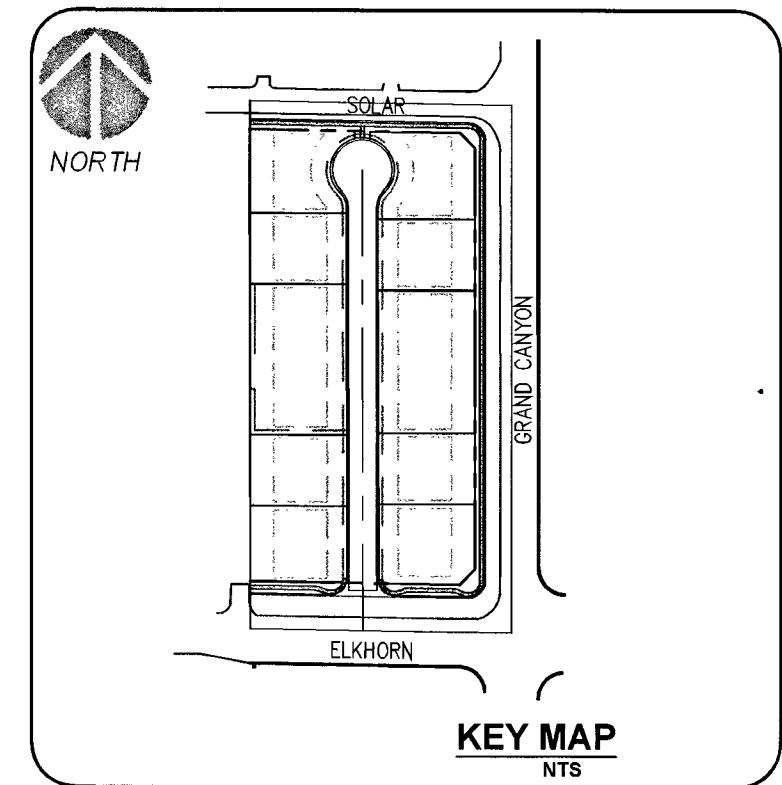
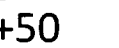
PLAN AND PROFILE
WESTERN SUN DR.

PERFORMANCE ENGINEERING
9345 W. SUNSET RD. STE 01 LAS VEGAS, NV 89148
TEL: (702) 669-9770 EMAIL: RAY@PERMANCELV.COM

DEVELOPER:
THM ENTERPRISES
9205 W. RUSSELL RD., STE. 235
LAS VEGAS, NV 89148
ATTN: DUSTIN MANNING
PH (702) 929-3131

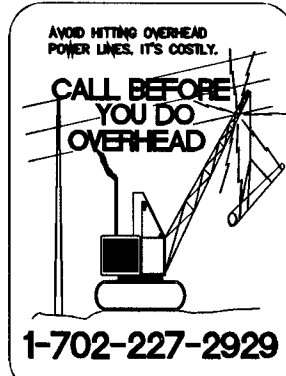
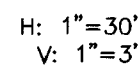
DESIGNED BY:
RAY F. FREDERICKSEN
PROFESSIONAL ENGINEER
No. 17471

PROJECT NO: 125847 **AGR:** 116505 **QS:** 125-18-SW **XC:** 11393

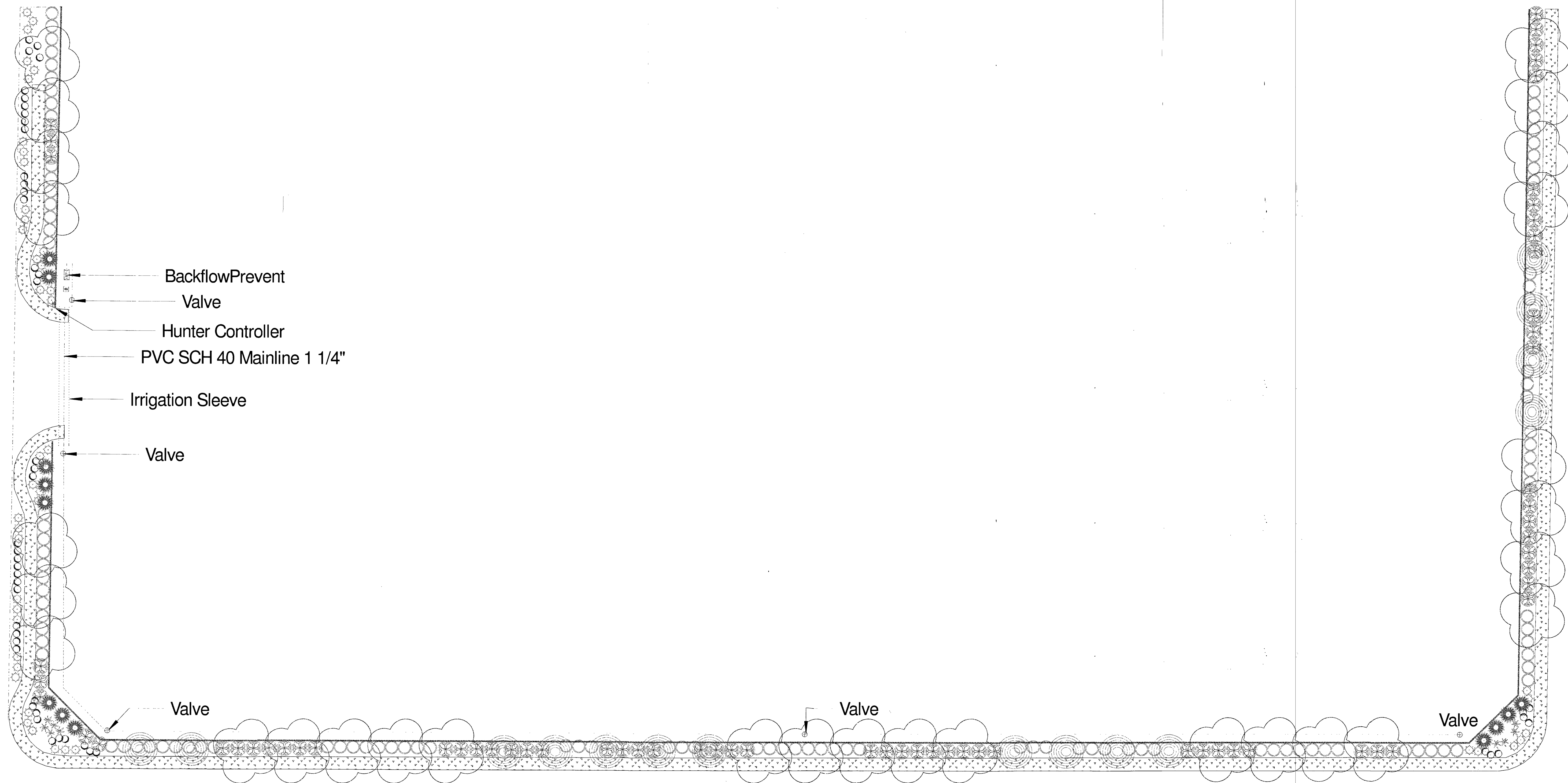


NORTH 89°07'00" WEST, BEING THE BEARING OF THE CENTERLINE OF ELKHORN AVENUE AND THE NORTH LINE OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 18, TOWNSHIP 19 SOUTH, RANGE 60 EAST, M.D.M., CLARK COUNTY, NEVADA, BY FILE 76, PAGE 49 OF PARCEL MAPS, OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

