

# TOWN OF ESTES PARK

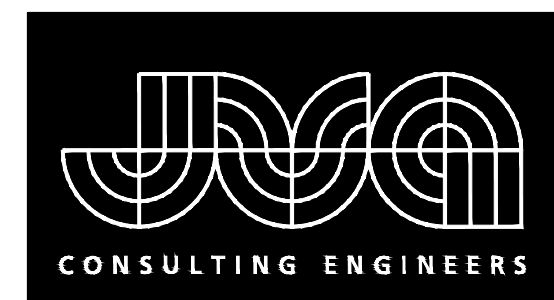
## PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM

### LARIMER COUNTY, COLORADO

### CONSTRUCTION SET

**CONTACTS**

<b>OWNER:</b>	TOWN OF ESTES PARK 170 MACGREGOR AVE, PO BOX 1200 ESTES PARK, CO 80517	JACQUI WESLEY, P.E., PROJECT MANAGER – UTILITIES (970) 577-3611 JWESLEY@ESTES.ORG
<b>CIVIL ENGINEER:</b>	JVA, INC 213 LINDEN STREET, SUITE 200 FORT COLLINS, CO 80524	MANDY RASMUSSEN, P.E. (303) 565-4971 MRASMUSSEN@JVAJVA.COM
<b>STRUCTURAL ENGINEER:</b>	JVA, INC 213 LINDEN STREET, SUITE 200 FORT COLLINS, CO 80524	ADAM TEUNISSEN, P.E. (303) 565-4936 ATEUNISSEN@JVAJVA.COM
<b>ELECTRICAL ENGINEER:</b>	BROWNS HILL ENGINEERING & CONTROLS 8119 SHAFFER PARKWAY, UNIT C LITTLETON, CO 80127	TED WILLIE (720) 344-7771 TWILLIE@BROWNSHILLENG.COM
<b>MECHANICAL ENGINEER:</b>	MOEN ENGINEERING CONSULTANTS, INC. BRIAN MOEN, P.E. 4191 W. 98TH WAY WESTMINSTER, CO 80031	(303) 907-4285 BMOEN@MECENGER.COM

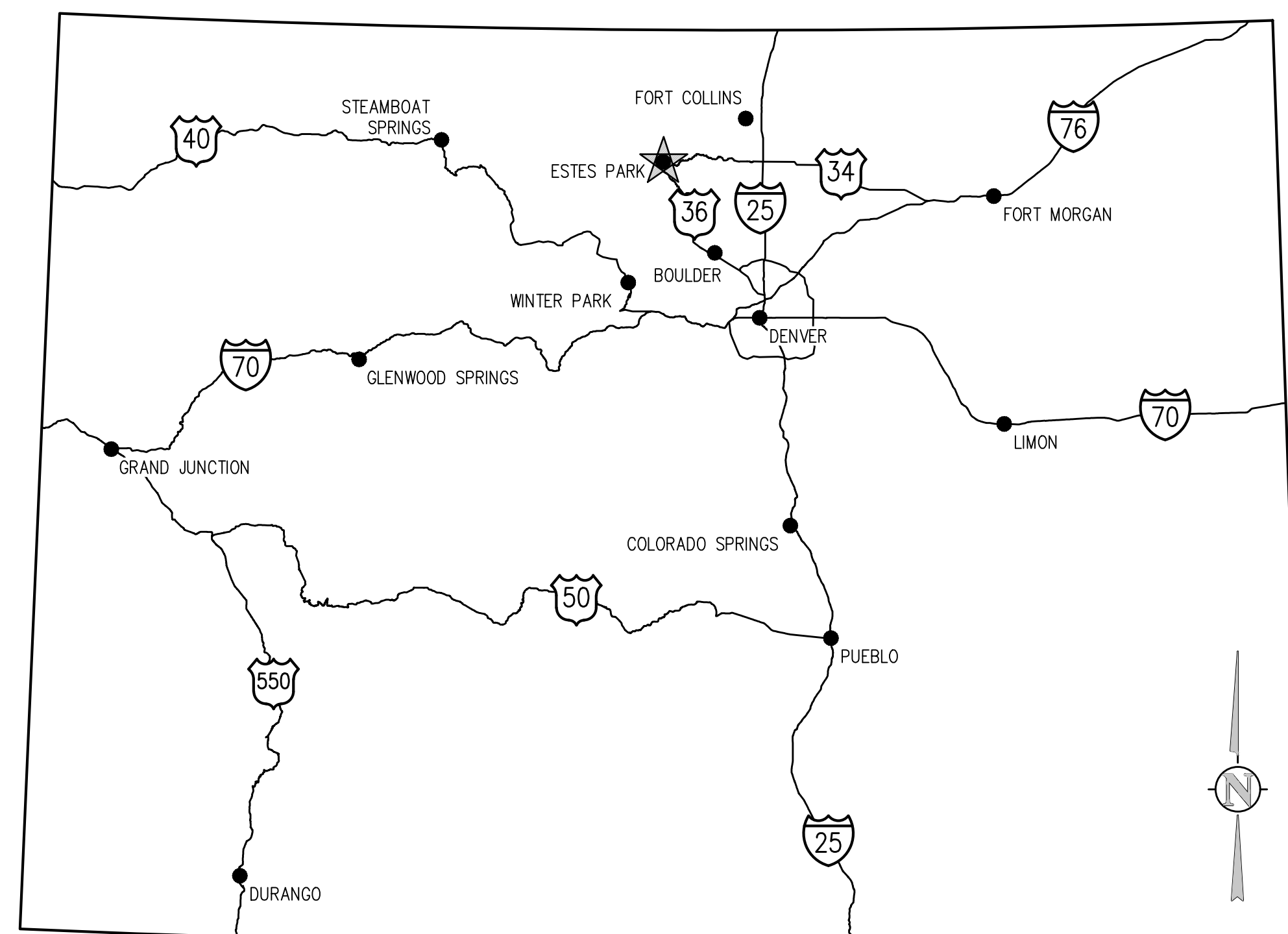


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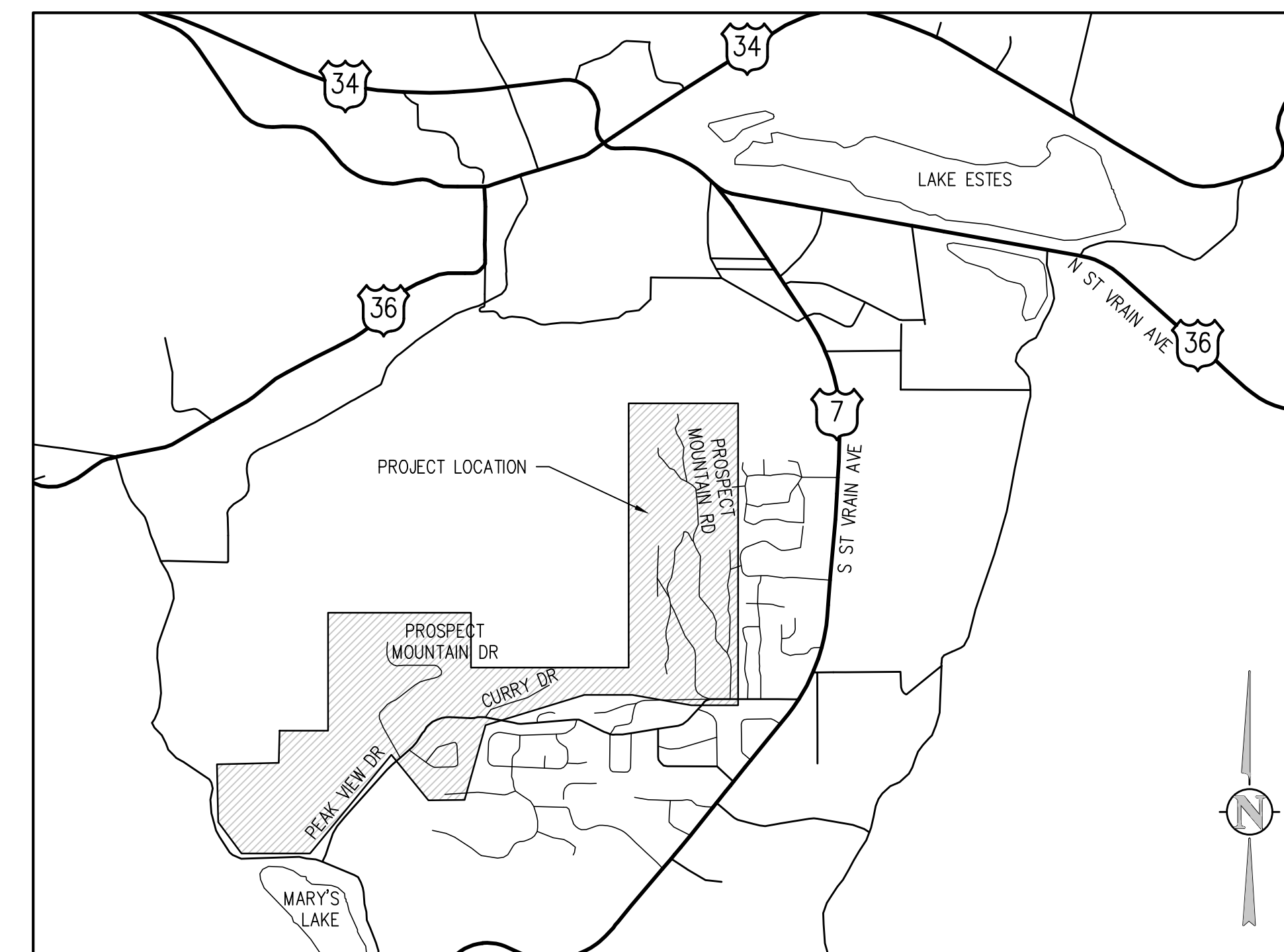
SEPTEMBER 2022

PREPARED UNDER THE SUPERVISION OF

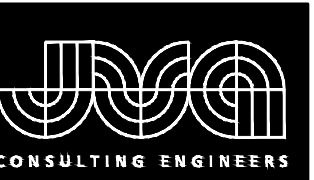
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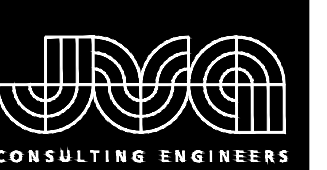
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DESIGNED BY: MMR/LAL  
 DRAWN BY: ZCF/JG/JMH  
 CHECKED BY: JJM  
 JOB #: 1066e  
 DATE: SEPTEMBER 2022  
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 DRAWING INDEX

SHEET NO.  
**G0.1**





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**DESIGN CRITERIA**

**BOOSTER PUMP STATION**

PUMP QUANTITY: 2  
 TYPE: VERTICAL MULTI-STAGE  
 PUMP DESIGN FLOW, EACH: 200-350 GPM  
 PUMP DUTY POINT 1: 200 GPM @ 250 FT  
 PUMP DUTY POINT 2: 200 GPM @ 400 FT  
 PUMP DUTY POINT 3: 350 GPM @ 280 FT  
 PUMP DUTY POINT 4: 350 GPM @ 425 FT  
 OPERATIONS: DUTY, STANDBY  
 MOTOR HP, EACH: 75 HP  
 TDH: 480 VAC, 3-PHASE  
 DRIVE: VARIABLE FREQUENCY

**PROSPECT MOUNTAIN WATER STORAGE TANK**

QUANTITY: 1  
 VOLUME: 180,000 GAL  
 HIGH WATER ELEV.: 8470 FT

**MIXER**

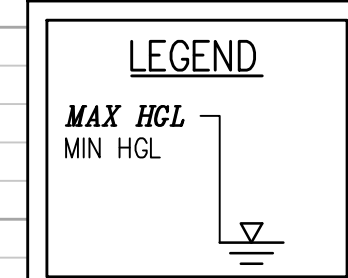
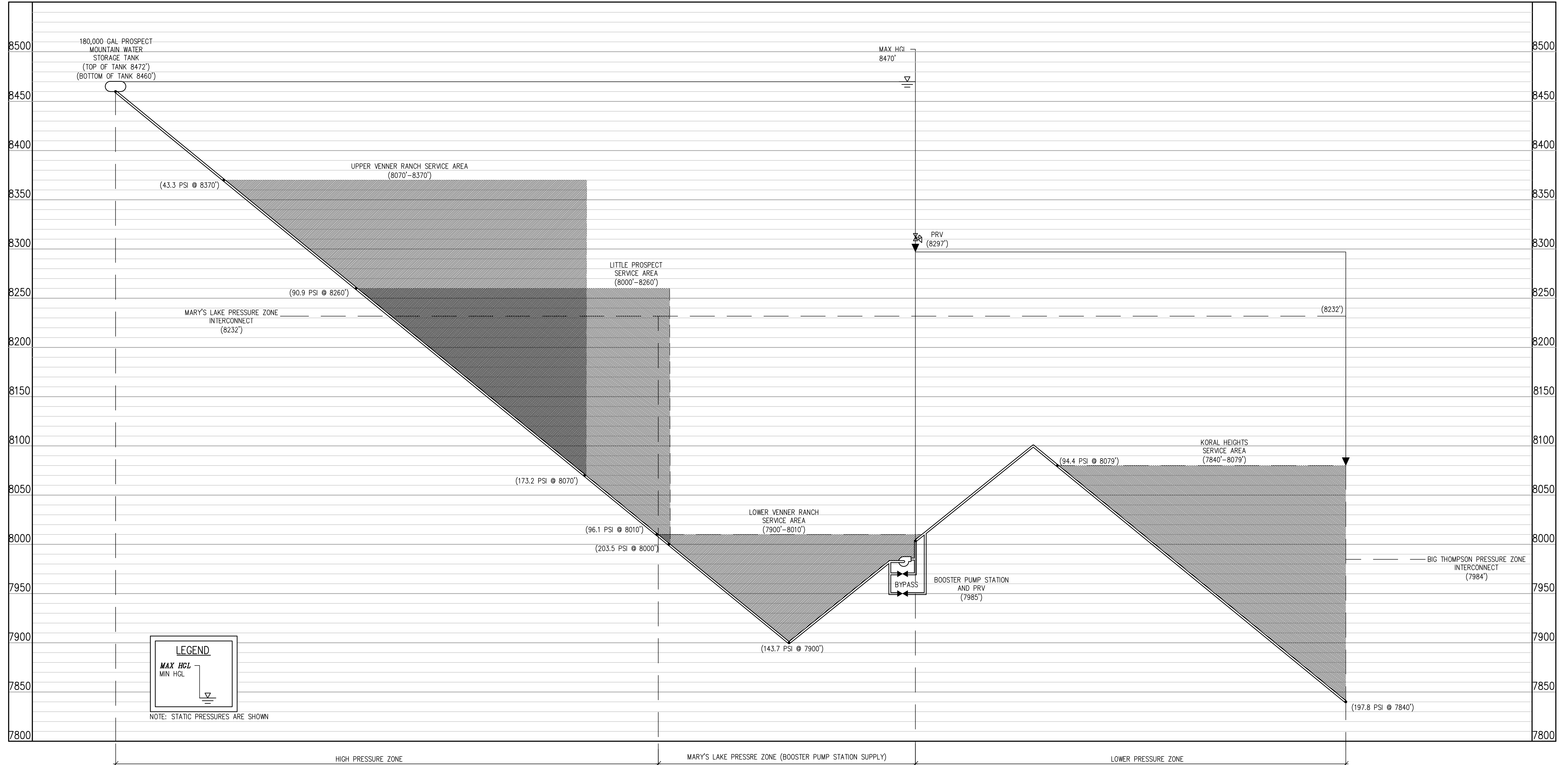
QUANTITY: 1  
 TYPE: MECHANICAL  
 HP: 0.5

**VENTING**

SCREEN: NON-CORRODIBLE  
 MESH: 16 INCH  
 SIZE: 6 INCH

**CHLORINE FEED SYSTEMS**

QUANTITY: 1  
 CHEMICAL: SODIUM HYPOCHLORITE  
 PUMP TYPE: DIAPHRAGM  
 PUMP CAPACITY: 1 GPH



NOTE: STATIC PRESSURES ARE SHOWN

**HYDRAULIC PROFILE**

SCALE: VERT. 1" = 50'  
 HORIZ. NOT TO SCALE

NO.	DATE	DESIGN	DWN	REVISION DESCRIPTION

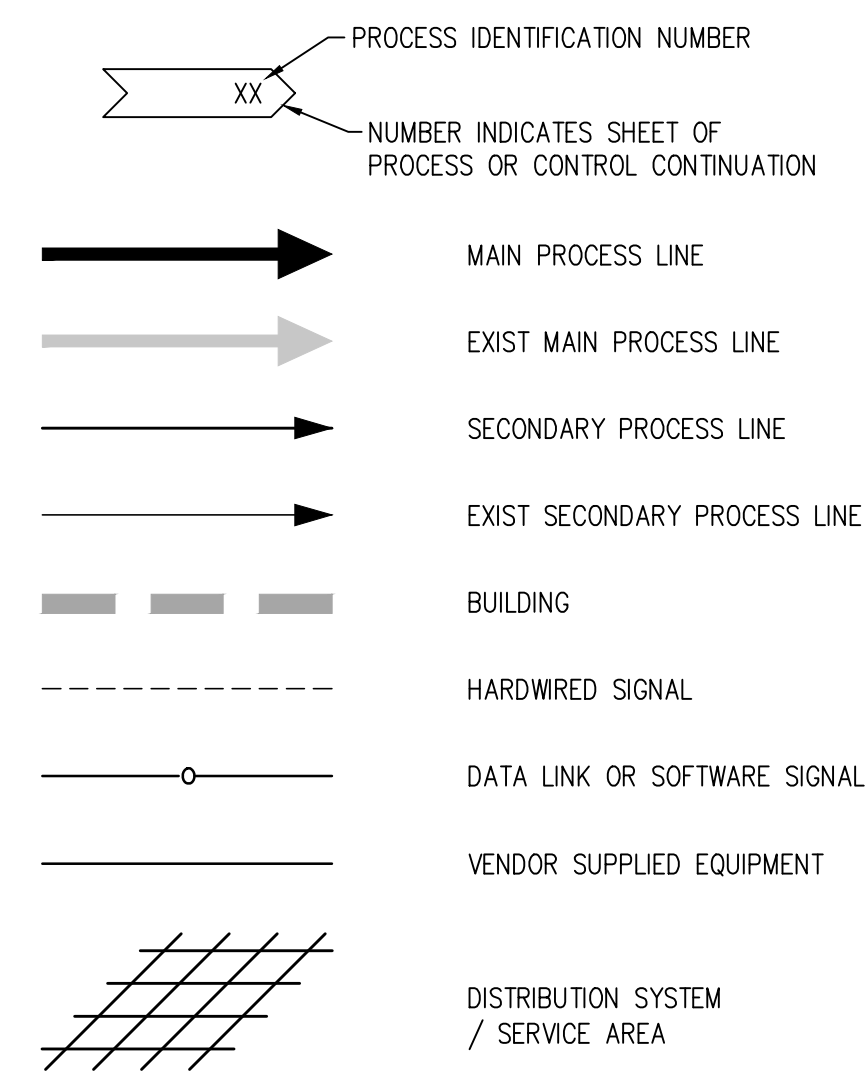
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 CHECKED BY: JJM  
 JOB #: 1066e  
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PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 HYDRAULIC PROFILE

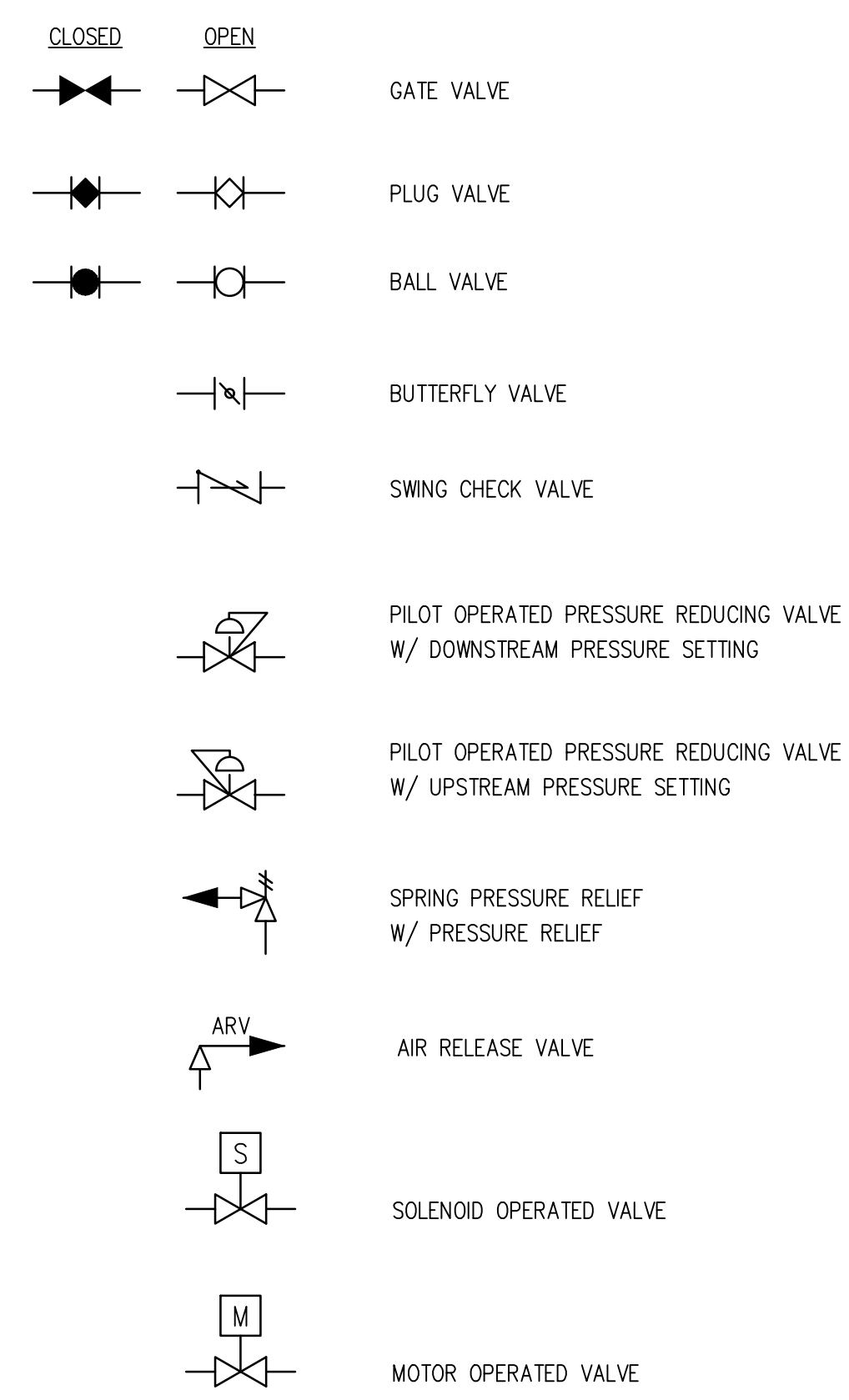
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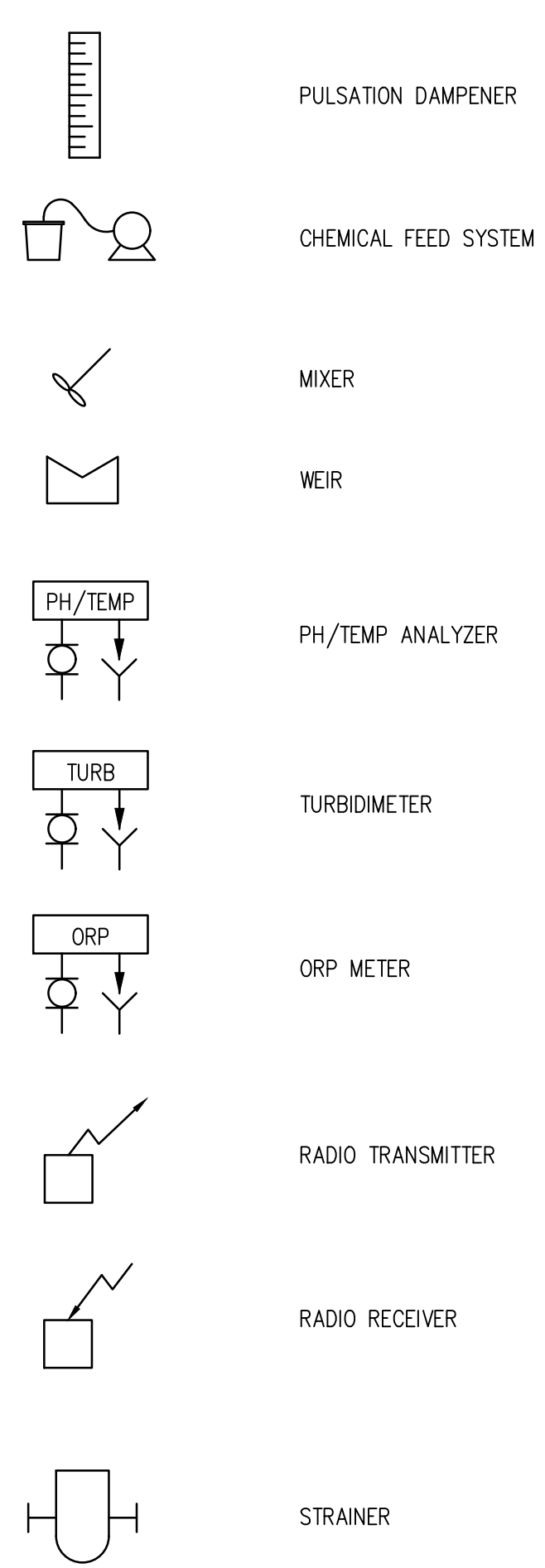
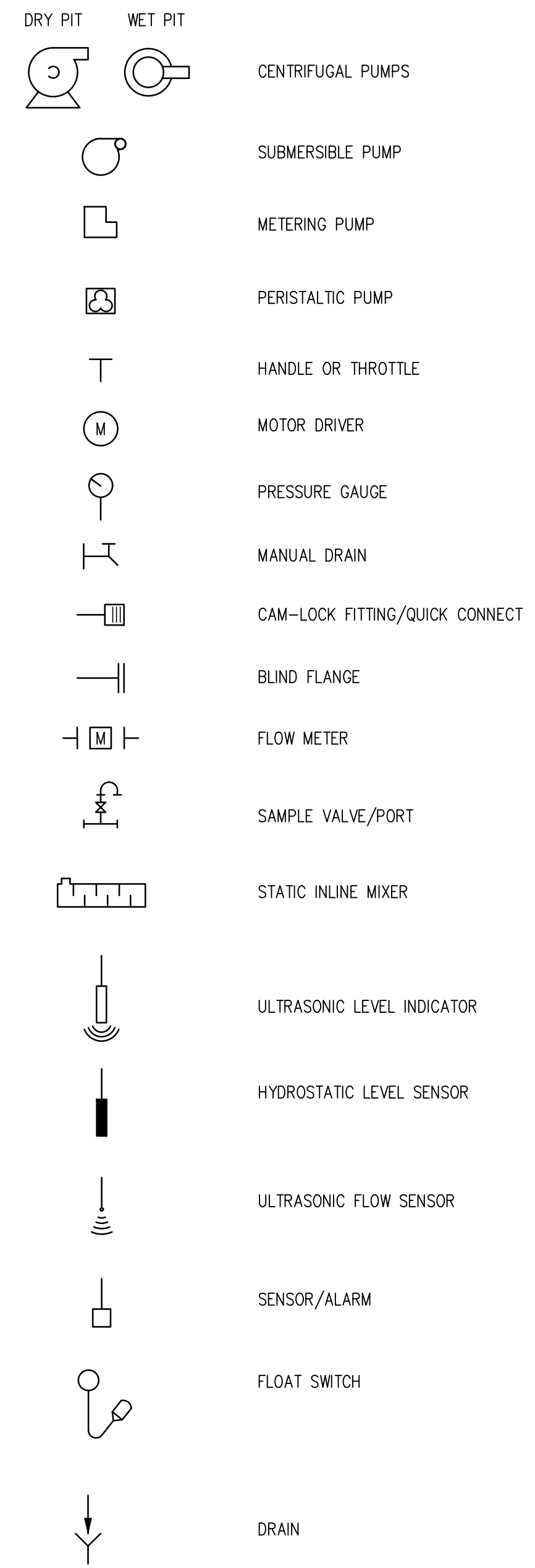
**PROCESS LEGEND**



**VALVE SYMBOLS**



**P&ID EQUIPMENT SYMBOLS**

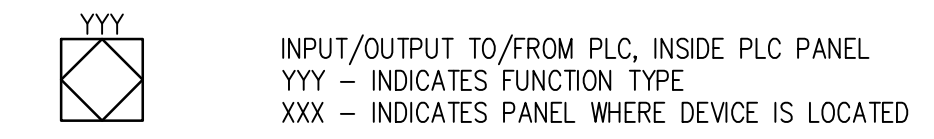


**INSTRUMENT IDENTIFICATION LETTERS**  
 (INSTRUMENT SOCIETY OF AMERICA)

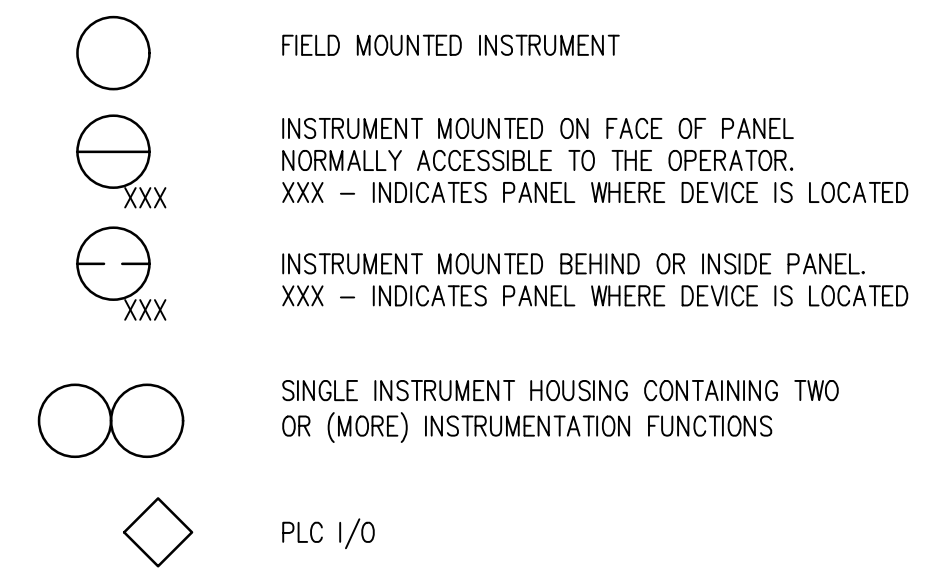
FIRST - LETTER	SUCCEEDING - LETTERS			
	MEASURED OR INITIATING VARIABLE	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS	ALARM		
B	BURNER, COMBUSTION	USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONTROL		CONTROL SWITCH	CLOSED
D	USER'S CHOICE	DIFFERENTIAL		
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	RATIO (FRACTION)		
G	USER'S CHOICE		GLASS, VIEWING DEVICE	
H	HAND			HIGH
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION
L	LEVEL		LIGHT	
M	USER'S CHOICE	MOMENTARY		LOW, MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION	USER'S CHOICE
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION	OPEN
Q	QUANTITY	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD	
S	SPEED, FREQUENCY	SAFETY		SWITCH
T	TEMPERATURE		TRANSMIT	
U	FAILURE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT

**P&ID INSTRUMENT SYMBOLS**

**PROCESS CONTROL SYSTEM INTERFACE SYMBOLS**



**GENERAL INSTRUMENT SYMBOLS**



**PANEL NOMENCLATURE**

- CP-XXX: CONTROL PANEL (AREA CONTROL)
- LCP-XXXX: LOCAL CONTROL PANEL (SPECIFICATION PROCESS CONTROL) LETTERS A, B, C DENOTES VENDOR SUPPLIED EQUIPMENT
- LP-X LIGHTING PANEL

**GENERAL NOTES:**

- THIS IS A STANDARD LEGEND, THEREFORE NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.
- P & ID INSTRUMENTATION DETAILS DO NOT REPRESENT INSTRUMENTS AND CONTROLS INTEGRAL TO VENDOR SUPPLIED CONTROL PANELS OR EQUIPMENT. SEE EQUIPMENT SPECIFICATIONS FOR THIS INFORMATION.
- P & ID DOES NOT REPRESENT CONTROL STRATEGIES OR INTERACTIONS. REFERENCE SECTION 16950, CONTROL NARRATIVES, FOR THIS INFORMATION.
- P & ID DOES NOT REPRESENT EQUIPMENT HARDWIRED INTERLOCK AND ENABLE CIRCUITRY, REFER TO SECTION 16950 FOR COMPLETE DESCRIPTION.

**COMMON INSTRUMENT DESIGNATIONS**

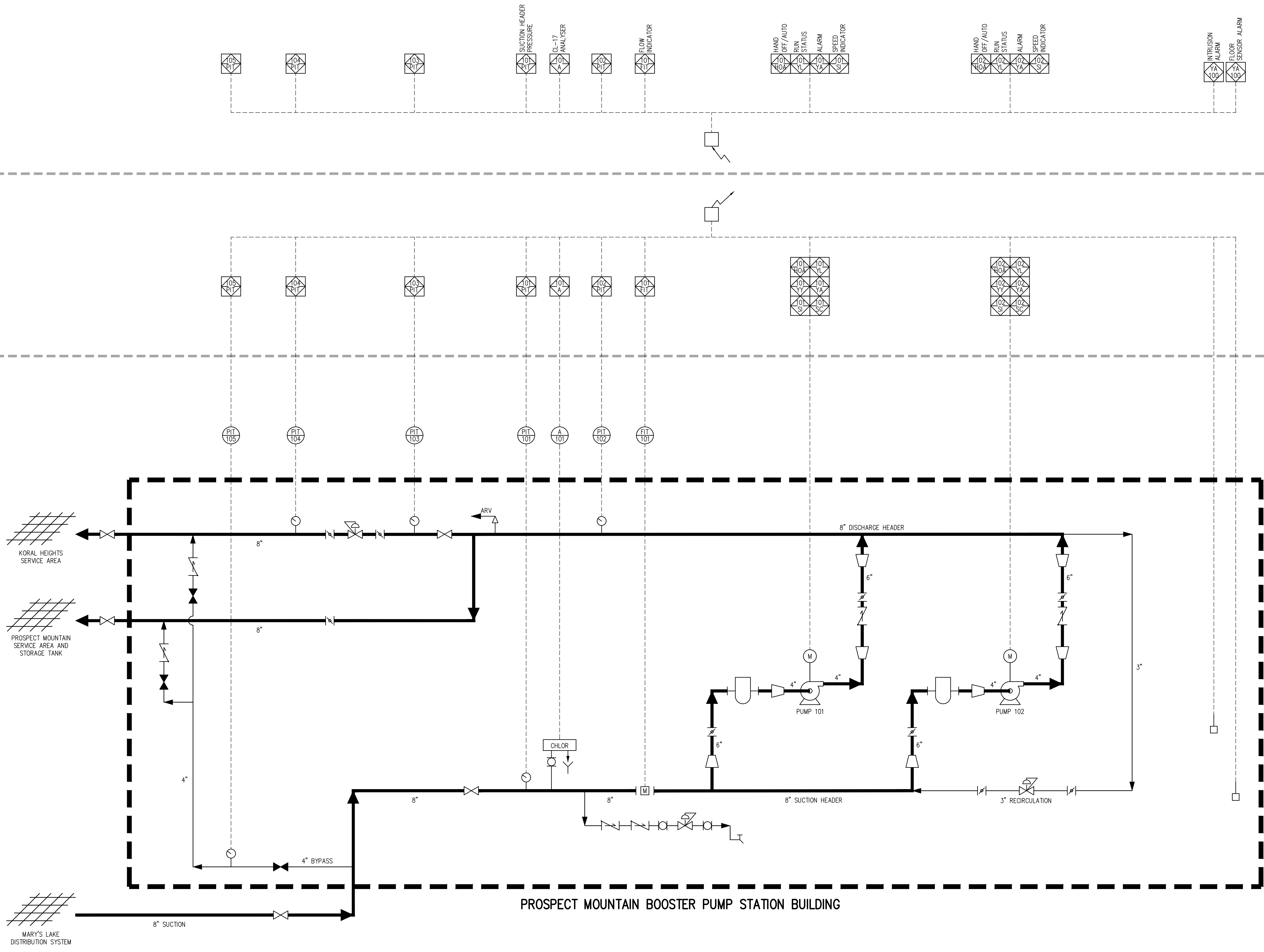
TAG	DESIGNATION
YL	EQUIPMENT RUNNING STATUS
YS	EQUIPMENT IN AUTO OR REMOTE STATUS
YY	EQUIPMENT RUN COMMAND
UA	EQUIPMENT FAULT STATUS
HC	HAND CONTROL
HS	HAND SWITCH
SI	SPEED INDICATION
SC	SPEED COMMAND
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
FE	FLOW ELEMENT
FIT	FLOW INDICATOR/TRANSMITTER
ZSO	VALVE POSITION FULL OPEN
ZSC	VALVE POSITION FULL CLOSE
ZSI	VALVE POSITION INDICATOR
SP	SET POINT
PID	PROPORTIONAL-INTEGRAL-DERIVATIVE
HOA	HAND-OFF-AUTO
OCA	OPEN-CLOSE-AUTO
LCP	LOCAL CONTROL PANEL

NO.	DATE	DES'D	OWN	REVISION DESCRIPTION

DESIGNED BY:	LBT
DRAWN BY:	MHT/LLG
CHECKED BY:	MMR
JOB #:	1066e
DATE:	SEPTEMBER 2022
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**PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM ESTES PARK, COLORADO**  
**PROCESS AND INSTRUMENTATION LEGEND**

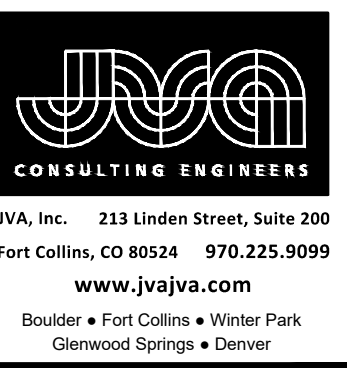
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SCADA

PLC

FIELD



NO.	DATE	DESIGNED BY	DESCRIPTION

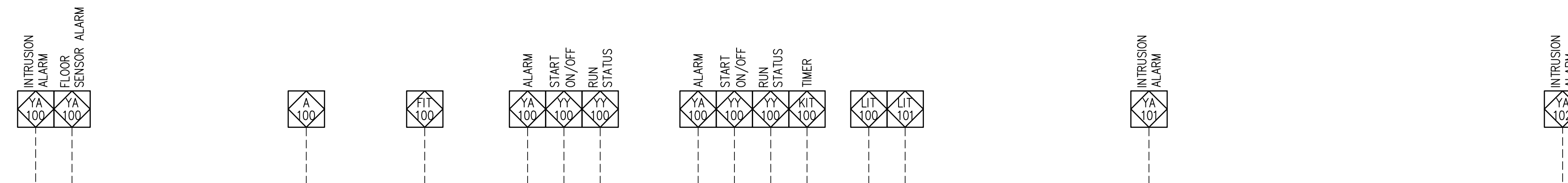
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CHECKED BY:	JJM
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PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

BOOSTER PUMP STATION P&ID

SHEET NO.  
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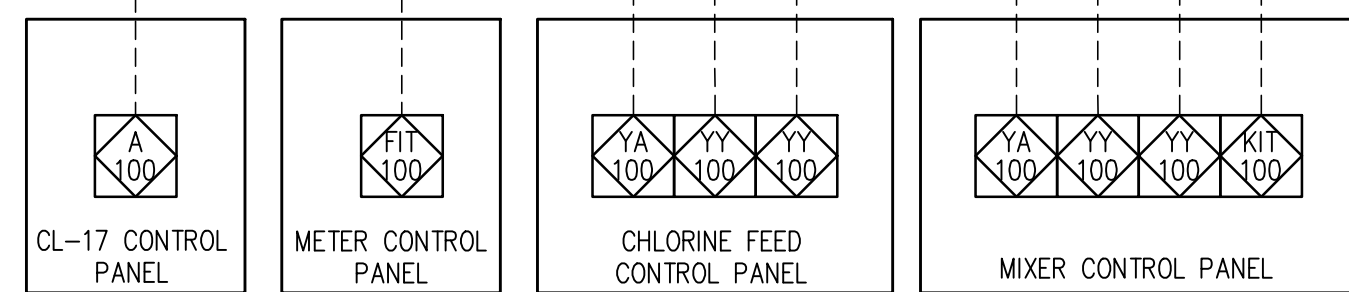
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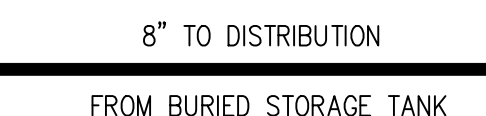
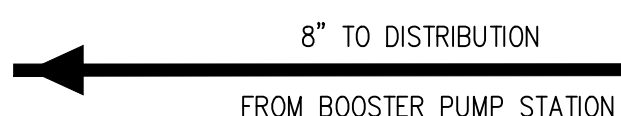
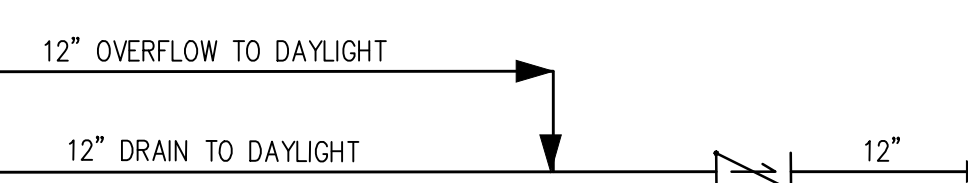
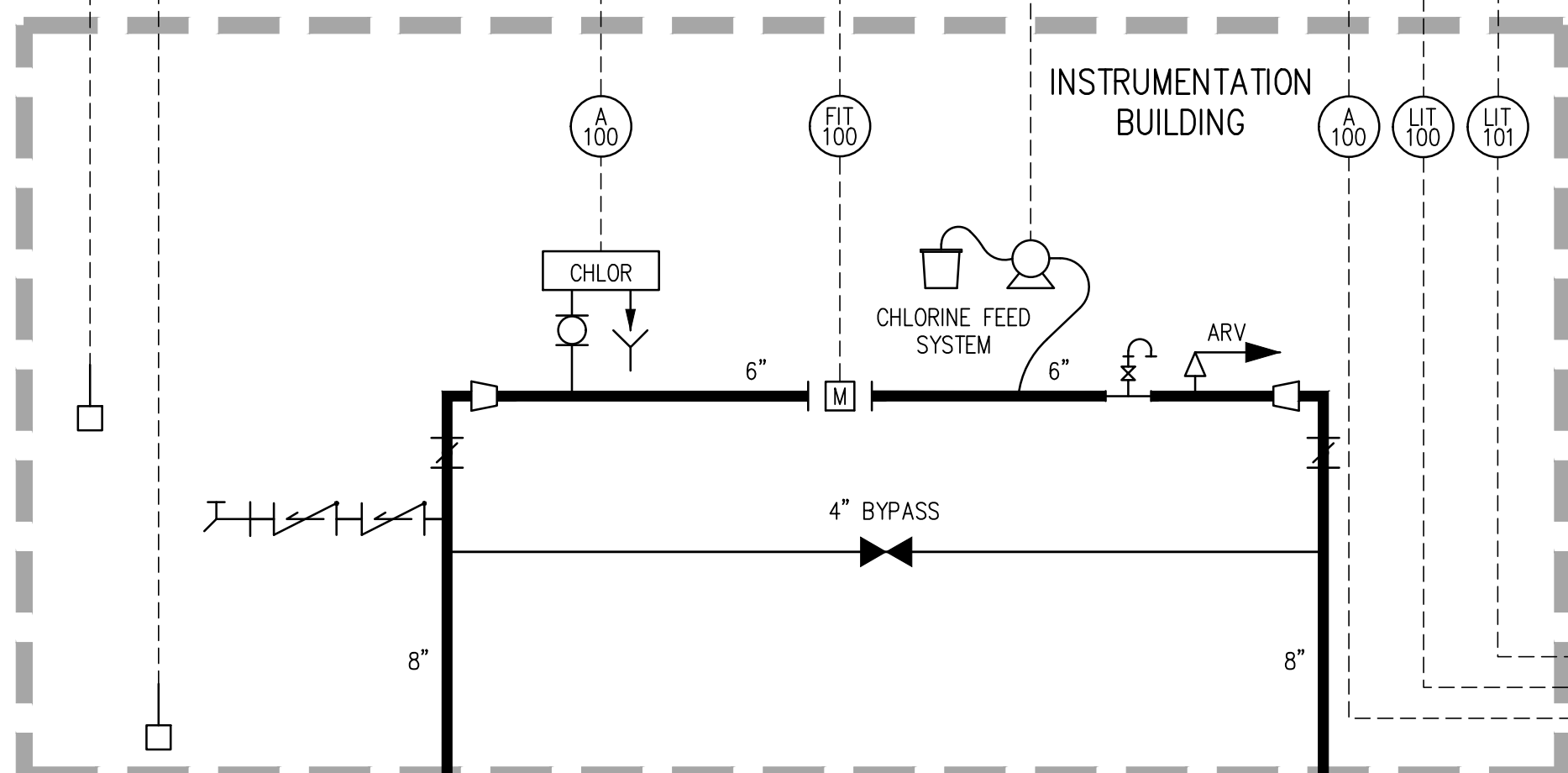
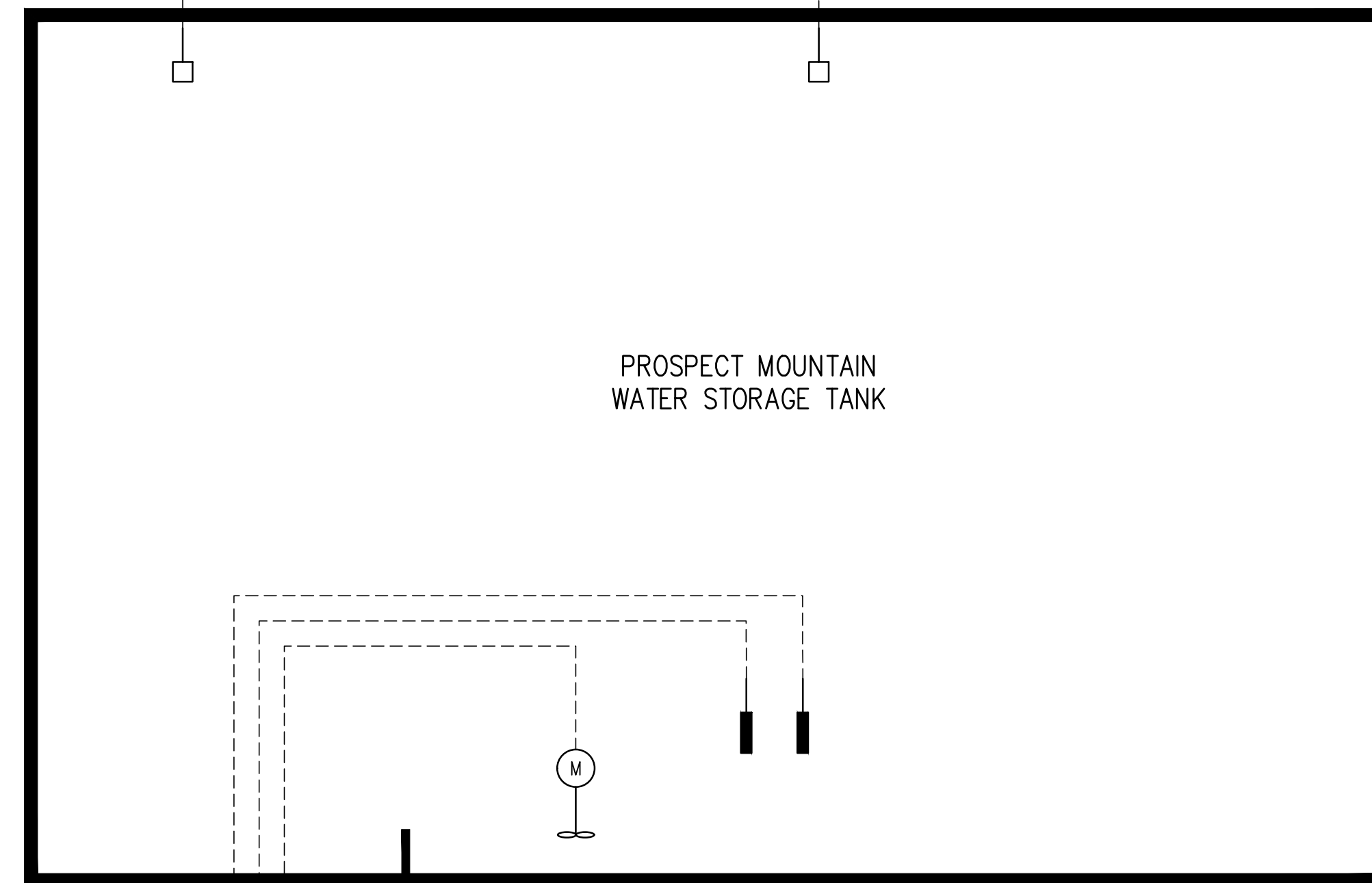
SCADA



LCP



FIELD



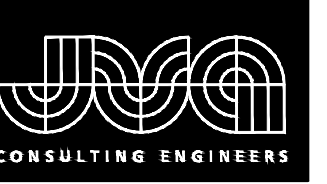
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JOB #:	1066e
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TANK AND INSTRUMENTATION BUILDING  
 P&ID

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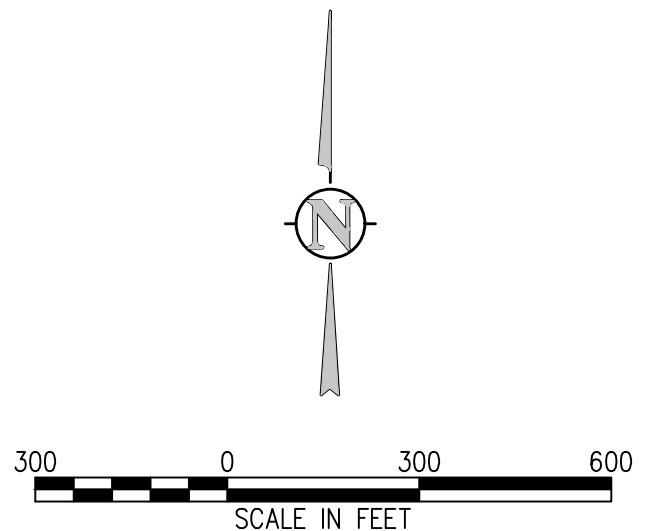
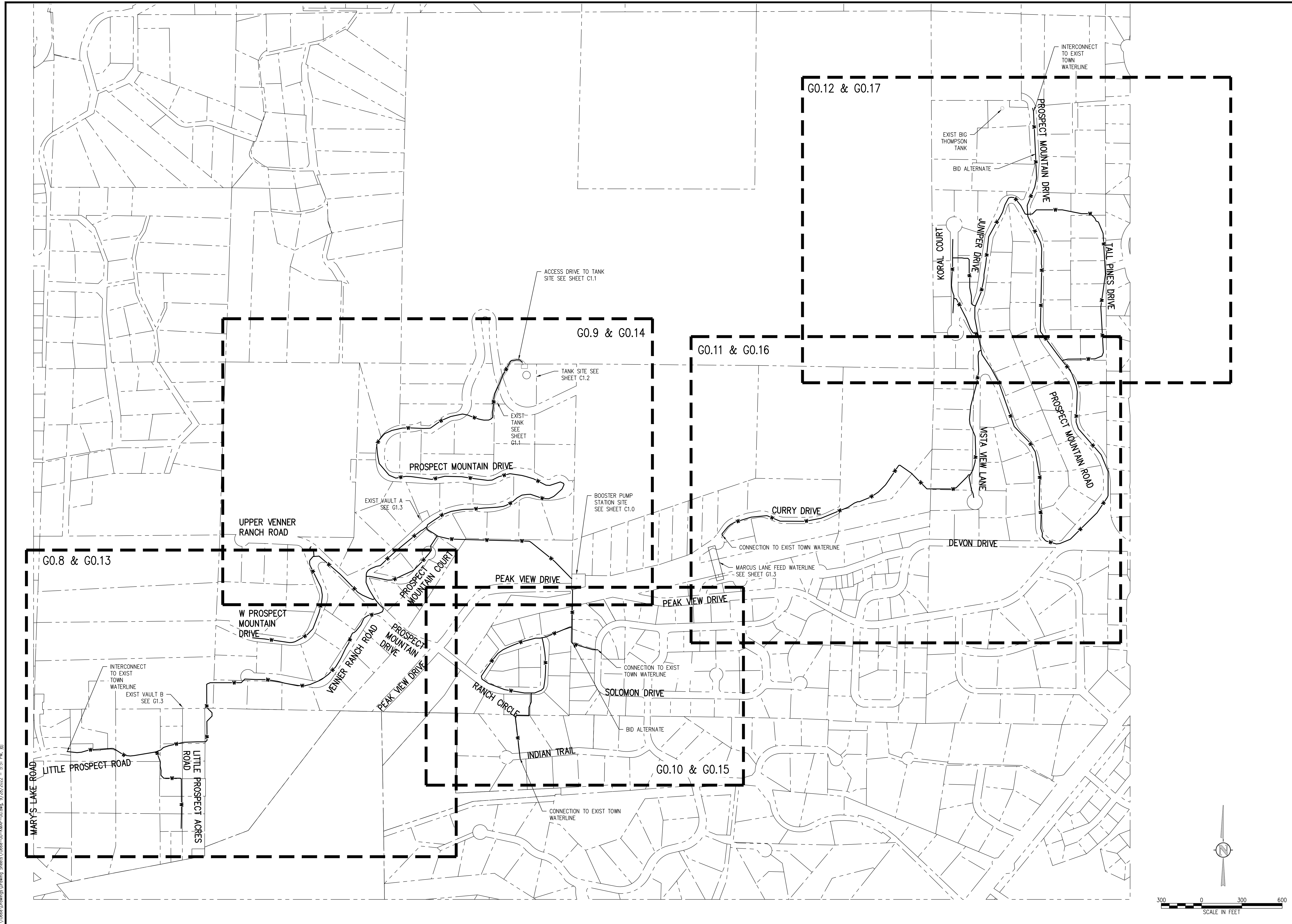
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 DRAWN BY: ZCF/JJM/HT  
 CHECKED BY: JJM  
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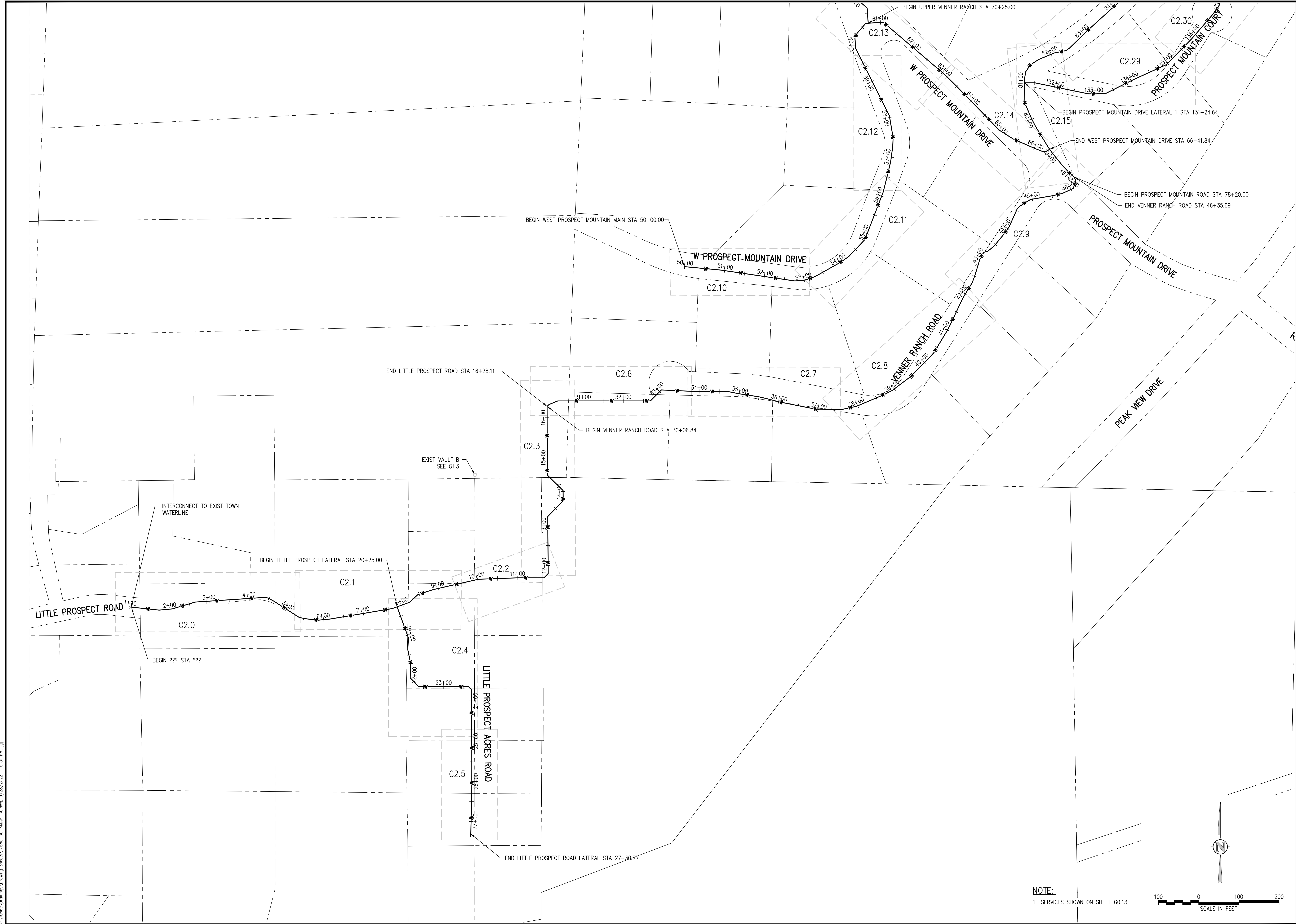
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 OVERALL KEY MAP

SHEET NO.  
**G0.7**

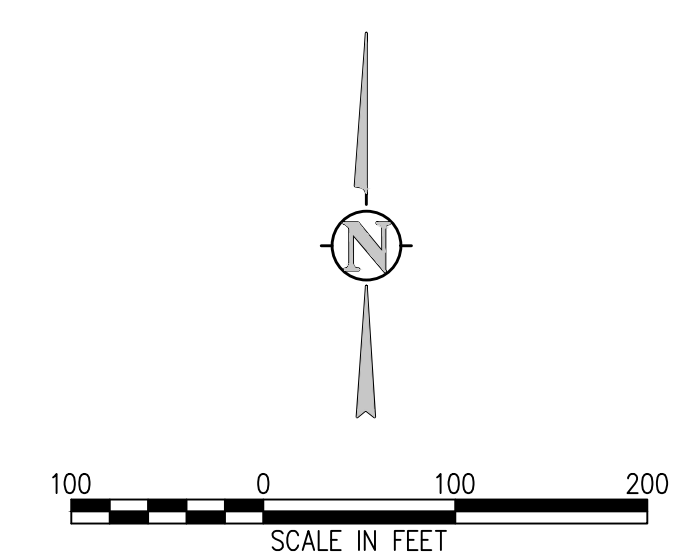


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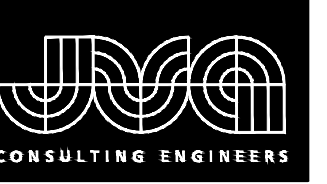




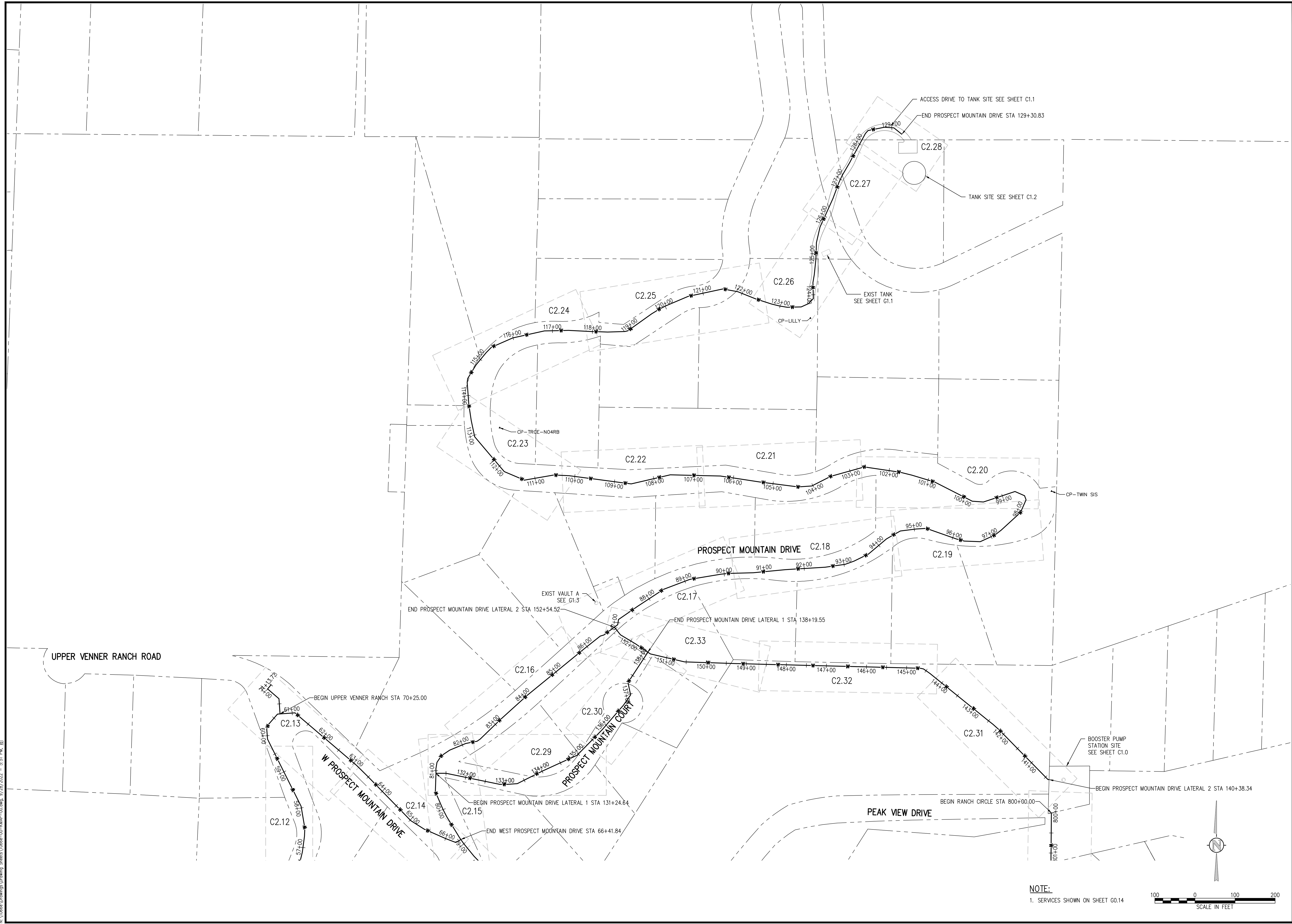
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 1. SERVICES SHOWN ON SHEET G0.13



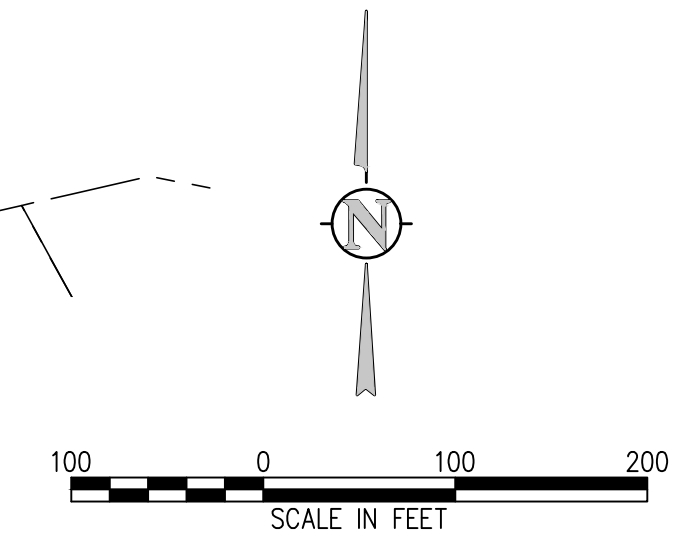
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CHECKED BY: JJM				
JOB #: 1066e				
DATE: SEPTEMBER 2022				
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PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM ESTES PARK, COLORADO KEY MAP				
SHEET NO.				
G0.8				



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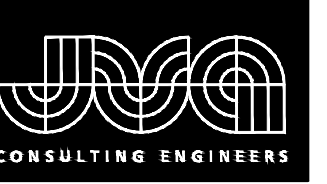


NOTE:  
 1. SERVICES SHOWN ON SHEET G0.14

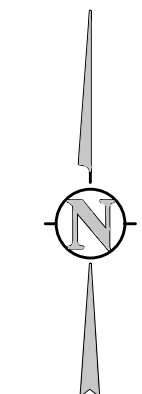
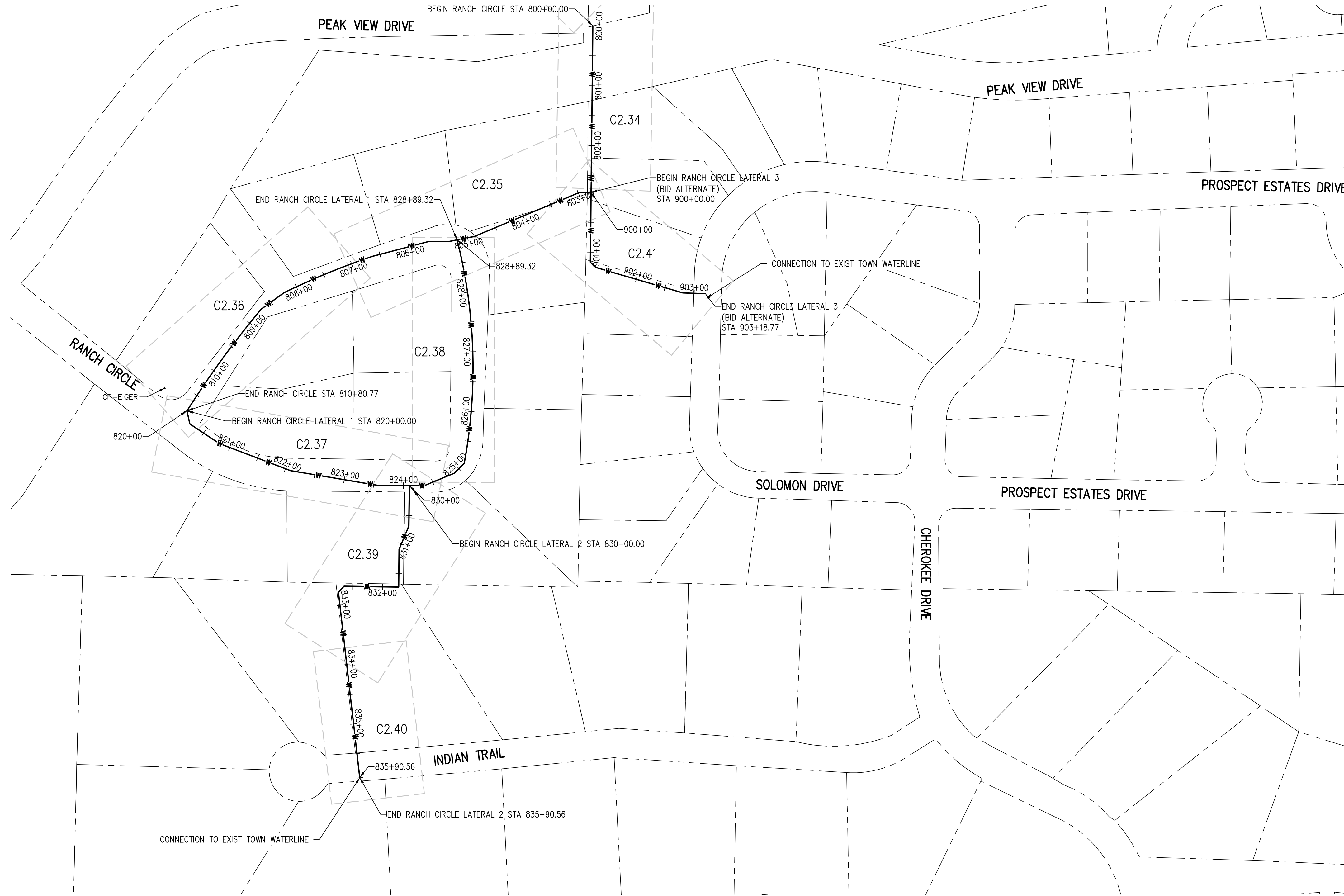


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KEY MAP	
PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM ESTES PARK, COLORADO	
SHEET NO.	
G0.9	

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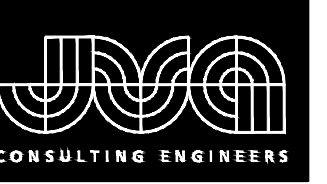
NOTE:  
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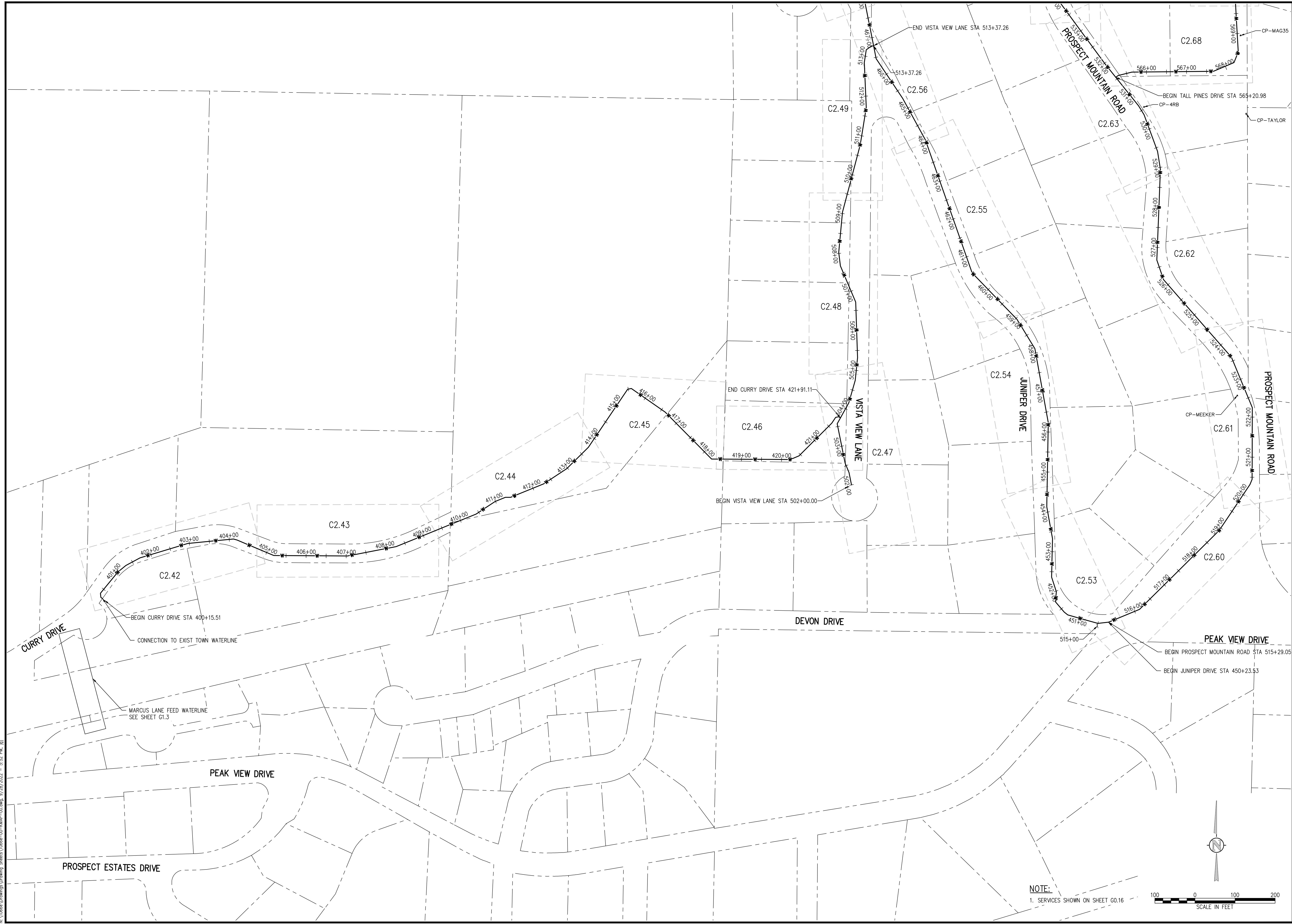
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 JOB #: 1066e  
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

SHEET NO.  
**G0.10**



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NOTE:  
 1. SERVICES SHOWN ON SHEET G0.16



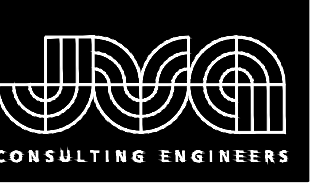
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

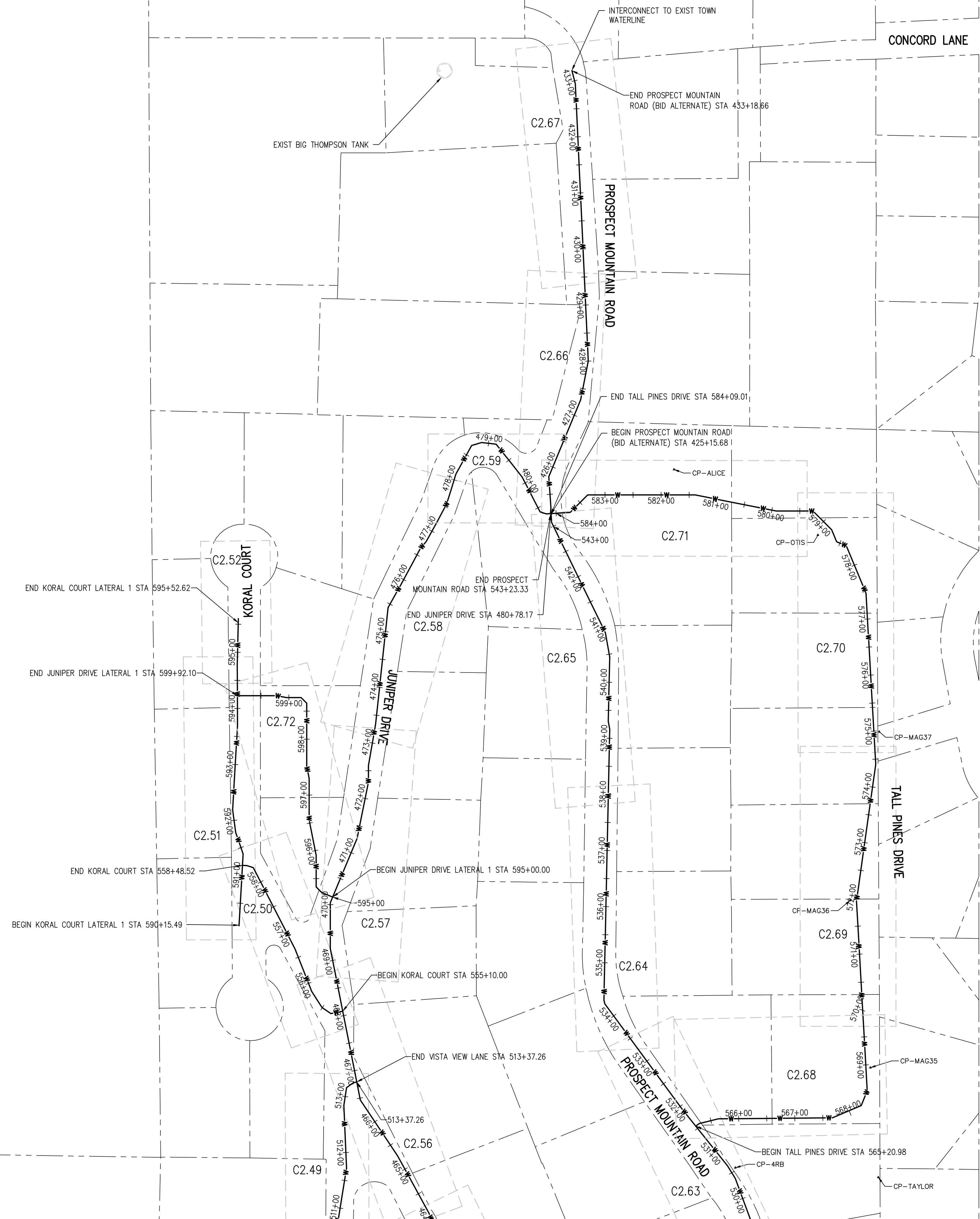
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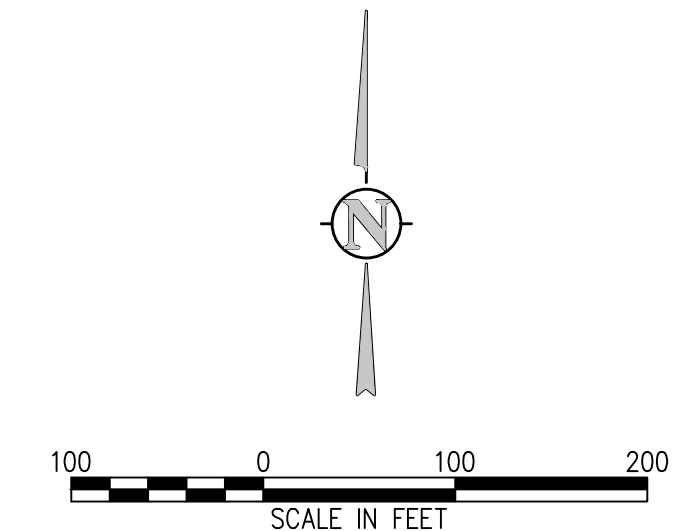


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NOTE:  
 1. SERVICES SHOWN ON SHEET G0.17



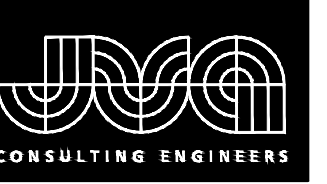
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

SHEET NO.  
**G0.12**

KEY MAP



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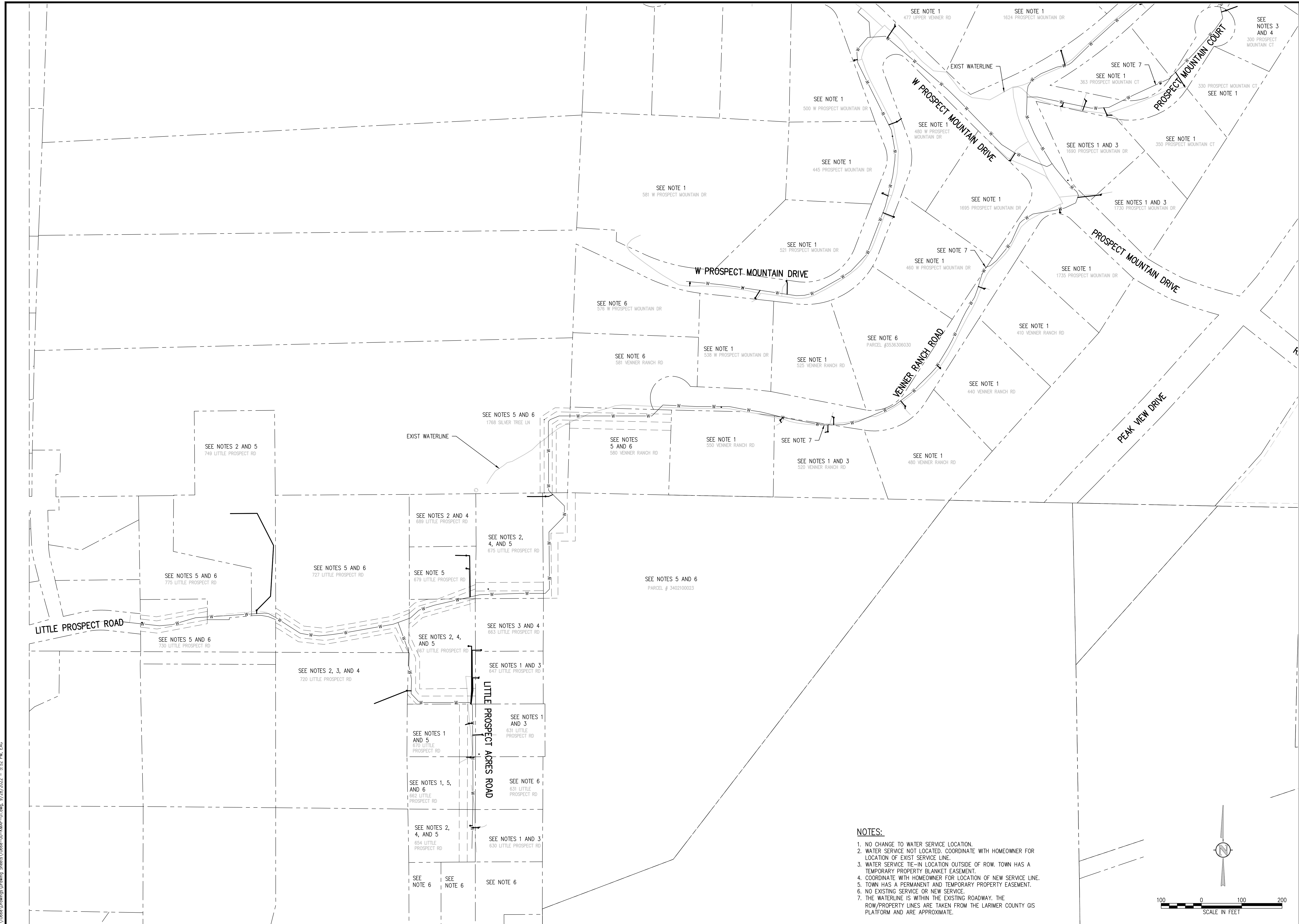
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 WATER SERVICE KEY MAP

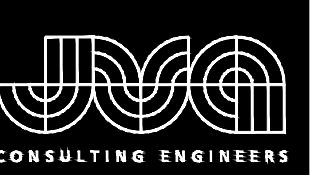
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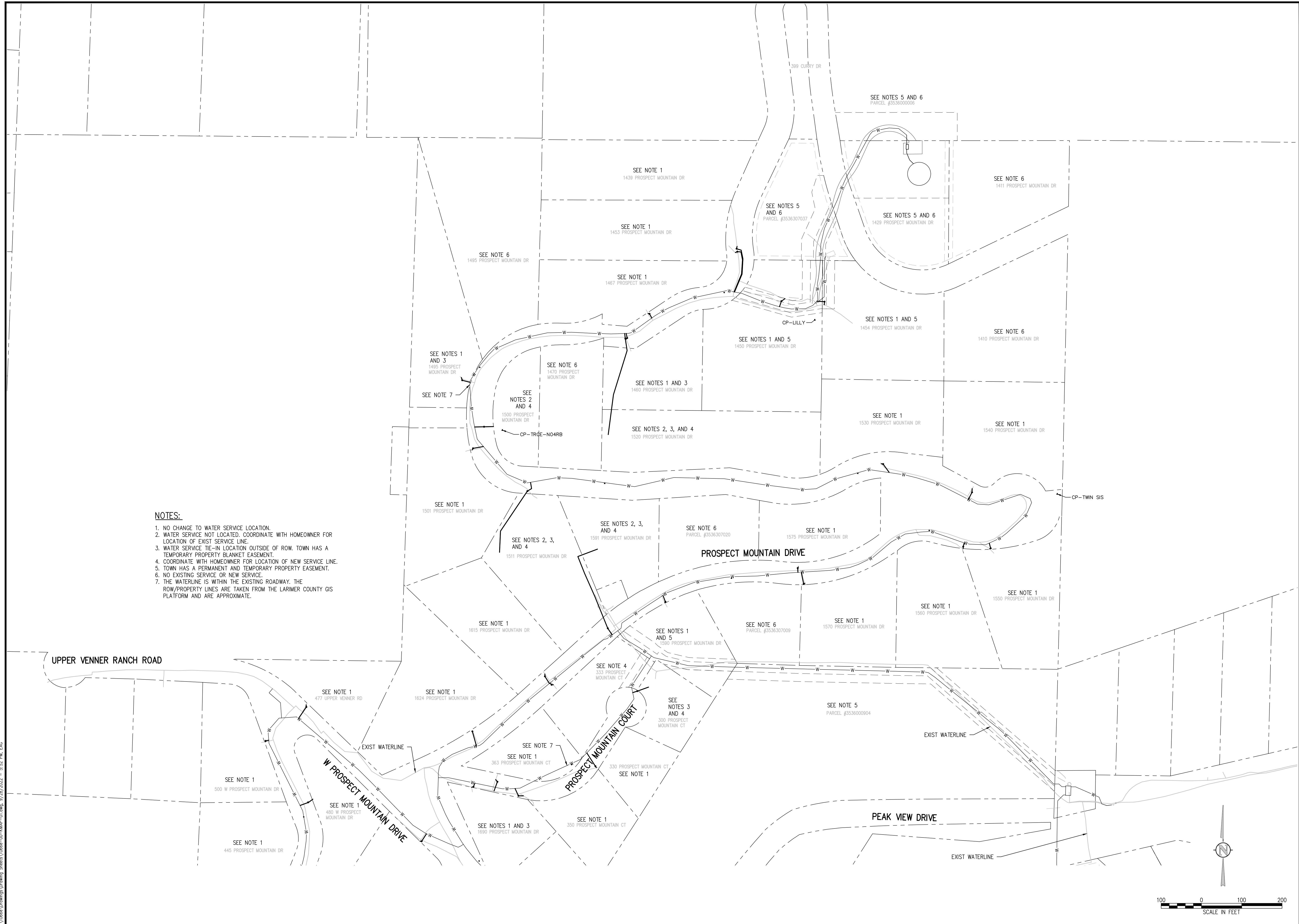


- NOTES:**
1. NO CHANGE TO WATER SERVICE LOCATION.
  2. WATER SERVICE NOT LOCATED. COORDINATE WITH HOMEOWNER FOR LOCATION OF EXIST SERVICE LINE.
  3. WATER SERVICE TIE-IN LOCATION OUTSIDE OF ROW. TOWN HAS A TEMPORARY PROPERTY BLANKET EASEMENT.
  4. COORDINATE WITH HOMEOWNER FOR LOCATION OF NEW SERVICE LINE.
  5. TOWN HAS A PERMANENT AND TEMPORARY PROPERTY EASEMENT.
  6. NO EXISTING SERVICE OR NEW SERVICE.
  7. THE WATERLINE IS WITHIN THE EXISTING ROADWAY. THE ROW/PROPERTY LINES ARE TAKEN FROM THE LARIMER COUNTY GIS PLATFORM AND ARE APPROXIMATE.

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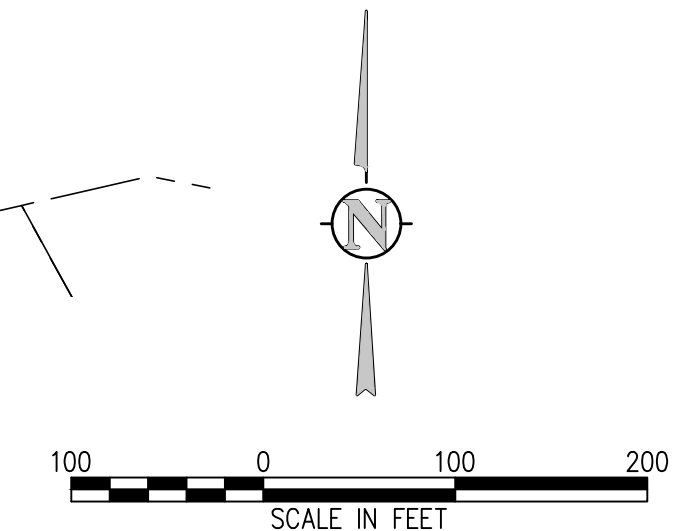
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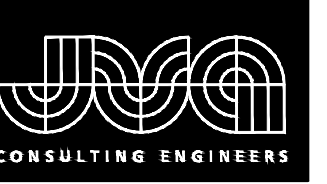
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**PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 WATER SERVICE KEY MAP**



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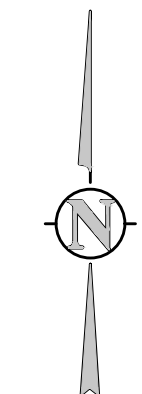


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**NOTES:**

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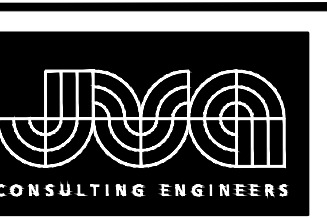
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 WATER SERVICE KEY MAP

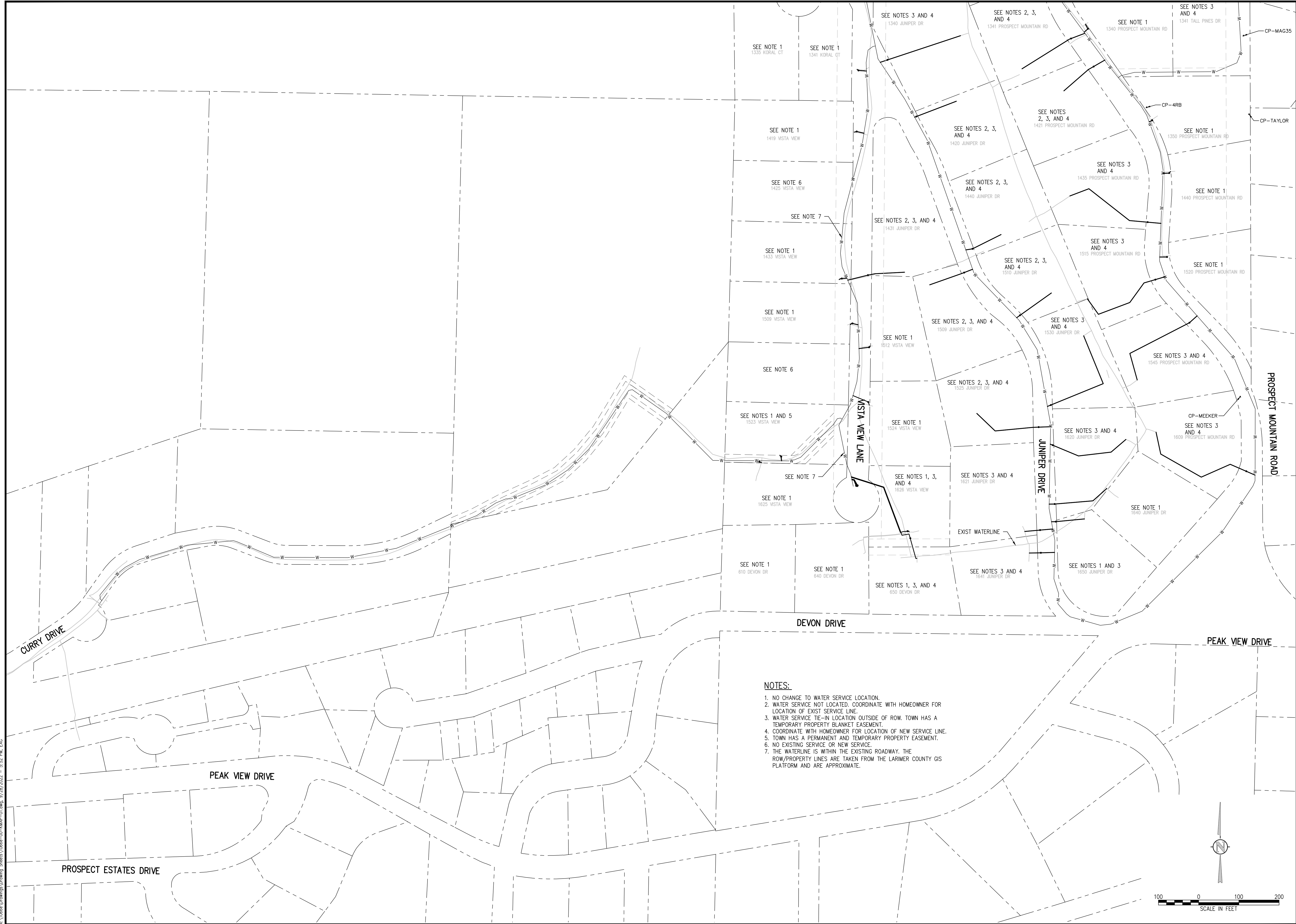
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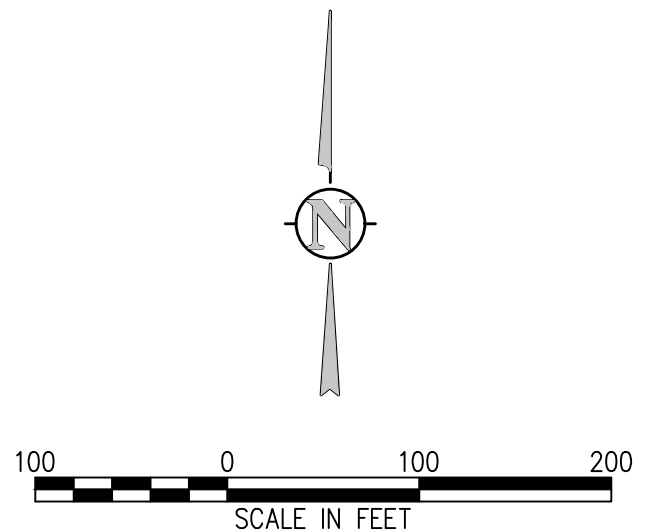




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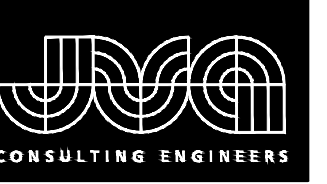


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PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM ESTES PARK, COLORADO WATER SERVICE KEY MAP				
SHEET NO.				
<b>G0.16</b>				

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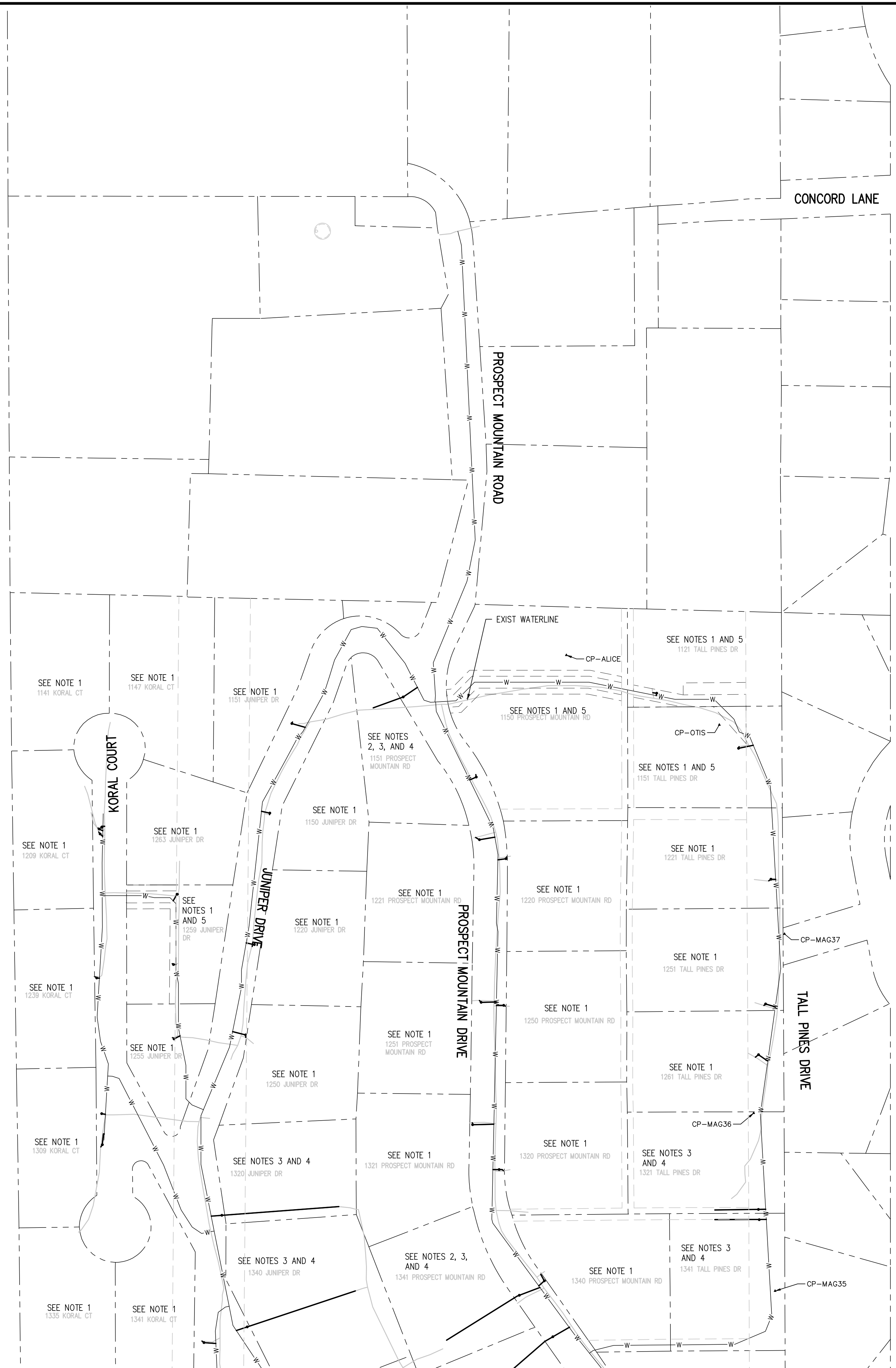
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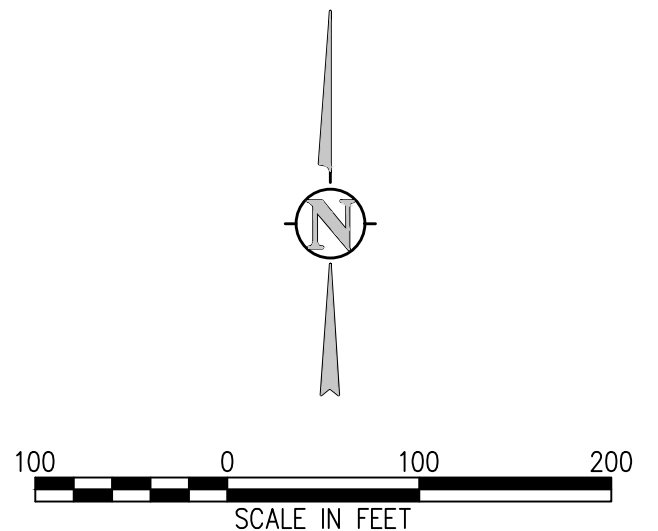
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 WATER SERVICE KEY MAP

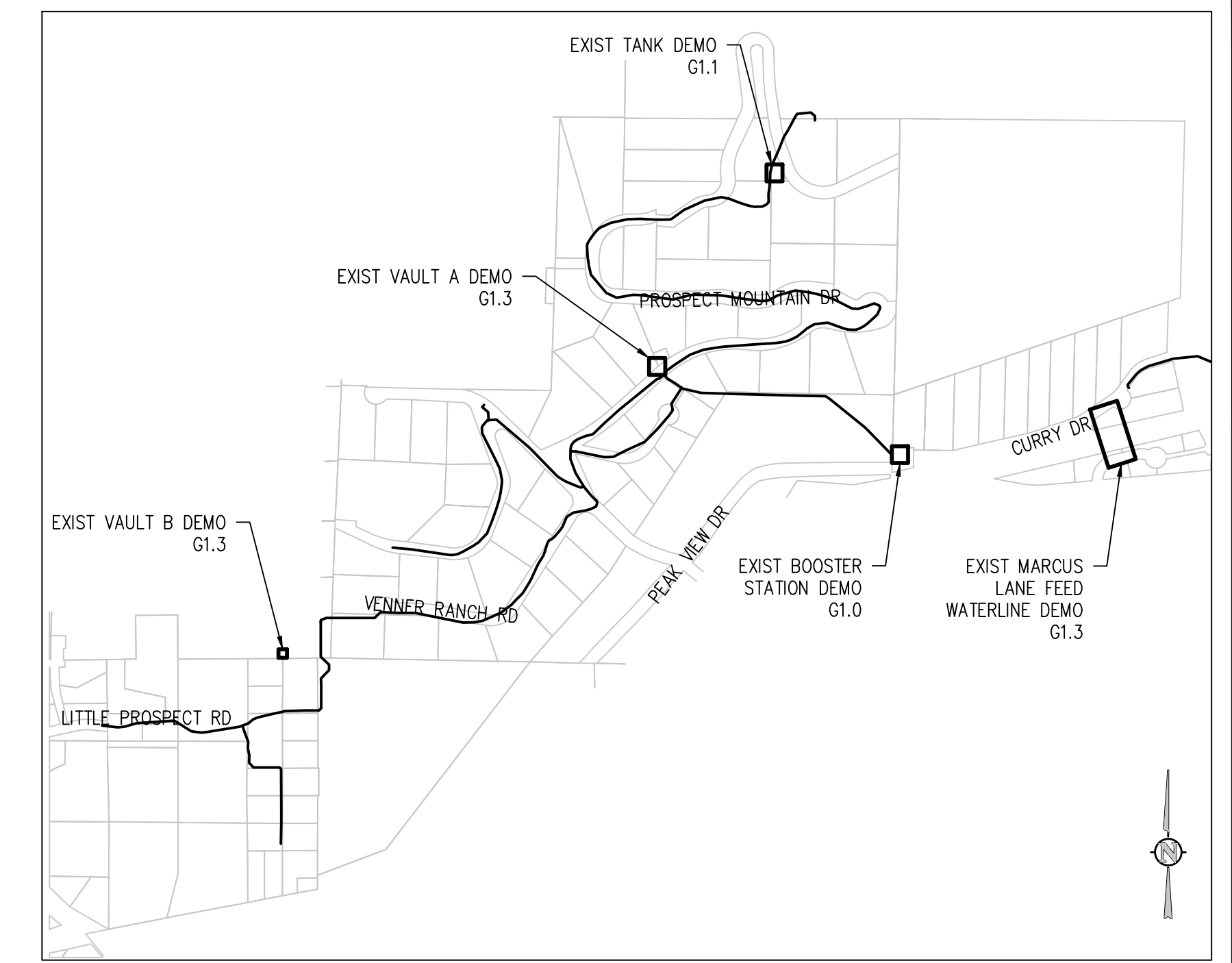
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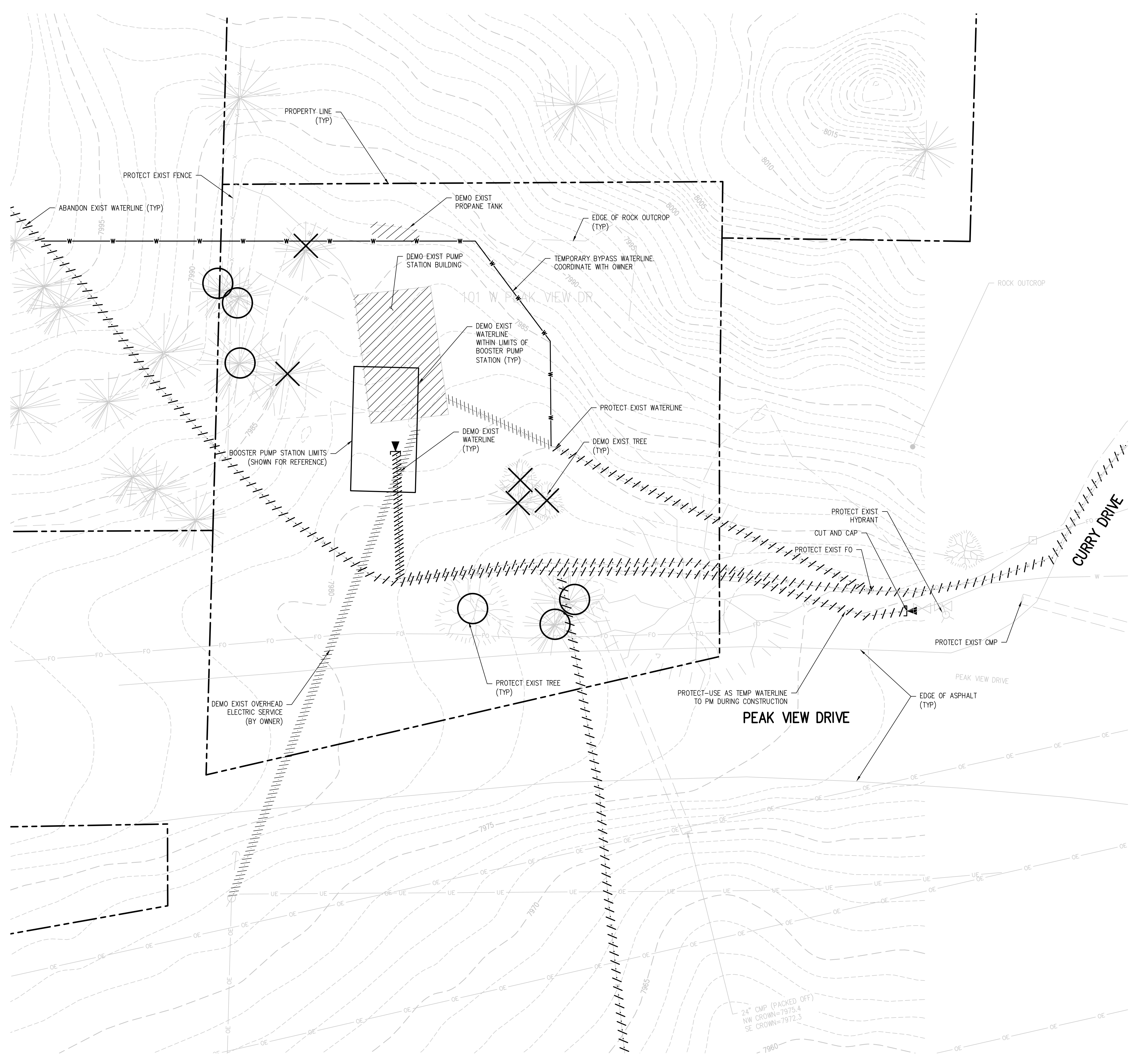
- NOTES:**
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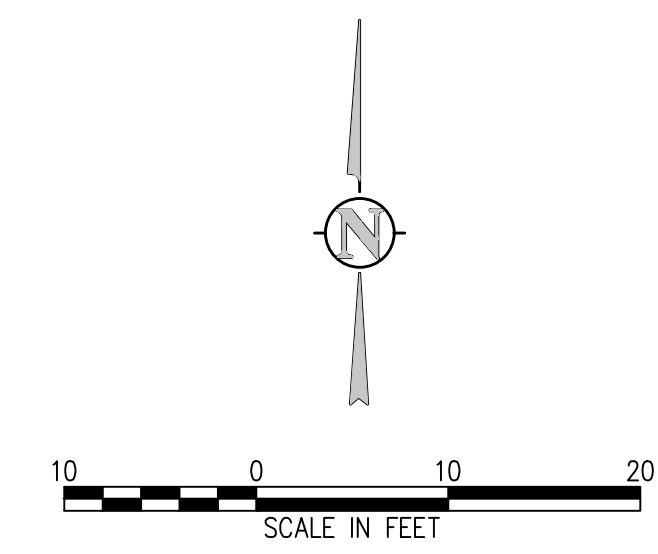
**DEMO KEY MAP**  
 NTS



**DEMOLITION LEGEND**

	DEMO SUBSURFACE FEATURE
	DEMO SURFACE FEATURE
	DEMO BUILDING
	ABANDON SUBSURFACE FEATURE
	LIMITS OF SAWCUT
	REMOVE EXISTING TREE
	PROTECT EXISTING TREE

- DEMOLITION NOTES:**
- CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
  - ACTUAL LIMITS MAY VARY, CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
  - ALL DRY UTILITY AND ELECTRIC DEMOLITION OR RELOCATION SHOULD BE COORDINATED WITH PROPERTY OWNER, UTILITY OWNER, ENGINEER PRIOR TO CONSTRUCTION.
  - ALL NECESSARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION.
  - CONTRACTOR TO COMPLY WITH ALL REGULATORY REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL AND DISPOSAL.
  - REFER TO GENERAL NOTES FOR TREE PROTECTION.
  - CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN WATER SERVICE DURING CONSTRUCTION.
  - CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
  - COMPLETELY REMOVE AND DISPOSE TANK OFF OF THE SITE.

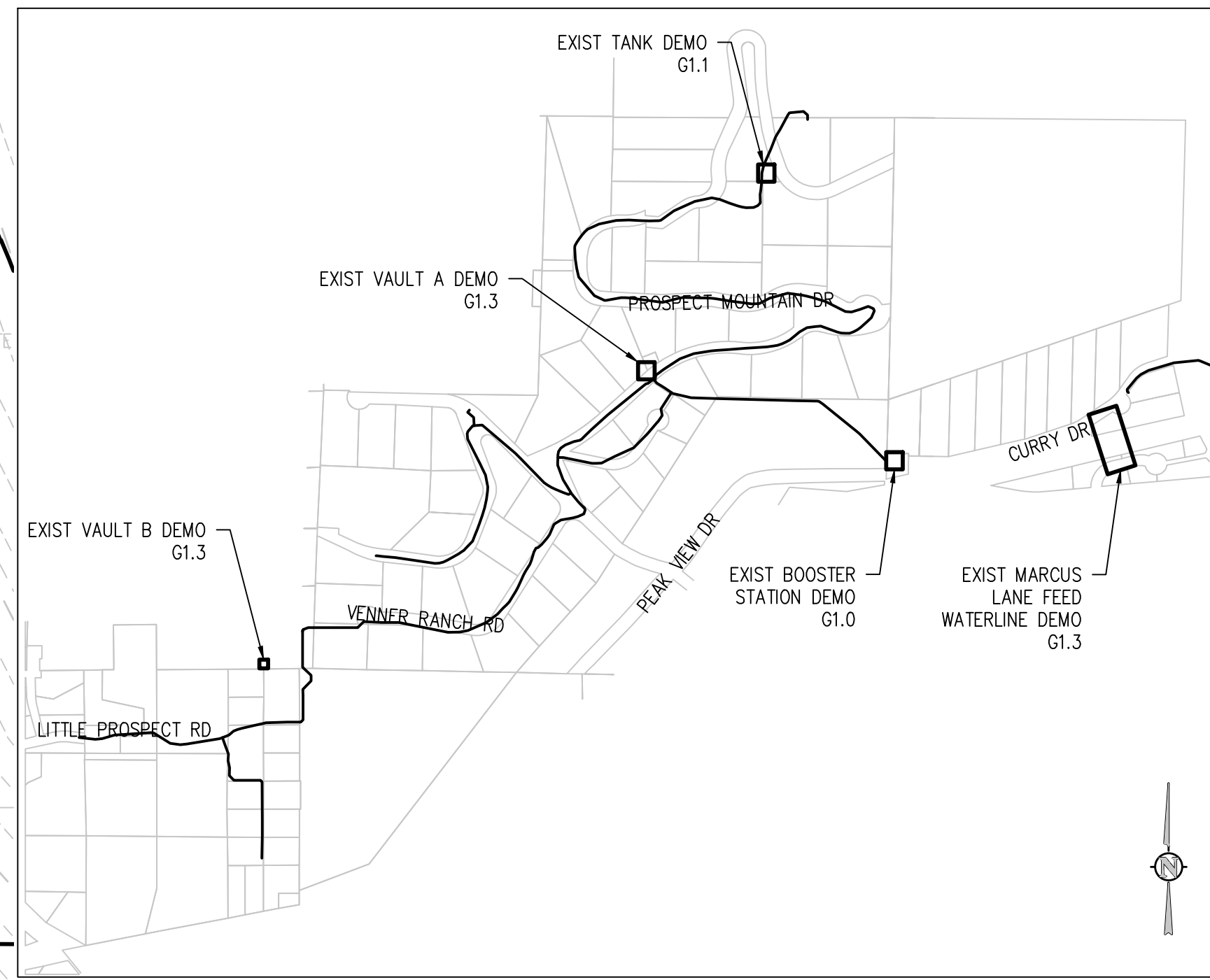
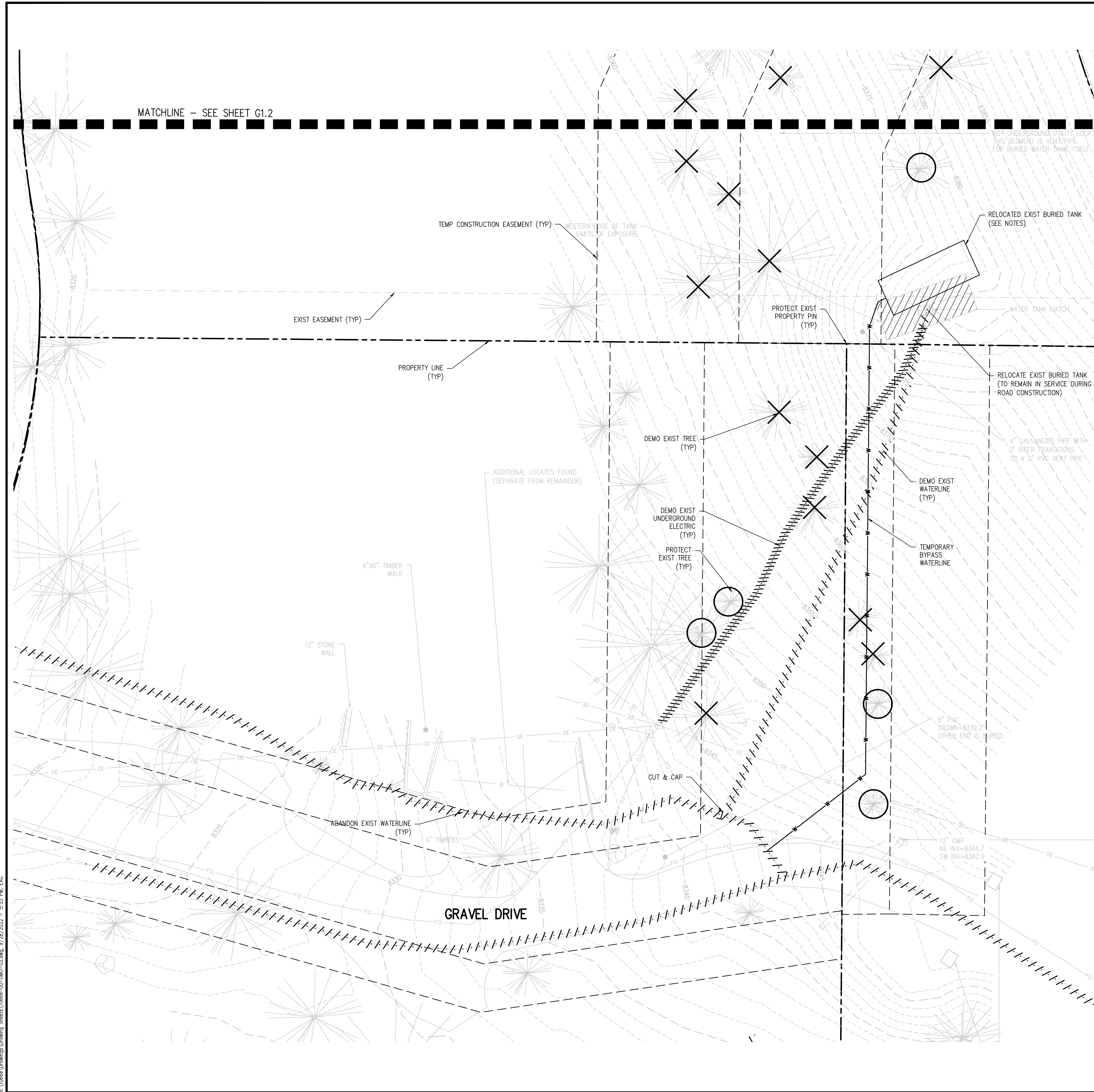


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**PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 BOOSTER PUMP STATION  
 DEMOLITION PLAN**

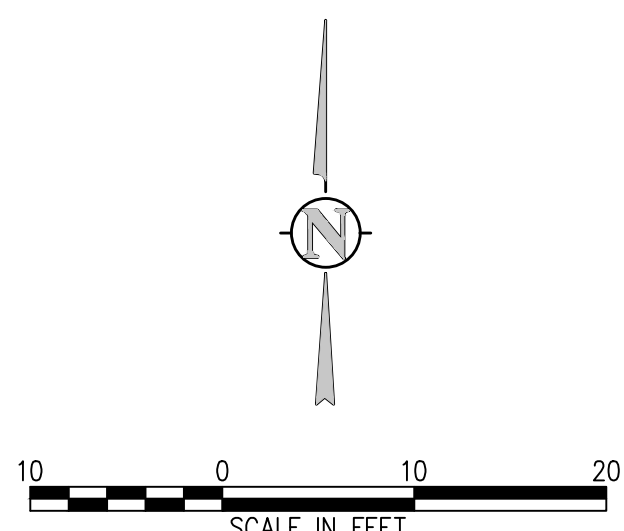


**DEMO KEY MAP**  
 NTS

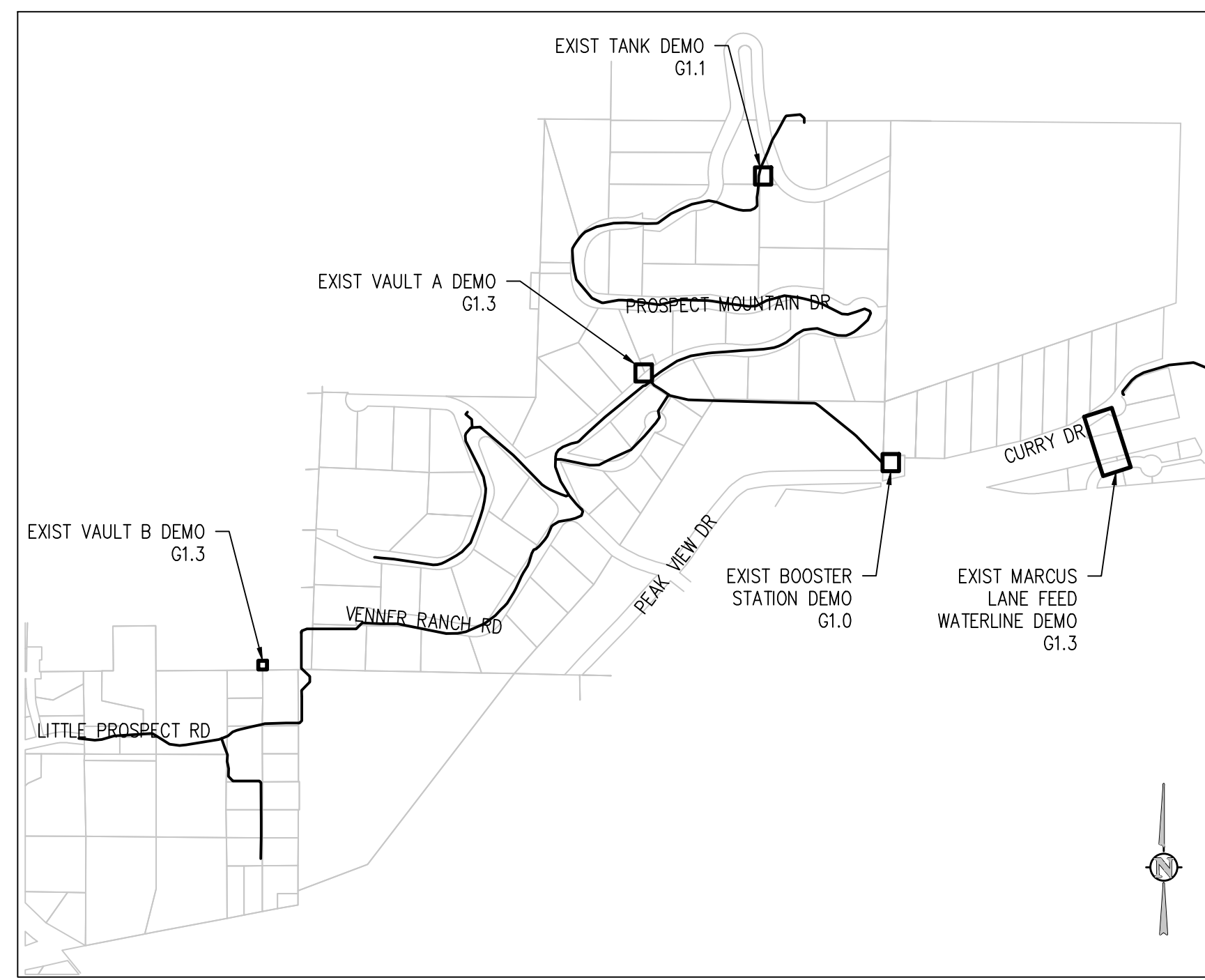
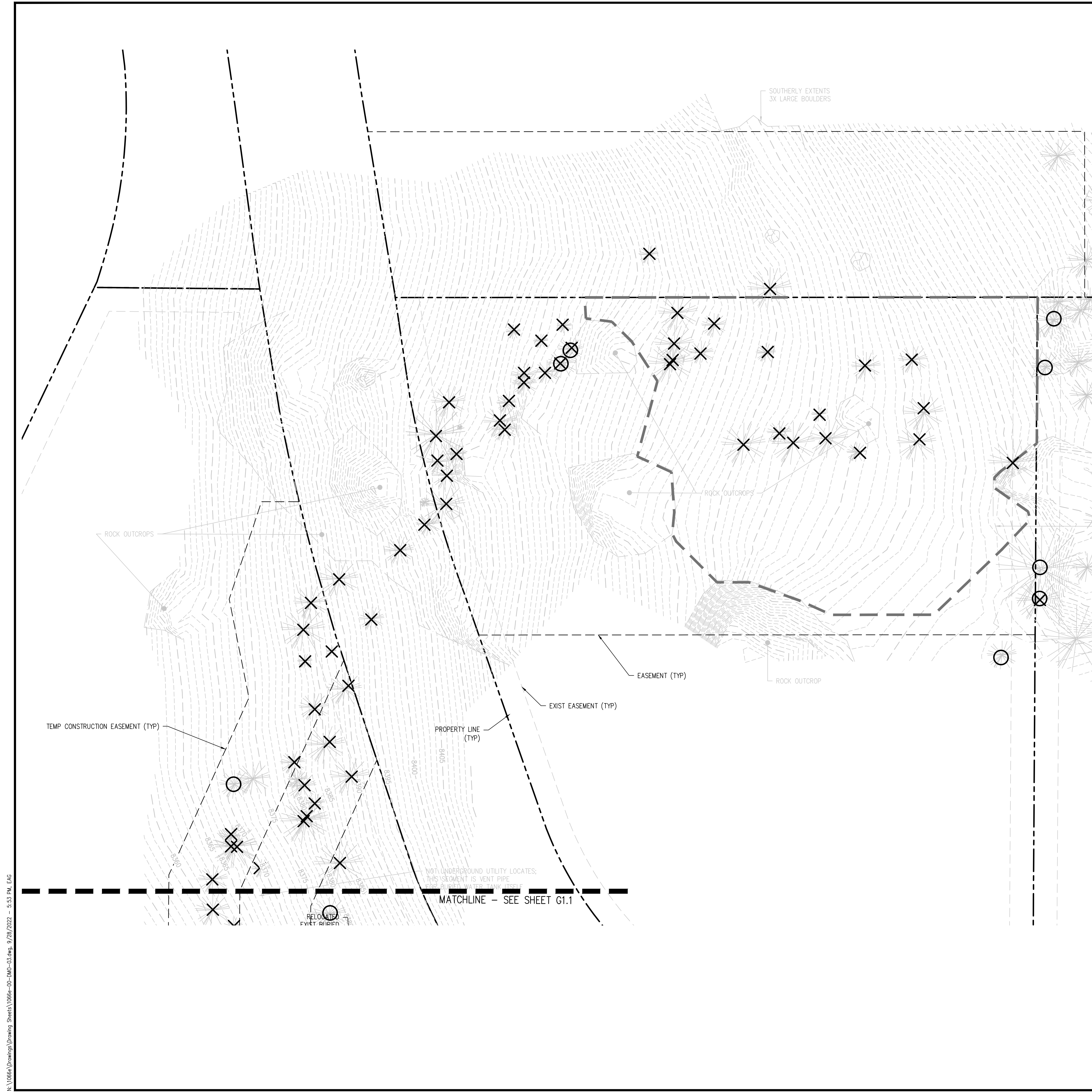
- EXIST TANK RELOCATION NOTES:**
- EXISTING TANK IS AN 8,500 GALLON STEEL CYLINDER TANK THAT IS LAYING ON ITS SIDE.
  - THE APPROXIMATE DIMENSION EXISTING TANK TO BE CONFIRM BY CONTRACTOR:
    - DIAMETER: 8.5 FEET
    - HEIGHT: 20 FEET
  - THE RELOCATED TANK SHALL BE ABOVE GROUND, PLACED NEAR THE EXISTING TANK SITE, BUT OUTSIDE OF THE PROPOSED ACCESS DRIVE TO THE TANK SITE.
  - THE RELOCATED TANK SHALL BE TEMPORARY DURING CONSTRUCTION AND BE REMOVED AFTER CONSTRUCTION IS COMPLETE.
  - A TEMPORARY BYPASS WATERLINE SHALL BE CONNECTED TO THE RELOCATED TANK AND CONNECTED TO THE EXISTING WATER SYSTEM.

- DEMOLITION LEGEND**
- DEMOS SUBSURFACE FEATURE
  - DEMOS SURFACE FEATURE
  - DEMOS BUILDING
  - ABANDON SUBSURFACE FEATURE
  - LIMITS OF SAWCUT
  - REMOVE EXISTING TREE
  - PROTECT EXISTING TREE

- DEMOLITION NOTES:**
- CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
  - ACTUAL LIMITS MAY VARY, CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
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  - CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
  - COMPLETELY REMOVE AND DISPOSE TANK OFF OF THE SITE.



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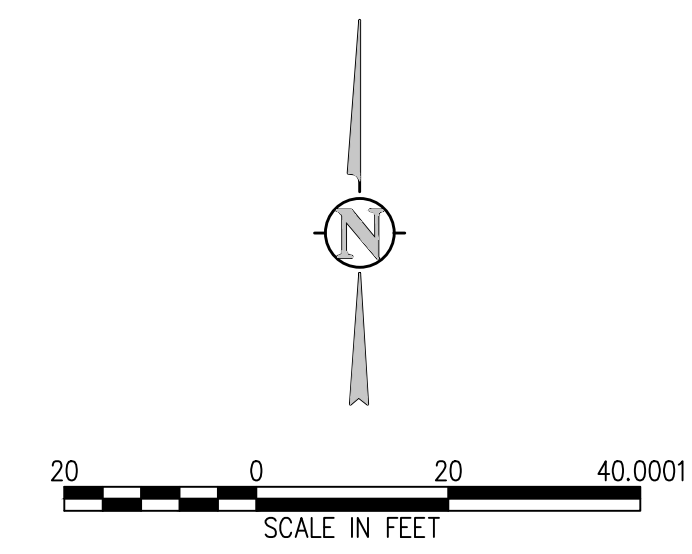
DEMO KEY MAP  
NTS

DEMOLITION LEGEND

- DEMO SUBSURFACE FEATURE
- DEMO SURFACE FEATURE
- DEMO BUILDING
- ABANDON SUBSURFACE FEATURE
- LIMITS OF SAWCUT
- REMOVE EXISTING TREE
- PROTECT EXISTING TREE

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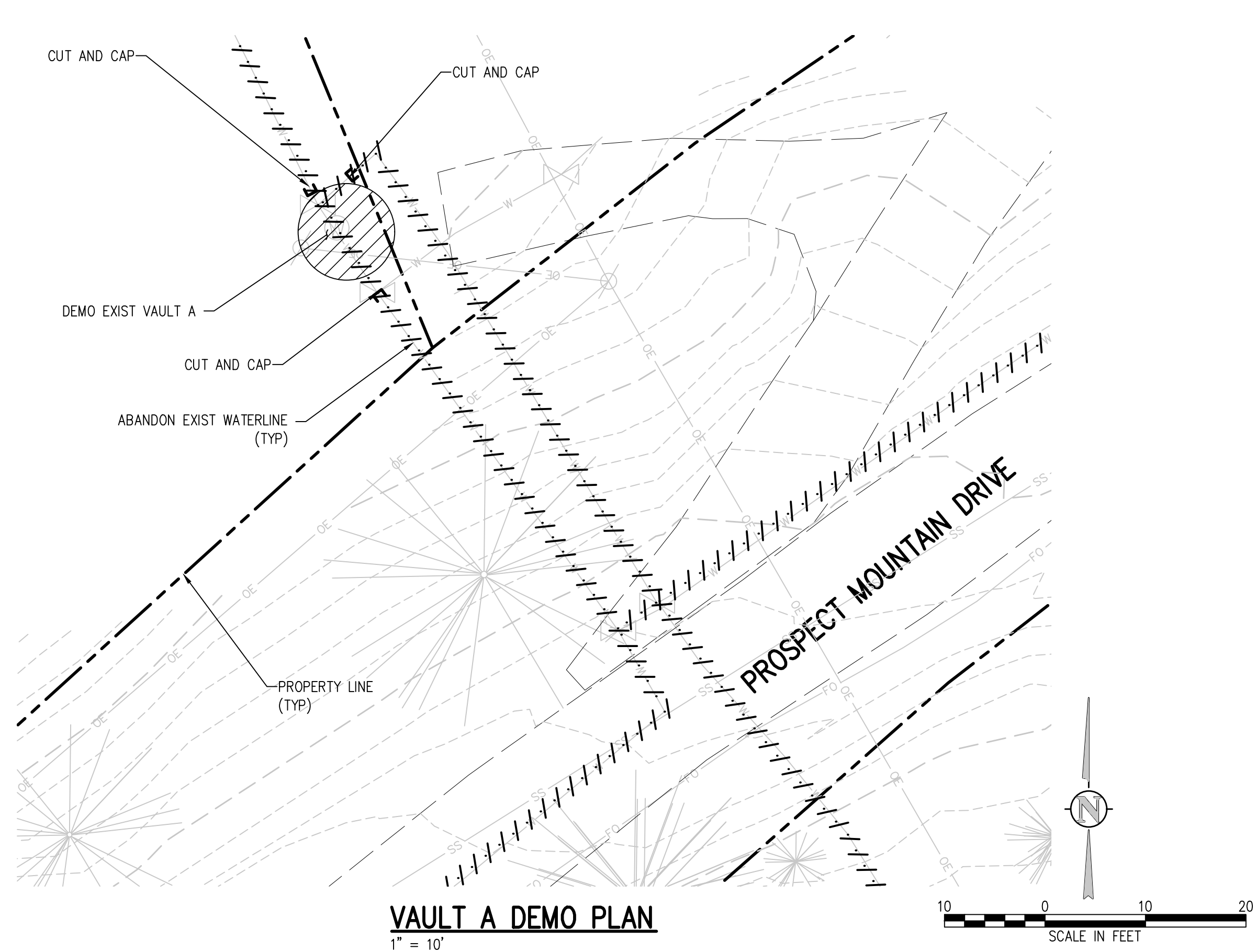
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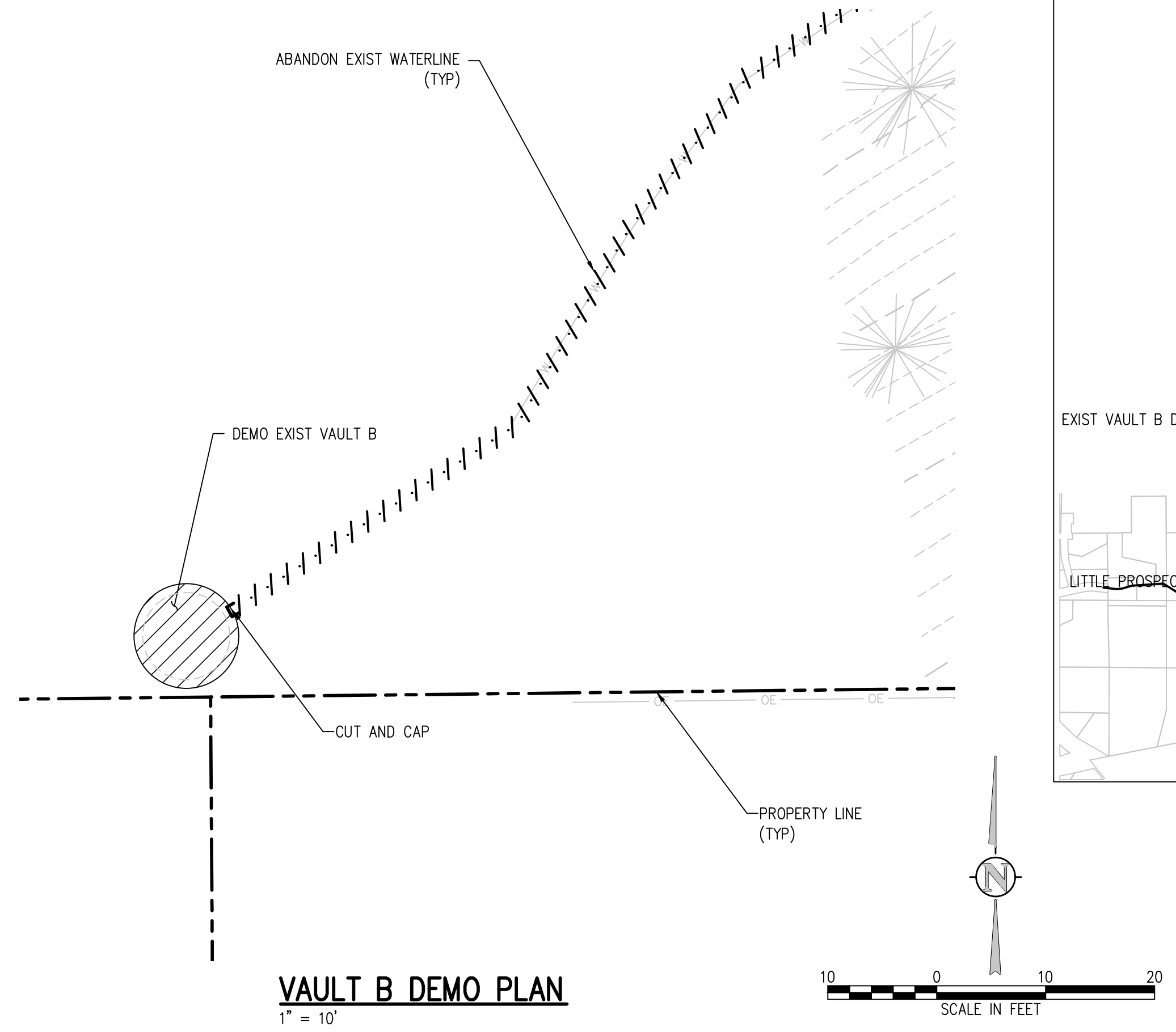
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

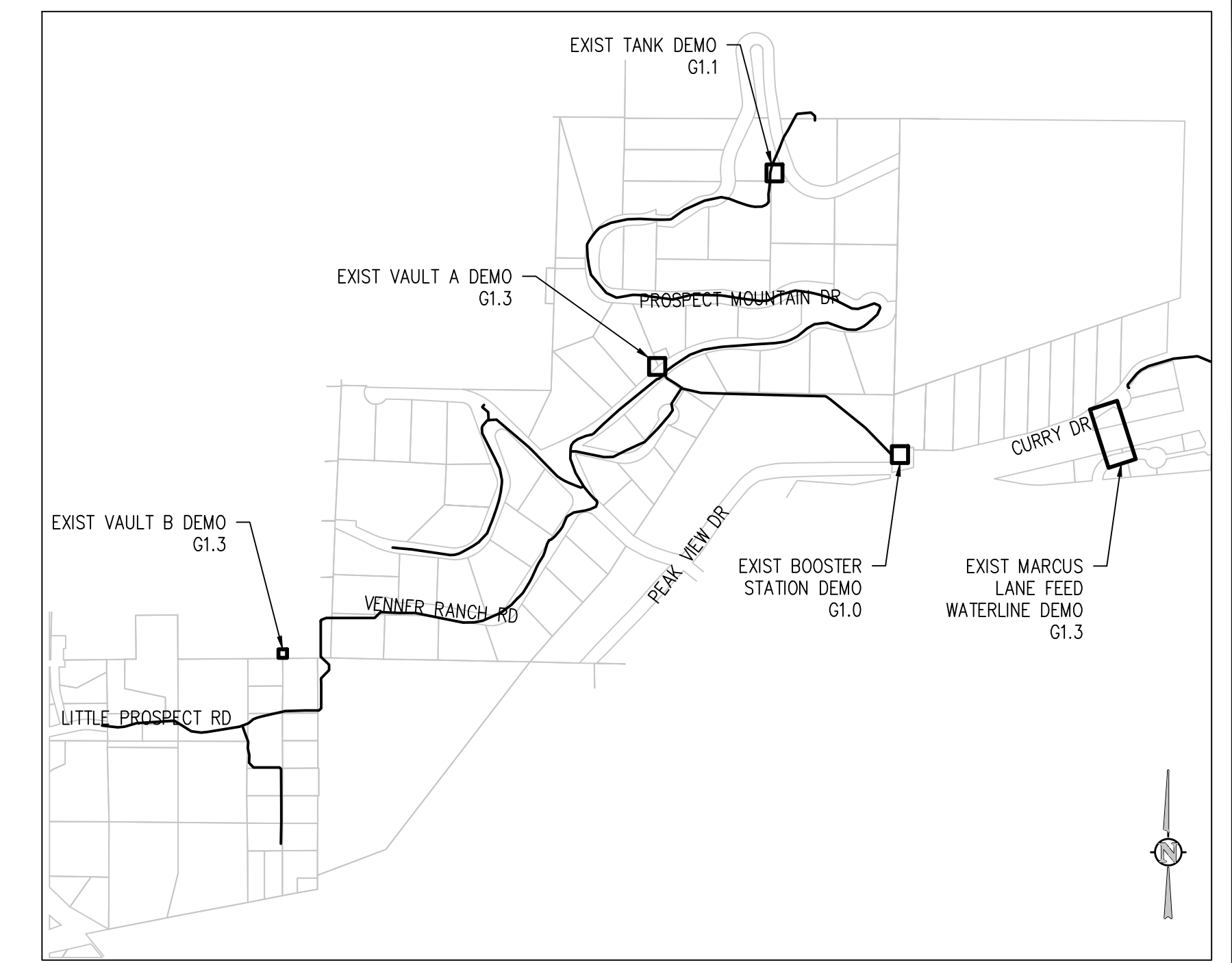
TANK DEMOLITION PLAN



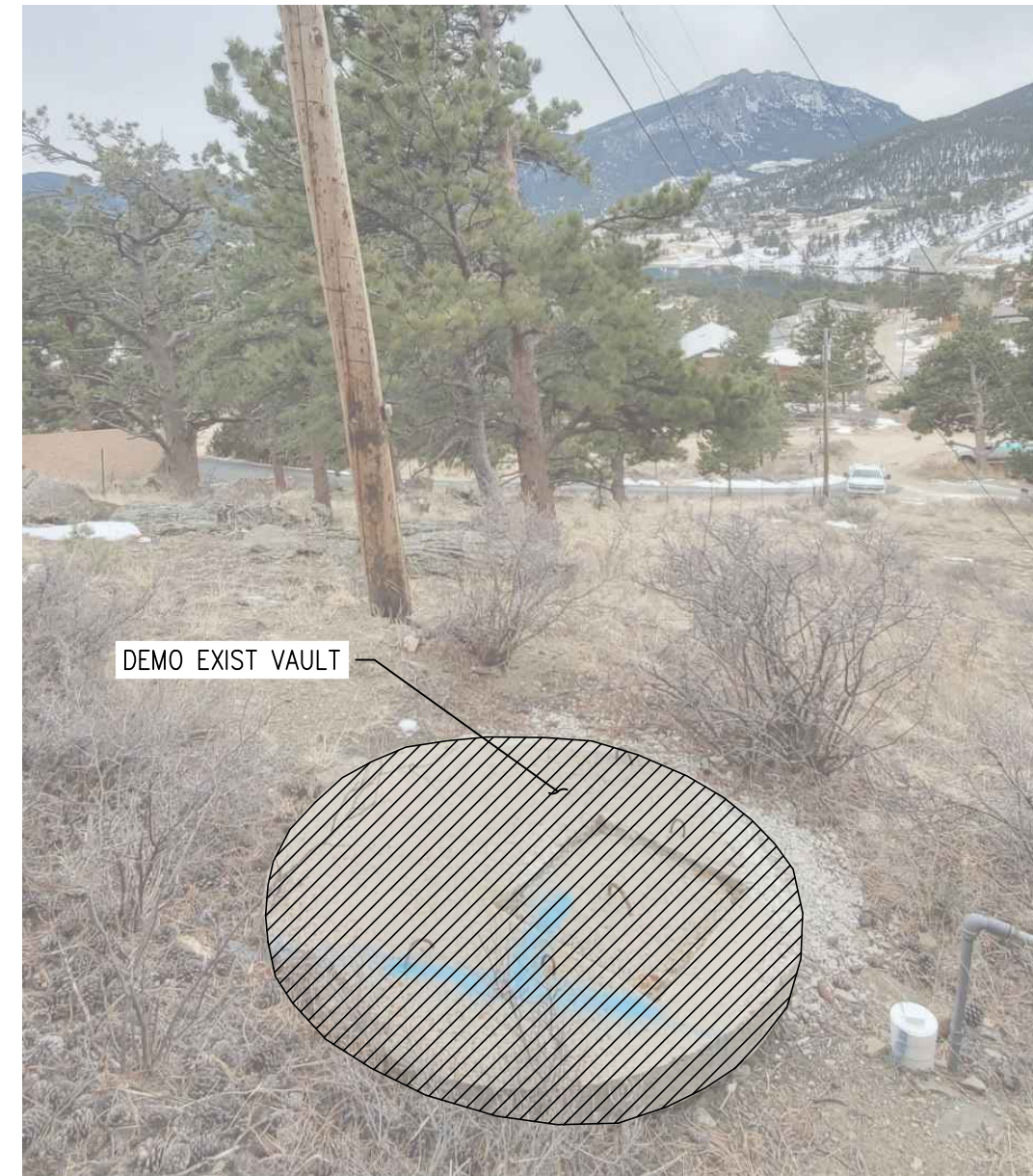
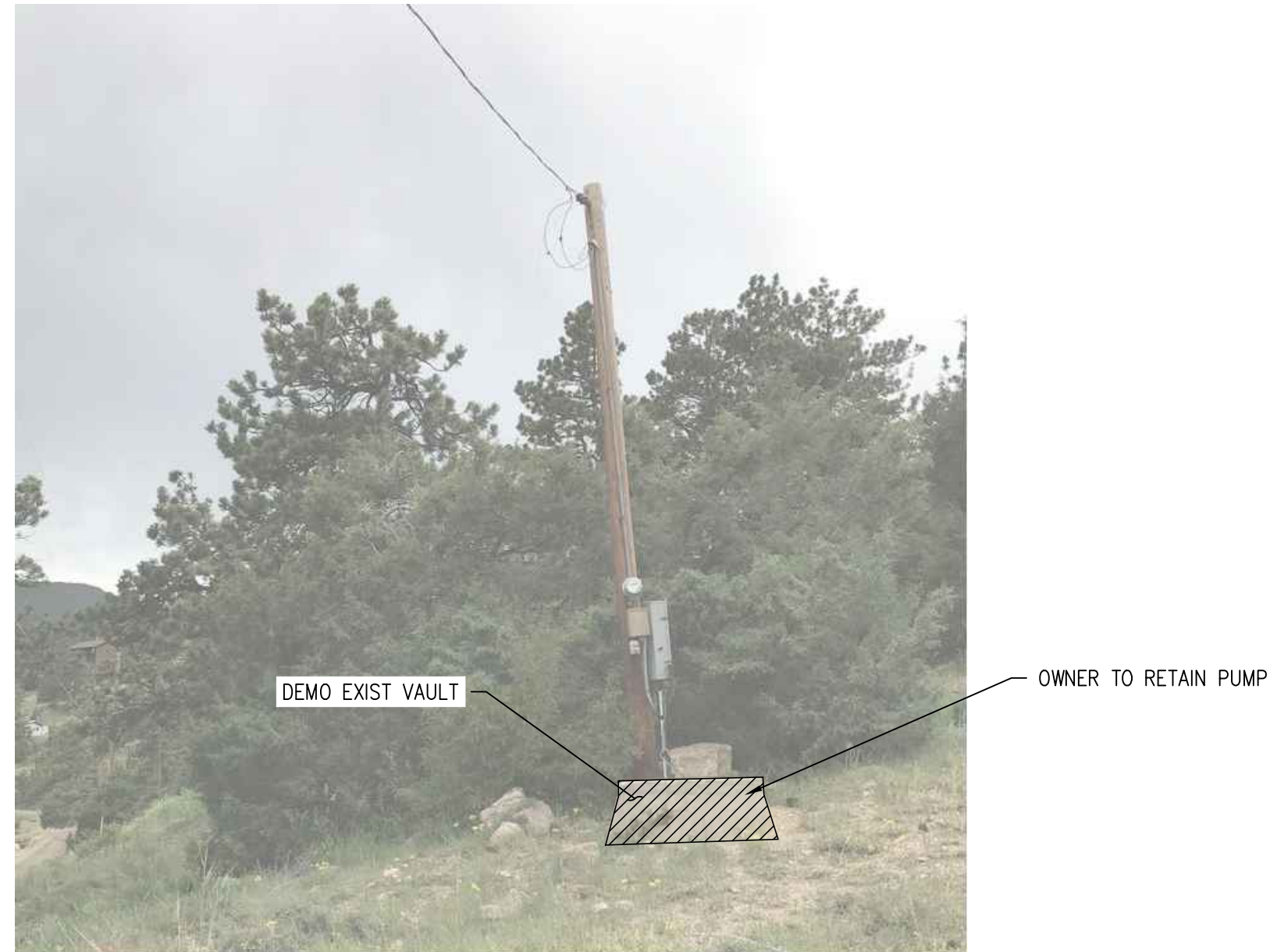
**VAULT A DEMO PLAN**  
1" = 10'



**VAULT B DEMO PLAN**  
1" = 10'



**DEMO KEY MAP**  
NTS

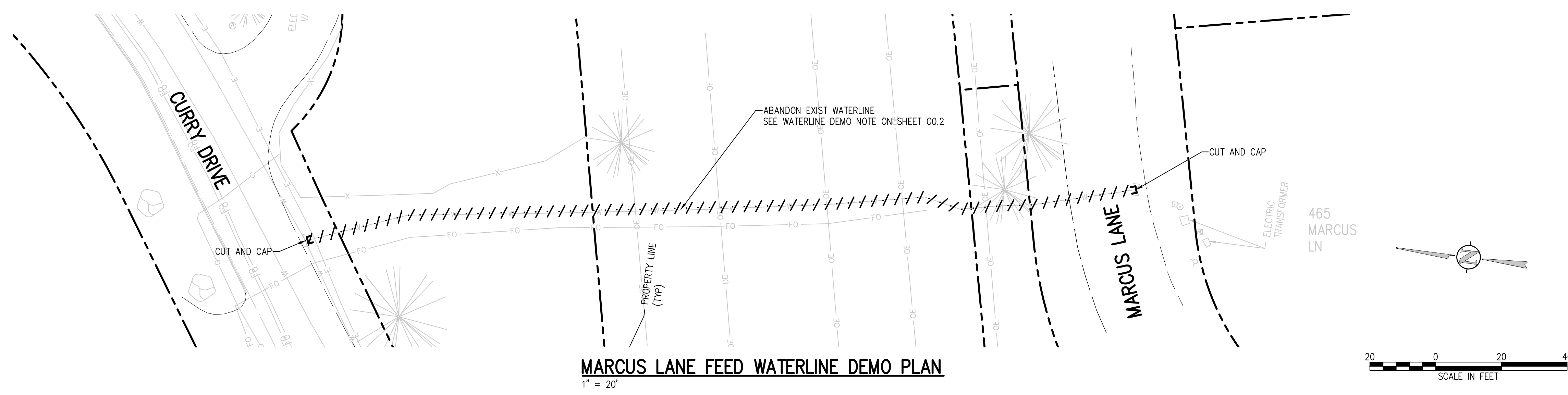


**DEMOLITION LEGEND**

- DEMO SUBSURFACE FEATURE
- DEMO SURFACE FEATURE
- DEMO BUILDING
- ABANDON SUBSURFACE FEATURE
- LIMITS OF SAWCUT
- REMOVE EXISTING TREE
- PROTECT EXISTING TREE

**DEMOLITION NOTES:**

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ACTUAL LIMITS MAY VARY. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
3. ALL DRY UTILITY AND ELECTRIC DEMOLITION OR RELOCATION SHOULD BE COORDINATED WITH PROPERTY OWNER, UTILITY OWNER, AND ENGINEER PRIOR TO CONSTRUCTION.
4. ALL NECESSARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO COMPLY WITH ALL REGULATORY REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL AND DISPOSAL.
6. REFER TO GENERAL NOTES FOR TREE PROTECTION.
7. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN WATER SERVICES DURING CONSTRUCTION.
8. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
9. ABANDON EXIST VAULTS AFTER ACTIVATION OF NEW WATER MAINS, SERVICES AND METERS. FOR THE ABANDONMENT OF THE VAULT THE FOLLOWING MUST BE COMPLETED:
  - A. THE BOTTOM OF THE VAULT MUST BE BROKEN SO THE VAULT NEITHER FLOATS NOR FILLS WITH WATER
  - B. THE TOP MUST BE COLLAPSED OR REMOVED AND THE SIDES BROKEN INTO THE VOID
  - C. THE REMAINING VOID MUST BE FILLED WITH GRAVEL, SAND OR COMPACTED SOIL; AND
  - D. THE FILL EXCAVATION MUST BE GRADED TO SURROUNDINGS, ALLOWING FOR SETTLING.
10. ALL PIPE PENETRATIONS SHALL BE PLUGGED W/ FLOWFILL AND ALL BURIED PIPE AND VAULTS TO BE ABANDONED IN PLACE.



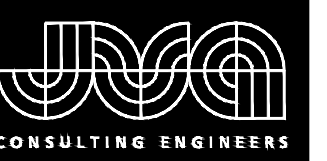
**MARCUS LANE FEED WATERLINE DEMO PLAN**  
1" = 20'

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 CHECKED BY: JJM  
 JOB #: 1066e  
 DATE: SEPTEMBER 2022  
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**PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 VAULTS AND WATERLINE  
 DEMOLITION PLAN**

SHEET NO.  
**G1.3**



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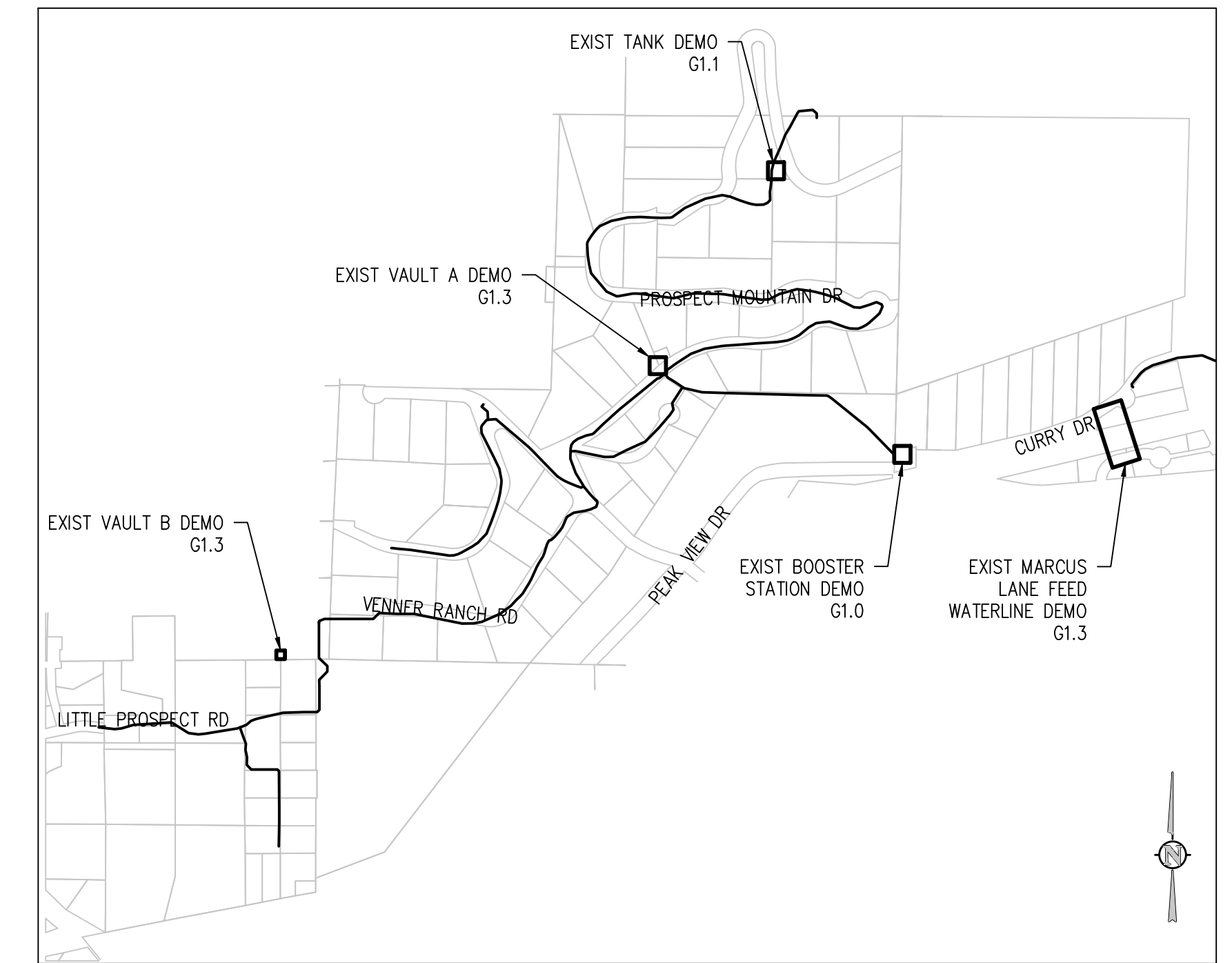
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 CHECKED BY: JJM  
 JOB #: 1066e  
 DATE: SEPTEMBER 2022  
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 BOOSTER PUMP STATION  
 EROSION CONTROL PLAN

SHEET NO.

CE1.0



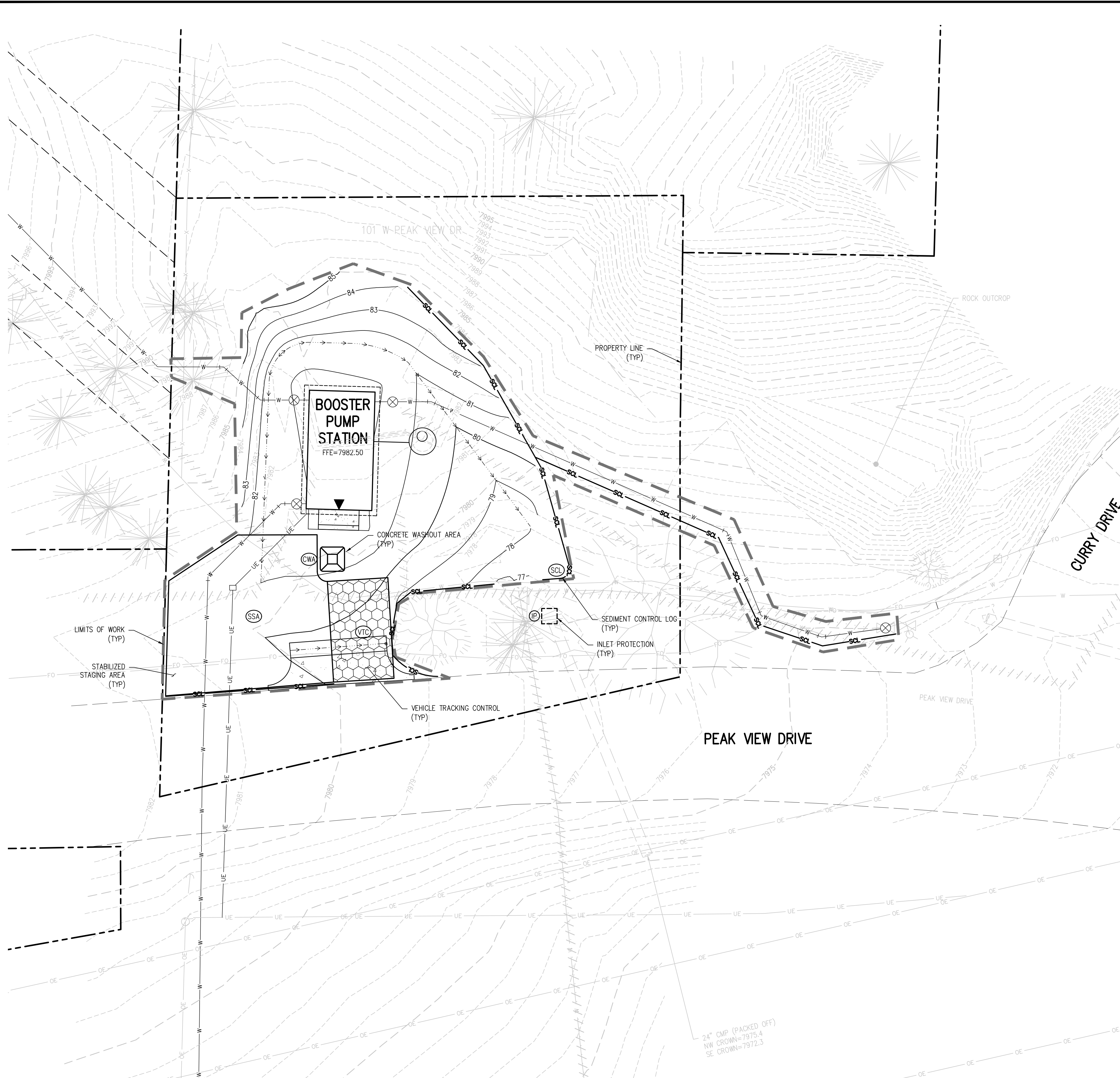
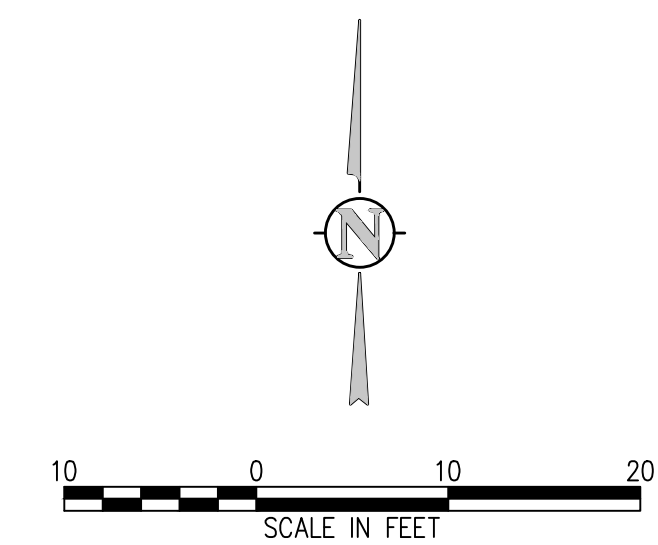
**DEMO KEY MAP**  
 NTS

**EROSION CONTROL LEGEND**

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- LIMITS OF WORK
- INLET PROTECTION
- OUTLET PROTECTION
- VEHICLE TRACKING CONTROL
- STRAW BALE EROSION BARRIER
- SILT FENCE
- CONSTRUCTION FENCE
- TEMPORARY SLOPE DRAIN
- DIVERSION DITCH
- SEDIMENT CONTROL LOG
- CURB SOCK
- ROCK CHECK DAM
- ROOF DRAIN DOWNSPOUT
- CONCRETE WASHOUT AREA
- TEMPORARY SEDIMENTATION POND
- EROSION CONTROL BLANKET
- CHANNEL STABILIZATION MATTING
- SURFACE ROUGHENING
- STABILIZED STAGING AREA

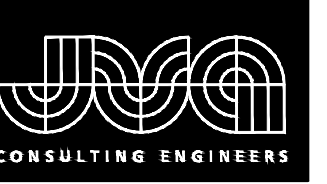
**EROSION AND SEDIMENTATION NOTES:**

1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
2. ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.



24" CMP (PACKED OFF)  
 NW CROWN=7975.4  
 SE CROWN=7972.3

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- EROSION CONTROL LEGEND**
- EXISTING INDEX CONTOUR
  - EXISTING INTERMEDIATE CONTOUR
  - PROPOSED INDEX CONTOUR
  - PROPOSED INTERMEDIATE CONTOUR
  - LIMITS OF WORK
  - INLET PROTECTION
  - OUTLET PROTECTION
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  - CHANNEL STABILIZATION MATTING
  - SURFACE ROUGHENING
  - STABILIZED STAGING AREA

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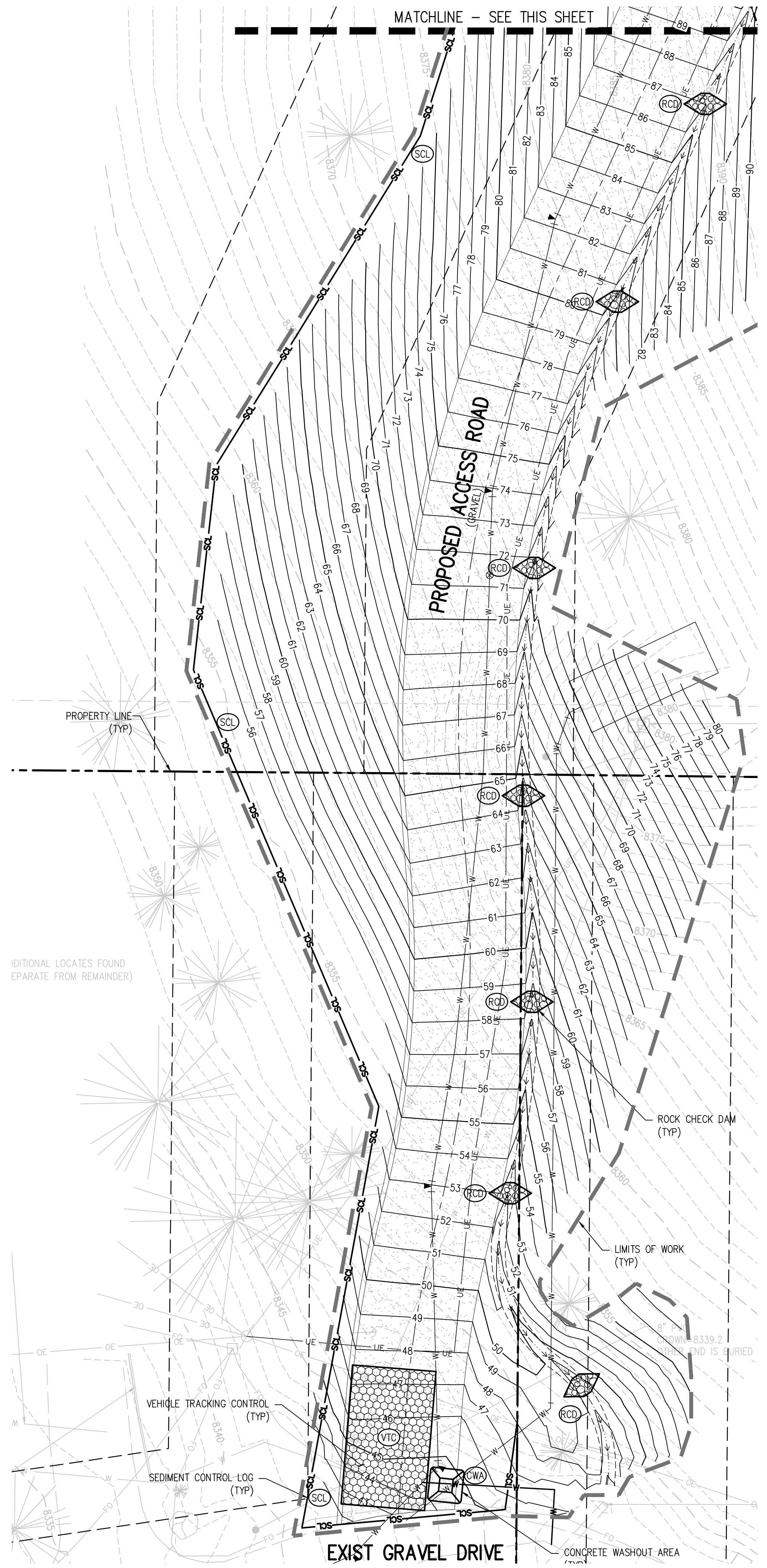
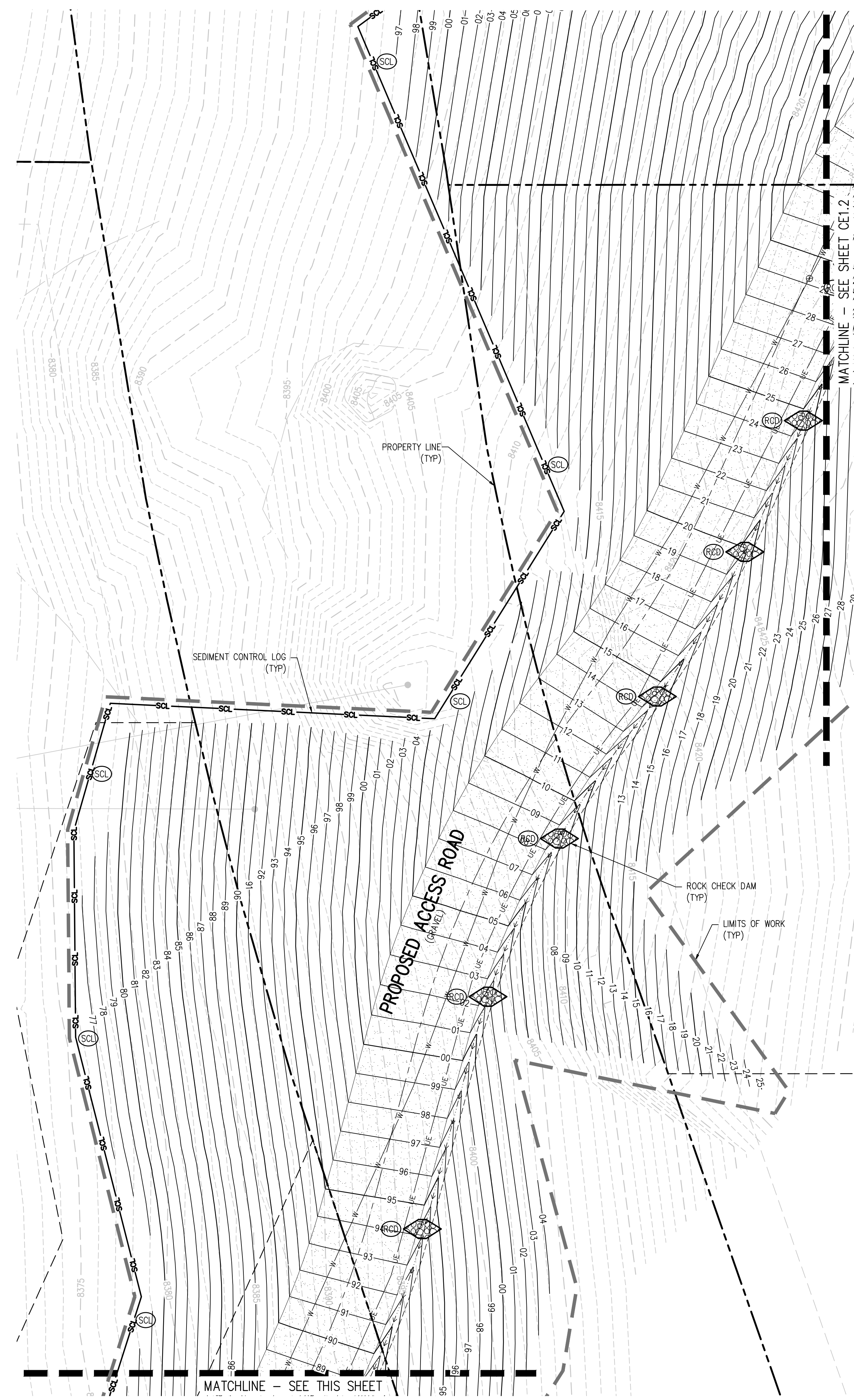
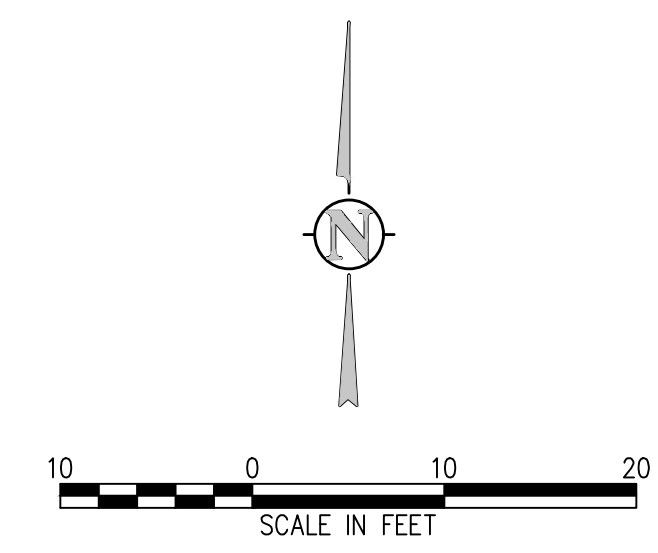
**PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO**

**TANK SITE EROSION CONTROL PLAN**

SHEET NO.  
**CE1.1**

**EROSION AND SEDIMENTATION NOTES:**

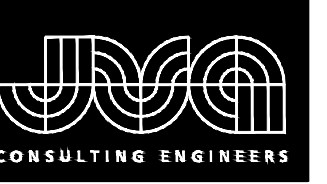
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
- ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.



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ADDITIONAL LOCATES FOUND SEPARATE FROM REMAINDER)





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 DRAWN BY: YH  
 CHECKED BY: MMR  
 JOB #: 1066e  
 DATE: APRIL 2021  
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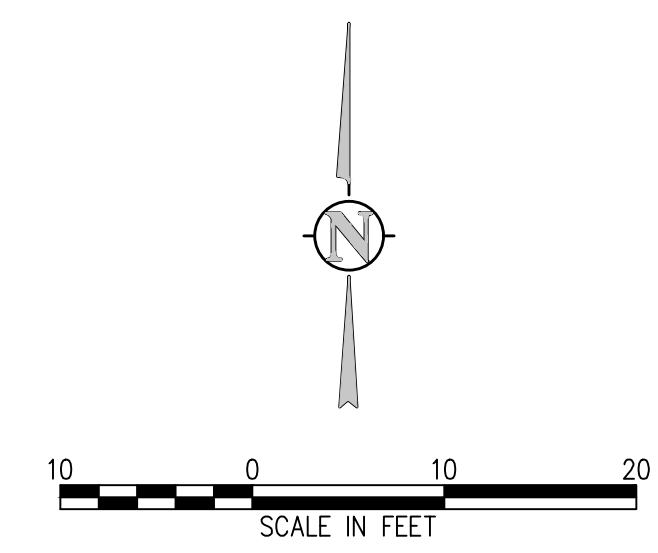
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TANK SITE EROSION CONTROL PLAN

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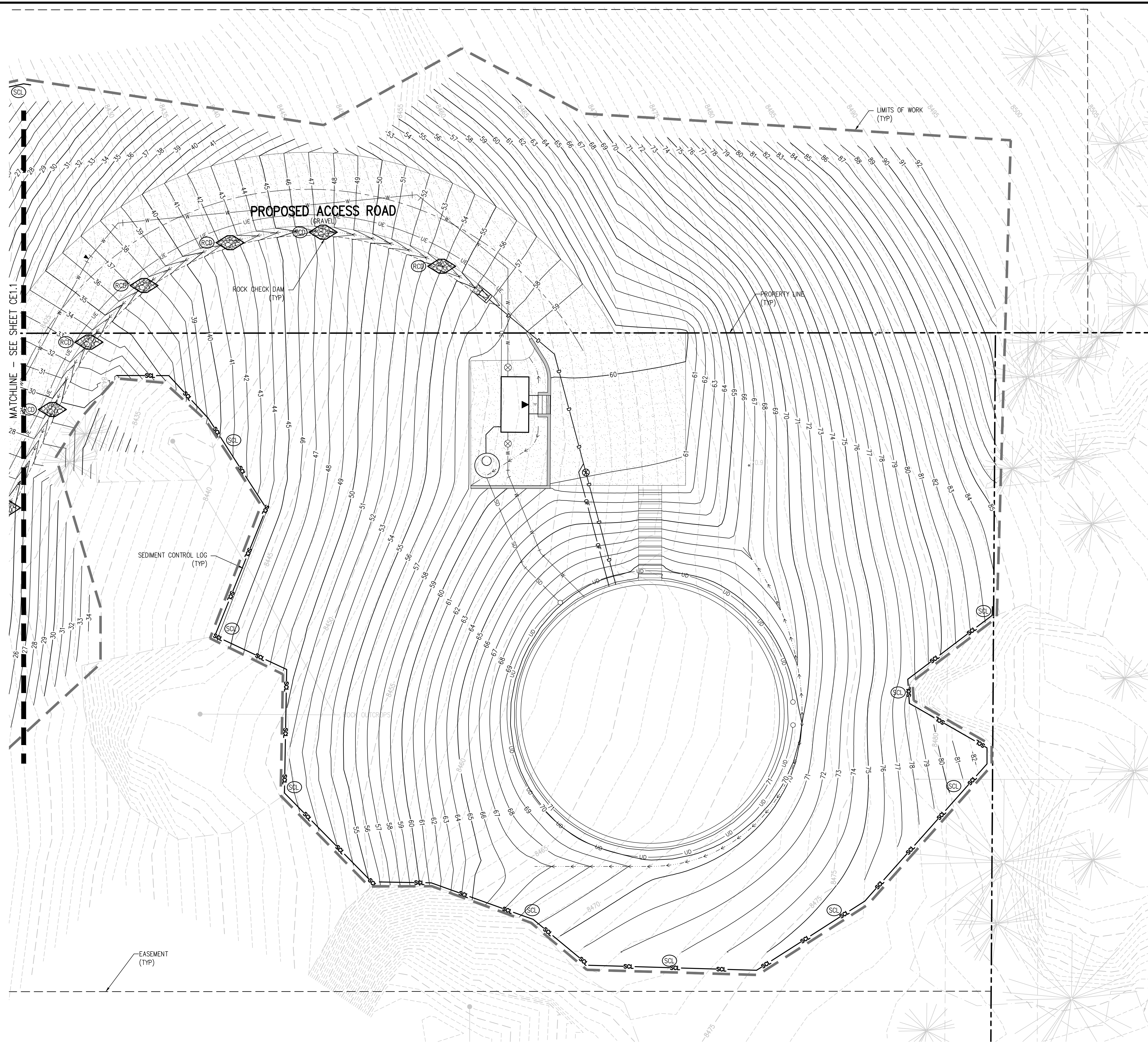
**EROSION CONTROL LEGEND**

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- LIMITS OF WORK
- INLET PROTECTION
- OUTLET PROTECTION
- VEHICLE TRACKING CONTROL
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- TEMPORARY SEDIMENTATION POND
- EROSION CONTROL BLANKET
- CHANNEL STABILIZATION MATTING
- SURFACE ROUGHENING
- STABILIZED STAGING AREA



**EROSION AND SEDIMENTATION NOTES:**

- CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
- ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.



