



ADDENDUM #2

NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1

BID #13/14-007 – PWP# WA-2014-011

BIDS DUE NO LATER THAN: 1:45 PM ON NOVEMBER 22, 2013

PUBLIC BID OPENING: 2:00 PM ON NOVEMBER 22, 2013

This addendum is to notify all potential proposers of clarifications made to the Bid documents as stated below.

REVISED BID DUE DATE

The due date for bids has been changed from the original date of November 20, 2013. Bids are now due no later than 1:45PM on November 22, 2013. Bids will be read publicly at 2:00PM on that same date. Please note that the time bids are due is different from the bid opening time.

GEOTECHNICAL REPORT

A copy of the geotechnical report covering the relevant sections of the project area is included as a requested reference document and is available for download from the same site where potential bidders downloaded bid documents and this addendum.

MISCELLANEOUS

Attached is a revised Groundwater Monitoring Data sheet. Bidders shall add the attached sheet to the plans and specifications.

1. Attachment 1 – Kleinfelder Groundwater Monitoring Data, North Truckee Drain – To Boring B-11 a groundwater reading taken on 11/4/2013 was added.

BID ITEM CLARIFICATIONS

The following are the changes made to the Bid Item Clarifications:

1. Bid Item 3 – Traffic Control
 - a. Modify paragraph 3 to be: This work also consists of any driveway modification, temporary loading ramps, or other related activities or accommodations to provide and preserve access to all businesses and loading docks and to restore said modifications to their pre-construction configuration as directed in the plans.
2. Bid Item 14 – Construct Sanitary Sewer Lift Station
 - a. Modify paragraph 2 to be: The following items shall be included in the price for this item: structure excavation and backfill (including structural bedding/backfill), ancillary piping, ancillary cables/wiring, pumps, pump controls, electronic/electricity controls, telemetry equipment, vault(s) and wet wells, enclosures, chain link fencing, chain link swing gate, manhole lids, testing, and any other labor or equipment relevant and necessary to provide a complete and properly functioning lift station.
3. Bid Item 52 – Force Account – General (Contingent Item)
 - a. The first sentence was changed to be: A force account of \$500,000 has been established for this project.

SPECIAL PROVISIONS

The following are the changes made to the Special Provisions:

1. Section 23: Accommodation for Public Traffic – Modify paragraph 2 to be: Per section **100.33.01 MAINTENANCE OF TRAFFIC** of the "Standard Specifications for Public Works Construction" Latest Edition, the CONTRACTOR shall maintain access to each business and or property owners on Kleppe Lane, Larkin Circle and Madison Avenue throughout the project duration, including access to loading docks and adequate ingress and egress of trucks and equipment so that shipments and deliveries can be conducted without interruption or interference. In order to accomplish these requirements, CONTRACTOR shall anticipate the following: phasing of the work, building new or modifying existing driveways, flaggers to direct one way traffic, night and weekend work and any other means to accomplish this directive. CONTRACTOR shall coordinate specific access requirements with individual businesses so that size, type and timing of deliveries / exports can be properly accounted for without any disruption to normal business activities. See Section 19 for Working Hour requirements.
2. Section 23: Accommodation for Public Traffic – Modify paragraph 3 to be: Regarding Parcel 34-171-24, CONTRACTOR shall coordinate with CITY, property owner and individual tenants regarding potential removal and replacement in-kind of two (2) concrete masonry unit trash enclosures if such is necessary to provide sufficient ingress and egress and to provide two (2) temporary portable loading ramps for use during the duration of any disturbance to said parcel. These loading ramps shall have a minimum capacity of 25,000 pounds, minimum service width of 86 inches, and a 10 foot leveling-off area. Two such models are the Duraramp Pro DR-PRO1025 (<http://www.duraramp.com/portable-loading-docks/heavy-duty-ramps.php>) and the Adapt-a-ramp M35000 (<http://www.portablemobileloadingdockramps.com/products-m35000.php>); other models and/or constructed ramps meeting the minimum criteria will be considered. Contractor shall obtain approval from CITY and property owner for the specific product proposed and location.

TECHNICAL SPECIFICATIONS

The following are the changes made to the Technical Specifications:

1. Section 314.00 Concrete Roadway Pavements – the following was added:

Add the following to the end of section 314.03.05 – Reinforcement:

A. Dowel and Tie Bars

Tie bars shall be deformed steel bars and conform to the requirements of ASTM A 615, or ASTM A 996, except that rail steel bars, Grade 50 and 60, shall not be used for tie bars that are to be bent or re-straightened during construction. Tie bars designated as Grade 40 in ASTM A 615 can be used for construction requiring bent bars.

Dowel bars shall be plain steel bars conforming to ASTM A 615, or ASTM A996, and shall be free from burring or other deformation restricting slippage in the concrete. High strength dowel bars shall conform to ASTM A 714, Class 2, Type S Grade I, II, or III, Bare Finish.

Before delivery to the construction site,

each dowel bar and tie bar shall be painted on all surfaces with one coat of paint conforming to MIL-DTL-24441/20A.SSPC paint 5 or SSPC paint 25. If plastic or epoxy-coated steel dowels and tie bar are used, no paint coating is required, except when specified for a particular situation on the contract plans, Coated dowels shall conform to the requirements given in AASHTO M 254.

B. Dowel Bars

Dowel bars or other load-transfer units of an approved type shall be placed across joints in the manner as shown on the plans. They shall be of the dimensions and spacings as shown and held rigidly in the middle of the slab depth in the proper horizontal and vertical alignment by an approved assembly device to be left permanently in place. Submit the proposed method of using wire basket supports including shop drawings with proposed method of anchoring the baskets for approval. The use of mortar or concrete blocks shall not be used to support dowels or tie bars. The proposed method of establishing the assembly locations on the subgrade shall be submitted for approval as well. The dowel or load-transfer and joint devices shall be rigid enough to permit complete assembly as a unit ready to be lifted and placed into position. The portion of each dowel painted with rust preventative paint, shall be thoroughly coated with asphalt MC-70, or an approved lubricant, to prevent the concrete from bonding to that portion of the dowel. If free-sliding plastic-coated or epoxy-coated steel dowels are used, a lubrication bond breaker shall be used except when approved pullout tests indicate it is not necessary. Where butt-type joints with dowels are designated, the exposed end of the dowel shall be oiled.

Dowel bars and assemblies shall be checked for position and alignment. During the concrete placement operation, it is advisable to place plastic concrete directly on dowel assemblies immediately prior to passage of the paver to help maintain dowel position and alignment within maximum permissible tolerances.

Dowel bar assemblies are not allowed in construction joints. The concrete shall be struck flush and dowels/tie bars shall be placed into holes drilled into the hardened concrete. Holes approximately 1/8 inch to 1/4 inch greater in diameter than the dowel or tie bar shall be drilled with rotary-type core drills that must be held securely in place to drill perpendicularly into the vertical face of the pavement slab. Rotary-type percussion drills may be used provided that spalling of concrete does not occur. Any damage of the concrete shall be repaired by the Contractor in a method approved by the Engineer. Dowels or tie bars shall be bonded in the drilled holes using an epoxy resin material. Installation procedures shall be adequate to ensure that the area around dowels is completely filled with epoxy grout. Clean drilled holes with oil-free compressed air. Epoxy shall be injected into the back of the hole and displaced by the insertion of the dowel bar. Bars shall be completely inserted into the hole and shall not be withdrawn and reinserted creating air pockets in the epoxy around the bar. The Contractor shall furnish a template for checking the position and alignment of the dowels.

2. Section 334.03.1 Concrete Wet Well - Subsection b was modified to the following: Base Section: 8-inch minimum thickness for floor slab and 7-inch minimum thickness for walls.

DRAWINGS

Attached are revisions to Drawings and new Drawing sheets. Bidders shall remove or hand modify the original Drawings with the revisions shown below. The following are the changes made to the Drawings:

1. Sheet G-3 – Note 13 – Note is no longer applicable and was deleted.
2. Sheet HC -1 – Crown Curve Table was added to the bottom center of the sheet.
3. Sheet HC - 3 – Crown line and callout were added to the sheet.
4. Sheet HC-4 – Stationing was changed at eight station and offset callouts at the following offsets:

- a. "G" 16+20.00 was changed to "G" 16+22.25 at 48.20' LT and RT and 44.60' LT and 45.40' RT
 - b. "G" 13+78.00 was changed to "G" 13+82.25 at 48.20' LT and RT and 44.60' LT and 45.40' RT
5. Sheet D-2 – Station and offsets were changed at six locations:
 - a. "G" 16+20.00 was changed to "G" 16+22.25 at LT and RT
 - b. "G" 13+78.00 was changed to "G" 13+82.25 at LT and RT
 - c. "G" 10+97.47 104.98' RT was changed to "G" 10+98.84 127.81' RT
 - d. "G" 10+47.79 112.79' RT was changed to "G" 10+49.93 127.73' RT
6. Sheet C-5 – Top of grate elevations for drop inlets updated throughout the sheet.
7. Sheet C-9 – All notes, contours, elevation callouts and hatching limits for the PCC paving on Greg Street, including the intersection with Larkin Circle, were changed.
8. Sheet C-10 – Sheet is no longer applicable
9. Sheet C-12 – Sheet was changed in its entirety.
10. Sheet C-13 – Sheet was changed in its entirety.
11. Sheet C-14 – Sheet was changed in its entirety.
12. Sheet C-15 – Sheet was changed in its entirety.
13. Sheet ST-1 –
 - a. Notes and dimensions were changed throughout the sheet.
 - b. Note 11 was added.
14. Sheet ST-2 – Note 11 was added
15. Sheet XS-1 – Remove the one "4" CTB" callout from the one drawing under the section titled: LARKIN CIRCLE – TYPICAL SECTION. Replace with the following note: "8" TYPE 2 CLASS B AGGREGATE BASE".
16. Sheet XS-2 – Sheet was changed in its entirety.
17. Sheet DT-5 – Remove the two "Note 11" callouts from the two drawings under the section titled: RCB INSTALLATION SECTIONS
18. Sheet DT-6 – The Portland Cement Concrete details (top half of the sheet) were all removed and replaced.
19. Sheet DT-7 – The lower middle detail titled "Loop Detector Notes, Layout and Details" was added.
20. Sheet U-3 – In the upper middle and upper right details, sanitary sewer lift station enclosure fencing was highlighted.
21. Sheet U-4 – In the lower left detail, sanitary sewer lift station enclosure fencing was highlighted and notes were added.
22. Sheet E.1 (NV Energy Electric Sheet 1 of 2) – Sheet was changed in its entirety.

Please note and adjust your bid according to the revisions, additions, deletions, clarifications or modifications as presented on this Addendum #2, which are made a part of this bid. NOTE: To avoid disqualification, this Addendum 2 (and any other addenda) must be signed by an authorized representative of the bidding firm in the space provided and must be submitted with your firm's sealed proposal (not later than 1:45 pm on November 22, 2013). Failure to return this addendum, duly signed, may be cause for rejection of the bid. ALL ADDENDA SHOULD BE SIGNED AND PLACED IN SEQUENTIAL ORDER AND ATTACHED TO THE FRONT OF THE BID PACKAGE, COMPLETE WITH ALL REQUIRED DOCUMENTS.

CONTRACTOR BUSINESS NAME

Dan Marran, C.P.M., CPPO
Contracts and Risk Manager

X _____
Authorized Signature

November 15, 2013

Printed Name of Person Signing

Attachment 1: Kleinfelder Groundwater Monitoring Data, North Truckee Drain

Boring	Elevation of Boring	Date	Depth to Groundwater	Elevation of Groundwater
B-03	4395.3	4/8/2009	19.0	4376.3
B-03	4395.3	6/18/2009	13.9	4381.4
B-03	4395.3	7/20/2009	14.1	4381.2
B-03	4395.3	11/10/2009	13.8	4381.5
B-03	4395.3	3/9/2010	13.3	4382.0
B-07	4398.2	7/2/2009	17.3	4380.9
B-07	4398.2	7/20/2009	17.8	4380.4
B-07	4398.2	11/10/2009	17.5	4380.7
B-07	4398.2	3/9/2010	17.0	4381.2
B-11	4389.9	4/8/2009	14.5	4375.4
B-11	4389.9	6/18/2009	12.3	4377.6
B-11	4389.9	7/20/2009	13.2	4376.7
B-11	4389.9	11/10/2009	13.6	4376.3
B-11	4389.9	3/9/2010	13.3	4376.6
B-11	4389.9	11/4/2013	13.4	4376.5

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CONTRACT DOCUMENTS.
- IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS. THE DUTIES OF THE PROJECT COORDINATOR DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.
- SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT THE PROJECT COORDINATOR FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE FACILITIES WITHIN THE CONSTRUCTION AREA UNTIL NEW DRAINAGE IMPROVEMENTS ARE IN PLACE AND FUNCTIONAL OR UNTIL COMPLETION OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE CONVEYANCE OF STORM RUNOFF AND NORMAL BASE FLOWS THROUGH THE SITE DURING CONSTRUCTION. THE SWPPP PRODUCED BY THE CONTRACTOR WILL DESCRIBE HOW OFF SITE FLOWS WILL BE HANDLED DURING CONSTRUCTION.
- THE CONTRACTOR SHALL TAKE REASONABLE MEASURES TO PROTECT EXISTING IMPROVEMENTS FROM DAMAGE. ALL SUCH IMPROVEMENTS DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR RECONSTRUCTED TO THE OWNER'S SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.
- IN AREAS WHERE TREES MAY BE IMPACTED OR ARE INTERFERING WITH CURB/GUTTER AND/OR SIDEWALK AND DRIVEWAY APRONS, THE CONTRACTOR SHALL SCHEDULE ALL WORK REQUIRED TO REMOVE TREES AND BUILD IMPROVEMENTS WITH THE CITY OF SPARKS PARKS MAINTENANCE AT 353-2369 WITH AT LEAST A THREE (3) DAY ADVANCE NOTICE. THE CONTRACTOR SHALL EMPLOY AN ISA CERTIFIED ARBORIST TO TRIM TREE ROOTS PER THE INSTRUCTION OF THE CITY OF SPARKS PARKS DEPARTMENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATE OFF-SITE DISPOSAL OF ALL BITUMINOUS PAVEMENTS, PORTLAND CEMENT CONCRETE AND REINFORCING STEEL, AND SPOILS.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE PROJECT COORDINATOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITION EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE PROJECT COORDINATOR BEFORE PROCEEDING WITH CONSTRUCTION.
- THE CONTRACTOR SHALL CALL 1-800-227-2600 FOR UTILITY LOCATIONS AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL HAVE THE EXISTING UNDERGROUND UTILITIES LOCATED IN THE CONSTRUCTION AREA. UNDERGROUND UTILITIES DAMAGED BY THE CONTRACTOR DUE TO NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- NOT USED
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH BUSINESSES ADJACENT TO LARKIN CIRCLE DURING DISRUPTION OF TRAFFIC CAUSED BY CONSTRUCTION ACTIVITIES WITHIN LARKIN CIRCLE.
- THE ENERGY GRADE LINE (EGL) AND HYDRAULIC GRADE LINE (HGL) SHOWN ON THE PROFILES FOR THE MAIN RCB REPRESENT THE COMPUTED LEVELS ASSOCIATED WITH A CONCURRENT 117-YEAR STORM EVENT FOR THE TRUCKEE RIVER AND THE NORTH TRUCKEE DRAIN WATERSHEDS. IN THIS SCENARIO, THE TAILWATER FROM THE TRUCKEE RIVER DICTATES THE MOST CONSERVATIVE HYDRAULIC CONDITION FOR THE NTD SYSTEM. THE HGL AND EGL SHOWN FOR THE PARALLEL AND LATERAL STORM DRAIN ARE BASED ON A LOCALIZED 100-YEAR STORM EVENT WITH FULL FLOW AT THE OUTLET.

	117 Year Event
North Truckee Drain at Outfall	1,400 cfs
Truckee River at NTD Outfall	24,870 cfs

- THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION DEWATERING AND OBTAINING THE PERMITS NECESSARY TO DISCHARGE THE WATER GENERATED BY THE OPERATION.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND CLEARANCES FOR STAGING AREAS, BORROW SITES, WASTE DISPOSAL SITES, AND ALL MATERIAL PROCESSING SITES. THE CONTRACTOR SHALL PROVIDE THE REQUIRED PERMITS AND CLEARANCES TO THE PROJECT COORDINATOR AT THE PRECONSTRUCTION MEETING.
- THE WASTE DISPOSAL SITE(S) SHALL NOT BE LOCATED IN A WETLAND, WITHIN 200 FEET OF SURFACE WATER, OR IN AN AREA THAT ADVERSELY AFFECTS WILDLIFE, RECREATION, AESTHETIC VALUE OF AN AREA, OR ANY THREATENED OR ENDANGERED SPECIES, AS APPROVED BY THE PROJECT COORDINATOR AND THE CITY OF SPARKS.

- ALL COSTS ASSOCIATED WITH FURNISHING WASTE DISPOSAL SITE(S), DISPOSING OF WASTE, MAINTAINING CONTROL OF ACCESS (FENCE, GATES, AND SIGNS), AND RECLAMATION OF THE WASTE DISPOSAL SITE(S) SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
- THE CONTRACTOR SHALL GIVE WRITTEN NOTICE, WITH A COPY TO THE CITY OF SPARKS AND THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP), 30 DAYS PRIOR TO THE START OF WORK. IN ADDITION, THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE PROJECT COORDINATOR 7 DAYS PRIOR TO THE COMMENCEMENT OF THE WORK SO THE PROJECT COORDINATOR MAY NOTIFY NDEP OF THE DAY WORK WILL START.
- THE CONTRACTOR SHALL GIVE NOTICE TO THE PROJECT COORDINATOR WHEN CONTAMINATED SOIL IS ENCOUNTERED ON THE PROJECT. THE PROJECT COORDINATOR WILL CONTACT THE CITY SO THEY CAN CONTACT THE NDEP TO INSPECT AND MONITOR REMOVAL OF ANY CONTAMINATED SOIL.

BASIS OF BEARING

BASIS OF BEARING FOR THIS SURVEY BEING THE CITY OF SPARKS MODIFIED 83/94 NEVADA STATE COORDINATE PLANE SYSTEM WEST ZONE ALL DISTANCES AND COORDINATES SHOWN ARE GROUND VALUES TO OBTAIN GRID VALUES DIVIDE THOSE SHOWN BY THE COMBINED FACTOR OF 1.000197939

BENCHMARK

BASIS OF ELEVATIONS BEING THE CITY OF SPARKS NAVD88 VERTICAL CONTROL NETWORK BASED FROM BM#43 = ELEVATION 4395.06 FEET.

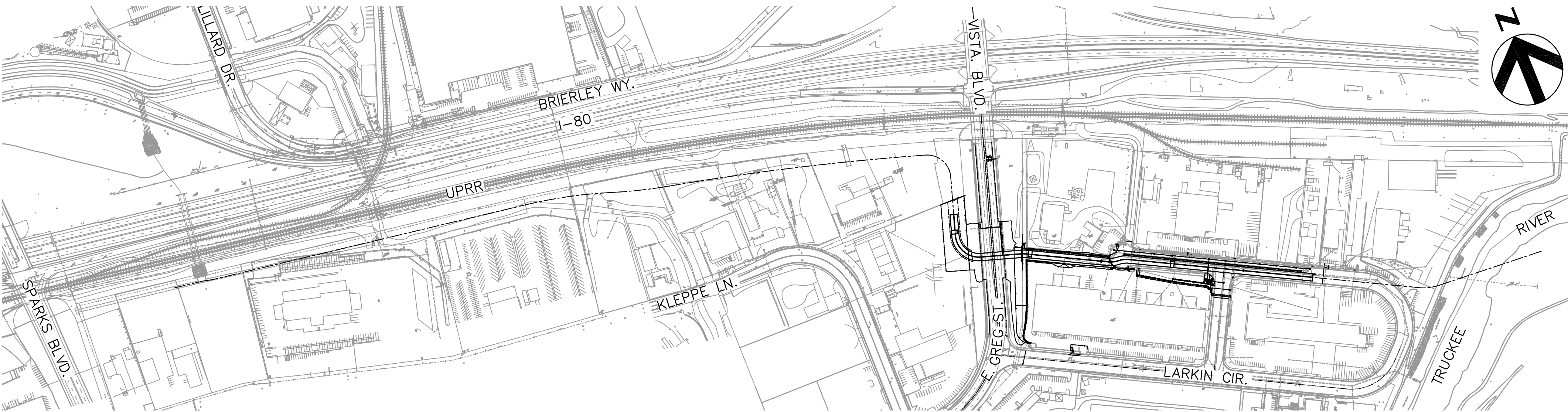
PROPOSED FEATURES LEGEND

- TEE WITH GATE VALVE
- CHECK VALVE (SHADED IF EXISTING)
- FIRE HYDRANT ASSEMBLY
- 45° ELBOW, FLANGED
- 90° FLANGED ELBOW
- AIR/VAC
- THRUST BLOCK
- CAP/PLUG
- BACKFLOW PREVENTER
- WATER METER
- SLEEVE COUPLING
- MANHOLE
- CONSTRUCTION EASEMENT
- PERMANENT EASEMENT
- CENTERLINE
- CHANNEL/SLOPE
- MAJOR CONTOUR
- MINOR CONTOUR
- STORM DRAIN RCP
- STORM DRAIN RCB
- GRADE LINE
- FENCE LINE
- SAWCUT LINE
- CURB AND GUTTER
- ACCESS ROAD
- DAYLIGHT LINE
- EDGE OF PAVEMENT
- PROPERTY/RIGHT-OF-WAY LINE
- VAULT

EXISTING FEATURES LEGEND

- INDEX CONTOUR
- APPROXIMATE INDEX
- INDEX DEPRESSION
- INTERMEDIATE CONTOUR
- APPROXIMATE INTERMEDIATE
- INTERMEDIATE DEPRESSION
- EDGE OF PAVEMENT
- DIRT ROAD
- JEEP/FOOT TRAIL
- CURB LINE
- GUTTER/CONCRETE EDGE
- GUARD-RAIL
- RAILROAD
- FENCE
- RETAINING WALL
- FENCE ON RW
- BLOCK WALL
- MEDIAN WALL
- STONE WALL
- TRENCH/SLOPE
- TAILINGS/TOE
- WATER EDGE
- INTERMITTENT DRAINAGE
- DITCH
- MISCELLANEOUS BOUNDARIES
- TREELINE
- BRUSHLINE
- SANITARY SEWER
- STORM DRAIN
- WATER
- IRR
- IRR
- UGE
- OHU
- OSG
- OHP/CATV
- UG FO
- G
- UGE(ABANDONED)
- UNDERGROUND ELECTRIC
- UNDERGROUND ELECTRIC ABANDONED

- N,E,Z CONTROL POINT
- Z ONLY CONTROL POINT
- SURVEY MONUMENT
- POWER POLES
- POLE ANCHOR
- TRANSMISSION TOWER
- LIGHT POLE
- POST/POLE
- SIGN
- FIRE HYDRANT
- MANHOLE
- SANITARY SEWER MANHOLE
- STORM DRAIN MANHOLE
- TELEPHONE MANHOLE
- VALVE COVER
- VALVE
- TRAFFIC SIGNAL
- R.R./CROSSWALK SIGNAL
- MAIL BOX
- MISC. OBJECT
- METER
- MARSH
- PROSPECT/EXCAVATION
- SHAFT
- UTIL. VAULT/BOX
- METER BOX
- STORM DRAIN CATCH BASIN
- BUILDING
- COVERED AREA
- EX. TREE



Project Location Map

NTS

DISCLAIMER NOTE

UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD 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.

Call before you Dig
1-800-227-2600

SAFETY ALERT
Call before you Overhead
775-834-7590
NV Energy Construction Line
24hrs. Prior Notice Required
OVERHEAD SERVICE ALERT

DESIGNED BY: PEO
DRAWN BY: PEO
CHECKED BY: NL
APPROVED BY: NL

SCALE:
HORIZ: 1"=40'
VERT: 1"=4'

FIELD BOOK

REV No DATE DESCRIPTION

PEO

DESIGNED BY: PEO
DRAWN BY: PEO
CHECKED BY: NL
APPROVED BY: NL

SCALE:
HORIZ: 1"=40'
VERT: 1"=4'

FIELD BOOK

City of Sparks

NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1

**GENERAL NOTES, ABBREVIATIONS
LEGEND, BASIS OF BEARING, BENCHMARK
AND PROJECT LOCATION MAP**

CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT

PROFESSIONAL ENGINEER STATE OF NEVADA 583
NOEL C. LAUGHLIN
Exp. 12/31/13
CIVIL
No. 10 1014

SHEET No
G-3
SHT OF

"NTD", "LC" AND "G" LINE TABLE		
LINE	LENGTH	BEARING
L1	248.29'	S17°15'41"W
L2	172.50'	S72°44'26"E
L3	351.89'	S62°40'00"E
L4	1234.66'	S62°40'00"E
L5	1022.47'	N62°40'00"W
L14	739.50'	S17°10'03"W
L15	549.50'	S17°15'33"W

BACK OF CURB LINE TABLE		
LINE	LENGTH	BEARING
L6	22.83'	N62°27'08"W
L7	37.16'	S27°55'16"W
L11	10.33'	N27°20'00"E
L12	7.00'	S62°40'00"E
L13	7.48'	S62°40'00"E

CENTERLINE VALLEY GUTTER LINE TABLE		
LINE	LENGTH	BEARING
L8	158.43'	S62°40'00"E
L9	182.34'	N21°28'21"E
L10	5.76'	N63°06'05"W

CENTERLINE SANITARY SEWER LINE TABLE		
LINE	LENGTH	BEARING
L16	247.51'	S62°40'00"E
L17	156.34'	S62°40'00"E
L18	215.29'	S62°40'00"E
L19	88.34'	S27°20'00"W
L20	4.57'	S17°40'00"E
L21	64.84'	S62°40'00"E

EDGE OF PAVEMENT LINE TABLE		
LINE	LENGTH	BEARING
L22	18.37'	S62°40'00"E
L23	18.81'	S62°40'00"E
L24	403.65'	N62°40'00"W
L25	353.03'	S20°02'11"W
L26	5.31'	S63°06'05"E
L27	22.91'	S27°20'00"W

CROWN LINE TABLE		
LINE	LENGTH	BEARING
L28	25.11'	N02°10'00"E
L29	713.10'	N17°10'03"E
L30	25.02'	N40°05'53"E

"NTD" AND "G" CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C1	157.08'	100.00'	90°00'07"	141.42'	S27°44'23"E
C2	17.58'	100.00'	10°04'26"	17.56'	N67°42'13"W
C3	43.07'	100.00'	24°40'42"	42.74'	S75°00'21"E
C4	43.07'	100.00'	24°40'43"	42.74'	N75°00'21"W
C13	681.82'	486.71'	80°15'53"	627.42'	N57°17'59"E

BACK OF CURB CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C5	49.56'	53.50'	53°04'53"	47.81'	S02°56'52"W
C6	20.78'	7.50'	158°46'56"	14.74'	N55°47'54"E
C7	19.06'	8.00'	136°28'47"	14.86'	S09°18'26"W
C8	12.57'	8.00'	90°02'47"	11.32'	S17°25'44"E
C11	11.00'	3.50'	180°00'00"	7.00'	S62°40'00"E
C12	22.88'	15.00'	87°23'24"	20.72'	S73°41'07"W

CENTERLINE VALLEY GUTTER CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C9	133.38'	631.35'	12°06'15"	133.13'	S27°31'29"W
C10	50.62'	30.00'	96°40'41"	44.83'	S14°45'44"E

EDGE OF PAVEMENT CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C14	79.81'	55.00'	83°08'17"	72.99'	S21°31'57"E

CROWN CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD BEARING
C15	55.64'	493.21'	6°27'50"	55.61'	S20°23'58"W

BIGBY AND ASSOC. CONTROL POINTS TABLE				
PNT. NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
87	14865227.4300	2311187.1710	4396.99'	5/8 REBAR W B&A CAP
89	14865571.7300	2311526.3510	4396.85'	5/8 REBAR W B&A CAP
93	14867829.2400	2307130.0450	4395.18'	5/8 REBAR W B&A CAP
95	14867787.1600	2307385.5760	4394.49'	5/8 REBAR W B&A CAP
97	14867669.8900	2307859.1420	4395.93'	5/8 REBAR W B&A CAP
108	14865647.8000	2309302.4900	4392.67'	PK NAIL W SHINER
112	14866876.2700	2308779.9500	4395.83'	PK NAIL W SHINER
415	14868283.7200	2306650.4700	4394.40'	5/8 REBAR W B&A CAP
417	14868138.2800	2306556.5100	4395.73'	5/8 REBAR W B&A CAP
418	14868089.2800	2306737.4900	4398.15'	PK NAIL W SHINER
1000	14865601.2400	2311248.4030	4389.51'	5/8 REBAR W B&A CAP
1001	14866039.2700	2310474.7350	4389.94'	5/8 REBAR W B&A CAP
1002	14866243.7500	2309751.0200	4406.69'	5/8 REBAR W B&A CAP
1003	14866817.2600	2309827.6500	4425.36'	5/8 REBAR W B&A CAP
1004	14867121.1500	2308176.9640	4398.71'	5/8 REBAR W B&A CAP
1005	14867347.9000	2307307.4890	4387.55'	5/8 REBAR W B&A CAP
1006	14867548.7600	2307355.4500	4397.63'	5/8 REBAR W B&A CAP
1007	14867556.8700	2306602.6500	4388.62'	5/8 REBAR W B&A CAP
1008	14867453.3300	2306584.8700	4391.67'	5/8 REBAR W B&A CAP
2015	14868155.7600	2307046.0400	4395.06'	BM-43
2038	14865253.5700	2310909.3060	4389.55'	GPS-2046

BENCHMARK AND BASIS OF BEARING

BASIS OF ELEVATIONS BEING THE CITY OF SPARKS NAVD88 VERTICAL CONTROL NETWORK BASED FROM BM#43 = ELEVATION 4395.06 FEET.