STORM DRAIN LATERALS



ELKHORN RD



GRAND CANYON DR

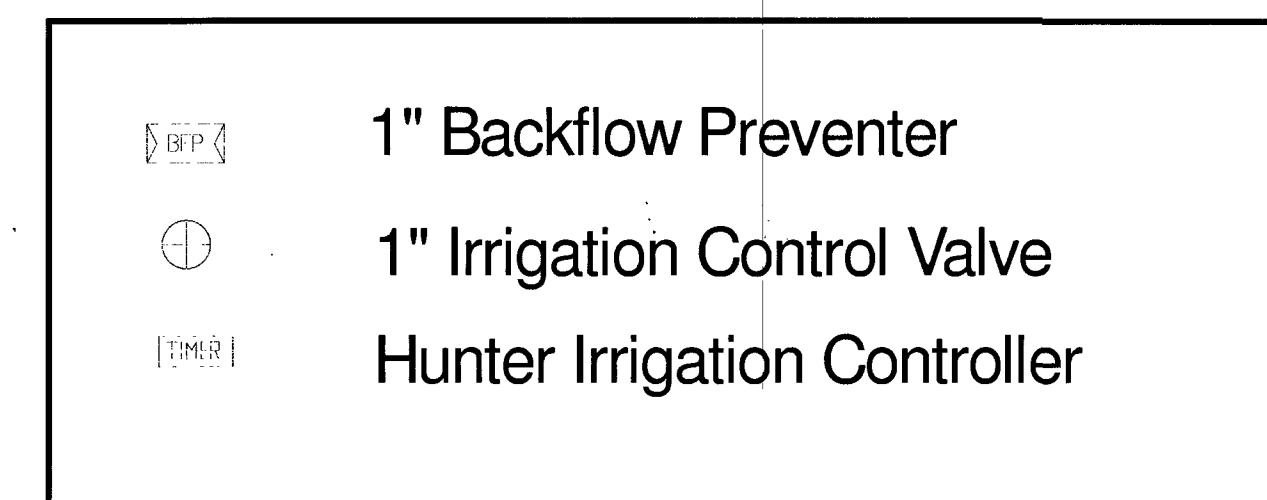
Planting Legend			
Common Name	Size	Qty	
Shrub, Cacti			
Sotol	5 Gal.	9	
Shrub, Evergreen Broadleaf			
Bush Germander	5 Gal.	48	
Lantana, New Gold	5 Gal.	46	
Ligustrum	5 Gal.	68	
Sage, Texas Ranger	5 Gal.	107	
Tree, Evergreen			
Acacia	24\" Box	29	
Blueberry Tree, Japanese	24\" Box	12	
Pine, Mondale	24\" Box	15	

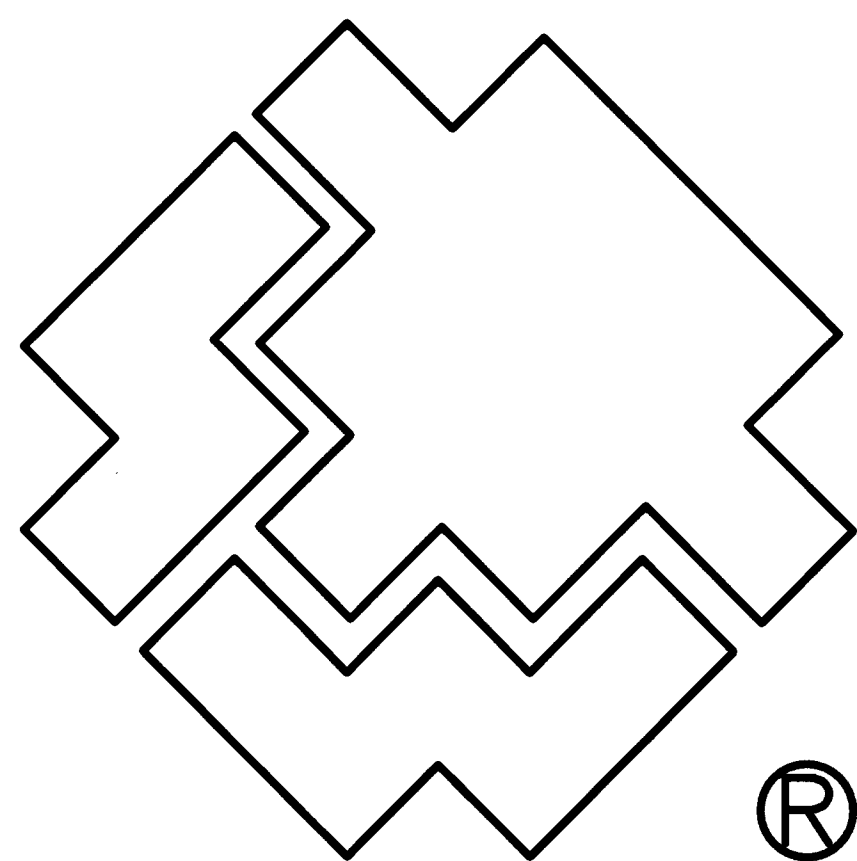
Notes:

- All Planting Areas to be covered with 3/4\" Gold Rock
- Irrigation is to be Design Build by Contractor
- All Planting within 5' of Hardscape to have Root Barrier
- Point of Connection to be provided by Touchstone Homes

Irrigation Notes

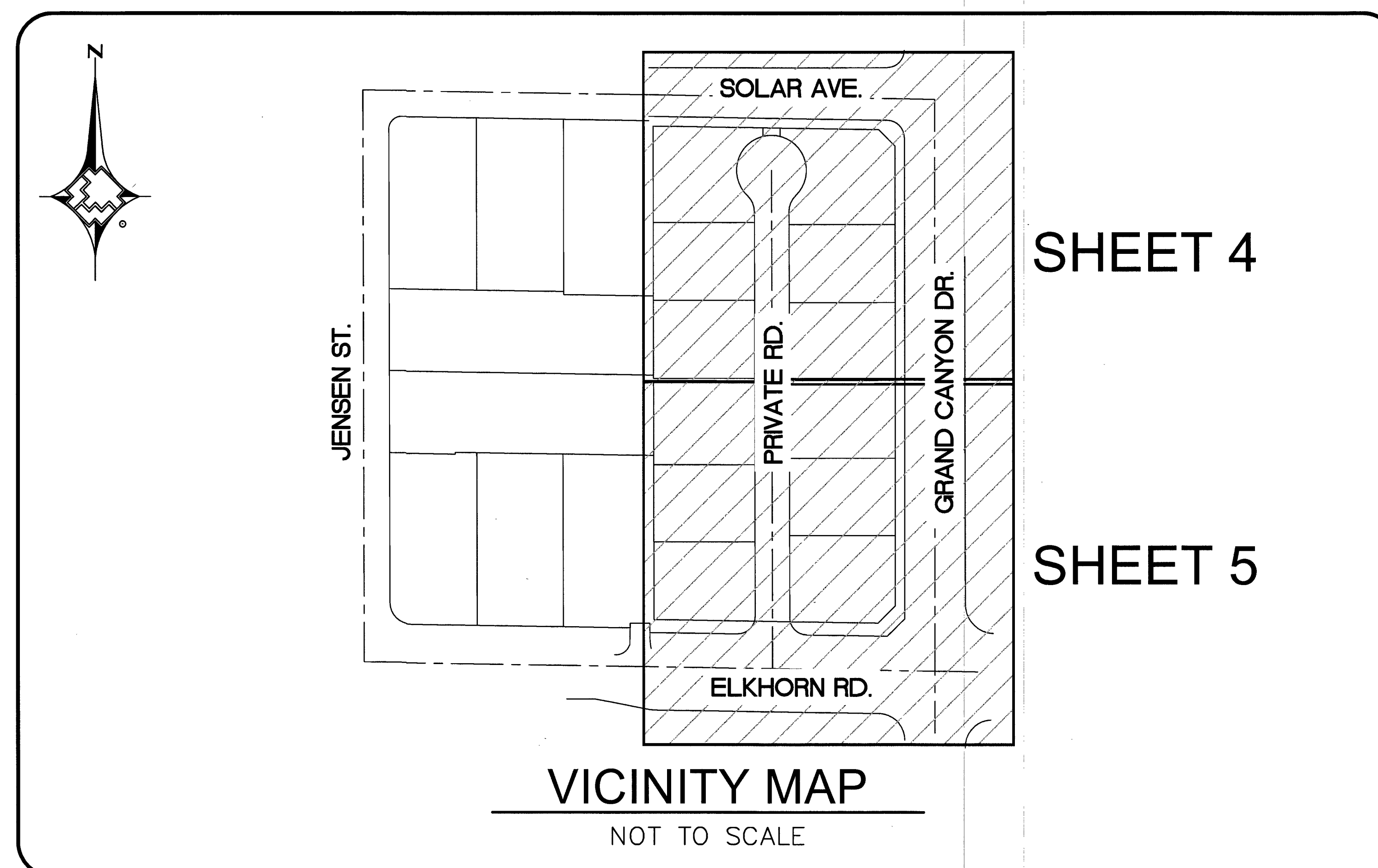
- All Mainline to be 1 1/4\" PVC SCH 40
- All Lateral Line to be 3/4\" PVC SCH 40 and 1/2\" Poly
- All emitters to be DPJ08 using a punch and Barb System
- All irrigation lines are drawn Diagramatic and should be installed in landscape planters