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**WATERLINE CONSTRUCTION EROSION CONTROL PLAN:**

EROSION AND SEDIMENTATION CONTROL SHALL BE COMPLETED FOR THE WATERLINE CONSTRUCTION AREA. CONTROL MEASURES WILL INCLUDE BUT NOT BE LIMITED TO SEDIMENT CONTROL LOGS ON THE LOWER SIDE OF THE ROADWAY OR DRAINAGE AREAS THAT WILL CAUSE EROSION, INLET PROTECTION FOR ALL IDENTIFIED AND FOUND STORM CULVERTS UNDER THE ROADWAY, CONCRETE WASHOUT AS NEEDED AT AREAS WHERE CONCRETE WILL BE INSTALLED, STOCKPILE MANAGEMENT, AND VEHICLE TRACKING AS REQUIRED.

THE CONTRACTOR SHALL SUBMIT THE STORMWATER MANAGEMENT PLAN (SWMP) AND ANY REQUIRED PERMITS FOR STORMWATER CONTROL AND MEET ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.

**BEST MANAGEMENT PRACTICES FOR STORMWATER MANAGEMENT**

NON STRUCTURAL BMP'S WILL BE IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE. THE UTILIZATION OF NON STRUCTURAL BMP'S WILL BE AN ONGOING PROCESS DIRECTED AT PREVENTING EROSION. THE NON STRUCTURAL BMP'S WILL RECEIVE CONTINUOUS EMPHASIS THROUGHOUT CONSTRUCTION BECAUSE THEY AVERT PROBLEMS BEFORE THEY OCCUR AND REDUCE THE NEED FOR STRUCTURAL BMP'S. NON STRUCTURAL BMP'S WILL CONSIST PRIMARILY OF PRESERVATION OF EXISTING MATURE VEGETATION AND TREES, PLANNING AND SCHEDULING CONSTRUCTION ACTIVITIES AIMED AT ACHIEVING THE GOAL OF MINIMIZING EROSION. FURTHERMORE, CONSTRUCTION PERSONNEL WILL BE INSTRUCTED AND SUPERVISED IN CONSTRUCTION METHODS CONSISTENT WITH EROSION PREVENTION PRACTICES.

PLANNED STRUCTURAL BMP'S FOR EROSION AND SEDIMENT CONTROL ARE SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN. IMPLEMENTING THESE MEASURES SHOULD MINIMIZE NUISANCE SILT AND SEDIMENTATION EXITING THE SITE AND PREVENT CLOGGING EXISTING STORM SEWERS AND STREET GUTTERS.

APPLICATION OF THESE BMP'S FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH VEGETATED LANDSCAPED AREAS, EROSION CONTROL MATS, GRASSED SWALES, RIPRAP PROTECTION, AND ROCK CHECK DAMS.

**VEHICLE TRACKING CONTROL (VTC):**

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED. THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

**SEDIMENT CONTROL LOGS (SCL):**

SEDIMENT CONTROL LOGS SHALL BE INSTALLED WITH RESPECT TO PROPOSED DRAINAGE PATTERNS. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE CONSTRUCTED ALONG THE PORTIONS OF THE LOWER SIDE OF THE ROAD OR DRAINAGE PATTERN SIDE AND ALONG ANY DRAINAGE AREAS SUBJECT TO EROSION. THE SEDIMENT CONTROL LOGS SHALL BE INSTALLED AT THE DOWNHILL SIDE OF THE EXISTING SLOPES ACROSS THE SITE AND AT ALL POINT DISCHARGE AREAS WHETHER SHOWN OR NOT, SEDIMENT CONTROL LOGS SHALL BE MAINTAINED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS. THE TEMPORARY SEDIMENT CONTROL LOGS WILL REMAIN UNTIL THE STORM SEWER STRUCTURES ARE COMPLETED AND GROUND COVER IS EFFECTIVE.

**INLET PROTECTION (IP):**

THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. EACH INLET ON THE PROPOSED STORM SEWER SYSTEM WILL HAVE A TEMPORARY INLET SEDIMENT TRAP CONSTRUCTED AROUND IT. IN PAVED AREAS, THIS TRAP CONSISTS OF WIRE MESH SOCKS, CONCRETE BLOCKS, AND/OR SCREENS. TO FILTER THE STORM RUNOFF AND ALLOW ANY SILT TO SETTLE OUT. IN FIELDS OR LANDSCAPED AREAS THIS TRAP CONSISTS OF WIRE MESH SOCKS, STRAW BALE BARRIERS.

**ROCK CHECK DAMS (RCD):**

ROCK CHECK DAMS WILL BE INSTALLED AS SHOWN AND MAINTAINED AT LOCATIONS AROUND THE SITE WHERE FUTURE GRASS LINES SWALES WILL CARRY THE STORM RUNOFF. PRIOR TO LANDSCAPING OF THE SITE, THESE BARRIERS WILL REDUCE THE FLOW VELOCITIES IN THESE SWALES AND ALLOW THE DISTURBED SOIL TO SETTLE OUT. THE ROCK CHECK DAMS WILL BE LEFT IN PLACE AS PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN.

**DUST CONTROL MEASURES:**

DISTURBED AREAS NOT YET READY TO BE SEEDED, LANDSCAPED, PAVED, OR OTHERWISE STABILIZED SHALL BE WATERED, OR RIPPED AS NECESSARY TO PRECLUDE VISIBLE DUST EMISSIONS.

ITEMS ARE SCHEDULED TO BE IMPLEMENTED ACCORDING TO THE CONSTRUCTION SCHEDULE. AS WORK PROCEEDS, IMPLEMENTATION OF INDIVIDUAL BMP'S IS TO COINCIDE WITH THE CONSTRUCTION THEREBY MINIMIZING THE EXPOSURE OF UNPROTECTED AREAS. THE SILT FENCE, INLET PROTECTION (FOR EXISTING INLETS), AND GRAVELING OF THE CONSTRUCTION ENTRANCE WILL BE PERFORMED WHEN THE GRADING BEGINS. THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. THE RIPRAP PROTECTION WILL BE INSTALLED AS THE STORM SEWER OUTFALLS OR CULVERTS ARE CONSTRUCTED. THE STRUCTURAL BMP'S THAT DO NOT BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN ARE TO BE REMOVED, AS THE PAVING, LANDSCAPING, AND OTHER PERMANENT GROUND COVER INSTALLATIONS ARE COMPLETED. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AT THE TIME OF GRADING. THE GRAVELING IS TO BE MAINTAINED AND EXTENDED CONSTRUCTION PROGRESSES ESPECIALLY AROUND THE BUILDING SITE. THE STRUCTURAL BMP'S ARE TO BE REMOVED, AS THE PERMANENT LANDSCAPING INSTALLATIONS ARE COMPLETED.

**TEMPORARY SEEDING AND MULCHING:**

COORDINATE WITH TOWN ON ALL SEEDING AND MULCHING. SEED MIX REQUIREMENTS WILL BE PROVIDED BY THE TOWN. SEE TOWN OF ESTES PARK STANDARDS FOR REVEGETATION REQUIREMENTS.

**PERMANENT STABILIZATION MEASURES:**

RIPPRAP FOR STORM DRAIN OUTFALLS AND ROCK CHECK DAMS WILL BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN AND WILL NOT BE REMOVED. PERMANENT LANDSCAPING WILL INCLUDE SODDING, SEEDING, TREES, SHRUBS, OR OTHER VEGETATIVE COVER, EROSION CONTROL MATS, TO OPEN AREAS. NATIVE PERENNIAL SEEDING WILL BE ESTABLISHED IN NON-IRRIGATED AREAS AND SOD OR OTHER VEGETATIVE COVER WILL BE ESTABLISHED IN IRRIGATED OPEN AREAS. ALL PERMANENT STABILIZATION MEASURES WILL BE SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER. SEED MIX REQUIREMENTS WILL BE PROVIDED BY THE TOWN. SEE TOWN OF ESTES PARK STANDARDS FOR REVEGETATION REQUIREMENTS.

**MATERIALS AND SPILL PREVENTION:**

THE CONTRACTOR WILL STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN CONFINED AREAS ON SITE FROM WHICH RUNOFF WILL BE CONTAINED AND FILTERED. MATERIALS WILL BE STORED OFF THE GROUND AND PROTECTED FROM THE WEATHER BY A COVER OR STORED IN A CONTAINER SUCH AS A VAN OR TRAILER. AN EARTHEN DIKE WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE FUEL STORAGE AREA TO PREVENT MATERIALS FROM CONTACT WITH SURFACE RUNOFF. EQUIPMENT MAINTENANCE WILL BE PERFORMED IN A DESIGNATED AREA AND STANDARD MAINTENANCE PROCEDURES, SUCH AS THE USE OF DRIP PANS, WILL BE USED TO CONTAIN PETROLEUM PRODUCTS.

**INSPECTION AND MAINTENANCE:**

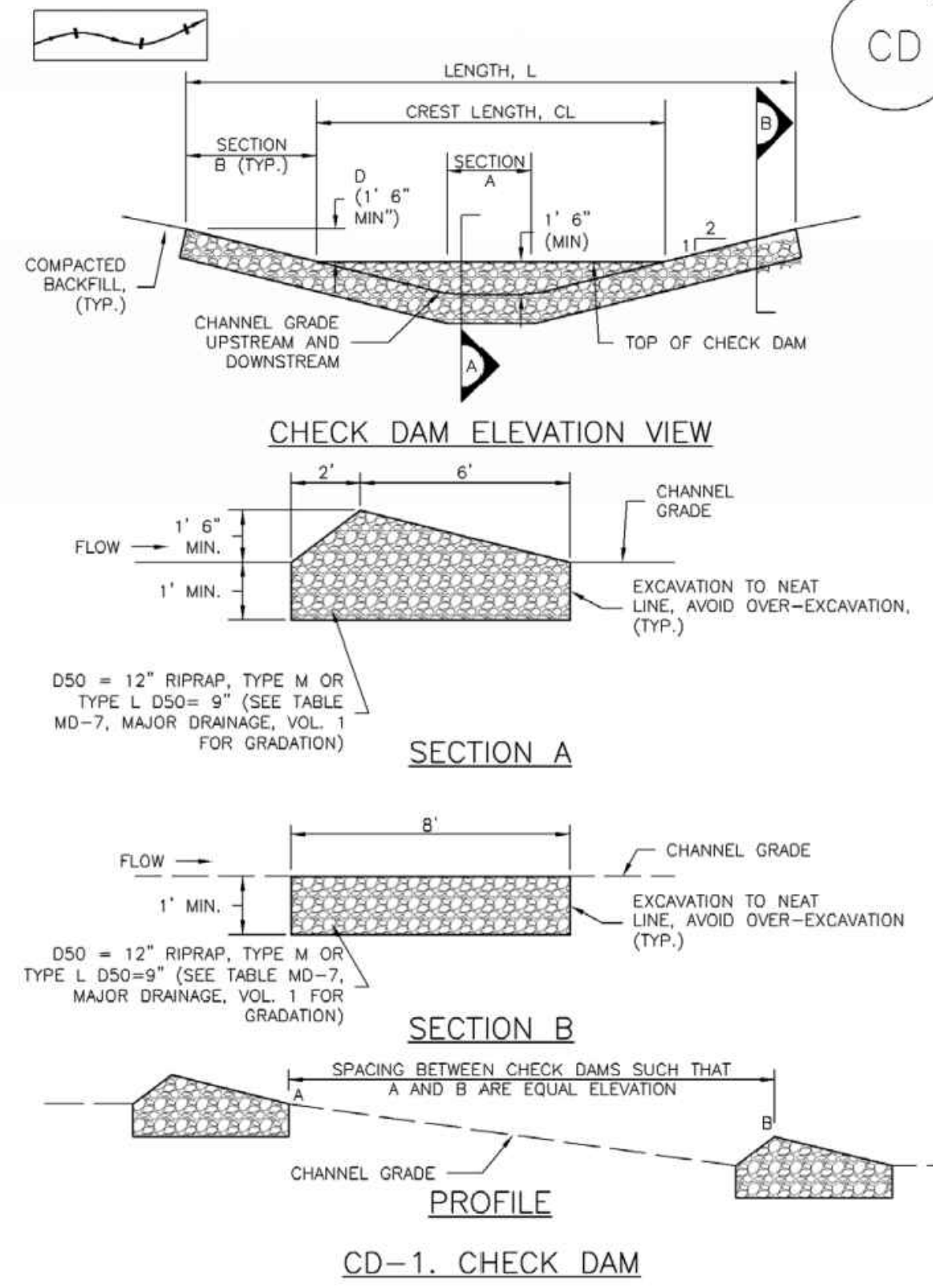
THE EROSION CONTROL MEASURES WILL BE INSPECTED DAILY DURING CONSTRUCTION BY THE CONTRACTOR AND AFTER EACH RAIN EVENT. ALL INSPECTIONS SHALL BE DOCUMENTED AND SHALL INCLUDE THE DATE OF INSPECTION, ANY INCIDENCE OF NON-COMPLIANCE, SIGNED CERTIFICATION THAT THE SITE IS IN COMPLIANCE, AND ANY NOTES, DRAWINGS, MAPS, ETC. PERTAINING TO REPAIRS. COPIES OF ALL DOCUMENTATION SHALL BE DISTRIBUTED TO MUNICIPALITIES AND OWNER ON A REGULAR BASIS AS SPECIFIED BY OWNER. SILT FENCE AND STRAW BALE BARRIERS WILL BE CHECKED FOR UNDERMINING AND BYPASS AND REPAIRED OR EXPANDED AS NEEDED. SEDIMENT SHOULD BE REMOVED FROM INLET FILTERS AND SILT FENCING BEFORE ONE HALF OF THE DESIGN DEPTH HAS BEEN FILLED. SEDIMENTS DEPOSITED IN THE PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY. THE TEMPORARY VEGETATION OF BARE SOILS WILL BE CHECKED REGULARLY AND AREAS WHERE IT IS LOST OR DAMAGED WILL BE RESEEDED. AT MINIMUM THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMP'S EVERY 14 DAYS AND AFTER SIGNIFICANT PRECIPITATION OR SNOWMELT EVENTS. INSTALLATIONS AND MODIFICATIONS AS REQUIRED BY THE TOWN/COUNTY WILL BE IMPLEMENTED WITHIN 48 HOURS OF NOTIFICATION. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

**FINAL STABILIZATION AND LONG-TERM STORMWATER QUALITY:**

FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST 70% OR PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAVE BEEN EMPLOYED. FINAL STABILIZATION WILL BE ACHIEVED USING SOD, NATIVE SEEDING, PERMANENT BMP'S, AND OTHER METHODS. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL STABILIZATION REGARDLESS OF ACCEPTANCE BY OWNER OF THE CONTRACTOR ITEM. SEED MIX REQUIREMENTS WILL BE PROVIDED BY THE TOWN. SEE TOWN OF ESTES PARK STANDARDS FOR REVEGETATION REQUIREMENTS.

**Check Dams (CD)**

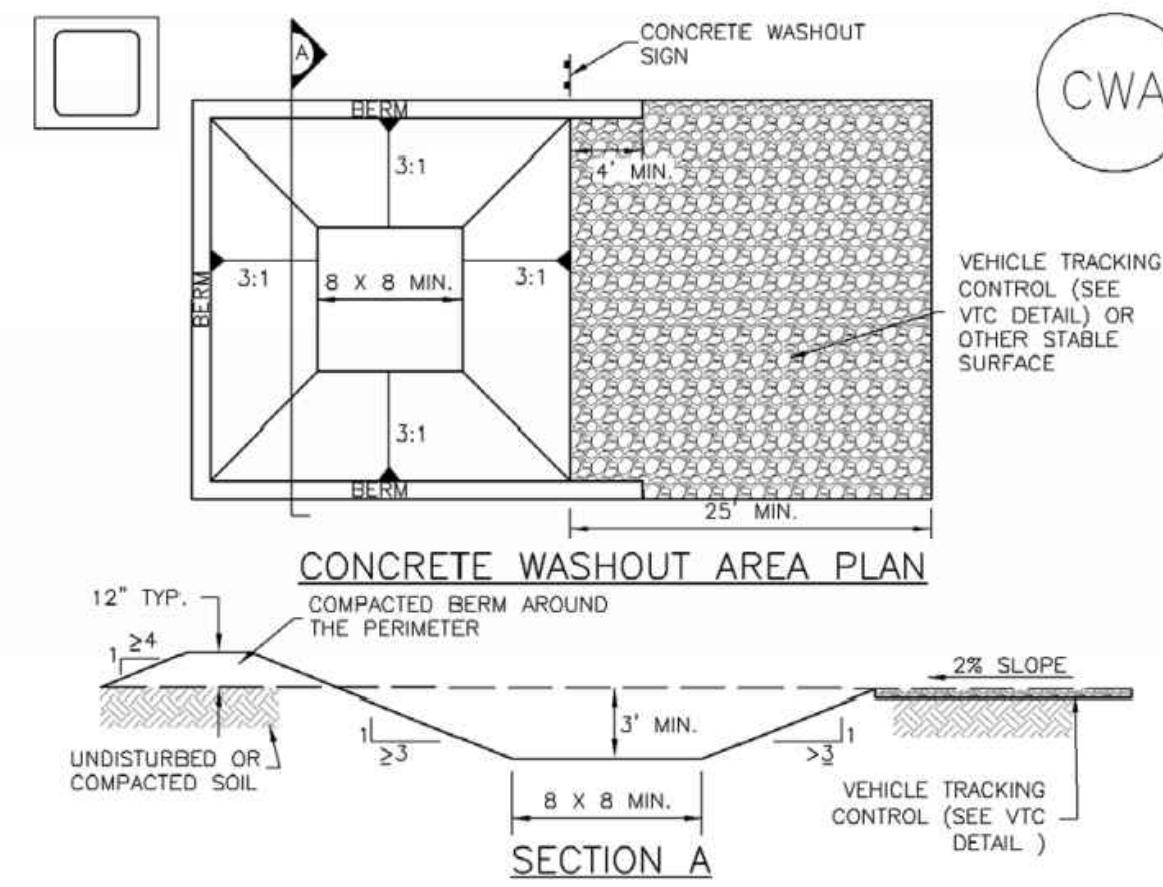
EC-12



November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 CD-3

**Concrete Washout Area (CWA)**

MM-1

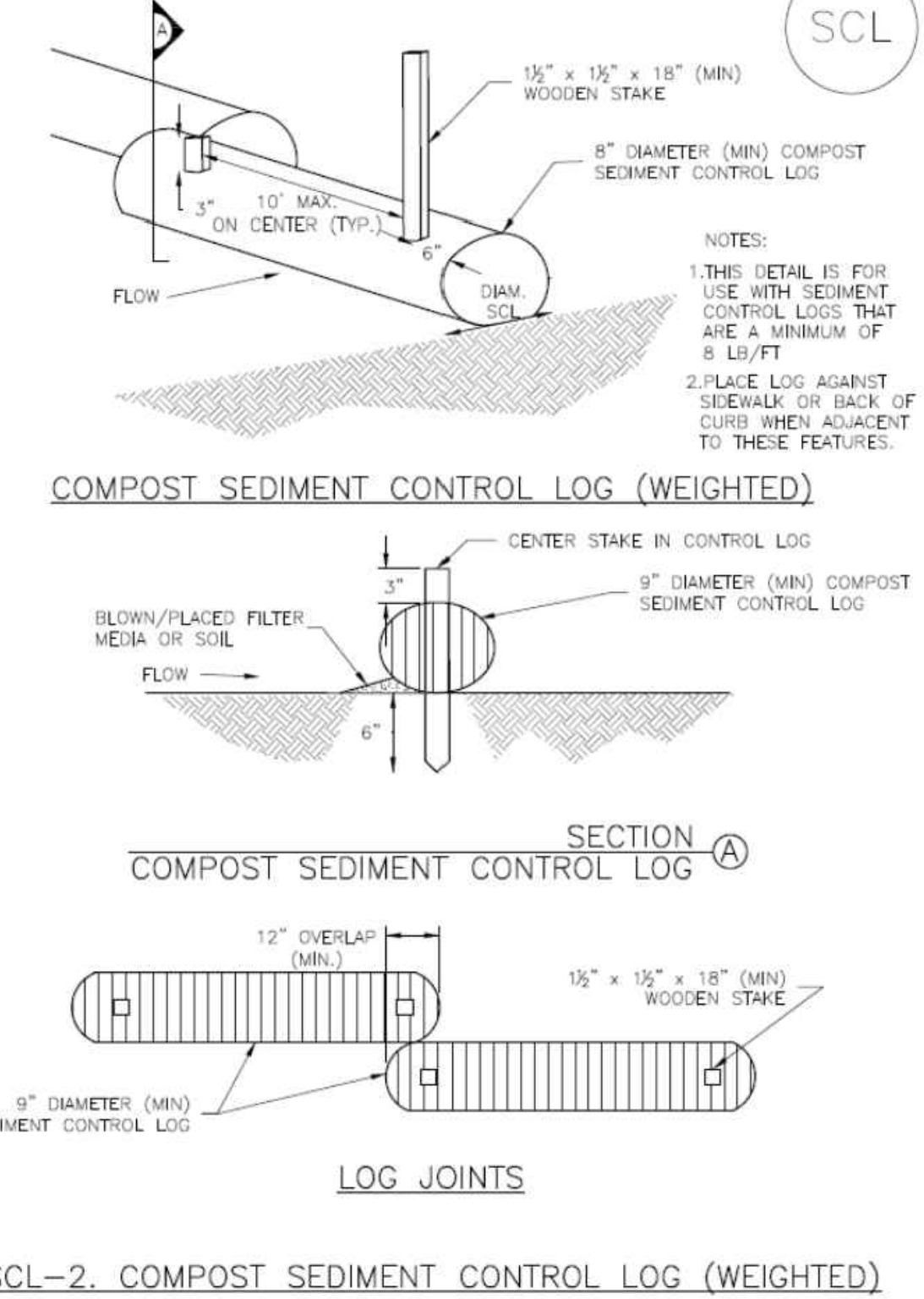


- CWA INSTALLATION NOTES**
- SEE PLAN VIEW FOR: -CWA INSTALLATION LOCATION.
  - DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
  - THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
  - CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
  - BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
  - VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
  - SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
  - USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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**SC-2**

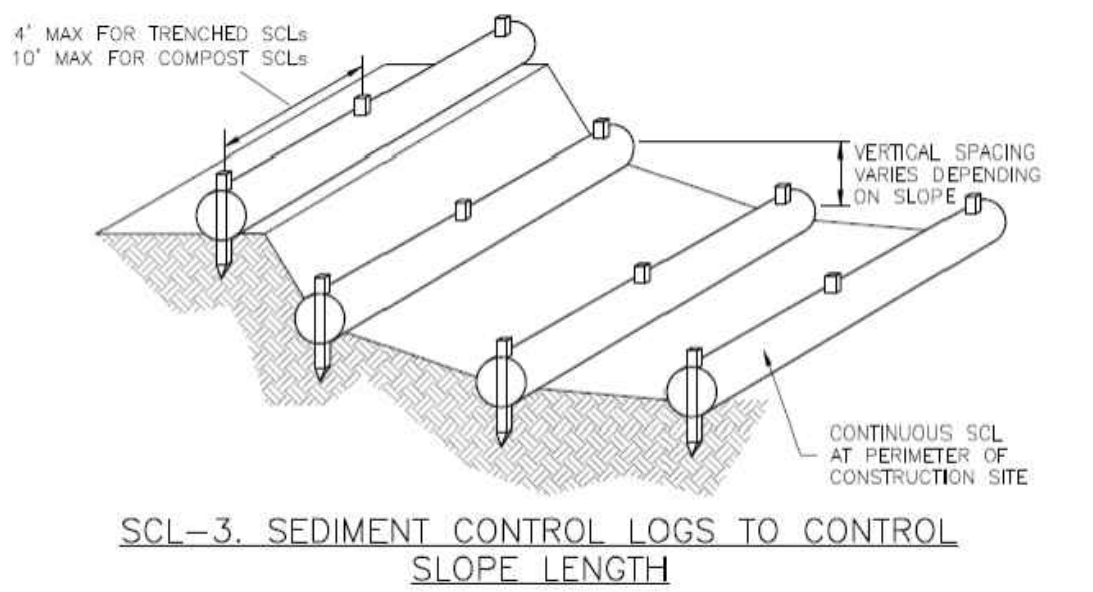
**Sediment Control Log (SCL)**



SC-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

**Sediment Control Log (SCL)**

SC-2



November 2015 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SCL-5

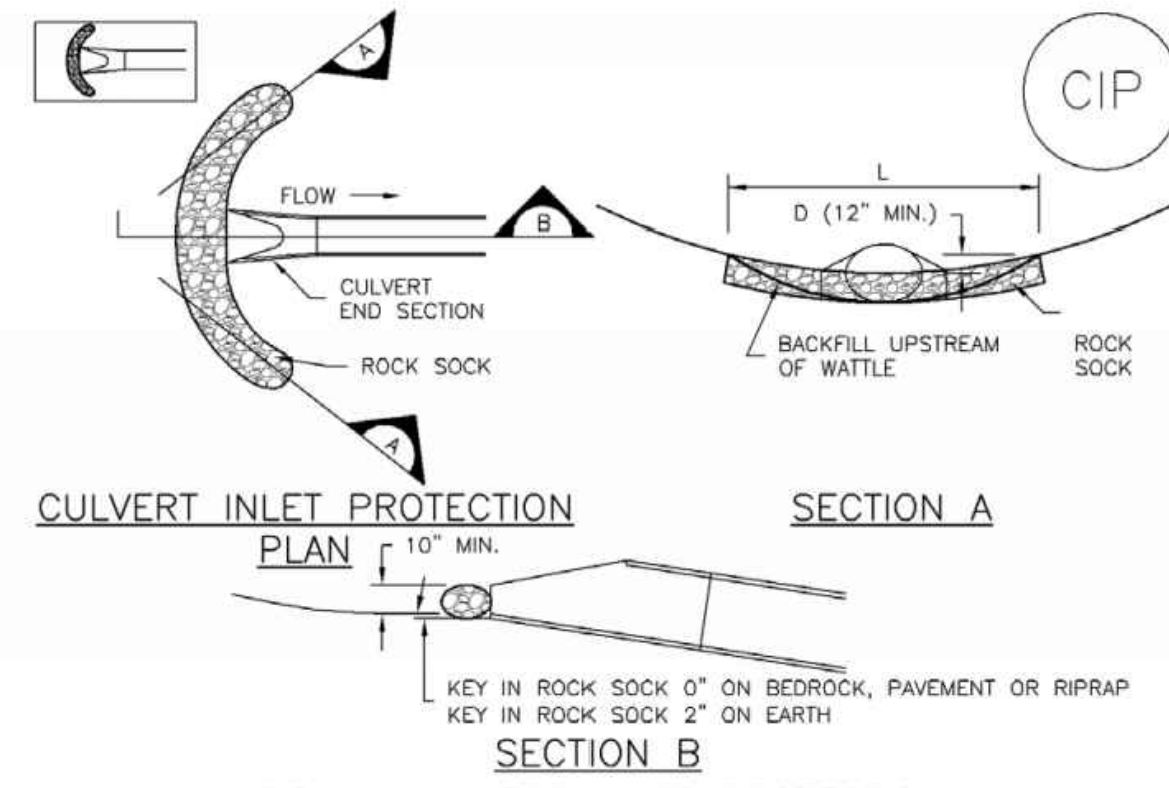
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 DRAWN BY: ZCFUG/JMHT  
 CHECKED BY: JJM  
 JOB #: 1066e  
 DATE: SEPTEMBER 2022  
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 PIPELINE EROSION CONTROL PLAN &  
 EROSION CONTROL DETAILS

Inlet Protection (IP)

SC-6



CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

- SEE PLAN VIEW FOR -LOCATION OF CULVERT INLET PROTECTION.
- SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

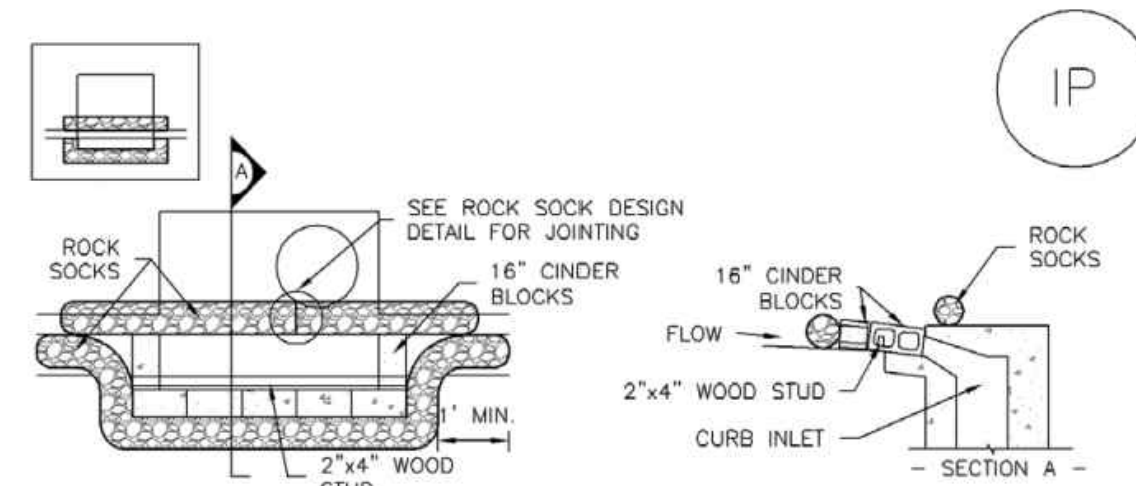
CULVERT INLET PROTECTION MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
- CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)  
 NOTE: ALL JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SC-6

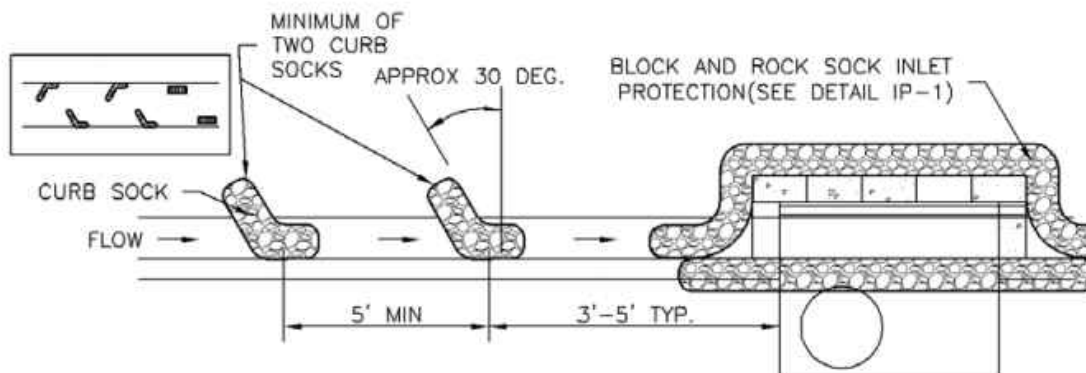
Inlet Protection (IP)



IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

- SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
- GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



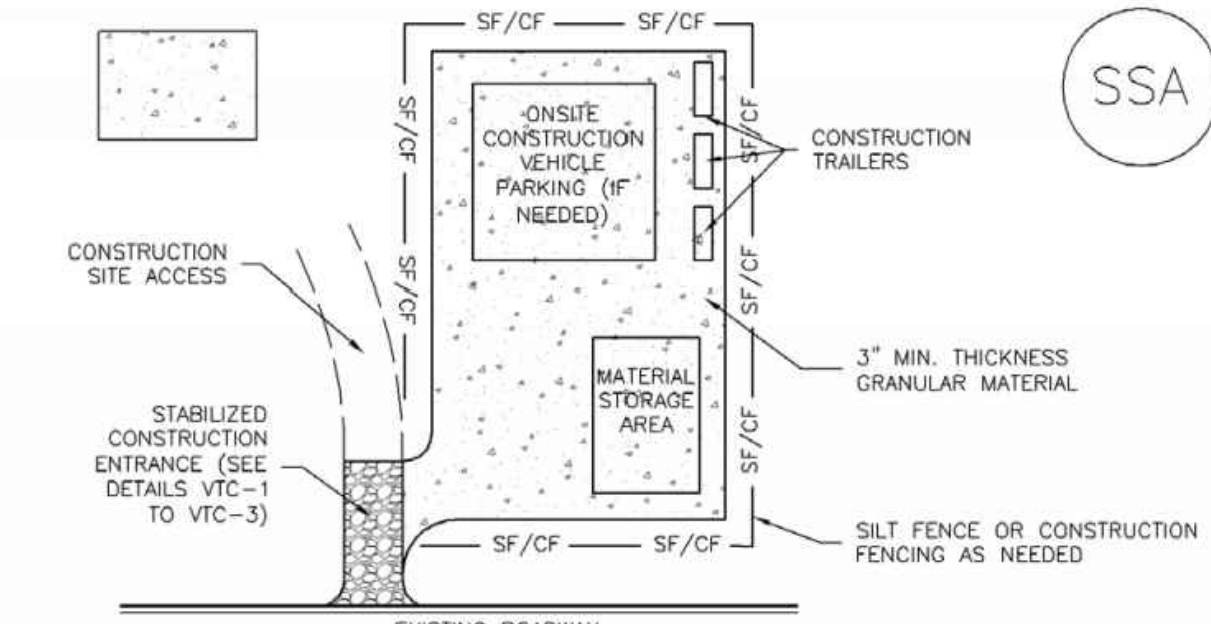
IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

- SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
- AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

Stabilized Staging Area (SSA)

SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

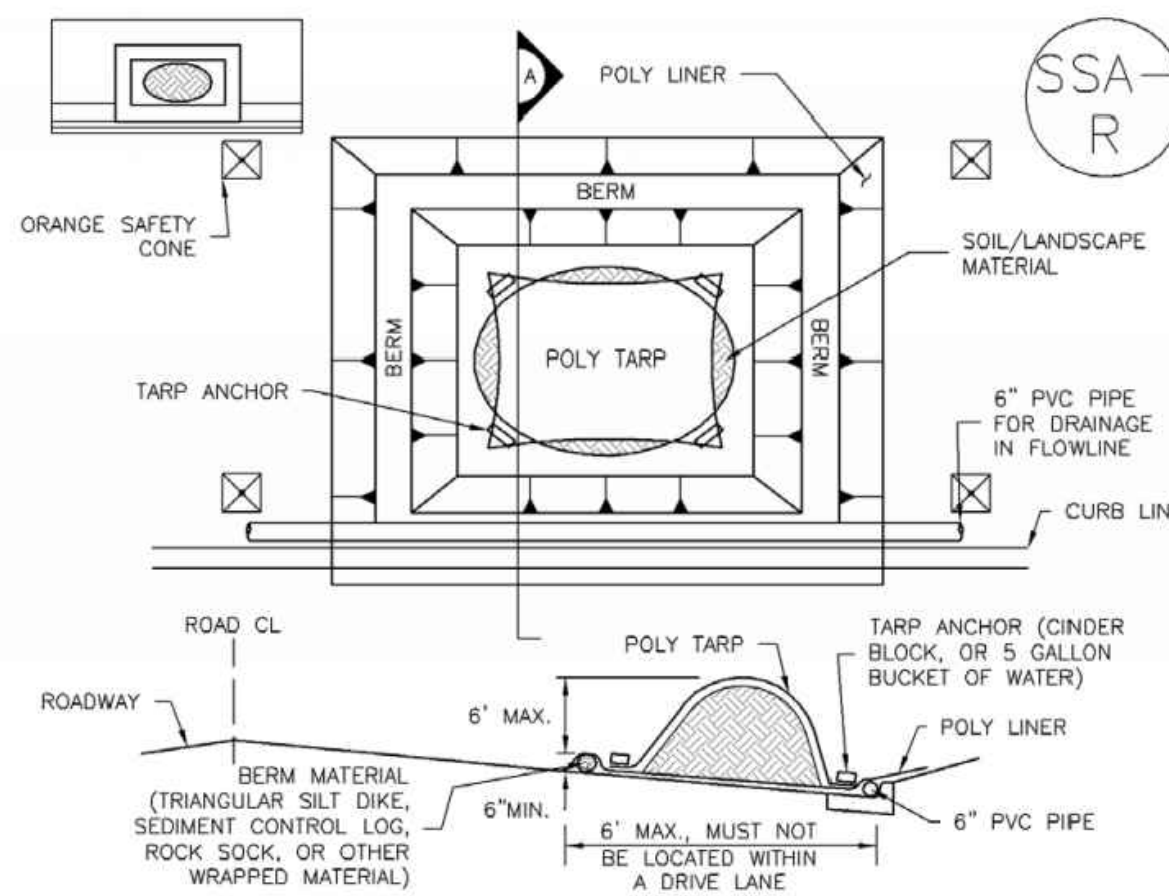
- SEE PLAN VIEW FOR -LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

Stockpile Management (SP)

MM-2



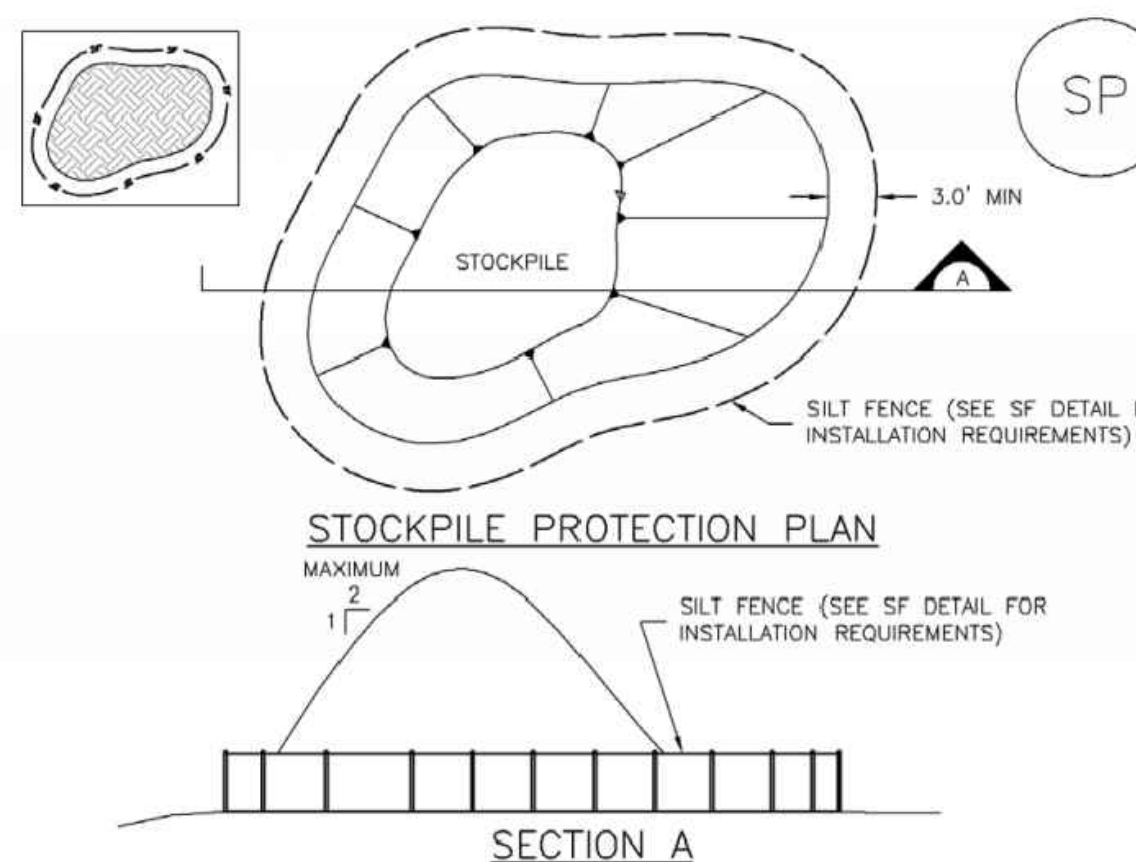
SP-2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

- SEE PLAN VIEW FOR -LOCATION OF MATERIAL STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.
- MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.
- POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.
- SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.
- FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.
- THIS FEATURE CAN BE USED FOR: -UTILITY REPAIRS. -WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED. -OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

Stockpile Management (SP)

MM-2



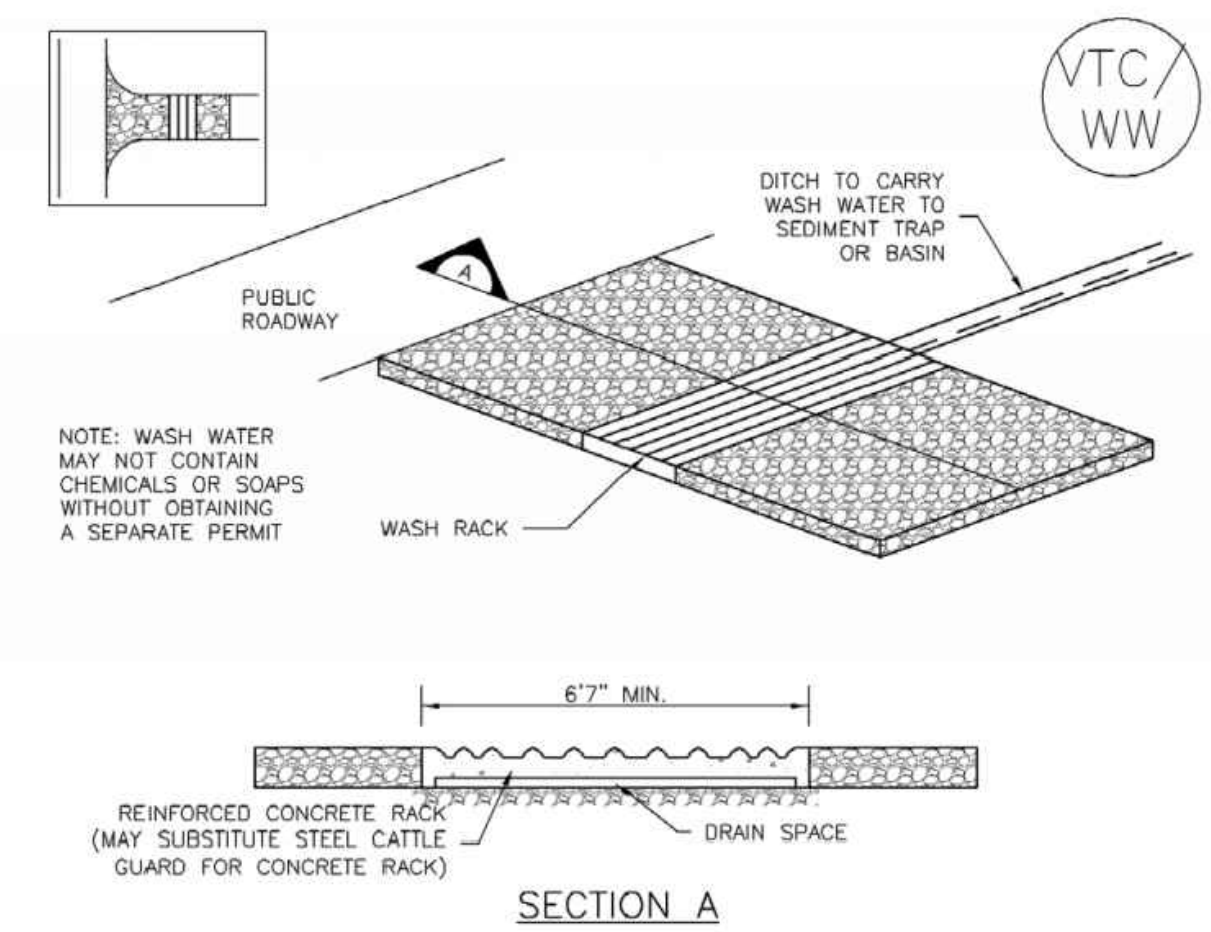
SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

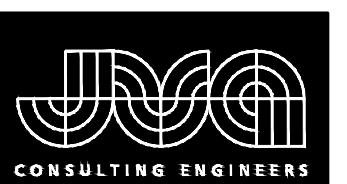
- SEE PLAN VIEW FOR: -LOCATION OF STOCKPILES. -TYPE OF STOCKPILE PROTECTION.
- INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
- STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING. EROSION CONTROL BLANKETS, OR SOIL BINDERS, SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
- FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

SM-4

Vehicle Tracking Control (VTC)



VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK



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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 EROSION CONTROL DETAILS

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Compost Blanket and Filter Berm (CB)

EC-5

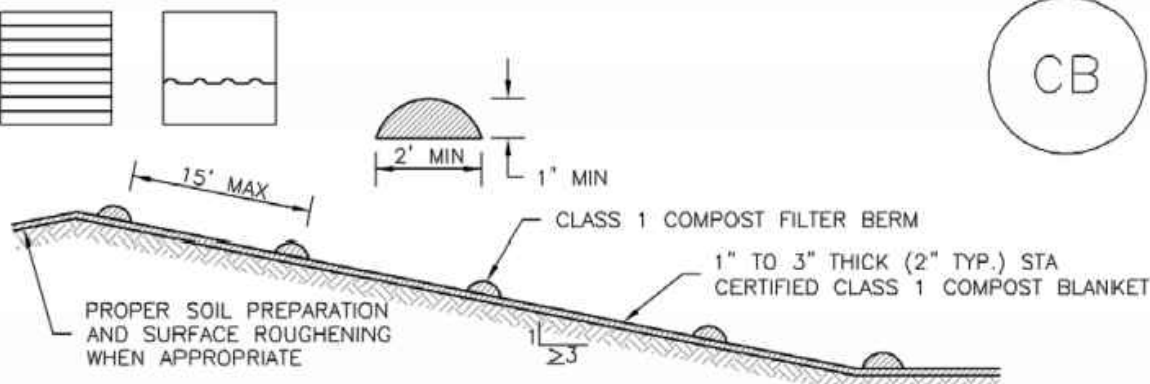


TABLE CB-1. CLASS 1 COMPOST	
PARAMETERS	CHARACTERISTIC
MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE
SOLUBLE SALTS	MAXIMUM 5 mmhos/cm
PH	6.0 - 8.0
AG INDEX	> 10
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/VIGOR	80+ /80+
MATURITY INDICATOR EXPRESSED AS AMMONIA N/ NITRATE N RATIO	< 4
MATURITY INDEX AS CARBON TO NITROGEN RATIO	20:1
TESTED FOR CLOPYRALID	YES/NEGATIVE RESULT
MOISTURE CONTENT	30-60%
ORGANIC MATTER CONTENT	25-45% OF DRY WEIGHT
PARTICLE SIZE DISTRIBUTION	3" (75mm) 100% PASSING
PRIMARY, SECONDARY NUTRIENTS; TRACE ELEMENTS	MUST BE REPORTED
TESTING AND TEST REPORT SUBMITTAL REQUIREMENTS	STA + CLOPYRALID
ORGANIC MATTER PER CUBIC YARD	MUST REPORT
CHEMICAL CONTAMINANTS	COMPLY WITH US EPA CLASS A STANDARD, 40 CFR 503.1 TABLES 1 & 3 LEVELS
MINIMUM MANUFACTURING/PRODUCTION REQUIREMENT	FULLY PERMITTED UNDER COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION
RISK FACTOR RELATING TO PLANT GERMINATION AND HEALTH	LOW

CB-1. COMPOST BLANKET AND COMPOST FILTER BERM

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 CB-3



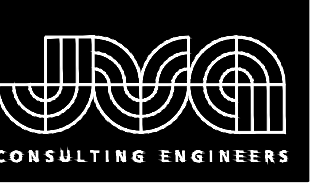
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PROSPECT MOUNTAIN  
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 ESTES PARK, COLORADO  
 EROSION CONTROL DETAILS

SHEET NO.  
**CE1.5**

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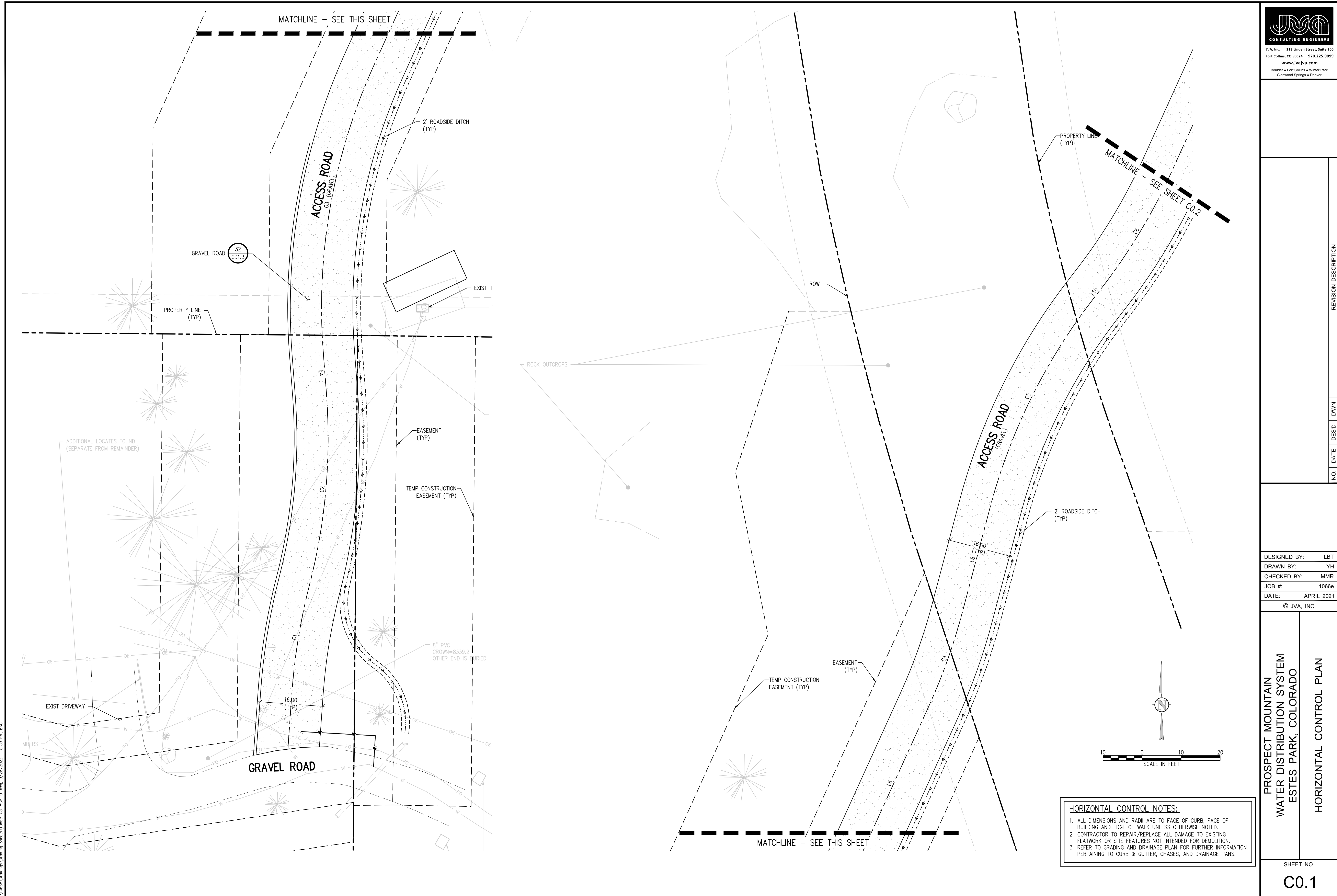
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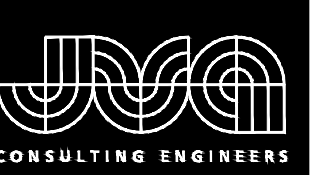
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 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

HORIZONTAL CONTROL PLAN

SHEET NO.  
**C0.1**



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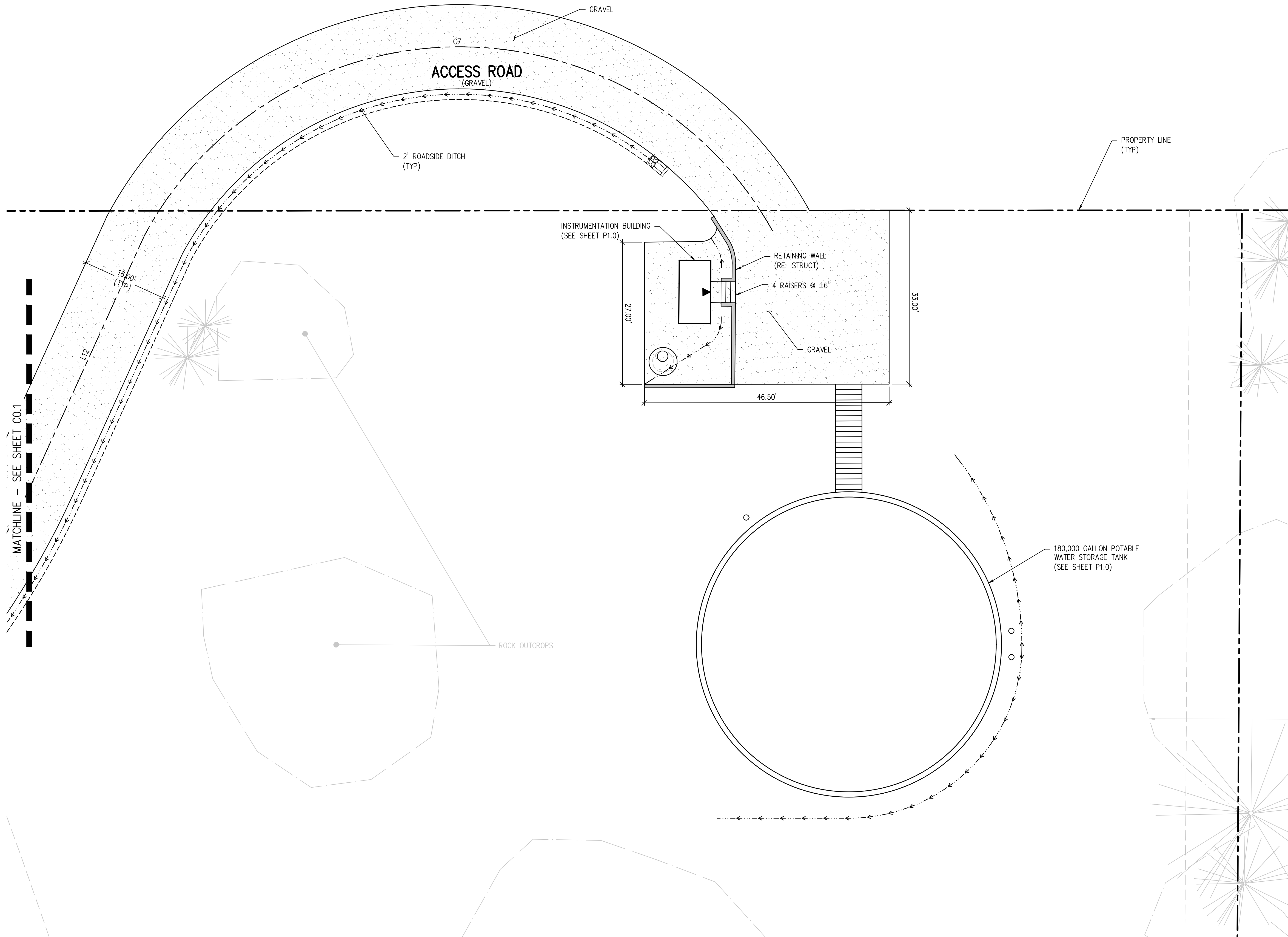
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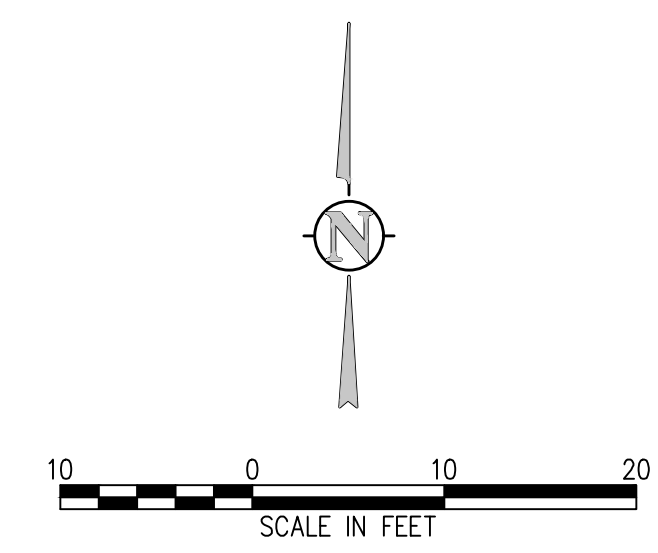
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 HORIZONTAL CONTROL PLAN

SHEET NO.  
**C0.2**



LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L1	14.57	N4° 06' 55"E	(1372799.21, 2992751.42)
L4	10.44	N4° 24' 07"W	(1372890.28, 2992761.26)
L6	44.68	N24° 26' 07"E	(1372974.25, 2992773.47)
L8	27.71	N14° 49' 17"E	(1373038.61, 2992800.40)
L10	2.74	N37° 52' 00"E	(1373119.10, 2992834.08)
L12	50.56	N24° 26' 07"E	(1373151.29, 2992853.91)

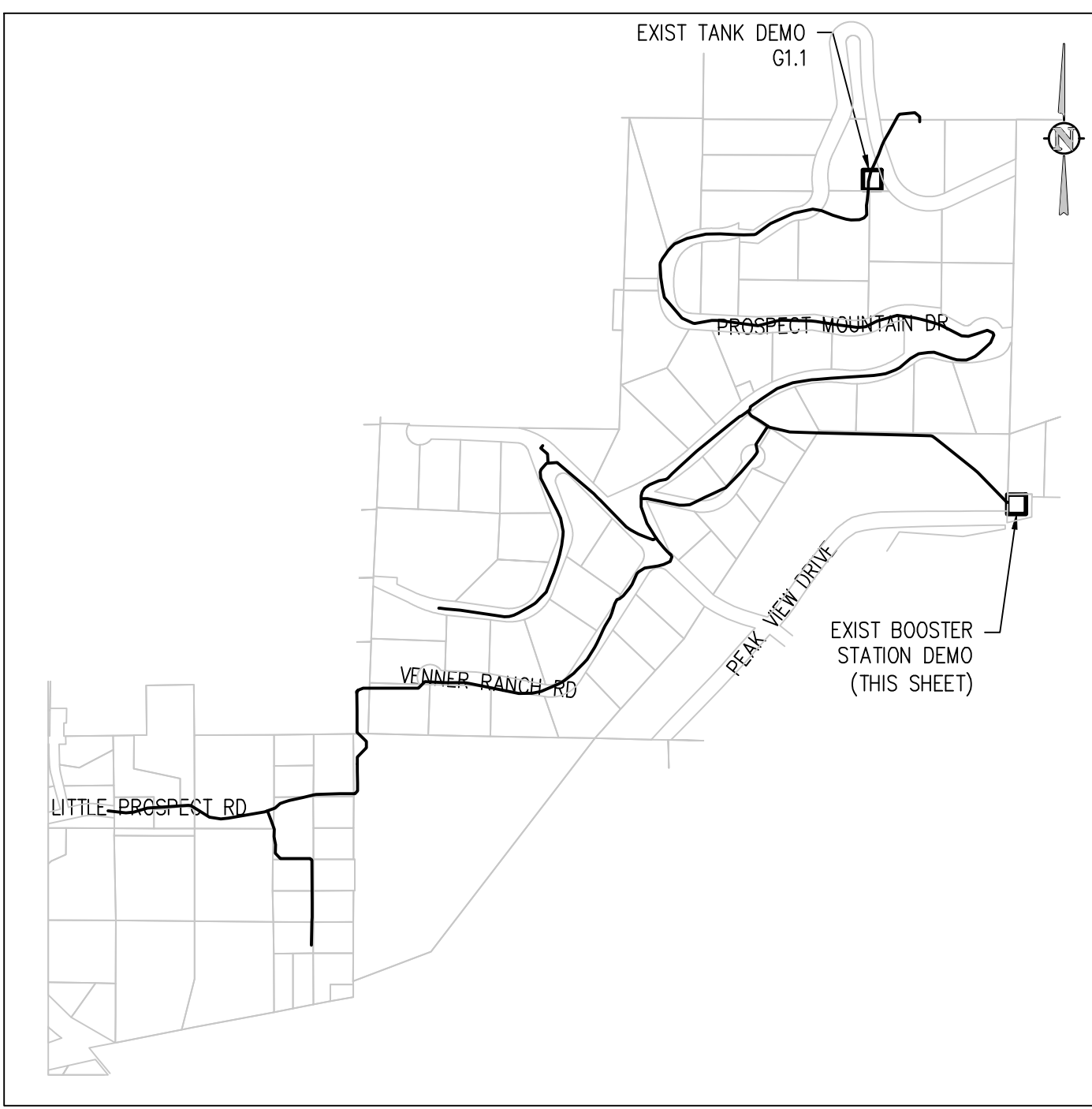
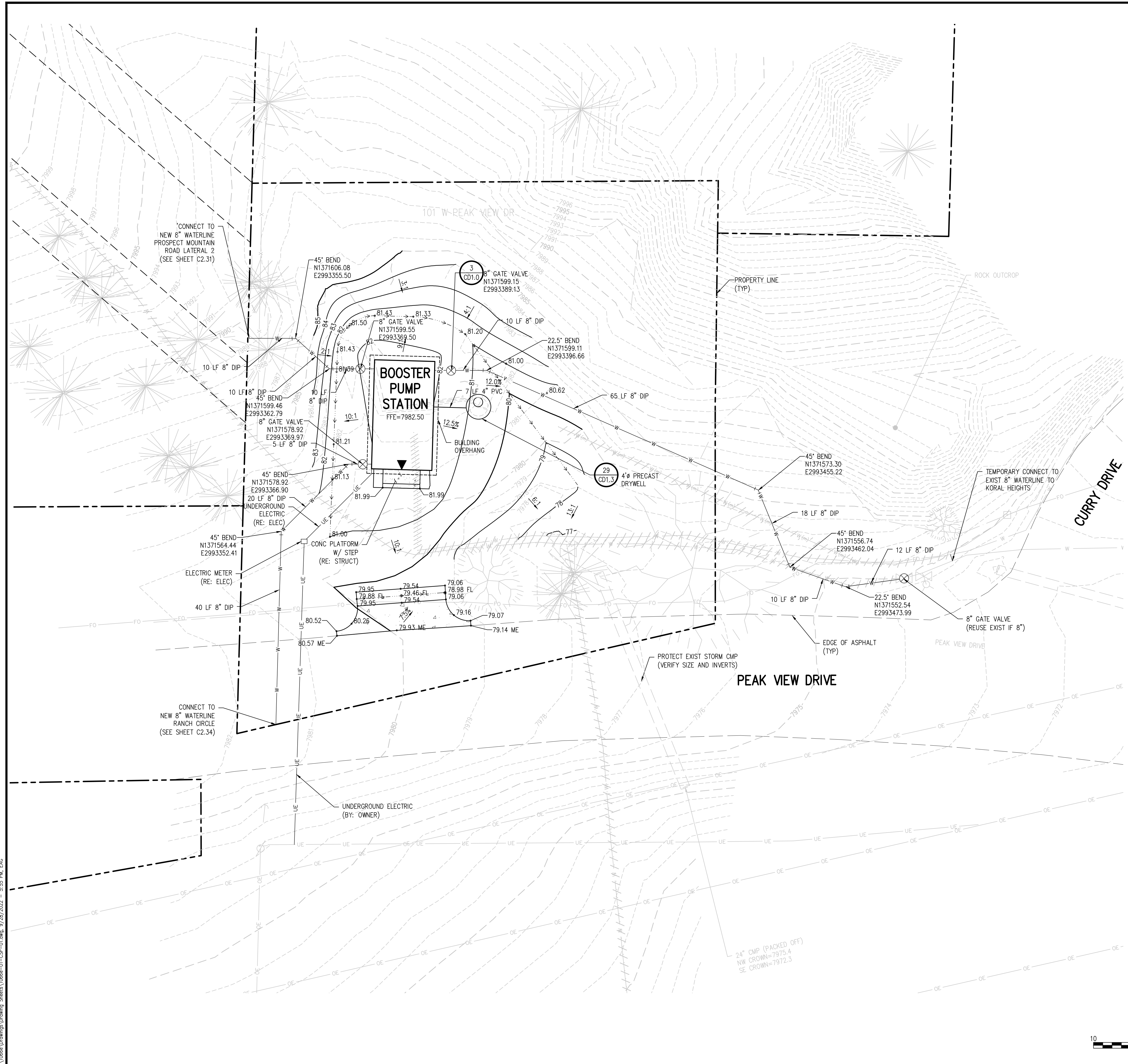
CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN	START (N, E)
C1	27.98	155.00	10°20'32"	N9°17'10"E	27.94	(1372813.75, 2992752.46)
C2	49.37	150.00	18°51'33"	N5°01'40"E	49.15	(1372841.32, 2992756.97)
C3	75.50	150.00	28°50'14"	N10°01'00"E	74.70	(1372900.69, 2992760.48)
C4	25.17	150.00	9°36'50"	N19°37'42"E	25.14	(1373014.93, 2992791.95)
C5	60.33	150.00	23°02'43"	N26°20'38"E	59.93	(1373065.40, 2992807.49)
C6	35.16	150.00	13°25'53"	N31°09'04"E	35.08	(1373121.27, 2992835.76)
C7	145.63	68.00	122°41'51"	N89°35'29"E	119.35	(1373197.32, 2992874.83)



**HORIZONTAL CONTROL NOTES:**

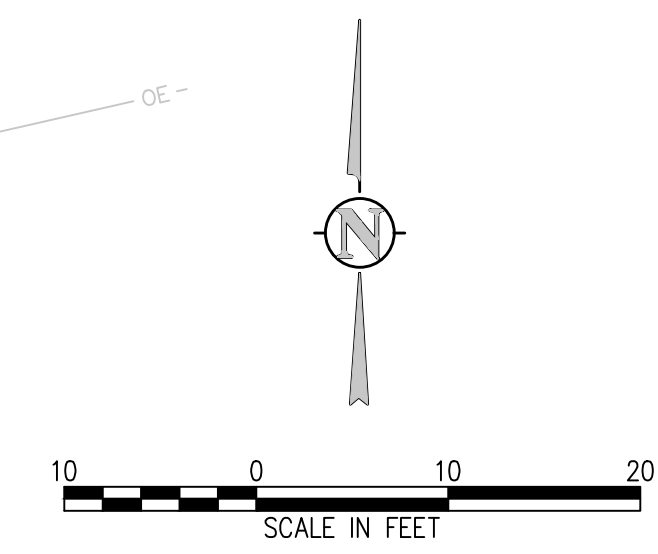
1. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

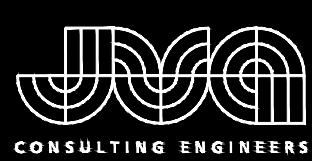
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**DEMO KEY MAP**  
NTS

- GRADING AND DRAINAGE NOTES:**
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
  2. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS.
  3. ALL SPOT ELEVATIONS ARE TO FINISHED GRADE OR FLOWLINE UNLESS OTHERWISE SPECIFIED.
  4. IF WALL IS SHOWN, TG DENOTES THE FINISHED GRADE ADJACENT TO THE HIGH SIDE OF THE WALL. BG DENOTES THE FINISHED GRADE ADJACENT TO THE LOW SIDE OF THE WALL. REFER TO ARCH PLANS/DETAILS FOR WALL ELEVATIONS BEYOND THE ADJACENT FINISHED GRADES (EXPOSED WALL, CAP/FOOTER, ETC.)





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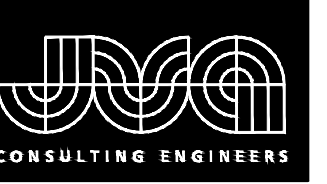
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PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

BOOSTER PUMP STATION  
CIVIL SITE PLAN

SHEET NO.  
**C1.0**

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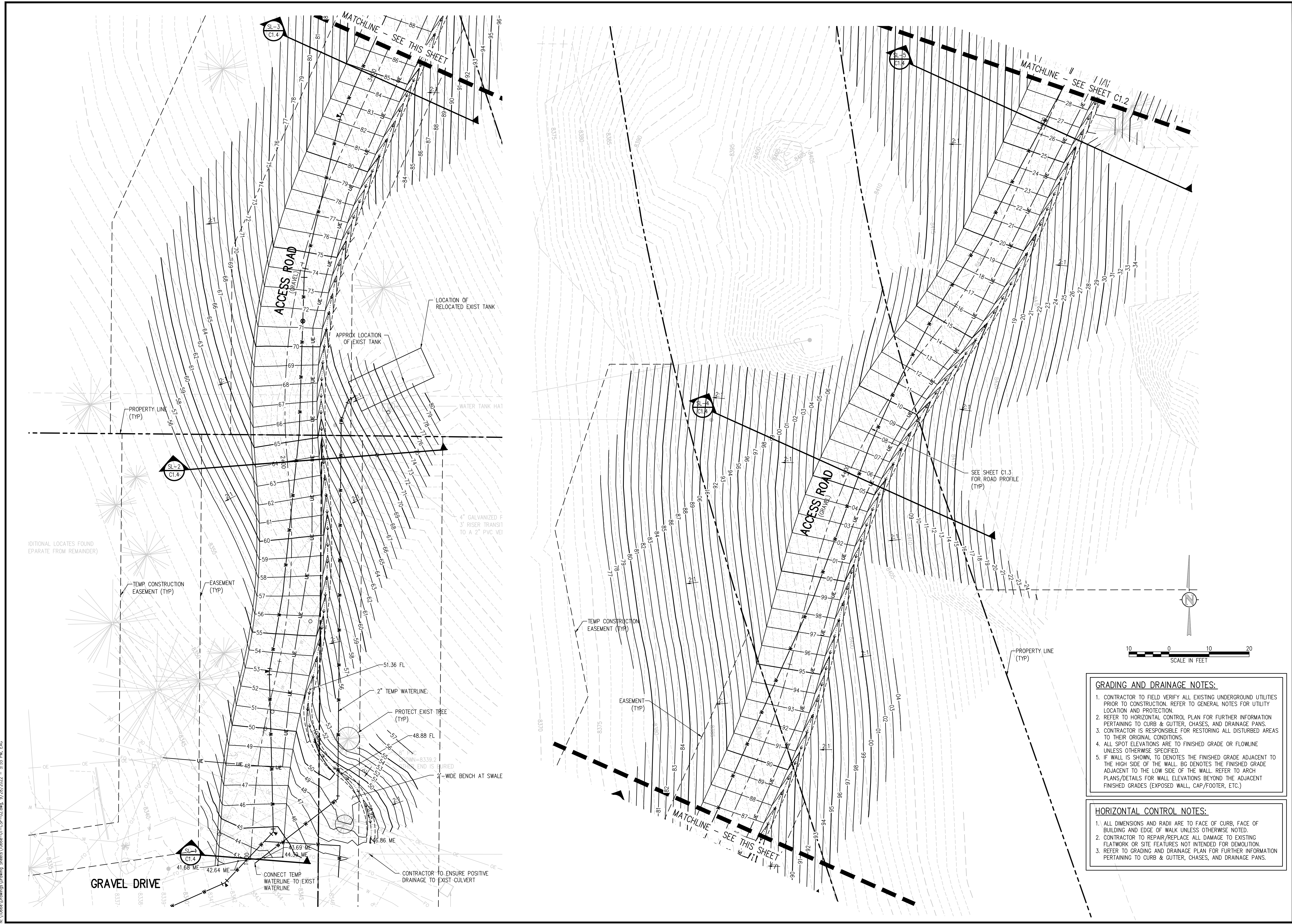
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 TANK AND ACCESS ROAD CIVIL SITE PLAN

SHEET NO.  
**C1.1**



**GRADING AND DRAINAGE NOTES:**

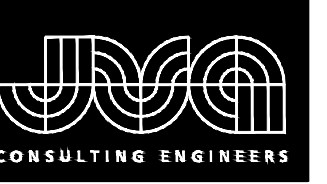
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. REFER TO HORIZONTAL CONTROL PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.
3. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS.
4. ALL SPOT ELEVATIONS ARE TO FINISHED GRADE OR FLOWLINE UNLESS OTHERWISE SPECIFIED.
5. IF WALL IS SHOWN, TG DENOTES THE FINISHED GRADE ADJACENT TO THE HIGH SIDE OF THE WALL. BG DENOTES THE FINISHED GRADE ADJACENT TO THE LOW SIDE OF THE WALL. REFER TO ARCH PLANS/DETAILS FOR WALL ELEVATIONS BEYOND THE ADJACENT FINISHED GRADES (EXPOSED WALL, CAP/FOOTER, ETC.)

**HORIZONTAL CONTROL NOTES:**

1. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

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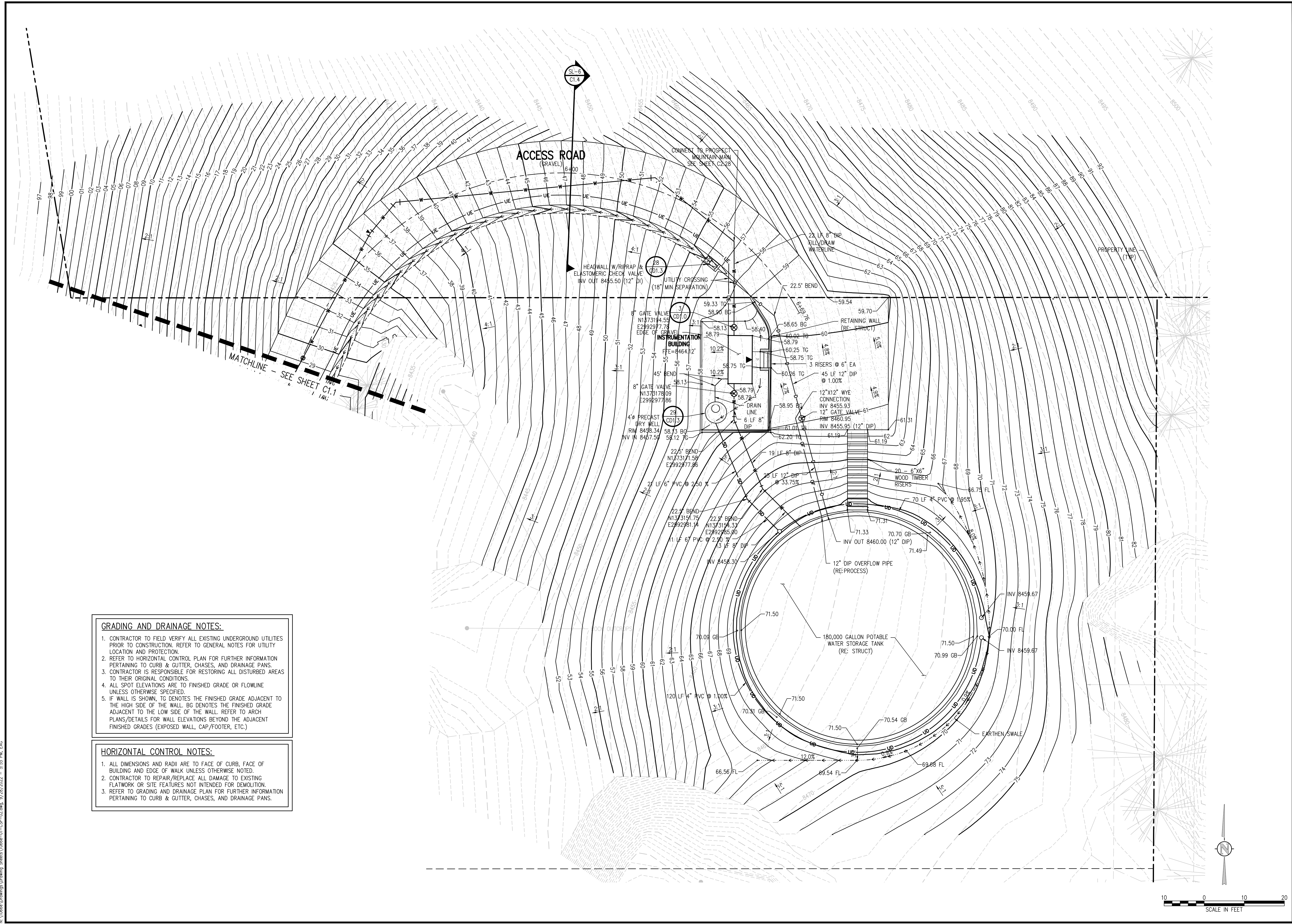
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TANK AND ACCESS ROAD CIVIL SITE PLAN

SHEET NO.  
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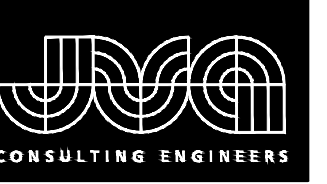
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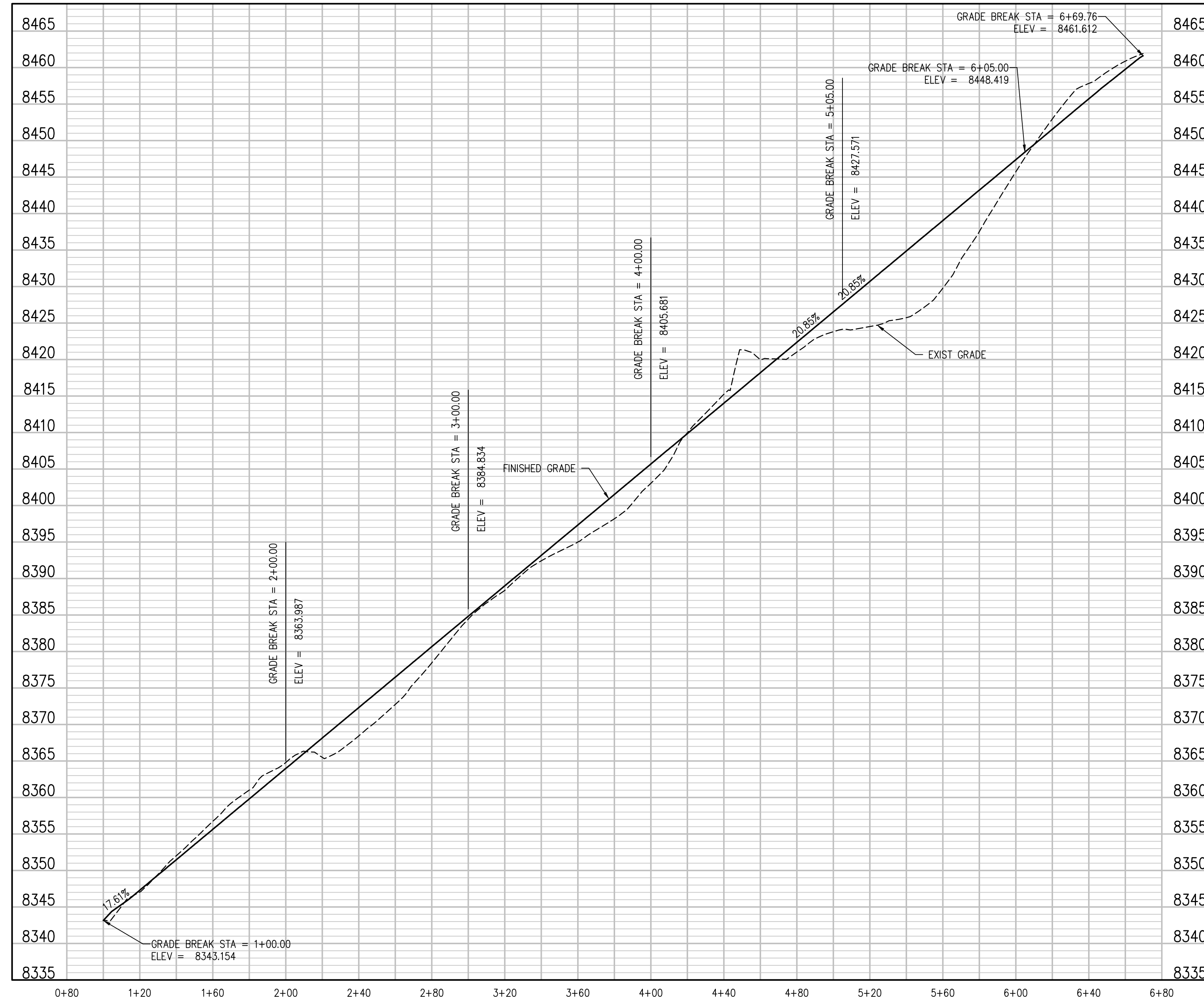
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1. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

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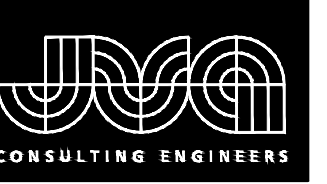
**TANK ACCESS ROAD PROFILE**  
 SCALE: 1"=40' HORIZ  
 1"=8' VERT

NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

DESIGNED BY:	LBT
DRAWN BY:	YH
CHECKED BY:	MMR
JOB #:	1066e
DATE:	APRIL 2021
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 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 TANK ACCESS ROAD PROFILE

SHEET NO.  
**C1.3**



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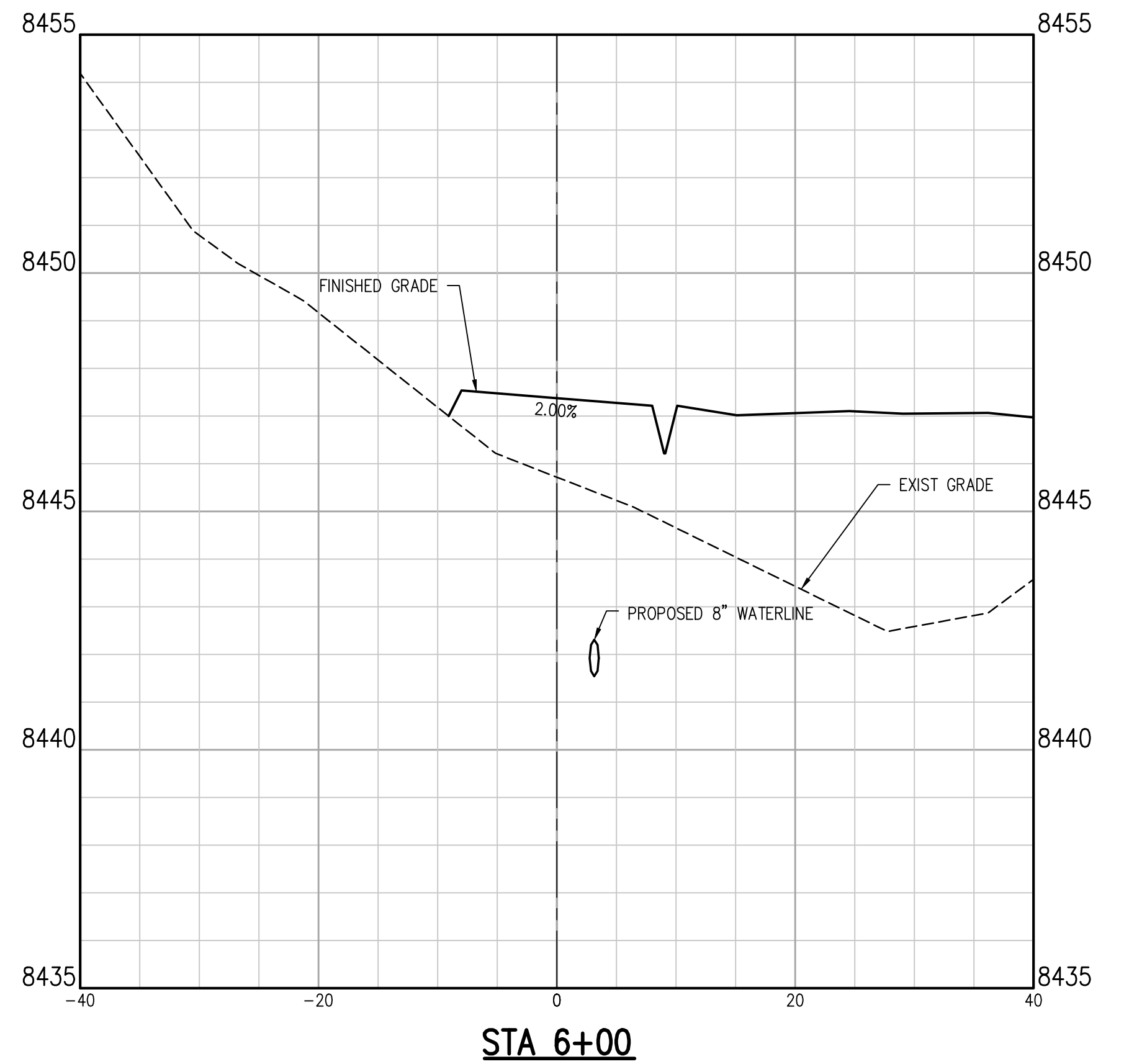
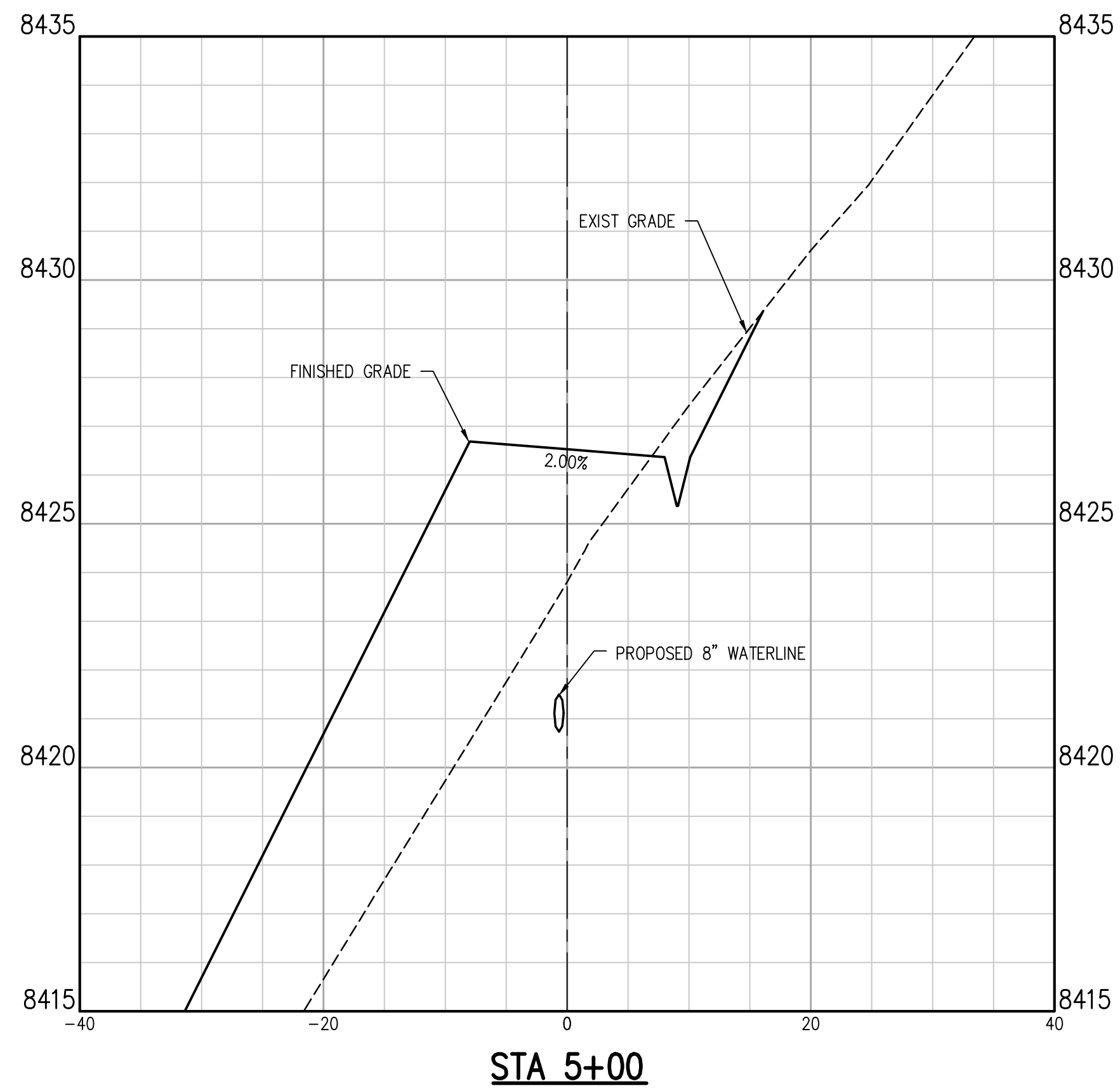
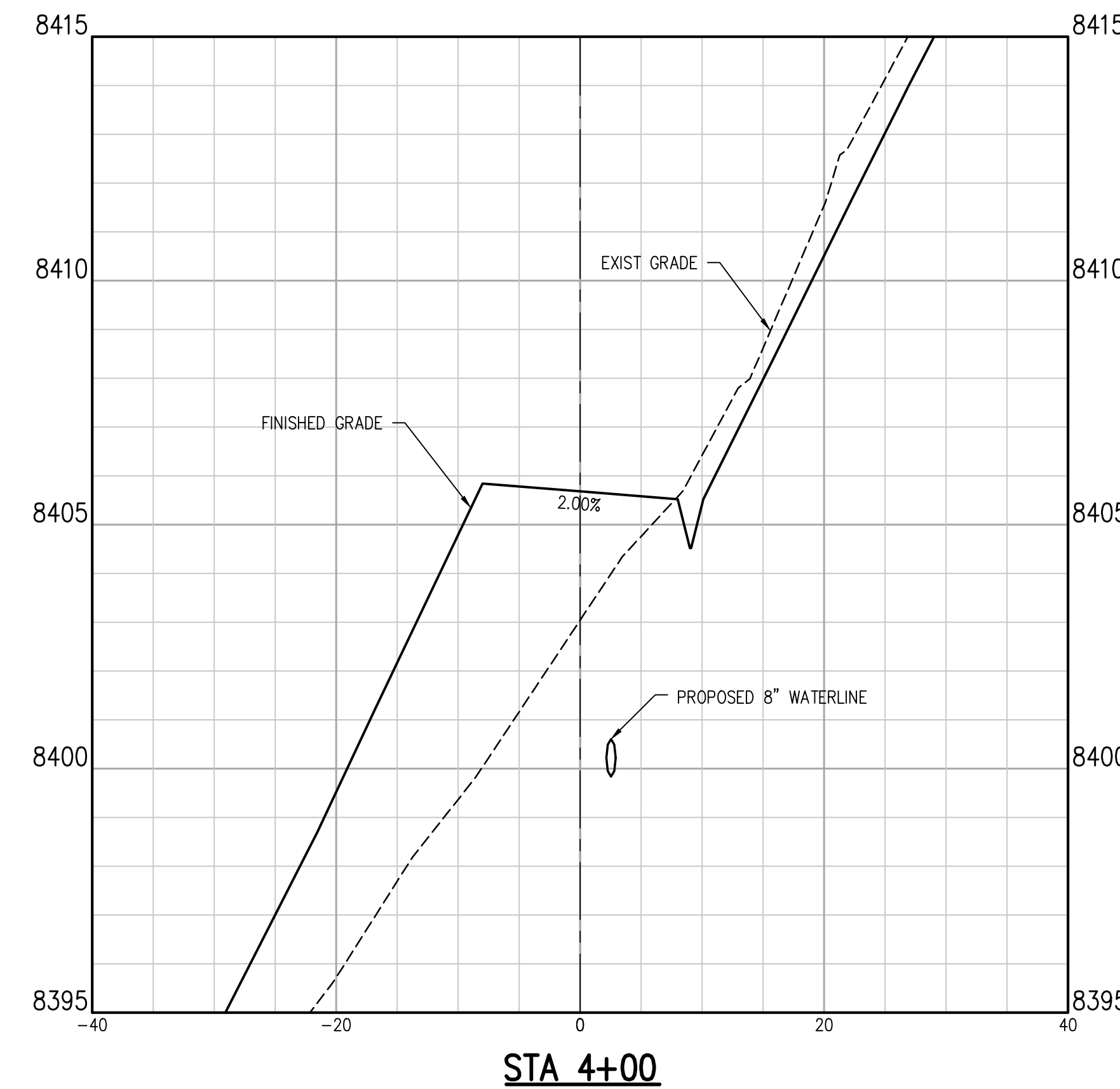
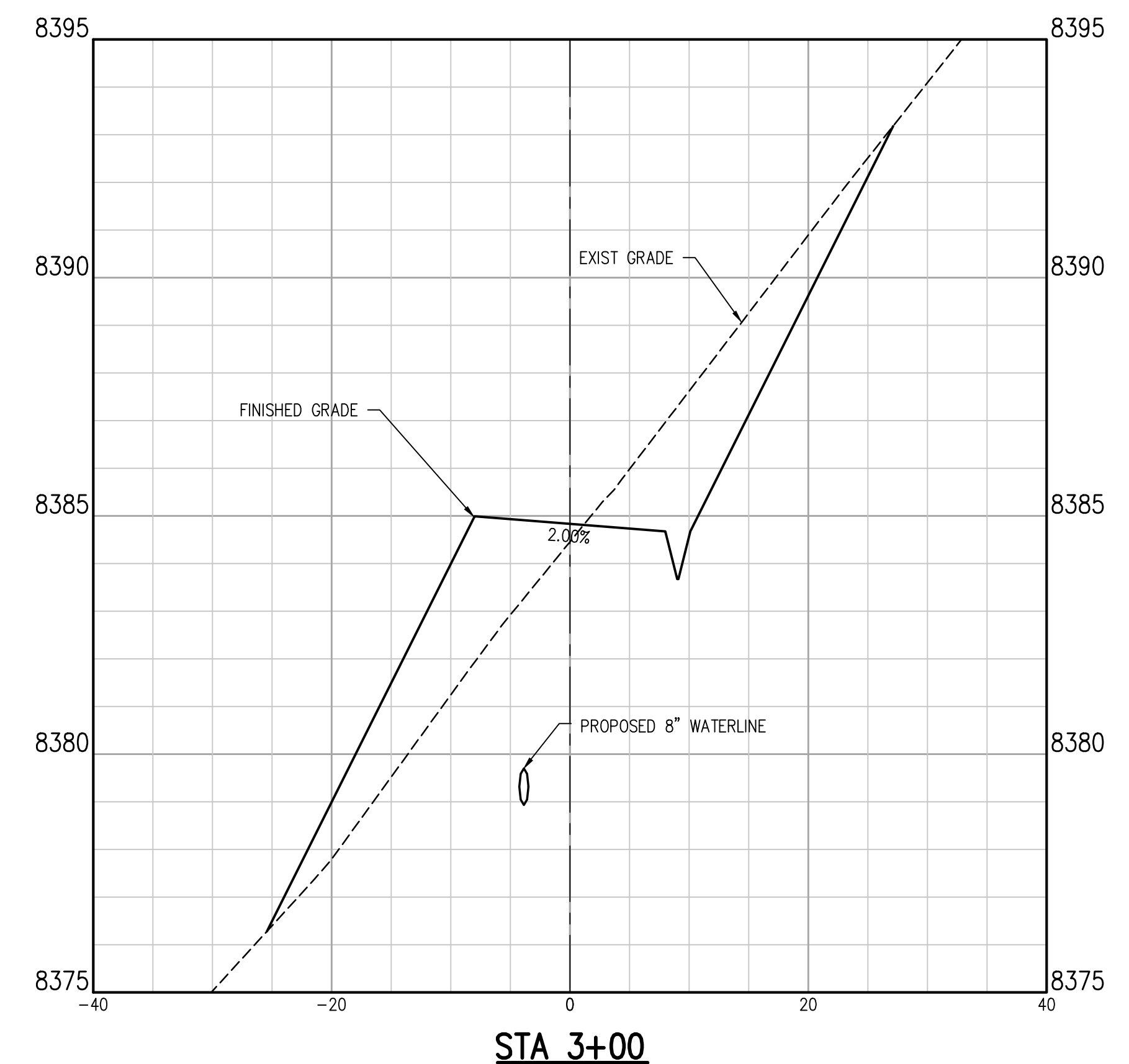
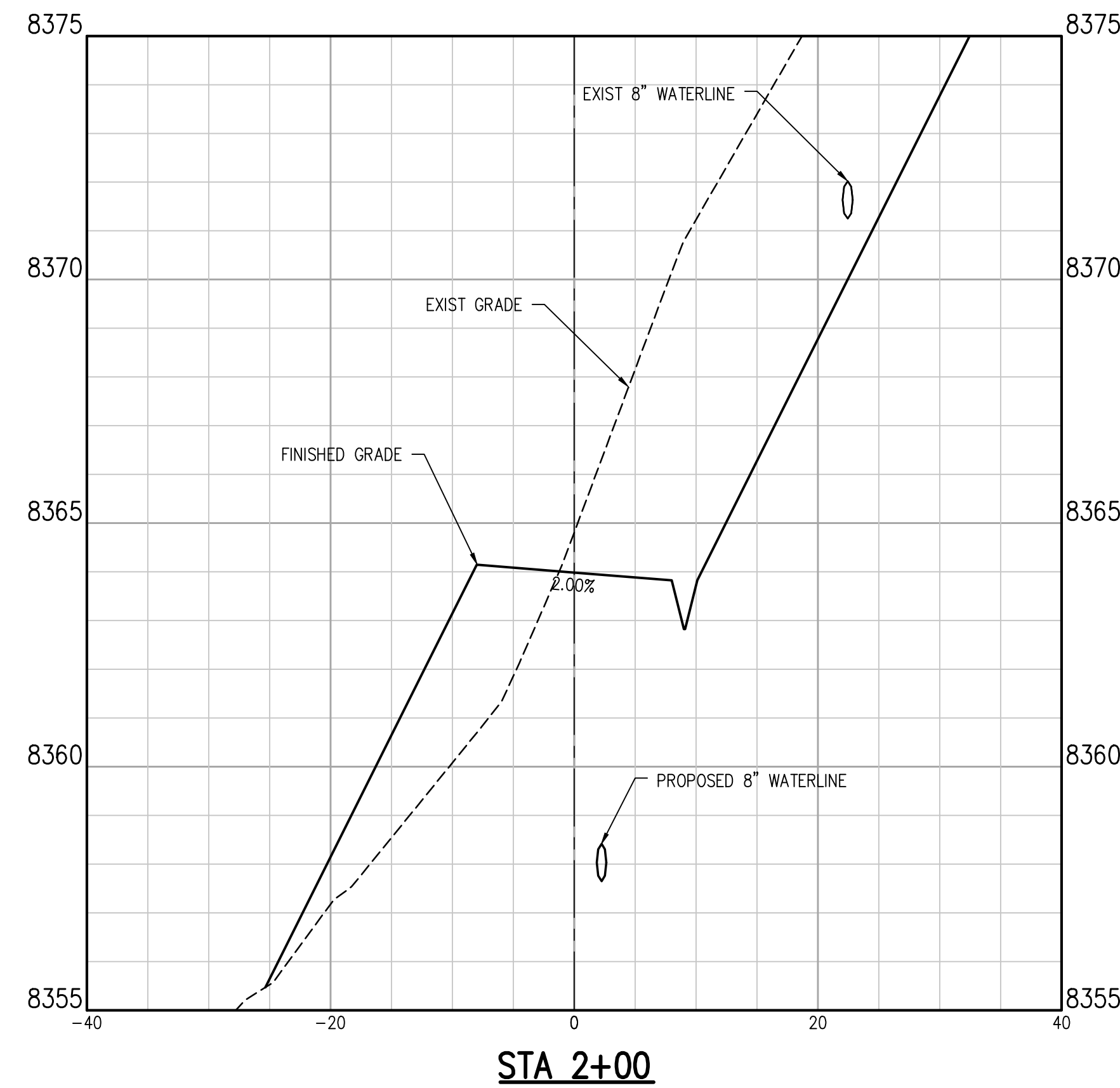
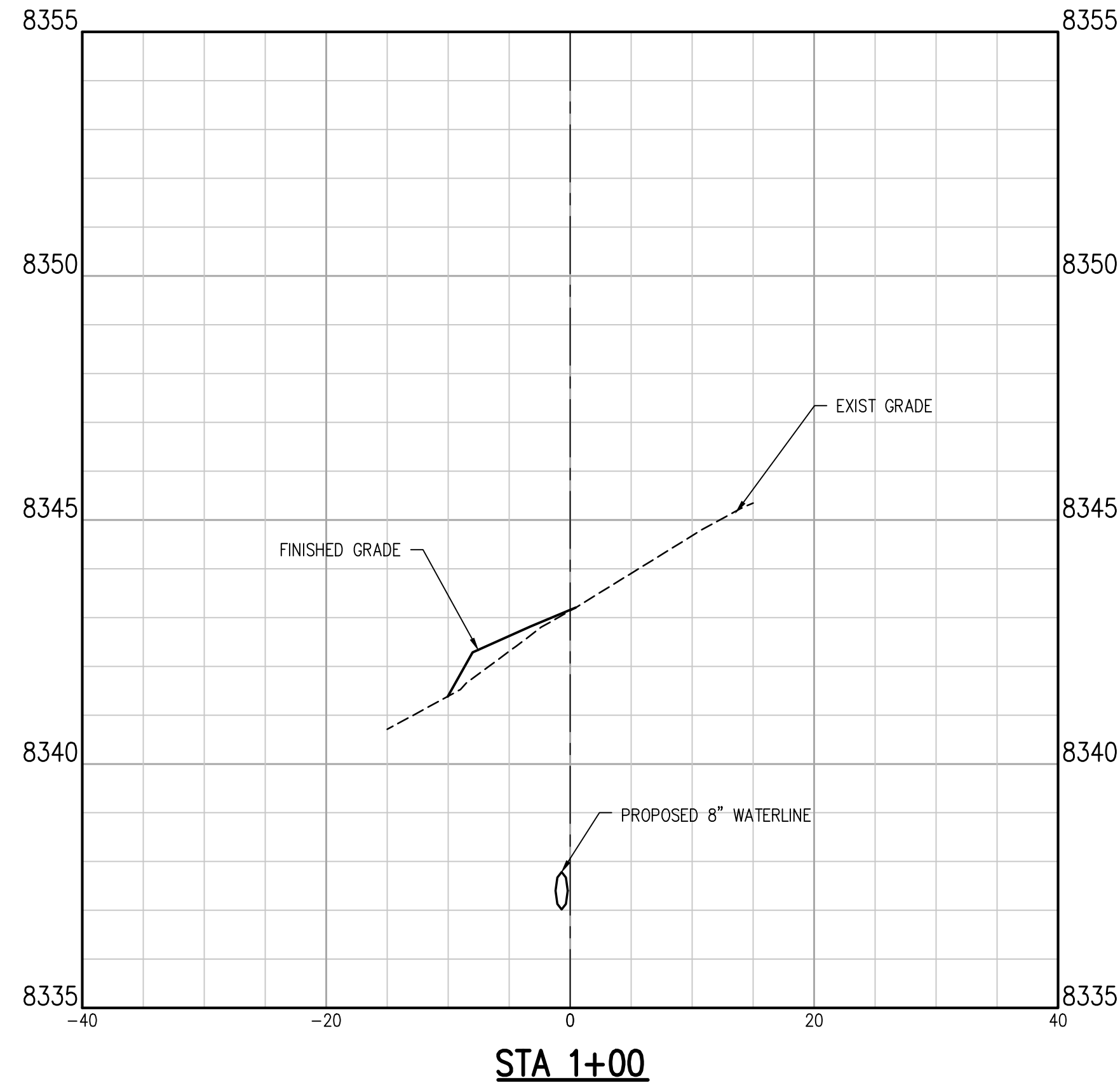
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 JOB #: 1066e  
 DATE: APRIL 2021  
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NO.	DATE	DES'D	OWN	REVISION DESCRIPTION

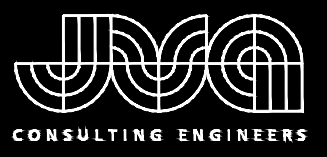
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TANK ACCESS ROAD CROSS SECTIONS

SHEET NO.  
**C1.4**



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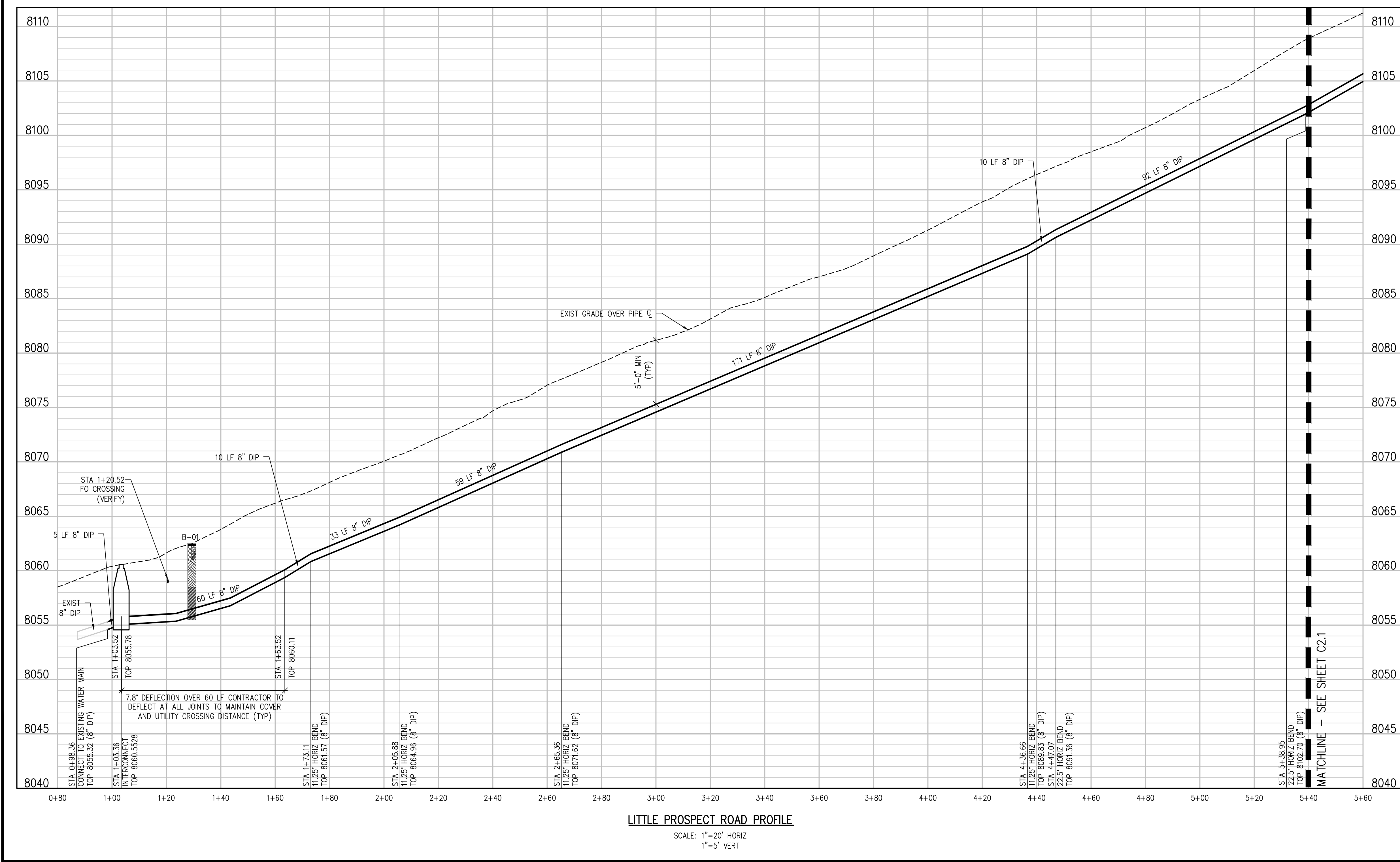
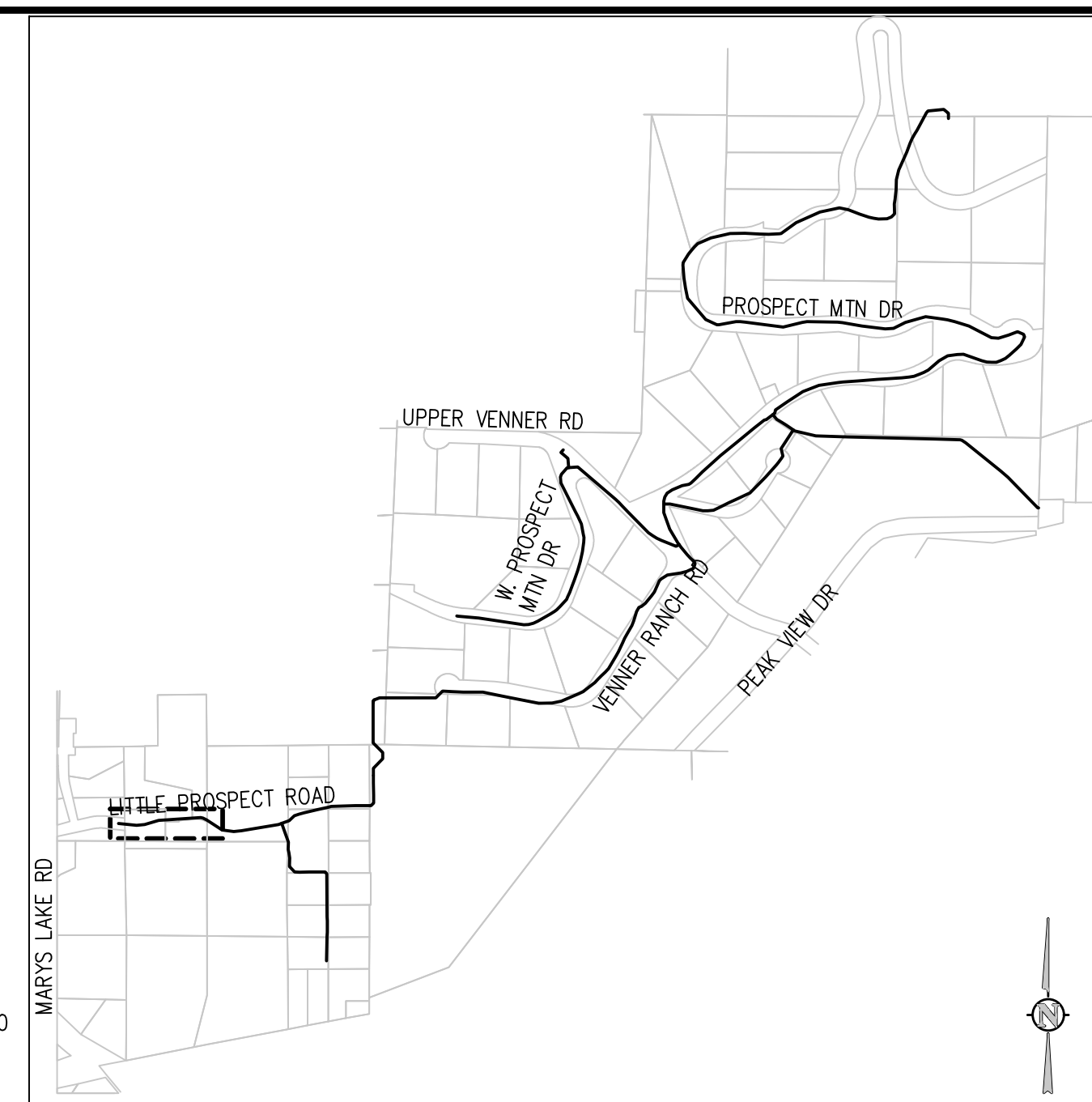
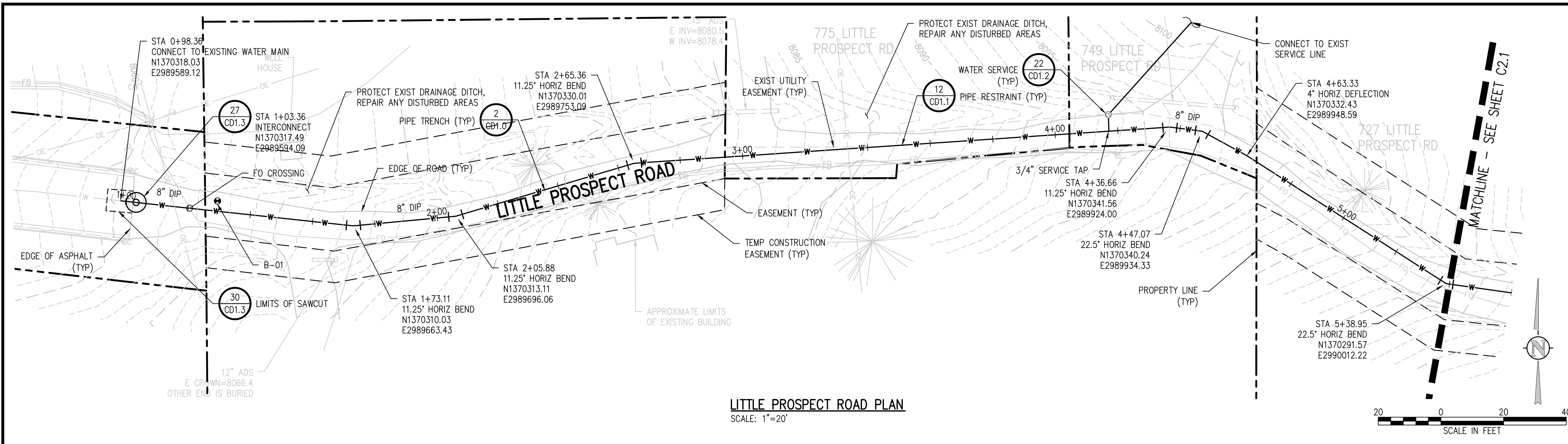
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JOB #: 1066e  
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WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

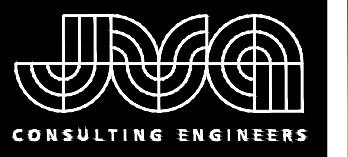
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SHEET NO.  
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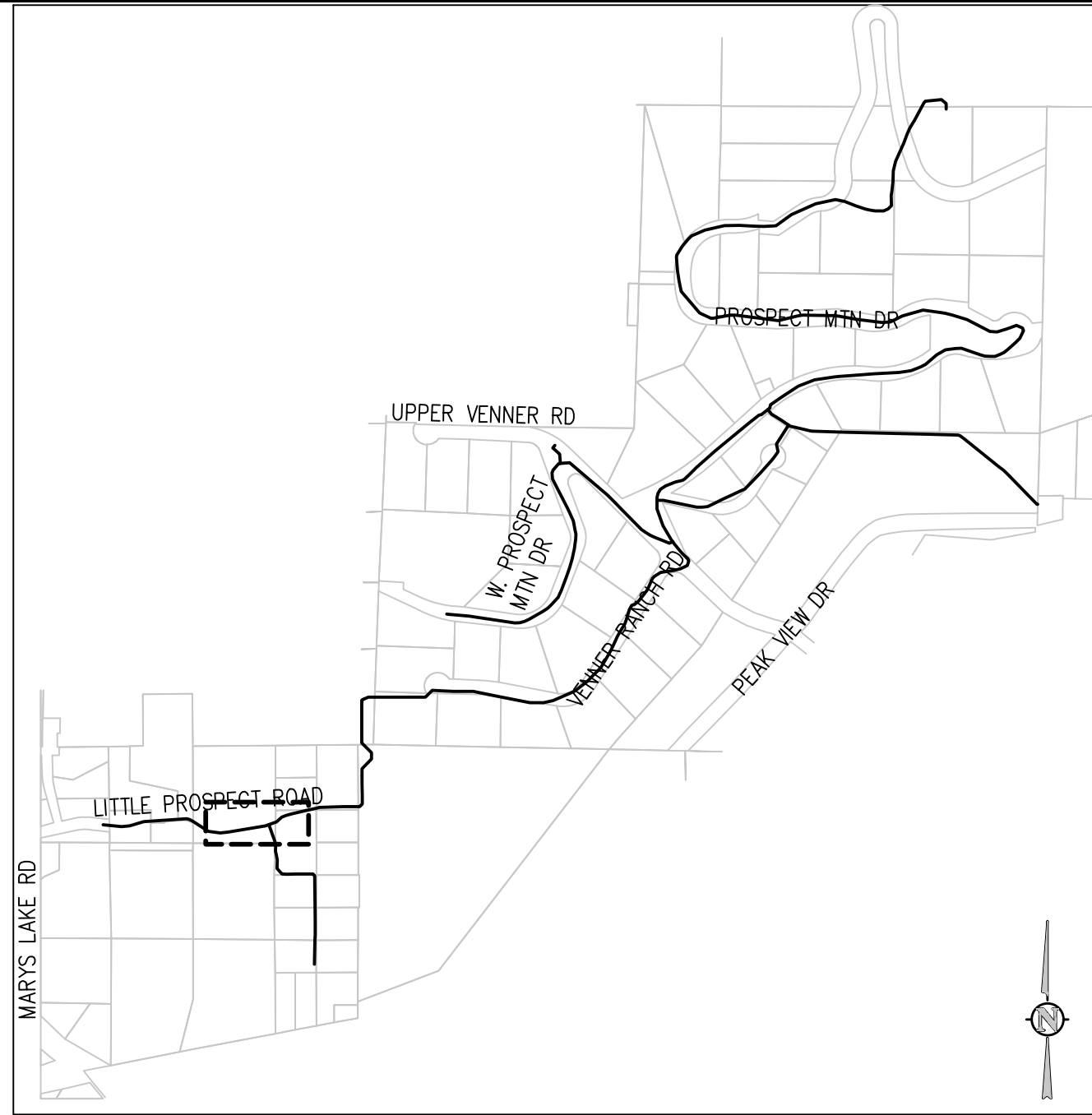
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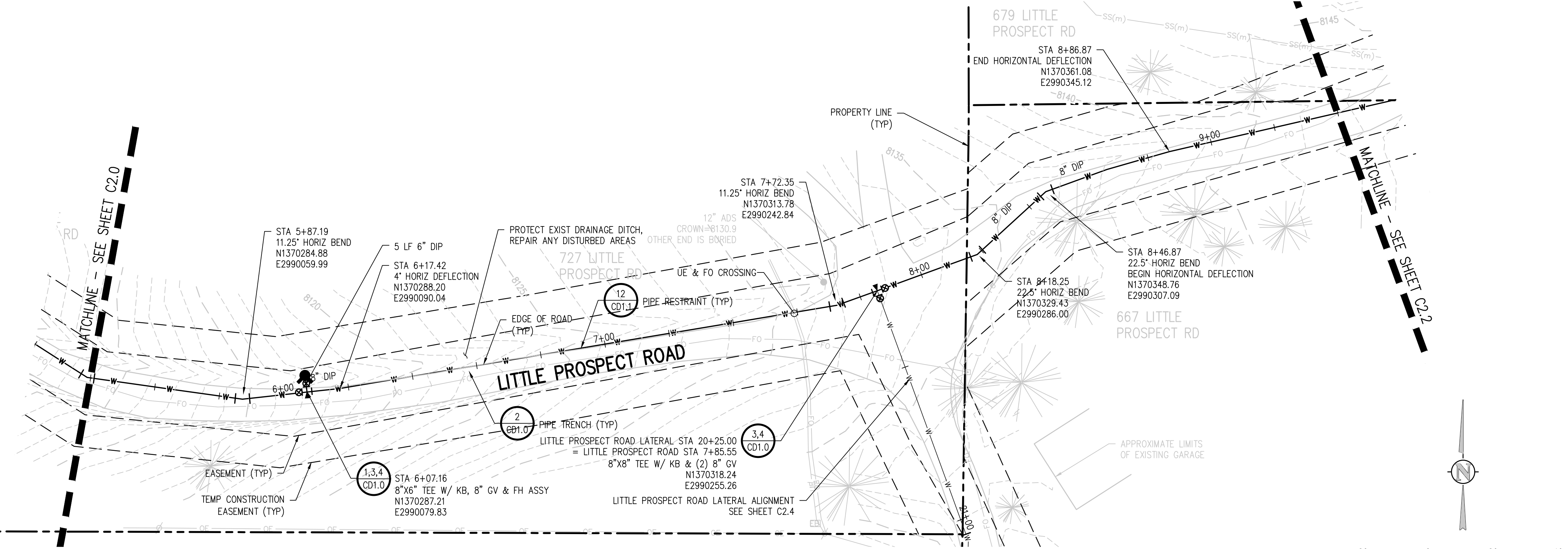
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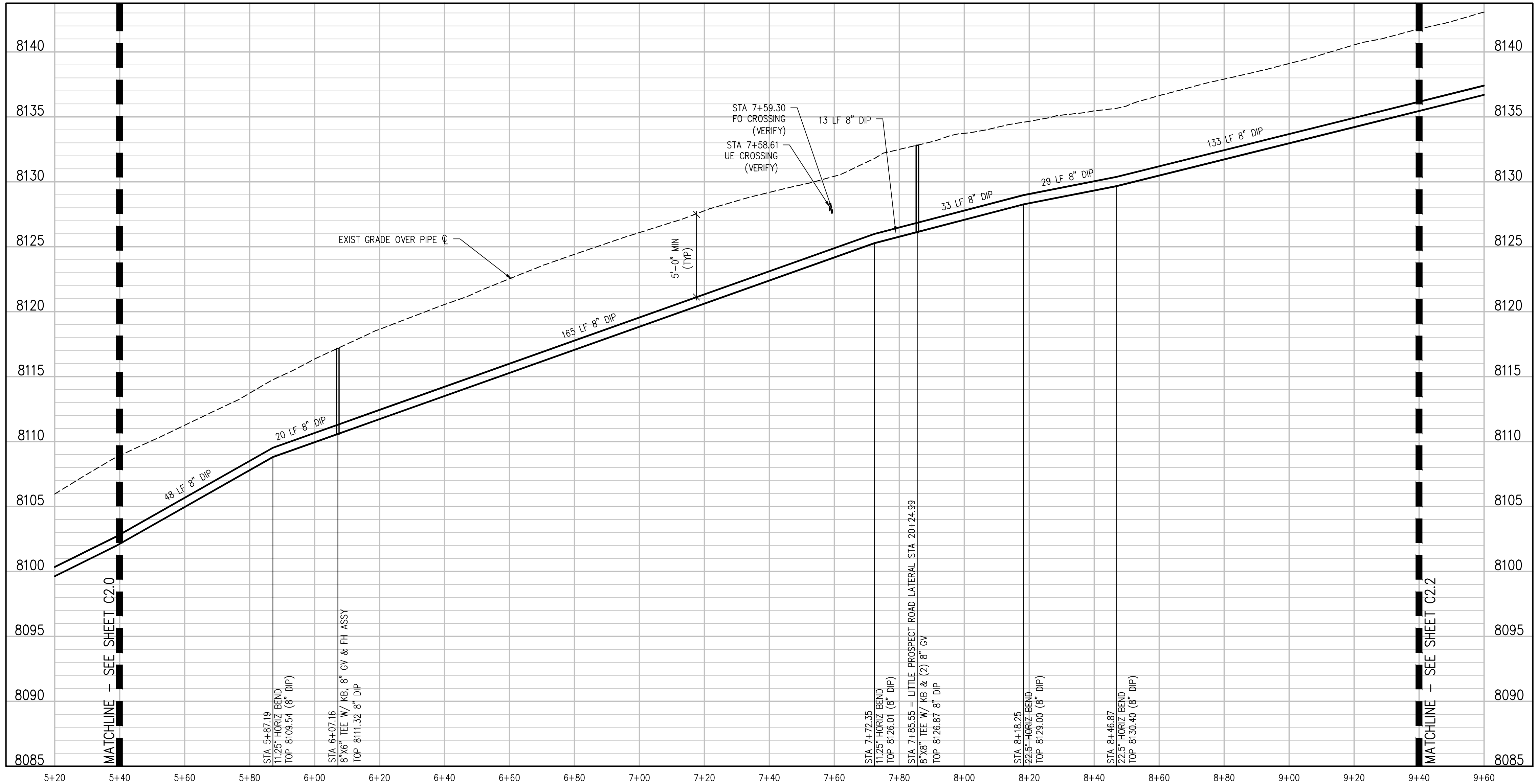
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 NTS



LITTLE PROSPECT ROAD PLAN  
 SCALE: 1"=20'



LITTLE PROSPECT ROAD PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

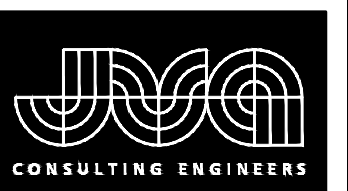
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 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 LITTLE PROSPECT ROAD PLAN AND PROFILE

SHEET NO.  
**C2.1**

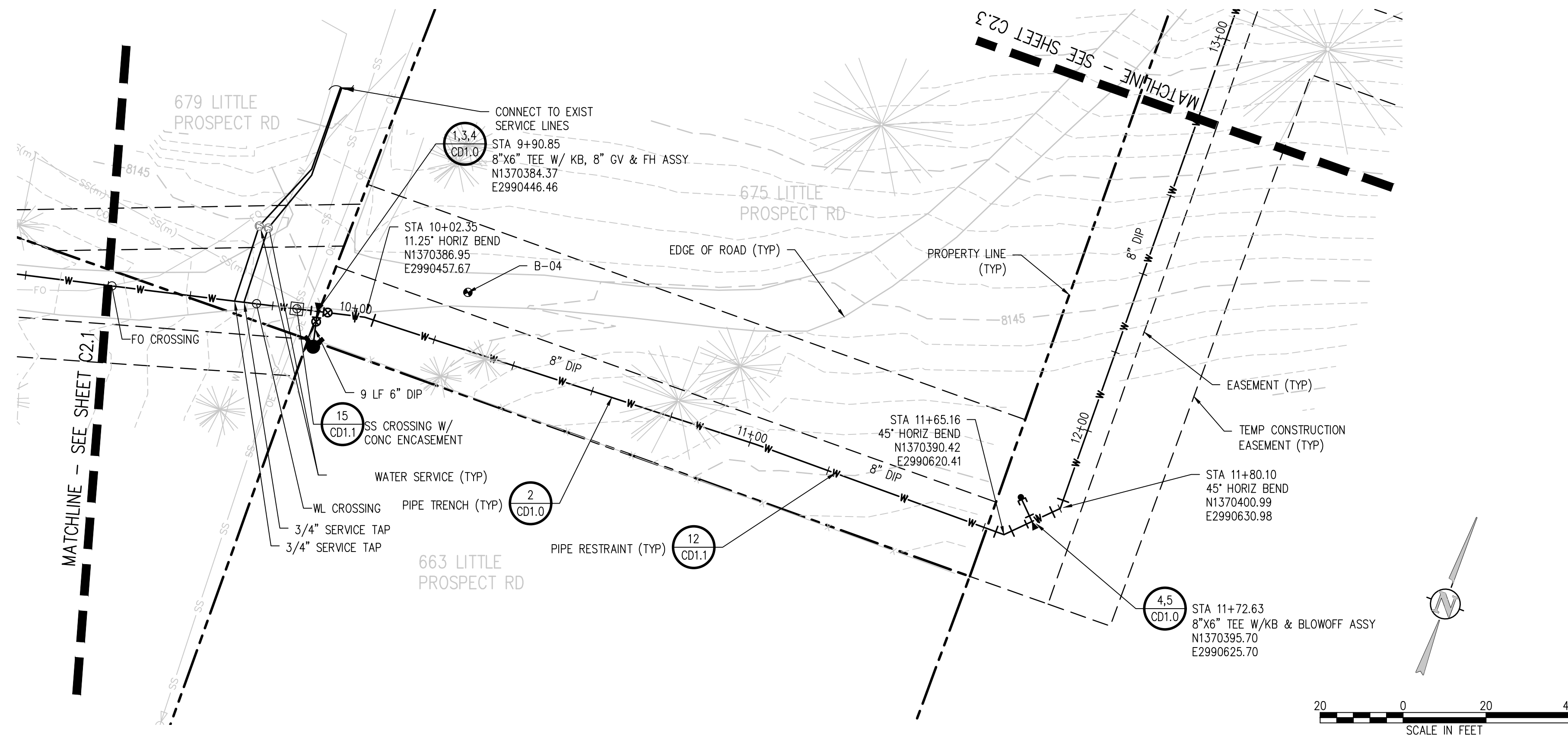
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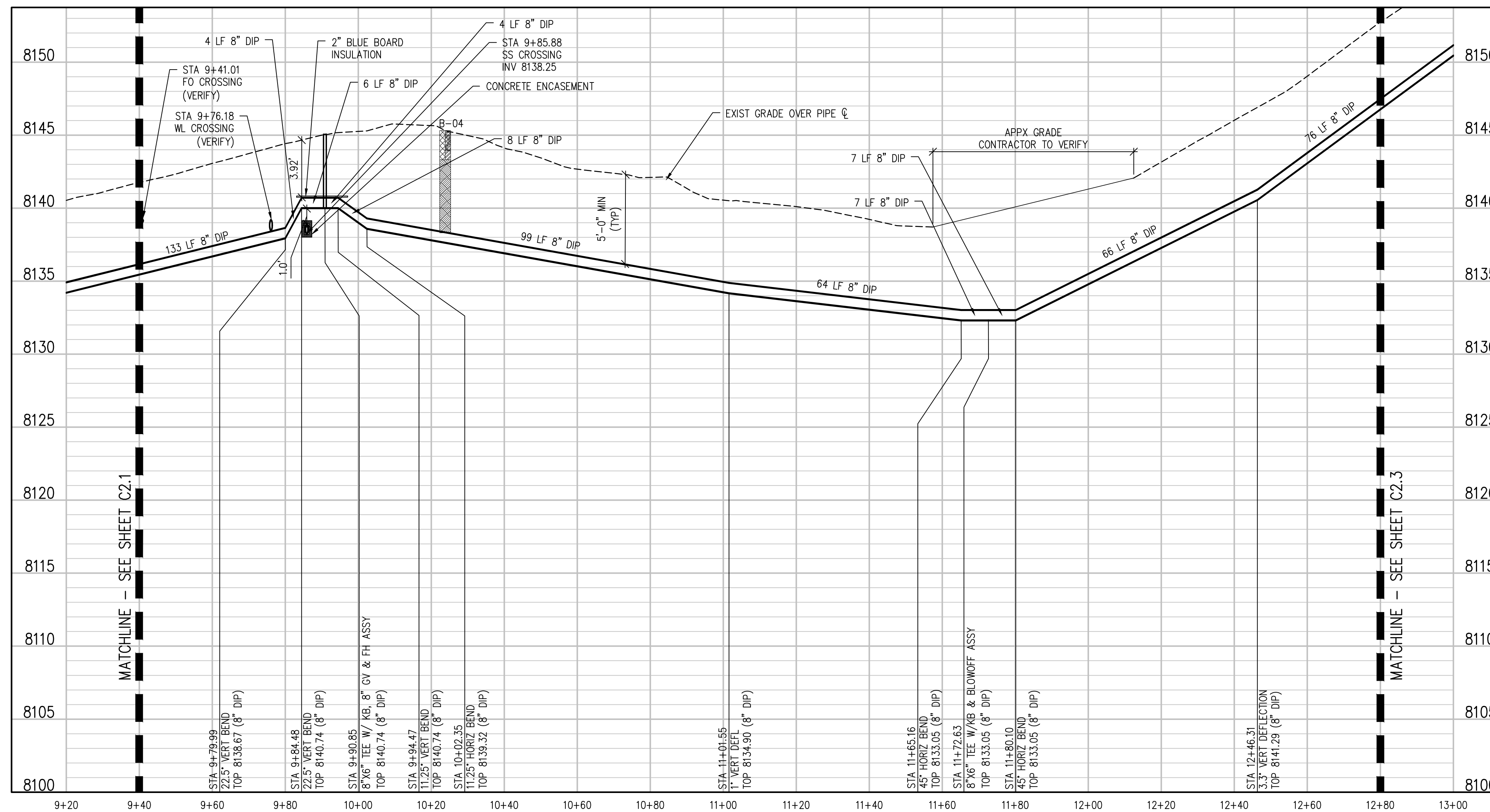
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LITTLE PROSPECT ROAD PLAN  
 SCALE: 1"=20'



LITTLE PROSPECT ROAD PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

NO. DATE DES'D DWN

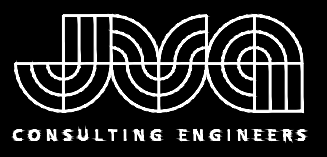
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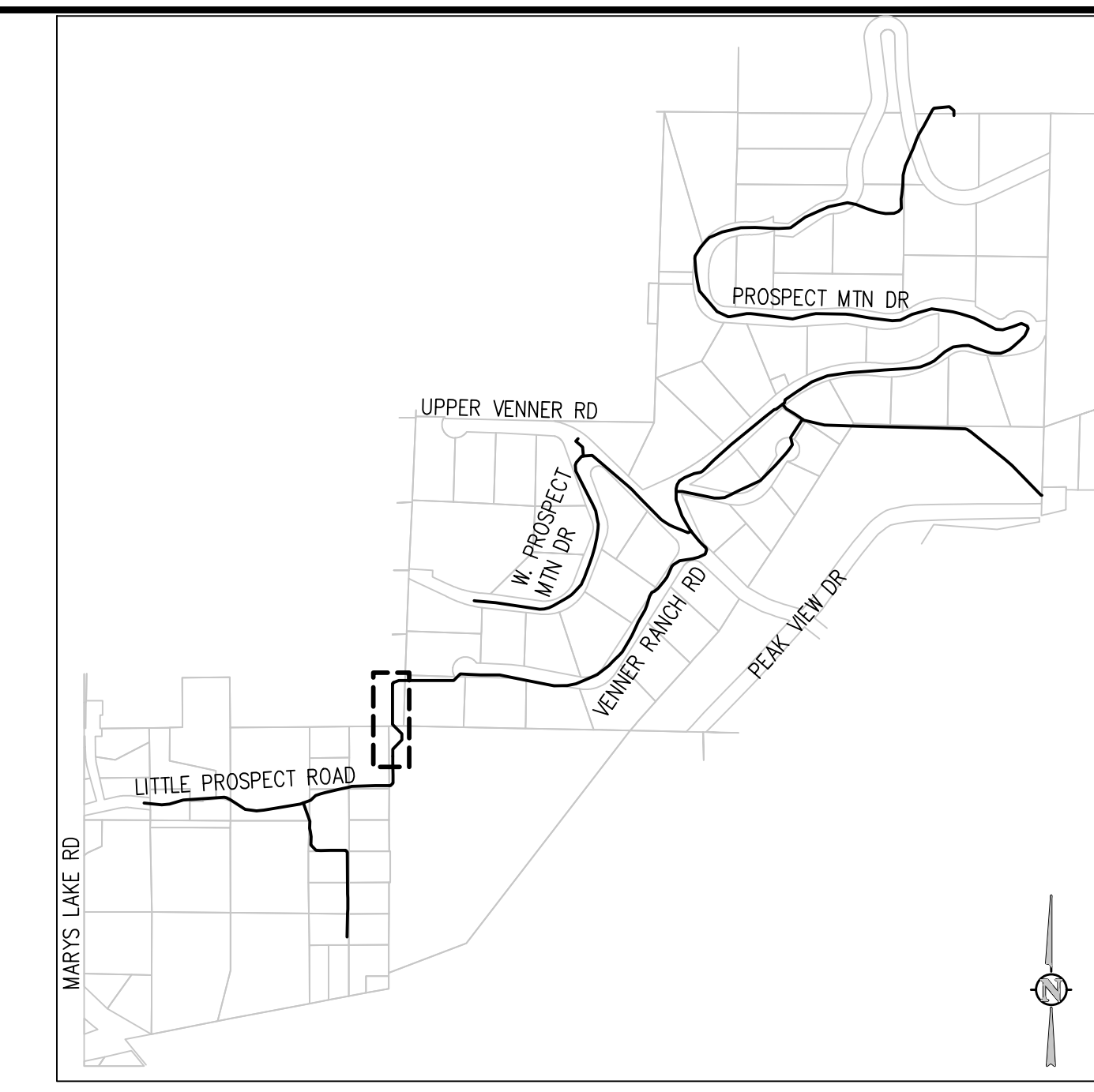
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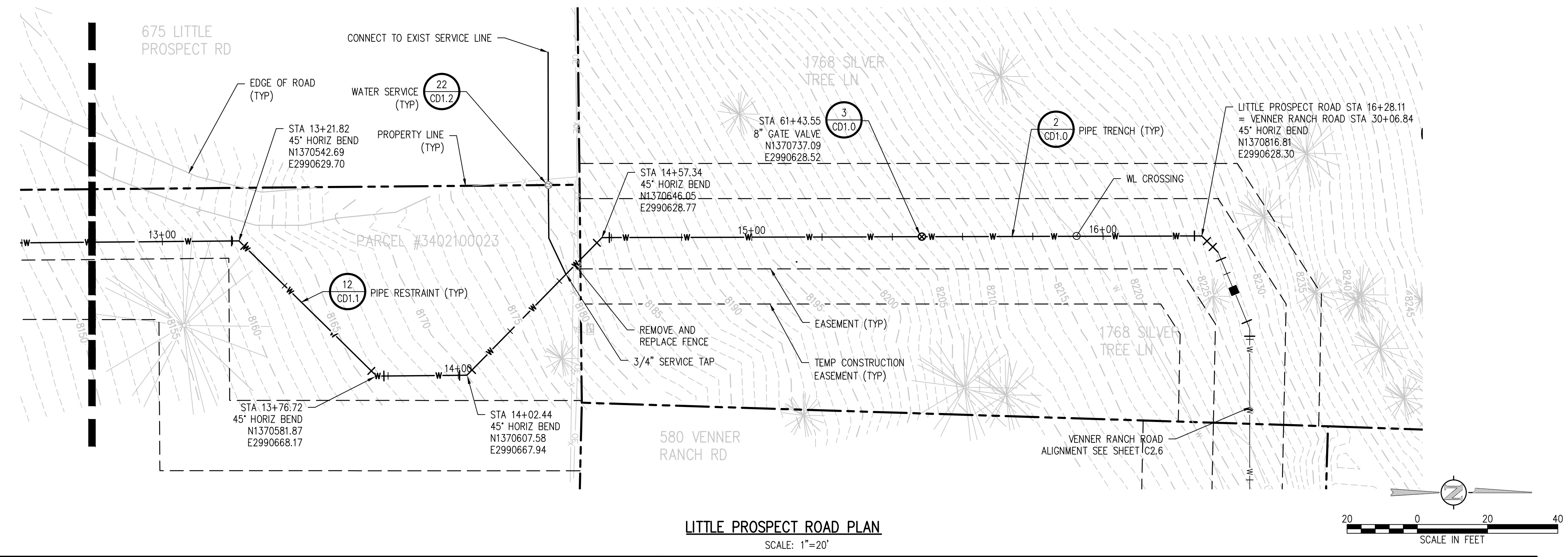
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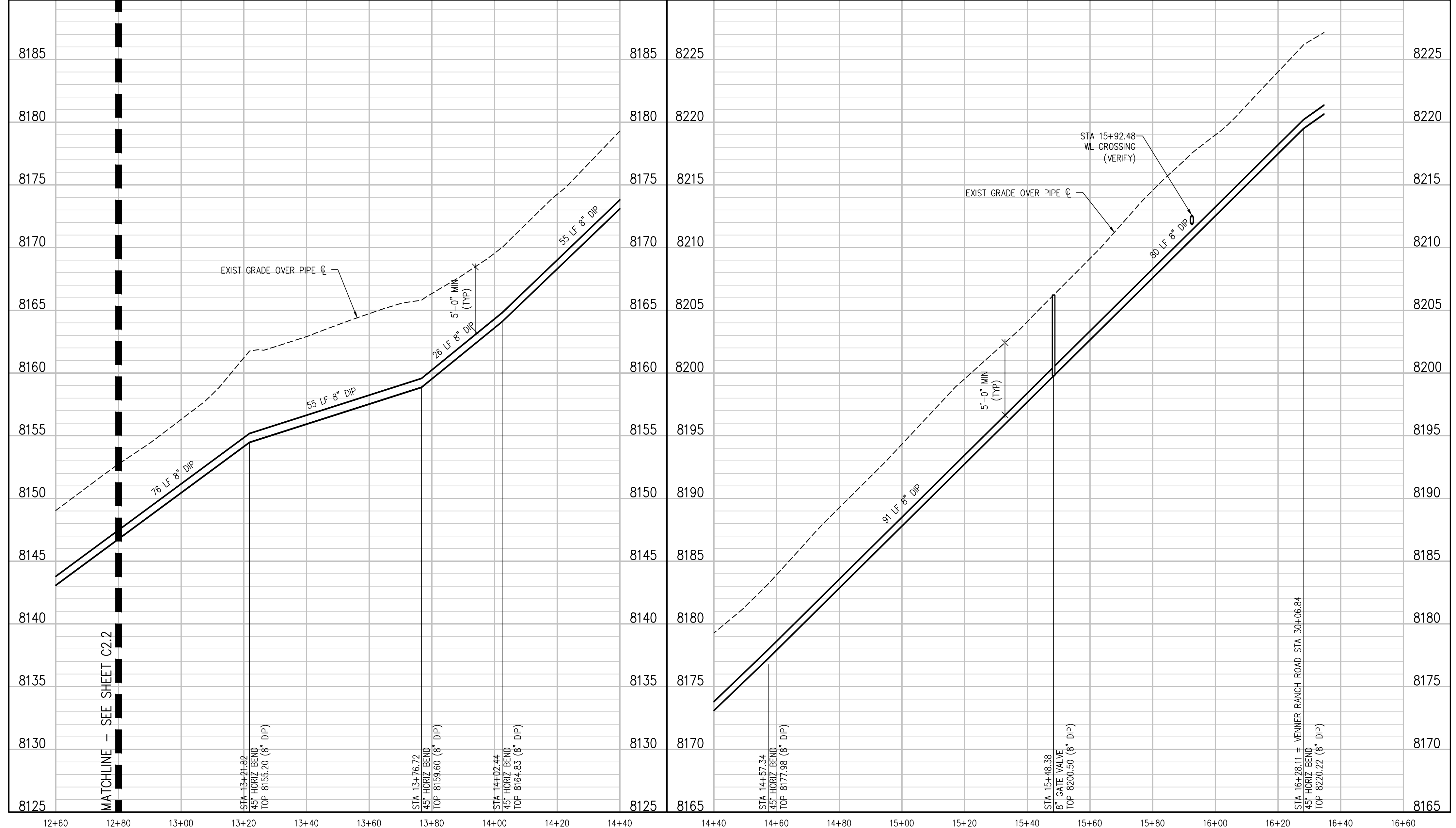
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LITTLE PROSPECT ROAD PLAN  
SCALE: 1"=20'



LITTLE PROSPECT ROAD PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

LITTLE PROSPECT ROAD PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

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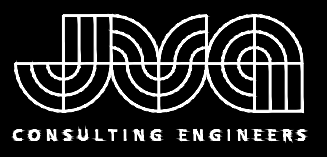
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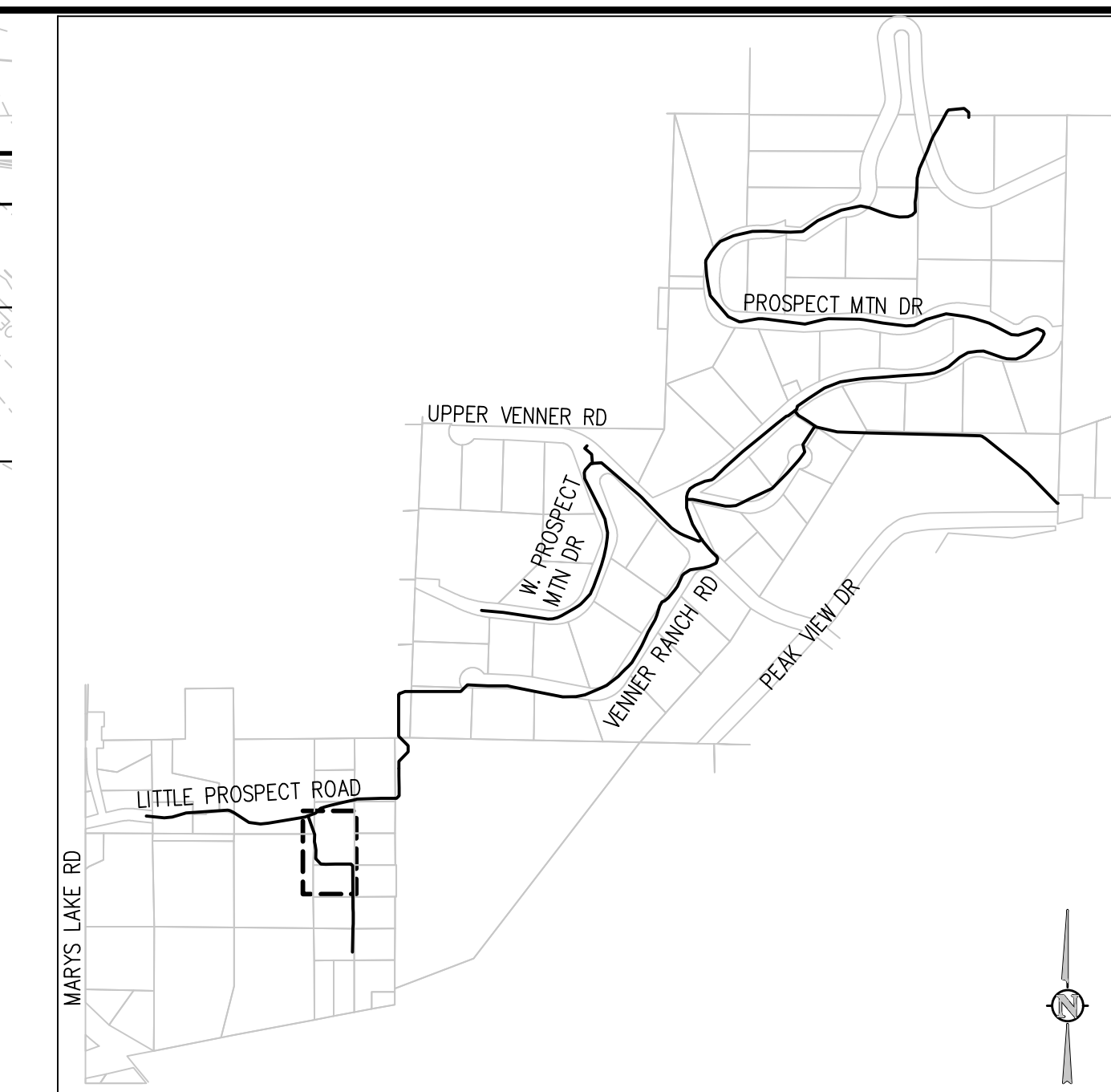
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ESTES PARK, COLORADO

LITTLE PROSPECT ROAD PLAN AND PROFILE

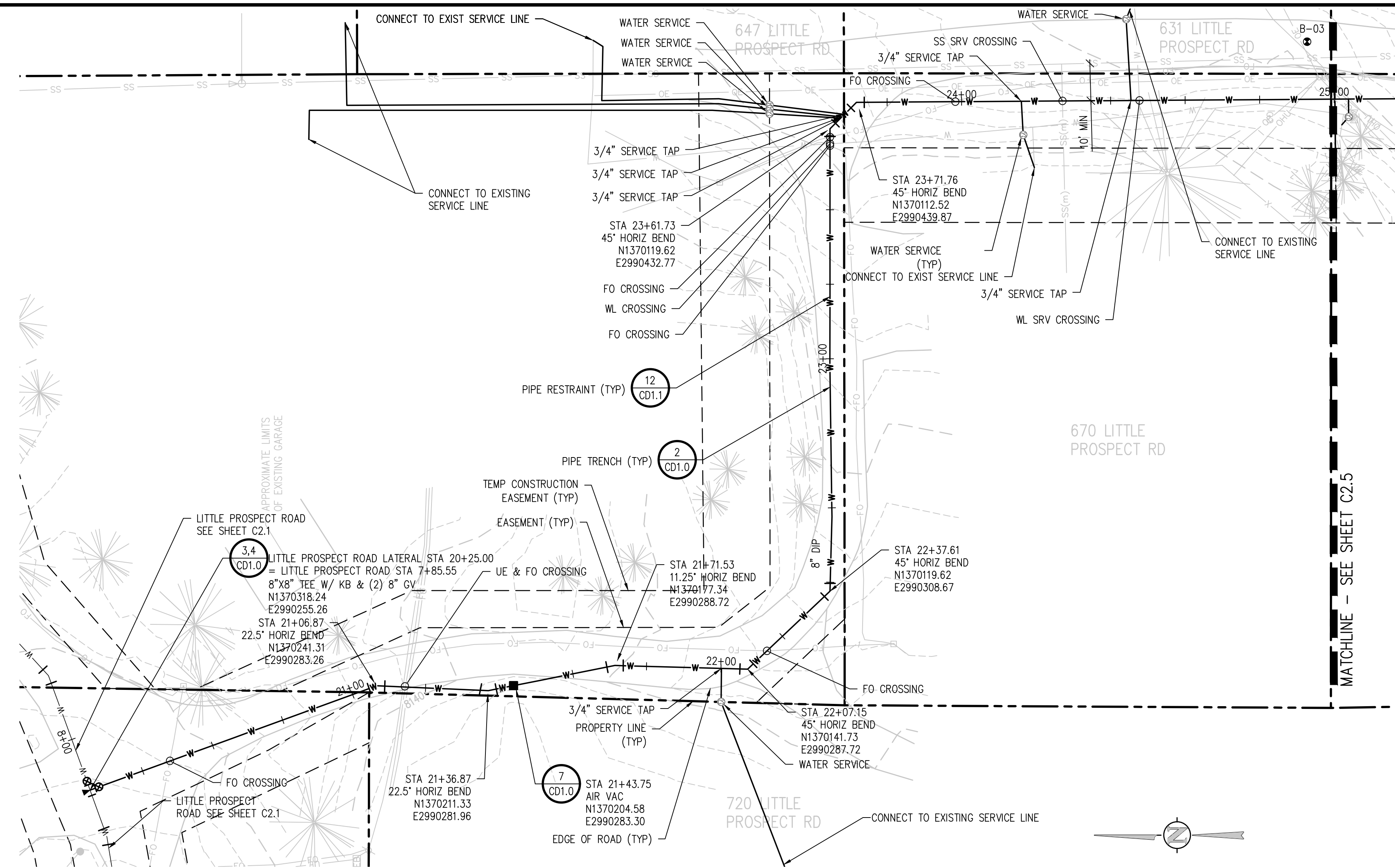
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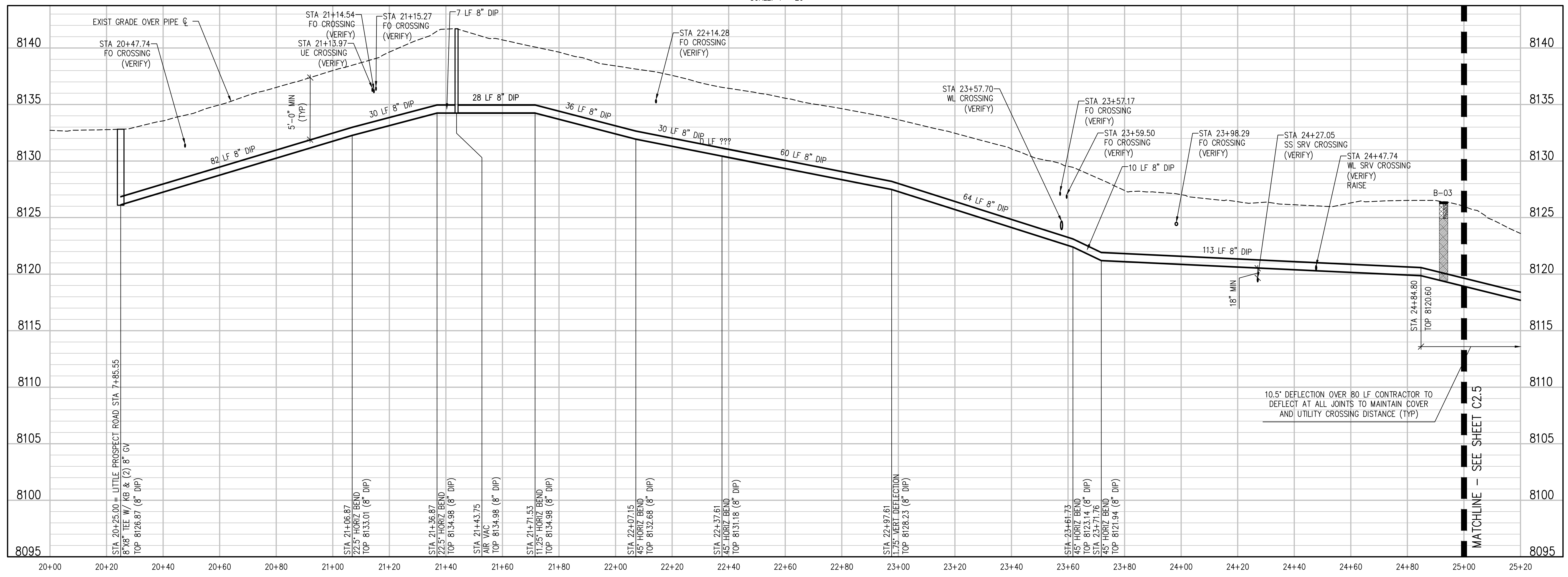
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LITTLE PROSPECT ROAD LATERAL PLAN  
SCALE: 1" = 20'



LITTLE PROSPECT ROAD LATERAL PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

NO.	DATE	DES'D	D'W'N	REVISION DESCRIPTION

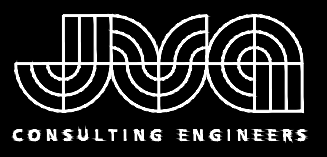
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ESTES PARK, COLORADO  
LITTLE PROSPECT ROAD LATERAL PLAN  
AND PROFILE

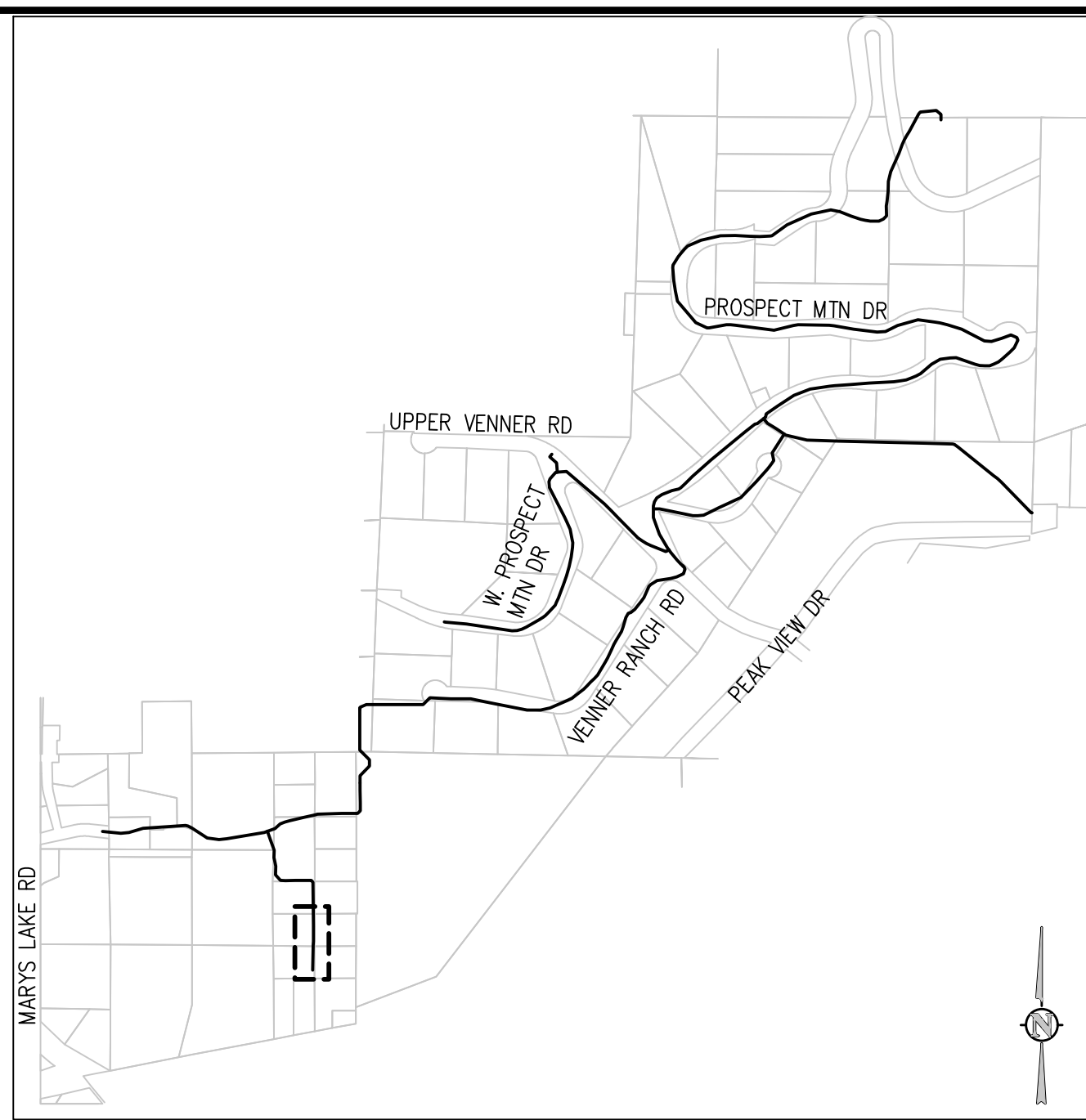
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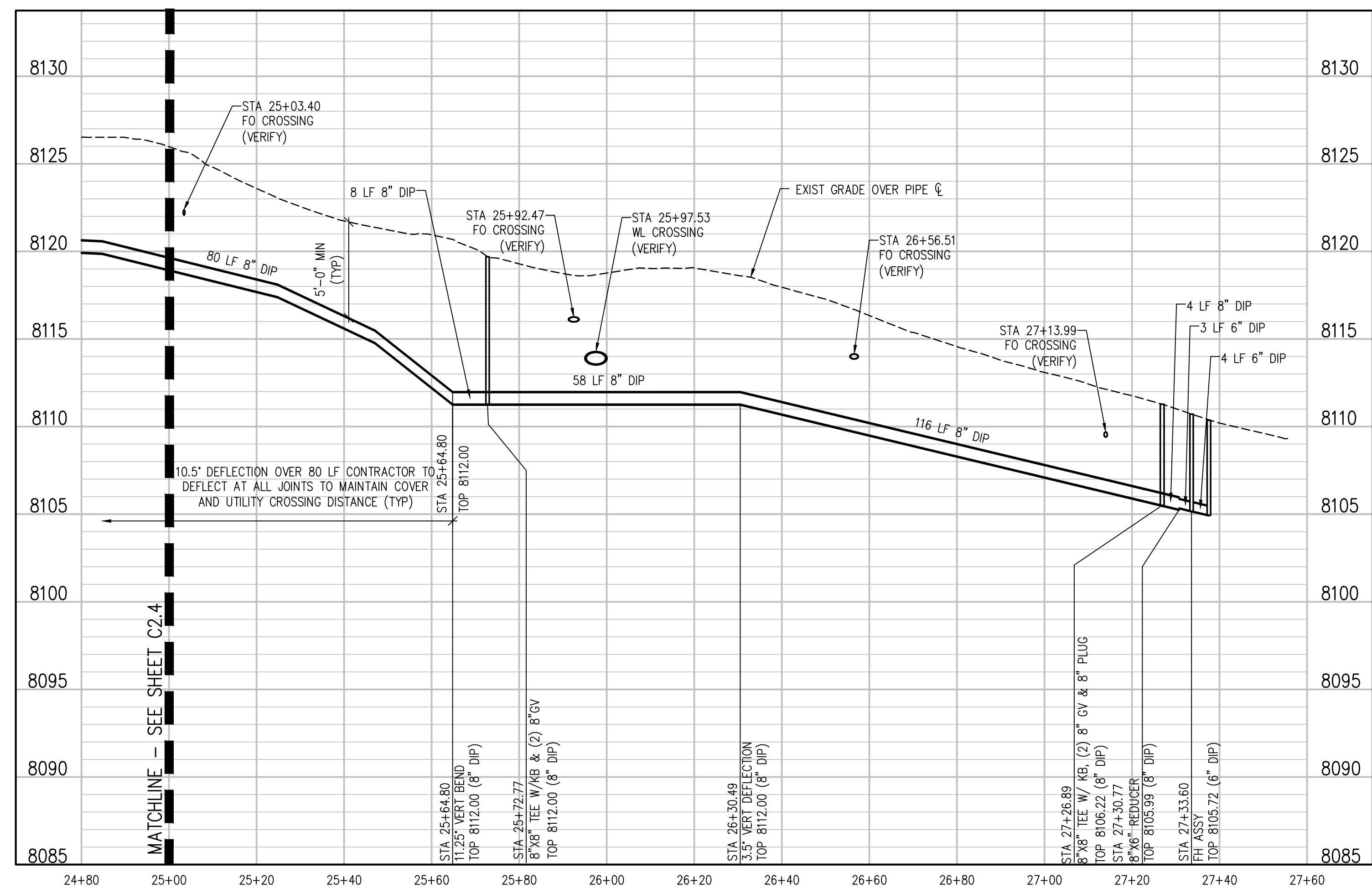
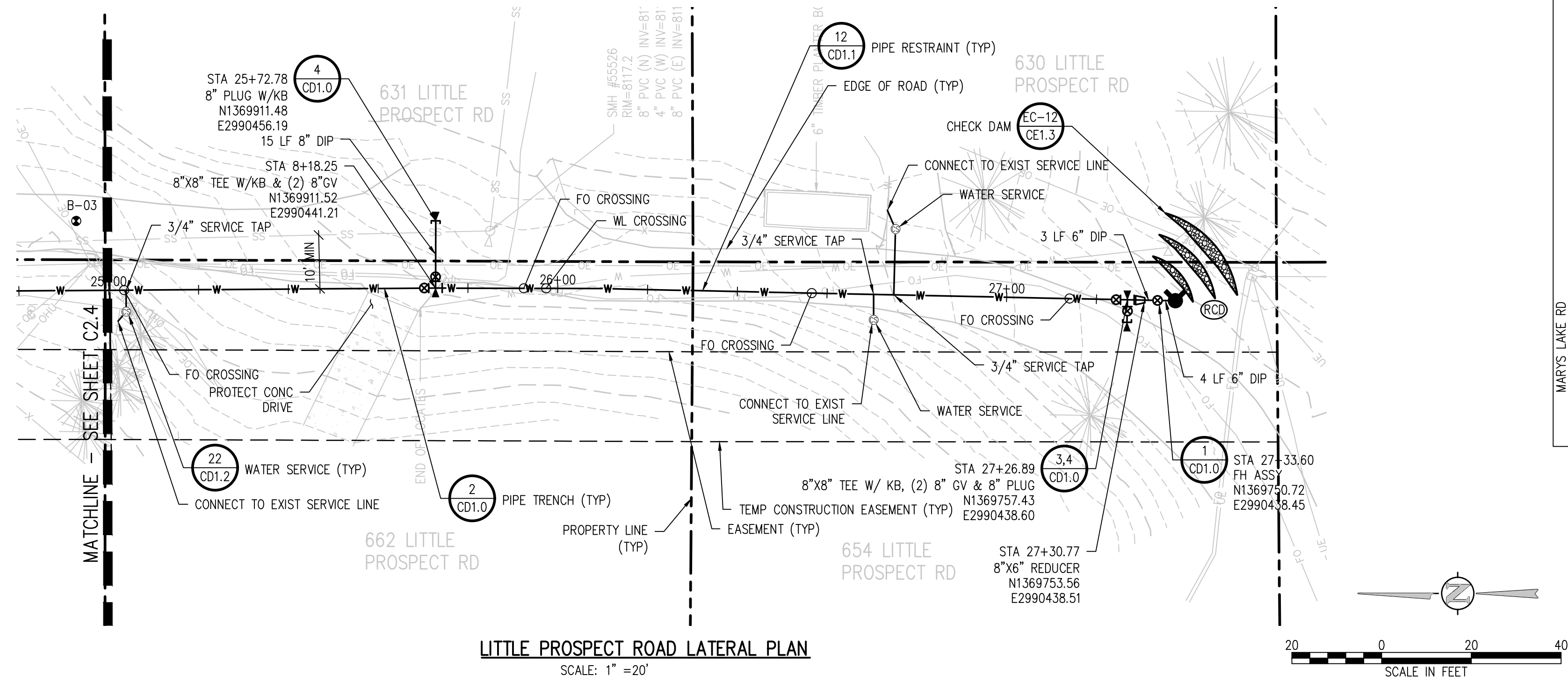




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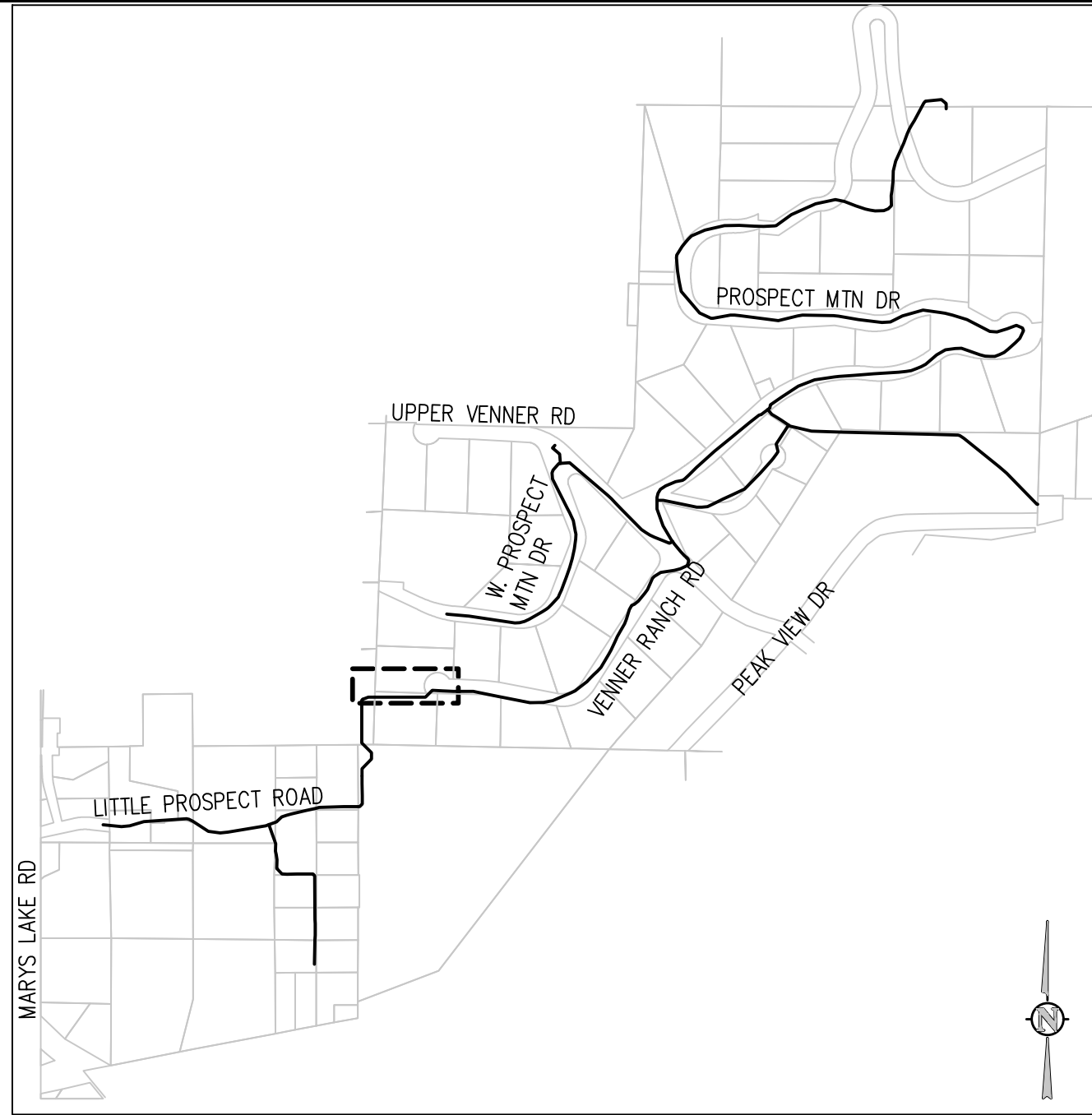
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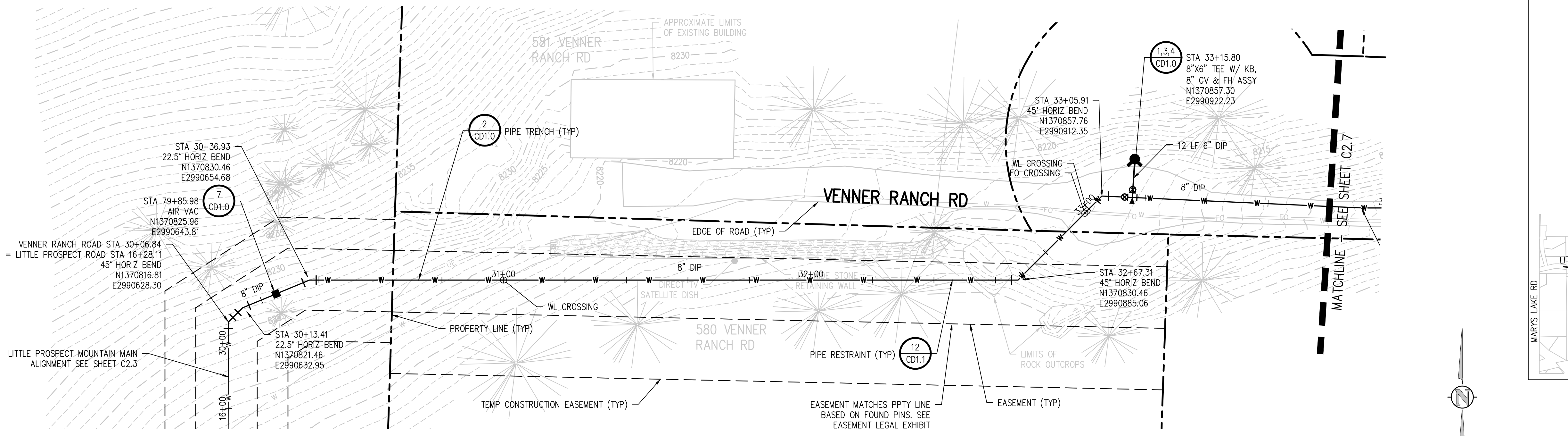
PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO  
LITTLE PROSPECT ROAD LATERAL PLAN  
AND PROFILE

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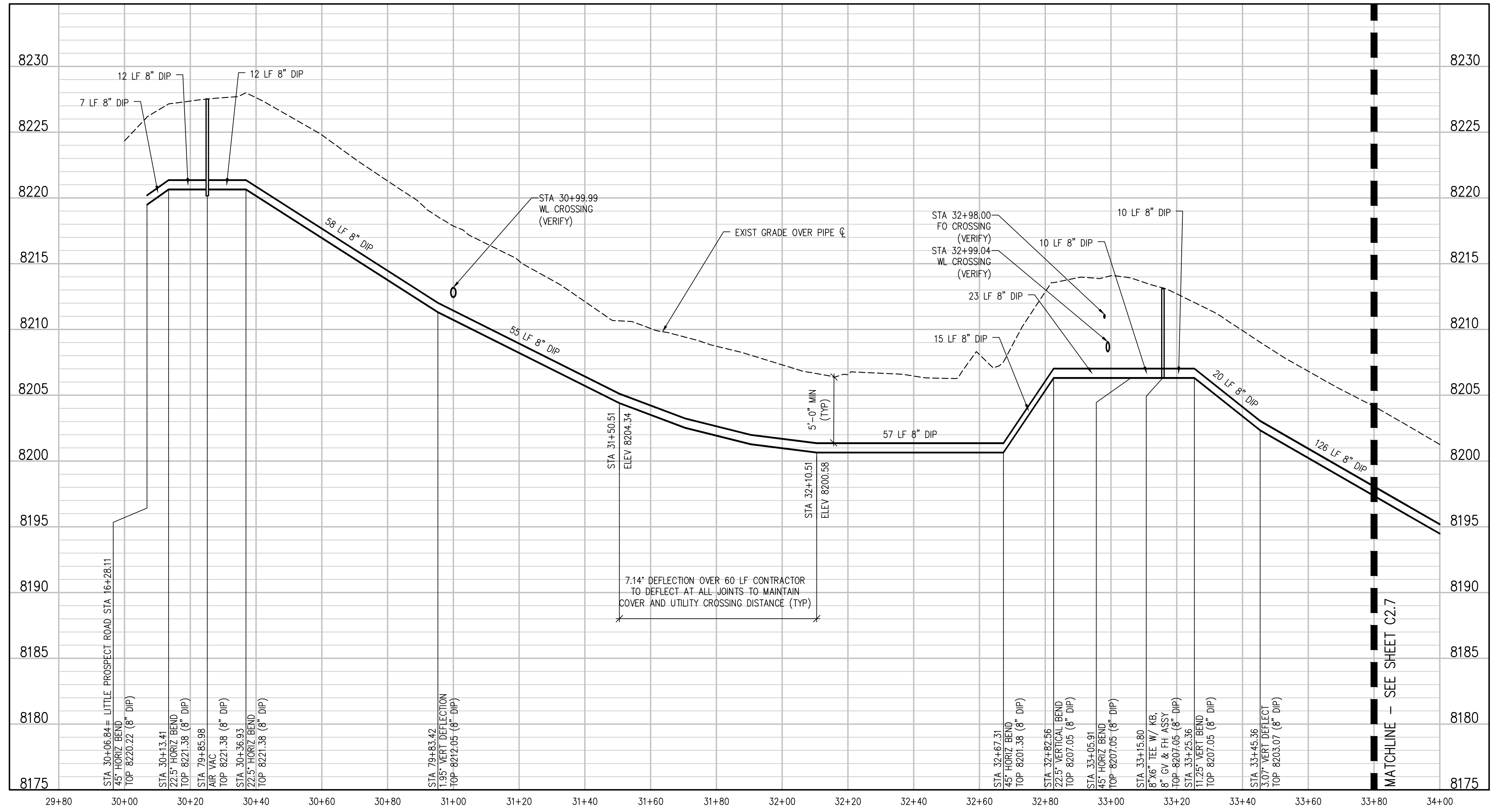
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**KEY MAP**  
NTS