BASIS OF BEARING FOR THIS SURVEY BEING THE CITY OF SPARKS MODIFIED 83/94 NEVADA STATE COORDINATE PLANE SYSTEM WEST ZONE ALL DISTANCES AND COORDINATES SHOWN ARE GROUND VALUES TO OBTAIN GRID VALUES DIVIDE THOSE SHOWN BY THE COMBINED FACTOR OF 1.000197939

DISCLAIMER NOTE

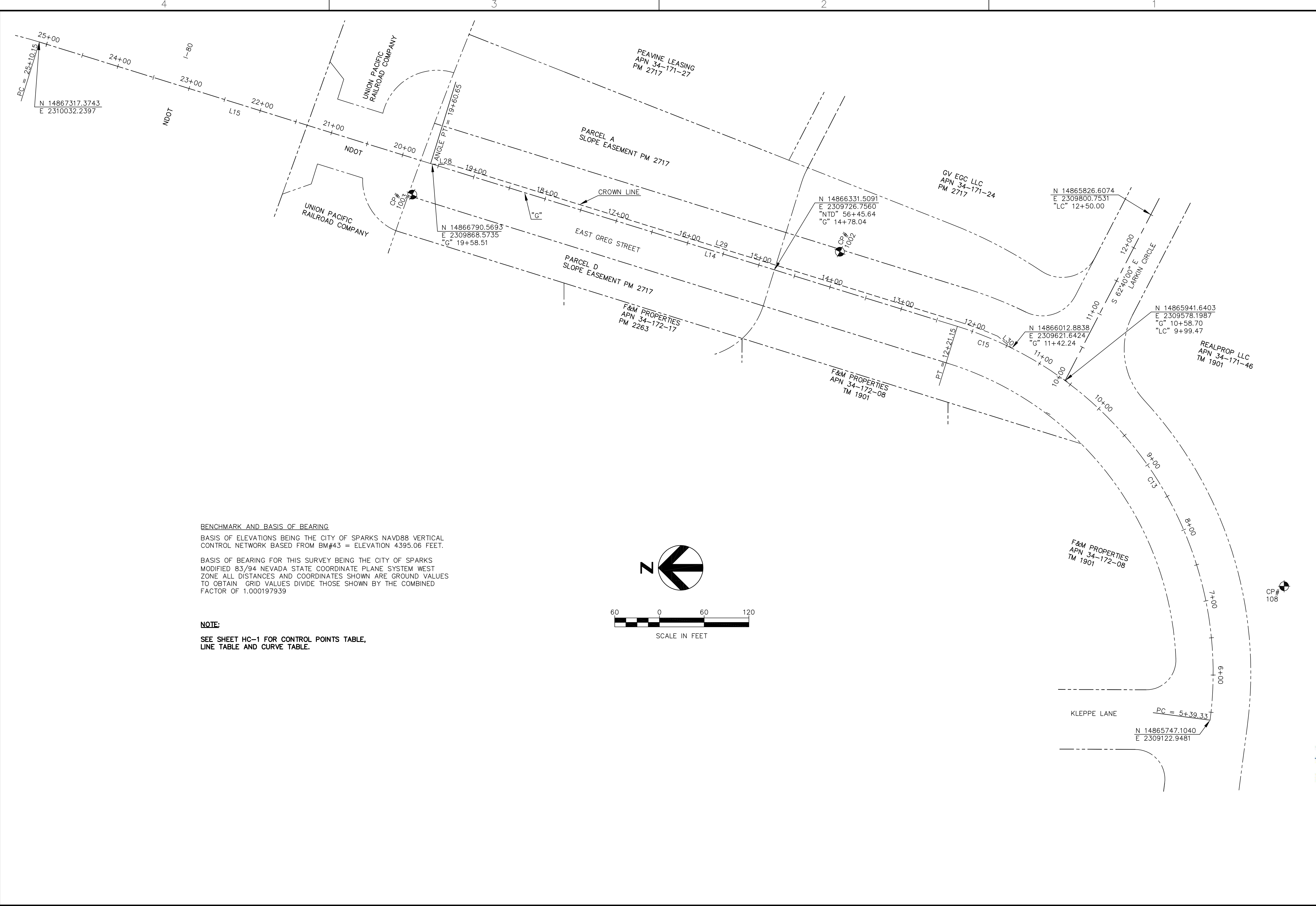
UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO COMMENCING CONSTRUCTION. NO REPRESENTATION IS MADE THAT ALL EXISTING UTILITIES ARE SHOWN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



DESIGNED BY: PEO	CHECKED BY: NL	APPROVED BY: NL	SCALE: 1"=60'	HORIZ: N/A	VERT: N/A
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 HORIZONTAL CONTROL PLAN SHEET 1					
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT					
SHEET NO. HC-1					
SHT OF					

C:\pwworking\pdx\0295093\HC-1.dwg 11/15/13 8:36am poborro

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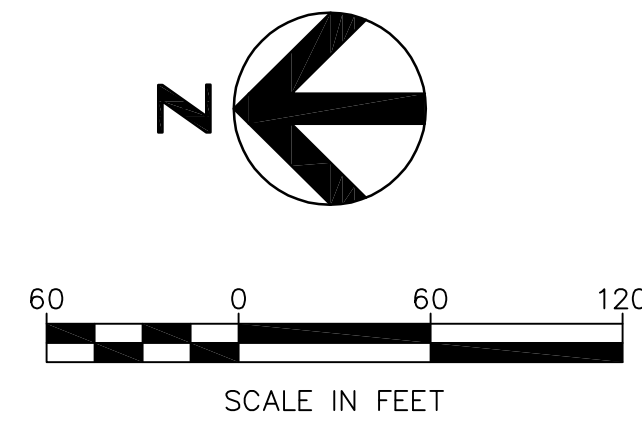
BENCHMARK AND BASIS OF BEARING

BASIS OF ELEVATIONS BEING THE CITY OF SPARKS NAVD88 VERTICAL CONTROL NETWORK BASED FROM BM#43 = ELEVATION 4395.06 FEET.

BASIS OF BEARING FOR THIS SURVEY BEING THE CITY OF SPARKS MODIFIED 83/94 NEVADA STATE COORDINATE PLANE SYSTEM WEST ZONE. ALL DISTANCES AND COORDINATES SHOWN ARE GROUND VALUES TO OBTAIN GRID VALUES DIVIDE THOSE SHOWN BY THE COMBINED FACTOR OF 1.000197939

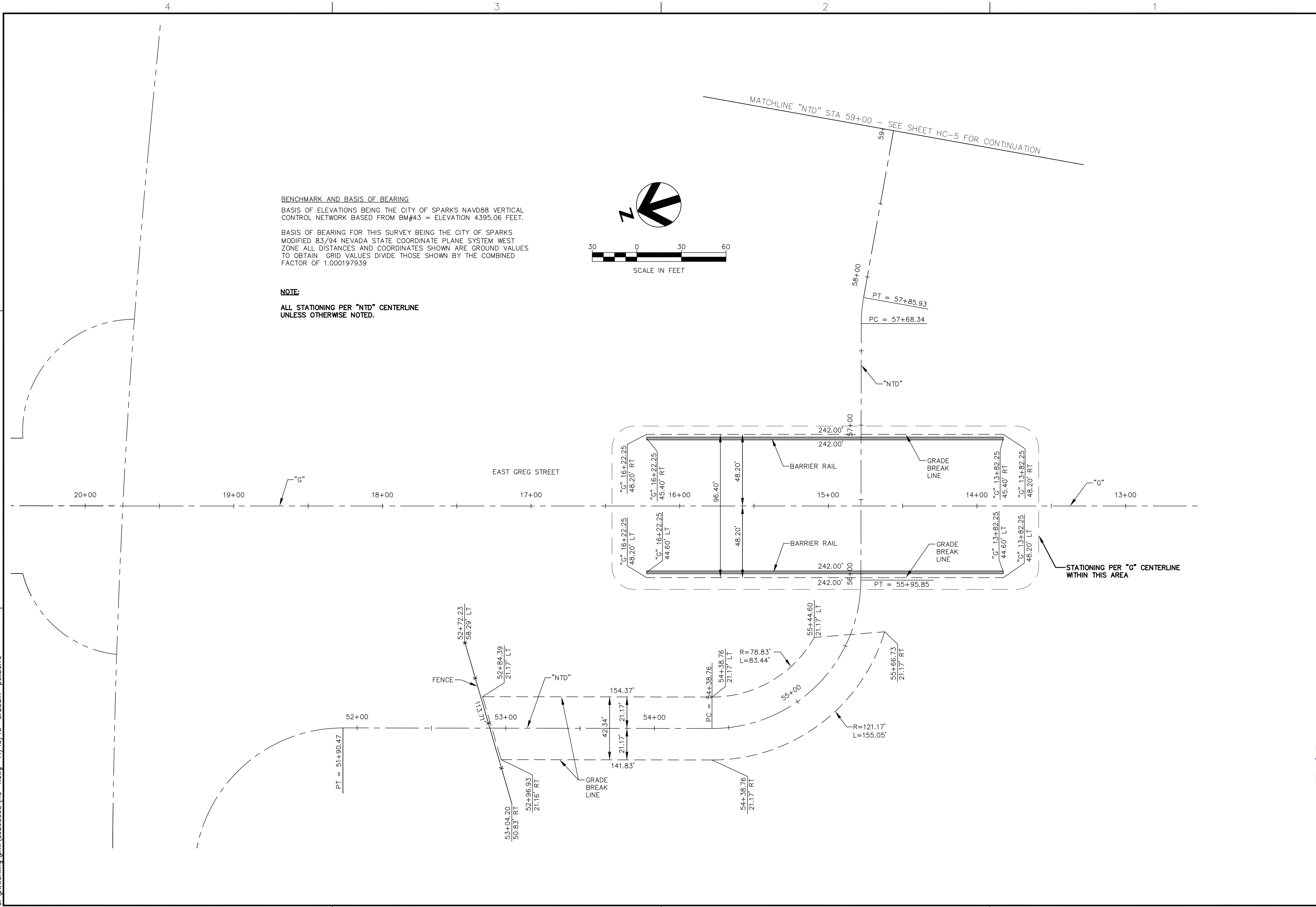
NOTE:

SEE SHEET HC-1 FOR CONTROL POINTS TABLE, LINE TABLE AND CURVE TABLE.



DESIGNED BY: PEO		REV No	DATE	DESCRIPTION
DRAWN BY: PEO				
CHECKED BY: NL				
APPROVED BY: NL				
SCALE: 1"=60'				
HORIZ: N/A				
VERT: N/A				
FIELD BOOK				
 HDR Engineering, Inc. 1805 S. Virginia Rd. Suite 101 Reno, NV 89521 Phone: 775-337-4700				
 City of Sparks HORIZONTAL CONTROL PLAN SHEET 3				
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT				
SHEET No				
HC-3				
SHT OF				

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BENCHMARK AND BASIS OF BEARING

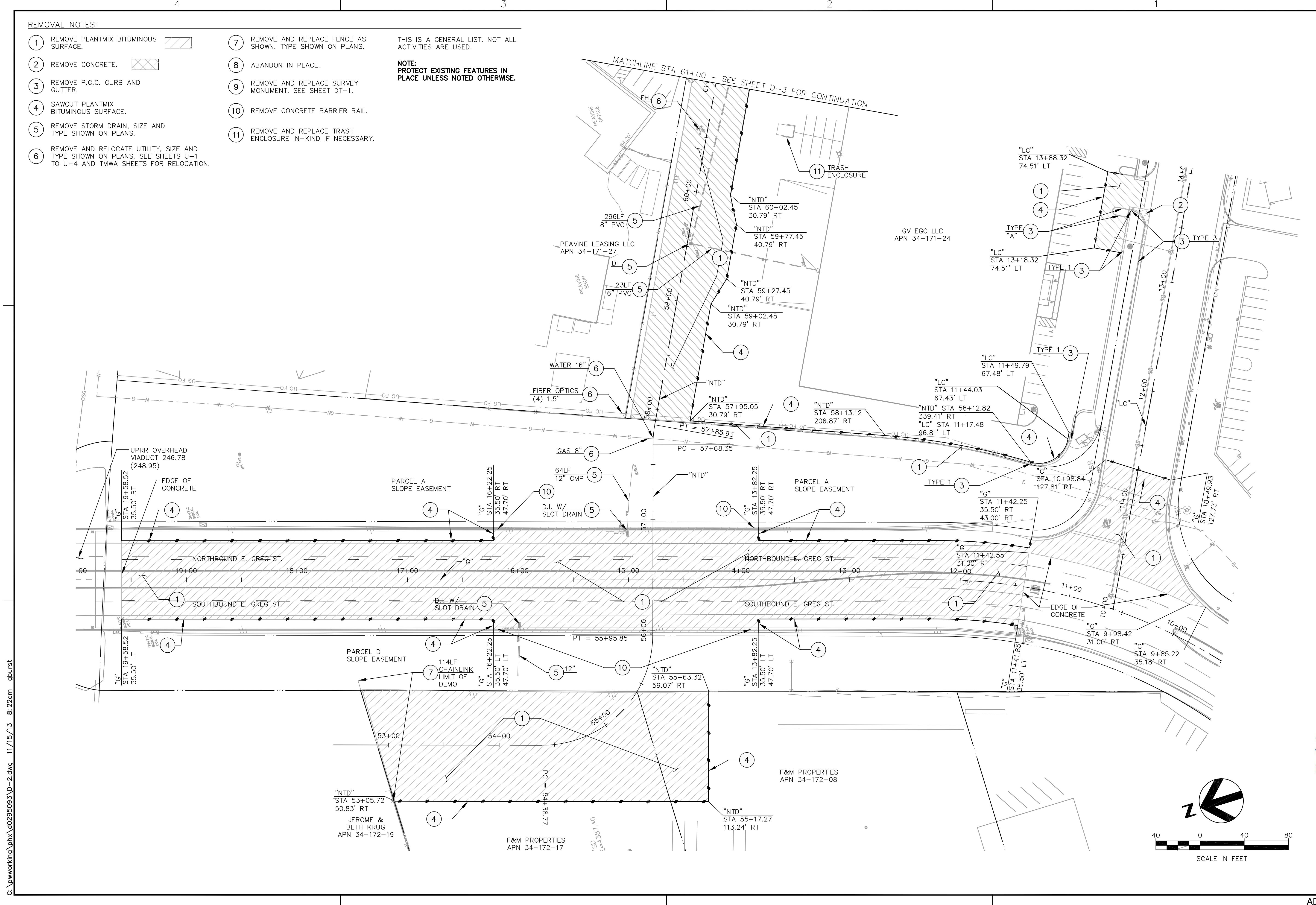
BASIS OF ELEVATIONS BEING THE CITY OF SPARKS NAVD88 VERTICAL CONTROL NETWORK BASED FROM BM#43 = ELEVATION 4395.06 FEET.

BASIS OF BEARING FOR THIS SURVEY BEING THE CITY OF SPARKS MODIFIED 83/94 NEVADA STATE COORDINATE PLANE SYSTEM WEST ZONE ALL DISTANCES AND COORDINATES SHOWN ARE GROUND VALUES TO OBTAIN GRID VALUES DIVIDE THOSE SHOWN BY THE COMBINED FACTOR OF 1.000197939

NOTE:

ALL STATIONING PER "NTD" CENTERLINE UNLESS OTHERWISE NOTED.

		DESIGNED BY: PEO DRAWN BY: PEO CHECKED BY: NL APPROVED BY: NL SCALE: 1"=30' HORIZ: N/A VERT: N/A	REV No DATE DESCRIPTION
		 HDR Engineering, Inc. 1805 Industrial Rd Blvd, Suite 101 Reno, NV 89521 Phone: 775-337-4700	FIELD BOOK
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 HORIZONTAL CONTROL PLAN SHEET 4		CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT	
SHEET No HC-4		SHT OF	



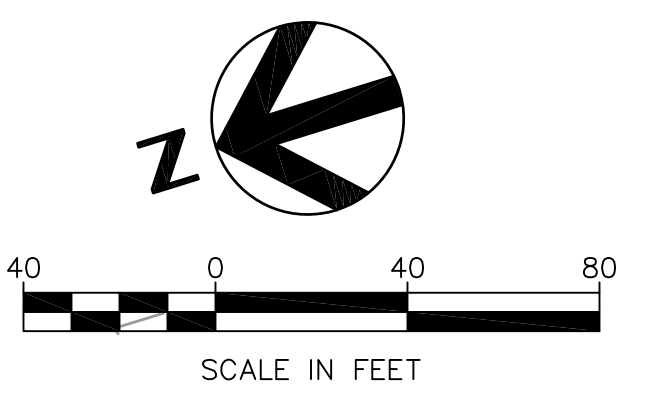
REMOVAL NOTES:

- 1 REMOVE PLANTMIX BITUMINOUS SURFACE.
- 2 REMOVE CONCRETE.
- 3 REMOVE P.C.C. CURB AND GUTTER.
- 4 SAWCUT PLANTMIX BITUMINOUS SURFACE.
- 5 REMOVE STORM DRAIN, SIZE AND TYPE SHOWN ON PLANS.
- 6 REMOVE AND RELOCATE UTILITY, SIZE AND TYPE SHOWN ON PLANS. SEE SHEETS U-1 TO U-4 AND TMWA SHEETS FOR RELOCATION.
- 7 REMOVE AND REPLACE FENCE AS SHOWN. TYPE SHOWN ON PLANS.
- 8 ABANDON IN PLACE.
- 9 REMOVE AND REPLACE SURVEY MONUMENT. SEE SHEET DT-1.
- 10 REMOVE CONCRETE BARRIER RAIL.
- 11 REMOVE AND REPLACE TRASH ENCLOSURE IN-KIND IF NECESSARY.

THIS IS A GENERAL LIST. NOT ALL ACTIVITIES ARE USED.
NOTE:
 PROTECT EXISTING FEATURES IN PLACE UNLESS NOTED OTHERWISE.

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<p>DESIGNED BY: PEO DRAWN BY: PEO CHECKED BY: NL APPROVED BY: NL SCALE: 1"=40' HORIZ: N/A VERT: N/A</p>	<p>REV No DATE DESCRIPTION</p>
<p>NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1</p> <p>DEMOLITION PLAN "NTD" STA 52+50 TO STA 61+00 "G" STA 9+50 TO STA 20+00</p>	
<p>SHEET NO D-2</p>	
<p>SHT OF</p>	

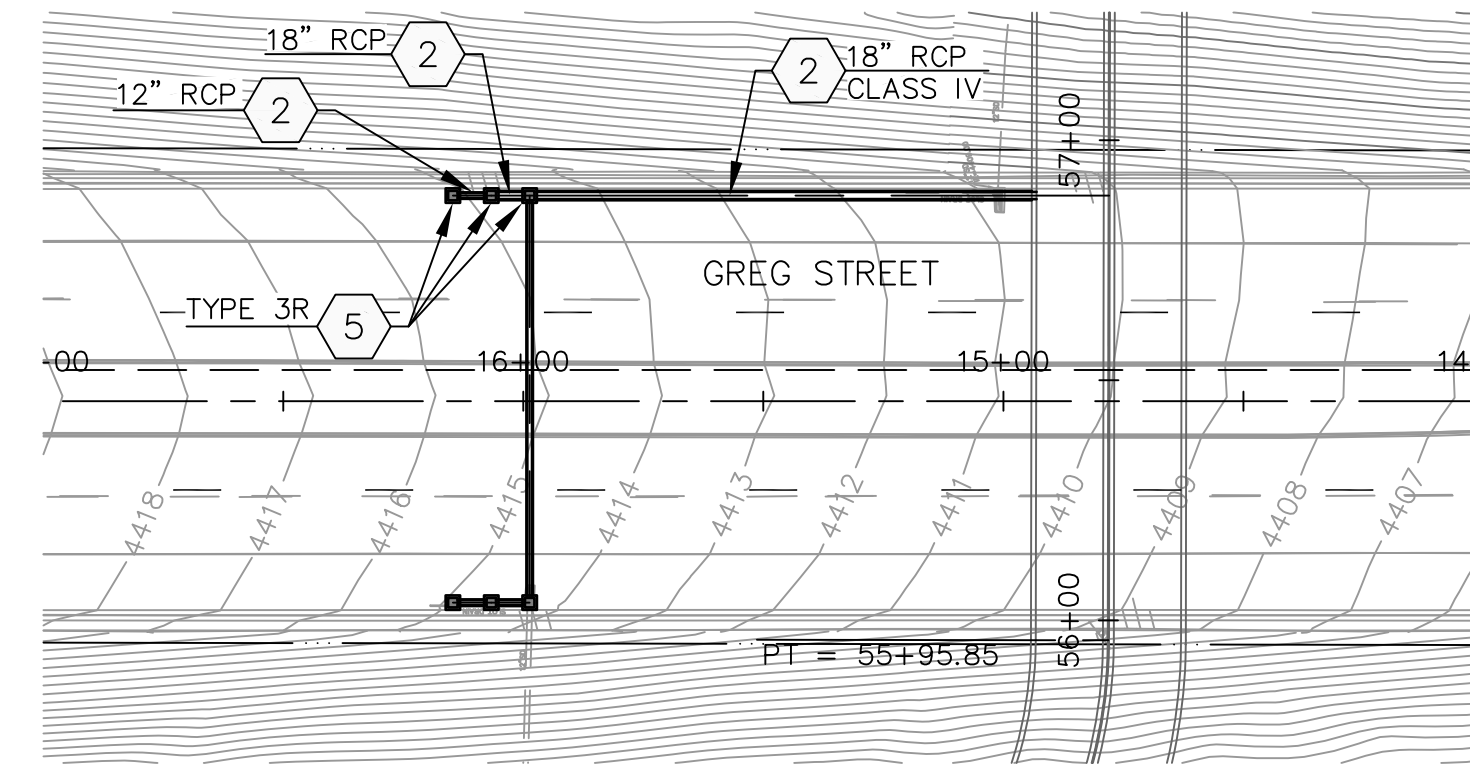


DRAINAGE NOTES :

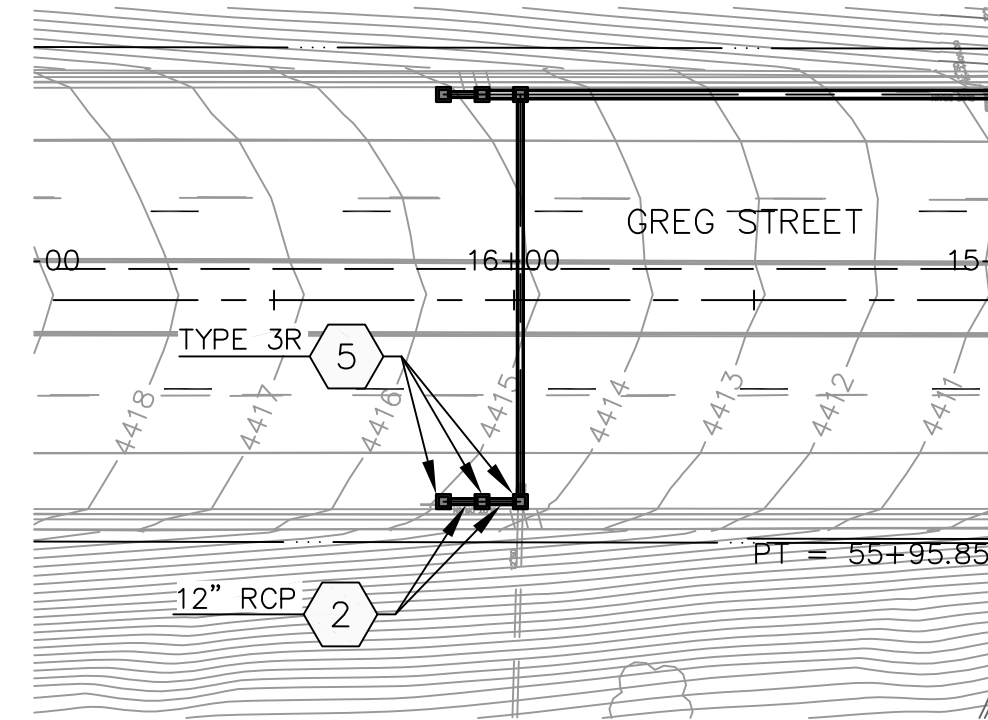
- 1 INSTALL STORM DRAIN RCB, SIZE AS SHOWN ON PLAN PER DETAILS SHEETS DT-4 AND DT-5
 - 2 INSTALL STORM DRAIN PIPE, SIZE AND TYPE AS SHOWN ON PLAN.
 - 3 CONSTRUCT MANHOLE, SIZE AND TYPE AS SHOWN ON PLAN.
 - 4 CONSTRUCT MAINTENANCE ACCESS VAULT PER "S" SHEETS AS NOTED.
 - 5 CONSTRUCT DROP INLET, SIZE AND TYPE AS SHOWN ON PLAN.
- THIS IS A GENERAL LIST. NOT ALL ACTIVITIES ARE USED.

NOTES:

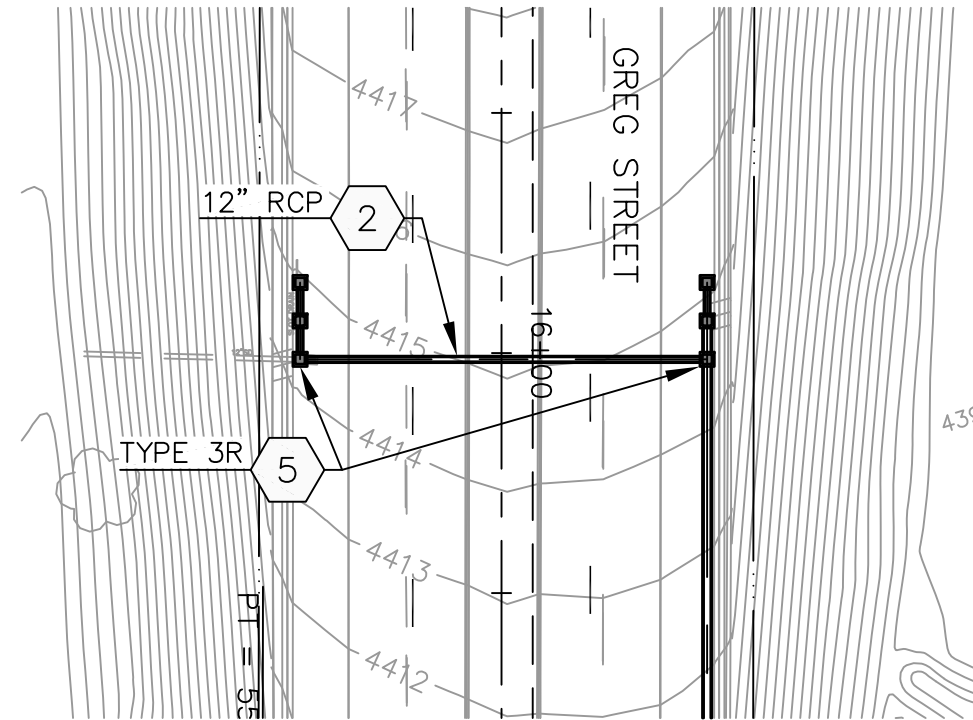
- 1. MANHOLE INVERT ELEVATIONS SHOWN ARE TO CENTER OF MANHOLE.
- 2. PARALLEL STORM DRAIN LENGTHS SHOWN ON PROFILES ARE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE. RCB LENGTHS SHOWN ARE FROM OUTSIDE FACE OF STRUCTURE TO OUTSIDE FACE OF STRUCTURE.
- 3. ALL RCP STORM DRAIN TO BE CLASS III UNLESS OTHERWISE NOTED ON PLANS.
- 4. SEE SHEETS C-8 TO C-15 FOR PROPOSED SURFACE FEATURES, GRADING, AND DRAINAGE.
- 5. PROTECT EXISTING FEATURES IN PLACE UNLESS NOTED OTHERWISE.
- 6. SEE SHEETS C-1 TO C-3 FOR MAINLINE STORM DRAIN.
- 7. SEE SHEETS U-1 TO U-4 AND TMWA SHEETS FOR UTILITY RELOCATIONS.
- 8. HGL AND EGL FOR PARALLEL STORM DRAIN DEPICTS LOCAL DRAINAGE ONLY.



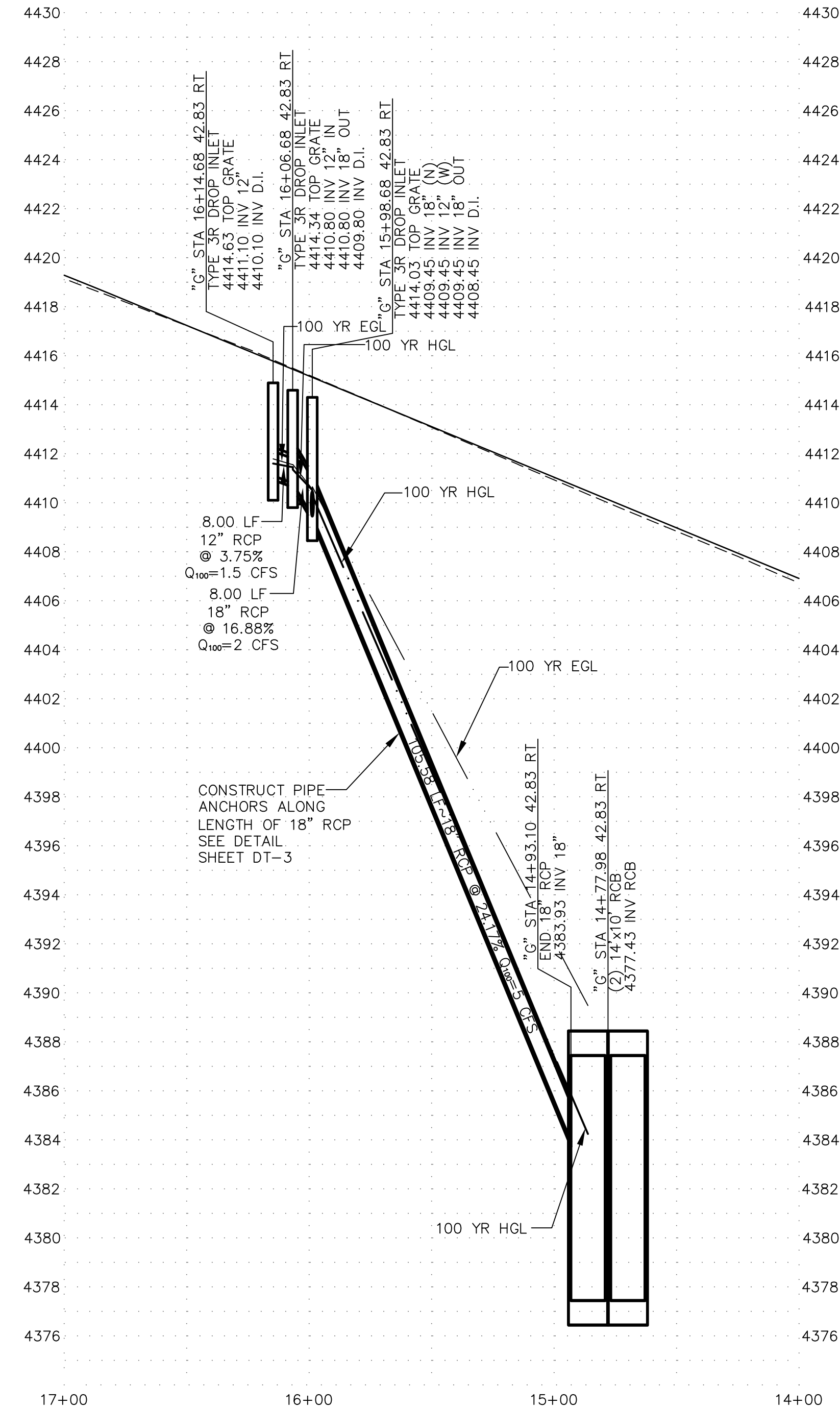
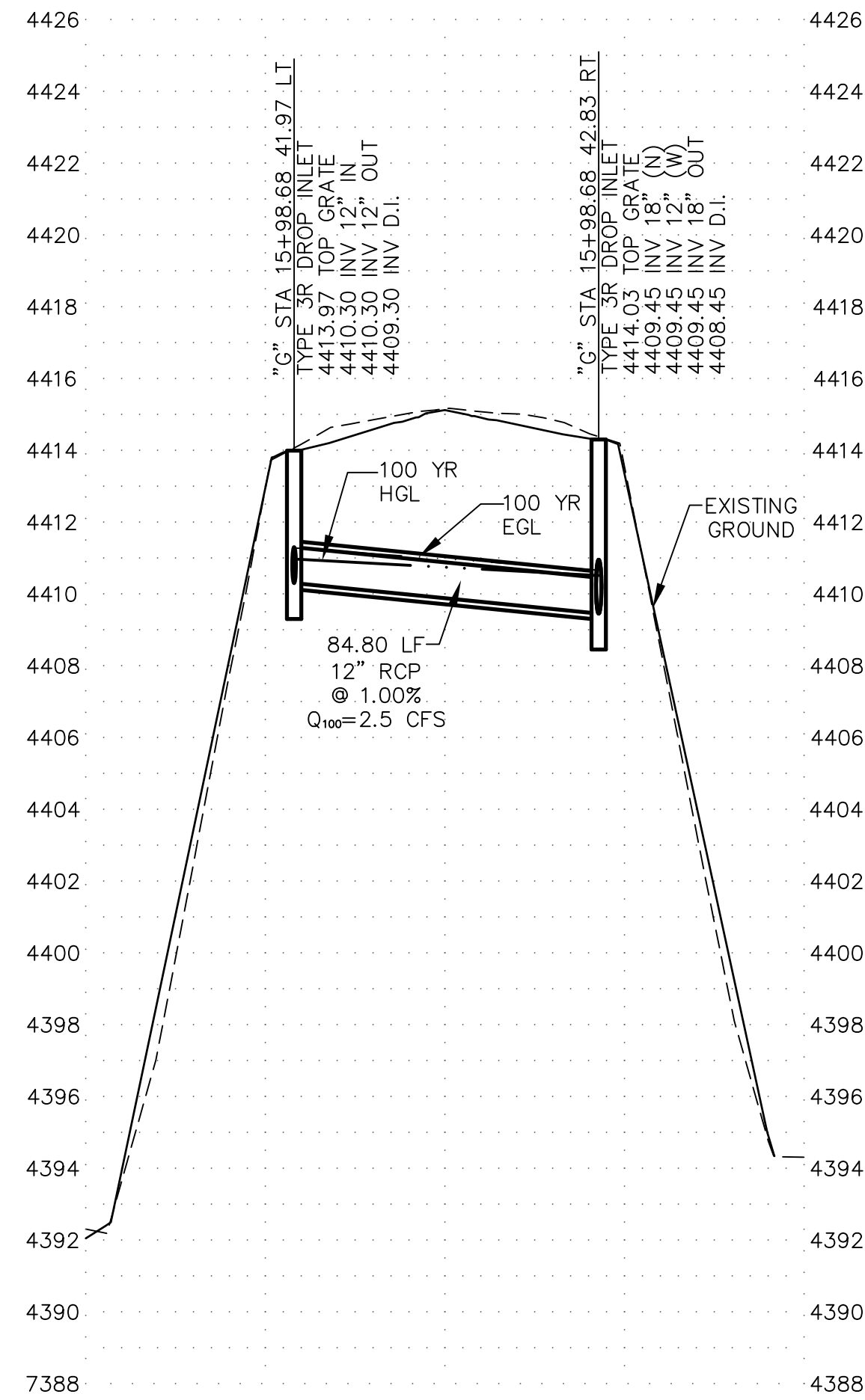
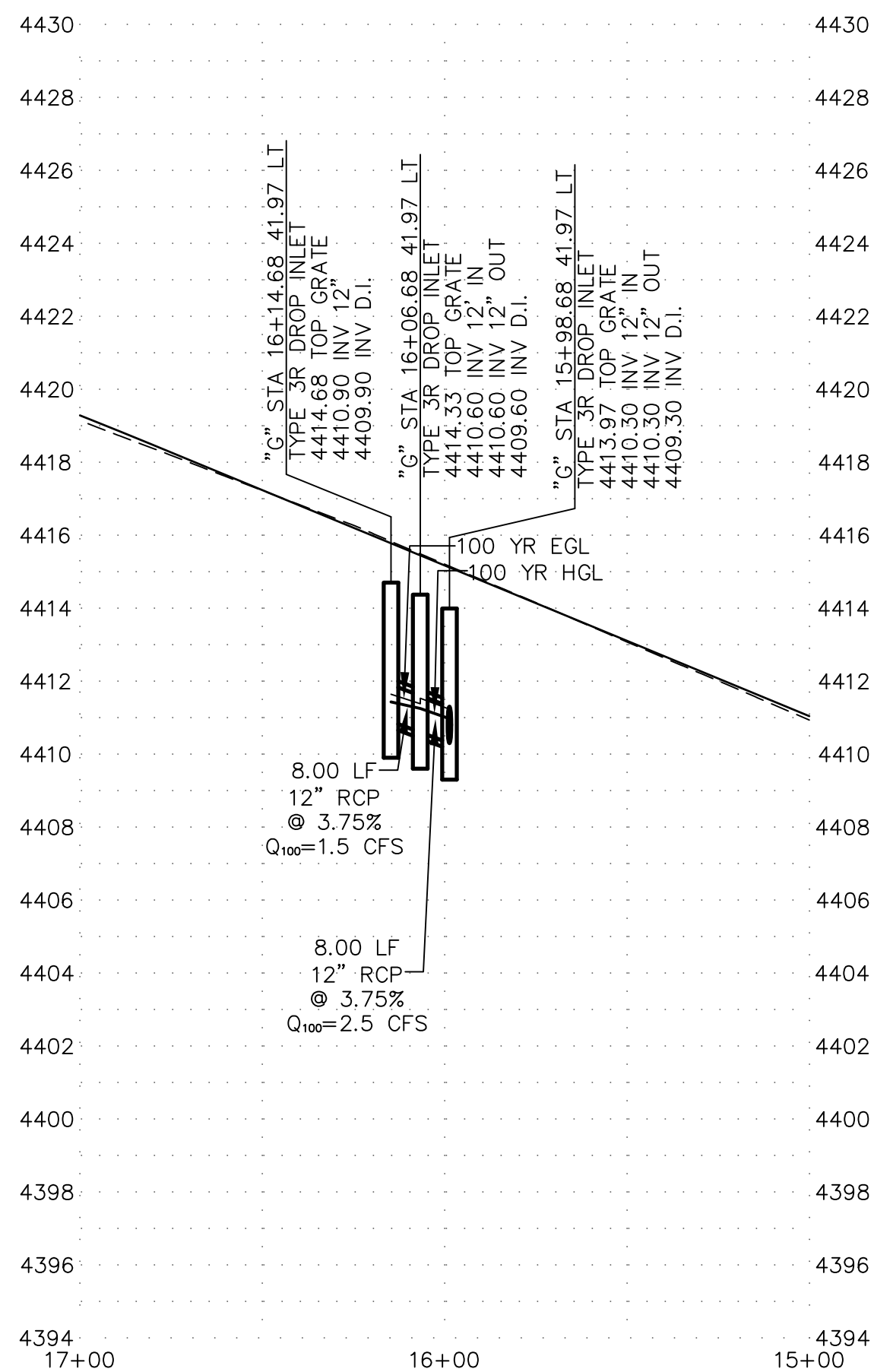
"G" STA: 17+00 TO 14+00 STORM DRAIN LATERAL