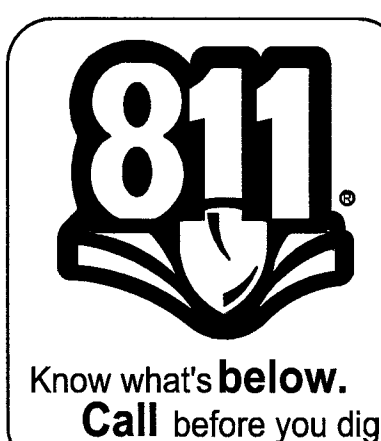


SOUTHWEST GAS CORPORATION

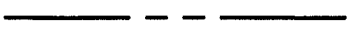
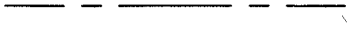
S ELKHORN AND GRAND CANYON
CITY OF LAS VEGAS, NV
WR #3459299



**PRELIMINARY
NOT FOR
CONSTRUCTION**



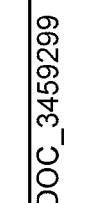
LEGEND

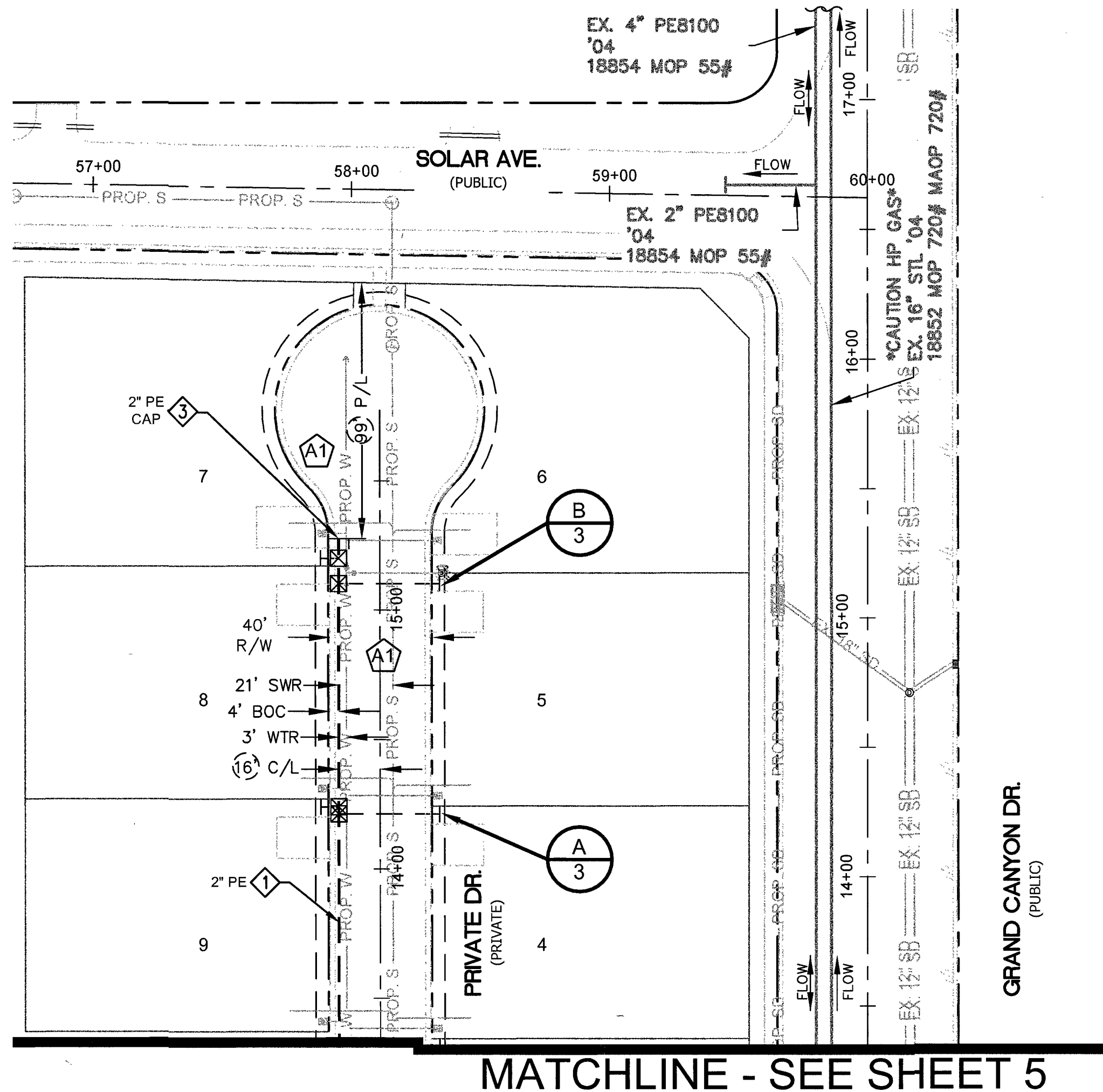
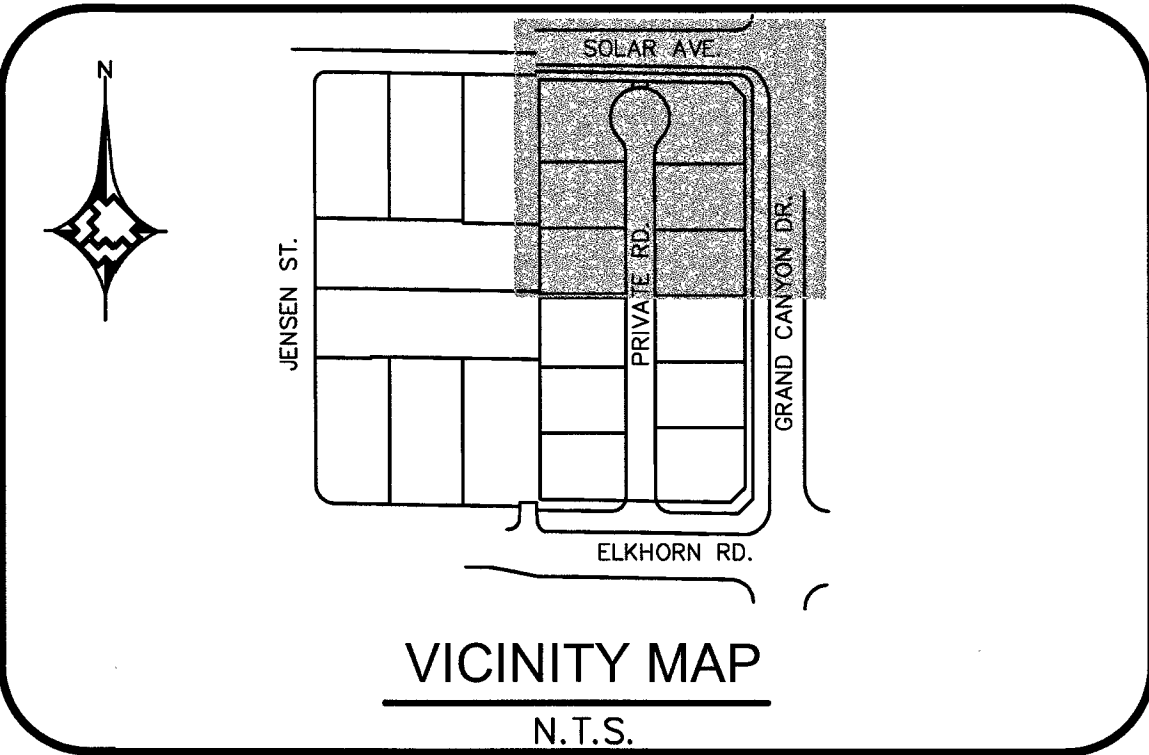
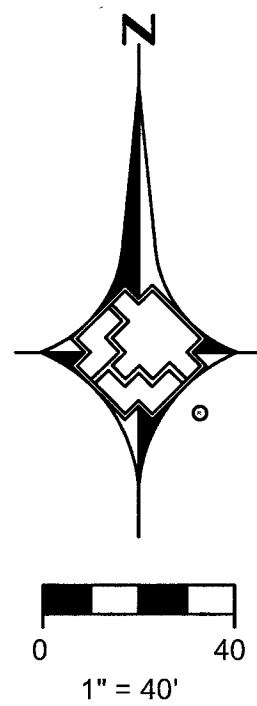
	EXISTING GAS LINE
	GAS LINE TO BE ABANDONED
	EXISTING GAS SERVICE
	PROPOSED MAIN GAS LINE (NEW)
	PROPOSED SERVICE LATERAL (NEW)
	PROPOSED SERVICE LINE (NEW)
	RIGHT OF WAY LINE
	STREET CENTERLINE
	PROPERTY LINE
	BACK OF CURB
	MATCHLINE
	EXISTING ANODELESS RISER
	EXISTING ANODE RISER
	EXISTING GAS LIGHT
	EXISTING GAS VALVE
STL (1) PE (1)	PROPOSED MAIN CALL OUT
(1)	ABANDONED FACILITIES CALL OUT
→ (12) →	GAS DIMENSIONS
☒	EFV