**VENNER RANCH ROAD PLAN**  
SCALE: 1"=20'



**VENNER RANCH ROAD PROFILE**  
SCALE: 1"=20' HORIZ  
1"=5' VERT

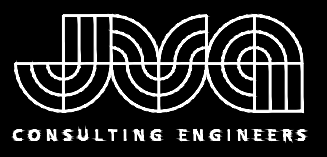
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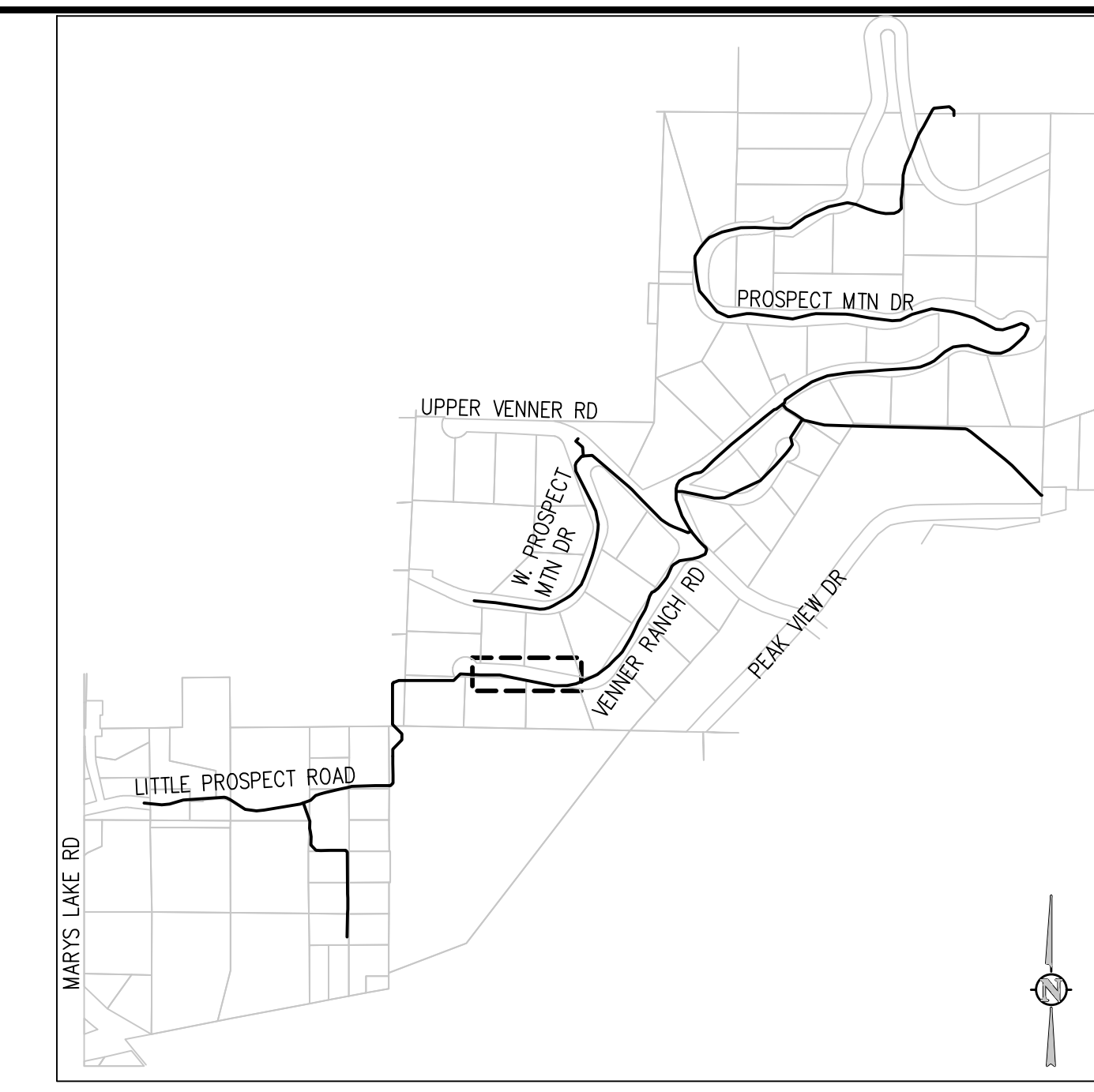
PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO  
  
VENNER RANCH ROAD PLAN AND PROFILE

SHEET NO.  
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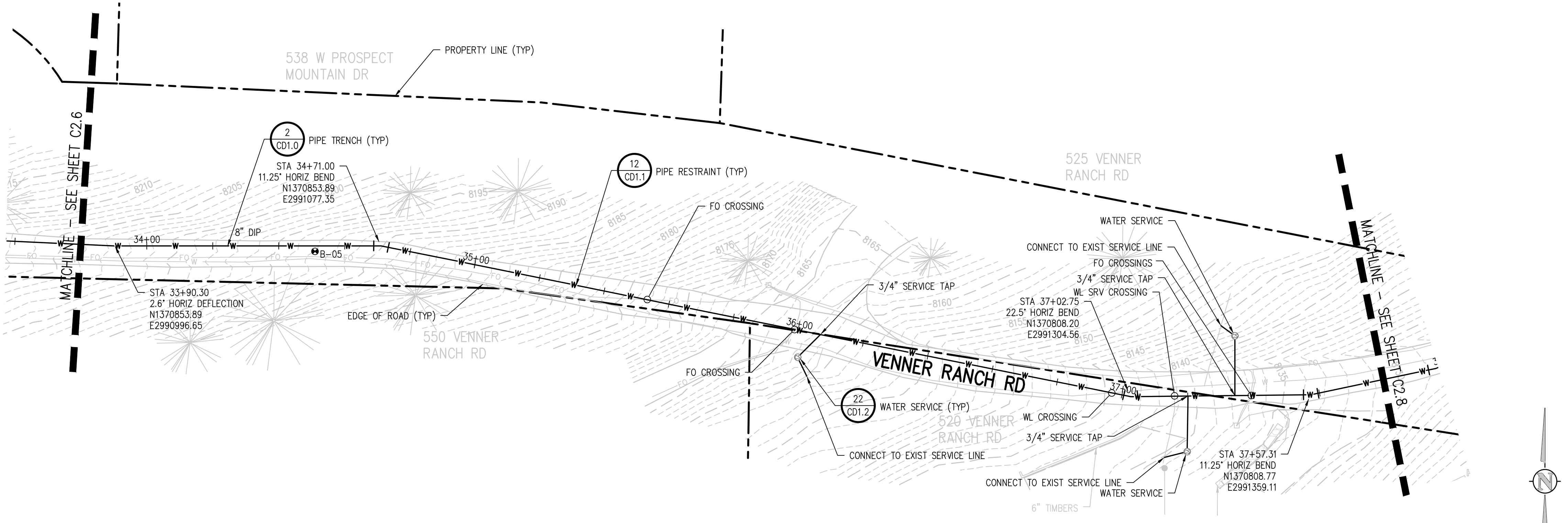
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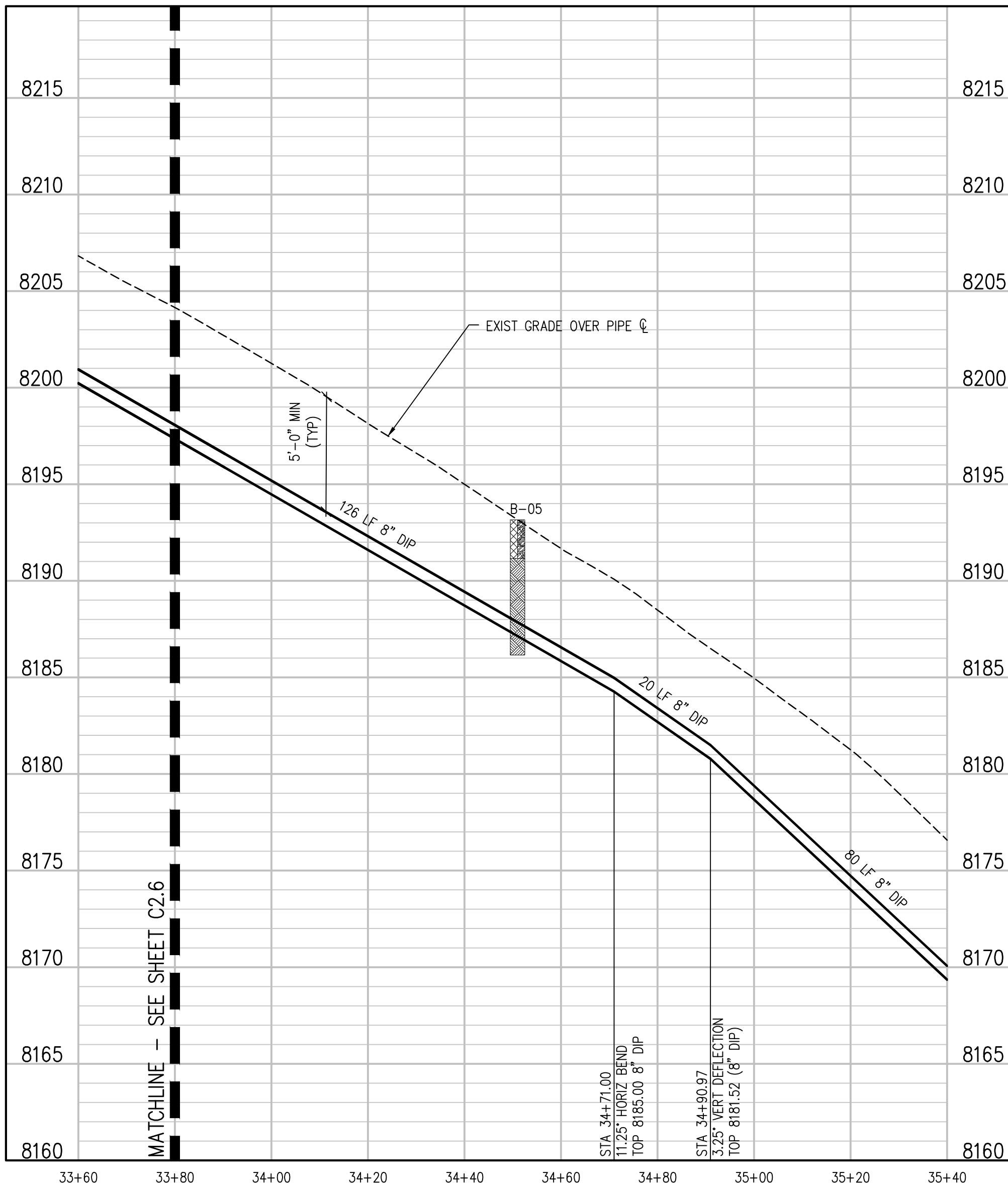
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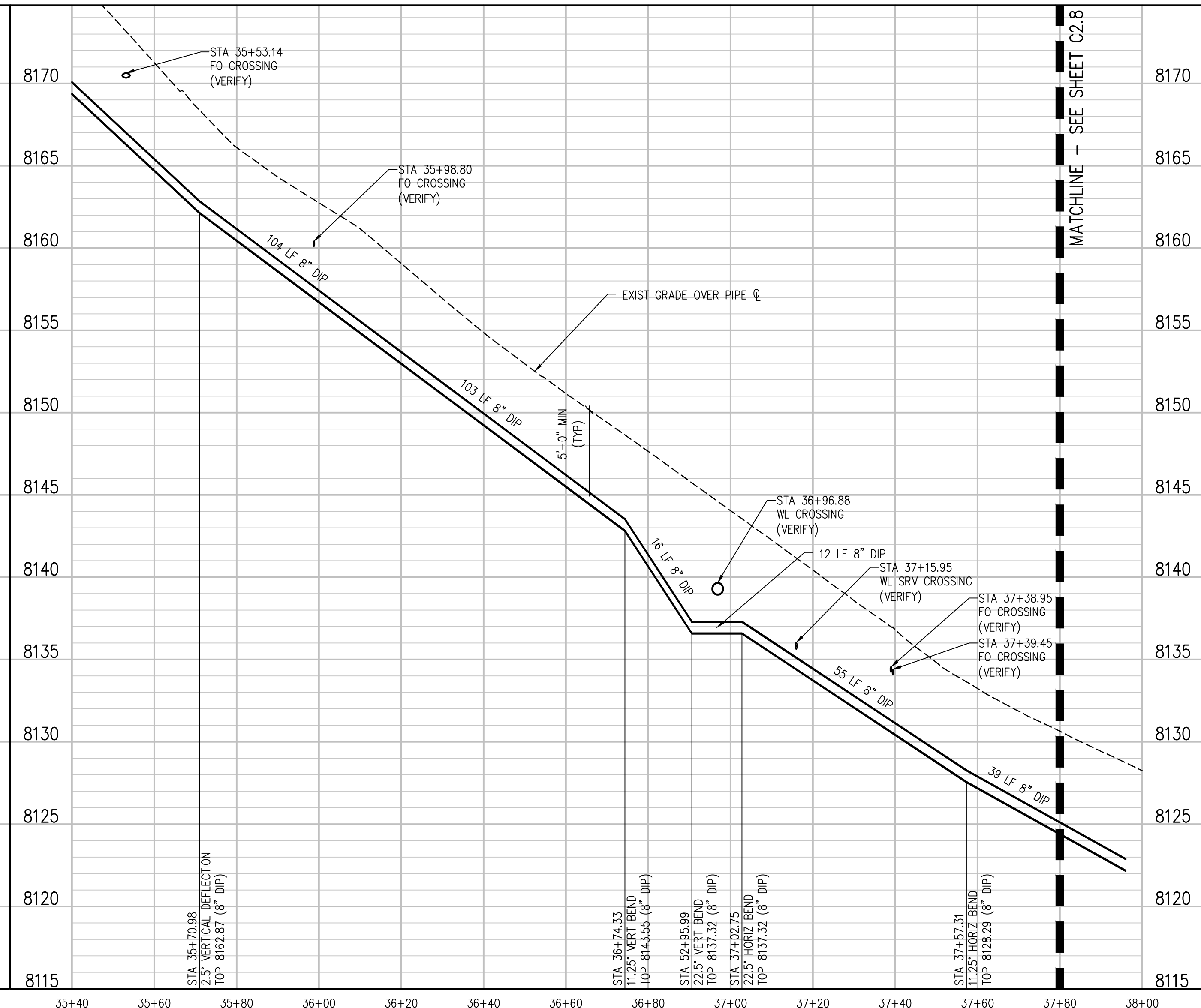
KEY MAP  
NTS



VENNER RANCH ROAD PLAN  
SCALE: 1"=20'



VENNER RANCH ROAD PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT



VENNER RANCH ROAD PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

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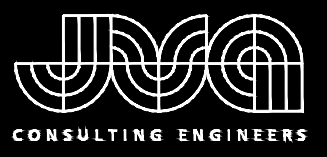
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WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

VENNER RANCH ROAD PLAN AND PROFILE

SHEET NO.  
**C2.7**



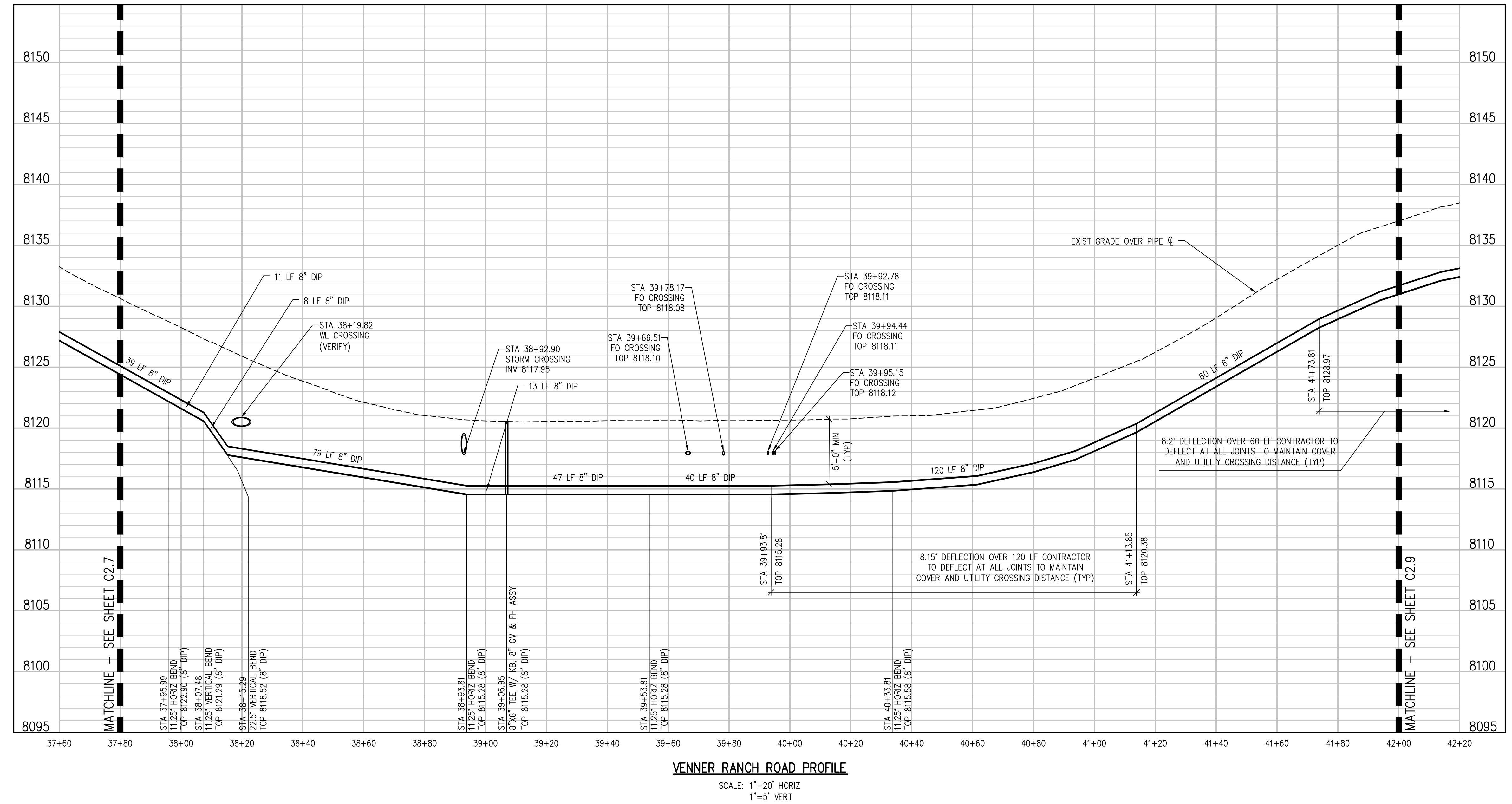
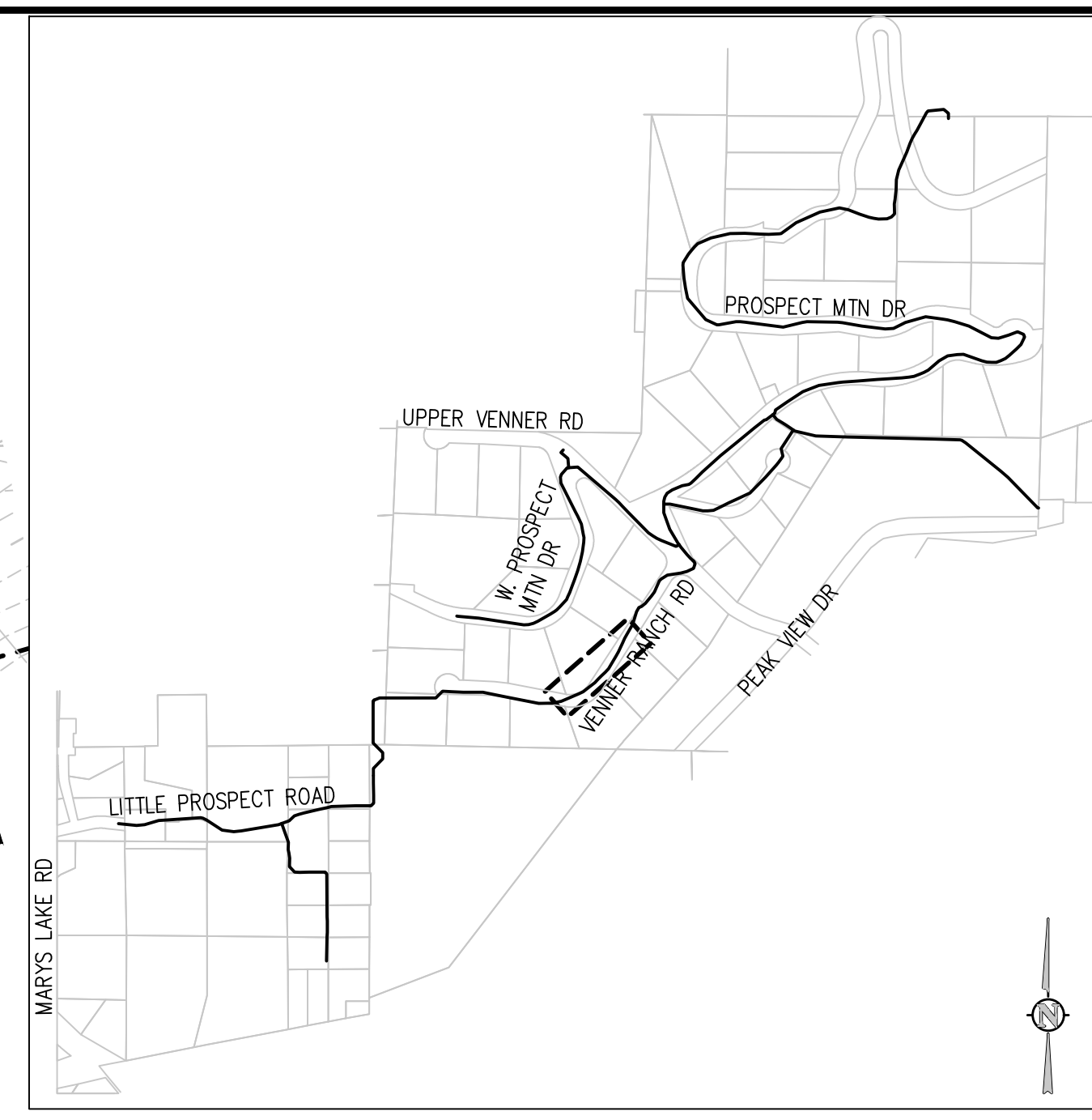
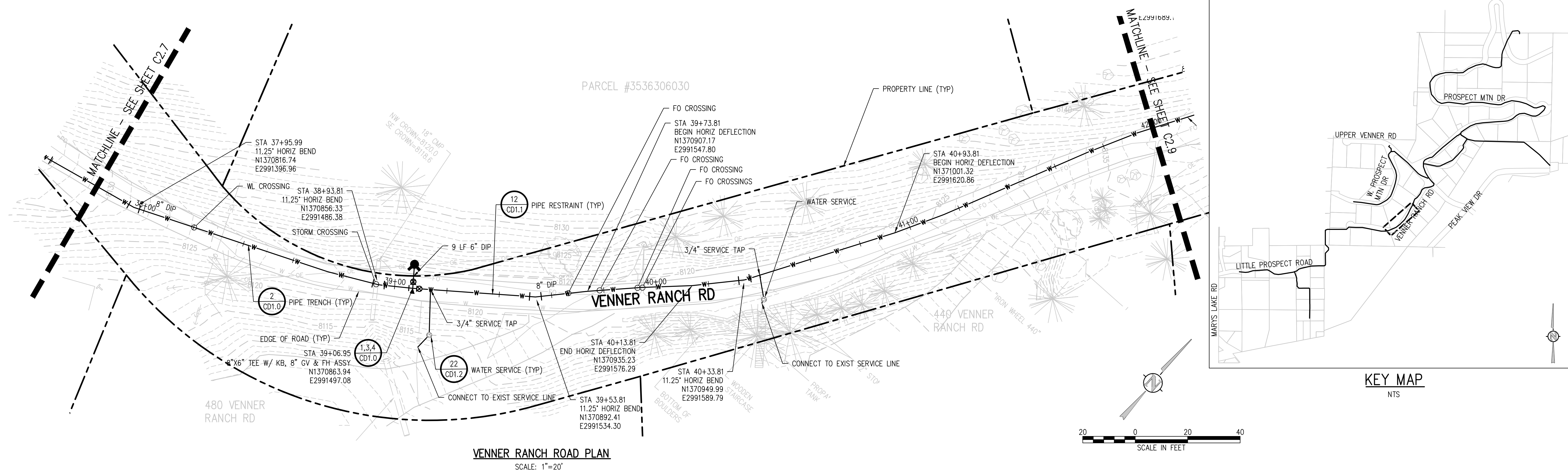
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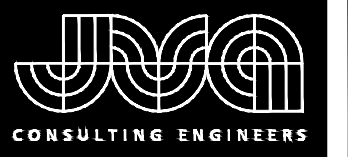
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WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO  
VENNER RANCH ROAD PLAN AND PROFILE

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C2.8



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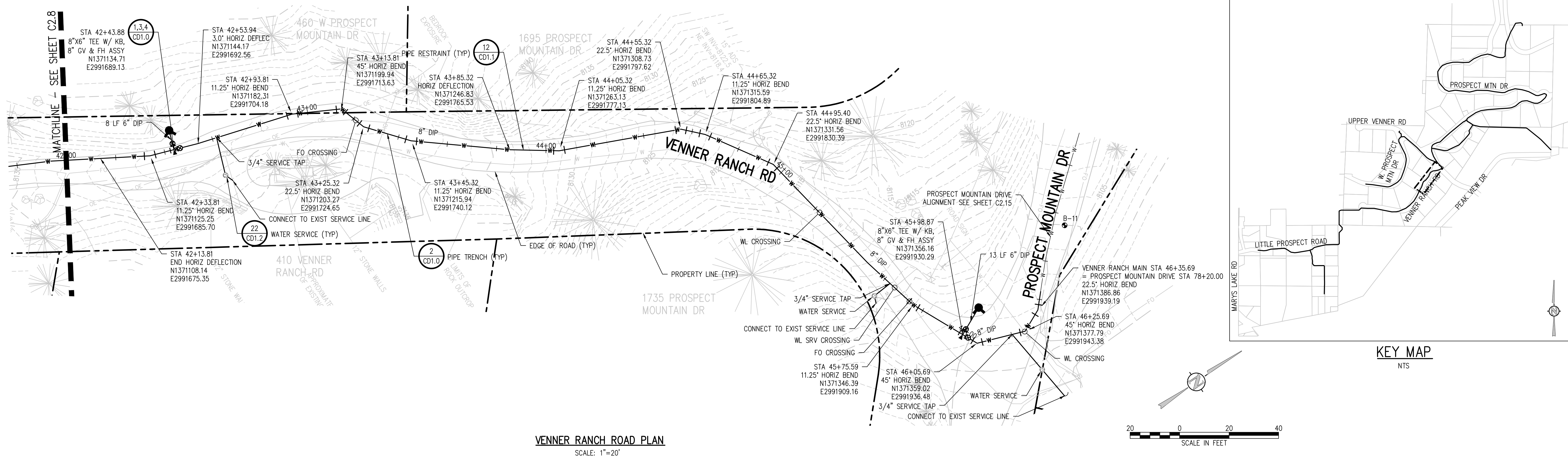
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DATE: SEPTEMBER 2022  
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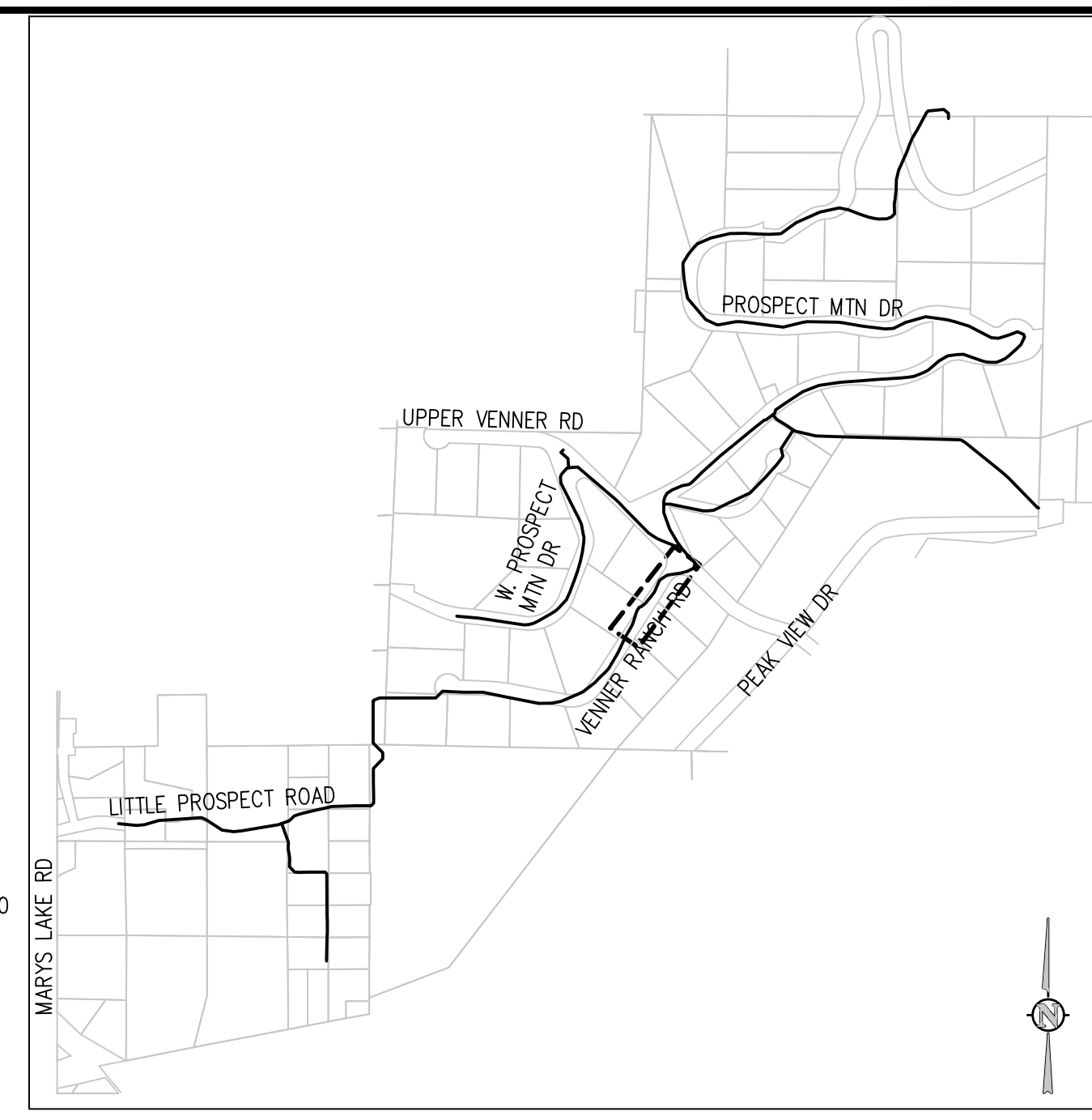
PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

VENNER RANCH ROAD PLAN AND PROFILE

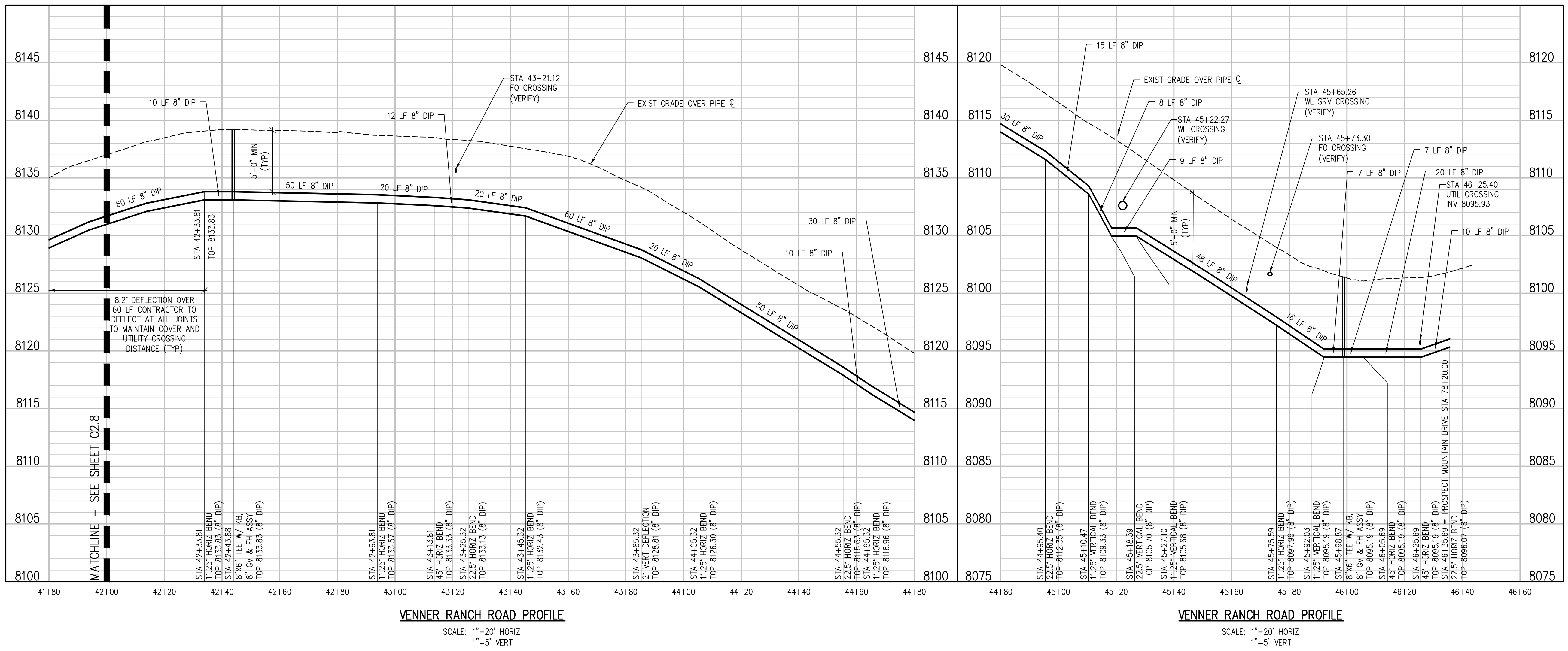
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**VENNER RANCH ROAD PLAN**  
SCALE: 1"=20'



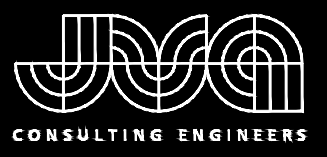
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NTS



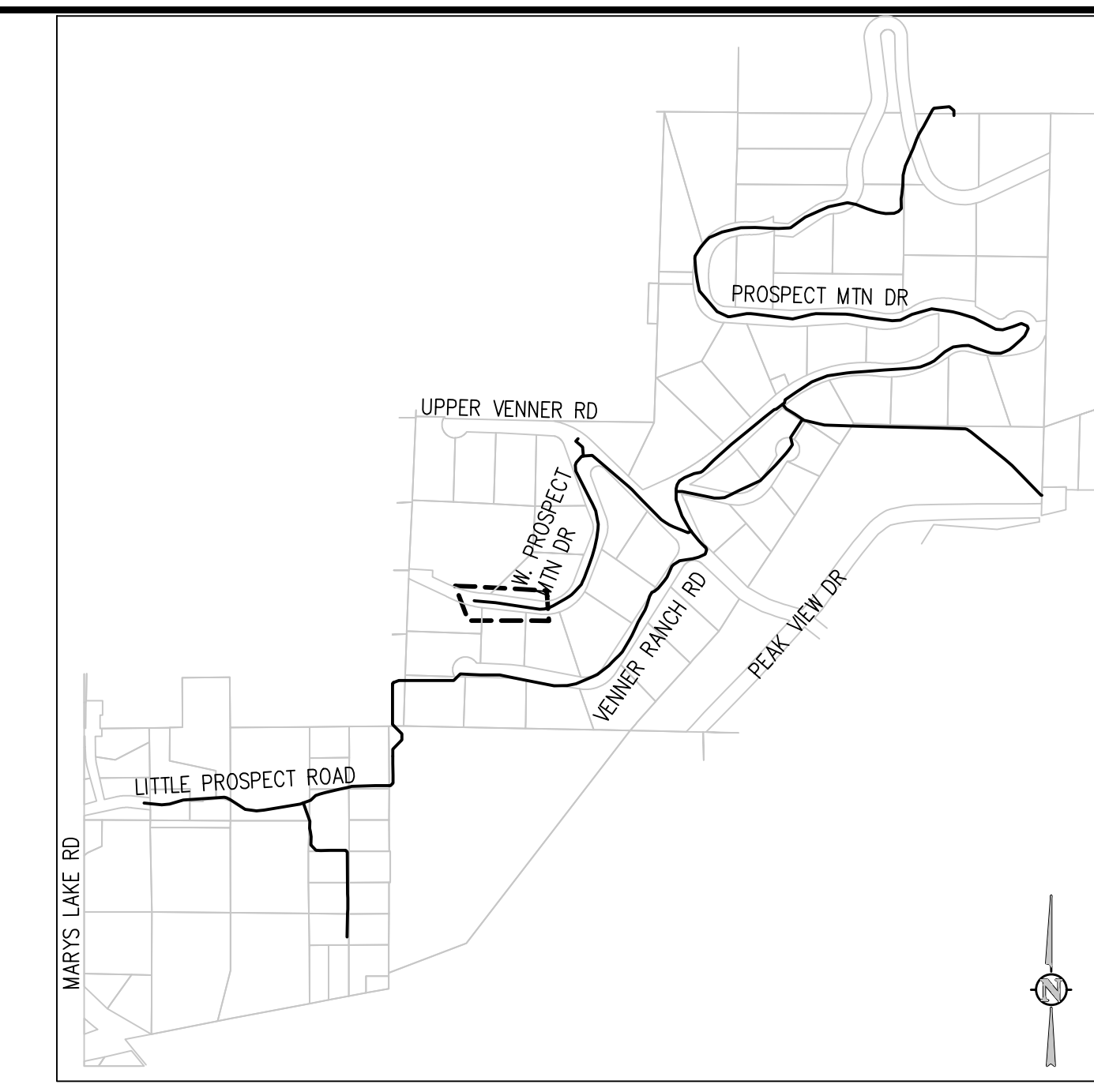
**VENNER RANCH ROAD PROFILE**  
SCALE: 1"=20' HORIZ  
1"=5' VERT

**VENNER RANCH ROAD PROFILE**  
SCALE: 1"=20' HORIZ  
1"=5' VERT

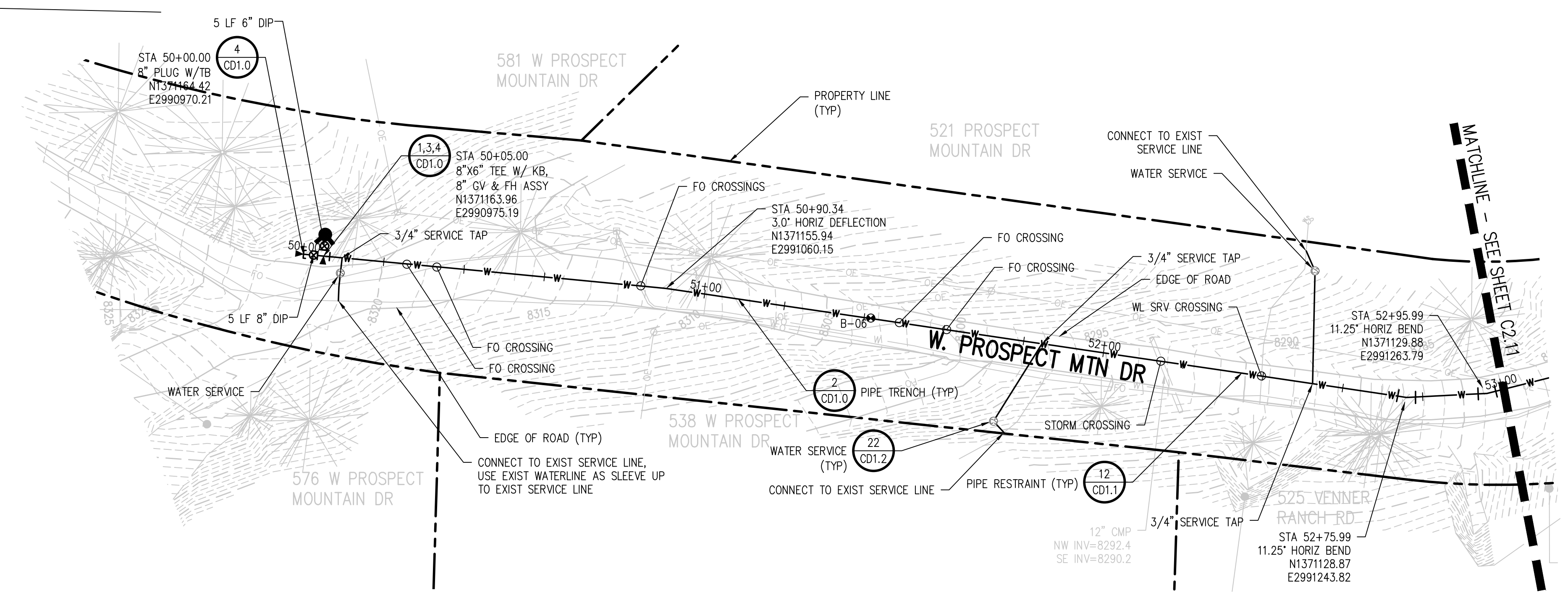
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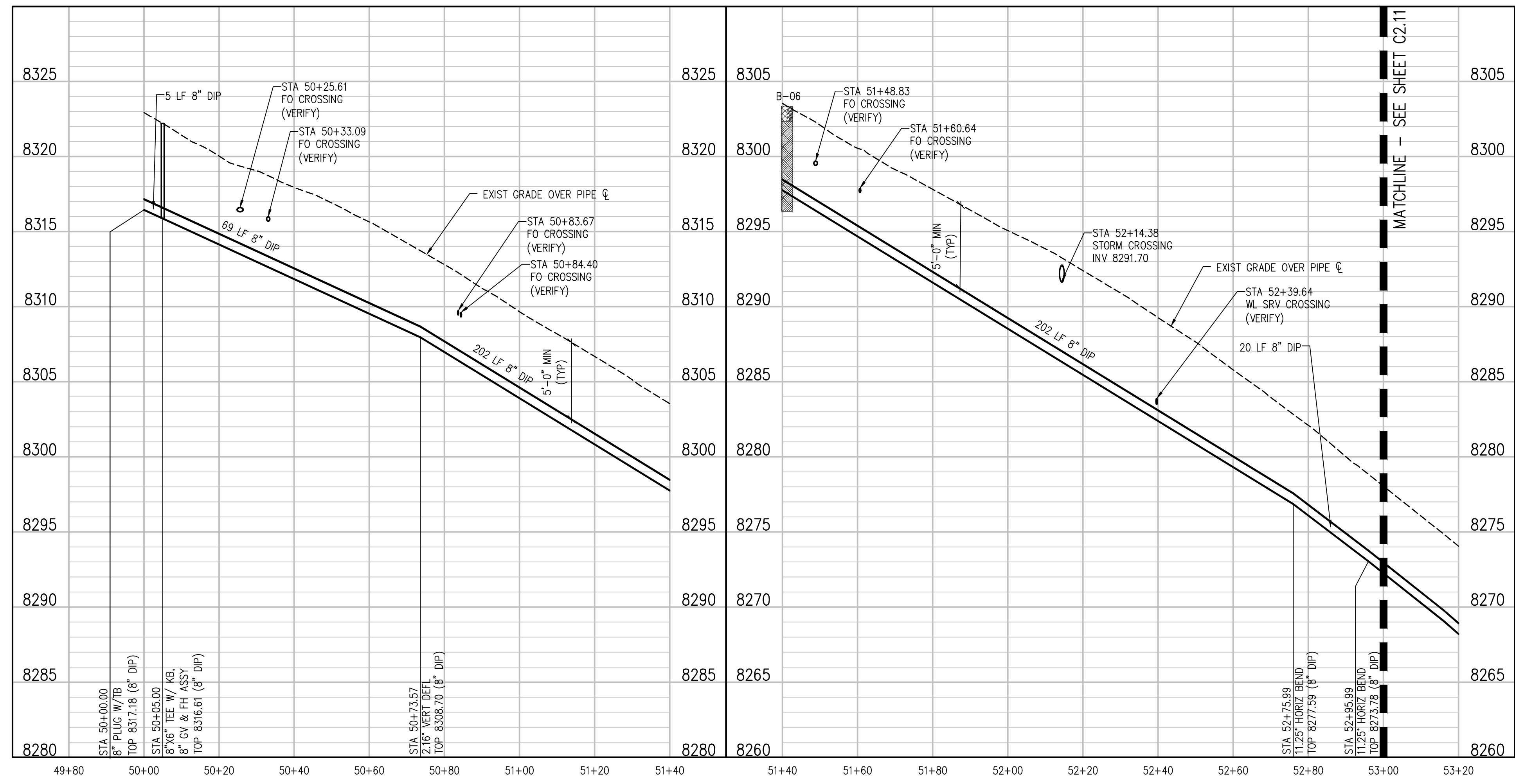
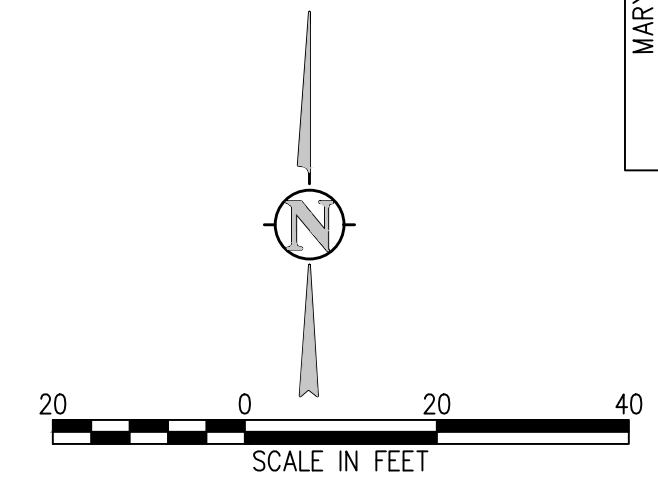
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KEY MAP  
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WEST PROSPECT MOUNTAIN DRIVE PLAN  
SCALE: 1"=20'



WEST PROSPECT MOUNTAIN DRIVE PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

WEST PROSPECT MOUNTAIN DRIVE PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

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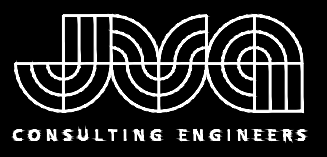
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JOB #: 1066e  
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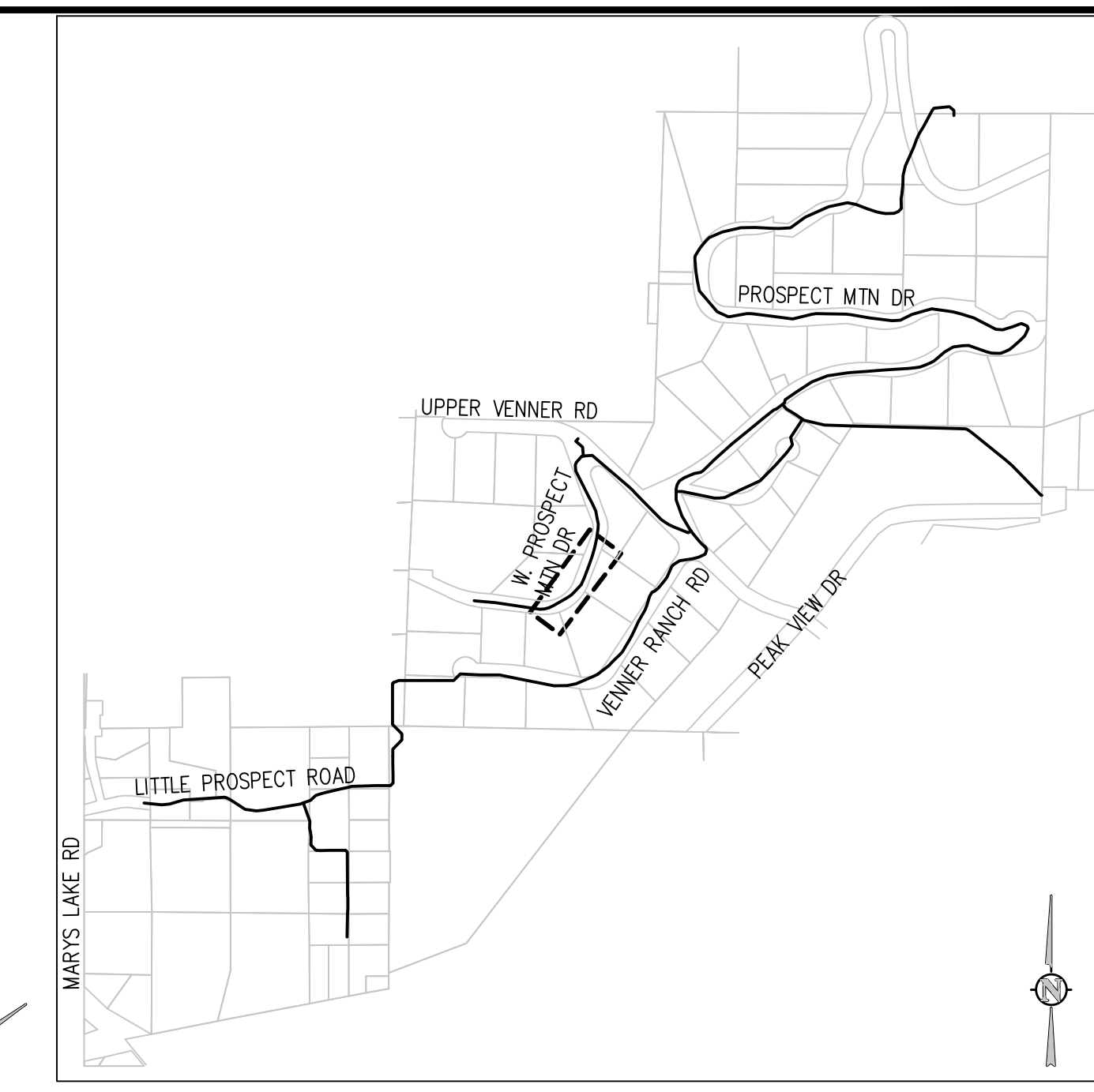
PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO  
WEST PROSPECT MOUNTAIN DRIVE PLAN  
AND PROFILE

SHEET NO.  
C2.10

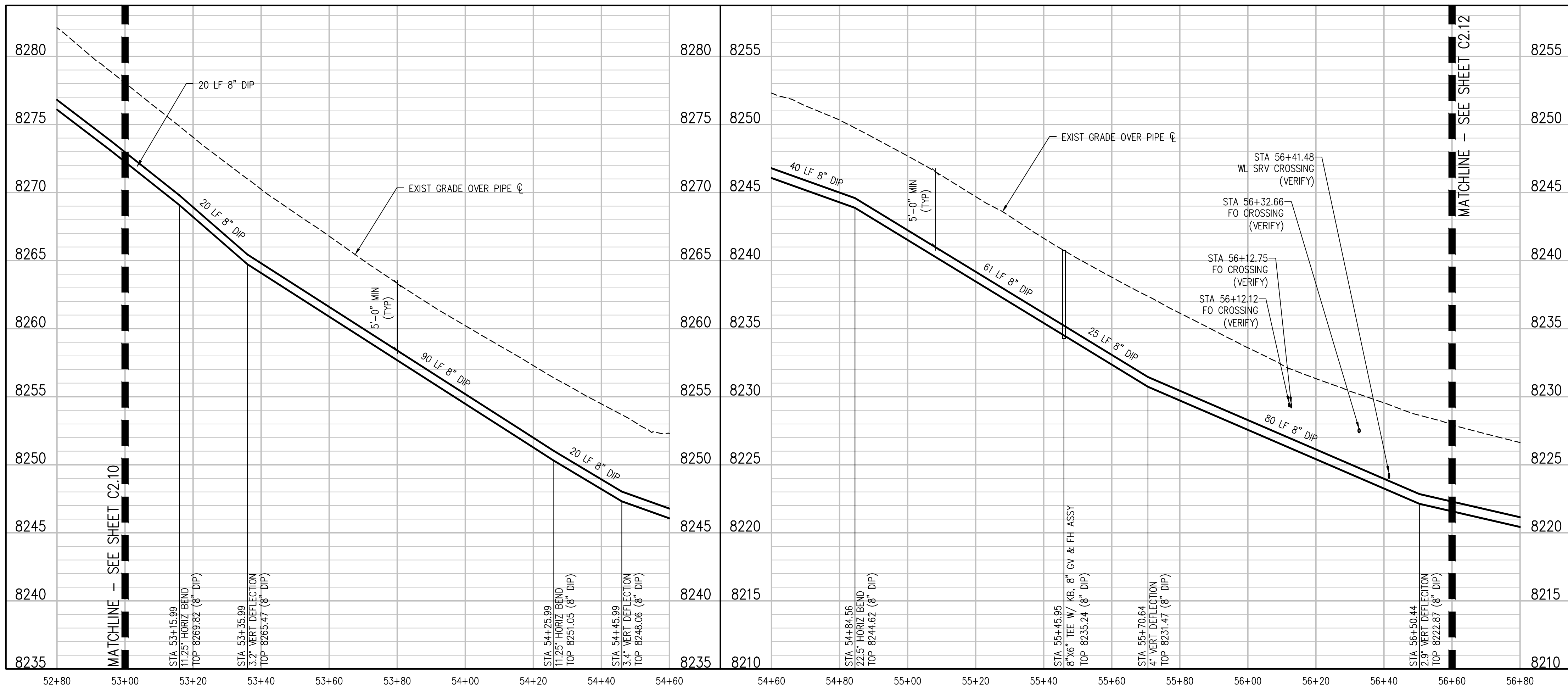
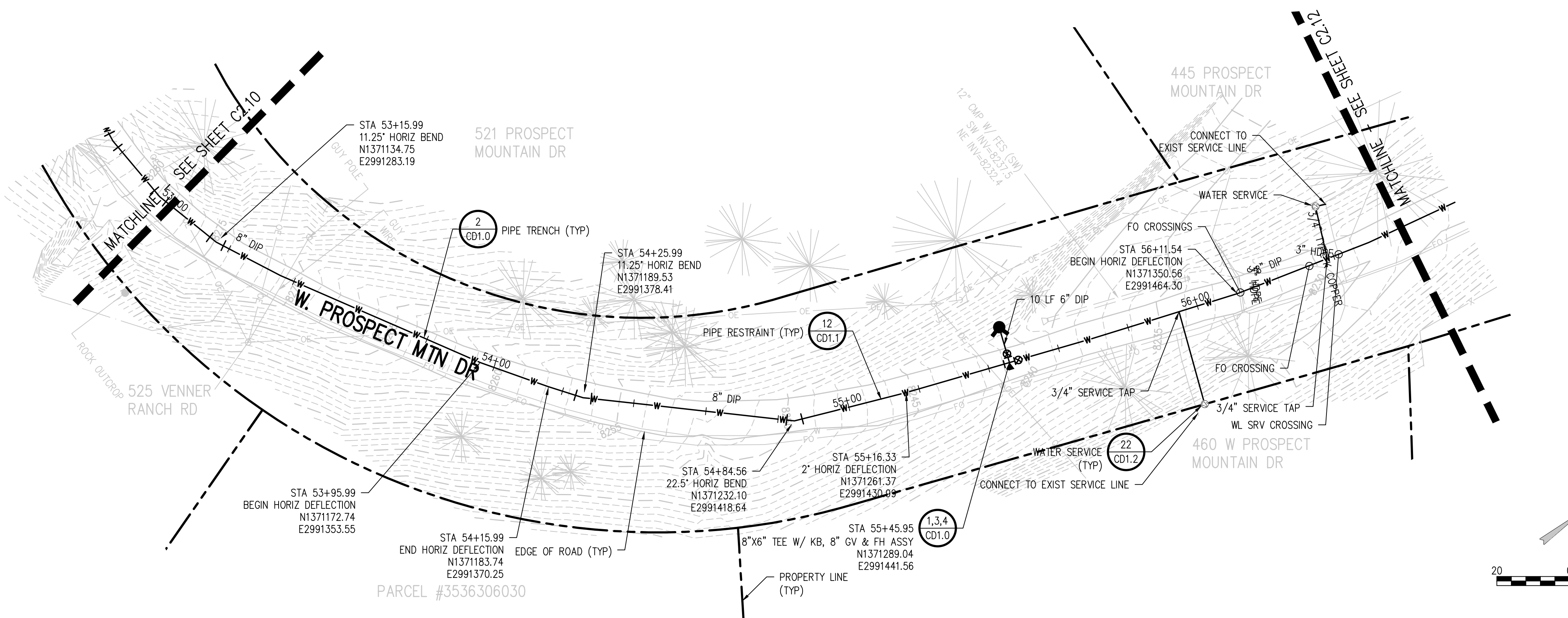
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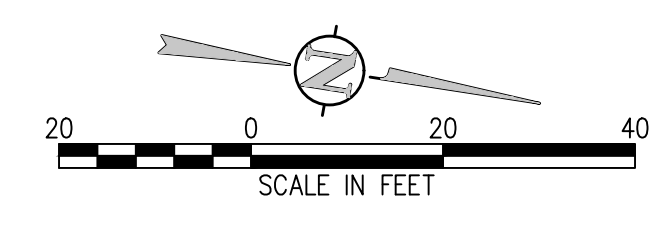
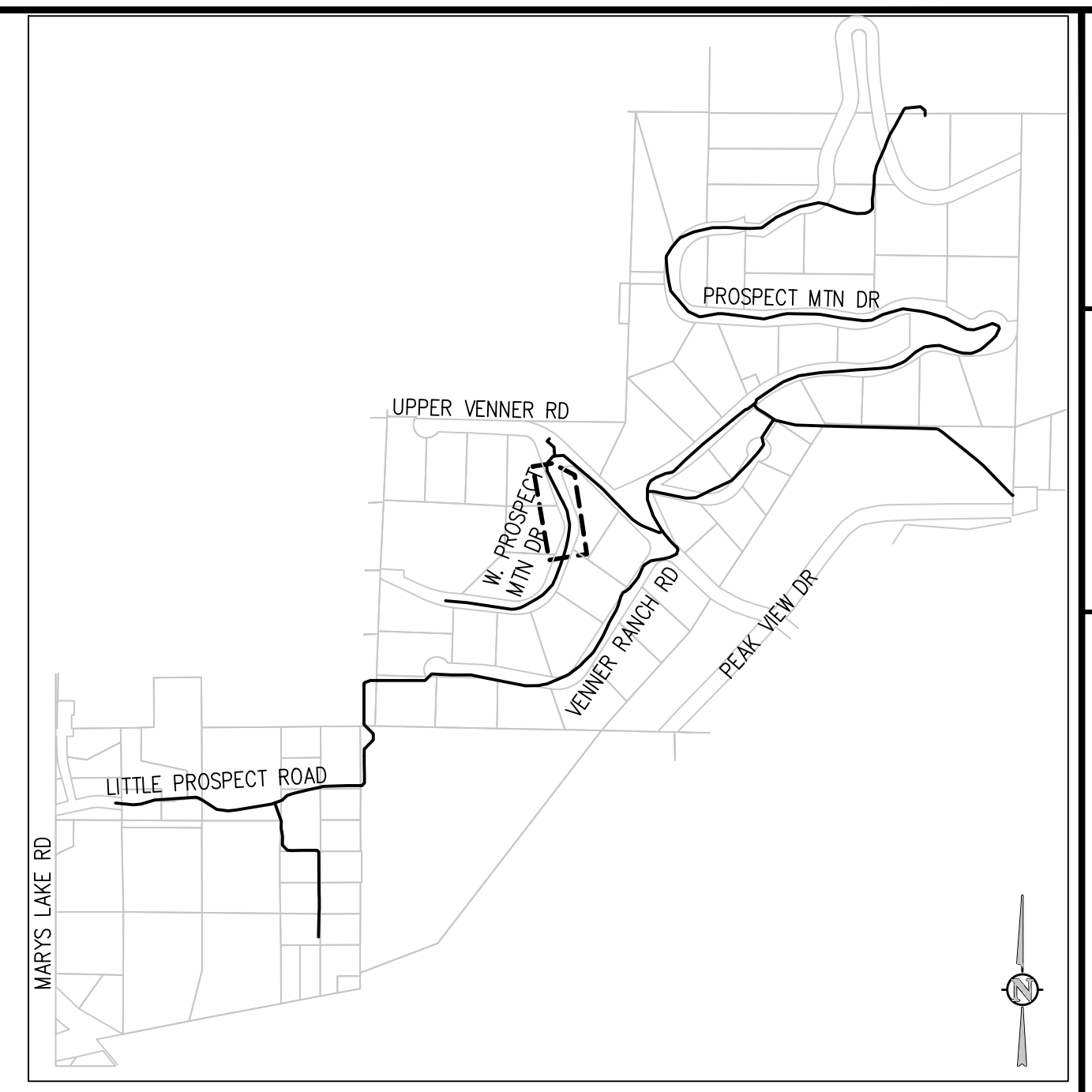
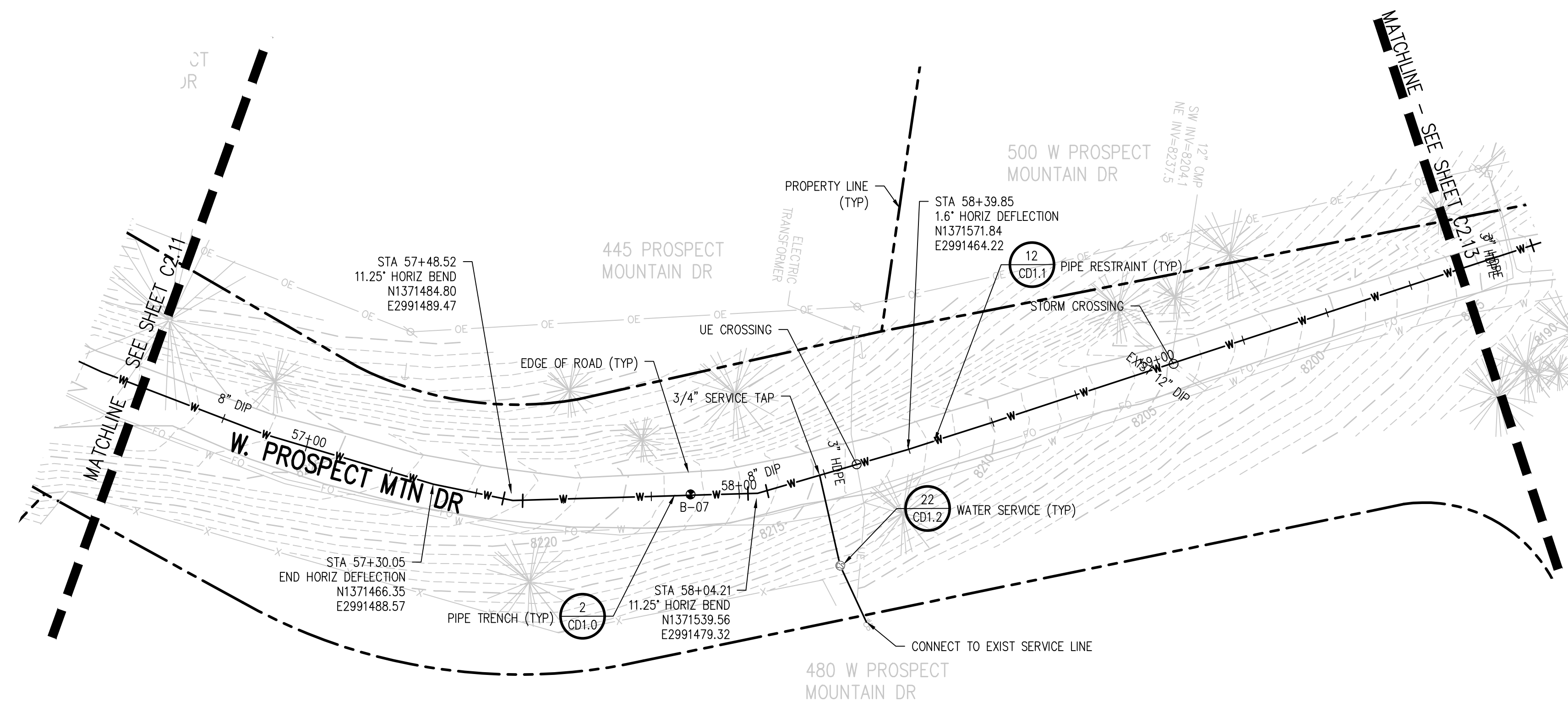
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WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

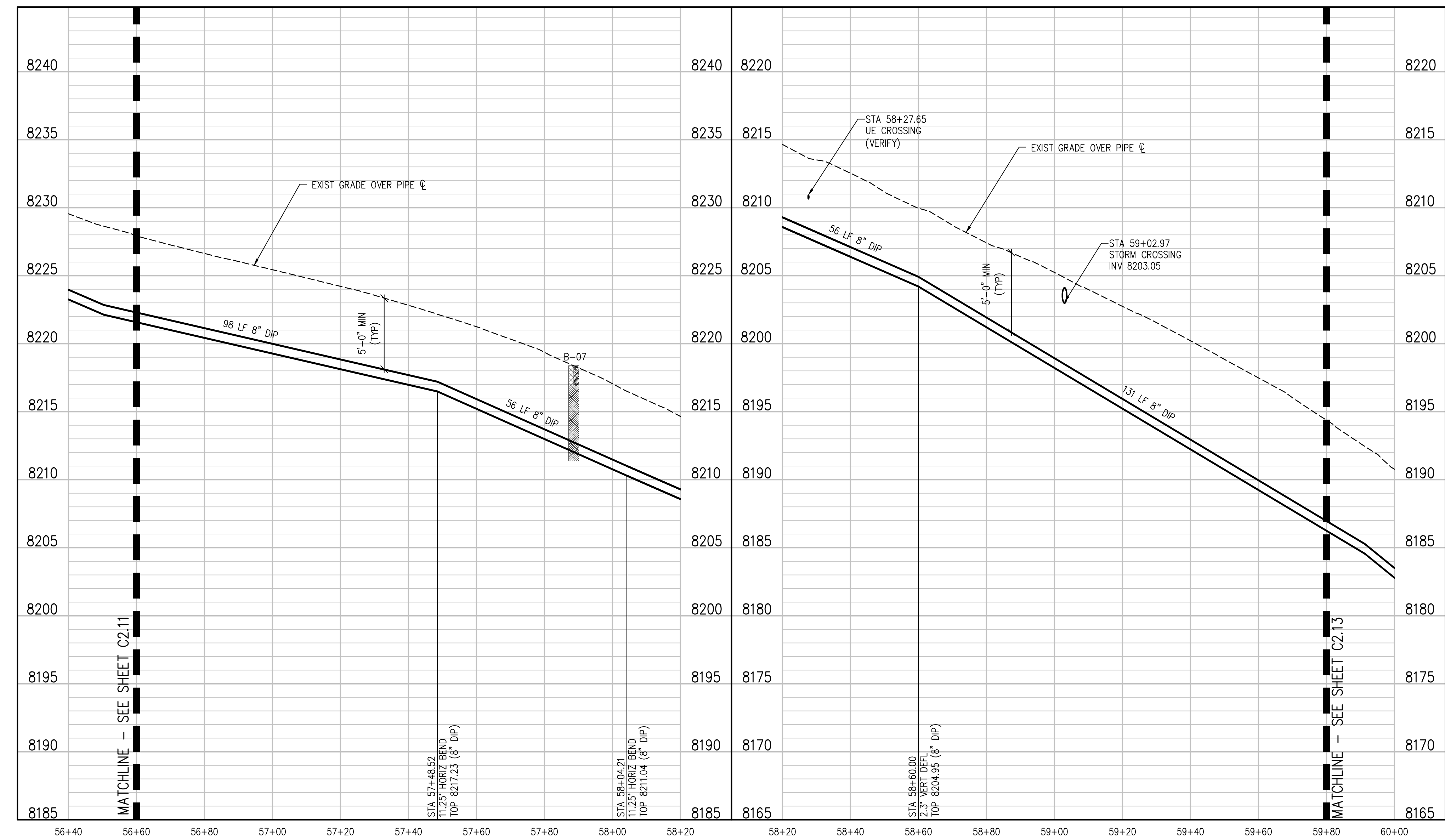
WEST PROSPECT MOUNTAIN DRIVE PLAN  
AND PROFILE

SHEET NO.  
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**WEST PROSPECT MOUNTAIN DRIVE PLAN**  
 SCALE: 1"=20'



**WEST PROSPECT MOUNTAIN DRIVE PLAN**  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

**WEST PROSPECT MOUNTAIN DRIVE PLAN**  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

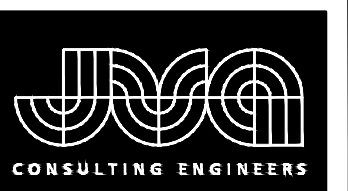
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 ESTES PARK, COLORADO  
 WEST PROSPECT MOUNTAIN DRIVE PLAN  
 AND PROFILE

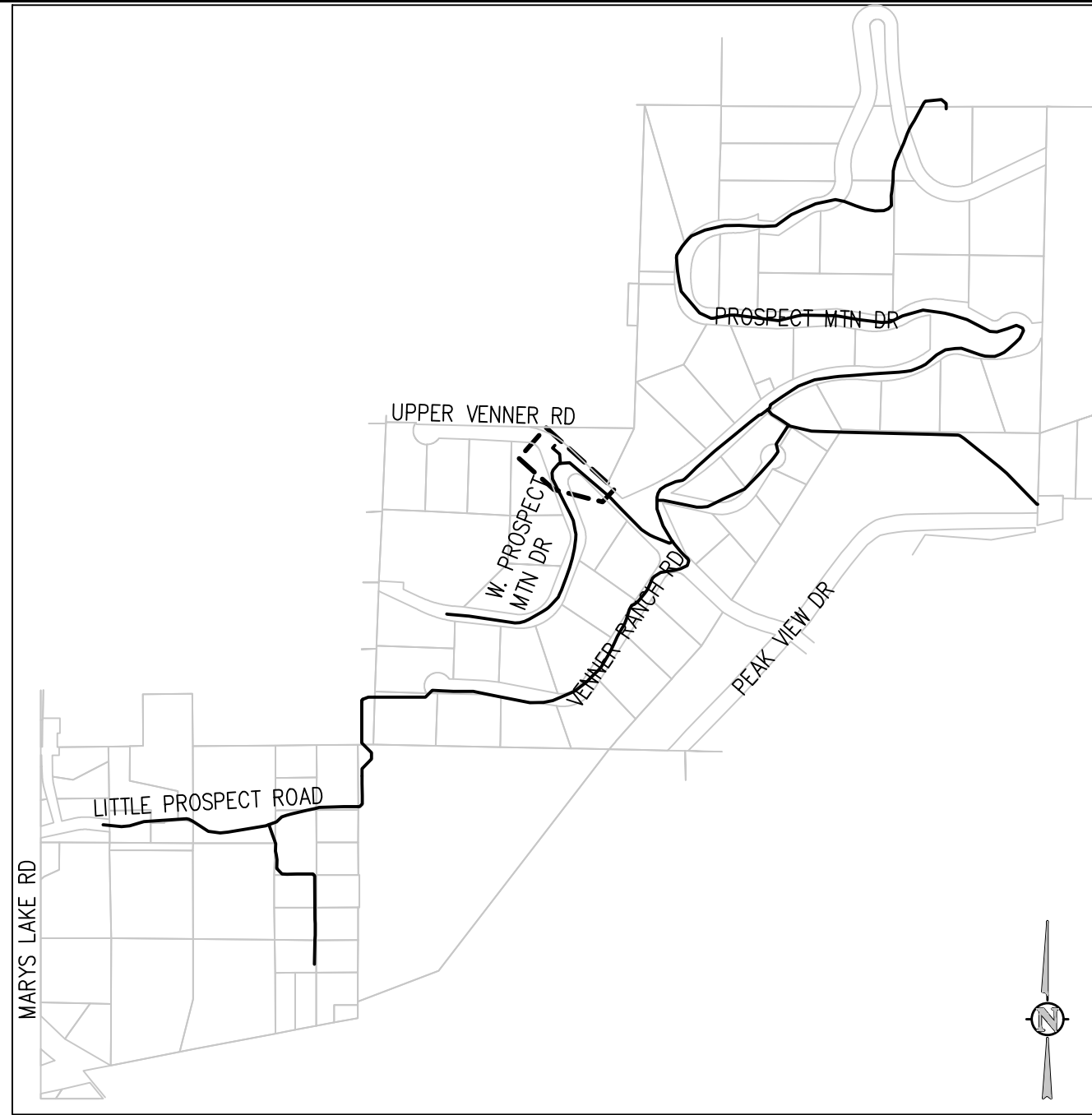
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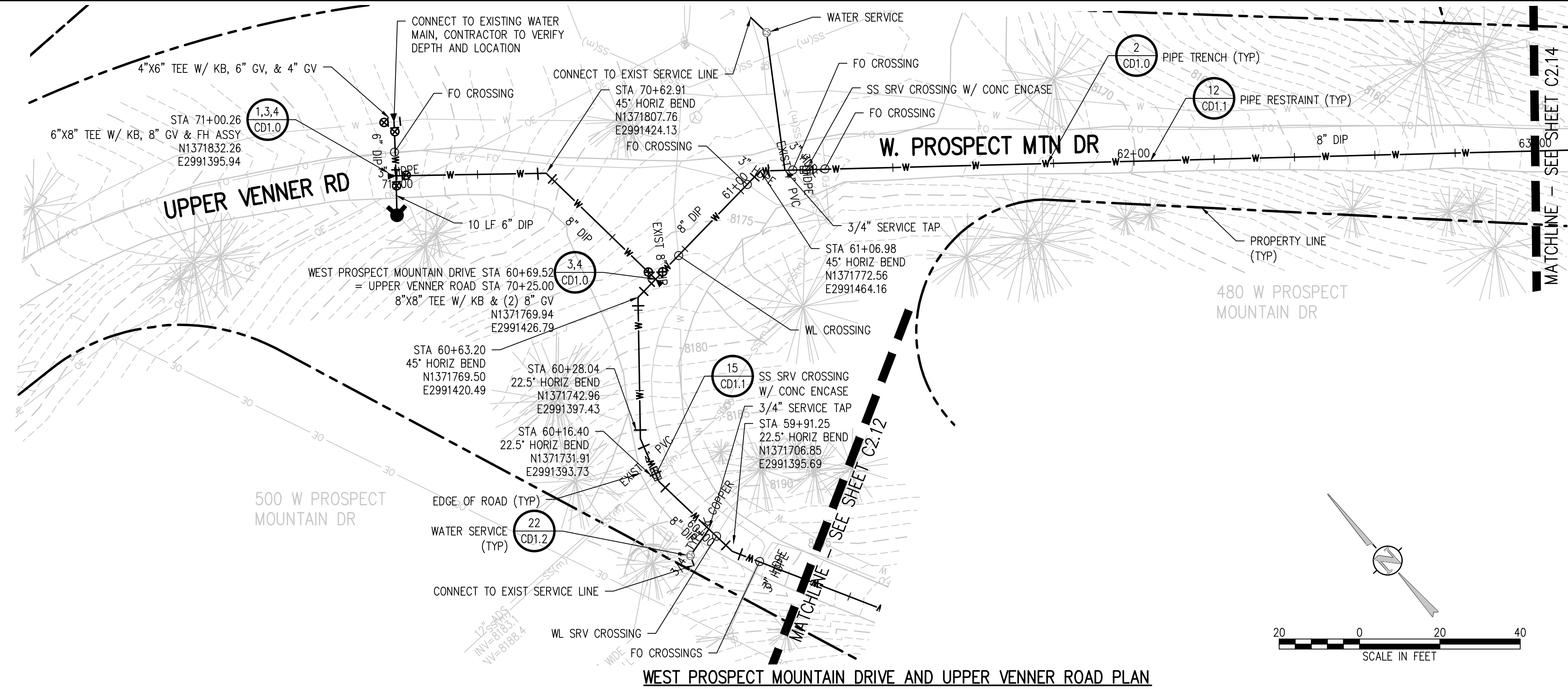




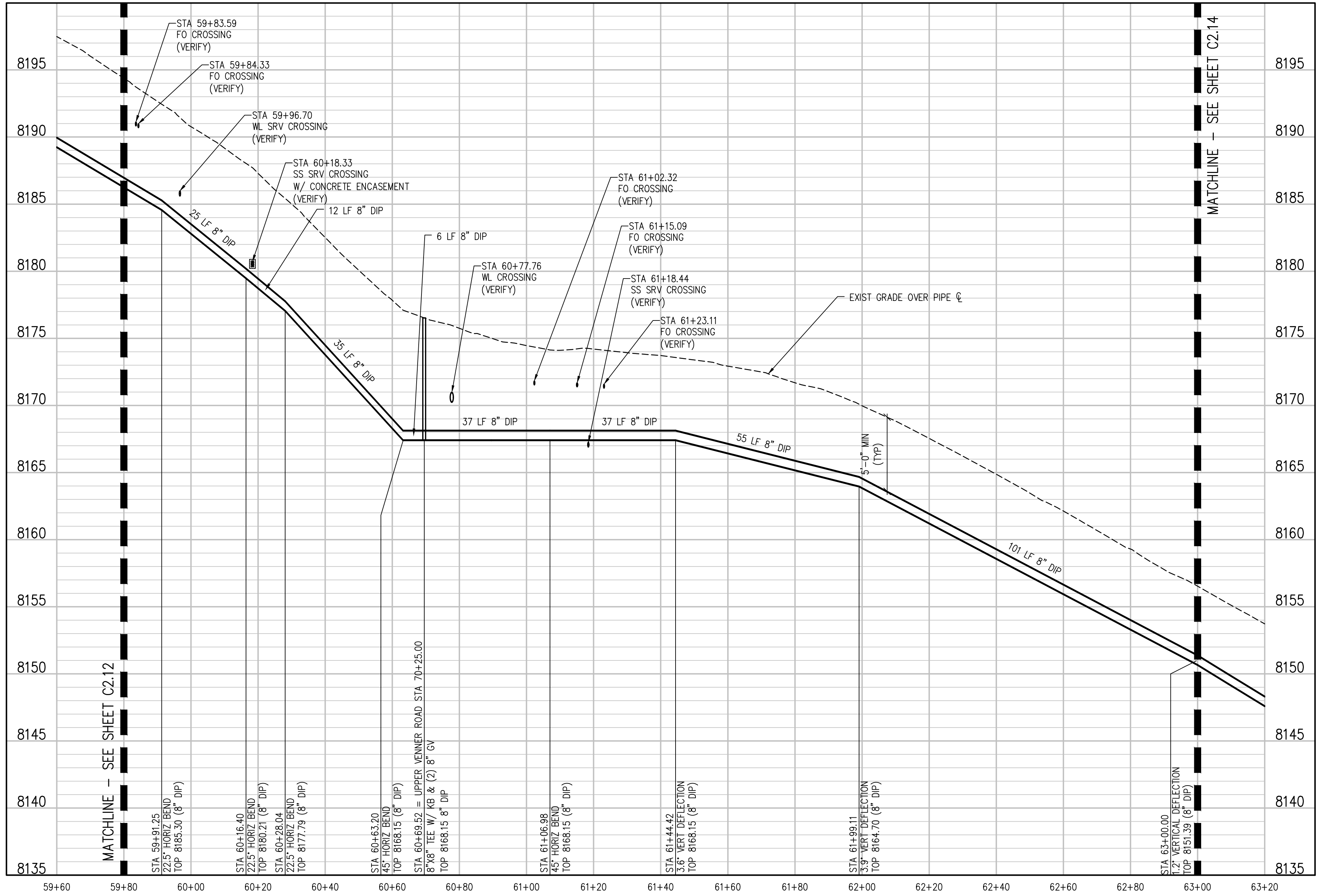
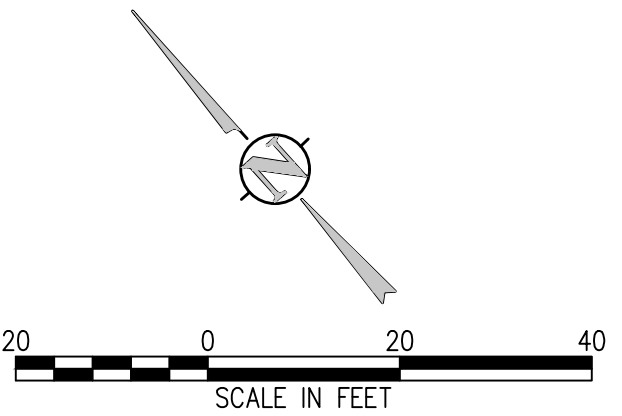
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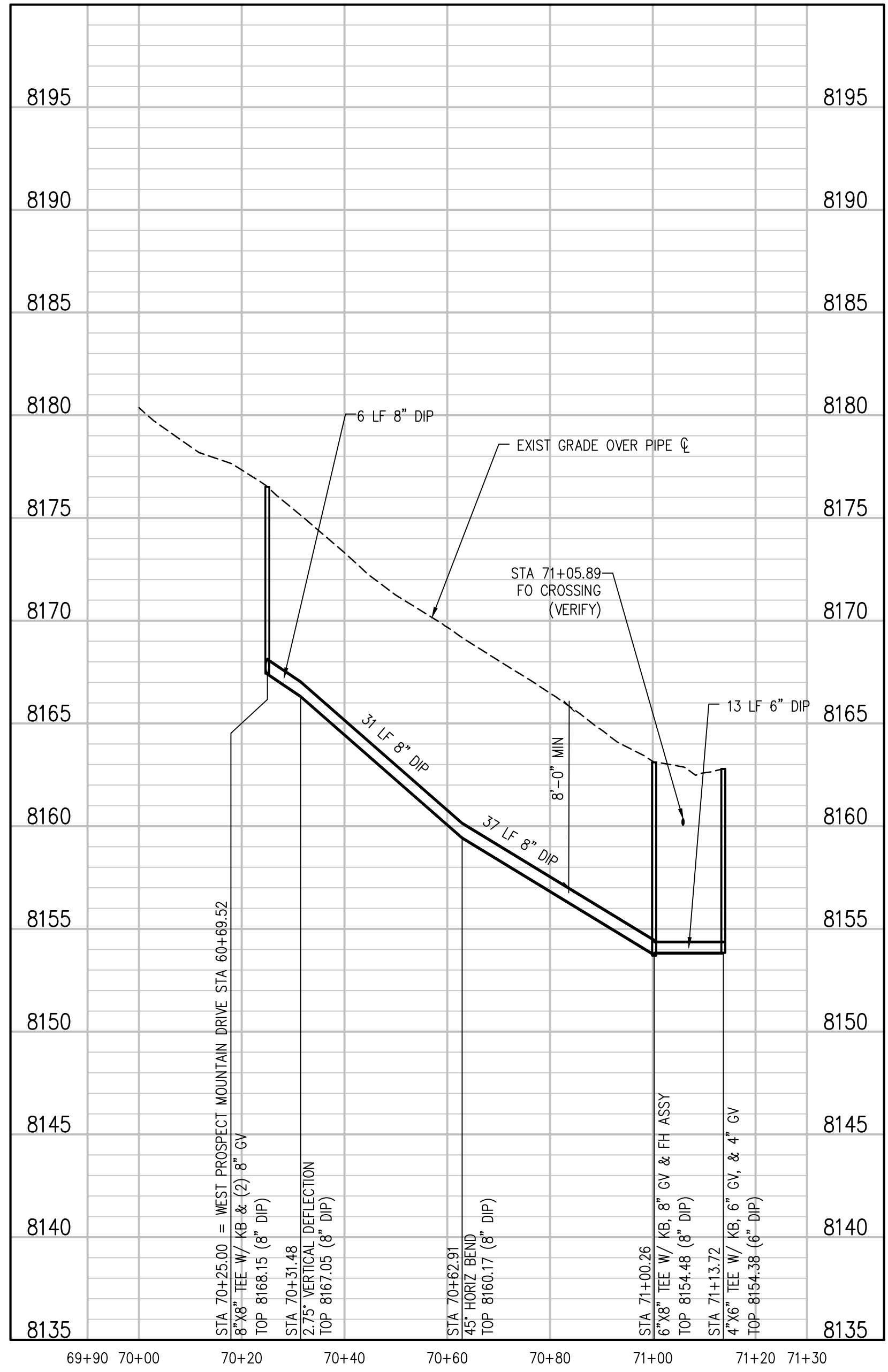
KEY MAP  
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WEST PROSPECT MOUNTAIN DRIVE AND UPPER VANNER ROAD PLAN  
SCALE: 1"=20'



WEST PROSPECT MOUNTAIN DRIVE PLAN  
SCALE: 1"=20' HORIZ  
1"=5' VERT



UPPER VANNER ROAD PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

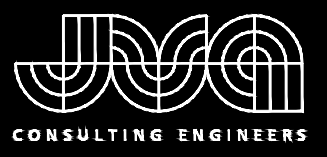
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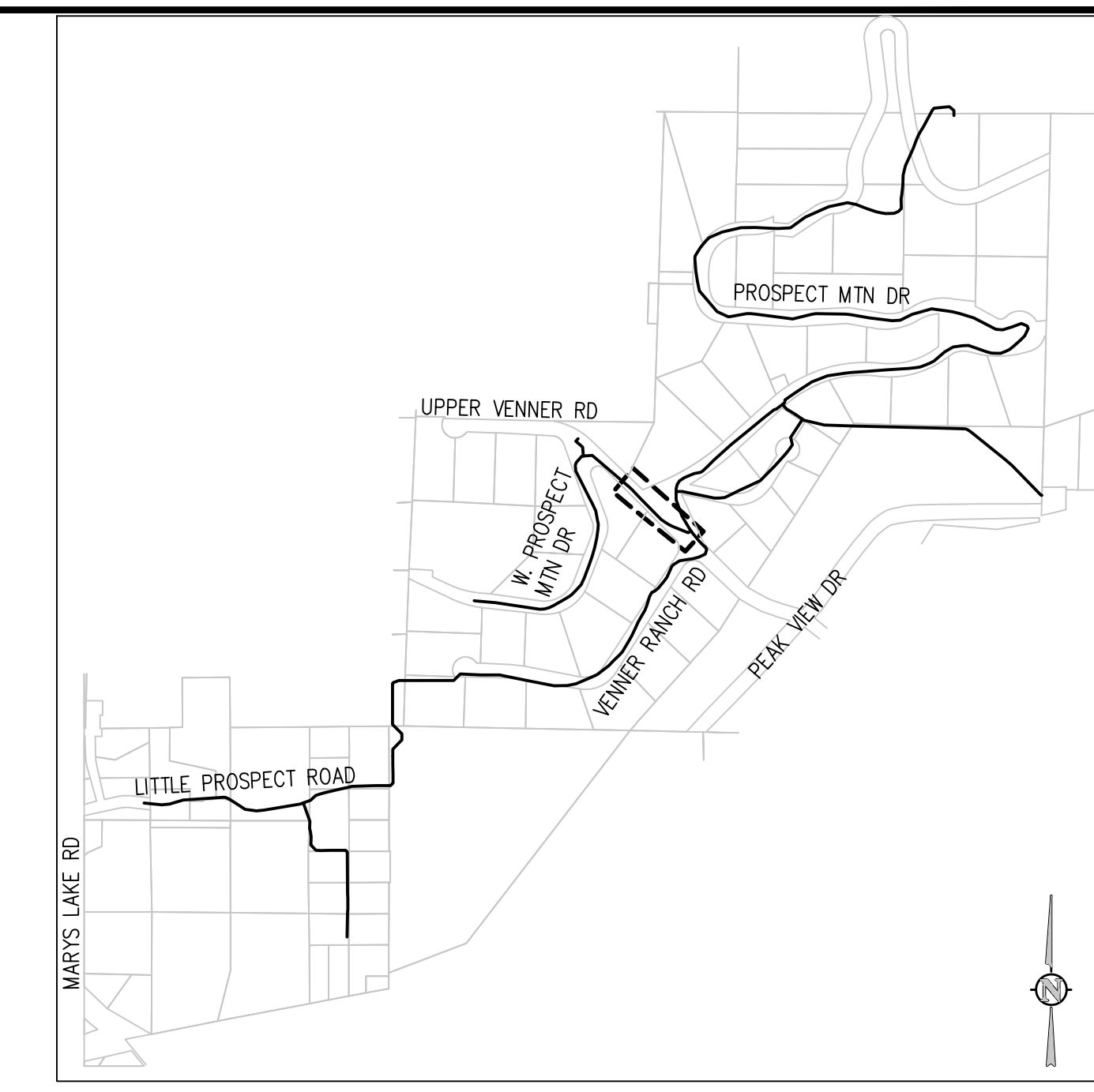
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AND PROFILE

SHEET NO.  
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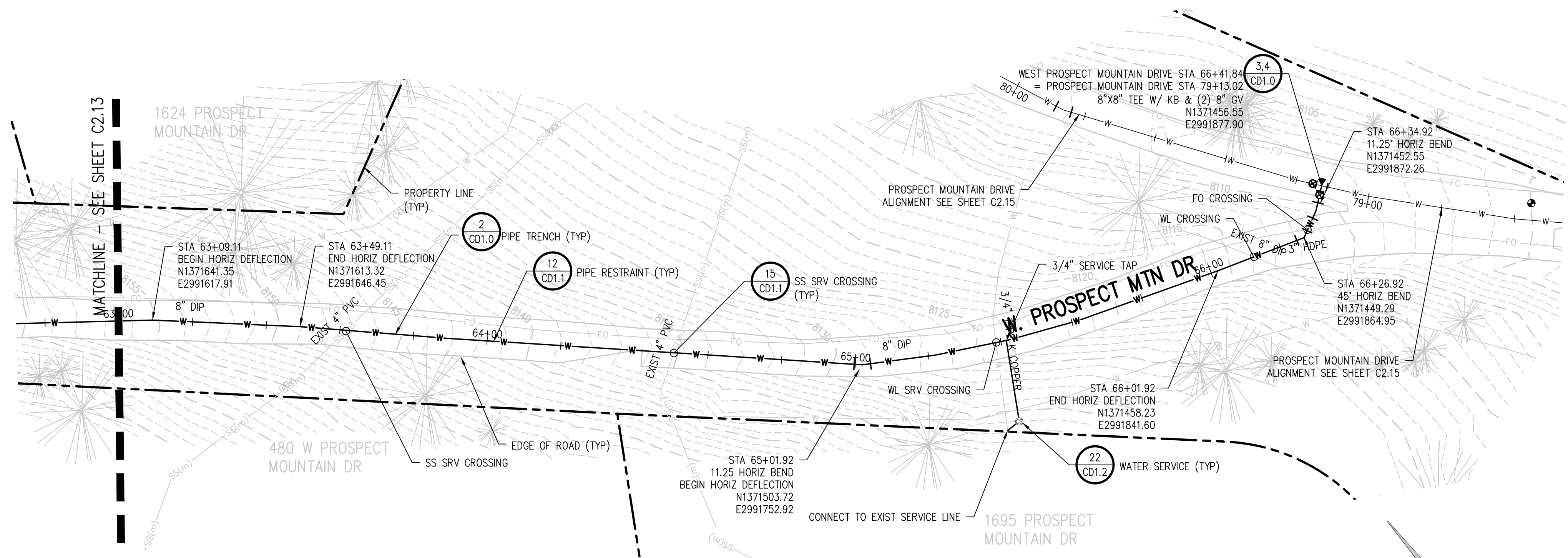
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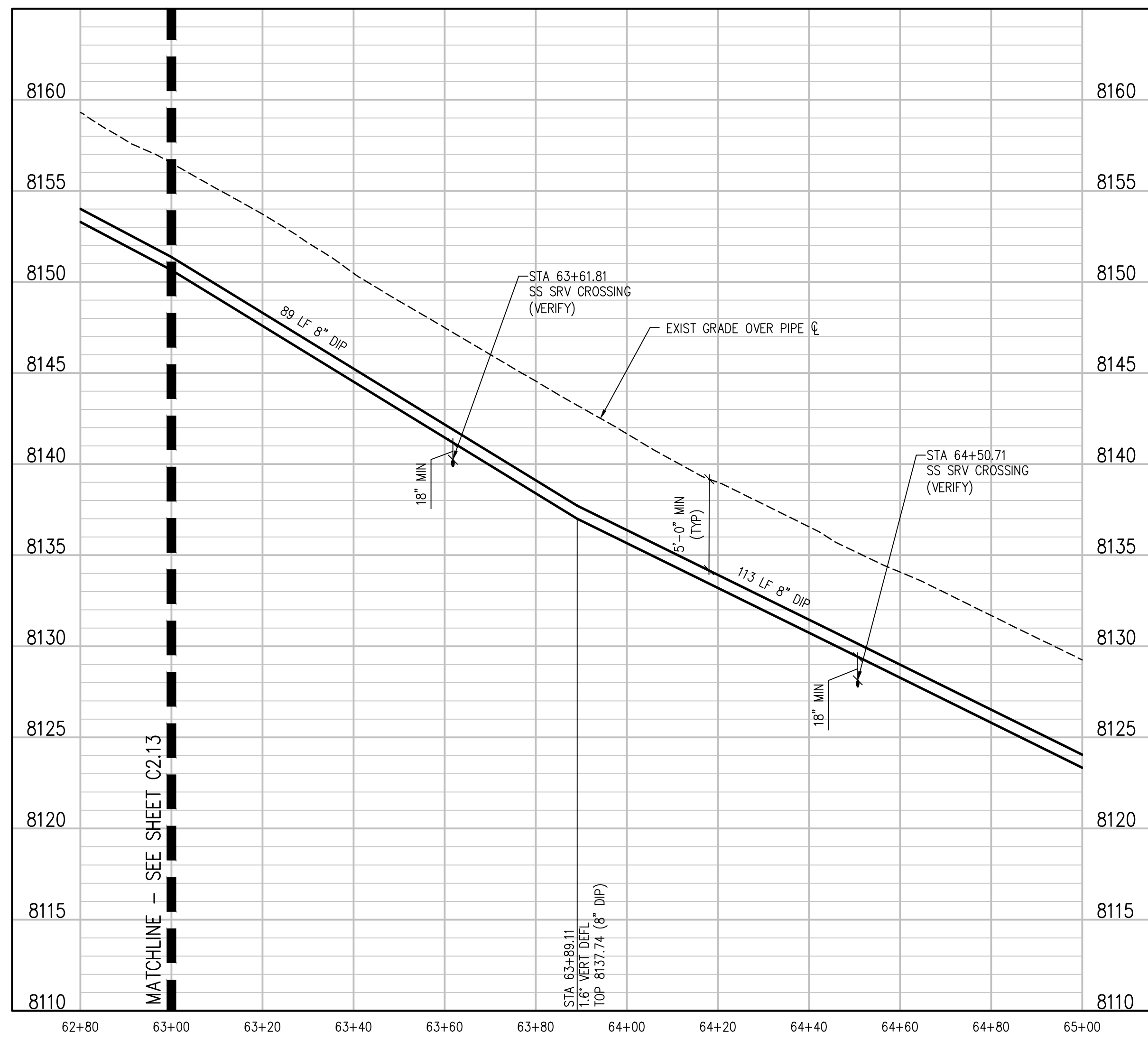
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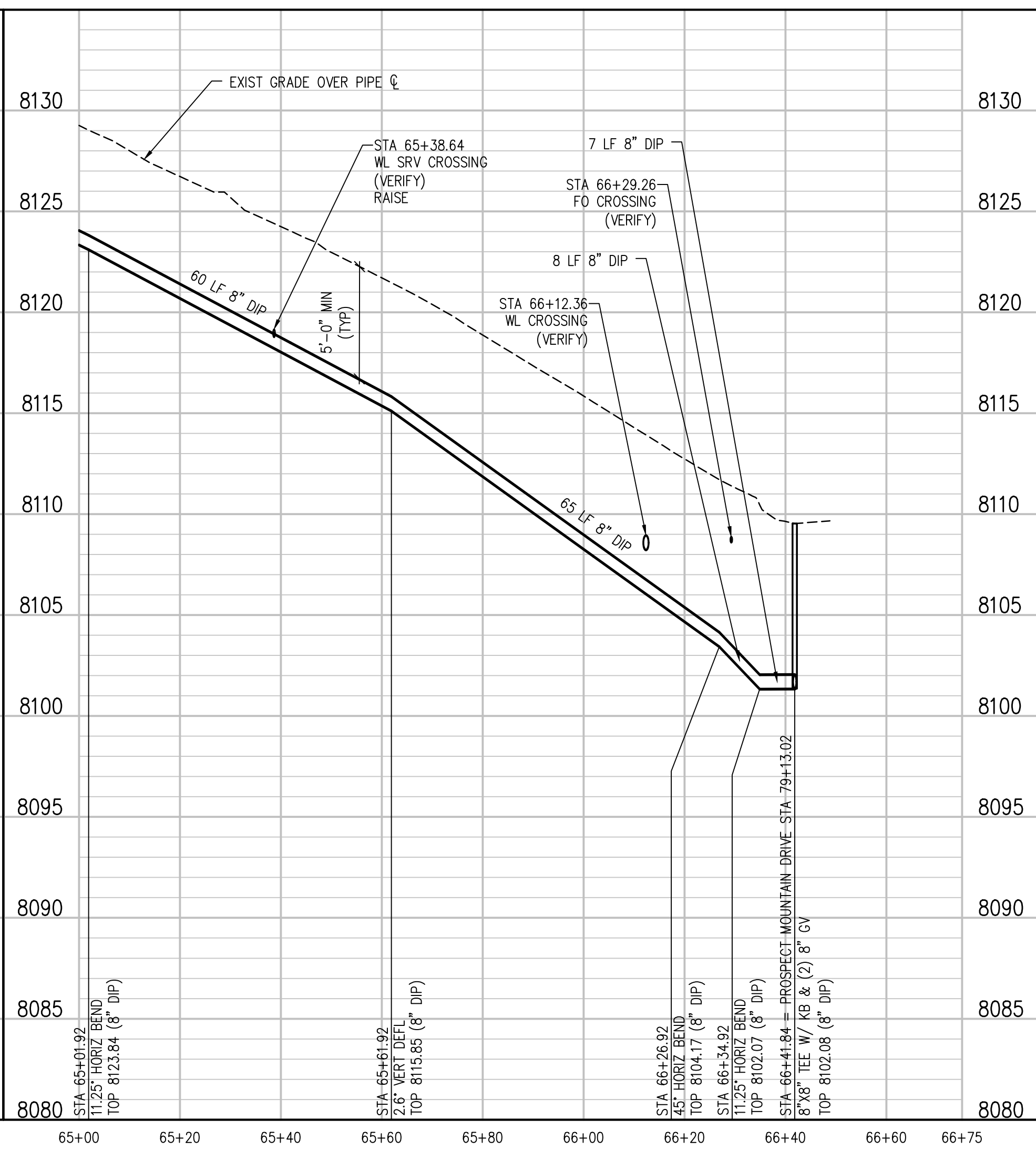
KEY MAP  
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WEST PROSPECT MOUNTAIN DRIVE PLAN  
 SCALE: 1"=20'



WEST PROSPECT MOUNTAIN DRIVE PLAN  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT



WEST PROSPECT MOUNTAIN DRIVE PLAN  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

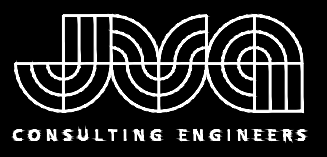
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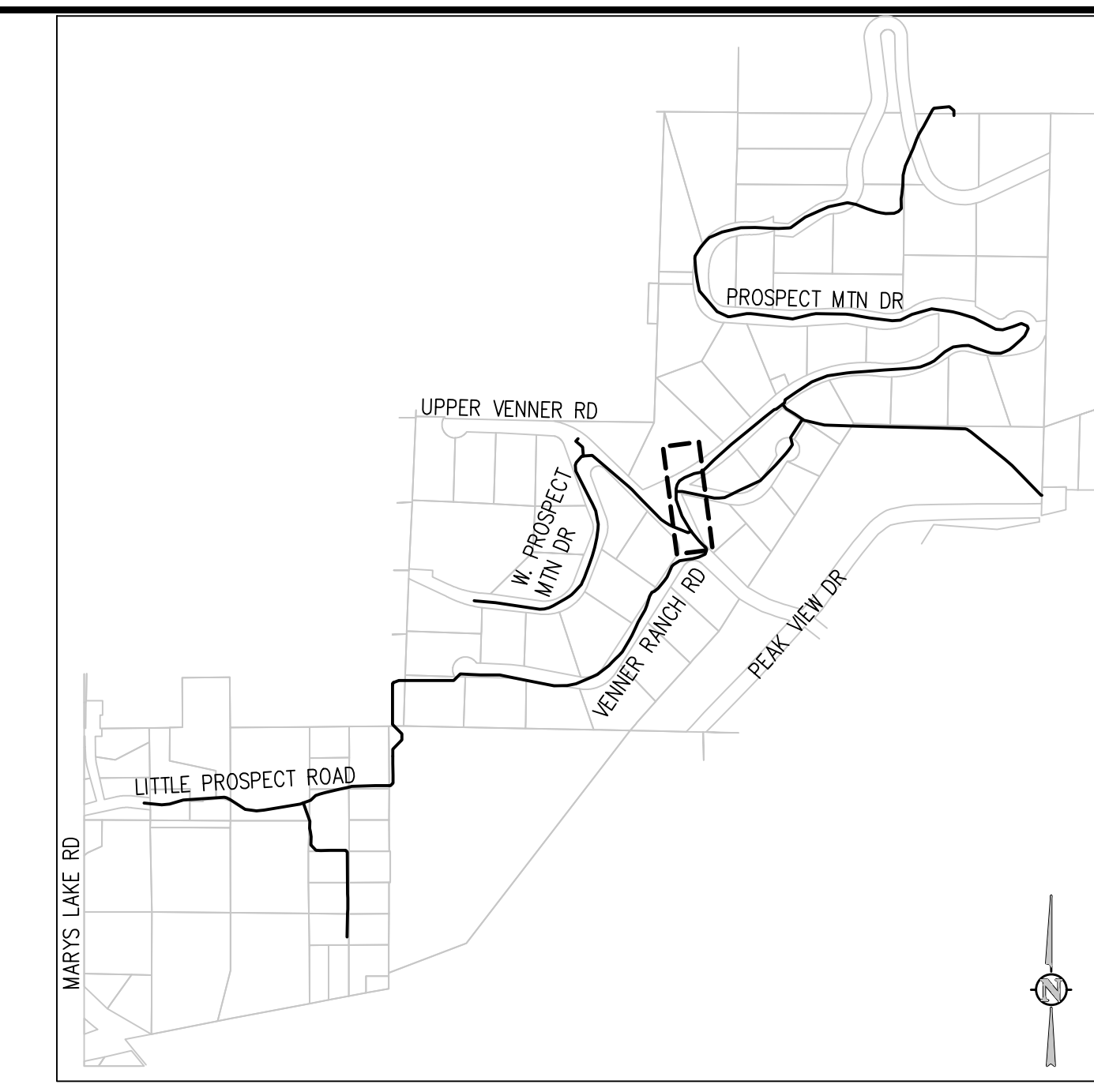
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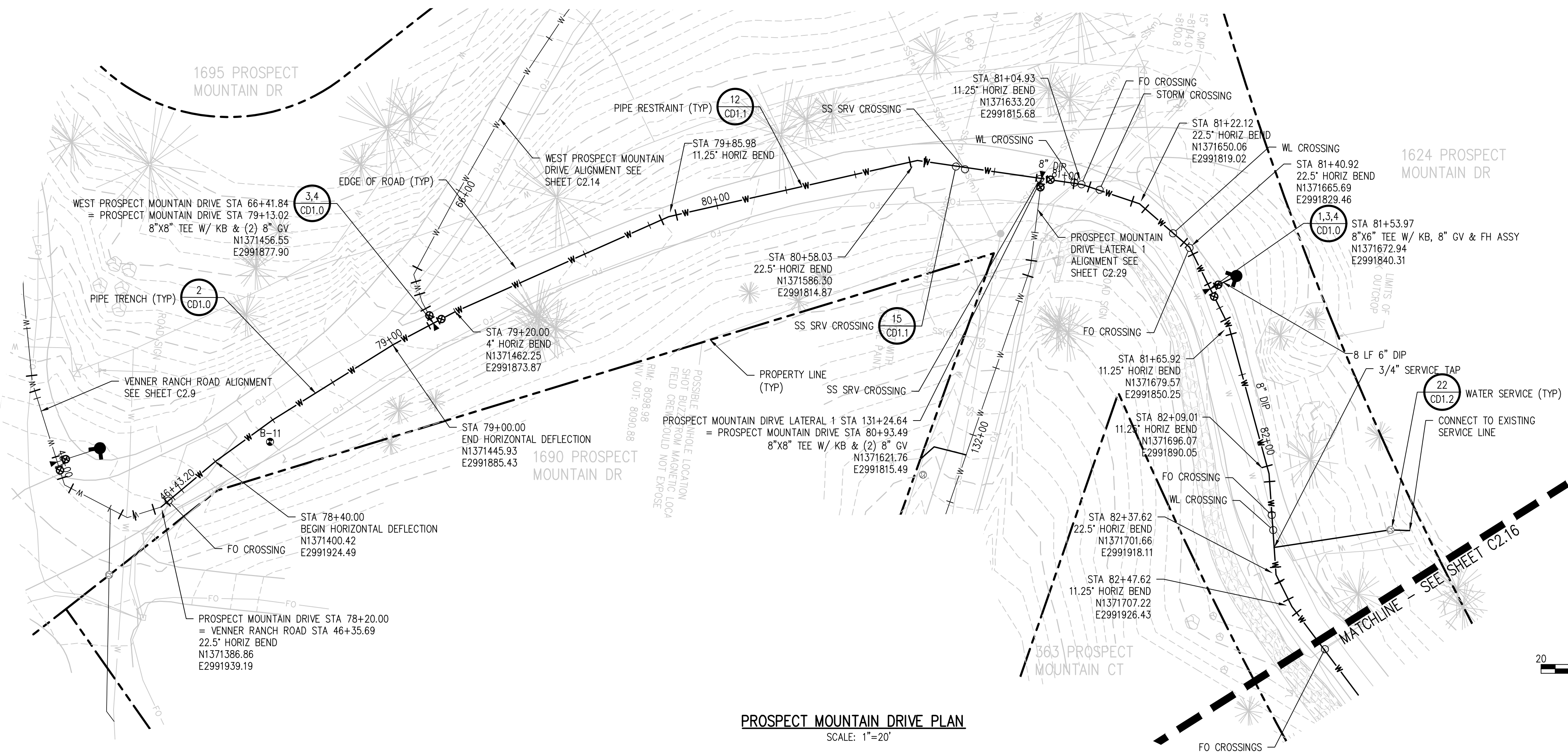
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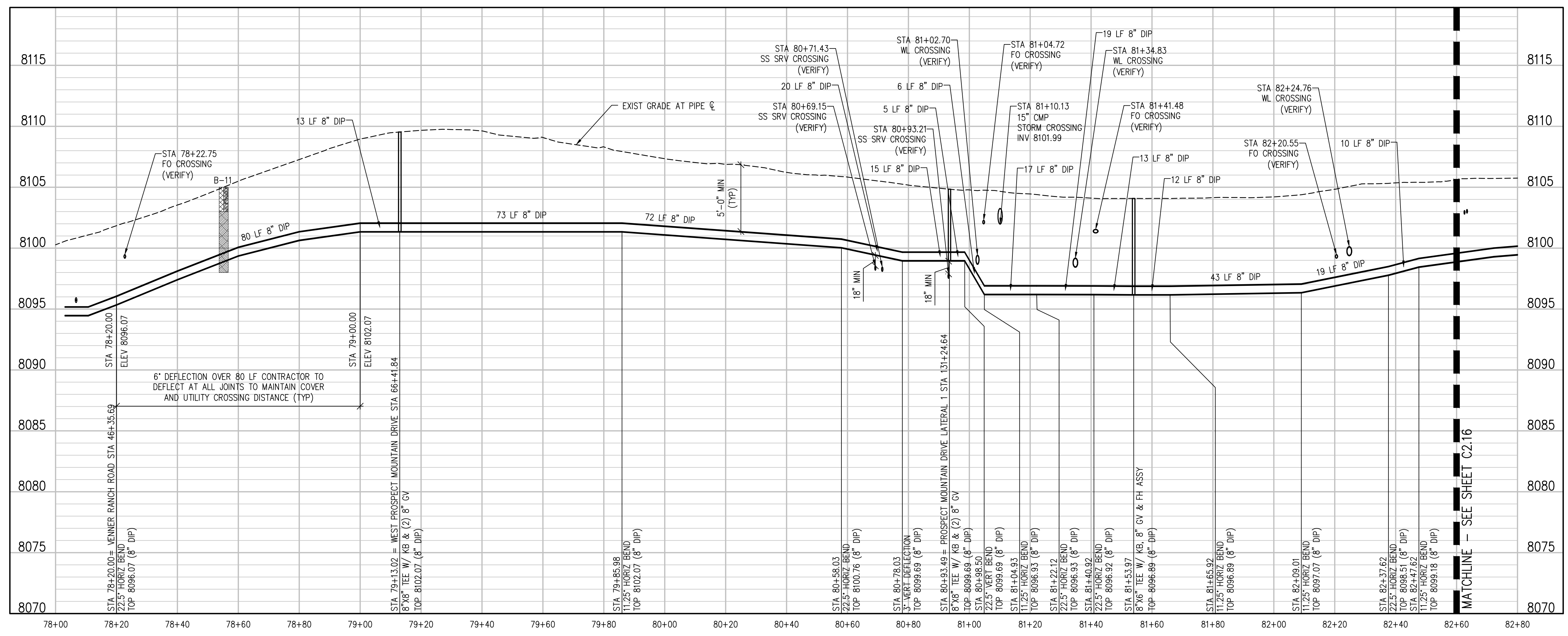
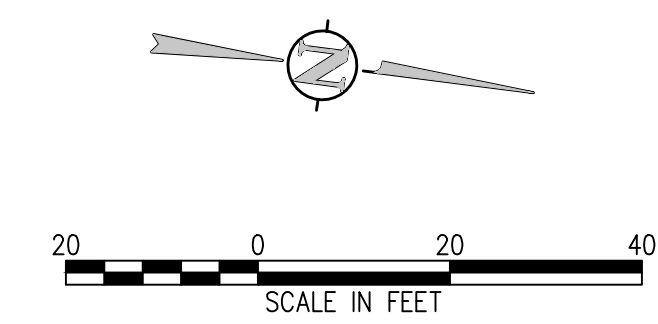
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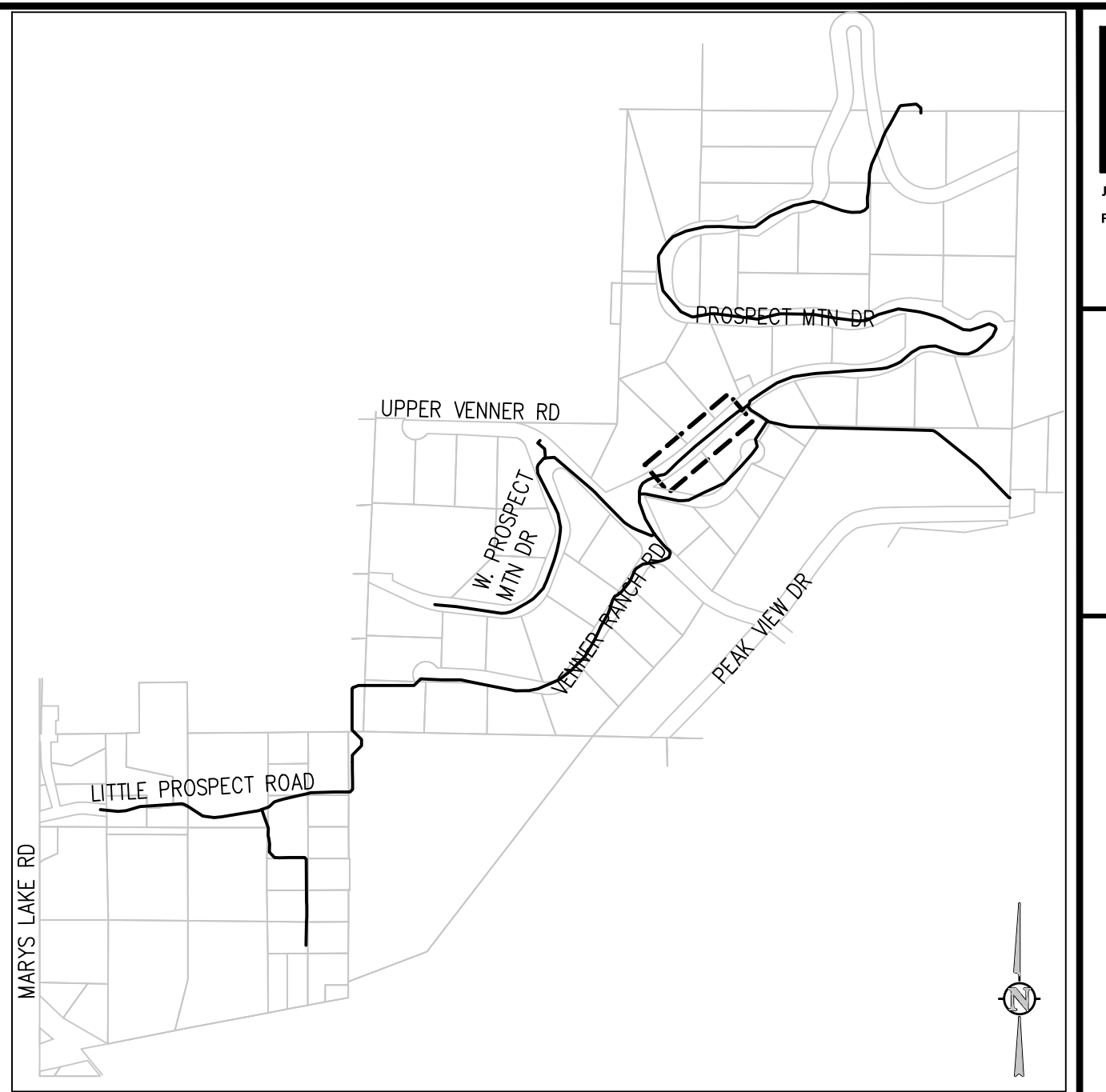
PROSPECT MOUNTAIN DRIVE PLAN  
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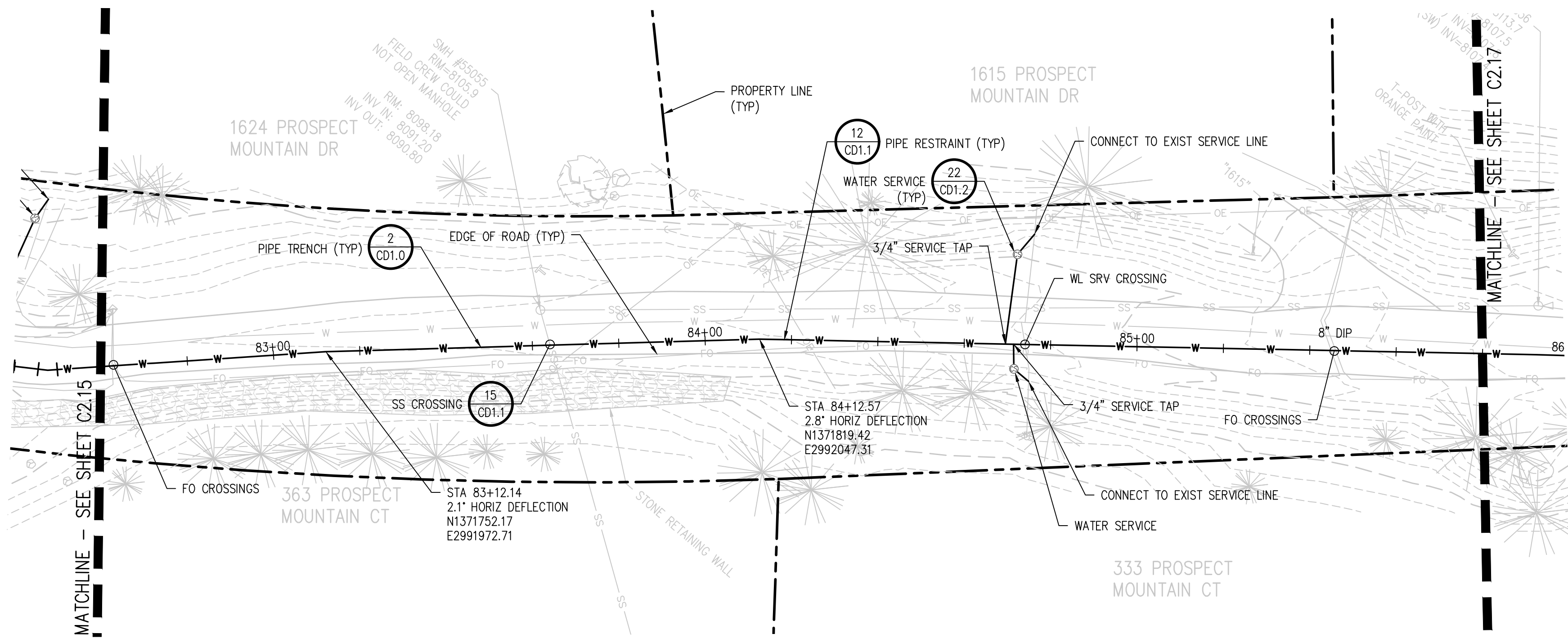
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SCALE: 1"=20' HORIZ  
1"=5' VERT

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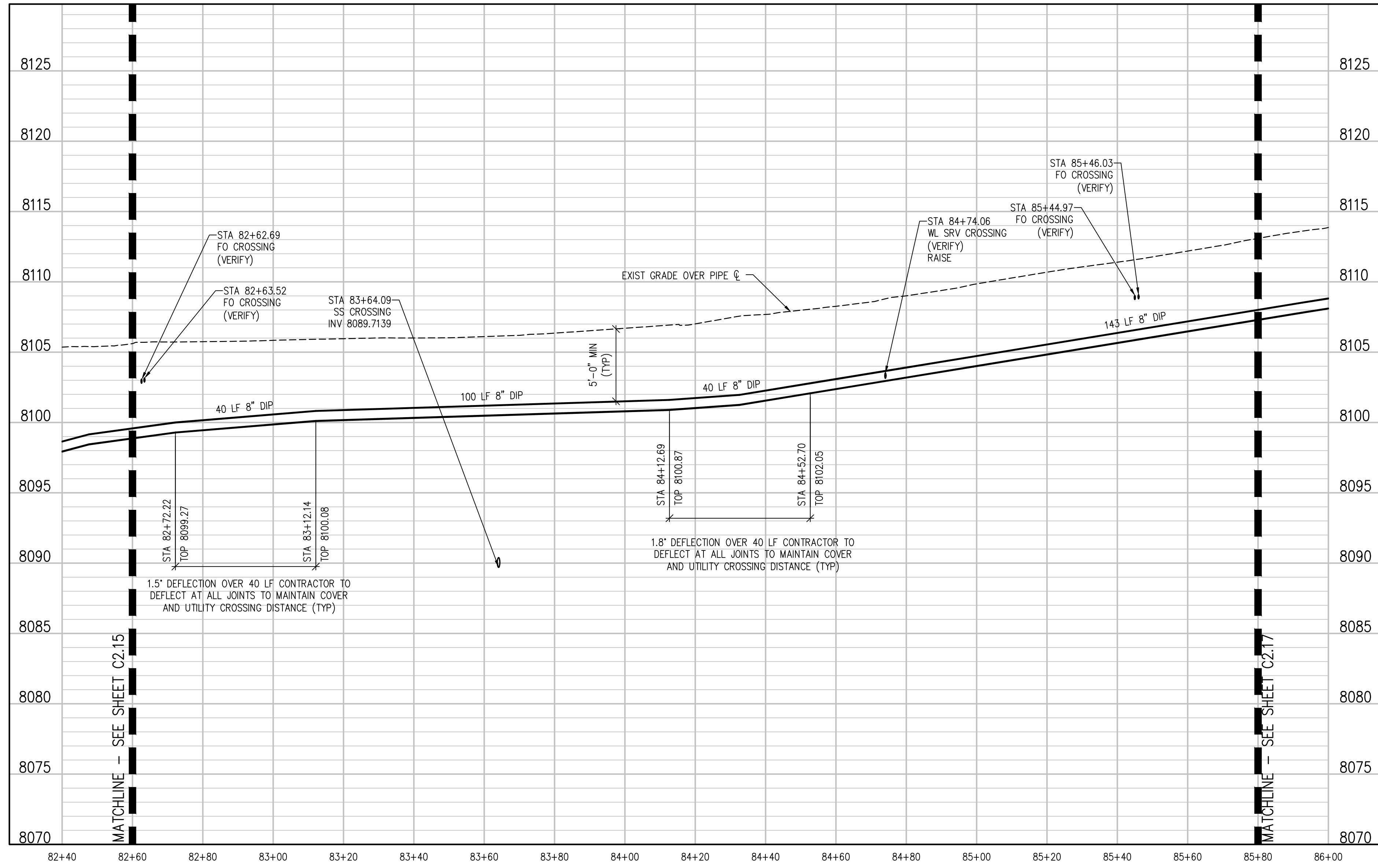
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<p>DESIGNED BY: MMR/LAL DRAWN BY: ZCF/JGJ/MHT CHECKED BY: JJM JOB #: 1066E DATE: SEPTEMBER 2022 © JVA, INC.</p>	
<p>NO. DATE DES'D DWN</p>	
<p>REVISION DESCRIPTION</p>	



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PROSPECT MOUNTAIN DRIVE PLAN  
SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

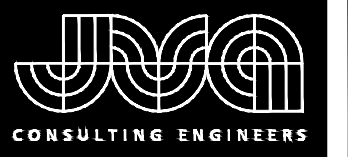
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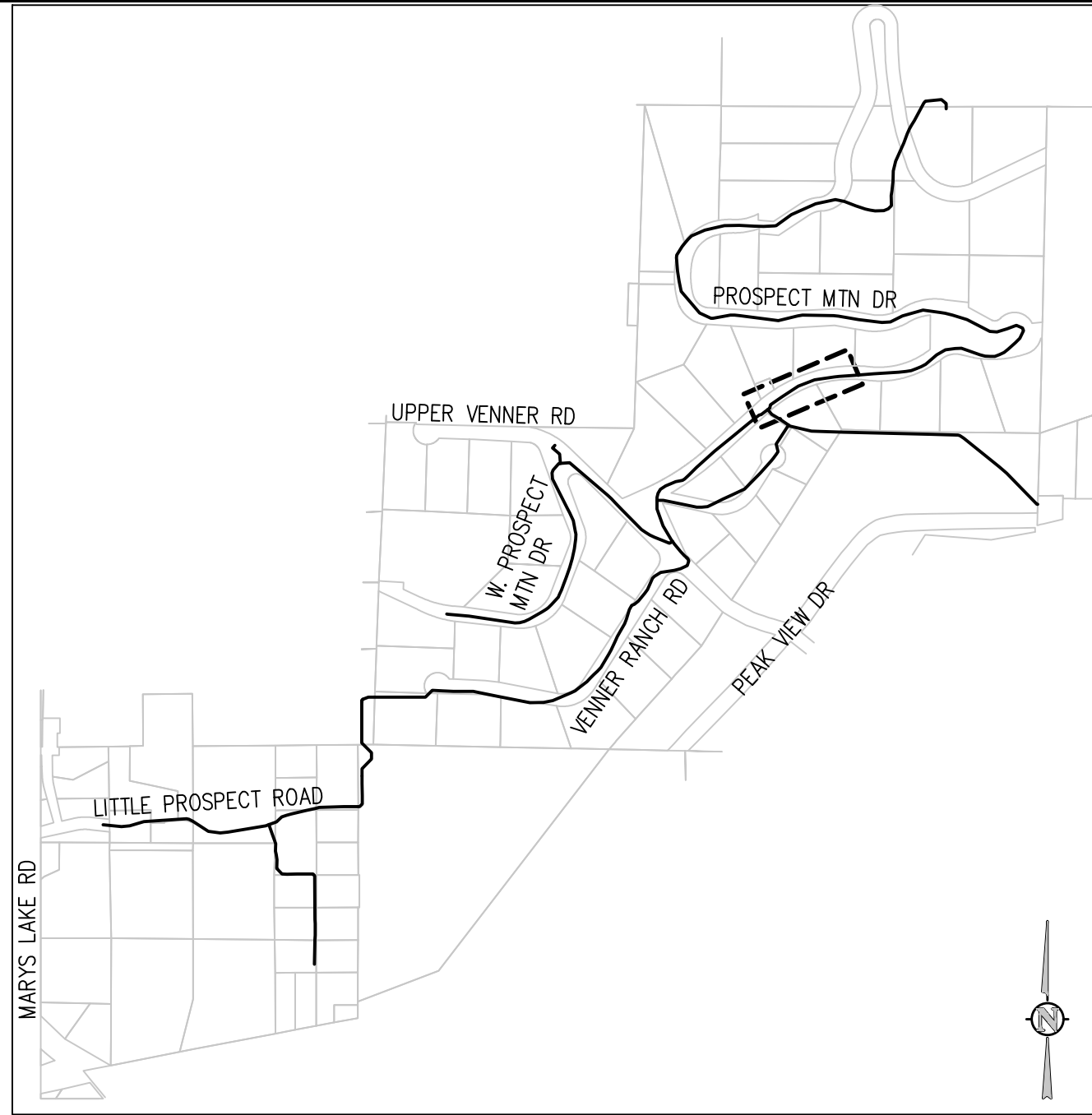
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PROSPECT MOUNTAIN DRIVE PLAN AND  
PROFILE

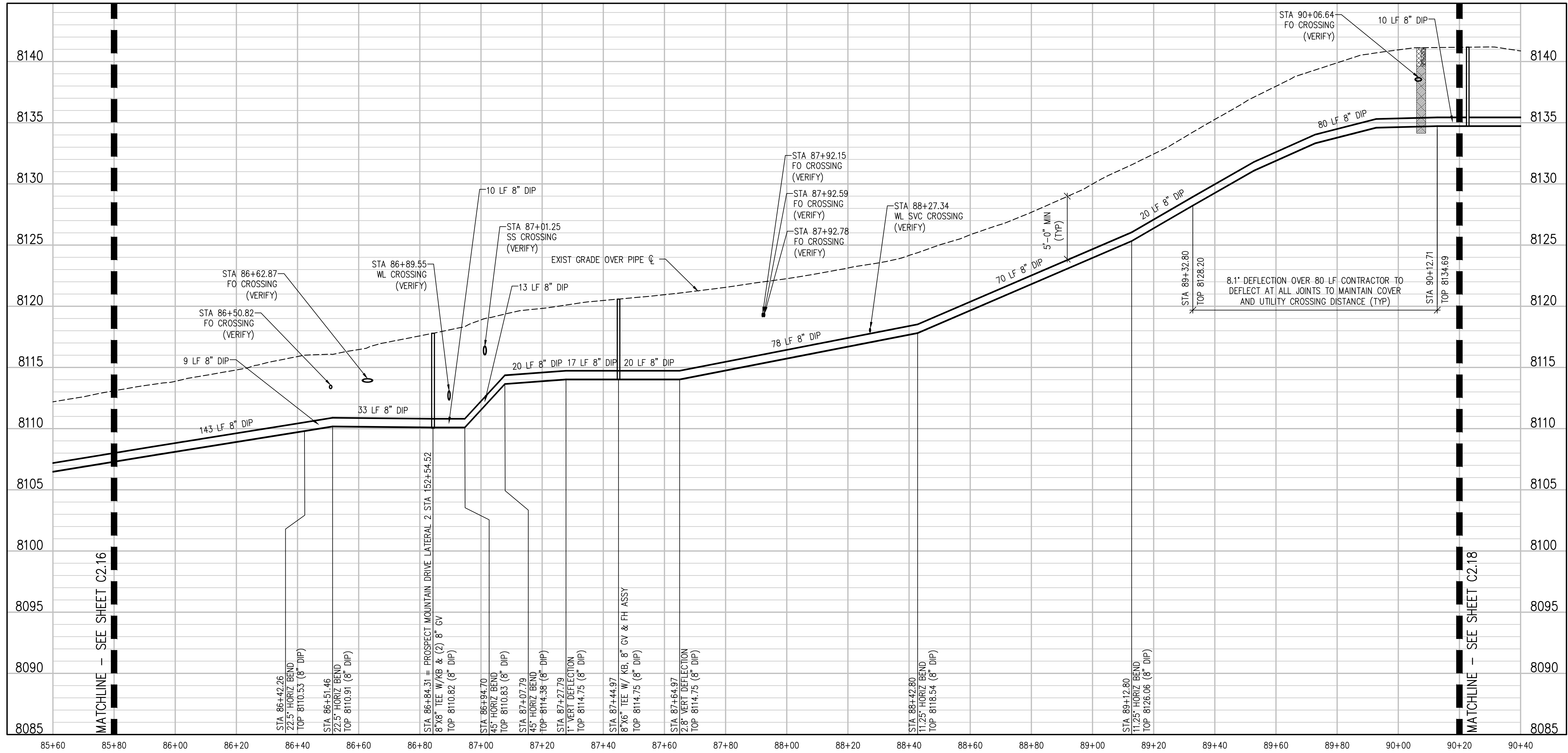
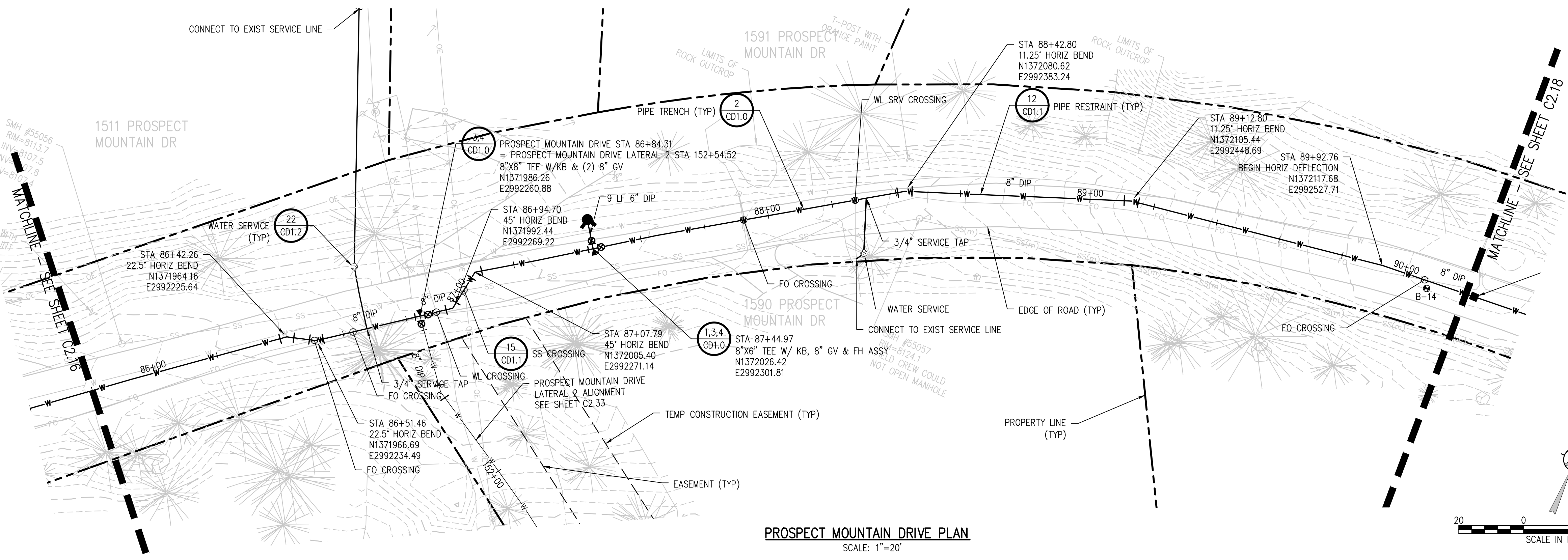
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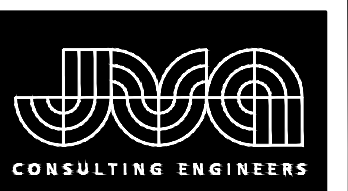
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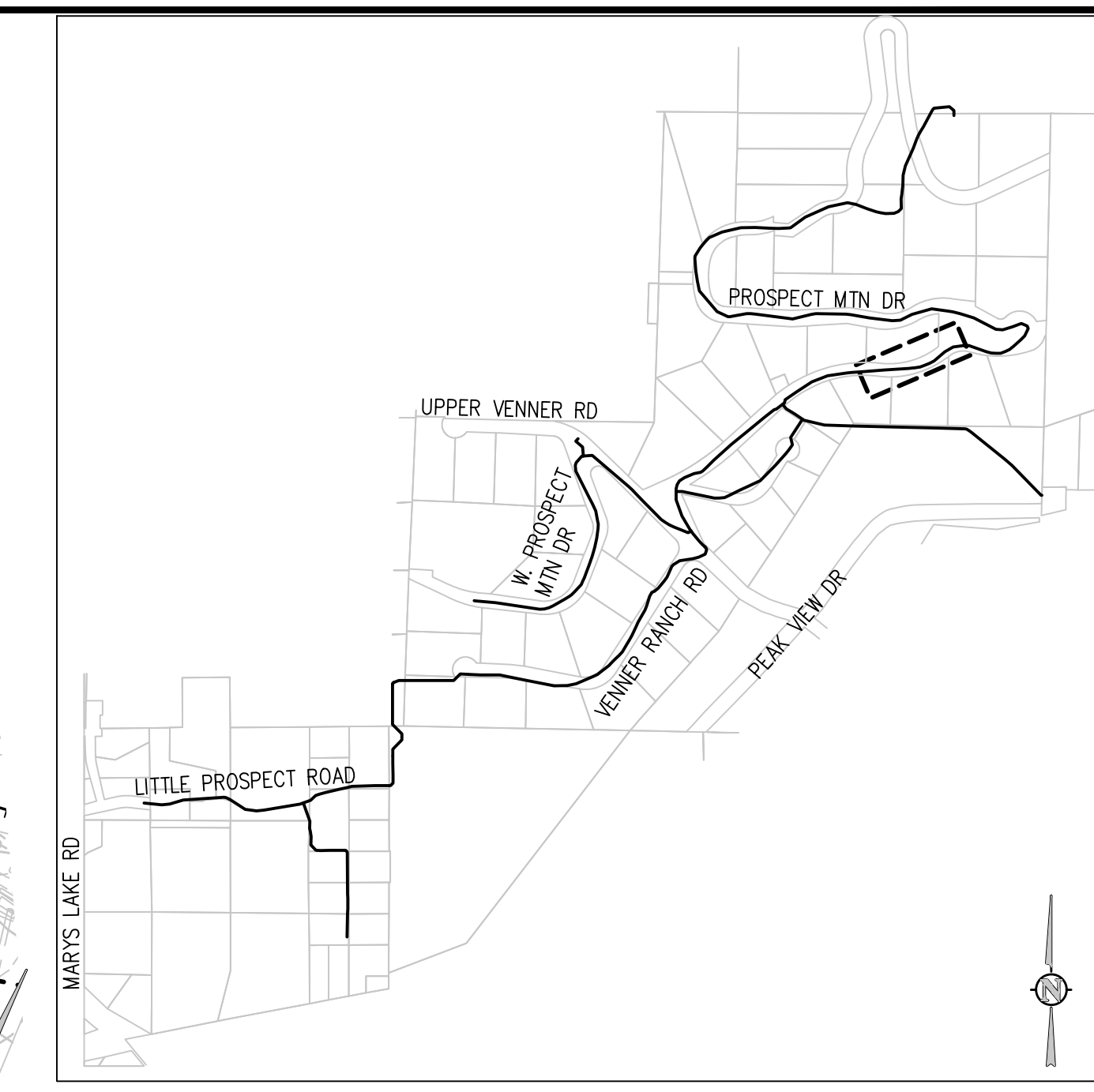
PROSPECT MOUNTAIN  
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ESTES PARK, COLORADO  
PROSPECT MOUNTAIN DRIVE PLAN AND  
PROFILE

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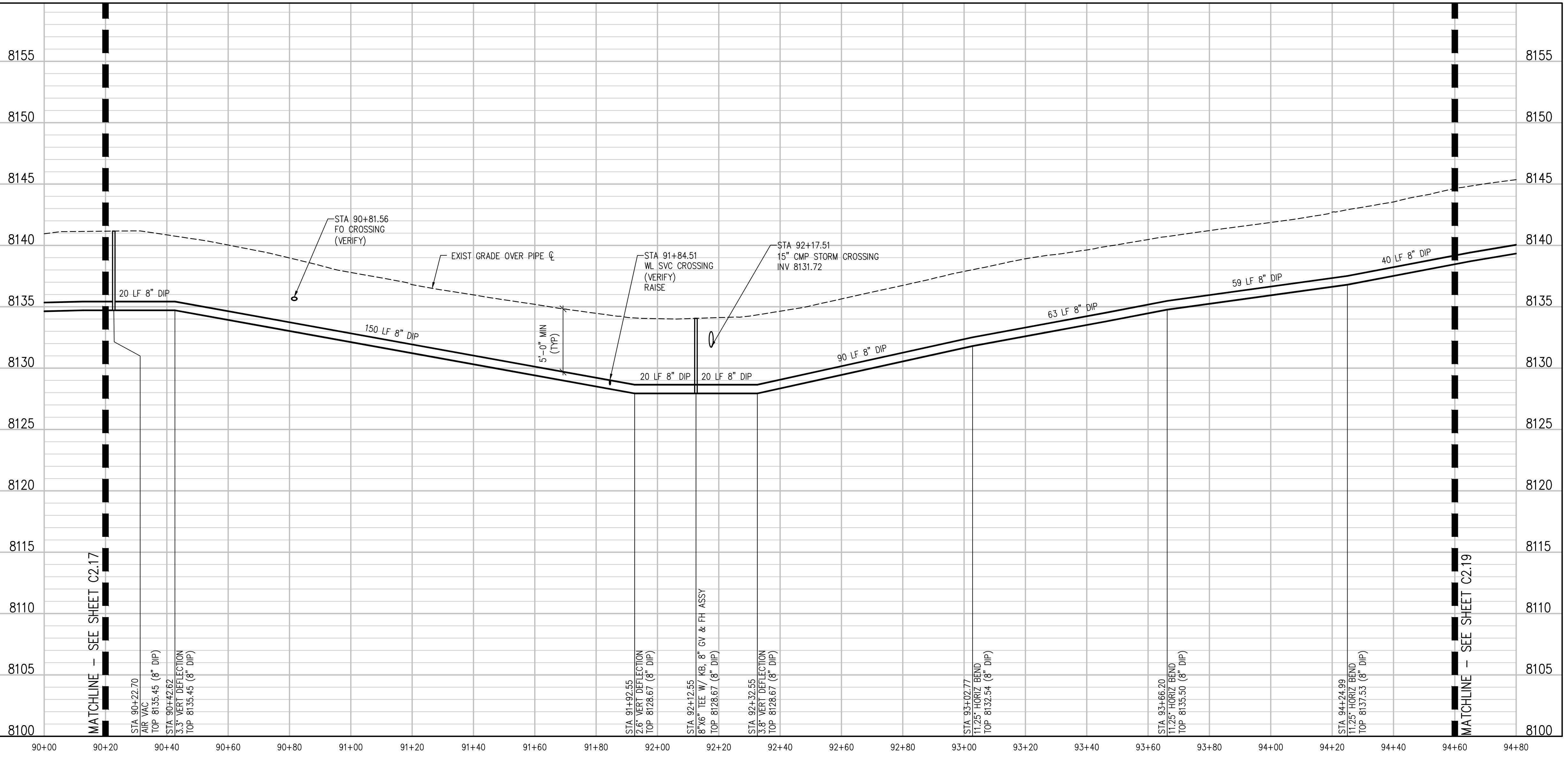
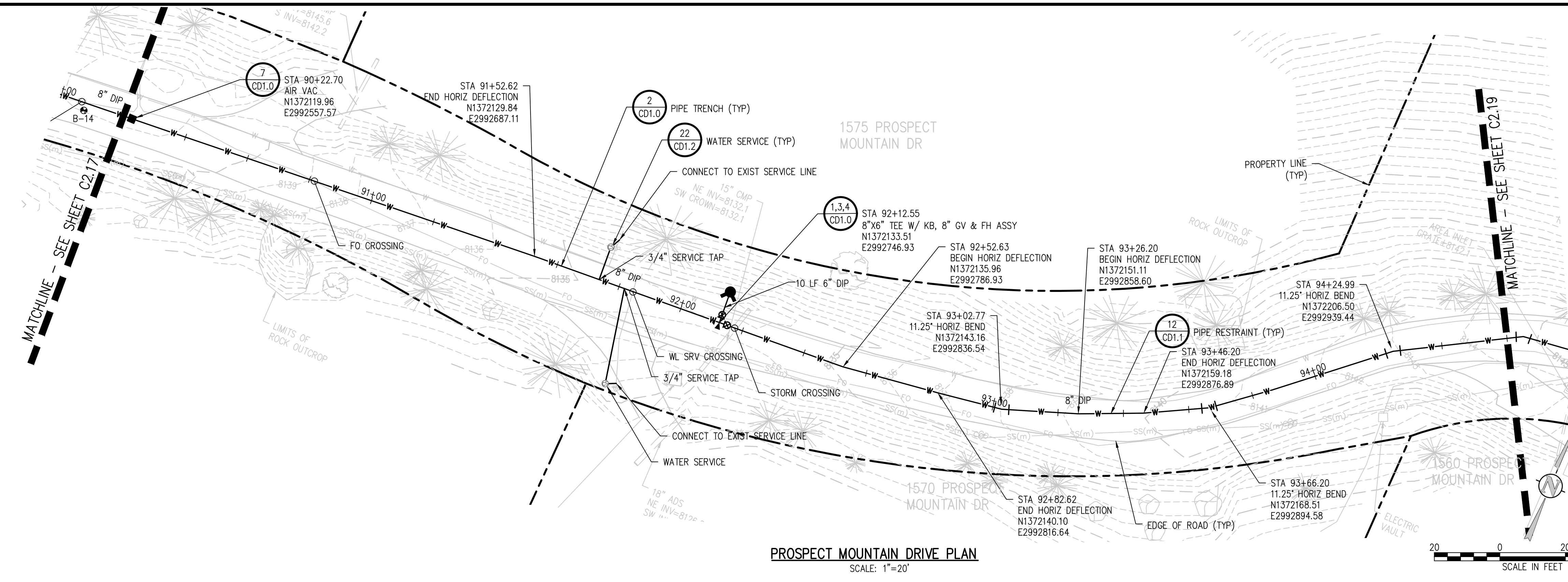
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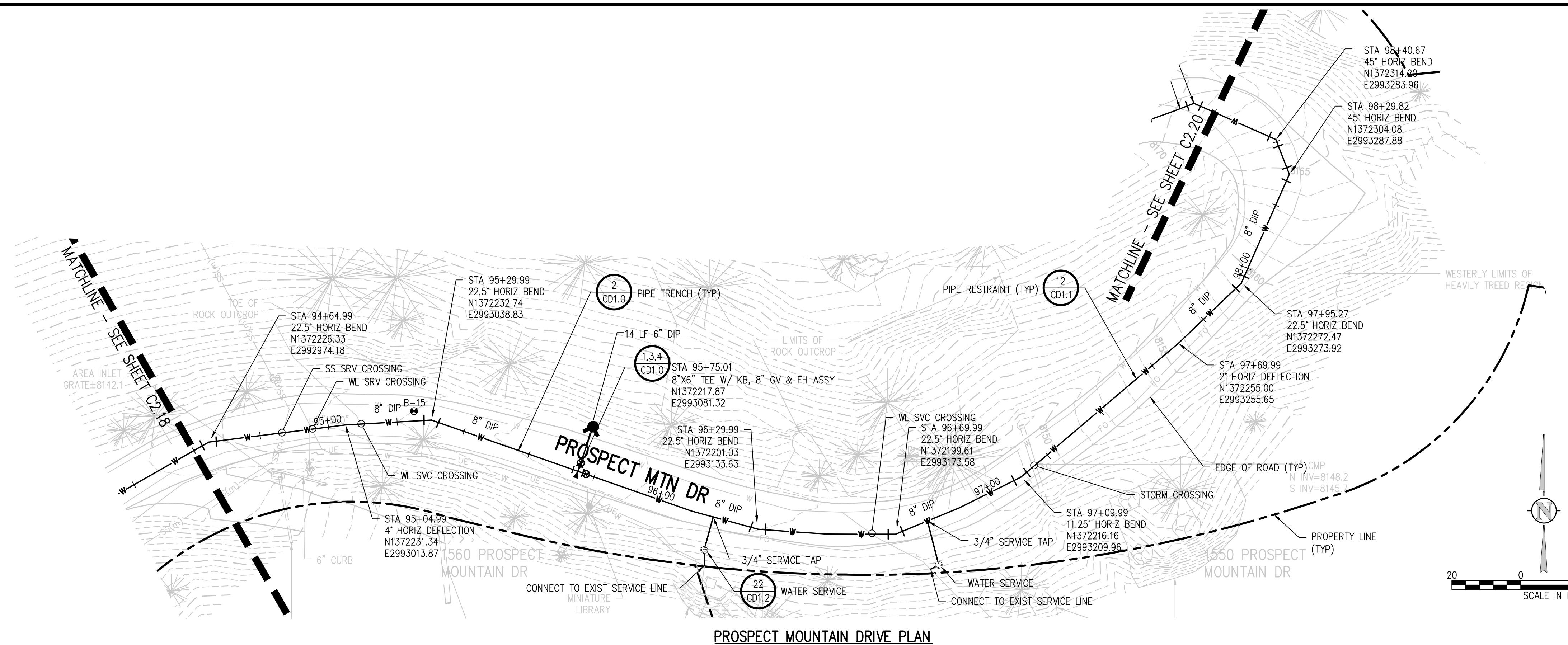
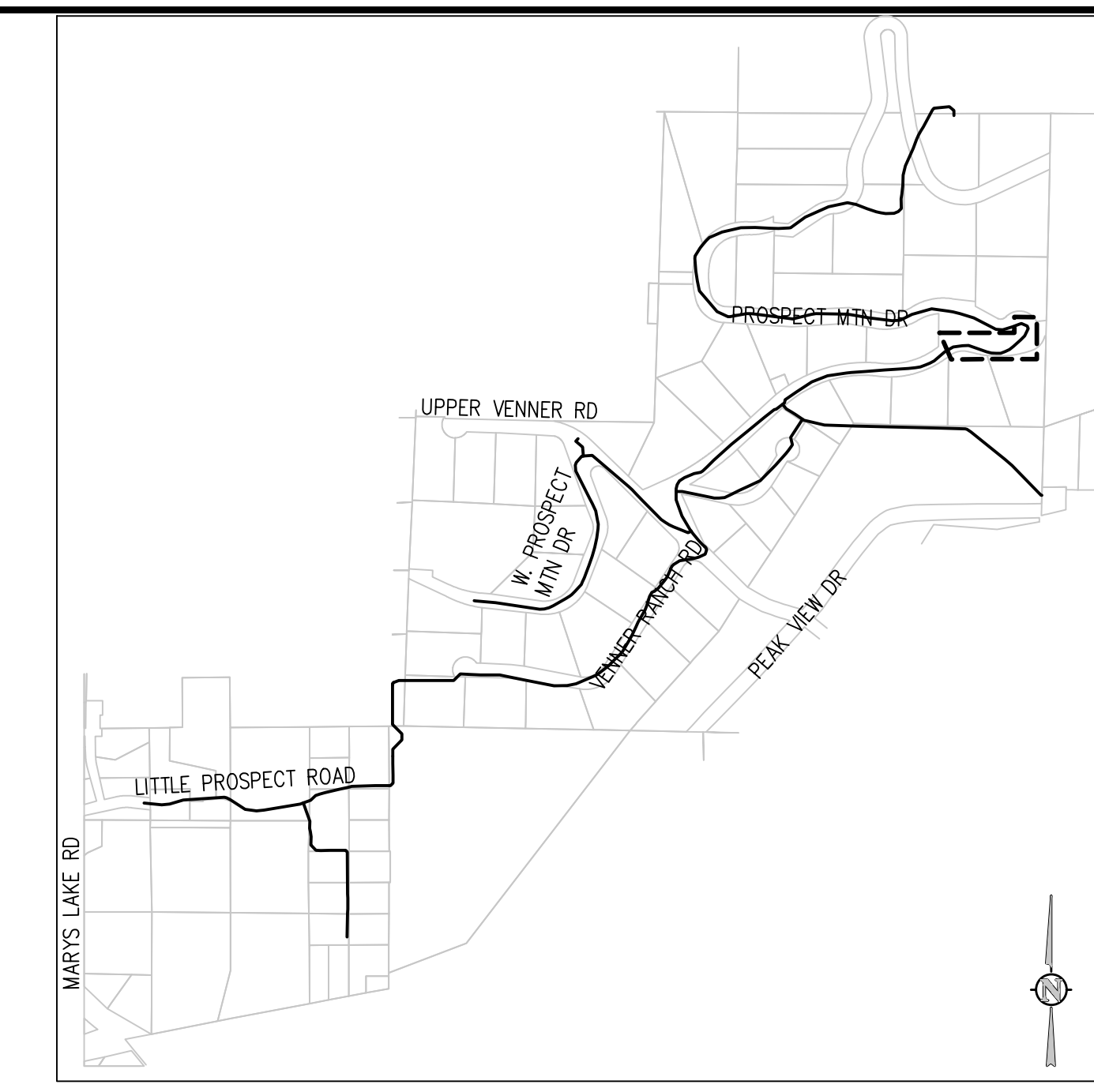
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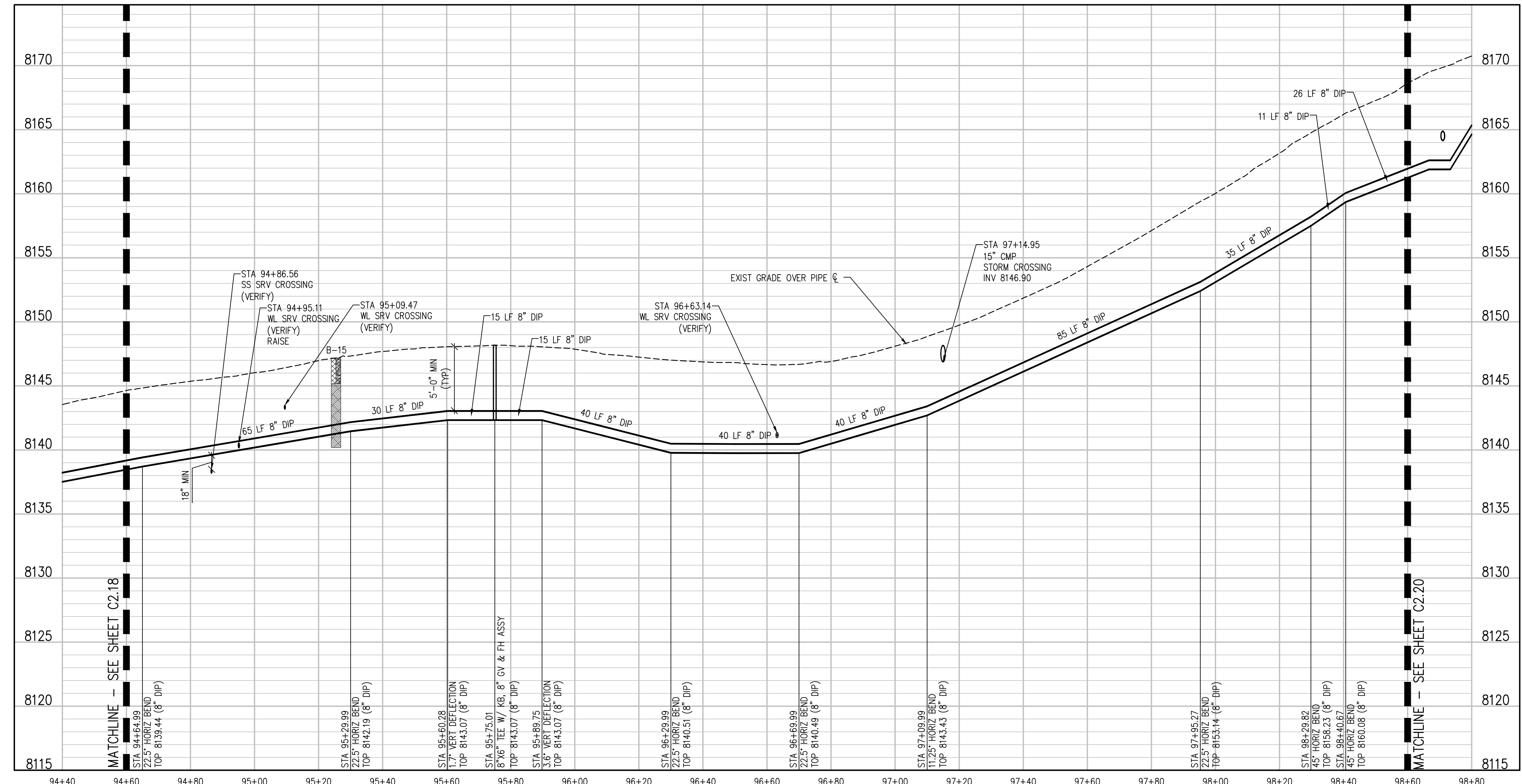
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 ESTES PARK, COLORADO  
 PROSPECT MOUNTAIN DRIVE PLAN AND  
 PROFILE

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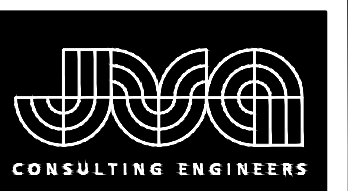
**PROSPECT MOUNTAIN DRIVE PLAN**  
 SCALE: 1"=20'



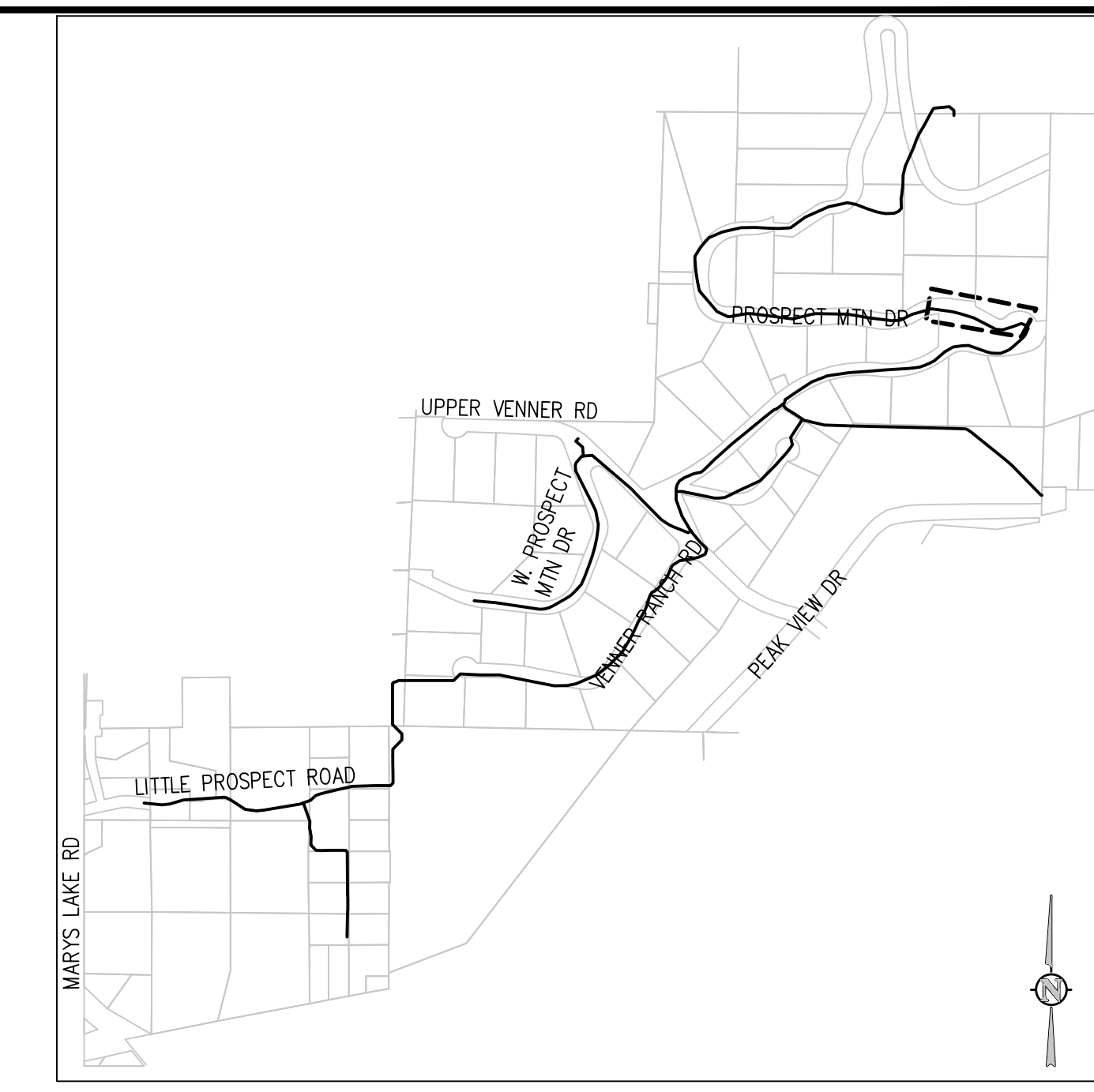
**PROSPECT MOUNTAIN DRIVE PROFILE**  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

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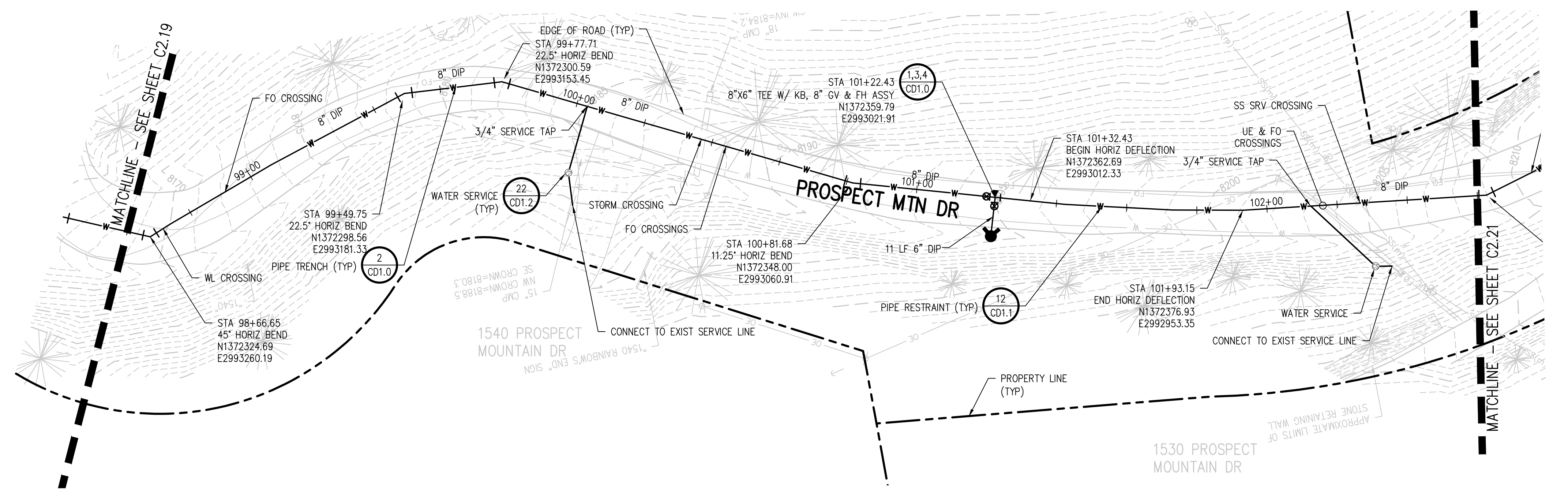
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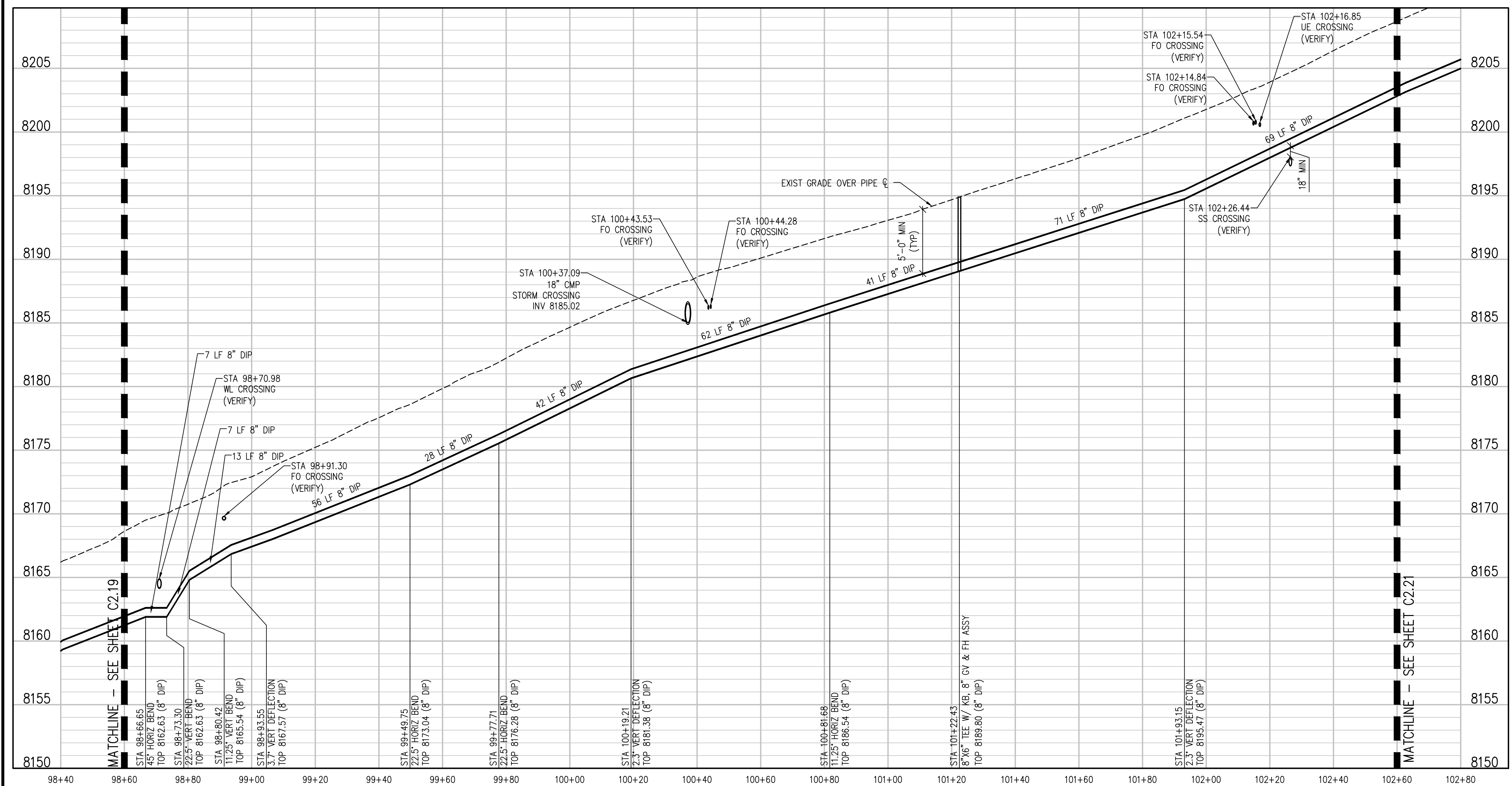
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PROSPECT MOUNTAIN DRIVE PLAN  
SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

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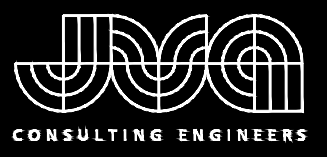
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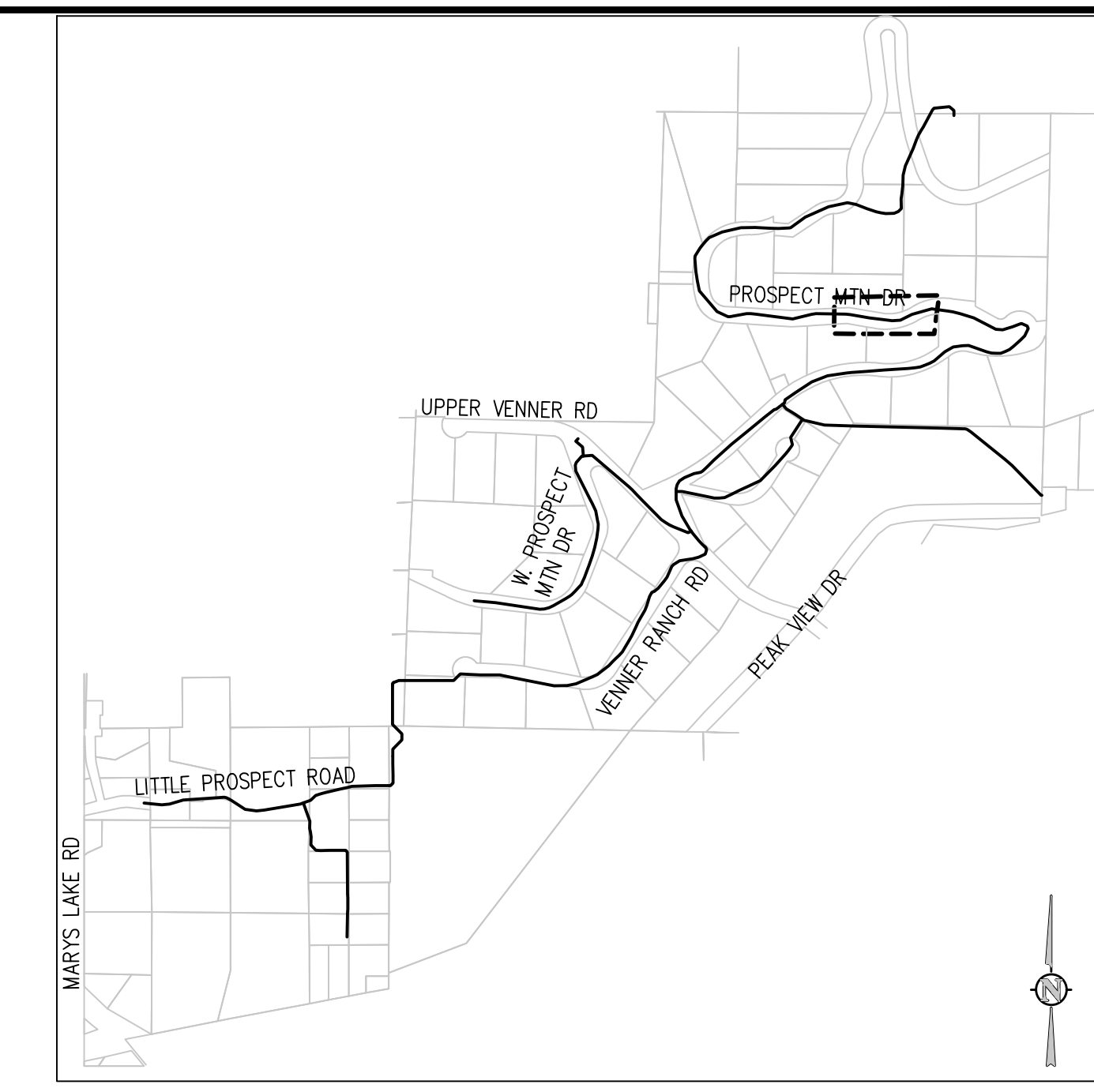
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 ESTES PARK, COLORADO  
 PROSPECT MOUNTAIN DRIVE PLAN AND  
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SHEET NO.  
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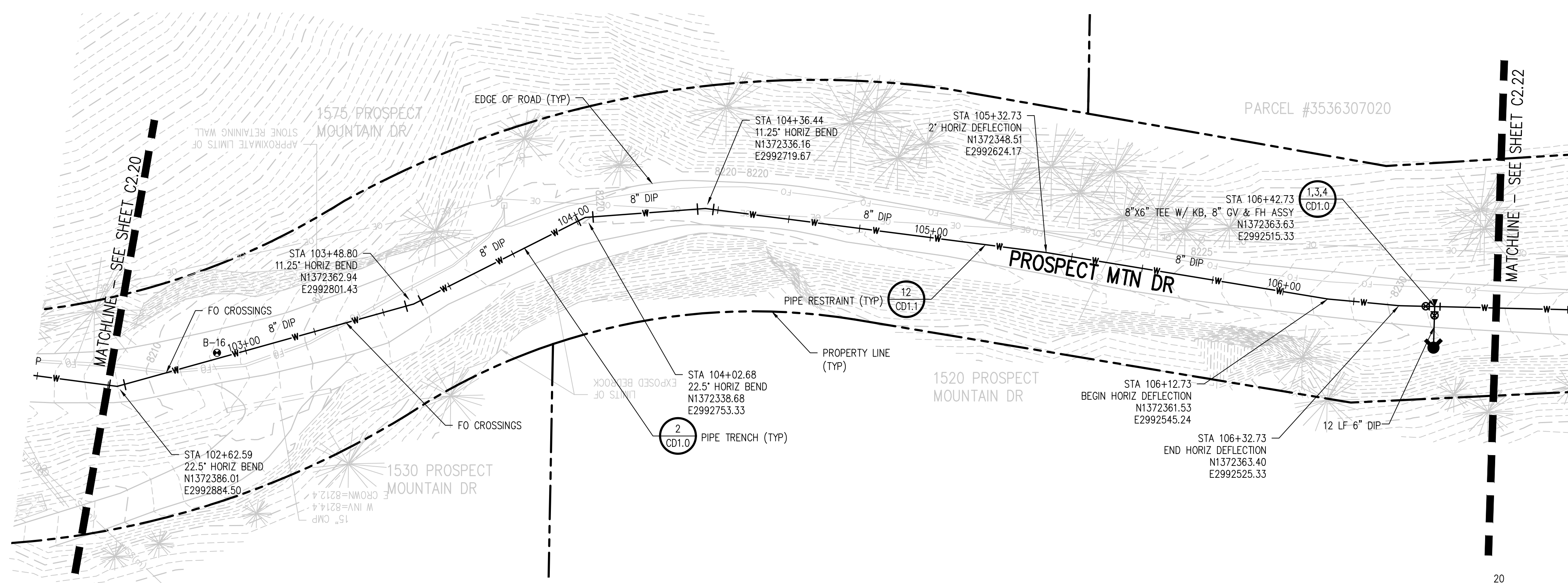




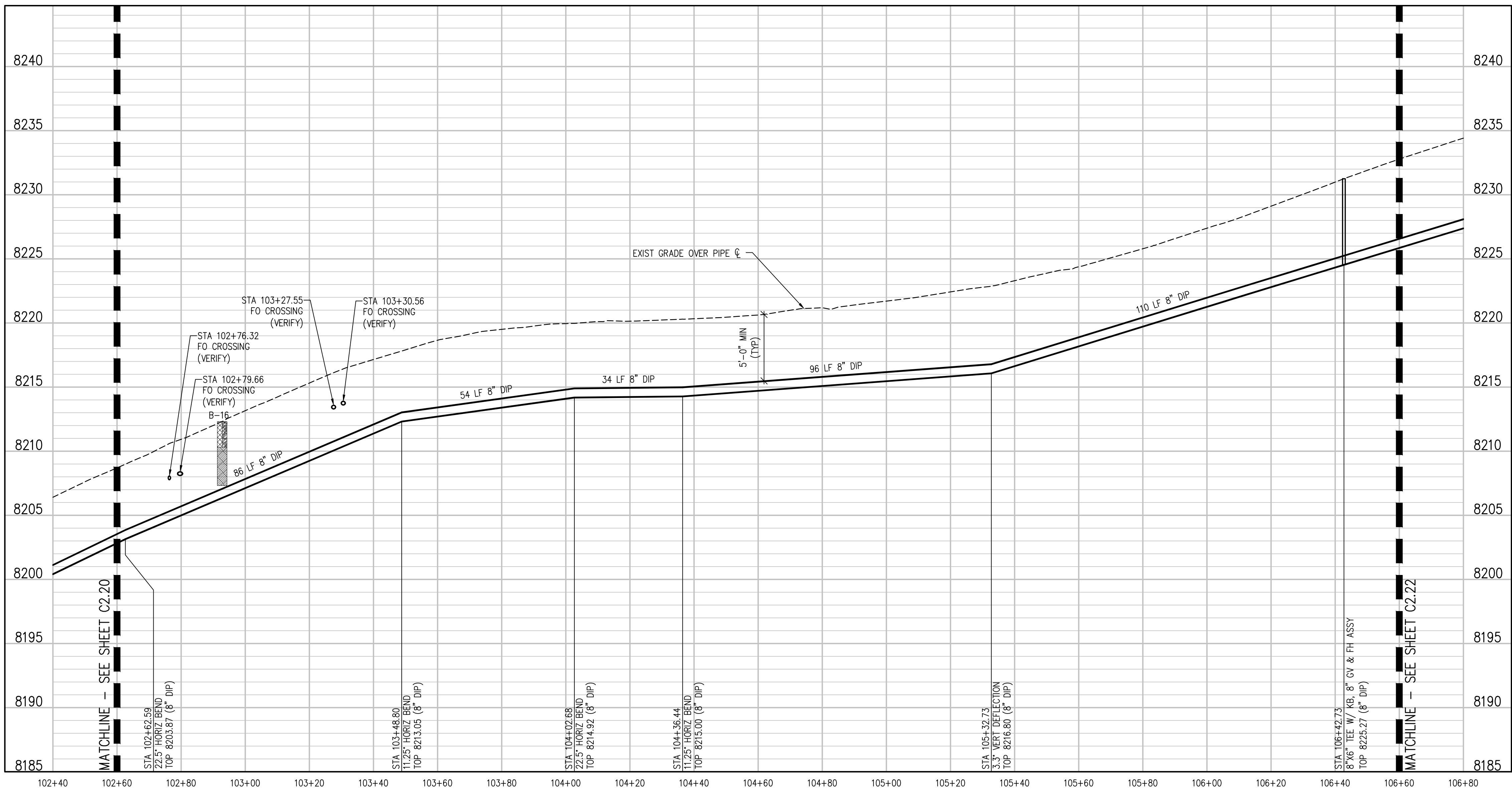
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PROSPECT MOUNTAIN DRIVE PLAN  
SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