"G" STA: 17+00 TO 15+00 STORM DRAIN LATERAL



"G" STA: 15+99 STORM DRAIN LATERAL



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DESIGNED BY: PEO	PEO
DRAWN BY: PEO	PEO
CHECKED BY: NL	NL
APPROVED BY: NL	NL
SCALE: 1"=40'	1"=40'
HORIZ: 1"=40'	1"=40'
VERT: 1"=4'	1"=4'
FIELD BOOK:	

City of Sparks

NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1

PARALLEL AND LATERAL STORM DRAIN PLAN AND PROFILE SHEET 1

 CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT

SHEET NO. **C-5**

 SHT OF

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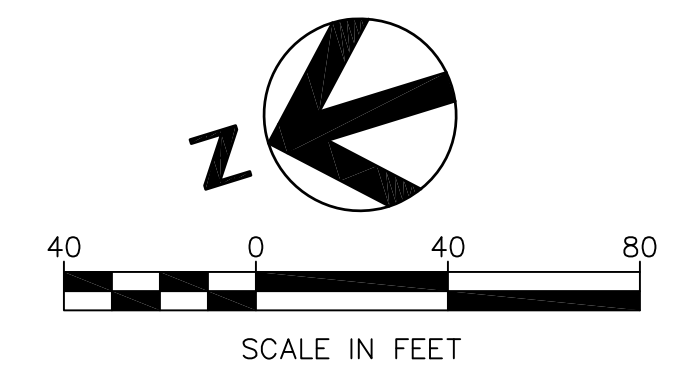
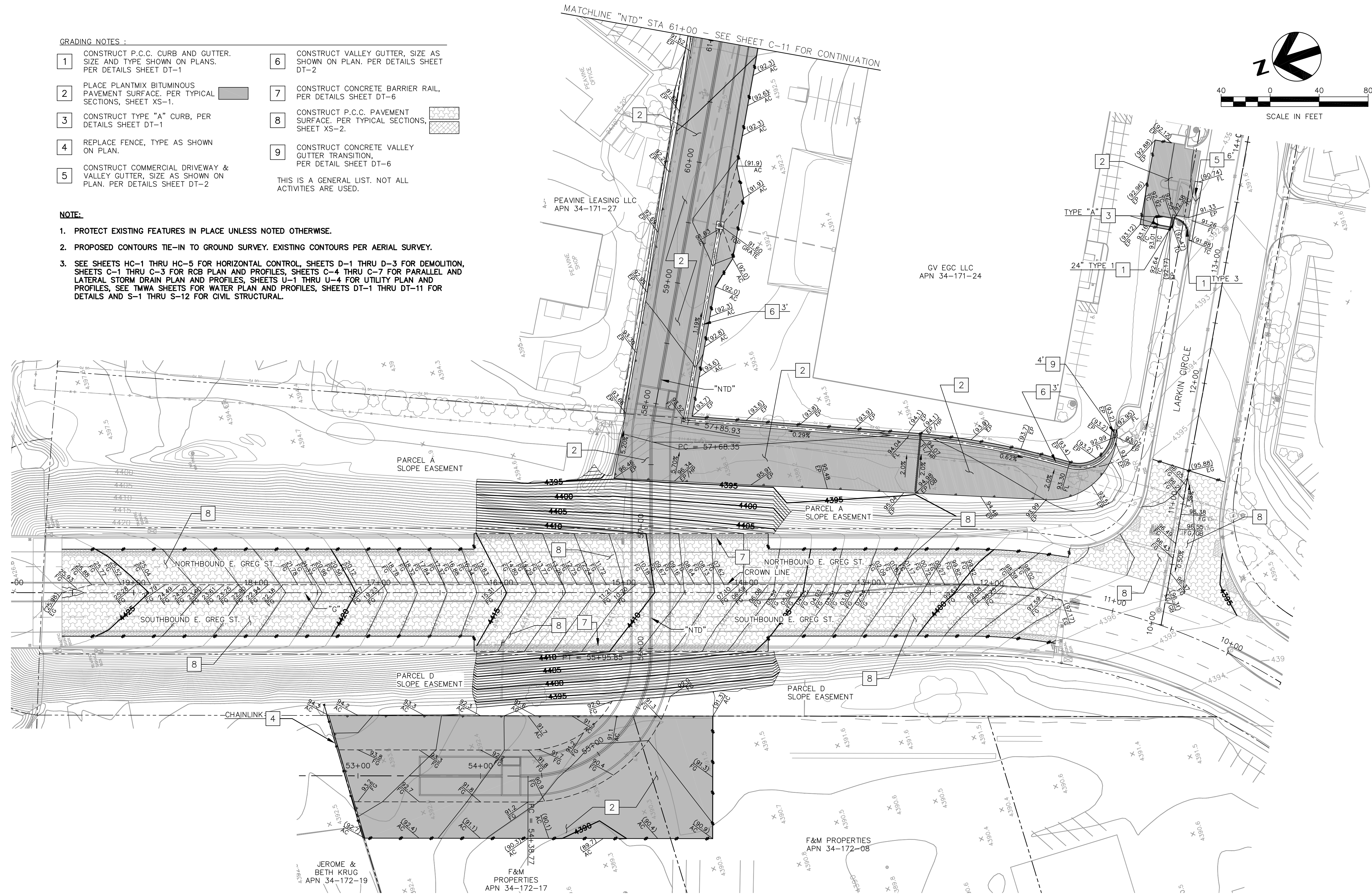
GRADING NOTES:

- 1 CONSTRUCT P.C.C. CURB AND GUTTER. SIZE AND TYPE SHOWN ON PLANS. PER DETAILS SHEET DT-1
- 2 PLACE PLANTMIX BITUMINOUS PAVEMENT SURFACE. PER TYPICAL SECTIONS, SHEET XS-1.
- 3 CONSTRUCT TYPE "A" CURB, PER DETAILS SHEET DT-1
- 4 REPLACE FENCE, TYPE AS SHOWN ON PLAN.
- 5 CONSTRUCT COMMERCIAL DRIVEWAY & VALLEY GUTTER, SIZE AS SHOWN ON PLAN. PER DETAILS SHEET DT-2
- 6 CONSTRUCT VALLEY GUTTER, SIZE AS SHOWN ON PLAN. PER DETAILS SHEET DT-2
- 7 CONSTRUCT CONCRETE BARRIER RAIL, PER DETAILS SHEET DT-6
- 8 CONSTRUCT P.C.C. PAVEMENT SURFACE. PER TYPICAL SECTIONS, SHEET XS-2.
- 9 CONSTRUCT CONCRETE VALLEY GUTTER TRANSITION, PER DETAIL SHEET DT-6

THIS IS A GENERAL LIST. NOT ALL ACTIVITIES ARE USED.

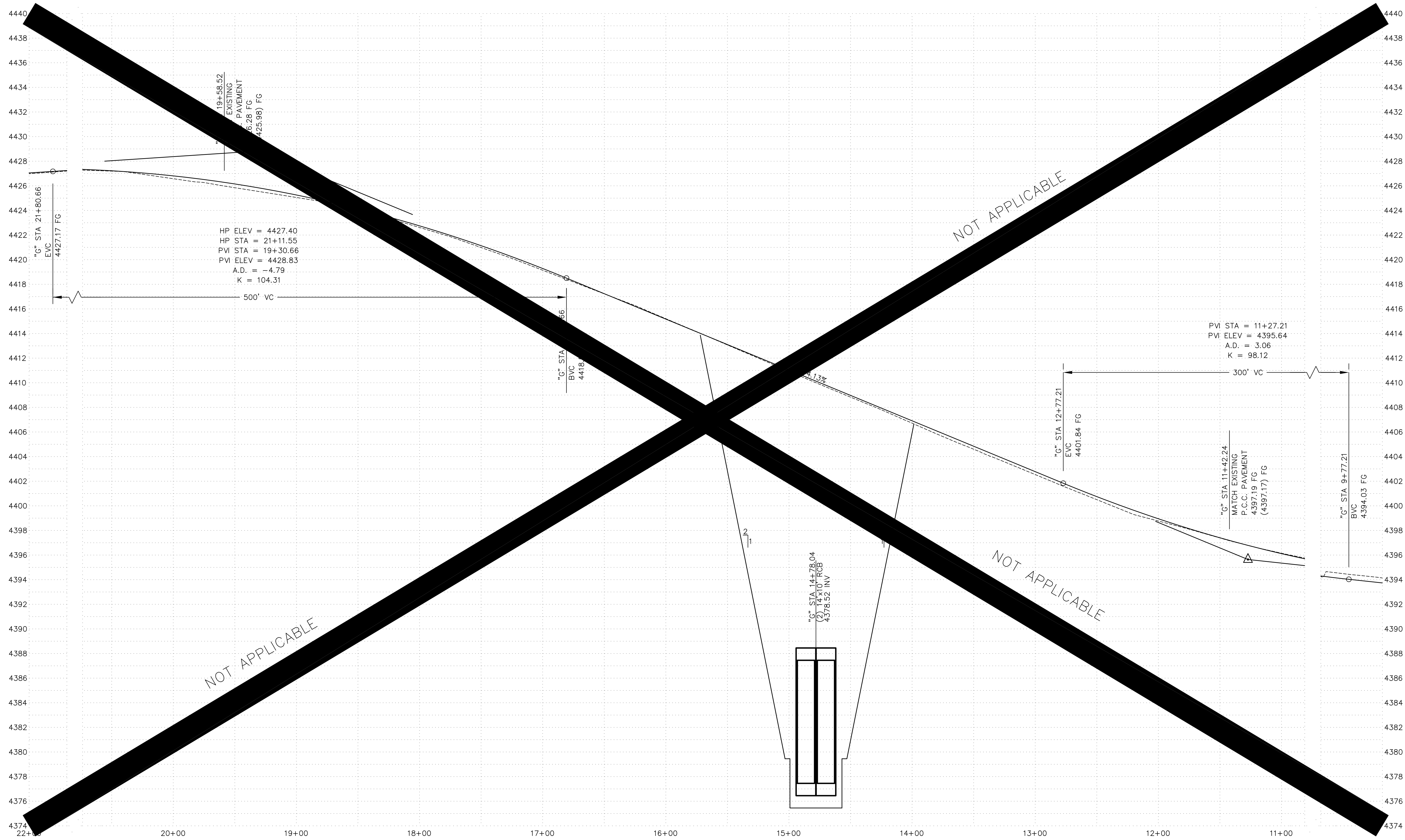
NOTE:

- 1. PROTECT EXISTING FEATURES IN PLACE UNLESS NOTED OTHERWISE.
- 2. PROPOSED CONTOURS TIE-IN TO GROUND SURVEY. EXISTING CONTOURS PER AERIAL SURVEY.
- 3. SEE SHEETS HC-1 THRU HC-5 FOR HORIZONTAL CONTROL, SHEETS D-1 THRU D-3 FOR DEMOLITION, SHEETS C-1 THRU C-3 FOR RCB PLAN AND PROFILES, SHEETS C-4 THRU C-7 FOR PARALLEL AND LATERAL STORM DRAIN PLAN AND PROFILES, SHEETS U-1 THRU U-4 FOR UTILITY PLAN AND PROFILES, SEE TMWA SHEETS FOR WATER PLAN AND PROFILES, SHEETS DT-1 THRU DT-11 FOR DETAILS AND S-1 THRU S-12 FOR CIVIL STRUCTURAL.



DESIGNED BY: PEO	CHECKED BY: NL	APPROVED BY: NL	SCALE: 1"=40'	HORIZ: N/A	VERT: N/A	REV No	DATE
						DESCRIPTION	APPROVED
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 GRADING PLAN "NTD" STA 52+50 TO STA 61+00 "G" STA 9+50 TO STA 20+00							
SHEET NO. C-9							
SHT OF							
ADDENDUM 2 11/14/13							

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DESIGNED BY: PEO	PEO
DRAWN BY: PEO	PEO
CHECKED BY: NL	NL
APPROVED BY: NL	NL
SCALE: 1"=40'	1"=40'
HORIZ: 1"=40'	1"=40'
VERT: 1"=4'	1"=4'
FIELD BOOK	
REV No	DATE
DESCRIPTION	
APPROVED	

HDR Engineering, Inc.
 3905 S. Virginia Rd.,
 Reno, NV 89521
 Phone: 775-337-4700

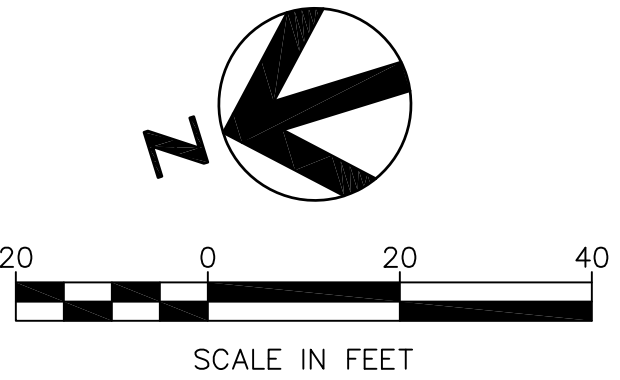
City of Sparks
 NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1
 GREG STREET PROFILE
 'G' STA 9+50 TO STA 22+00
 11-14 CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT

PROFESSIONAL ENGINEER STATE OF NEVADA 538
 NOEL C. LAUGHLIN
 Exp. 12/31/13
 CIVIL
 No. 1010



SHEET No **C-10**
 SHT OF

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MATCHLINE "G" STA 12+50 - SEE SHEET C-13 FOR CONTINUATION

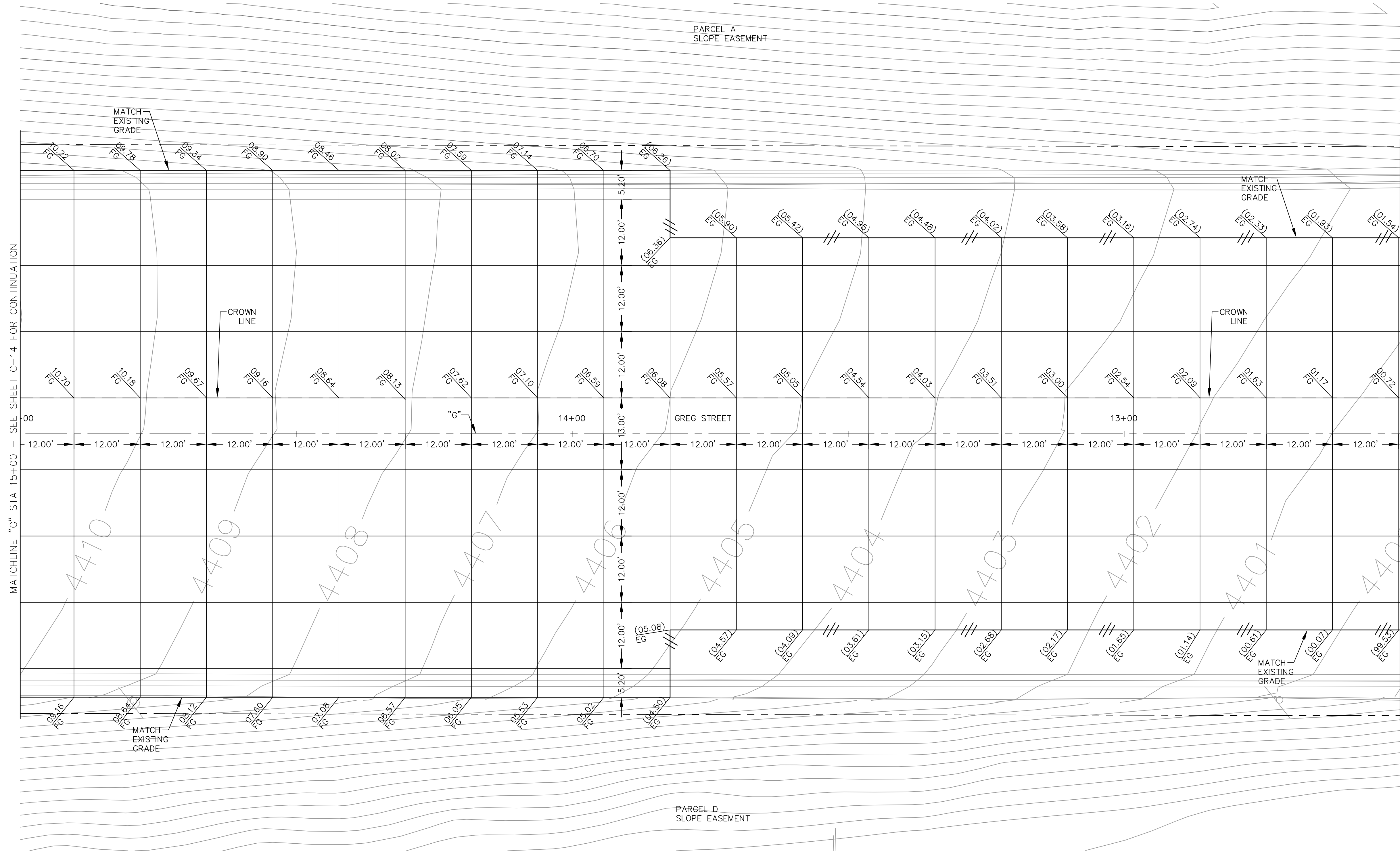


NOTE:
 1. SEE SHEET DT-6 FOR CONCRETE PAVEMENT DETAILS.

DESIGNED BY: PEO	PEO	REV No	DATE	DESCRIPTION
DRAWN BY: PEO	PEO			
CHECKED BY: PSP	PSP			
APPROVED BY: PSP/ANL	PSP/ANL			
SCALE: 1"=10'	1"=10'			
HORIZ: N/A	N/A			
VERT: N/A	N/A			
FIELD BOOK:				
 HDR Engineering, Inc. 2805 S. Virginia Rd., Suite 101 Reno, NV 89521 Phone: 775-337-4700				
 City of Sparks				
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 GREG STREET JOINT CONFIGURATION AND GRADING PLAN "G" STA 9+50 TO STA 12+50				
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT				
				
SHEET No				
C-12				
SHT OF				

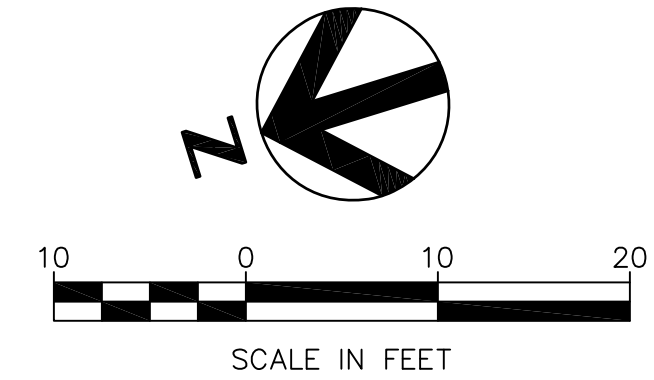
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MATCHLINE "G" STA 15+00 - SEE SHEET C-14 FOR CONTINUATION



MATCHLINE "G" STA 12+50 - SEE SHEET C-12 FOR CONTINUATION

NOTE:
 1. SEE SHEET DT-6 FOR CONCRETE PAVEMENT DETAILS.



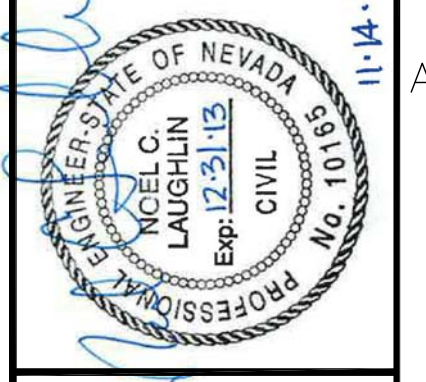
REV No	DATE	DESCRIPTION

DESIGNED BY: PEO
 DRAWN BY: PEO
 CHECKED BY: PSP
 APPROVED BY: PSP/ANL
 SCALE: 1"=10'
 HORIZ: N/A
 VERT: N/A

HDR
 Engineering, Inc.
 1805
 Suite 101
 Reno, NV 89521
 Phone: 775-337-4700

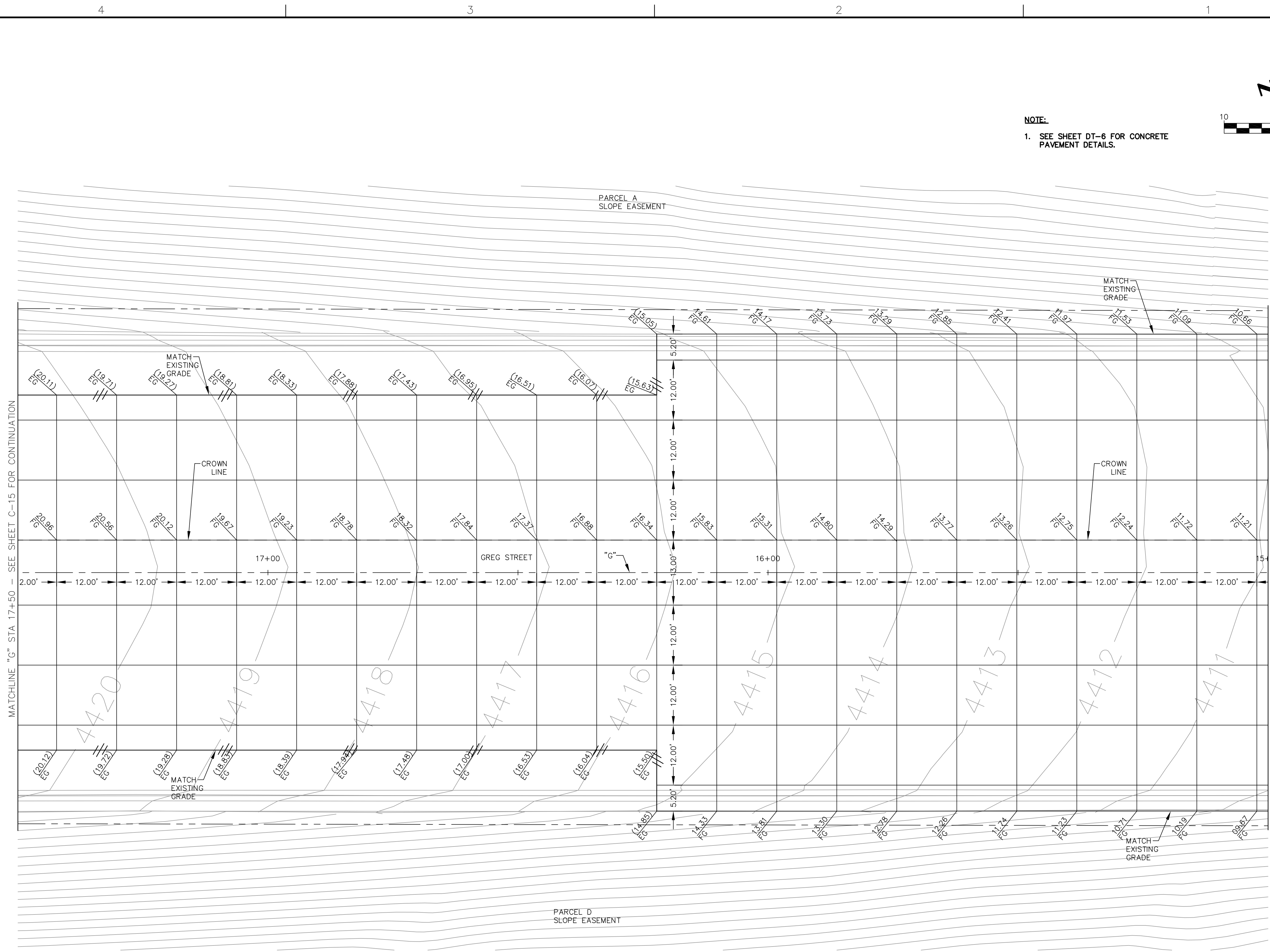


NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1
GREG STREET JOINT CONFIGURATION
AND GRADING PLAN "G" STA 12+50 TO STA 15+00
 CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT

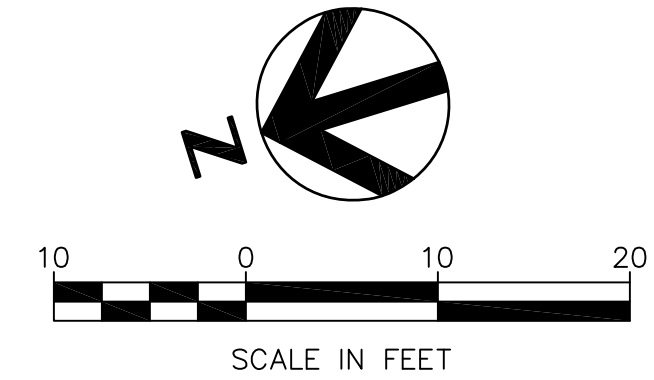


SHEET No
C-13
 SHT OF

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NOTE:
 1. SEE SHEET DT-6 FOR CONCRETE PAVEMENT DETAILS.