SHEET INDEX

1. COVER SHEET
2. ABBREVIATIONS & NOTES
3. MATERIALS & SIGNATURES
4. DESIGN PLAN
5. DESIGN PLAN
6. DETAIL SHEET C
7. TYPICAL SWPPP BMP DETAILS SHEET

[illegible]





MATERIAL LIST FOR PROPOSED DISTRIBUTION FACILITIES		
ITEM#	STOCK ID#	DESCRIPTION
1	100-5101	2" PE MAIN
2	160-8175	6"x2" PE HVTT
3	140-3060	2" PE CAP
4	160-8577	2"x1" PE TAPPING TEE W/1200 EFV
5	101-8526	1" PE SERVICE
6	850-8773	1" PE CAP
7	160-8394	2"x1 PE TAPPING TEE W/1800 EFV

PRELIMINARY
NOT FOR
CONSTRUCTION

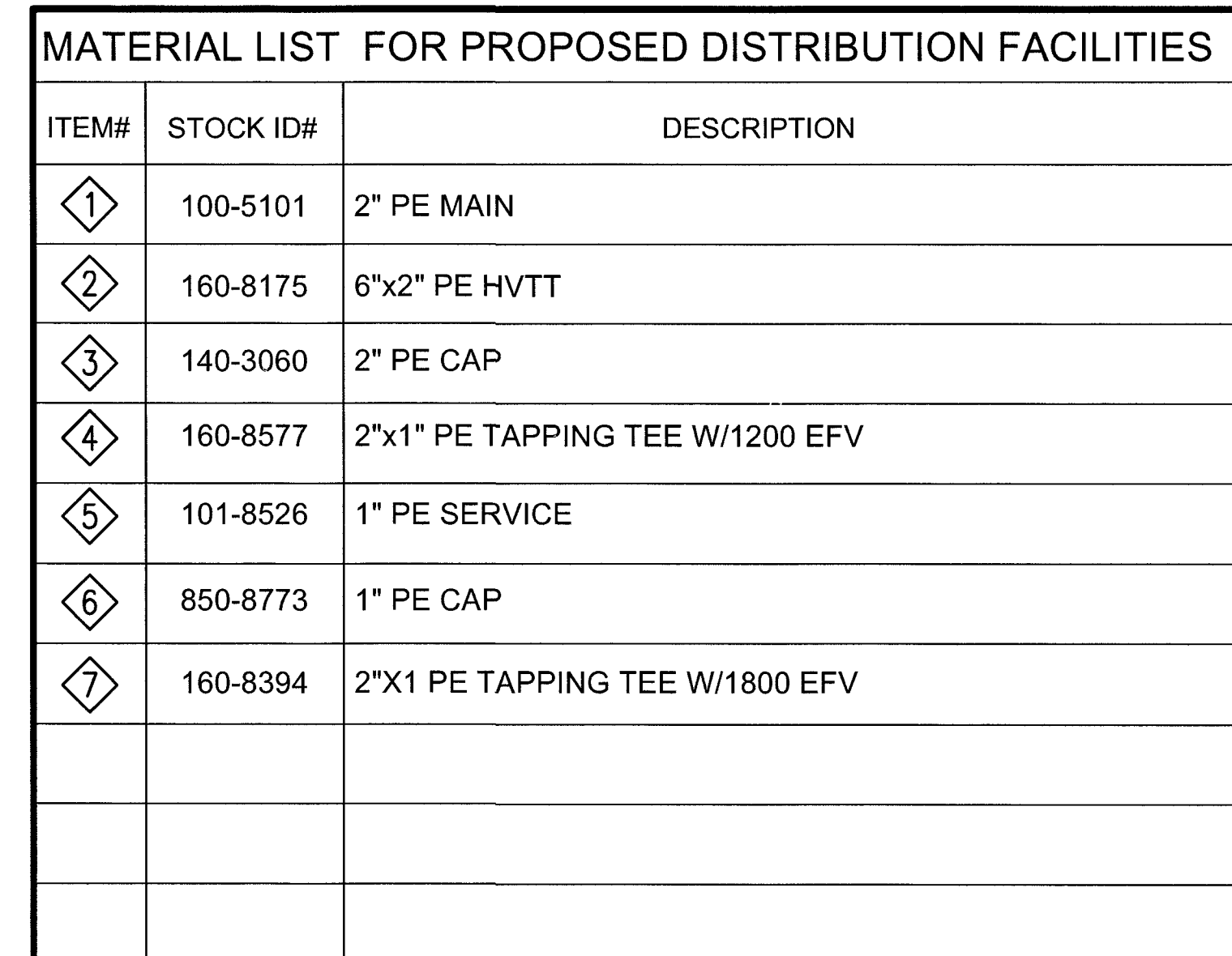
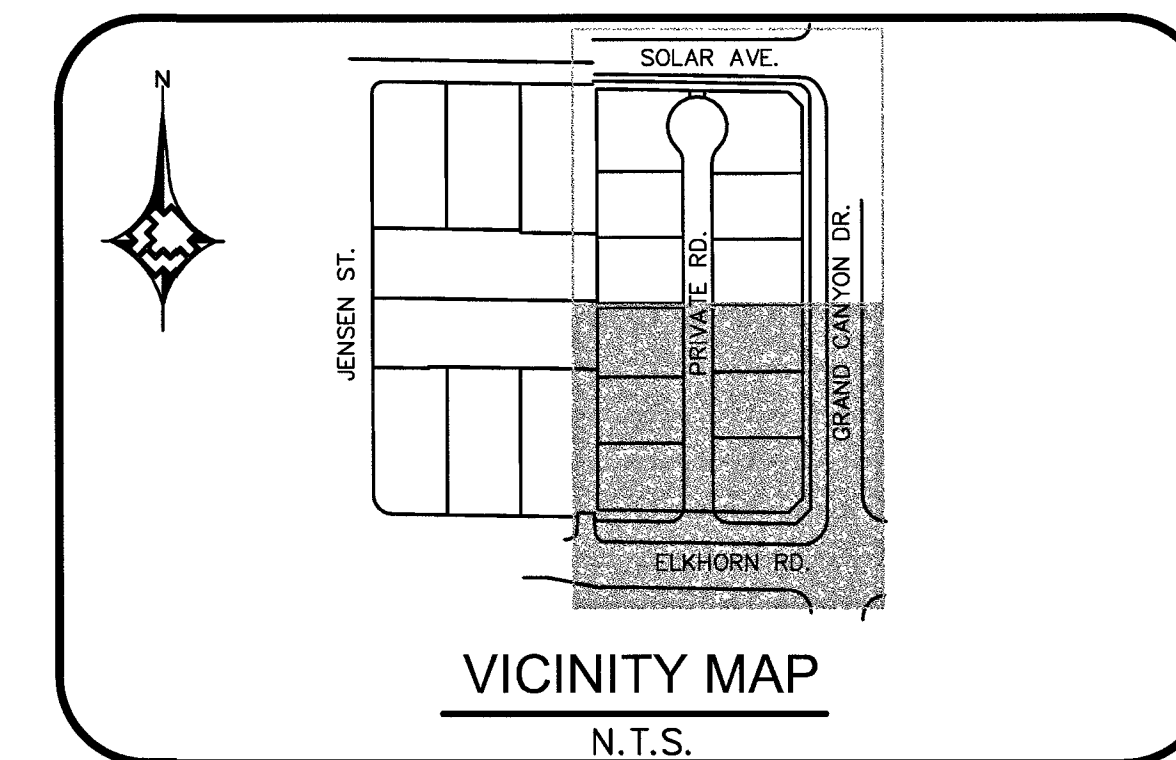
DATE: _____ BY: _____