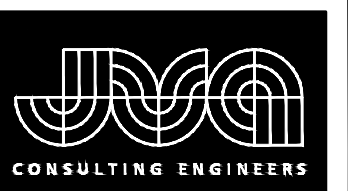
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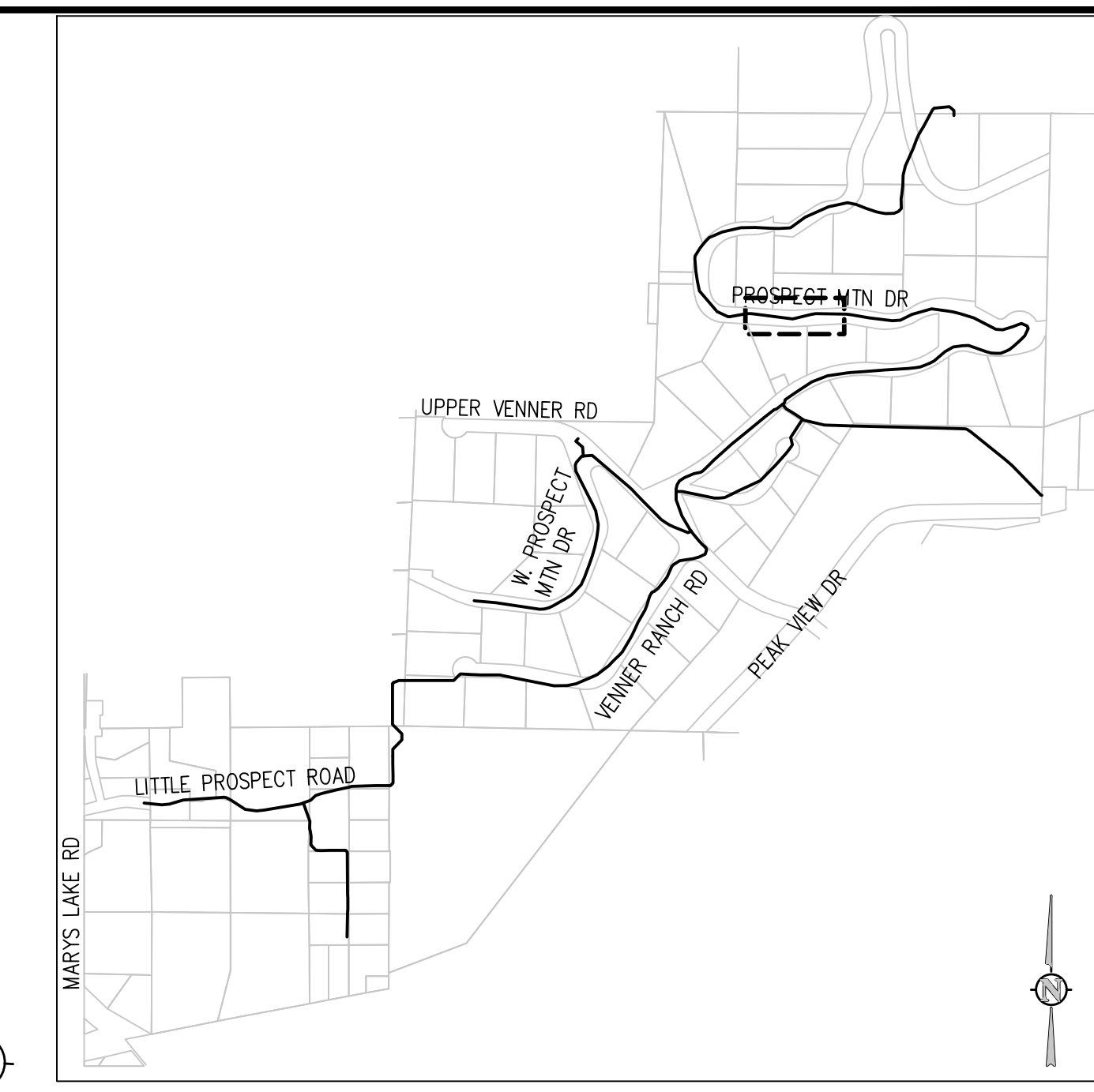
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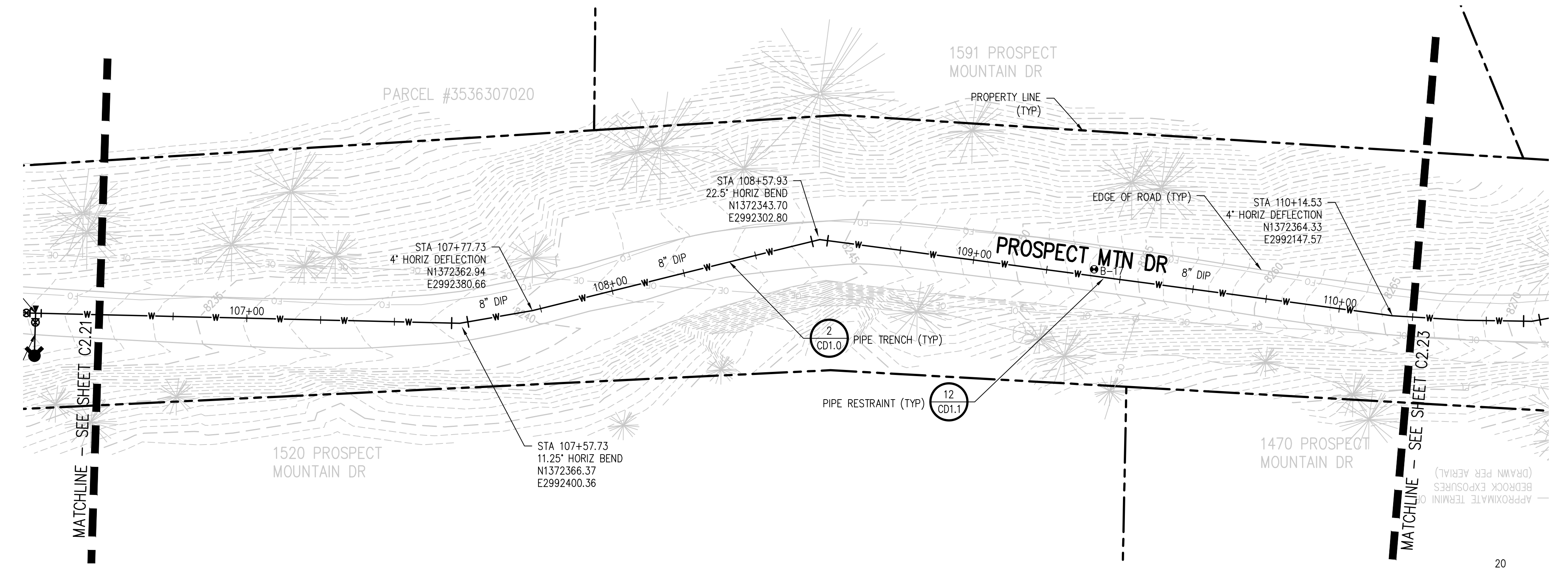
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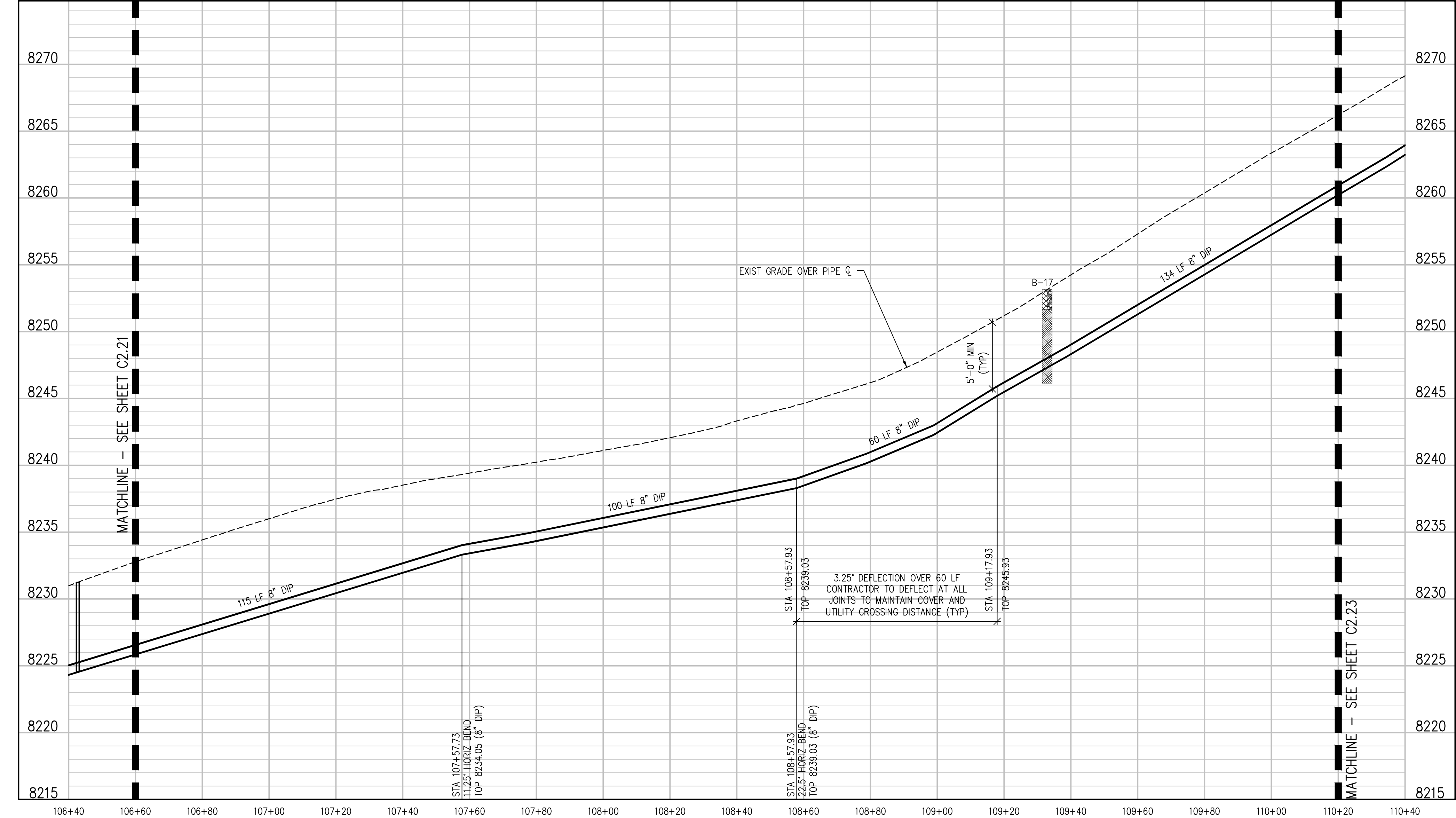
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PROSPECT MOUNTAIN DRIVE PLAN  
SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

NO.	DATE	DES'D	D'WN

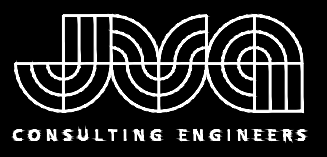
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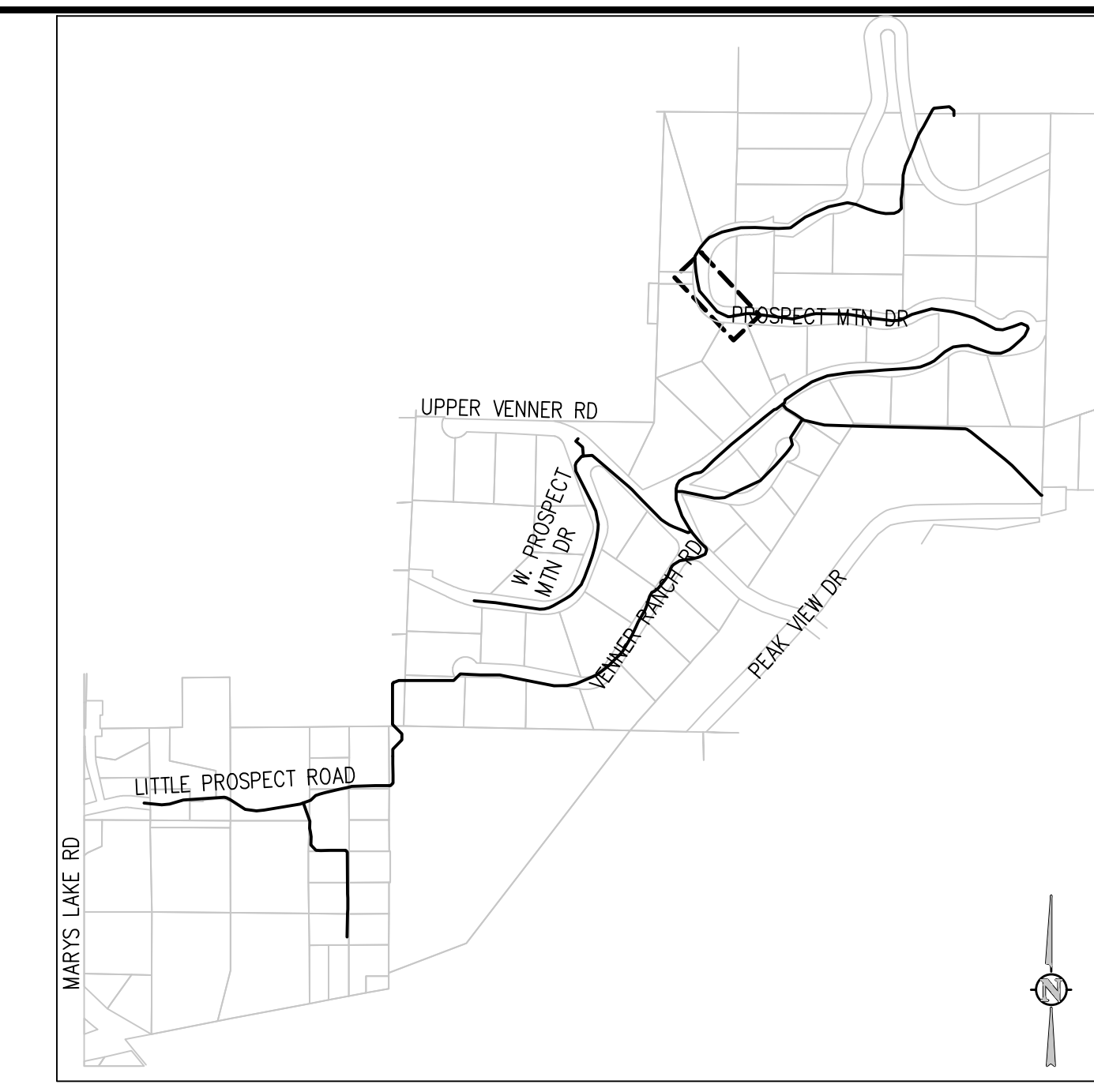
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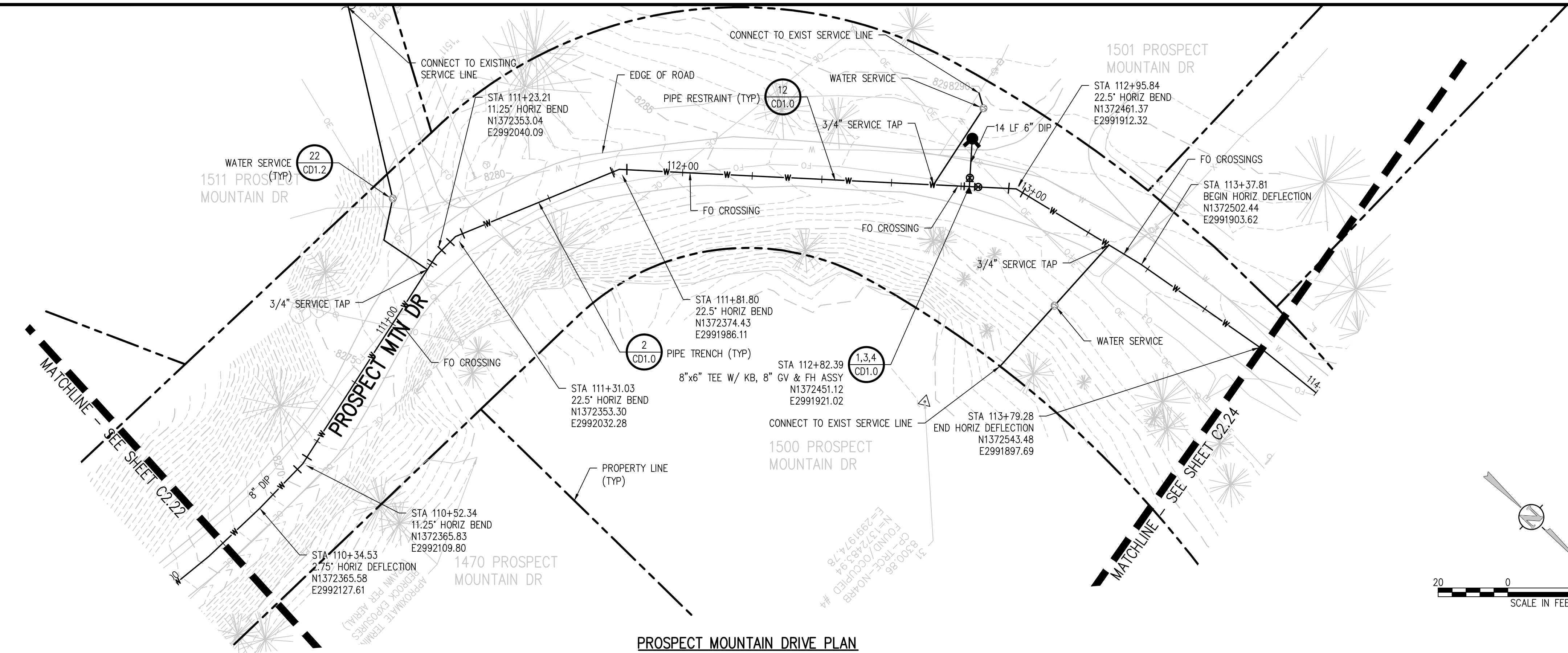
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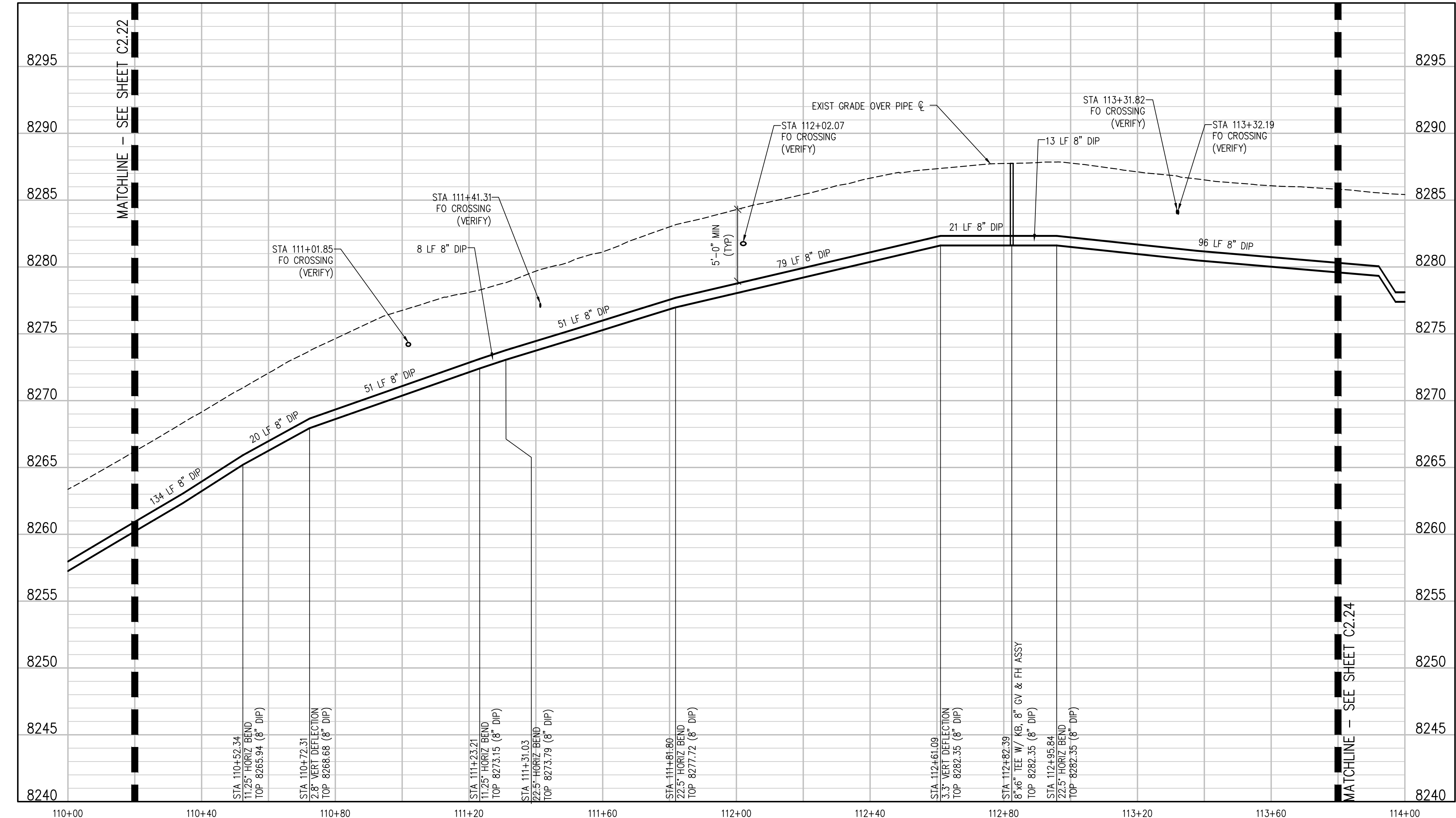
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PROSPECT MOUNTAIN DRIVE PLAN  
SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

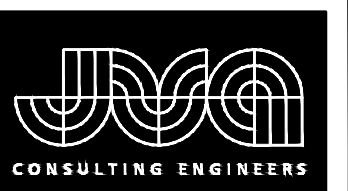
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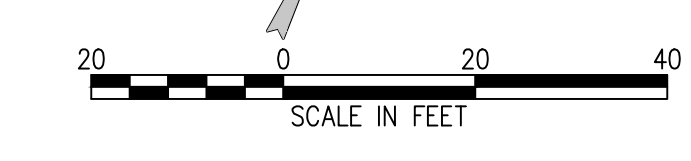
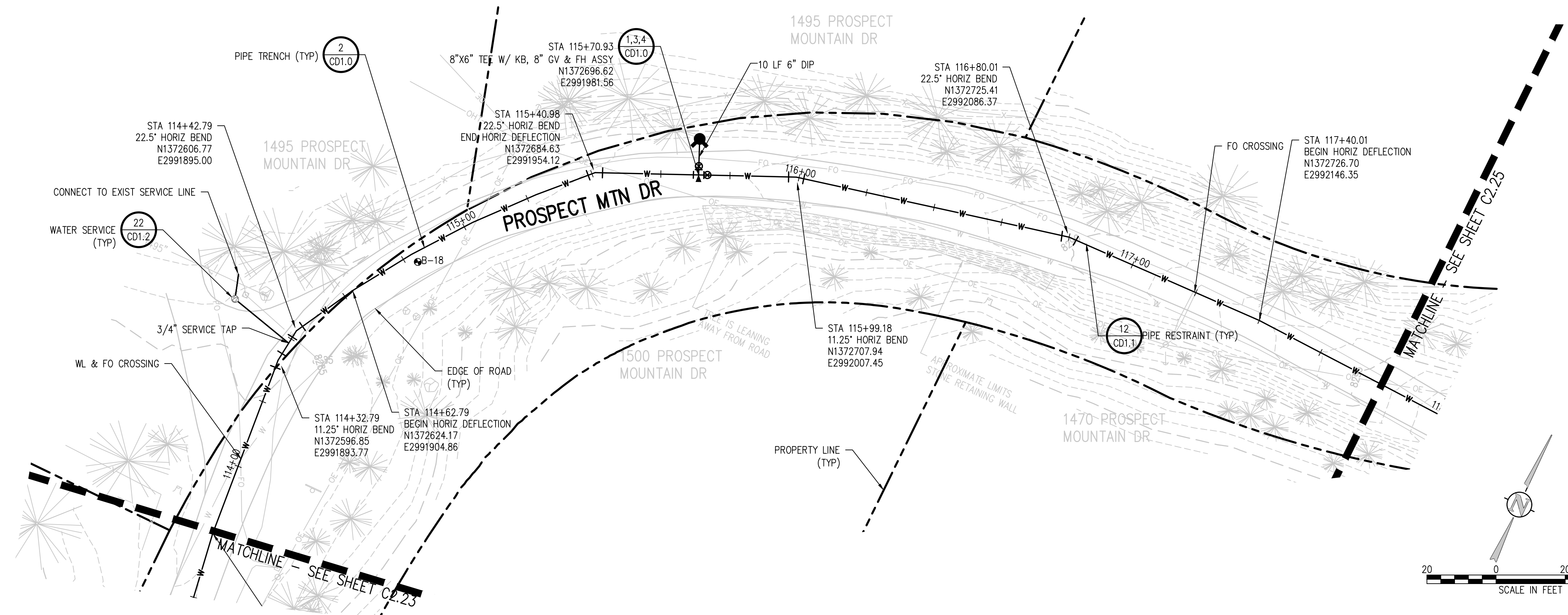
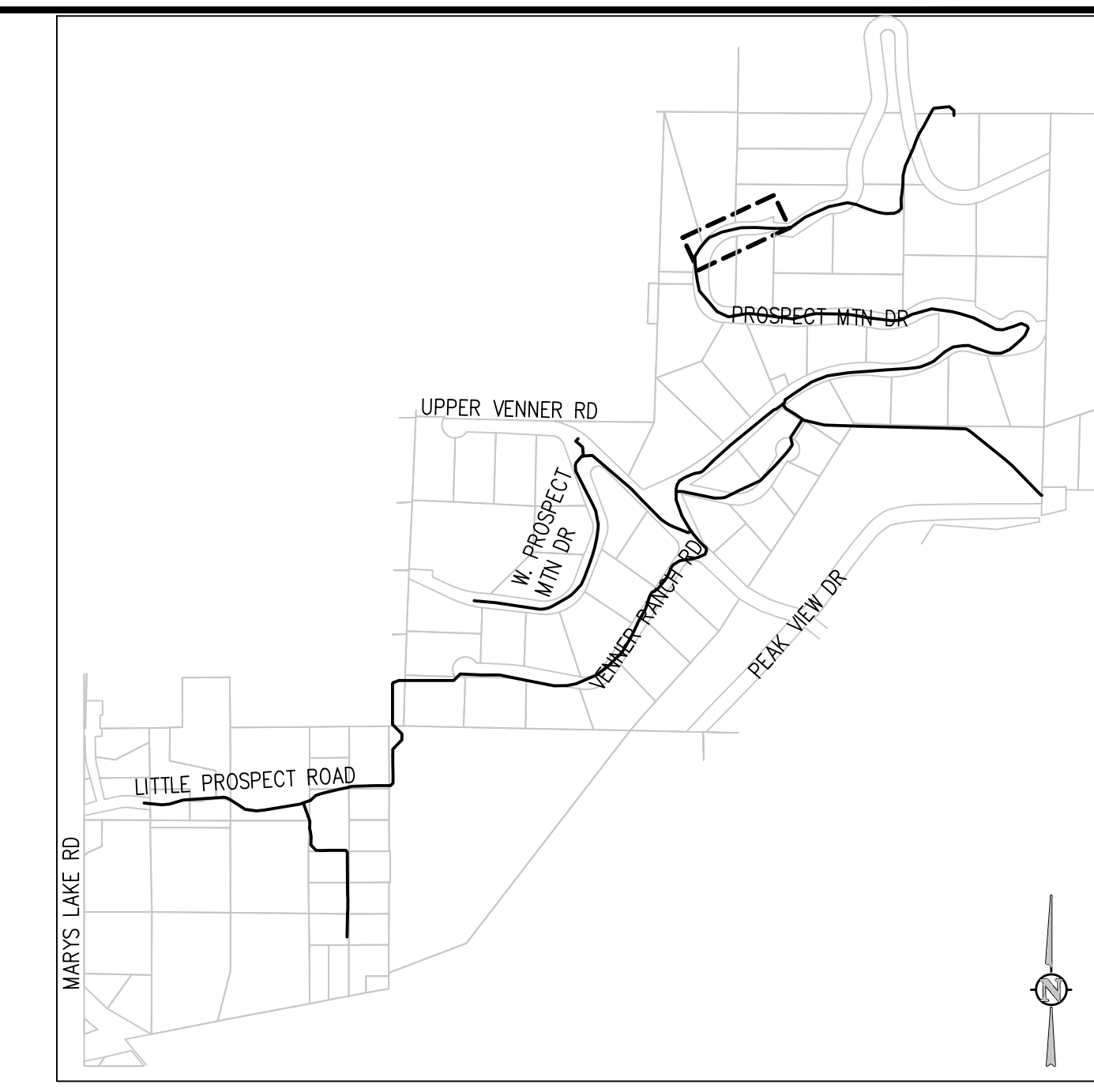
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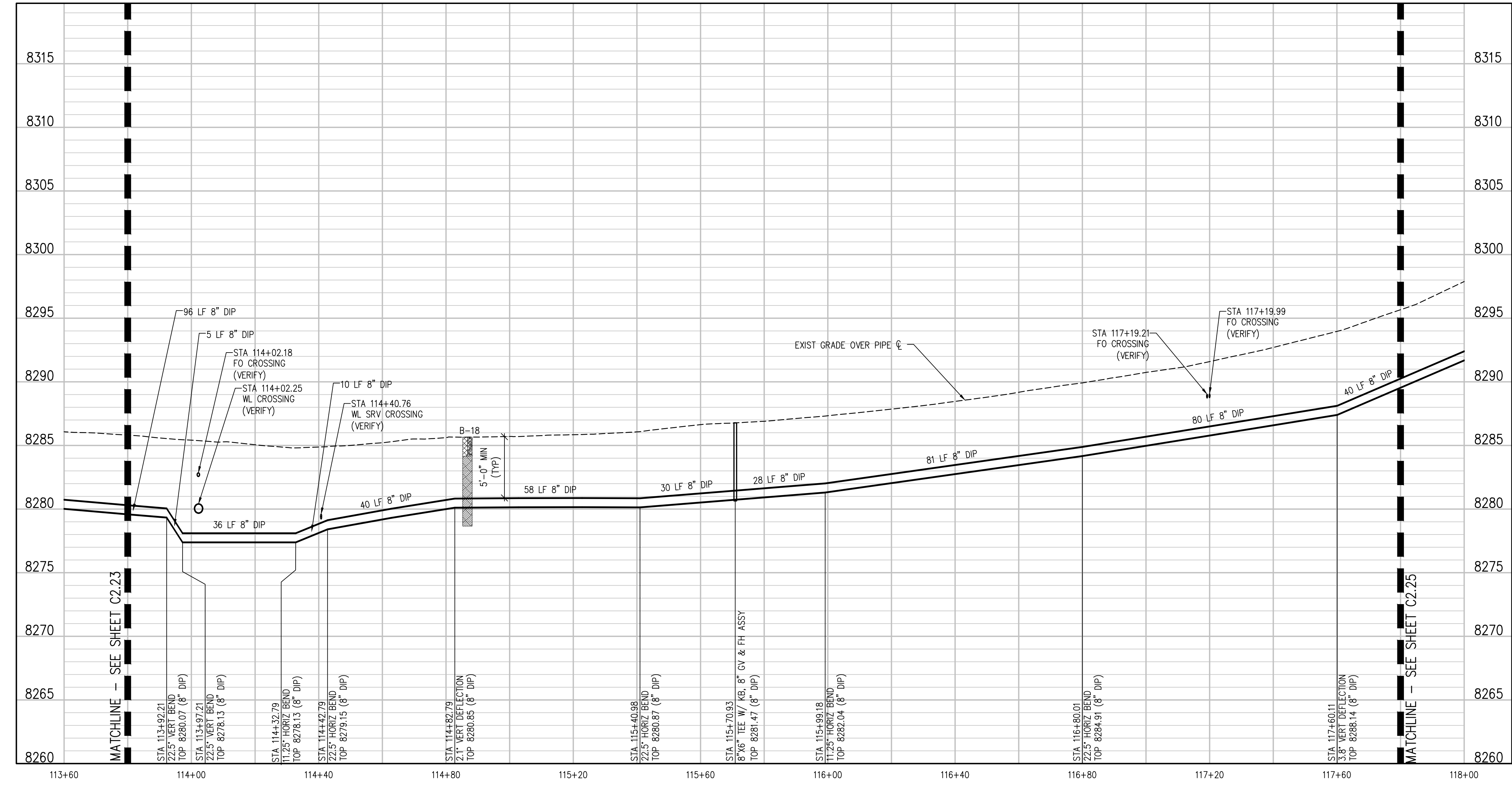
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**PROSPECT MOUNTAIN DRIVE PLAN**  
SCALE: 1"=20'



**PROSPECT MOUNTAIN DRIVE PROFILE**  
SCALE: 1"=20' HORIZ  
1"=5' VERT

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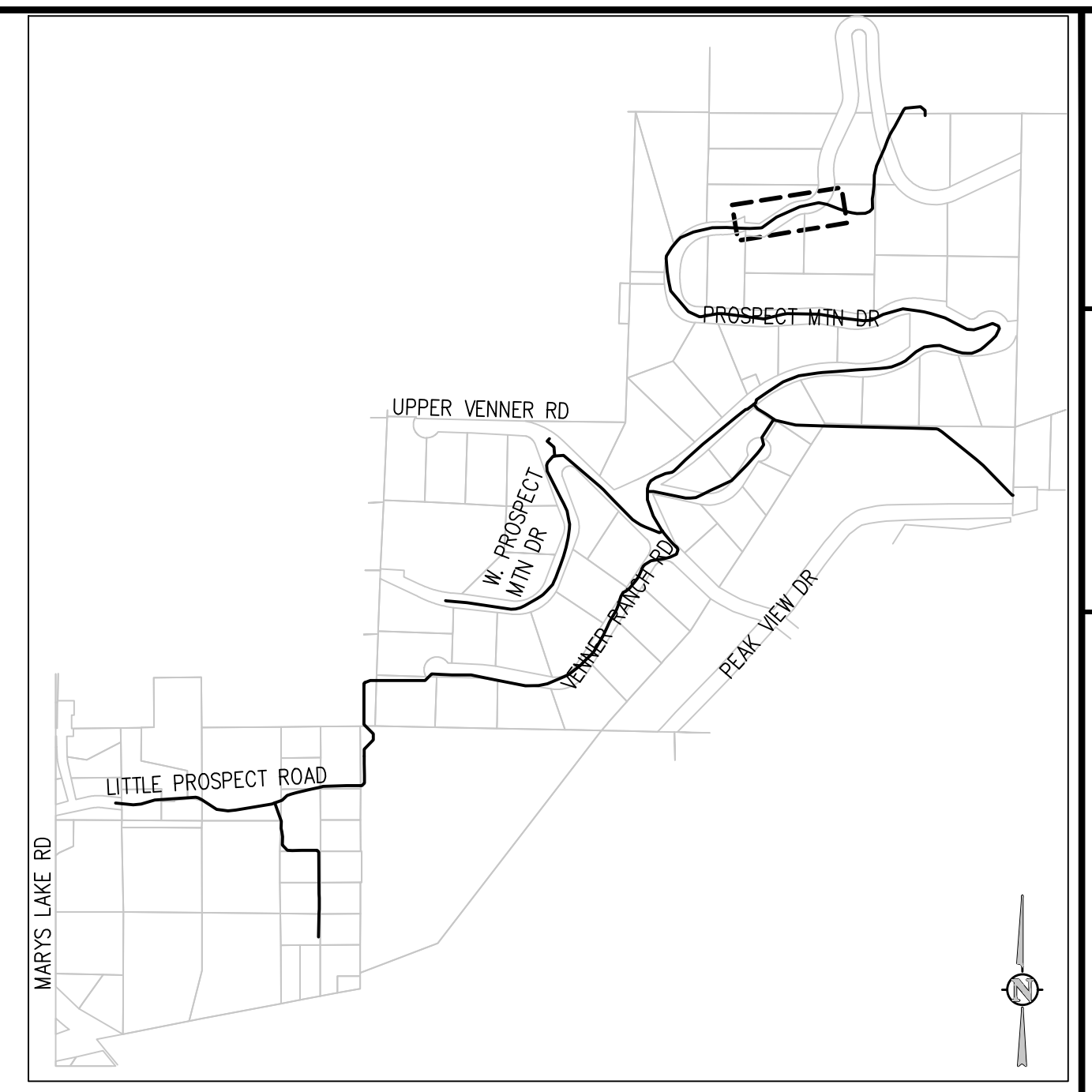
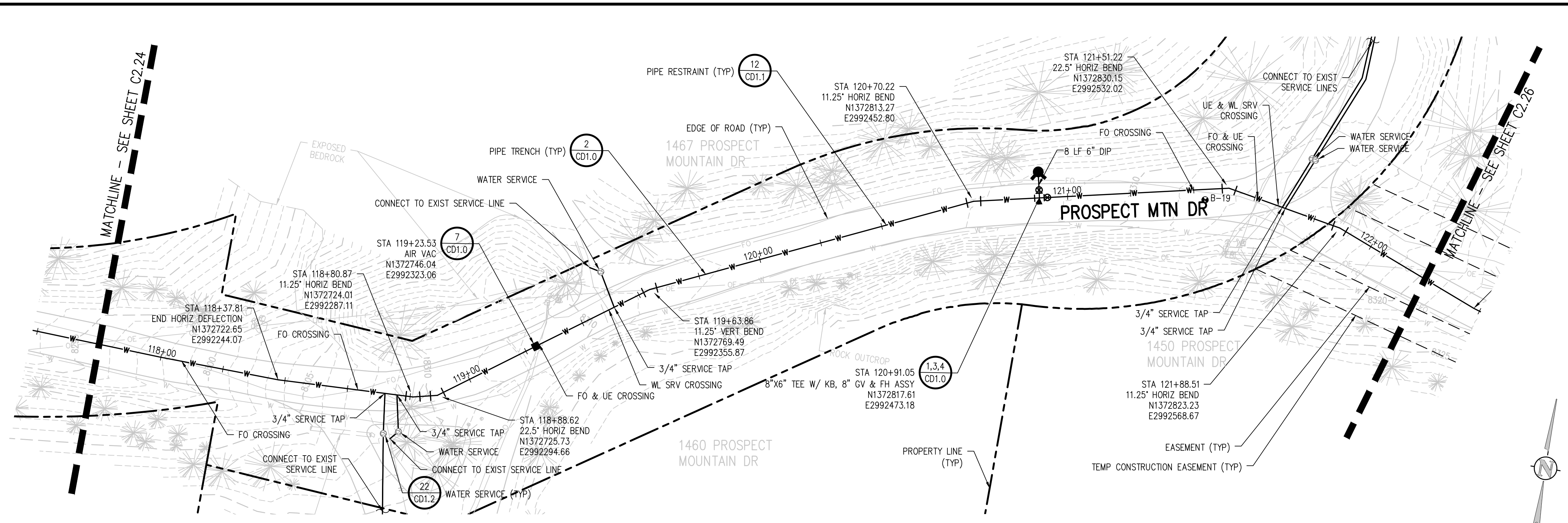
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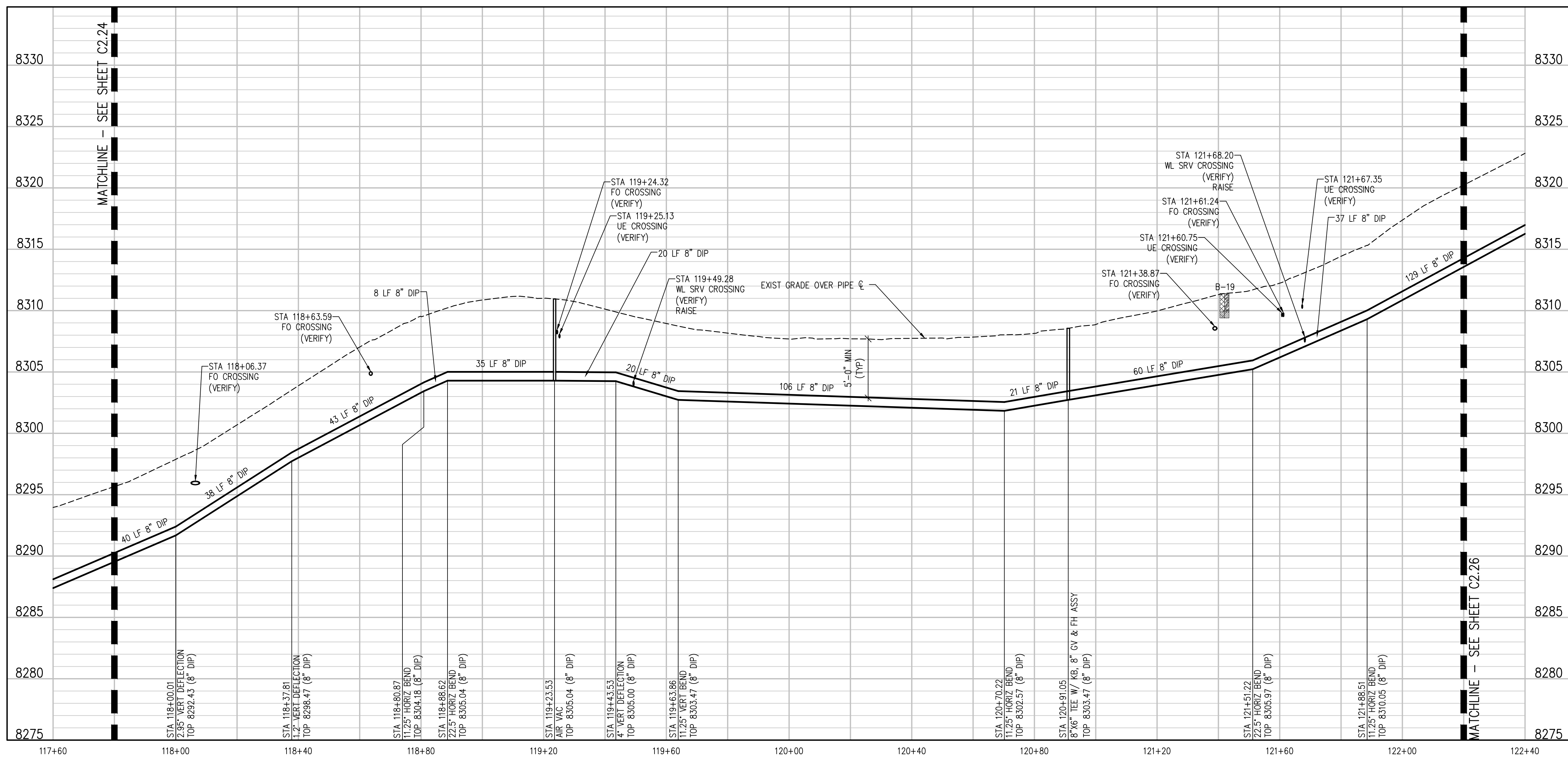
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**PROSPECT MOUNTAIN DRIVE PLAN AND  
PROFILE**

SHEET NO.  
**C2.24**



**PROSPECT MOUNTAIN DRIVE PLAN**  
 SCALE: 1"=20'



**PROSPECT MOUNTAIN DRIVE PROFILE**  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

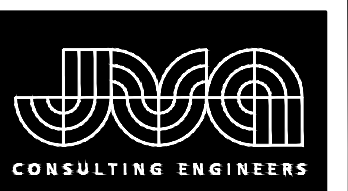
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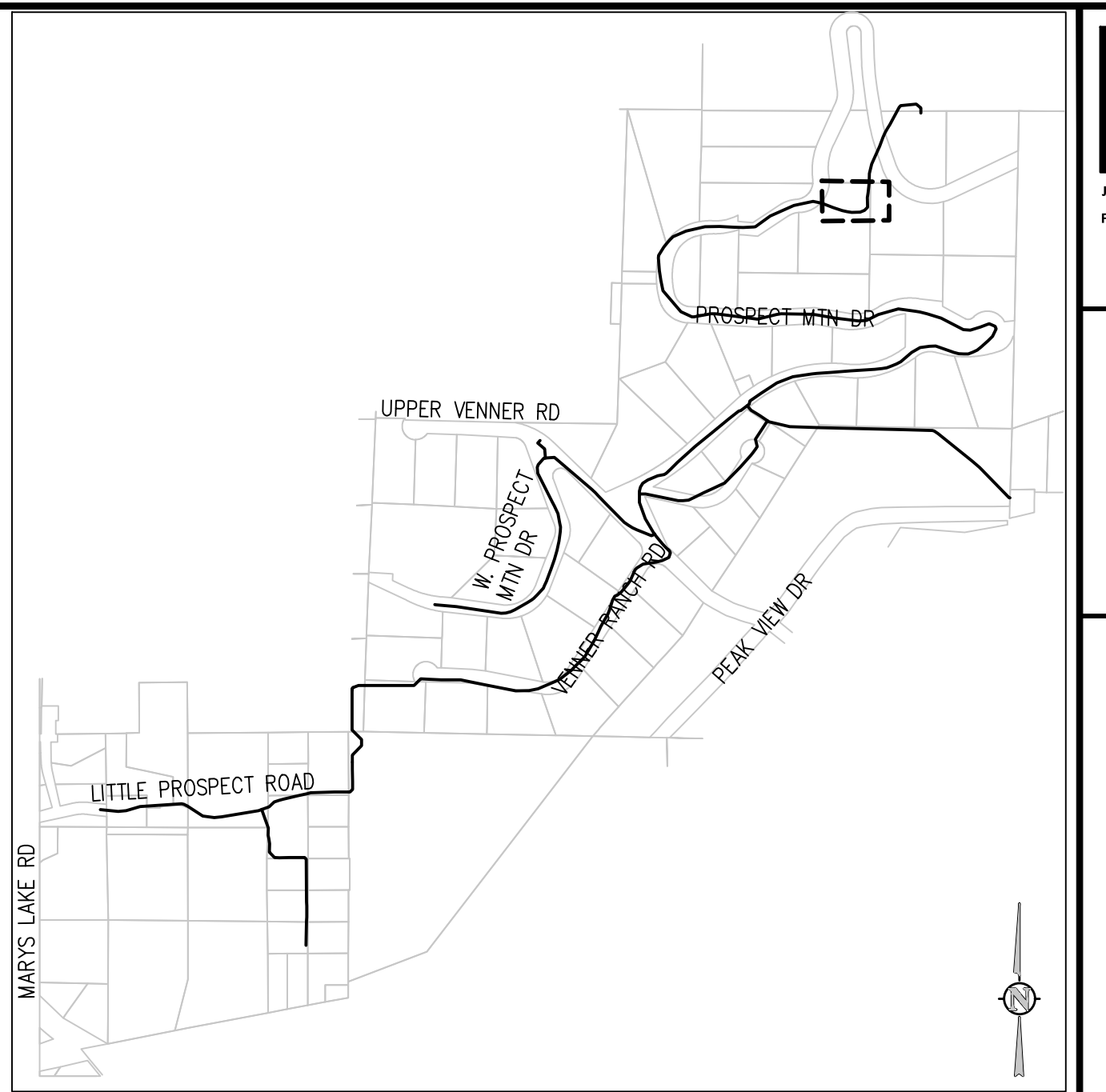
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 ESTES PARK, COLORADO**

**PROSPECT MOUNTAIN DRIVE PLAN AND  
 PROFILE**

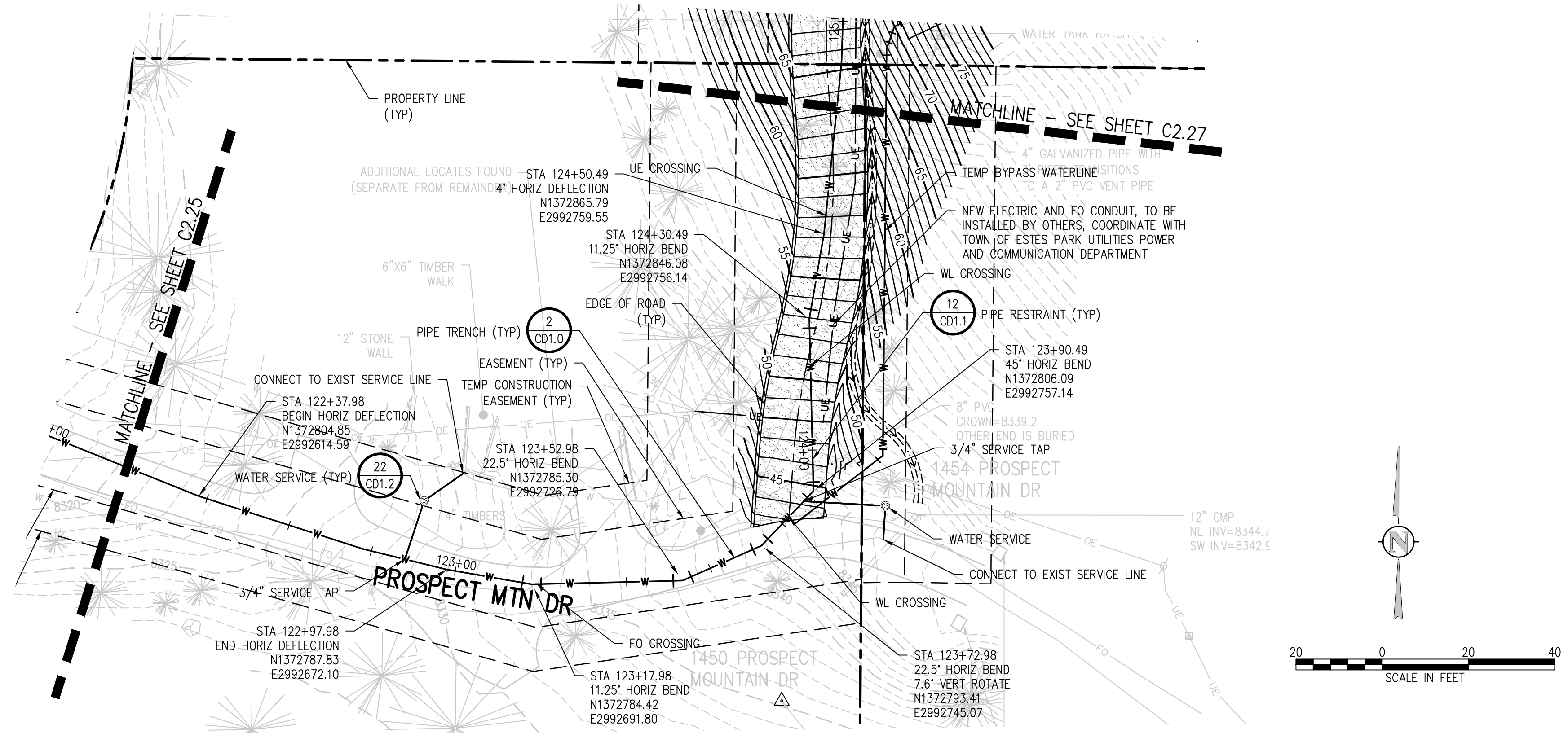
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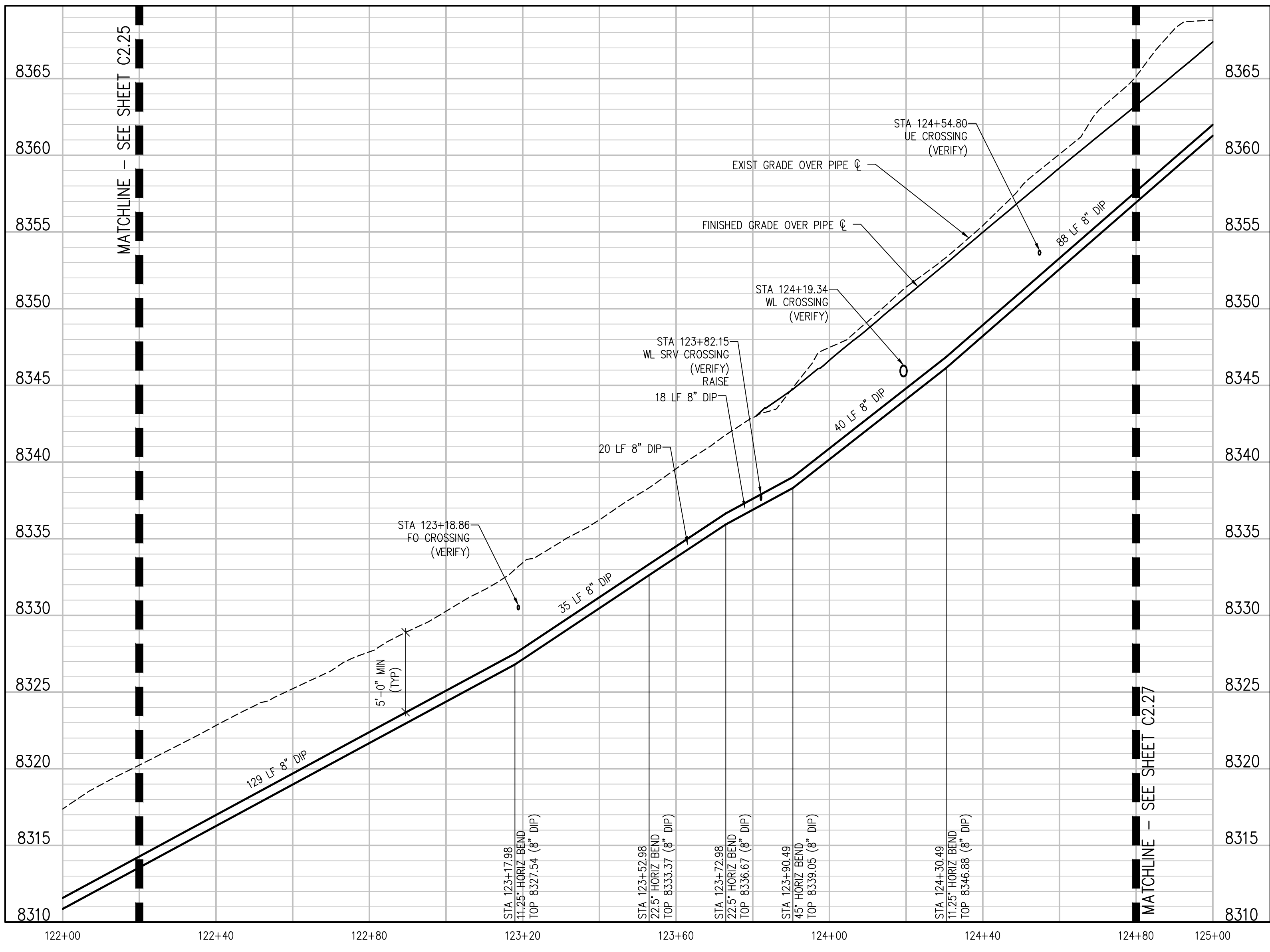
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PROSPECT MOUNTAIN DRIVE PLAN  
 SCALE: 1"=20'



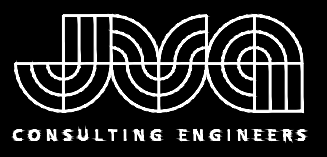
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 SCALE: 1"=20' HORIZ  
 1"=5' VERT

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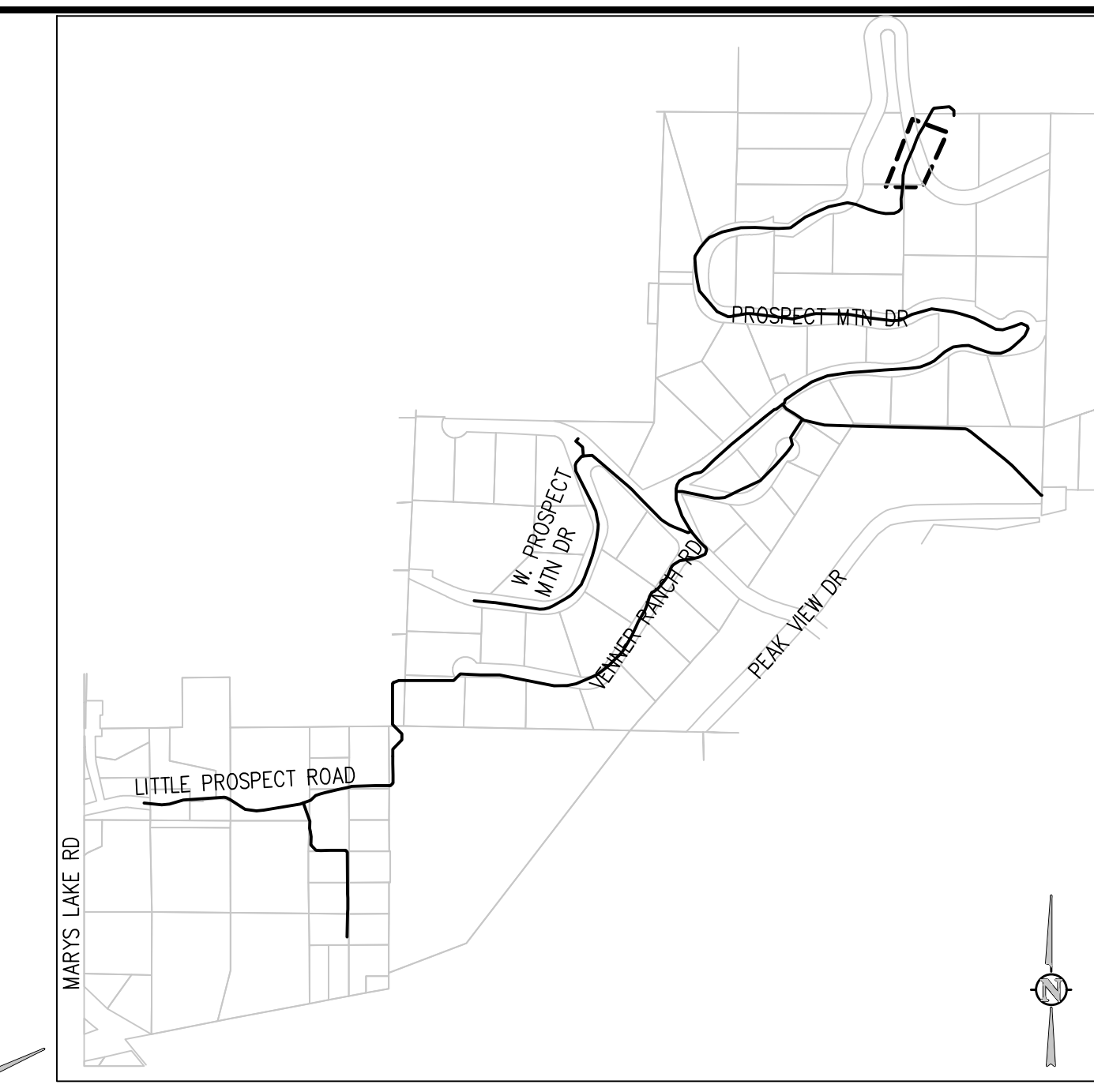
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 PROSPECT MOUNTAIN DRIVE PLAN AND  
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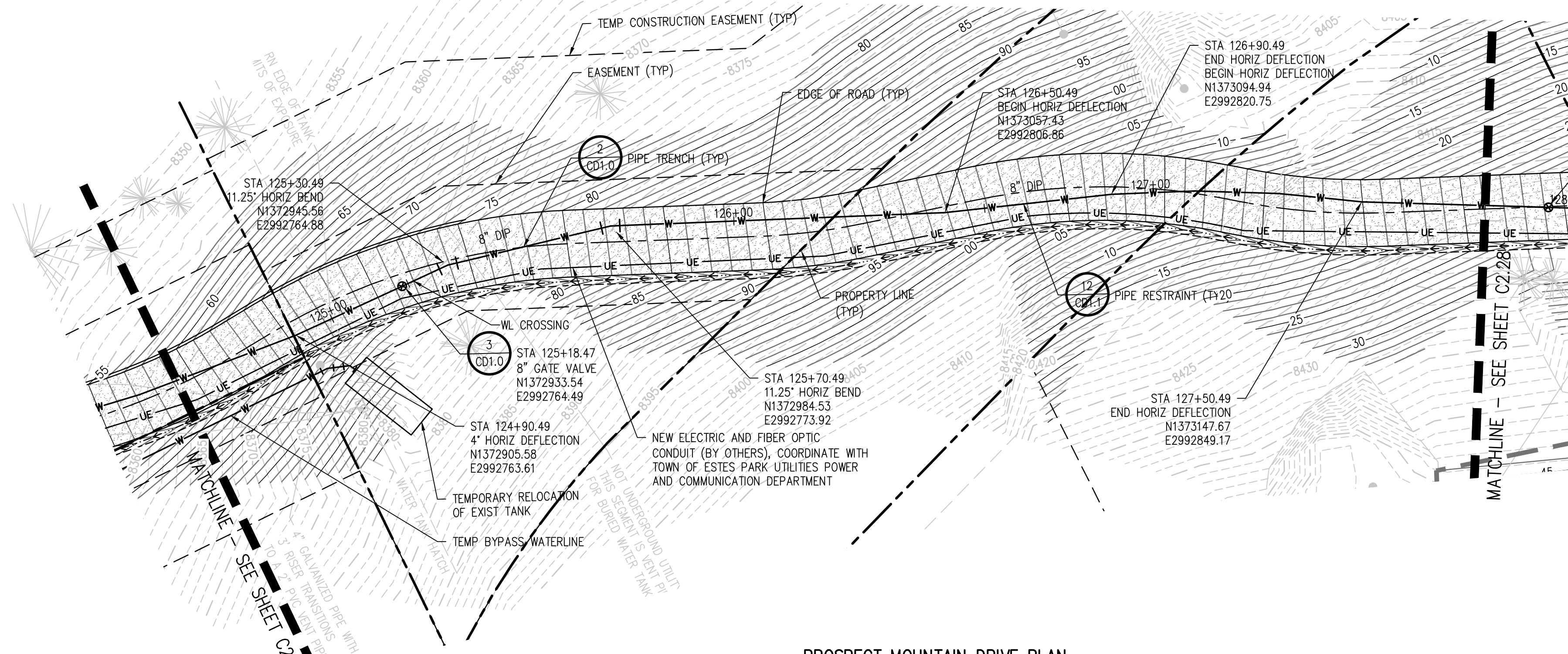
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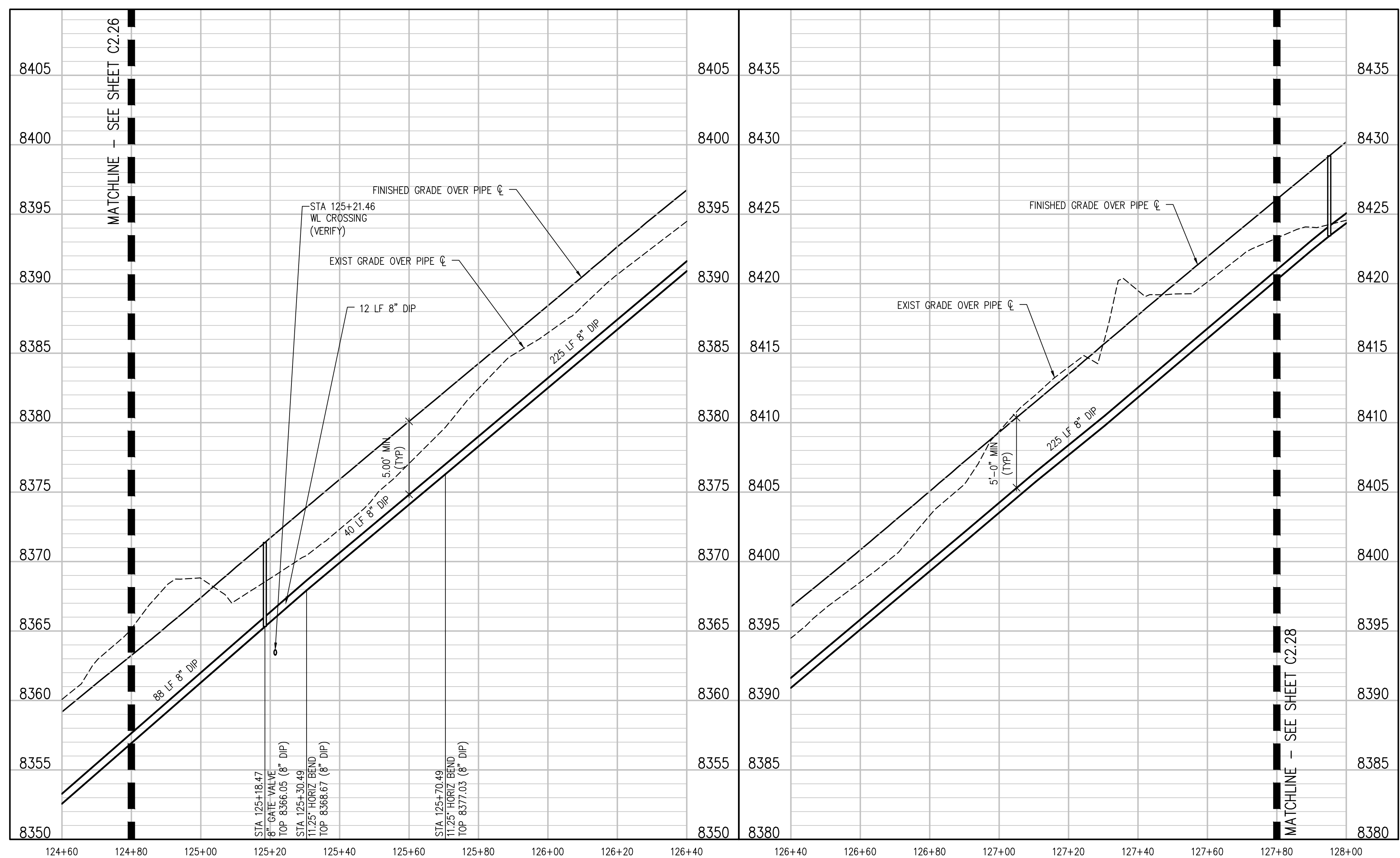
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PROSPECT MOUNTAIN DRIVE PLAN  
 SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

PROSPECT MOUNTAIN DRIVE PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

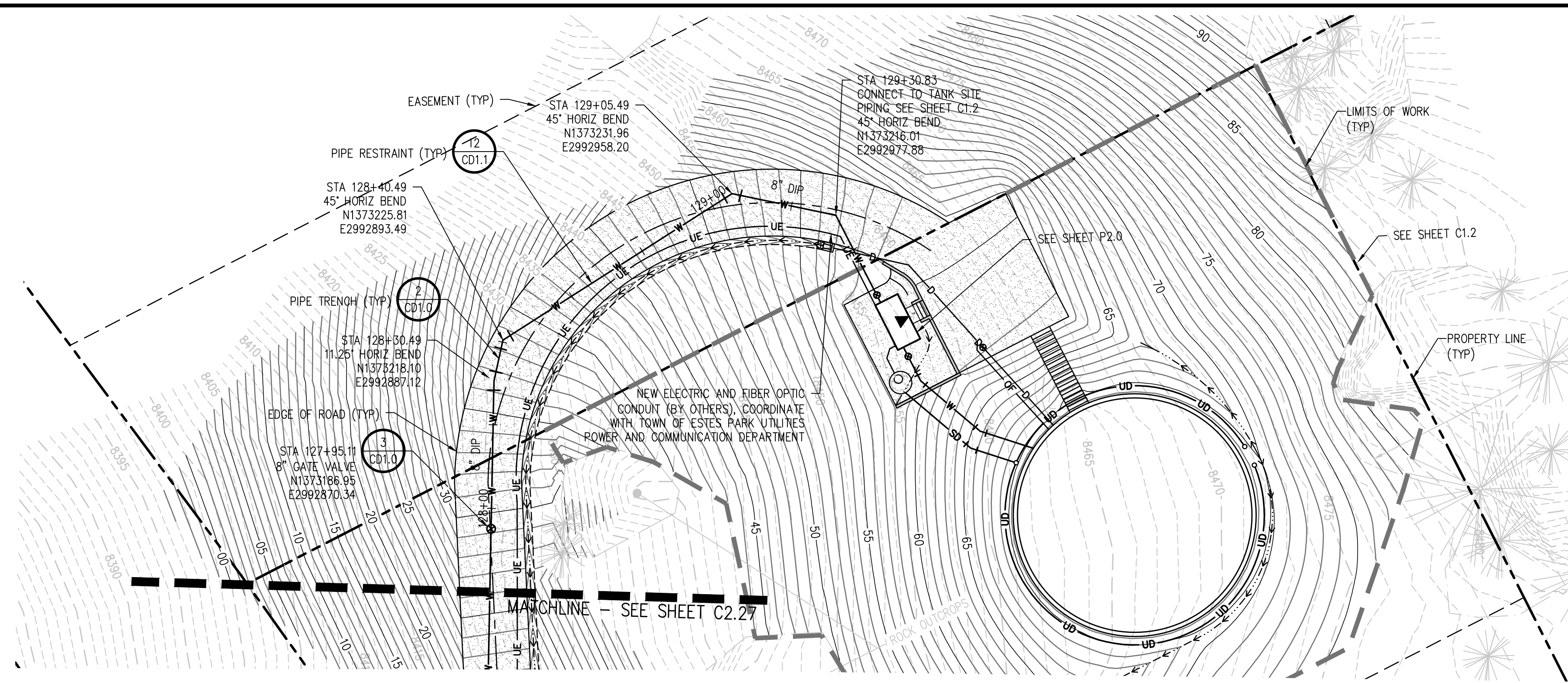
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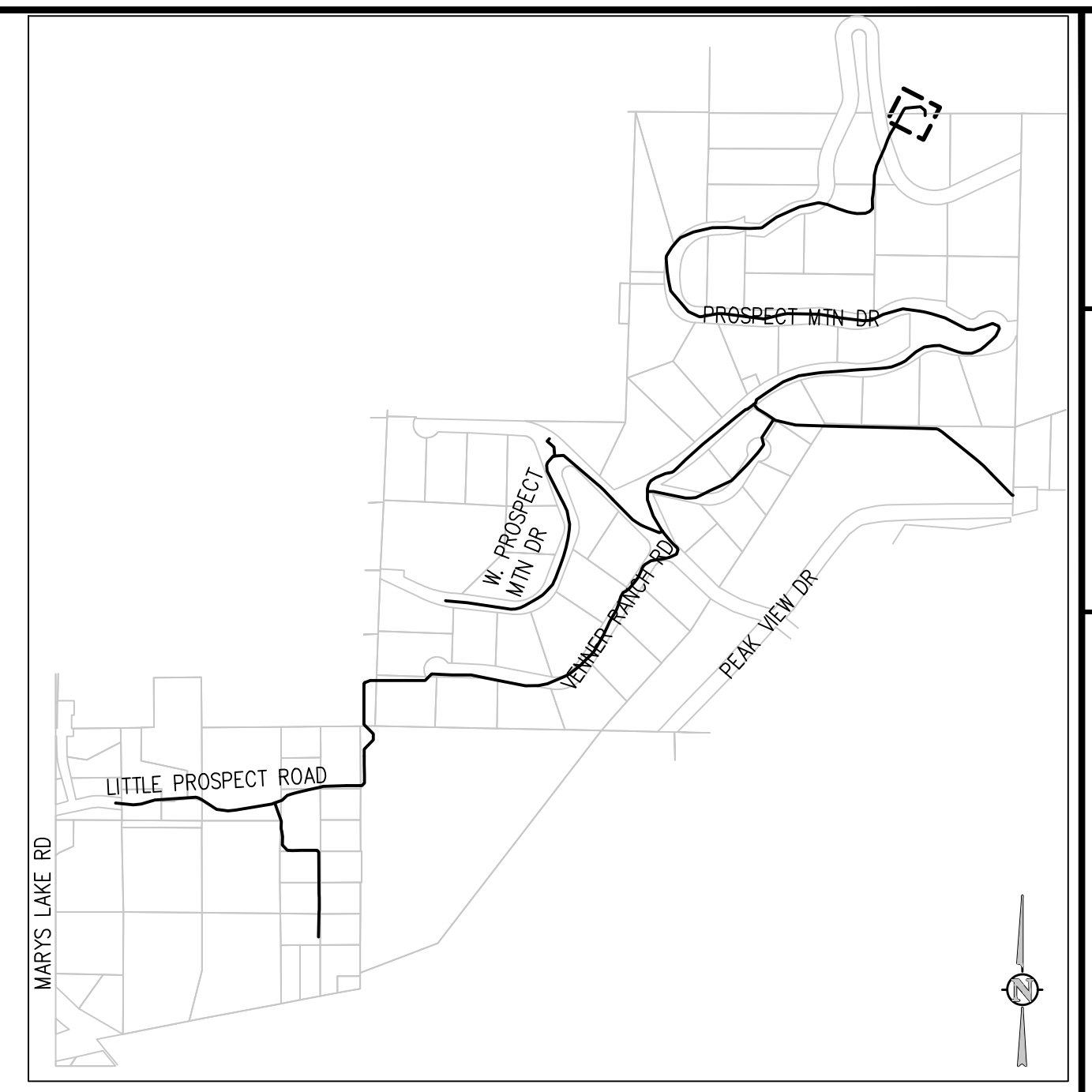
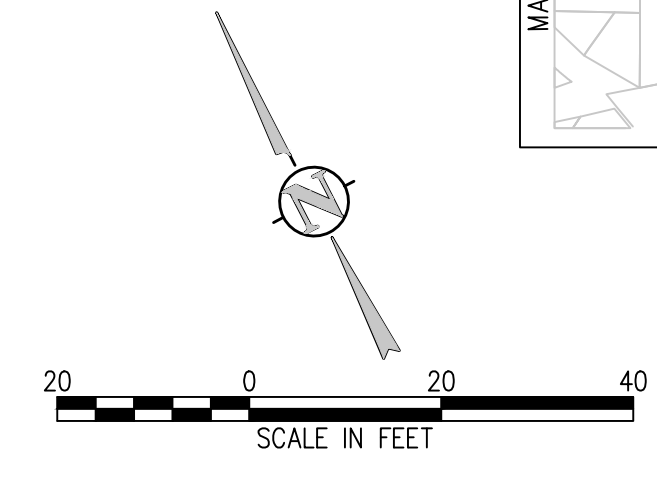
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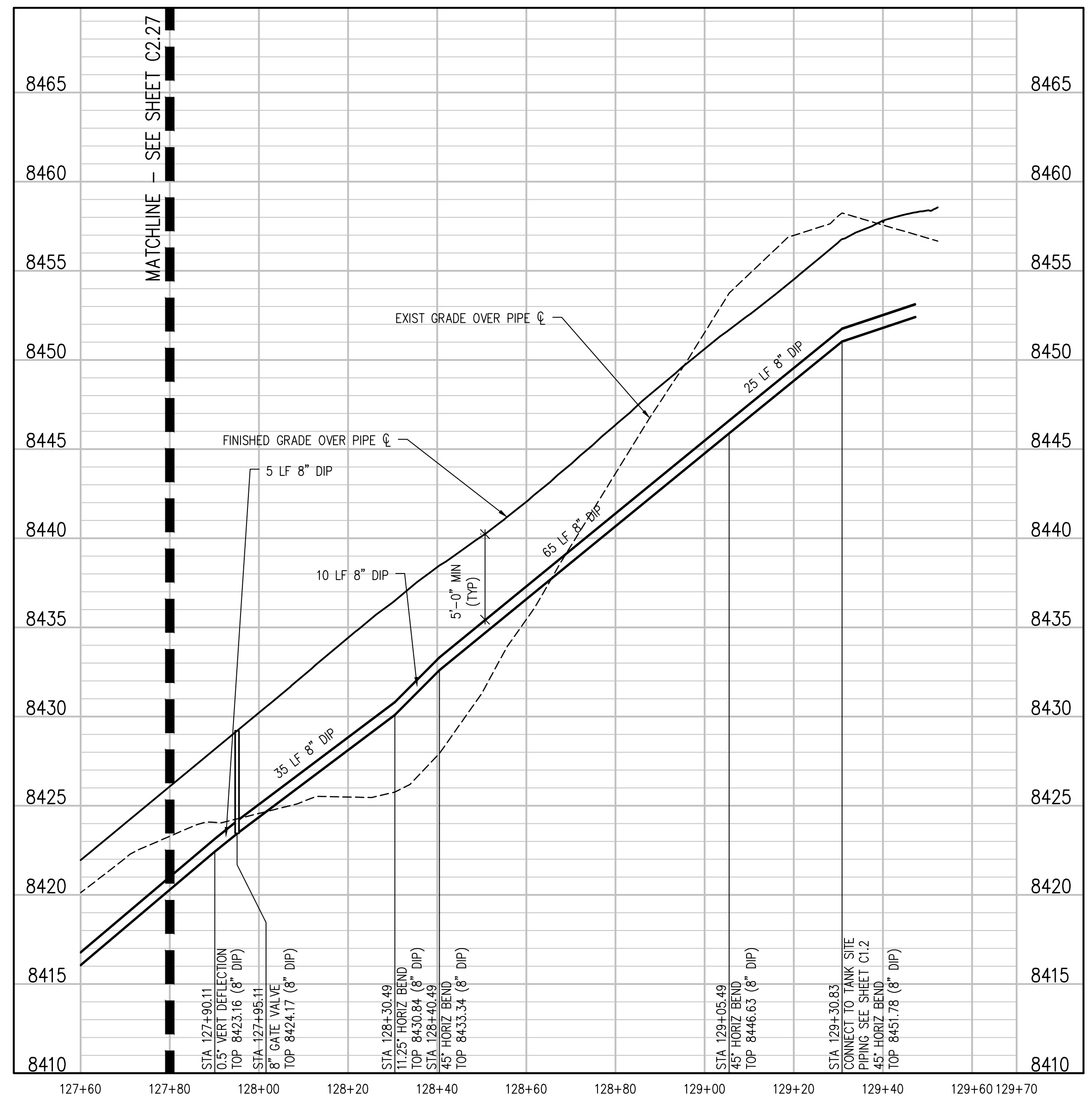
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**PROSPECT MOUNTAIN DRIVE PLAN**  
SCALE: 1"=20'



**KEY MAP**  
NTS

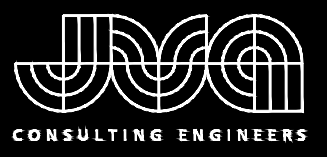


**PROSPECT MOUNTAIN DRIVE PROFILE**  
SCALE: 1"=20' HORIZ  
1"=5' VERT

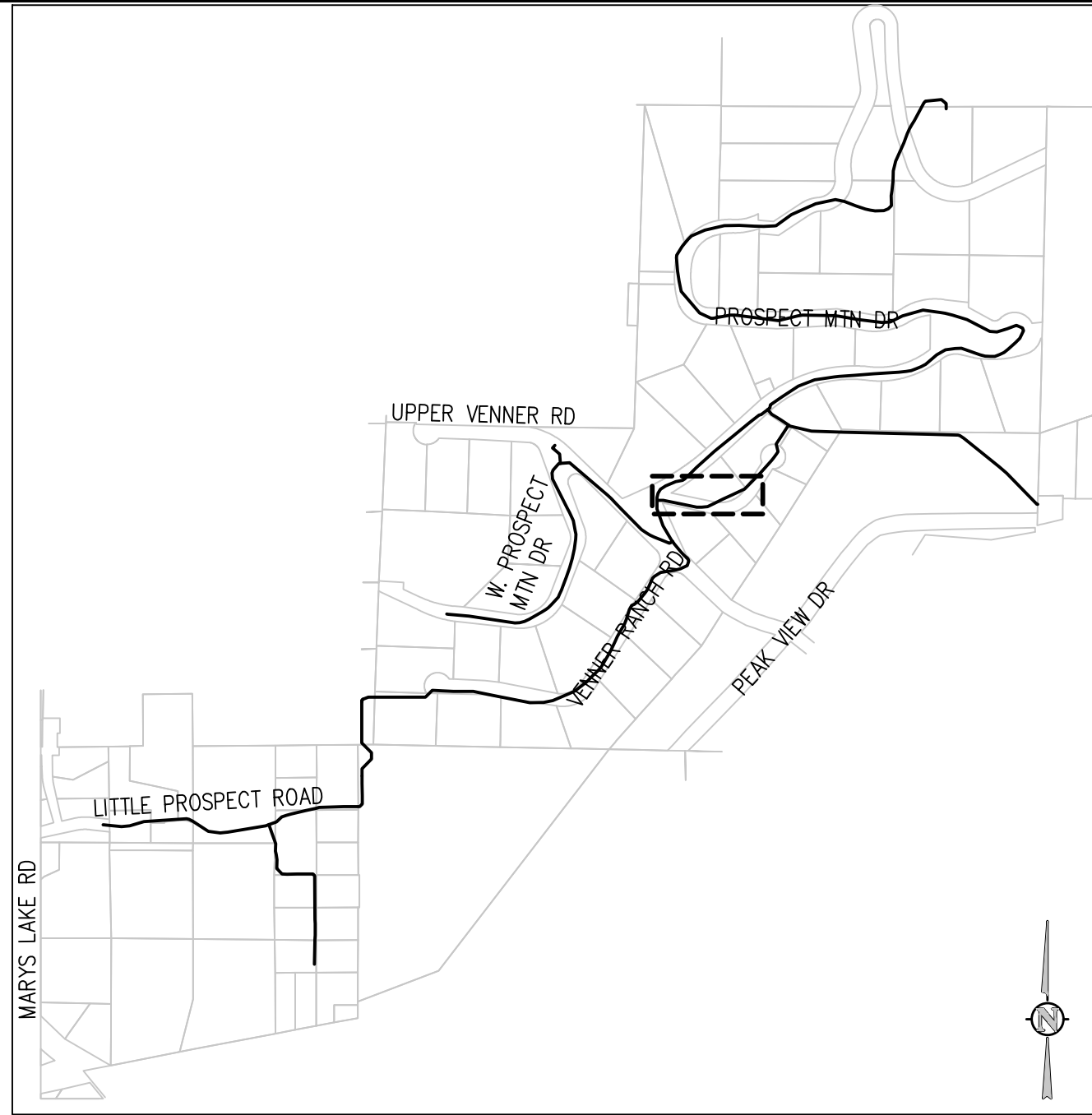
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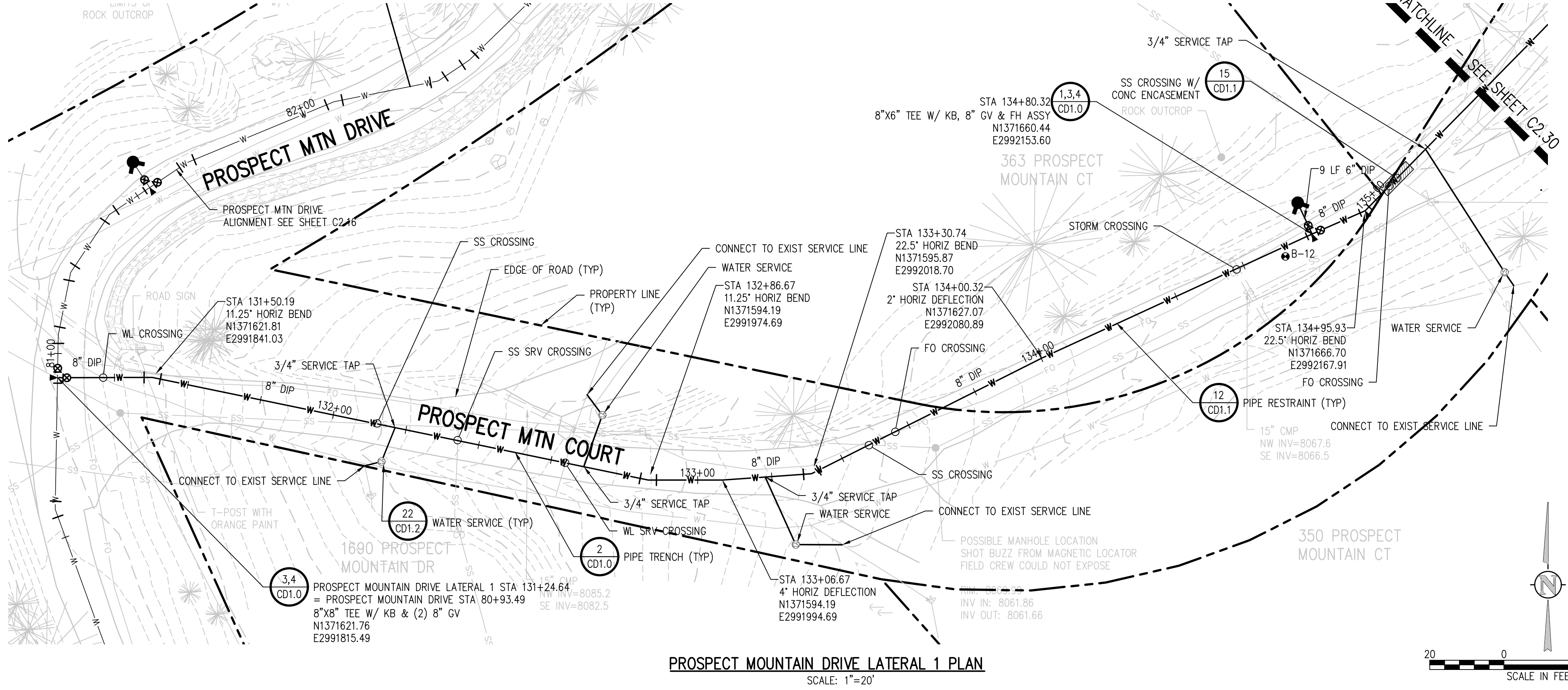




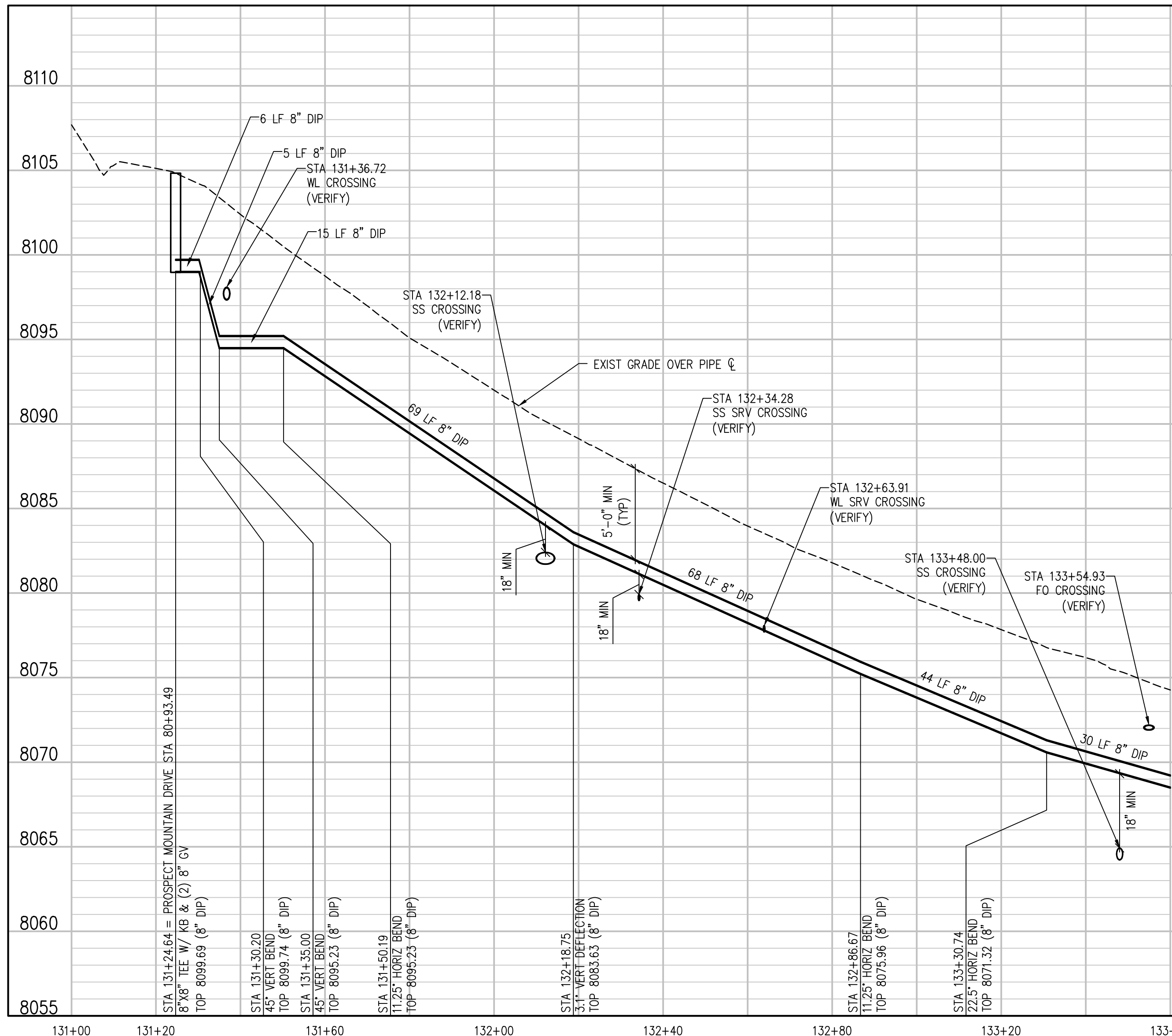
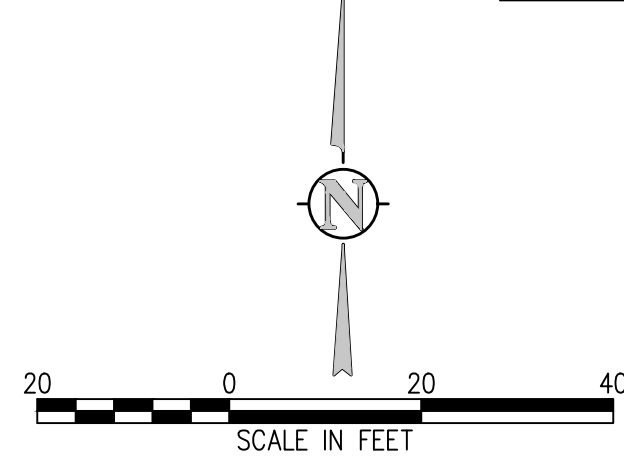
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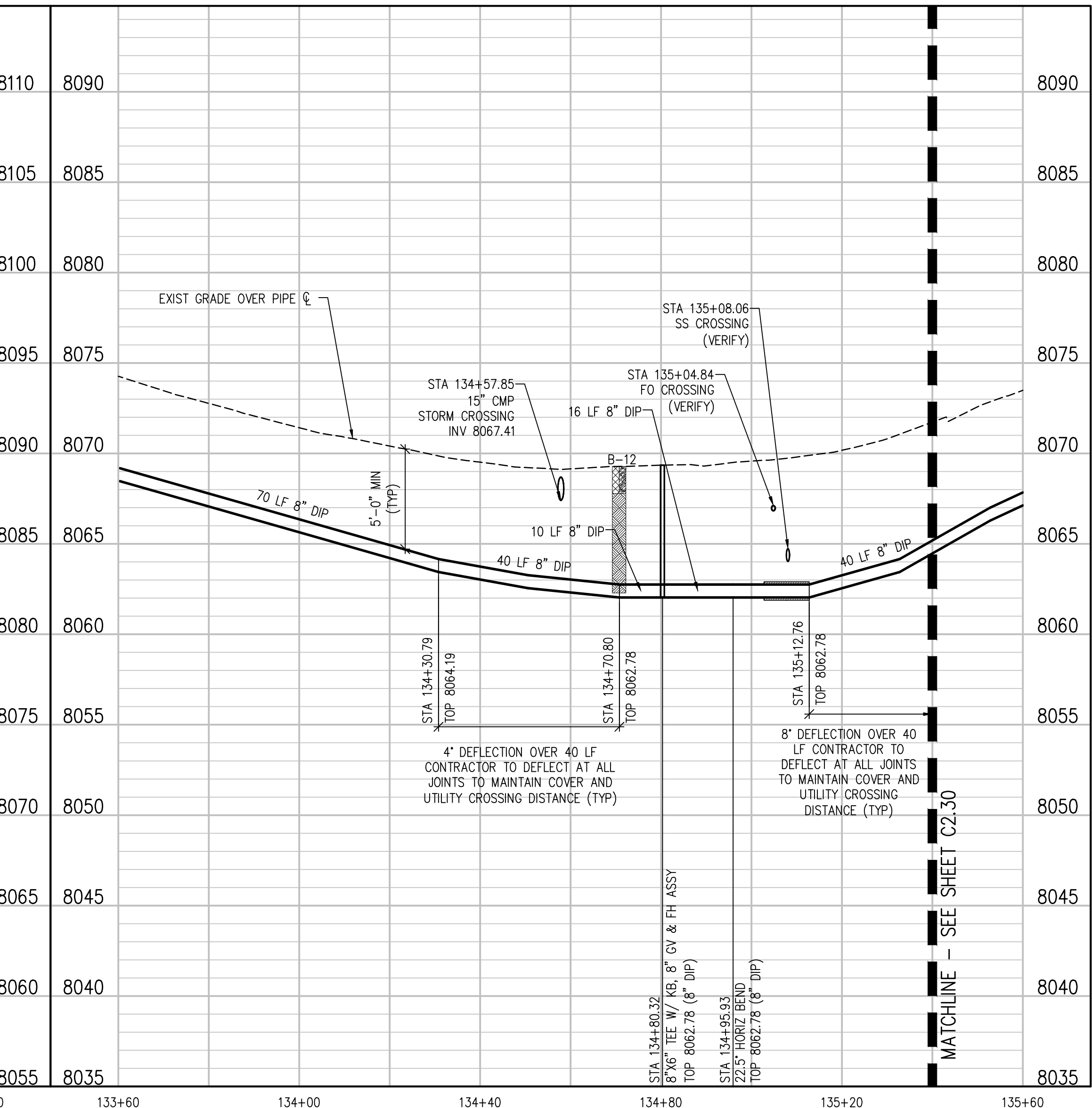
KEY MAP  
NTS



PROSPECT MOUNTAIN DRIVE LATERAL 1 PLAN  
SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE LATERAL 1 PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT



PROSPECT MOUNTAIN DRIVE LATERAL 1 PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

REVISION DESCRIPTION

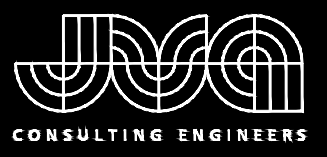
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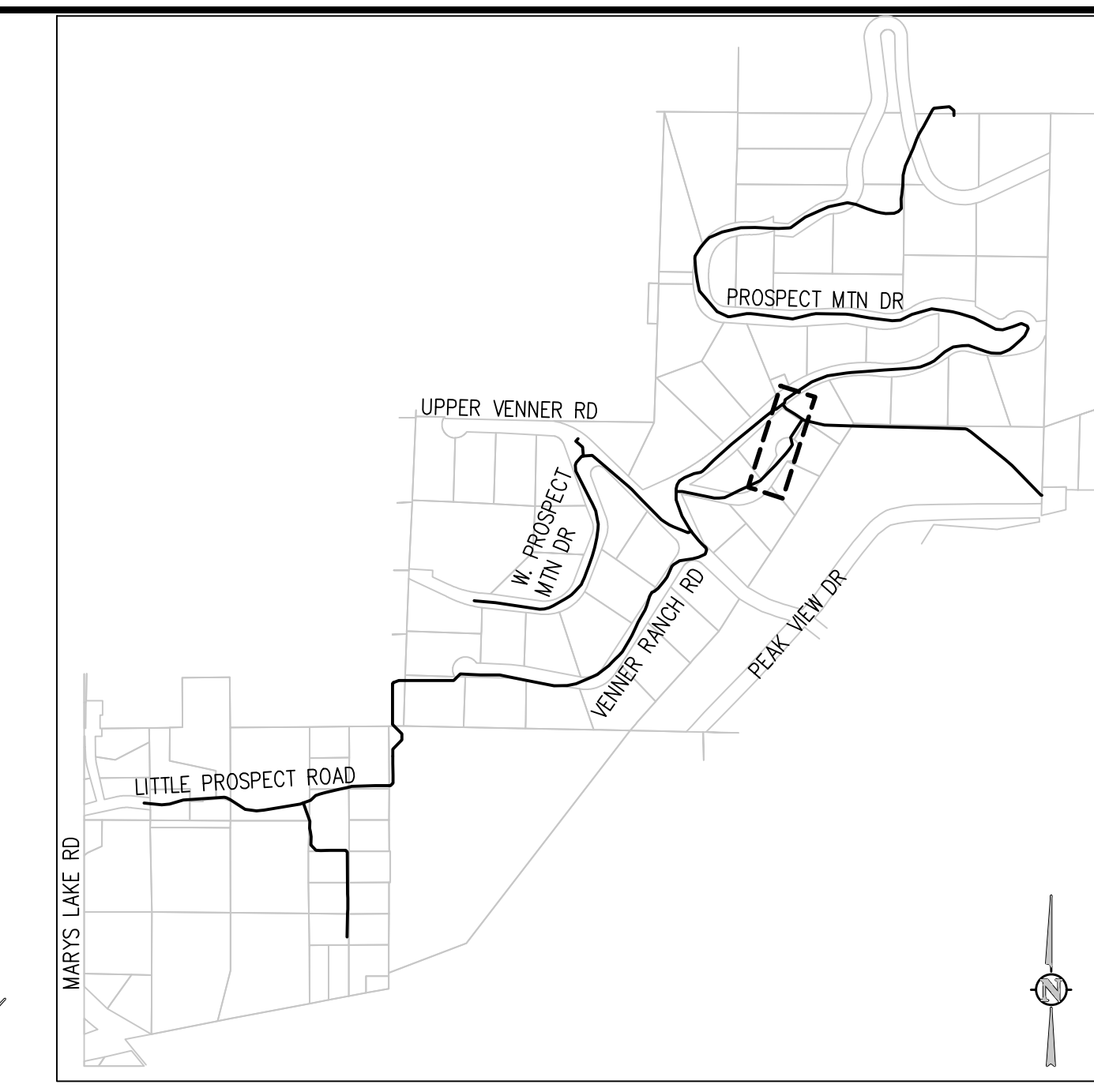
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PLAN AND PROFILE

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C2.29

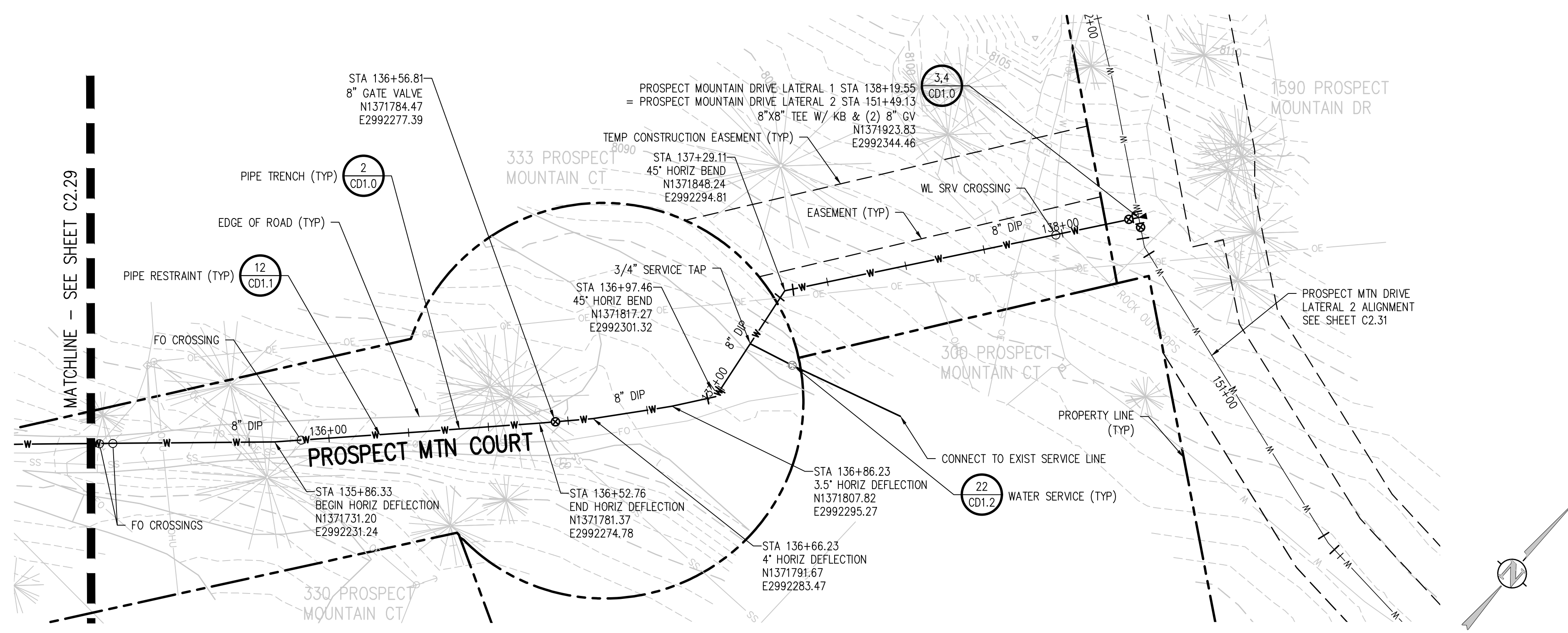
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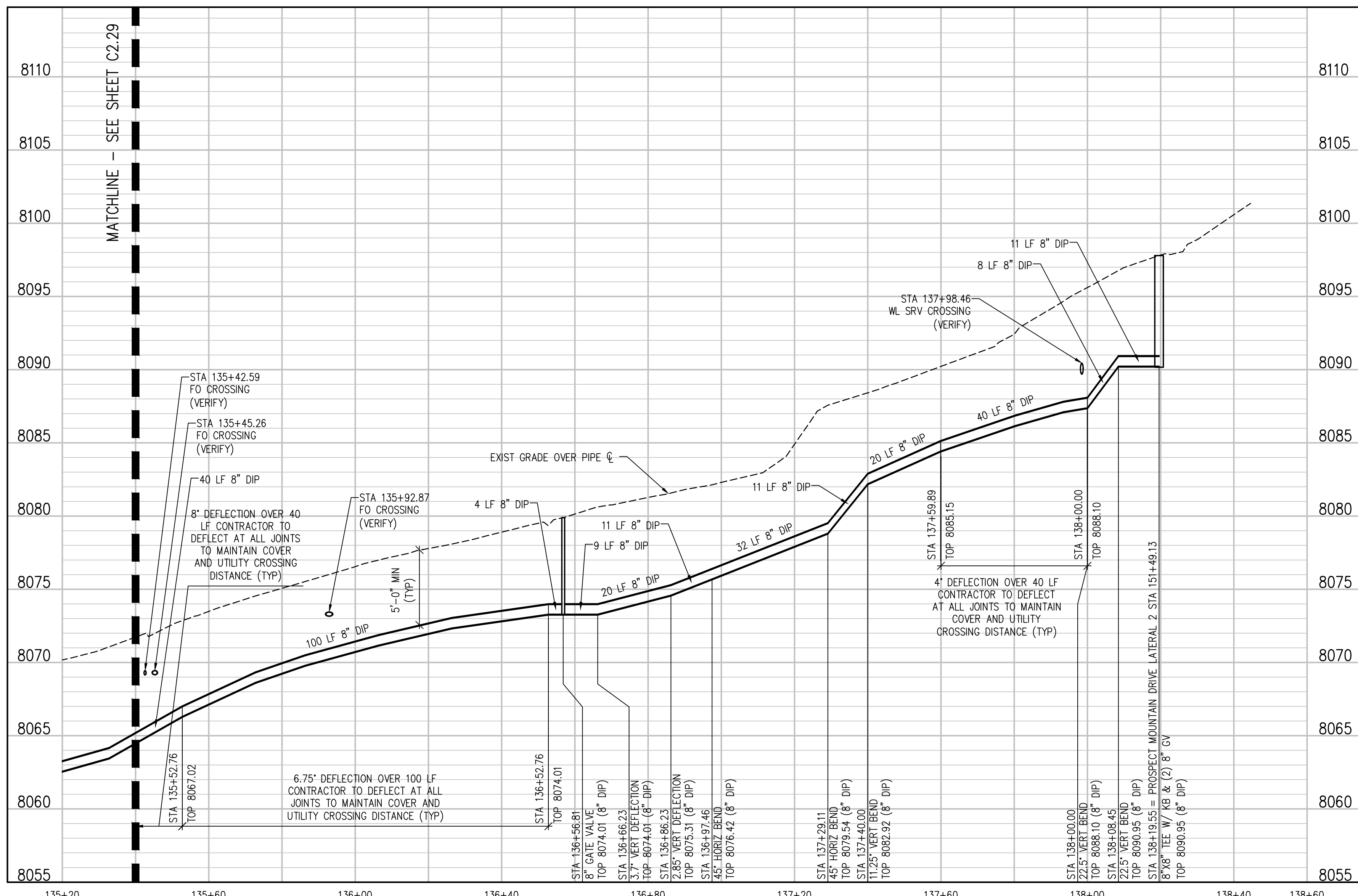
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PROSPECT MOUNTAIN DRIVE LATERAL 1 PLAN  
 SCALE: 1"=20'



PROSPECT MOUNTAIN DRIVE LATERAL 1 PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

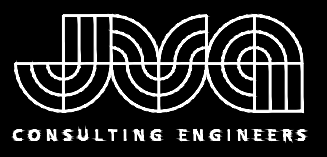
NO.	DATE	DES'D	D'WN

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 PLAN AND PROFILE

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**C2.30**

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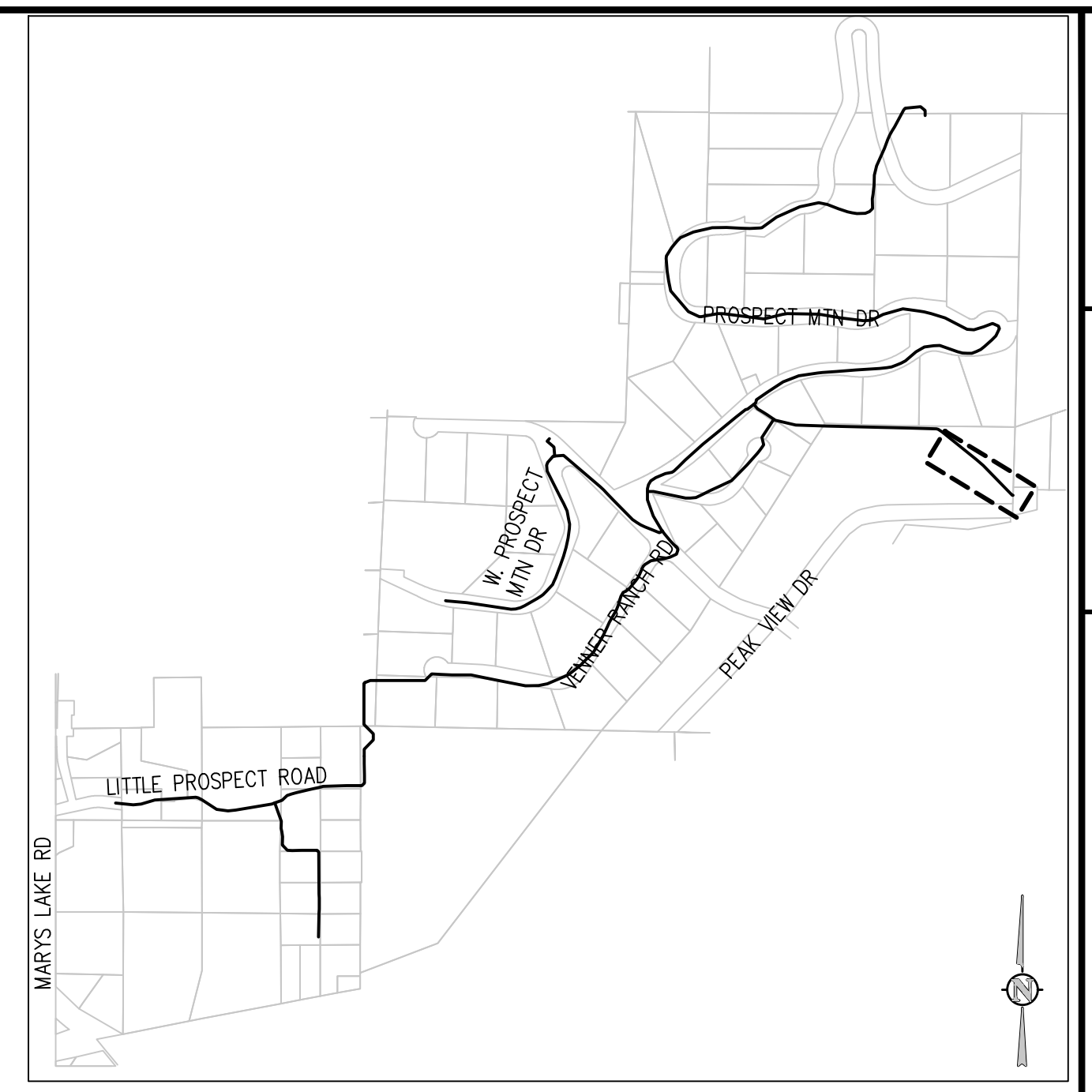
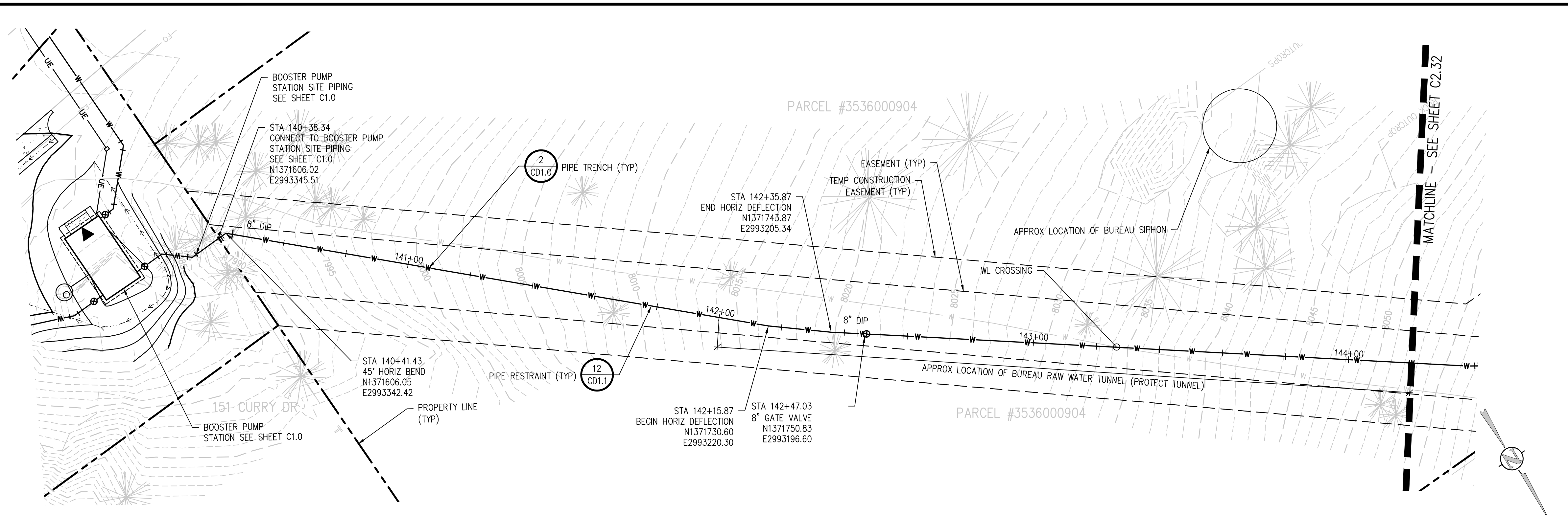
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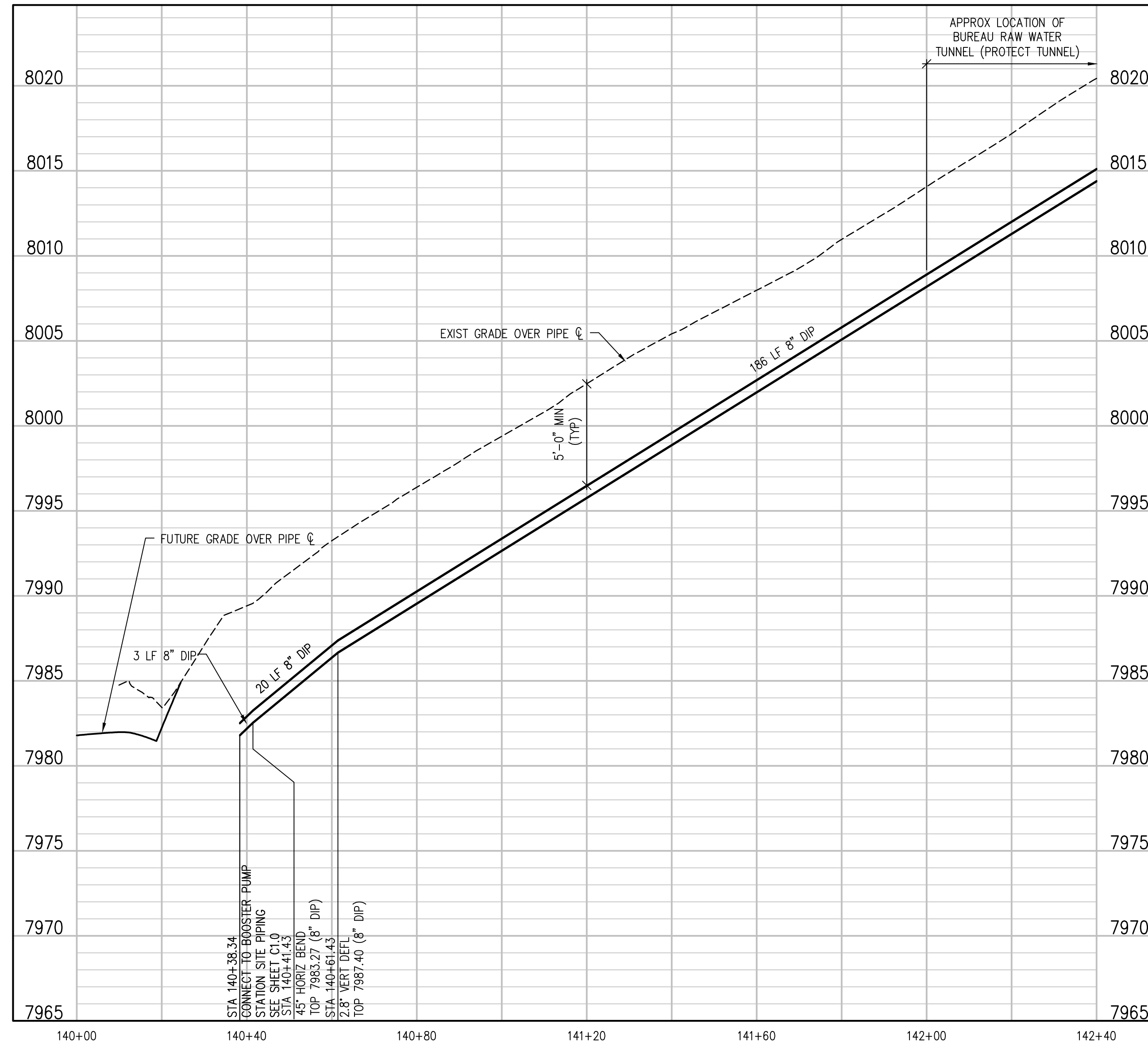
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 ESTES PARK, COLORADO  
 PROSPECT MOUNTAIN DRIVE LATERAL 2  
 PLAN AND PROFILE

NO. DATE DES'D DWN  
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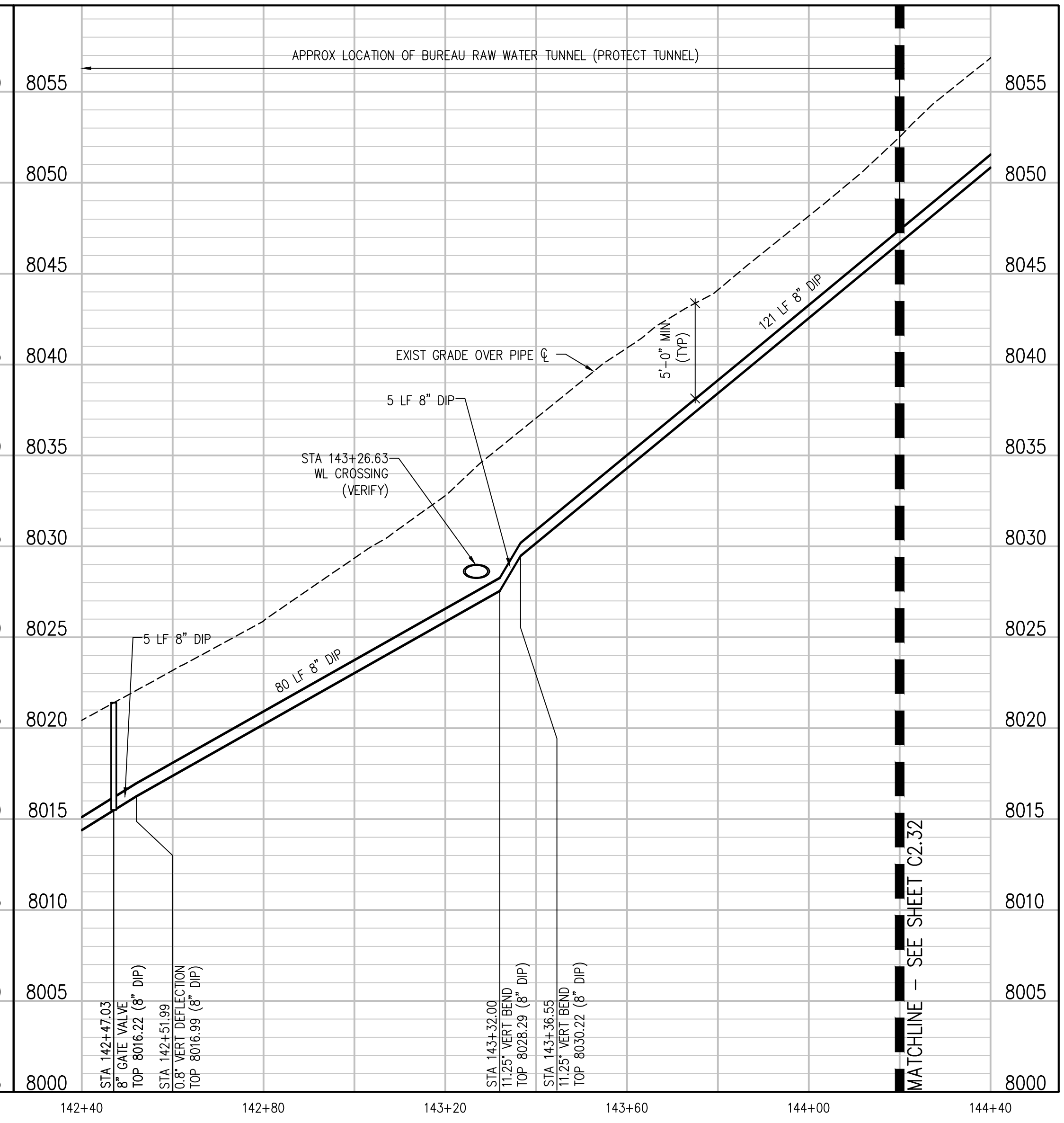
SHEET NO.  
**C2.31**



PROSPECT MOUNTAIN DR LATERAL 2 PLAN  
 SCALE: 1"=20'

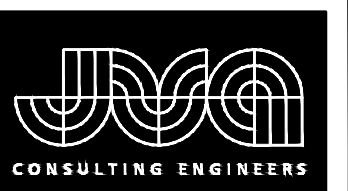


PROSPECT MOUNTAIN DR LATERAL 2 PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

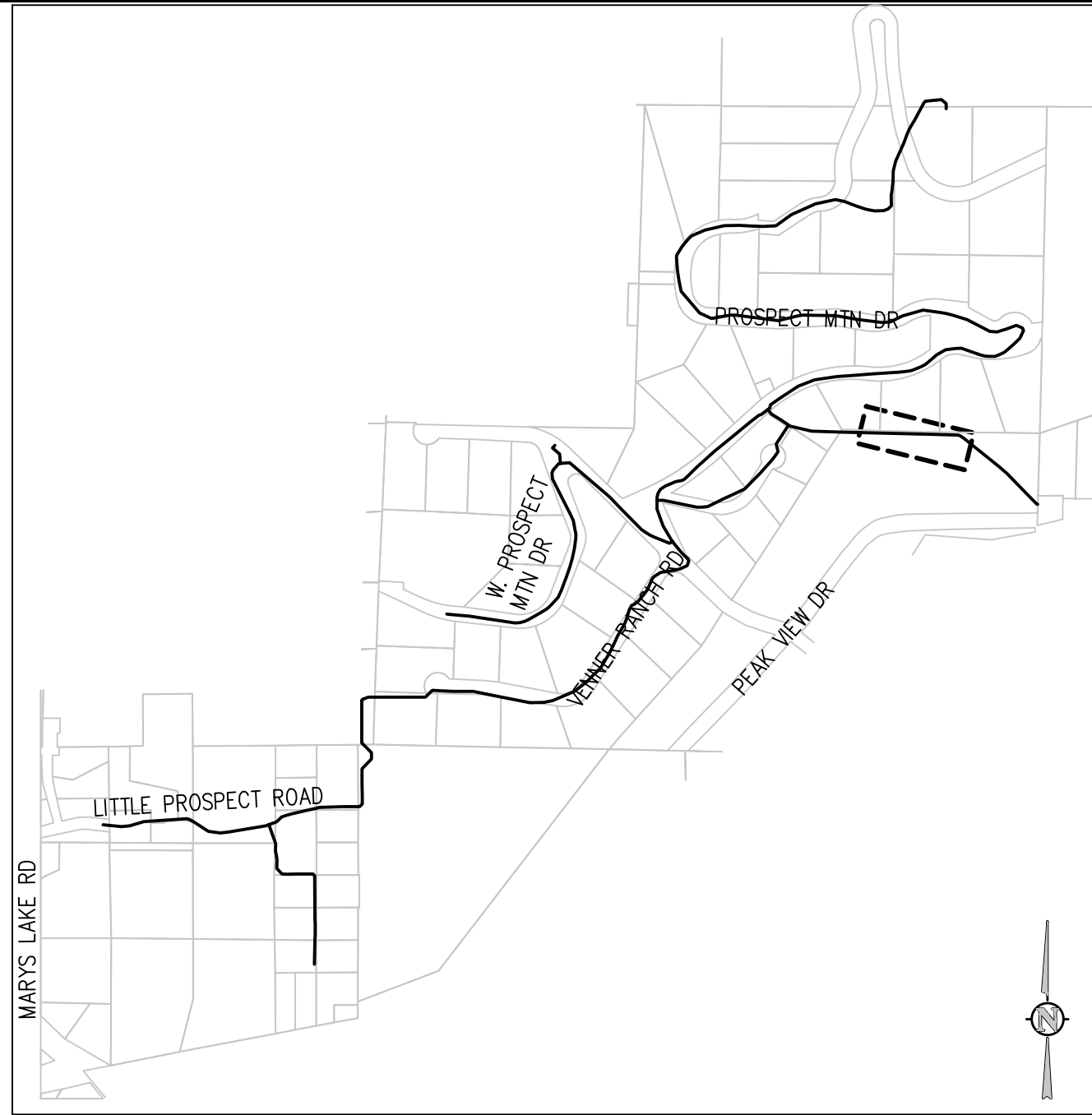


PROSPECT MOUNTAIN DR LATERAL 2 PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

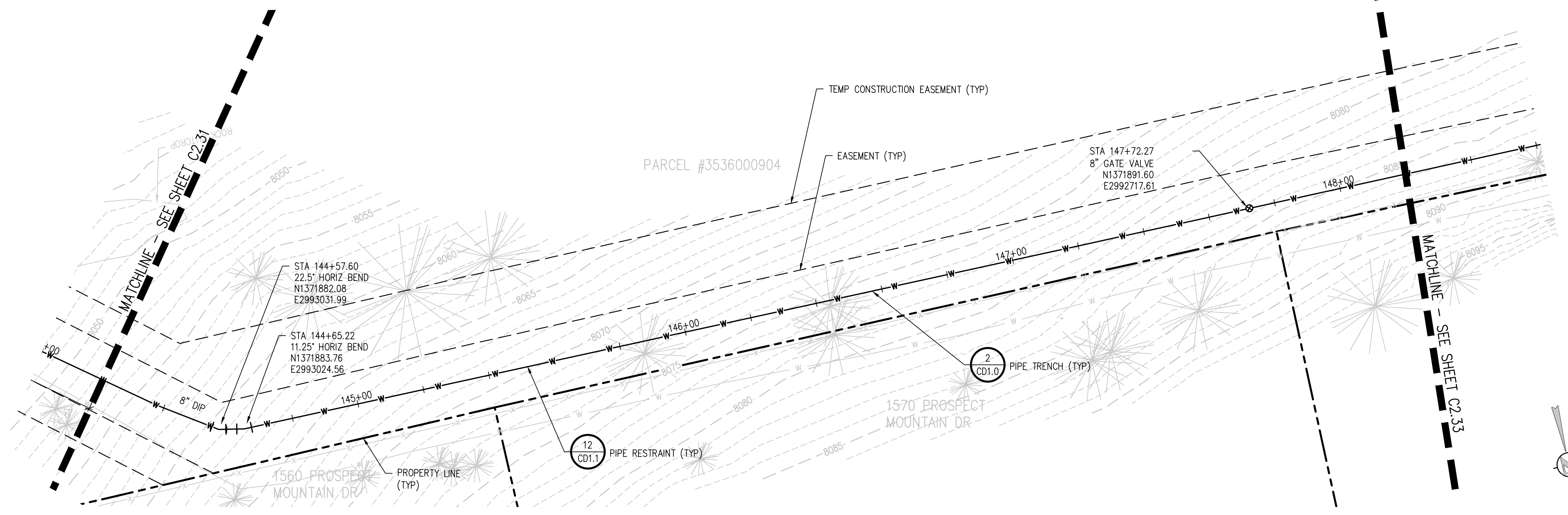
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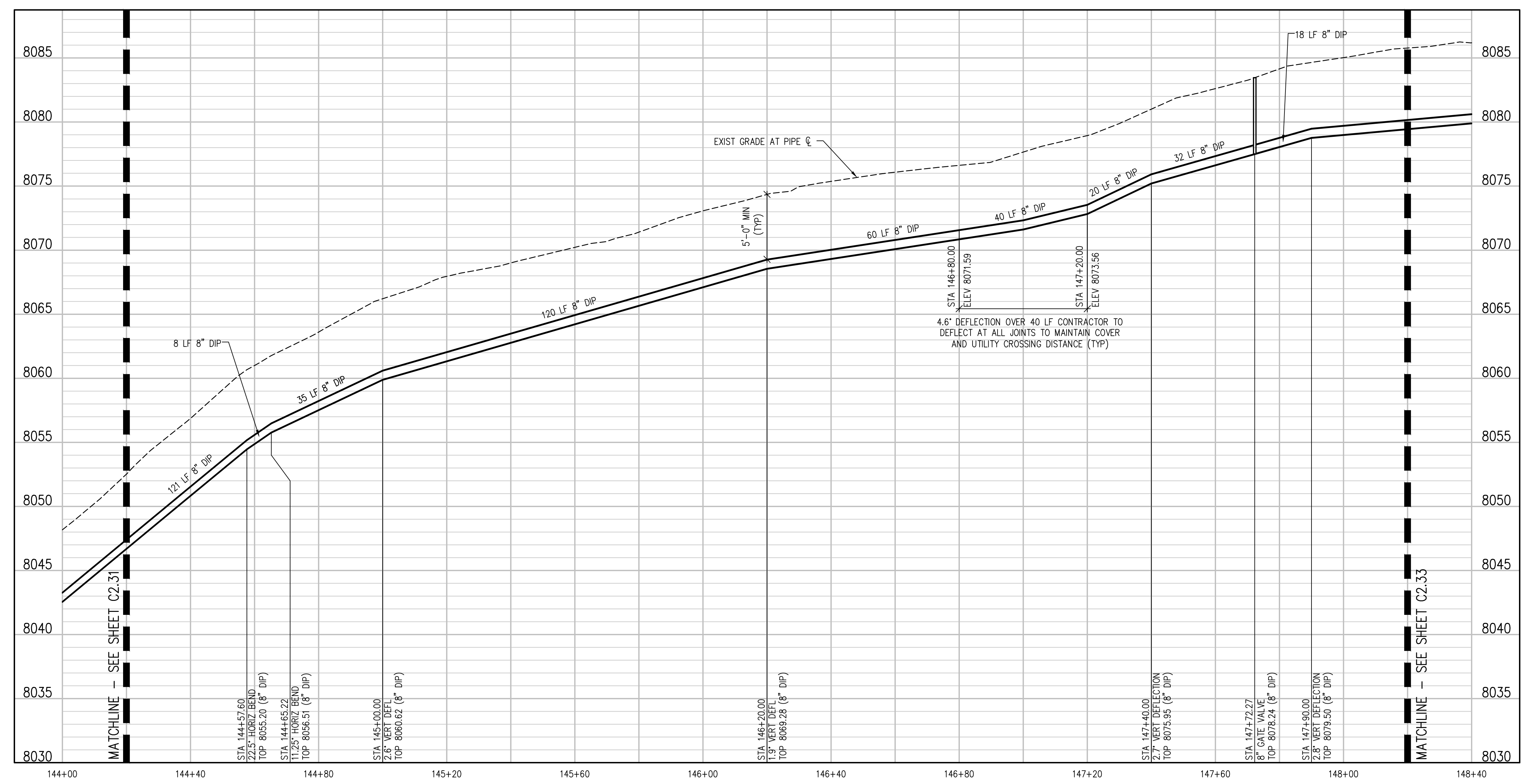
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PROSPECT MOUNTAIN DR LATERAL 2 PLAN  
 SCALE: 1"=20'



PROSPECT MOUNTAIN DR LATERAL 2 PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

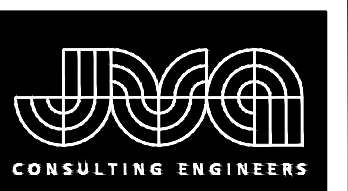
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 CHECKED BY: JJM  
 JOB #: 1066e  
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 PROSPECT MOUNTAIN DRIVE LATERAL 2  
 PLAN AND PROFILE

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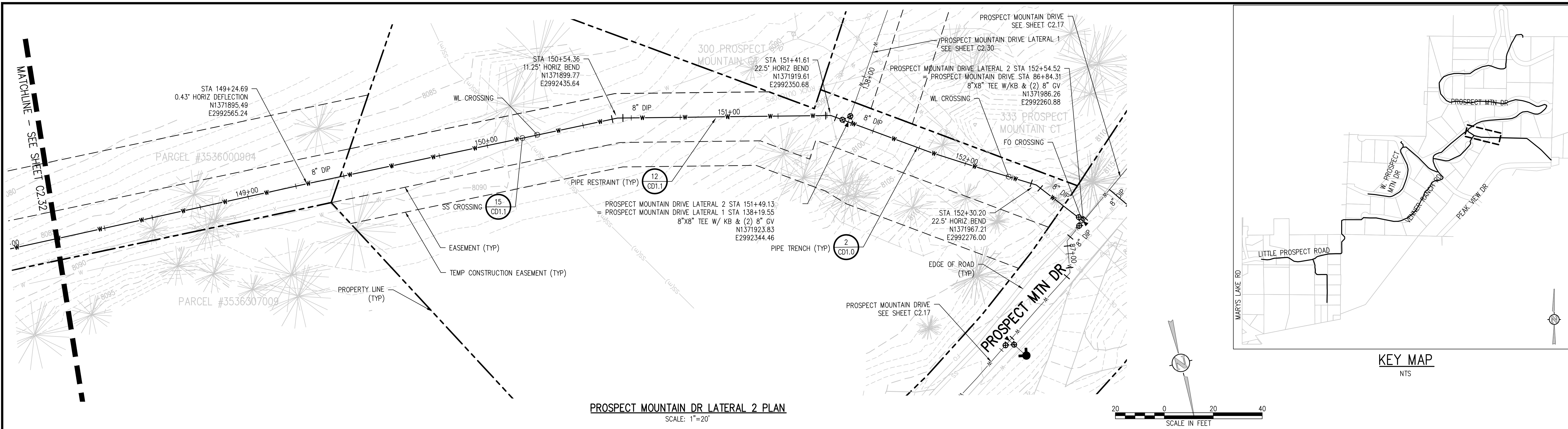
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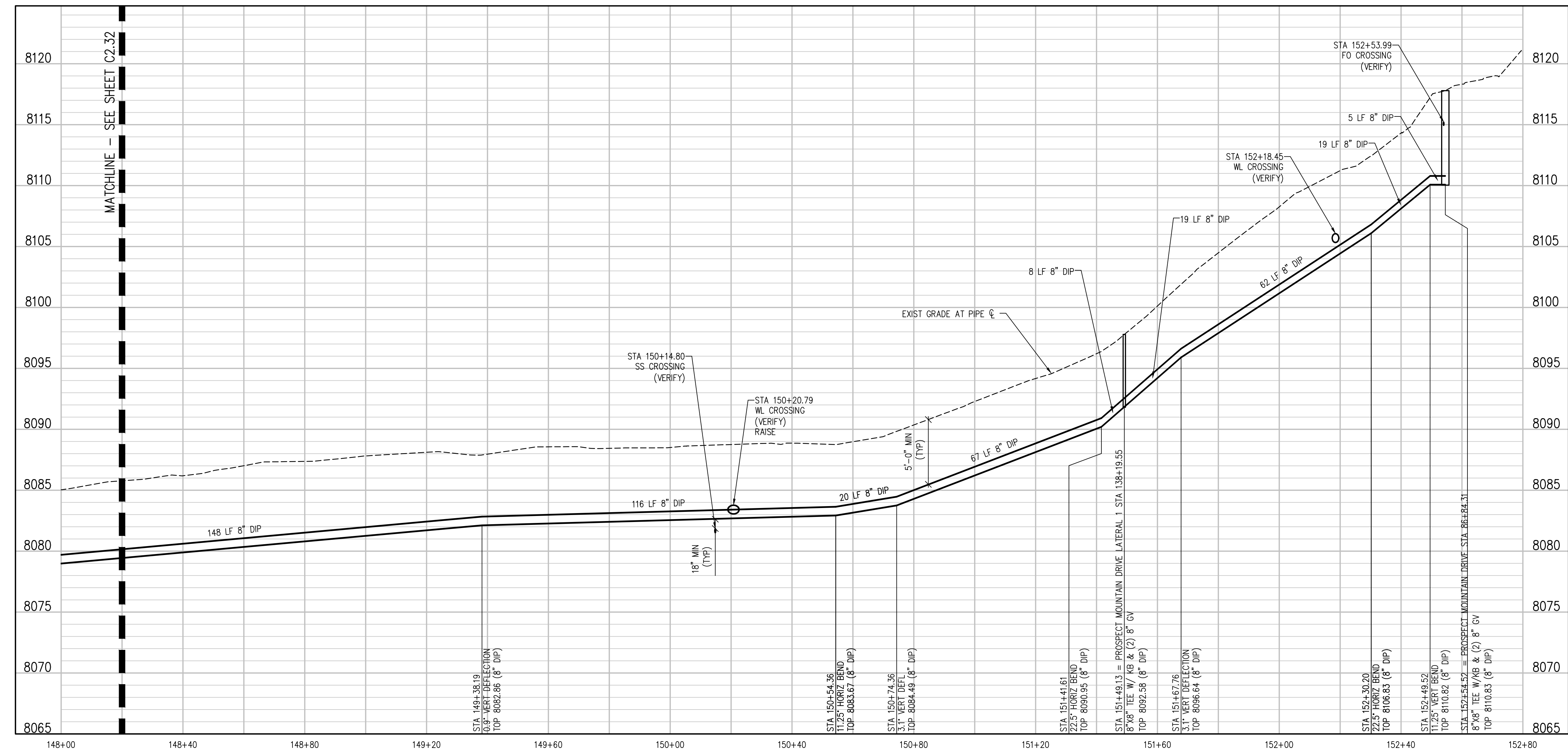
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PLAN AND PROFILE

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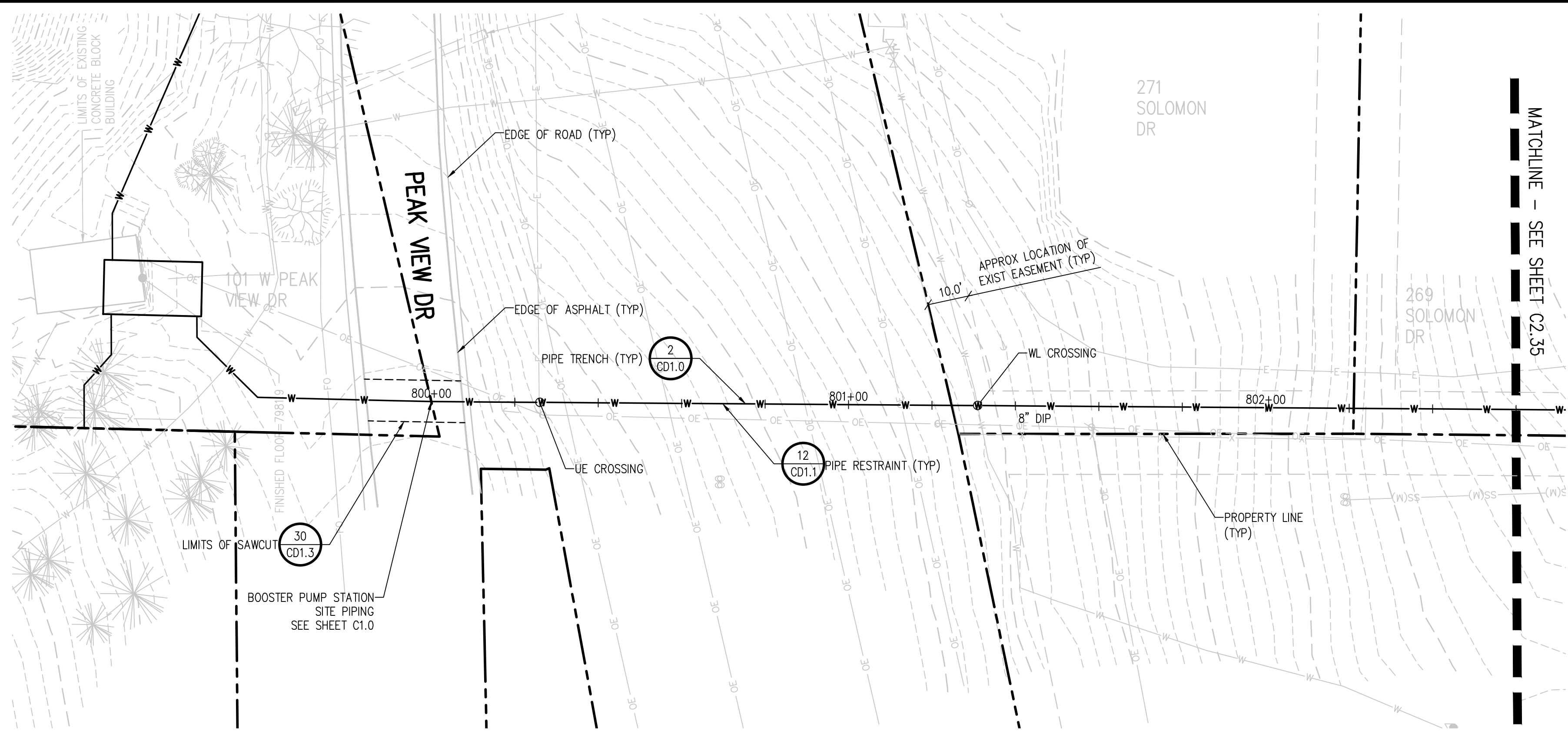
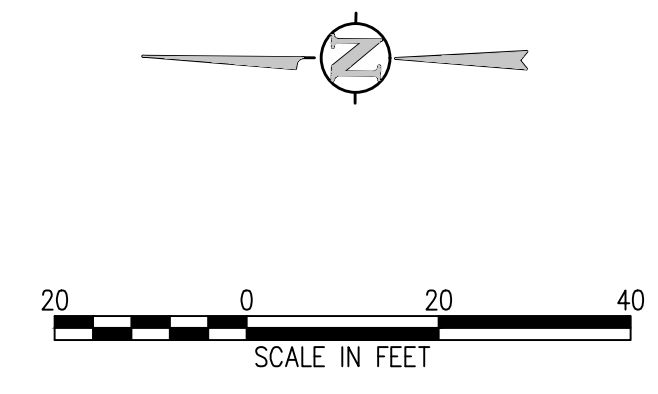
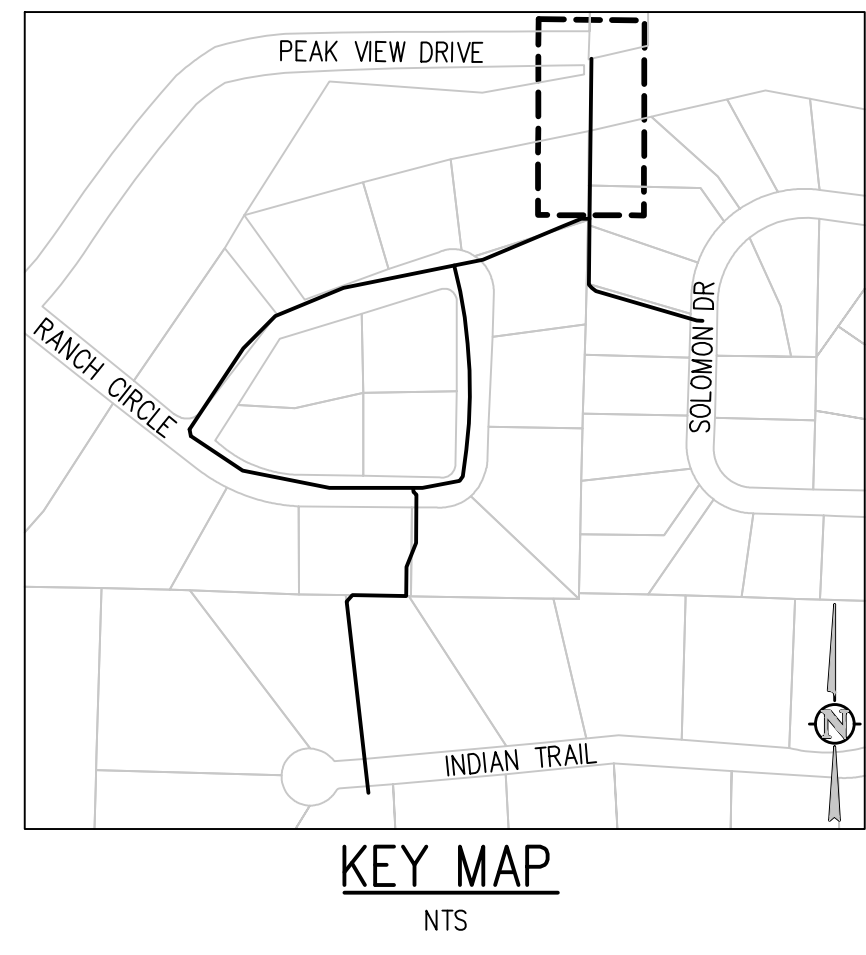


PROSPECT MOUNTAIN DR LATERAL 2 PLAN  
SCALE: 1"=20'

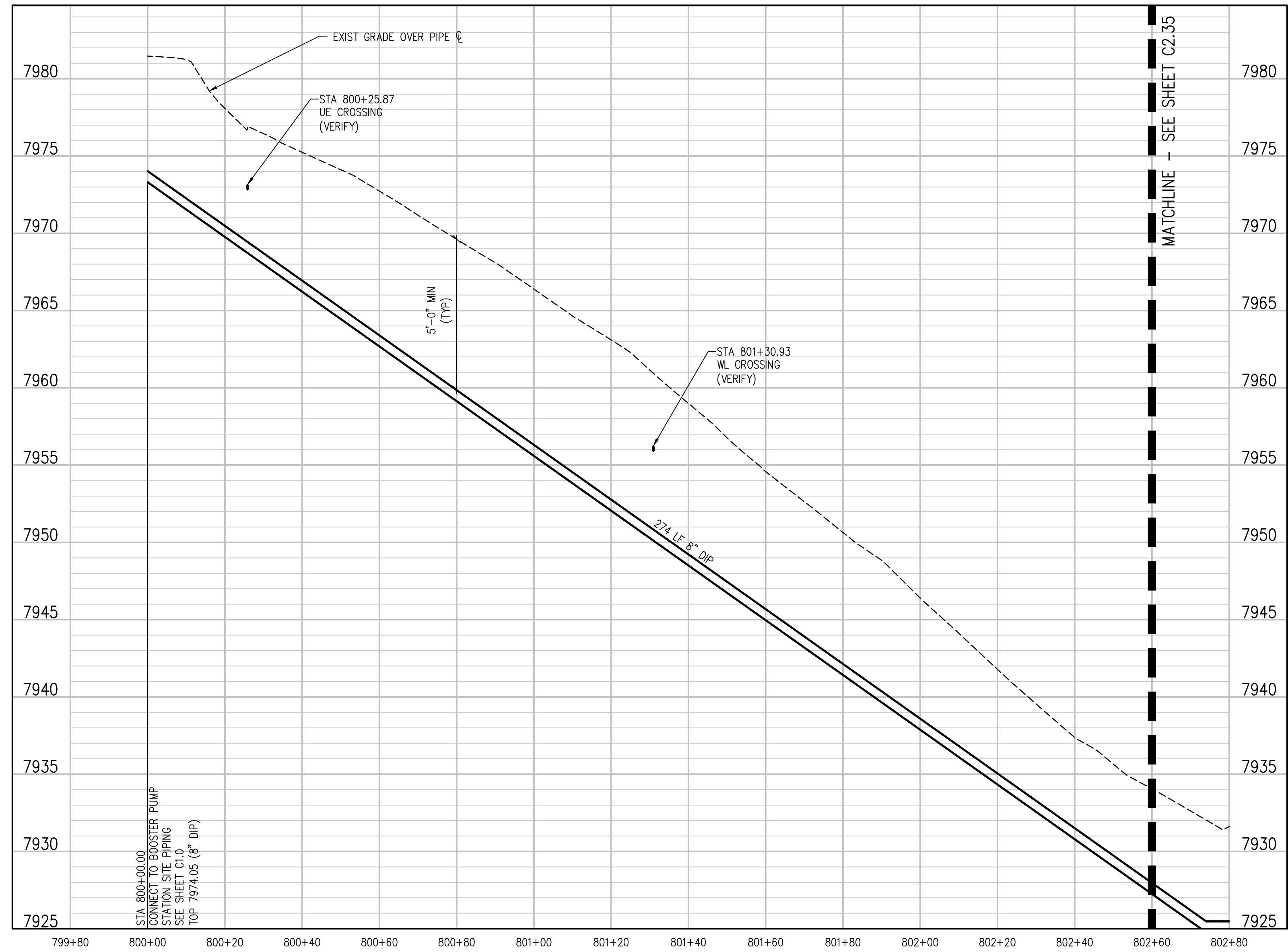


PROSPECT MOUNTAIN DR LATERAL 2 PROFILE  
SCALE: 1"=20' HORIZ  
1"=5' VERT

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**RANCH CIRCLE PLAN**  
SCALE: 1" = 20'



**RANCH CIRCLE PROFILE**  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

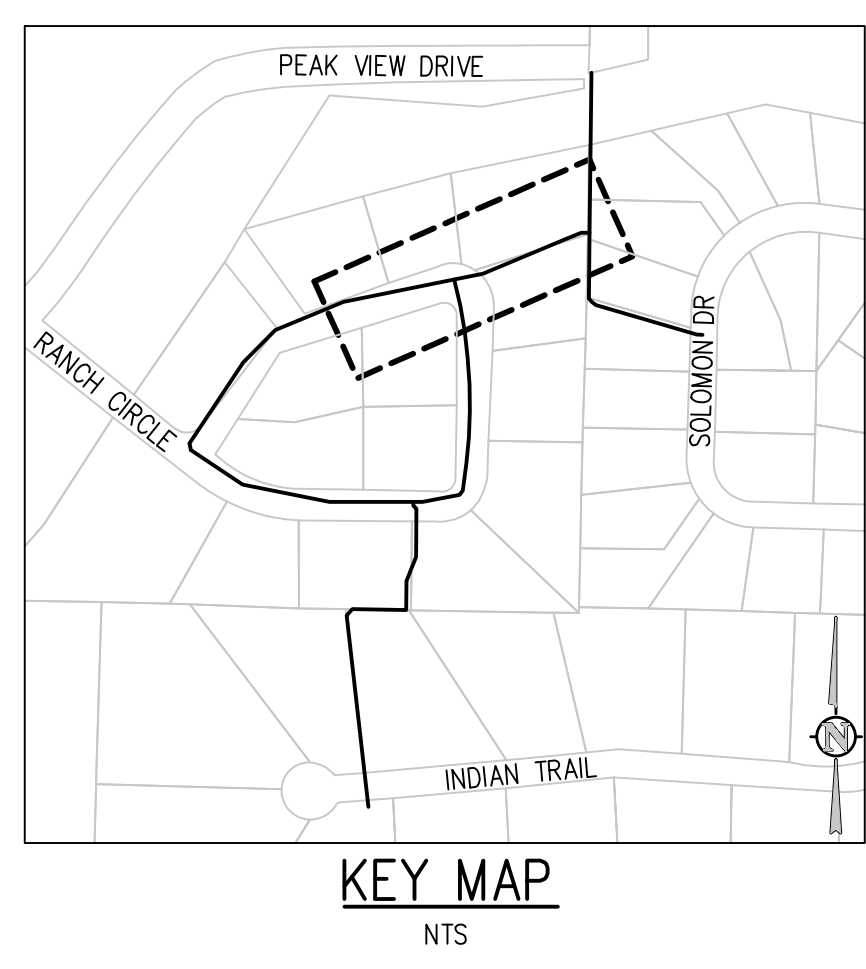
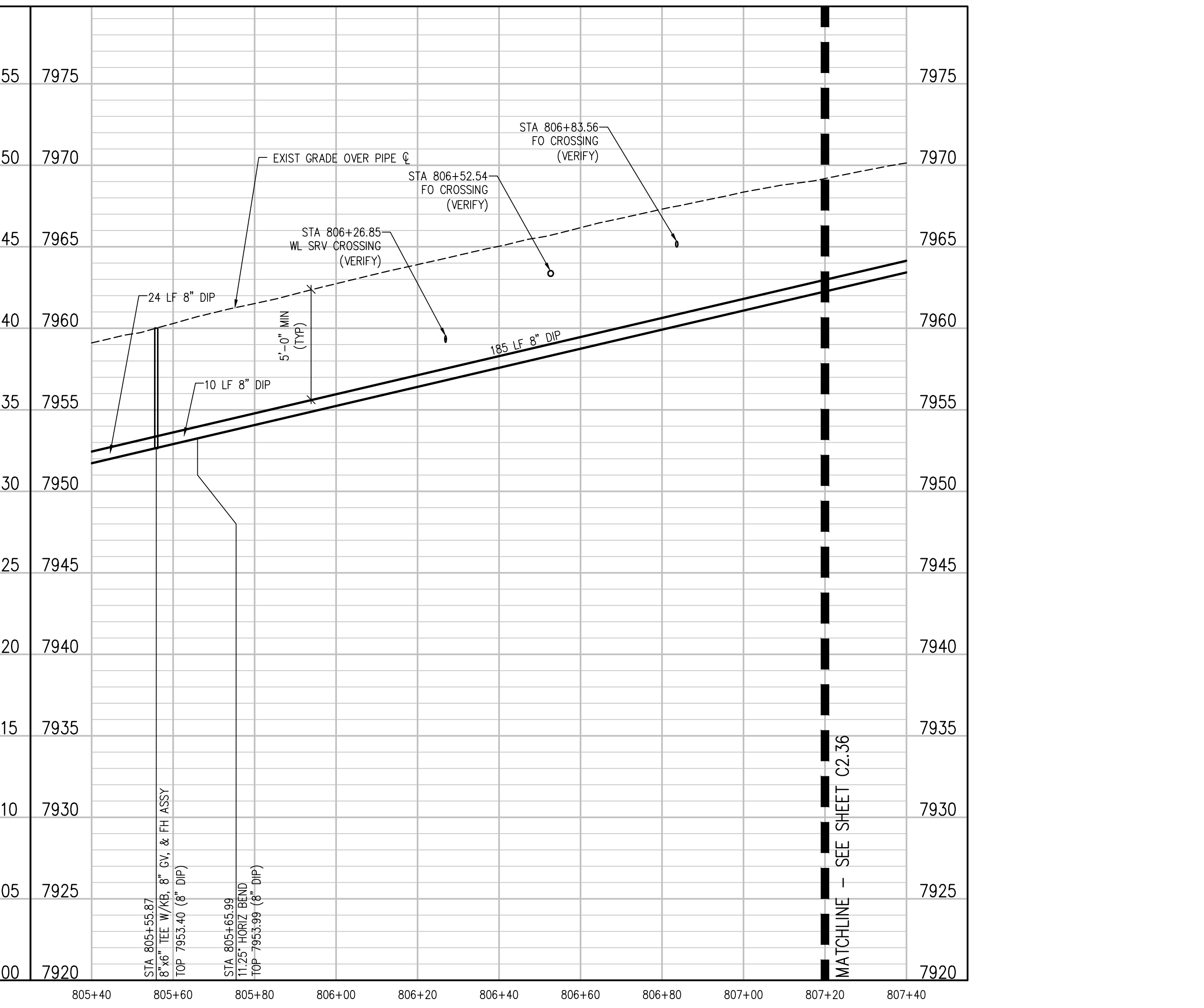
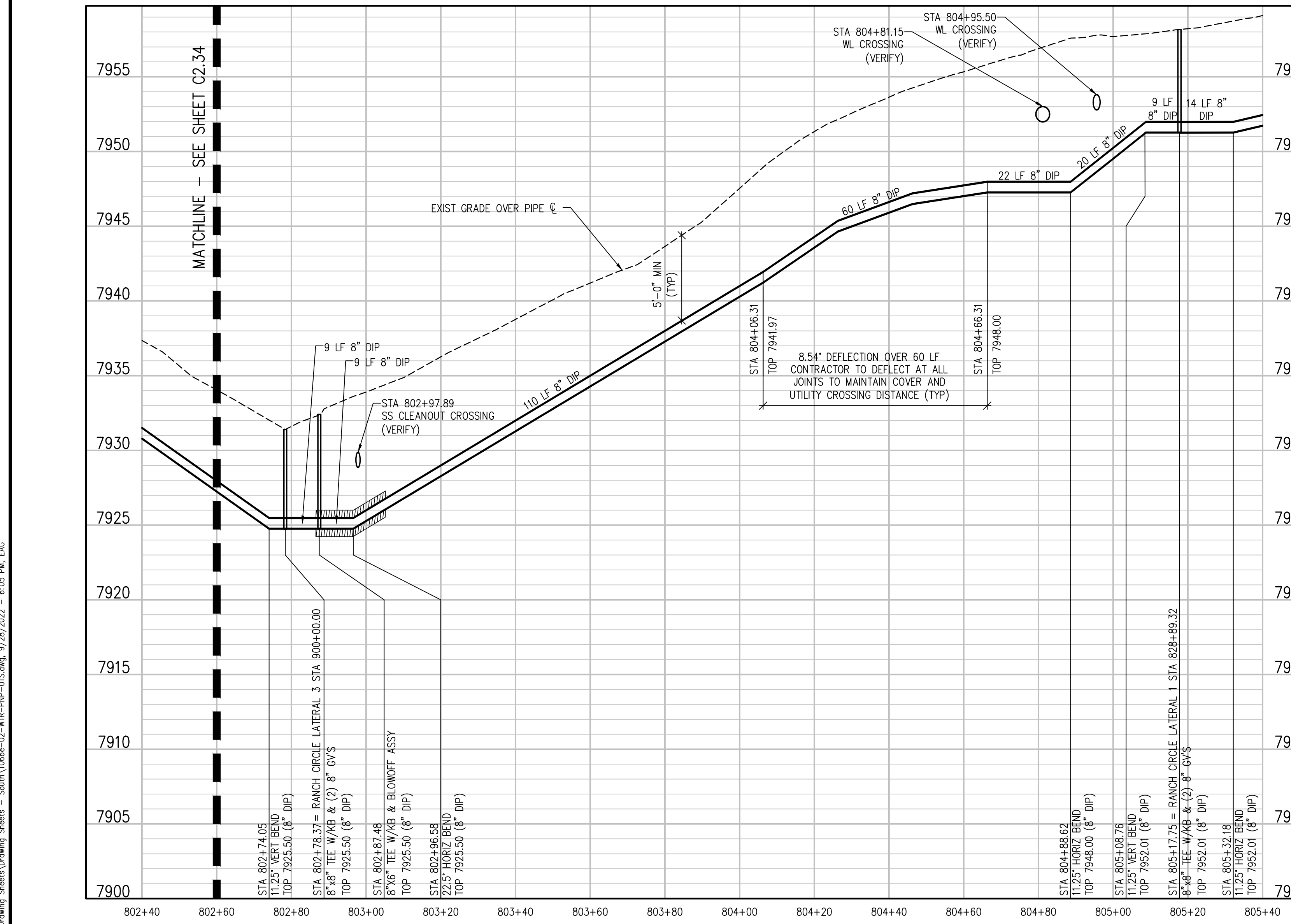
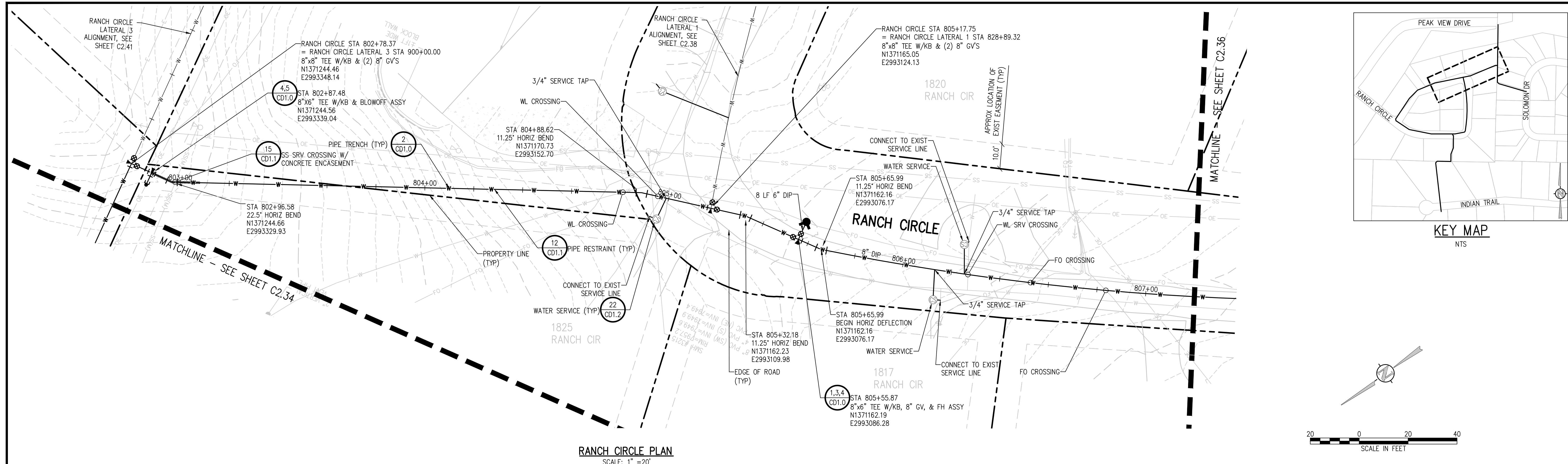
NO.	DATE	DES'D	DWN

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CHECKED BY:	JJM
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RANCH CIRCLE PLAN AND PROFILE

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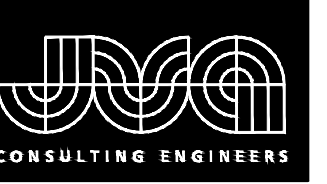
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 JOB #: 1066e  
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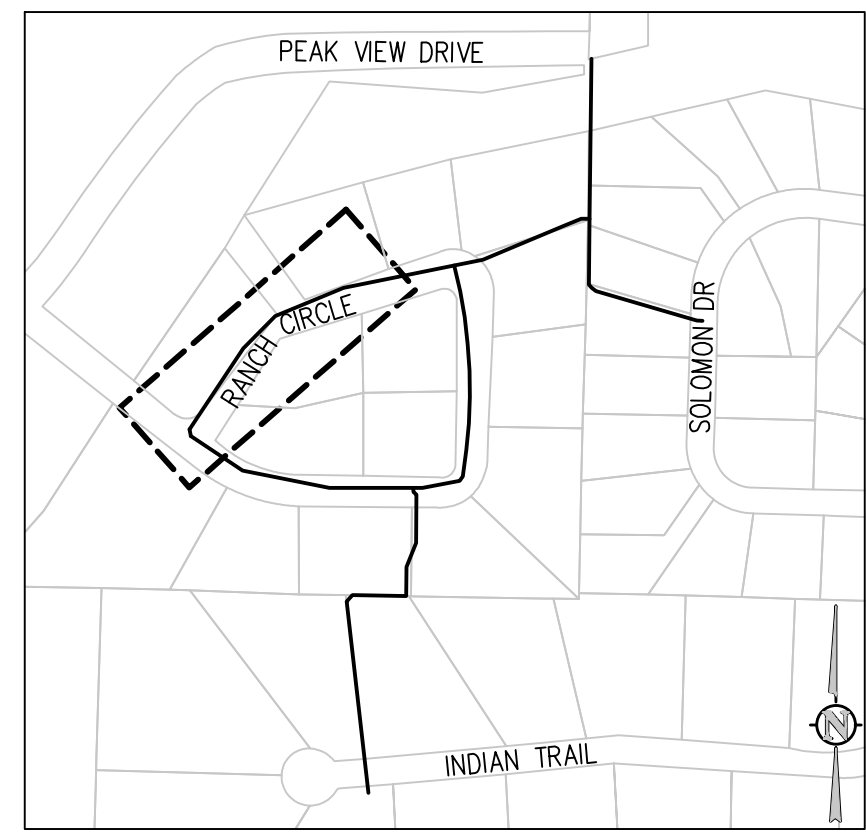
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 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

RANCH CIRCLE PLAN AND PROFILE

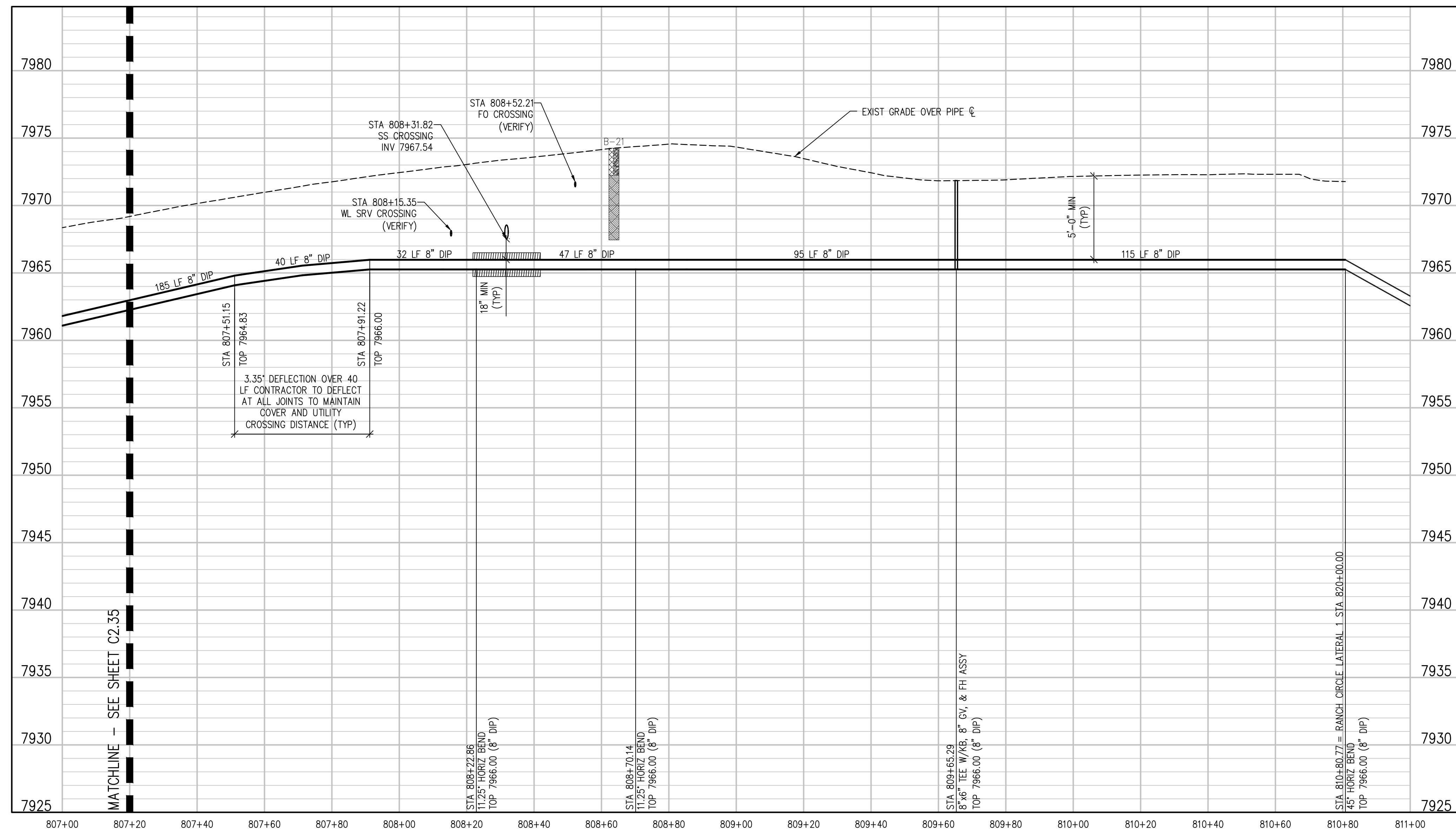
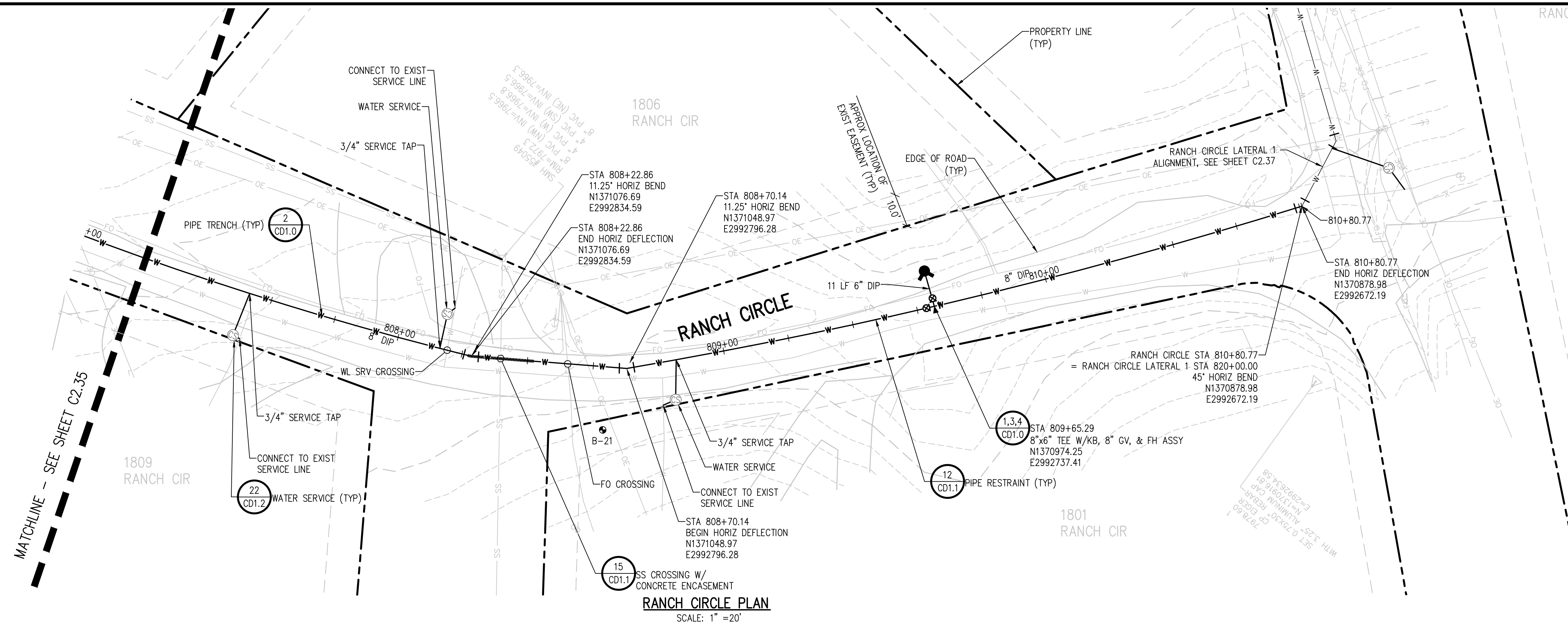
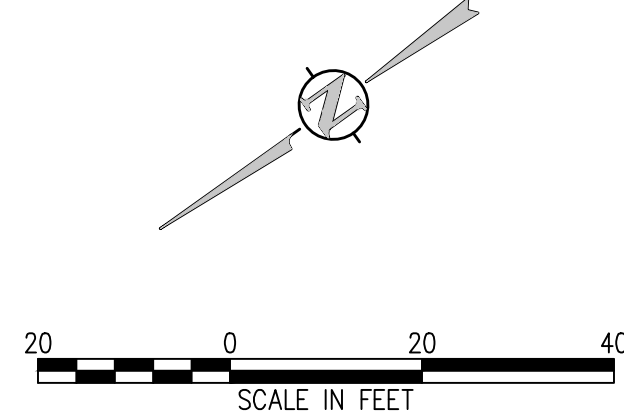
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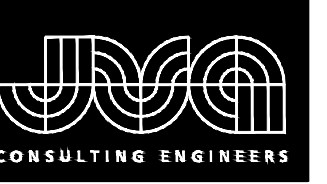
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 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