MATCHLINE "G" STA 17+50 - SEE SHEET C-15 FOR CONTINUATION

MATCHLINE "G" STA 15+00 - SEE SHEET C-13 FOR CONTINUATION

		SHEET NO C-14
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 GREG STREET JOINT CONFIGURATION AND GRADING PLAN "G" STA 15+00 TO STA 17+50 CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT		SHT OF
		DESIGNED BY: PEO DRAWN BY: PEO CHECKED BY: PSP APPROVED BY: PSP/ANL SCALE: N/A HORIZ: 1"=10' VERT: N/A
REV No DATE DESCRIPTION	FIELD BOOK	APPROVED

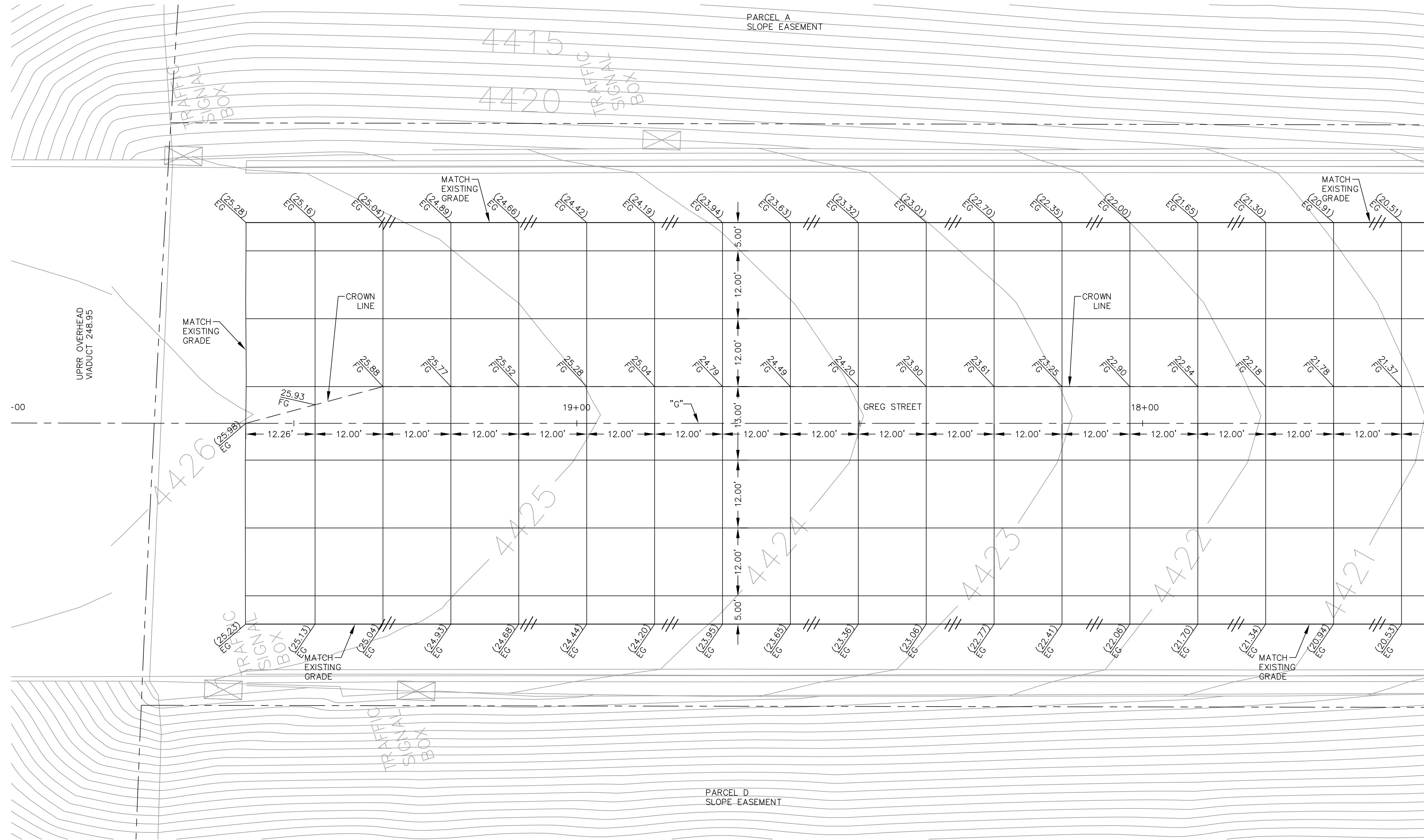
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4

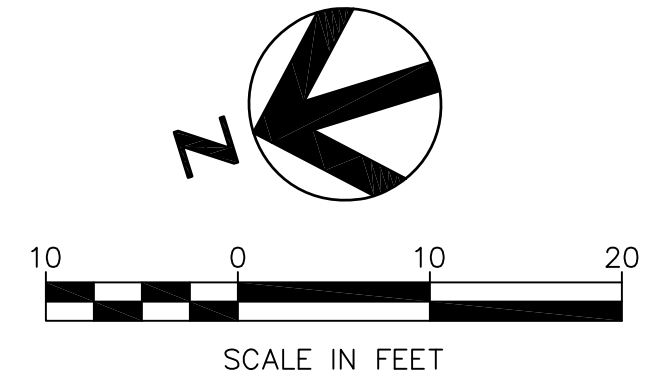
3

2

1



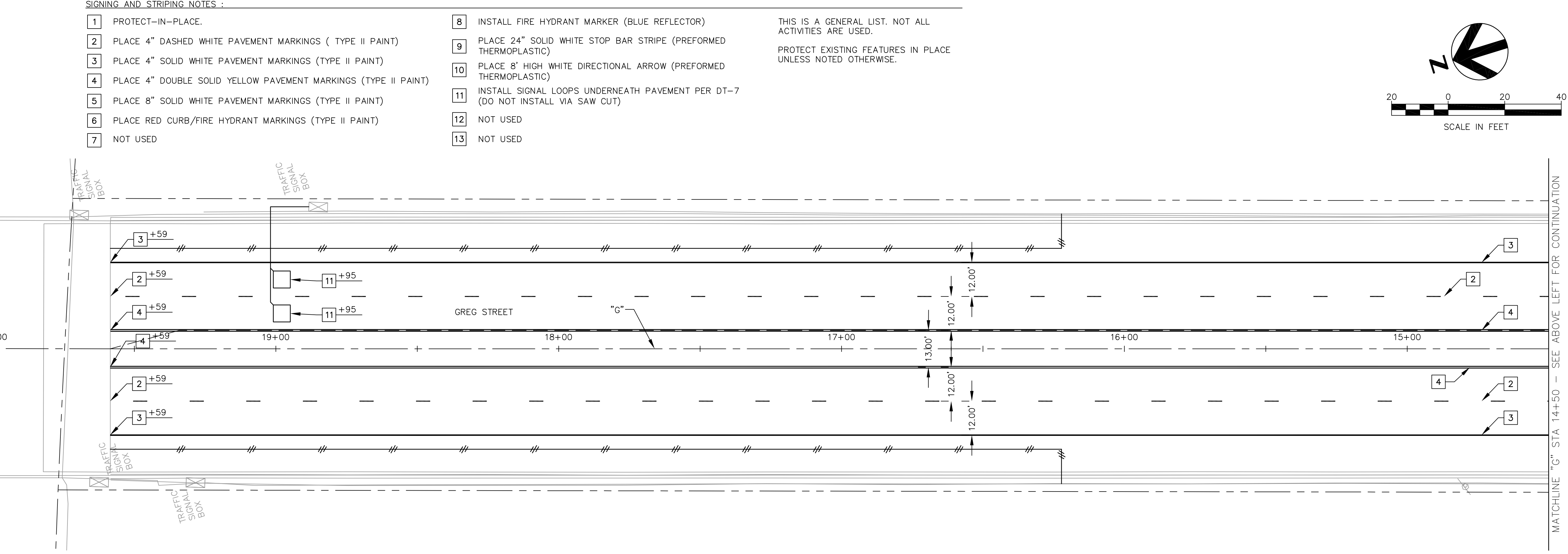
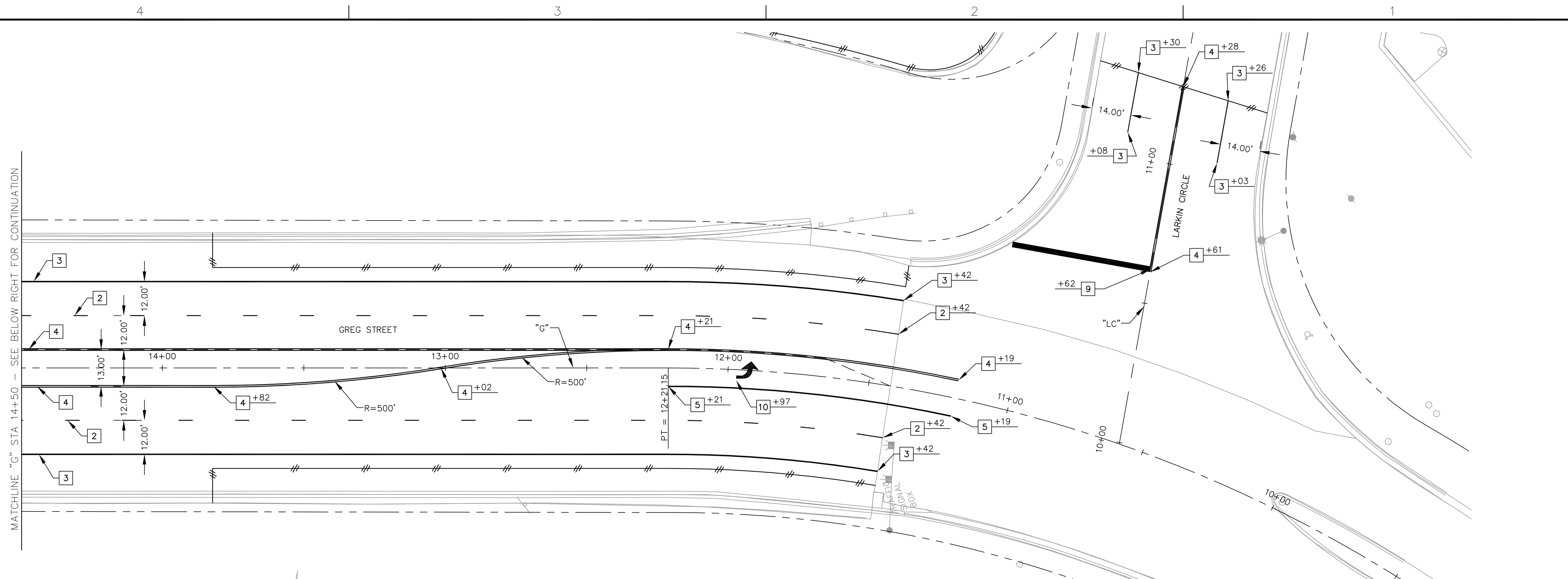
NOTE:
 1. SEE SHEET DT-6 FOR CONCRETE PAVEMENT DETAILS.



MATCHLINE "G" STA 17+50 - SEE SHEET C-14 FOR CONTINUATION

		SHEET NO C-15
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 GREG STREET JOINT CONFIGURATION AND GRADING PLAN "G" STA 17+50 TO STA 20+00		SHT OF
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT		FIELD BOOK
		DESIGNED BY: PEO DRAWN BY: PEO CHECKED BY: PSP APPROVED BY: PSP/ANL
HJR Engineering, Inc. 1805 S. Virginia Rd., Suite 101 Reno, NV 89521 Phone: 775-337-4700		SCALE: 1"=10' HORIZ: N/A VERT: N/A
PEO DESIGNED BY: PEO DRAWN BY: PEO CHECKED BY: PSP APPROVED BY: PSP/ANL	REV No DATE DESCRIPTION	APPROVED

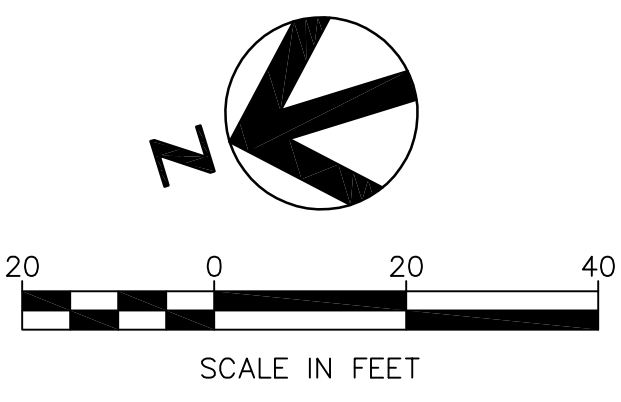
C:\pwworking\pdx\d0295093\ST-1.dwg 11/15/13 9:00am poborro



SIGNING AND STRIPING NOTES :

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 PROTECT-IN-PLACE. 2 PLACE 4" DASHED WHITE PAVEMENT MARKINGS (TYPE II PAINT) 3 PLACE 4" SOLID WHITE PAVEMENT MARKINGS (TYPE II PAINT) 4 PLACE 4" DOUBLE SOLID YELLOW PAVEMENT MARKINGS (TYPE II PAINT) 5 PLACE 8" SOLID WHITE PAVEMENT MARKINGS (TYPE II PAINT) 6 PLACE RED CURB/FIRE HYDRANT MARKINGS (TYPE II PAINT) 7 NOT USED | <ul style="list-style-type: none"> 8 INSTALL FIRE HYDRANT MARKER (BLUE REFLECTOR) 9 PLACE 24" SOLID WHITE STOP BAR STRIPE (PREFORMED THERMOPLASTIC) 10 PLACE 8' HIGH WHITE DIRECTIONAL ARROW (PREFORMED THERMOPLASTIC) 11 INSTALL SIGNAL LOOPS UNDERNEATH PAVEMENT PER DT-7 (DO NOT INSTALL VIA SAW CUT) 12 NOT USED 13 NOT USED |
|---|--|

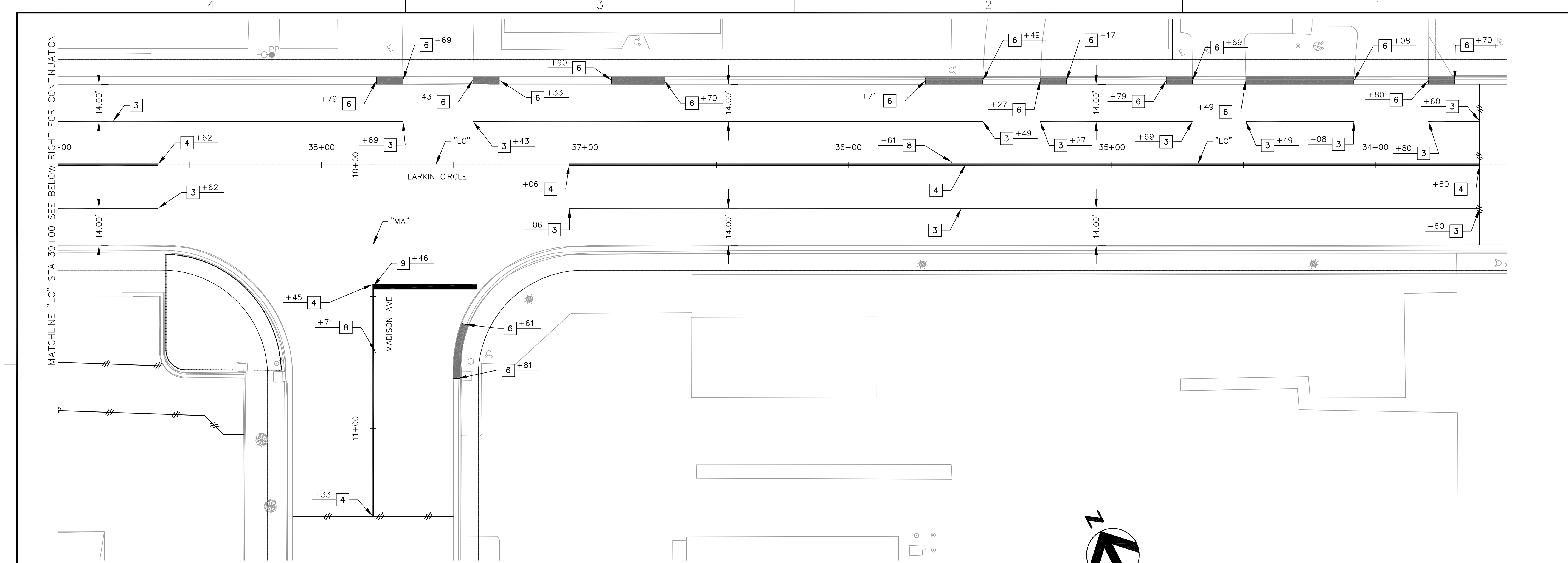
THIS IS A GENERAL LIST. NOT ALL ACTIVITIES ARE USED.
PROTECT EXISTING FEATURES IN PLACE UNLESS NOTED OTHERWISE.



MATCHLINE "G" STA 14+50 - SEE BELOW RIGHT FOR CONTINUATION

MATCHLINE "G" STA 14+50 - SEE ABOVE LEFT FOR CONTINUATION

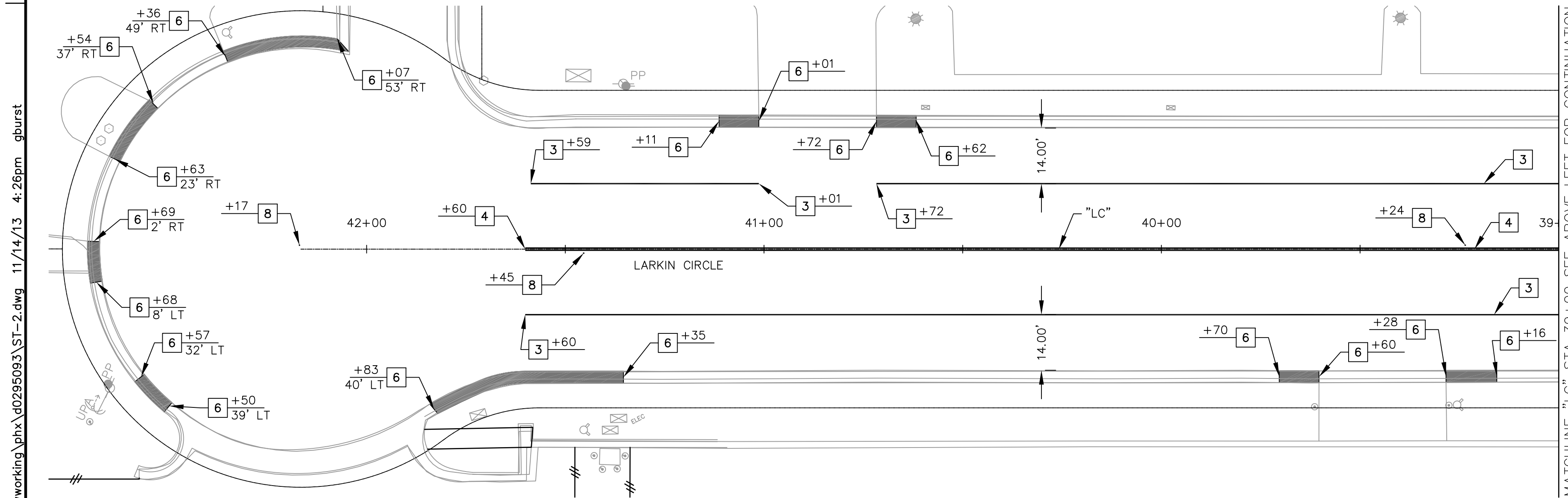
DESIGNED BY: PEO	CHECKED BY: PSP	APPROVED BY: PSP/ANL	SCALE: N/A	HORIZ: 1"=20'	VERT: N/A	REV No	DATE
						FIELD BOOK	DESCRIPTION
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 GREG STREET AND LARKIN CIRCLE SIGNING AND STRIPING PLAN "G" STA 9+50 TO STA 20+00 "LC" STA 10+00 TO STA 11+50							
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT							
SHEET No							
ST-1							
SHT OF							



SIGNING AND STRIPING NOTES :

- | | | | |
|---|--|----|--|
| 1 | PROTECT-IN-PLACE. | 8 | INSTALL FIRE HYDRANT MARKER (BLUE REFLECTOR) |
| 2 | PLACE 4" DASHED WHITE PAVEMENT MARKINGS (TYPE II PAINT) | 9 | PLACE 24" SOLID WHITE STOP BAR STRIPE (PREFORMED THERMOPLASTIC) |
| 3 | PLACE 4" SOLID WHITE PAVEMENT MARKINGS (TYPE II PAINT) | 10 | PLACE 8' HIGH WHITE DIRECTIONAL ARROW (PREFORMED THERMOPLASTIC) |
| 4 | PLACE 4" DOUBLE SOLID YELLOW PAVEMENT MARKINGS (TYPE II PAINT) | 11 | INSTALL SIGNAL LOOPS UNDERNEATH PAVEMENT PER DT-7 (DO NOT INSTALL VIA SAW CUT) |
| 5 | PLACE 8" SOLID WHITE PAVEMENT MARKINGS (TYPE II PAINT) | 12 | NOT USED |
| 6 | PLACE RED CURB/FIRE HYDRANT MARKINGS (TYPE II PAINT) | 13 | NOT USED |
| 7 | NOT USED | | |

THIS IS A GENERAL LIST. NOT ALL ACTIVITIES ARE USED.
PROTECT EXISTING FEATURES IN PLACE UNLESS NOTED OTHERWISE.



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APPROVED BY: PSP/ANL	PSP/ANL
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HORIZ:	N/A
VERT:	N/A
FIELD BOOK:	

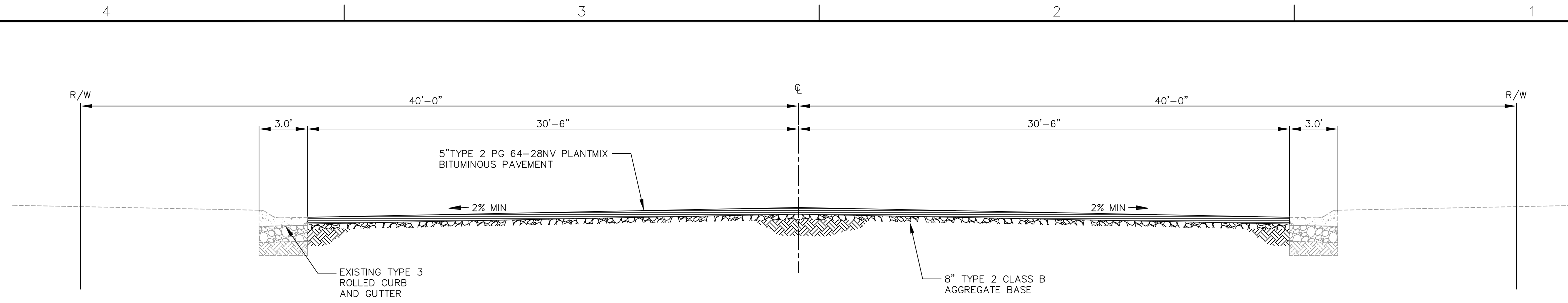
City of Sparks
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1
LARKIN CIRCLE AND MADISON AVENUE SIGNING AND STRIPING PLAN "LC" STA 33+50 TO STA 43+00
"MA" STA 10+00 TO STA 11+50
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT

PROFESSIONAL ENGINEER STATE OF NEVADA
NOEL C. LAUGHLIN
Exp. 12/23/13
CIVIL
No. 10 10

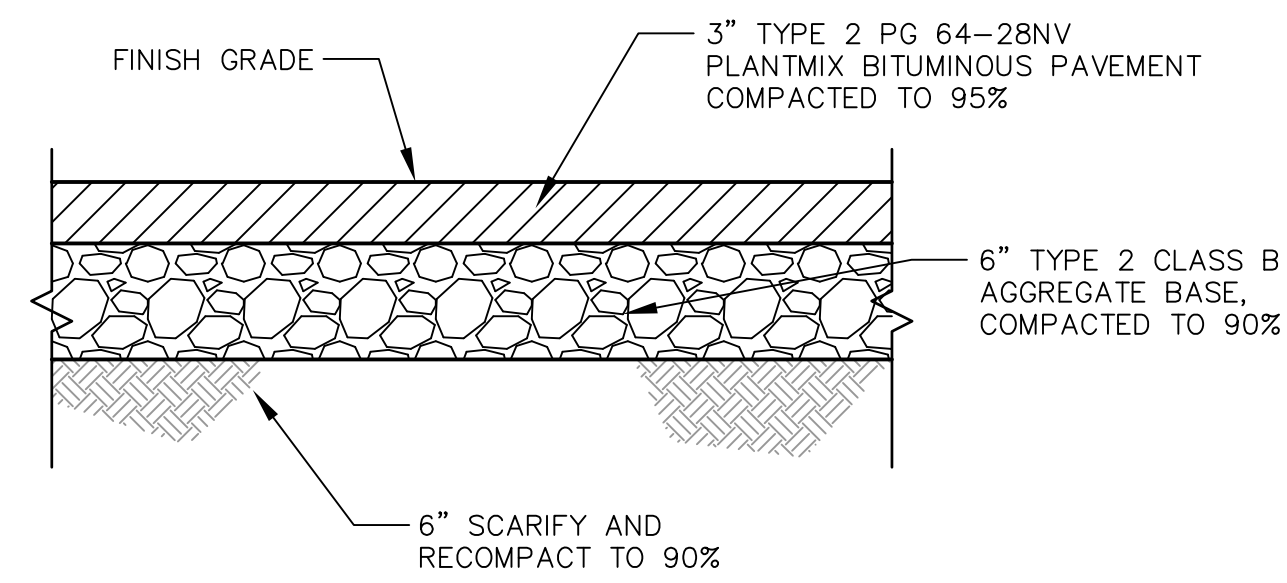
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APPROVED



LARKIN CIRCLE – TYPICAL SECTION



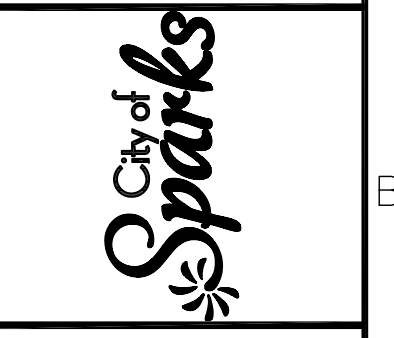
PARKING LOTS AND CONSTRUCTION YARDS – TYPICAL SECTION

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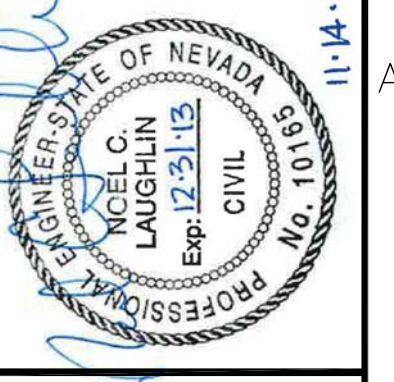
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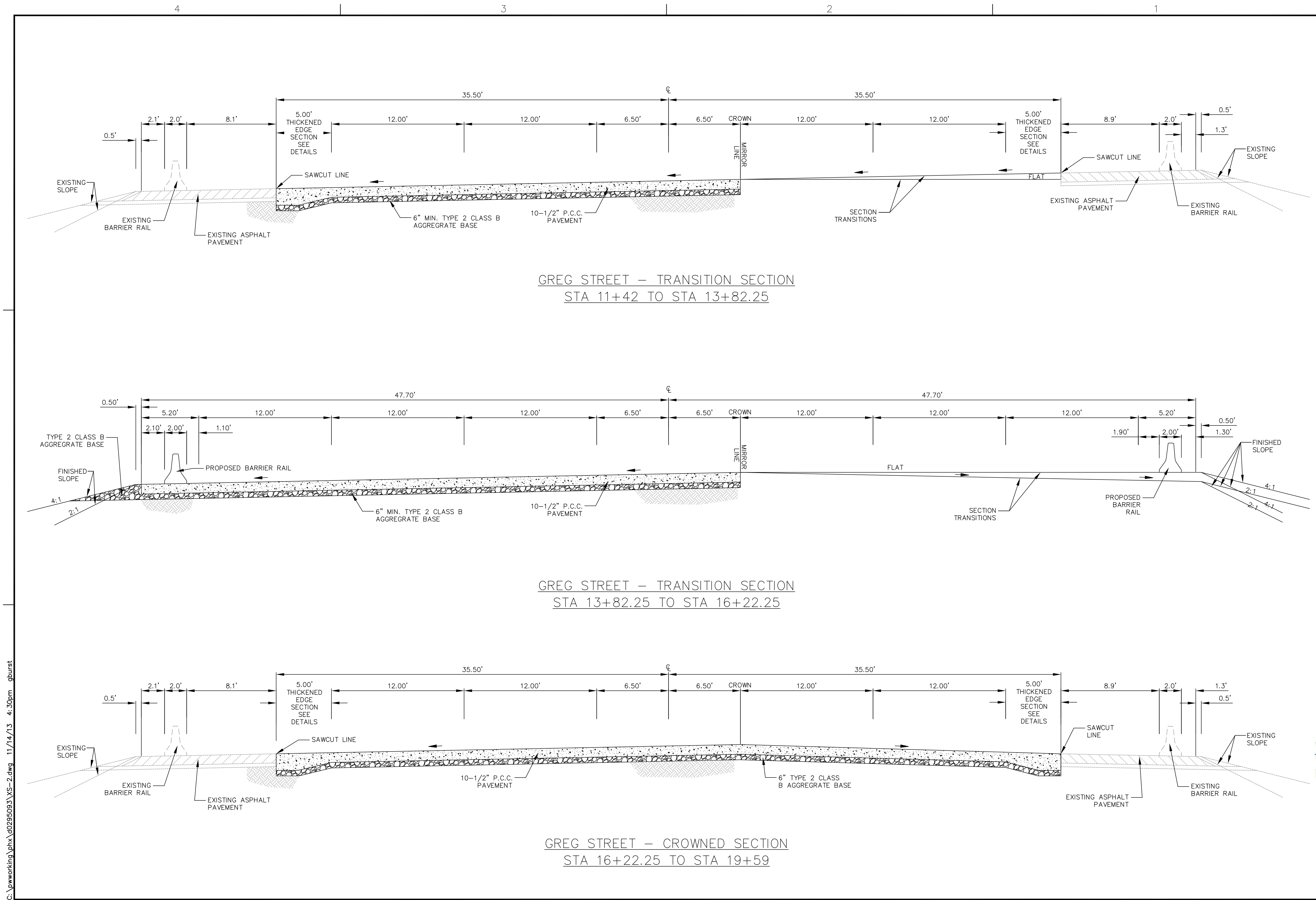
HDR
 Engineering, Inc.
 1805 S. Virginia Rd.,
 Suite 101, Sparks, NV, 89521
 Phone: 775-337-4700



NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1
 TYPICAL ROAD CROSS SECTIONS
 CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT



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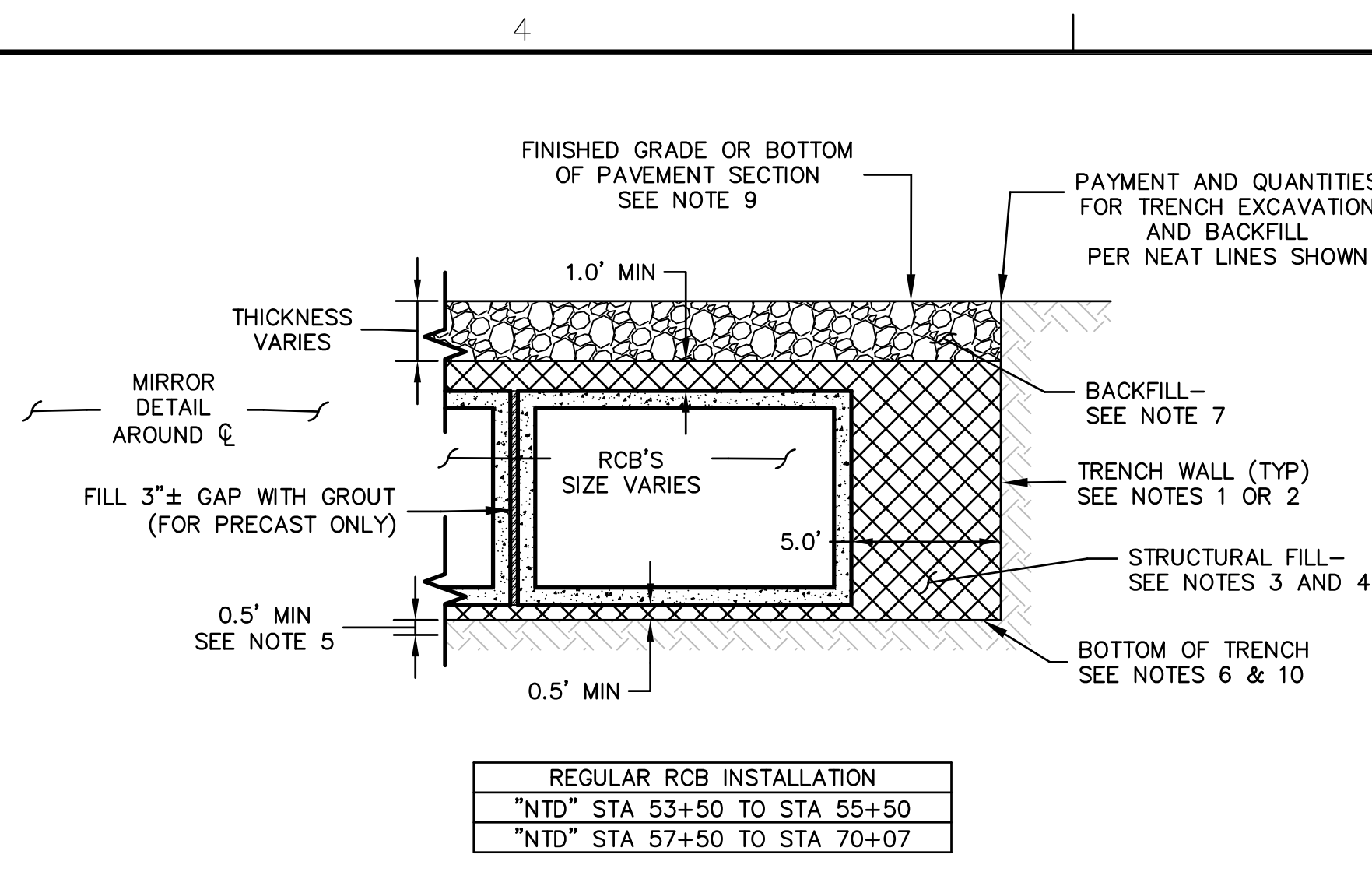
GREG STREET – TRANSITION SECTION
STA 11+42 TO STA 13+82.25