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

RTC NOTES:
PAVEMENT REPAIR SHALL CONFORM TO RTC:
A1 503
A2 500.5

1. <table><tr><td>NO.</td><td>DESCRIPTION</td><td>BY</td><td>DATE</td><td>APPVD.</td></tr><tr><td colspan="5">REVISIONS</td></tr></table>				NO.	DESCRIPTION	BY	DATE	APPVD.	REVISIONS					AS-BUILT DRAWING-PRESSURE TEST DATA PIPE DIA. _____ TEST MEDIUM _____ TEST METHOD _____ PIPE LENGTH _____ ☐ AIR ☐ GAUGE PIPE TYPE _____ ☐ NITROGEN ☐ CHART MIN. DURATION _____ ☐ WATER GAUGE/ PRESS REC SN# _____ TEST PRES. (PSIG) _____ START _____ END _____ TIME _____ DATE _____ PERFORMED BY _____				VISUAL INSPECTION CERTIFICATION I HAVE VISUALLY INSPECTED ALL HEATED FUSIONS, SOLVENT CEMENT, MECHANICAL JOINTS, AND WELDS THAT I HAVE PERFORMED NAME _____ DATE _____ INSPECTOR _____ FOREMAN _____ REVIEWED BY _____ AS-BUILTS ACCEPTED BY _____ DATE _____ POSTED BY _____ DATE _____ POSTING QCD BY _____ DATE _____				CONSTRUCTION PERMIT INFORMATION CITY OF LAS VEGAS TAX CODE 02-0200				ISOLATION AREA ISO_21_DIST_327		W.R. NO. 3459299		ENGINEER/TECH: KAE LAN TANIGAWA ACCOUNT REP: MAX HUGHES PROJECT CONTACT: DAVE WAGNER SHEET NO: 4 OF 7 DWN. BY: SEI SCALE: 1" = 40' CHKD. BY: _____ DATE: 09/15/2017 APPVD. BY: _____				PHONE: 702-365-2291 PHONE: 702-755-6426 PHONE: 702-258-4447	
NO.	DESCRIPTION	BY	DATE	APPVD.																															
REVISIONS																																			
SOUTHWEST GAS CORPORATION				TAX CODES _____ UNIT NO. _____ UNIT TYPE _____ INSTL. RETIRED INSTL. RETIRED PROPOSED COMPLETED PROPERTY UNITS				LOCATION SEC 18 T19S R60E M.D.M.				ATLAS #/TILE # x579y560				TITLE S ELKHORN AND GRAND CANYON DESIGN PLAN L17-00900 107Y5071																			

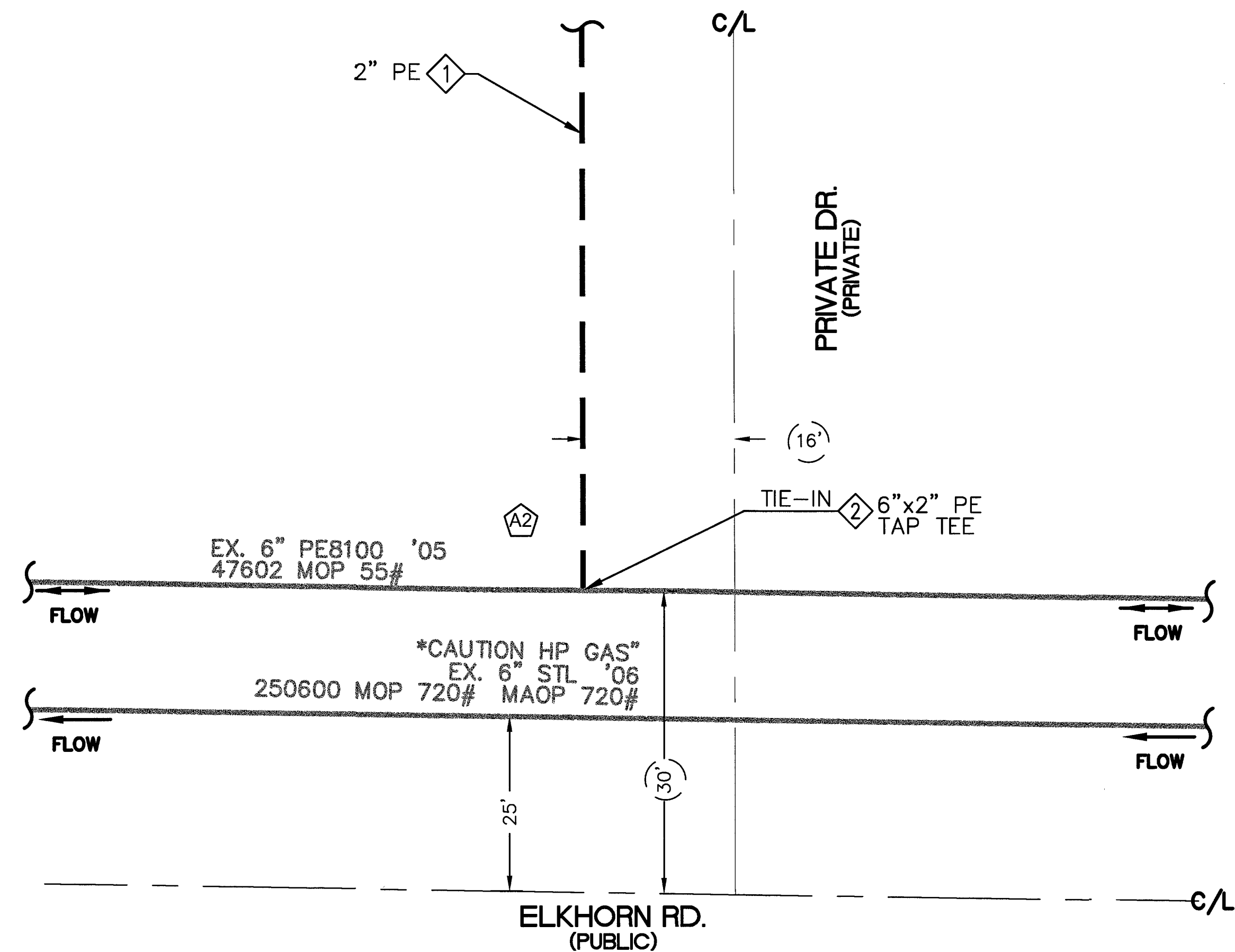


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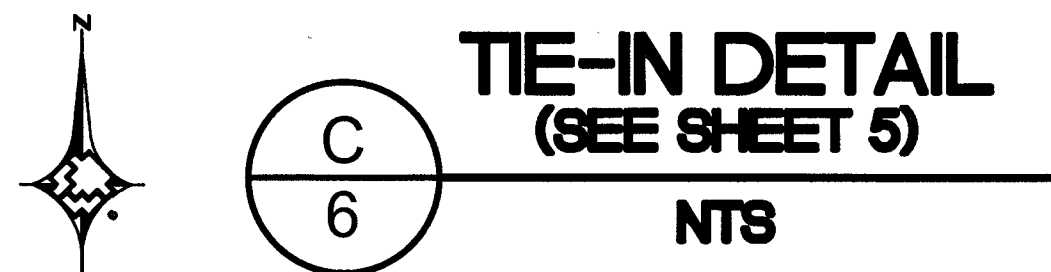
A1 503
A2 500.5