RANCH CIRCLE PLAN AND PROFILE

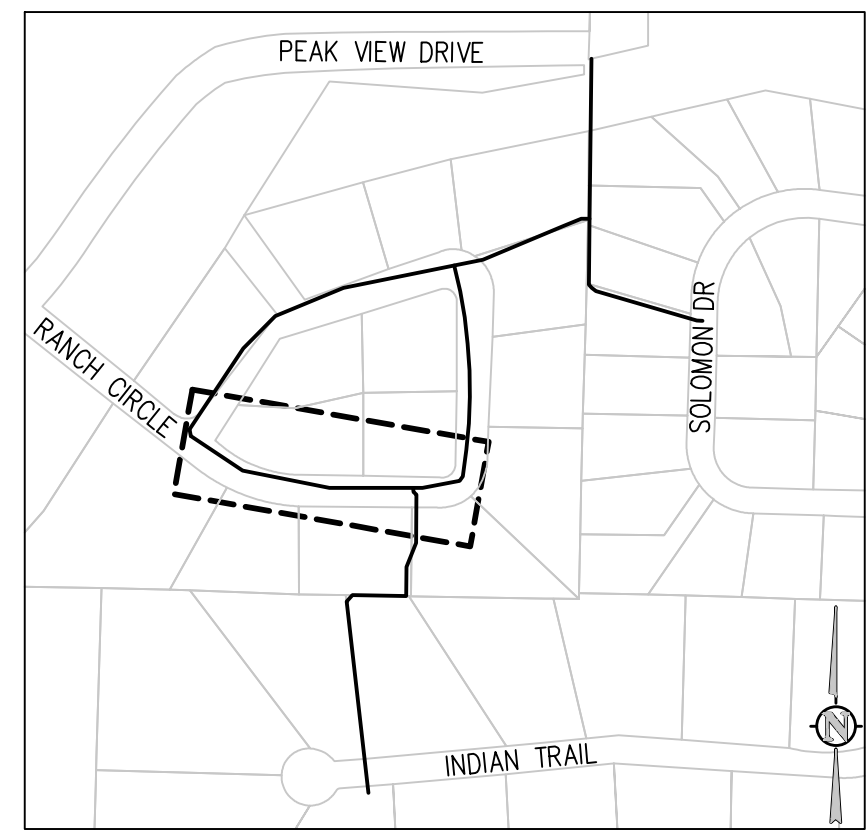
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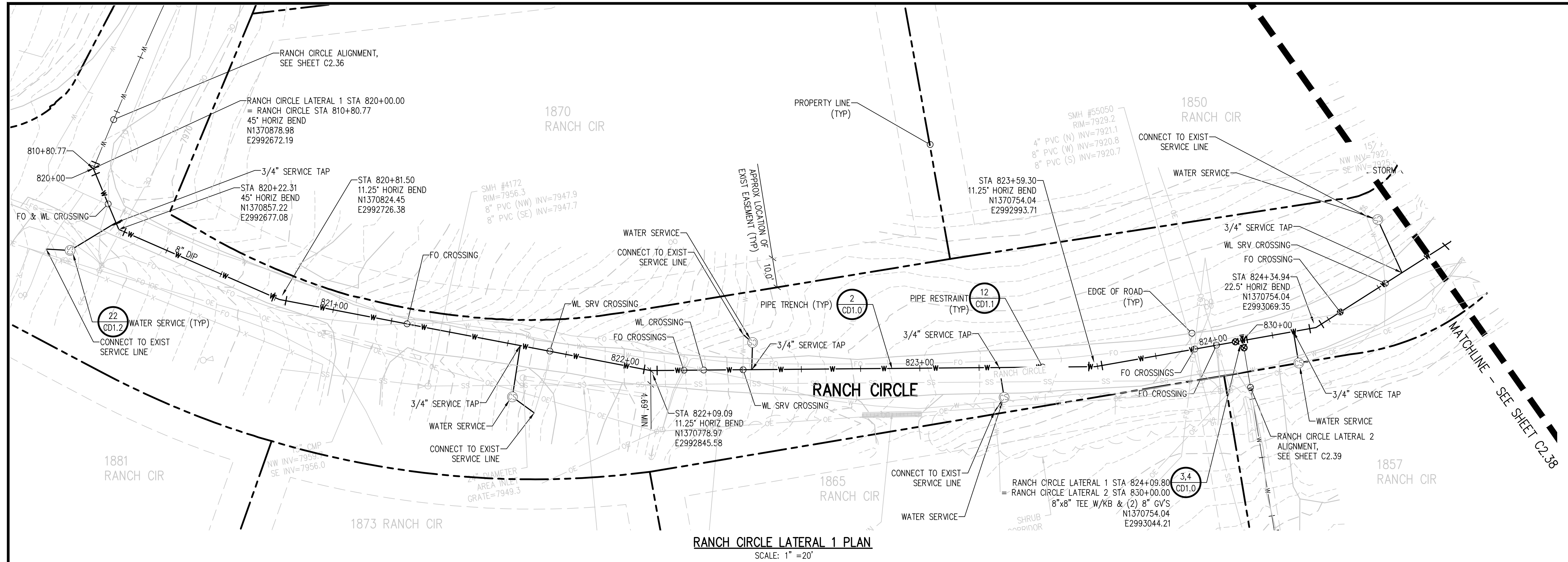




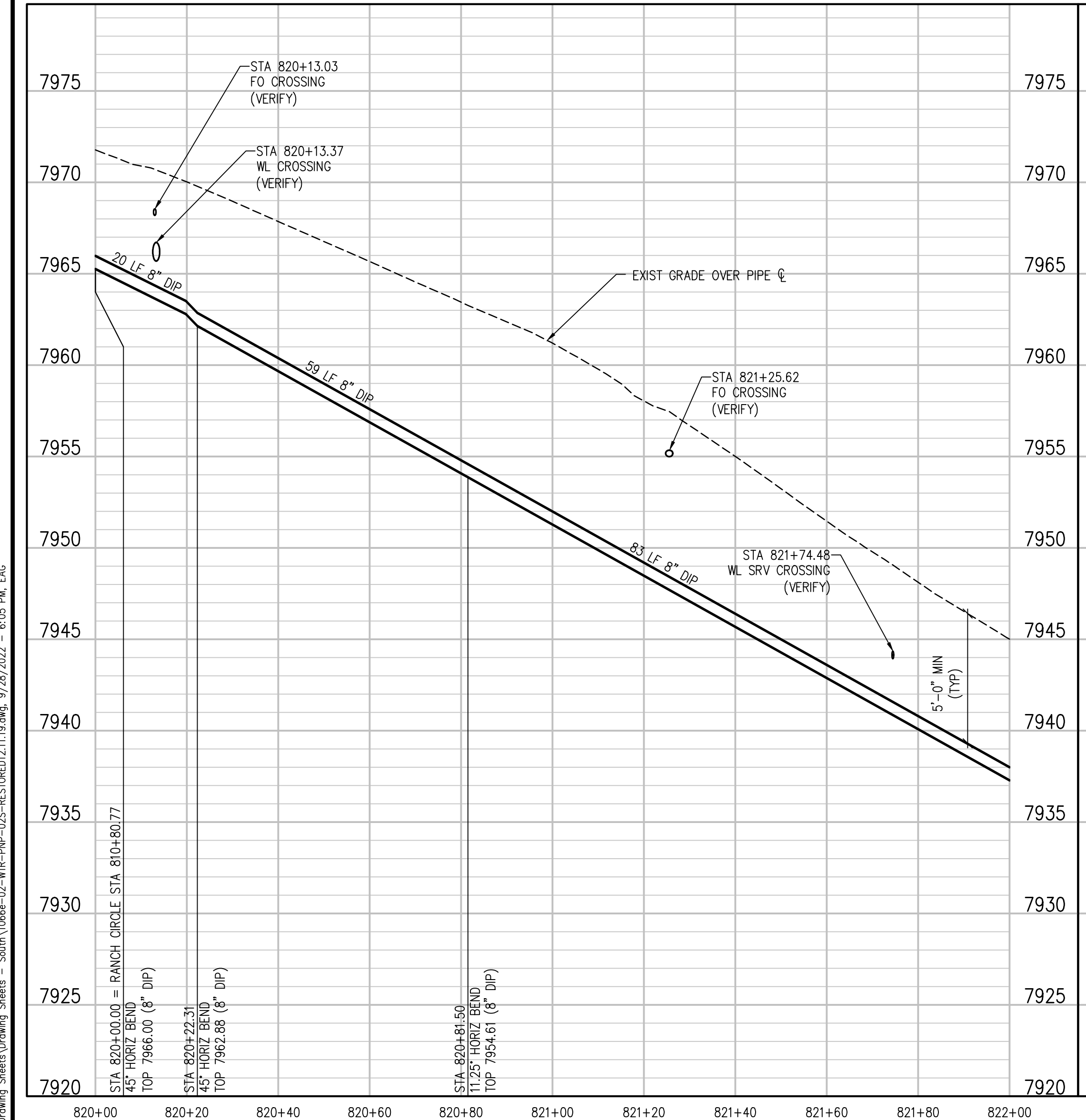
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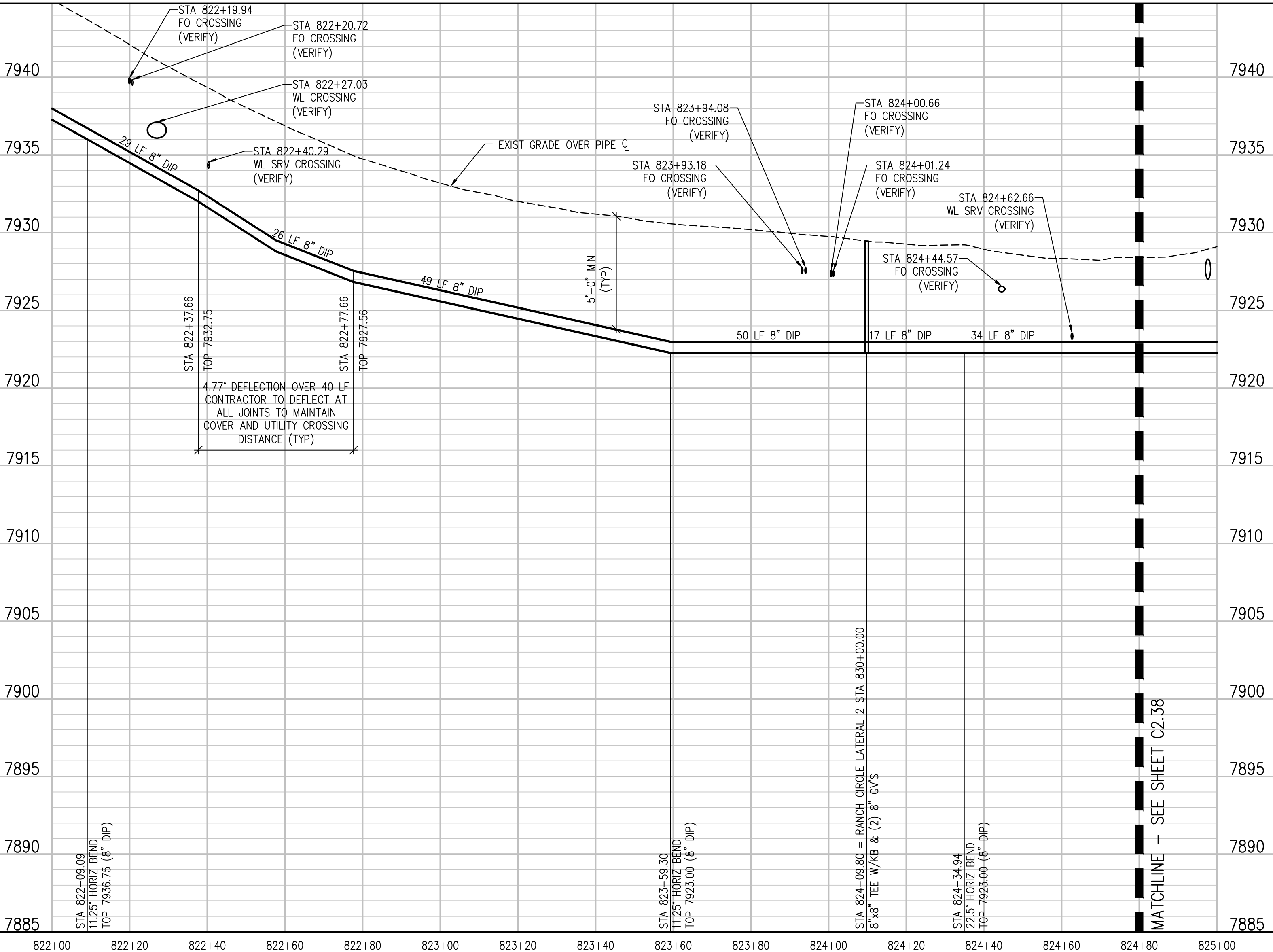


RANCH CIRCLE LATERAL 1 PLAN  
SCALE: 1" = 20'



RANCH CIRCLE LATERAL 1 PROFILE

SCALE: 1" = 20' HORIZ  
1" = 5' VERT



RANCH CIRCLE LATERAL 1 PROFILE

SCALE: 1" = 20' HORIZ  
1" = 5' VERT

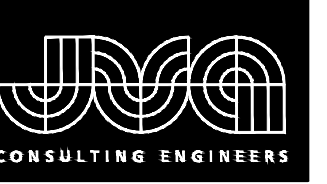
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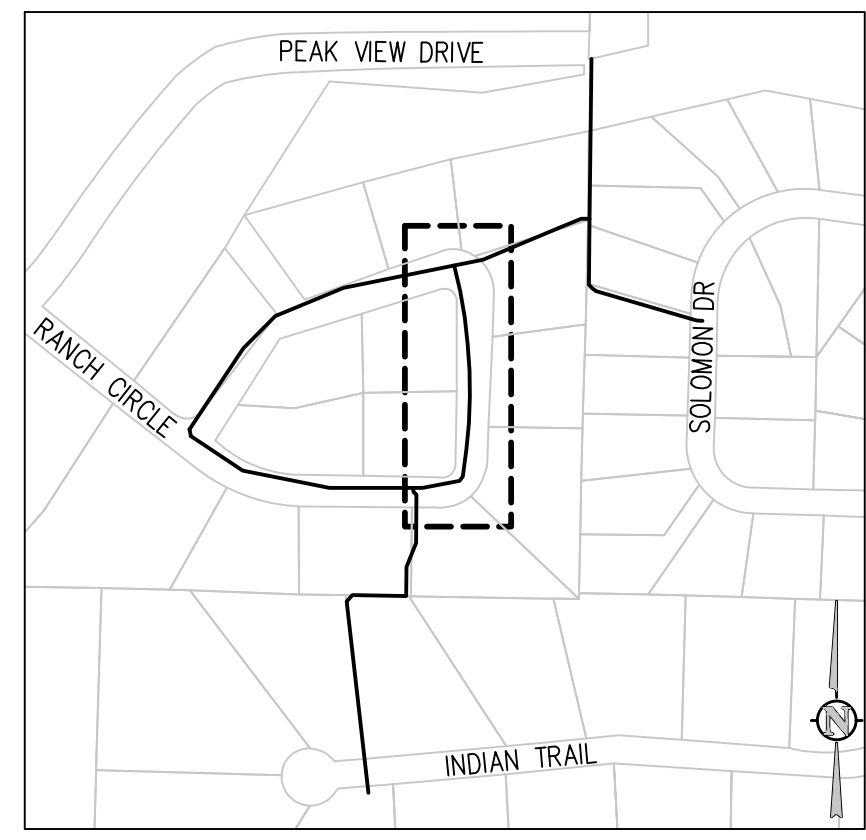
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 ESTES PARK, COLORADO  
 RANCH CIRCLE LATERAL 1 PLAN AND  
 PROFILE

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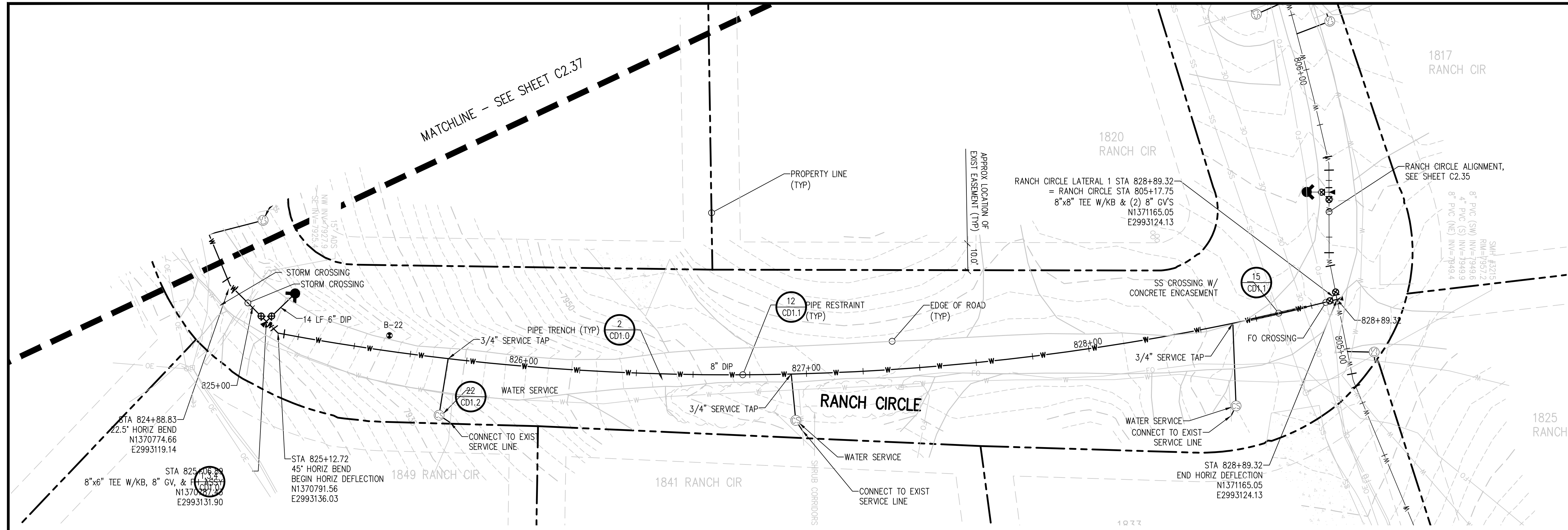
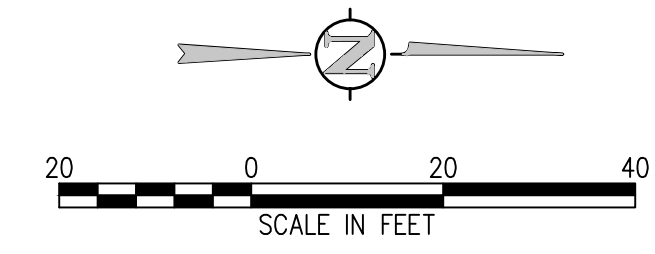
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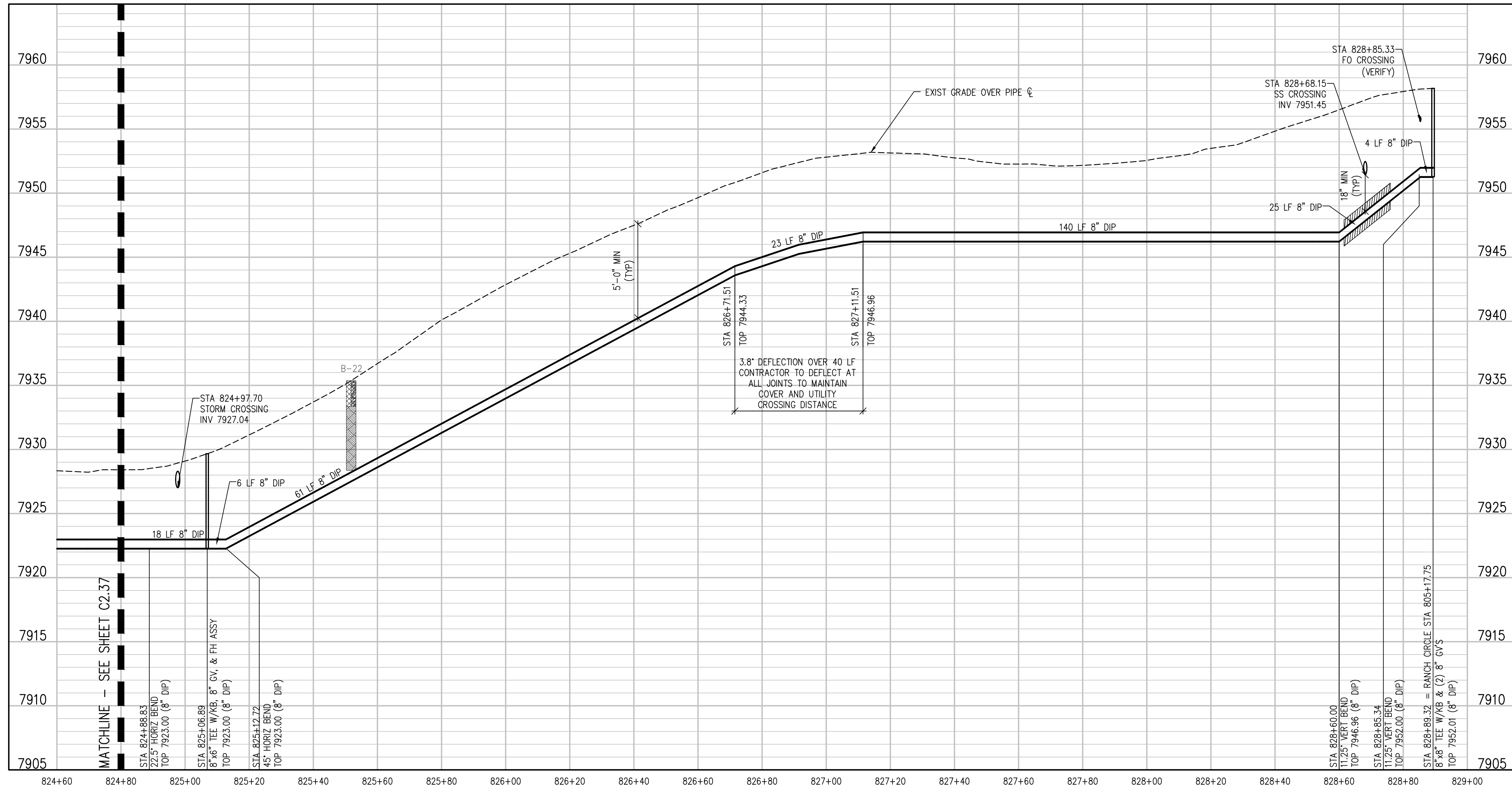
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RANCH CIRCLE LATERAL 1 PLAN  
 SCALE: 1" = 20'



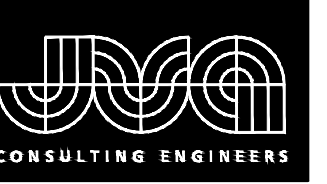
RANCH CIRCLE LATERAL 1 PROFILE  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

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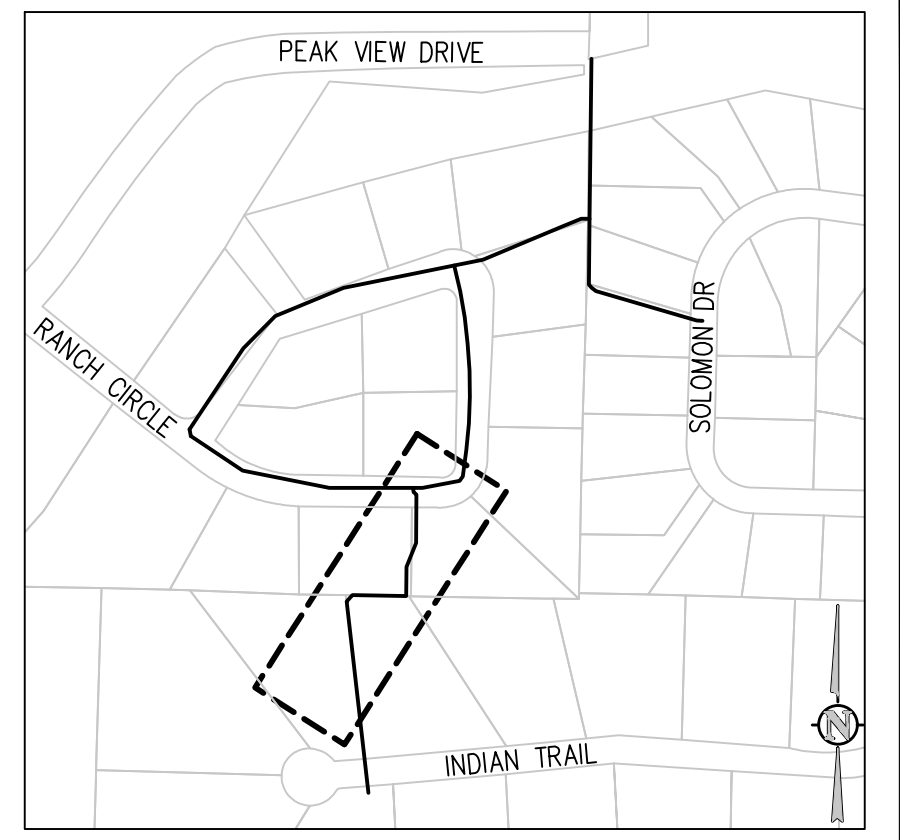
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 RANCH CIRCLE LATERAL 1 PLAN AND  
 PROFILE

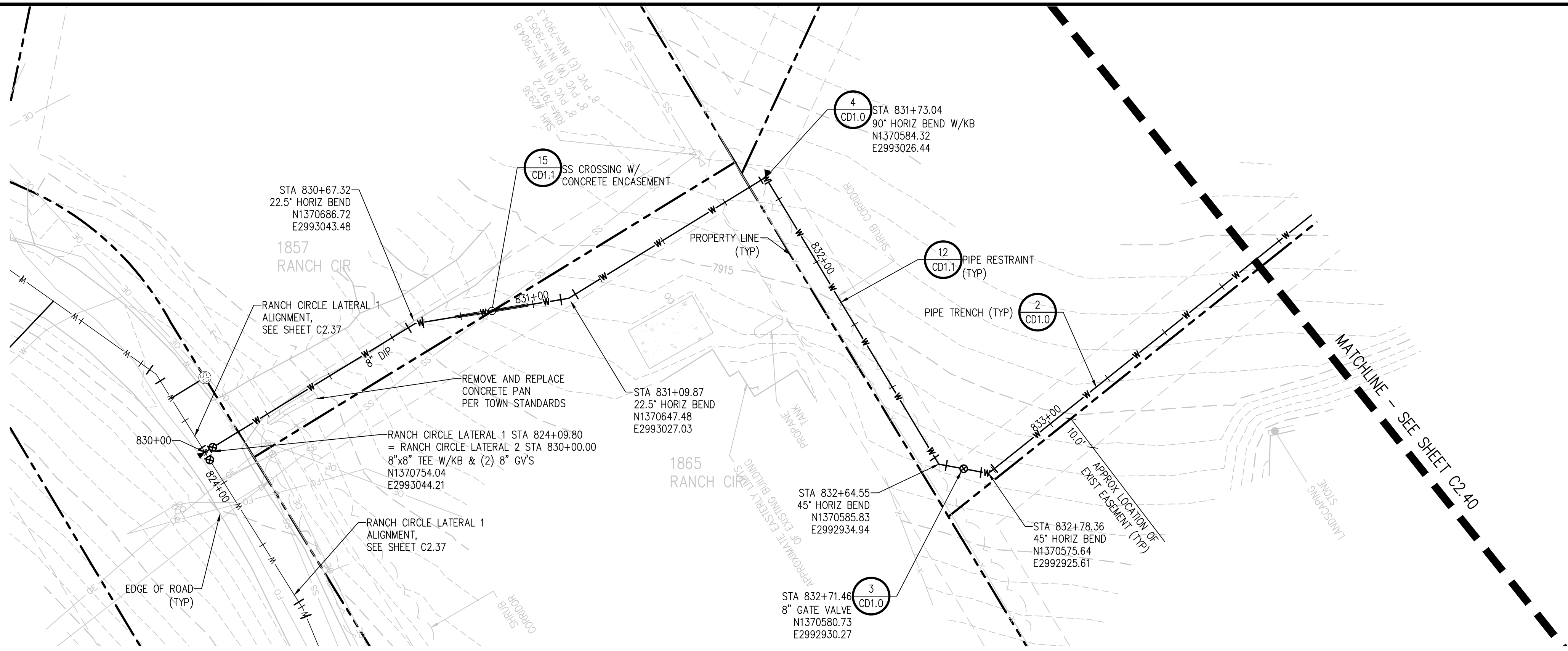
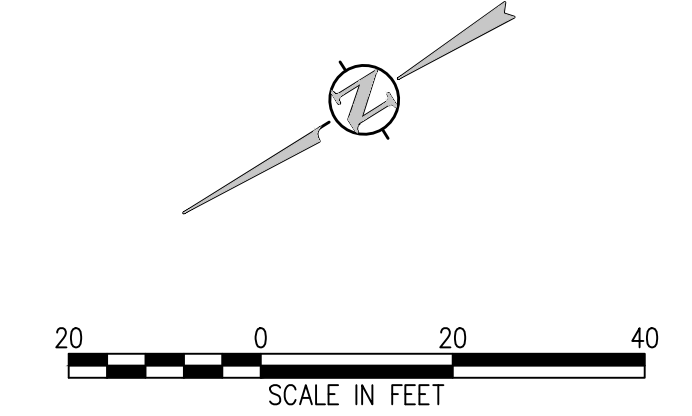
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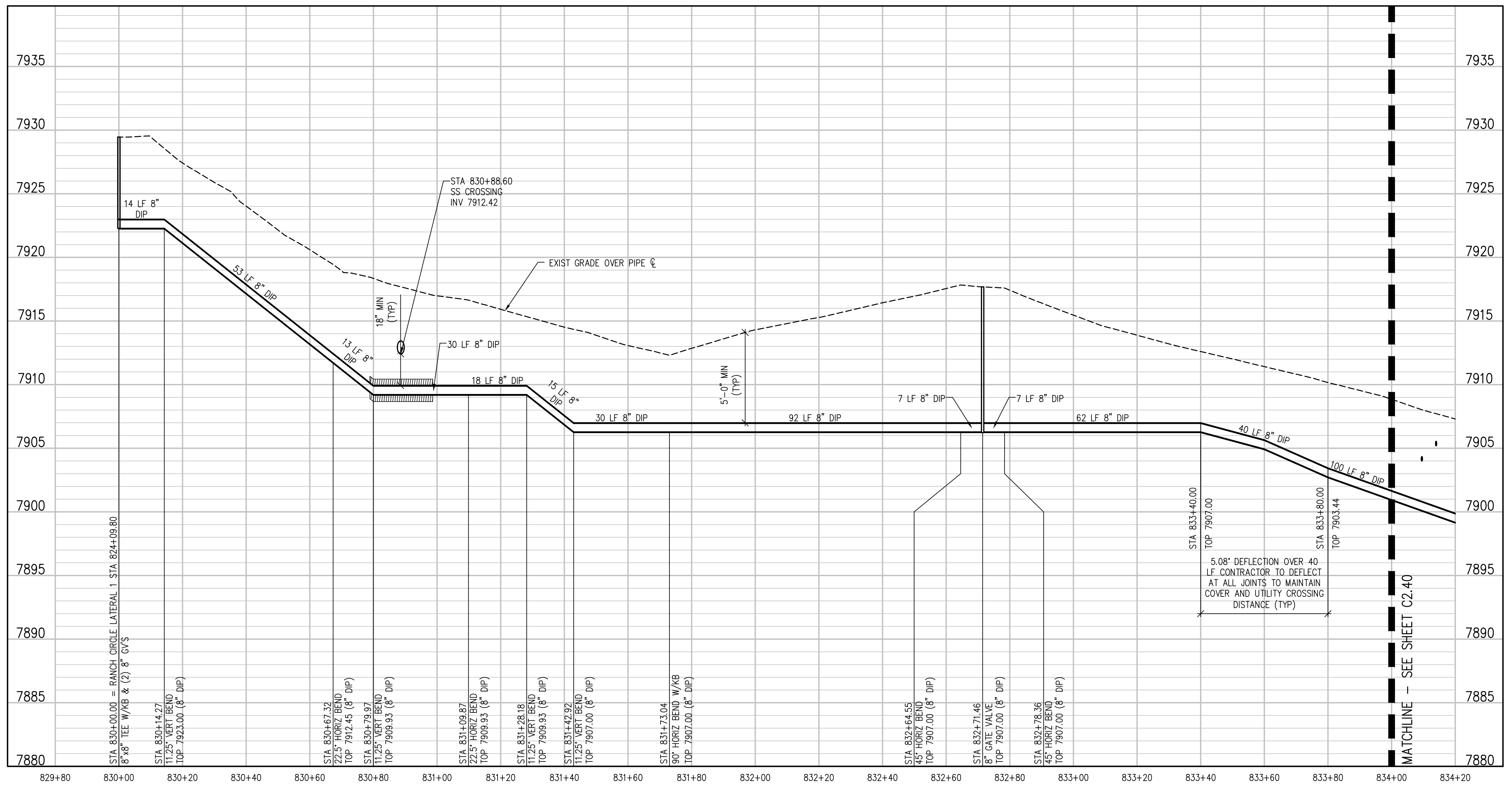
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RANCH CIRCLE LATERAL 2 PLAN  
SCALE: 1" = 20'



RANCH CIRCLE LATERAL 2 PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

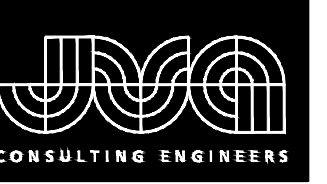
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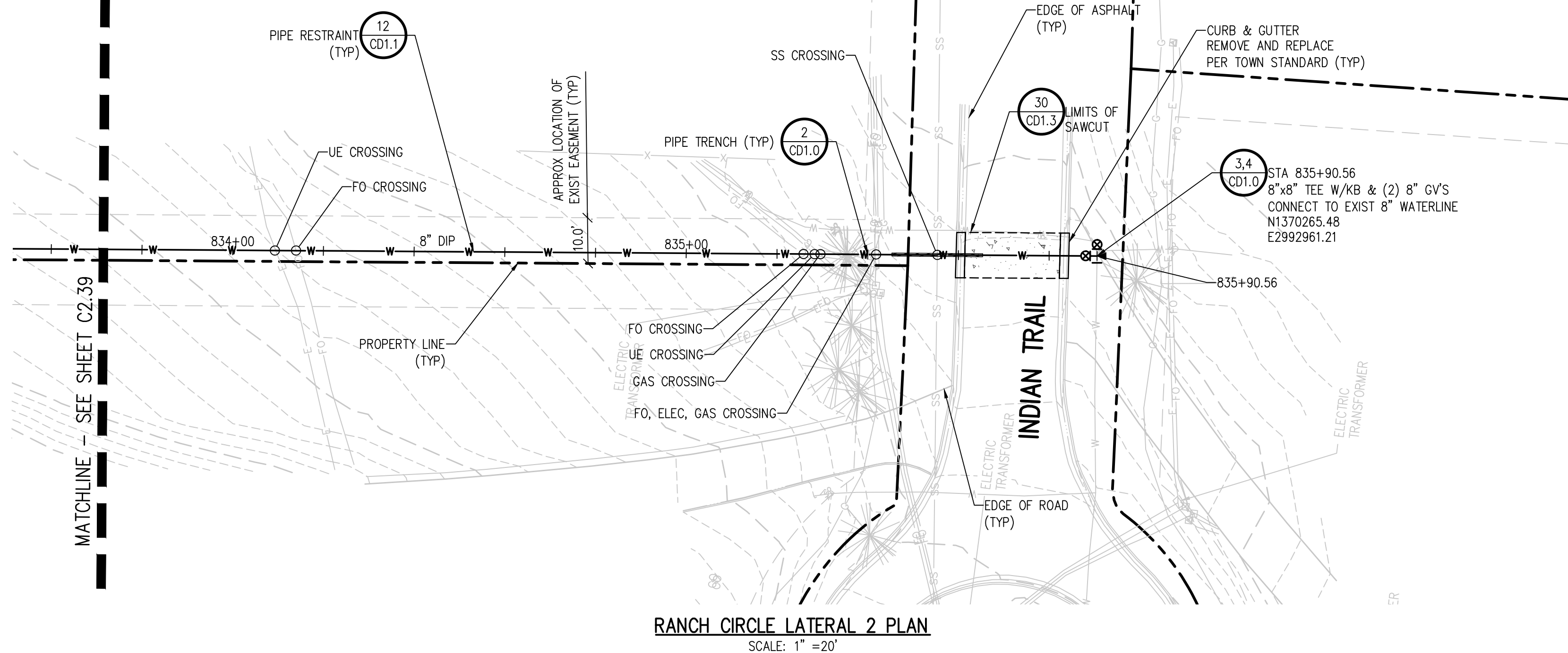
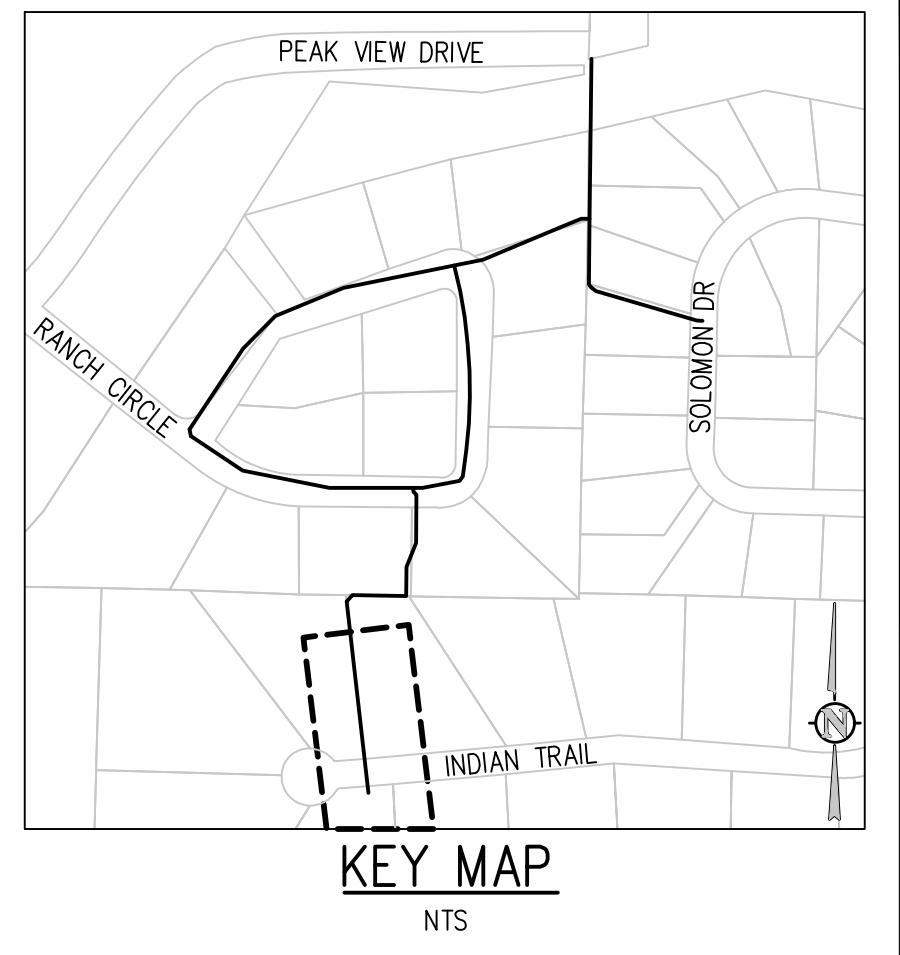
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 RANCH CIRCLE LATERAL 2 PLAN AND  
 PROFILE

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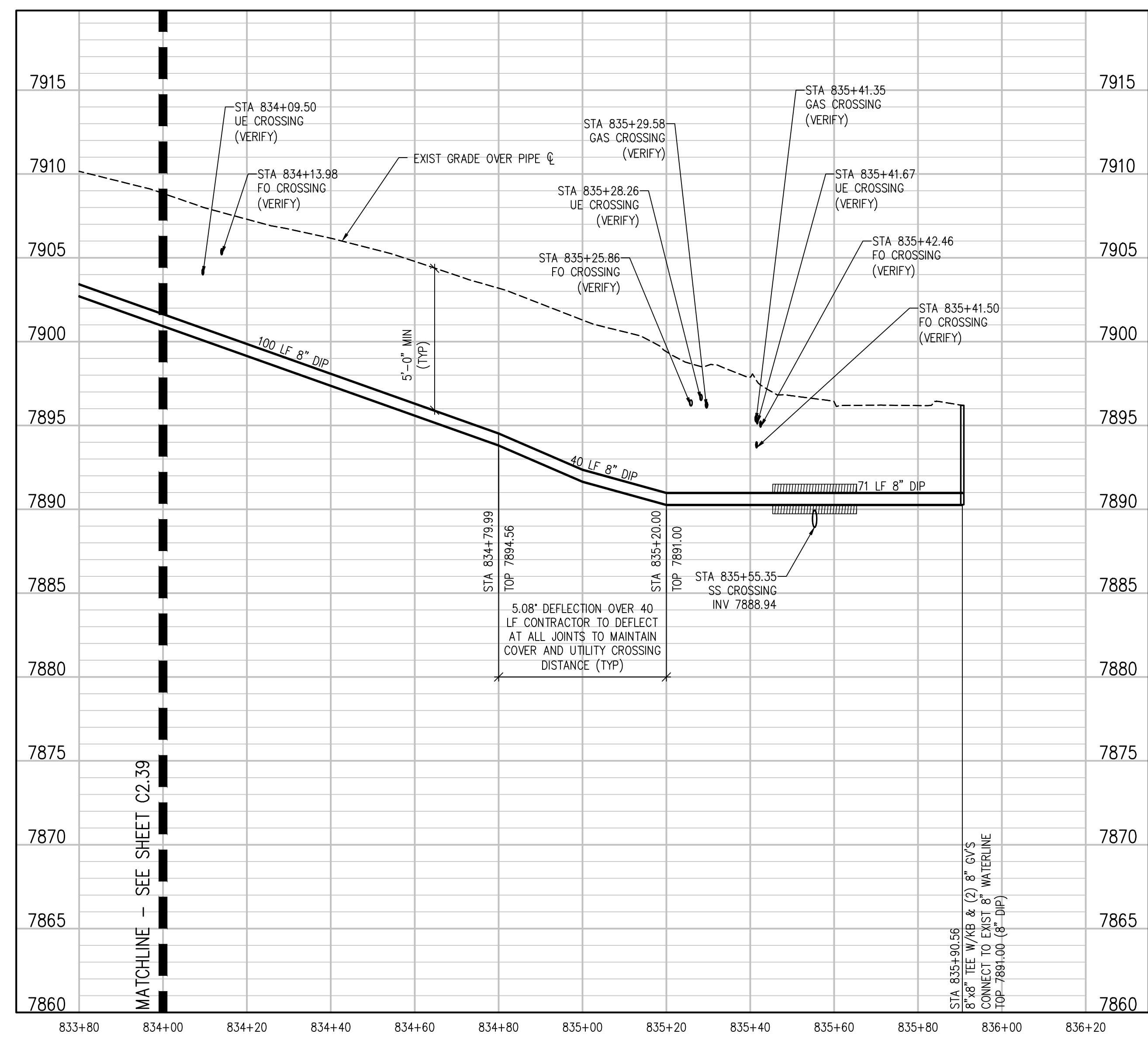
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RANCH CIRCLE LATERAL 2 PLAN  
 SCALE: 1" = 20'



RANCH CIRCLE LATERAL 2 PROFILE  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

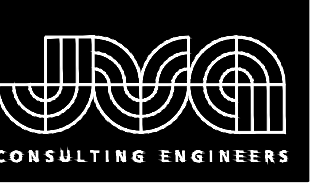
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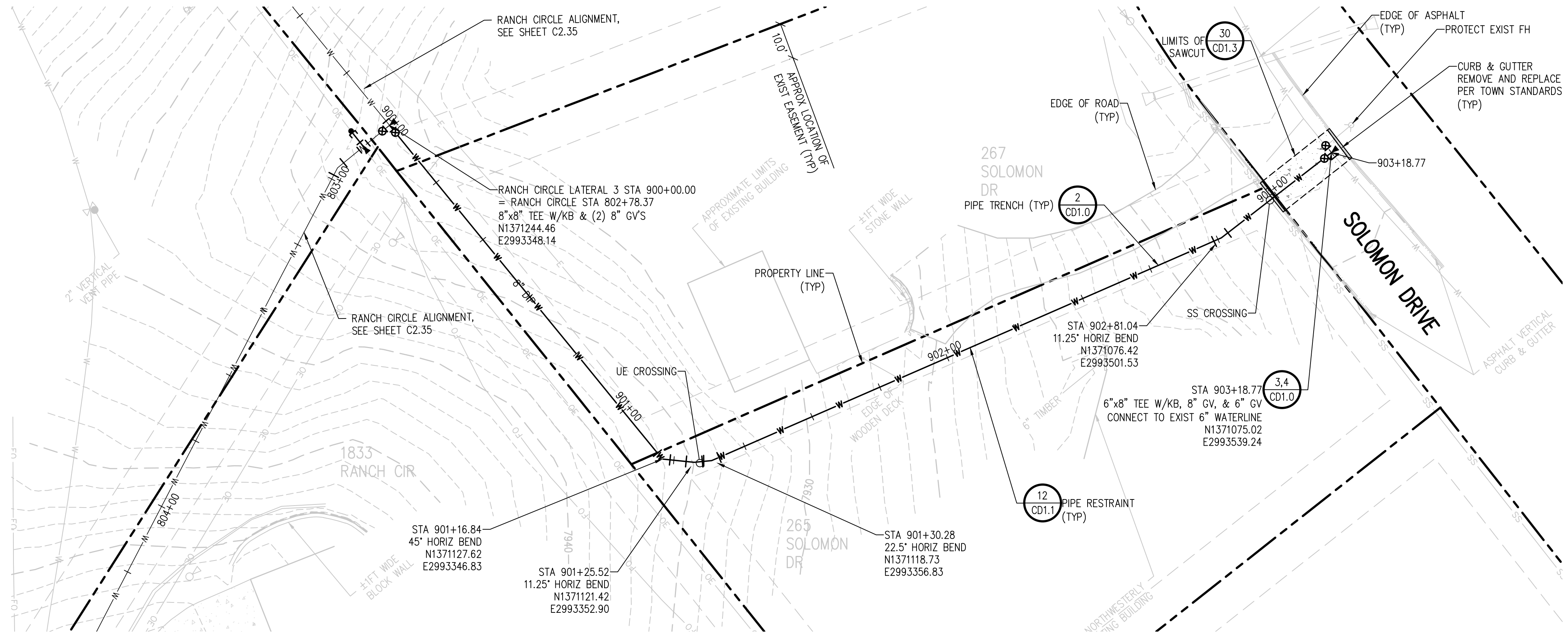
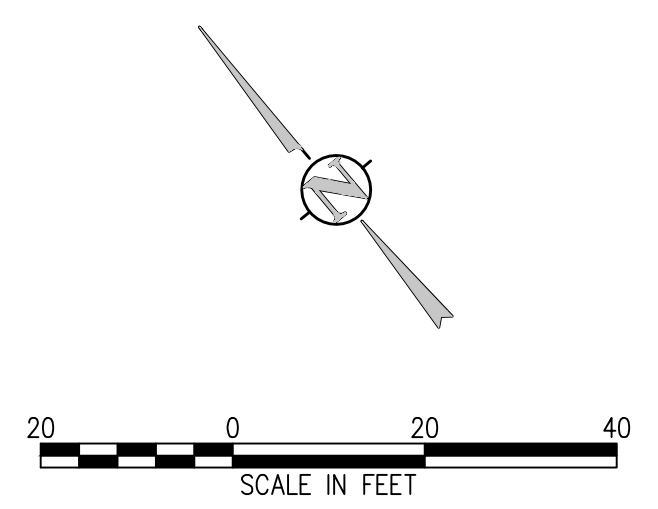
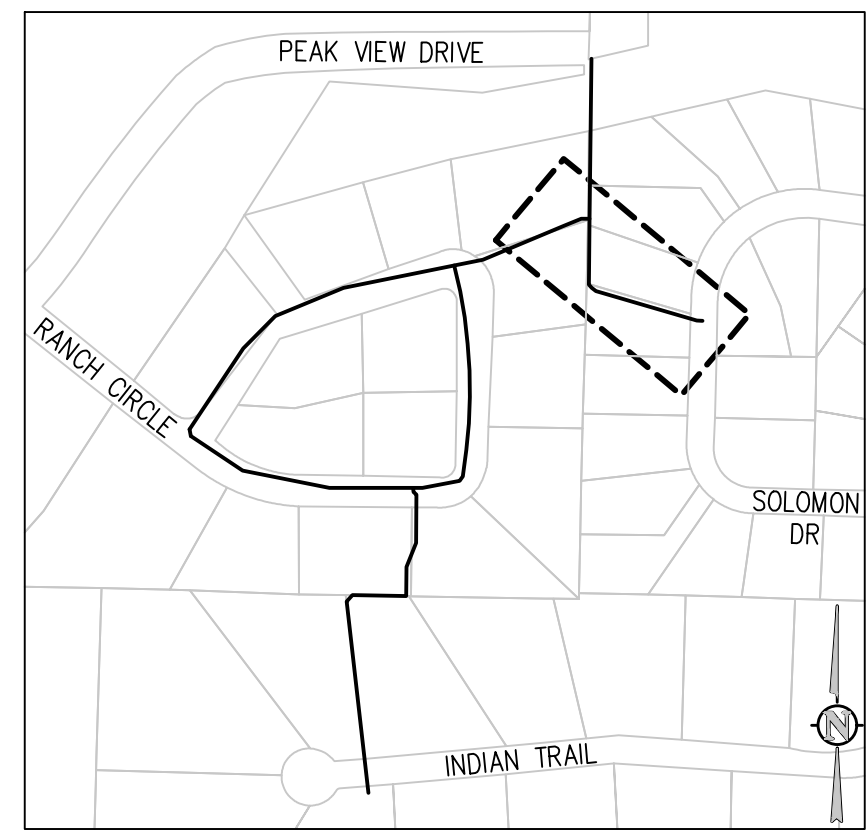
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 ESTES PARK, COLORADO  
 RANCH CIRCLE LATERAL 2 PLAN AND  
 PROFILE

SHEET NO.  
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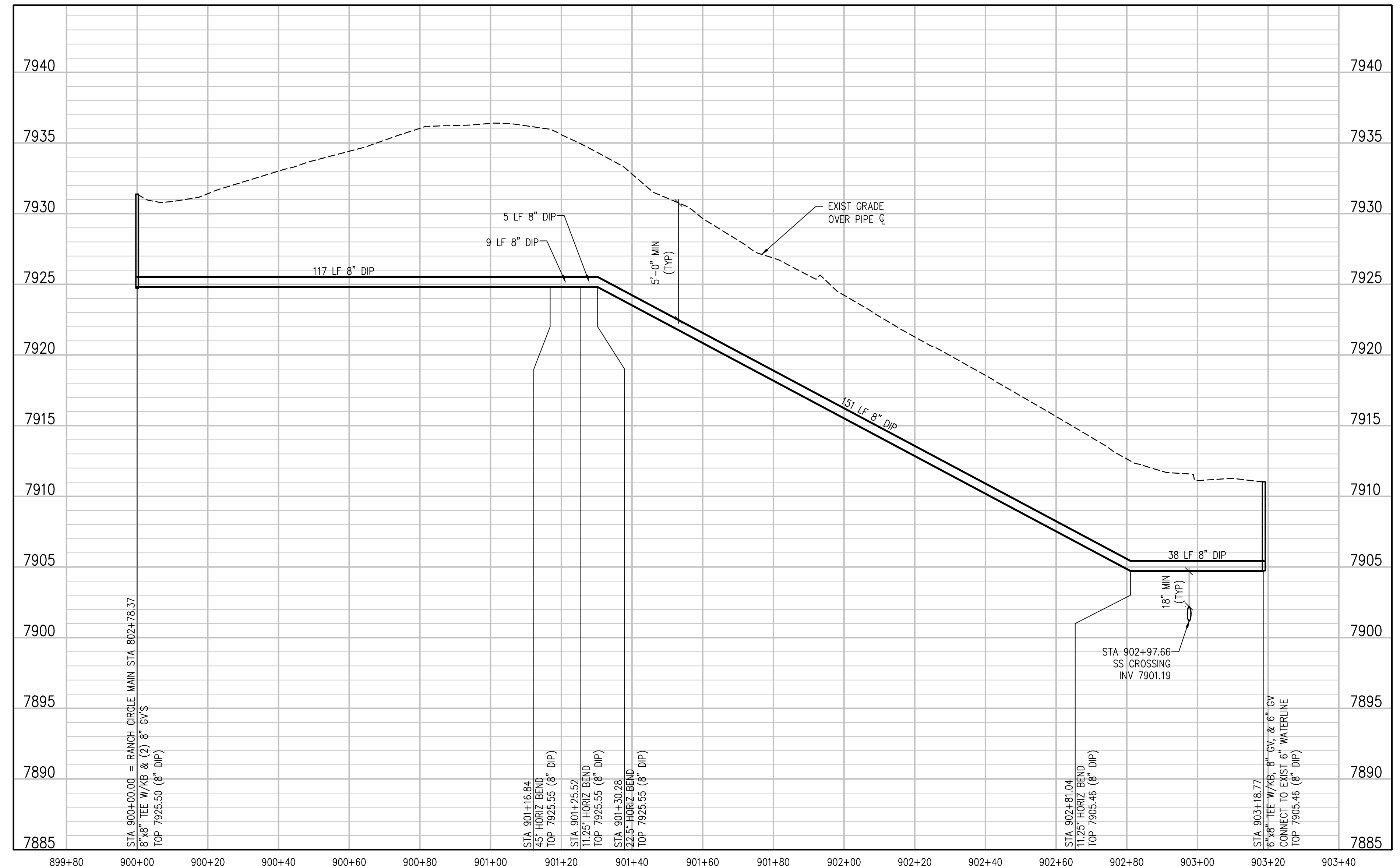
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**RANCH CIRCLE LATERAL 3 (BID ALTERNATE) PLAN**  
 SCALE: 1" = 20'



**RANCH CIRCLE LATERAL 3 (BID ALTERNATE) PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

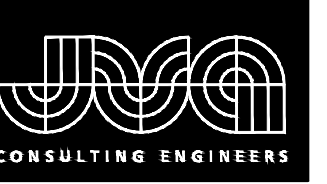
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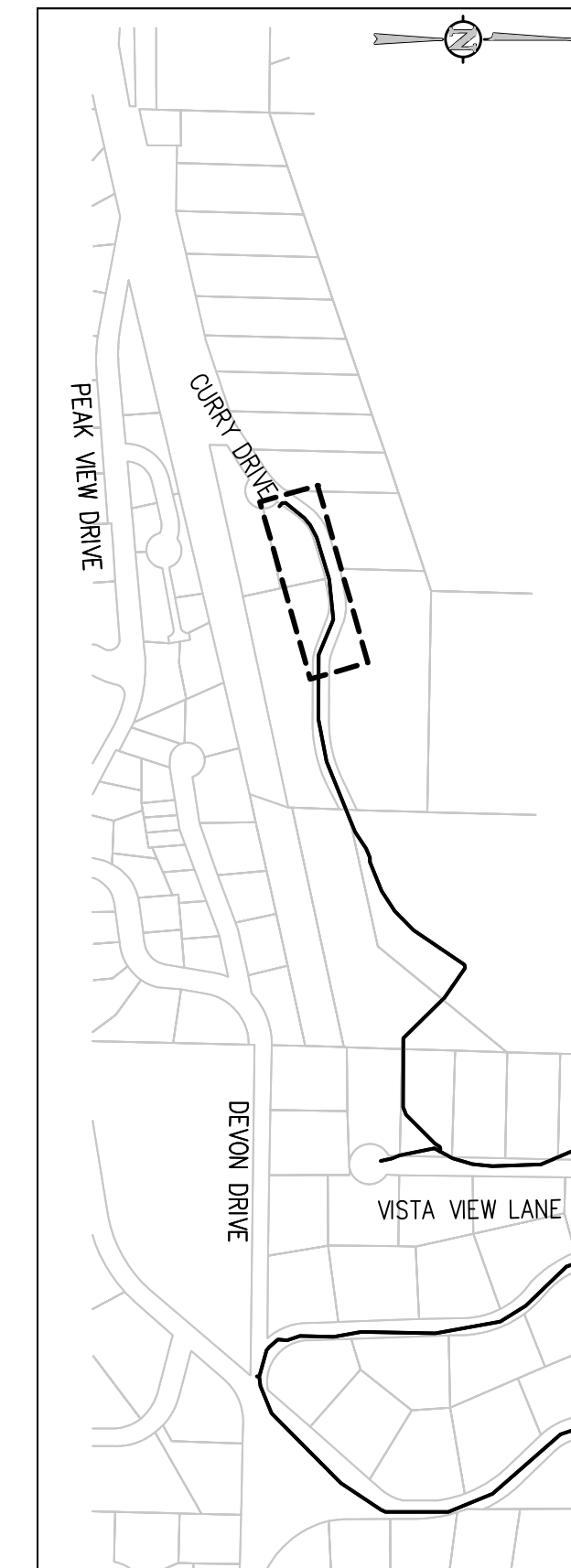
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 RANCH CIRCLE LATERAL 3 (BID ALTERNATE)  
 PLAN AND PROFILE

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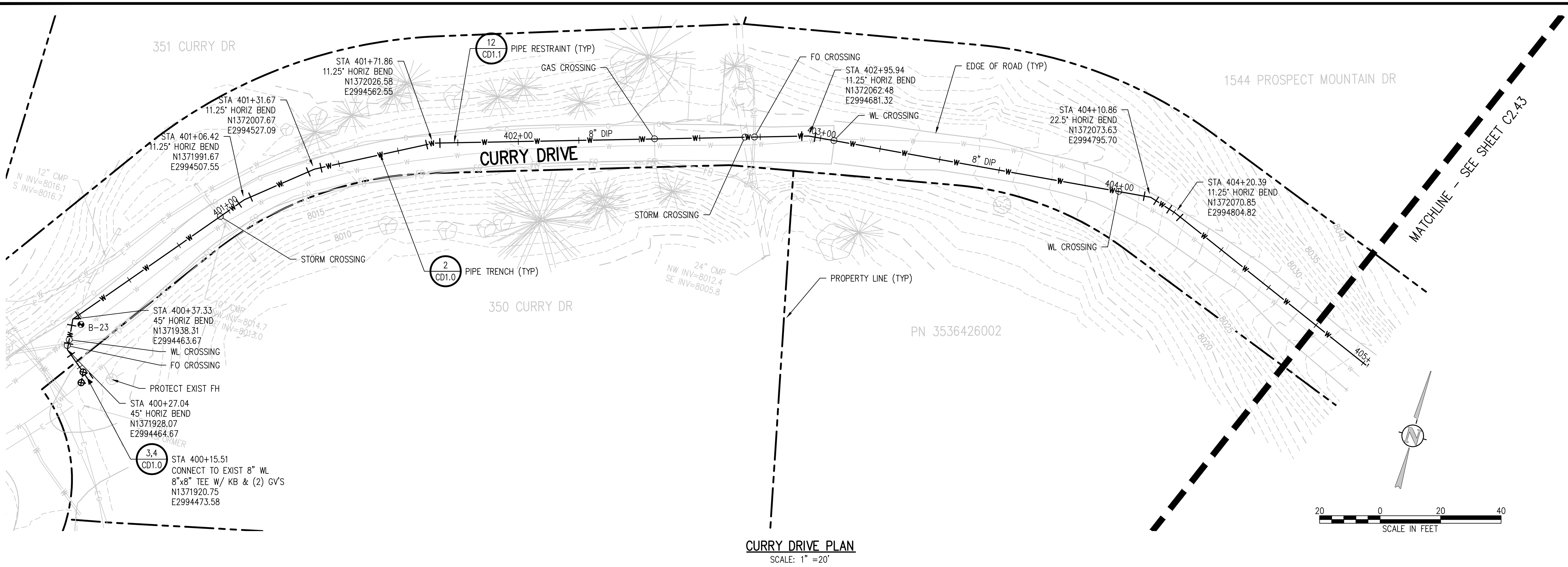
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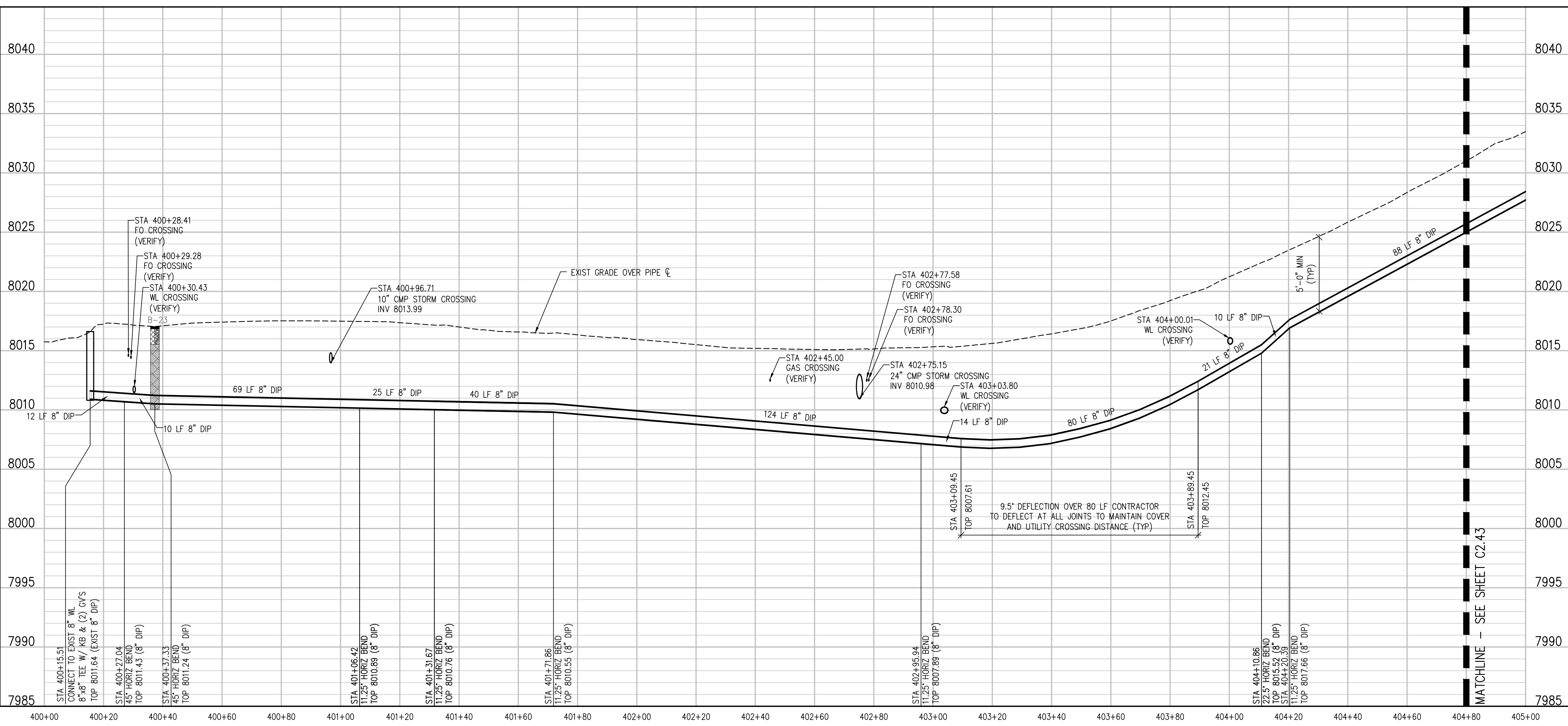
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CURRY DRIVE PLAN  
SCALE: 1" = 20'



CURRY DRIVE PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

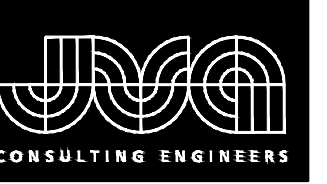
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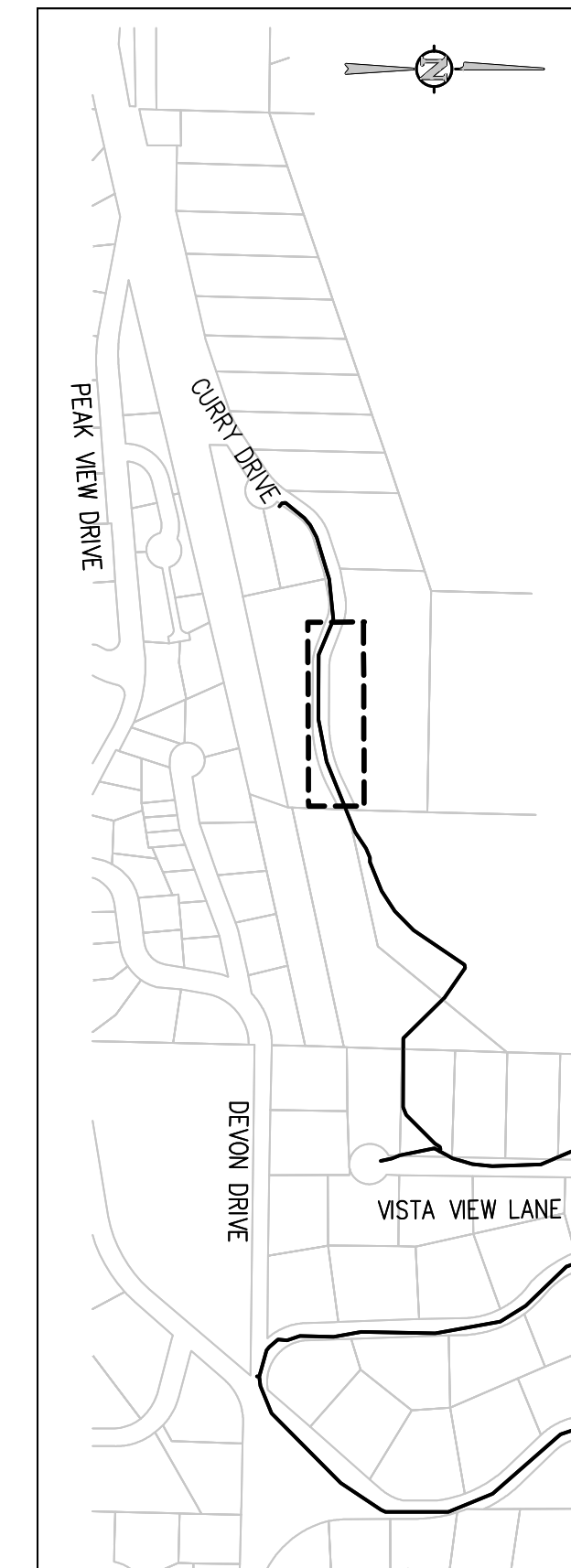
CURRY DRIVE PLAN AND PROFILE

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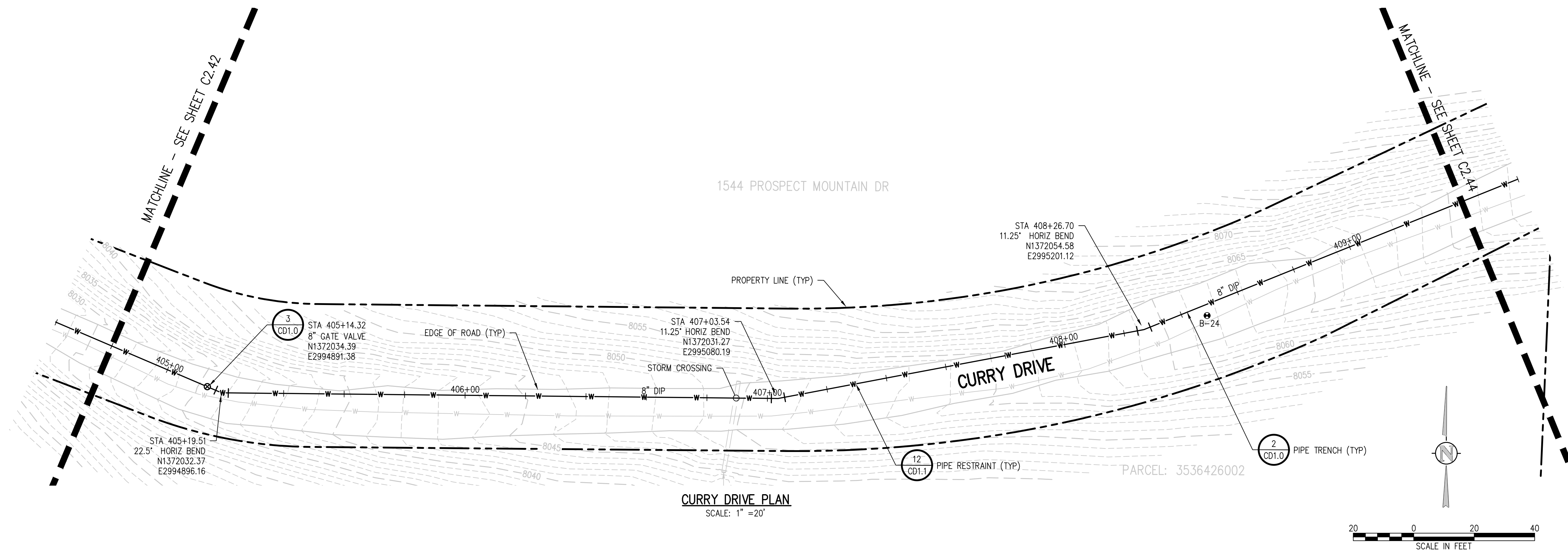
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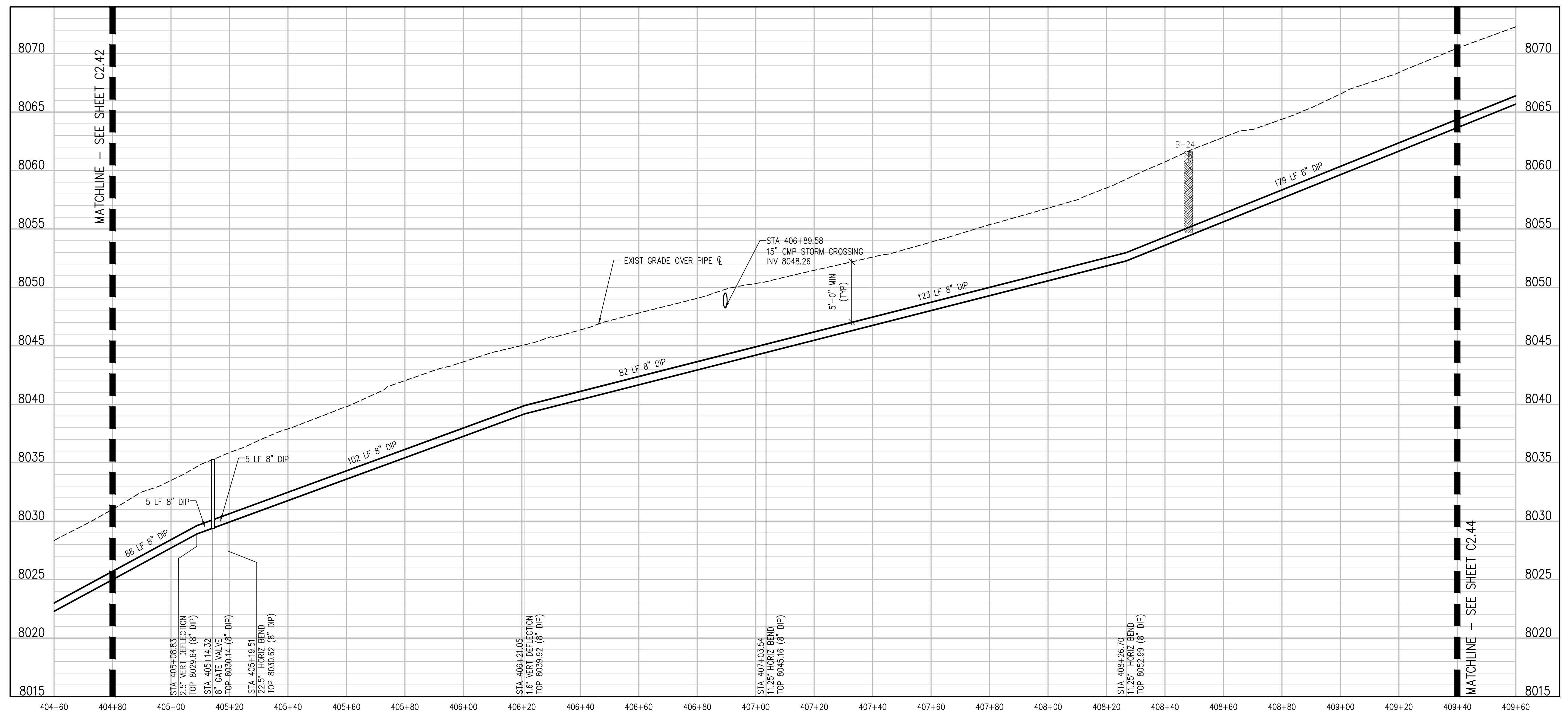
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CURRY DRIVE PLAN  
 SCALE: 1" = 20'



CURRY DRIVE PROFILE  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

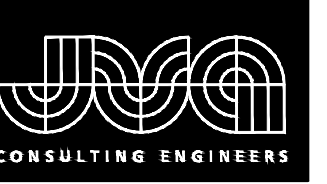
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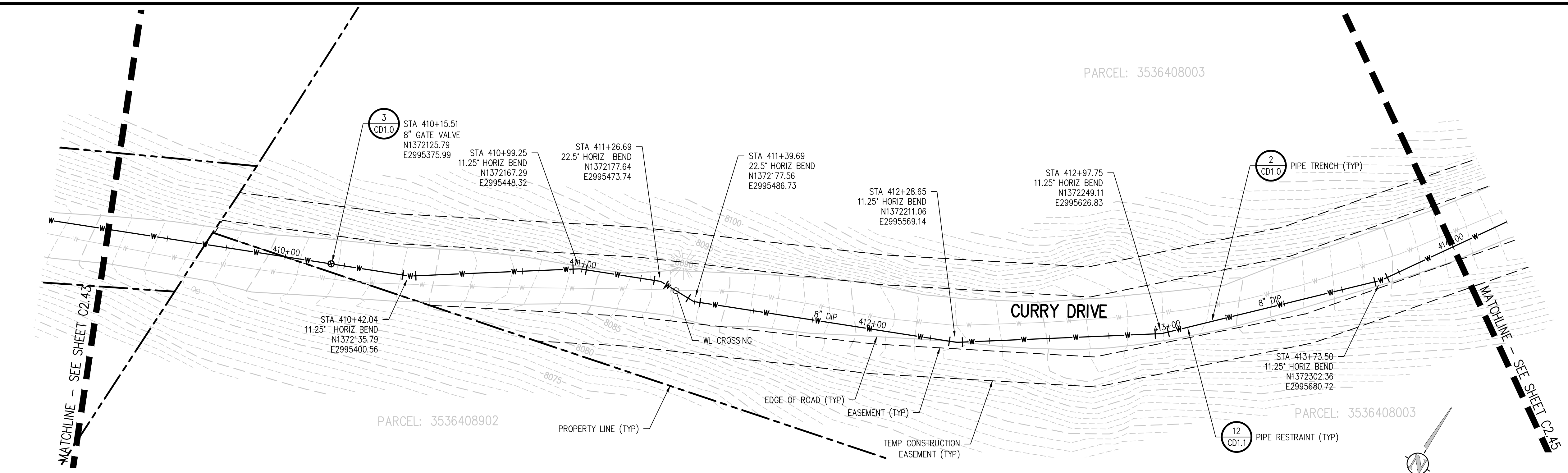
CURRY DRIVE PLAN AND PROFILE

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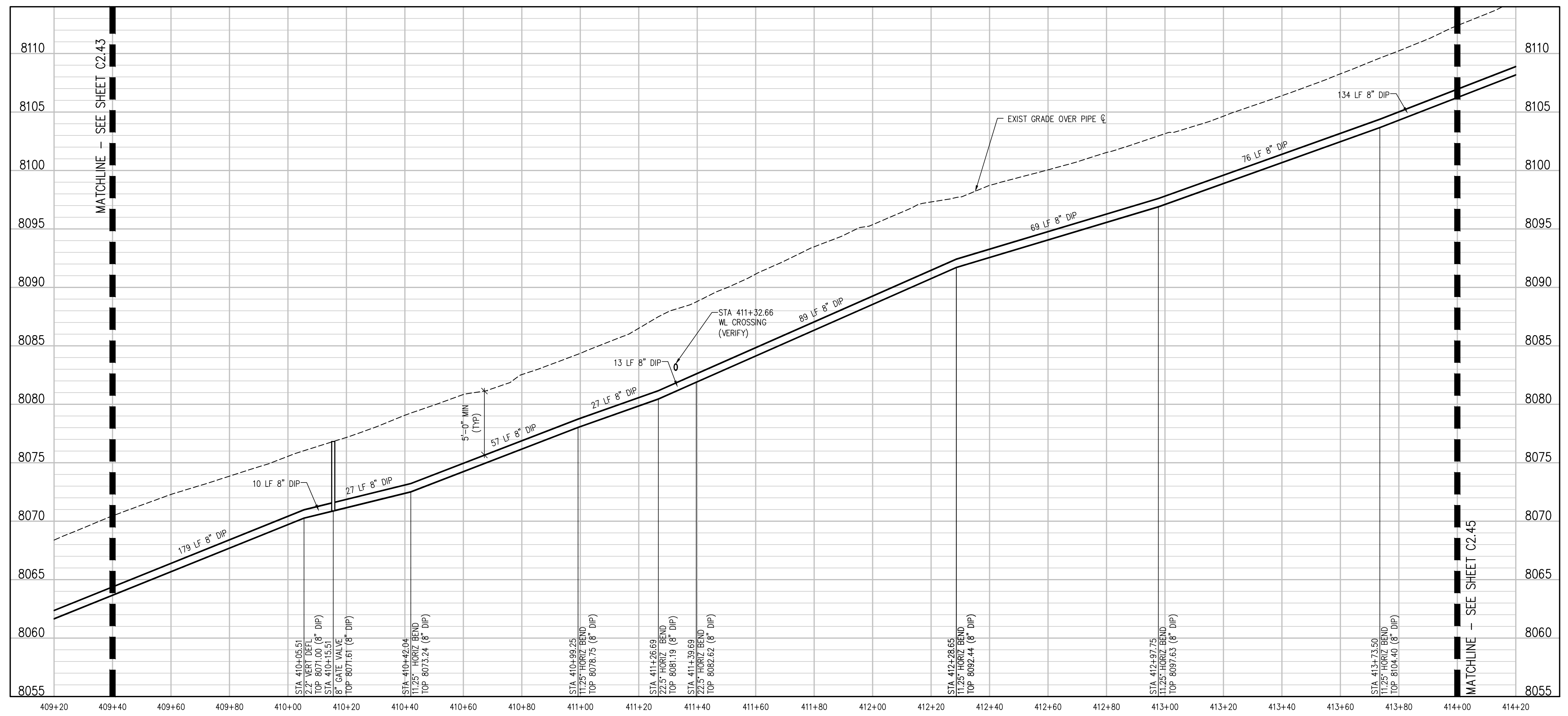
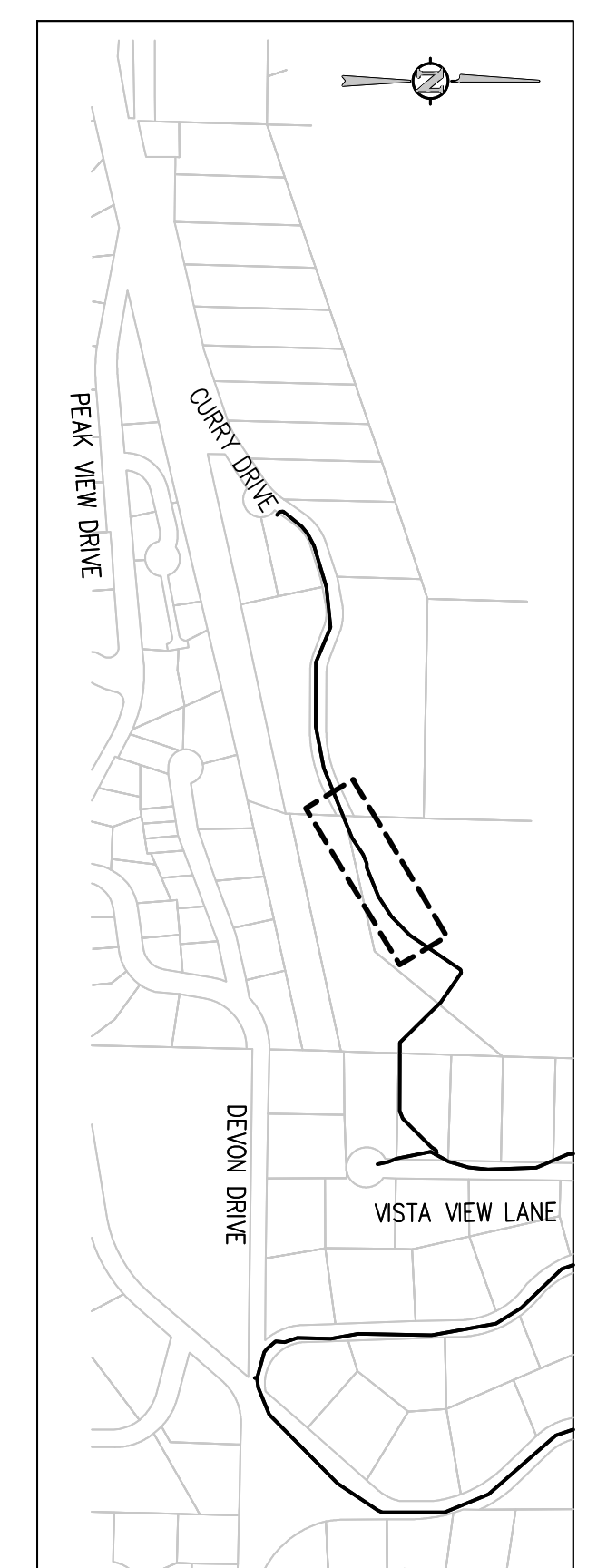
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**CURRY DRIVE PLAN**  
 SCALE: 1" = 20'



**CURRY DRIVE PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

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CURRY DRIVE PLAN AND PROFILE

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PARCEL: 3536408003

STA 415+15.51  
 8" GATE VALVE  
 N1372419.96  
 E2995760.32

STA 415+57.79  
 45° HORIZ BEND  
 N1372449.08  
 E2995787.90

PARCEL: 3536408003

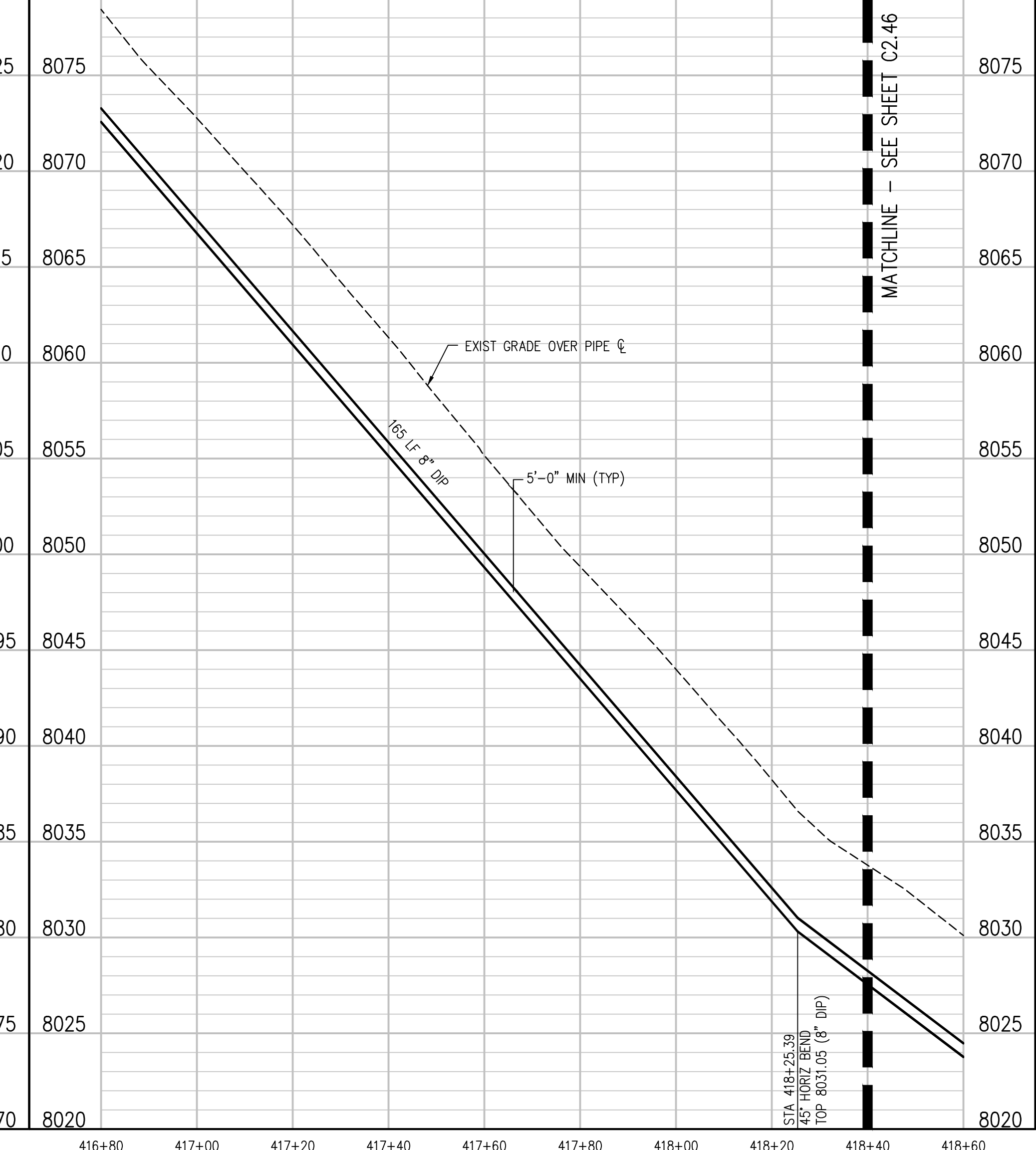
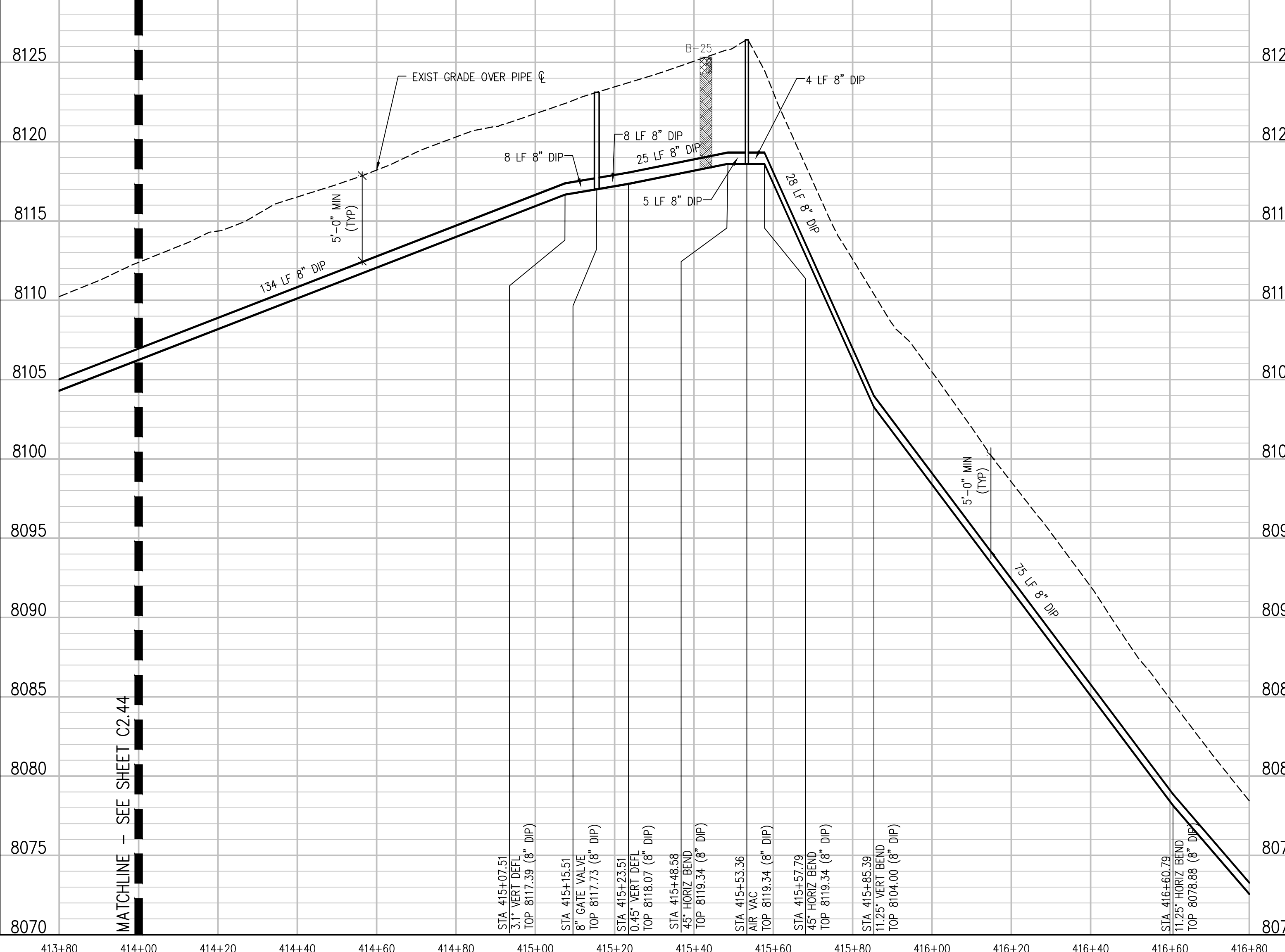
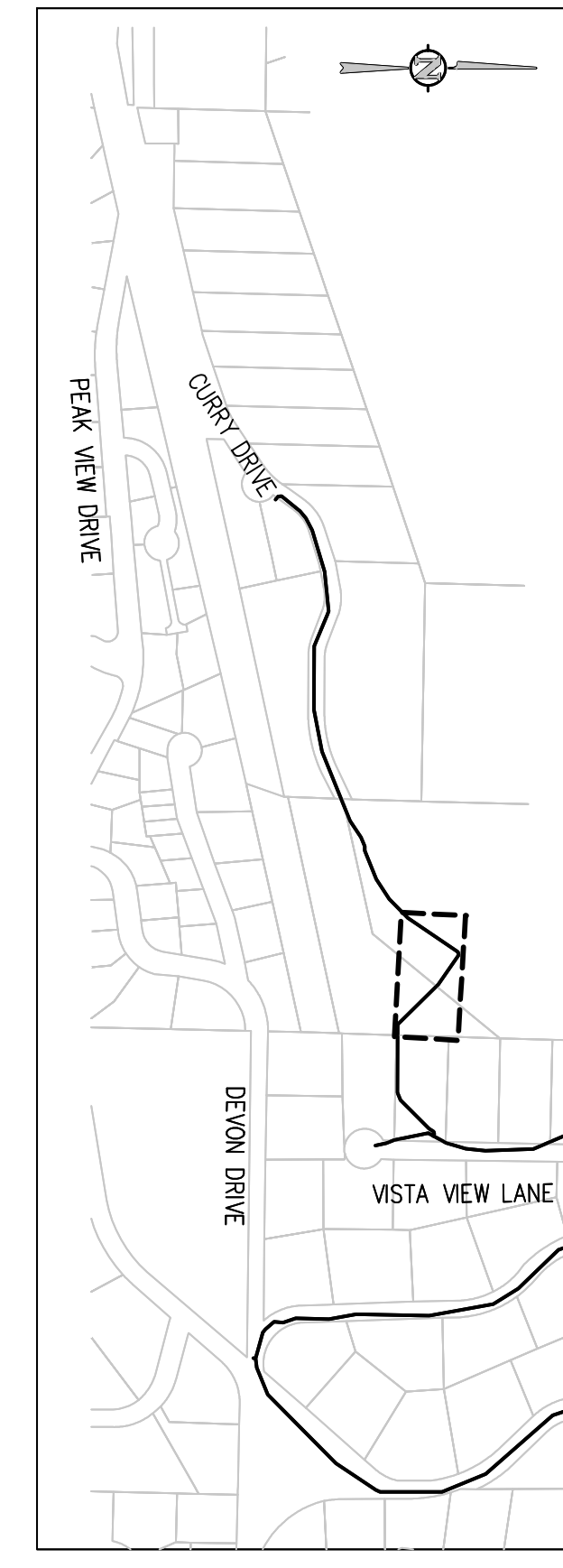
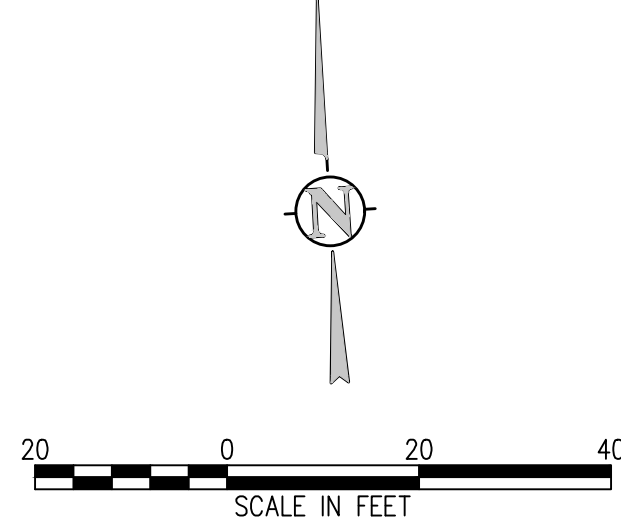
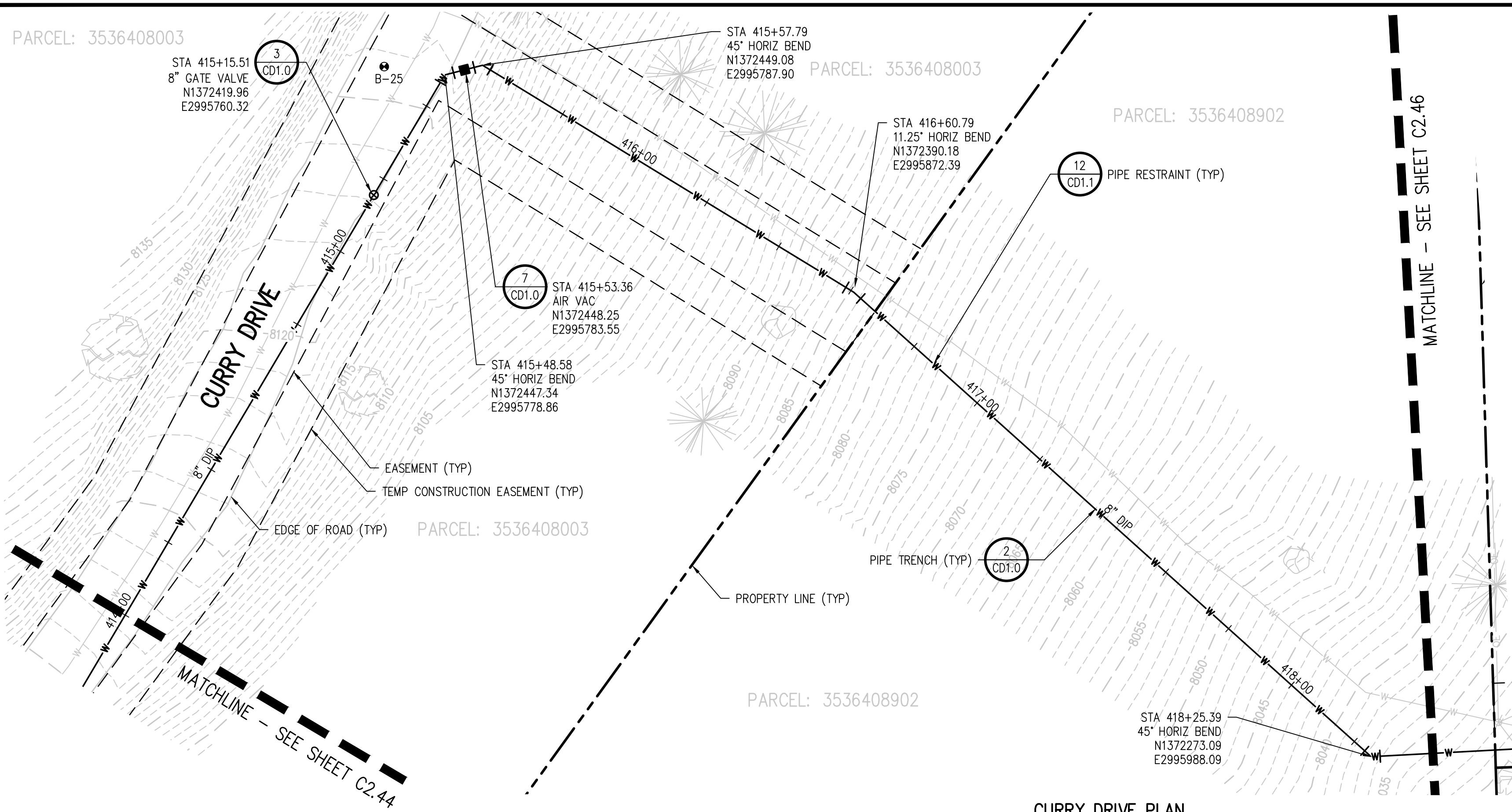
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STA 416+60.79  
 11.25° HORIZ BEND  
 N1372390.16  
 E2995872.39

STA 415+53.36  
 AIR VAC  
 N1372448.25  
 E2995783.55

STA 415+48.58  
 45° HORIZ BEND  
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STA 418+25.39  
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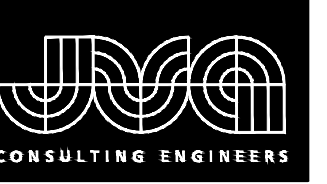


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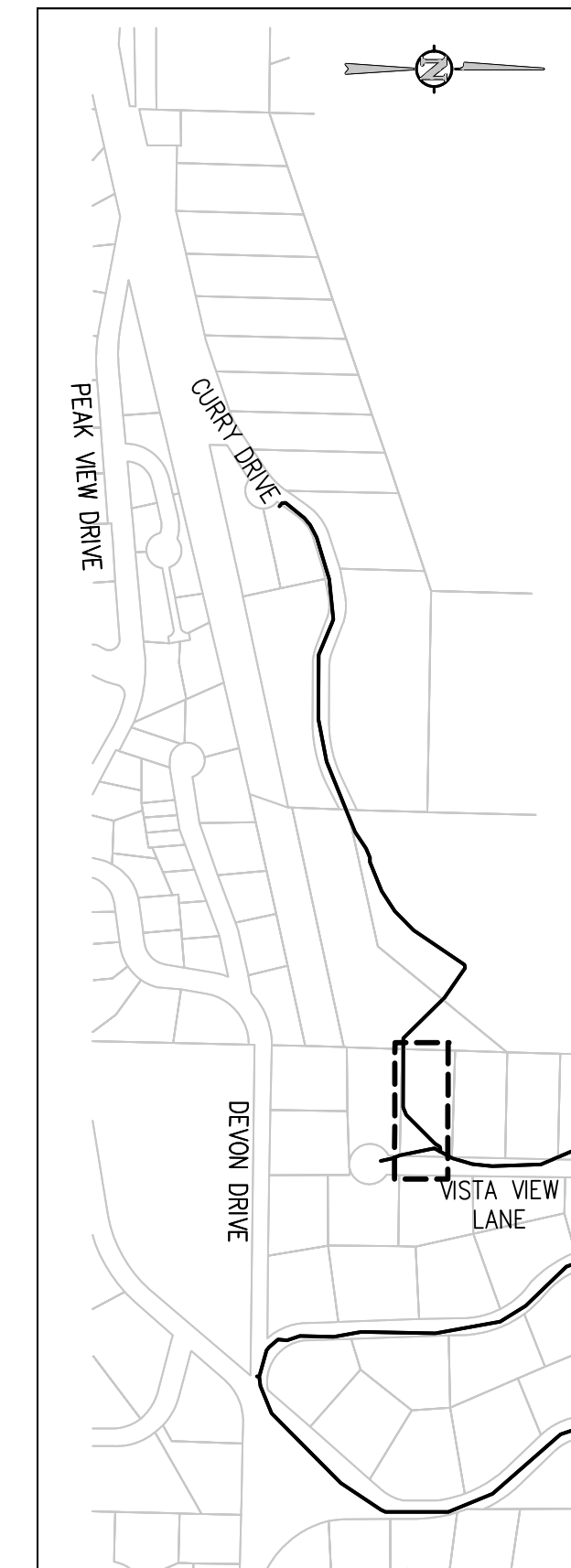
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CURRY DRIVE PLAN AND PROFILE

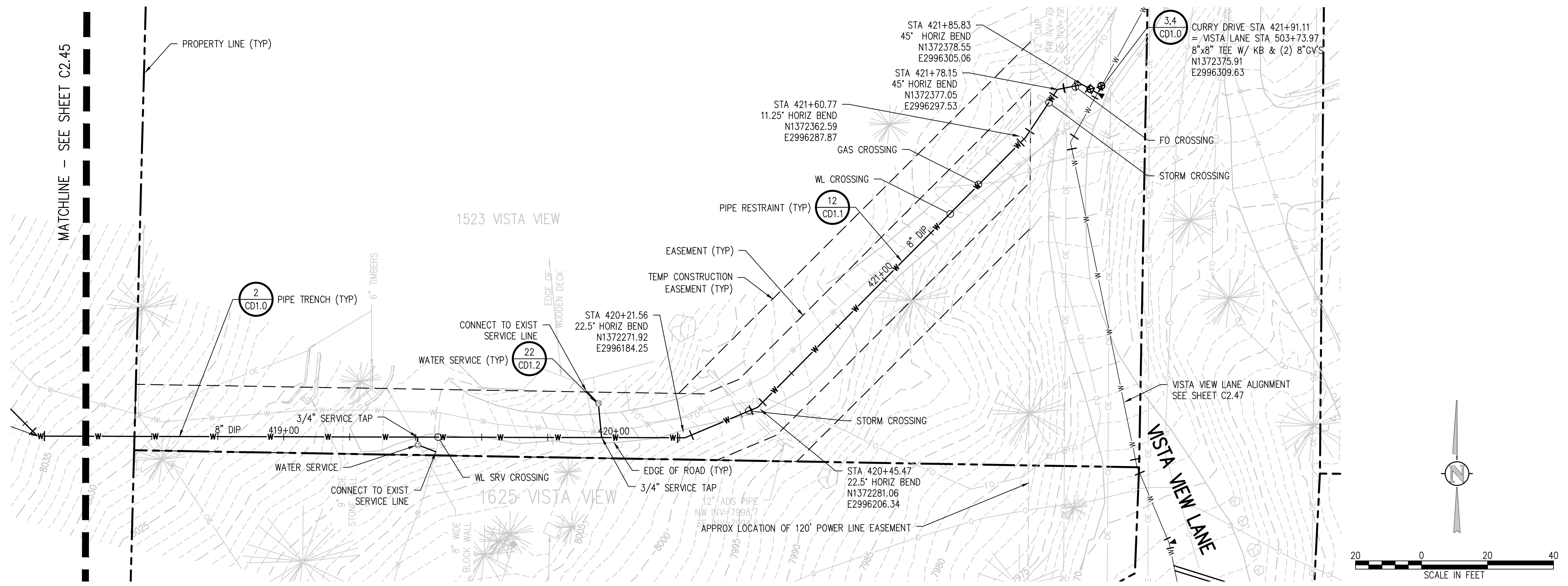
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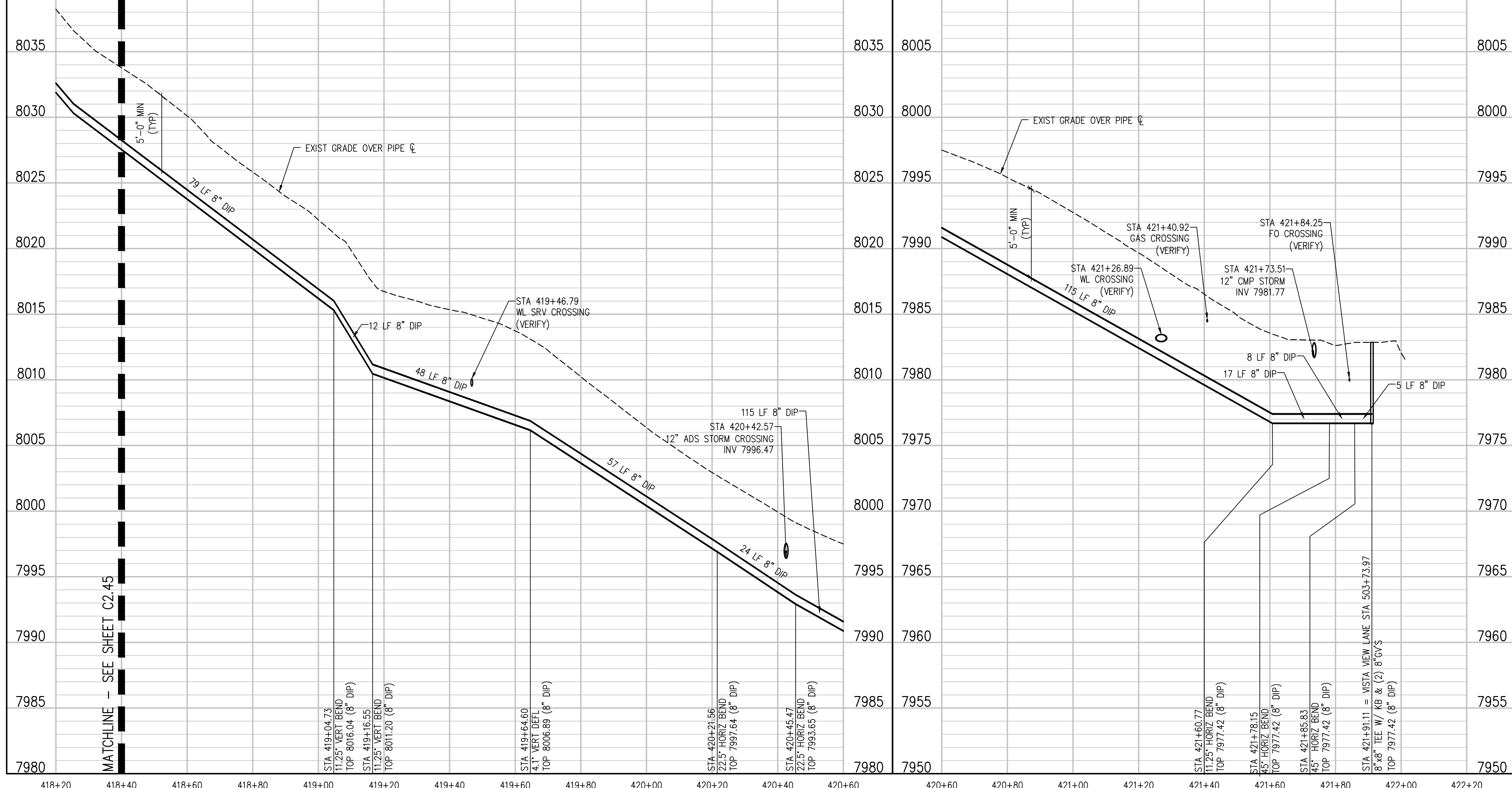
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CURRY DRIVE PLAN  
 SCALE: 1" = 20'



CURRY DRIVE PROFILE  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

CURRY DRIVE PROFILE  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

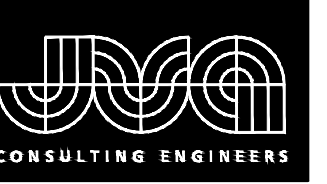
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 CURRY DRIVE PLAN AND PROFILE

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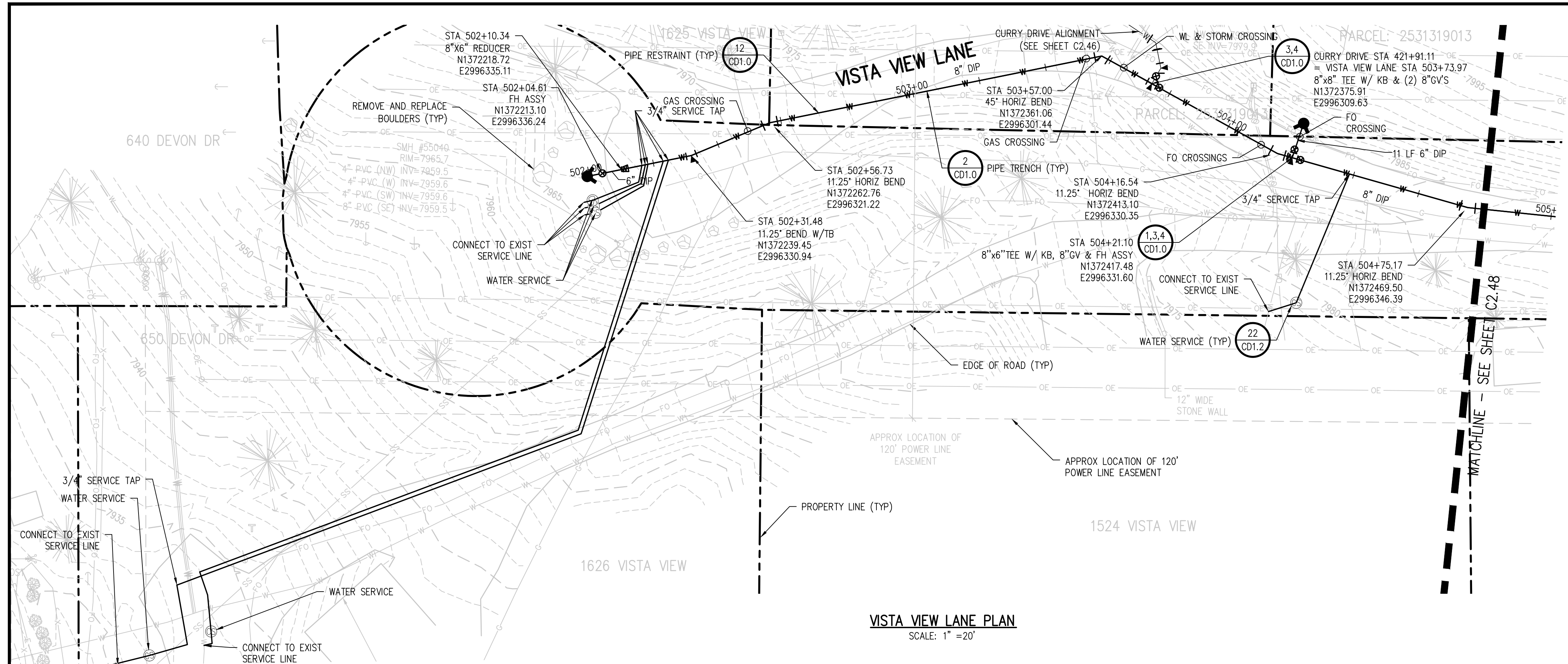
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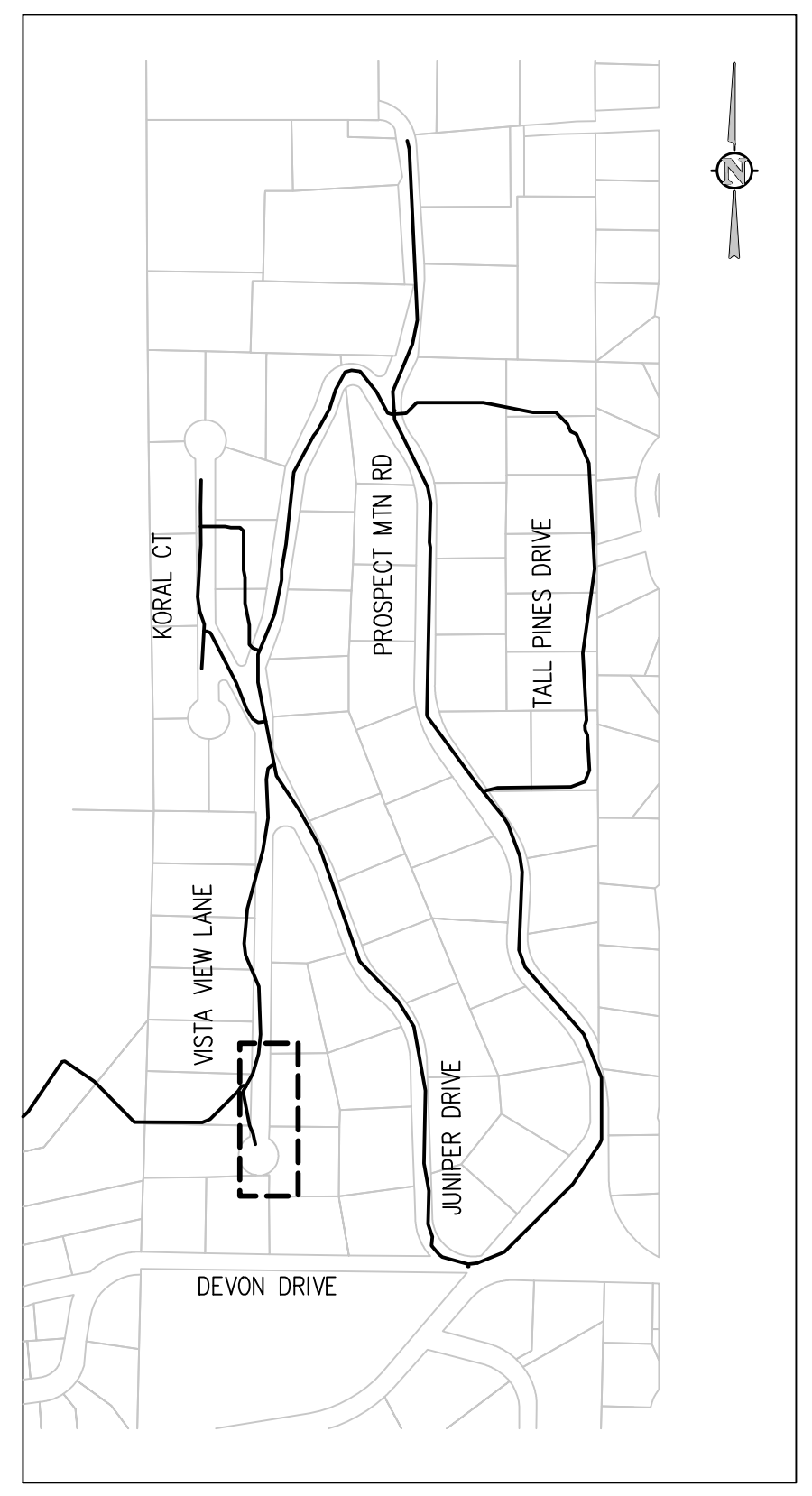
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 ESTES PARK, COLORADO

VISTA VIEW LANE PLAN AND PROFILE

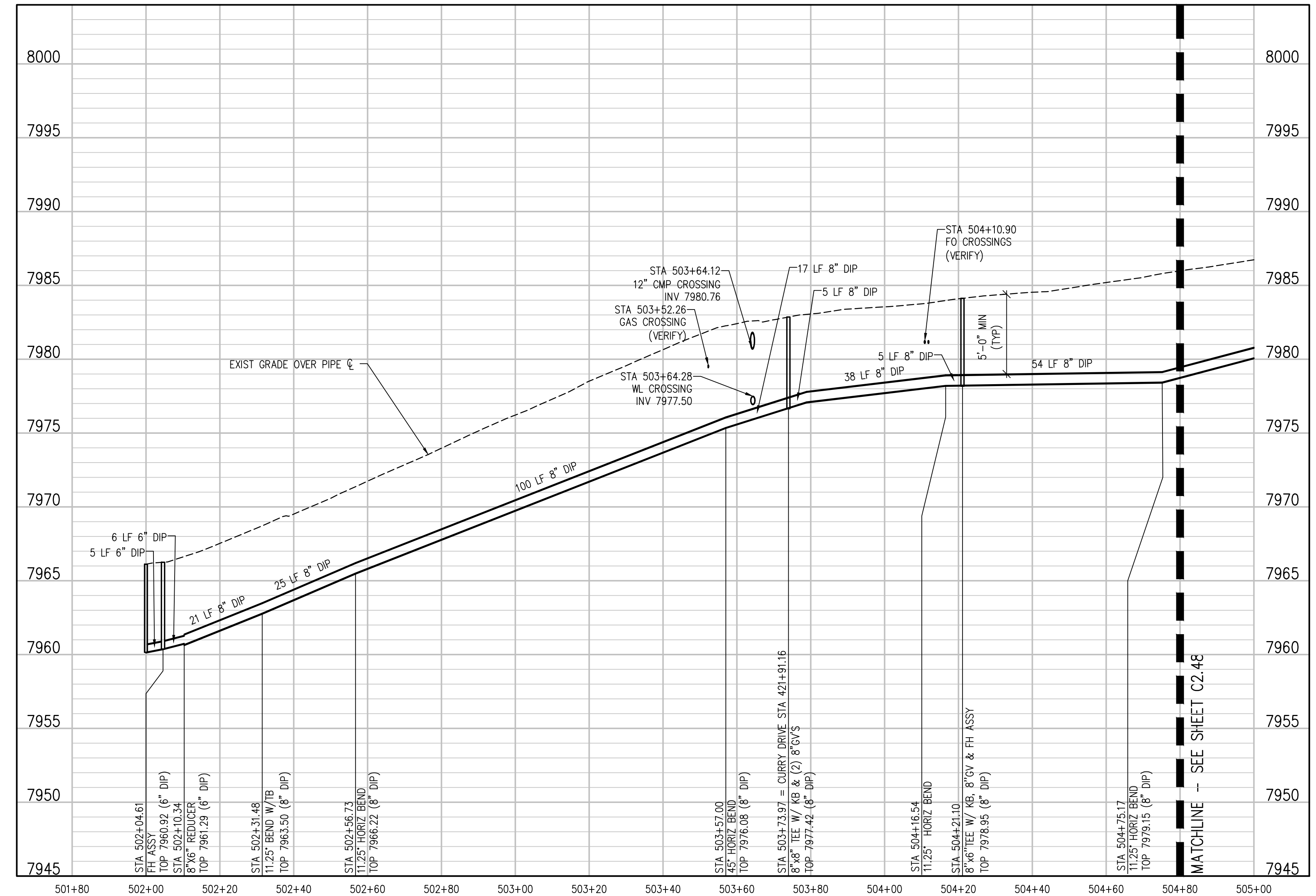
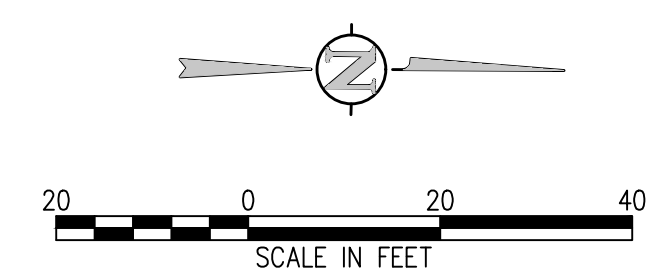
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**C2.47**



**VISTA VIEW LANE PLAN**  
 SCALE: 1" = 20'

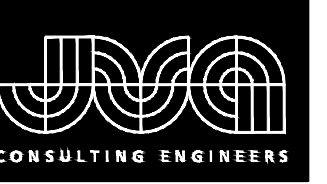


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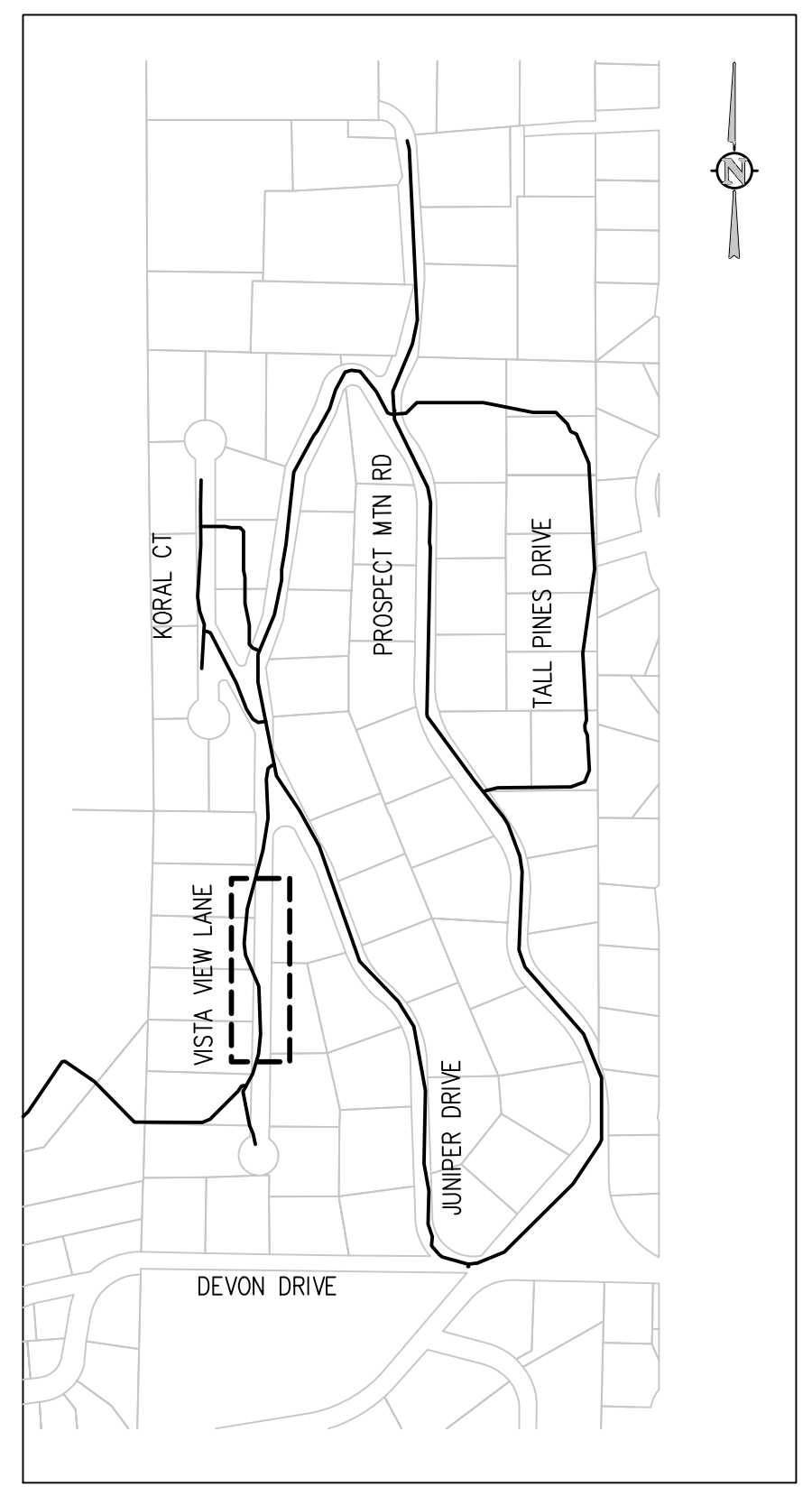


**VISTA VIEW LANE PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

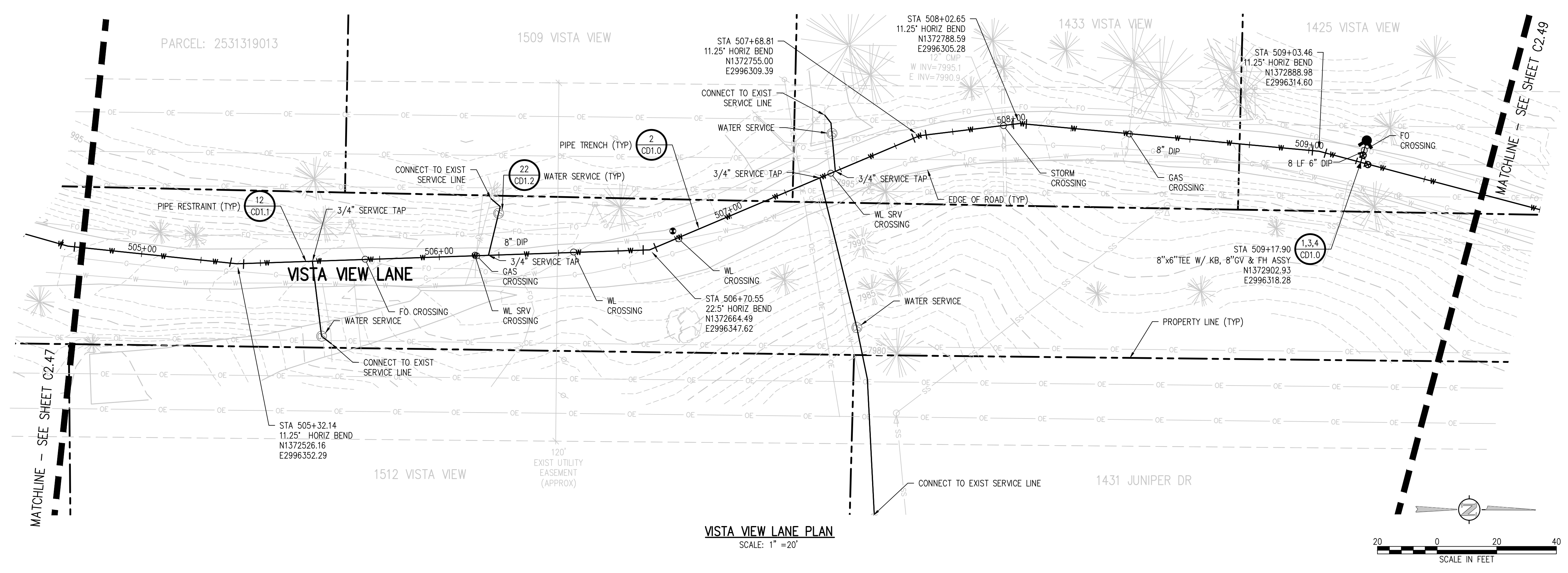
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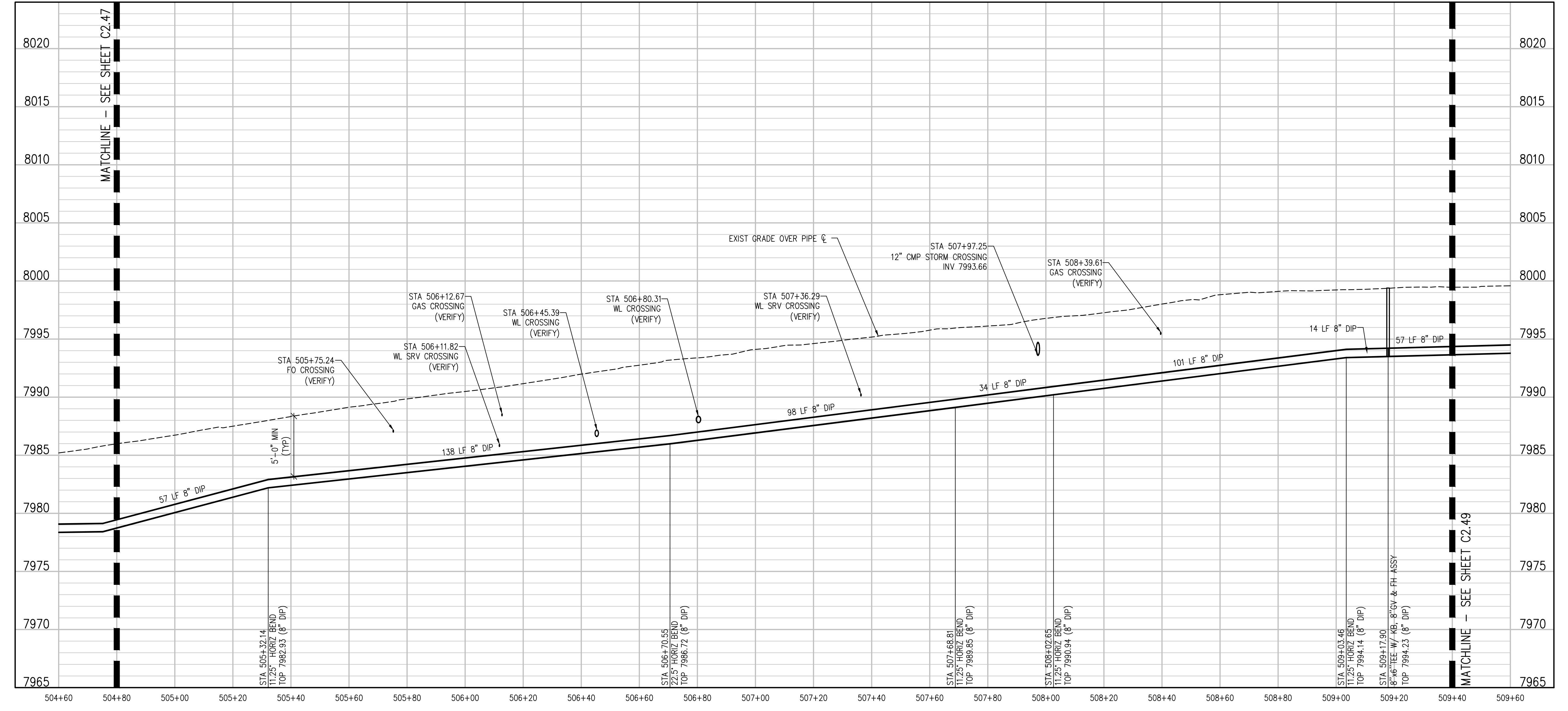
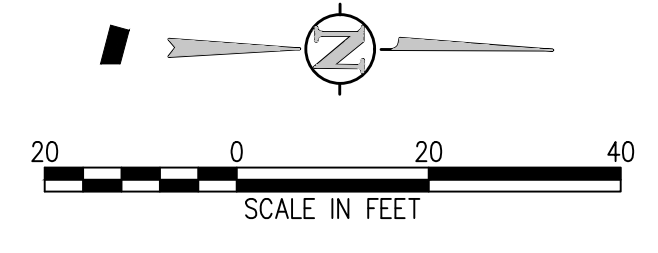
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VISTA VIEW LANE PLAN  
SCALE: 1" = 20'



VISTA VIEW LANE PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

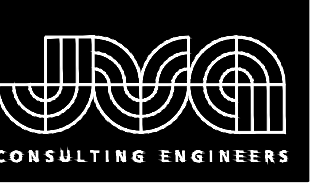
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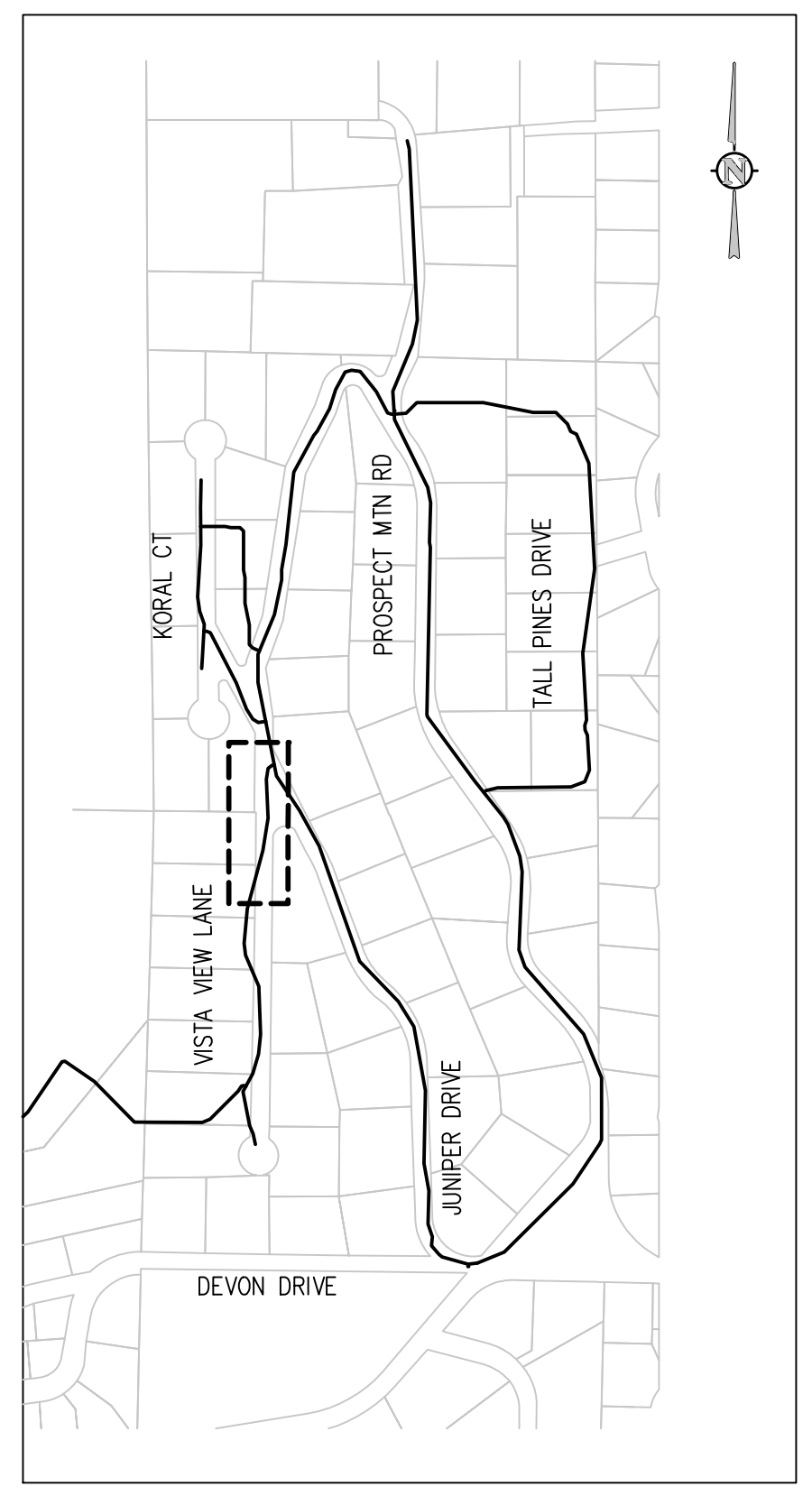
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 VISTA VIEW LANE PLAN AND PROFILE

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C2.48

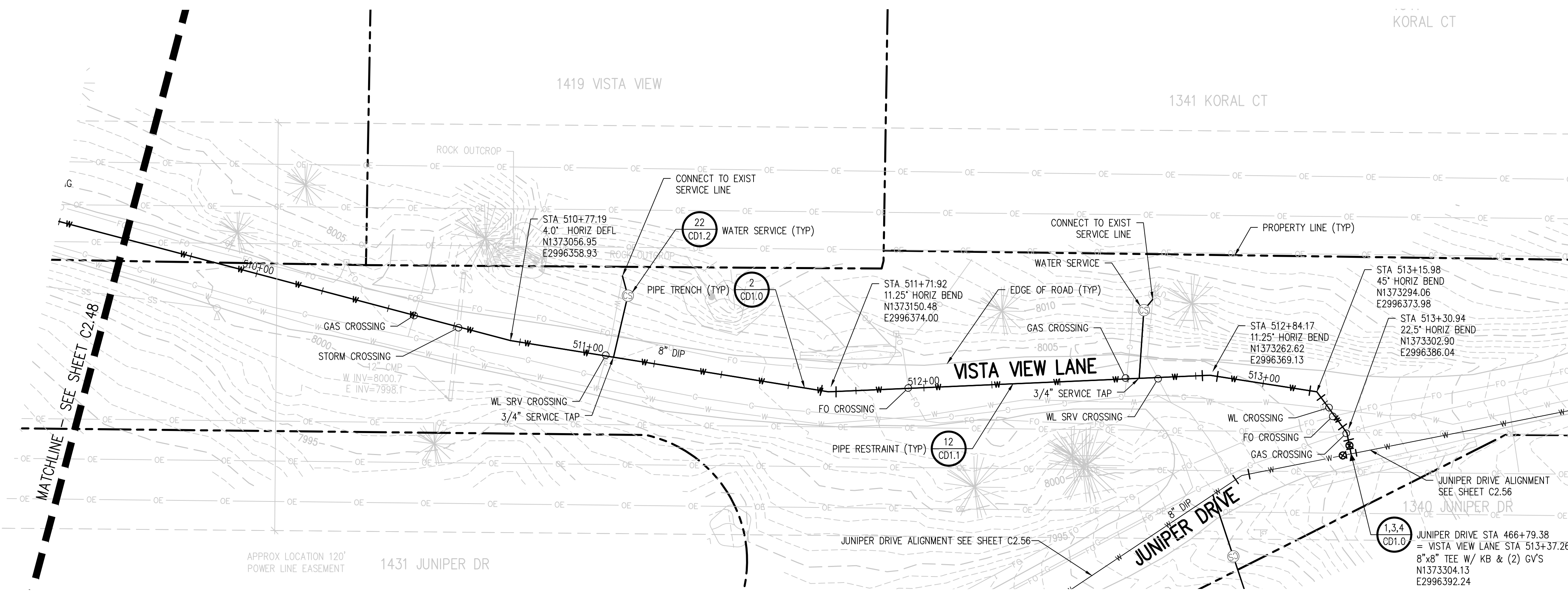
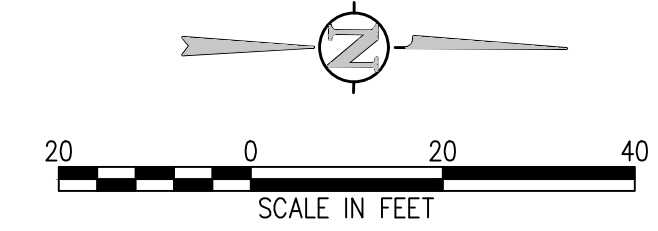
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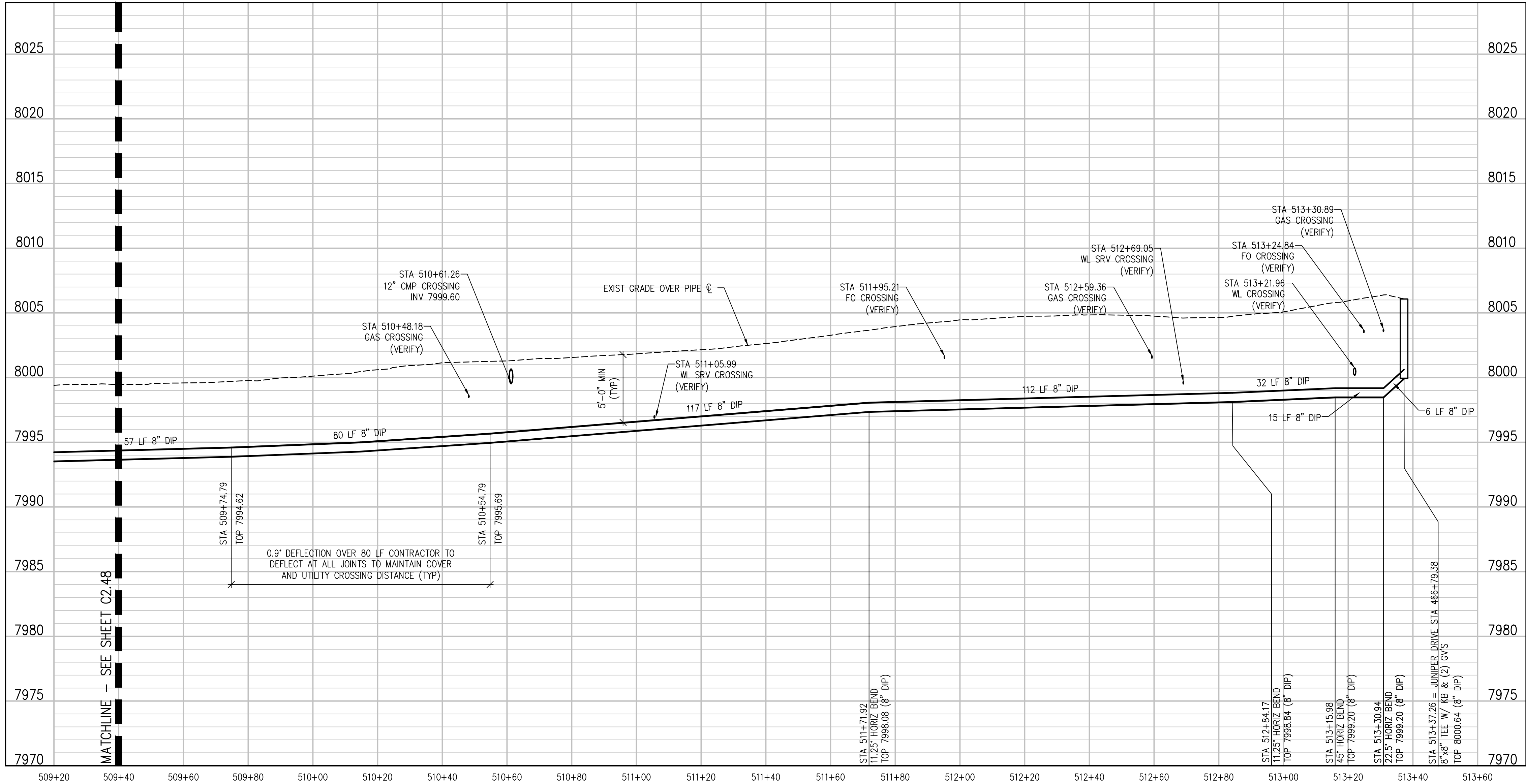
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VISTA VIEW LANE PLAN  
SCALE: 1" = 20'



VISTA VIEW LANE PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

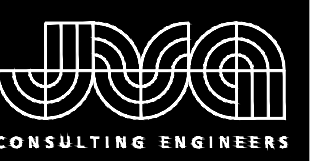
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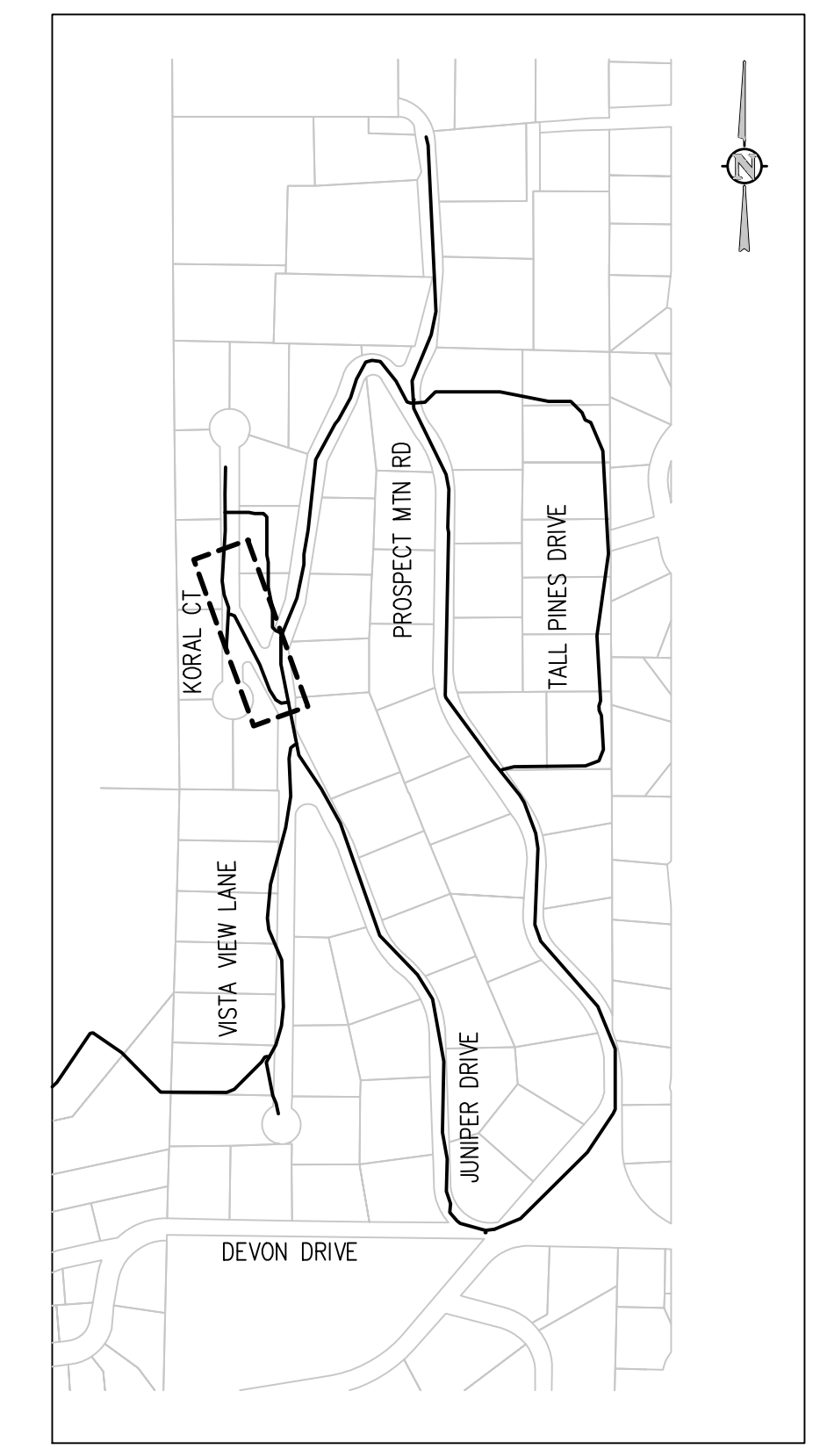
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 ESTES PARK, COLORADO  
 VISTA VIEW LANE PLAN AND PROFILE

SHEET NO.  
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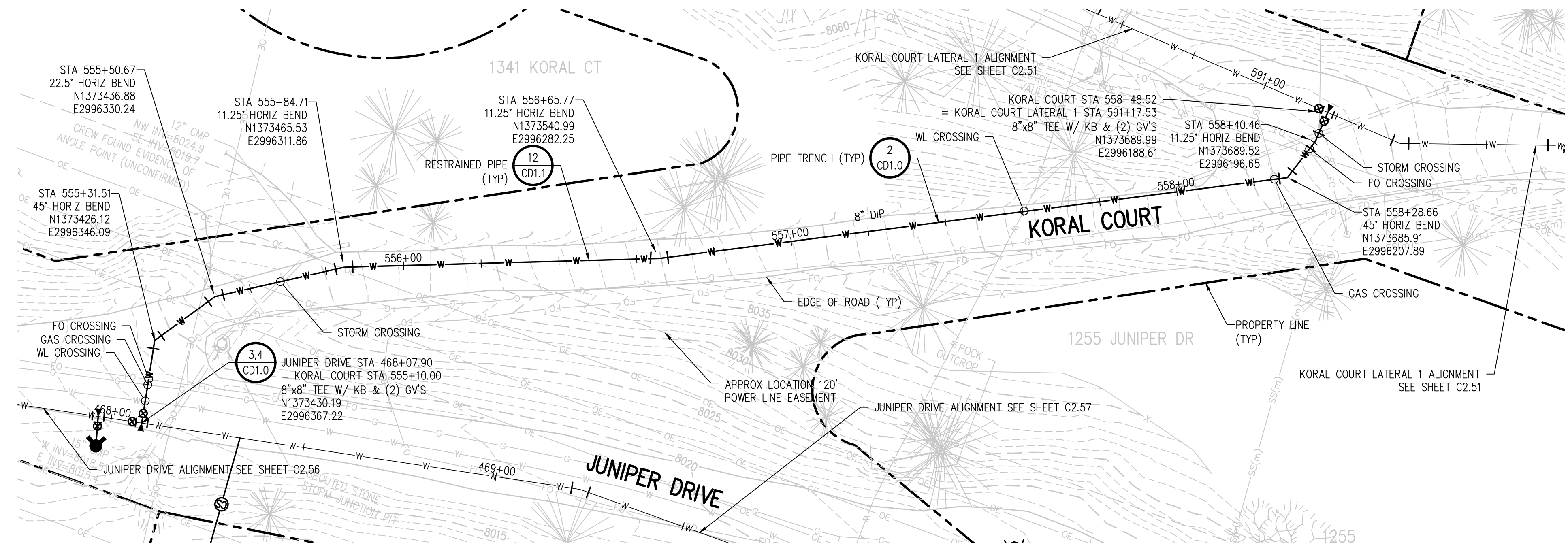
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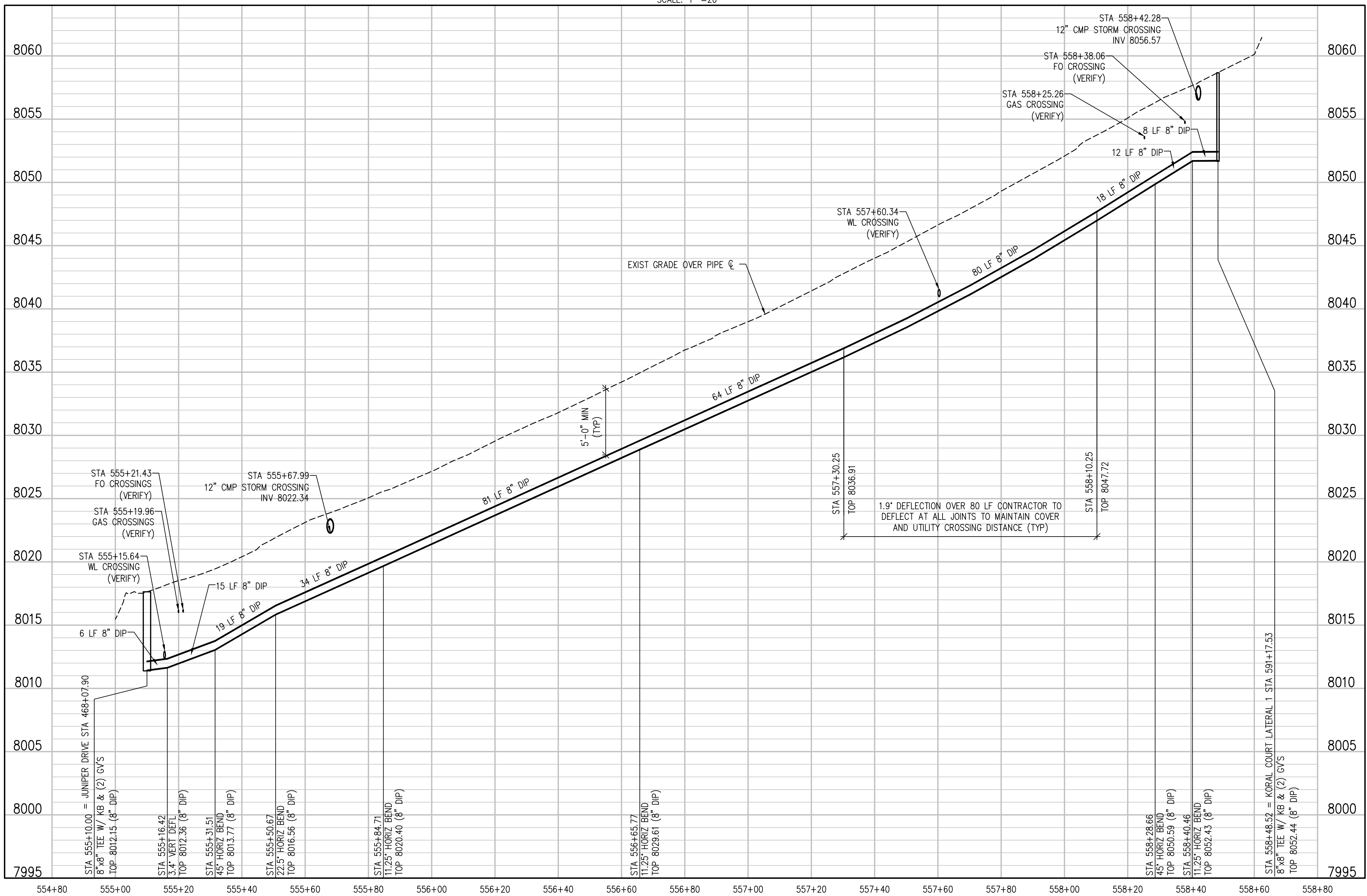
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KORAL COURT PLAN  
SCALE: 1" = 20'



KORAL COURT PROFILE

SCALE: 1" = 20' HORIZ  
1" = 5' VERT

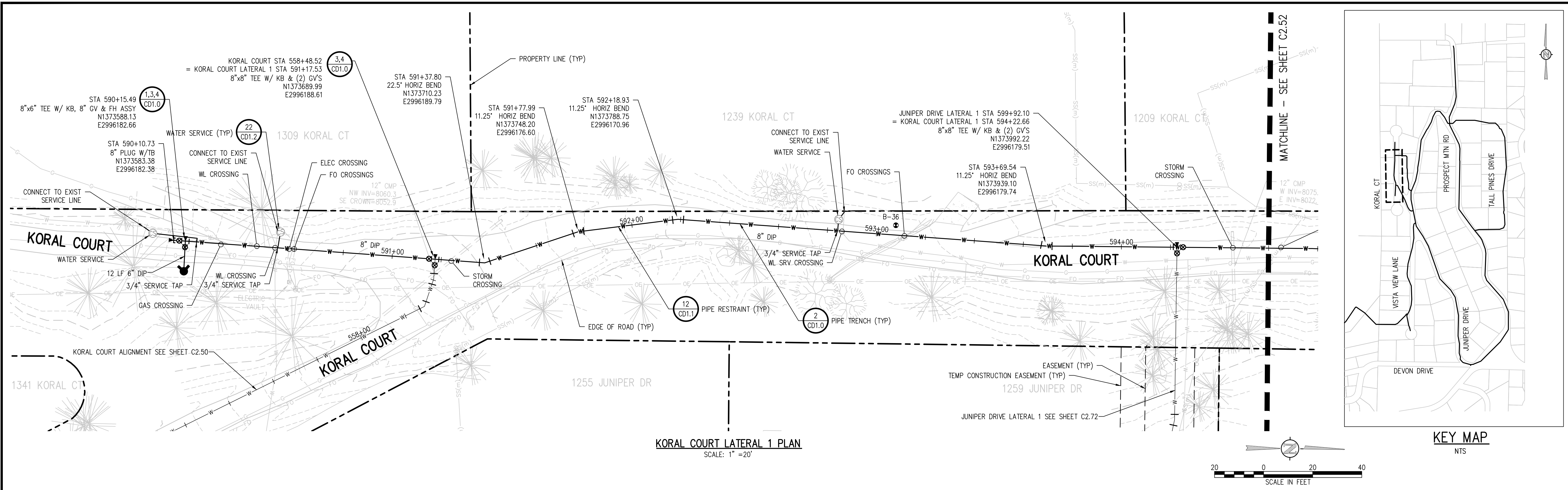
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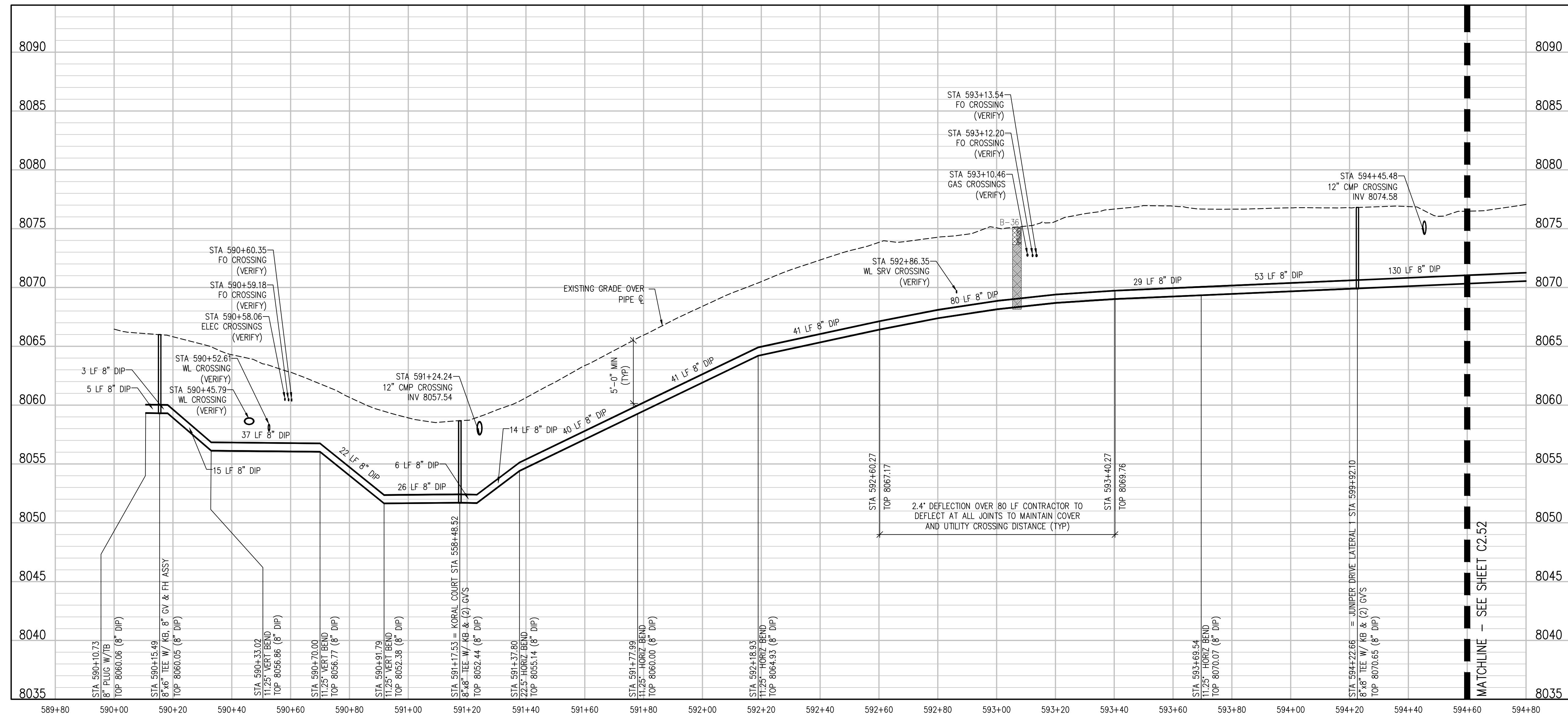
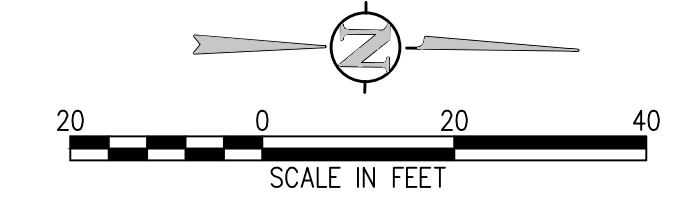
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 ESTES PARK, COLORADO  
 KORAL COURT PLAN AND PROFILE

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**KORAL COURT LATERAL 1 PLAN**  
 SCALE: 1" = 20'



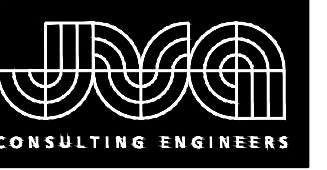
**KORAL COURT LATERAL 1 PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

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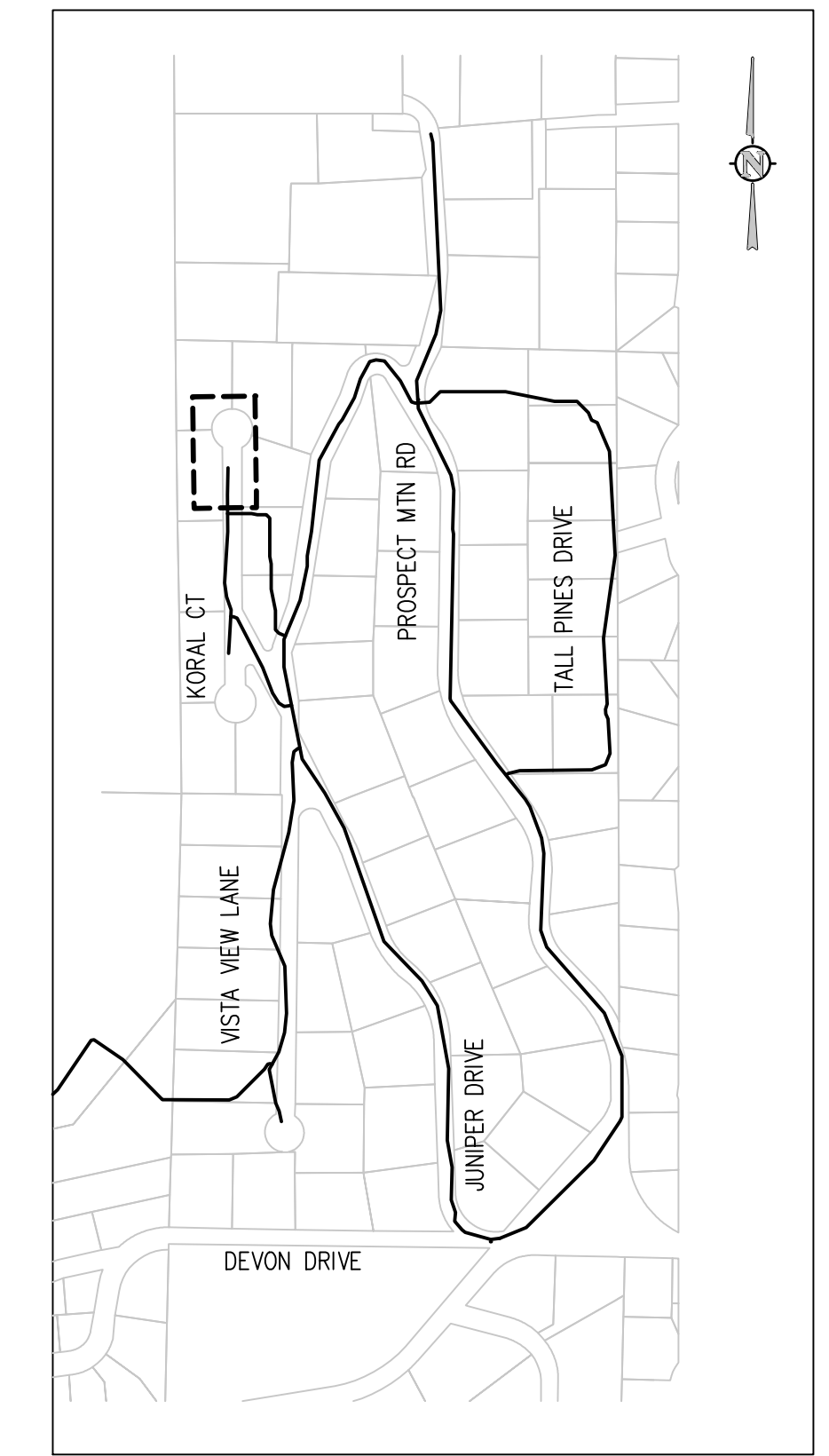
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 ESTES PARK, COLORADO  
 KORAL COURT LATERAL 1  
 PLAN AND PROFILE

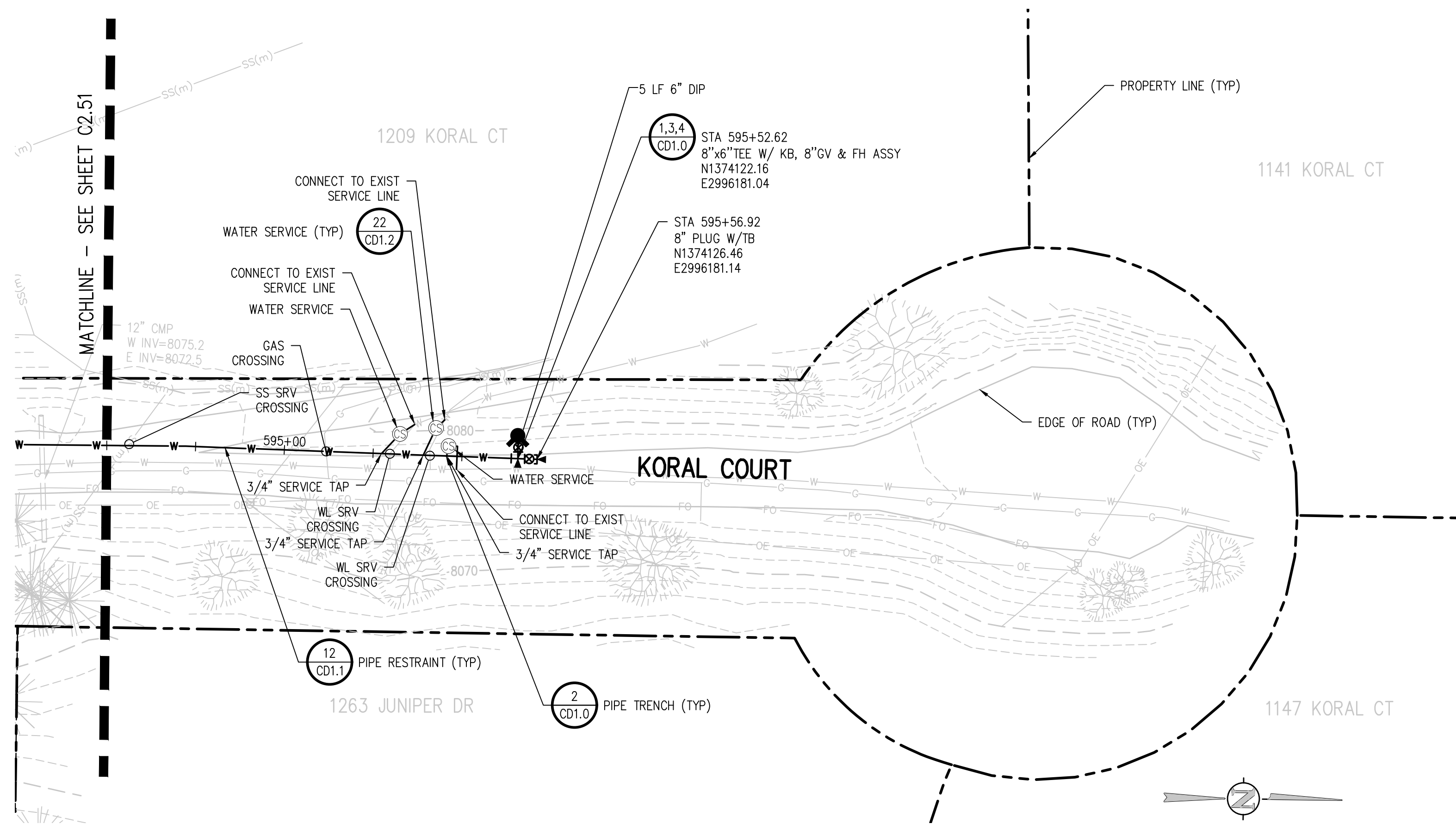
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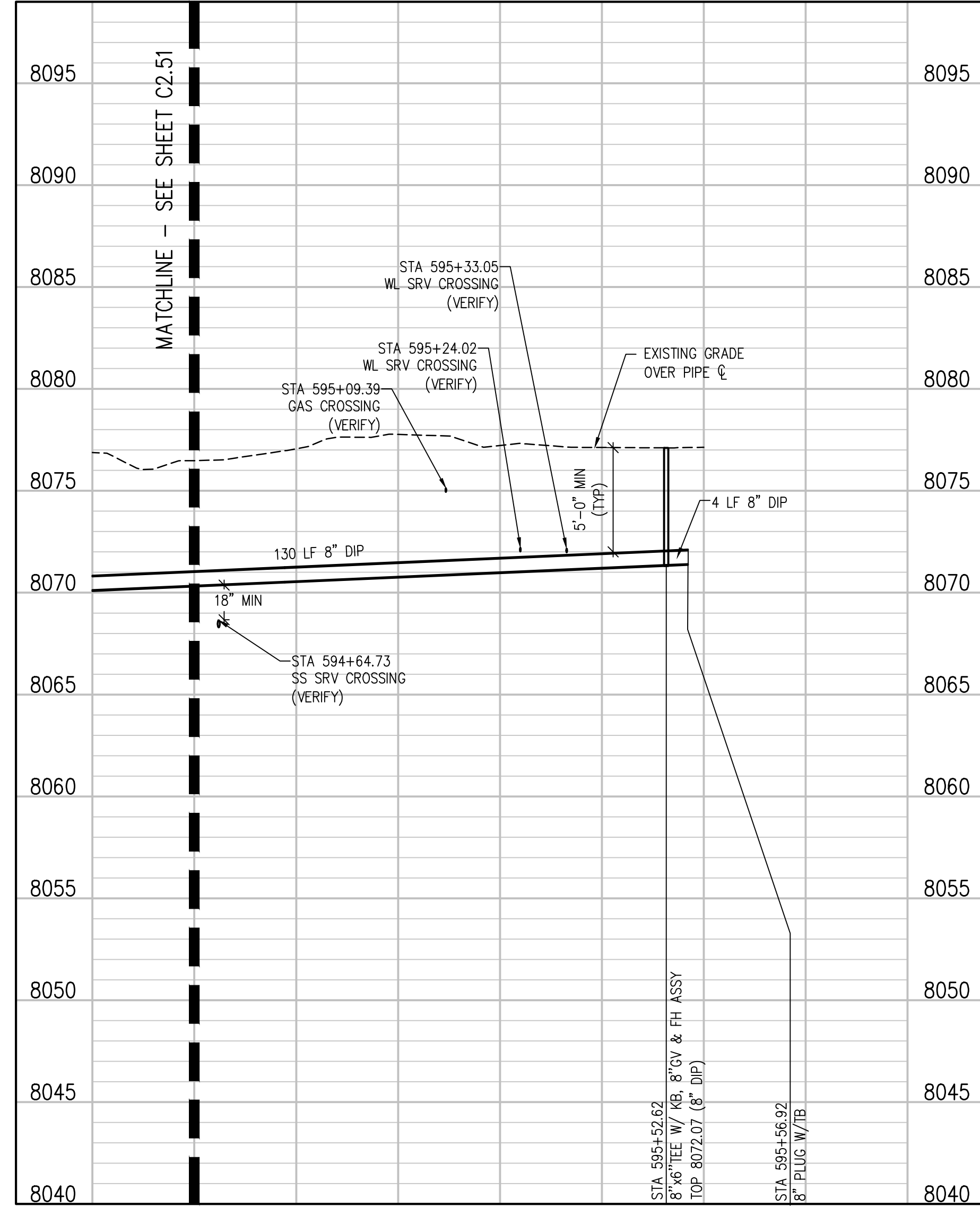
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KORAL COURT LATERAL 1 PLAN  
 SCALE: 1" = 20'



KORAL COURT LATERAL 1 PROFILE

SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

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 KORAL COURT LATERAL 1  
 PLAN AND PROFILE

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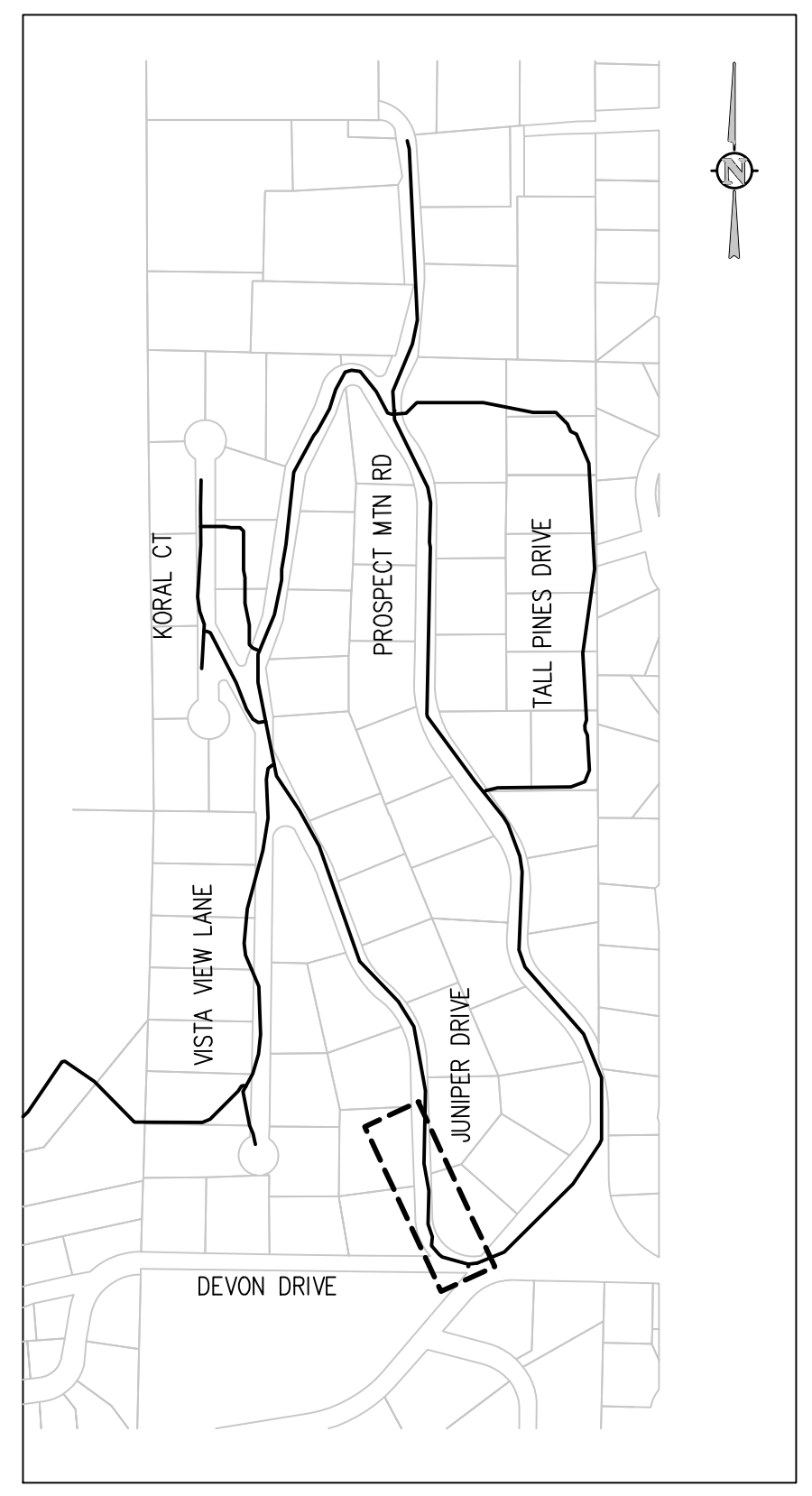
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NO.	DATE	DES'D	DWN