GREG STREET – TRANSITION SECTION
STA 13+82.25 TO STA 16+22.25

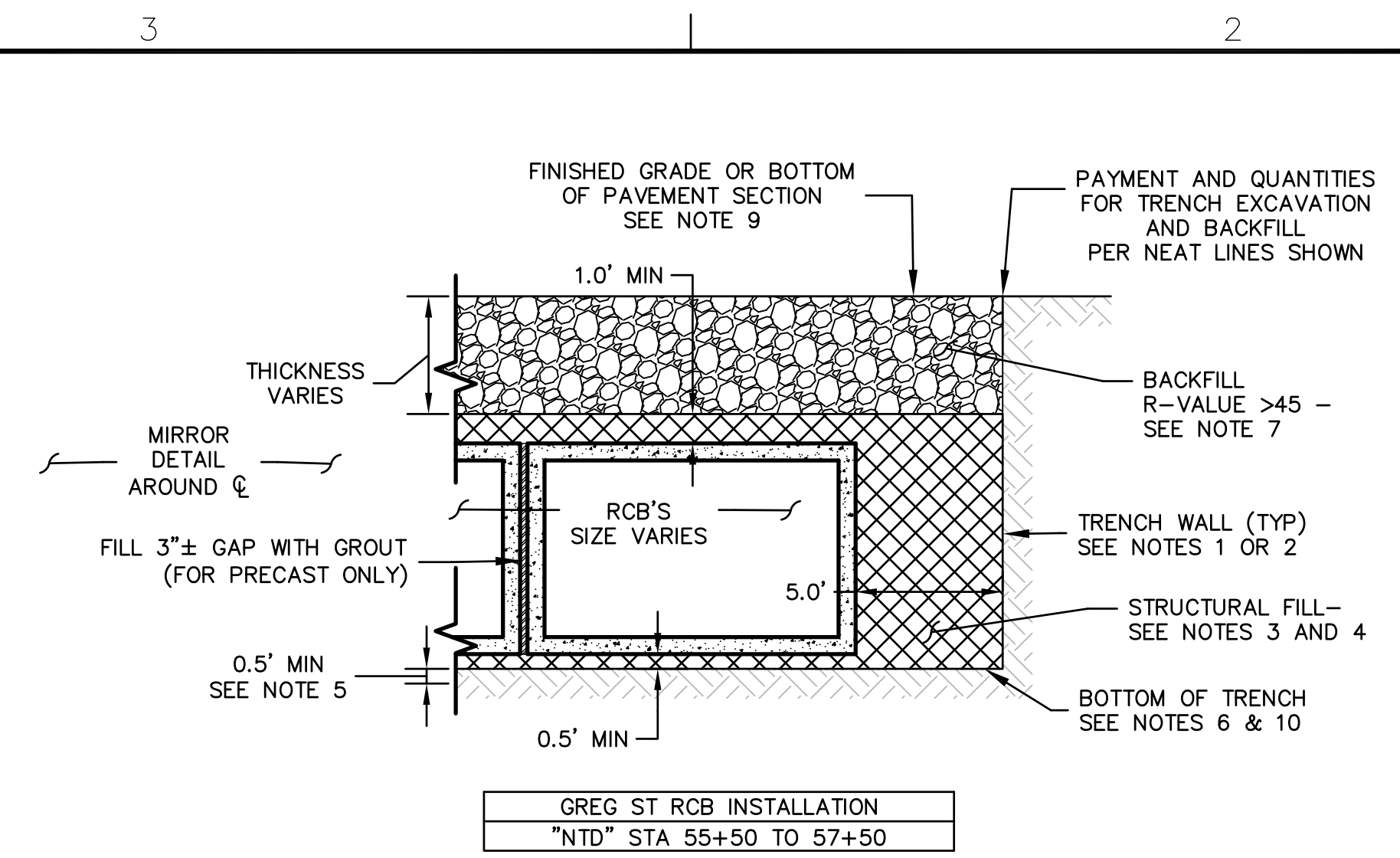
GREG STREET – CROWNED SECTION
STA 16+22.25 TO STA 19+59

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NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 TYPICAL ROAD CROSS SECTIONS							
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT							
							
SHEET No. XS-2							
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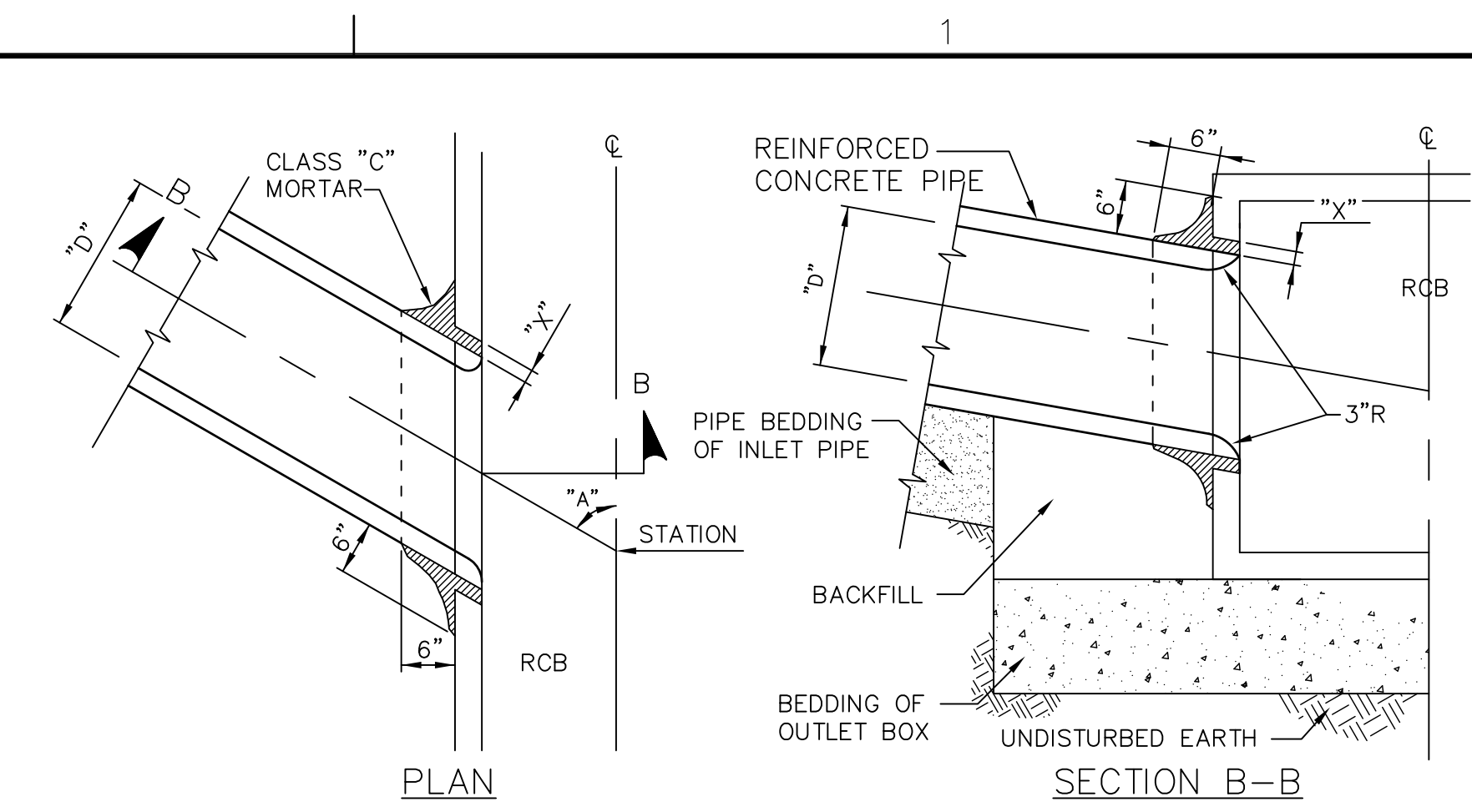


REGULAR RCB INSTALLATION	
"NTD" STA 53+50 TO STA 55+50	
"NTD" STA 57+50 TO STA 70+07	



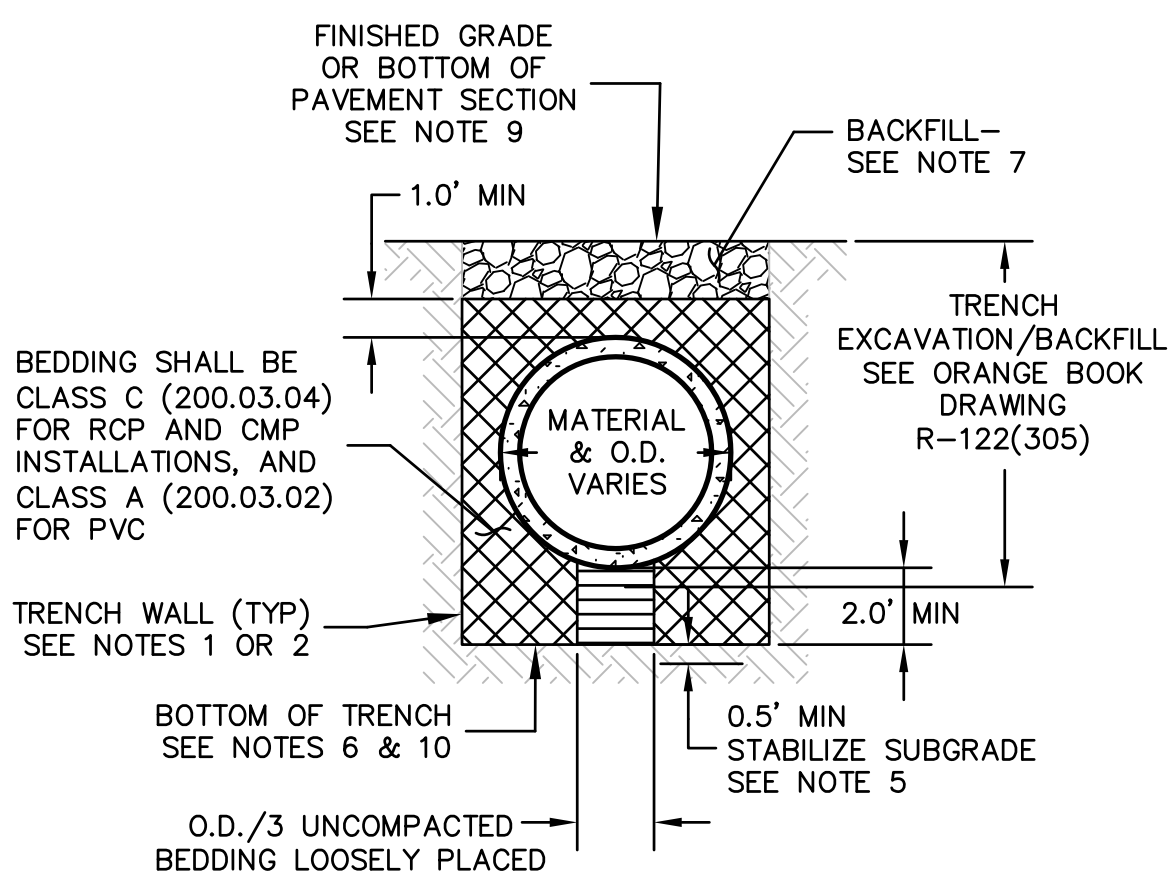
GREG ST RCB INSTALLATION	
"NTD" STA 55+50 TO STA 57+50	

RCB INSTALLATION SECTIONS
N.T.S.

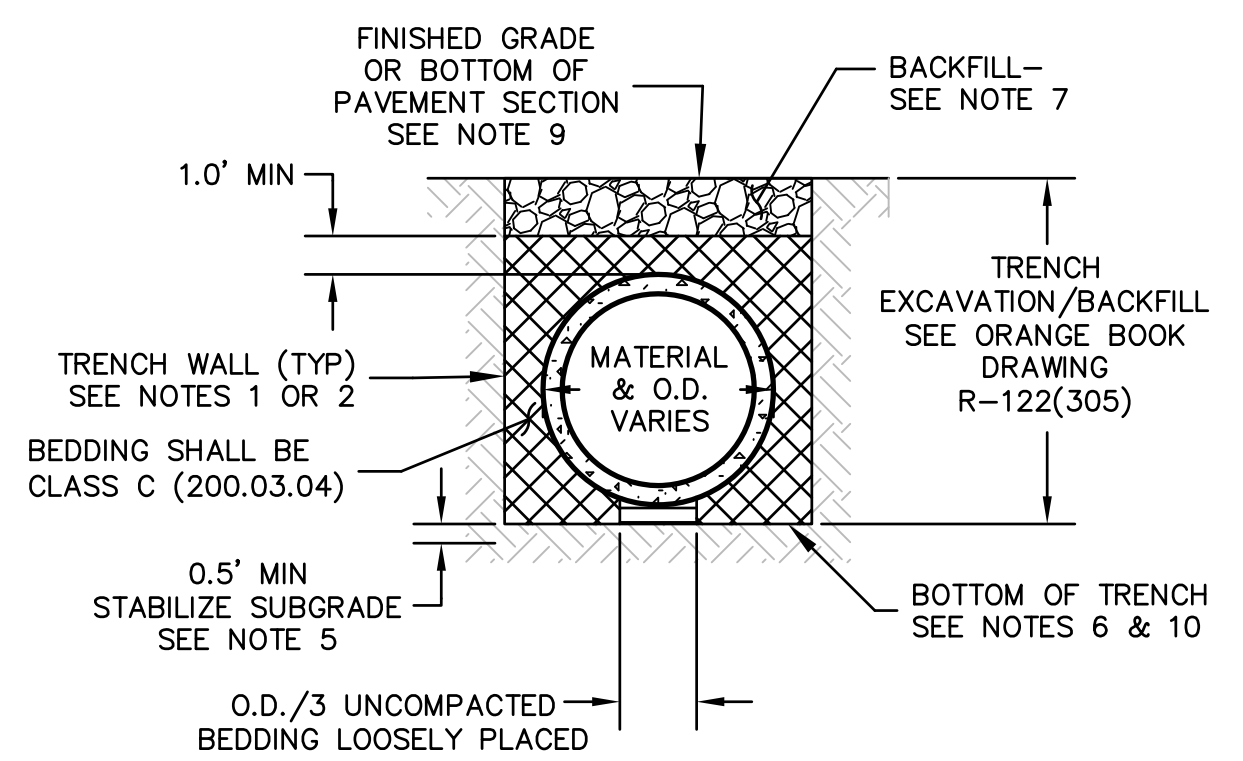


- NOTES:**
- ANGLE "A" SHALL BE BETWEEN 45° AND 90°.
 - DIMENSION "D" SHALL BE EQUAL TO OR LESS THAN 1/2 THE INSIDE DIMENSION OF THE MAINLINE BOX.
 - DIMENSION "X" SHALL BE 1" MINIMUM AND 3" MAXIMUM.
 - BURN OR CHIP END OF INLET PIPE FLUSH WITH INNER SURFACE OF MAINLINE. ROUND EDGES OF MAINLINE AND INLET PIPE.

PRE-CAST BOX PENETRATION DETAIL
N.T.S.



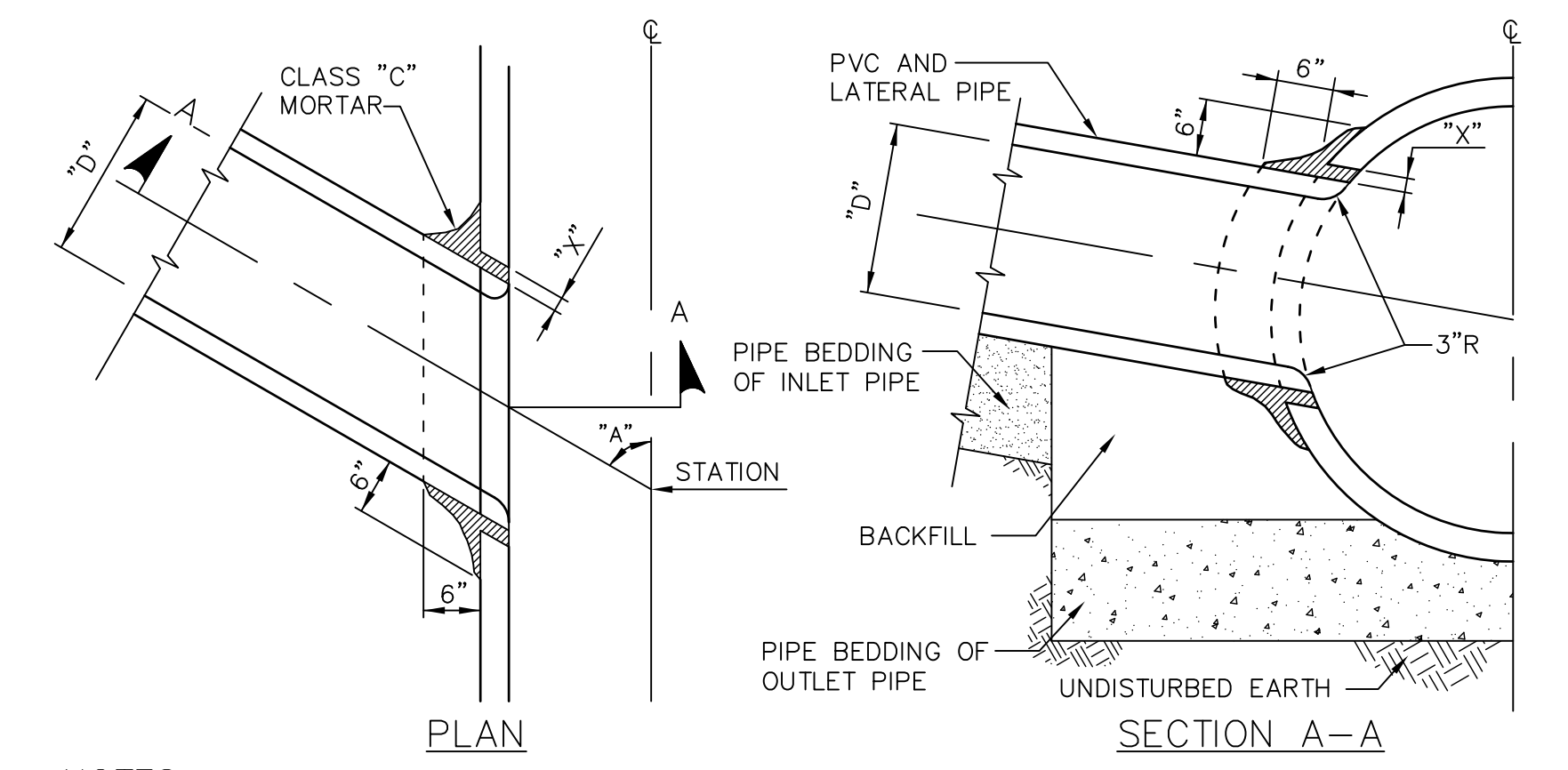
SHALLOW / POOR SOIL PVC & RCP INSTALLATION	
"NTD" STA 62+07.84 TO STA 66+30.76	
"NTD" STA 59+52.45 TO STA 62+50.44	
"NTD" STA 64+22.04 TO STA 65+79.50	
"NTD" STA 70+06.00 TO STA 70+13.94	



DEEP RCP INSTALLATION	
"G" STA 16+00 (ALL IMPROVEMENTS)	
"NTD" STA 66+30.76 TO STA 69+60.81	

PVC & RCP INSTALLATION SECTIONS
N.T.S.

- NOTES:**
- TRENCH WALL FOR CLAYEY SOILS SHALL COMPLY WITH OSHA SOIL TYPE B REQUIREMENTS OR APPROVED VERTICAL SHORING METHOD.
 - TRENCH WALL FOR GRANULAR SOILS SHALL COMPLY WITH OSHA SOIL TYPE C REQUIREMENTS OR APPROVED VERTICAL SHORING METHOD.
 - MAXIMUM DENSITY, IN-PLACE DENSITY, AND PLACEMENT OF BACKFILL SHALL BE PER STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (ORANGE BOOK) AND CONDITIONED WITHIN 2% OF OPTIMUM MOISTURE. EXCAVATED MATERIAL MAY BE USED AS BACKFILL (EITHER DIRECTLY OR BLENDED) IF ALL SPECIFICATION CRITERIA ARE MET.
 - STRUCTURAL FILL PER 200.01.09, COMPACT TO 90% MAX DRY DENSITY ASTM D1557.
 - SCARIFY NATIVE MATERIAL, MOISTURE CONDITION TO WITHIN 2% OF OPTIMUM FOR GRANULAR SOILS AND AT OR ABOVE OPTIMUM FOR CLAYEY MATERIAL. COMPACT TO 90% PER ASTM D1557.
 - IF EXISTING SUBGRADE IS COARSE GRANULAR (LESS THAN 70% PASSING 3/4-INCH SIEVE), PROOF ROLL WITH 5 PASSES (MIN) OF 10-TON ROLLER.
 - CLASS E BACKFILL PER 200.03.06, COMPACT TO 90% MAX DRY DENSITY ASTM D1557.
 - NOT USED
 - SEE GRADING PLAN SHEETS AND TYPICAL ROAD CROSS SECTIONS SHEETS.
 - WATER SHALL NOT BE ALLOWED TO POND IN BOTTOM OF TRENCH. PRIOR TO PLACEMENT OF STRUCTURAL FILL, BOTTOM OF TRENCH SHALL BE FIRM, UNYIELDING, AND SHALL NOT PUMP OR DEFLECT UNDER LOADS. ADDITIONAL OVEREXCAVATION AND SUBGRADE STABILIZATION EFFORTS MAY BE REQUIRED TO ACHIEVE A FIRM AND UNYIELDING SURFACE.



- NOTES:**
- ANGLE "A" SHALL BE BETWEEN 45° AND 90°.
 - DIMENSION "D" SHALL BE EQUAL TO OR LESS THAN 1/2 THE INSIDE DIAMETER OF THE MAINLINE PIPE.
 - DIMENSION "X" SHALL BE 1" MINIMUM AND 3" MAXIMUM.
 - BURN OR CHIP END OF INLET PIPE FLUSH WITH INNER SURFACE OF MAINLINE PIPE. ROUND EDGES OF MAINLINE AND INLET PIPES.

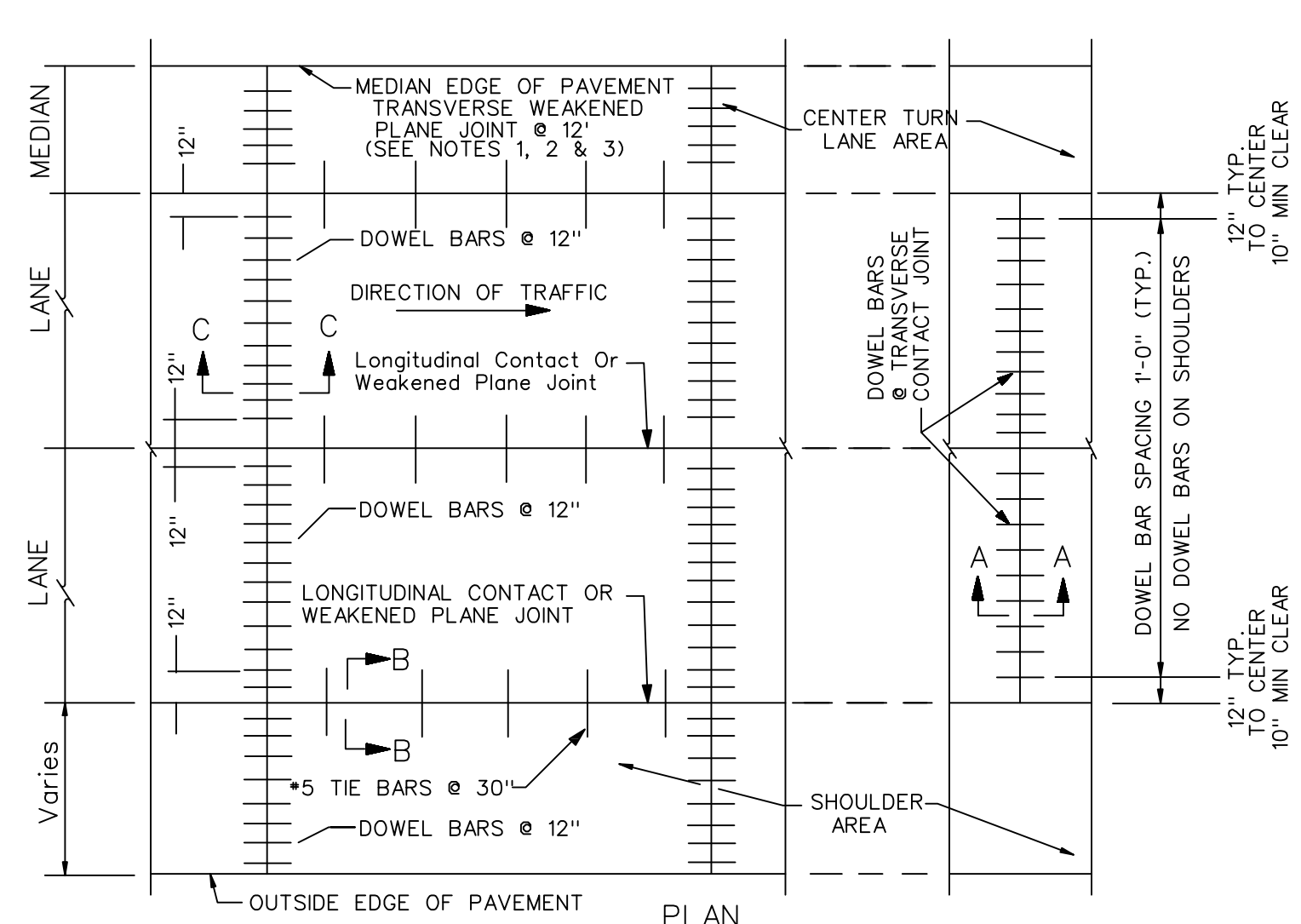
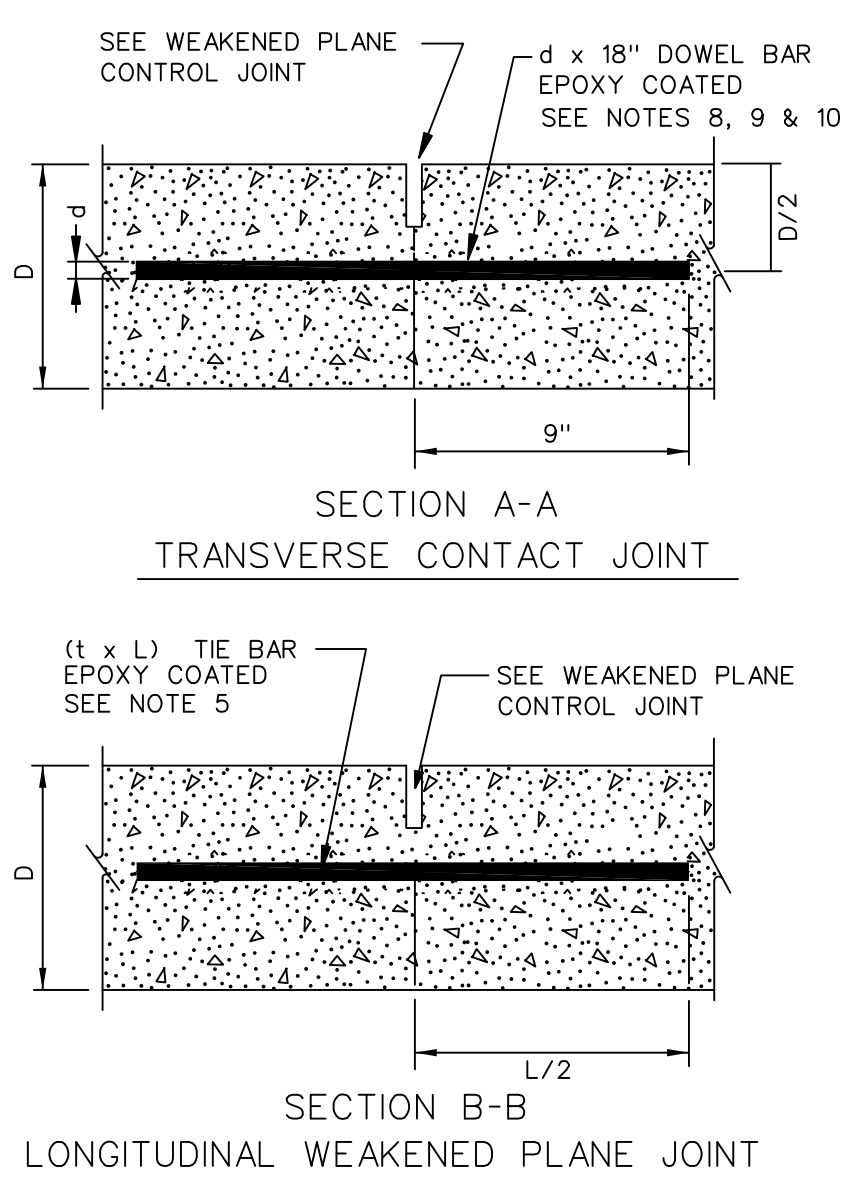
PIPE PENETRATION DETAIL
N.T.S.