[illegible]



MATERIAL LIST FOR PROPOSED DISTRIBUTION FACILITIES		
ITEM#	STOCK ID#	DESCRIPTION
1	100-5101	2" PE MAIN
2	160-8175	6"x2" PE HVTT
3	140-3060	2" PE CAP
4	160-8577	2"x1" PE TAPPING TEE W/1200 EFV
5	101-8526	1" PE SERVICE
6	850-8773	1" PE CAP
7	160-8394	2"x1 PE TAPPING TEE W/1800 EFV

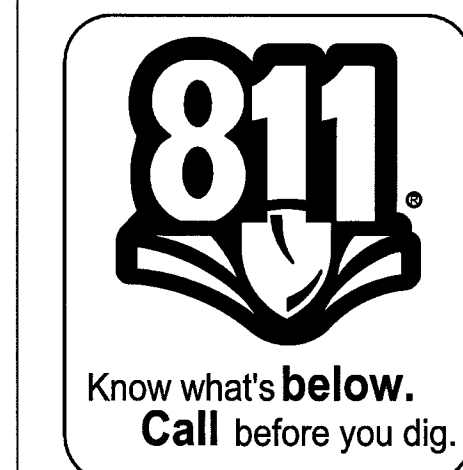
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PRELIMINARY
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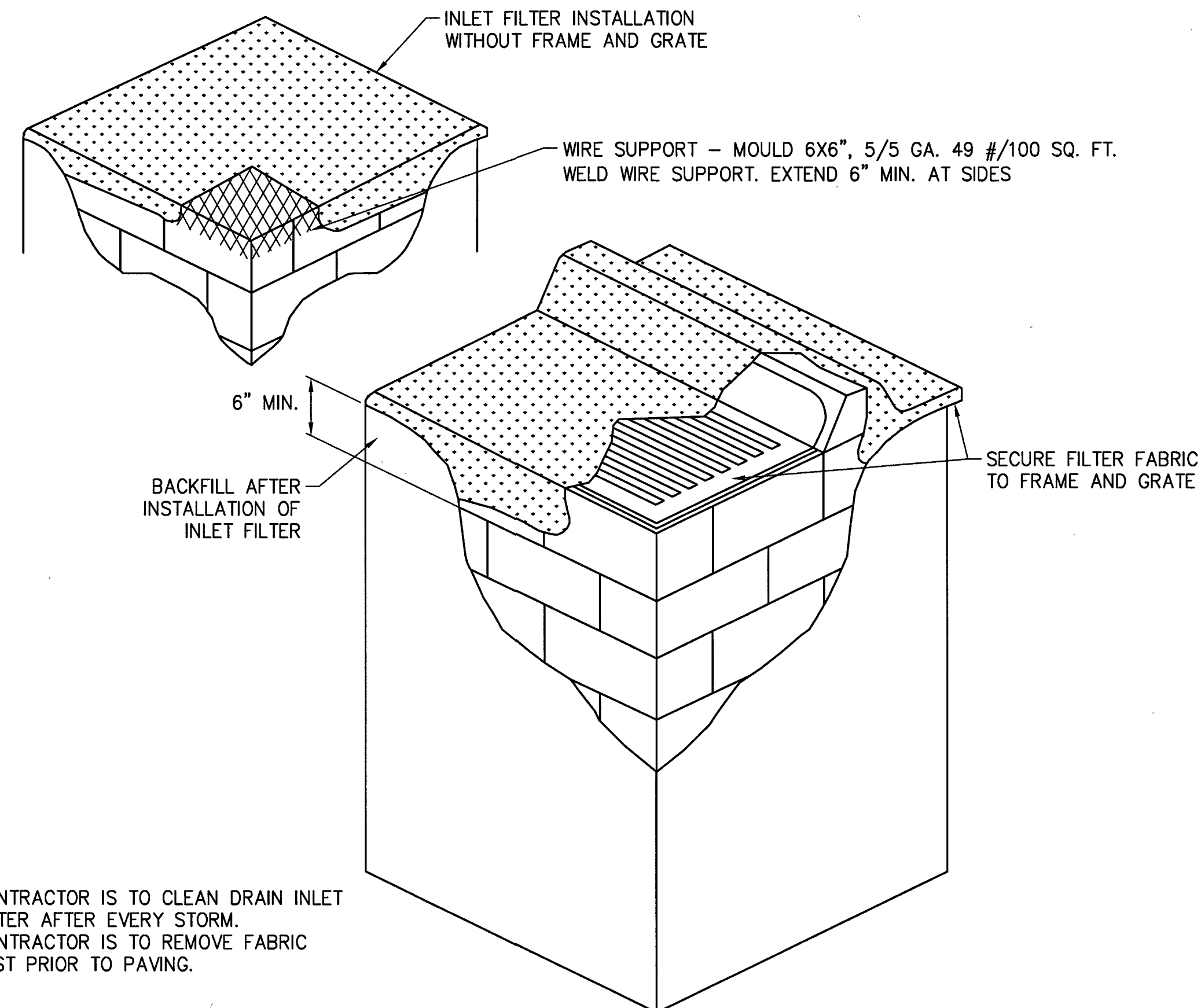
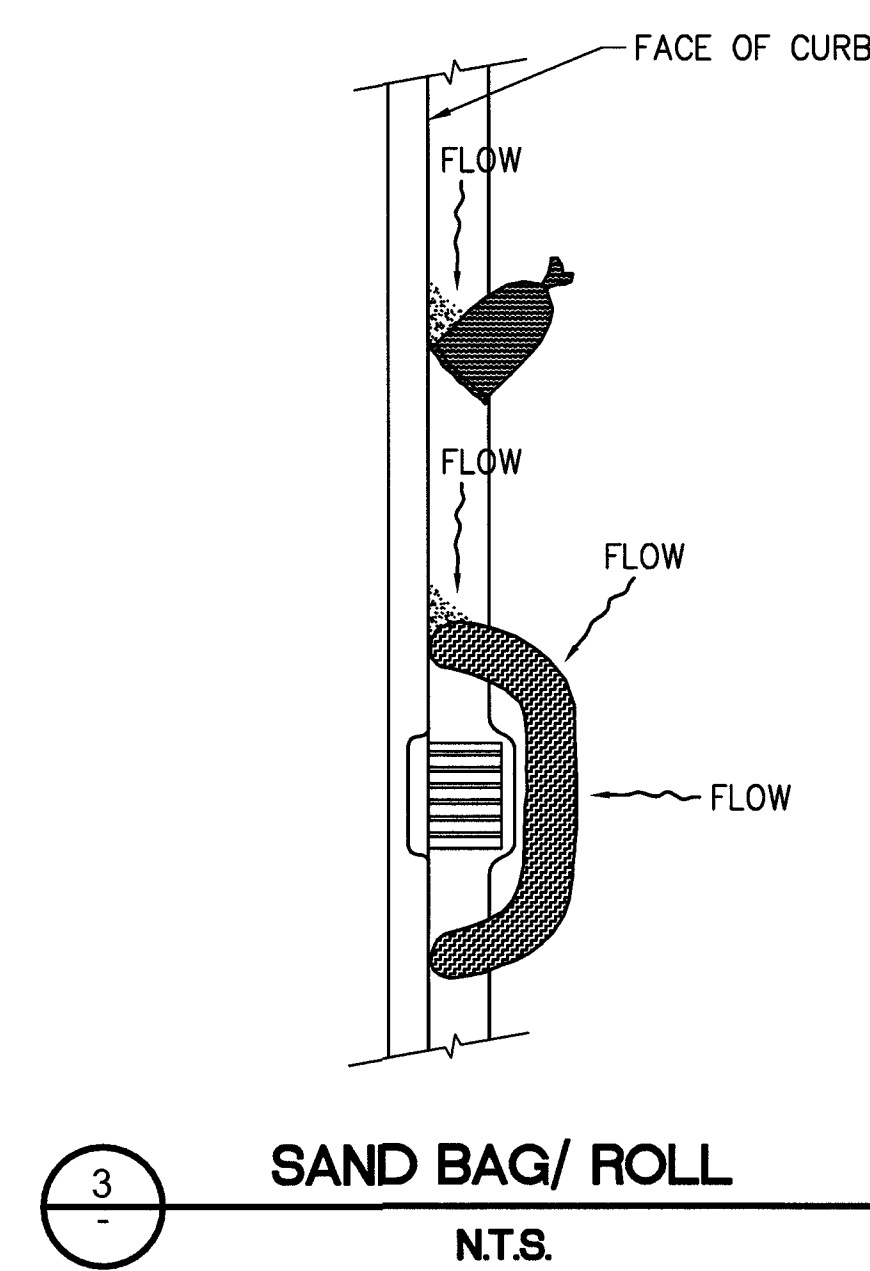
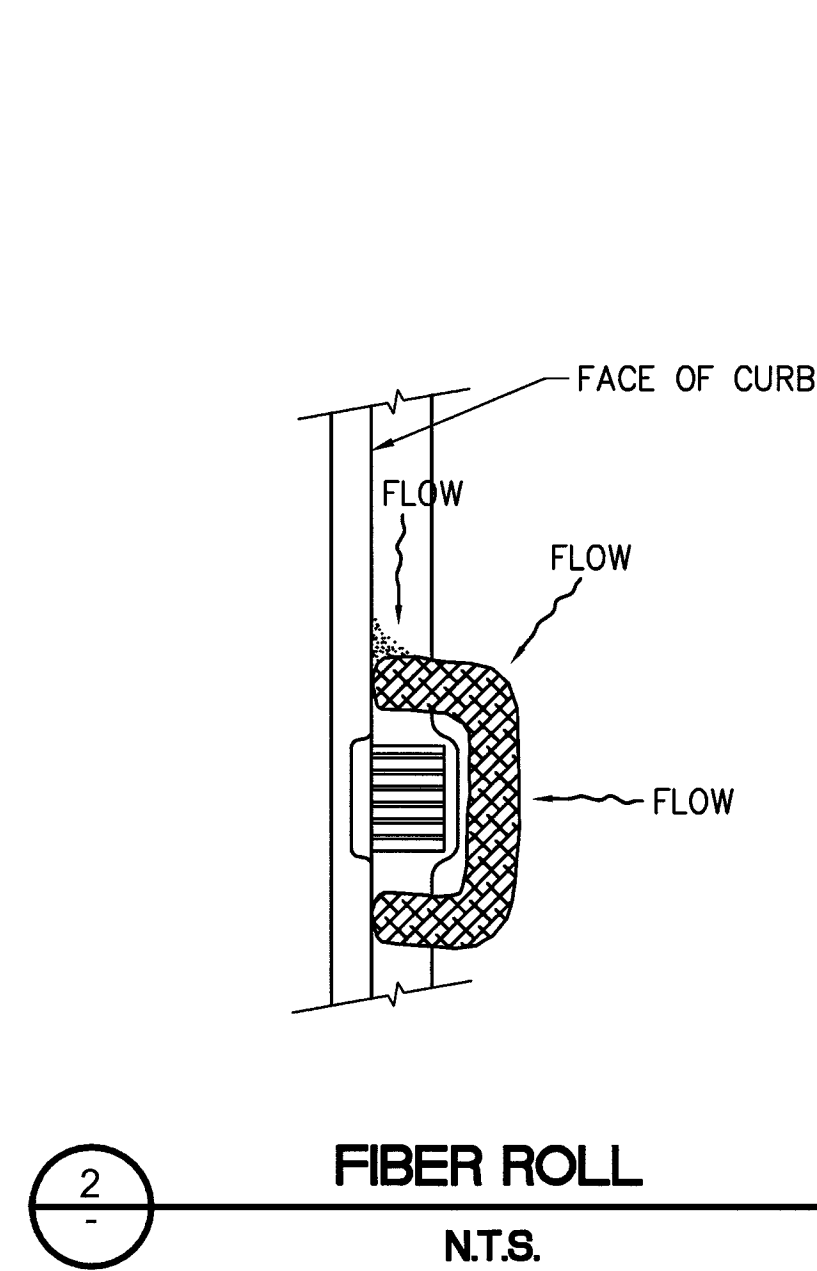
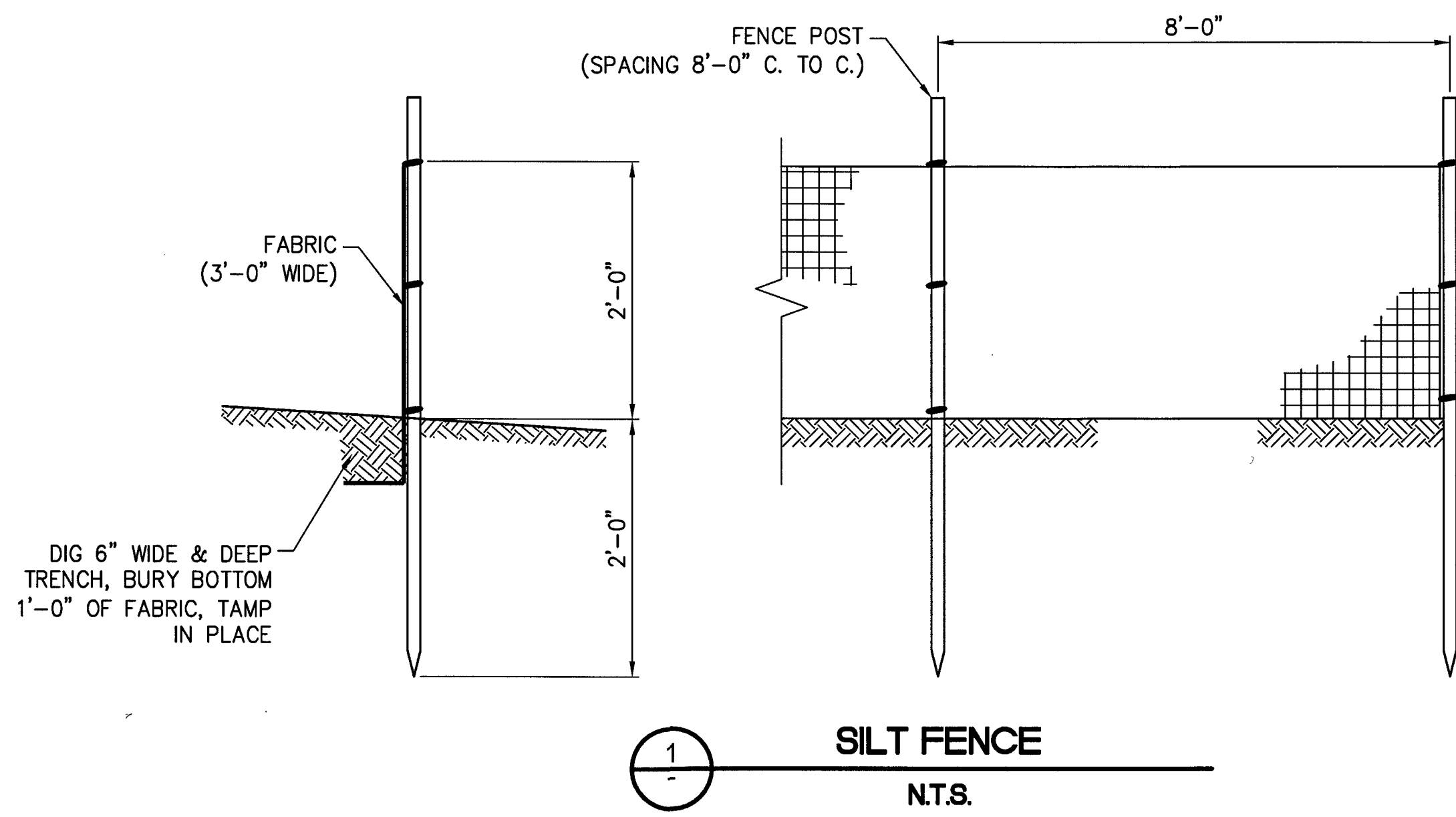
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RTC NOTES:
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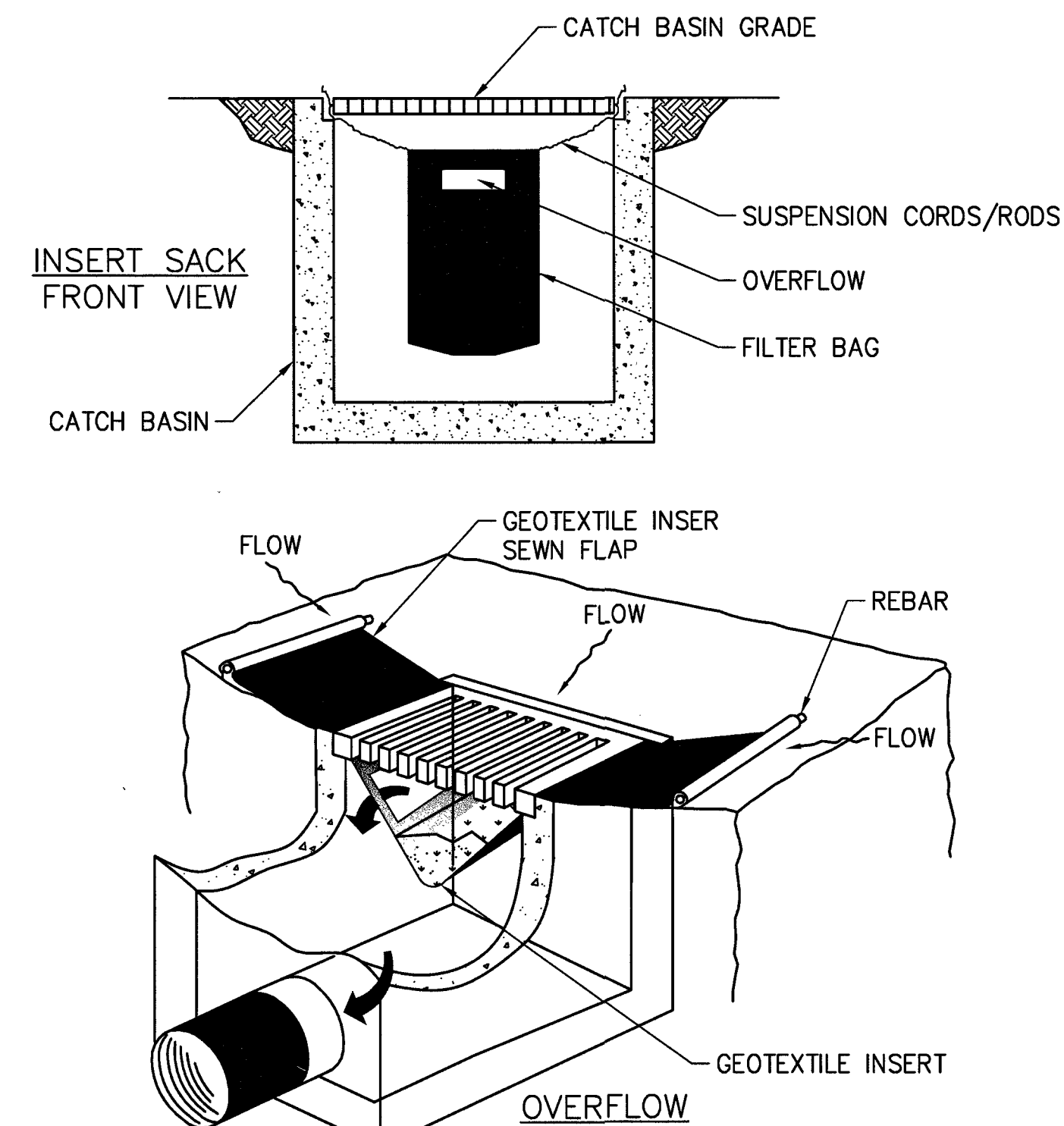