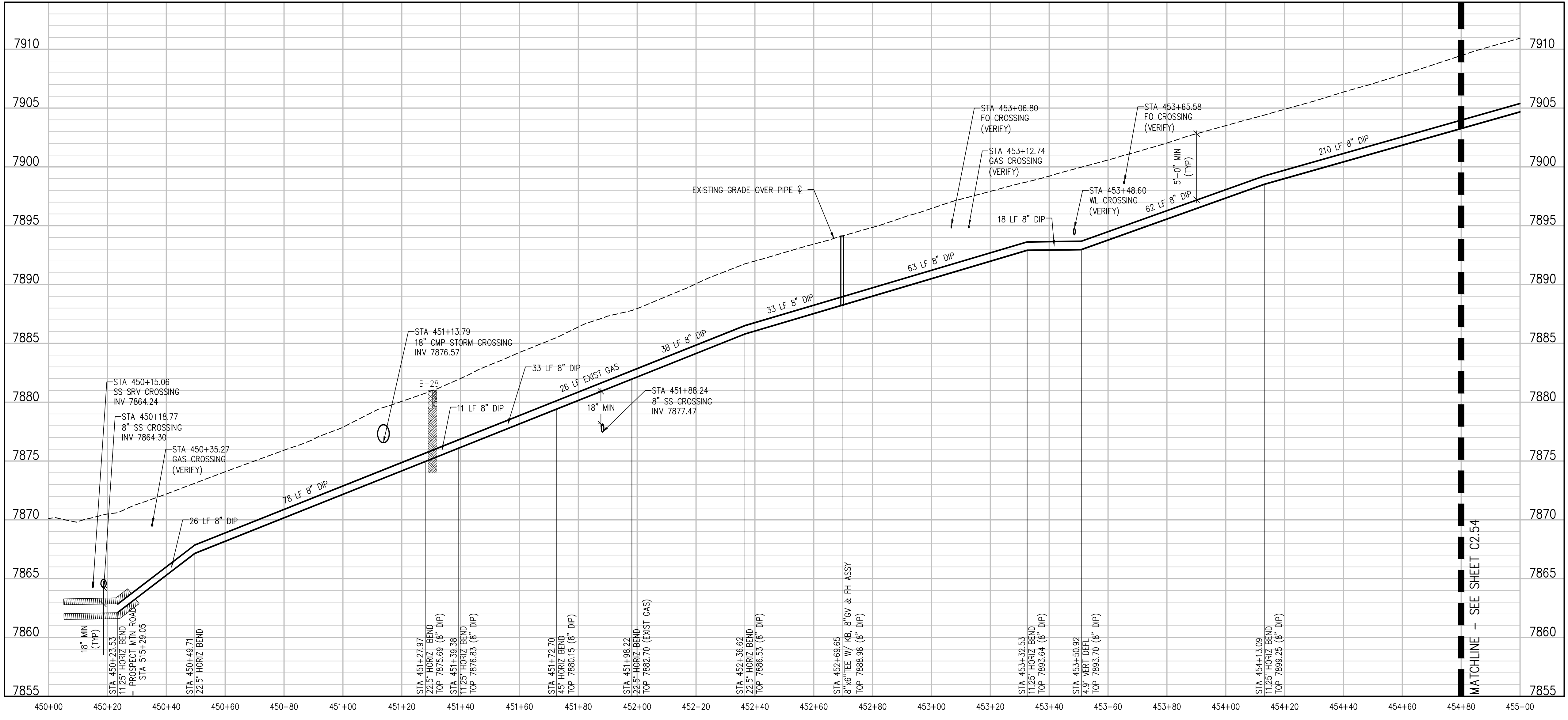
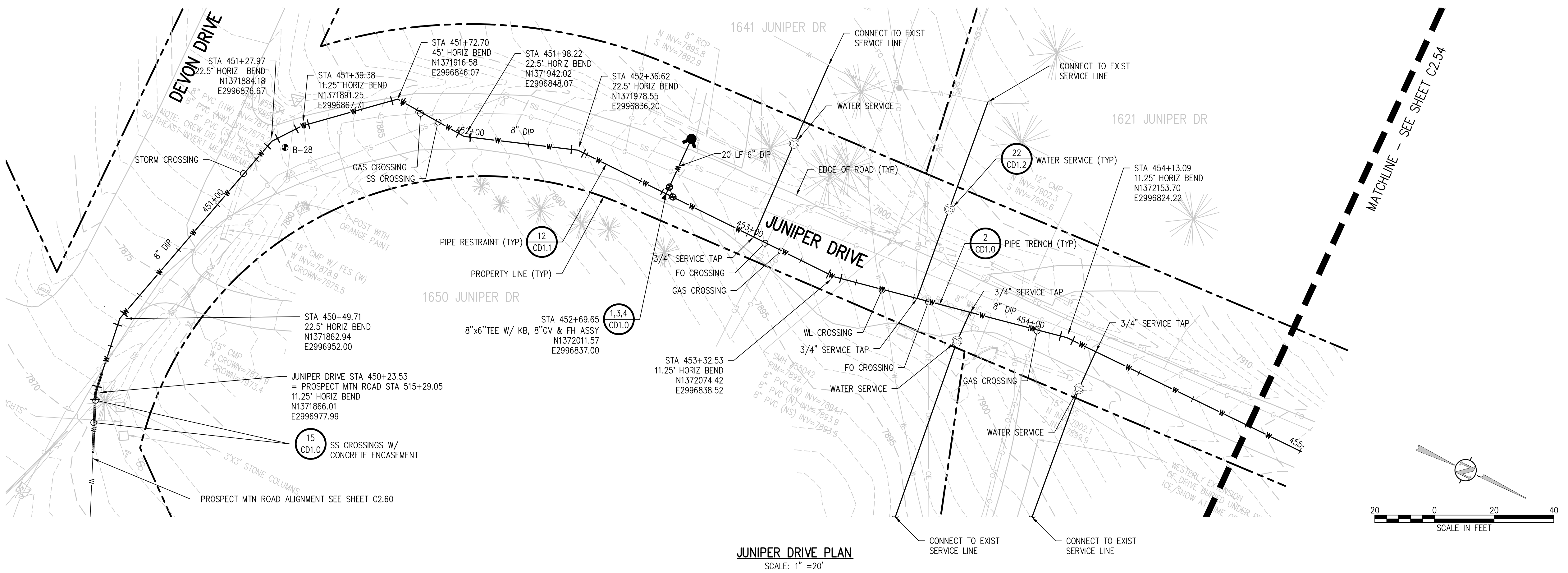
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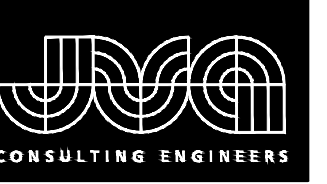
PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM ESTES PARK, COLORADO
JUNIPER DRIVE PLAN AND PROFILE



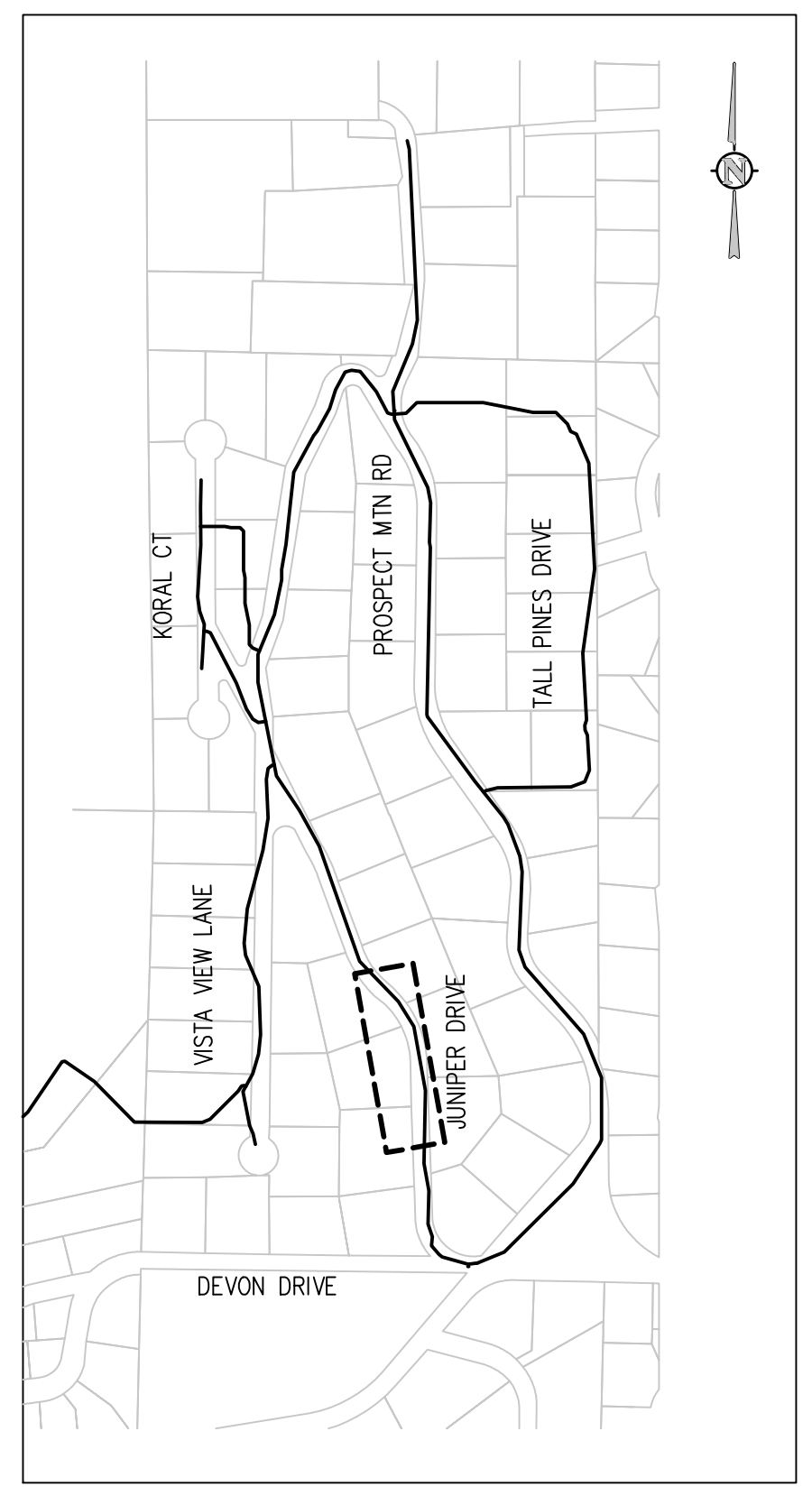
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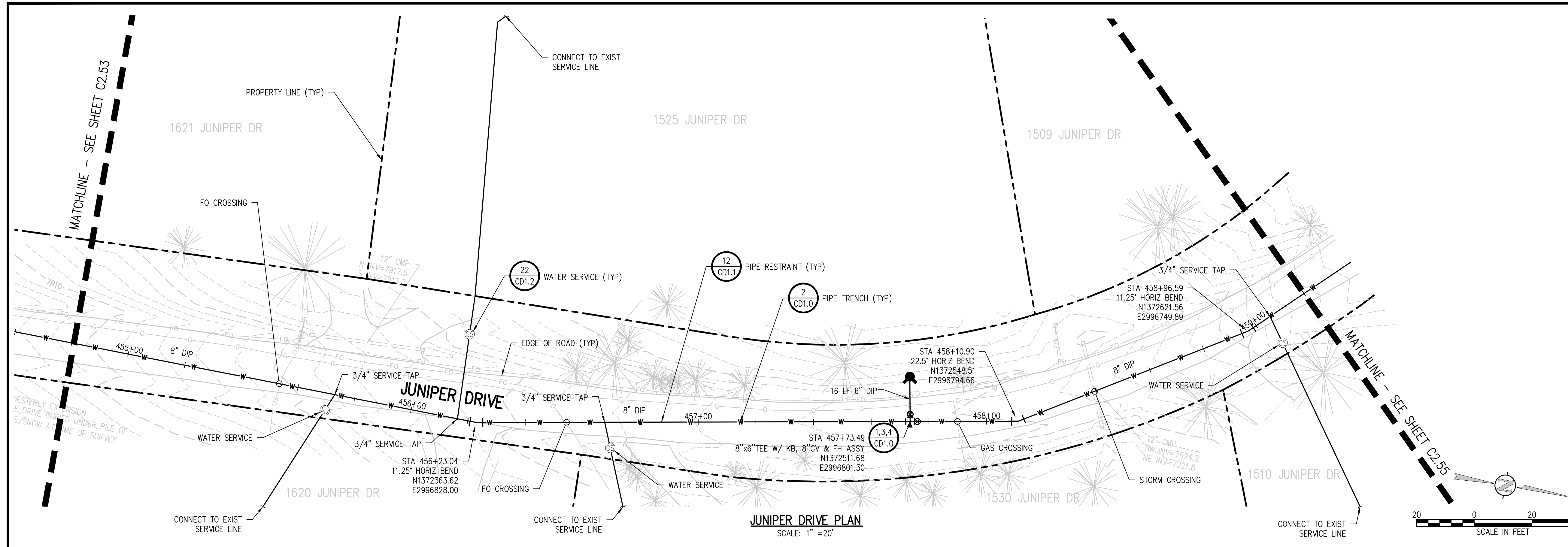
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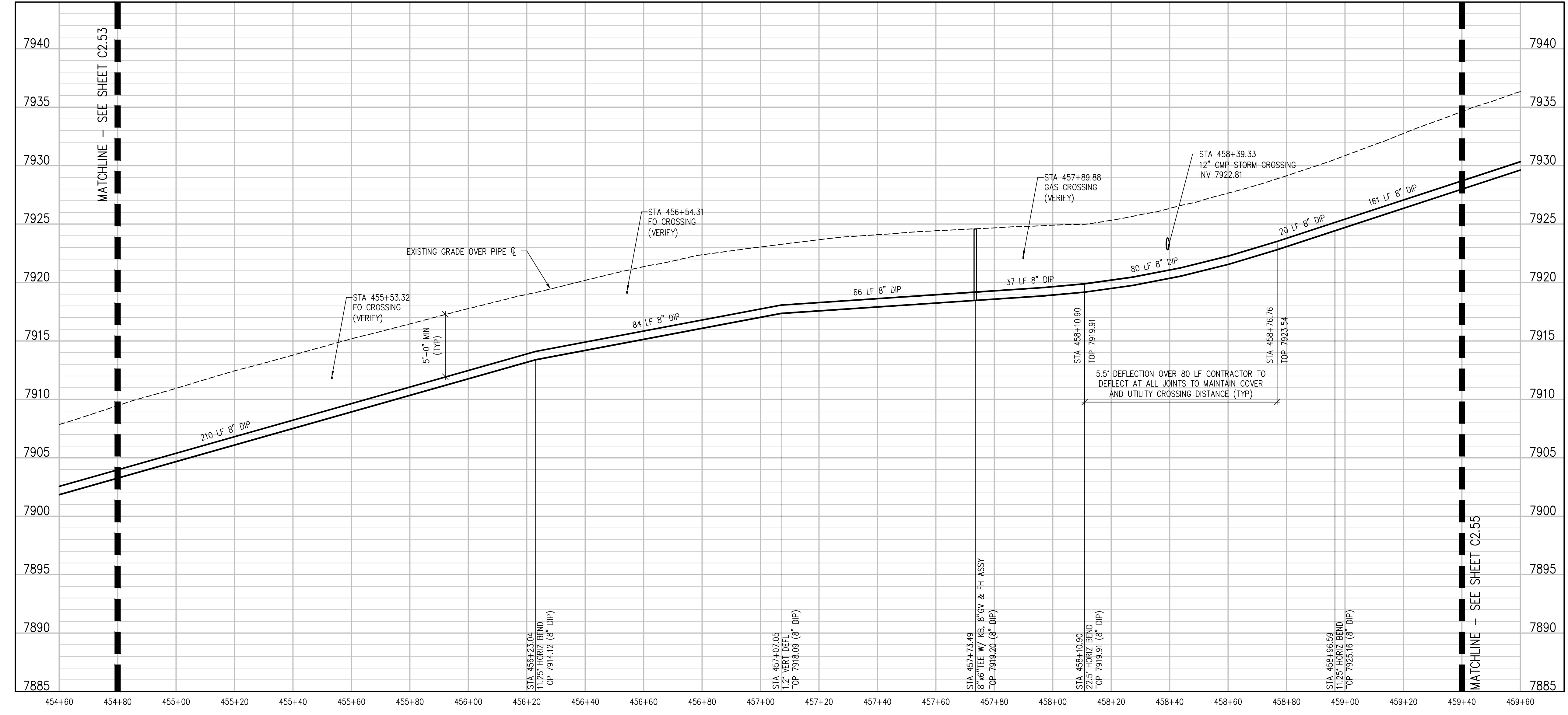
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JUNIPER DRIVE PLAN  
SCALE: 1" = 20'



JUNIPER DRIVE PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

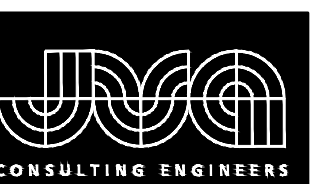
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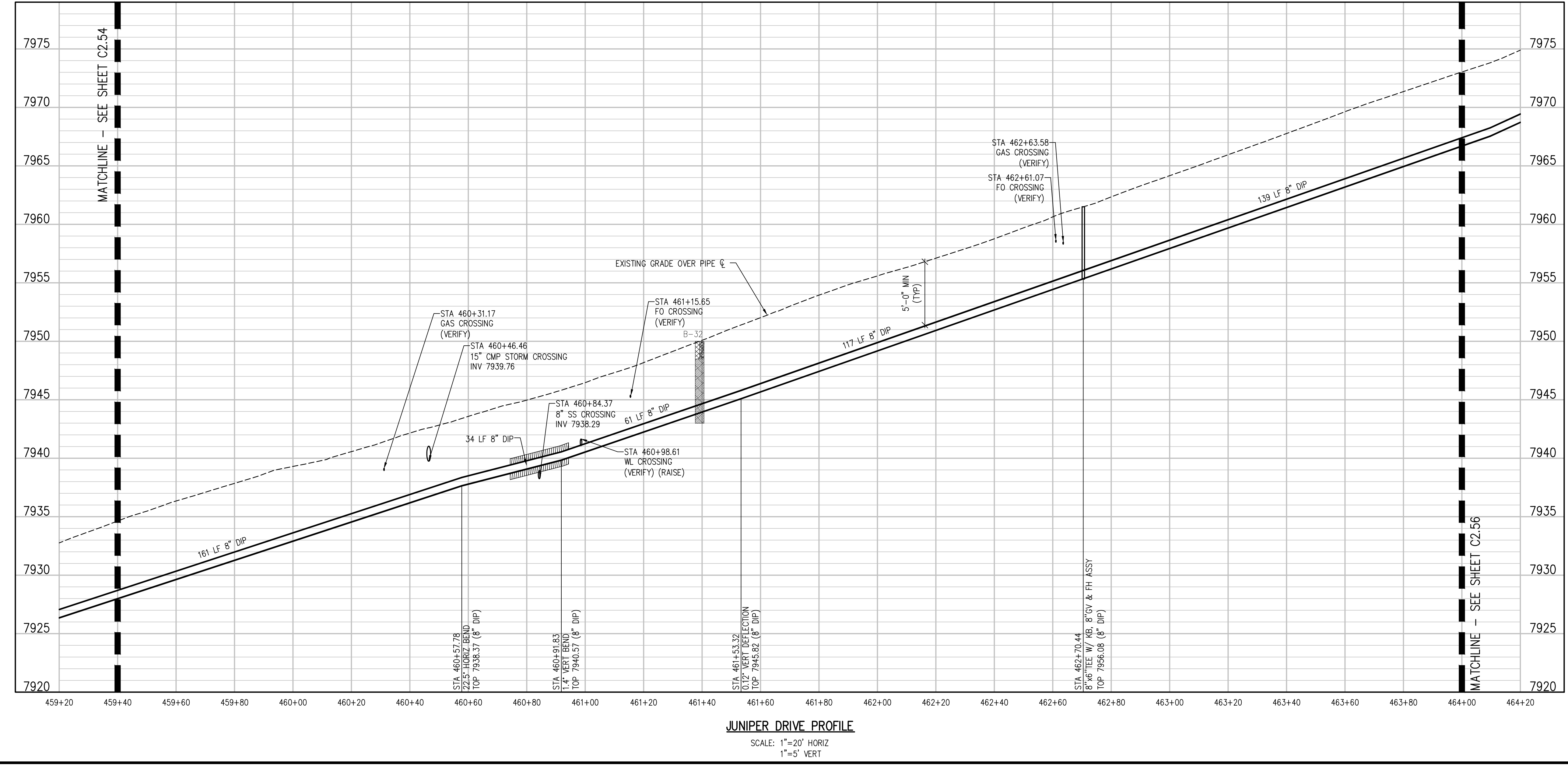
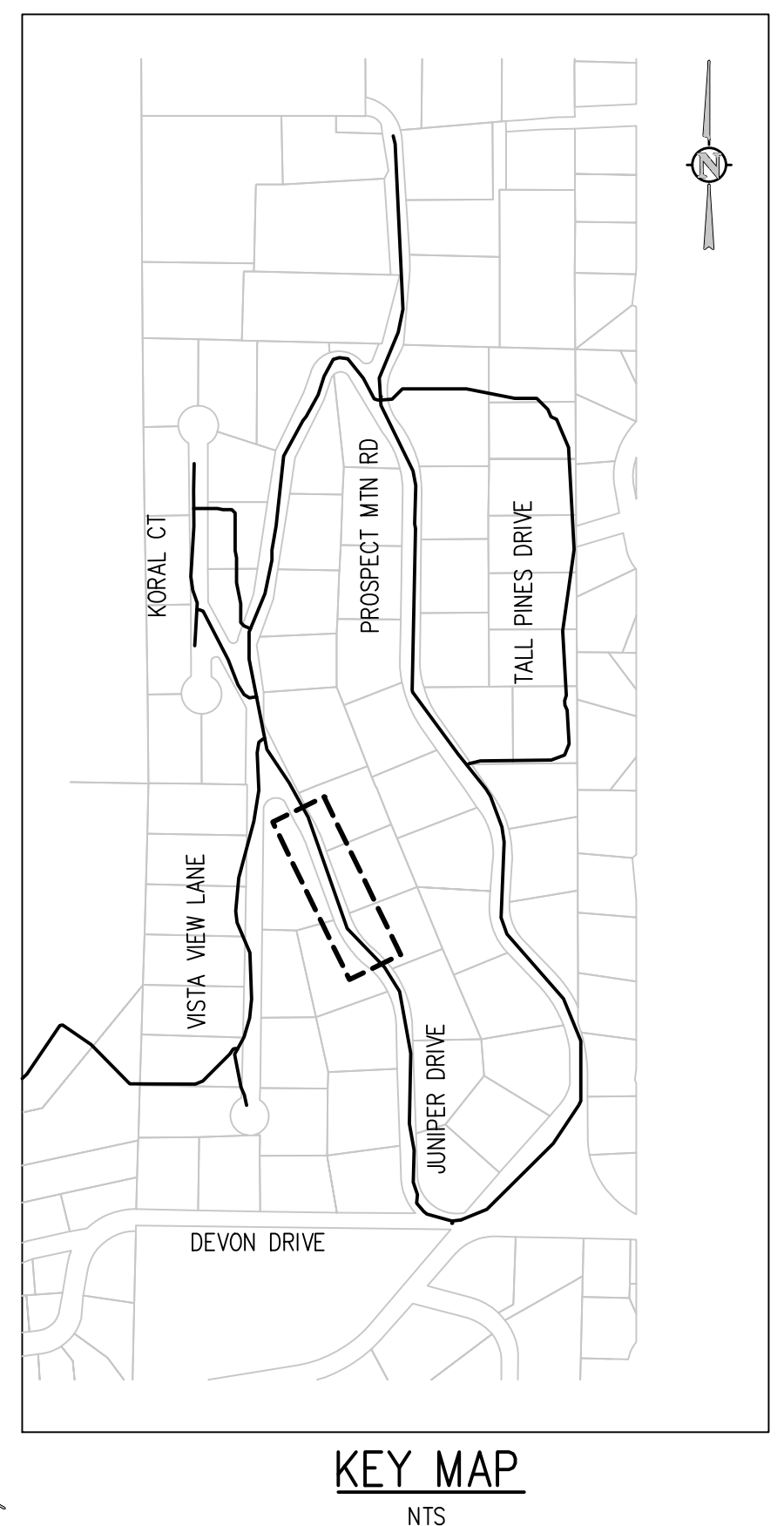
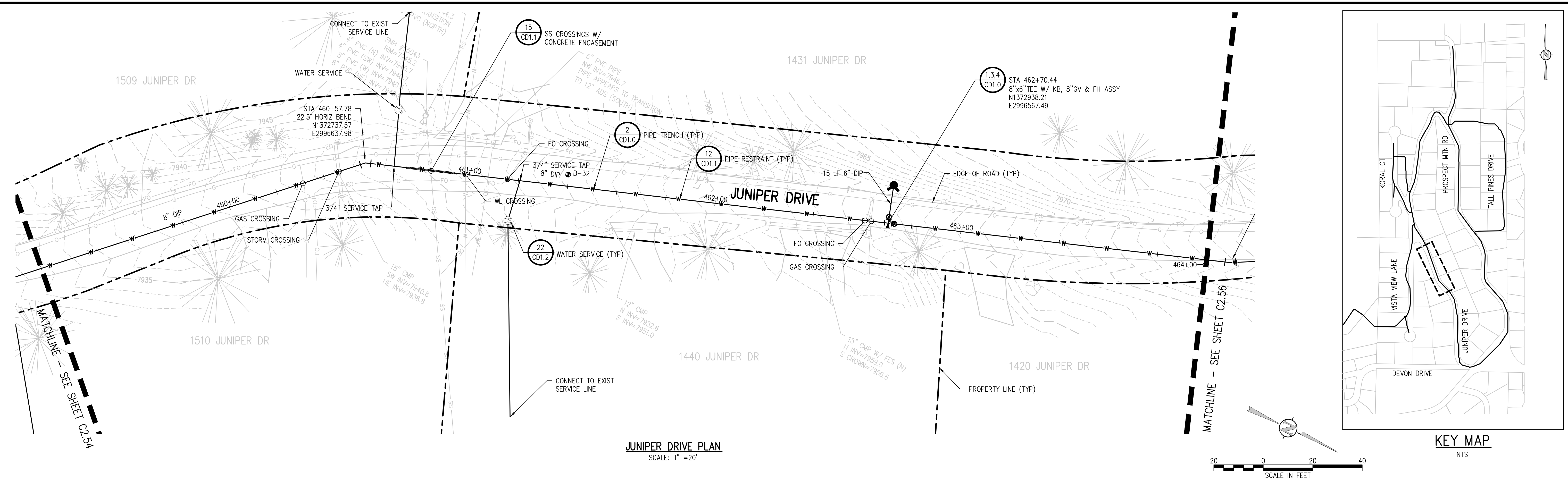
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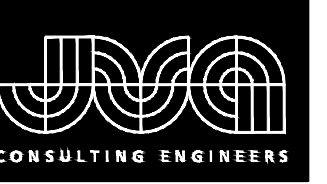
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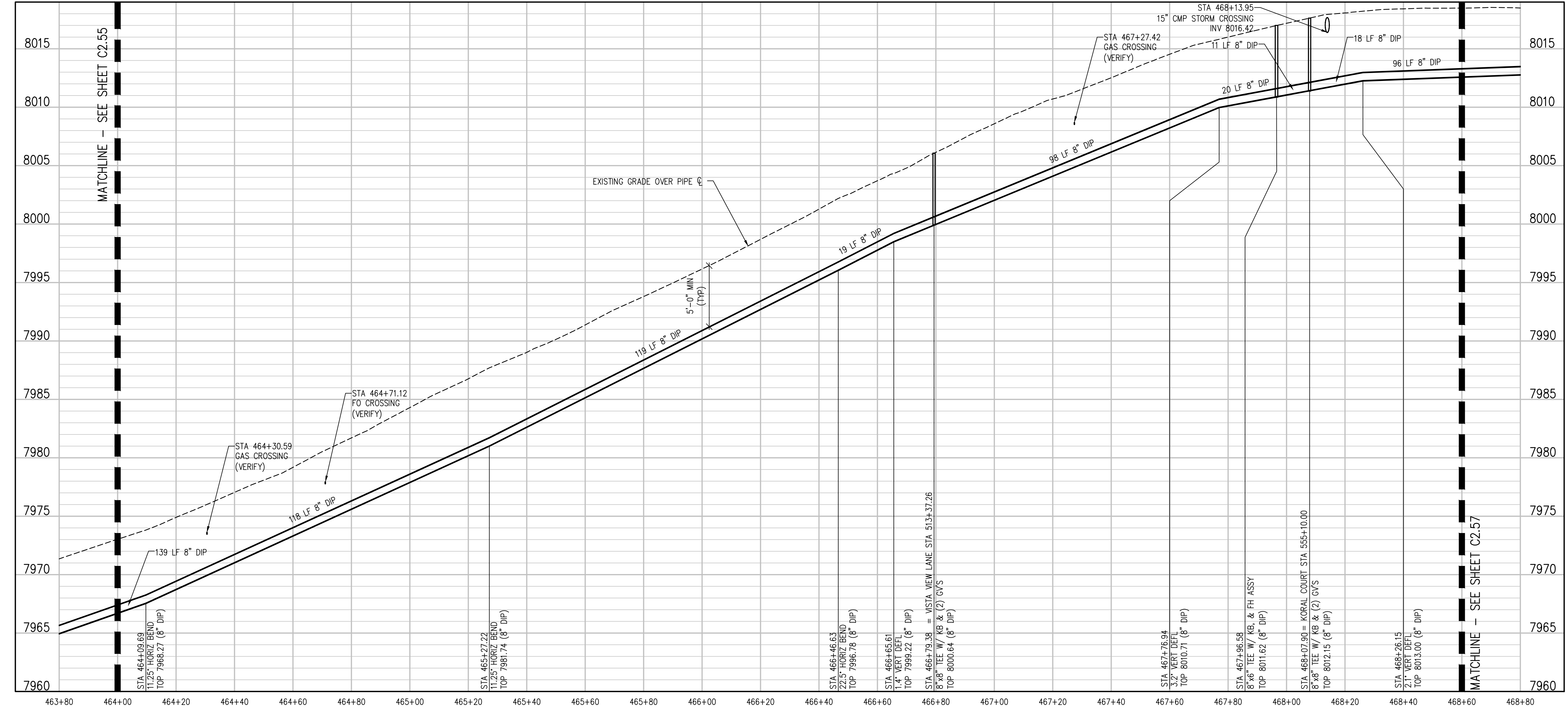
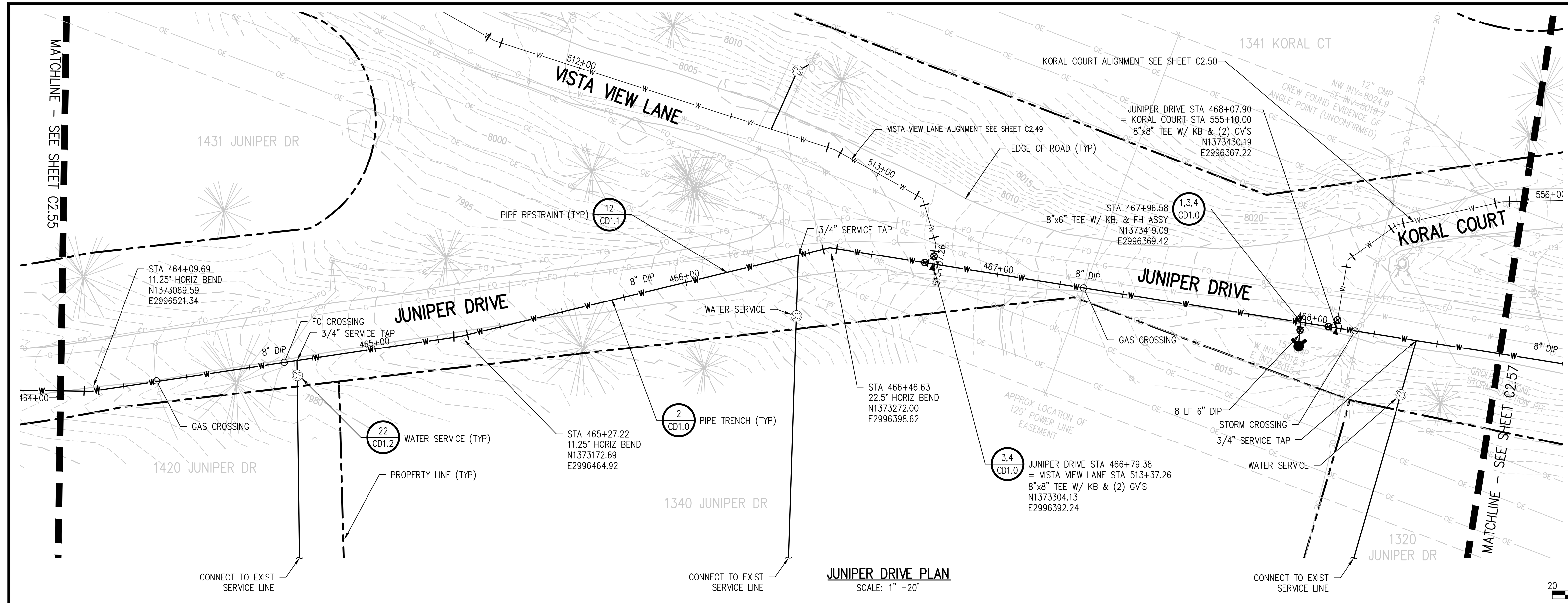
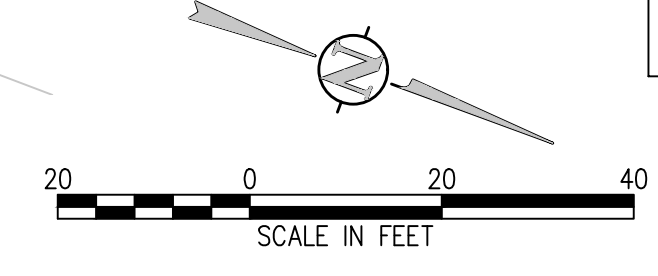
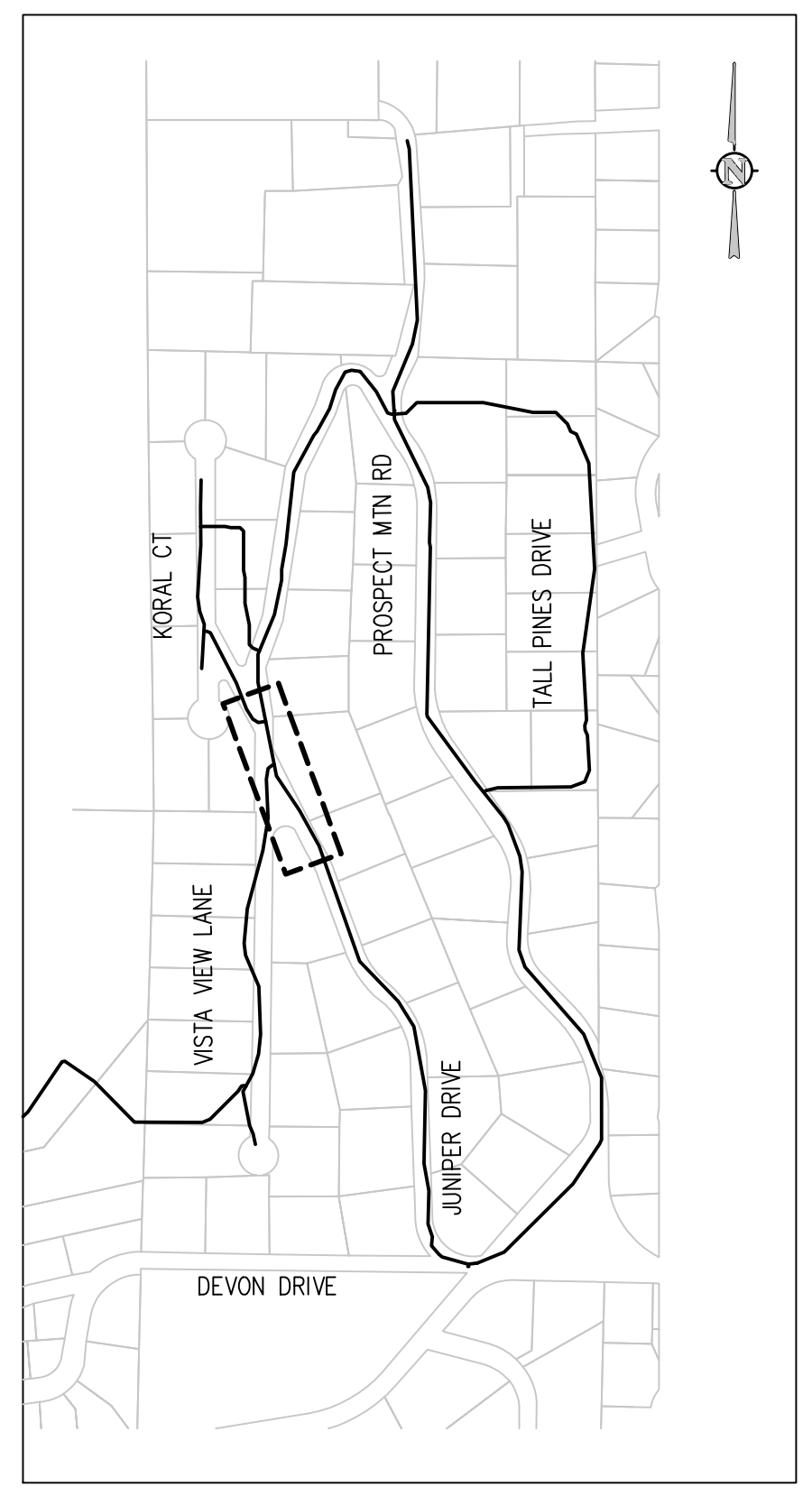


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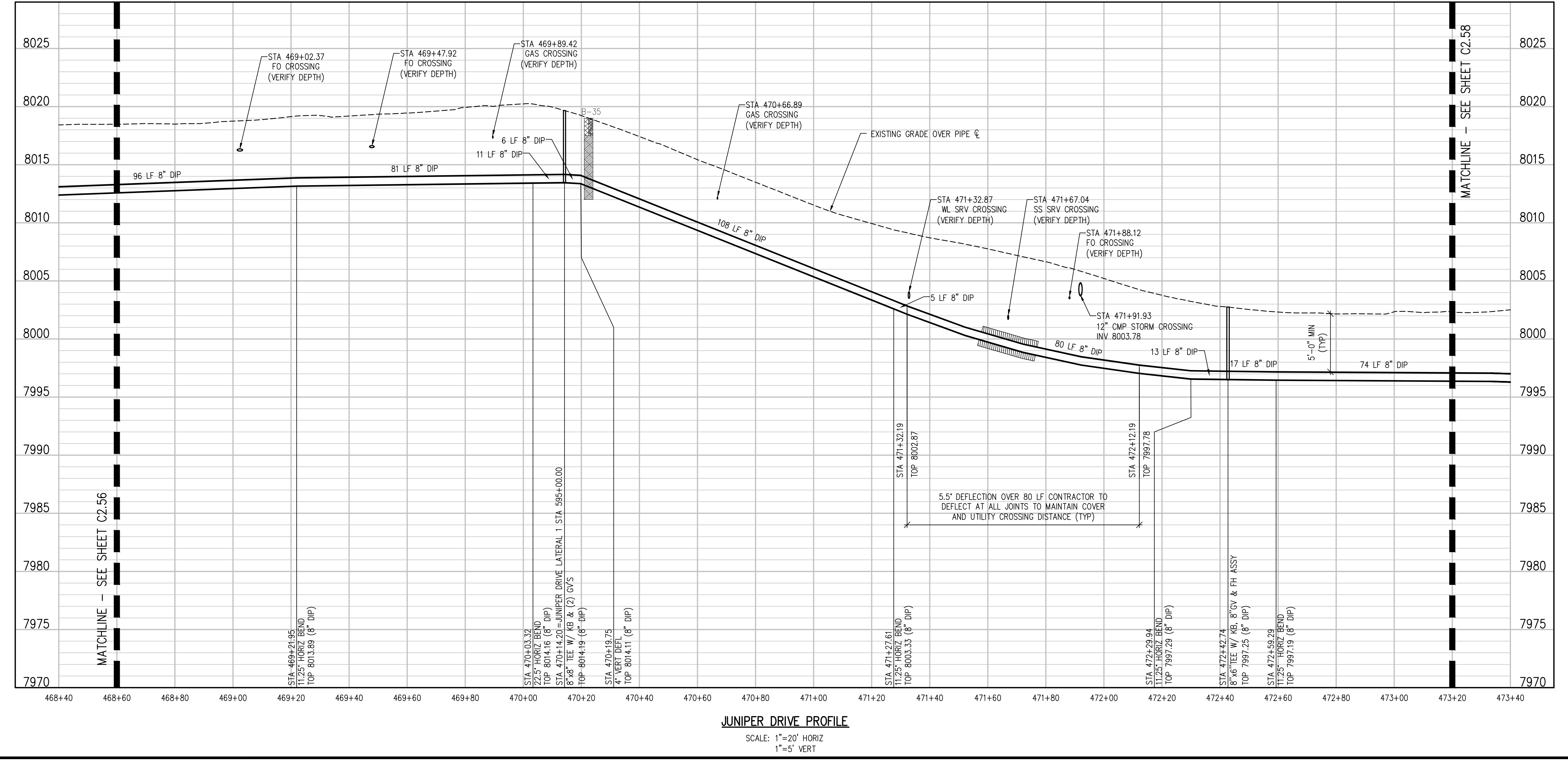
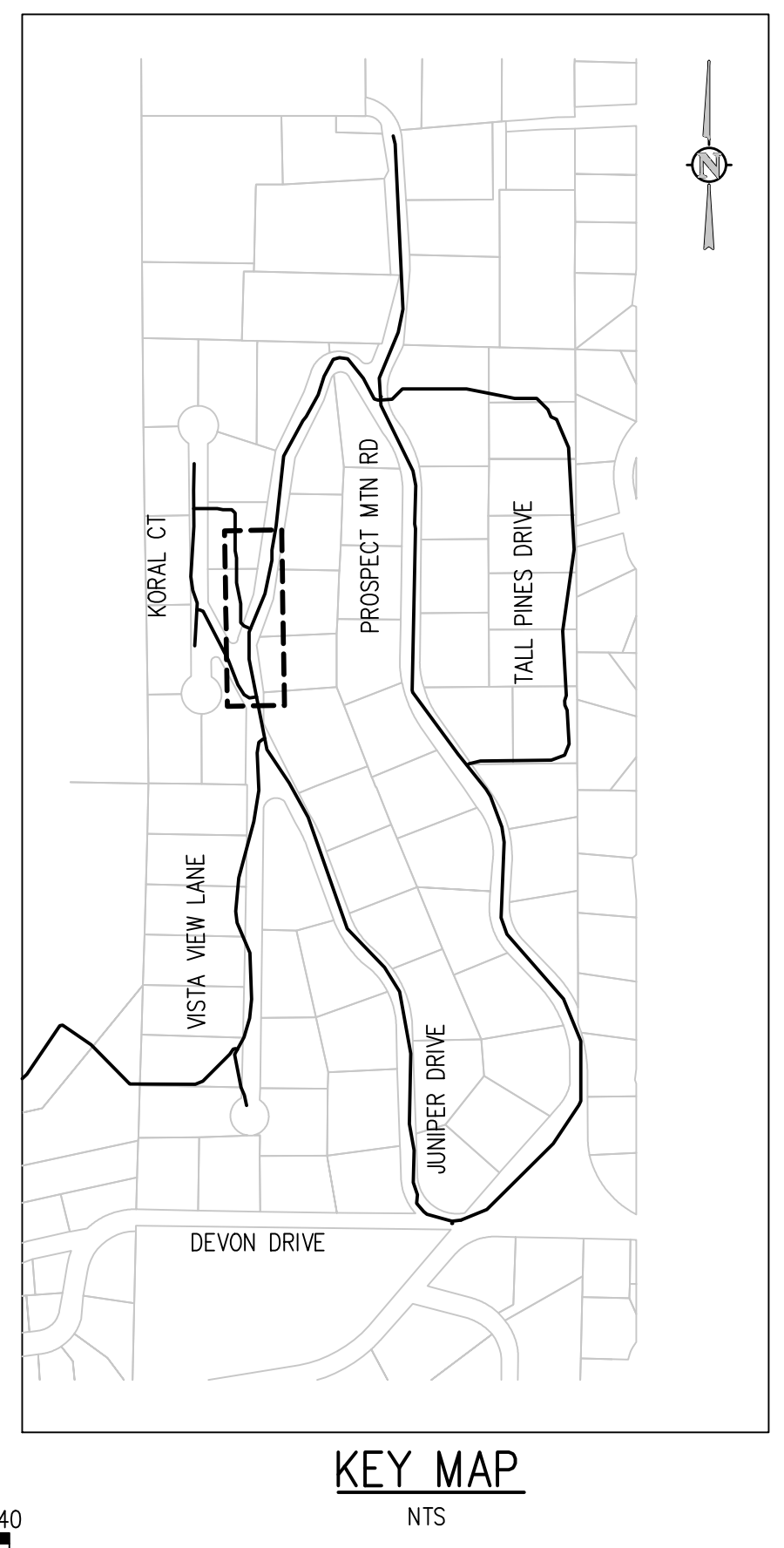
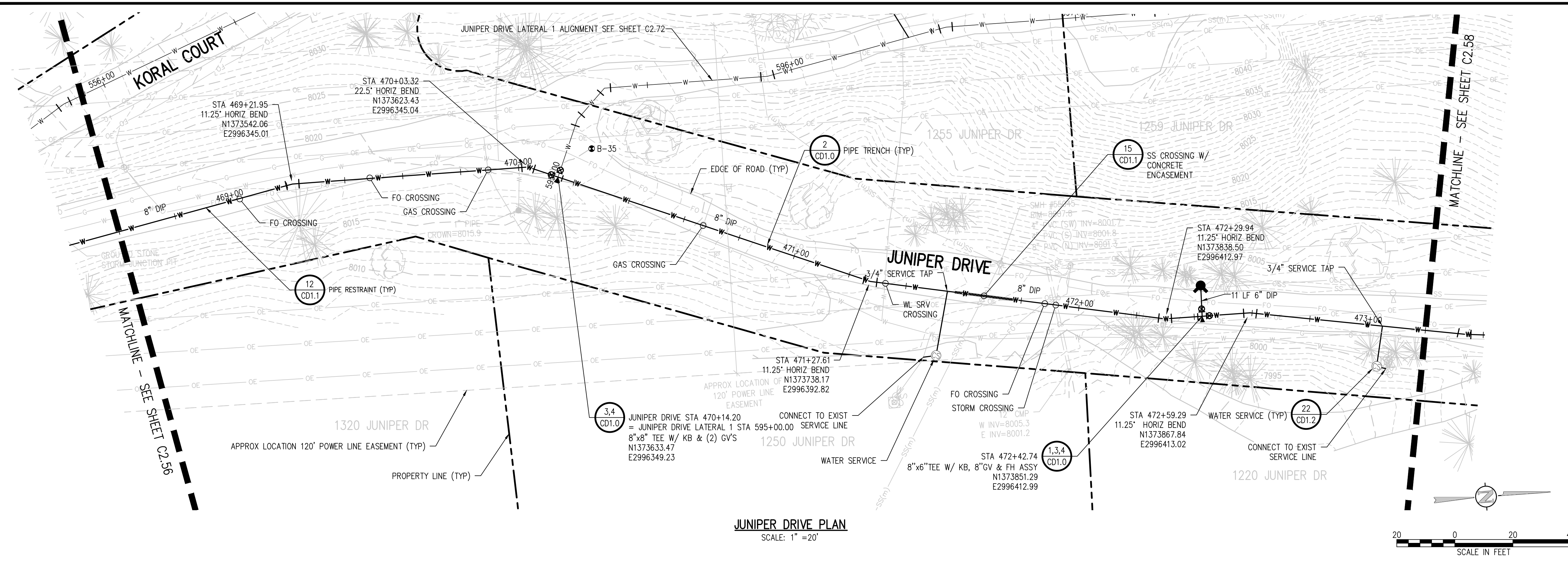
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JUNIPER DRIVE PLAN AND PROFILE

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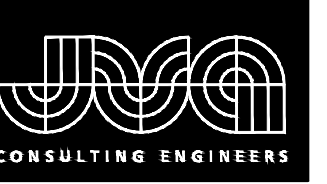
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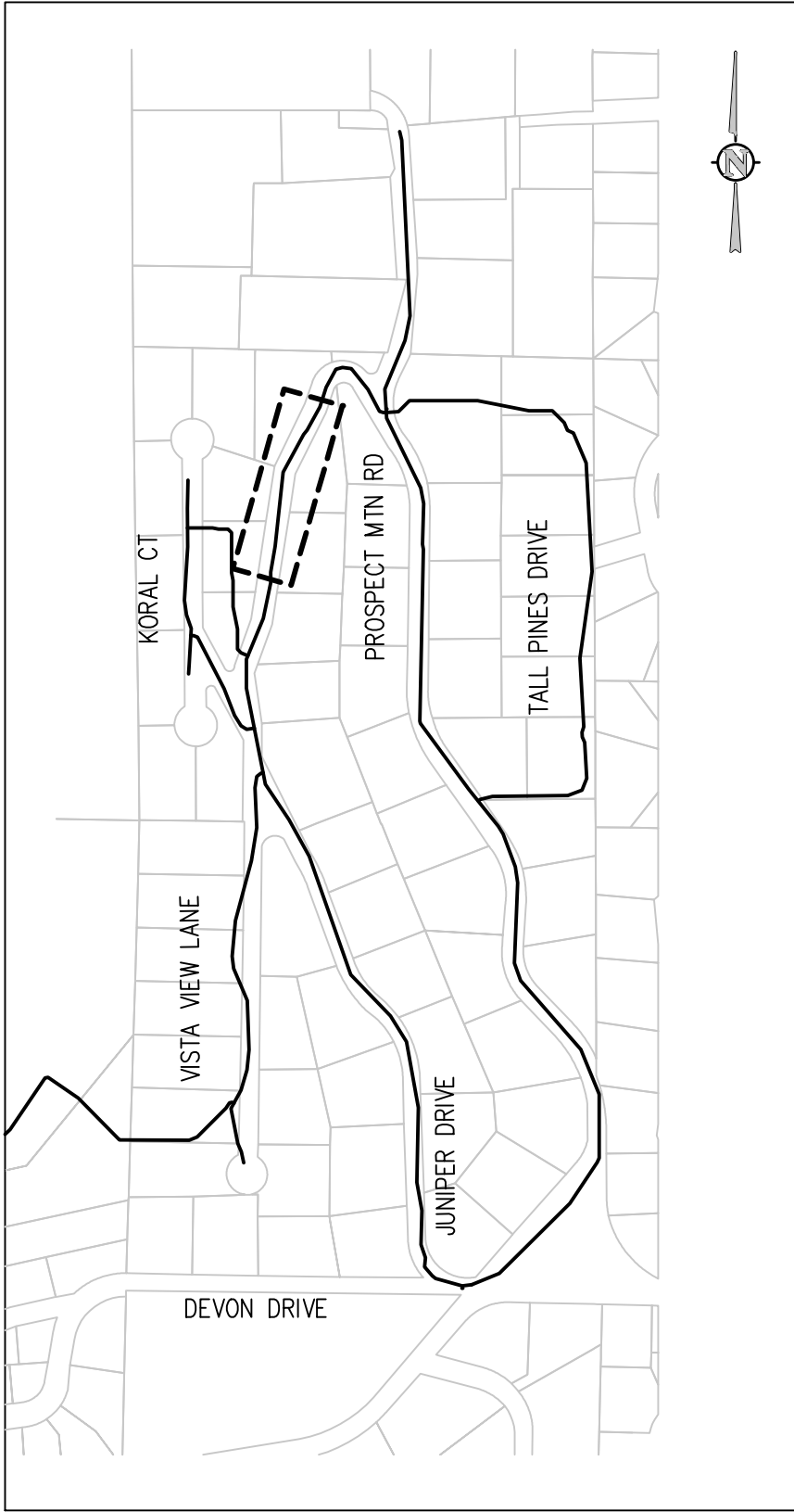
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 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO**

**JUNIPER DRIVE PLAN AND PROFILE**

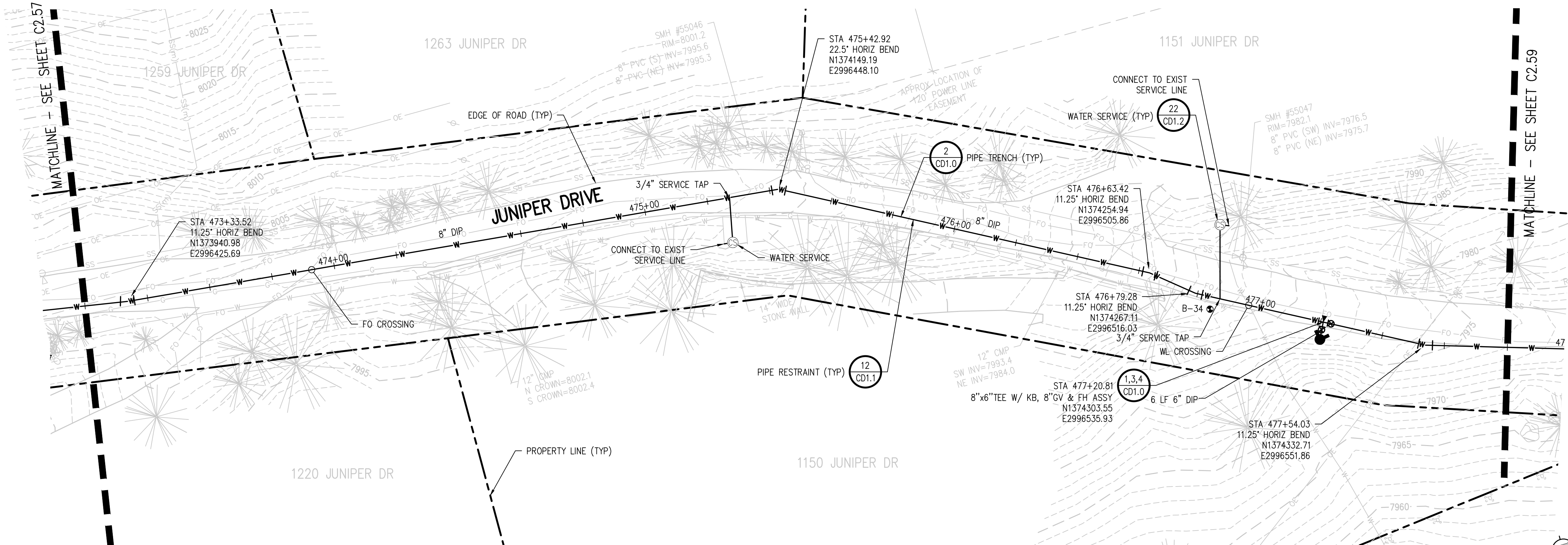
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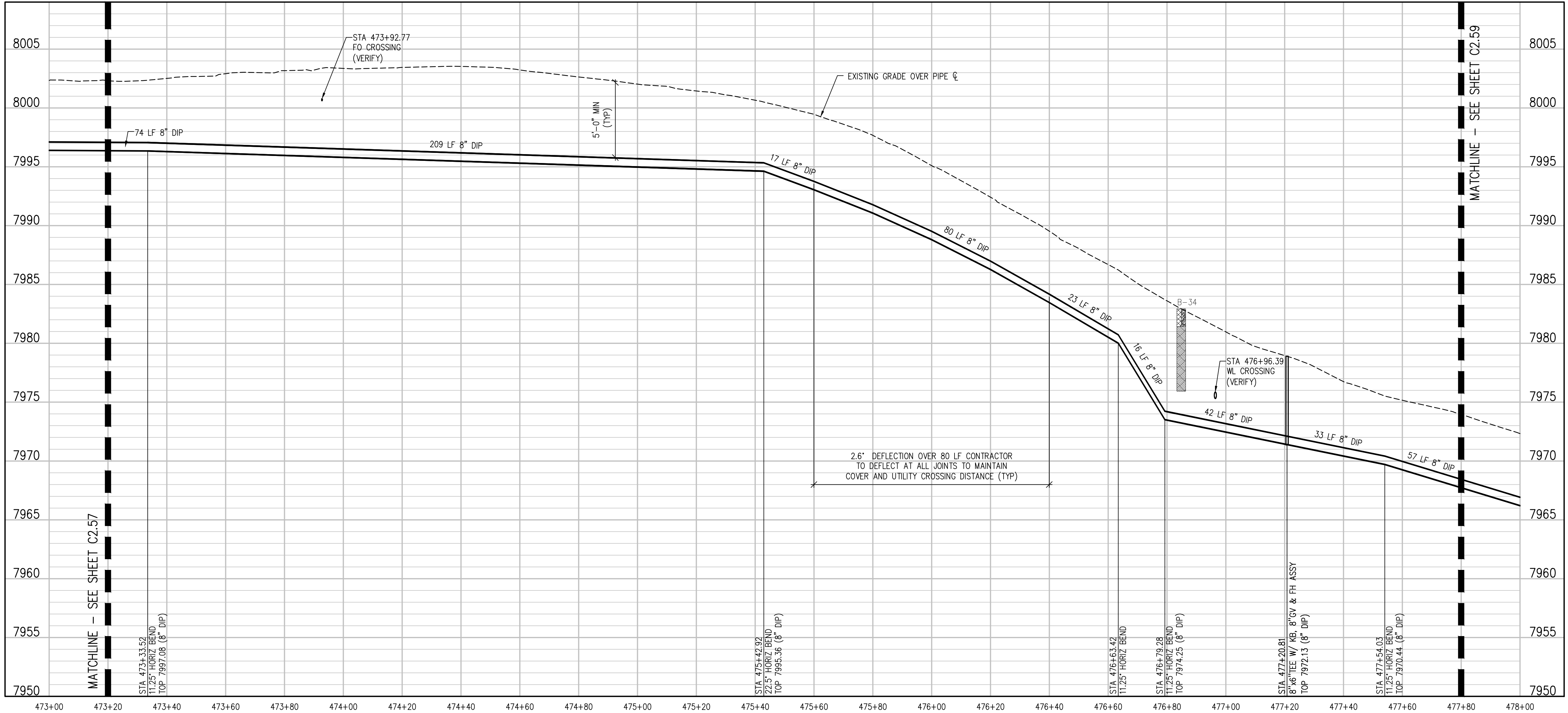
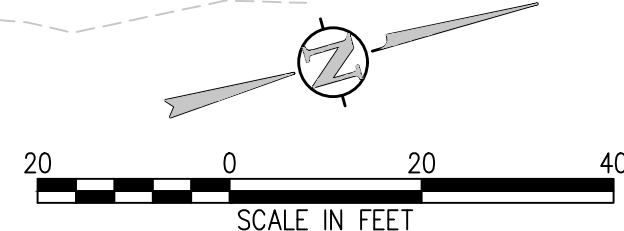
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JUNIPER DRIVE PLAN  
SCALE: 1" = 20'



JUNIPER DRIVE PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

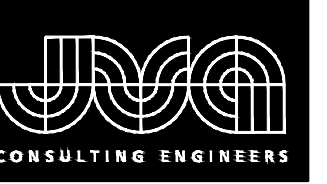
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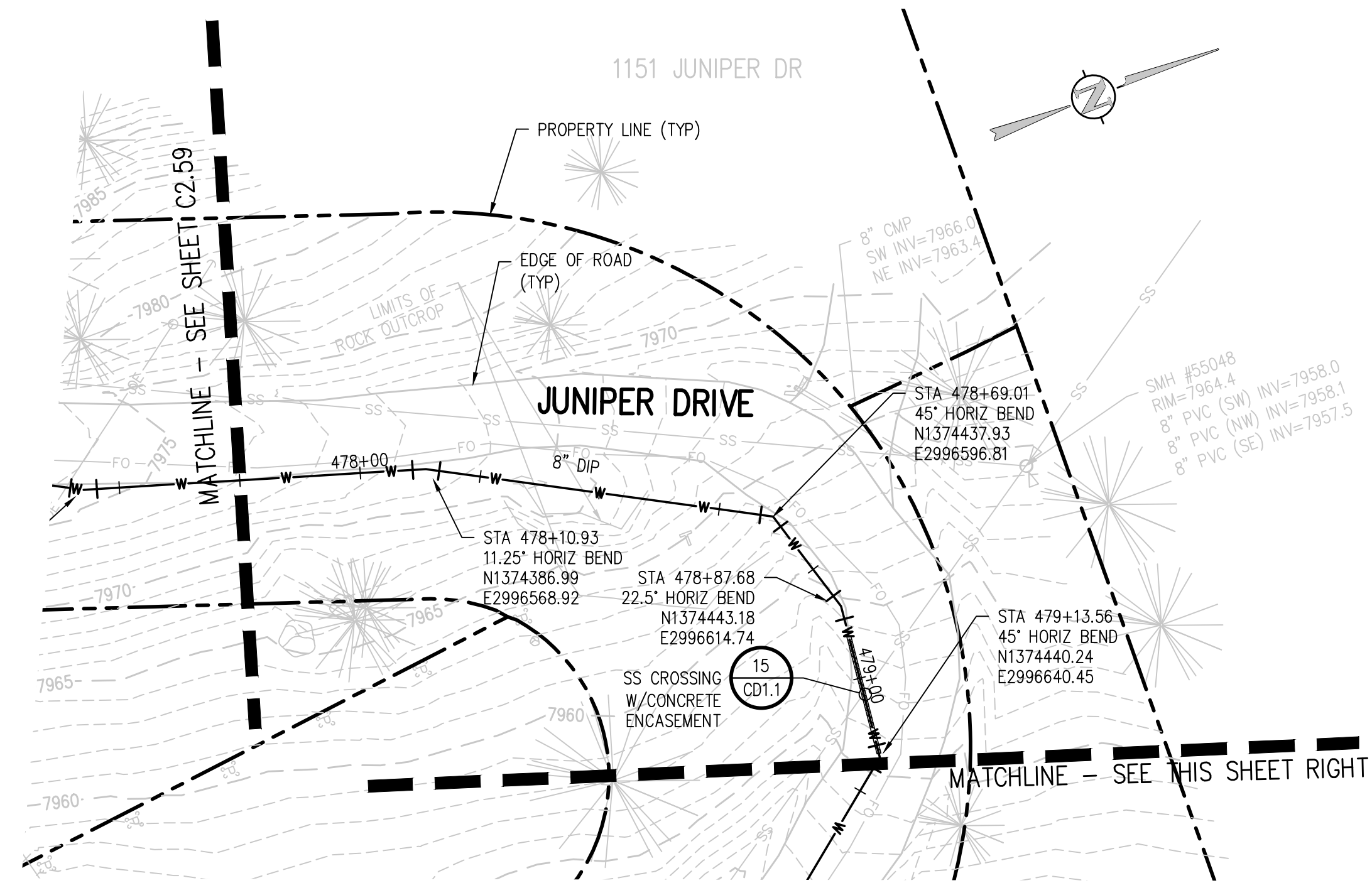
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SHEET NO.  
C2.58

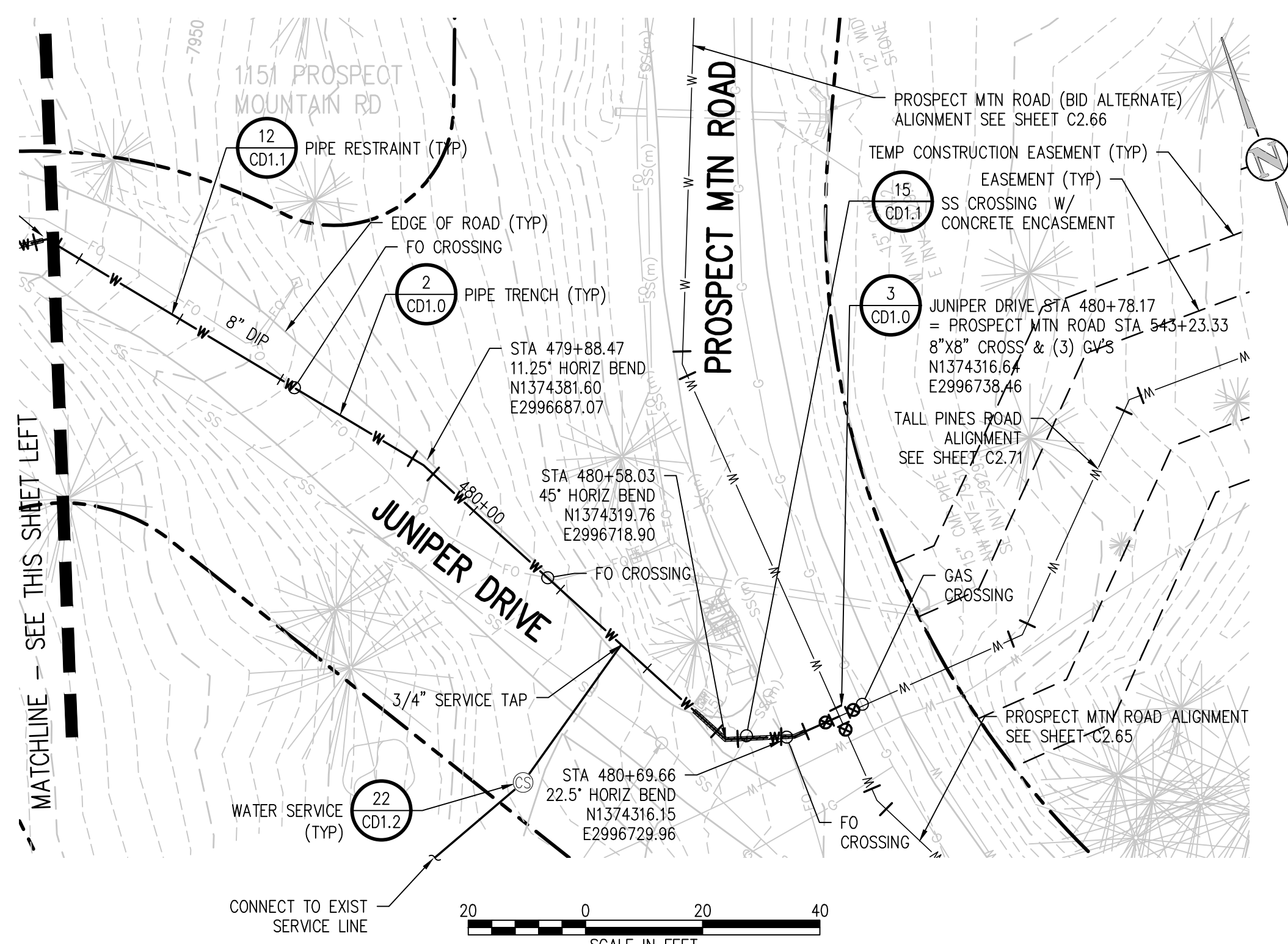
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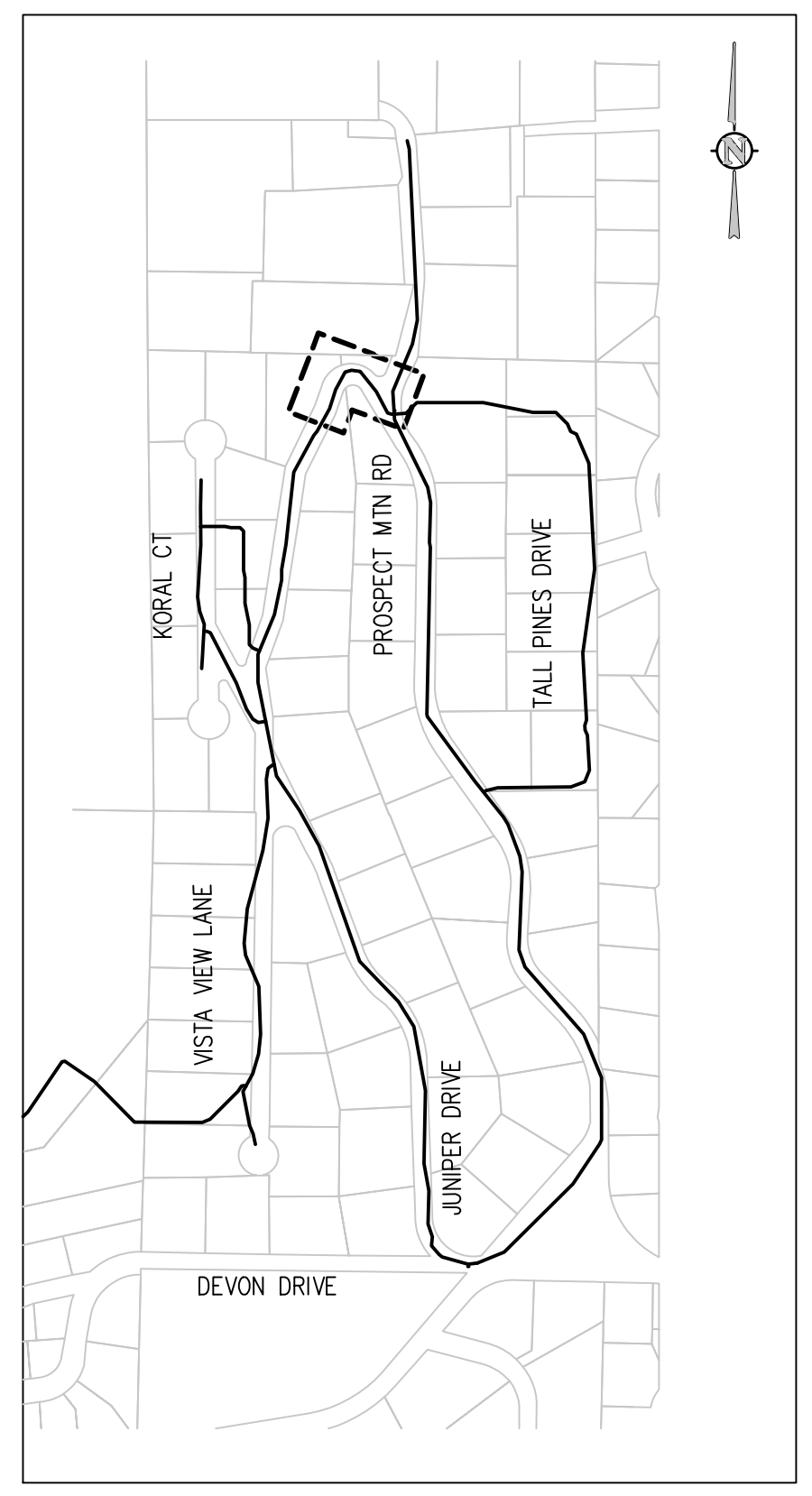
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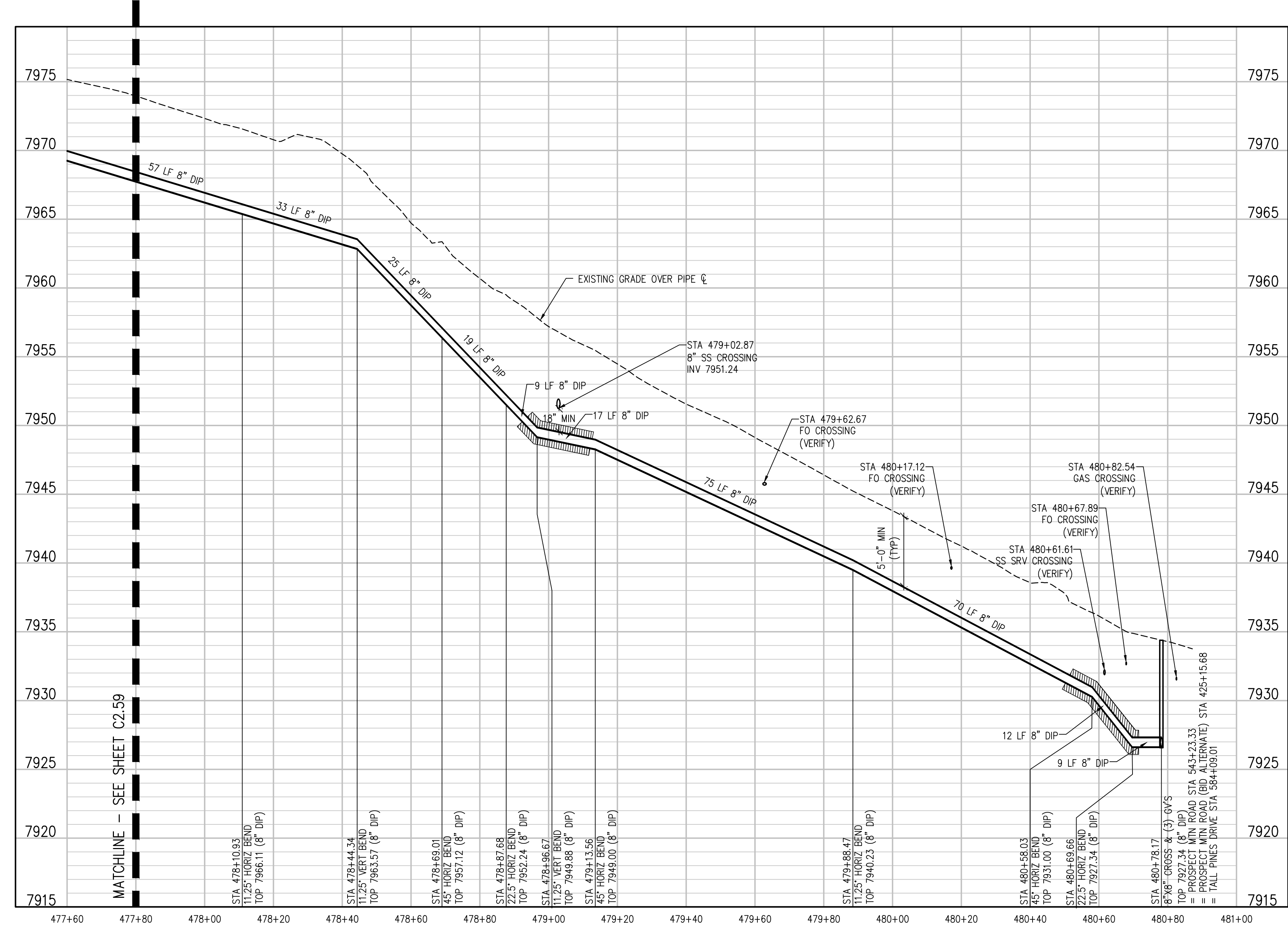
**JUNIPER DRIVE PLAN**  
 SCALE: 1" = 20'



**JUNIPER DRIVE PLAN**  
 SCALE IN FEET



**KEY MAP**  
 NTS



**JUNIPER DRIVE PROFILE**  
 SCALE: 1"=20' HORIZ  
 1"=5' VERT

NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

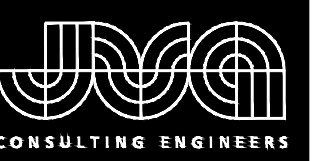
DESIGNED BY: MMR/LAL  
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 CHECKED BY: JJM  
 JOB #: 1066e  
 DATE: SEPTEMBER 2022  
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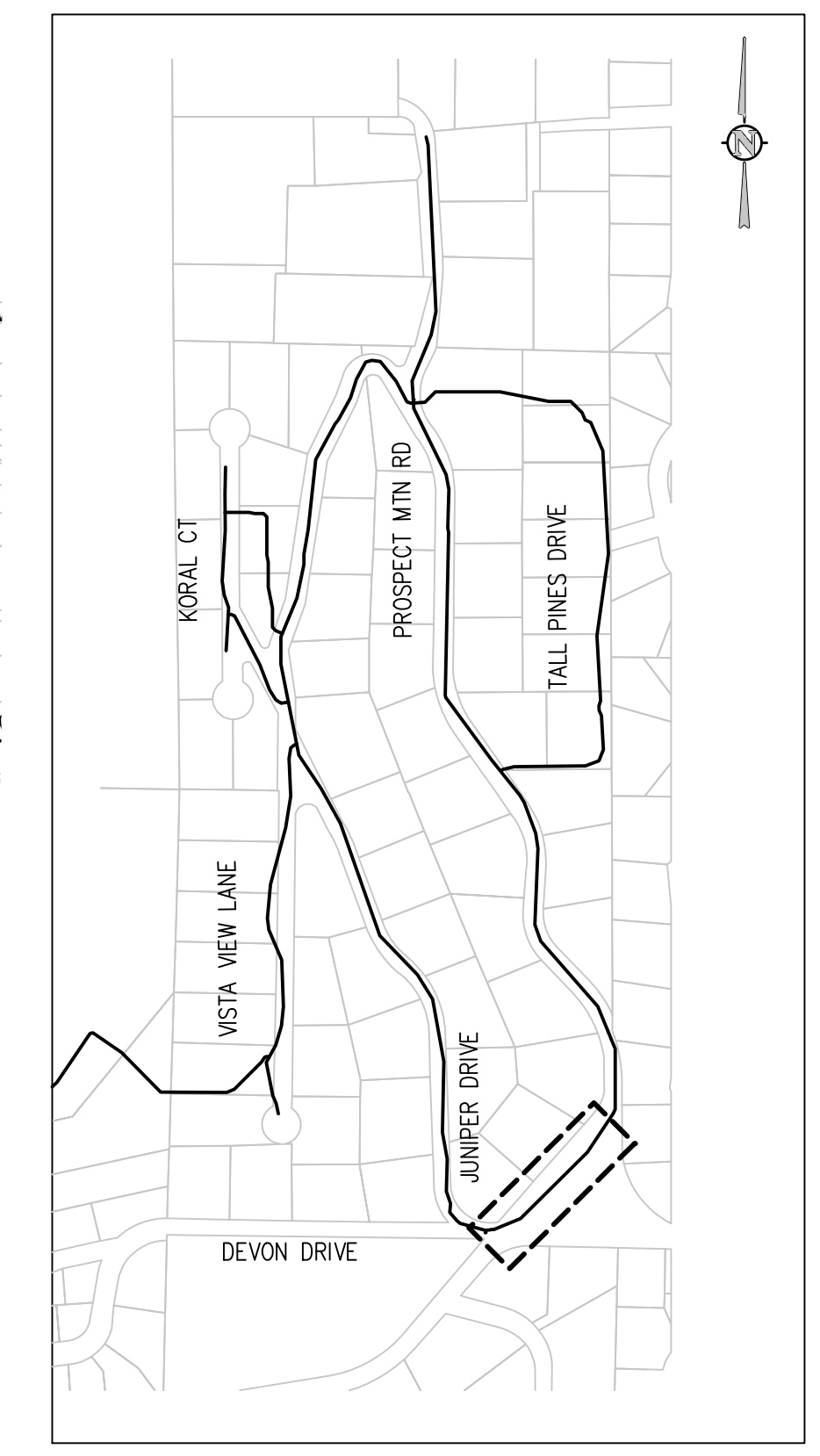
JUNIPER DRIVE PLAN AND PROFILE

SHEET NO.  
**C2.59**

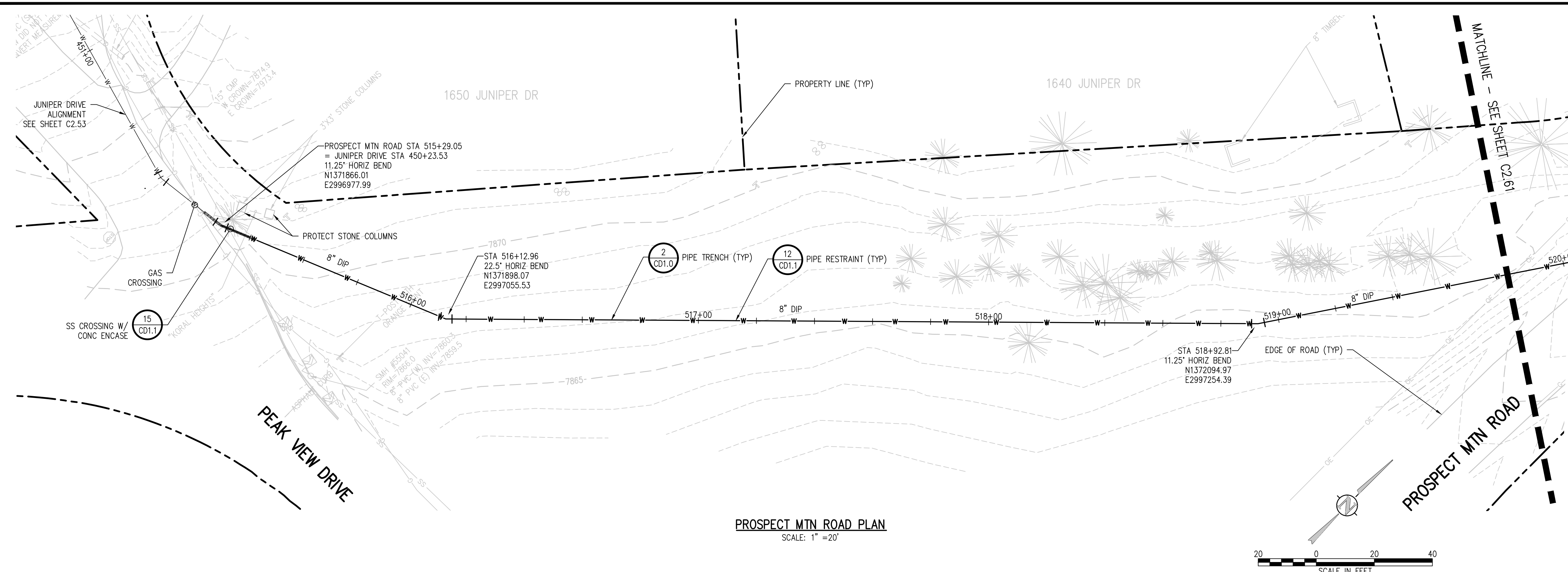
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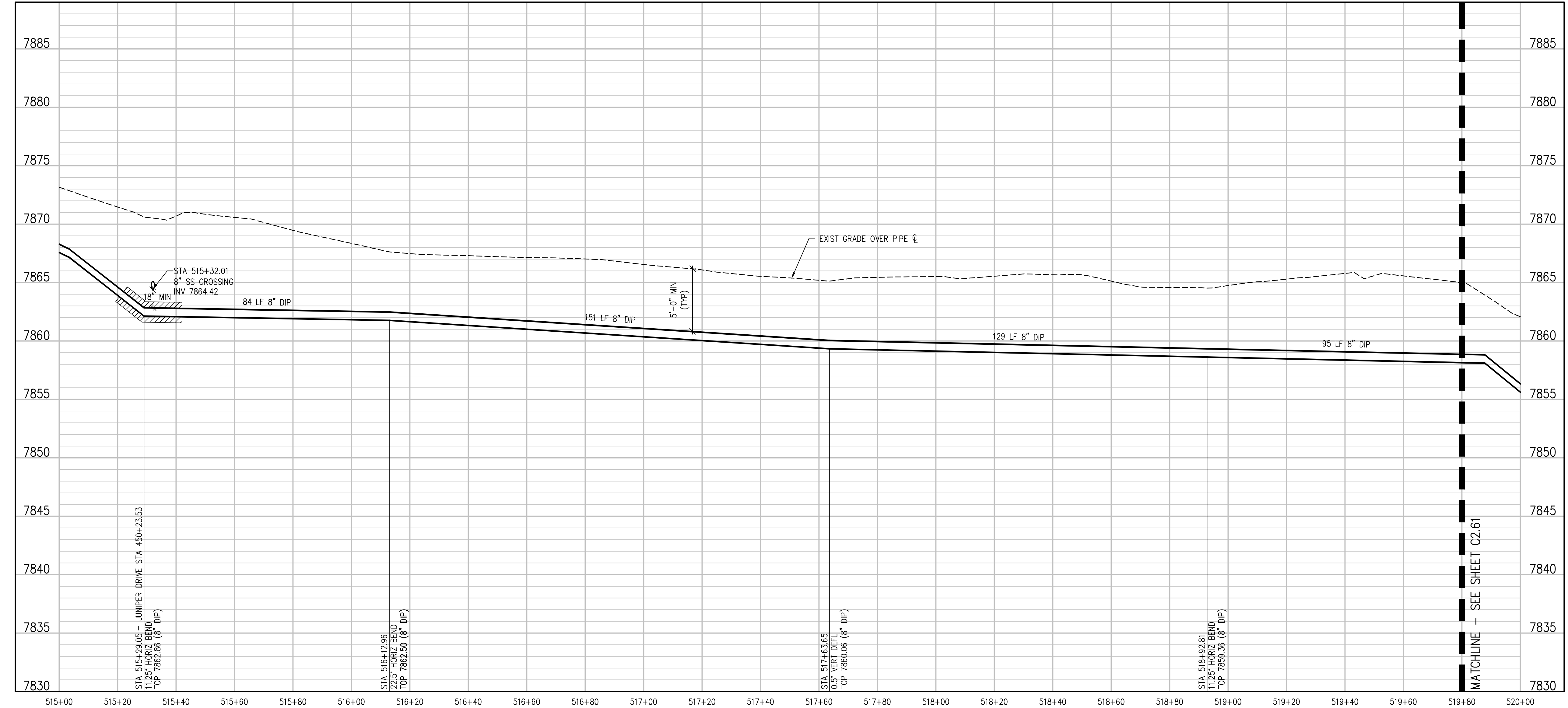
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PROSPECT MTN ROAD PLAN  
 SCALE: 1" = 20'



PROSPECT MTN ROAD PROFILE  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

NO.	DATE	DES'D	DWN	REVISION DESCRIPTION

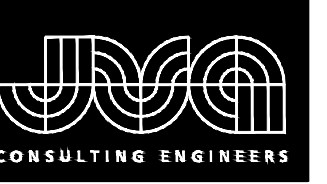
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 JOB #: 1066e  
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 PROSPECT MOUNTAIN ROAD PLAN AND  
 PROFILE

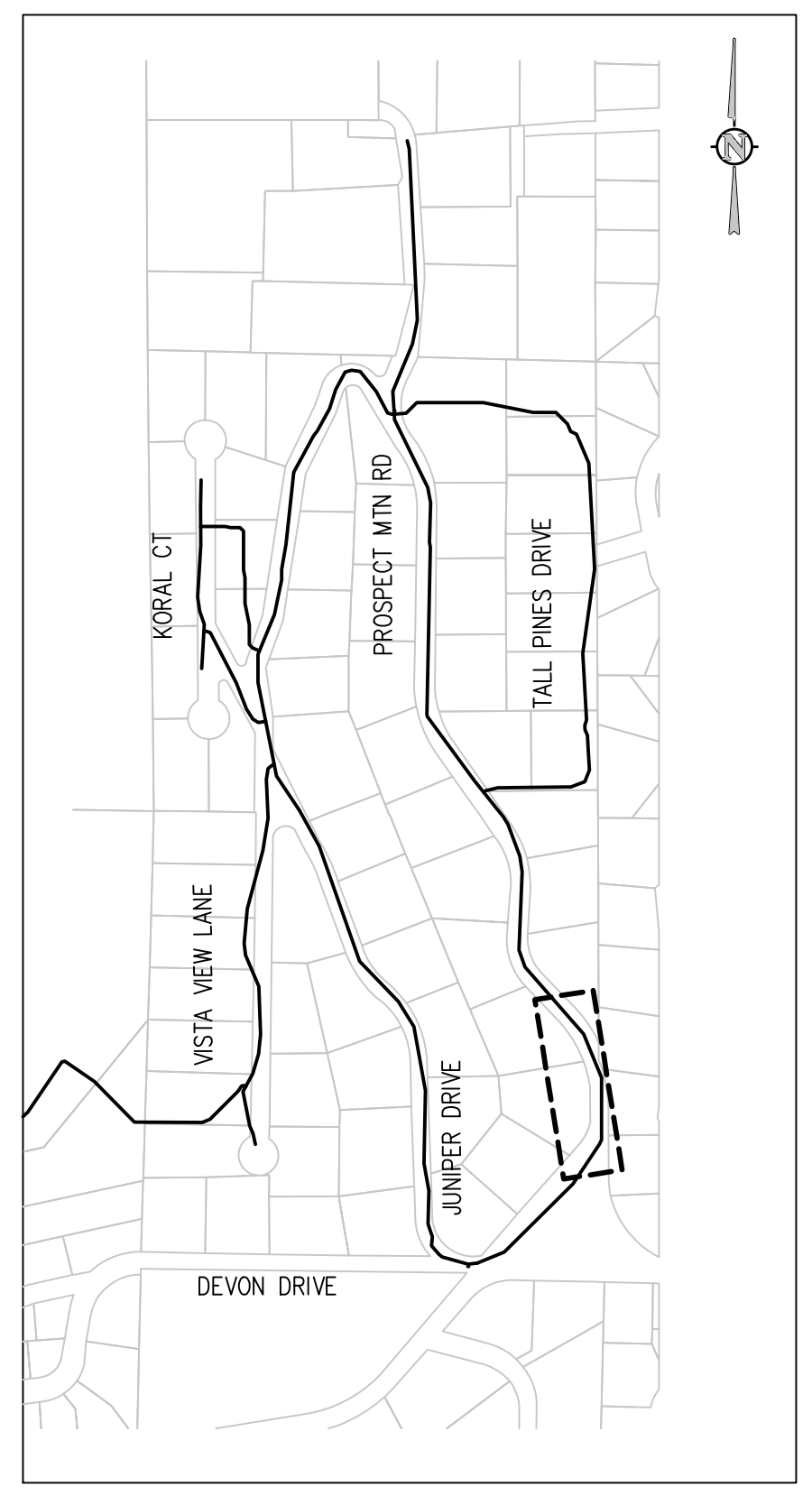
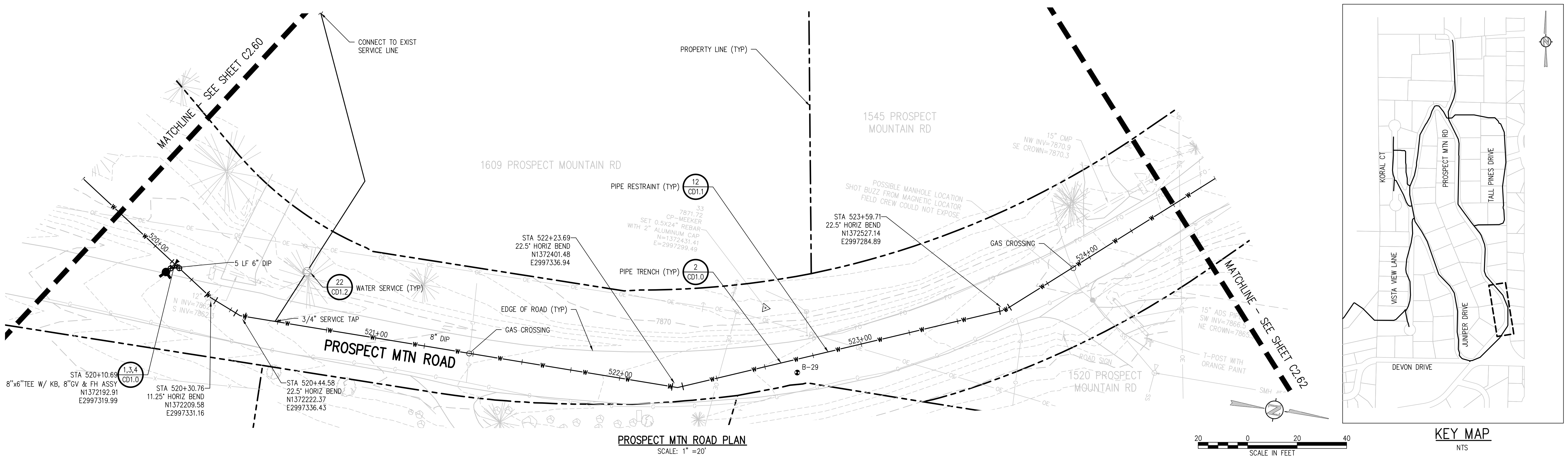
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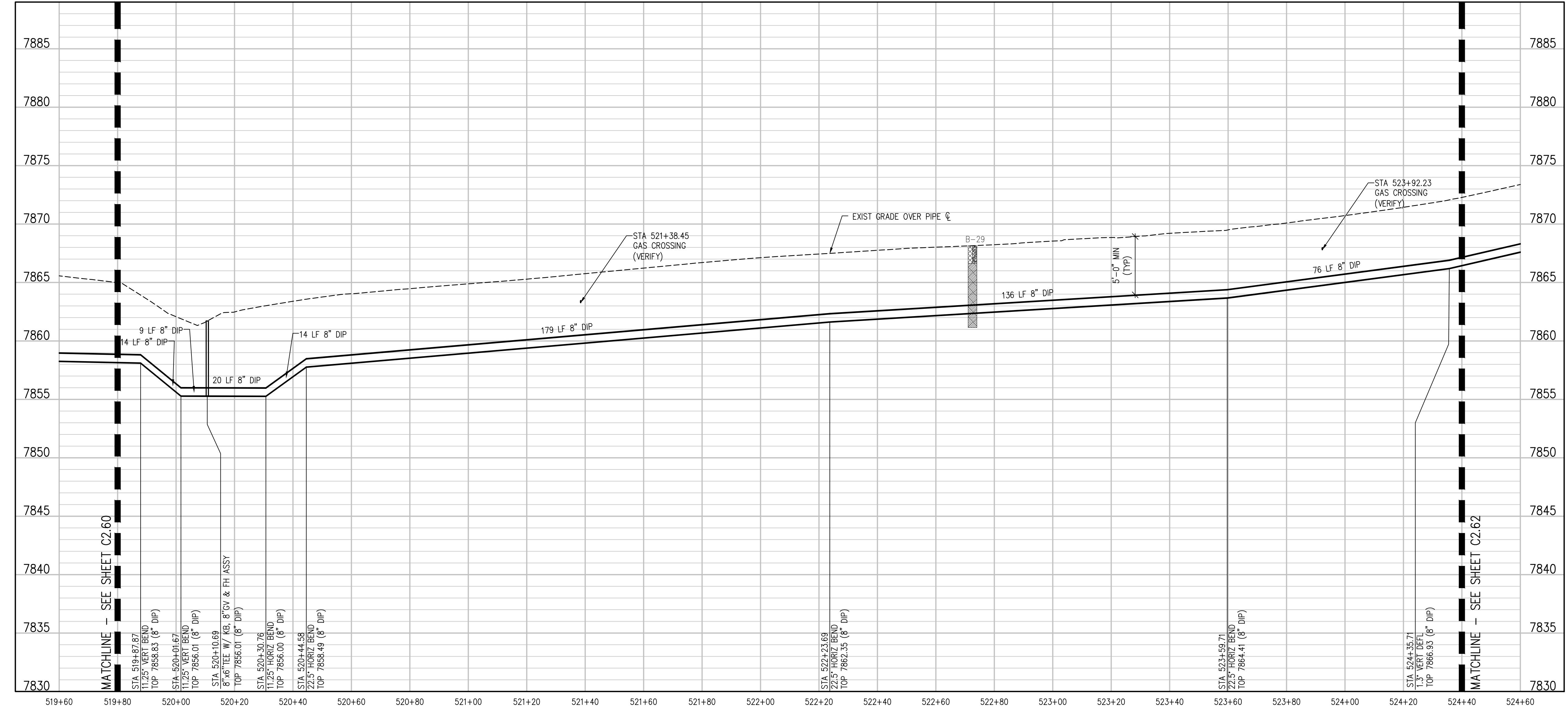




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PROSPECT MTN ROAD PLAN  
 SCALE: 1" = 20'



PROSPECT MTN ROAD PROFILE  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

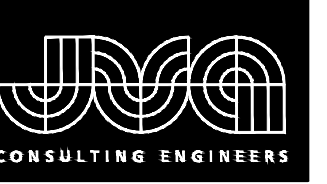
NO. DATE DESD DWN

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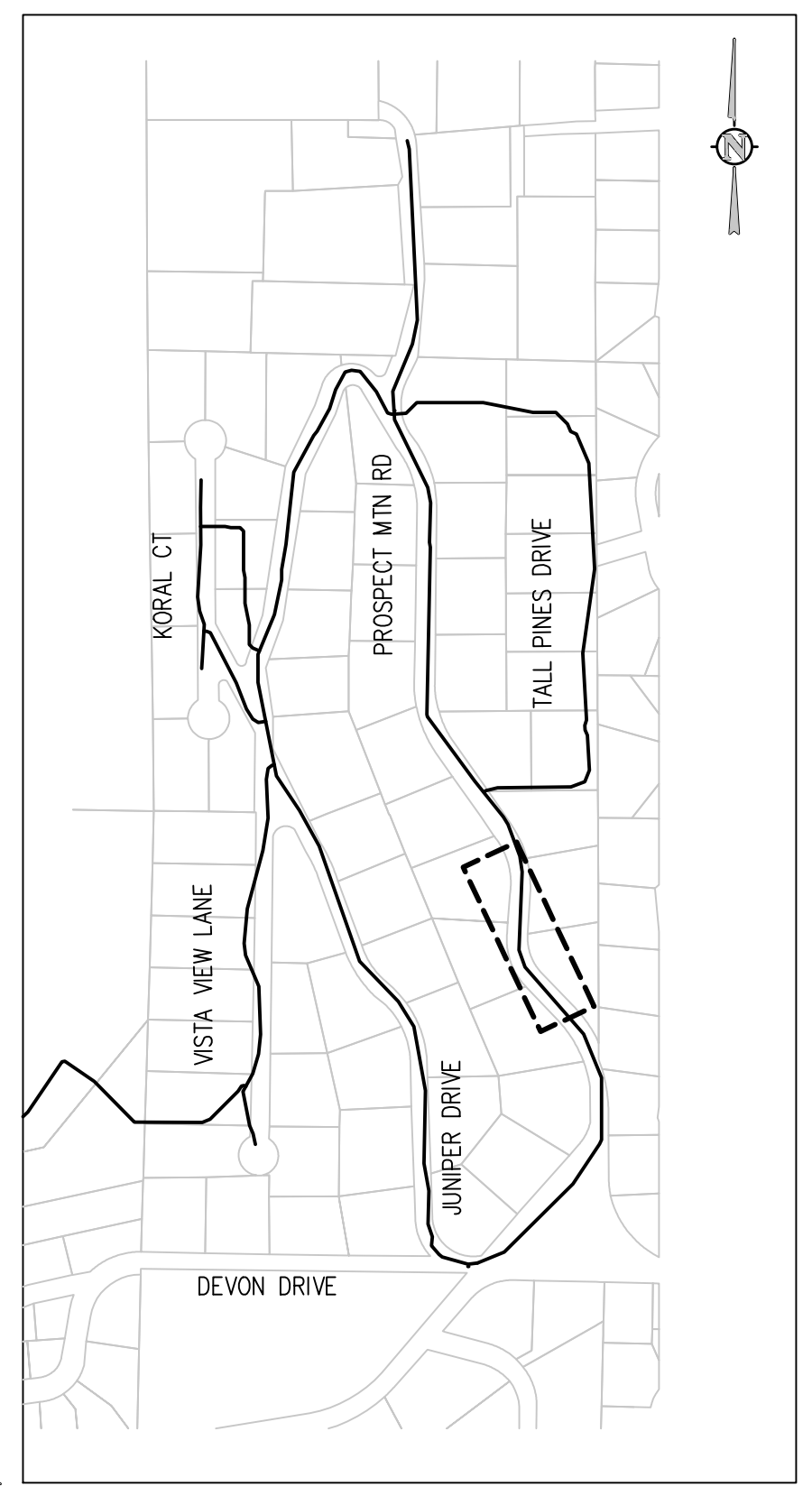
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 PROSPECT MOUNTAIN ROAD PLAN AND  
 PROFILE

SHEET NO.  
**C2.61**

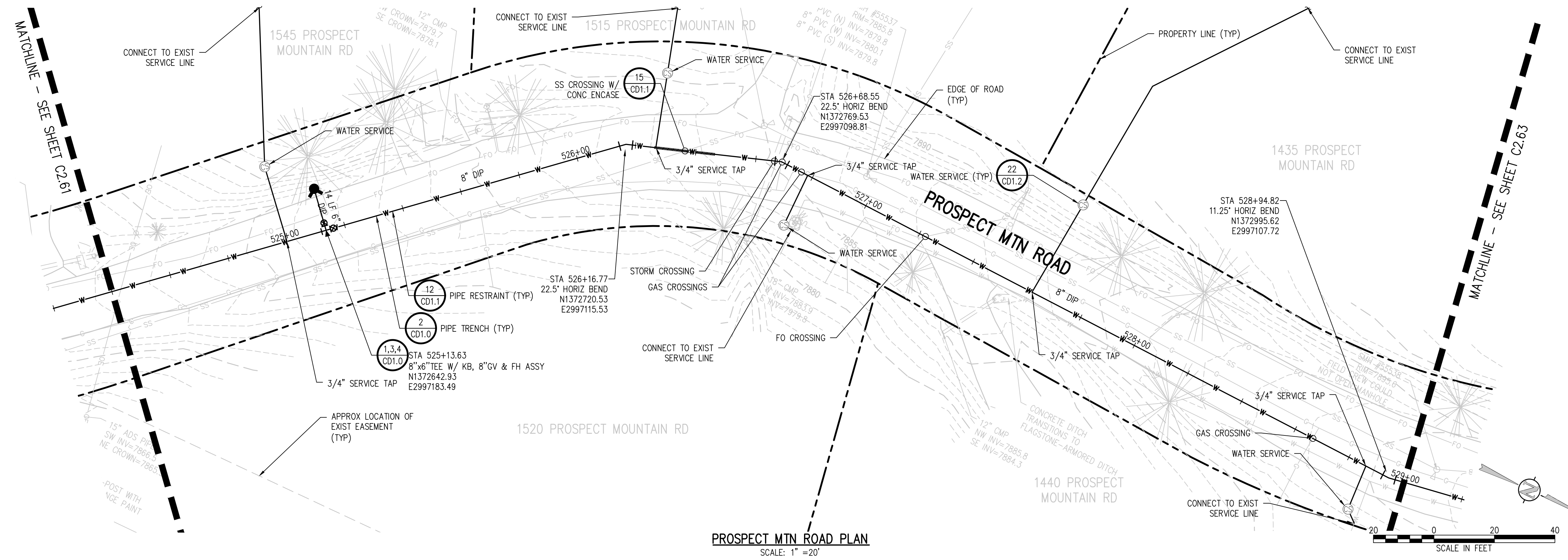
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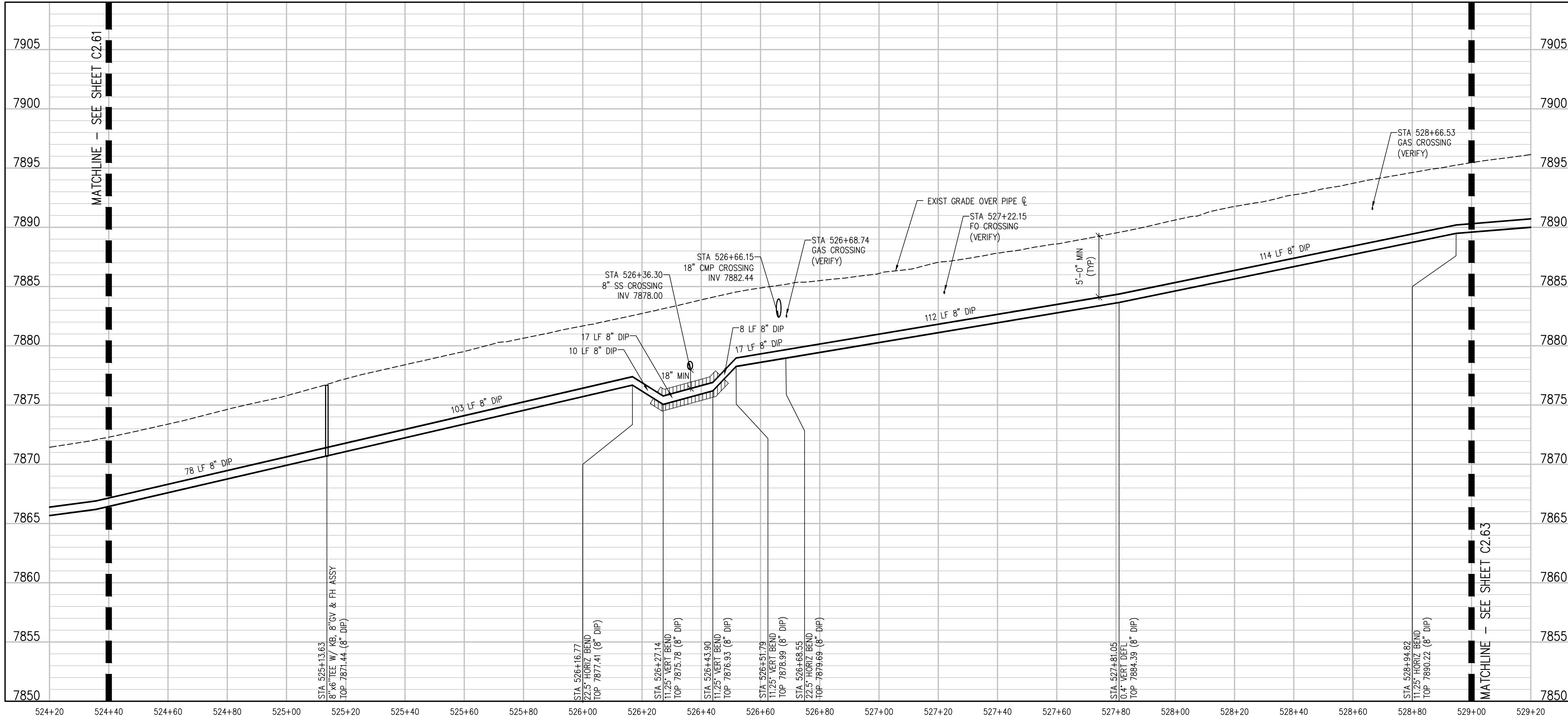
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PROSPECT MTN ROAD PLAN  
SCALE: 1" = 20'



PROSPECT MTN ROAD PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

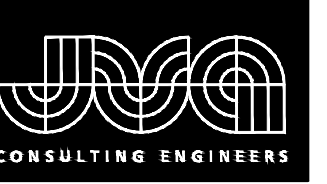
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 CHECKED BY: JJM  
 JOB #: 1066e  
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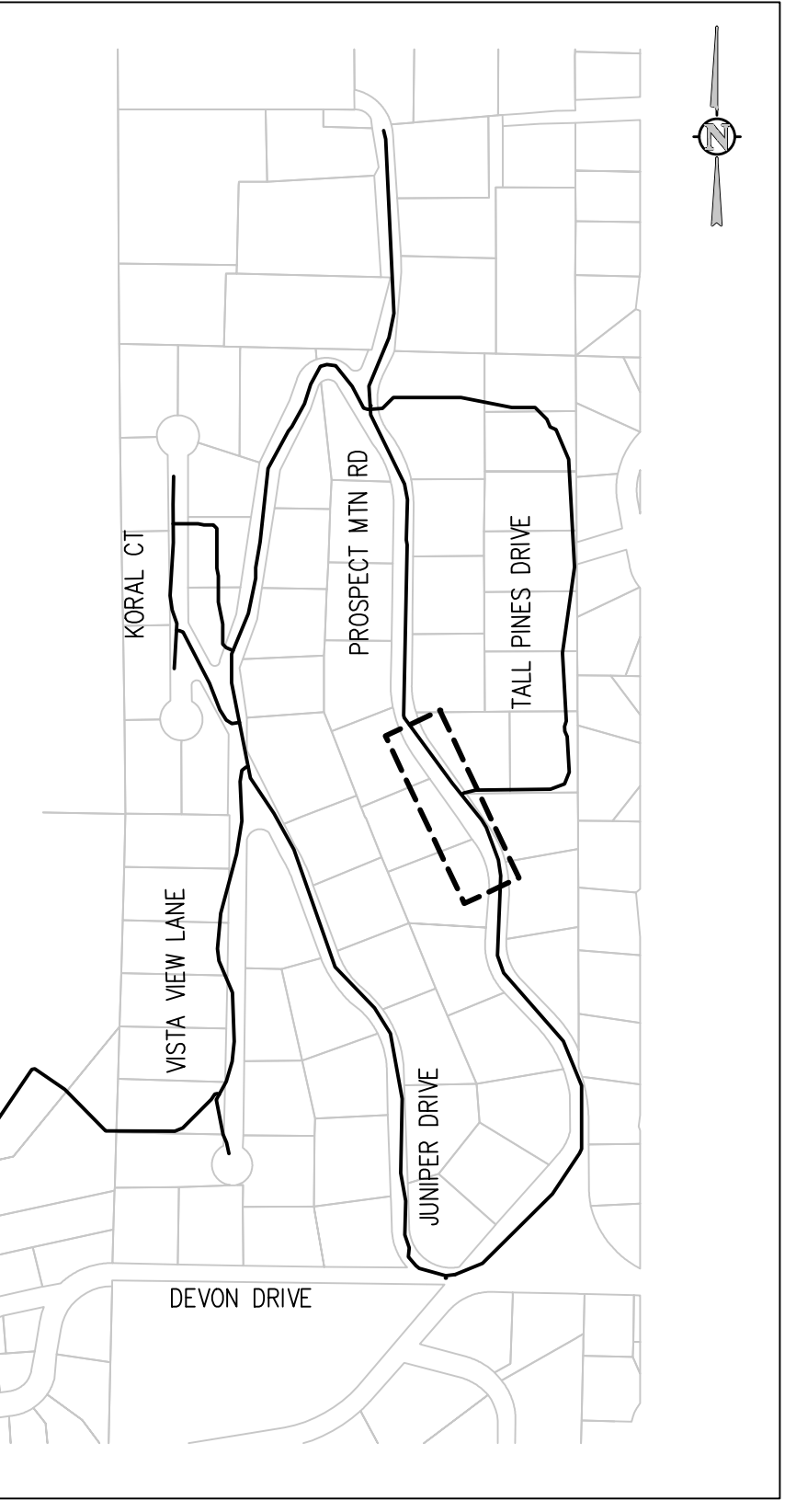
PROSPECT MOUNTAIN  
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 ESTES PARK, COLORADO  
 PROSPECT MOUNTAIN ROAD PLAN AND  
 PROFILE

SHEET NO.  
C2.62

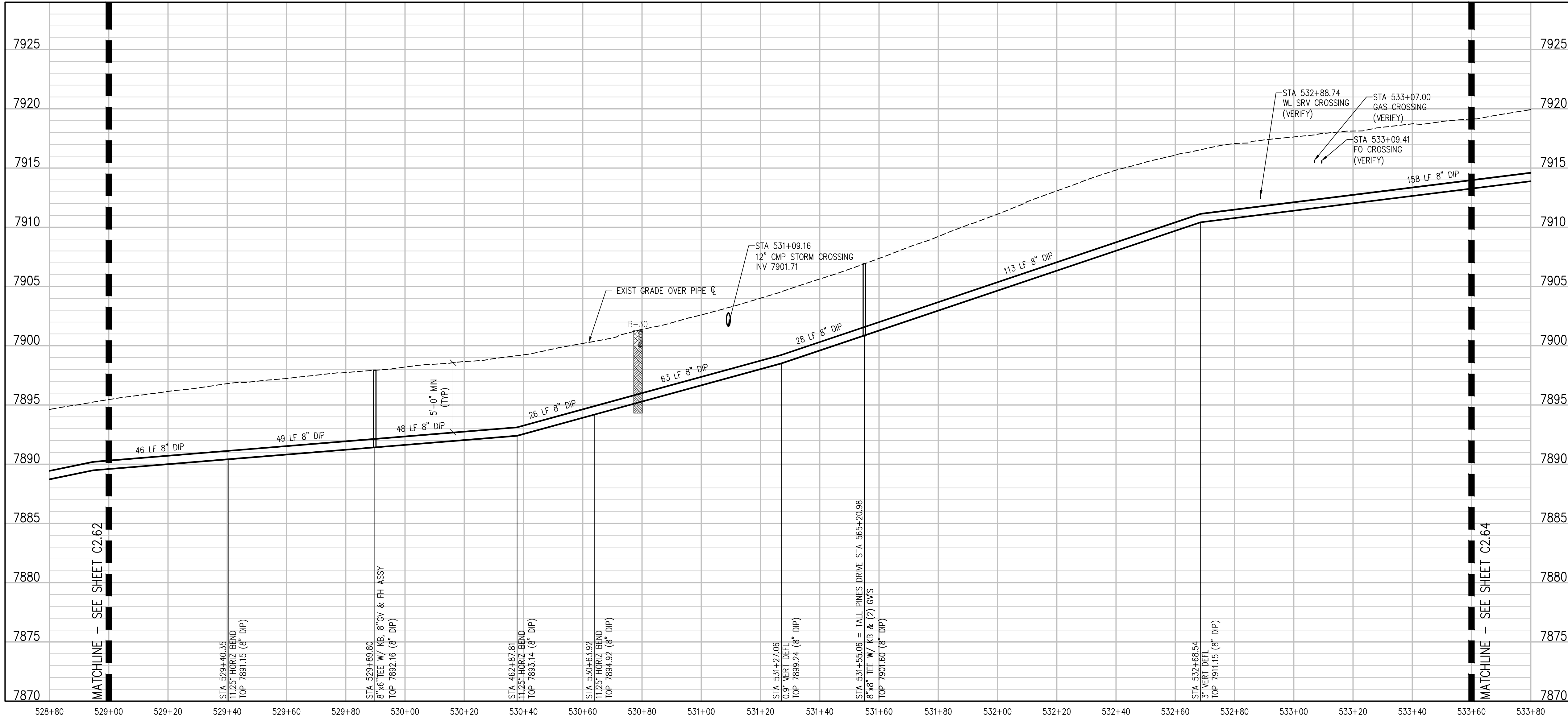
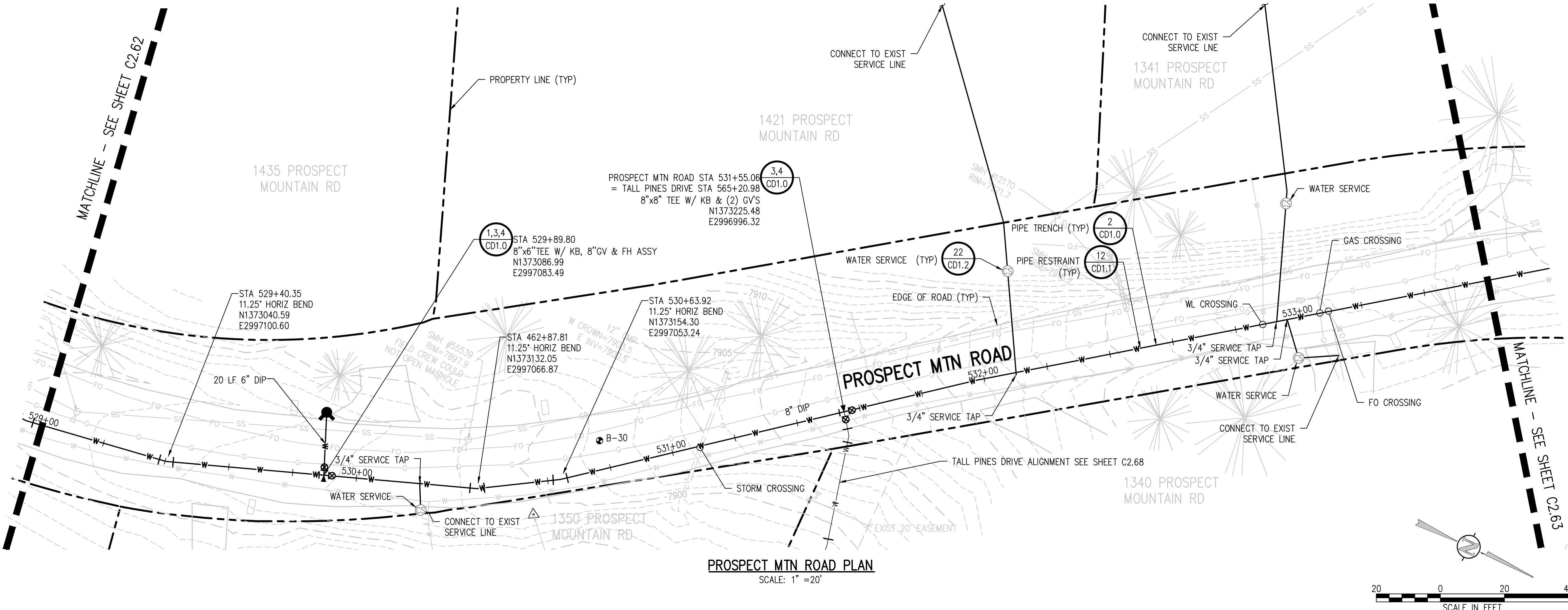
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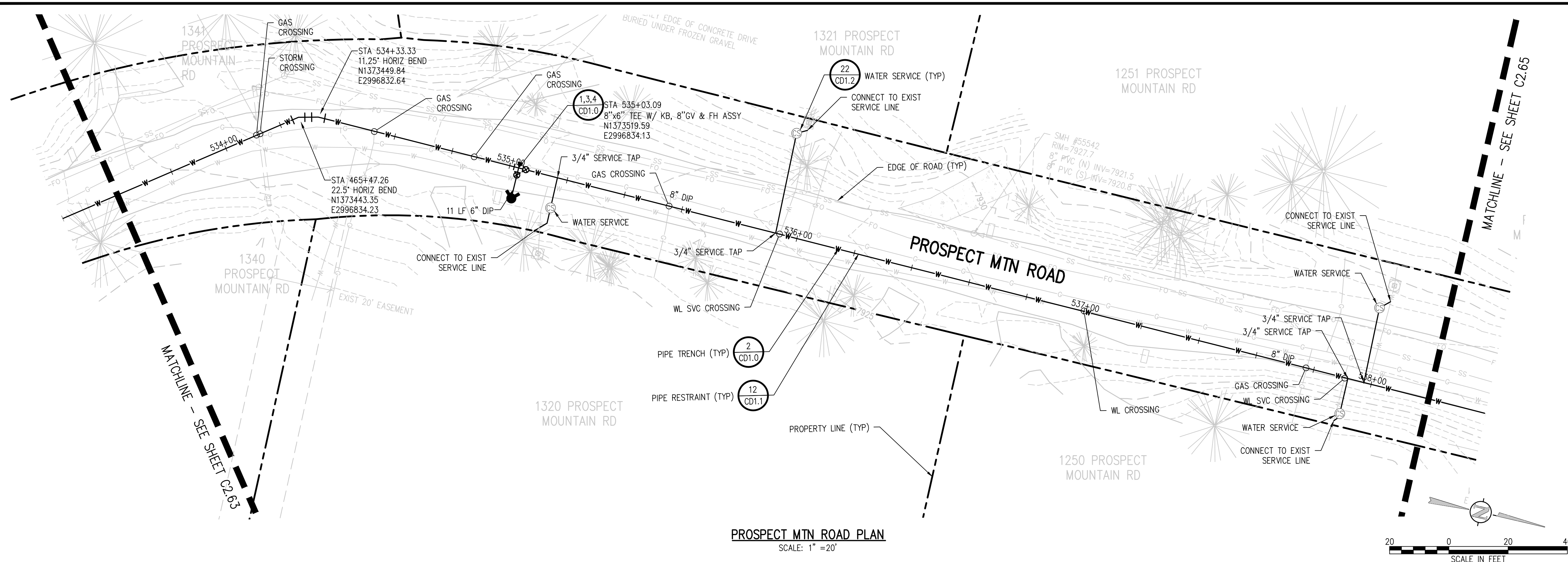
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NO.	DATE	DES'D	OWN

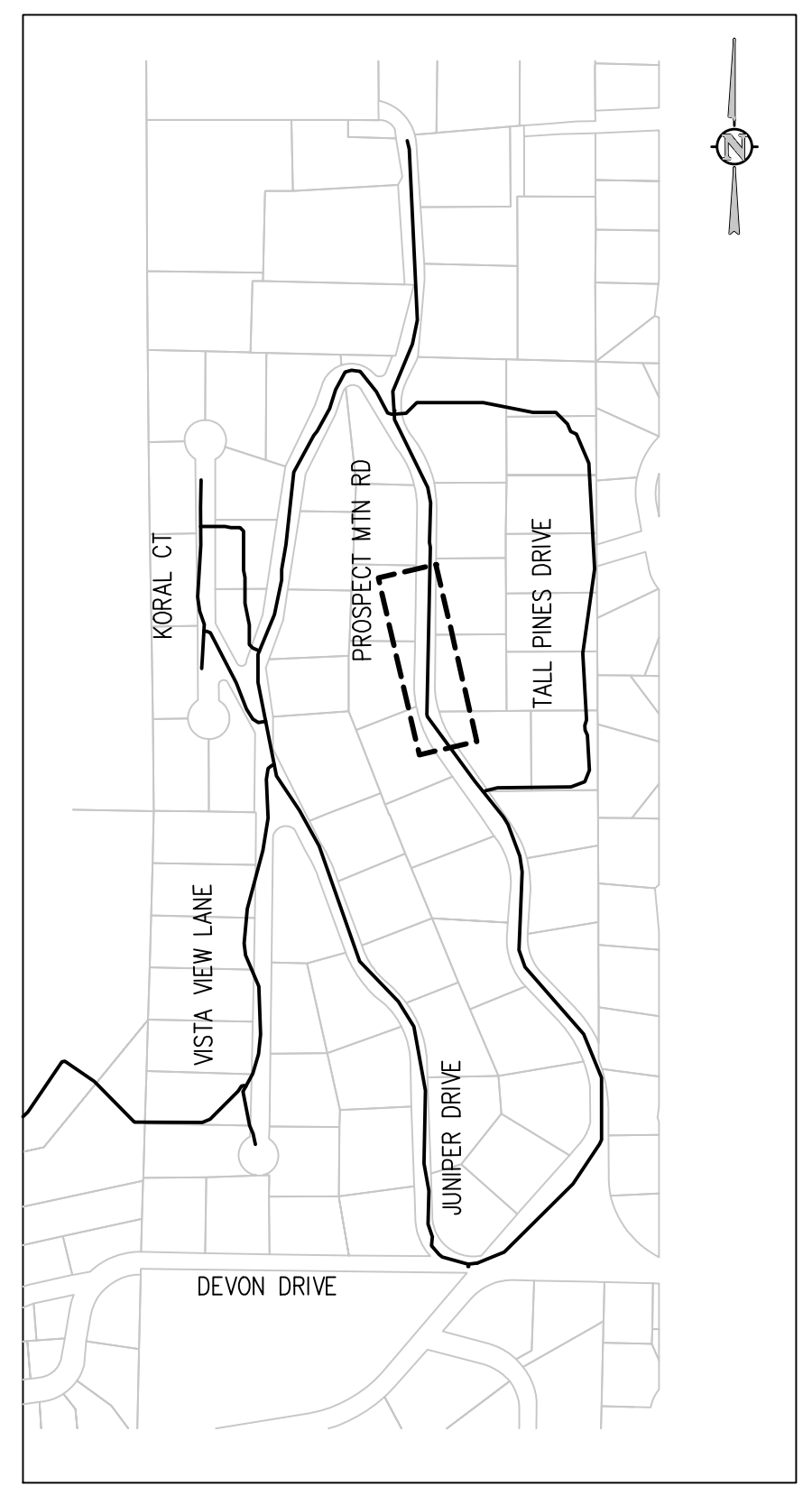
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 PROSPECT MOUNTAIN ROAD PLAN AND  
 PROFILE

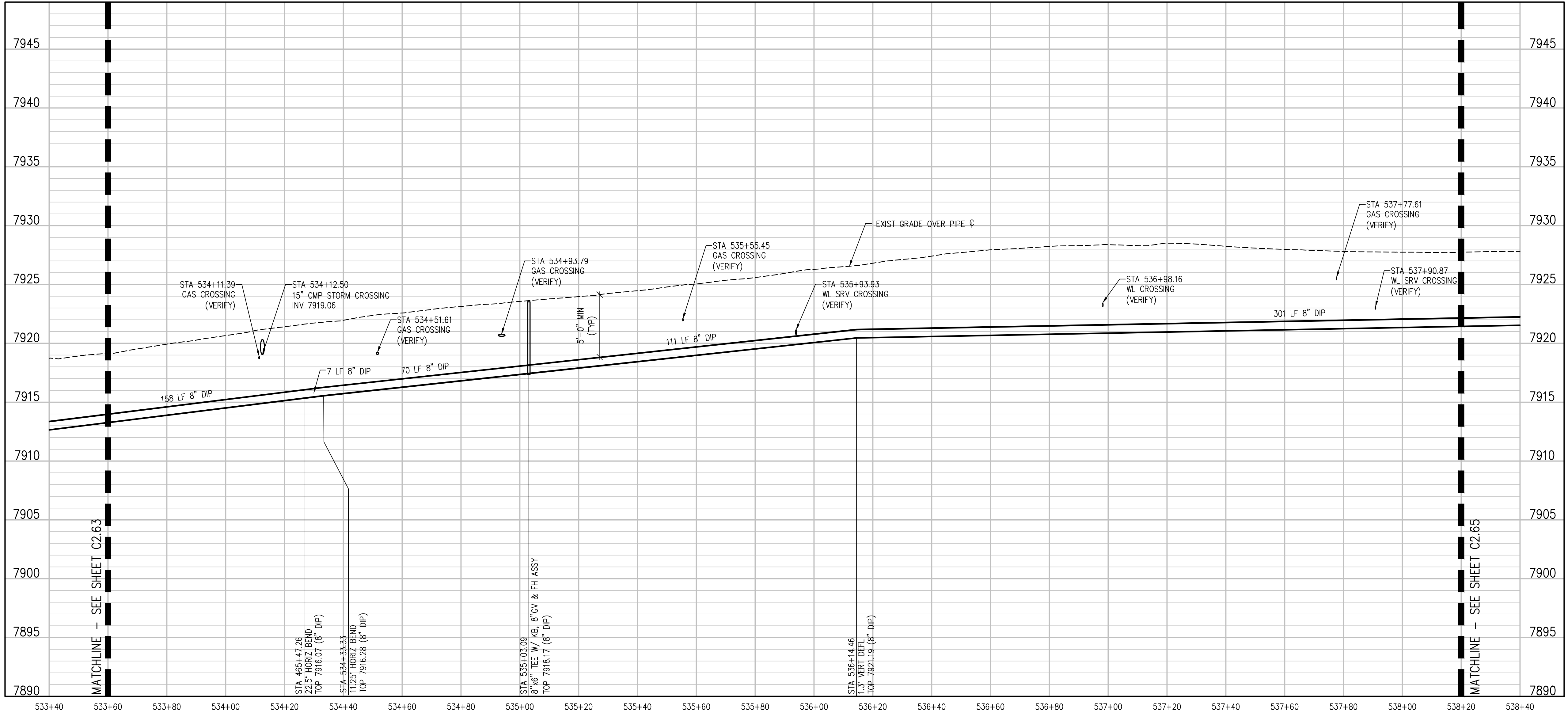
SHEET NO.  
**C2.63**



**PROSPECT MTN ROAD PLAN**  
 SCALE: 1" = 20'



**KEY MAP**  
 NTS



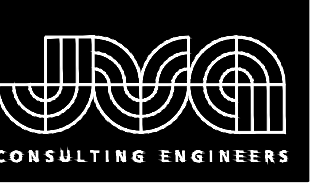
**PROSPECT MTN ROAD PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

NO.	DATE	DES'D	DWN

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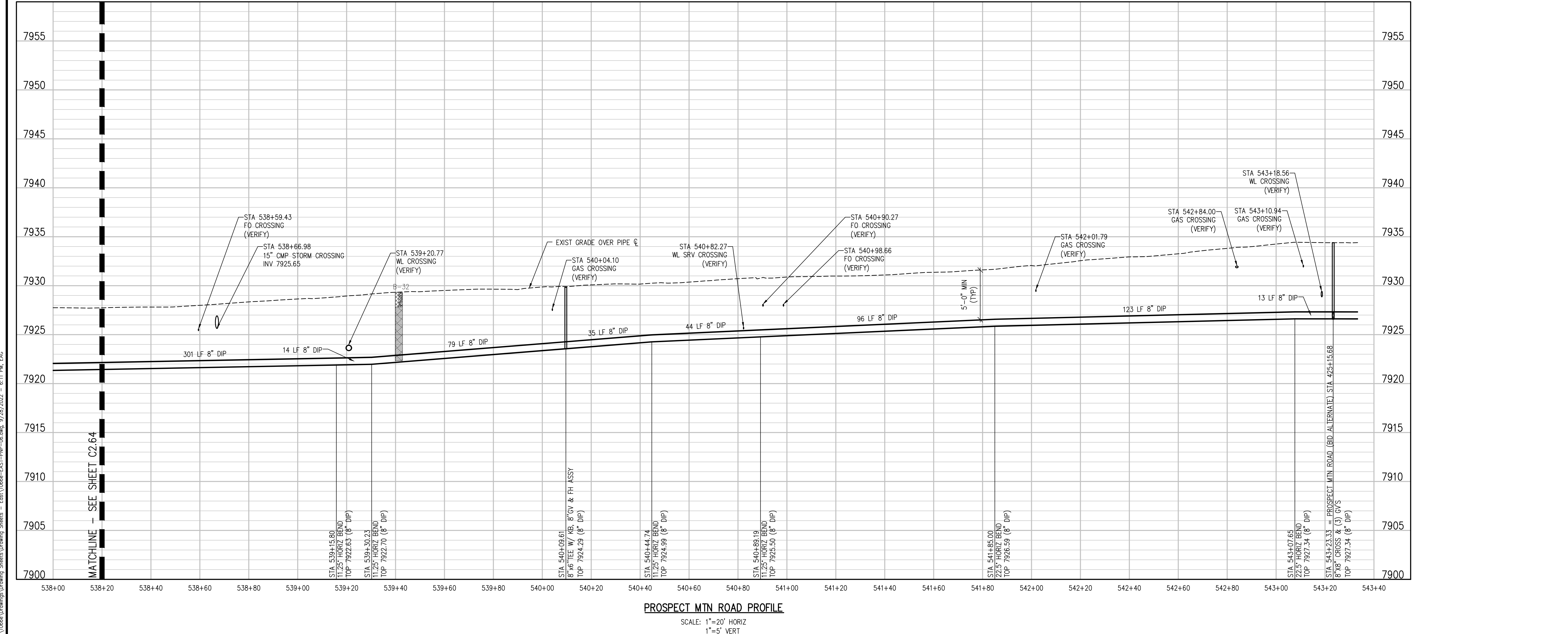
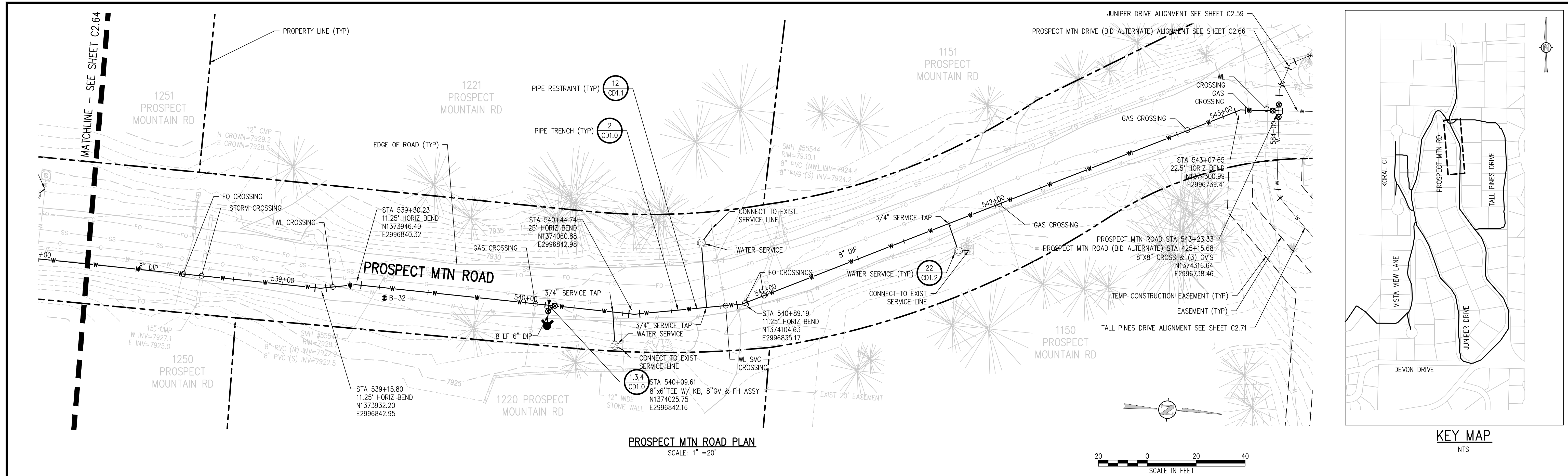
NO.	DATE	DES'D	DWN

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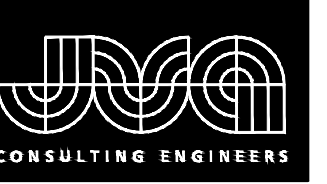
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 ESTES PARK, COLORADO  
 PROSPECT MOUNTAIN ROAD PLAN AND  
 PROFILE

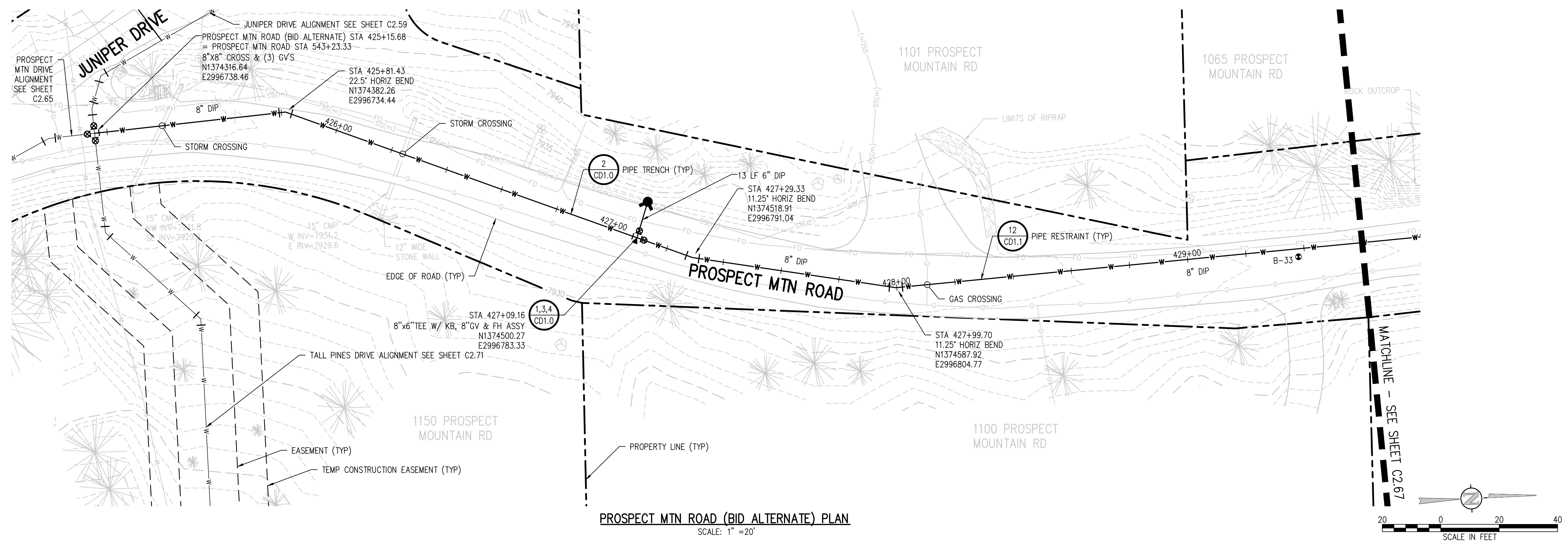
SHEET NO.  
**C2.65**



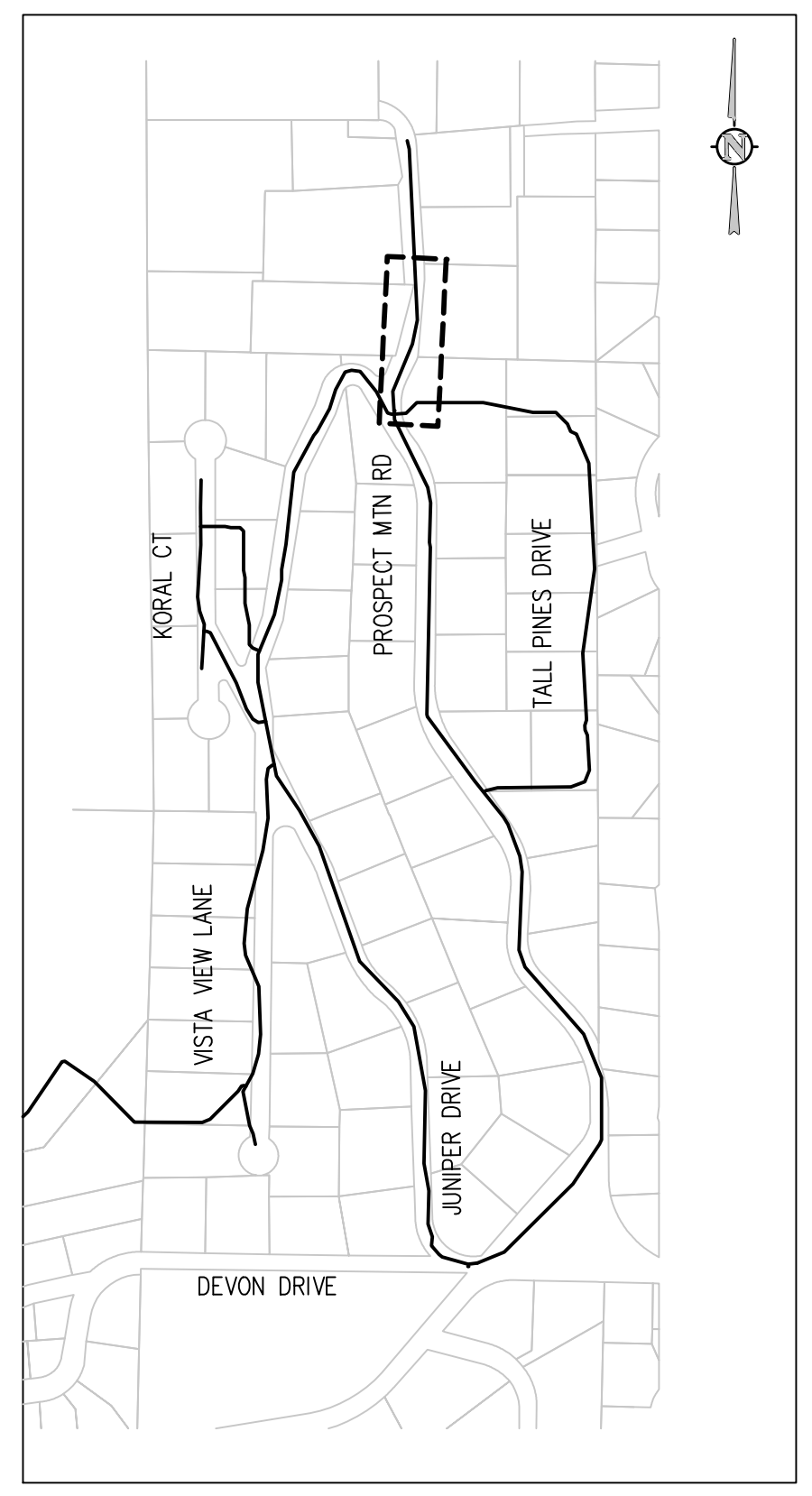
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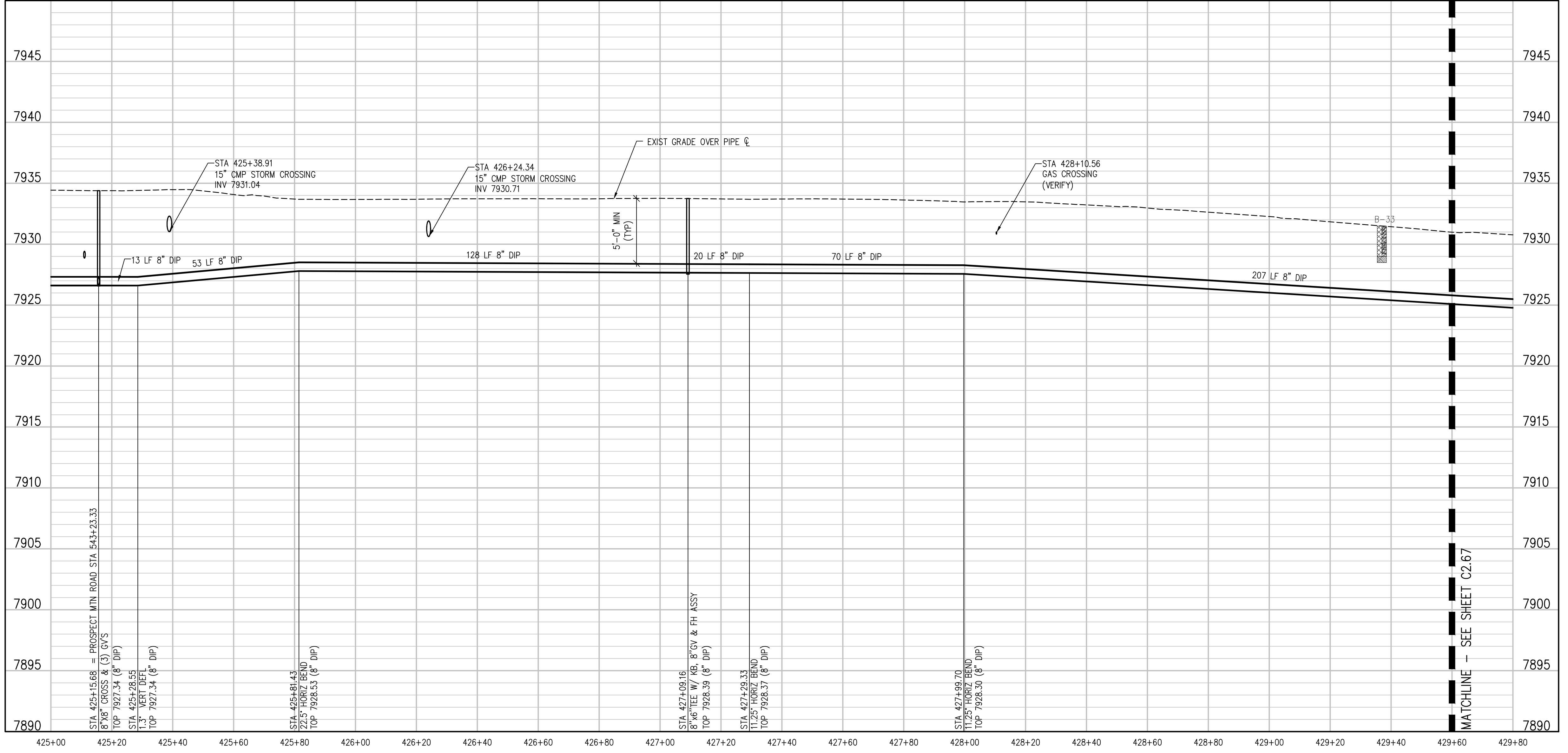
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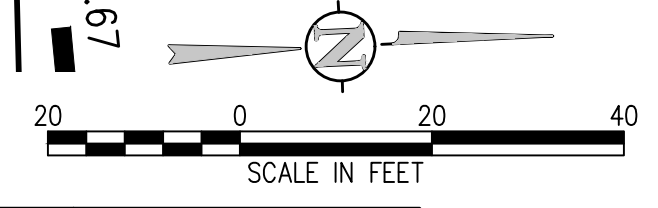
**PROSPECT MTN ROAD (BID ALTERNATE) PLAN**  
 SCALE: 1" = 20'



**KEY MAP**  
 NTS



**PROSPECT MTN ROAD (BID ALTERNATE) PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT



NO.	DATE	DES'D	DNW

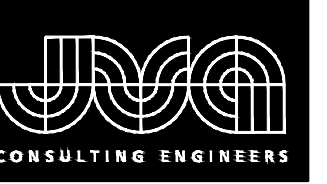
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 ESTES PARK, COLORADO**

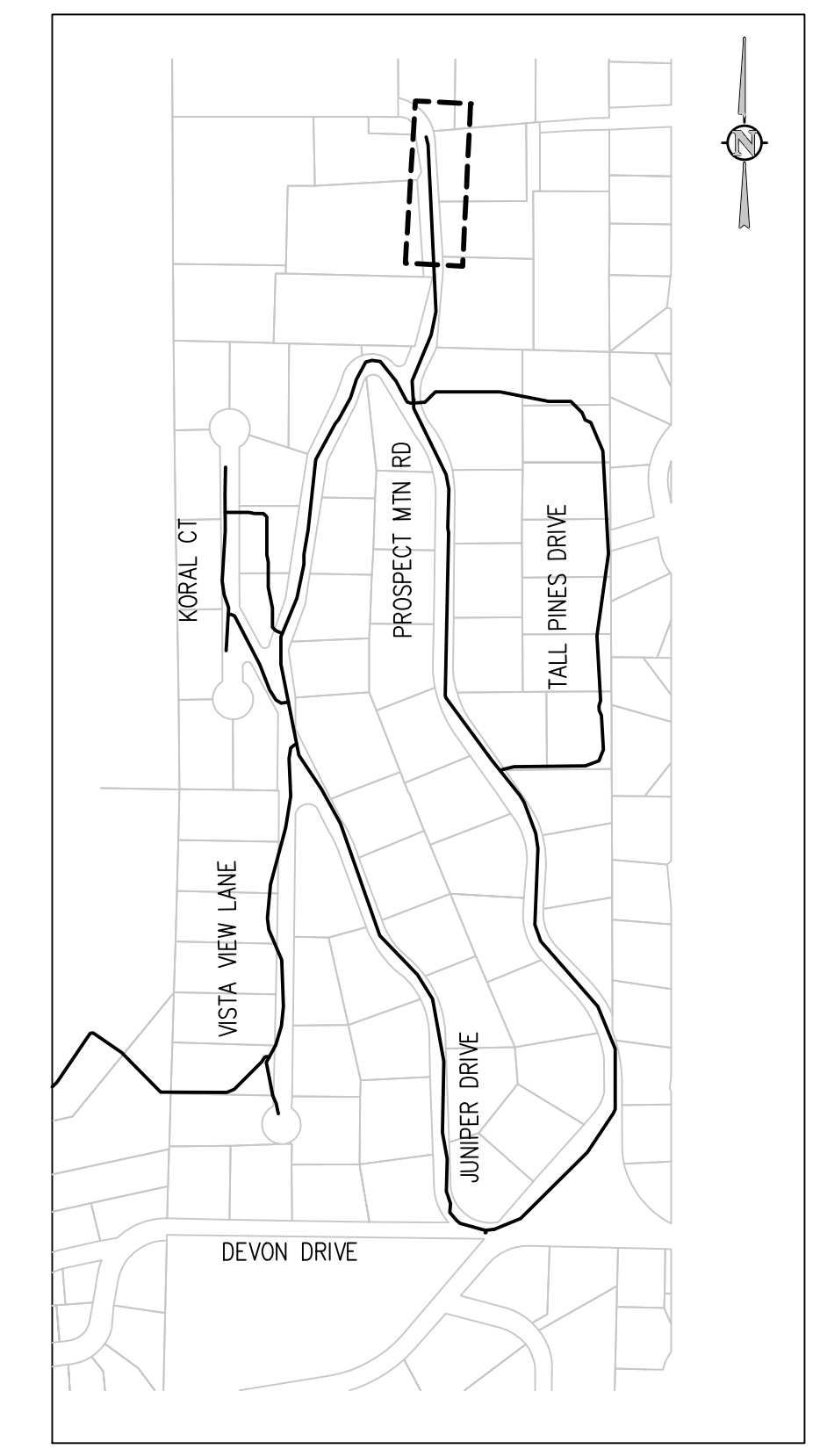
**PROSPECT MOUNTAIN ROAD (BID ALTERNATE)  
 PLAN AND PROFILE**

SHEET NO.  
**C2.66**

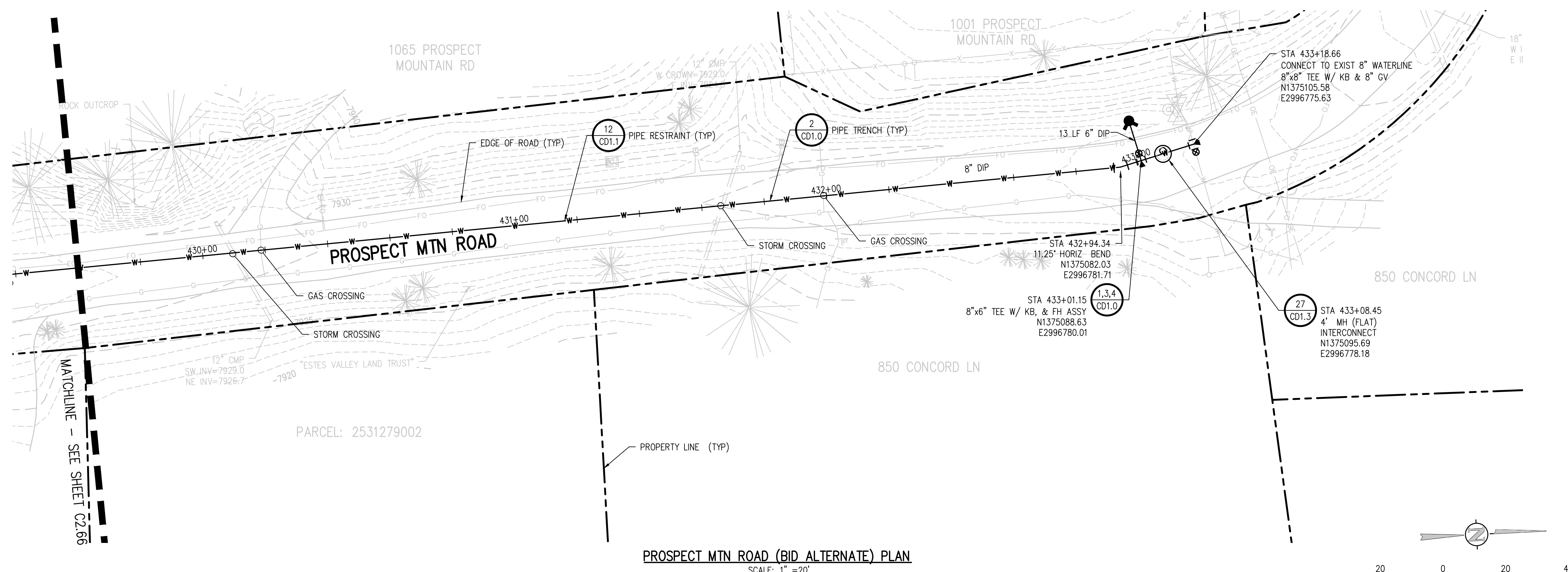
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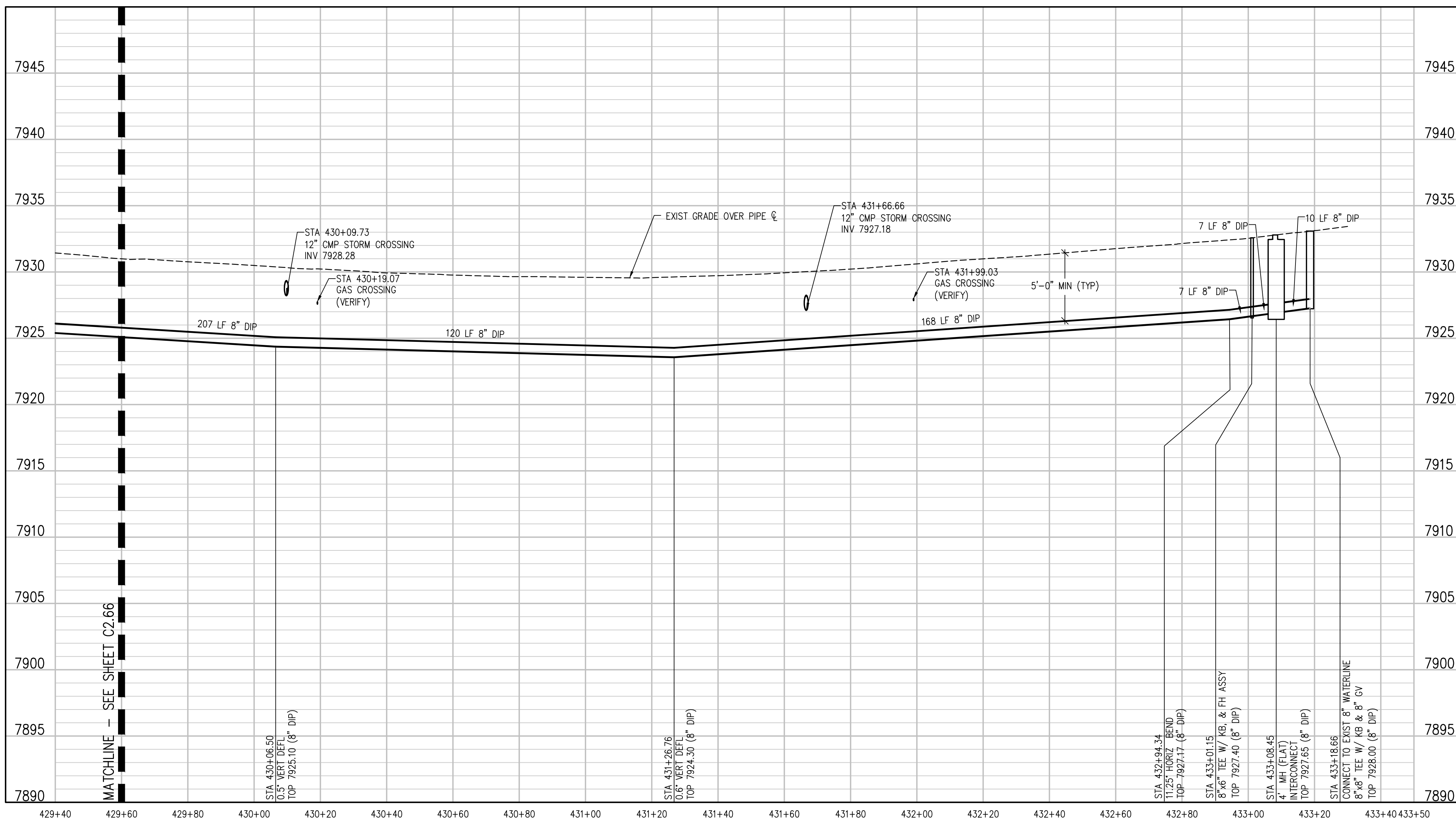
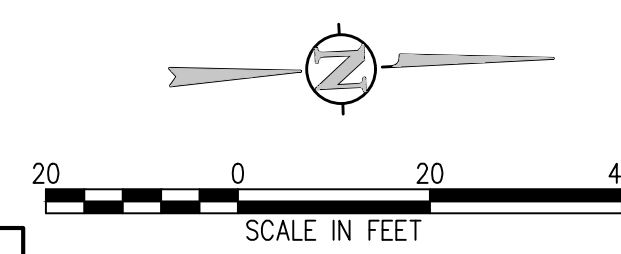
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PROSPECT MTN ROAD (BID ALTERNATE) PLAN  
SCALE: 1" = 20'



PROSPECT MTN ROAD (BID ALTERNATE) PROFILE  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

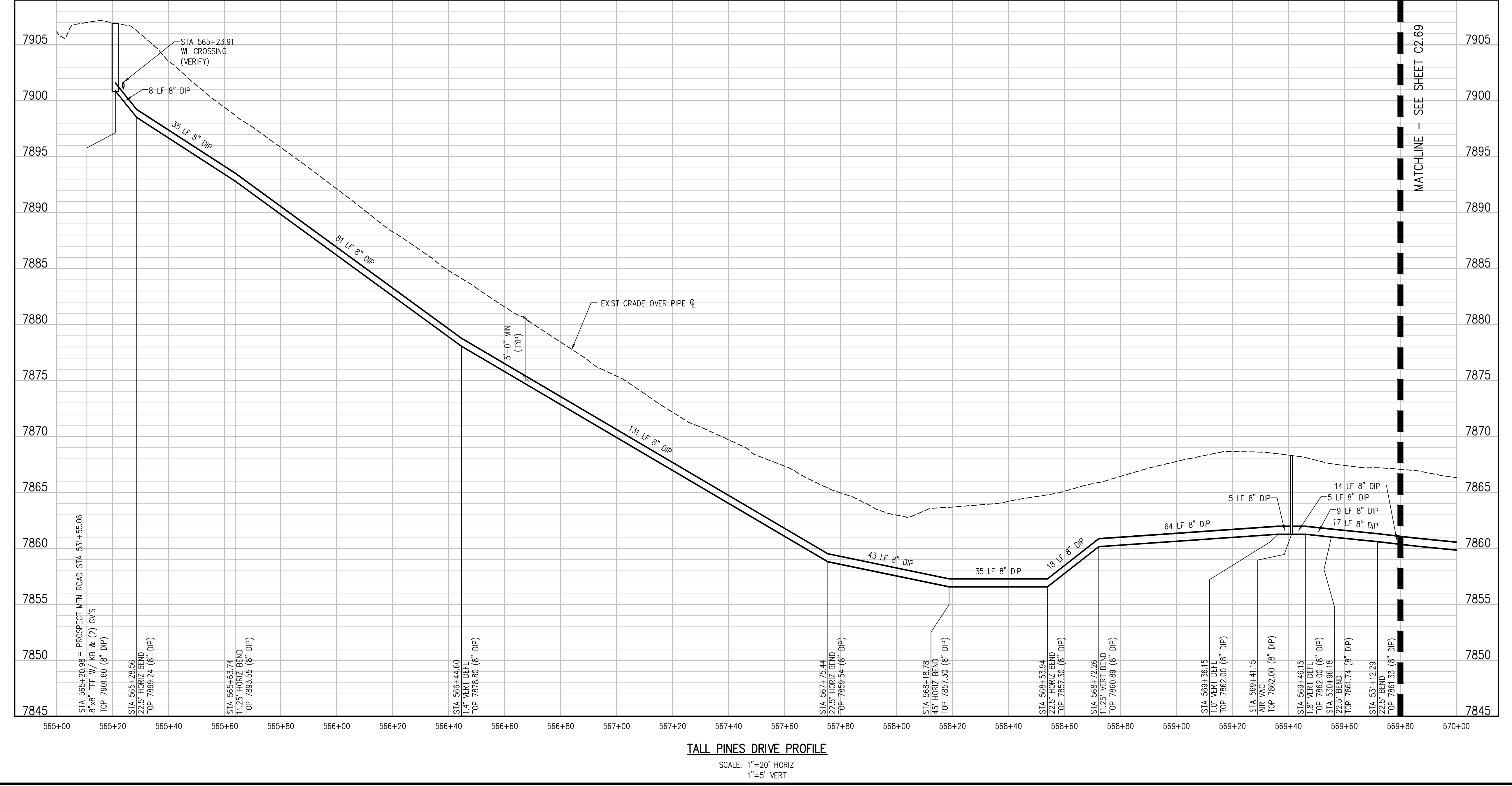
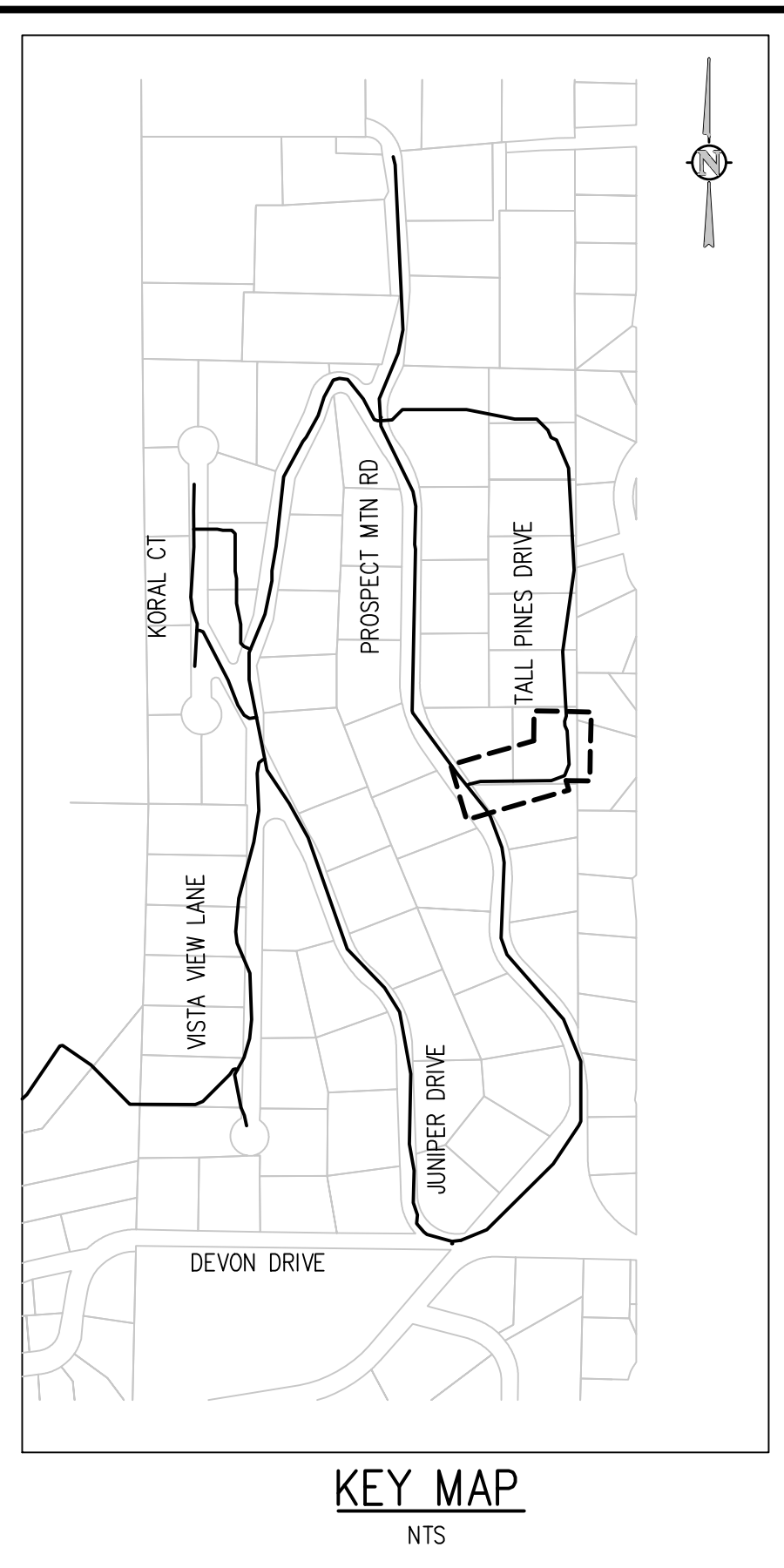
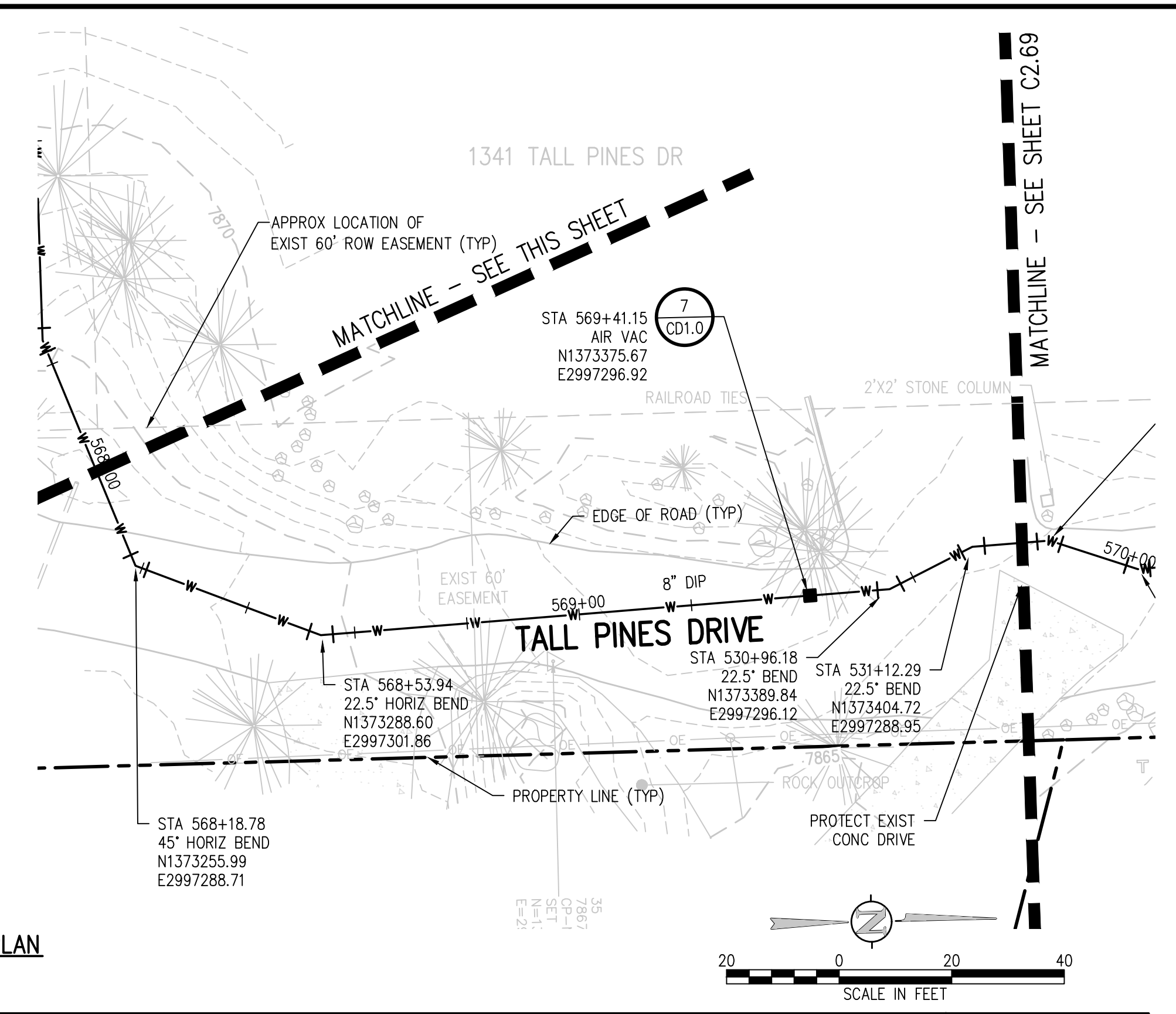
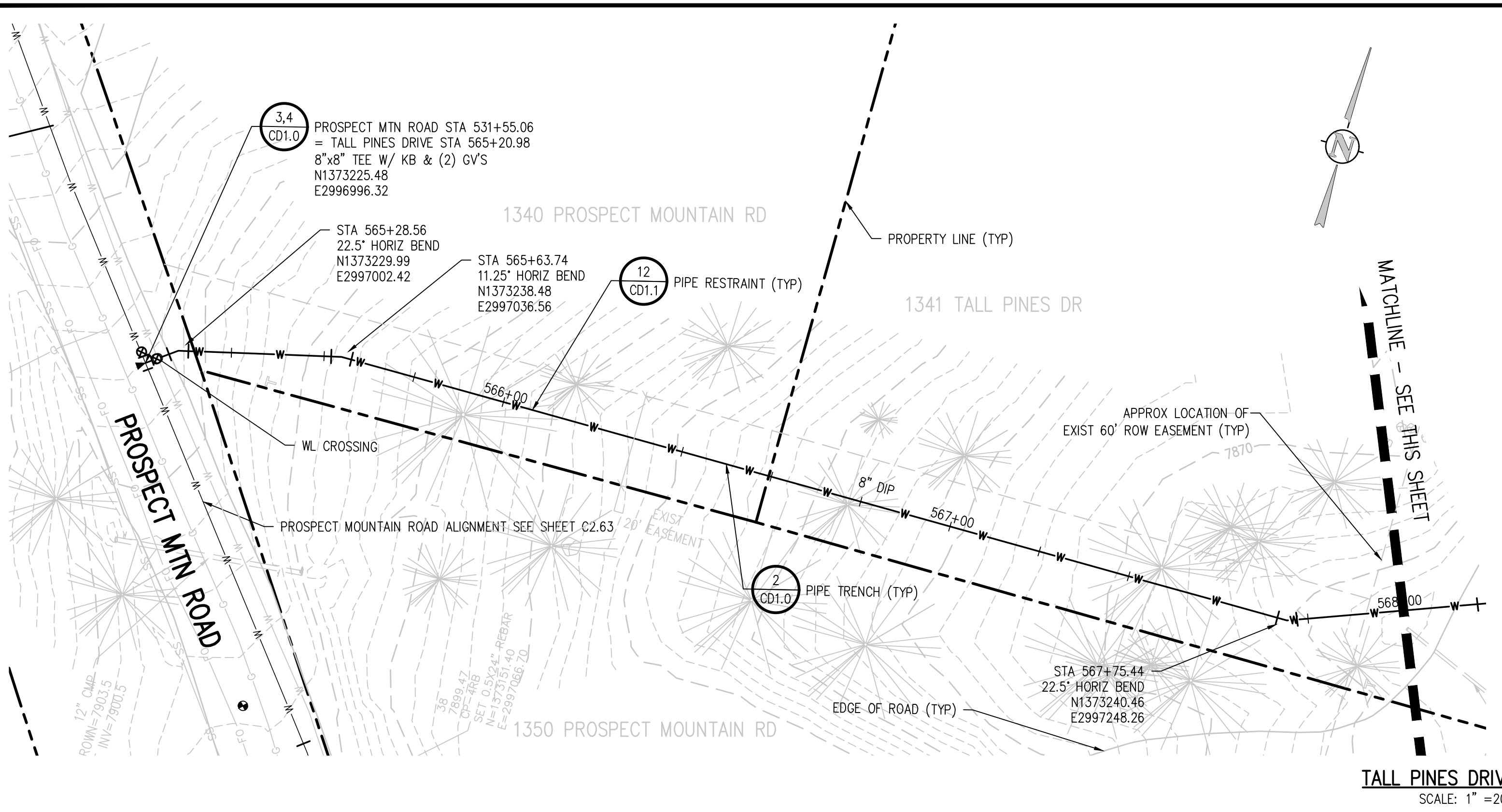
NO.	DATE	DESIGNED	DRAWN

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 JOB #: 1066e  
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 PROSPECT MOUNTAIN ROAD (BID ALTERNATE)  
 PLAN AND PROFILE

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C2.67

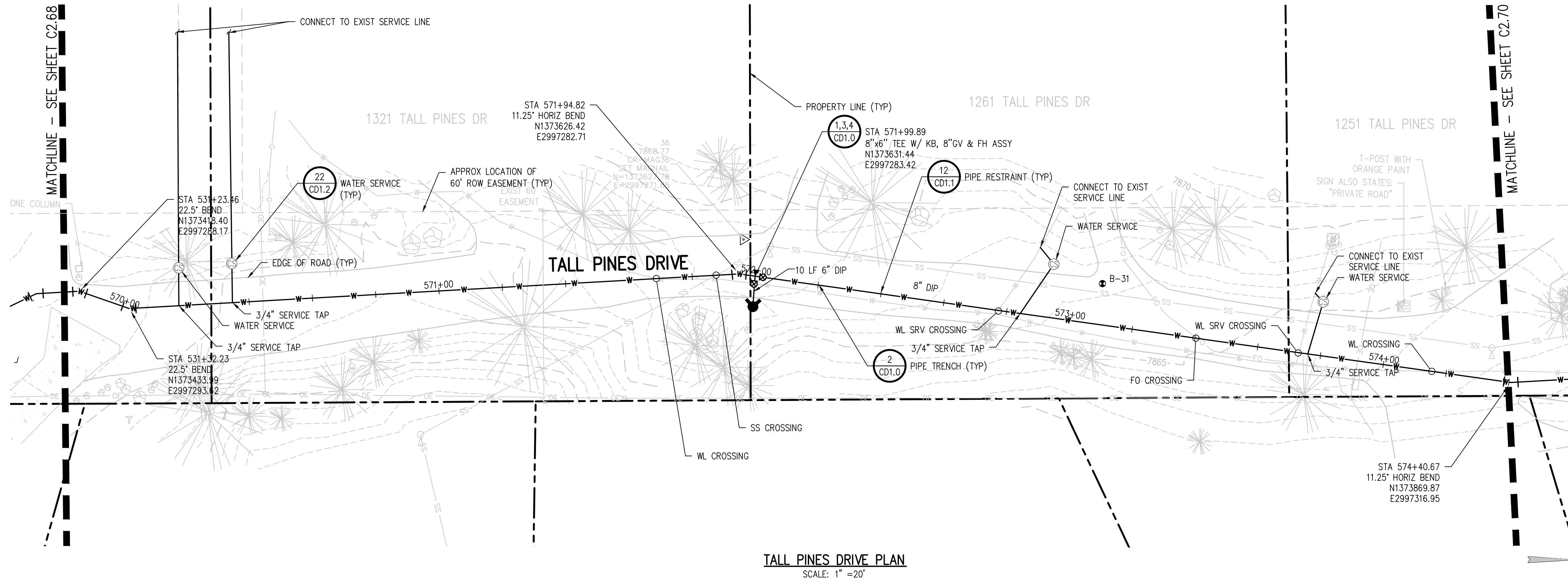
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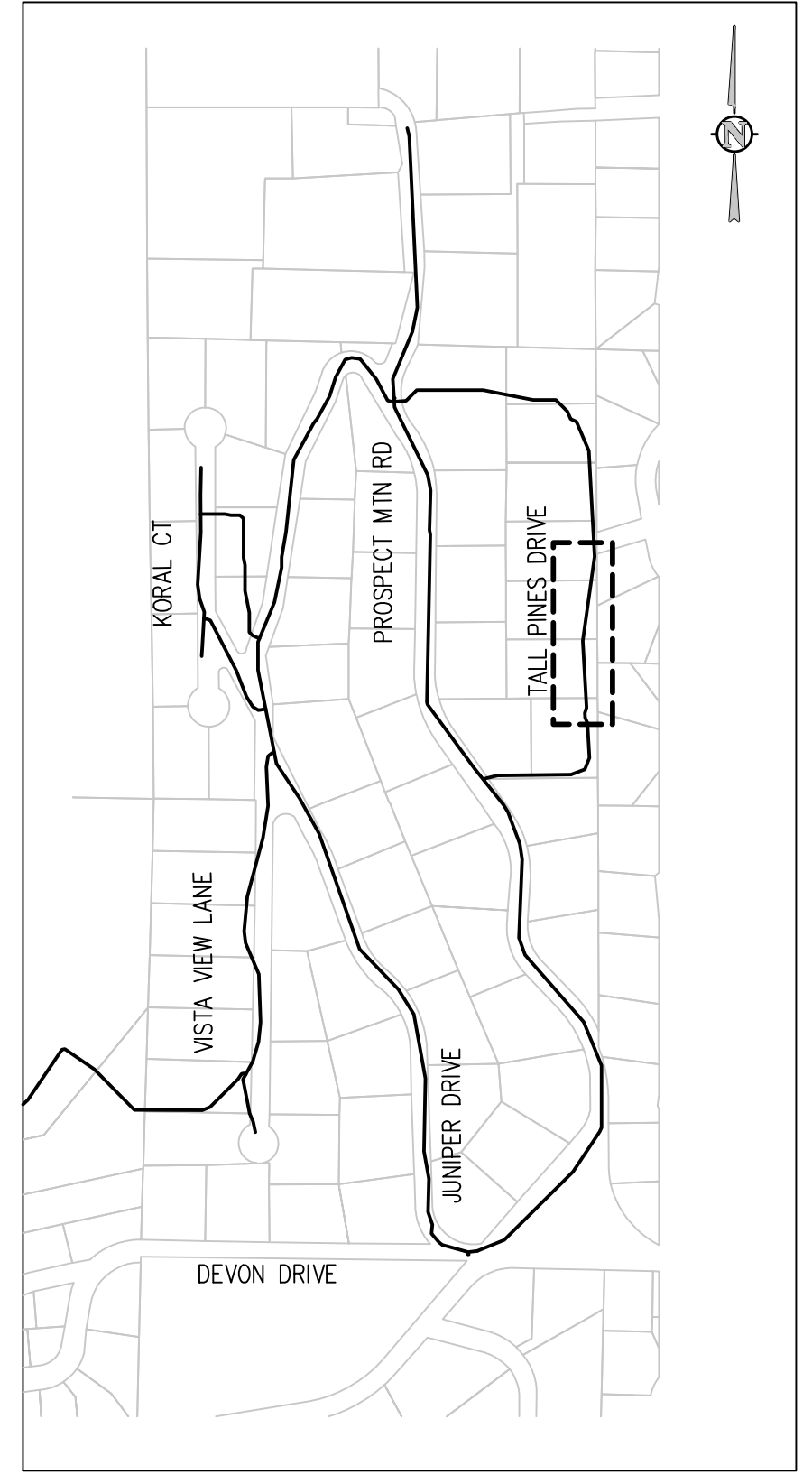
NO.	DATE	DESIGNED	DRAWN
DESIGNED BY: MMR/LAL			
DRAWN BY: ZCF/JJM/HMT			
CHECKED BY: JJM			
JOB #: 1066e			
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C2.68			