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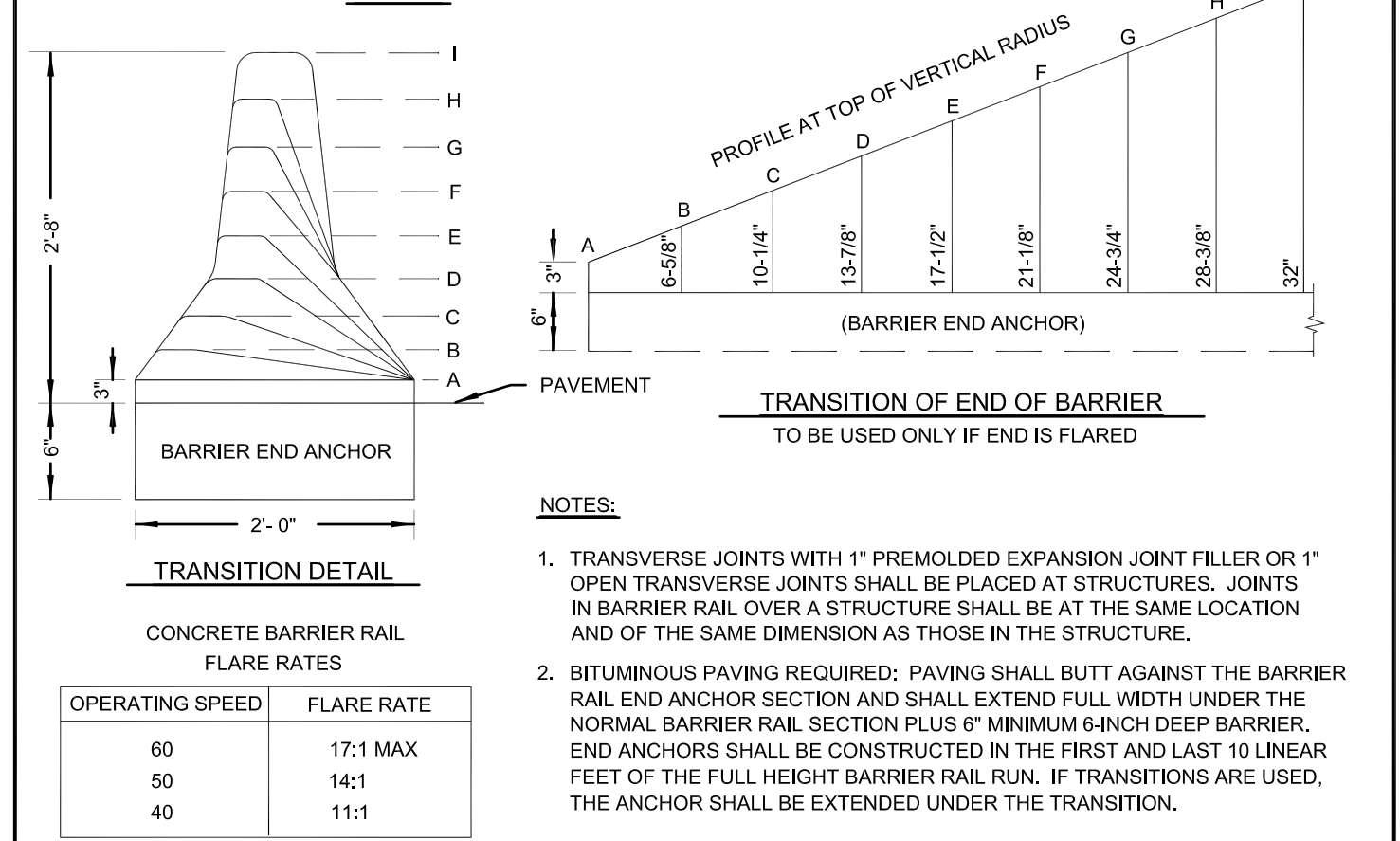
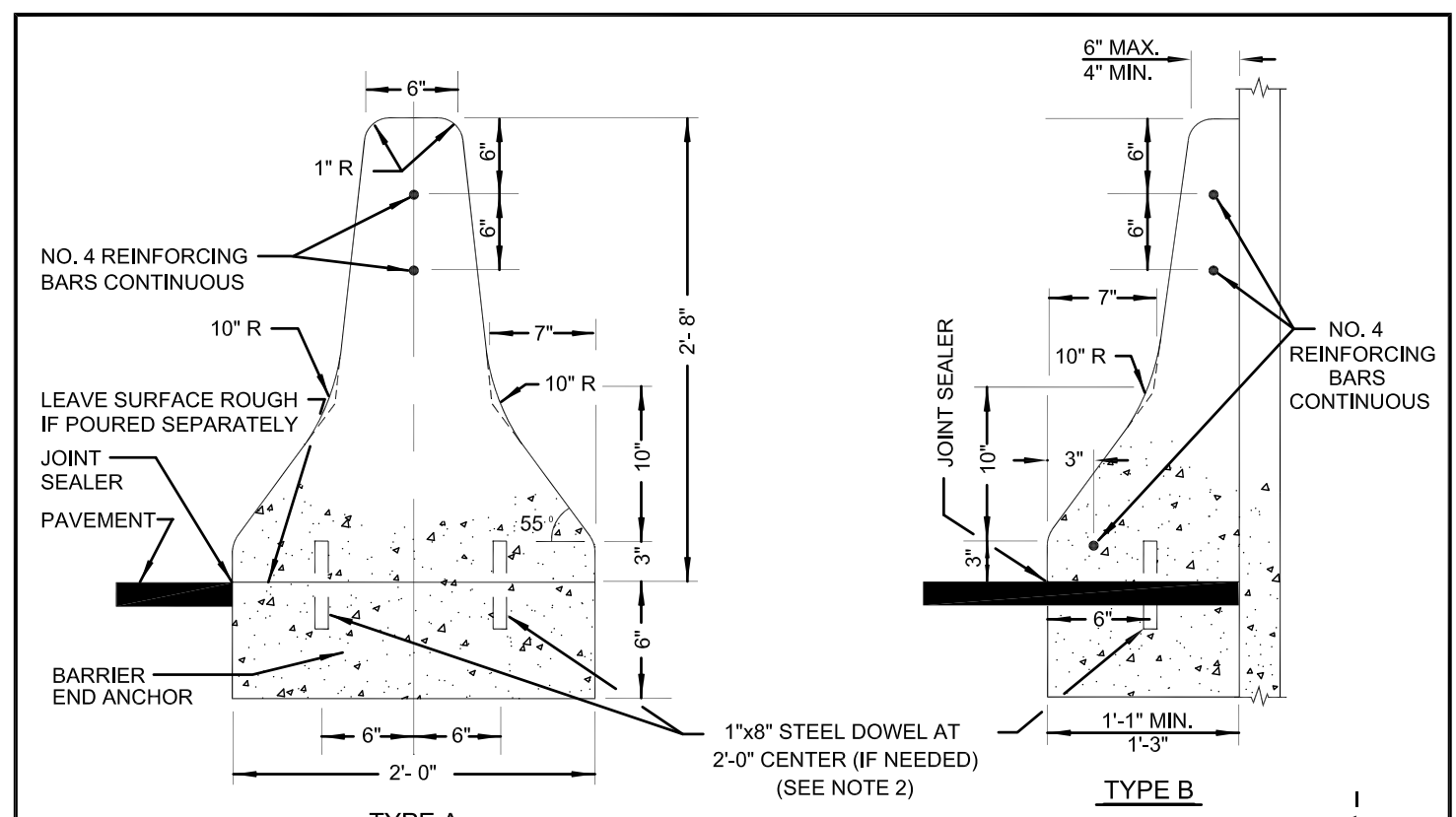
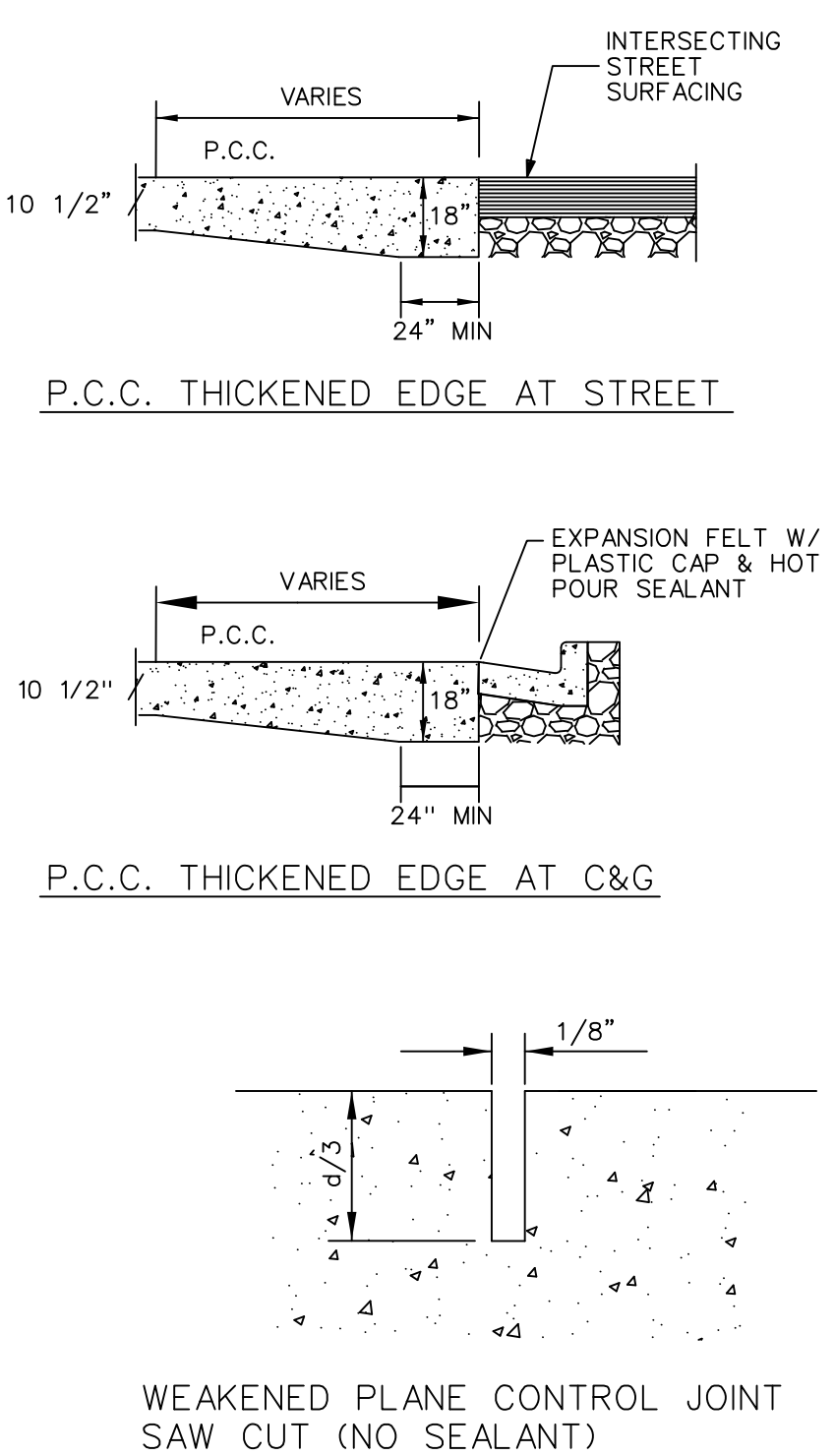
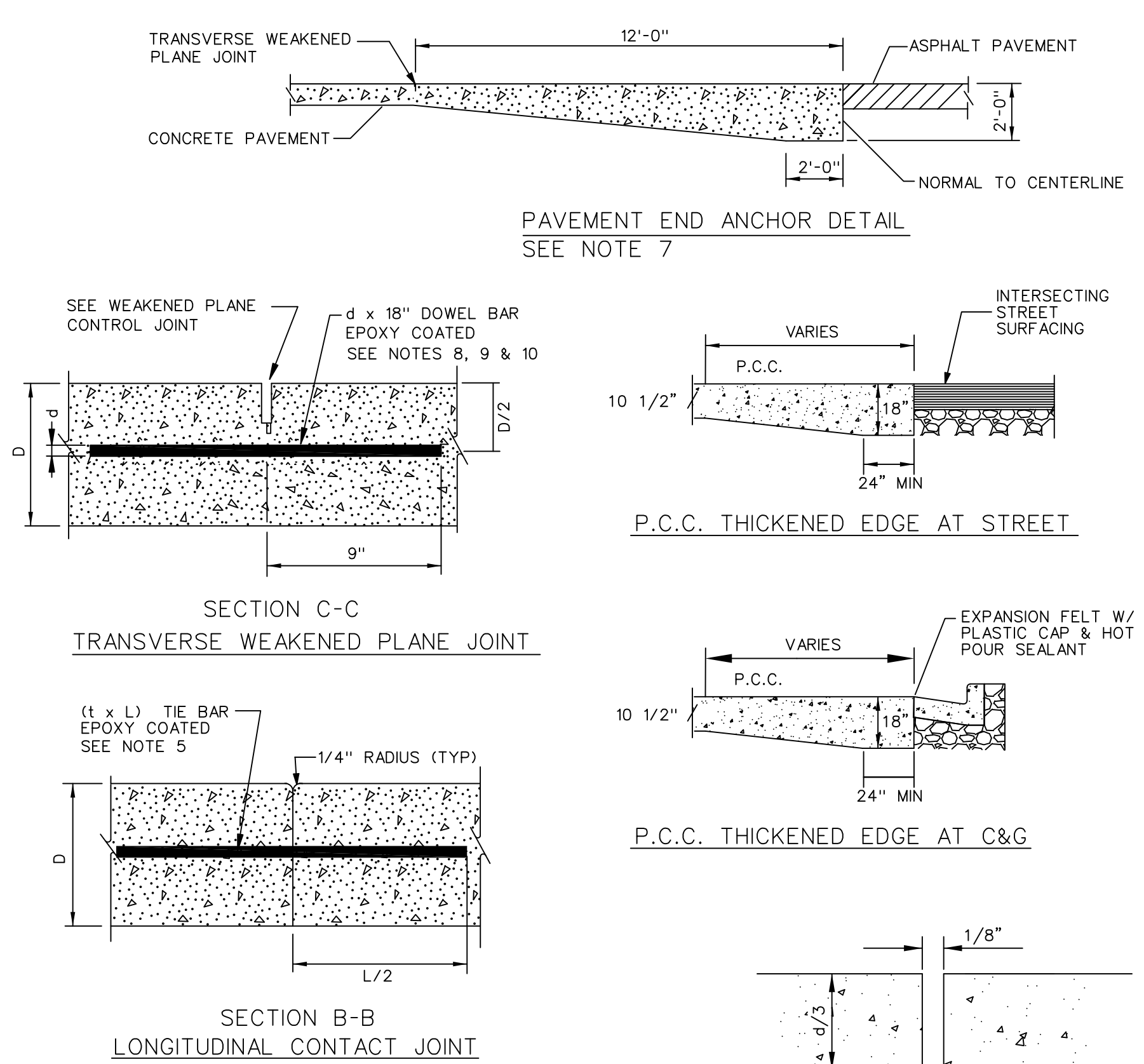
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								STANDARD DETAILS
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1								
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT								
SHEET No DT-5								
SHT OF								

GENERAL NOTES:

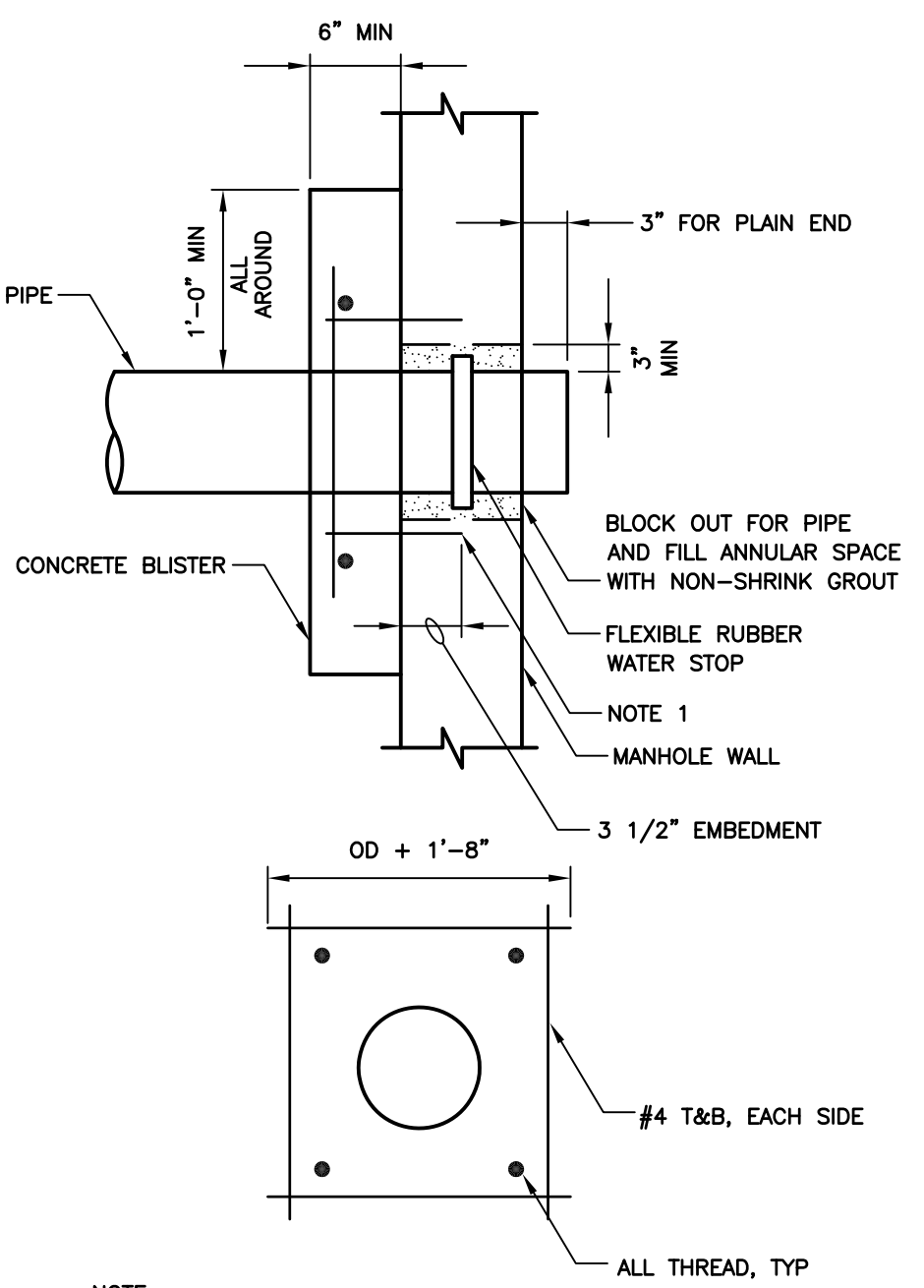
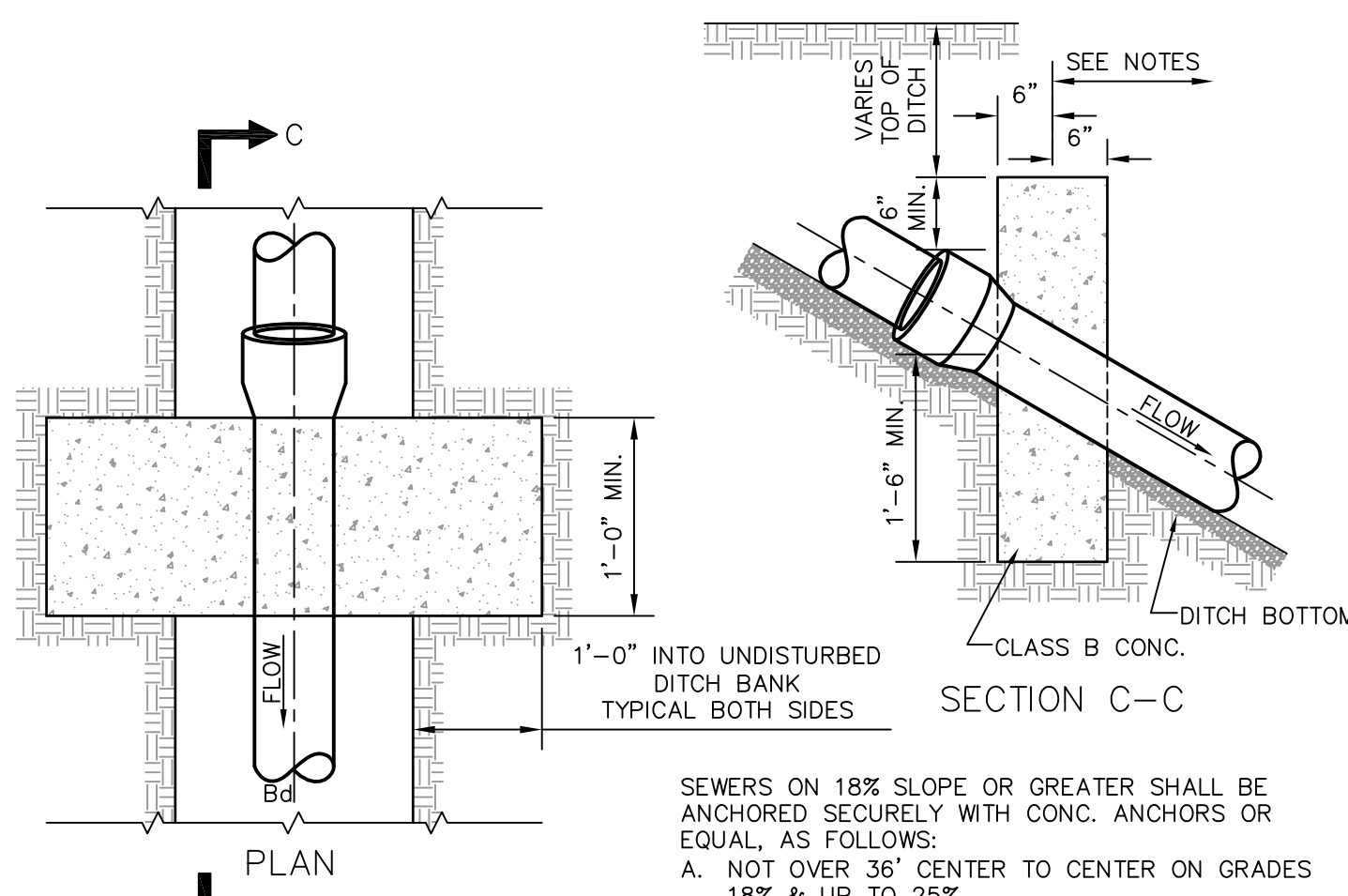
- ALL WEAKENED PLANE JOINTS SHALL BE SAWS PERPENDICULAR AS SHOWN, EXCEPT AS INDICATED IN THE STRUCTURE APPROACH DETAILS. WHEN ONLY ONE LANE IS BEING CONSTRUCTED ALONGSIDE EXISTING LANES, JOINTS SHALL BE SAWS AS DIRECTED BY THE ENGINEER.
- SPACING OF WEAKENED PLANE JOINTS SHALL BE 12'-0" EXCEPT AT REINFORCED STRUCTURE APPROACHES.
- TRANSVERSE WEAKENED PLANE JOINTS SHALL BE AT LEAST 6'-0" FROM ANY CONTACT JOINT.
- LONGITUDINAL WEAKENED PLANE JOINTS SHALL BE CUT AT ALL LANE AND SHOULDER LINES EXCEPT WHERE LANE PLUS ADJACENT SHOULDER WIDTH IS LESS THAN OR EQUAL TO 16'-0".
- ALL TIE BARS TO BE EPOXY COATED, TIE BARS TO BE PLACED IN MIDDLE 1/3 OF SLAB THICKNESS. TIE BARS SHALL NOT BE PLACED WITHIN 1'-0" OF DOWEL BARS.
- TRANSVERSE CONTACT JOINTS WITH DOWEL BARS SHALL BE USED AT ALL CONSTRUCTION JOINTS AND ELSEWHERE IF ORDERED BY THE ENGINEER.
- PAVEMENT END ANCHORS SHALL BE CONSTRUCTED AS THE TERMINAL PANELS OF ALL PAVEMENTS NOT ABUTTING EXISTING CONCRETE PAVEMENTS OR STRUCTURES, AND ELSEWHERE IF ORDERED BY THE ENGINEER.
- DOWEL BARS SHALL BE LOCATED WITHIN 1" OF THE PLANNED TRANSVERSE AND DEPTH LOCATION AND WITHIN 2" OF THE PLANNED LONGITUDINAL LOCATION.
- DOWEL BARS SHALL BE PARALLEL TO THE PAVEMENT SURFACE AND CENTERLINE WITH A TOLERANCE OF 1/2" IN 18".
- DOWEL BARS SHALL NOT BE PLACED WITHIN 1'-0" OF LONGITUDINAL JOINTS.
- D - SLAB THICKNESS
- PLASTIC CAP ON EXPANSION FELT SHALL LEAVE A MINIMUM 1/2" RESEVOIR FOR HOT POUR SEALANT.
- ALL TRANSVERSE JOINTS SHALL BE PERPENDICULAR TO CENTERLINE.



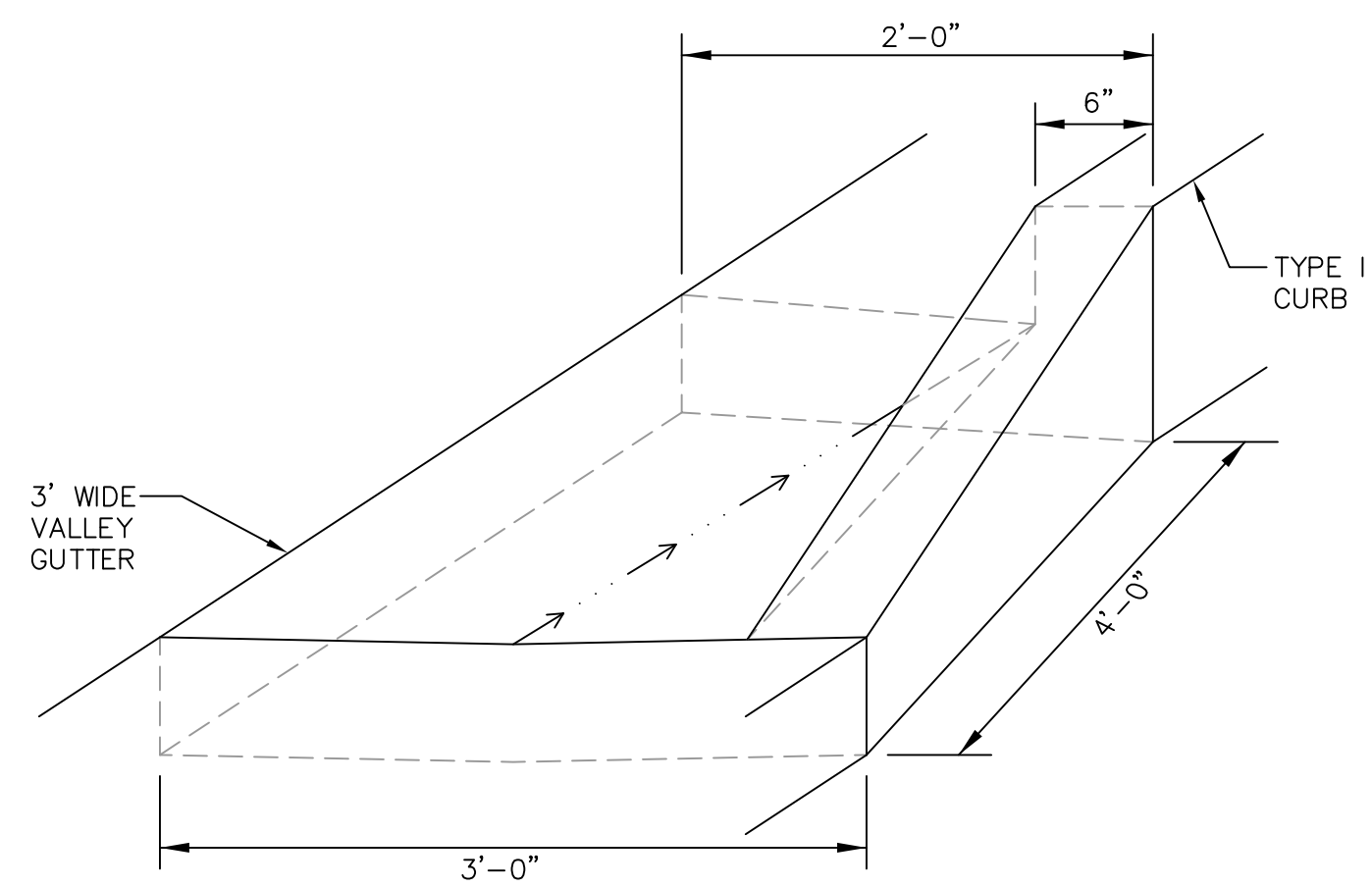
DOWEL BAR DIA. d IN. MIN.	TIE BAR SIZE REBAR t	LENGTH OF TIE BAR L IN.
1-1/2"	No. 5	30



MISCELLANEOUS PCC JOINT DETAILS
NOT TO SCALE



- NOTE:
- FOUR 5/8" ALL THREAD W/ TWO NUTS AND WASHERS AT END. DRILL AND EPOXY IN MH WALL



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APPROVED BY: NL
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HORIZ: N/A
VERT: N/A

REV No DATE DESCRIPTION

FIELD BOOK

City of Sparks
Engineering, Inc.
1805 S. Virginia Rd.,
Suite 101, Sparks, NV 89411
Phone: 775-337-4700

NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1
STANDARD DETAILS
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT

PROFESSIONAL ENGINEER STATE OF NEVADA
NOEL C. LAUGHLIN
Exp. 12/31/13
CIVIL
No. 10104

SHEET No. DT-6
SHT OF

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SPECIAL DROP MANHOLE

SECTION B-B
SECTION A-A
PIPE STRAP DETAIL
TYPICAL SECTION

GENERAL NOTES:
1. USE OF A DROP MANHOLE REQUIRES APPROVAL FROM CARSON CITY UTILITIES.
2. REFERENCE STANDARD DRAWING C-6.6 "MANHOLE TYPE 1" FOR ADDITIONAL NOTES, DIMENSIONS AND DETAILS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY DRAWING NO. C-6.0	PAGE 12
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MANHOLE COLLAR AND TEMPORARY COVER DETAIL

MANHOLE COLLAR DETAIL
SECTION A-A
TEMPORARY COVER DETAIL

GENERAL NOTES:
1. EXISTING PAVEMENT TO BE MATCHED SHALL BE NEATLY CUT.
2. CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 202.12 OF THE STANDARD SPECIFICATIONS. REBAR SHALL ONLY BE INSTALLED WHEN THE MANHOLE IS LOCATED OUTSIDE PAVED AREAS.
3. IN ALL AREAS, COVERS SHALL BE SET FLUSH WITH FINISH GRADE UNLESS OTHERWISE NOTED.
4. THE CONCRETE COLLAR SHALL BE LEFT 2-1/2" - 3" BELOW FINISHED ASPHALT SURFACE. APPLY AN APPROVED TACK COAT AND FILL VOID BETWEEN ADJACENT PAVEMENT AND FRAME WITH TYPE 3 A.C. PAVING. CHIP OR FOG SEAL PAVED SURFACE. EXCEPTION: WHEN STRUCTURE NOT LOCATED IN ASPHALT PAVEMENT OR IN AN UNPAVED AREA, EXTEND CONCRETE TO FINISH GRADE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY DRAWING NO. C-6.4	PAGE 16
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MANHOLE TYPE 1

EXPLODED VIEW
TYPICAL SECTION
PLAN VIEW-BASE

GENERAL NOTES:
1. MANHOLE SECTION LENGTHS ARRANGED TO FIT DEPTH. ALL SHIMS TO BE REMOVED AND SEALS GROUTED.
2. POURED BASE MAY BE USED IF APPROVED BY THE UTILITY DEPARTMENT PRIOR TO CONSTRUCTION.
3. PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C-478 MANHOLES TO BE VOIDED WATER TIGHT.
4. NO "THRU" HOLES. CLOSED PICK HOLES ONLY: SBF 1900 CPH OR APPROVED EQUAL. NO LADDER RUNGS OR STEPS. CONCENTRIC CONES ONLY UNLESS APPROVED BY UTILITY DEPARTMENT.
5. MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE "STANDARD SPECIFICATIONS".
6. COAT OUTSIDE OF MANHOLE WITH FLEXIBLE REINFORCED COATING IN HIGH GROUNDWATER AREAS.
7. BASE CONFIGURATION TO BE INSTALLED AS SHOWN ON THE APPROVED PLANS. NO PLUGGING OR MODIFYING ALLOWED.
8. MANHOLES LOCATED OUTSIDE PAVED AREAS SHALL REQUIRE ALL WEATHER ACCESS ROADWAY CONSISTING OF 6" TYPE II BASE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY DRAWING NO. C-6.6	PAGE 18
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EXISTING 6" AC/DIP FH PIPE CONNECTION

PLAN

NOTES:
1. PROVIDE RESTRAINED PIPE, FITTINGS AND VALVE IN ACCORDANCE WITH TMWA ENGINEERING AND CONSTRUCTION STANDARDS.
2. REFER TO PLAN SHEETS FOR PIPE SIZES.