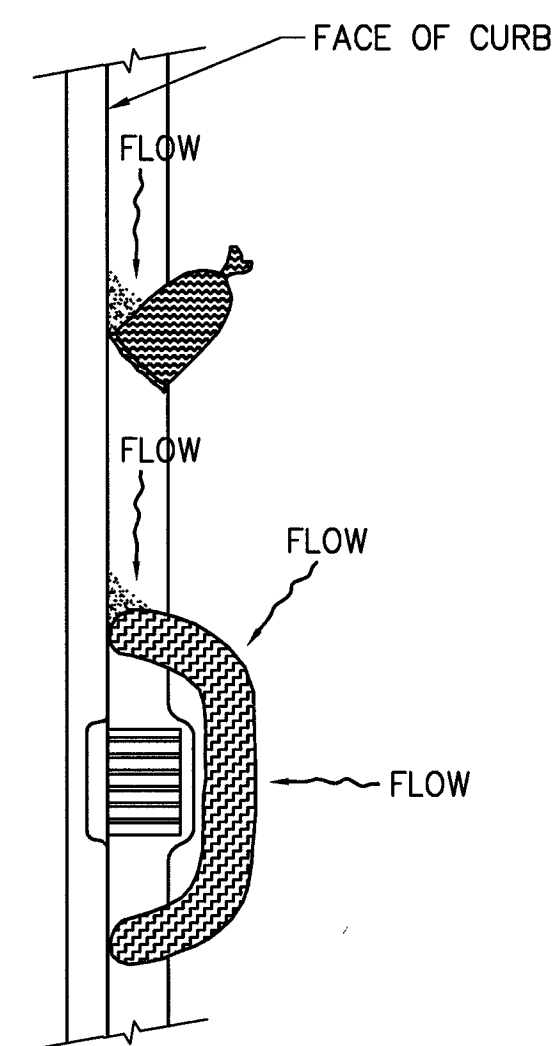
1. _____				AS-BUILT DRAWING-PRESSURE TEST DATA				VISUAL INSPECTION CERTIFICATION				CONSTRUCTION		ISOLATION AREA		W.R. NO.		ENGINEER/TECH: KAE LAN TANIGAWA		PHONE: 702-365-2291	
2. _____				TEST MEDIUM TEST METHOD				I HAVE VISUALLY INSPECTED ALL HEATED FUSIONS, SOLVENT CEMENT, MECHANICAL JOINTS, AND WELDS THAT HAVE PERFORMED				INSPECTOR _____		ISO_21_DIST_327		3459299		ACCOUNT REP: MAX HUGHES		PHONE: 702-755-6426	
3. _____				PIPE DIA. _____				NAME _____ DATE _____				FOREMAN _____						PROJECT CONTACT: DAVE WAGNER		PHONE: 702-258-4447	
4. _____				PIPE LENGTH _____				PERFORMED BY _____				REVIEWED BY _____						SHEET NO: 6 OF 7		DATE: 09/15/2017	
NO. _____				PIPE TYPE _____				DATE _____										DWN BY: SEI		APPVD. BY: _____	