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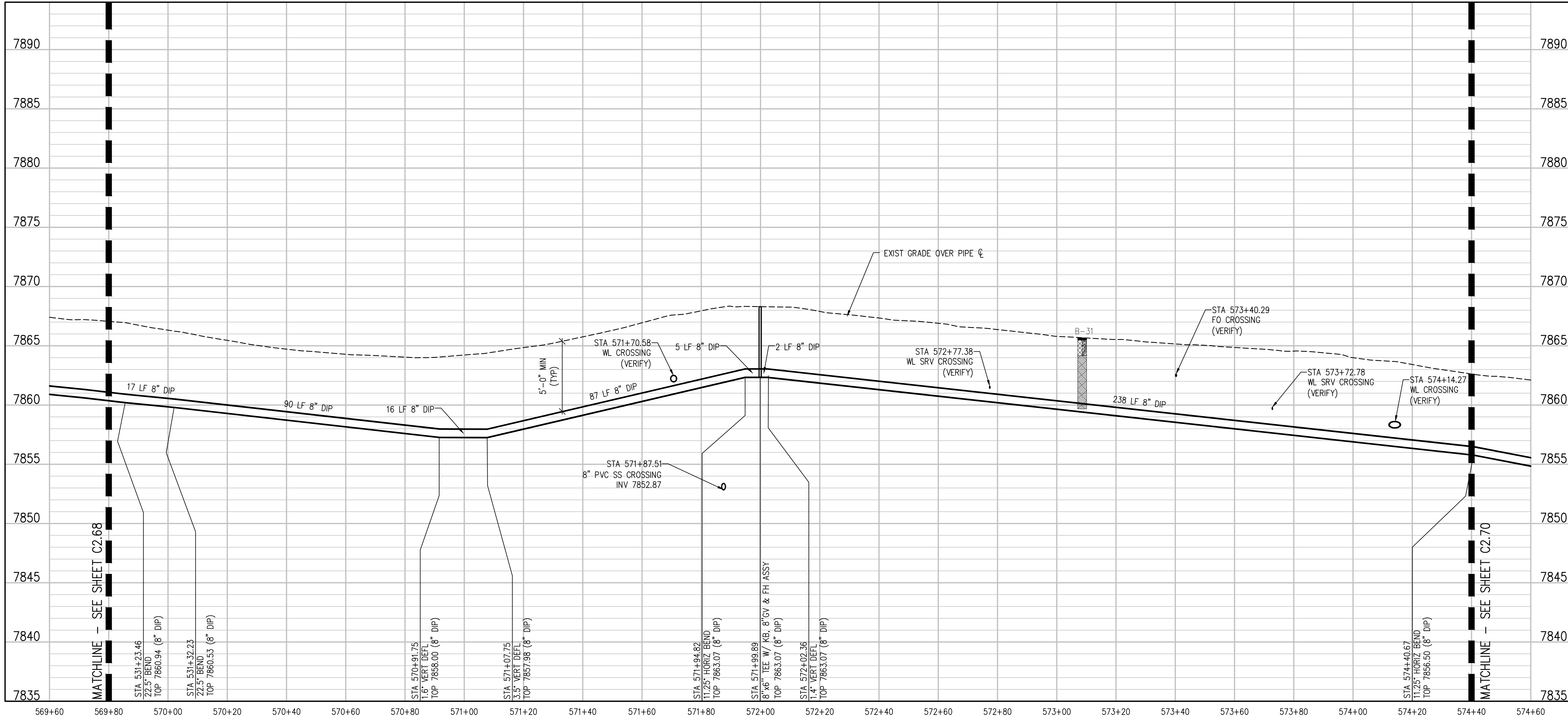




**TALL PINES DRIVE PLAN**  
SCALE: 1" = 20'



**KEY MAP**  
NTS



**TALL PINES DRIVE PROFILE**  
SCALE: 1" = 20' HORIZ  
1" = 5' VERT

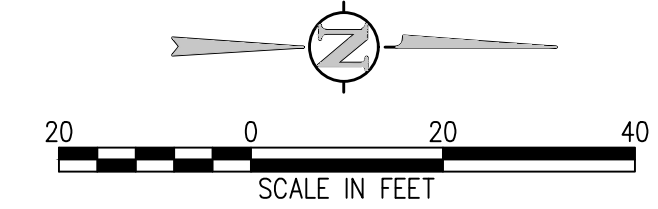
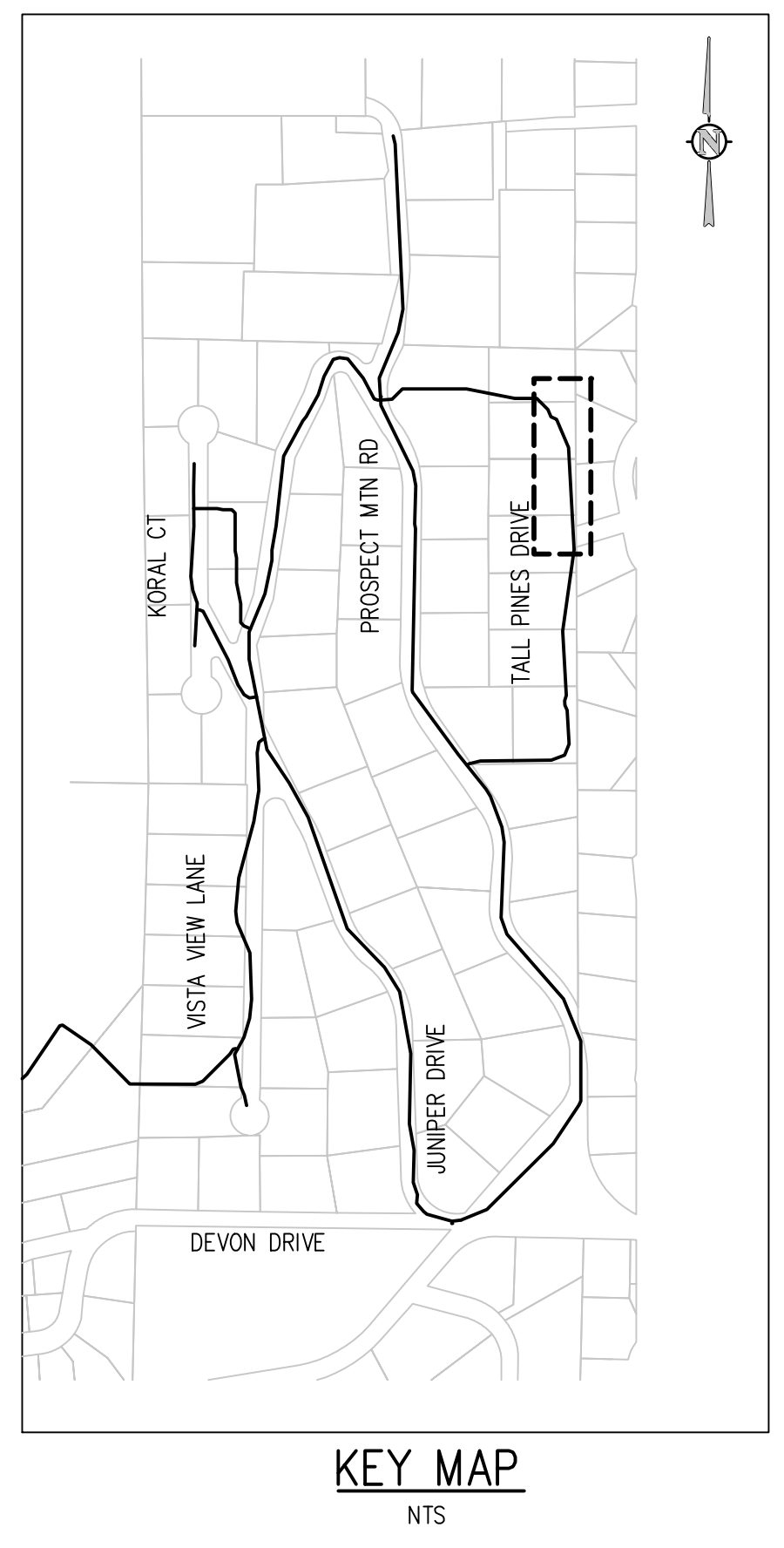
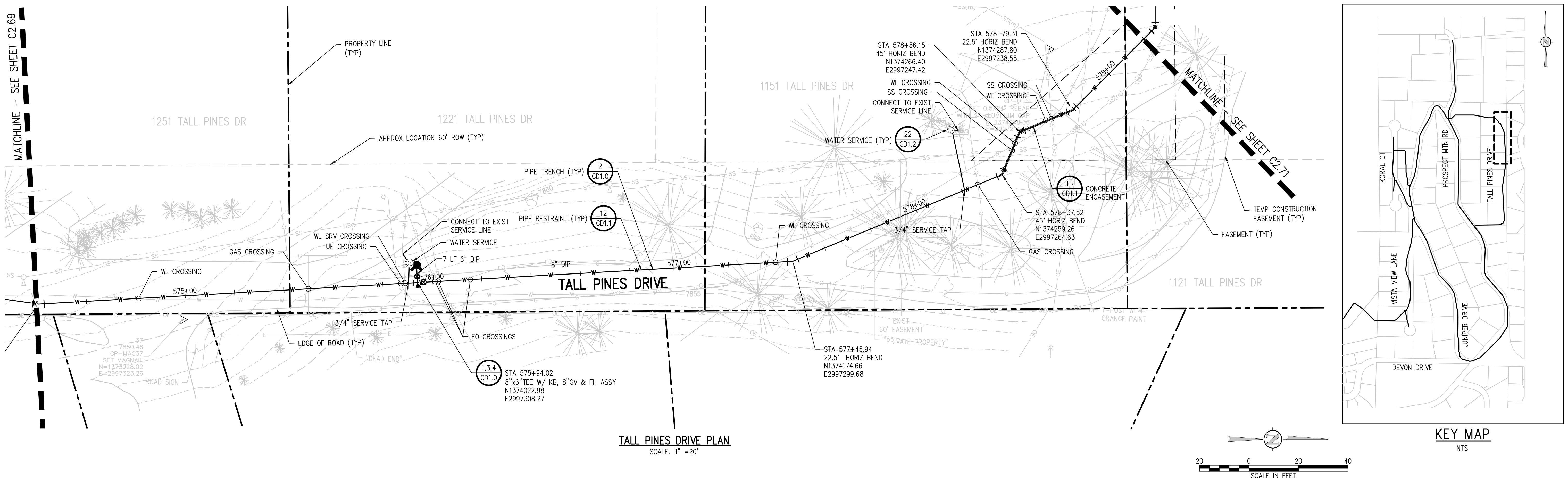
NO.	DATE	DES'D	OWN

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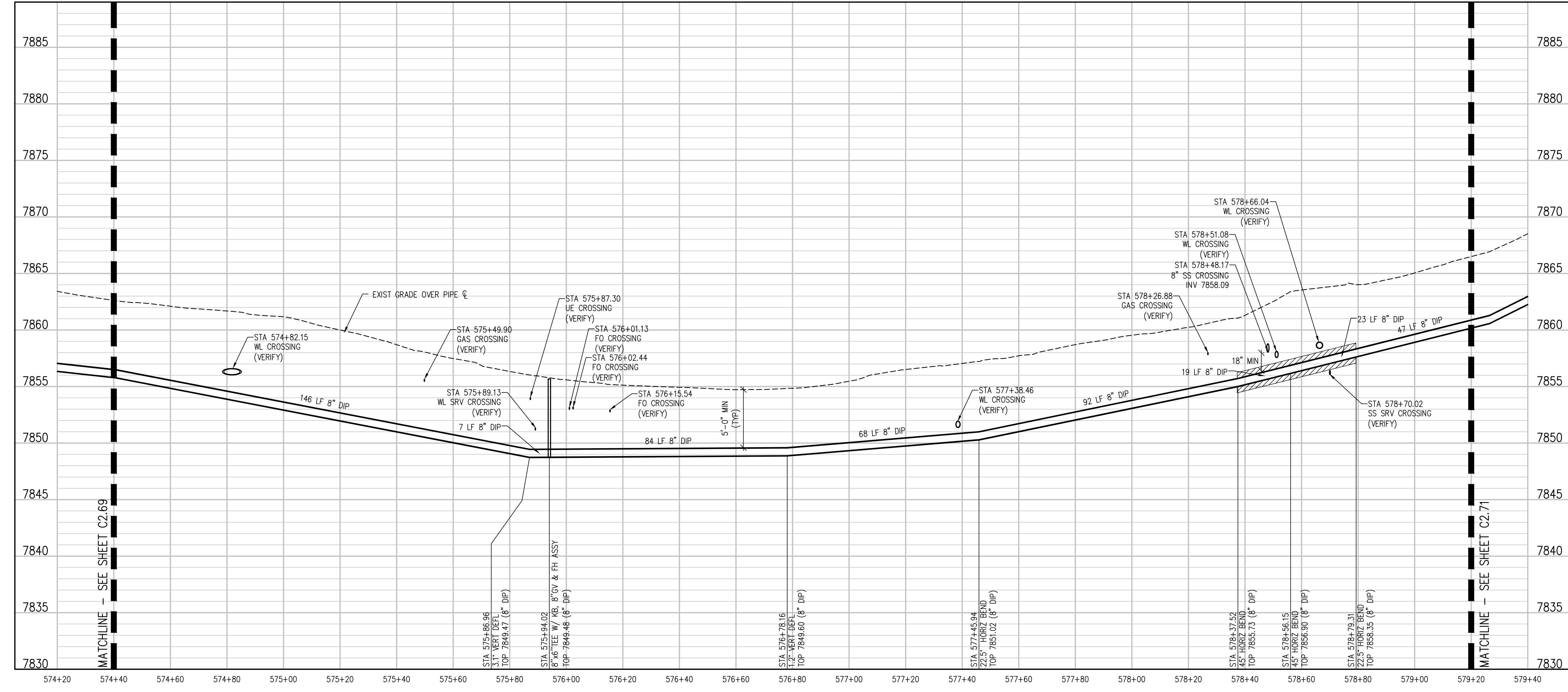
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TALL PINES DRIVE PLAN AND PROFILE

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**TALL PINES DRIVE PLAN**  
 SCALE: 1" = 20'



**TALL PINES DRIVE PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

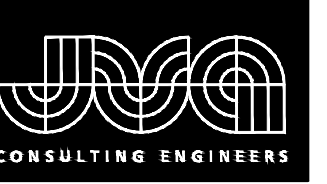
NO.	DATE	DES'D	OWN

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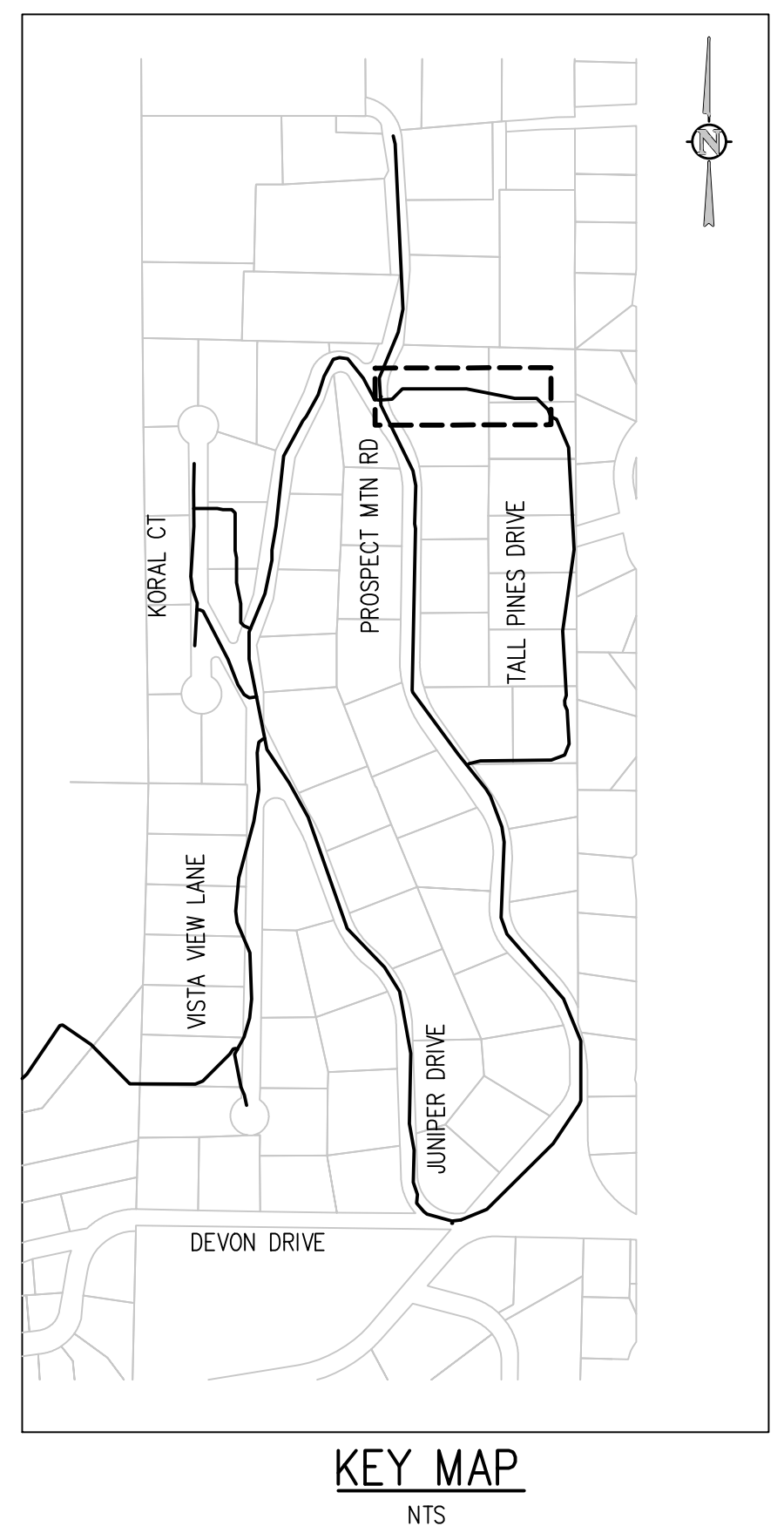
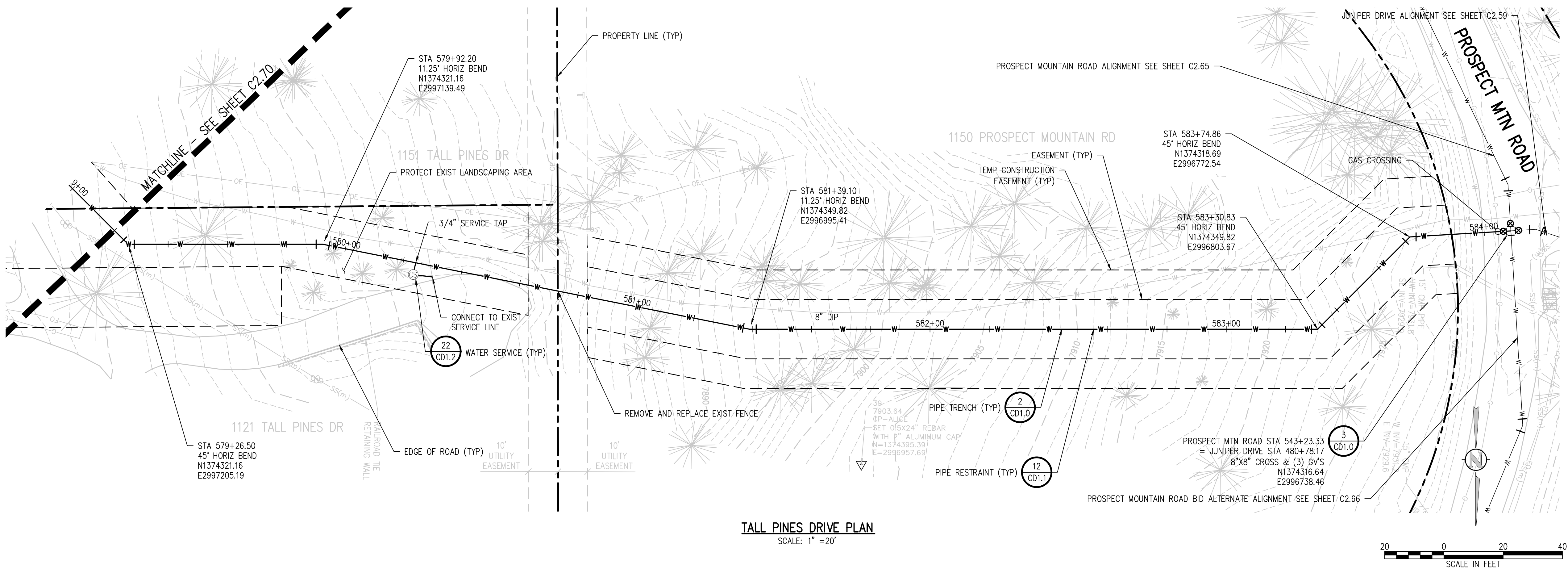
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 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TALL PINES DRIVE PLAN AND PROFILE

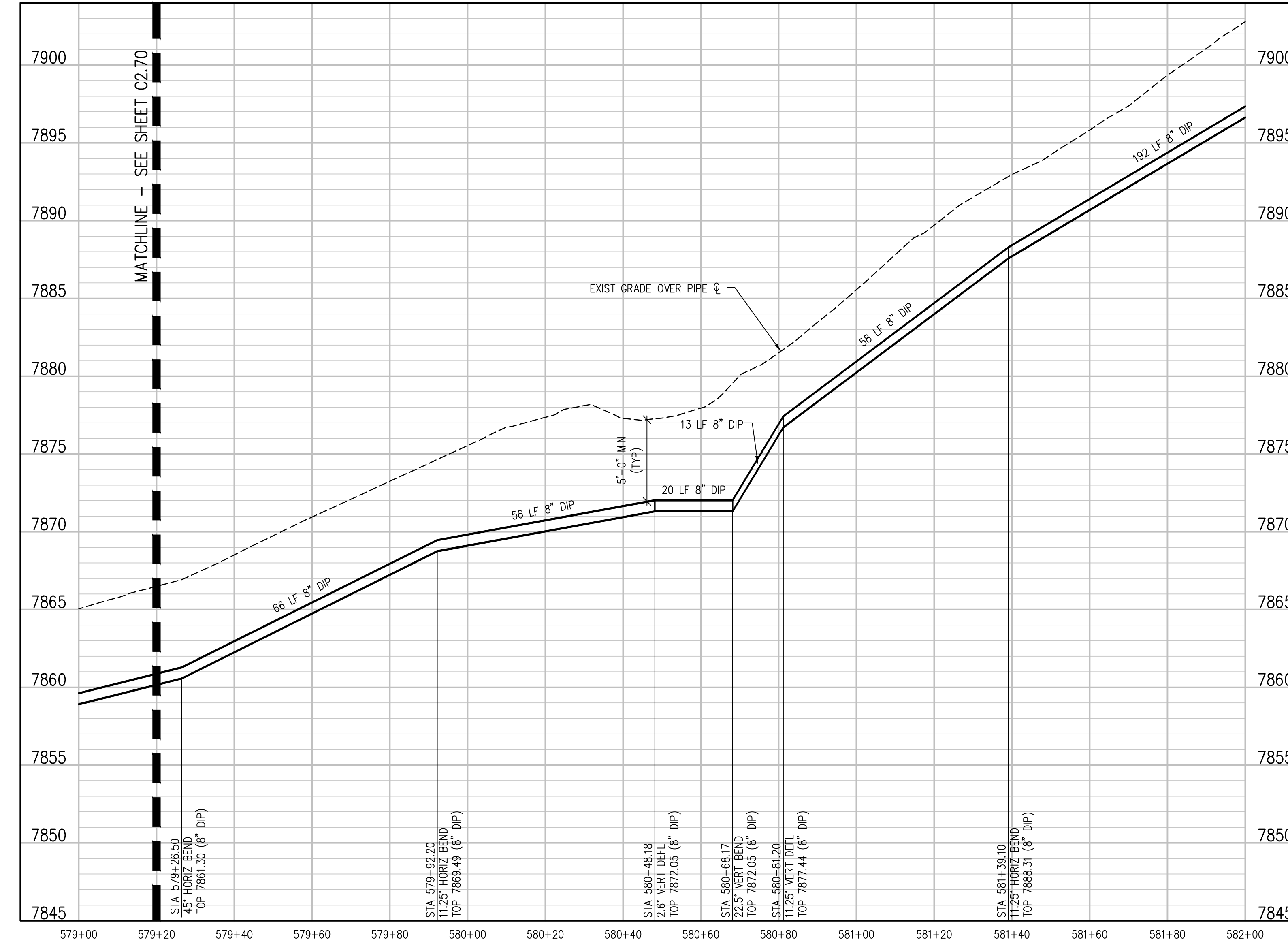
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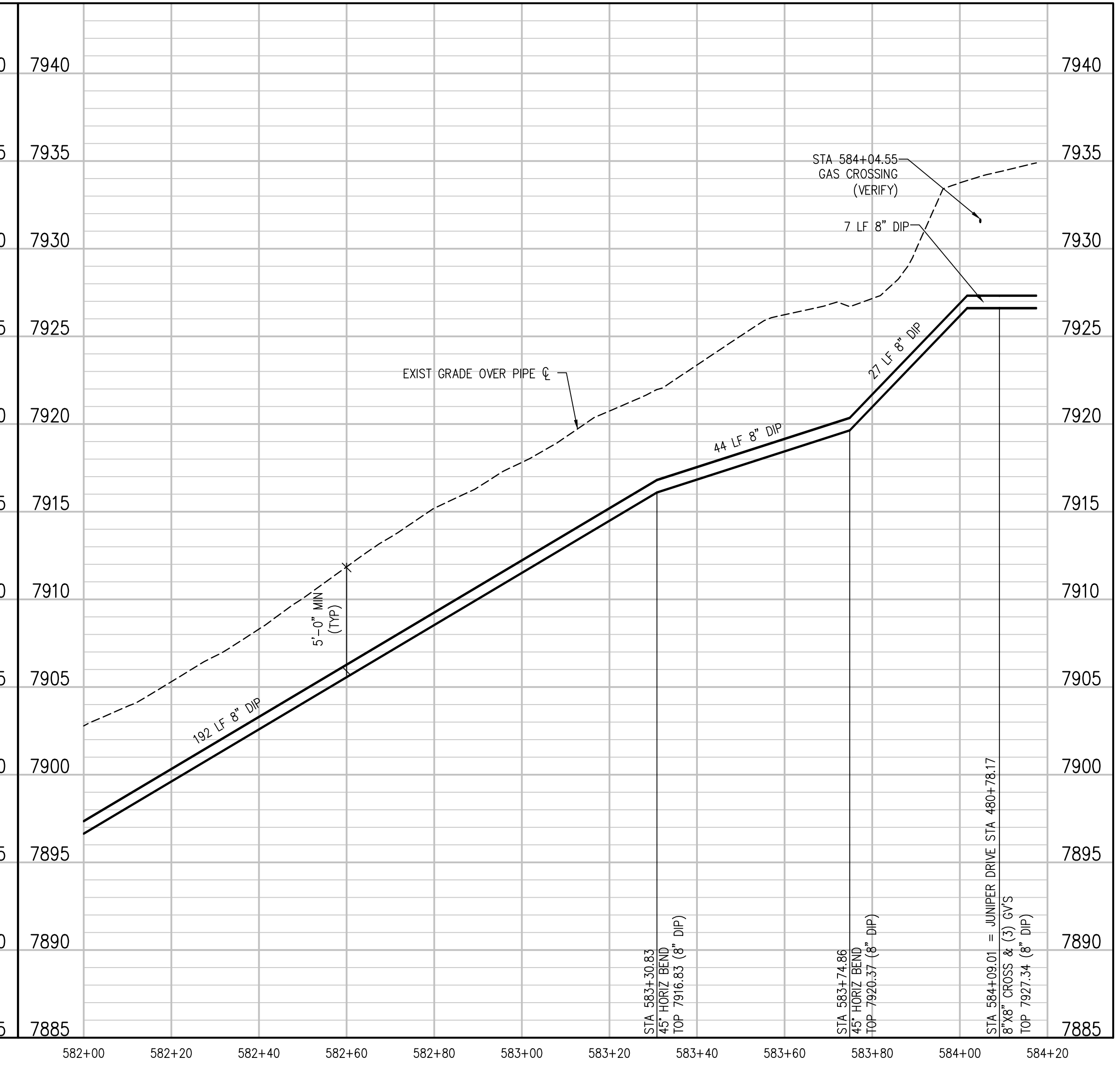
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**TALL PINES DRIVE PLAN**  
 SCALE: 1" = 20'



**TALL PINES DRIVE PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT



**TALL PINES DRIVE PROFILE**  
 SCALE: 1" = 20' HORIZ  
 1" = 5' VERT

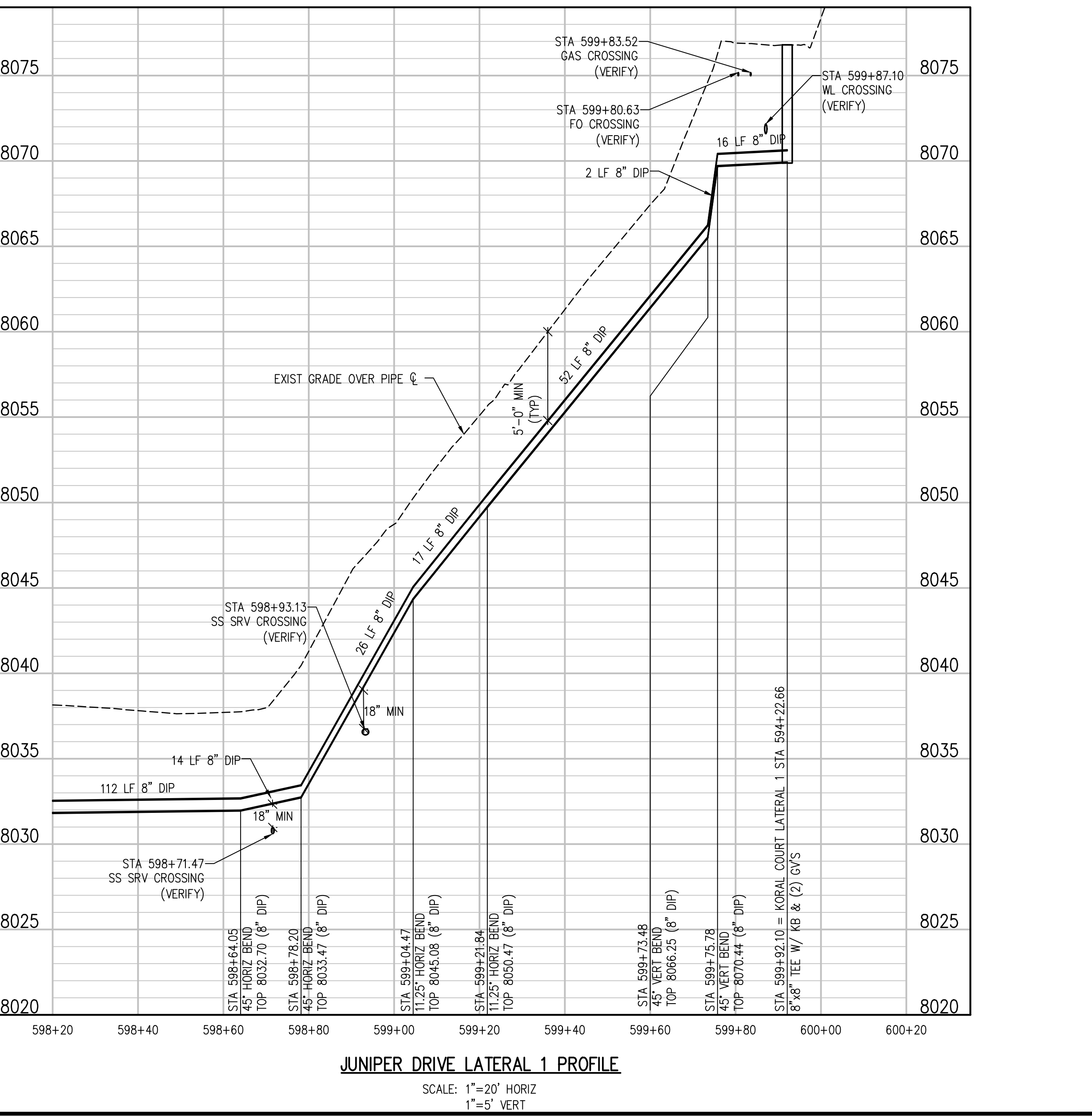
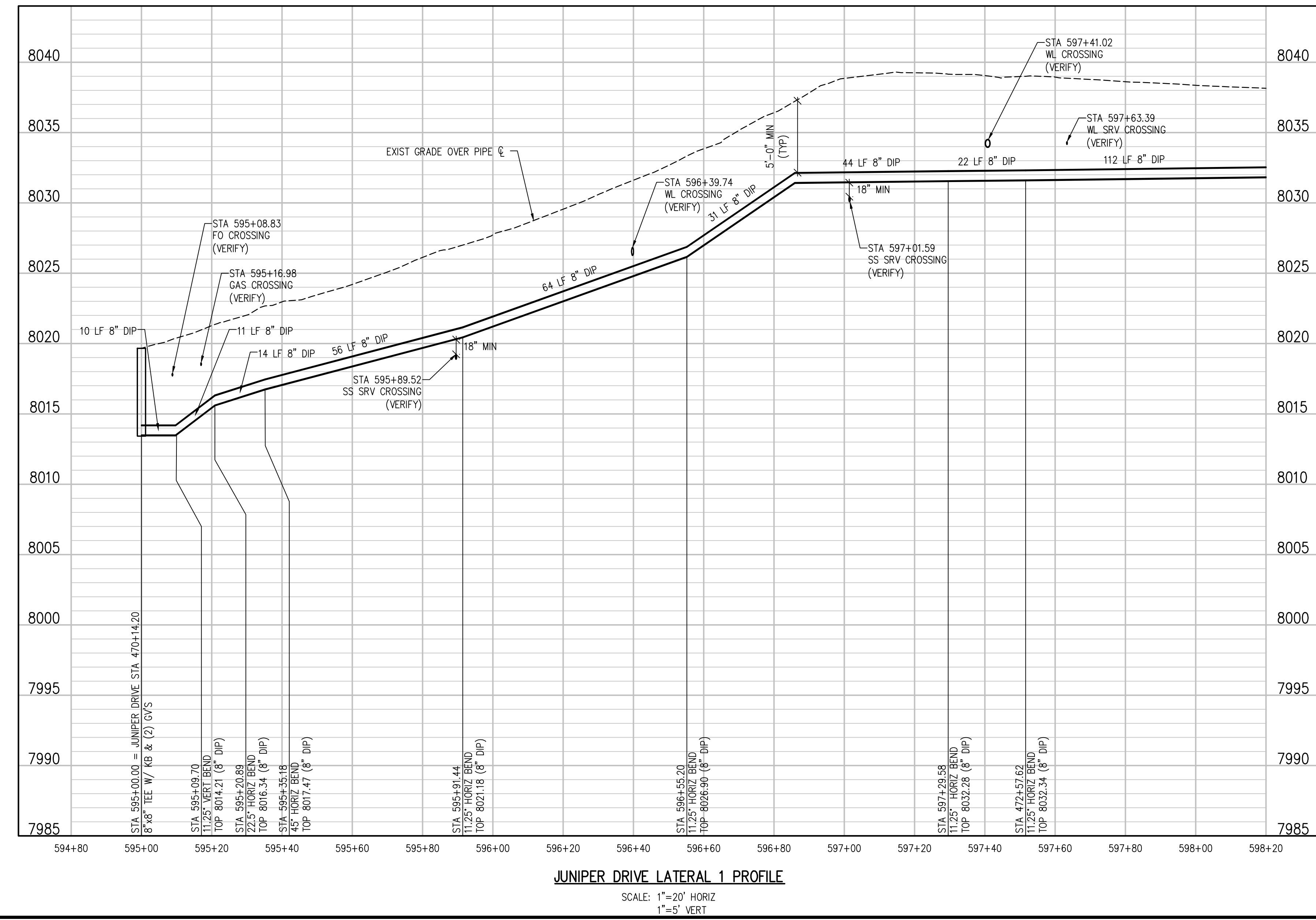
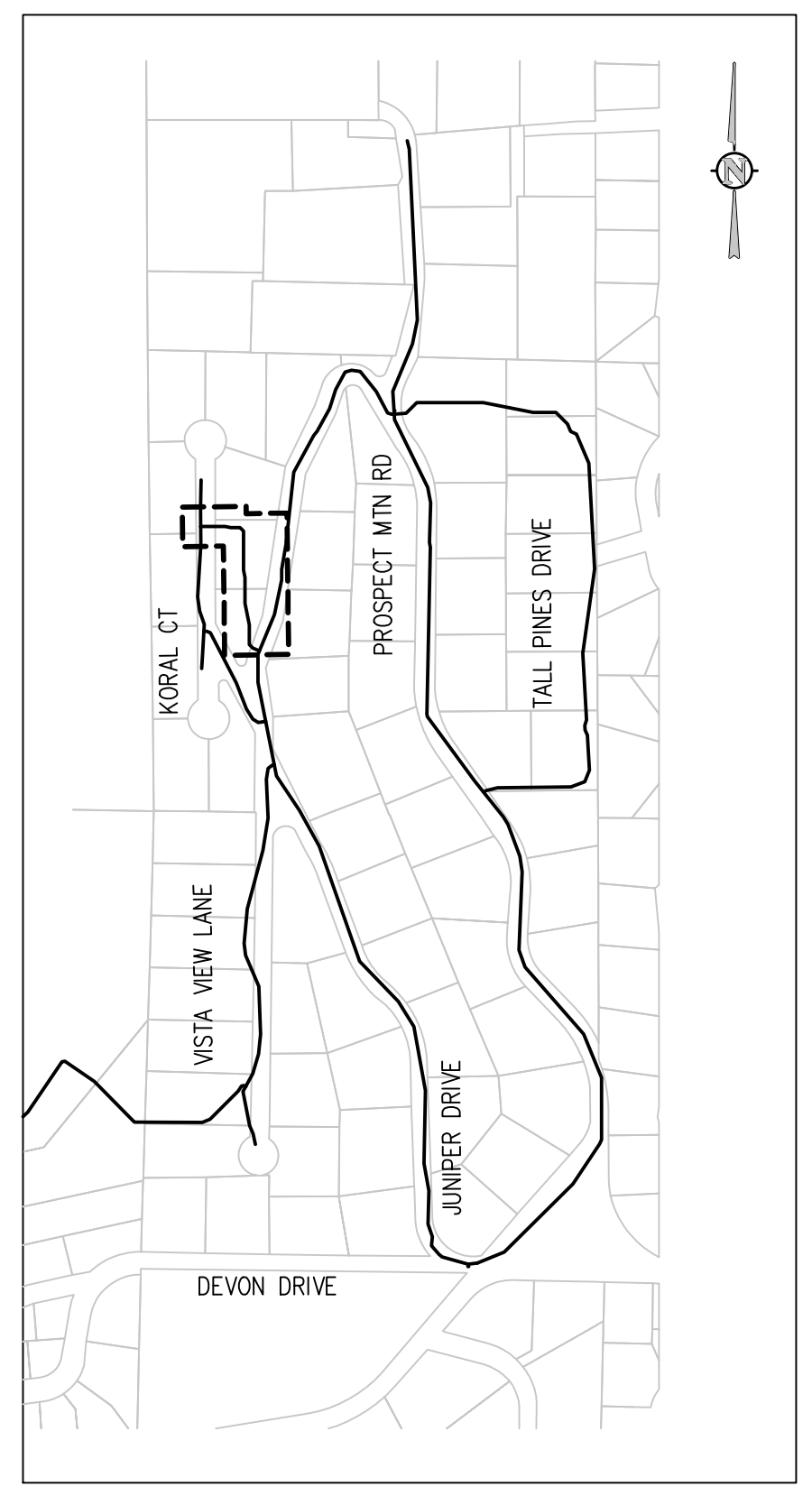
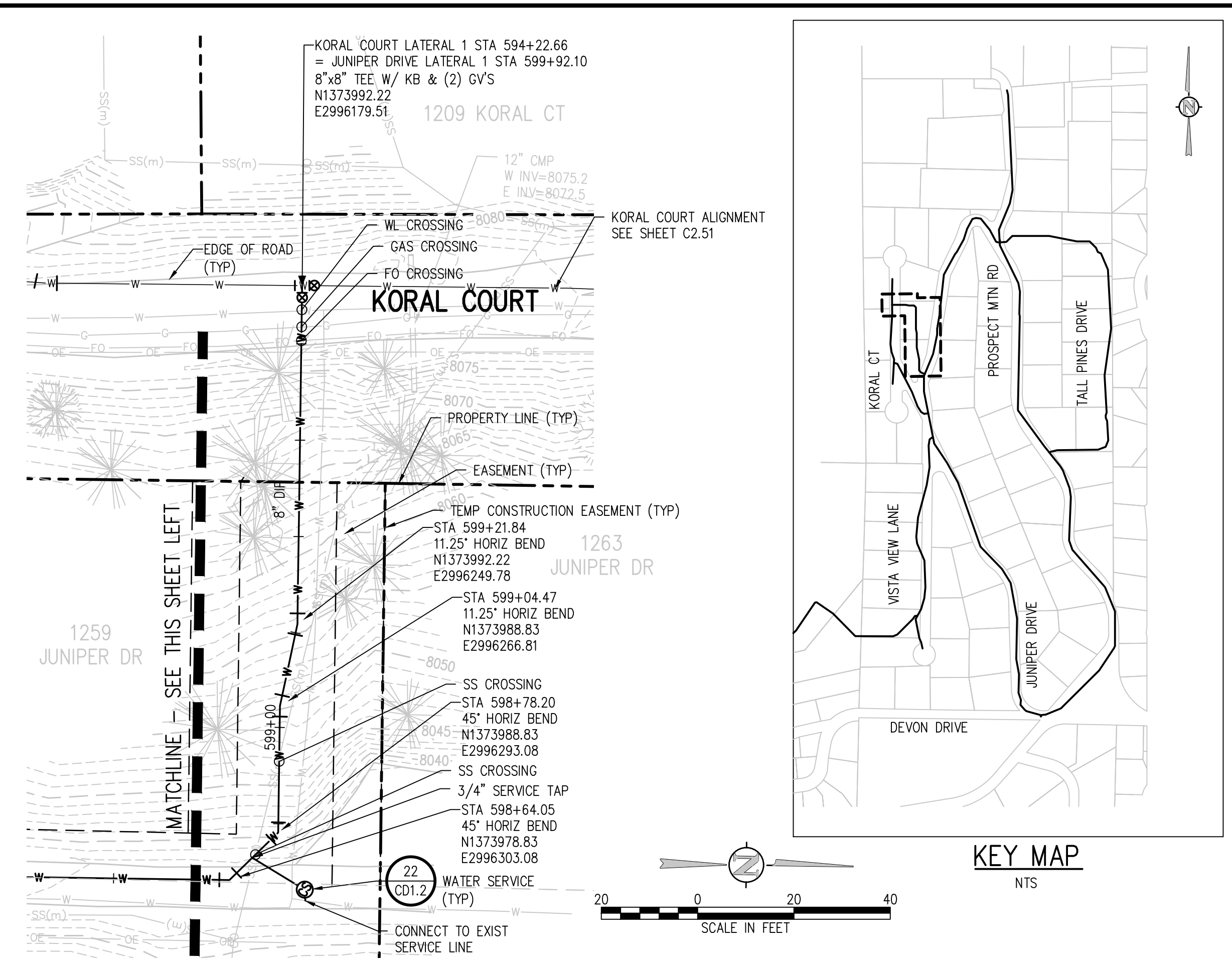
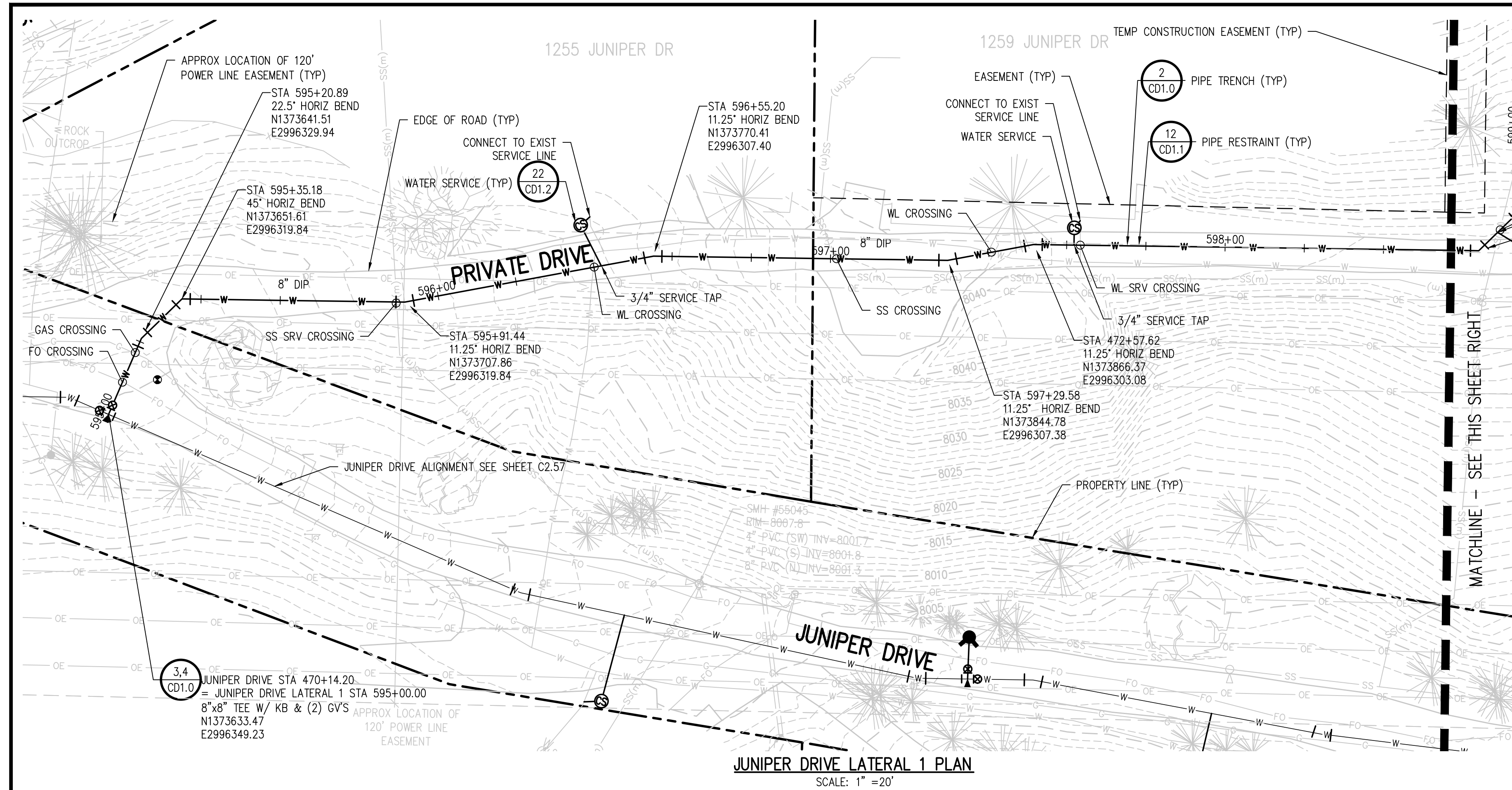
NO.	DATE	DESIGNED	DRAWN

DESIGNED BY: MMR/LAL
DRAWN BY: ZCF/JJM/HT
CHECKED BY: JJM
JOB #: 1066e
DATE: SEPTEMBER 2022
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TALL PINES DRIVE PLAN AND PROFILE

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NO.	DATE	DESIGNED BY	DRAWN BY

NO.	DATE	DESCRIPTION

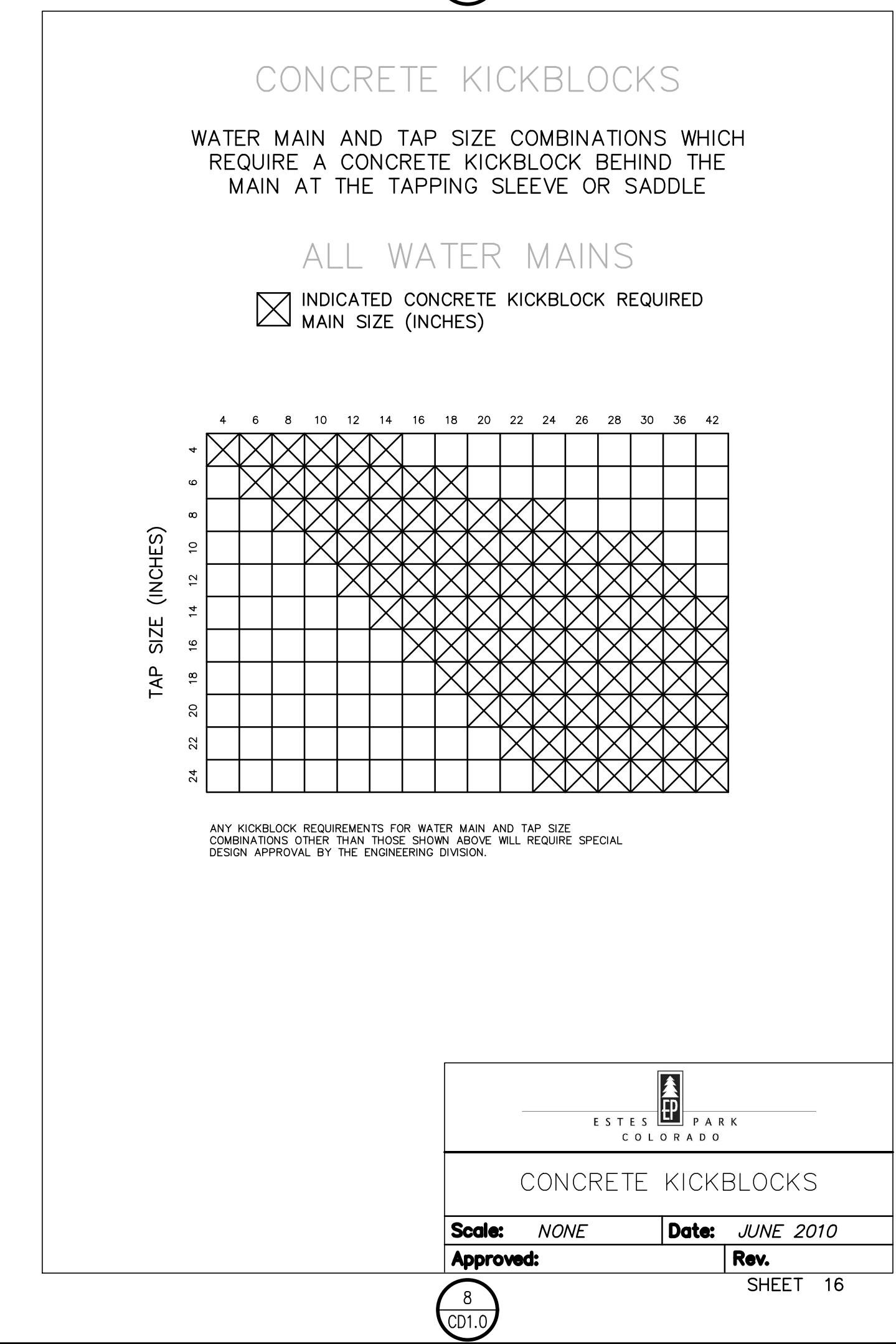
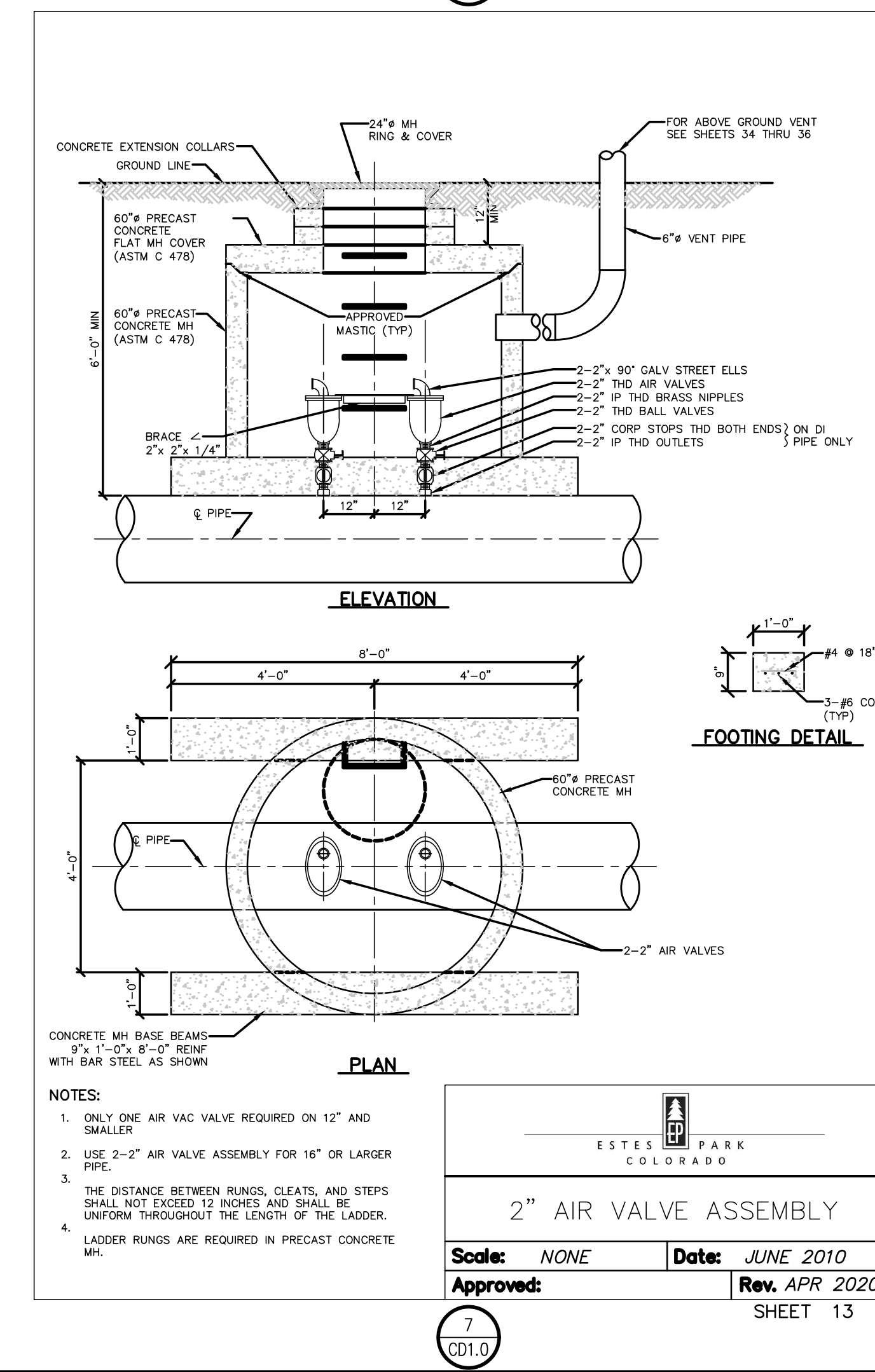
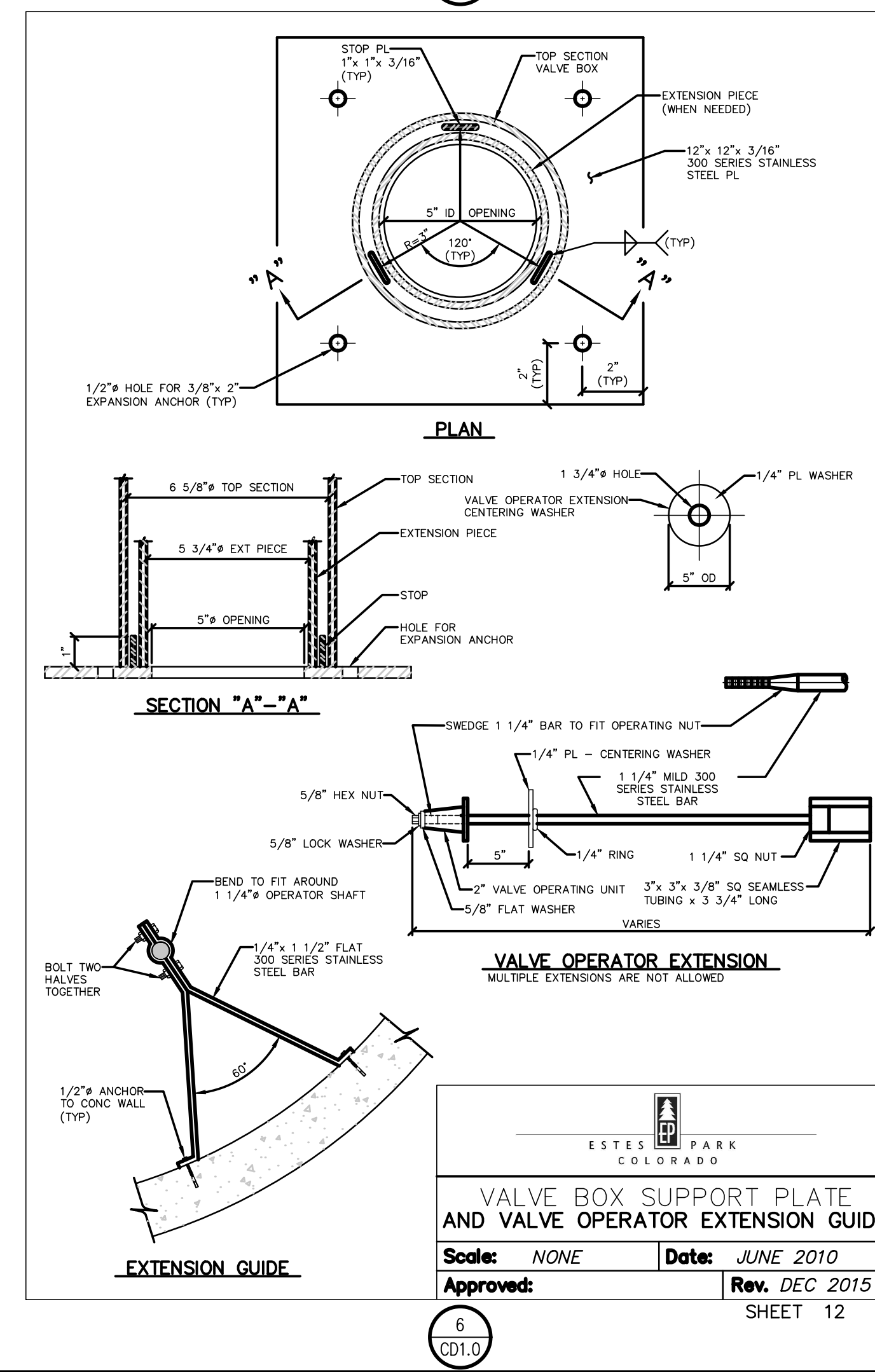
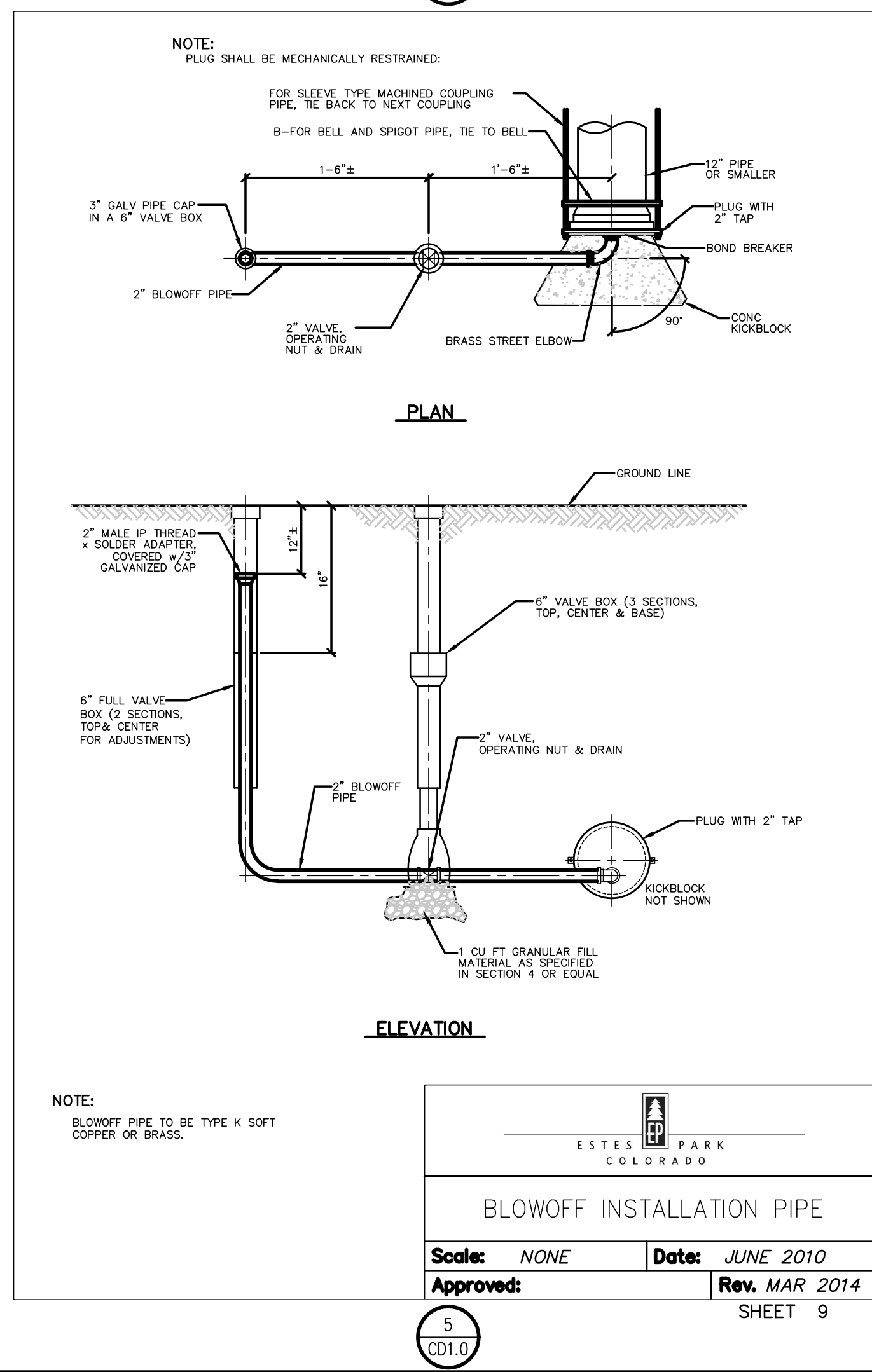
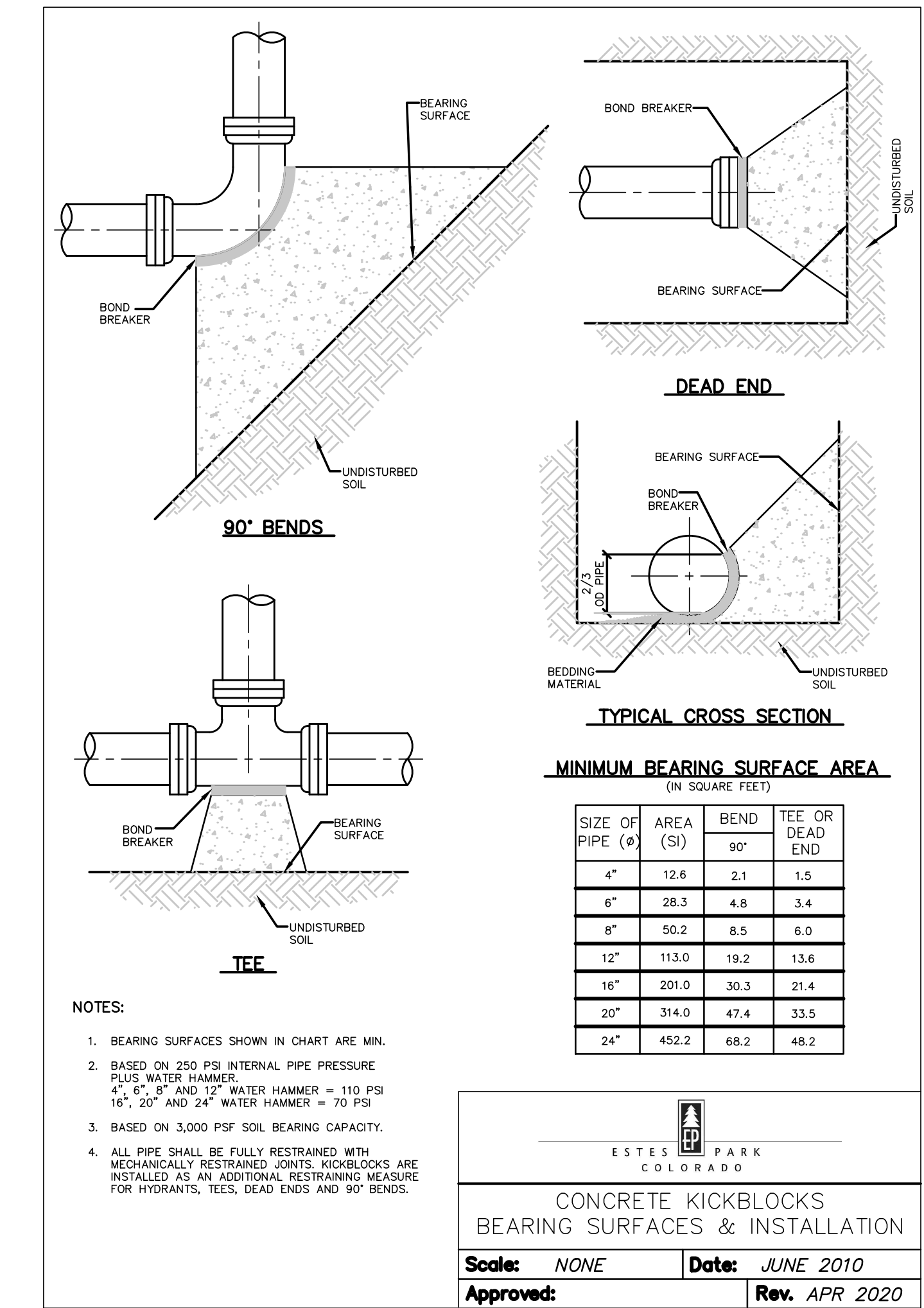
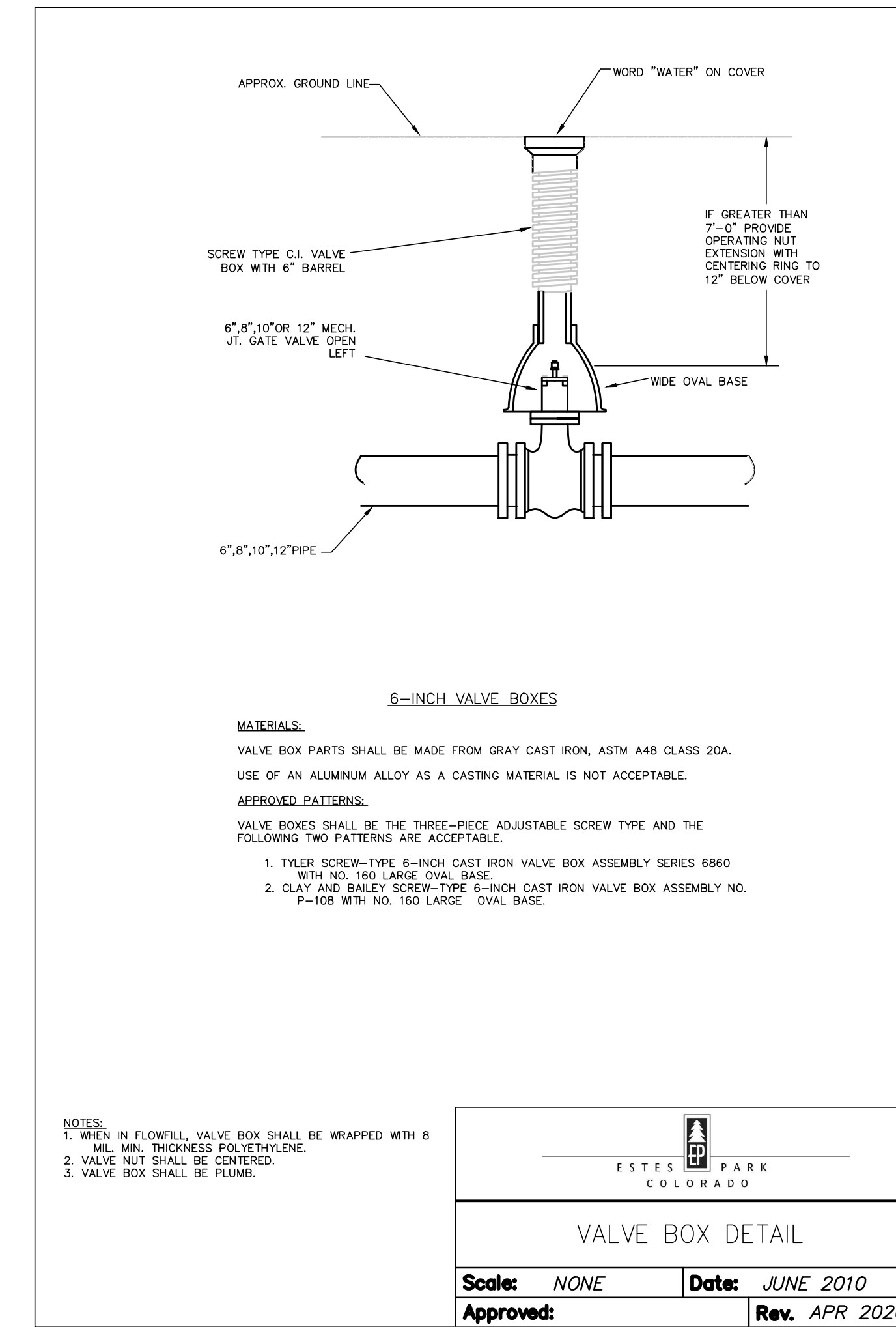
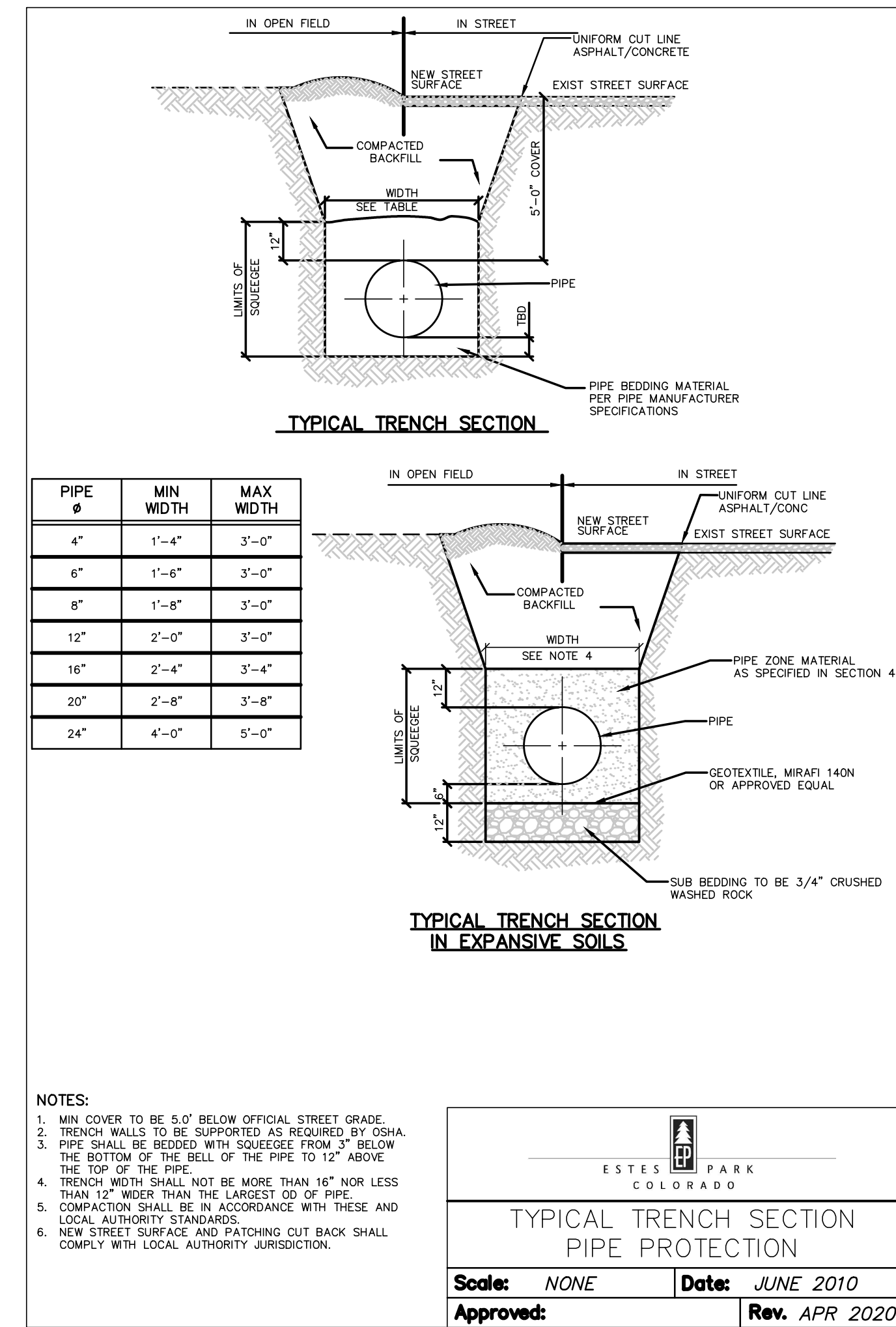
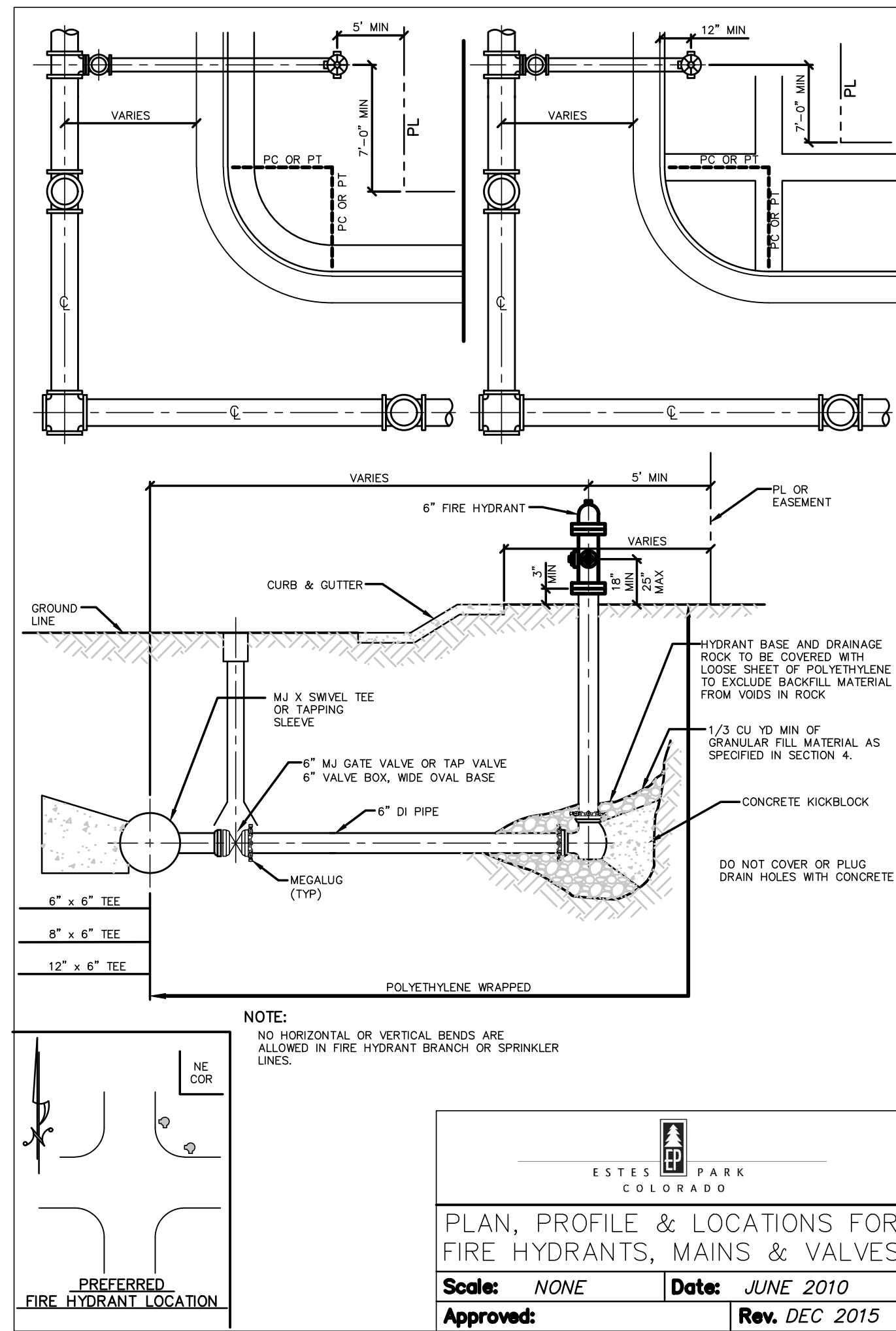
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CHECKED BY: JJM
JOB #: 1066e
DATE: SEPTEMBER 2022
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

JUNIPER DRIVE LATERAL 1  
 PLAN AND PROFILE

SHEET NO. **C2.72**

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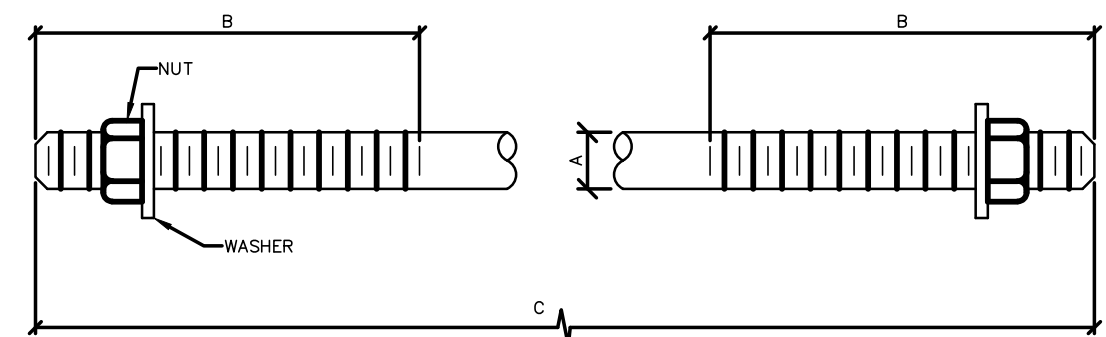
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7	CD1.0		
8	CD1.0		

DESIGNED BY: MMR/LAL  
DRAWN BY: ZCF/JJM/HT  
CHECKED BY: JJM  
JOB #: 1066e  
DATE: SEPTEMBER 2022  
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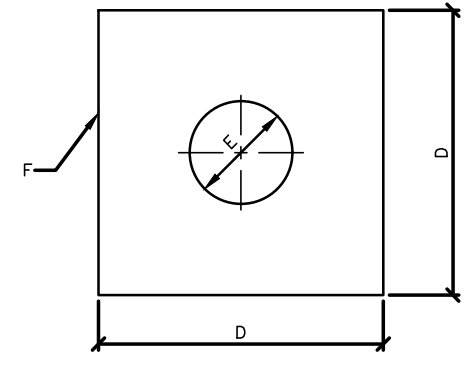
PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

CIVIL DETAILS

SHEET NO. CD1.0



TIE ROD DETAILS



WASHER DETAIL

TIE RODS			
A	B	C	GRADE
ROD Ø	THREAD LENGTH	ROD LENGTH	
3/4"	6"	1' TO 11' & 20'	MS
1", 1 1/2"	ALL THREAD	1' TO 11' & 20'	HS

WASHERS		
D	E	F
WIDTH	HOLE Ø	THICKNESS
5"	1/8" LARGER THAN ROD Ø	1/2"
6"	1/8" LARGER THAN ROD Ø	5/8"

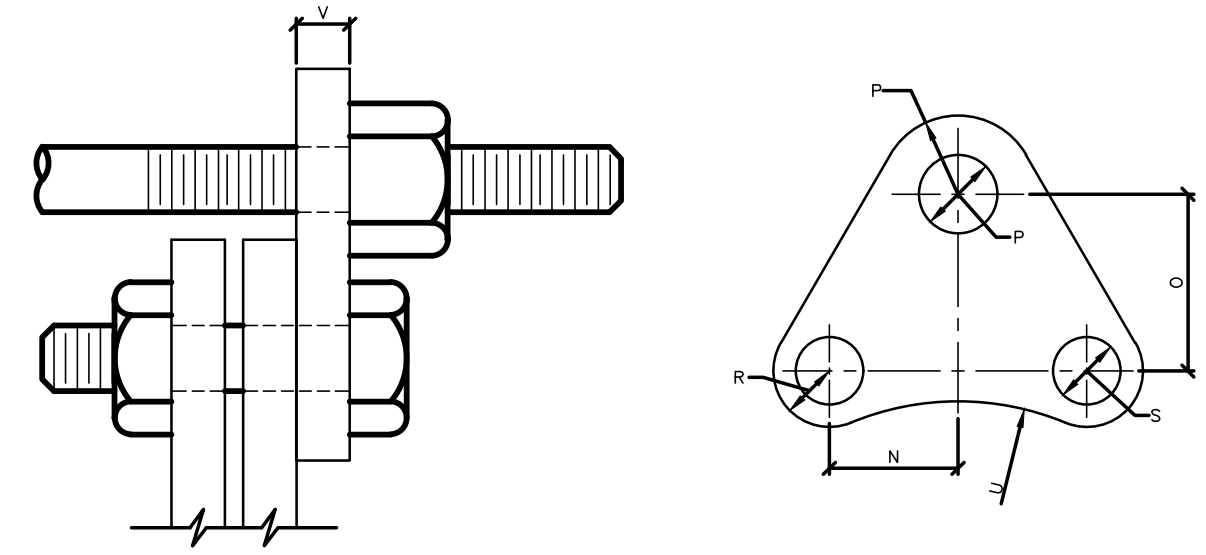
- NOTES:
- SEE TIED JOINTS, ROD DIMENSIONS SHEET.
  - SEE CLAMP DETAILS AND DIMENSION (SHEET 20) FOR PROPER PLACEMENT OF WASHERS.
  - MS=MILD STEEL HS=HIGH STRENGTH

**ESTES PARK COLORADO**

**TIE ROD AND WASHER DETAILS**

Scale: NONE Date: JUNE 2010  
Approved: Rev.

SHEET 18



FLANGE LUG DETAIL

**DIMENSIONS**  
(N INCHES)

PIPE Ø	N	O	HS RODS		MS RODS		R	S	U	V	PIPE Ø	
			P	ROD Ø	P	ROD Ø						
3	2 1/8	2 9/16"	-	-	7/8	3/4	3/4	5/8	2 3/8	3/4	3	
4	1 7/16	2	-	-	7/8	3/4	3/4	5/8	3 1/8	3/4	4	
6	1 13/16	2 1/16	-	-	7/8	3/4	7/8	3/4	4	3/4	6	
8	2 1/4	2 1/4	-	-	7/8	3/4	7/8	3/4	5 1/8	3/4	8	
10	1 7/8	2 1/16	-	-	7/8	3/4	1	7/8	6 1/4	3/4	10	
12	2 1/4	2 5/16	7/8	3/4	-	-	1	7/8	5 7/8	1	10	
16	2 1/8	2 7/16	1 1/8	1	-	-	1 1/8	1	9 5/8	1 1/8	12	
20	2	2 5/8	1 3/8	1 1/4	-	-	1 1/4	1 1/8	11 3/8	1 1/4	20	
24					RODS AND CLAMPS NOT ALLOWED							24

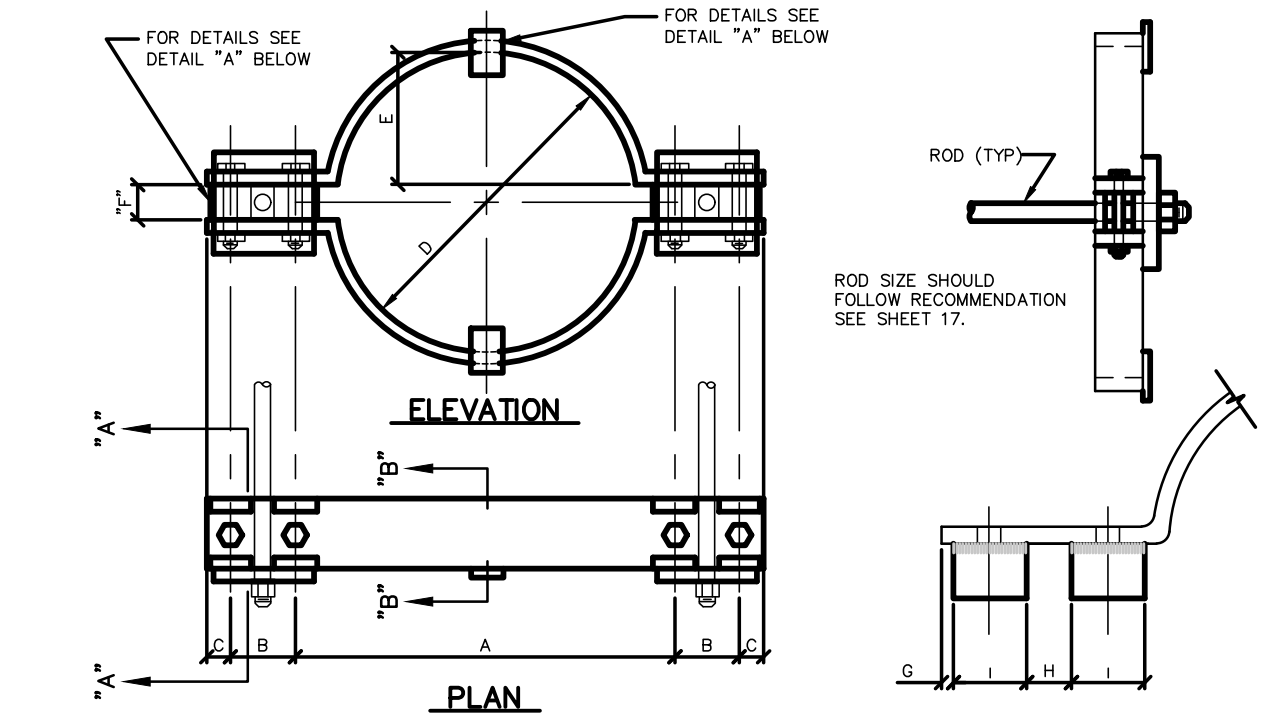
- NOTES:
- MS MEANS MILD STEEL ROD ASTM A 36 (NUTS SHALL BE ASTM A 307 GRADE A OR B HEXAGON HEAVY SERIES)
  - HS MEANS HIGH STRENGTH STEEL ROD ASTM A 193 GRADE B7 (NUTS SHALL BE ASTM A 194 GRADE 2H)

**ESTES PARK COLORADO**

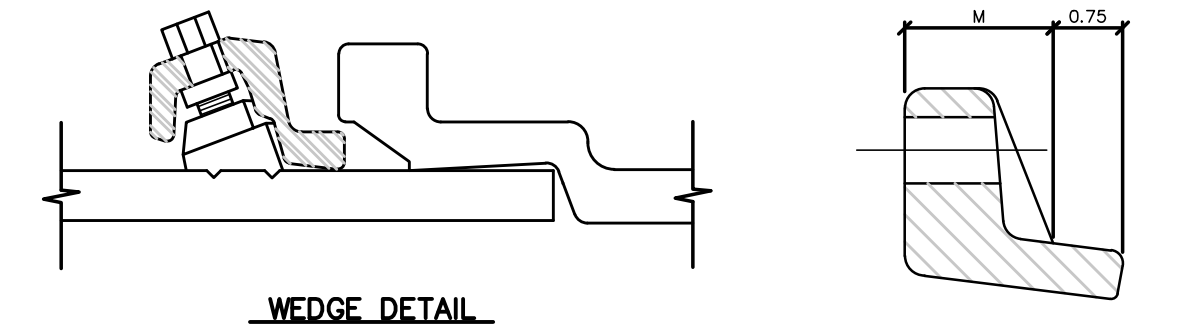
**FLANGE LUG DETAIL**

Scale: NONE Date: JUNE 2010  
Approved: Rev.

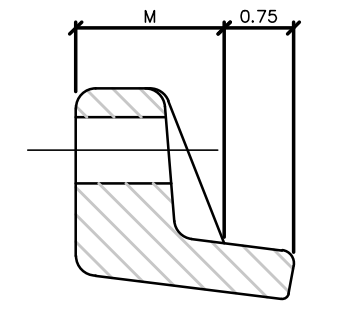
SHEET 19



MECHANICAL JOINT RESTRAINT



WEDGE DETAIL



BOLT HOLE DETAIL

**DIMENSIONS**

NOMINAL PIPE SIZE	NO OF BOLTS	NO OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
4"	4	2				
6"	6	3	11.12	9.50	7.00	0.88
8"	6	4	13.37	11.75	9.15	1.00
10"	8	6	15.62	14.00	11.20	1.00
12"	8	8	17.88	16.25	13.30	1.25
16"	12	12	22.50	21.00	17.54	1.56
20"	14	14	27.00	25.50	21.74	1.69

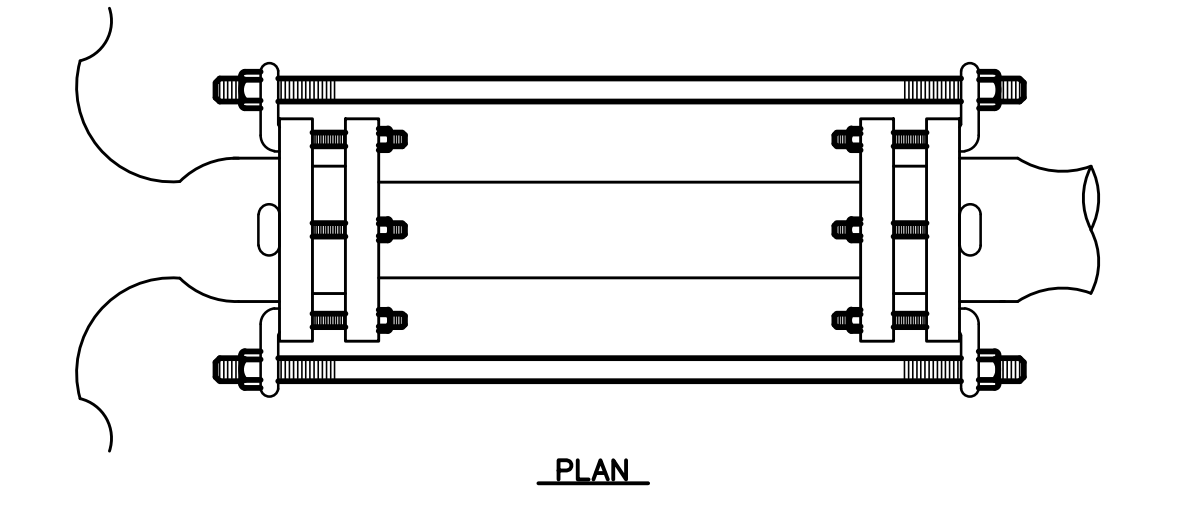
- NOTE:
- OTHER MECHANICAL JOINT RESTRAINT DEVICES MUST BE APPROVED BEFORE INSTALLATION.

**ESTES PARK COLORADO**

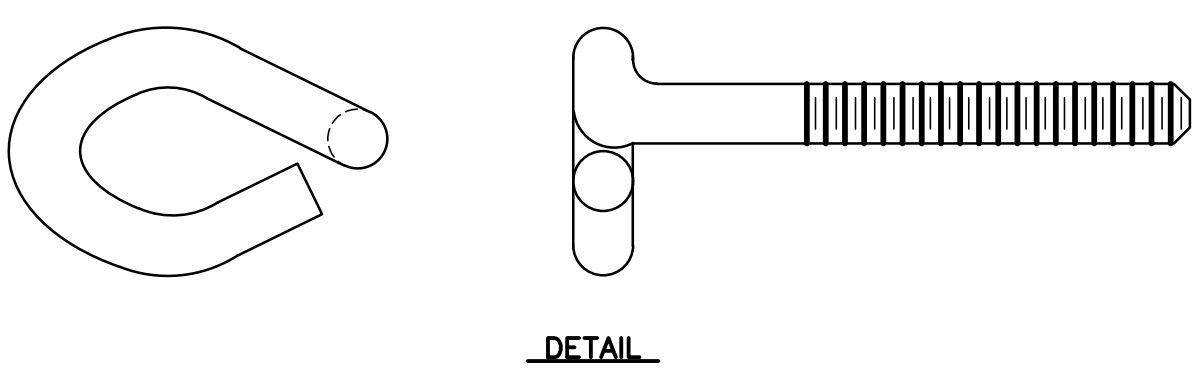
**MECHANICAL JOINT RESTRAINT DETAILS**

Scale: NONE Date: JUNE 2010  
Approved: Rev.

SHEET 21



PLAN



DETAIL

**DIMENSIONS**

ALLOWABLE PIPE SIZE INCHES	BOLT SIZE INCHES	NO OF BOLTS REQD
4	3/4	2
6	3/4	2
8	3/4	4
10	3/4	4
12	3/4	6

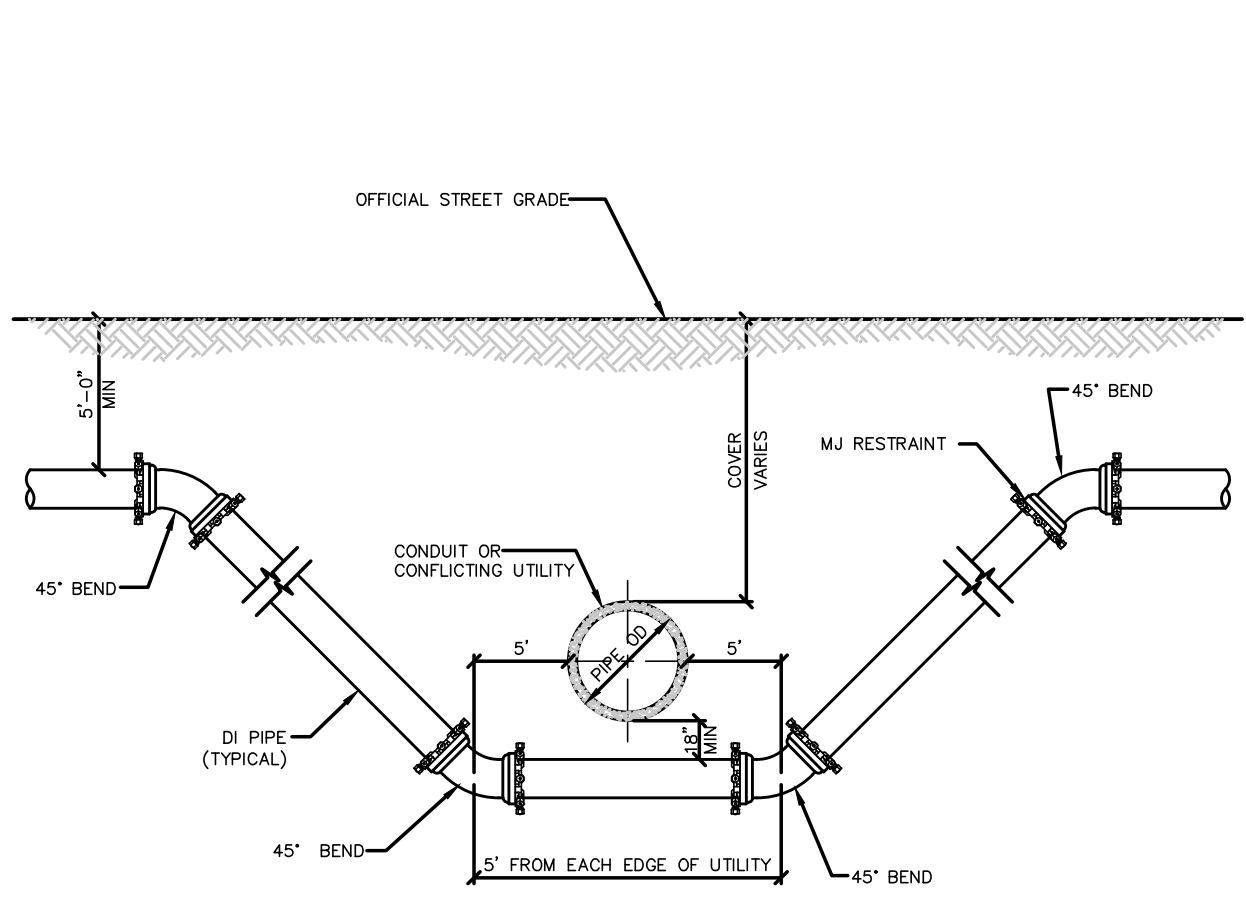
- NOTES:
- THE BOLT SHALL BE MANUFACTURED OF "COR-TEN" OR APPROVED EQUAL.
  - THE BOLT MAY BE HEAT TREATED.

**ESTES PARK COLORADO**

**JOINT RESTRAINT DETAIL**

Scale: NONE Date: JUNE 2010  
Approved: Rev. MAR 2014

SHEET 22



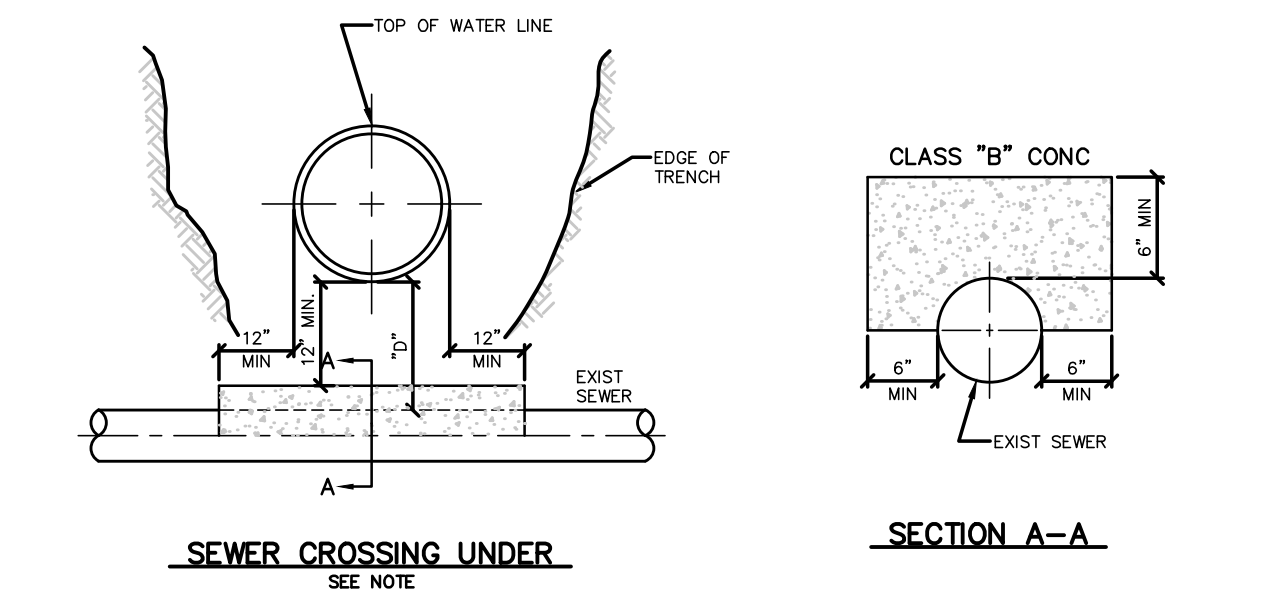
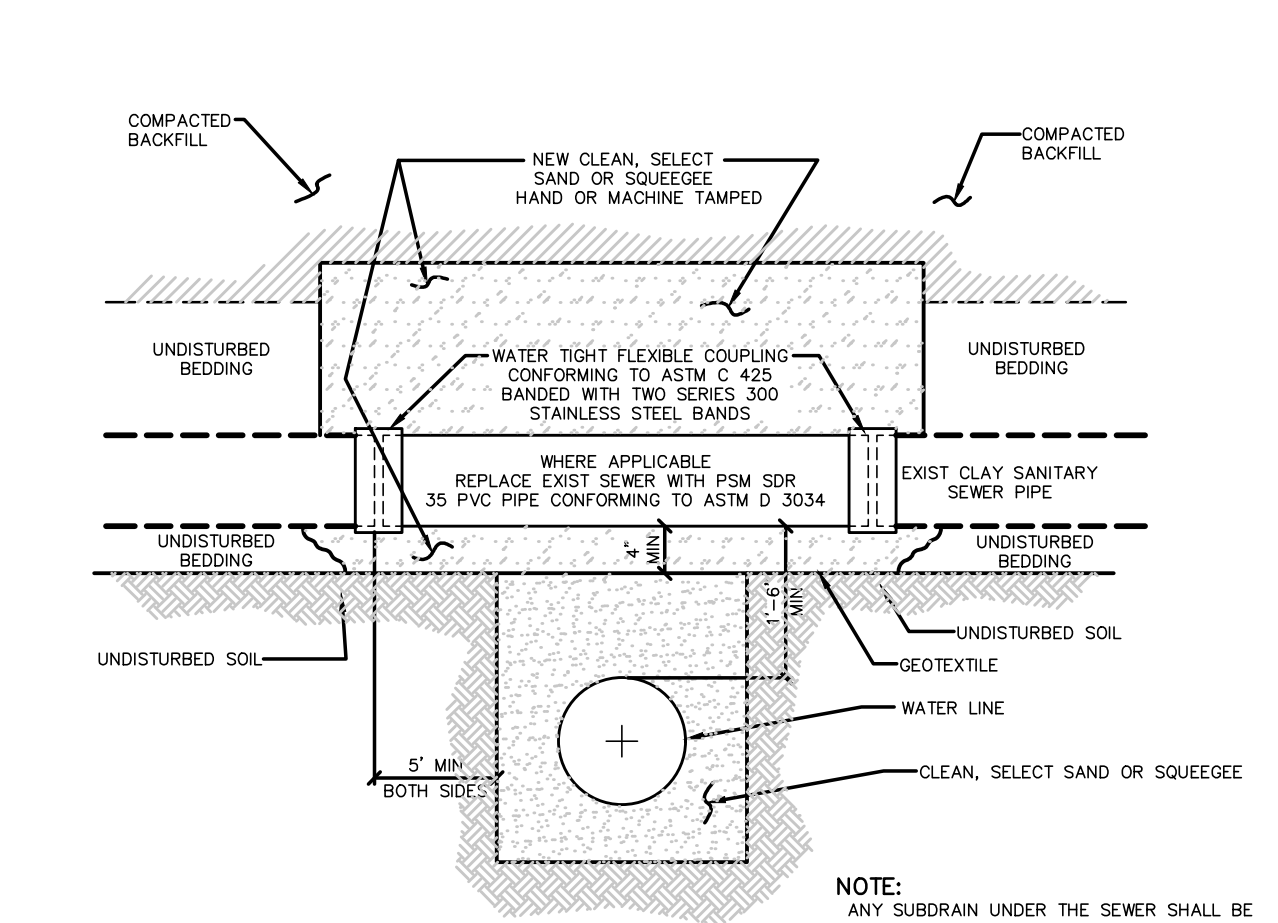
- NOTES:
- ALL PIPE JOINTS SHALL BE FULLY RESTRAINED IN ACCORDANCE WITH THESE ENGINEERING STANDARDS.
  - CATHODIC PROTECTION SHALL BE AS REQUIRED IN ACCORDANCE WITH THESE ENGINEERING STANDARDS.
  - A BORED CROSSING MAY BE REQD BY THE ENGINEER.

**ESTES PARK COLORADO**

**OPEN CUT CROSSING BENEATH CONDUIT OR CONFLICTING UTILITY**

Scale: NONE Date: JUNE 2010  
Approved: Rev. APR 2020

SHEET 25



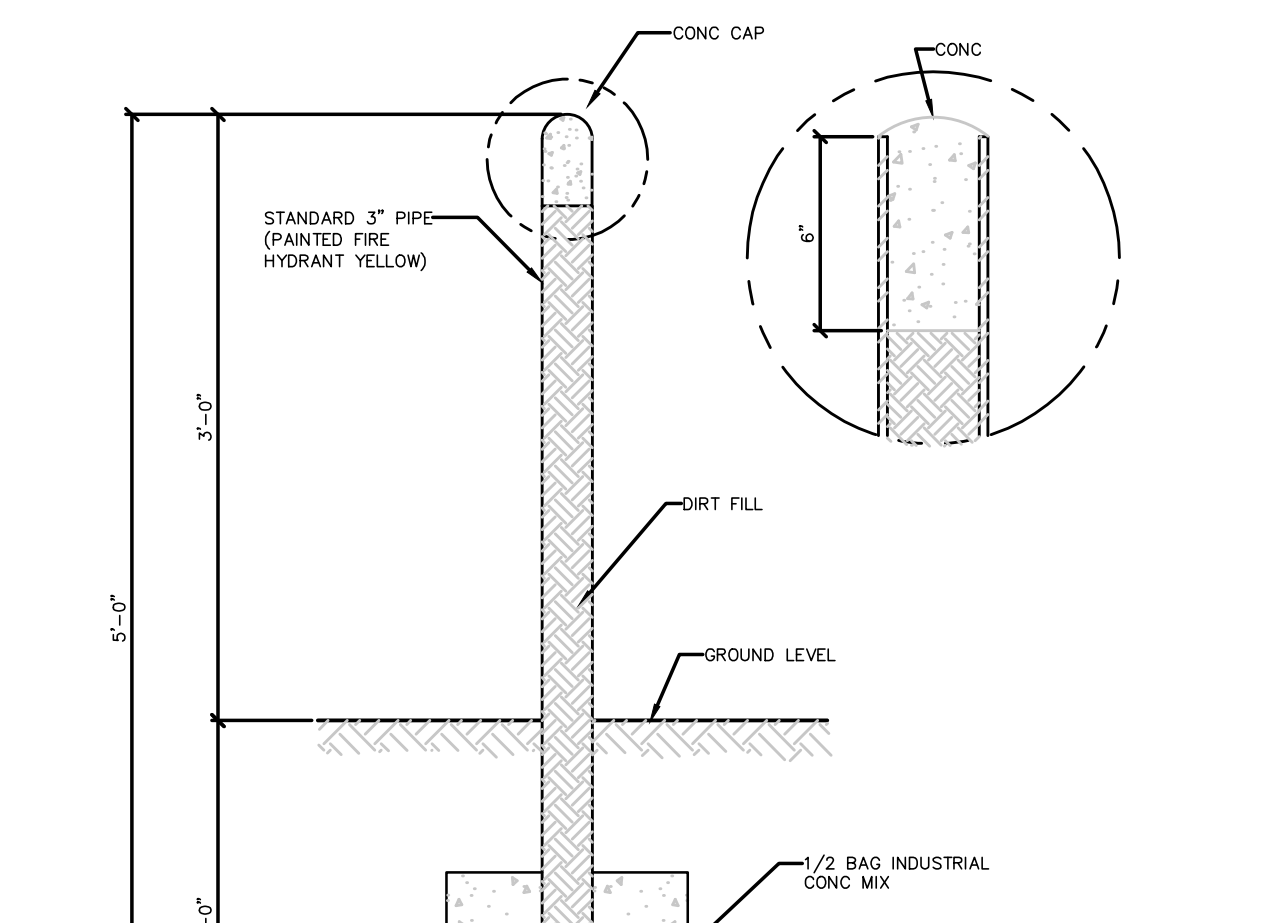
- NOTE:
- ALL EXISTING SEWER DAMAGED DURING INSTALLATION MUST BE REPLACED WITH PVC PIPE. CONTACT APPROPRIATE SANITATION DISTRICT FOR APPROVAL ON CONCRETE ENCASMENTS AND/OR CAPPING.

**ESTES PARK COLORADO**

**CROSSING STORM AND SANITARY SEWERS**

Scale: NONE Date: JUNE 2010  
Approved: Rev. APR 2020

SHEET 26



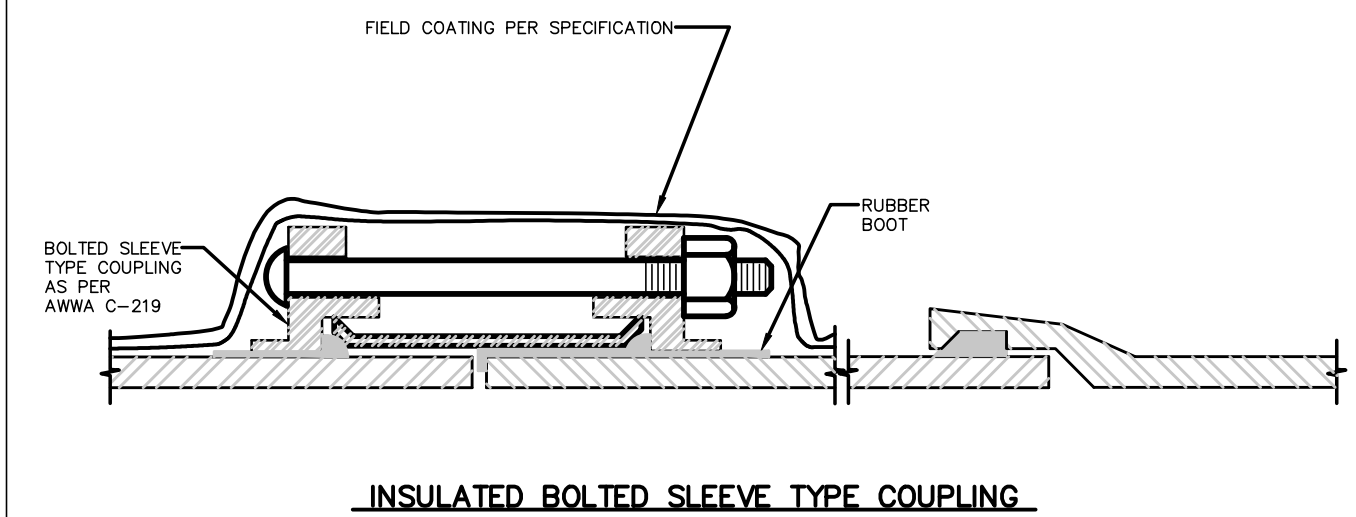
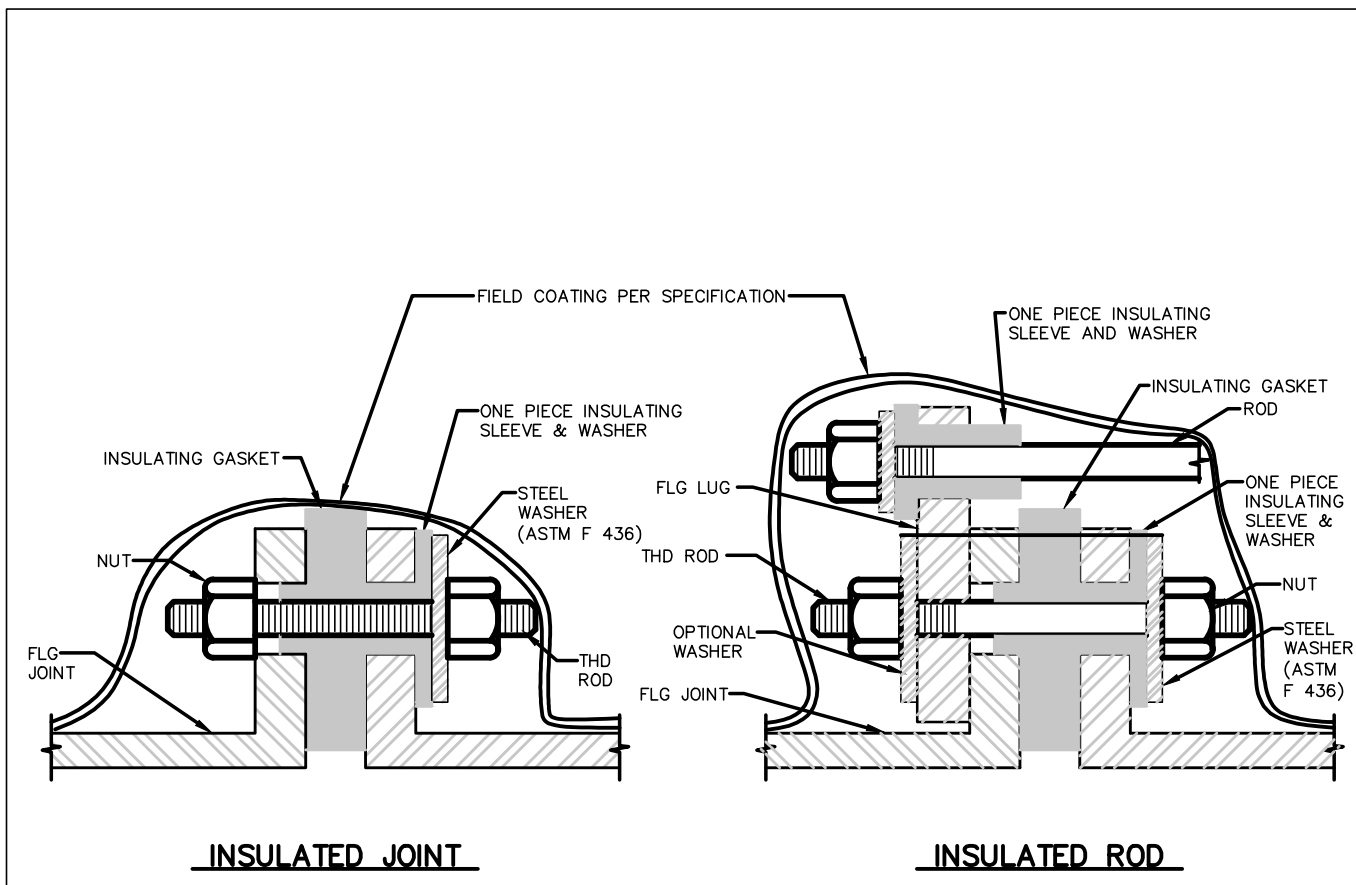
IDENTIFICATION MARKS ON POSTS SHALL BE 3" CIRCLES BROKEN IN VERTICAL CENTER ( ) POINTING TO APPURTENANCE, WITH 1" STENCILS INSIDE CIRCLE INDICATING TYPE OF APPURTENANCE (MH, 12" GATE VALVE, ETC) AND THE DISTANCE IN FEET AND INCHES FROM POST.

**ESTES PARK COLORADO**

**REFERENCE POST TYPICAL DETAIL**

Scale: NONE Date: JUNE 2010  
Approved: Rev.

SHEET 27

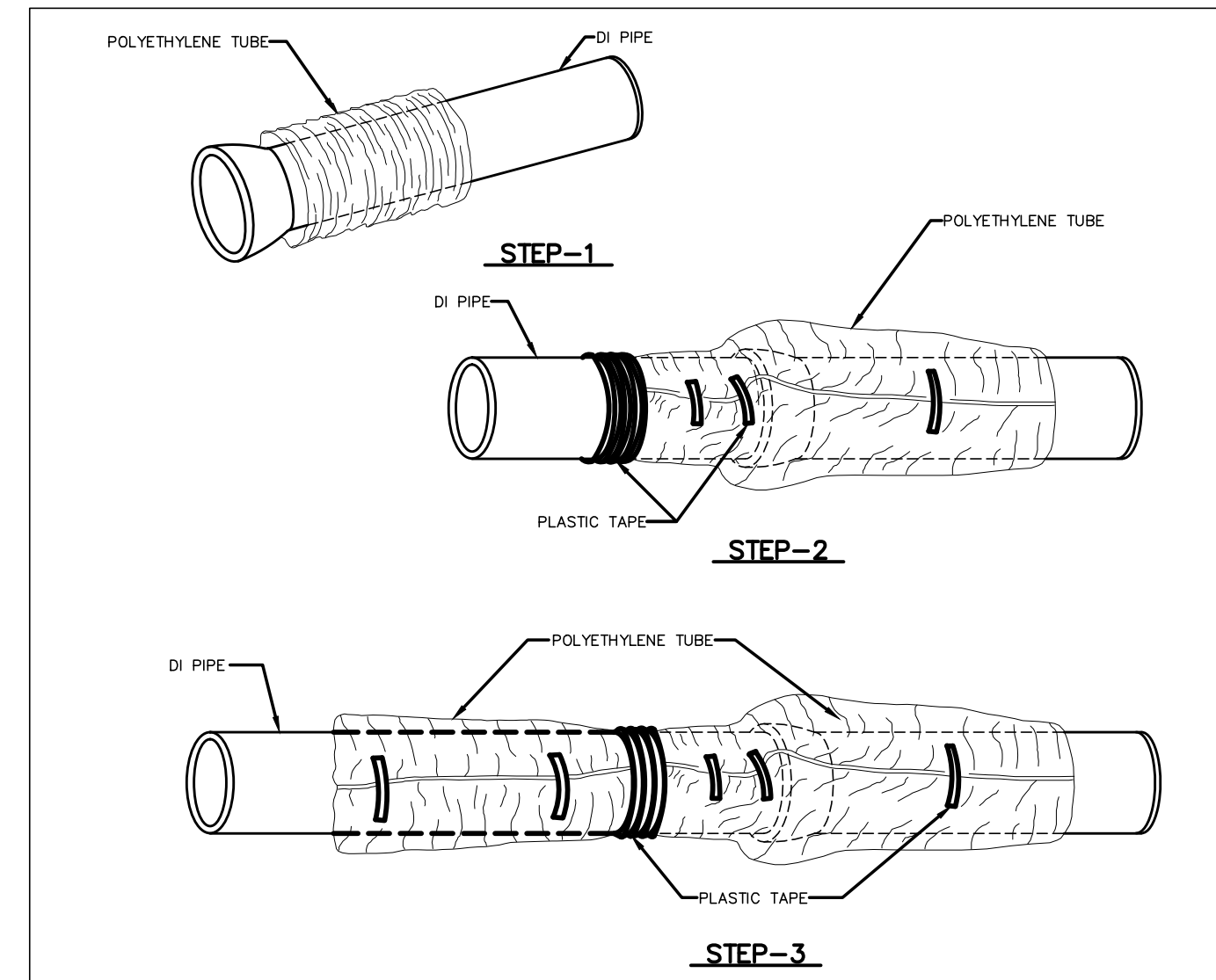


ESTES PARK COLORADO

**INSULATED JOINTS, RODS AND BOLTED SLEEVE TYPE COUPLINGS**

Scale: NONE Date: JUNE 2010  
Approved: Rev.

17 CD1.2 SHEET 31



**FIELD INSTALLATION—POLYETHYLENE WRAP**

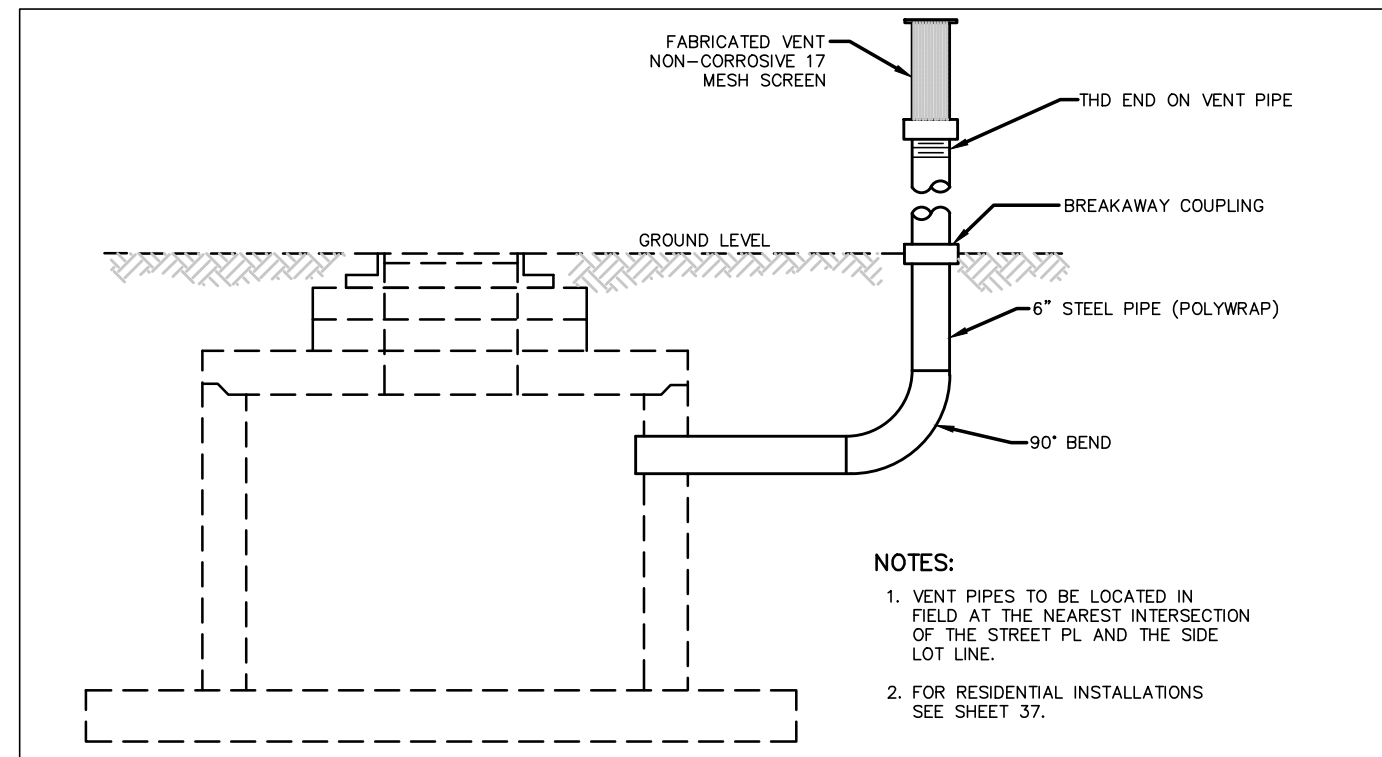
- STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.
- STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH THREE CIRCUMFERENTIAL TURNS OF TWO-INCH WIDE PLASTIC TAPE TO HOLD PLASTIC TUBE AROUND SPIGOT END.
- STEP-3 ADJACENT TUBE OVERLAPS FIRST TUBE AND IS SECURED WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE WILL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AND THE PIPE BARREL FOLDED INTO AN OVERLAP ON TOP OF THE PIPE AND HELD IN PLACE BY MEANS OF PIECES OF THE PLASTIC TAPE AT APPROXIMATELY THREE TO FIVE FT INTERVALS.
- ALL FITTINGS, VALVES, AND BELL JOINT RESTRAINTS TO BE POLYETHYLENE WRAPPED.

ESTES PARK COLORADO

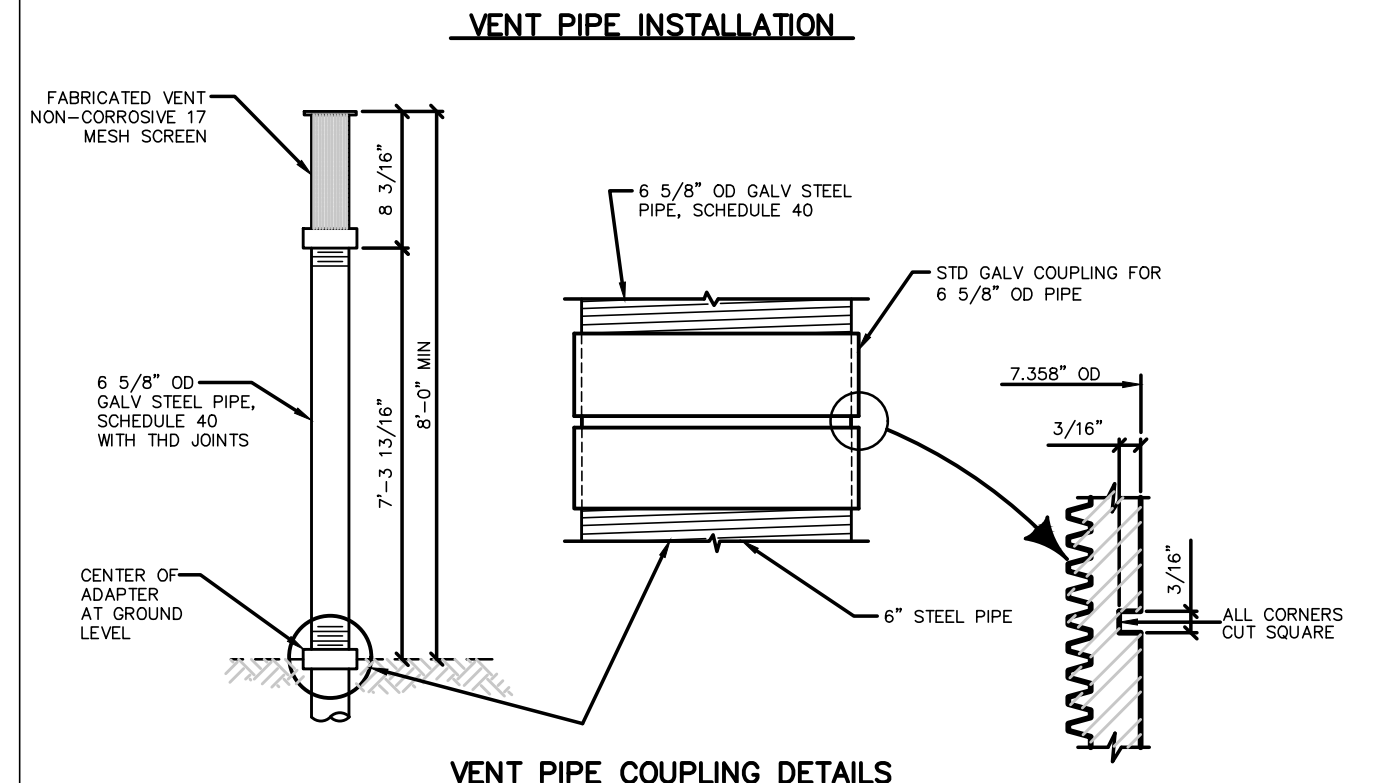
**POLYETHYLENE WRAP**

Scale: NONE Date: JUNE 2010  
Approved: Rev.

18 CD1.2 SHEET 32



- NOTES:  
1. VENT PIPES TO BE LOCATED IN FIELD AT THE NEAREST INTERSECTION OF THE STREET PL AND THE SIDE LOT LINE.  
2. FOR RESIDENTIAL INSTALLATIONS SEE SHEET 37.

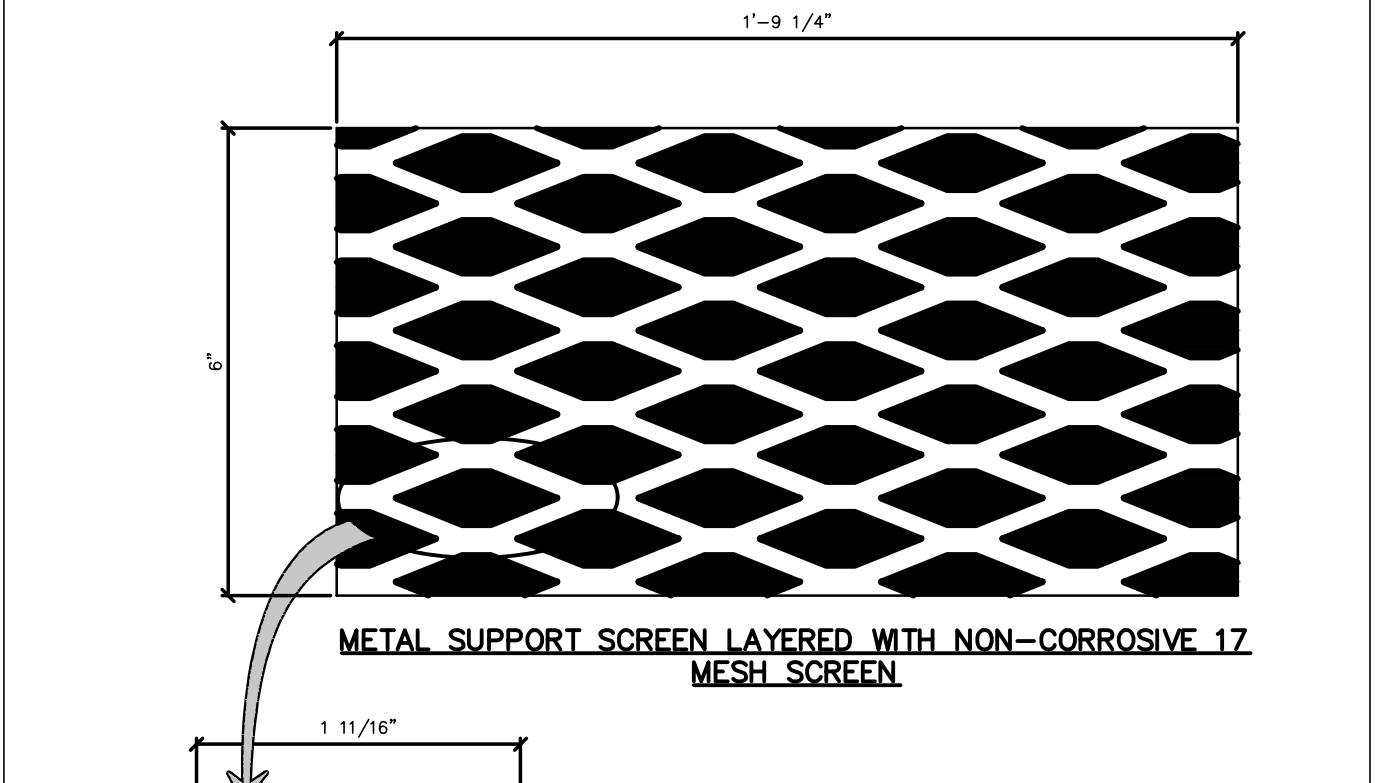
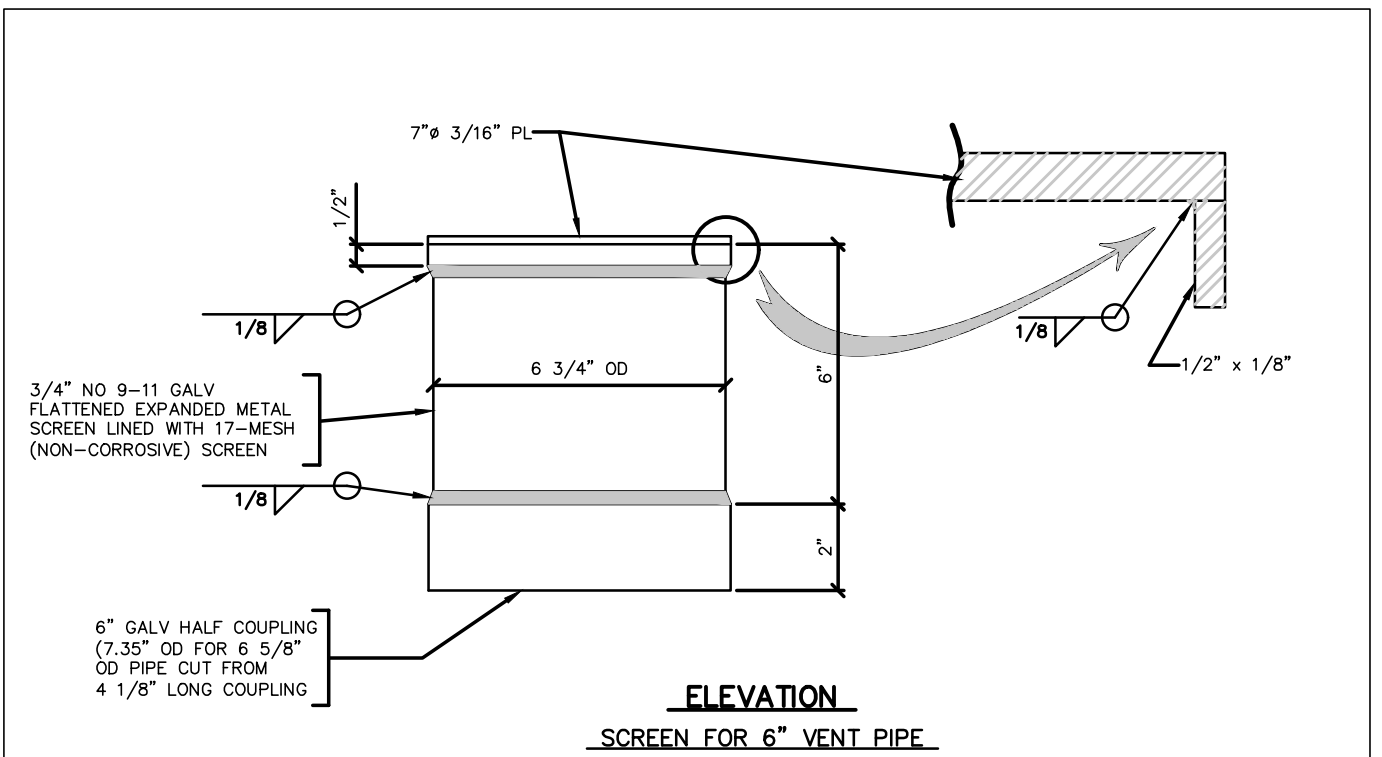


ESTES PARK COLORADO

**INDUSTRIAL VENT ASSEMBLY INSTALLATION AND DETAILS**

Scale: NONE Date: JUNE 2010  
Approved: Rev. APR 2020

19 CD1.2 SHEET 34

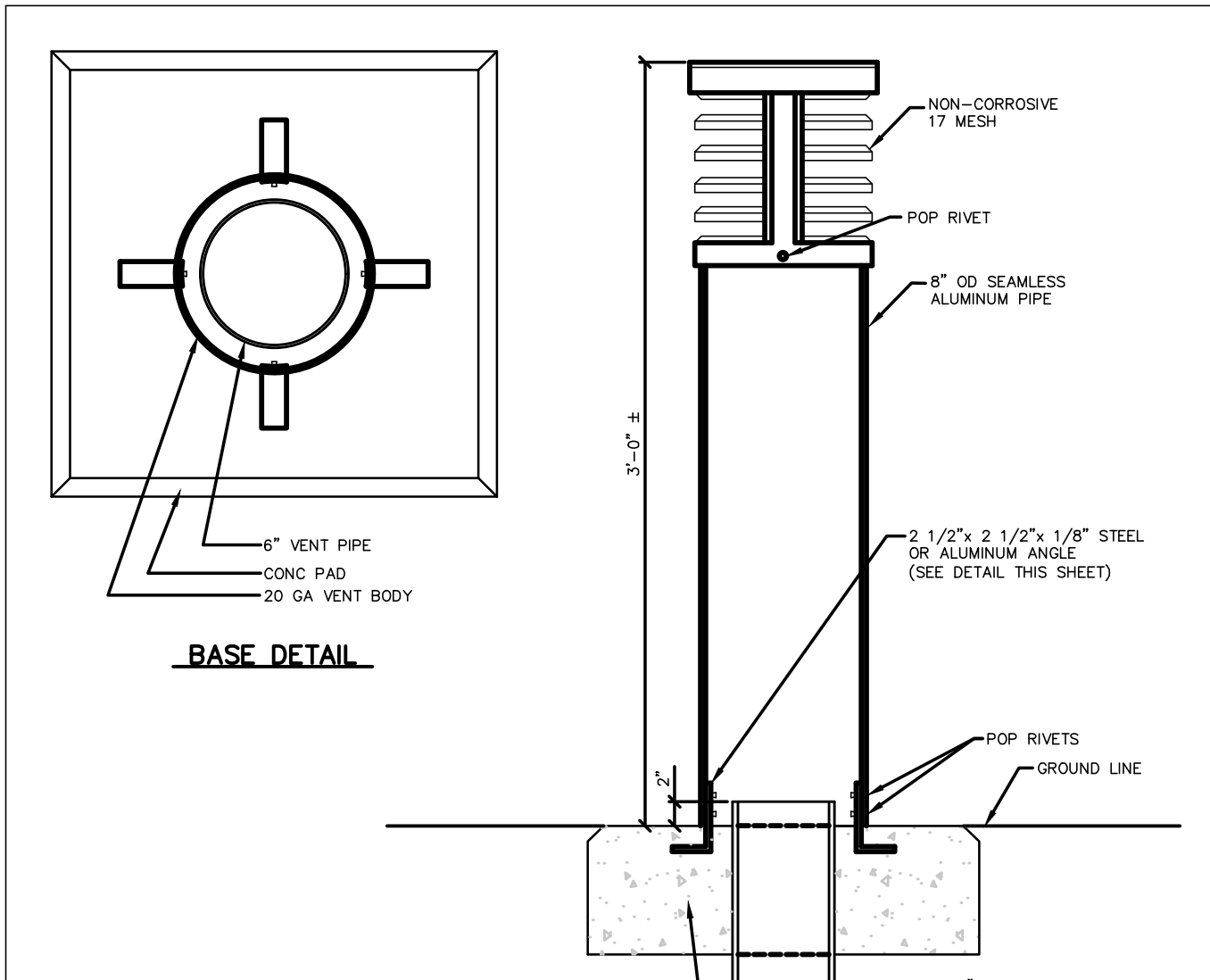


ESTES PARK COLORADO

**INDUSTRIAL VENT ASSEMBLY VENT SCREEN**

Scale: NONE Date: JUNE 2010  
Approved: Rev. APR 2020

20 CD1.2 SHEET 35



**RESIDENTIAL VENT ASSEMBLY**

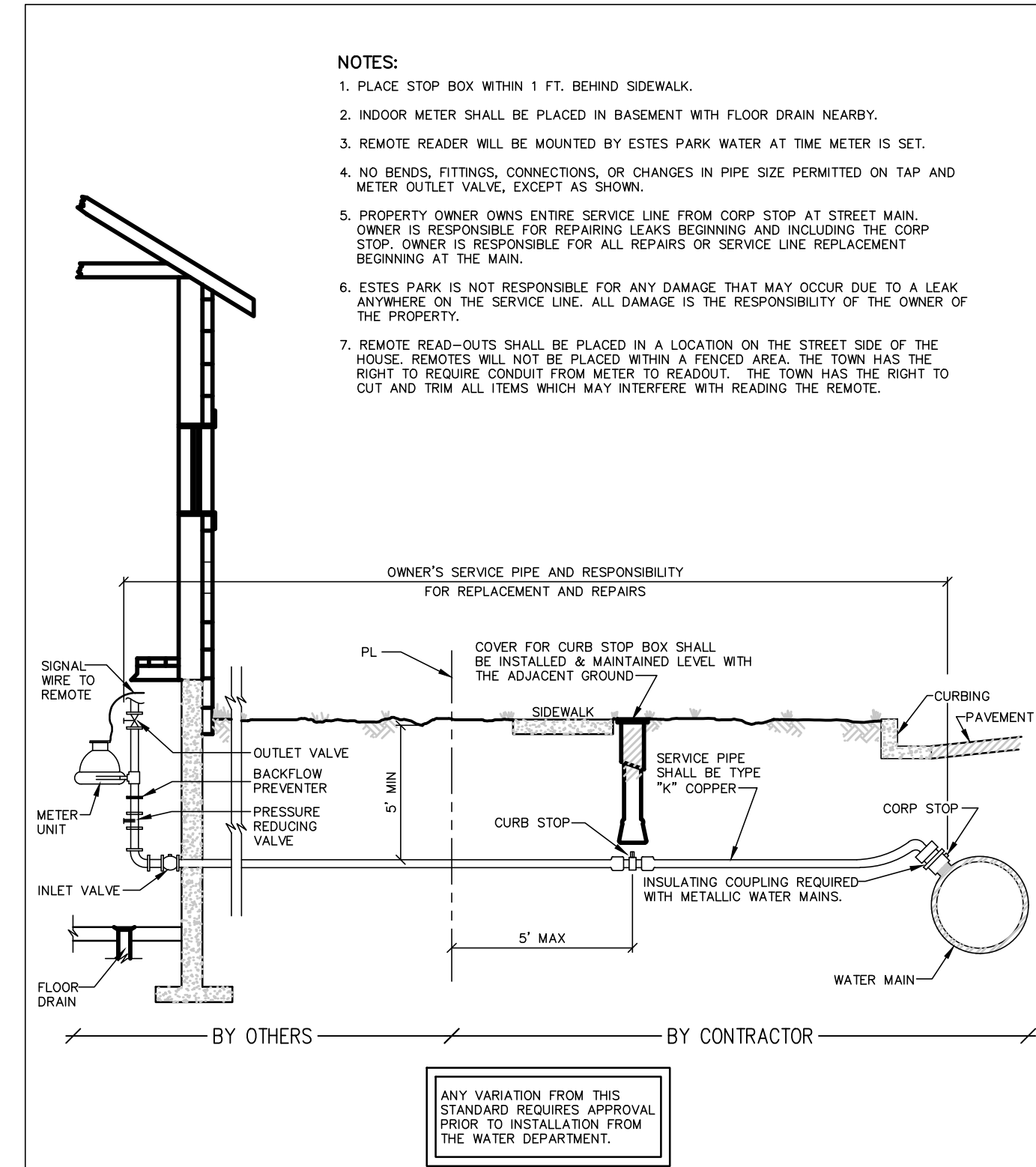
NOTE: COLOR SHALL BE OLIVE GREEN OR FLAT BLACK TO MATCH SURROUNDINGS.

ESTES PARK COLORADO

**RESIDENTIAL VENT ASSEMBLY**

Scale: NONE Date: JUNE 2010  
Approved: Rev. APR 2020

21 CD1.2 SHEET 36



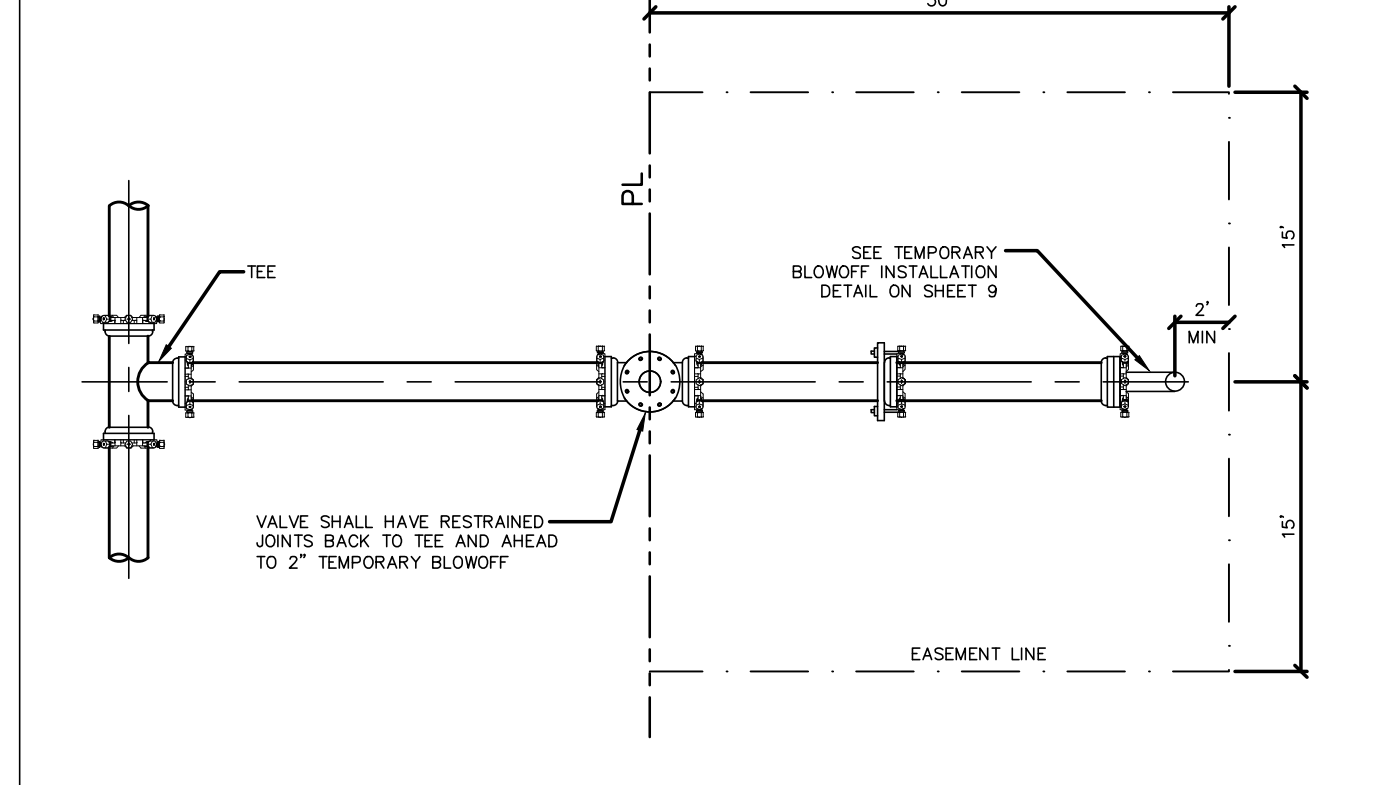
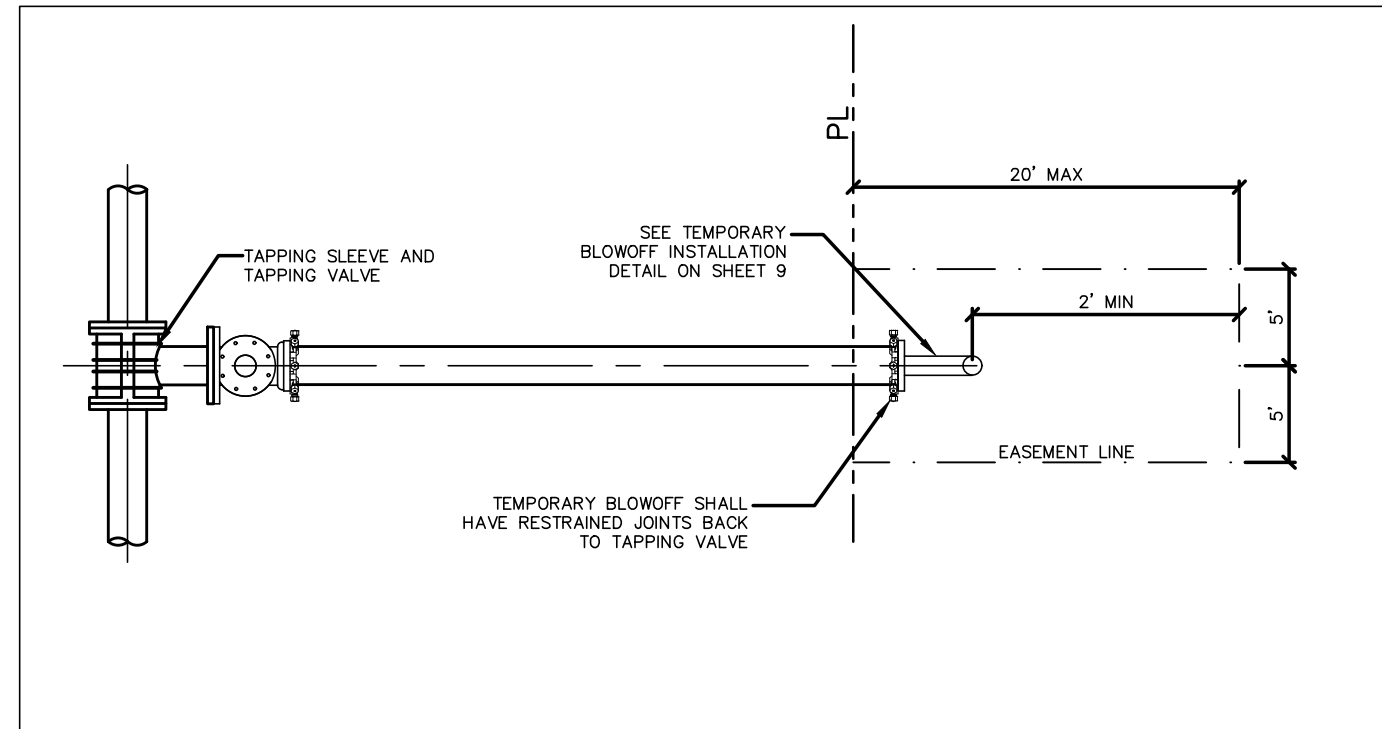
- NOTES:  
1. PLACE STOP BOX WITHIN 1 FT. BEHIND SIDEWALK.  
2. INDOOR METER SHALL BE PLACED IN BASEMENT WITH FLOOR DRAIN NEARBY.  
3. REMOVE READER WILL BE MOUNTED BY ESTES PARK WATER AT TIME METER IS SET.  
4. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN PIPE SIZE PERMITTED ON TAP AND METER OUTLET VALVE, EXCEPT AS SHOWN.  
5. PROPERTY OWNER OWNS ENTIRE SERVICE LINE FROM CORP STOP AT STREET MAIN. OWNER IS RESPONSIBLE FOR REPAIRING LEAKS BEGINNING AND INCLUDING THE CORP STOP. OWNER IS RESPONSIBLE FOR ALL REPAIRS OR SERVICE LINE REPLACEMENT BEGINNING AT THE MAIN.  
6. ESTES PARK IS NOT RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR DUE TO A LEAK, ANYWHERE ON THE SERVICE LINE, ALL DAMAGE IS THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY.  
7. REMOVE READ-OUTS SHALL BE PLACED IN A LOCATION ON THE STREET SIDE OF THE HOUSE. REMOTES WILL NOT BE PLACED WITHIN A FENCED AREA. THE TOWN HAS THE RIGHT TO REQUIRE CONDUIT FROM METER TO READOUT. THE TOWN HAS THE RIGHT TO CUT AND TRIM ALL ITEMS WHICH MAY INTERFERE WITH READING THE REMOTE.

ESTES PARK COLORADO

**SERVICE LINE STOP BOX AND INSIDE METER INSTALLATION FOR 3/4\"/>**

Scale: NONE Date: JUNE 2010  
Approved: Rev. DEC 2015

22 CD1.2 SHEET 40

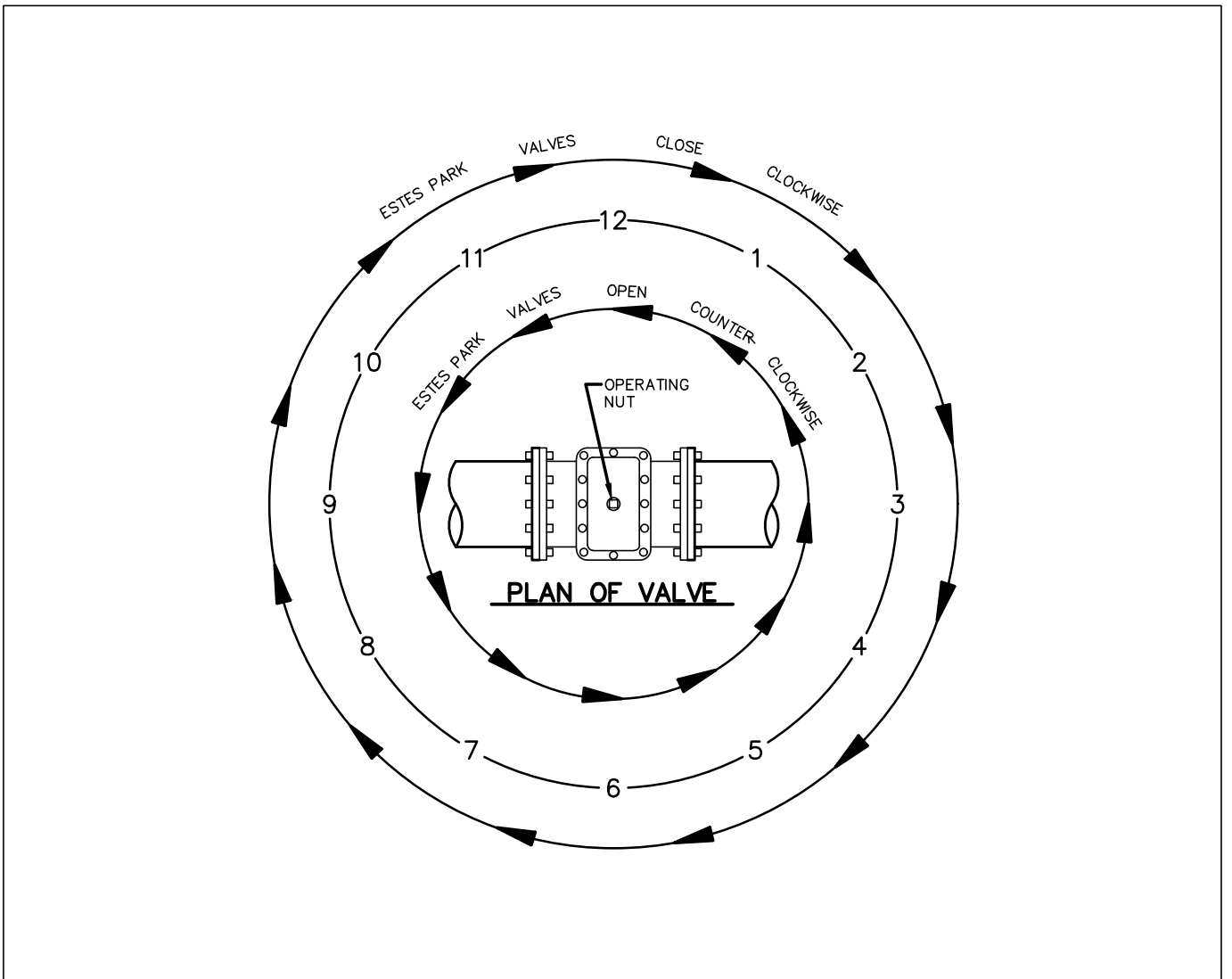


ESTES PARK COLORADO

**STUB-OUT CONFIGURATIONS FOR FUTURE MAIN EXTENSIONS**

Scale: NONE Date: JUNE 2010  
Approved: Rev. APR 2020

23 CD1.2 SHEET 43

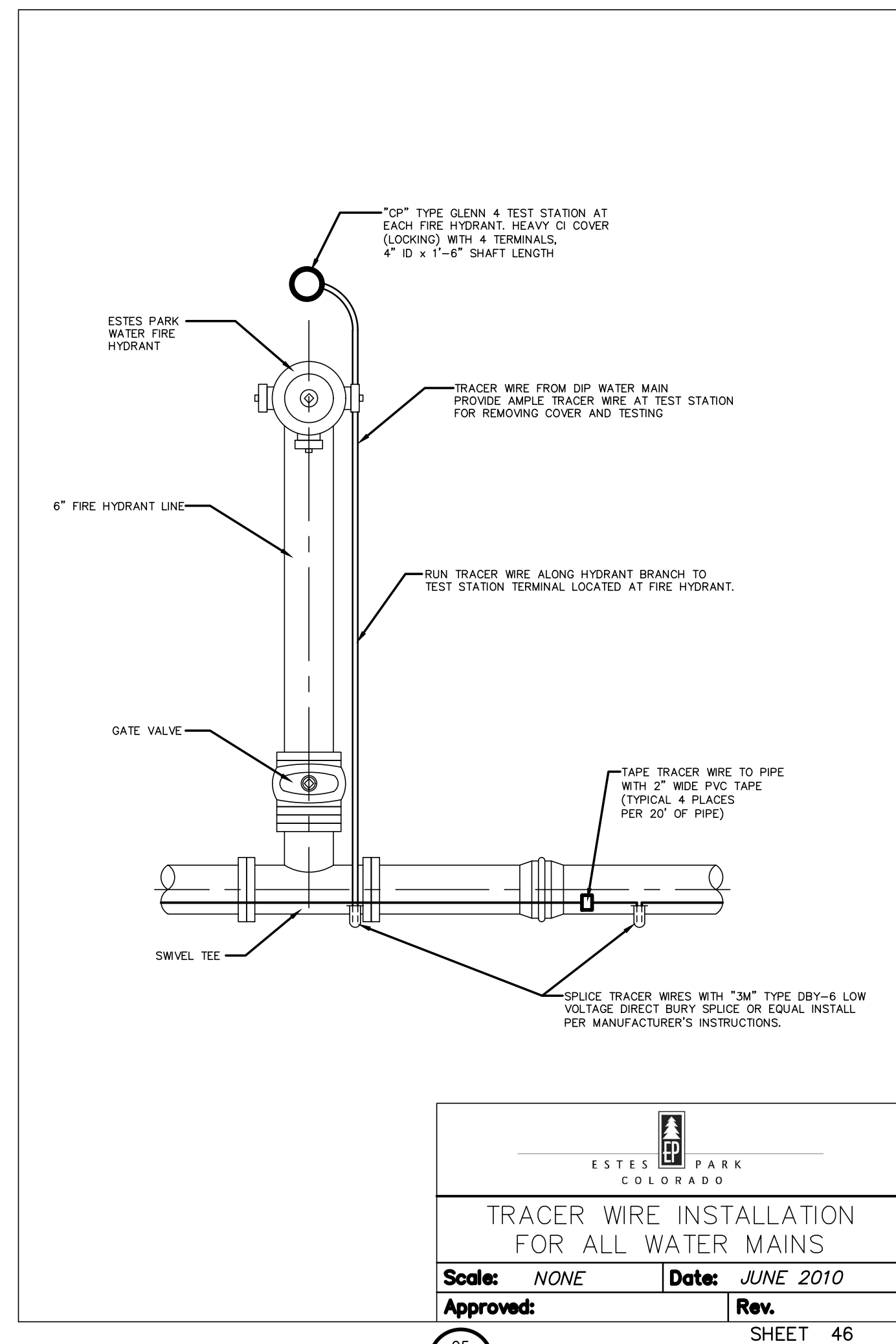


ESTES PARK COLORADO

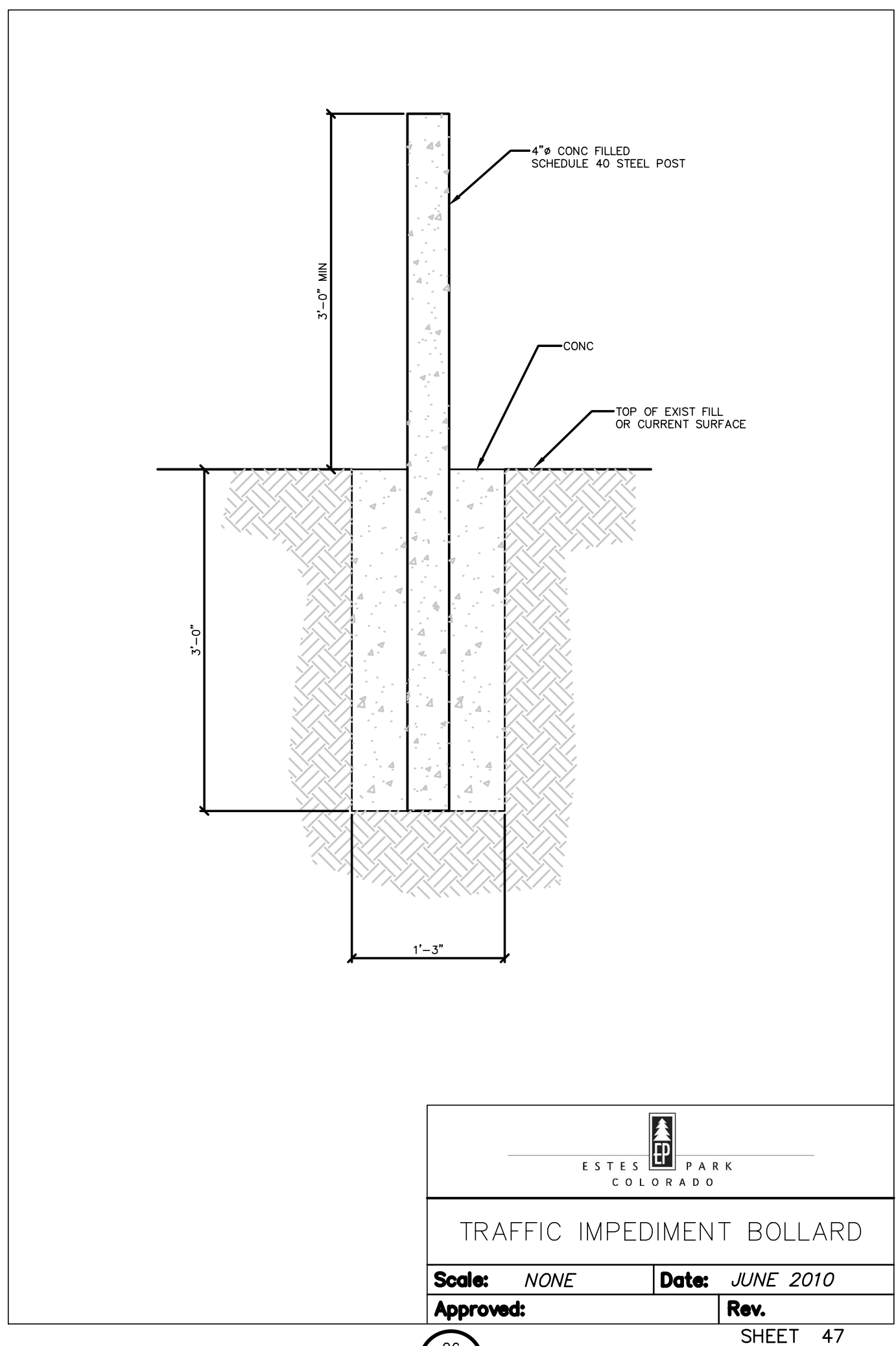
**VALVE OPERATION**

Scale: NONE Date: JUNE 2010  
Approved: Rev.

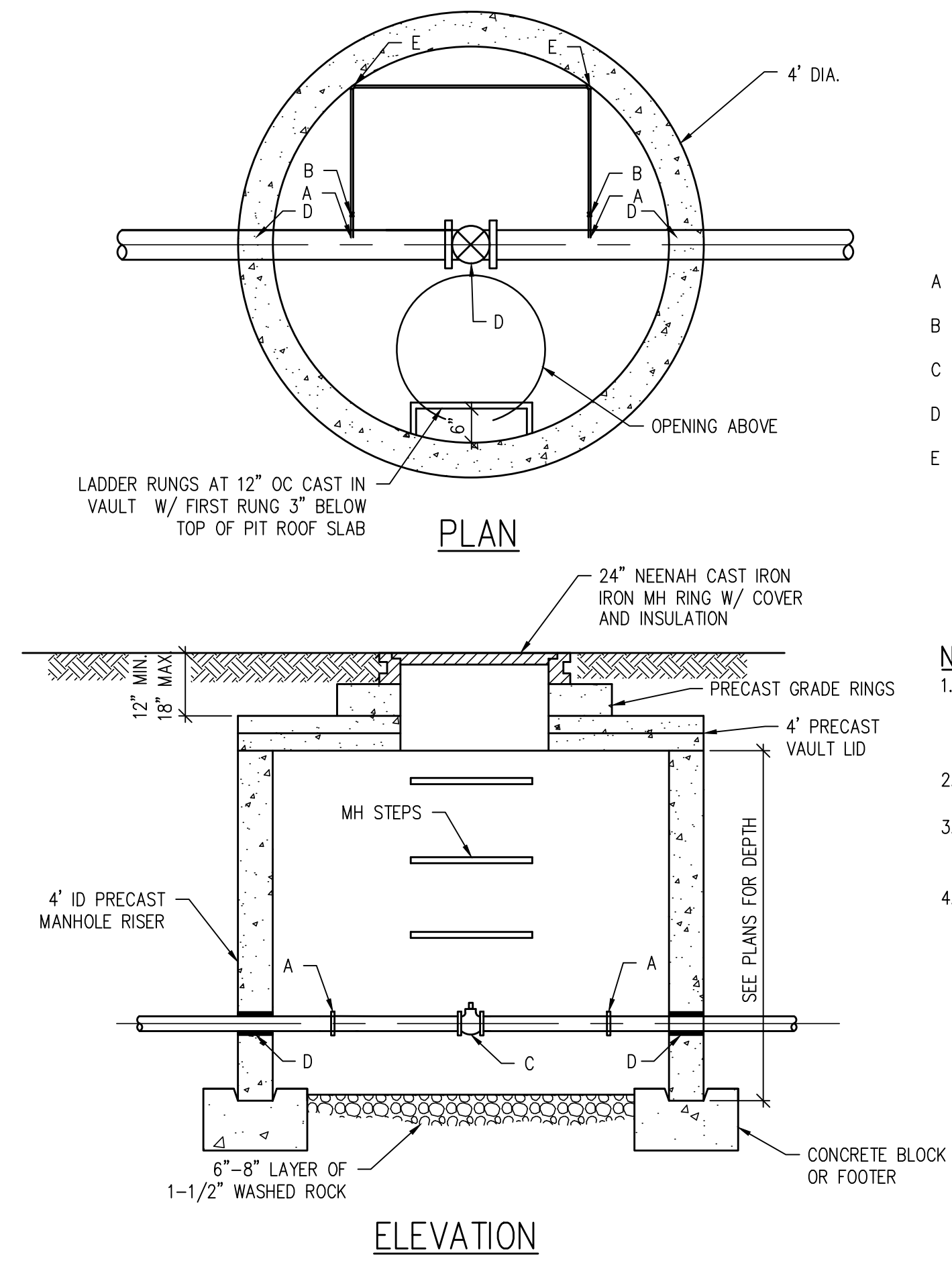
24 CD1.2 SHEET 44



**TRACER WIRE INSTALLATION FOR ALL WATER MAINS**  
 Scale: NONE Date: JUNE 2010  
 Approved: Rev.  
 25 CD1.3 SHEET 46



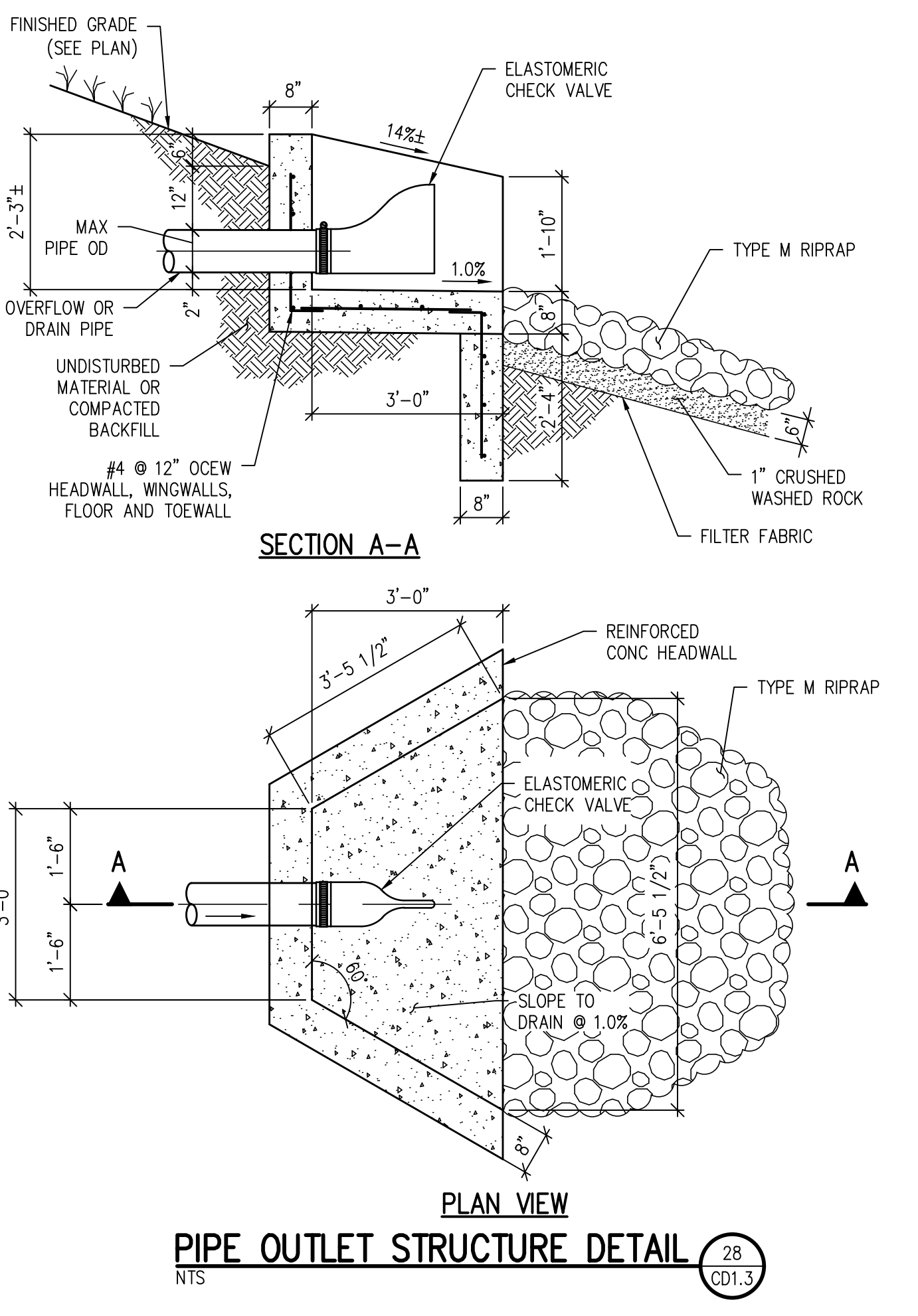
**TRAFFIC IMPEDIMENT BOLLARD**  
 Scale: NONE Date: JUNE 2010  
 Approved: Rev.  
 26 CD1.3 SHEET 47



- A - 1" COPPER TAP
- B - 1" BALL OR NEEDLE VALVE
- C - 8" GATE VALVE
- D - LIVE RUBBER WRAP
- E - 1" 90° BEND

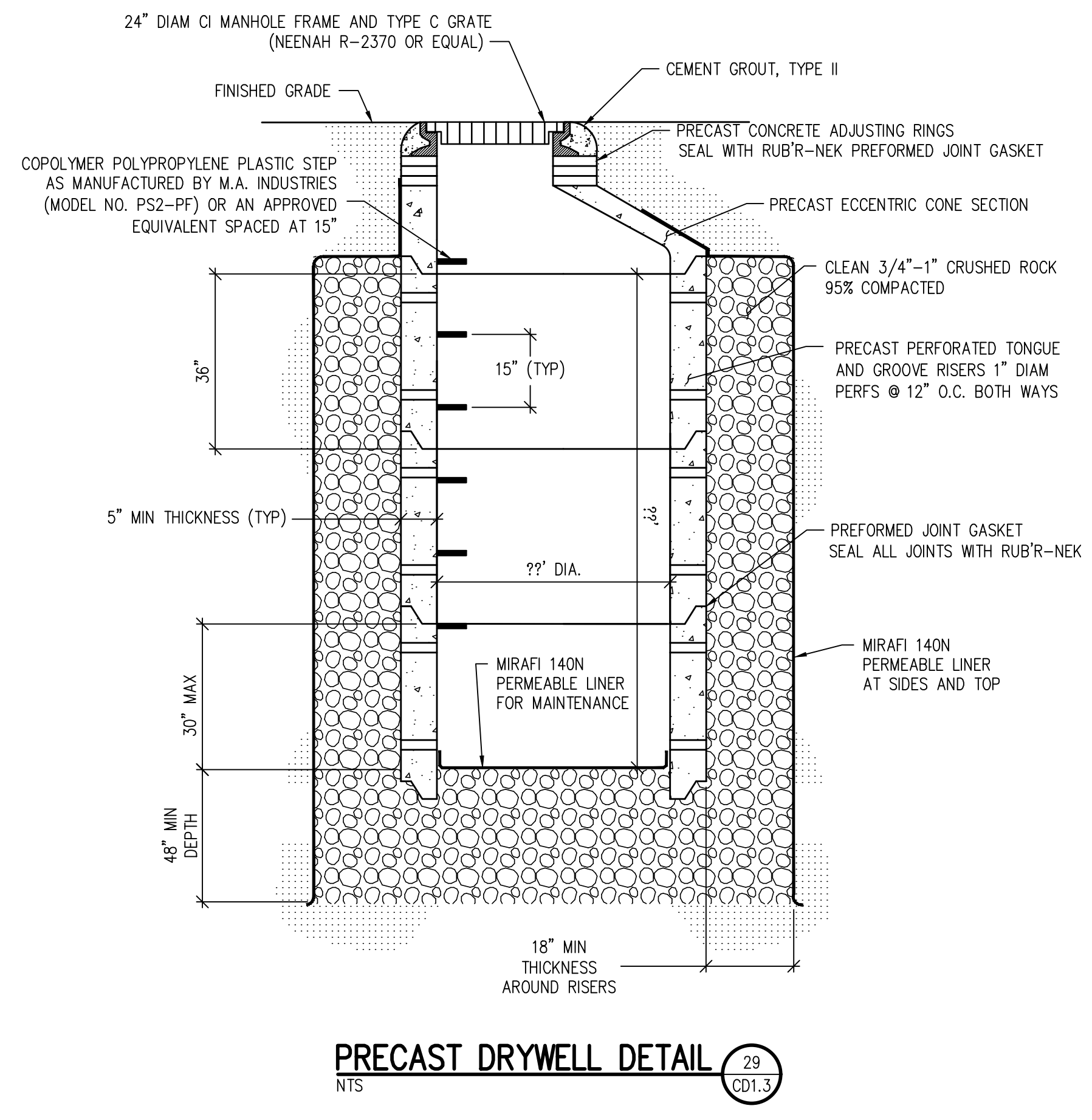
- NOTES:**
- JOINTS INSIDE INTERCONNECT SHALL BE EITHER THREADED OR SOLDERED WITH LEAD-FREE TIN-ANTIMONY SOLDER
  - NO CONCRETE TO BE LAID IN FLOOR OF INTERCONNECT
  - ALL COMPONENTS SHALL MEET APPLICABLE JURISDICTION STANDARDS
  - TAR SEAL BETWEEN MANHOLE RISER, VAULT LID, GRADE RINGS AND MANHOLE RING.