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DRAWN BY: N/A
CHECKED BY: NL
APPROVED BY: NL
SCALE: N.T.S.
HORIZ: N/A
VERT: N/A

PERMANENT BITUMINOUS PAVEMENT PATCH

NOTES:
1. A PERMIT MUST BE OBTAINED FROM THE CITY ENGINEER PRIOR TO CUTTING ANY PUBLIC RIGHT-OF-WAY. 24 HOURS PRIOR TO TRENCH EXCAVATION, THE PERMITTEE MUST NOTIFY THE CITY EXCAVATION PERMIT INSPECTOR OR APPLICABLE ENGINEER OF RECORD.
2. ALL PERMANENT PATCH WORK SHALL BE THE RESPONSIBILITY OF THE CITY OF RENO, UNLESS OTHERWISE AUTHORIZED BY THE CITY.
3. IF SAW CUT IS WITHIN 2 FEET OF AN EXISTING PAVEMENT EDGE OR EXISTING PAVEMENT PATCH, REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
4. ALL A.C. REPLACEMENT REQUIREMENTS ARE MINIMUM WIDTHS ONLY. THE CITY ENGINEER MAY REQUIRE WIDER PATCH SECTIONS OR OTHERWISE ALTER THESE REQUIREMENTS.
5. LONGITUDINAL TRENCH PATCH WIDTH: FOR COLLECTORS, MINOR AND MAJOR ARTERIALS AND EXPRESSWAYS: IF SAW CUT EDGES FOR LONGITUDINAL OR TRANSVERSE EXCAVATIONS FALL WITHIN A TRAVEL LANE, SAW CUT SHALL BE EXTENDED TO, AND REMOVAL MADE TO EDGE OF THE TRAVEL LANE, OR THE FULL DEPTH PATCH SHALL BE MADE PER THE SPECIFICATIONS FOR TRANSVERSE PATCHES AND THE ENTIRE TRAVEL LANE ROTOMILLED TO A DEPTH OF TWO INCHES AND OVERLAPPED WITH TWO INCHES OF BITUMINOUS PLANTMIX AS DIRECTED BY THE ENGINEER.
6. EDGE OF 4" ROCK WHEEL TRENCHES FOR CONDUIT SHALL BE LOCATED A MINIMUM OF 9" FROM GUTTER LIP AND SHALL BE PATCHED AS PER THE ABOVE DETAIL.
7. AGGREGATE BASE AND BITUMINOUS PAVEMENT SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST REVISION.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF LOOP DETECTORS, ADJUSTMENT OF UTILITIES AND SURVEY MONUMENTS TO GRADE AND INSTALLATION OF TEMPORARY PAVEMENT MARKERS.
9. FOR P.T.C. CURB REPLACEMENT, SAW CUT EXISTING PAVEMENT 18 INCHES MIN. FROM GUTTER LIP LINE, REMOVE AND REPLACE PAVEMENT TO SAW CUT EDGES. CONCRETE MAY BE POURED NEAT AGAINST EXISTING EDGE OF ASPHALT IF APPROVED BY CITY ENGINEER.

NO.	REVISION	DATE	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY DRAWING NO. R-120 (305,320)	PAGE 145
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TEMPORARY A.C. TRENCH PATCH

NOTES:
1. PRIOR TO EXCAVATION, THE OUTLINE OF THE TRENCH SHALL BE VERTICALLY CUT FULL DEPTH THROUGH THE EXISTING ASPHALT SURFACE WITH A SAW, OR AN ASPHALT SPADE OR EQUIPMENT APPROVED BY THE CITY ENGINEER.
2. CARE SHALL BE EXERCISED TO PREVENT SLOUGHING AND OVERBREAK. IF THE TRENCH SLOUGHS, THE SURFACE SHALL BE WIDENED TO ELIMINATE THE UNDERMINED SECTION OF ASPHALT.
3. TYPE 2, CLASS "B", AGGREGATE BASE SHALL BE COMPACTED TO A THICKNESS OF AT LEAST 1 1/2" OR A DEPTH OF 8" BELOW THE BOTTOM OF THE EXISTING PAVEMENT, WHICHEVER IS GREATER.
4. A TEMPORARY PATCH OF COLD MIX ASPHALT CONCRETE SHALL BE PLACED AND COMPACTED. THE COMPACTED PATCH SHALL BE APPROXIMATELY 1/8" TO 1/4" ABOVE THE LEVEL OF THE ADJACENT PAVEMENT. IF NOT PATCHED WITHIN 24 HOURS AFTER BACKFILLING, THE CITY MAY PATCH AND BACK-CHARGE THE PERMITTEE FOR ALL COSTS.
5. COMPACTION OF BACKFILL, BASE AND A.C. TEMPORARY PATCH SHALL BE PERFORMED WITH APPROVED MECHANICAL TAMPER. EQUIPMENT WHEEL ROLLING IS NOT PERMITTED.
6. ENTIRE AREA SHALL BE CLEANED OF ALL DIRT, DUST, DEBRIS, ETC. BEFORE LEAVING SITE. ANY SITE LEFT UNCLEANED WILL BE CLEANED BY THE CITY AND ALL COSTS BACK-CHARGED TO THE PERMITTEE.
7. A PERMIT MUST BE OBTAINED FROM THE CITY ENGINEER PRIOR TO CUTTING ANY PUBLIC RIGHT-OF-WAY. 24 HOURS PRIOR TO TRENCH EXCAVATION, THE PERMITTEE MUST NOTIFY THE CITY EXCAVATION PERMIT INSPECTOR OR APPLICABLE ENGINEER OF RECORD.
8. ALL EXCAVATIONS SHALL BE COMPLETE OR BACKFILLED AT THE END OF THE DAY OR APPLICABLE ENGINEER OF RECORD.
9. TEMPORARY PATCH WORK AND PATCH MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.

NO.	REVISION	DATE	STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY DRAWING NO. R-121 (305,320)	PAGE 146
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LOOP DETECTOR NOTES, LAYOUT AND DETAILS

NOTES:
1. SAW CUTTING OF PCC PAVEMENT FOR LOOP INSTALLATION IS PROHIBITED.
2. ALL LOOPS TO BE PLACED IN PCC PAVEMENT SHALL BE "PREFORMED LOOPS" ENCASED IN A PROTECTIVE JACKET. PREFORMED LOOPS SHALL BE SUPPORTED AND SECURED IN POSITION PRIOR TO PCC PAVING.
3. THE ADDITIONAL LENGTH OF EACH CONDUCTOR FOR EACH LOOP SHALL BE TWISTED TOGETHER INTO A PAIR (AT LEAST TWO TURNS PER FOOT) BEFORE BEING PLACED IN THE SLOT AND CONDUIT TO TERMINATION PULL BOX.
4. LOOPS SHALL BE CENTERED IN LANES.
5. ON NEW SIGNAL CONSTRUCTION, OR AS REQUIRED BY THE CITY ENGINEER, DETECTION SHALL CONSIST OF A COMBINATION OF VIDEO AND LOOP DETECTION. THE LOOPS SHALL CONSIST OF TWO (2) PRESENCE LOOPS LOCATED AT THE STOP BAR FOR EACH LANE OF TRAVEL AND SHALL OPERATE CONCURRENT WITH THE VIDEO DETECTION.
6. ADJACENT LOOPS ON THE SAME SENSOR UNIT CHANNEL SHALL BE WOUND IN OPPOSITE DIRECTIONS.
7. ALL WIRES SHALL BE IDENTIFIED IN PULL BOXES, WITH LOOP WIRES AS FOLLOWS: RED TAPE INDICATES LEFT TURN LANE LOOPS WITH ONE BAND IDENTIFYING LOOP ONE, TWO BANDS LOOP TWO, ETC. BLUE TAPE INDICATES THROUGH LANE LOOPS AND WHITE TAPE INDICATES RIGHT TURN LANES. IF THERE ARE TWO LEFT TURN LANES, YELLOW TAPE INDICATES THE LANE CLOSEST TO THE CENTER LANE OF THE STREET.
8. ALL INDUCTIVE LOOPS ON A GIVEN CHANNEL SHALL BE CONNECTED IN SERIES. NO MORE THAN ONE LEAD IN CABLE SHALL BE CONNECTED TO A CABINET CHANNEL TERMINATION. NO MORE THAN SIX INDIVIDUAL LOOPS ARE TO BE CONNECTED TO ONE CHANNEL.
9. LOOP LEAD IN CABLES GREATER THAN 500 FEET IN LENGTH SHALL BE INSTALLED WITH FOUR (4) TURNS INSTEAD OF THREE (3).
10. LISTED BELOW ARE THE MINIMUM DISTANCES FOR ADVANCE LOOP DETECTOR PLACEMENT AS A FUNCTION OF POSTED SPEED LIMITS, MEASURED FROM THE STOP BAR TO THE REAR OF THE LOOP.

SPEED LIMIT (MPH)	DISTANCE (FEET)
25	150
30	200
35	255
40	285
45	330
50	355
55	390

PULL BOX
INBOARD FACE OF BARRIER RAIL
6' 9" (TYP)

THRUST BLOCK DESIGN CRITERIA

THRUST BLOCK SIZES HAVE BEEN CALCULATED USING THE METHOD AND EQUATIONS PUBLISHED IN THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE, SIXTH EDITION 2006 BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) UTILIZING THE FOLLOWING DESIGN PARAMETERS: DESIGN PRESSURE = 150 PSI (SEE NOTE #4 BELOW), SOIL BEARING CAPACITY = 2,000 PSF (SEE NOTE #4 BELOW), SAFETY FACTOR = 1.5, AND NOMINAL PIPE DIAMETER

THRUST BLOCK NOTES:
1. CONCRETE FOR THRUST BLOCKS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI. REFERENCE SECTION 1.1.13 OF THE TRUCKEE MEADOWS WATER AUTHORITY ENGINEERING & CONSTRUCTION STANDARDS FOR ADDITIONAL REQUIREMENTS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
2. ALL FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE WRAP PER AWWA C105. MASTIC (BRUSH-ON) SHALL BE APPLIED TO ALL BOLTS, ETC.
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL. IN CASES WHERE THIS IS NOT PRACTICAL, BACKFILL AREA BEHIND WHERE THRUST BLOCK WILL BE POURED WITH TYPE 2, CLASS B AGGREGATE BASE (PER SECTION 200.01.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - ORANGE BOOK) COMPACTED TO 95% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY PROCEDURES SET FORTH IN ASTM D 1557, CUT-BACK COMPACTED AGGREGATE BASE TO EXPOSE A FIRM SURFACE, THEN POUR THRUST BLOCK.
4. FOR SOIL BEARING CAPACITY LESS THAN 2,000 PSF AND/OR DESIGN PRESSURE IN EXCESS OF 150 PSI, INCREASE THRUST BLOCK BEARING AREAS ACCORDINGLY. REVISED THRUST BLOCK SCHEDULE FOR SPECIFIC CONDITIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER.

BRANCH SIZE (INCHES)	THRUST BLOCK DIMENSIONS													
	TEE, TAP, OR DEAD END			11.25' ELBOW			22.5' ELBOW			45' ELBOW			90' ELBOW	
L (FEET)	H (FEET)	W MIN. (FEET)	L (FEET)	H (FEET)	W MIN. (FEET)	L (FEET)	H (FEET)	W MIN. (FEET)	L (FEET)	H (FEET)	W MIN. (FEET)	L (FEET)	H (FEET)	W MIN. (FEET)
4	1.5	1	4	1	1	4	1	1	4	1.5	1	2	1.5	1
6	2	2	6	1	1	6	1	1	6	2	2	2	2	2
8	3	2	8	1.5	1	8	1.5	1	8	2.5	2	2	2	2
10	3.5	2.5	10	2	1	10	2	1	10	3.5	2.5	2	2	2
12	4.5	3	12	2.5	1.5	12	2.5	1.5	12	4.5	3	2	2	2

DATE: 7/2011
REV: 7/2011

APPENDIX 10L
THRUST BLOCKS
TEES, TAPPING SLEEVES, DEAD ENDS
11.25, 22.5, 45 AND 90 DEGREE ELBOWS
4" TO 12"

DRAWING NUMBER: 10L-2

DESIGNED BY: N/A
DRAWN BY: N/A
CHECKED BY: NL
APPROVED BY: NL
SCALE: N.T.S.
HORIZ: N/A
VERT: N/A

STANDARD DETAILS

NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1

CITY OF SPARKS

STANDARD DETAILS

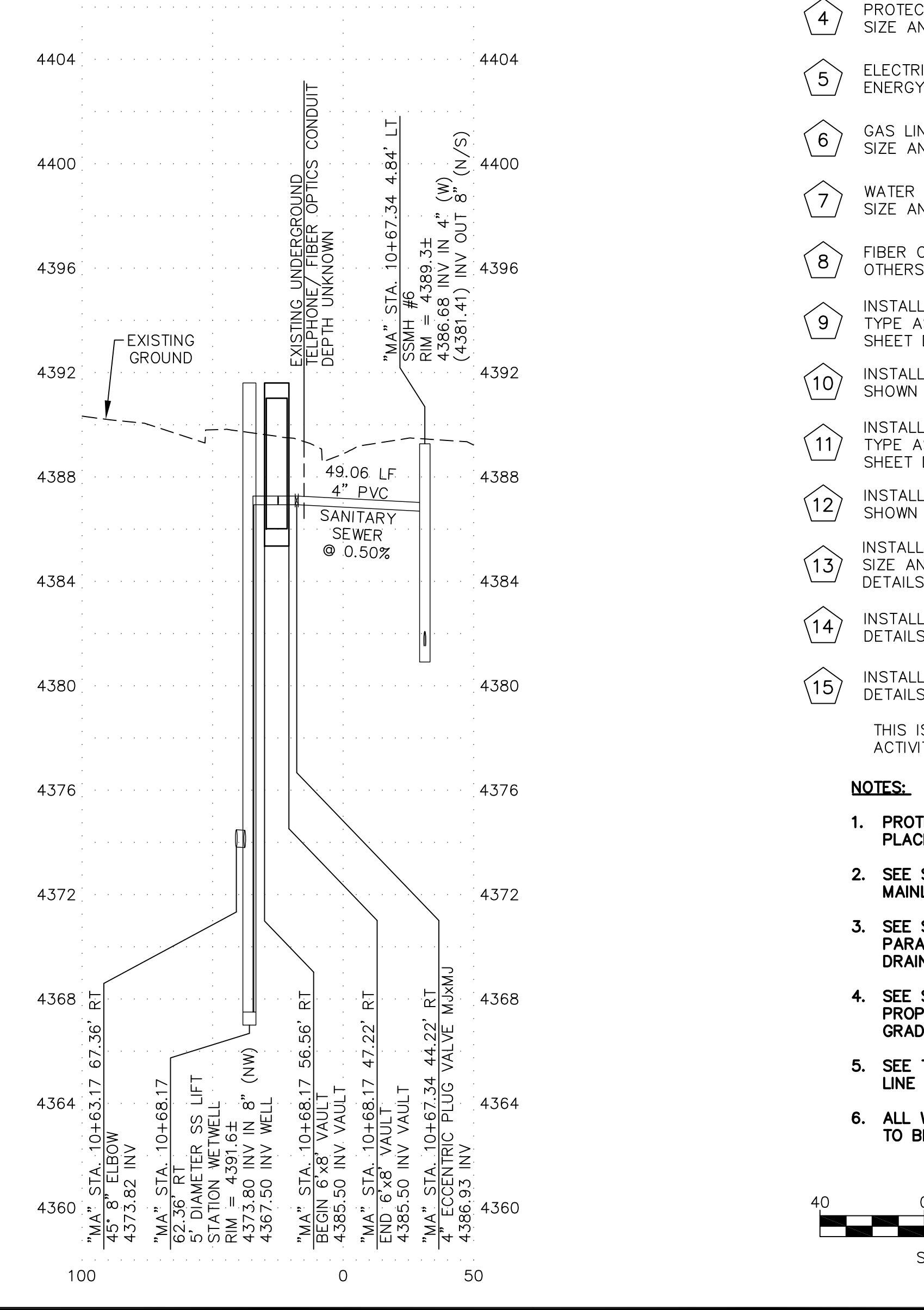
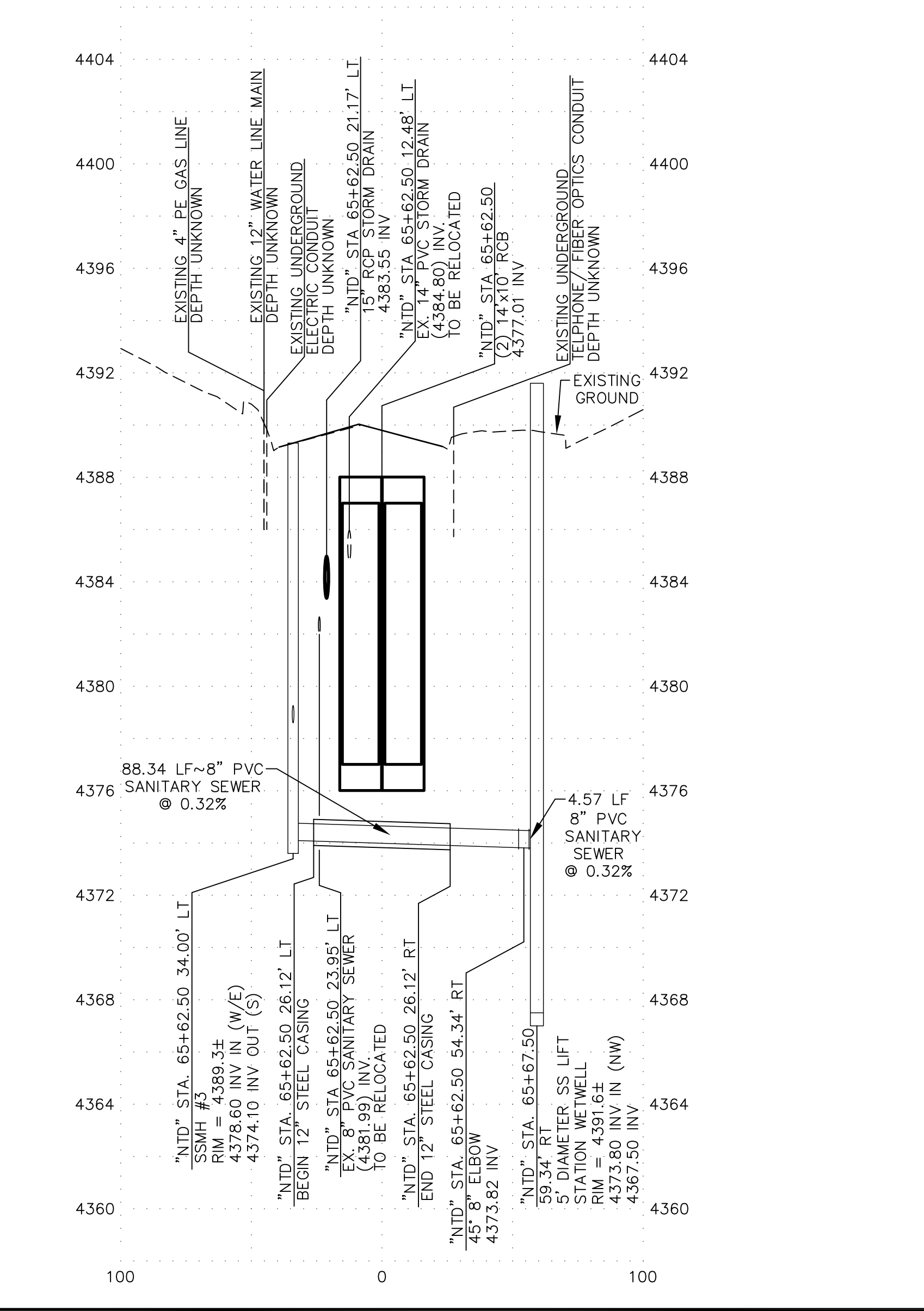
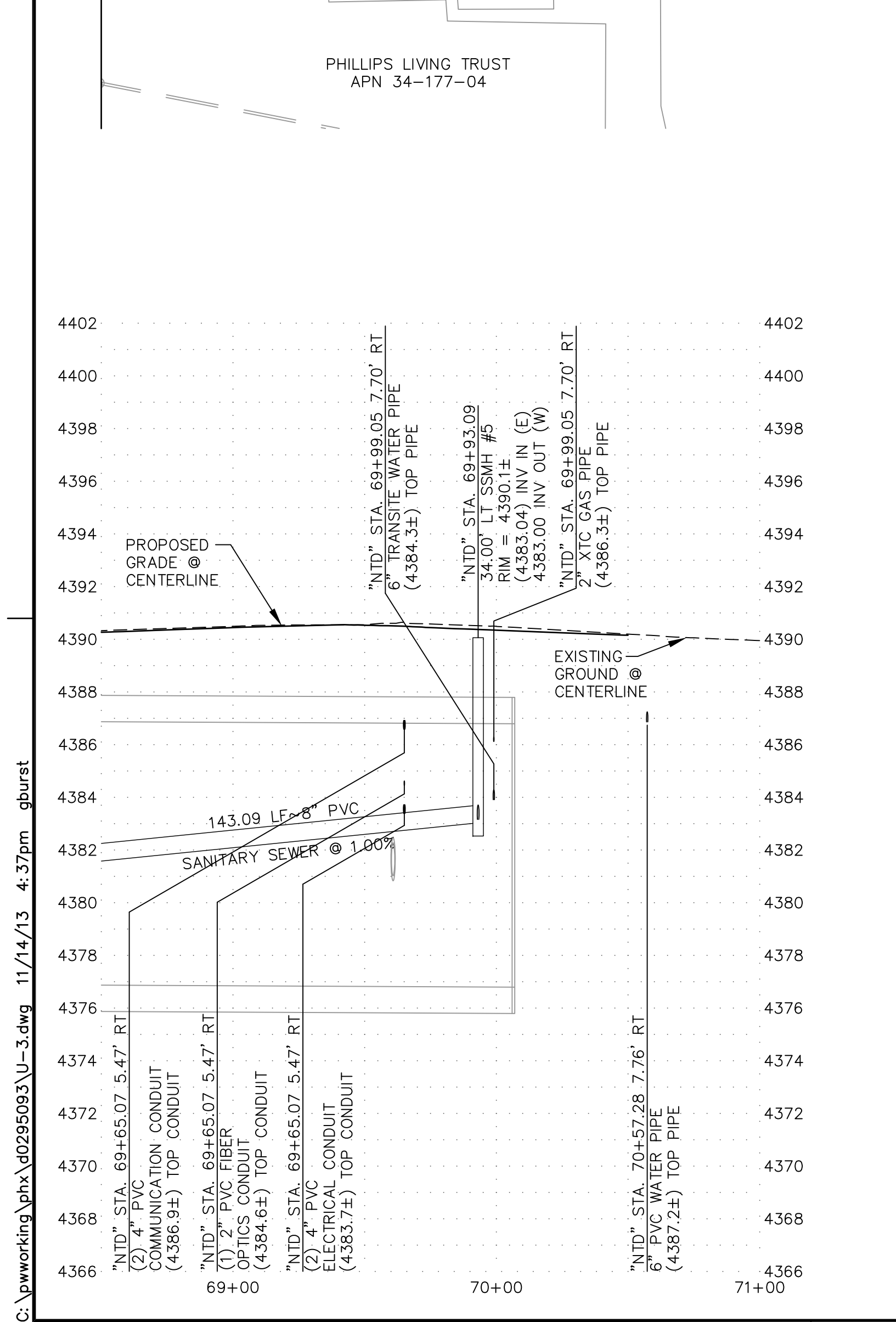
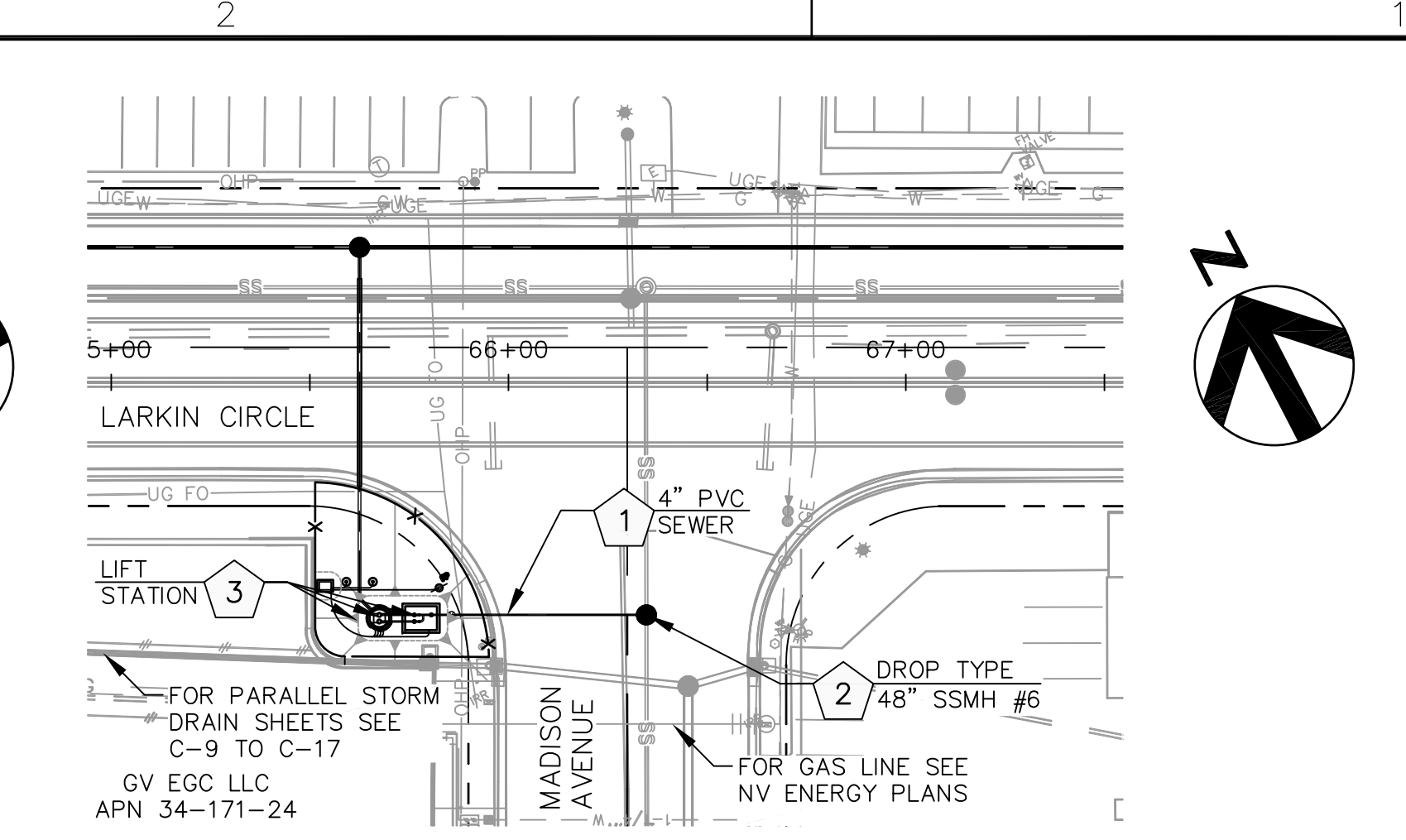
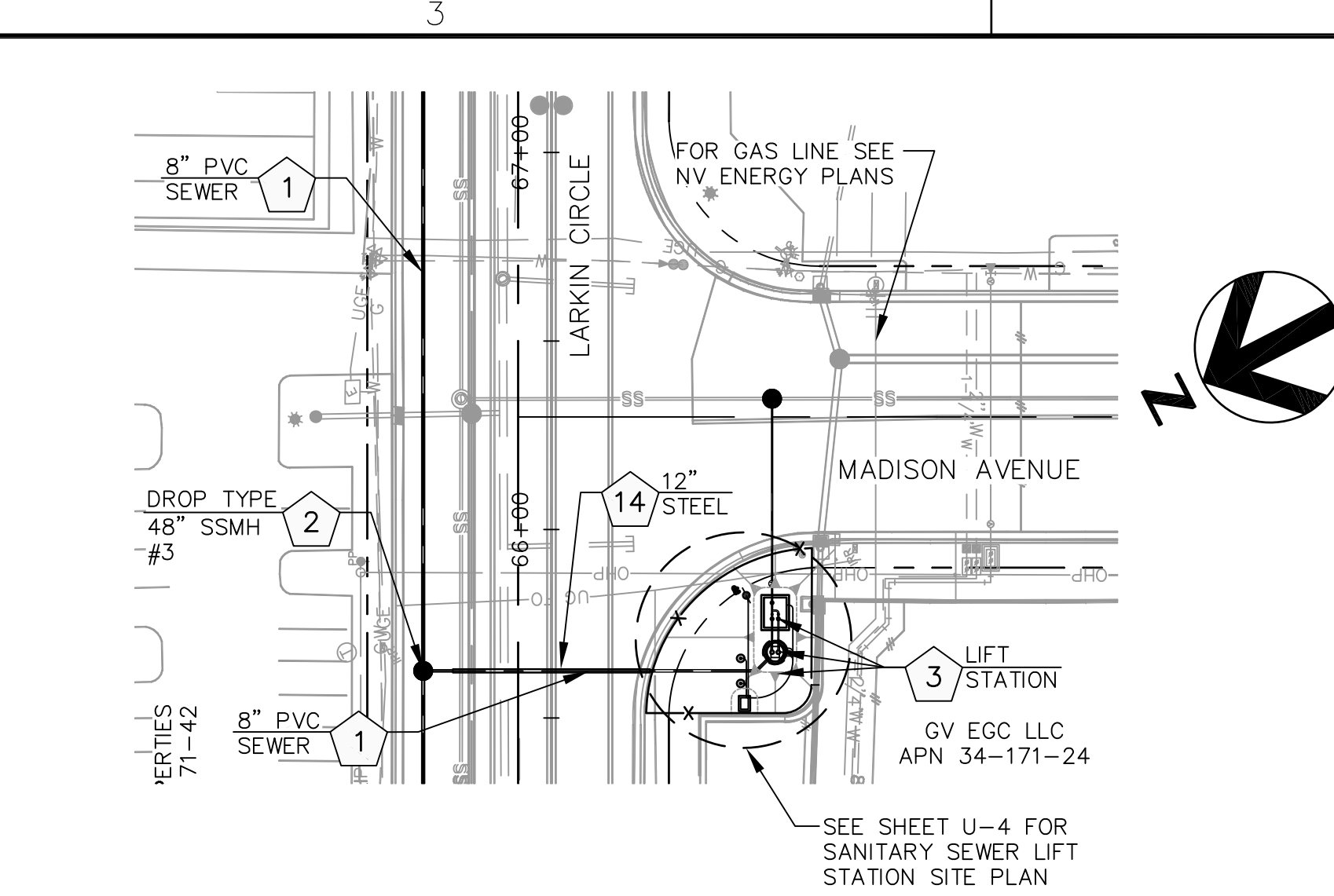
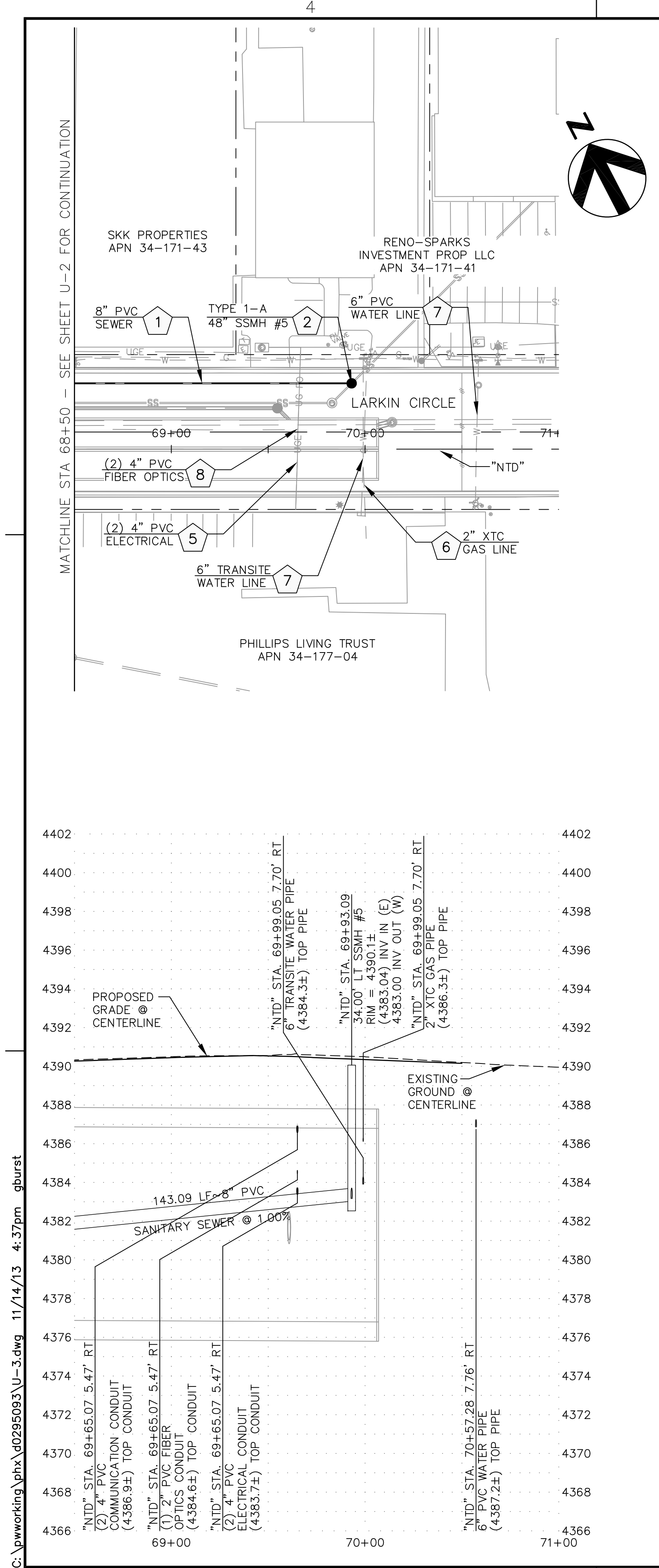
11-14-CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT

PROFESSIONAL ENGINEER STATE OF NEVADA 5816
NOEL C. LAUGHLIN
Exp. 12/31/13
CIVIL
No. 10, 1010

SHEET NO. DT-7

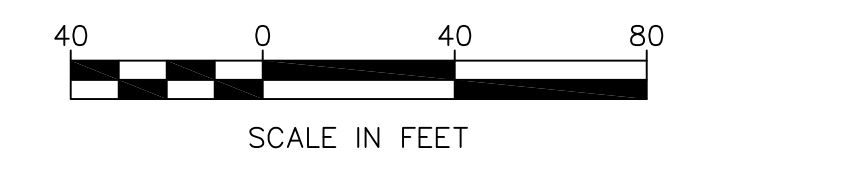
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- UTILITY NOTES :
- 1 INSTALL SANITARY SEWER PIPE, SIZE AND TYPE AS SHOWN ON PLAN PER DETAILS SHEET DT-5.
 - 2 CONSTRUCT MANHOLE, SIZE AND TYPE AS SHOWN ON PLAN PER DETAILS SHEETS DT-2, DT-3 AND DT-7.
 - 3 CONSTRUCT SANITARY SEWER LIFT STATION PER DETAILS SHEETS DT-8 TO DT-11.
 - 4 PROTECT AND MAINTAIN EXISTING UTILITY, SIZE AND TYPE AS SHOWN ON PLAN.
 - 5 ELECTRICAL LINE TO BE RELOCATED BY NV ENERGY, SIZE AND TYPE AS SHOWN ON PLAN.
 - 6 GAS LINE TO BE RELOCATED BY NV ENERGY, SIZE AND TYPE AS SHOWN ON PLAN.
 - 7 WATER LINE TO BE RELOCATED BY TMWA, SIZE AND TYPE AS SHOWN ON PLAN.
 - 8 FIBER OPTICS LINE TO BE RELOCATED BY OTHERS, SIZE AND TYPE AS SHOWN ON PLAN.
 - 9 INSTALL TEE W/ THRUST BLOCK, SIZE AND TYPE AS SHOWN ON PLAN PER DETAILS SHEET DT-7 AND DT-12.
 - 10 INSTALL GATE VALVE, SIZE AND TYPE AS SHOWN ON PLAN PER DETAILS SHEET DT-12.
 - 11 INSTALL FITTING W/THRUST BLOCK, SIZE AND TYPE AS SHOWN ON PLAN PER DETAILS SHEET DT-7.
 - 12 INSTALL WATER LINE, SIZE AND TYPE AS SHOWN ON PLAN PER DETAILS SHEET DT-13.
 - 13 INSTALL BACKFLOW PREVENTOR ASSEMBLY, SIZE AND TYPE SHOWN ON PLANS PER DETAILS SHEET DT-12.
 - 14 INSTALL 12" STEEL PIPE CASING PER DETAILS SHEET DT-13.
 - 15 INSTALL FIRE HYDRANT ASSEMBLY, PER DETAILS SHEET DT-12.
- THIS IS A GENERAL LIST. NOT ALL ACTIVITIES ARE USED.