REVISIONS				MIN. DURATION _____				PERMIT INFORMATION				LOCATION		ATLAS #/TILE #		TITLE					
				TEST PRES. (PSIG) _____				CLARK COUNTY				SEC 18		x579y560		S ELKHORN AND GRAND CANYON					
				TIME _____				TAX CODE 02-0200				T19S R60E				DETAIL SHEET					
				DATE _____								M.D.M.				L17-00900					
				PERFORMED BY _____												10725071					
				PROPERTY UNITS												3459299					

TYPICAL SWPPP BMP DETAILS



NOTE:

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

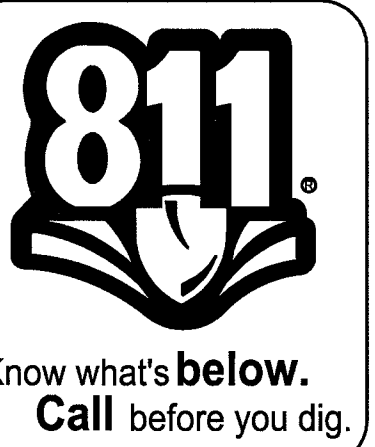


NOTE:
RECESSED CURB INLET MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS.
SIZE OF FILTER FABRIC INLET SACK TO BE DETERMINED BY MANUFACTURER.



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

**PRELIMINARY
NOT FOR
CONSTRUCTION**

[illegible]