- NOTES:
1. PROTECT EXISTING FEATURES IN PLACE UNLESS NOTED OTHERWISE.
 2. SEE SHEETS C-1 TO C-3 FOR MAINLINE STORM DRAIN.
 3. SEE SHEETS C-4 TO C-7 FOR PARALLEL AND LATERAL STORM DRAINS.
 4. SEE SHEETS C-8 TO C-15 FOR PROPOSED SURFACE FEATURES, GRADING, AND DRAINAGE.
 5. SEE TMWA SHEETS FOR WATER LINE RELOCATIONS.
 6. ALL WATER APPURTENANCES ARE TO BE RELOCATED IN-KIND.



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CHECKED BY: NL			
APPROVED BY: NL			
SCALE: 1"=40'			
HORIZ: 1"=40'			
VERT: 1"=4'			
FIELD BOOK			
NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 UTILITY PLAN AND PROFILE "NTD" STA 68+50 TO STA 7+00			
CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT			
SHEET No		U-3	
SHT		OF	

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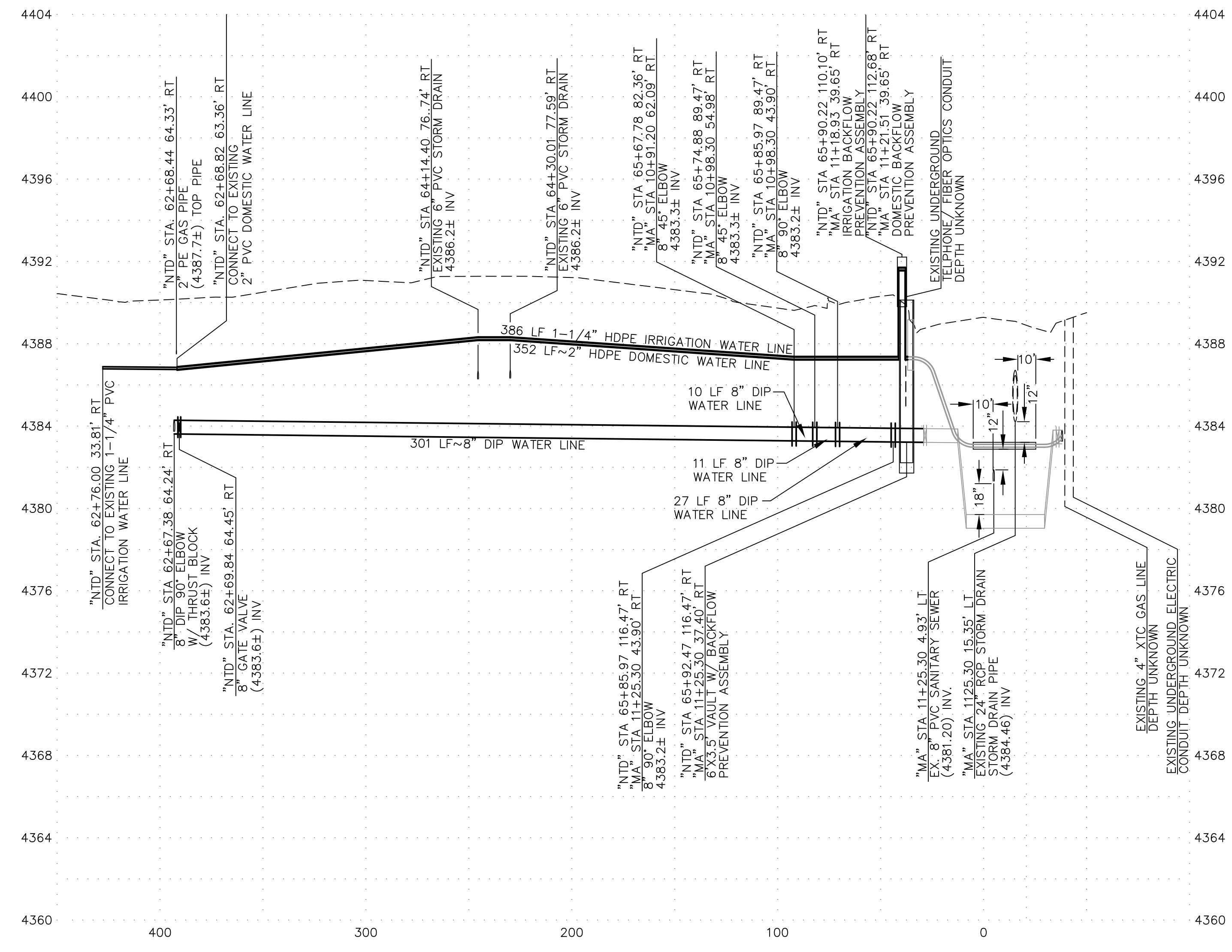
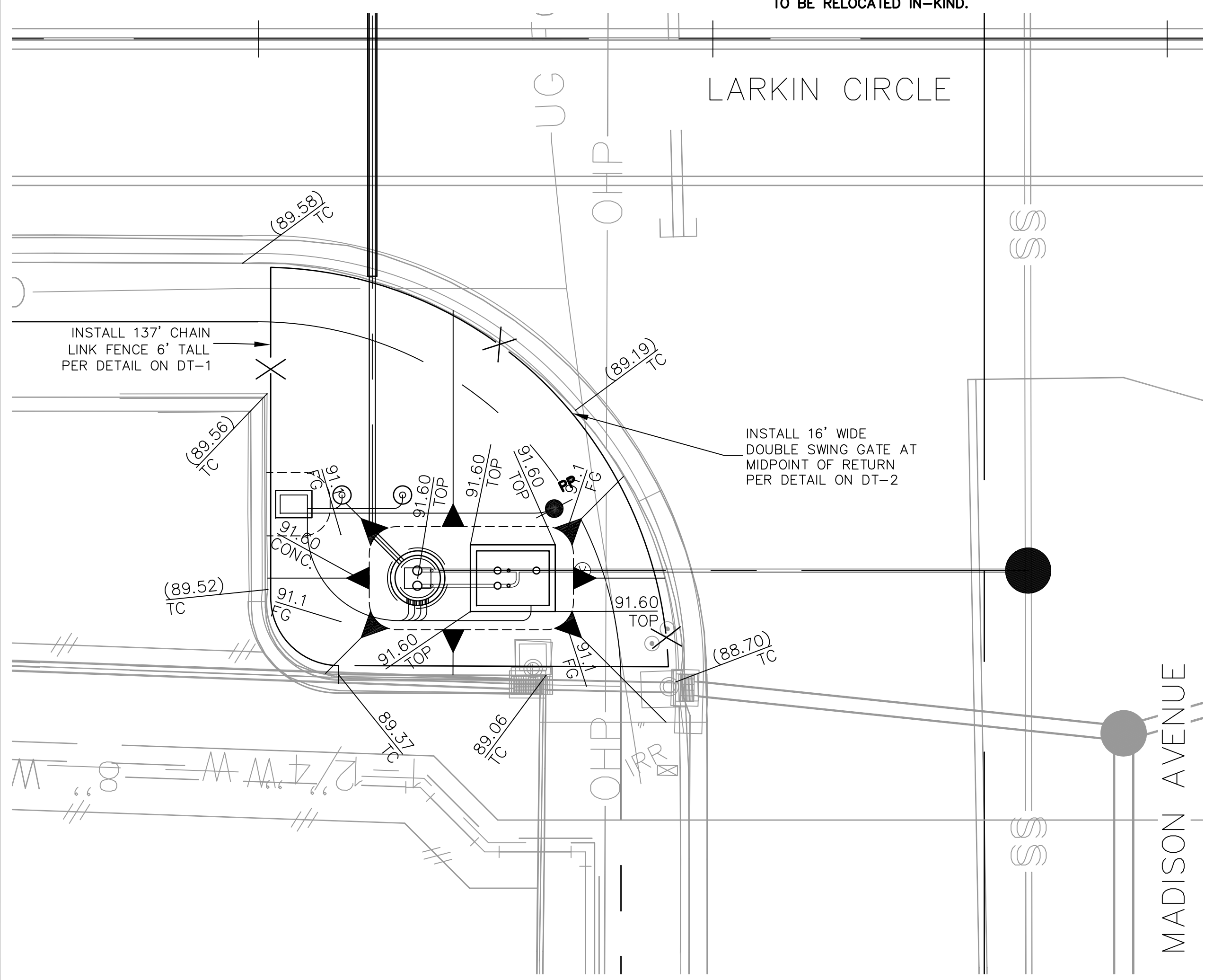
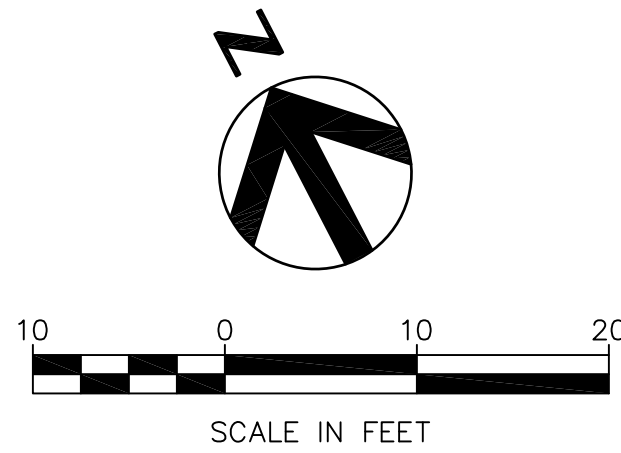
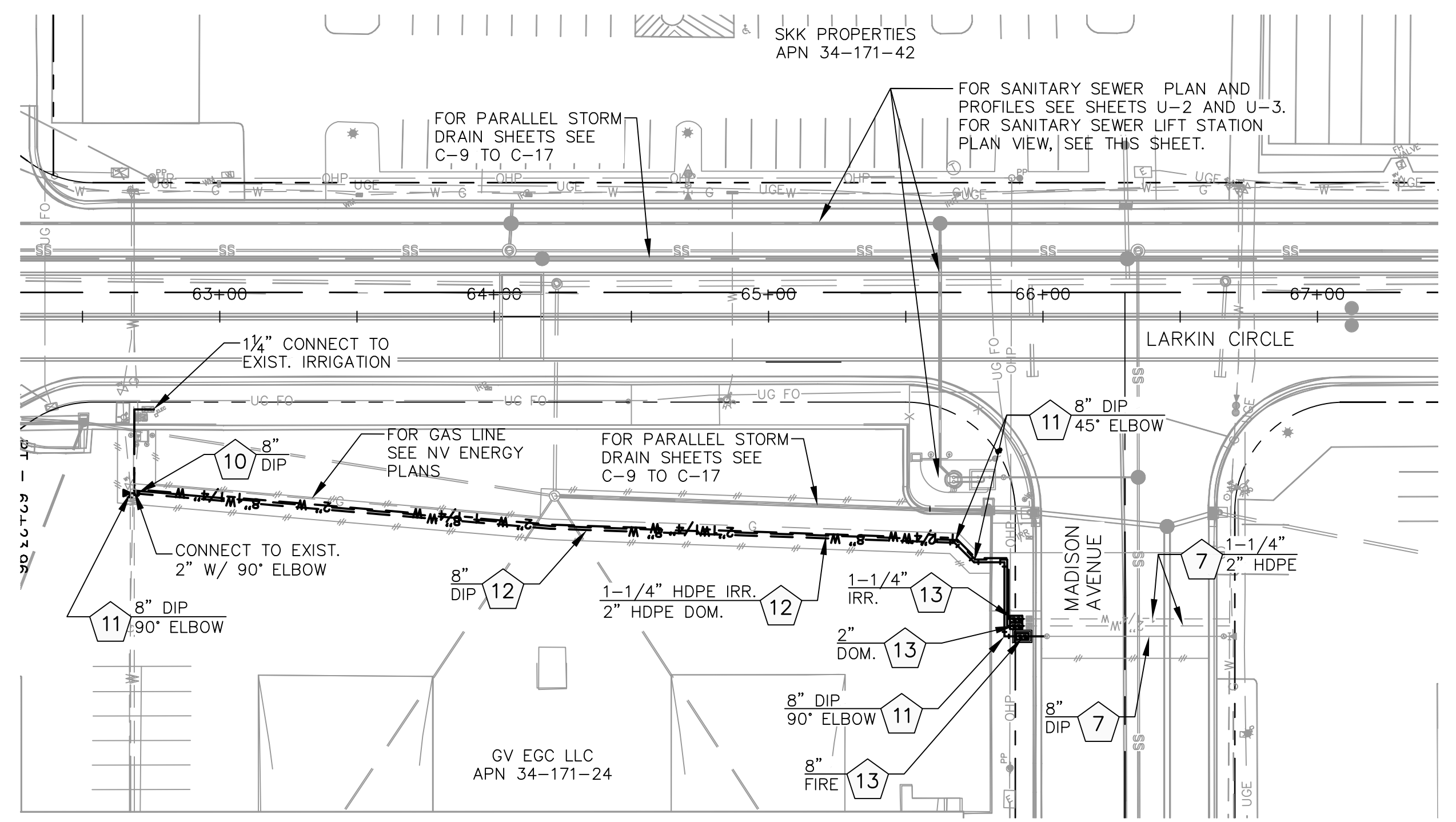
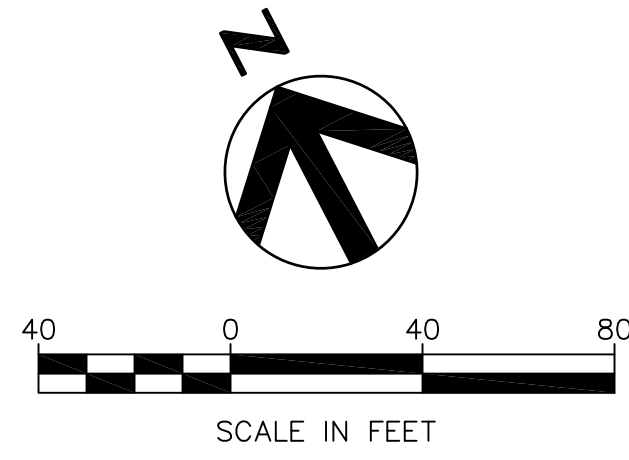
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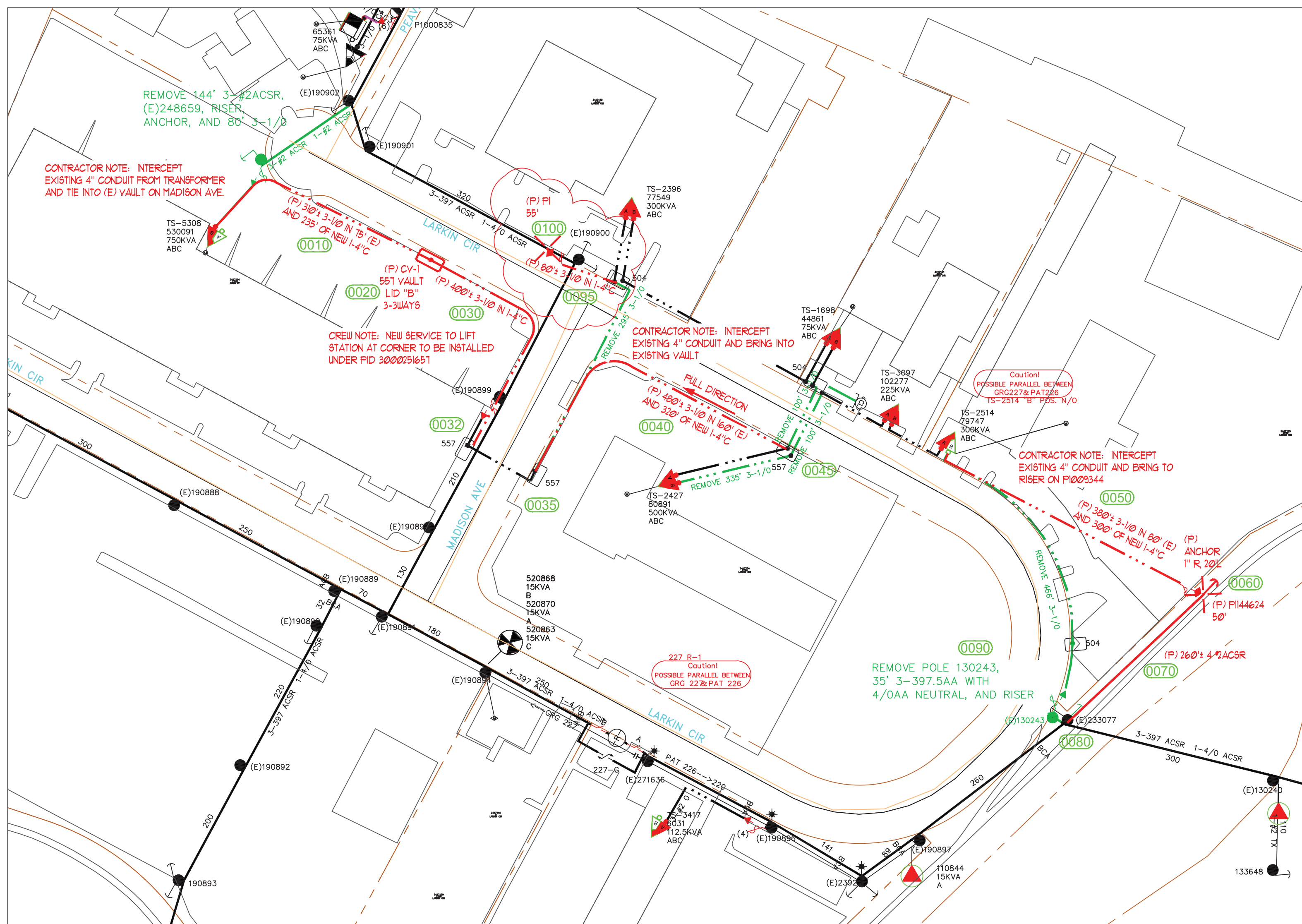
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DESIGNED BY: PEO DRAWN BY: PEO CHECKED BY: NL APPROVED BY: NL SCALE: 1"=40' HORIZ: 1"=40' VERT: 1"=4' FIELD BOOK:	REV No DATE DESCRIPTION			NORTH TRUCKEE DRAIN REALIGNMENT PHASE 1 UTILITY PLAN AND PROFILE CITY OF SPARKS, NEVADA, PUBLIC WORKS DEPARTMENT	
SHEET No		U-4		SHT OF	

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GENERAL COMMENTS:

CALL RENO ELECTRIC UNDERGROUND (888-999-1556) 48 HOURS PRIOR TO START OF CONSTRUCTION FOR TRENCH INSPECTION BEFORE COVERING TRENCH (INCLUDE WORK ORDER NUMBER, ALONG WITH NAME AND PHONE NUMBER OF PROJECT FOREMAN IN VOICE MESSAGE)

VAULTS, TRANSFORMERS AND SECONDARY BOXES WILL HAVE MINIMUM 3' FLAT AND CLEAR ON ALL FOUR SIDES, 10' CLEAR IN FRONT OF TRANSFORMERS.

EQUIPMENT BARRIER POSTS MAY BE REQUIRED PER NVE STD. PE-0009U.

RETAINING WALLS MAY BE REQUIRED FOR ANY SLOPES GREATER THAN 15% PER NVE STD. TE-0040-U.

ALL SECONDARY BOXES AND PRIMARY VAULTS SHALL BE TO FINISH GRADE.

ALL MATERIAL SHALL BE ON THE JOB SITE PRIOR TO THE START OF ANY WORK BY NVE.

REFER TO NVE STDs, C1000M FOR FURTHER CLARIFICATION OF DETAILS.

COMPACTION TESTS REQUIRED PER NVE STD. SUB00X.

NO TREE SHALL BE PLANTED UNDER OR ADJACENT TO ENERGIZED POWER LINES WHICH, AT MATURITY, SHALL GROW WITHIN 10 FEET OF THE ENERGIZED CONDUCTORS. NOR SHALL ANY PERMANENT STRUCTURE, FENCE, SHRUB OR TREE BE PLANTED CLOSER THAN 10 FEET IN FRONT AND 3 FEET FROM ALL OTHER SIDES OF A PAD MOUNTED TRANSFORMER.

NOTE: DEVELOPER IS RESPONSIBLE FOR ADHERENCE TO NV ENERGY GAS AND ELECTRIC STANDARDS. CONSTRUCTION STANDARDS CAN BE FOUND ON-LINE AT THE FOLLOWING WEB SITE: <http://www.nvenergy.com/business/newconstruction>.

THIS MAP ILLUSTRATES DATA COLLECTED FROM VARIOUS SOURCES AND MAY NOT REPRESENT A SURVEY OF THE PREMISES. NO RESPONSIBILITY IS ASSUMED AS TO THE SUFFICIENCY OR ACCURACY OF THE DATA DISPLAYED HEREON.

ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE ELECTRIC DISTRIBUTION GUIDE, VOL. II AS CURRENTLY ADOPTED BY NVE. THE CONTRACTOR SHALL SECURE COPIES OF THE AFORESAID CONSTRUCTION SPECIFICATIONS ON HIS OR HER OWN BEHALF.

USE CAUTION PRIOR TO EXCAVATION CHECK TO ENSURE ADDITIONAL DEPTH IS NOT REQUIRED TO ACCOMMODATE GAS AND/OR WATER FACILITIES.

SYMBOLS ARE NOT TO SCALE AND DO NOT NECESSARILY REPRESENT ACTUAL LOCATIONS OF FACILITIES.



APPLICANT TO FURNISH AND / OR INSTALL:

- 1 - 551 CABLE VAULT 48"x78"x61" I.D. WITH LID "B" PER NVE STD. #B-007U.
 - # PROPOSED APPROX. 1255 FT. 4" PVC CONDUIT.
- APPLICANT IS RESPONSIBLE FOR MANDRILING CONDUIT AND INSTALLING A FULL LINE THAT MEETS OR EXCEEDS THE FOLLOWING REQUIREMENTS:
- THE FULL LINE WILL BE OF A FLAT DESIGN
 - SHALL HAVE A MINIMUM BREAKING STRENGTH OF 400 LBS.
 - WILL HAVE SEQUENTIAL FOOTAGE MARKINGS
 - EXAMPLES OF FULL LINES THAT MEET THESE REQUIREMENTS (NVE. STK #S-1305)
 - NEPTCO "MULE TAPE" (UP400P)
 - CONDUX INTERNATIONAL (00096103)
 - SEE NVE VOLUME II, SECTION 4-CD000U.

NOTE: ALL CONDUIT INSTALLATIONS BENEATH FOUNDATION AND SLABS TO BE RIGID STEEL OR CONCRETE ENCASED PER NVE STDs. CD-0003U.

ALL TRENCHING AND BACKFILL PER APPLICABLE NVE STDs. TE-0001, TE-0003, TE-0004 AND TE-0020.

ALL STAKING REQUIREMENTS PER NVE STD. G1-0001U/GU AND G1-0002U.

ALL STREET CUT PERMITS AND PAVEMENT CUTTING AND REPLACEMENT AS REQUIRED.

RETAINING WALL REQUIREMENTS PER NVE STD. TE0040U.

PRIMARY RISER: RISER MATERIAL TO CONSIST OF STAND OFF BRACKET(S) AND LAG SCREWS ONLY. (ALL RISER CONDUIT SUPPLIED BY CONTRACTOR)

BEFORE INSTALLATION OF THE UTILITY FACILITIES AND IF NO PUBLIC UTILITY EASEMENTS EXIST, THE OWNER OF RECORD SHALL SIGN APPROPRIATE EASEMENT DOCUMENTS.

NV ENERGY TO FURNISH AND / OR INSTALL:

- APPROX. 1510 CKT. FT. 25 KV 3# W/G PRIMARY C/O 3-1/0 CABLE IN 315' OF (E) AND 1255' OF NEW 1-4"C CONDUIT BY CUSTOMER.
- APPROX. 260 CKT. FT. 3# O/H PRIMARY C/O 3-1/2ACSR W/ 1-1/2ACSR NEUTRAL
- 1 - 50' BUTT TREATED WOOD POLE.
- 1 - ANCHOR C/O 1" R, 20' L AND 1 - 1/2" E.H.S. DOWN GUY.
- PRIMARY RISER MATERIAL TO CONSIST OF STAND OFF BRACKET(S) AND LAG SCREWS ONLY. (ALL RISER CONDUIT SUPPLIED BY CONTRACTOR)

NV ENERGY TO REMOVE:

- 1366' 3-1/0 CABLE
- 144' 4-1/2 ACSR CONDUCTOR
- 35' 3-2815AA WITH 4/OAA NEUTRAL
- POLES #148659 AND #150243
- 2 PRIMARY RISERS
- 2 ANCHORS

DRAWING	DESIGNED BY	DATE
BASE	JLM	8-23-13
ELECTRIC	JLM	8-23-13
GAS		
STREETLIGHT		

REVIEWED BY:			
Utility Designer	Engineer	Design Facilitator	Cathodic Protection

NO.	REVISION DESCRIPTIONS	DATE	DI
1			
2			
3			
4			
5			
6			
7			



NV Energy
P.O. Box 10100
R77CSE
Reno, NV. 89520-0024

NV ENERGY CONTACT INFORMATION:

COORDINATOR: TONI POWELL
OFFICE: # 775-834-7585
CELL: # 775-813-3985
FAX: # 775-834-7808
EMAIL: TPOWELL@NVENERGY.COM
DESIGNER: TONI POWELL
INSPECTION HOTLINE#: 888/999-1556

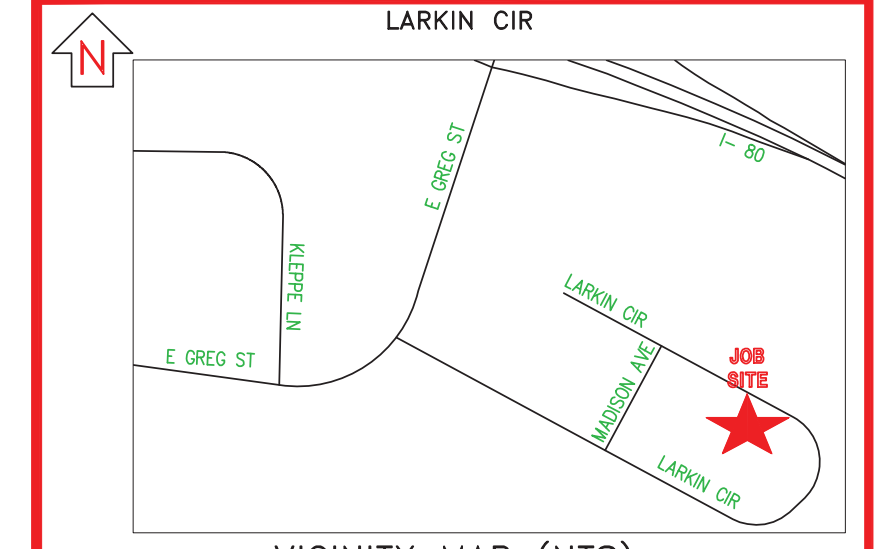
CUSTOMER CONTACT INFORMATION:

CUSTOMER: CITY OF SPARKS
ATTENTION: ANDY HUMMEL
PHONE: # 775-353-2375
FAX: # 775-353-1635
EMAIL: AHUMMEL@CITYOFSPARKS.US
CUST REP: #
PHONE: #
EMAIL:

TOWNSHIP-RANGE-SECTION	APN#
1920-11	3417124 3417704
1920-12	3417116 3417133
	3417141 3417142

SOURCE INFORMATION:

227-U/G-2
25KV NORM OUT OF
GREG ST SUB



**NORTH TRUCKEE DRAIN
-COM-
CITY OF SPARKS**

EXHIBIT "A" APPLICANT INSTALLED CONDUIT ELECTRIC DESIGN	AUD#:	STL#:	GAS#: 3000412977	ELE#: 3000412977
SCALE: 1:100				
SHEET#: E.1				