**INTERCONNECT DETAIL**  
 NTS 27 CD1.3

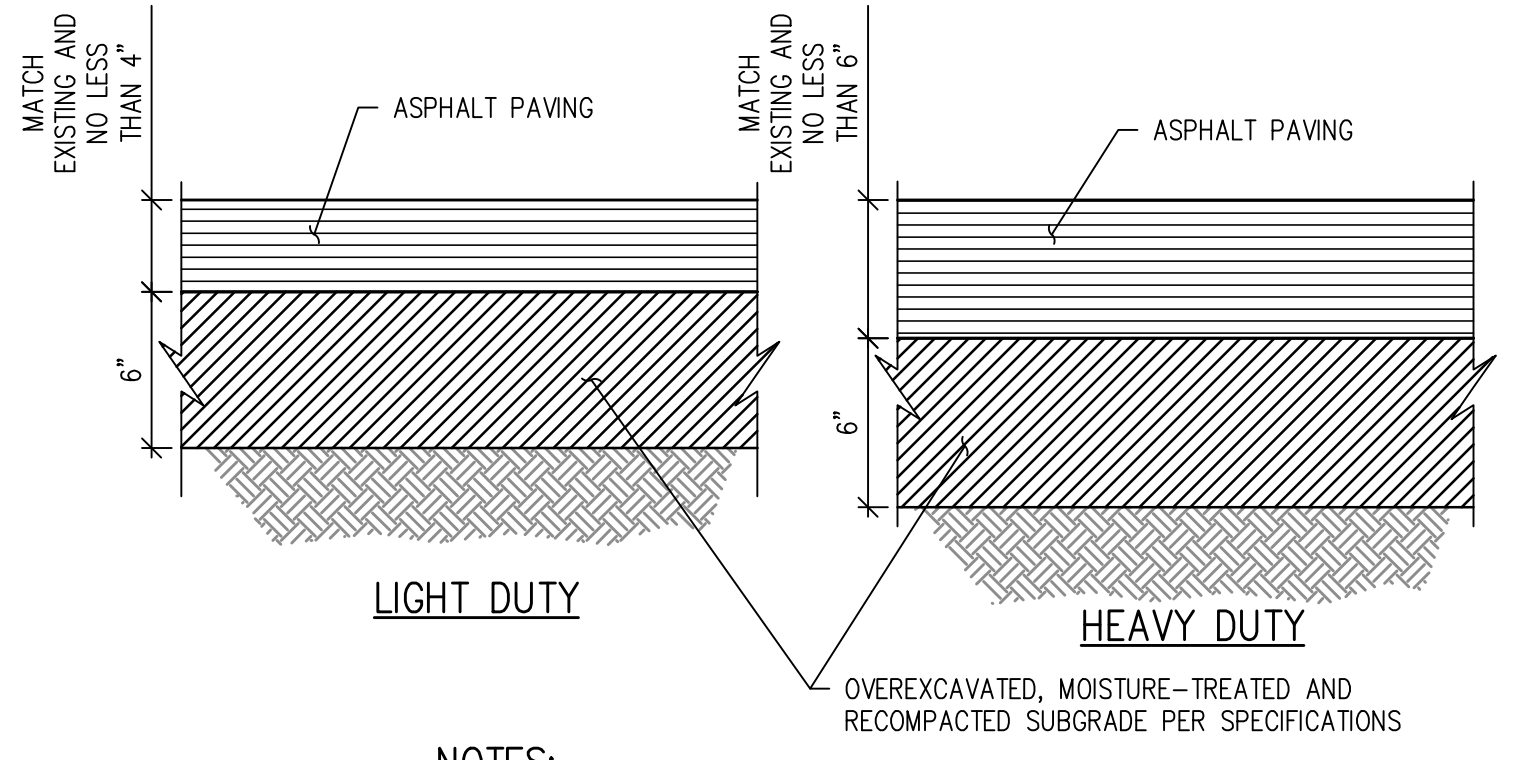


**SECTION A-A**

**PIPE OUTLET STRUCTURE DETAIL**  
 NTS 28 CD1.3

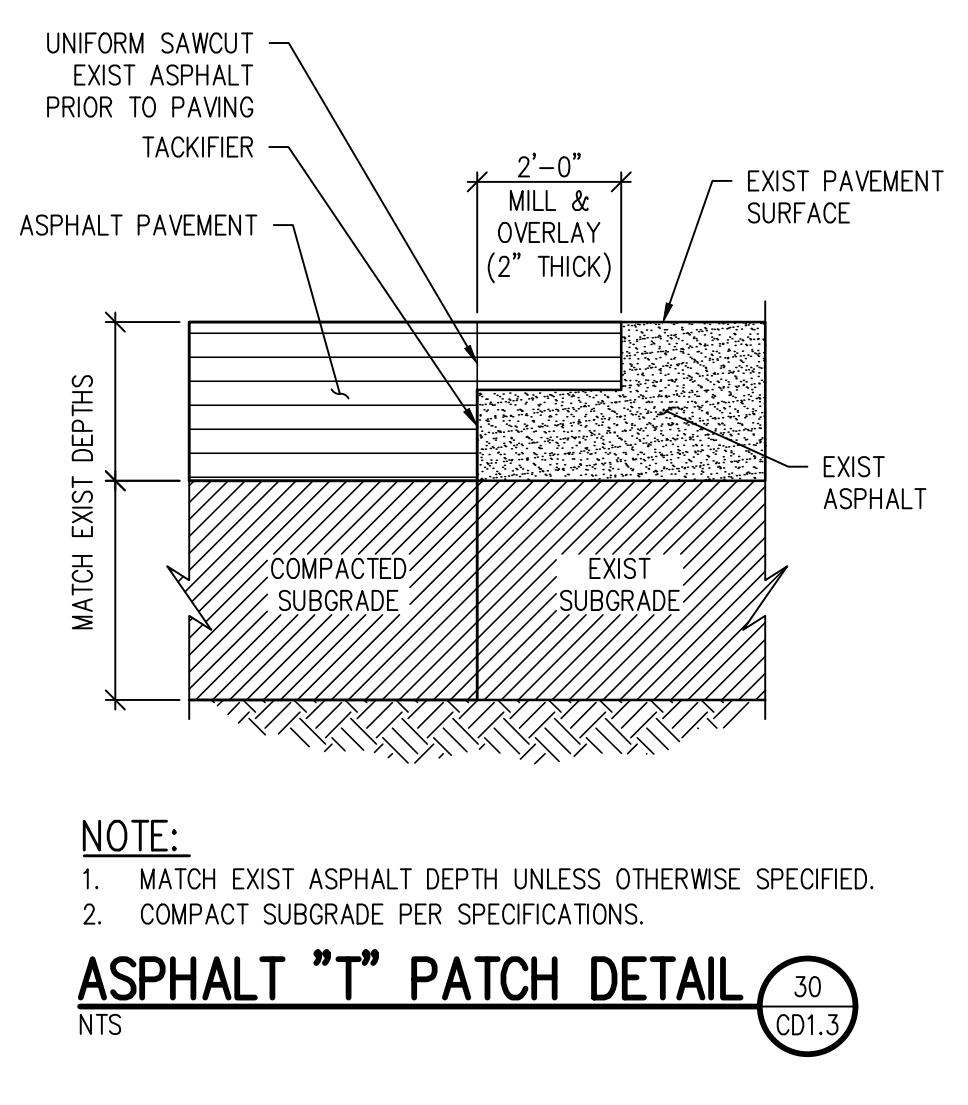


**PRECAST DRYWELL DETAIL**  
 NTS 29 CD1.3



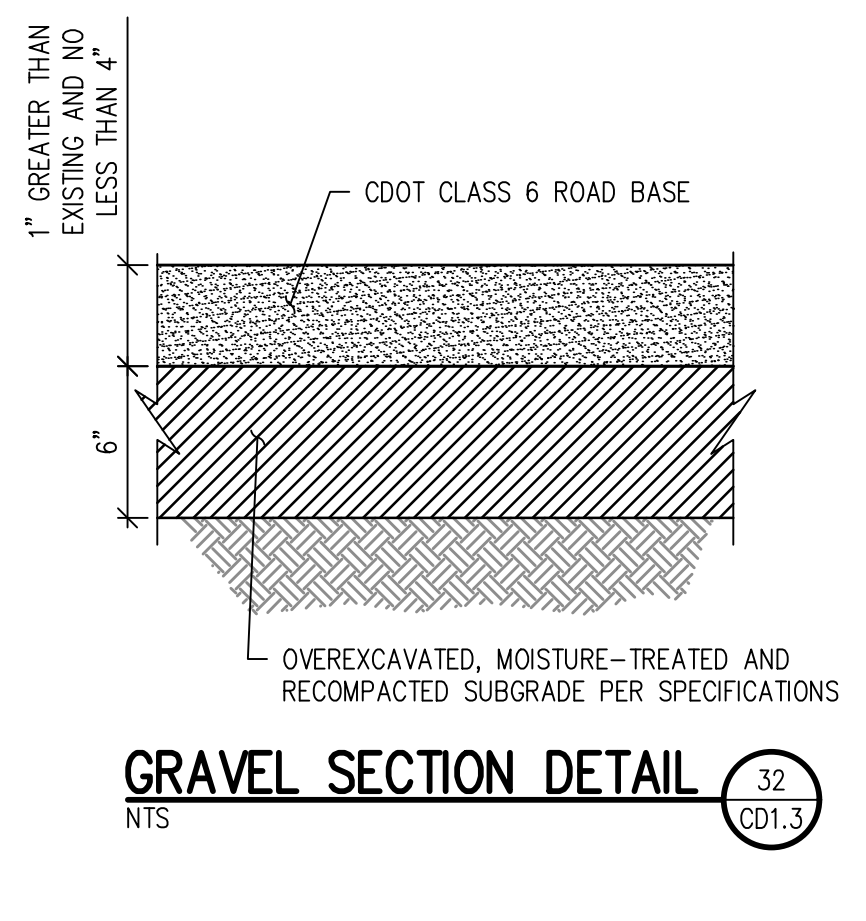
- NOTES:**
- USE HEAVY DUTY ASPHALT SECTION FOR SERVICE DRIVES, ACCESS DRIVE LANES, & BUS LOOP
  - USE LIGHT DUTY ASPHALT SECTION FOR CAR PARKING STALLS.

**FULL DEPTH ASPHALT PAVEMENT SECTION DETAIL**  
 NTS 31 CD1.3



- NOTE:**
- MATCH EXIST ASPHALT DEPTH UNLESS OTHERWISE SPECIFIED.
  - COMPACT SUBGRADE PER SPECIFICATIONS.

**ASPHALT "T" PATCH DETAIL**  
 NTS 30 CD1.3



**GRAVEL SECTION DETAIL**  
 NTS 32 CD1.3

NO.	DATE	DESIGNED	DRAWN	REVISION DESCRIPTION

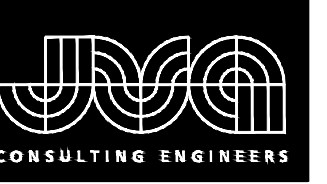
DESIGNED BY: MMR/LAL  
 DRAWN BY: ZCF/JJM/HT  
 CHECKED BY: JJM  
 JOB #: 1066e  
 DATE: SEPTEMBER 2022  
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

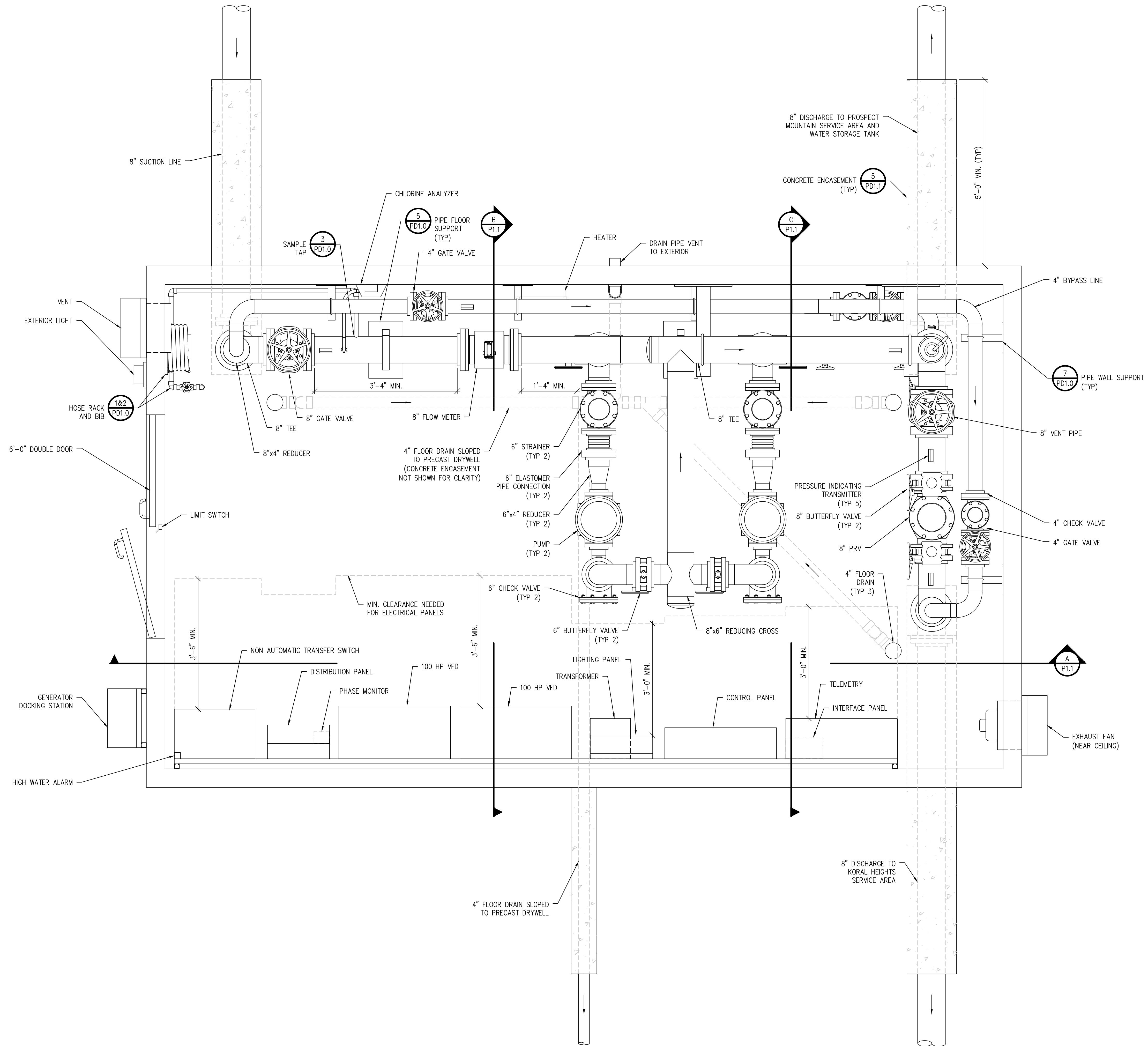
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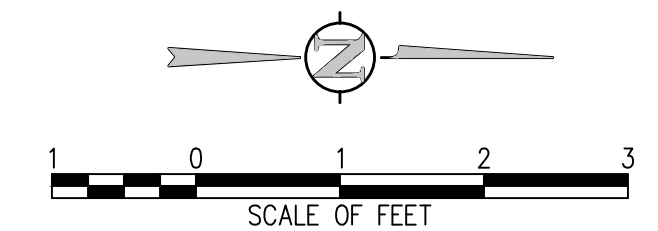


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**PROSPECT MOUNTAIN BOOSTER PUMP STATION**  
 3/4" = 1'-0"

NOTE:  
 INSTRUMENTATION AND ELECTRICAL EQUIPMENT  
 ONLY SHOWN IN PLAN VIEW FOR CLARITY



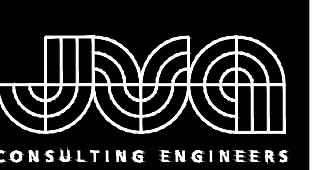
NO.	DATE	DESIGN	DESCRIPTION

DESIGNED BY:	LBT
DRAWN BY:	LLG
CHECKED BY:	JJM
JOB #:	1066e
DATE:	APRIL 2021
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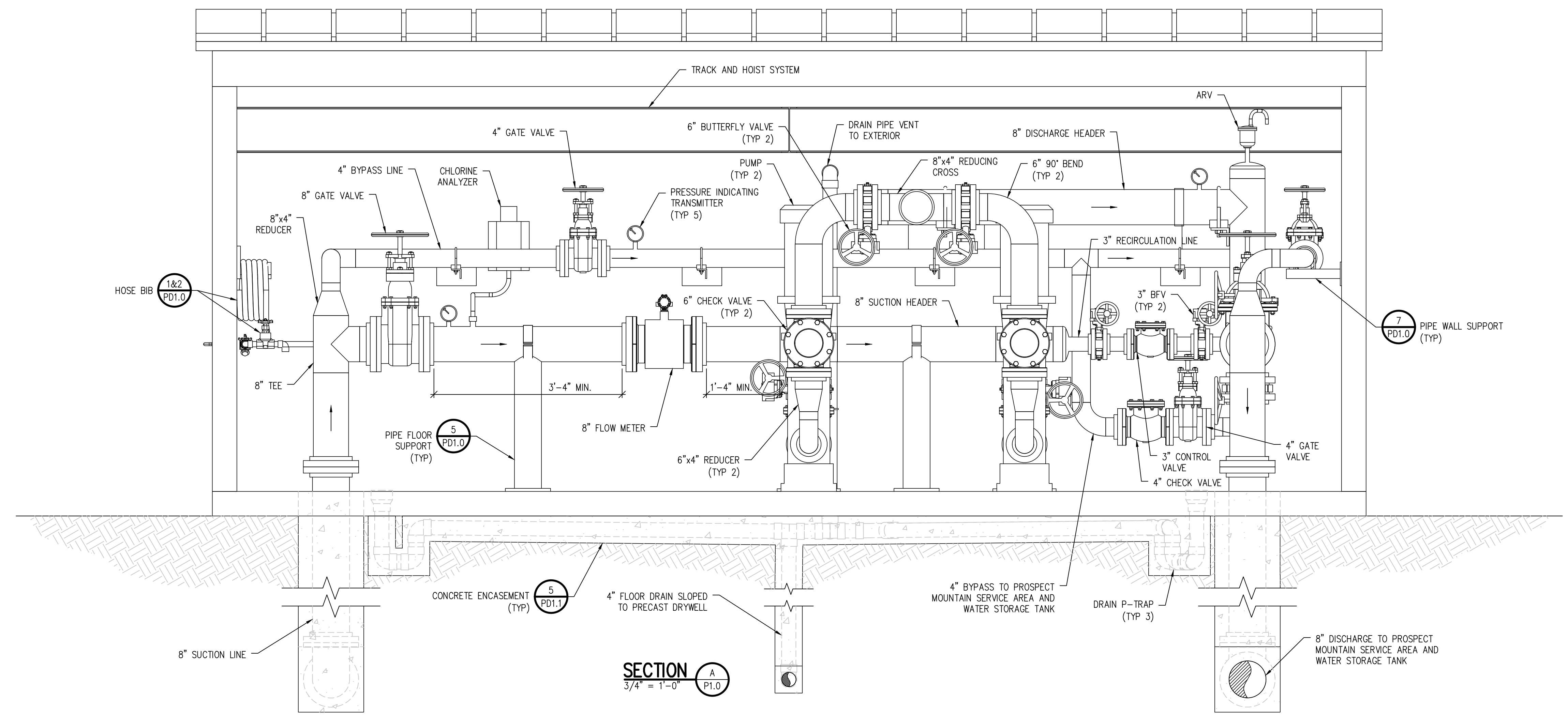
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 BOOSTER PUMP STATION PLAN VIEW

SHEET NO.  
**P1.0**

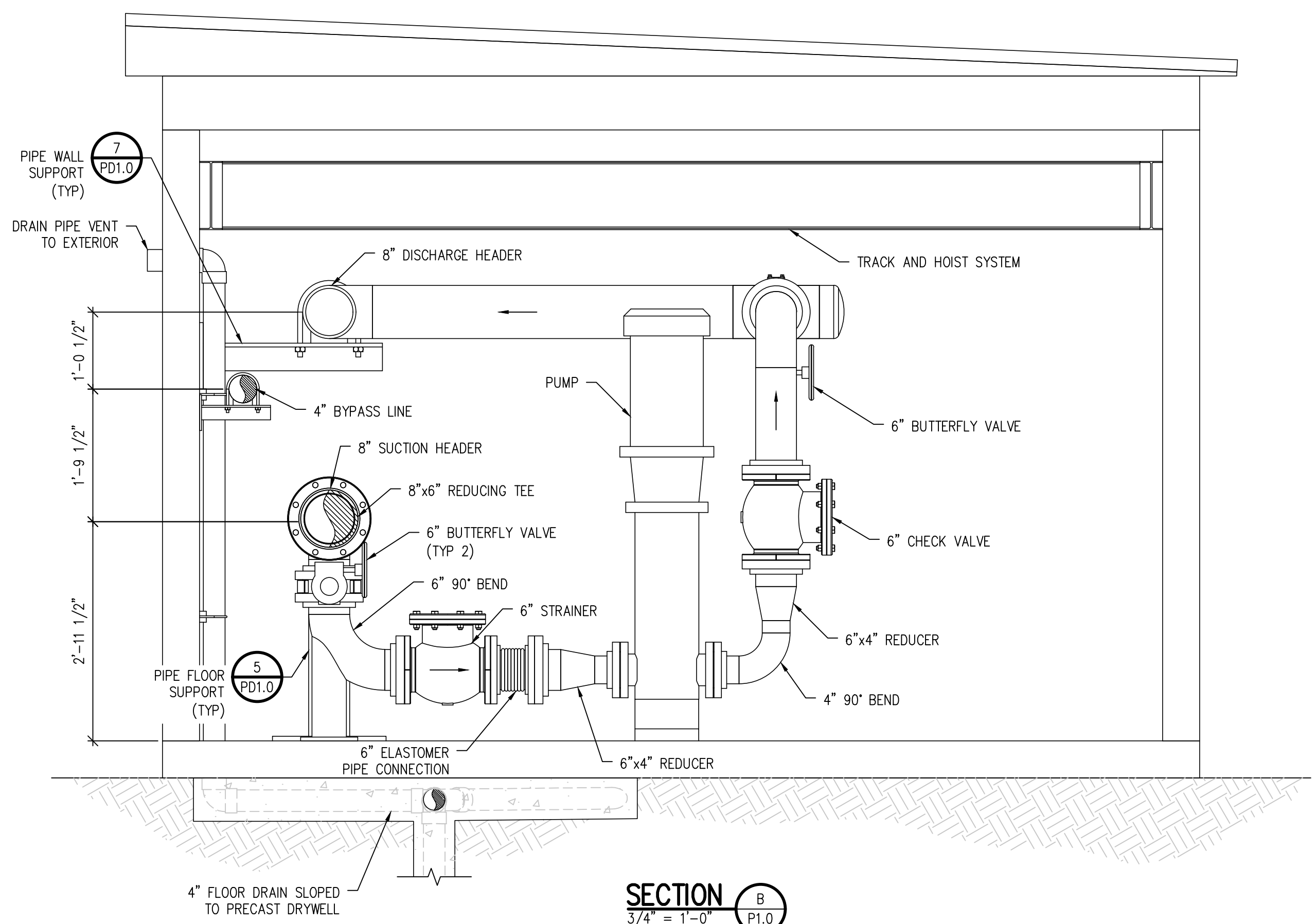
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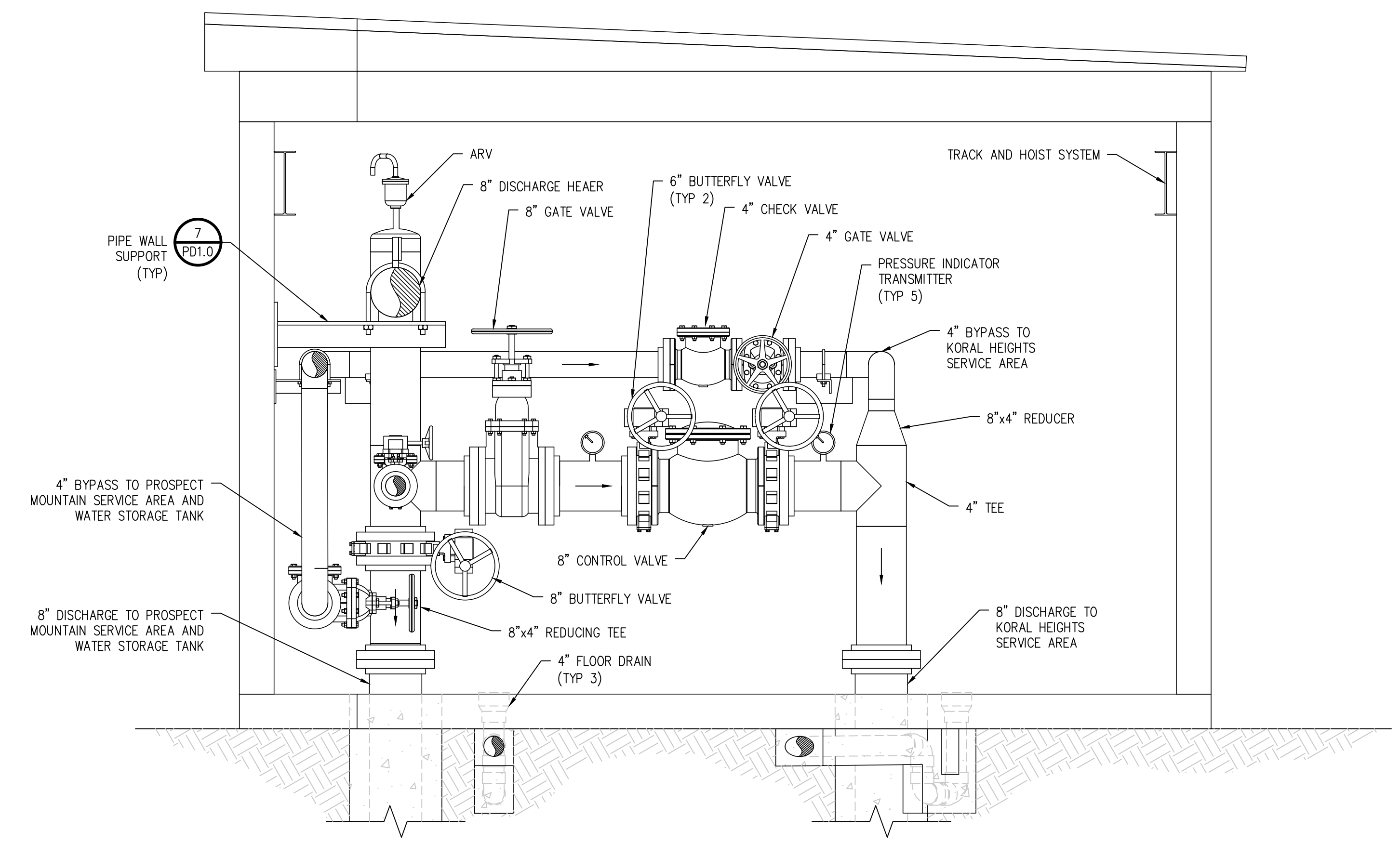
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**SECTION A**  
 3/4" = 1'-0" P1.0



**SECTION B**  
 3/4" = 1'-0" P1.0



**SECTION C**  
 3/4" = 1'-0" P1.0

**NOTE:**  
 INSTRUMENTATION AND ELECTRICAL EQUIPMENT  
 ONLY SHOWN IN PLAN VIEW FOR CLARITY

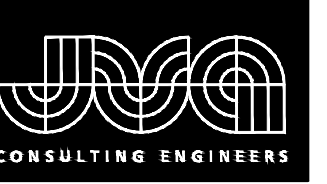


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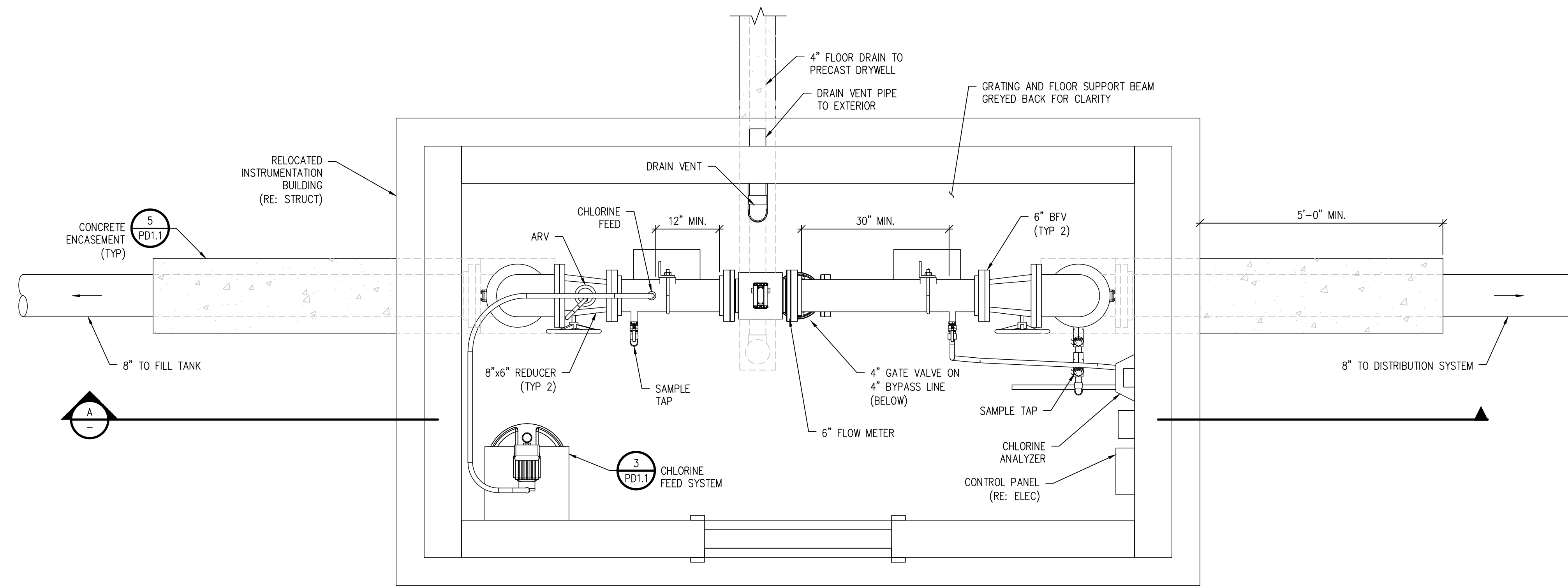
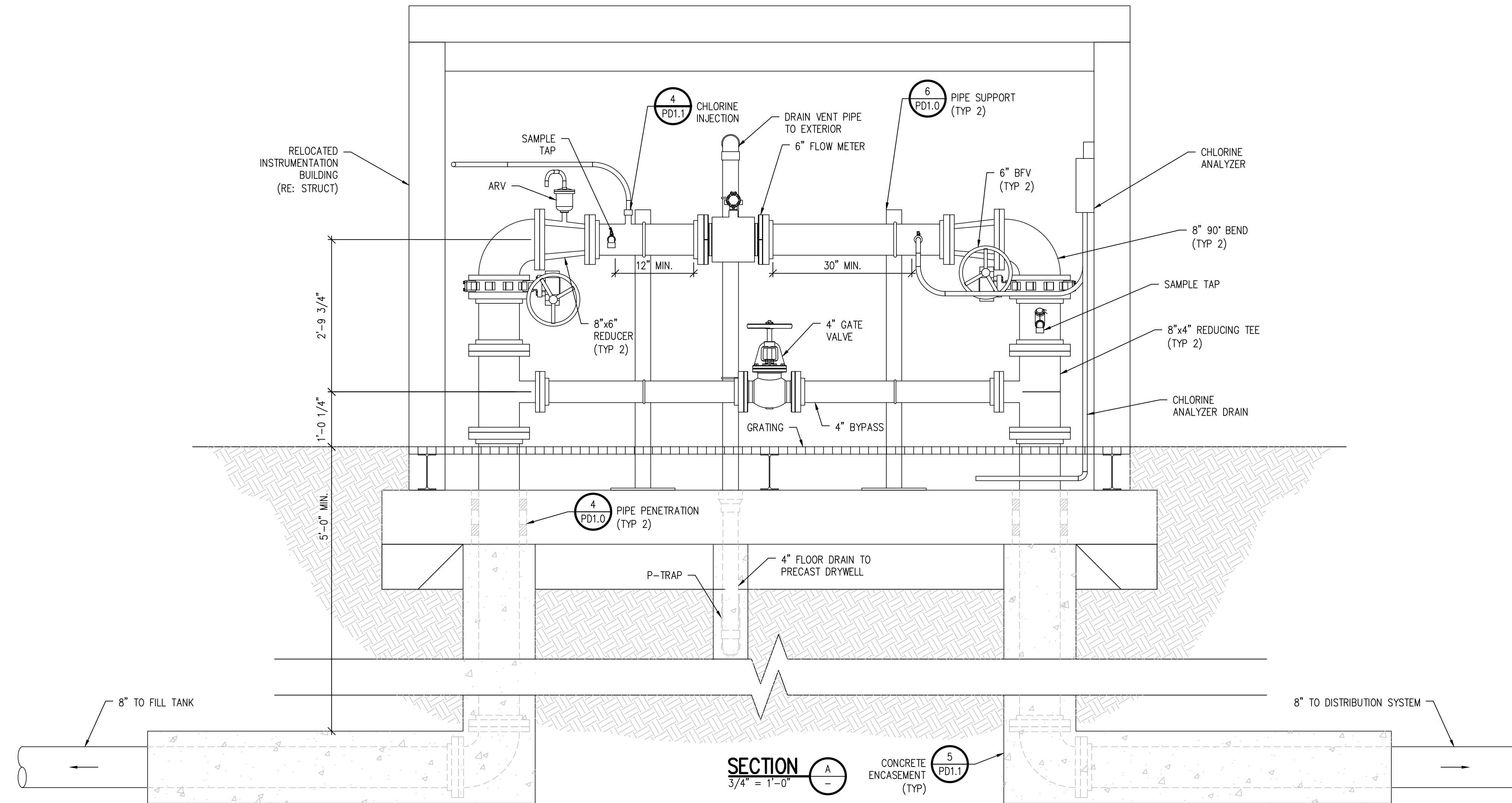
DESIGNED BY: LBT  
 DRAWN BY: LLG  
 CHECKED BY: JJM  
 JOB #: 1066e  
 DATE: APRIL 2021  
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**PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 BOOSTER PUMP STATION SECTIONS**

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**INSTRUMENTATION BUILDING PLAN VIEW**  
 3/4" = 1'-0"

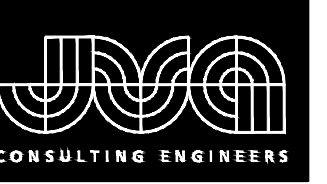
NO.	DATE	DESIGN	DESCRIPTION

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DRAWN BY:	LLG
CHECKED BY:	MMR
JOB #:	1066e
DATE:	APRIL 2021
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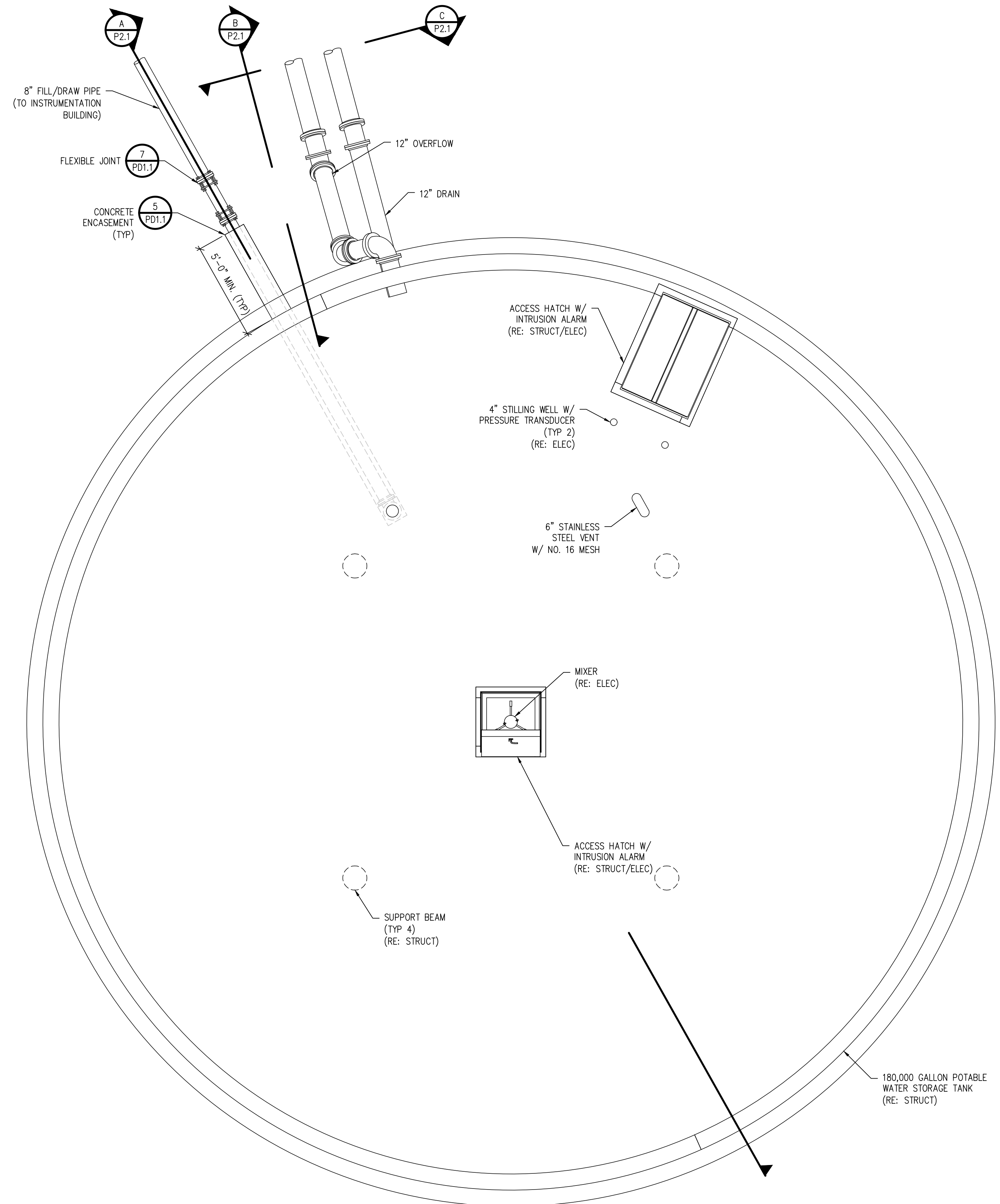
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 INSTRUMENTATION BUILDING PLAN AND  
 SECTION

SHEET NO.  
**P2.0**

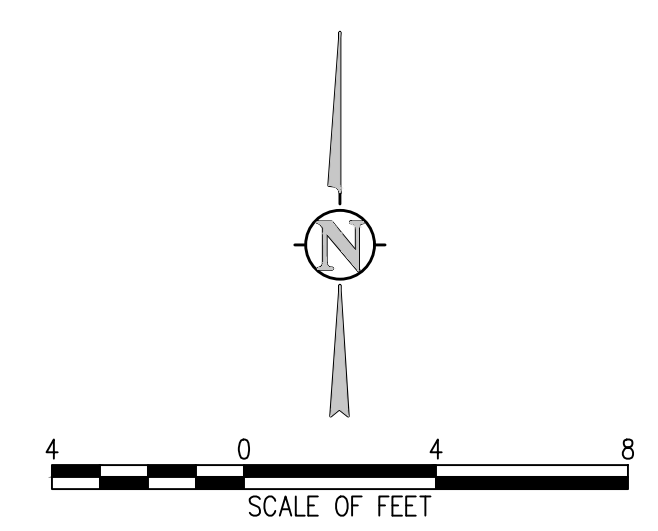
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**TANK PLAN VIEW**  
 1/4" = 1'-0"



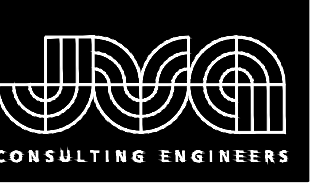
NO.	DATE	DESIGNED	DRAWN	REVISION DESCRIPTION

DESIGNED BY:	LBT
DRAWN BY:	LLG
CHECKED BY:	MMR
JOB #:	1066e
DATE:	APRIL 2021
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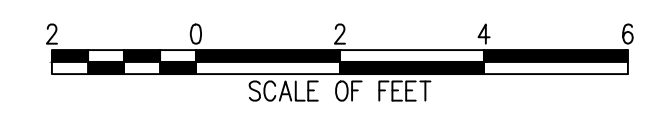
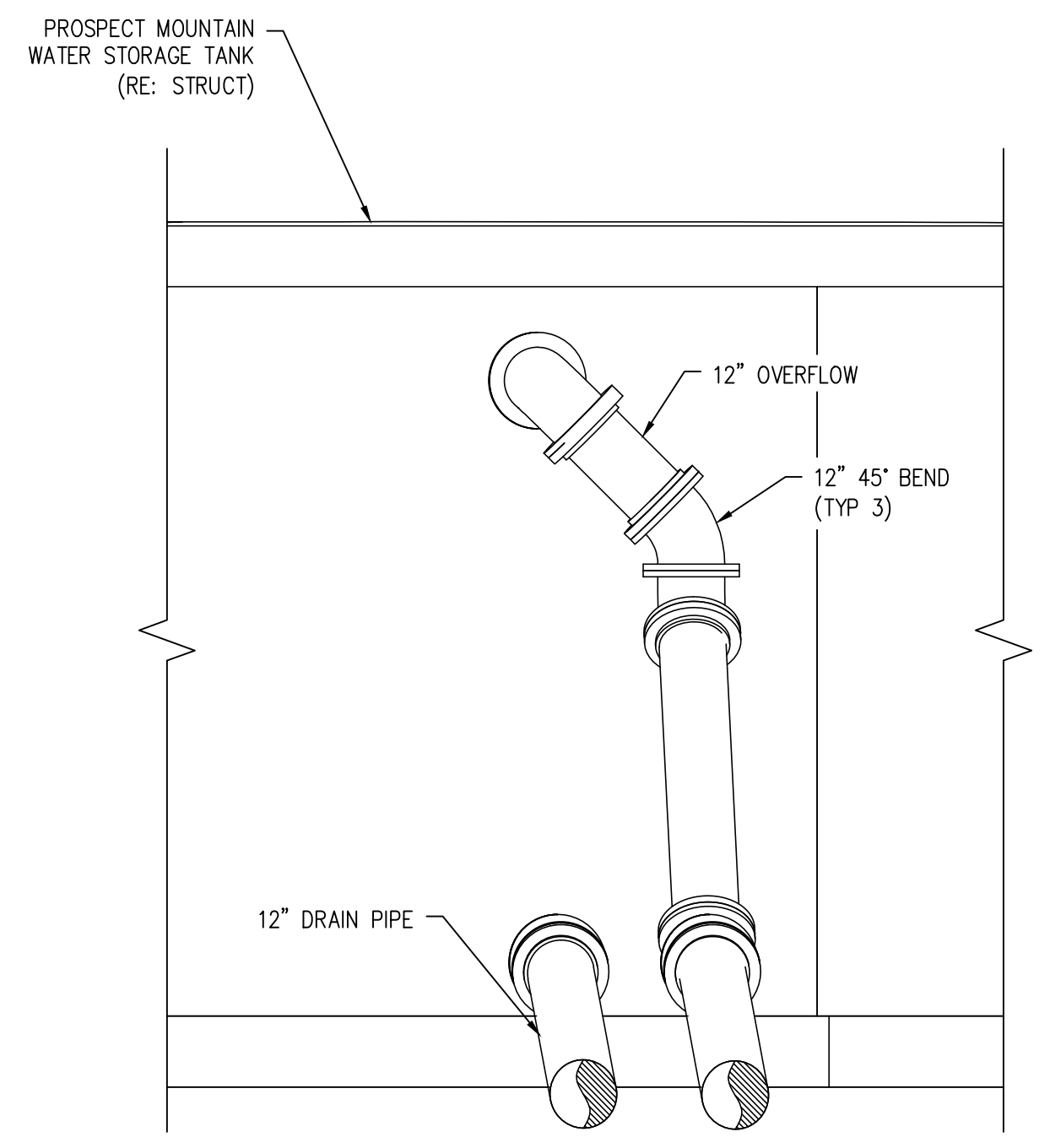
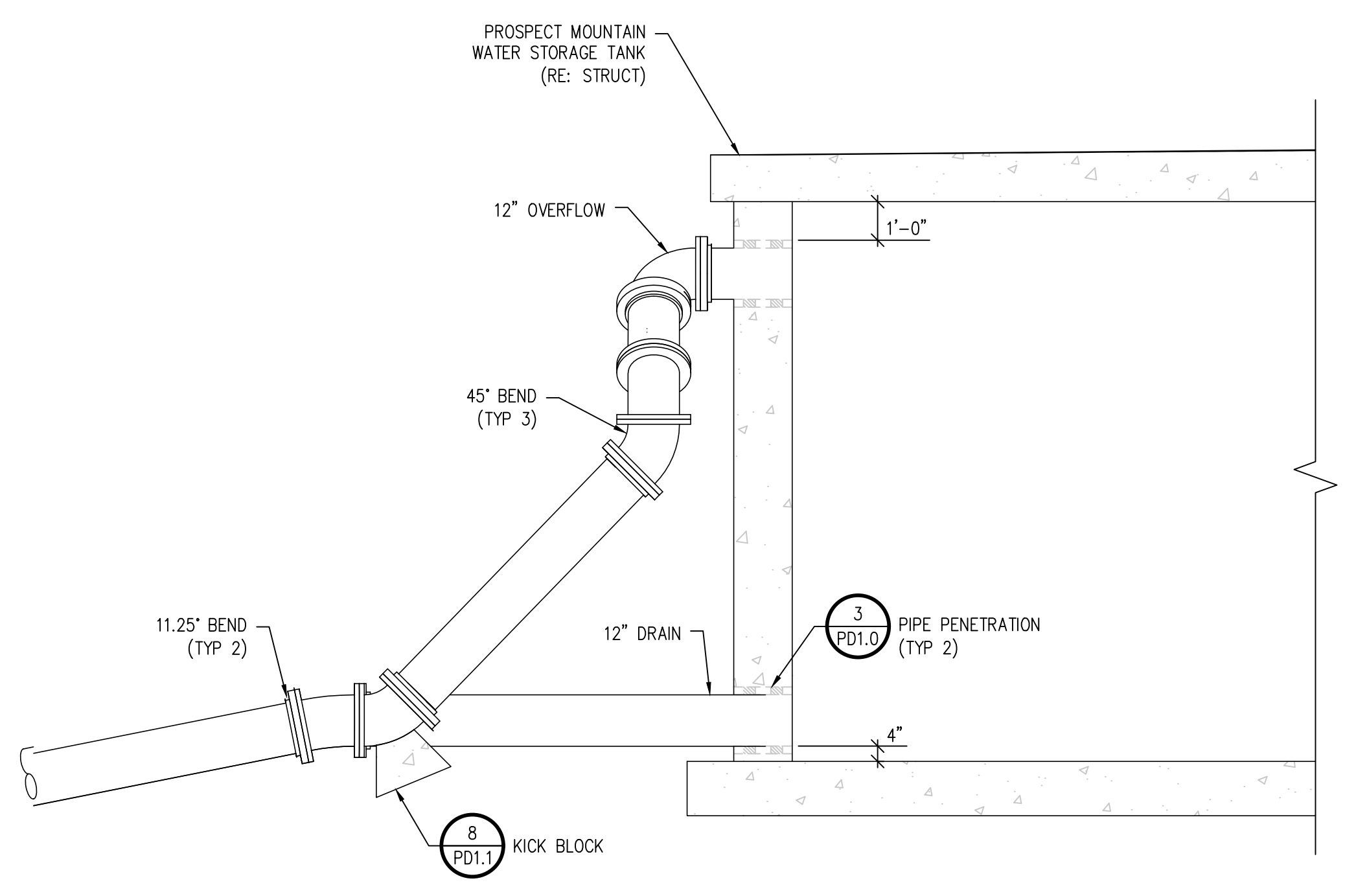
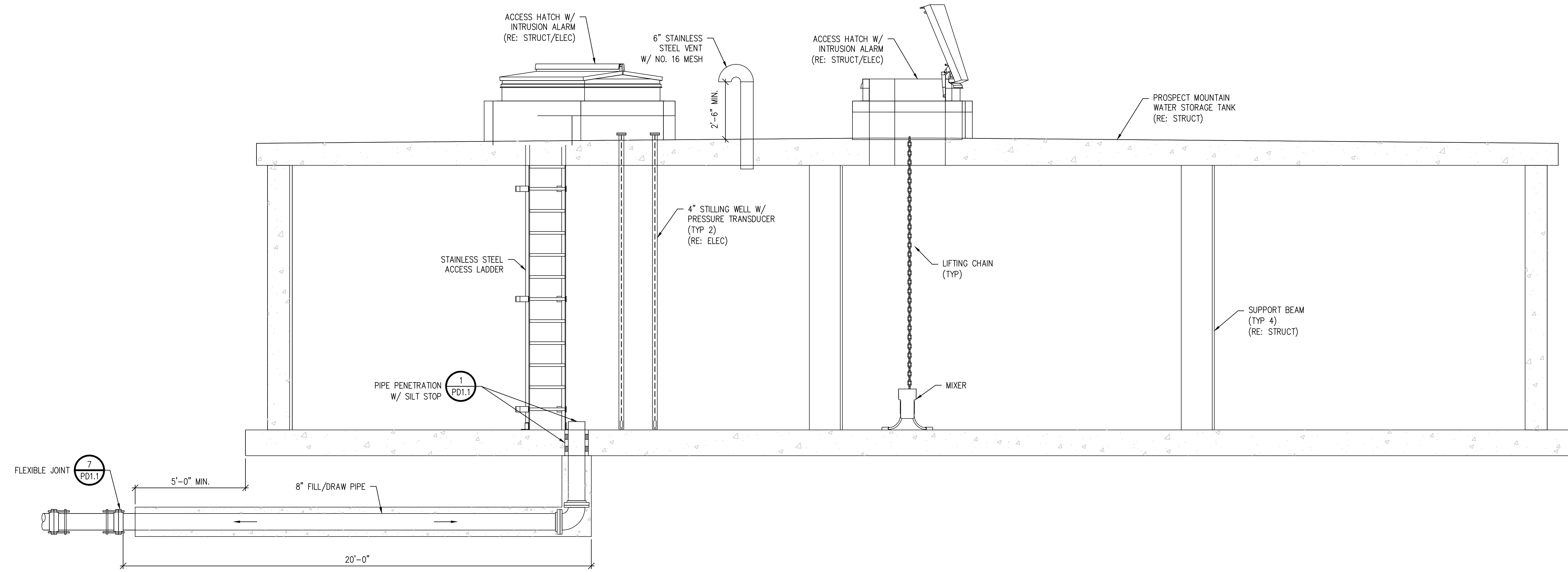
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 TANK PLAN VIEW

SHEET NO.  
**P2.1**

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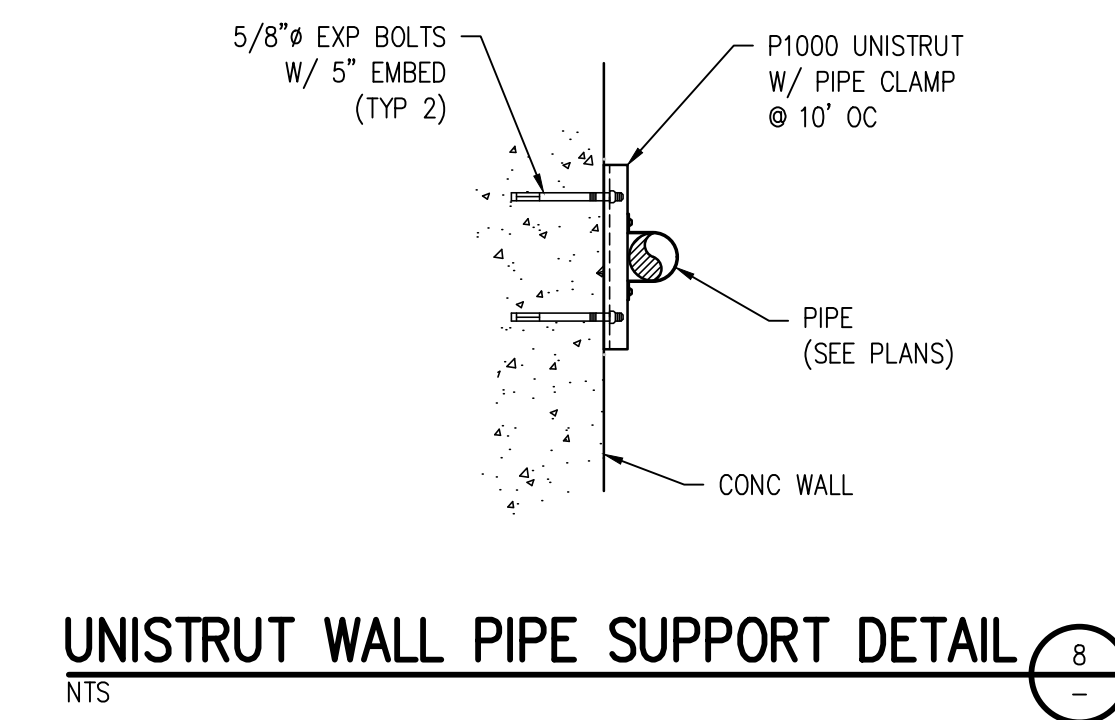
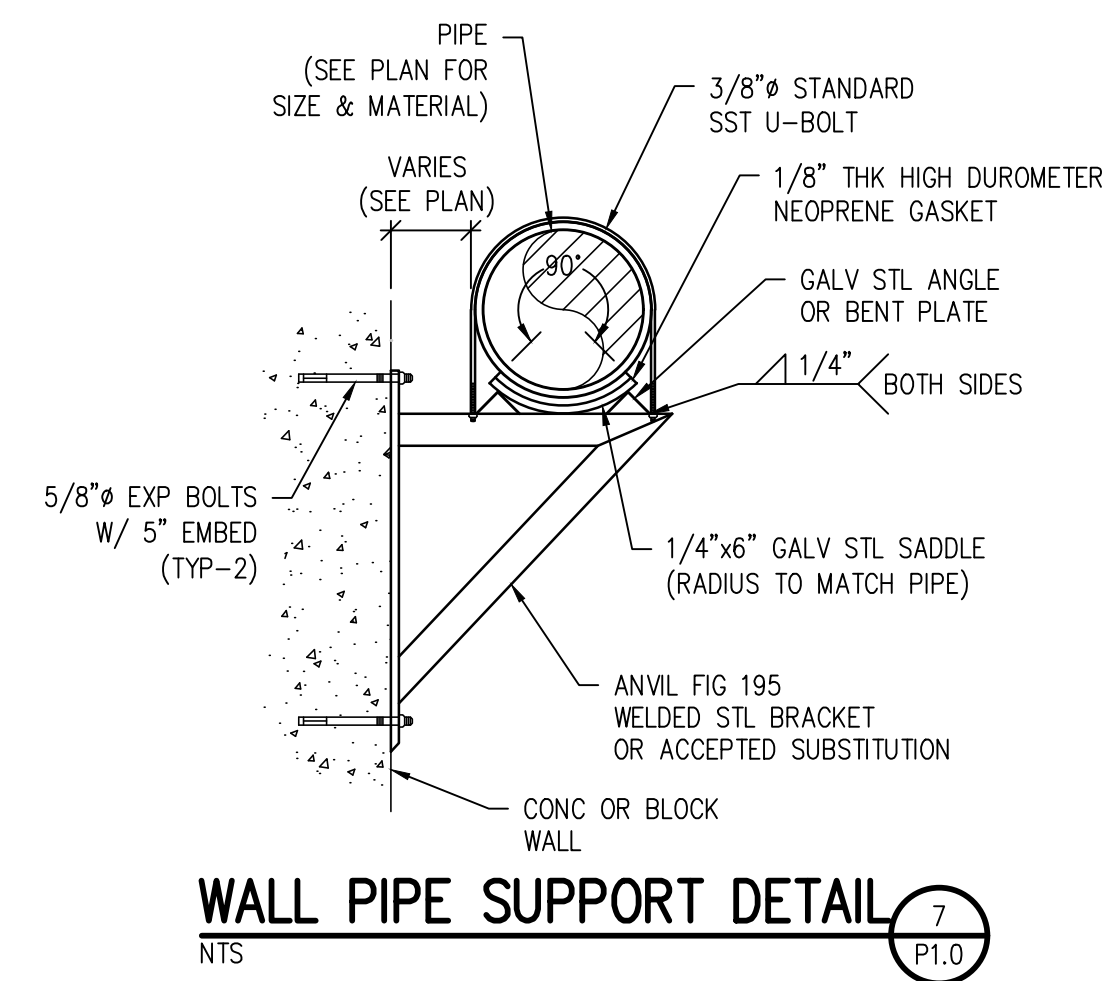
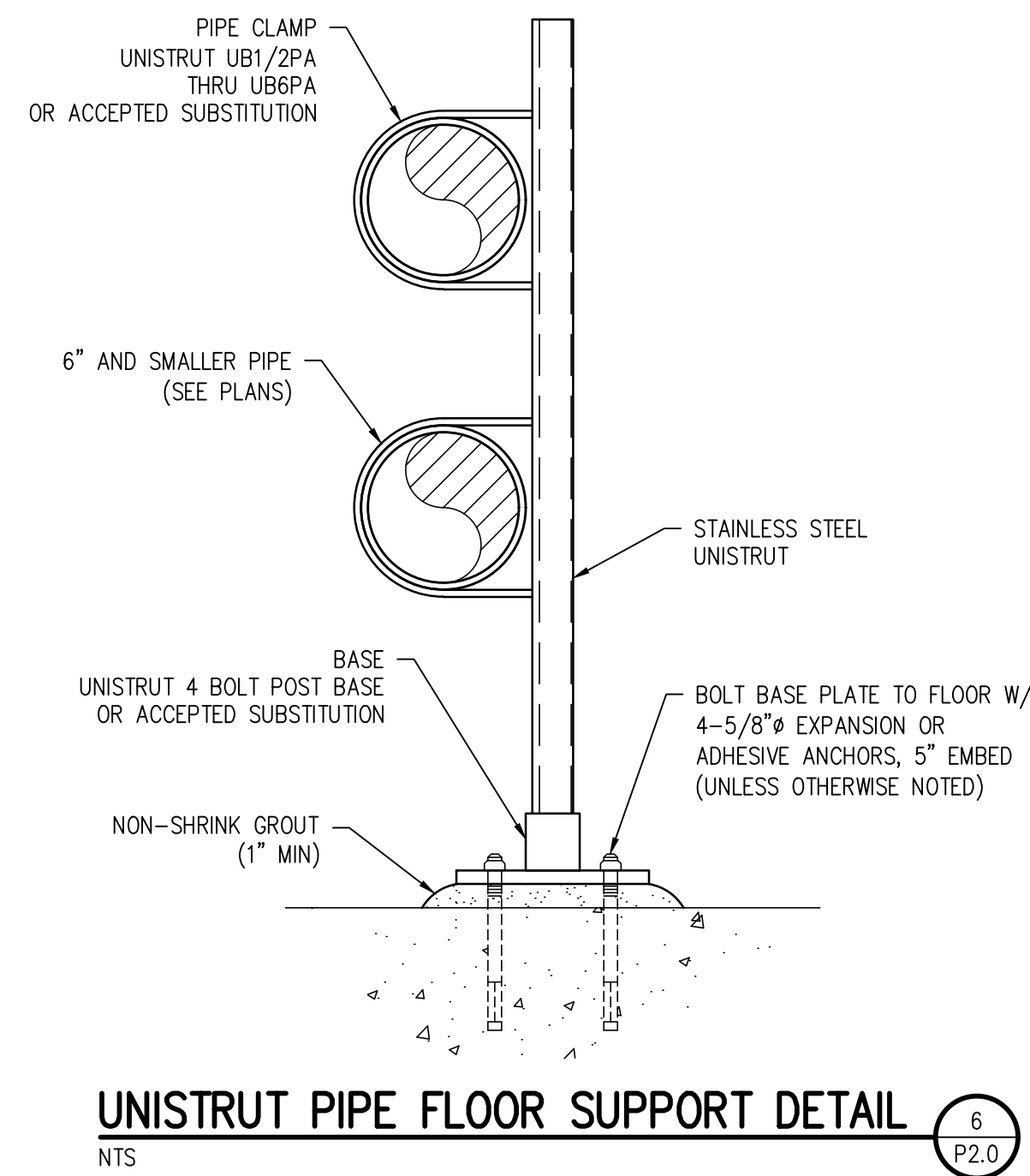
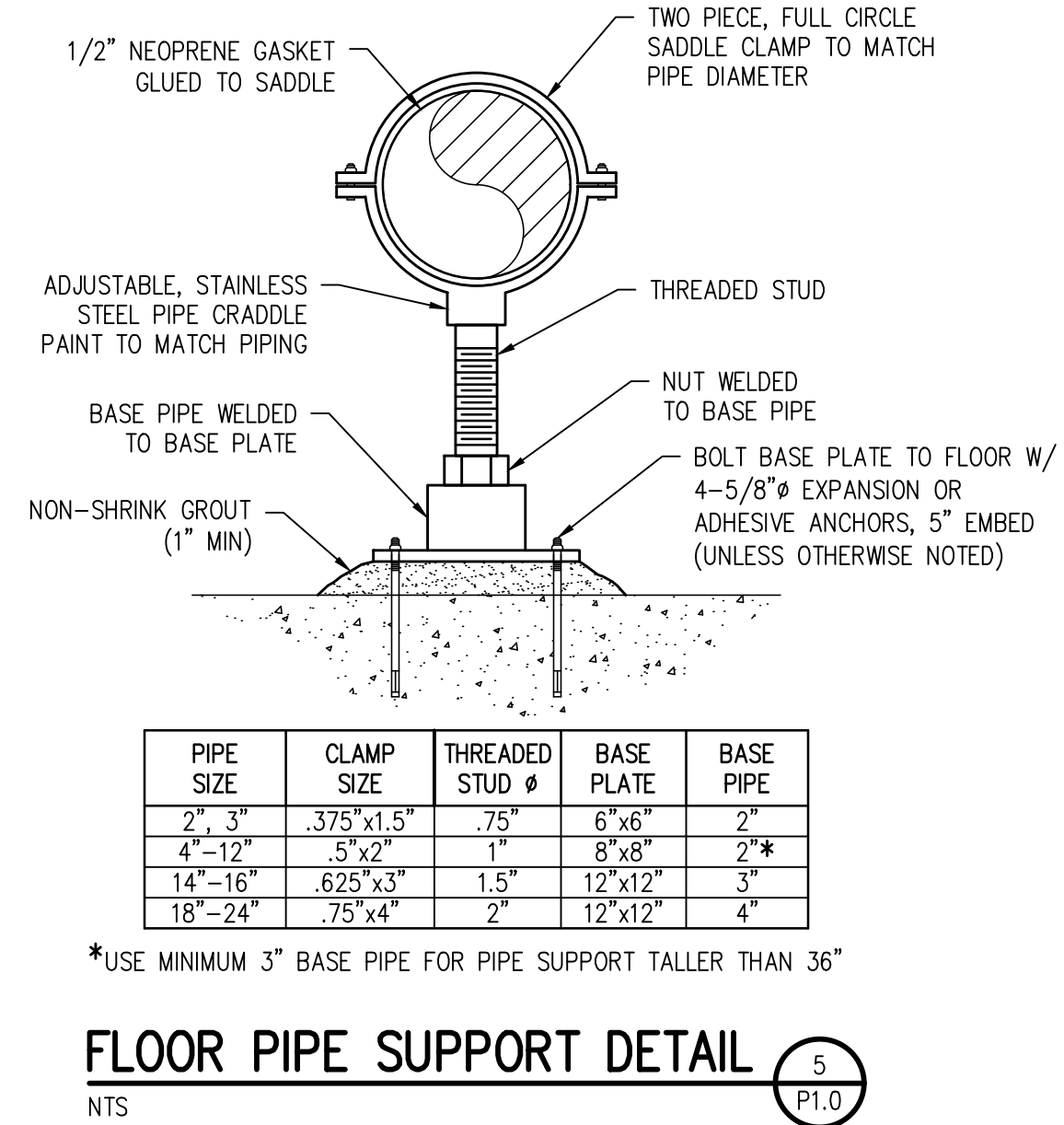
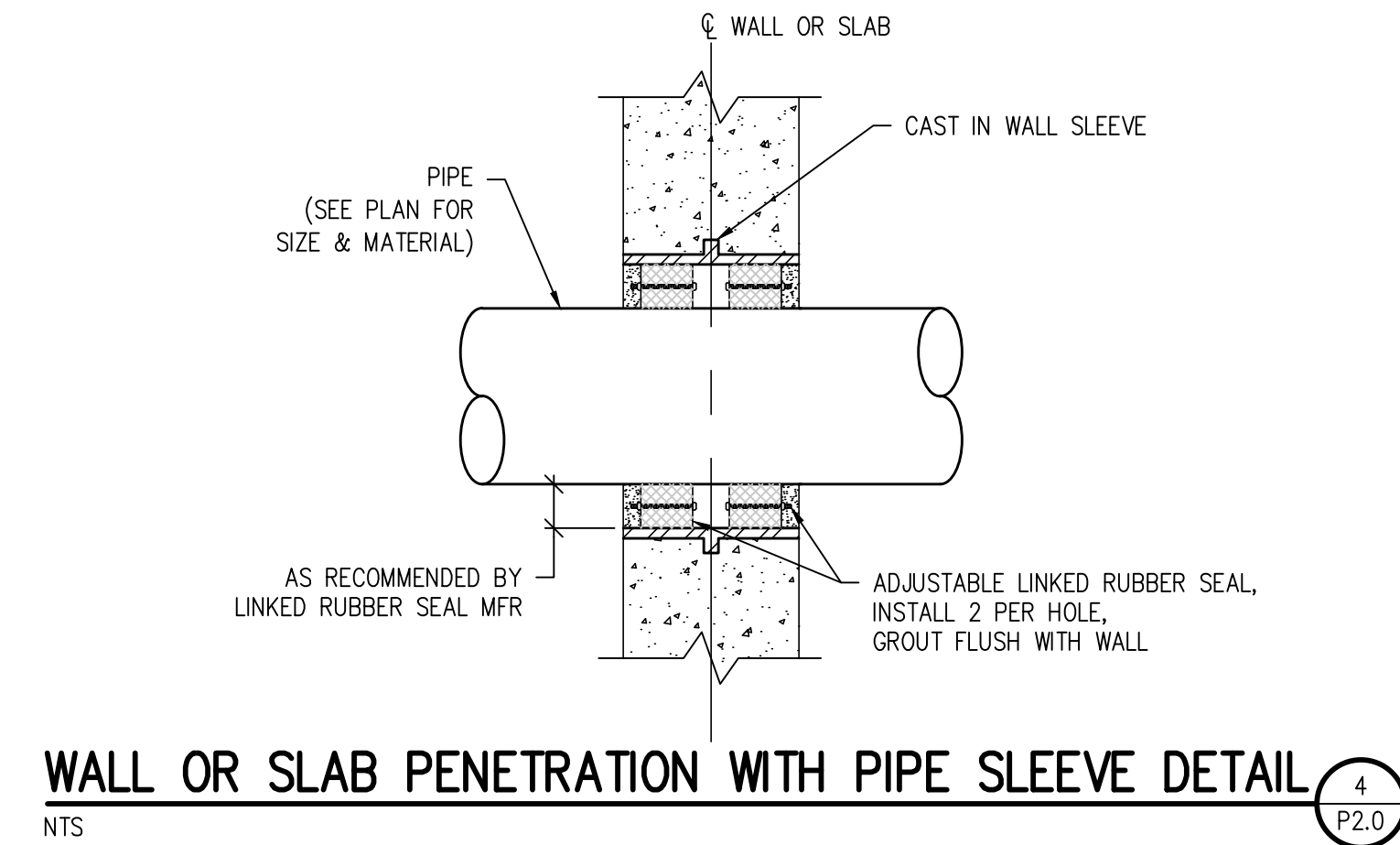
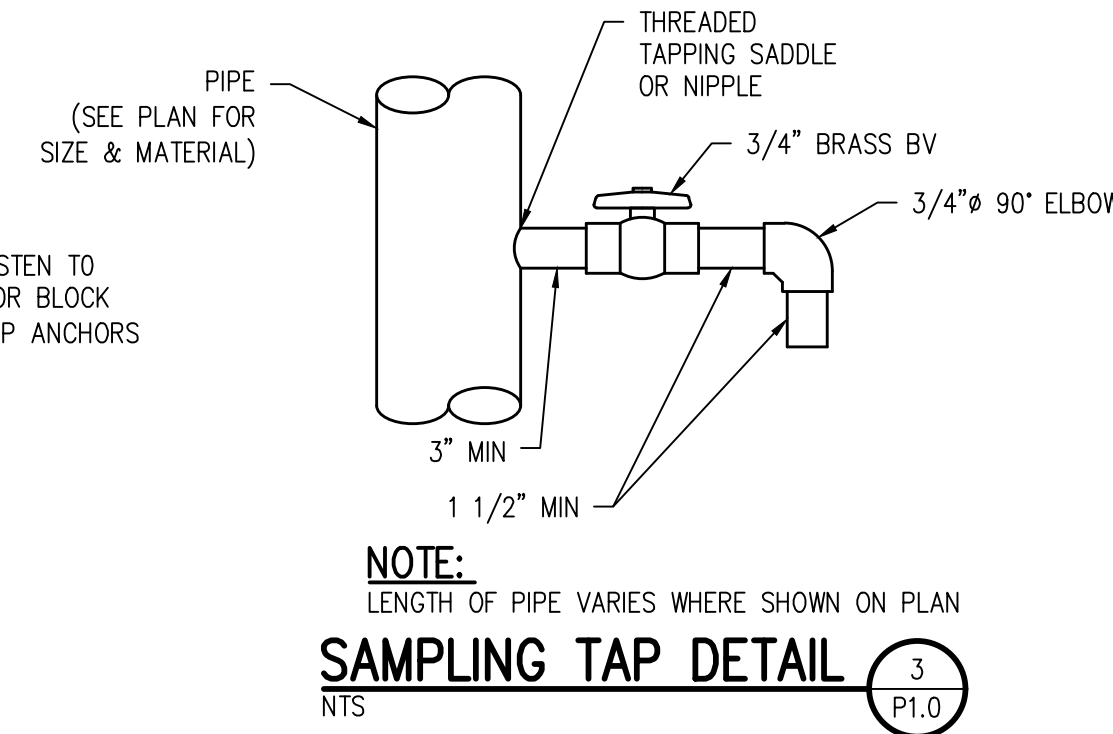
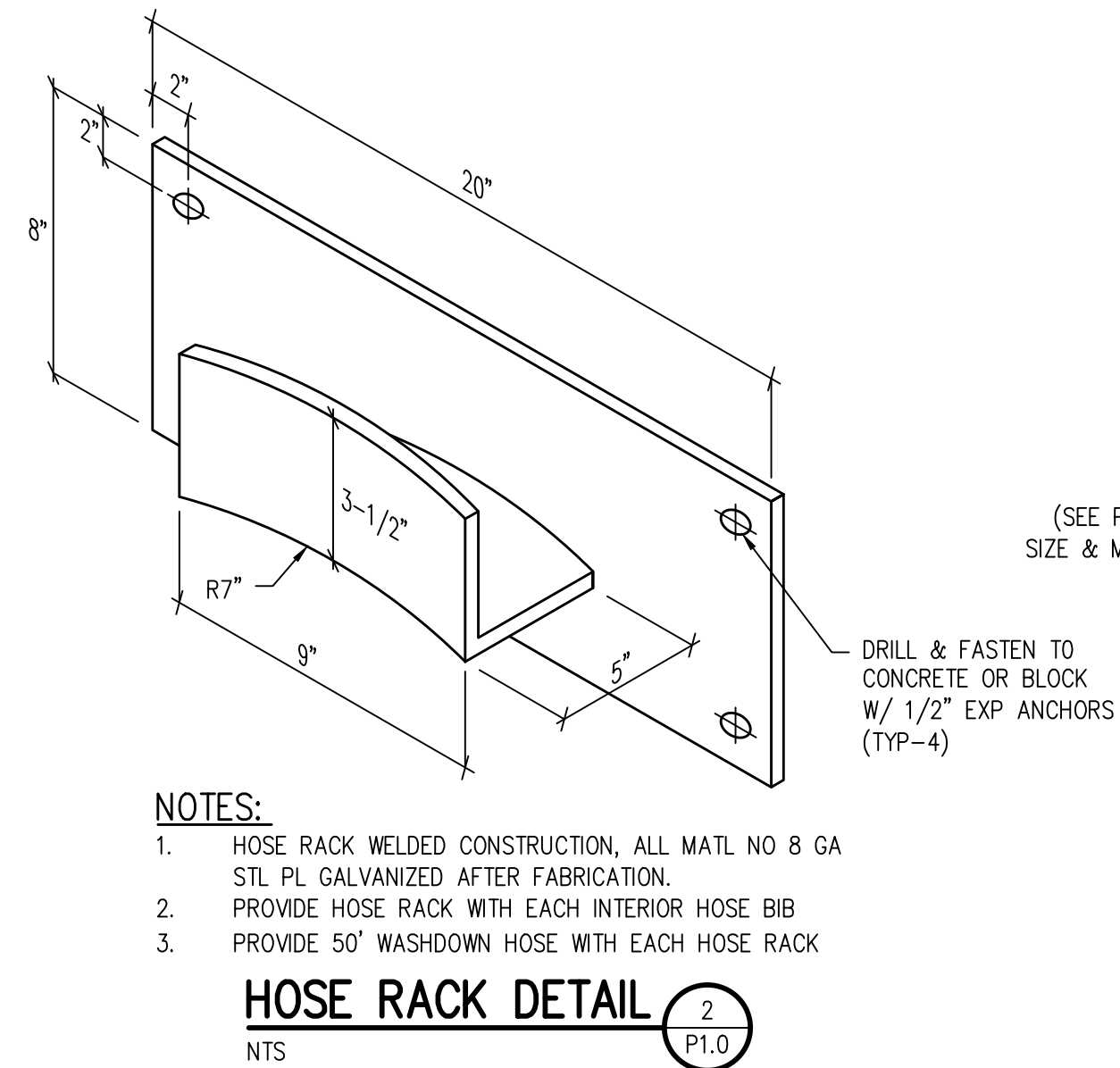
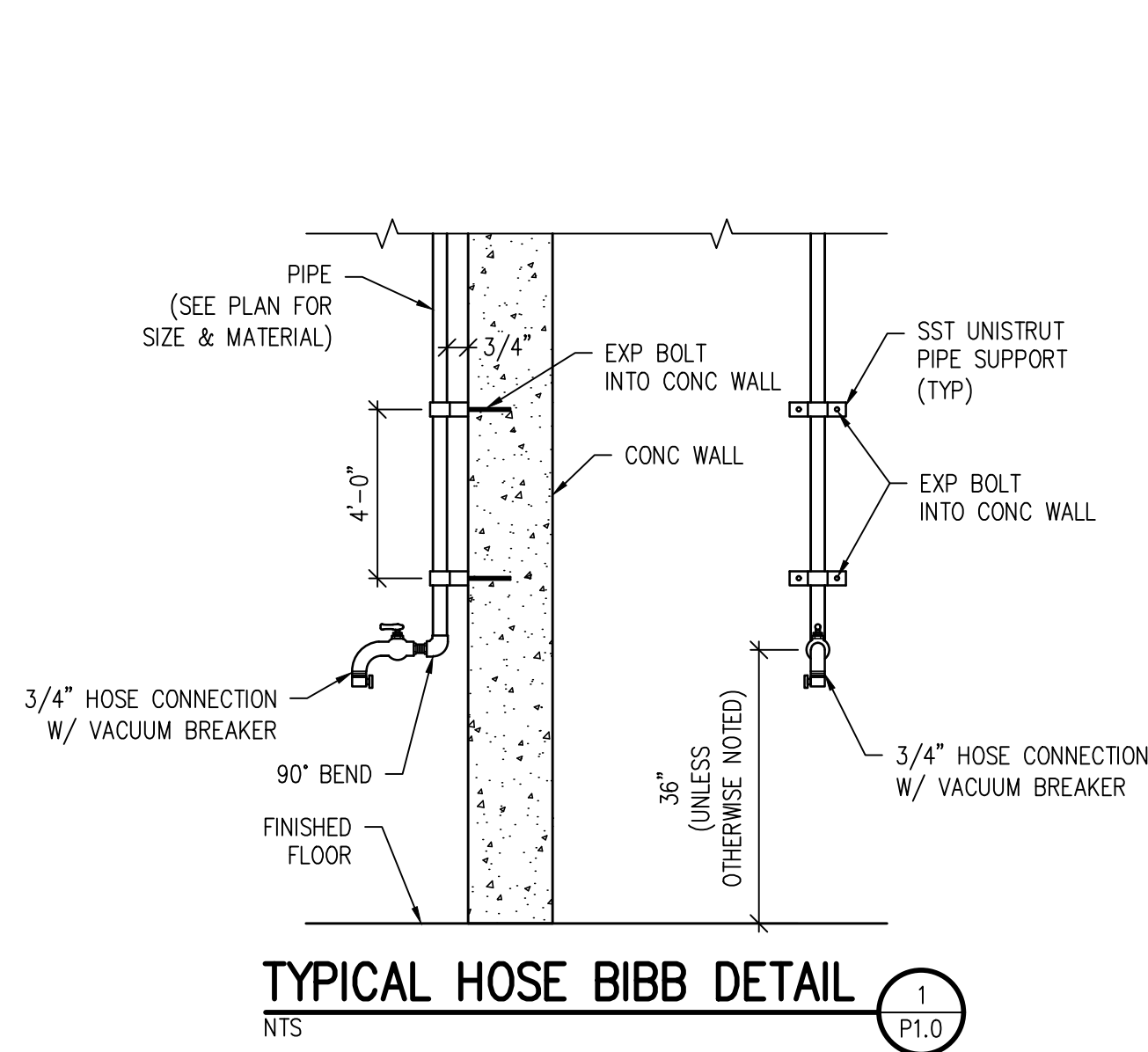
DESIGNED BY:	LBT
DRAWN BY:	LLG
CHECKED BY:	MMR
JOB #:	1066e
DATE:	APRIL 2021
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TANK SECTIONS

SHEET NO.  
**P2.2**

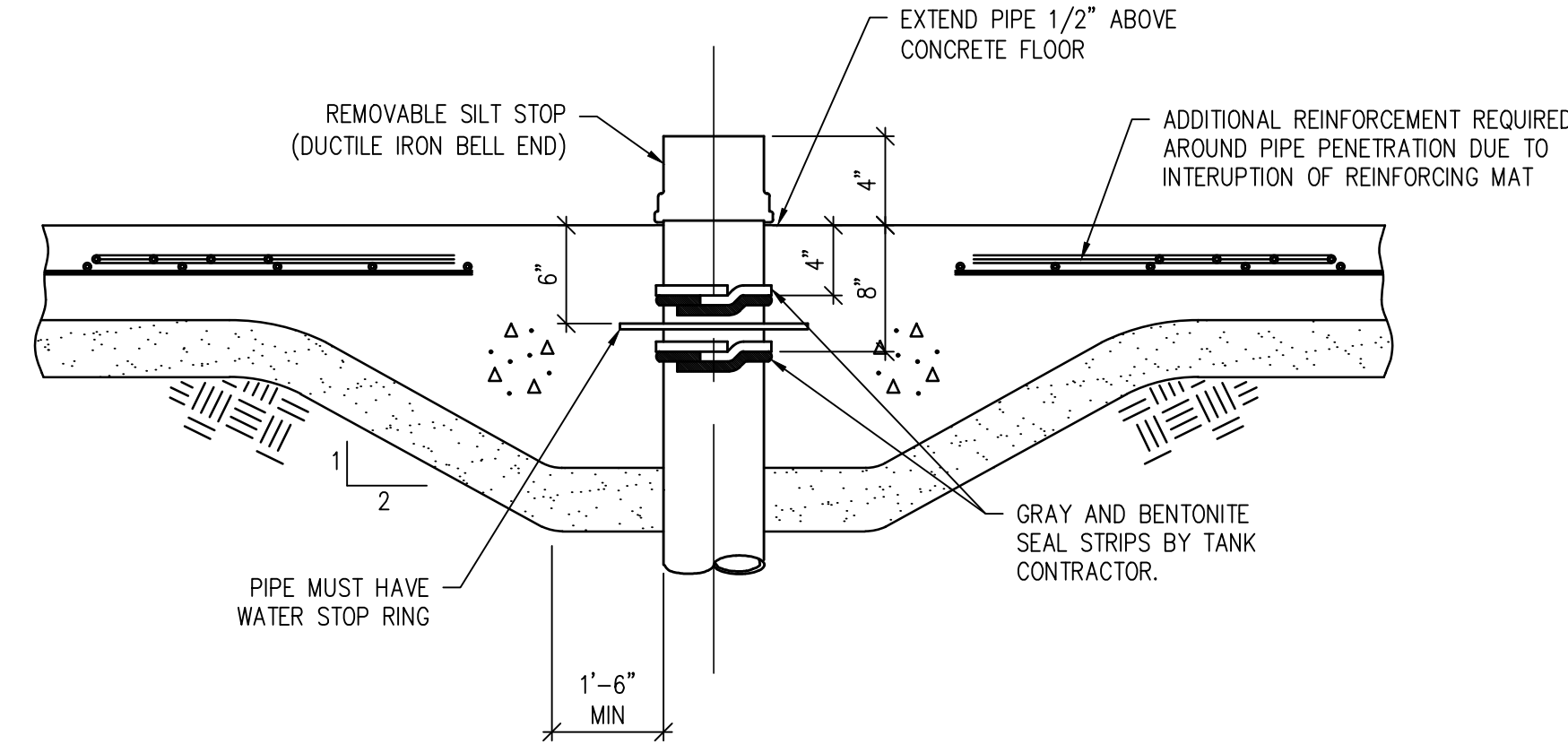
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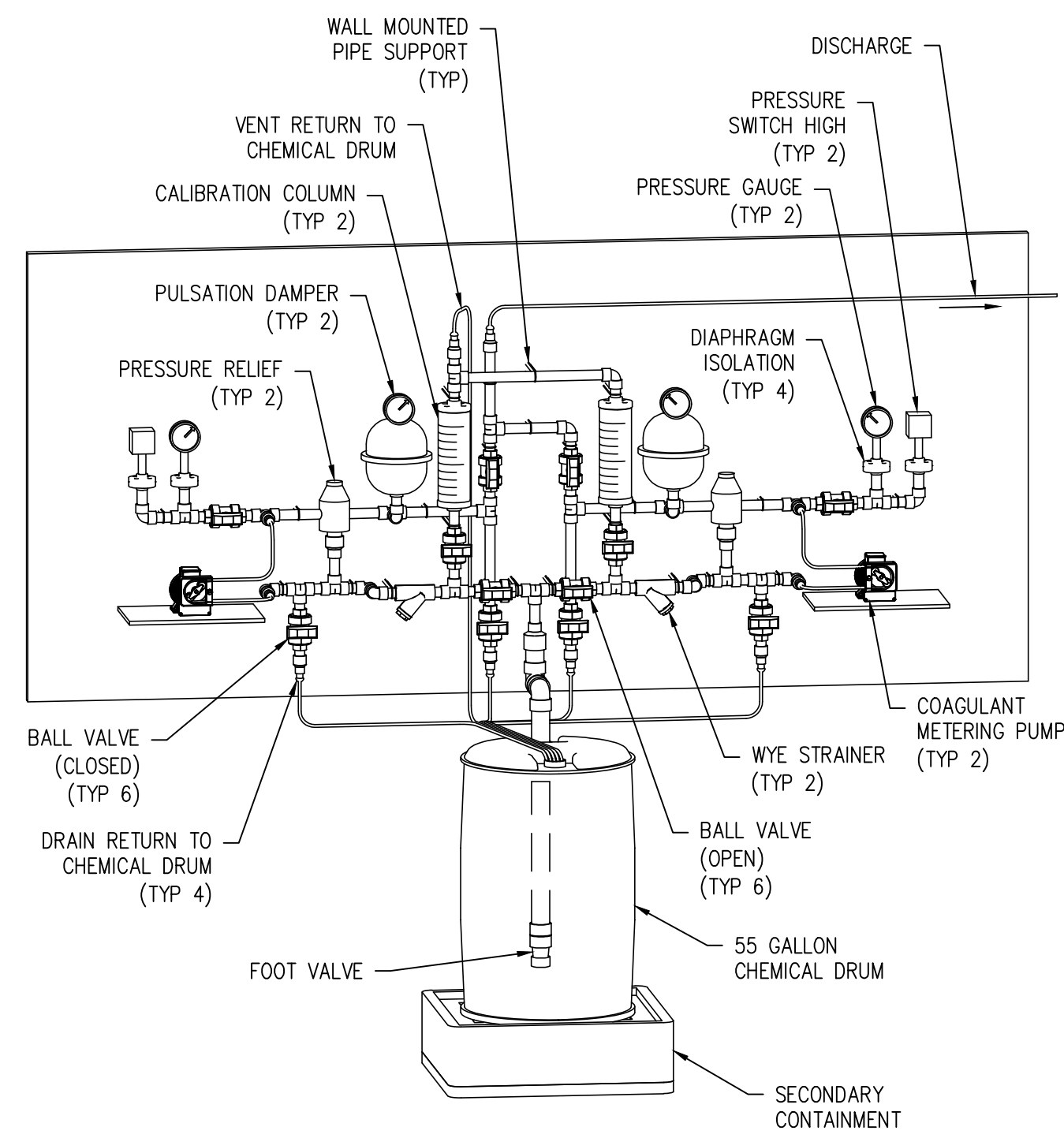
NO.	DATE	DES'D	OWN	REVISION DESCRIPTION

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DRAWN BY:	LLG
CHECKED BY:	MMR
JOB #:	1066e
DATE:	APRIL 2021
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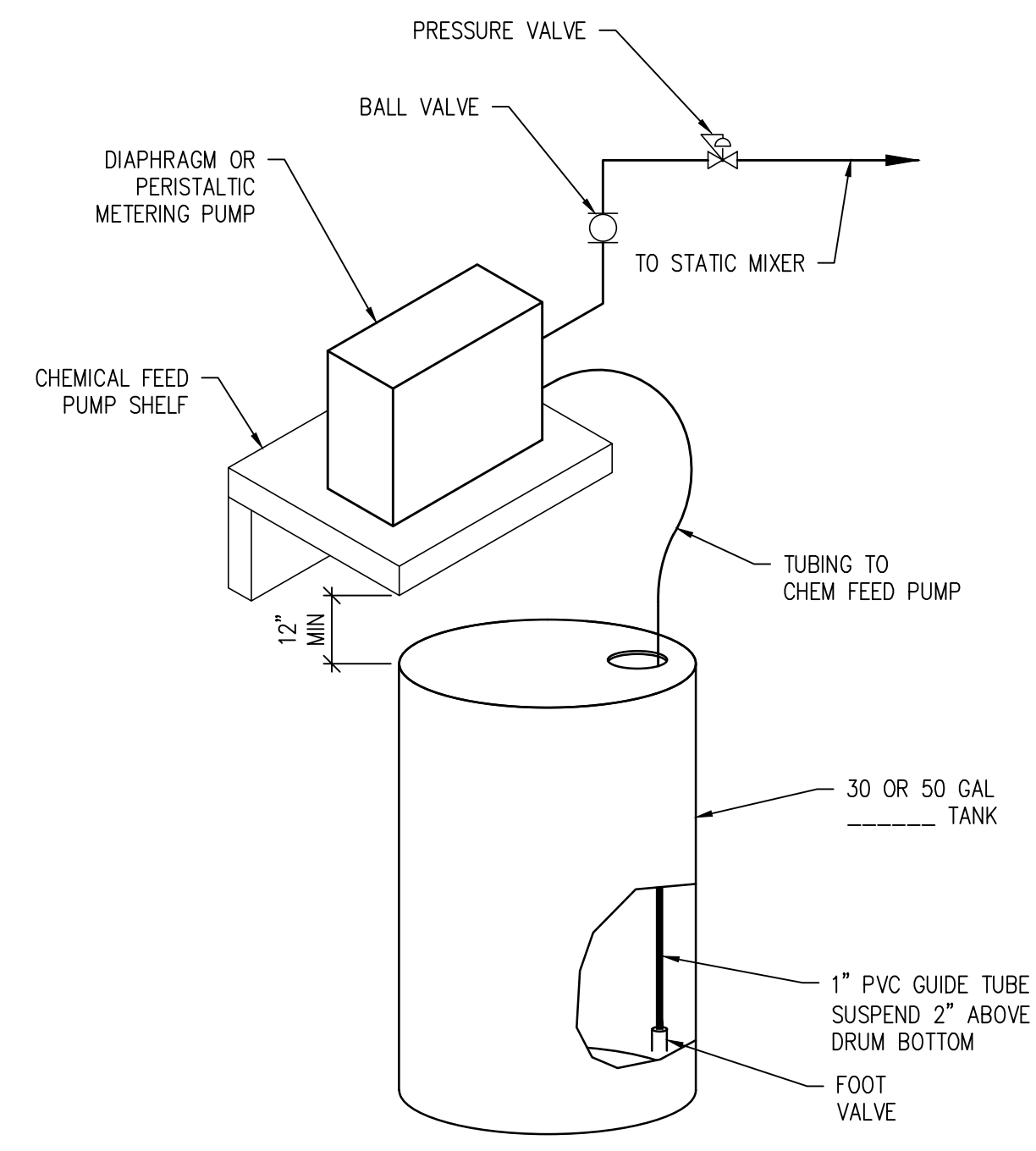
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 PROCESS DETAILS



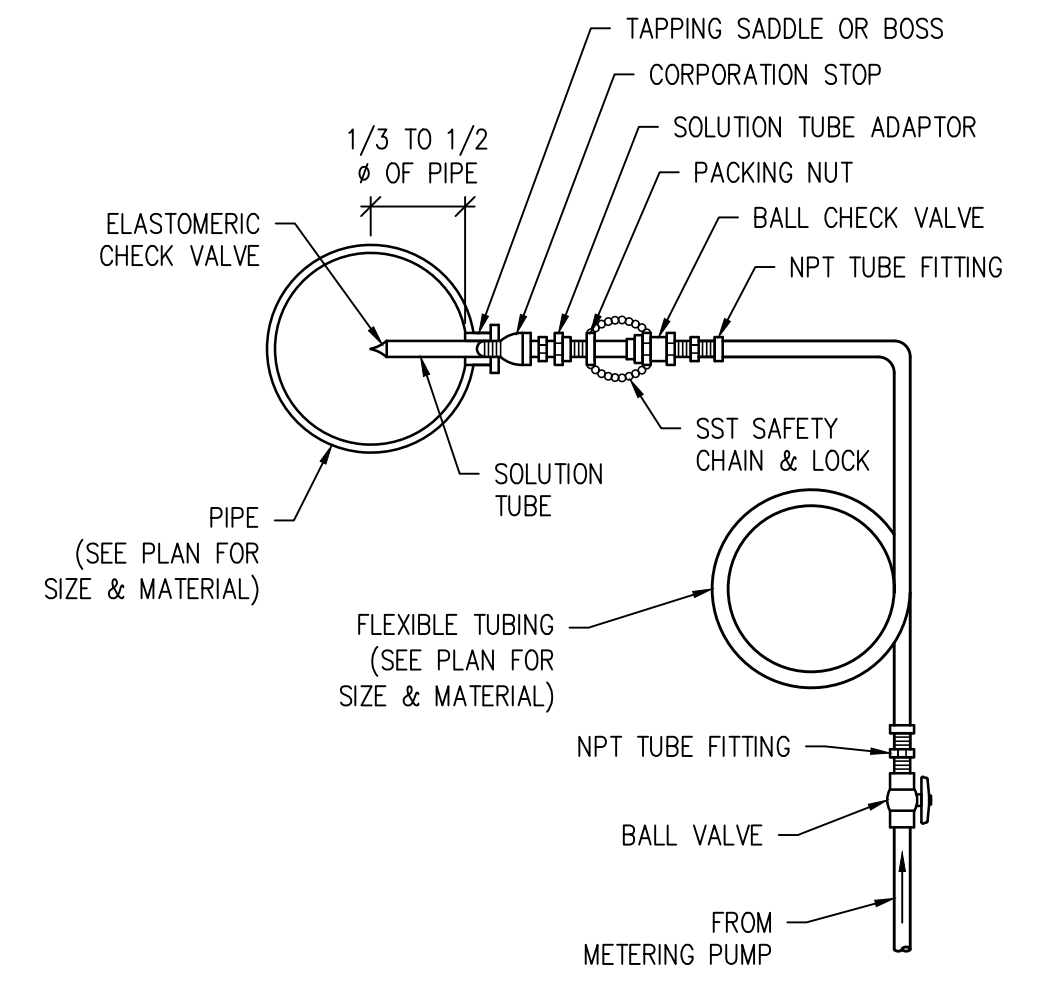
**TYPICAL PIPE PENETRATION THROUGH CONCRETE TANK FLOOR WITH REMOVABLE SILT STOP** 1  
NTS P2.2



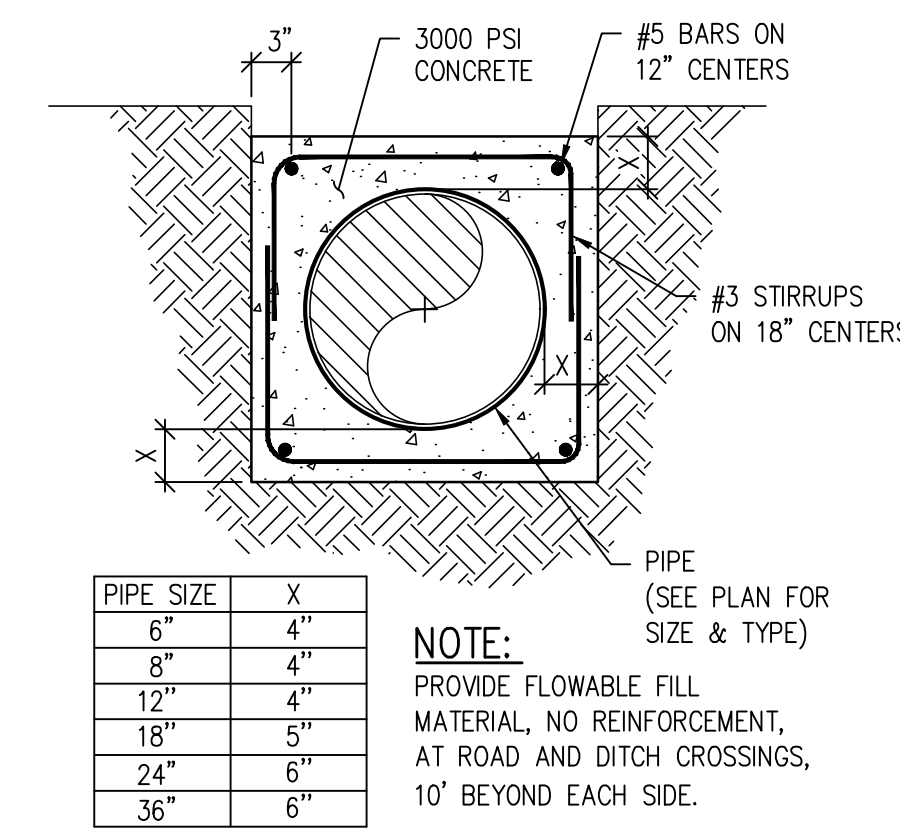
**CHEMICAL FEED SYSTEM** 2  
NTS



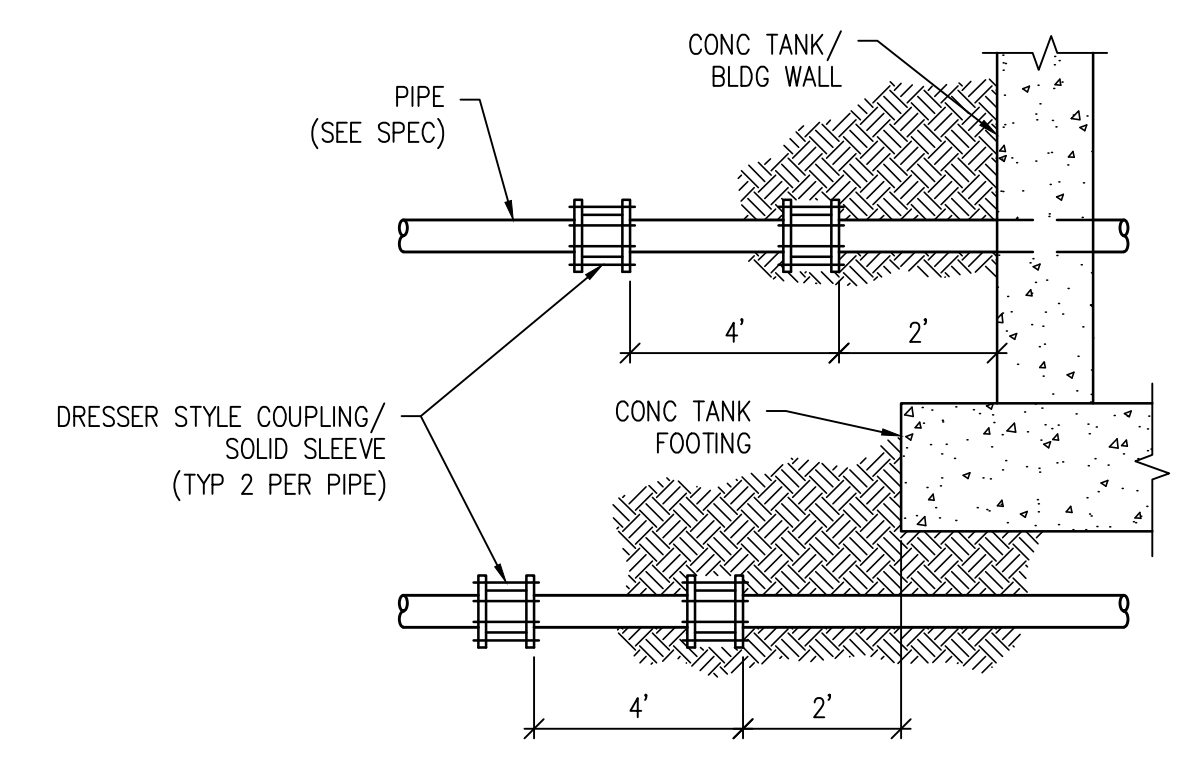
**CHLORINE FEED SYSTEM DETAIL** 3  
NTS



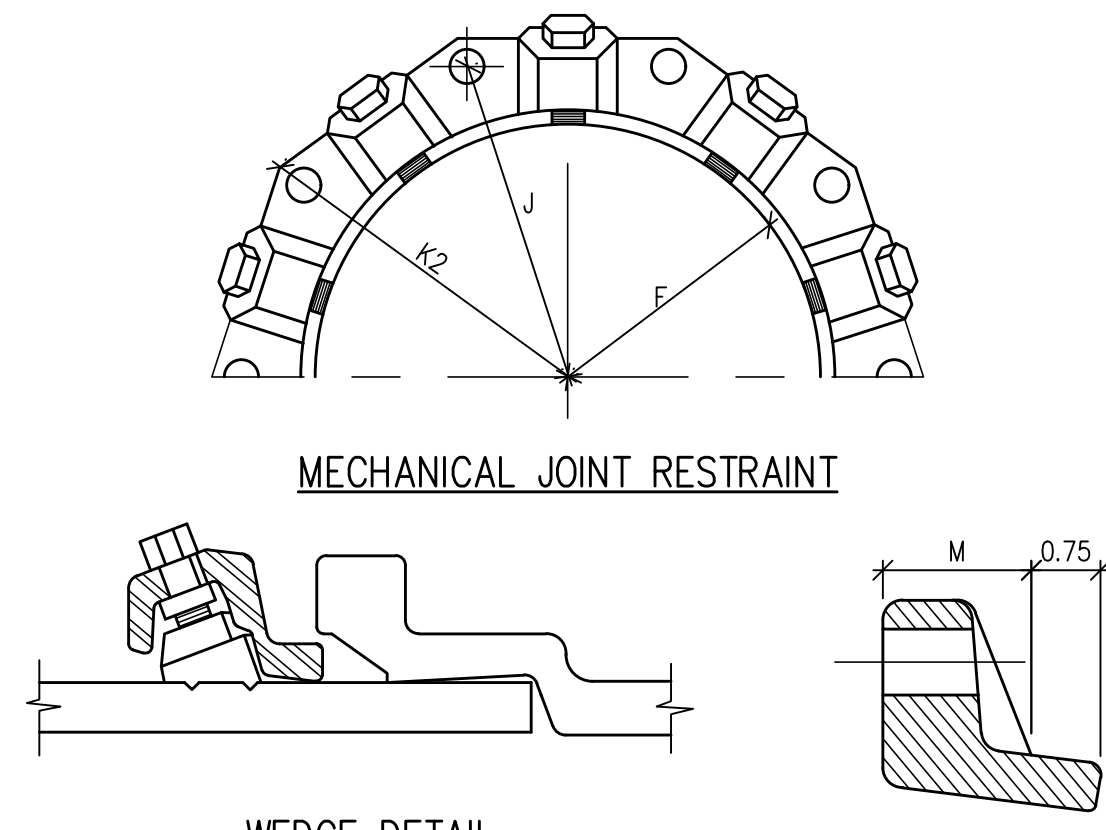
**CHEMICAL INJECTOR DETAIL** 4  
NTS P2.0



**CONCRETE ENCASEMENT DETAIL** 5  
NTS P1.0



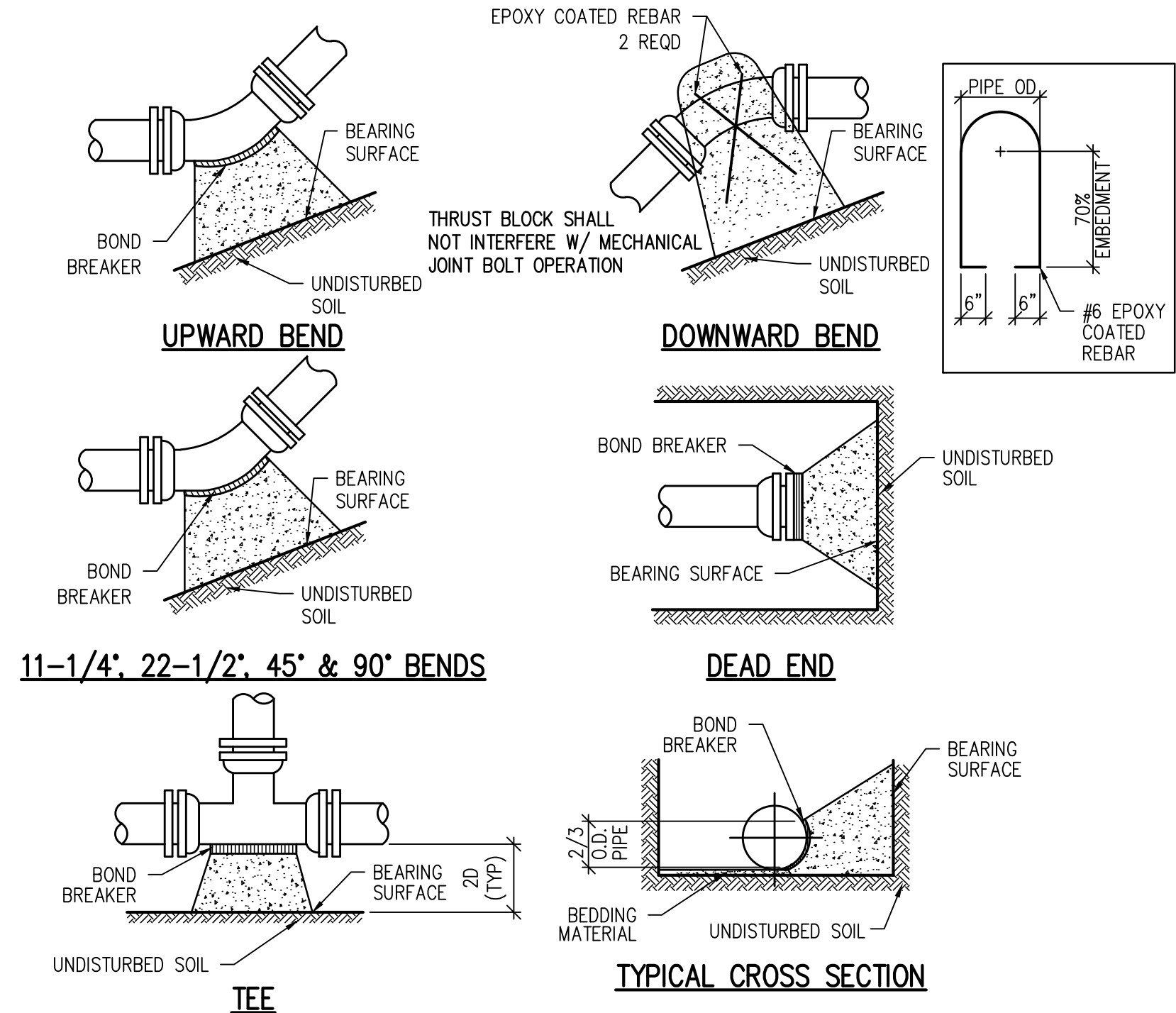
**PIPE FLEXIBILITY DETAIL** 6  
NTS



**DIMENSIONS**

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
4"	2	2				
6"	6	3	11.12	9.50	7.00	0.88
8"	6	4	13.37	11.75	9.15	1.00
10"	8	6	15.62	14.00	11.20	1.00
12"	8	8	17.88	16.25	13.30	1.25
4"	4	2				
6"	6	3	11.12	9.50	7.00	0.88
8"	6	4	13.37	11.75	9.15	1.00
10"	8	6	15.62	14.00	11.20	1.00
12"	8	8	17.88	16.25	13.30	1.25
16"	12	12	22.50	21.00	17.54	1.56
20"	14	14	27.00	25.50	21.74	1.69

**MECHANICAL JOINT RESTRAINT DETAIL** 7  
NTS P2.1



**MINIMUM BEARING SURFACE AREA (IN SQUARE FEET)**

SIZE OF PIPE	TEE OR DEAD END	SURFACE AREA (SQ FT)			CONC VOL (CU YD)
		BENDS	45°	90°	
4"	1.50	1.00	1.00	2.0	0.34
6"	3.00	1.00	1.25	4.5	0.71
8"	5.25	1.00	2.00	8.0	1.22
12"	11.25	2.25	4.50	17.0	1.83
16"	19.00	3.50	7.50	27.00	2.59
20"	25.00	5.00	10.00	35.50	6.93
24"	36.00	6.50	14.00	51.00	9.88

**CONCRETE THRUST BLOCK DETAIL** 8  
NTS P2.2

NO. DATE DESD DWN

DESIGNED BY: LBT  
DRAWN BY: LLG  
CHECKED BY: MMR  
JOB #: 1066e  
DATE: APRIL 2021  
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PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM ESTES PARK, COLORADO

PROCESS DETAILS

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### UNIT HEATER (ELECTRIC)

ITEM	MANUFACTURER/ MODEL	LOCATION/ SERVICE	HEATING CAP. (KW)	MAX. CFM	VOLTS/PHASE	MAX. OPER. WT. (LBS.)	OVERALL DIMENSIONS	NOTES
UH 3KW	INDEECO/ UCI	CEILING/ HEAT	3.0	700	240/1	50	17" DEEP X 16-1/2" WIDE X 12" TALL	①

**NOTES:**

- ① FURNISH FACTORY INSTALLED DISCONNECT AND REMOTE THERMOSTAT SET AT 65 DEG F

### FAN SCHEDULE

ITEM	MANUFACTURER/ MODEL	LOCATION/ SERVICE	CFM HIGH/LOW	ESP	MAX FAN RPM	MAX FAN SONES	ELEC. DATA			MAX OPERATING WEIGHT (LBS)	OVERALL DIMENSIONS	NOTES
							SIZE	VOLT	PH			
EF 1	COOK/ GCVF180	CEILING/ EXHAUST	200/50	.30	1200	10.0	50 WATTS	115	1	25	14.875"W X 10"H X 13.25"L	① ②

**NOTES:**

- ① CEILING MOUNTED EXHAUST FAN WITH PLASTIC INTAKE GRILLE, BACKDRAFT DAMPER, MOTOR THERMAL OVERLOAD, PLUG DISCONNECT, VARIABLE SPEED FAN MOTOR, RIS VIBRATION ISOLATORS AND PLASTIC WHEEL.
- ② PROVIDE 2 SETTING SPEED CONTROLLER WITH LOW CONSTANT SPEED SETTING AND TEMPERATURE CONTROLLED HIGH SPEED SETTING. FAN TO OPERATE CONSTANTLY AT LOW SPEED SETTING WITH HIGH SPEED SETTING ACTIVATED BY REVERSE ACTING THERMOSTAT SET TO TURN FAN ON WHEN SPACE TEMPERATURE EXCEEDS 80 DEG. F.

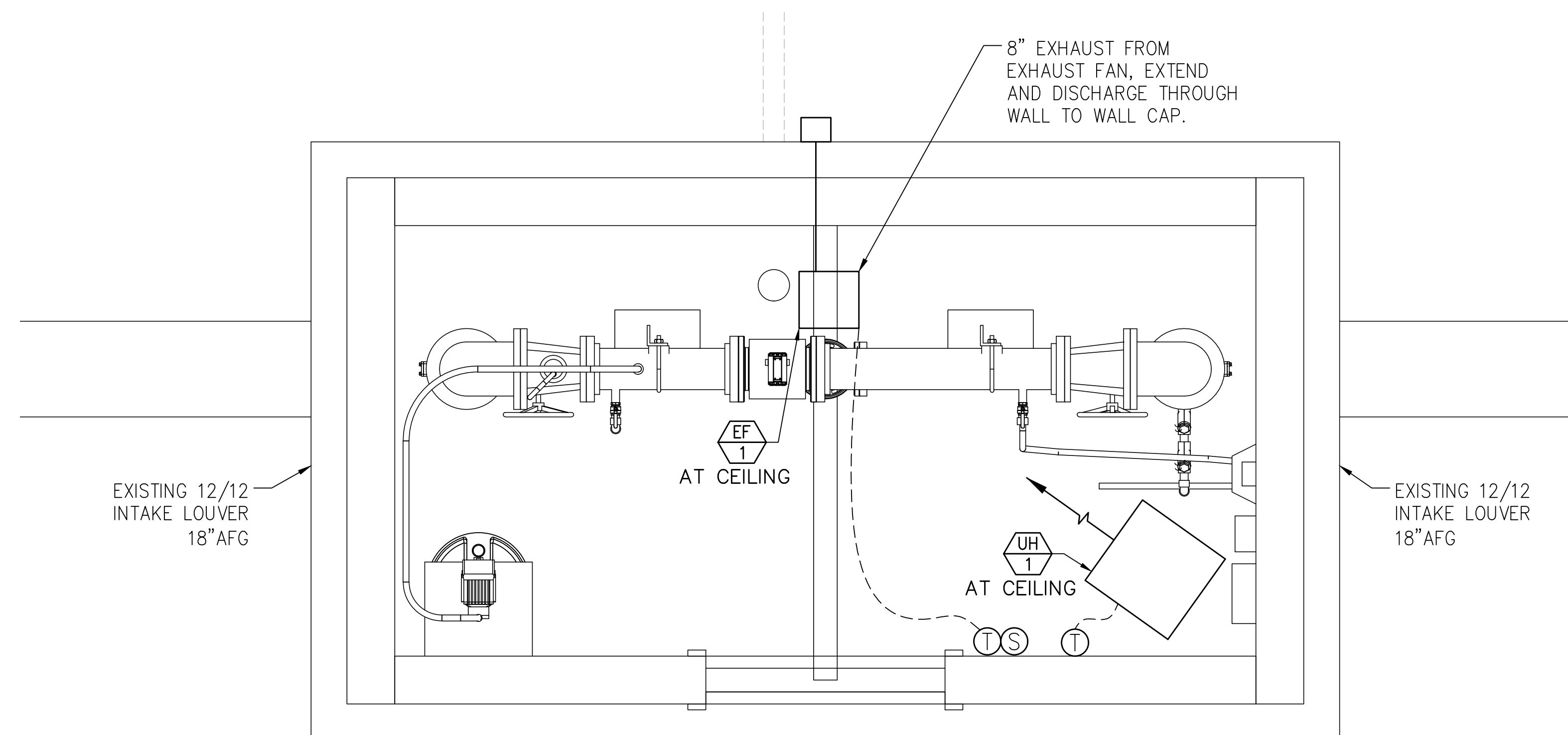
### MECHANICAL SPECIFICATIONS

MECHANICAL EQUIPMENT SHALL BE SECURED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND APPLICABLE SECTIONS OF THE JURISDICTIONAL BUILDING AND MECHANICAL CODES.

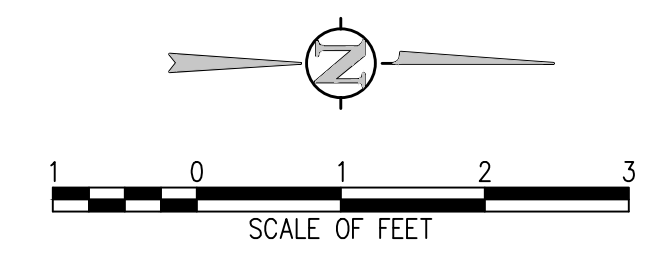
AN INDEPENDENT TEST AND BALANCE FIRM WHICH IS AABC OR NEBB CERTIFIED SHALL BE RETAINED FOR CHECK/TEST-START-UP AND TESTING AND BALANCING OF AIR AND WATER SYSTEMS. THE TEST REPORT SHALL BE IN A FORMAT APPROVED BY AABC FOR SYSTEMS OF THIS TYPE AND COMPLEXITY. QUALIFICATIONS OF INDEPENDENT TEST AND BALANCE FIRM SHALL BE SUBMITTED FOR REVIEW.

### GENERAL NOTES

- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE CODES, LOCAL CODES, AND OWNER'S STANDARDS INDICATED BY THE CONSTRUCTION DOCUMENTS.
- MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS, CERTIFIED EQUIPMENT DRAWINGS AND FROM THE STRUCTURE ITSELF BEFORE FABRICATING ANY WORK, VERIFY ALL SPACE REQUIREMENTS COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.
- CONTRACTOR SHALL COORDINATE WORK INDICATED WITH ALL OTHER DIVISIONS. VERIFY FIT OF MECHANICAL SYSTEMS PRIOR TO FABRICATION. COORDINATE ALL CHASE, SLEEVE, AND SLAB SAWCUT/COREDRIILL REQUIREMENTS BEFORE CONSTRUCTION.
- PROVIDE ALL EQUIPMENT SCHEDULED OR INDICATED ON THE DRAWINGS BUT NOT INCLUDED WITHIN THE SPECIFICATIONS INCLUDING ANY REQUIRED BUT NOT LISTED MISC ITEMS NEEDED TO PROVIDE COMPLETELY OPERATIONAL SYSTEMS AS INDICATED WHETHER SPECIFICALLY CALLED FOR OR NOT. INSTALLATION SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE SUBMITTALS FOR ALL PROPOSED EQUIPMENT AND MATERIALS TO BE UTILIZED. PROVIDE OPERATION AND MAINTENANCE MANUAL FOR ALL SYSTEMS AND EQUIPMENT AT END OF PROJECT.
- ELECTRICAL CHARACTERISTICS OF MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH ELECTRICAL DRAWINGS AND ELECTRICAL CONTRACTOR PRIOR TO EQUIPMENT ORDER RELEASE. ADDITIONAL ELECTRICAL WORK RESULTING FROM EQUIPMENT SUBSTITUTION IS THE RESPONSIBILITY OF THIS CONTRACTOR.
- DUCT SIZES INDICATED ARE OUTSIDE DIMENSIONS, BRANCH RUN-OUT DUCTS TO DIFFUSERS AND GRILLES TO BE SAME SIZE AS DIFFUSER OR GRILLE CONNECTION SIZE UNLESS OTHERWISE NOTED.
- AT THE COMPLETION OF WORK, PROVIDE TESTING AND BALANCING SERVICES FOR MECHANICAL SYSTEM. SUBMIT WRITTEN REPORT TO ARCHITECT LISTING SYSTEM AIRFLOWS, ELECTRIC DATA, TEMPERATURES, AND PRESSURE DROPS. AIR BALANCE REPORT REQUIRED PRIOR TO SCHEDULING FINAL MECHANICAL INSPECTION.
- AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE, ALL PARTS OF THE WORK INSTALLED UNDER THIS SPECIFICATION SHALL BE THOROUGHLY CLEANED.
- ALL EQUIPMENT, MATERIALS, AND INSTALLATION IS TO BE WARRANTED FOR ONE YEAR TO BE FREE FROM DEFECT. PROVIDE WRITTEN WARRANTY TO OWNER.
- THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S SAFETY PRECAUTIONS OR TO MEANS, METHODS, TECHNIQUES, CONSTRUCTION SEQUENCES, OR PROCEDURES REQUIRED TO PERFORM HIS WORK.
- THIS CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND SIZES OF ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ELECTRICAL CONDUIT, STRUCTURAL MEMBERS, ETC., PRIOR TO STARTING OF CONSTRUCTION. COORDINATE CONFLICTS WITH THE GENERAL CONTRACTOR.
- THIS CONTRACTOR SHALL COORDINATE ALL REQUIRED EXISTING BUILDING SERVICE SYSTEM OUTAGES WITH BUILDING MANAGEMENT.
- ALL MECHANICAL SYSTEMS ARE REQUIRED TO BE INSTALLED PER BASE BUILDING REQUIREMENTS, LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- PATCH AND REPAIR TO MATCH EXISTING, ANY WALL/CEILINGS TO BE ACCESSED TO ROUTE PIPING AND DUCTWORK.



**INSTRUMENTATION BUILDING MECHANICAL PLAN VIEW**  
3/4" = 1'-0"



S:\Dropbox (MEC)\JVA\2020\2020-036-01 ESTES PARK PROSPECT MOUNTAIN\DRAWINGS\MECHANICAL\066e - Mechanical\066e - HVAC Sheets.dwg, 4/22/2020 - 4:21 PM, Bryan Moon

NO.	DATE	DES'D	D'WN	REVISION DESCRIPTION

DESIGNED BY:	BEM
DRAWN BY:	BEM
CHECKED BY:	BEM
JOB #:	1066e
DATE:	MARCH 2020
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 INSTRUMENTATION BUILDING MECHANICAL  
 PLAN

SHEET NO.  
M1.0



# STRUCTURAL GENERAL NOTES

## DESIGN LOADS:

- DESIGN LOADS: 2021 INTERNATIONAL BUILDING CODE WITH LARIMER COUNTY AMENDMENTS, ASCE 7-16
- RISK CATEGORY: III SUBSTANTIAL HAZARD
- ROOFS:
  - ROOF DEAD LOAD 20 PSF
  - ROOF LIVE LOAD 20 PSF FOR PUMP STATION
  - GROUND SNOW LOAD, P<sub>g</sub> 70 PSF FOR PUMP STATION, 85 PSF FOR TANK
  - FLAT-ROOF SNOW LOAD, P<sub>f</sub> 60 PSF FOR PUMP STATION, 85 PSF FOR TANK
  - SNOW EXPOSURE FACTOR, C<sub>e</sub> 1.0
  - SNOW IMPORTANCE FACTOR, I<sub>s</sub> 1.1
  - THERMAL FACTOR, C<sub>t</sub> 1.1
- FLOOR LIVE LOADS:
  - TANK LID SLAB 100 PSF
- WIND:
  - BASIC DESIGN WIND SPEED, V<sub>ult</sub>, (3-SECOND GUST) 175 MPH
  - INTERNAL PRESSURE COEFFICIENT 0.18 (ENCLOSED)
  - WIND EXPOSURE C
  - AIR DENSITY COEFFICIENT 0.79

## 1. WALLS:

- WITHIN 3 FEET OF CORNERS +49.2 PSF -65.8 PSF
- AWAY FROM CORNERS +49.2 PSF -53.3 PSF

## 2. ROOFS:

- WITHIN 3 FEET OF CORNERS +45.0 PSF -57.5 PSF
- WITHIN 3 FEET OF EDGES +45.0 PSF -57.5 PSF
- AWAY FROM EDGES +45.0 PSF -49.2 PSF

## 3. OVERHANGS:

- WITHIN 3 FEET OF CORNERS -90.8 PSF
- AWAY FROM CORNERS -90.8 PSF

## 4. PRESSURES MAY BE REDUCED FOR EFFECTIVE WIND AREAS LARGER THAN 10 SQUARE FEET, BUT NOT BELOW 16 PSF.

## 6. SEISMIC:

### A. SPECTRAL RESPONSE ACCELERATION PARAMETERS

#### 1. SHORT PERIOD

- S<sub>s</sub> 0.255g
- S<sub>0.1</sub> 0.271g

#### 2. ONE SECOND

- S<sub>1</sub> 0.065g
- S<sub>0.1</sub> 0.104g

#### B. SOILS SITE CLASS C

#### C. SEISMIC IMPORTANCE FACTOR 1.25

#### D. SEISMIC DESIGN CATEGORY B

## FOUNDATION DESIGN:

- REFER TO SOILS REPORT NO. 20195101 BY TERRACON CONSULTANTS, INC., DATED MARCH 26, 2020 FOR THE TANK SITE AND REPORT 20195101A BY TERRACON DATED APRIL 13, 2020 FOR THE PUMP STATION SITE. ADDITIONAL INFORMATION PROVIDED BY LETTER DATED APRIL 14, 2020
- GEOTECHNICAL ENGINEER SHALL VERIFY SOIL CONDITIONS AND TYPES DURING EXCAVATION AND PRIOR TO PLACEMENT OF FORMWORK OR CONCRETE.
- MAXIMUM ALLOWABLE BEARING PRESSURE: 3,500 PSF FOR TANK SITE, 3,000 PSF FOR PUMP STATION
- SHALLOW FROST PROTECTED FOUNDATIONS DESIGNED IN ACCORDANCE WITH ASCE 32

## REINFORCED CONCRETE:

- DESIGN IS BASED ON ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
- CONCRETE WORK SHALL CONFORM TO ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE."
- STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:

INTENDED USE	EXPOSURE CLASS	f <sub>c</sub> , PSI	MAX W/C RATIO	MAXIMUM AGGREGATE	SLUMP, INCHES (+/- 1")	AIR CONTENT PERCENT (+/- 1.5%)	CEMENT TYPE	ADMIXTURES / COMMENTS
GRADE WALLS	F2-SO-WO-C1	4500	0.45	3/4" STONE	4	6%	III	
WALLS	F2-SO-WO-C1	4500	0.45	3/4" STONE	4	6%	III	
FORMED STRUCTURAL SLAB	F0-SO-WO-C0	4500	0.45	3/4" STONE	4	6%	III	
FOUNDATION SLAB	F0-SO-WO-C0	4000	0.45	3/4" STONE	4	6%	III	
EXTERIOR SLAB ON GRADE	F3-SO-WO-C2	5000	0.40	3/4" STONE	4	6%	III	25% MAX FLY ASH
COLUMNS	F0-SO-WO-C0	4500	0.45	3/4" STONE	4	6%	III	

- DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
- REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT TIES OR BARS SHOWN TO BE FIELD-BENT, WHICH SHALL BE GRADE 40.
- UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS, LAP BARS 50 DIAMETERS (MINIMUM).
- AT CORNERS AND INTERSECTIONS, MAKE HORIZONTAL BARS CONTINUOUS OR PROVIDE MATCHING CORNER BARS FOR EACH LAYER OF REINFORCEMENT.
- TRIM OPENINGS IN WALLS AND SLABS WITH (2) #5 FOR EACH LAYER OF REINFORCEMENT, FULLY DEVELOPED BY EXTENSION OR HOOK.
- IN CONTINUOUS MEMBERS, SPLICE TOP BARS AT MID-SPAN AND SLICE BOTTOM BARS OVER SUPPORTS.
- FORM INTERMITTENT SHEAR KEYS AT ALL CONSTRUCTION JOINTS AND AS SHOWN ON THE STRUCTURAL DRAWINGS.
- EXCEPT AS NOTED ON THE DRAWINGS, CONCRETE PROTECTION FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
  - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:
    - EXPOSED TO EARTH OR WEATHER: 3"
    - THROUGH #18 BARS 2"
    - #5 BAR AND SMALLER 1-1/2"
  - NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
    - SLABS, WALLS, JOISTS: #11 BARS AND SMALLER 3/4"
    - BEAMS AND COLUMNS:
      - PRIMARY REINFORCEMENT 1-1/2"
      - STIRRUPS, TIES, SPIRALS 1-1/2"
- ANCHOR BOLTS AND RODS FOR BEAM AND COLUMN-BEARING PLATES SHALL BE PLACED WITH SETTING TEMPLATES.

## POST-INSTALLED ANCHORS

- ALL CAST IN PLACE ANCHORS DESIGNED IN ACCORDANCE WITH ACI 318.
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
- CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. EXISTING REINFORCING BARS SHALL NOT BE CUT UNLESS APPROVED BY THE EOR.
- ALL ANCHORS MUST BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION (MPI) IN CONJUNCTION WITH EDGE DISTANCE, SPACING, AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MPI.
- SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER-OF-RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER; REGISTRATION MUST BE IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO THE ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE EOR/SPECIAL INSPECTOR AS REQUESTED.
- ADHESIVE ANCHORS INSTALLED IN HORIZONTAL TO VERTICALLY OVERHEAD ORIENTATION THAT SUPPORT SUSTAINED TENSION LOADS SHALL BE DONE BY A CERTIFIED ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRS (ACI 318-11 D 9.2.2, ACI 318-14 17.8.2.2). PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE EOR FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.
- ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D 2.2, ACI 318-14 17.1.2)
- ALL POST INSTALLED ANCHORS SHALL BE INSTALLED IN DRY HOLES THAT HAVE BEEN DRILLED, CLEANED, AND PREPARED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INFORMATION AND THE RESPECTIVE ICC-ES EVALUATION REPORTS.
- PROVIDE SPECIAL INSPECTION FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE BUILDING CODE AND PER THE CURRENT ICC-ES REPORT (IBC 2012/2015 TABLE 1705.3 NOTE B).

SYMBOLS KEY			
	DIRECTION OF DECK SPAN		XXX'-X"
	GRID DESIGNATION		XXX'-X"
	REVISION		JB XXX'-X"
	INDICATES STRUCTURAL ELEVATION		BL XXX'-X"
	SHEAR WALL		(XXX'-X)
	SHORING		XXX'-X"
	STEP IN FLOOR ELEVATION		XXX'-X"
	CMU (CONCRETE MASONRY UNIT)		STEP TOP OF WALL
	BRICK		BL XXX'-X"
	CIP CONCRETE		(XXX'-X)
	PRECAST CONCRETE		XXX'-X"
	EXISTING CONCRETE		XXX'-X"
	EARTH		DN UP
	ISOLATED SPREAD FOOTING MARK		
	SPREAD FOOTING MARK		
	STEP		
	DRILLED PIER: XX' = Ø, M = PIER MARK, (Y) = BEDROCK PENETRATION (XX'-X)" = TOP OF PIER ELEVATION		

## SHOP DRAWINGS

- THE STRUCTURAL DRAWINGS ARE COPYRIGHTED AND SHALL NOT BE COPIED FOR USE AS ERECTION PLANS OR SHOP DETAILS. USE OF JVA'S ELECTRONIC FILES AS THE BASIS FOR SHOP DRAWINGS REQUIRES PRIOR APPROVAL BY JVA. A SIGNED RELEASE OF LIABILITY BY THE GENERAL CONTRACTOR AND/OR HIS SUBCONTRACTORS, AND DELETION OF JVA'S NAME AND LOGO FROM ALL SHEETS SO USED.
- THE GENERAL CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO MODIFY THE STRUCTURAL DRAWINGS OR PROJECT SPECIFICATIONS.
- ALL SHOP AND ERECTION DRAWINGS SHALL BE CHECKED AND STAMPED (AFTER HAVING BEEN CHECKED) BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION FOR STRUCTURAL ENGINEER'S REVIEW. SHOP DRAWING SUBMITTALS NOT CHECKED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER WILL BE RETURNED WITHOUT REVIEW.
- FURNISH ELECTRONIC VERSION (PDF) OF SHOP AND ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION FOR:
  - CONCRETE MIX DESIGNS
  - CONCRETE REINFORCING STEEL
  - STRUCTURAL STEEL
- SUBMIT IN A TIMELY MANNER TO PERMIT 10 WORKING DAYS FOR REVIEW BY THE STRUCTURAL ENGINEER.
- SHOP DRAWINGS SUBMITTED FOR REVIEW DO NOT CONSTITUTE REQUEST FOR CHANGE IN WRITING UNLESS SPECIFIC SUGGESTED CHANGES ARE CLEARLY MARKED. IN ANY EVENT, CHANGES MADE BY MEANS OF THE SHOP DRAWING SUBMITTAL PROCESS BECOME THE RESPONSIBILITY OF THE ONE INITIATING THE CHANGE.

## STRUCTURAL ERECTION AND BRACING REQUIREMENTS

- THE STRUCTURAL DRAWINGS ILLUSTRATE AND DESCRIBE THE COMPLETED STRUCTURE WITH ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED, CONNECTED, AND/OR BRACED.
- THE STRUCTURAL DRAWINGS ILLUSTRATE TYPICAL AND REPRESENTATIVE DETAILS TO ASSIST THE GENERAL CONTRACTOR. DETAILS SHOWN APPLY AT ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. ALTHOUGH DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT EVERY DETAIL IS ILLUSTRATED AND NOT EVERY ELEMENTAL CONDITION IS ADDRESSED.
- ALL PROPRIETARY CONNECTIONS AND ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ALL WORK SHALL BE ACCOMPLISHED IN A WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE APPLICABLE CODES AND LOCAL ORDINANCES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL WORK, INCLUDING LAYOUT AND DIMENSION VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF SUBCONTRACTORS. ANY DISCREPANCIES OR OMISSIONS DISCOVERED IN THE COURSE OF THE WORK SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR RESOLUTION.
- CONTINUATION OF WORK WITHOUT NOTIFICATION OF DISCREPANCIES RELIEVES THE ARCHITECT AND STRUCTURAL ENGINEER FROM ALL CONSEQUENCES.
- UNLESS OTHERWISE SPECIFICALLY INDICATED, THE STRUCTURAL DRAWINGS DO NOT DESCRIBE METHODS OF CONSTRUCTION.
- THE GENERAL CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, TEMPORARY BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
- DO NOT BACKFILL AGAINST BASEMENT OR RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE TEMPORARY BRACING IS PROVIDED.
- TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND ANY OTHER SUPPORTING ELEMENTS ARE IN PLACE.
- THE ARCHITECT AND STRUCTURAL ENGINEER BEAR NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND OBSERVATION VISITS TO THE SITE DO NOT IN ANY WAY INCLUDE INSPECTIONS OF THESE ITEMS.

## LETTERS OF CONSTRUCTION COMPLIANCE:

- THE GENERAL CONTRACTOR SHALL DETERMINE FROM THE LOCAL BUILDING AUTHORITY, AT THE TIME THE BUILDING PERMIT IS OBTAINED, WHETHER ANY LETTERS OF CONSTRUCTION COMPLIANCE WILL BE REQUESTED FROM THE STRUCTURAL ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ALL SUCH REQUIREMENTS IN WRITING PRIOR TO THE START OF CONSTRUCTION.
- TWO-DAY ADVANCE NOTICE SHALL BE GIVEN WHEN REQUESTING SITE VISITS NECESSARY AS THE BASIS FOR THE COMPLIANCE LETTER.
- THE GENERAL CONTRACTOR SHALL PROVIDE COPIES OF ALL THIRD-PARTY TESTING AND INSPECTION REPORTS TO THE ARCHITECT AND STRUCTURAL ENGINEER A MINIMUM OF ONE WEEK PRIOR TO THE DATE THAT THE COMPLIANCE LETTER IS NEEDED.

## SPECIAL INSPECTIONS - 2015:

- THE FOLLOWING SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR, RETAINED BY THE OWNER, IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF IBC CHAPTER 17:
  - SECTION 1704 SPECIAL INSPECTIONS, CONTRACTOR RESPONSIBILITY, AND STRUCTURAL OBSERVATIONS AND THE FOLLOWING SUB-SECTIONS:
    - 1704.2 SPECIAL INSPECTIONS AND TESTS
    - 1705.3 CONCRETE CONSTRUCTION
    - 1705.6 SOILS
  - THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE APPROVED INSPECTOR MUST BE INDEPENDENT FROM THE CONTRACTOR RESPONSIBLE FOR THE WORK BEING INSPECTED.
  - DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO INSPECT AND/OR TEST THE WORK OUTLINED ABOVE AND WITHIN THE STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE IBC FOR CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
  - ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
  - PER SECTION 1704.2.4 THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, CORRECTION OF PREVIOUSLY REPORTED DEFICIENCIES, AND CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE STRUCTURAL ENGINEER OF RECORD.
  - THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN 10 DAYS OF THE FINAL SPECIAL INSPECTION STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.
  - THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM PER SECTION 1704.4. THE STATEMENT SHALL ACKNOWLEDGE THE AWARENESS OF THE SPECIAL LISTED REQUIREMENTS OF DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1705.
  - EXCEPT AS NOTED, THE SPECIAL INSPECTIONS OUTLINED ABOVE ARE IN ADDITION TO, AND BEYOND THE SCOPE OF, PERIODIC STRUCTURAL OBSERVATIONS AS DEFINED IN SECTION 1704.6. STRUCTURAL OBSERVATIONS ARE INCLUDED IN THE STRUCTURAL ENGINEERING DESIGN AND CONSTRUCTION ADMINISTRATION SERVICES PROVIDED BY THE STRUCTURAL ENGINEER.

CONCRETE SPECIAL INSPECTION (IBC 1705.3 & 1705.12.1)			
ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS
Reinforcing steel	ACI-COI ICC-RCSI	Periodic	Verify prior to placing concrete that reinforcing is of specified type, grade and size, that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Welding of reinforcing steel	AWS-CWI	Periodic	Visually inspect all welds and also verify weldability of reinforcing steel based upon carbon equivalent and in accordance with AWS D1.4.
Cast-in bolts & embeds	ACI-COI ICC-RCSI	Periodic	Inspection of anchors or embeds cast in concrete is required when allowable loads have been increased or where strength design is used.
Post-installed anchors or dowels	ACI-COI ICC-RCSI	Periodic	All post-installed anchors/dowels shall be specially inspected as required by the approved ICC-ES report. Horizontally or upwardly inclined anchors that resist sustained tension loads require continuous inspection and approved installers.
Use of required mix design	ACI-COI ICC-RCSI	Periodic	Verify that all mixes used comply with the approved construction documents. ACI 318, Ch. 19, 26.4.3, 26.4.4; and IBC 1904.1, 1904.2, 1908.2, 1908.3.
Concrete sampling for strength tests, slump, air content, and temperature	ACI-CFTT ACI-SIT	Continuous	
Concrete & shotcrete placement	ACI-COI ICC-RCSI	Continuous	
Curing temperature and techniques	ACI-COI ICC-RCSI	Periodic	Verify that the ambient temperature for concrete is kept at > 50°F for at least 7 days after placement. High-early-strength concrete shall be kept at > 50°F for at least 3 days. Accelerated curing methods may be used (see ACI 318: 26.4.7-26.4.9). The ambient temperature for shotcrete shall be > 40°F for the same period of time as noted for concrete. Shotcrete shall be kept continuously moist for at least 24 hours after shoring. All concrete materials, reinforcement, forms, fillers, and grout shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Strength verification	ACI-STT	Periodic	Verify that adequate strength has been achieved prior to the removal of shores and forms or the stressing of post-tensioned tendons.
Formwork		Periodic	Verify that the forms are placed and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.

SOIL SPECIAL INSPECTION (IBC 1705)			
ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS
SHALLOW FOUNDATIONS			(IBC 1705.6)
Verify subgrade	PE/GE	Periodic	Prior to placement of concrete inspect soils below footings for adequate bearing capacity and consistency with geotechnical report.
CONTROLLED STRUCTURAL FILL			(IBC 1705.6)
Excavations	PE/GE	Periodic	Verify excavations extend to proper depth and material prior to placement of compacted fill or concrete.
Fill materials	PE/GE	Periodic	Perform classification and testing of compacted fill materials. Check for proper classifications and gradations at each lift and not less than once for each 10,000ft <sup>2</sup> of surface area.
Placement and compaction		Continuous	Verify proper materials, densities and lift thicknesses during placement and compaction.
Subgrade preparation	PE/GE	Periodic	Verify that subgrade has been appropriately prepared prior to placing compacted fill.
Density		Continuous	Test density of each lift by nuclear methods (ASTM D2922).

STEEL SPECIAL INSPECTION (IBC 1705.2, 1705.12.2 & 1705.13.1)			
ITEM	REQUIRED QUALIFICATIONS	FREQUENCY	DETAILED INSTRUCTIONS
Anchor rods and other embedments supporting structural steel	ACI-COI	Periodic	Shall be on the premises during the placement of anchor rods and other embedments supporting structural steel for compliance with construction documents. Verify the diameter, grade, type, and length of the anchor rod or embedded item and the extent or depth of embedment prior to placement of concrete.

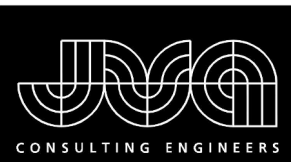
SCHEDULE OF INSPECTION AND TESTING AGENCIES		
SPECIAL INSPECTION AGENCIES	FIRM	ADDRESS, TELEPHONE, E-MAIL
Special Inspection Coordinator	TBD	
Inspector	TBD	
Inspector	TBD	
Testing Agency	TBD	
Testing Agency	TBD	
Continuous	TBD	
Other	TBD	



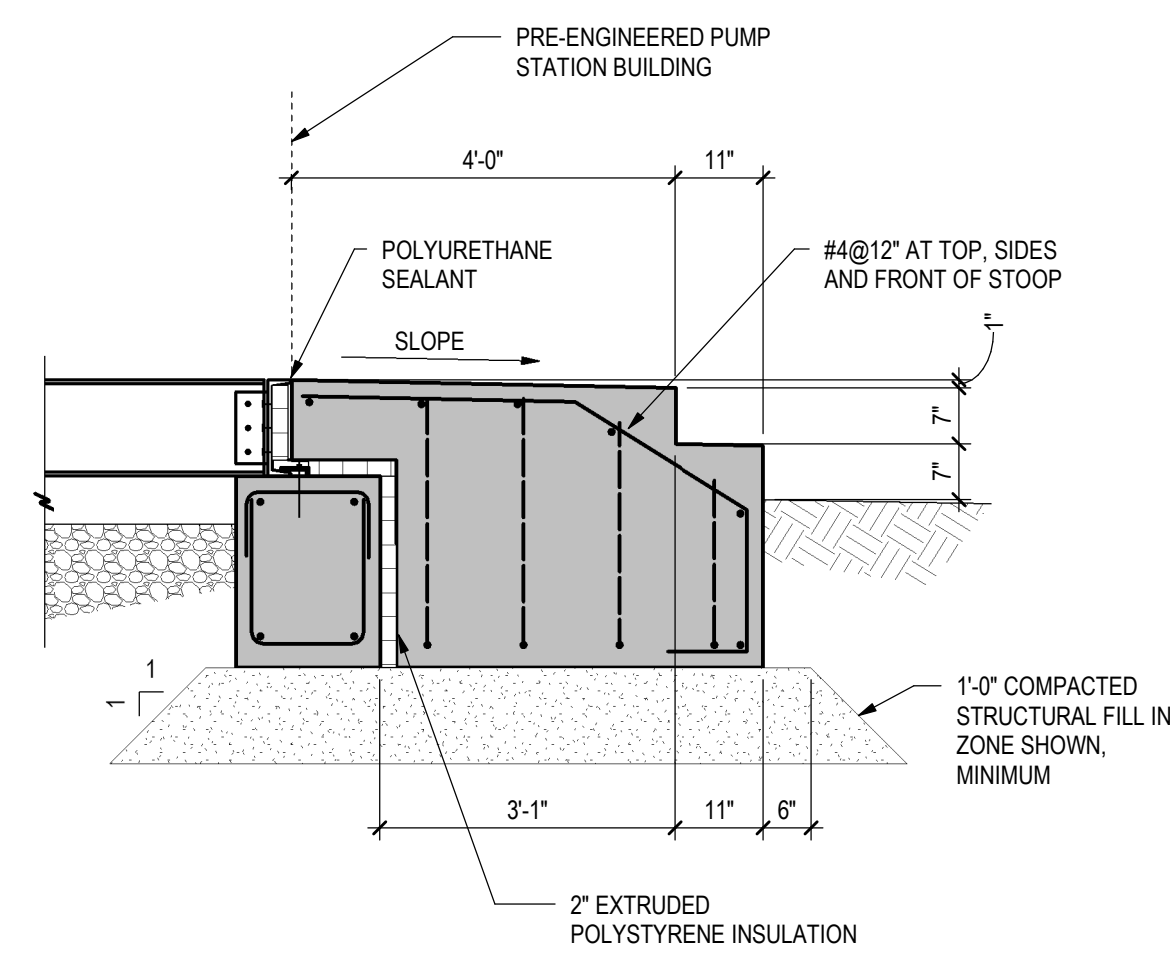
JVA, Inc. 213 Linden Street, Suite 200  
Fort Collins, CO 80514 970.225.9999  
www.jva.com  
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DRAWN BY: AJT/KLB  
CHECKED BY: TSS  
JOB #: 1066e  
DATE: APRIL 2020  
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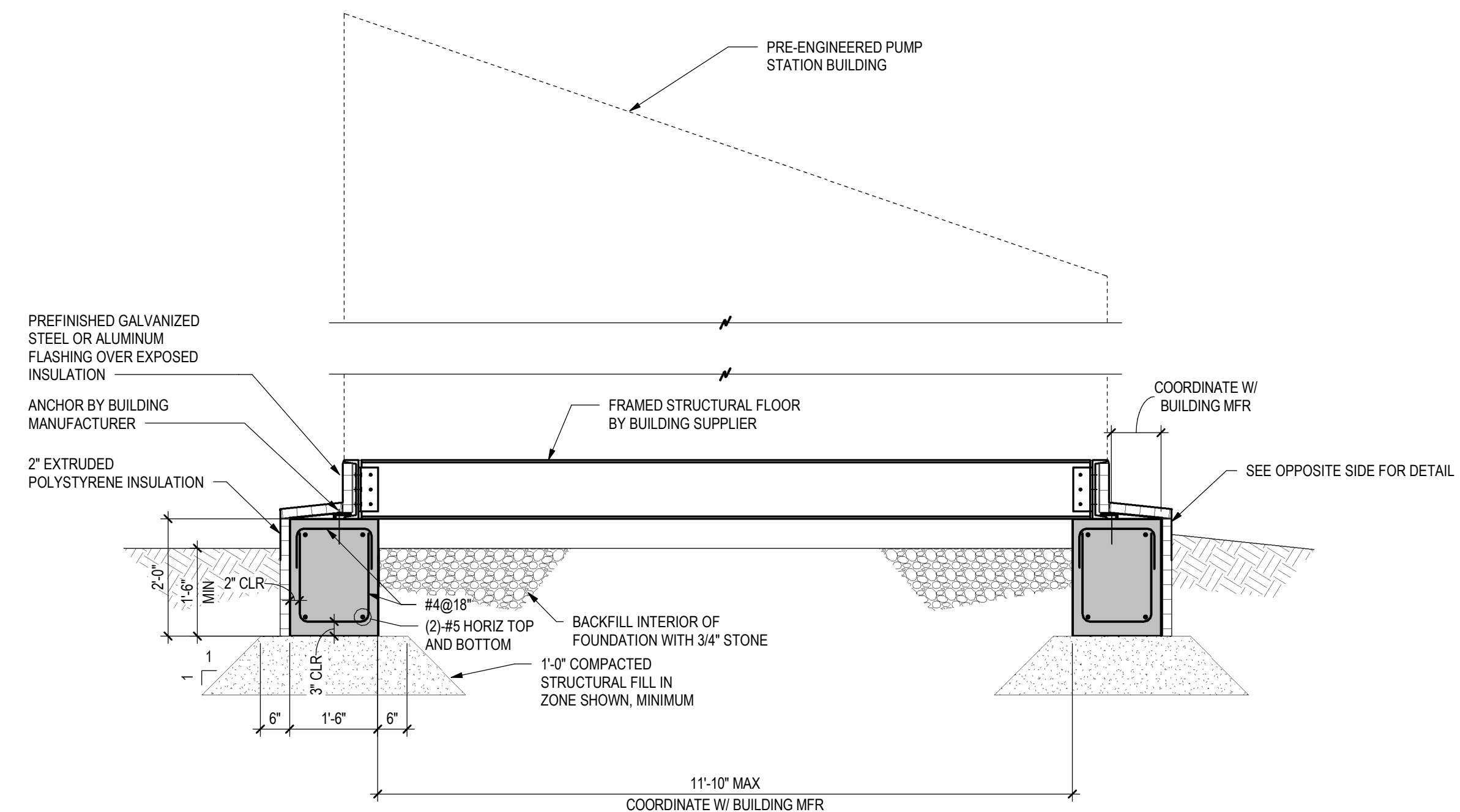
PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO  
GENERAL NOTES



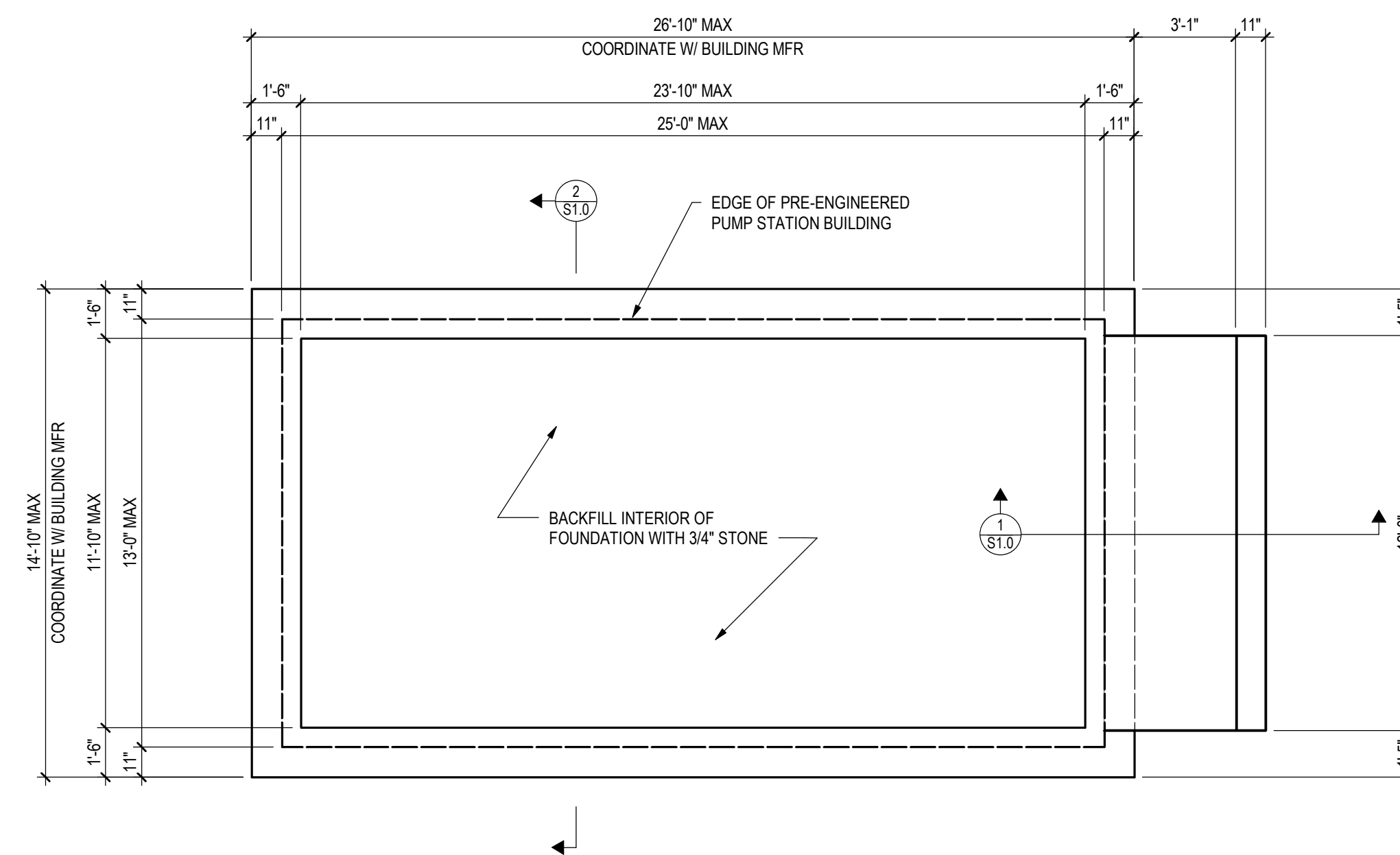
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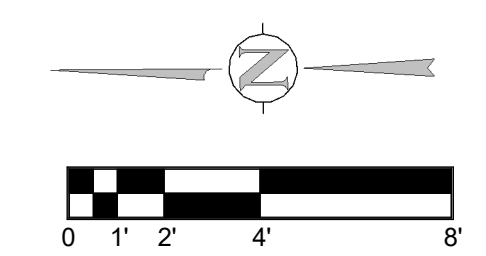
1 SECTION  
 S1.0 1/2" = 1'-0"



2 SECTION  
 S1.0 1/2" = 1'-0"



GRADE PLAN - SHALLOW FDN  
 1/4" = 1'-0"



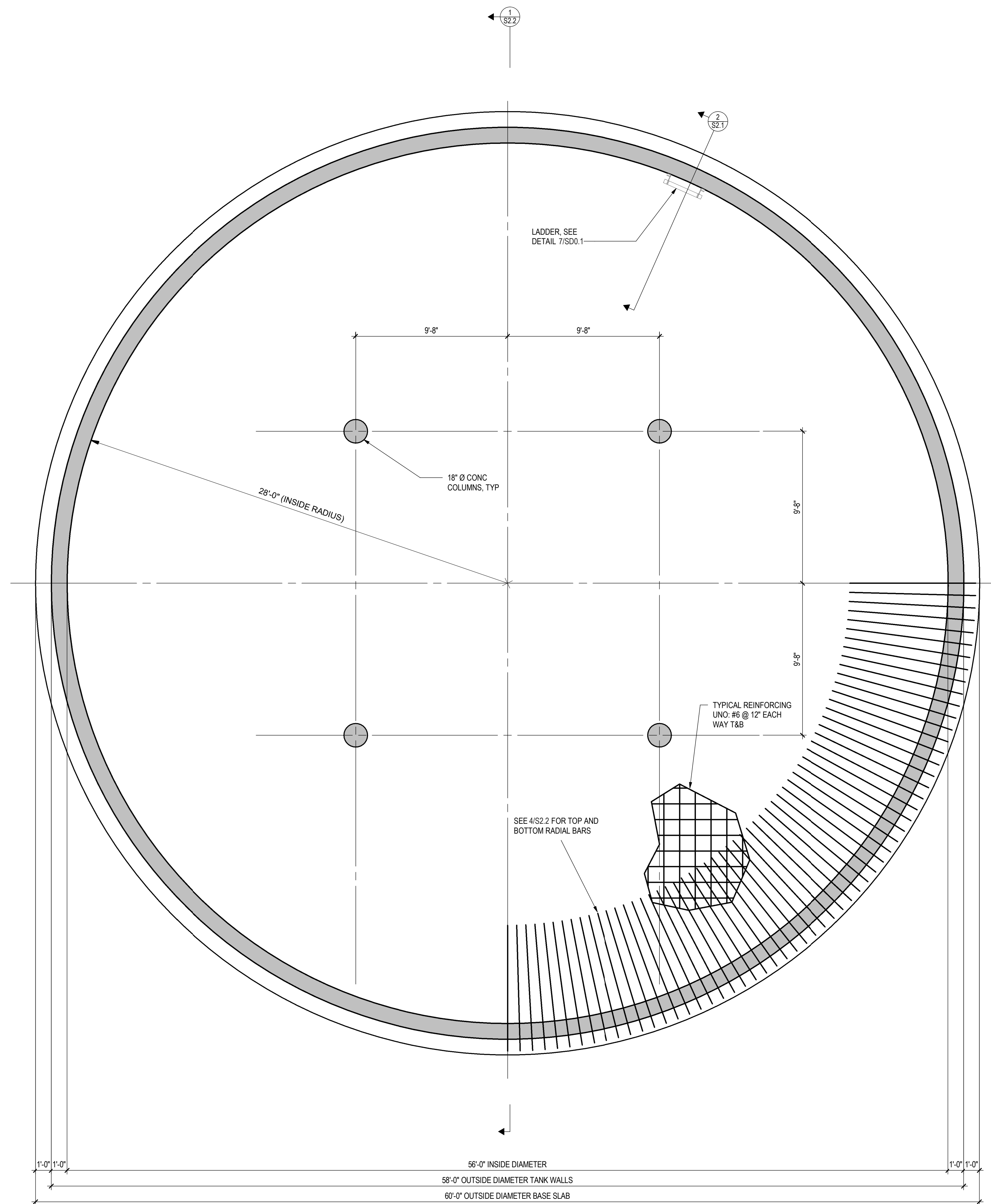
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DATE:	APRIL 2020
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PROSPECT MOUNTAIN WATER  
 DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

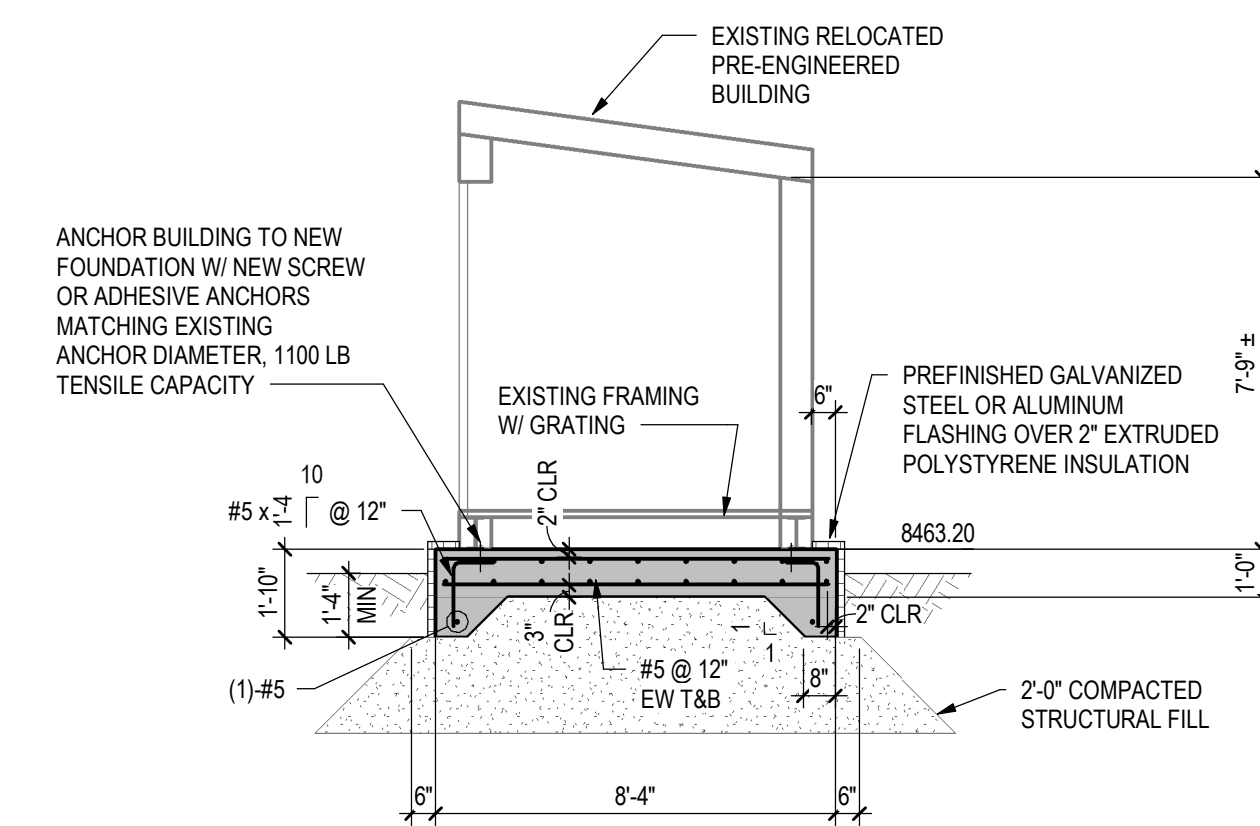
BOOSTER PUMP STATION PLAN AND  
 SECTIONS

SHEET NO.  
**S1.0**

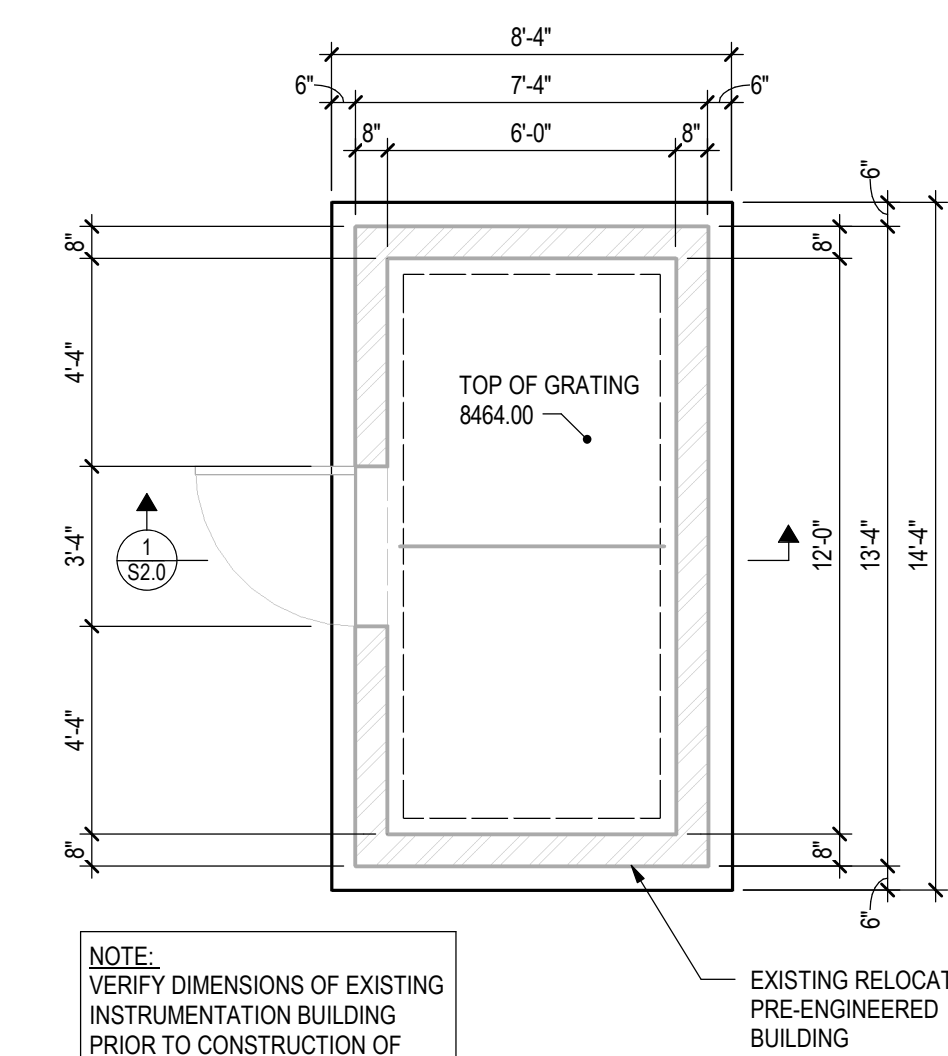
BID SET



**TANK BASE SLAB PLAN**  
 1/4" = 1'-0"  
 NORTH



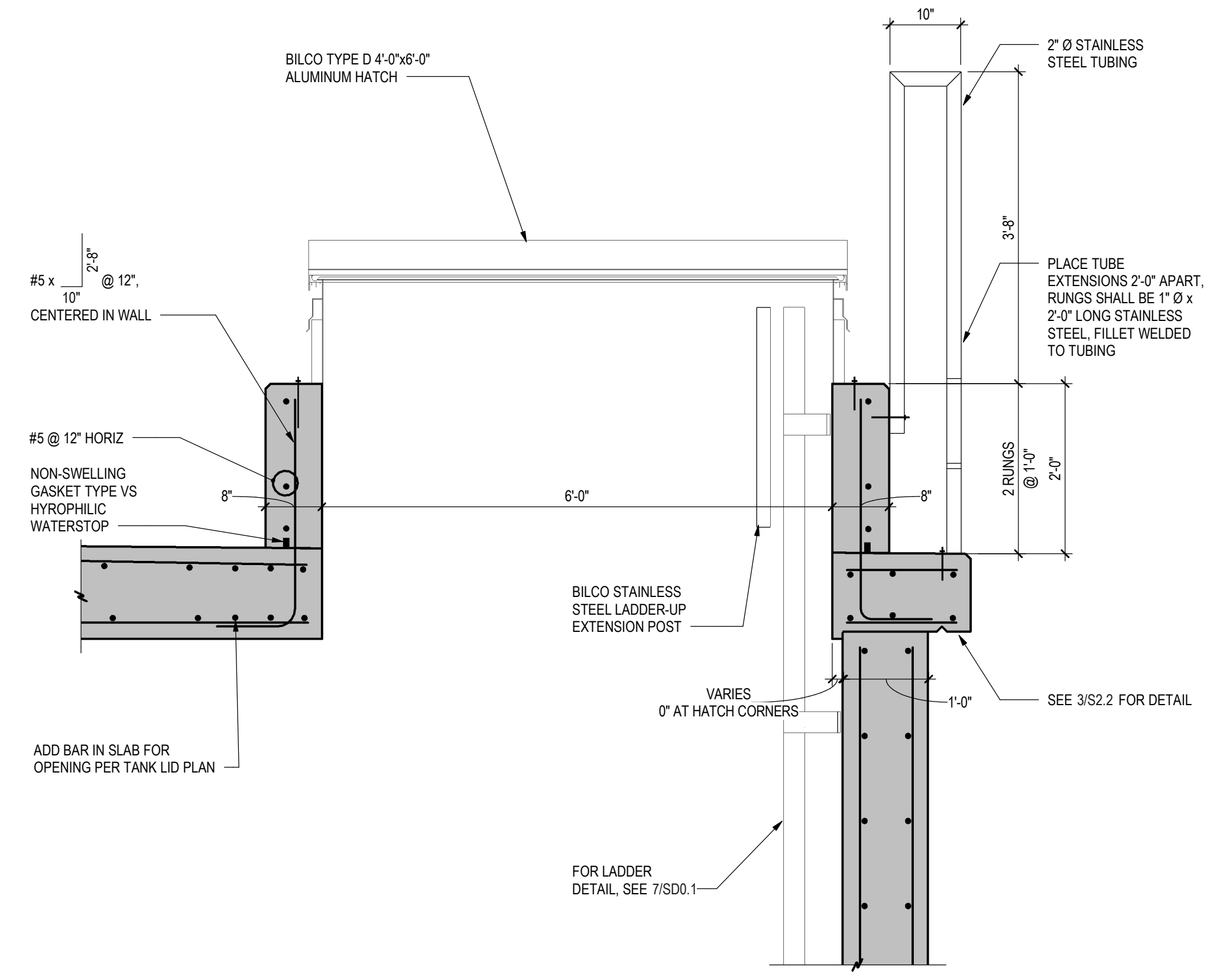
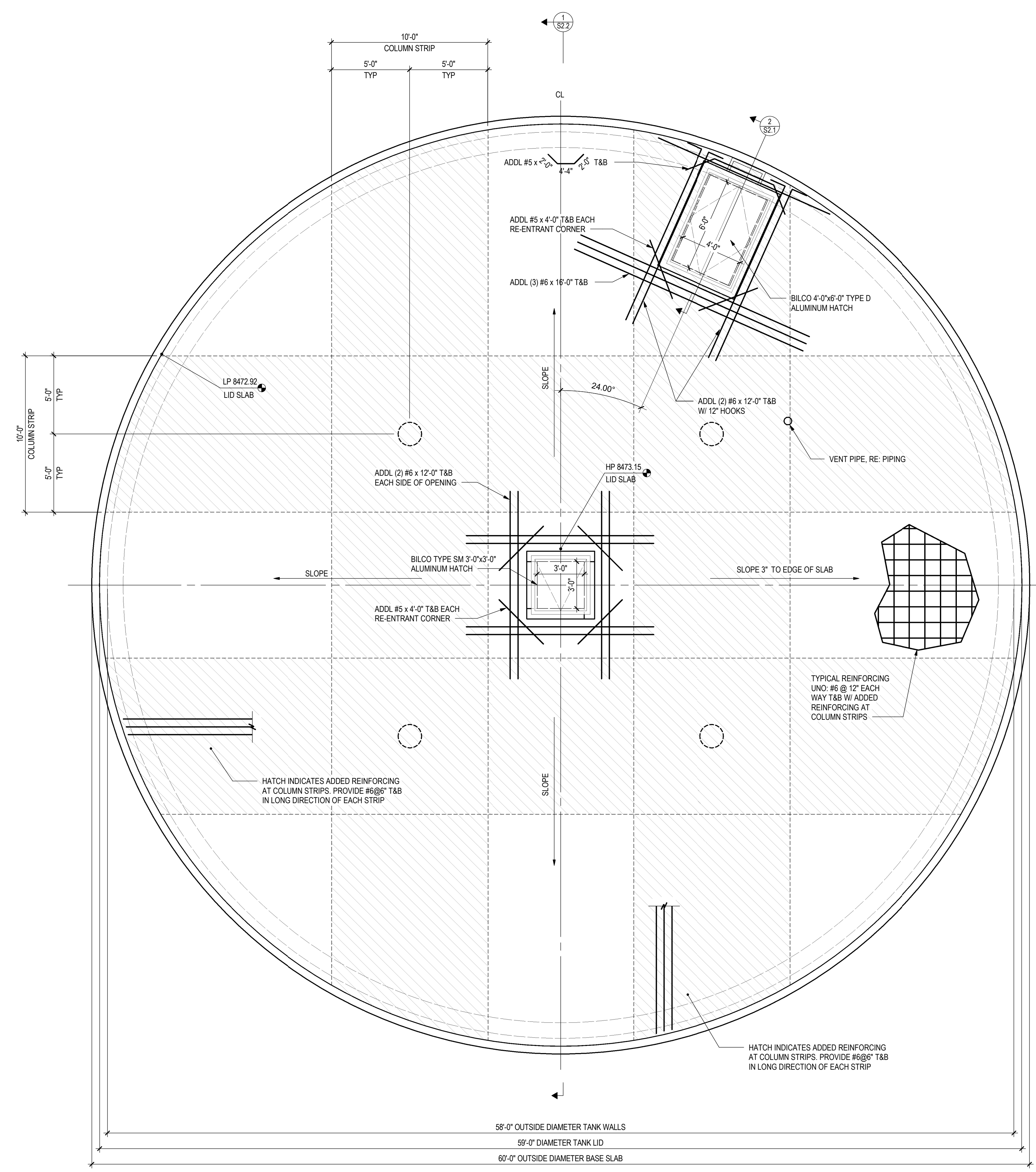
**SECTION 1**  
 1/4" = 1'-0"



**INSTRUMENTATION PLAN**  
 1/4" = 1'-0"  
 NORTH

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DRAWN BY:	AJT/KLB
CHECKED BY:	TSS
JOB #:	1066e
DATE:	APRIL 2020
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PROSPECT MOUNTAIN WATER  
 DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 TANK AND INSTRUMENTATION  
 BUILDING FOUNDATION PLAN



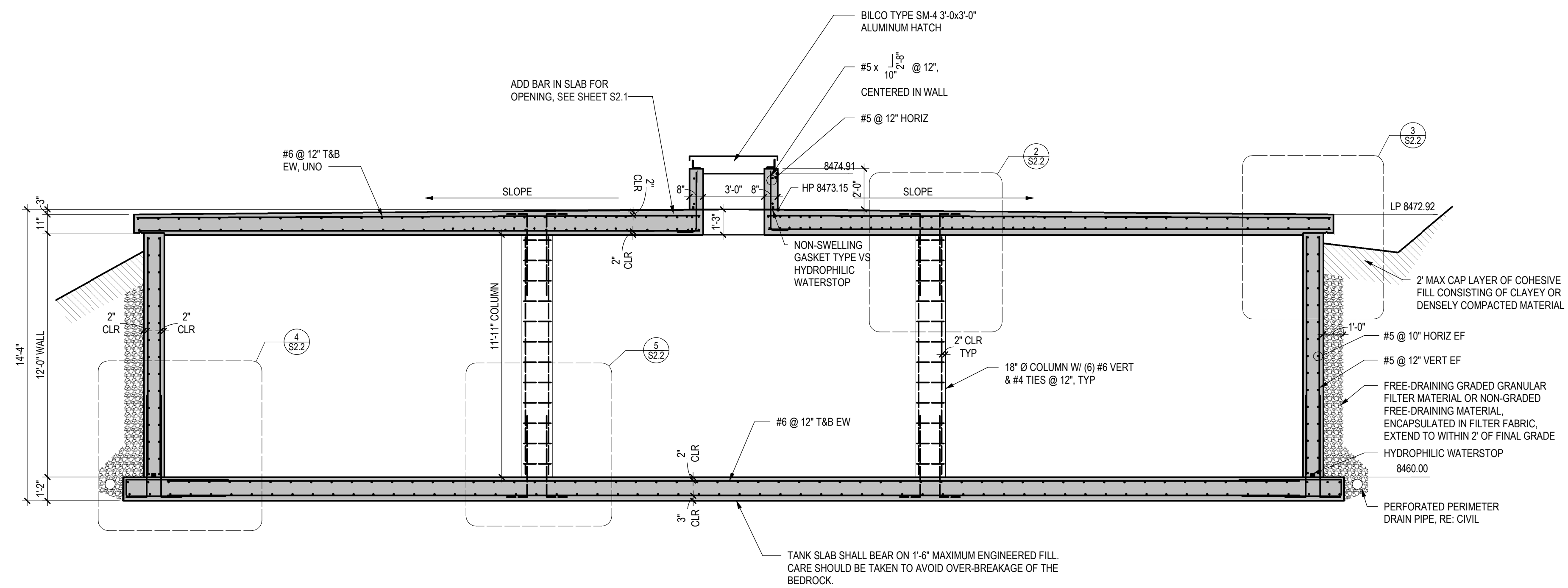
2 SECTION  
 S2.1 3/4" = 1'-0"

**TANK LID PLAN**  
 1/4" = 1'-0"  
 NORTH

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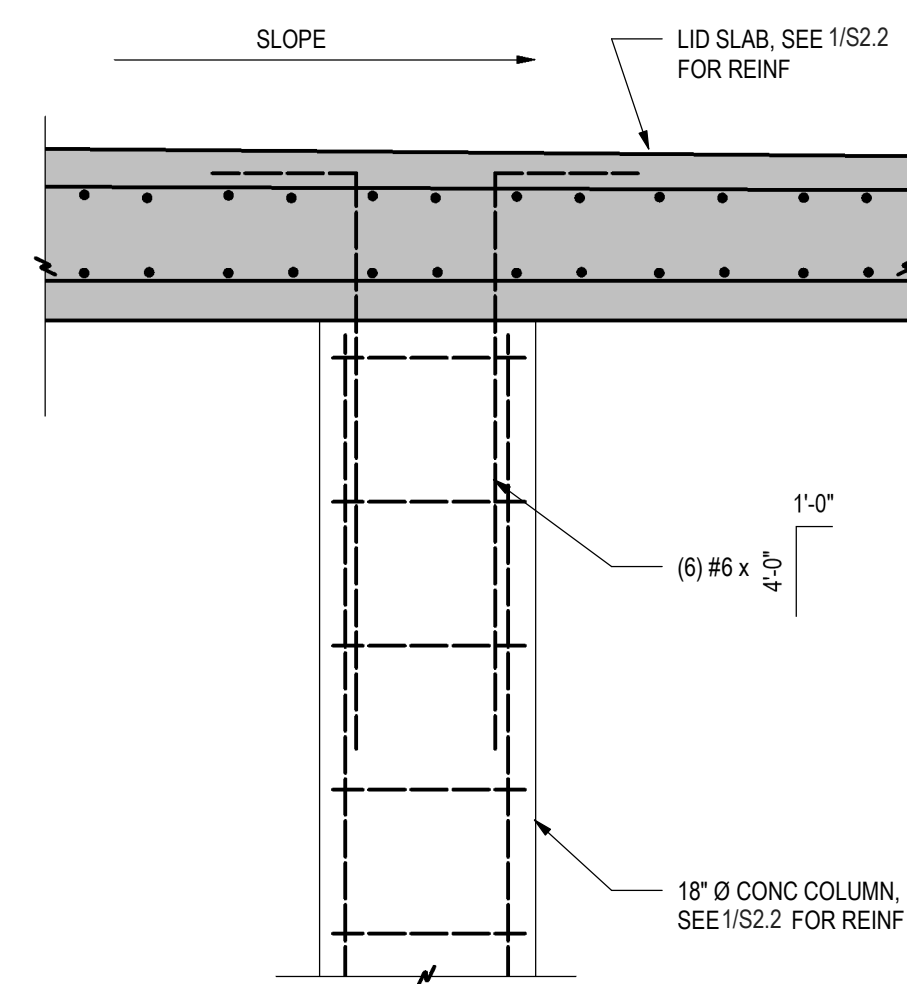
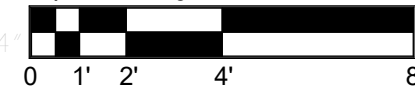
PROSPECT MOUNTAIN WATER  
 DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

TANK PLAN AND SECTION



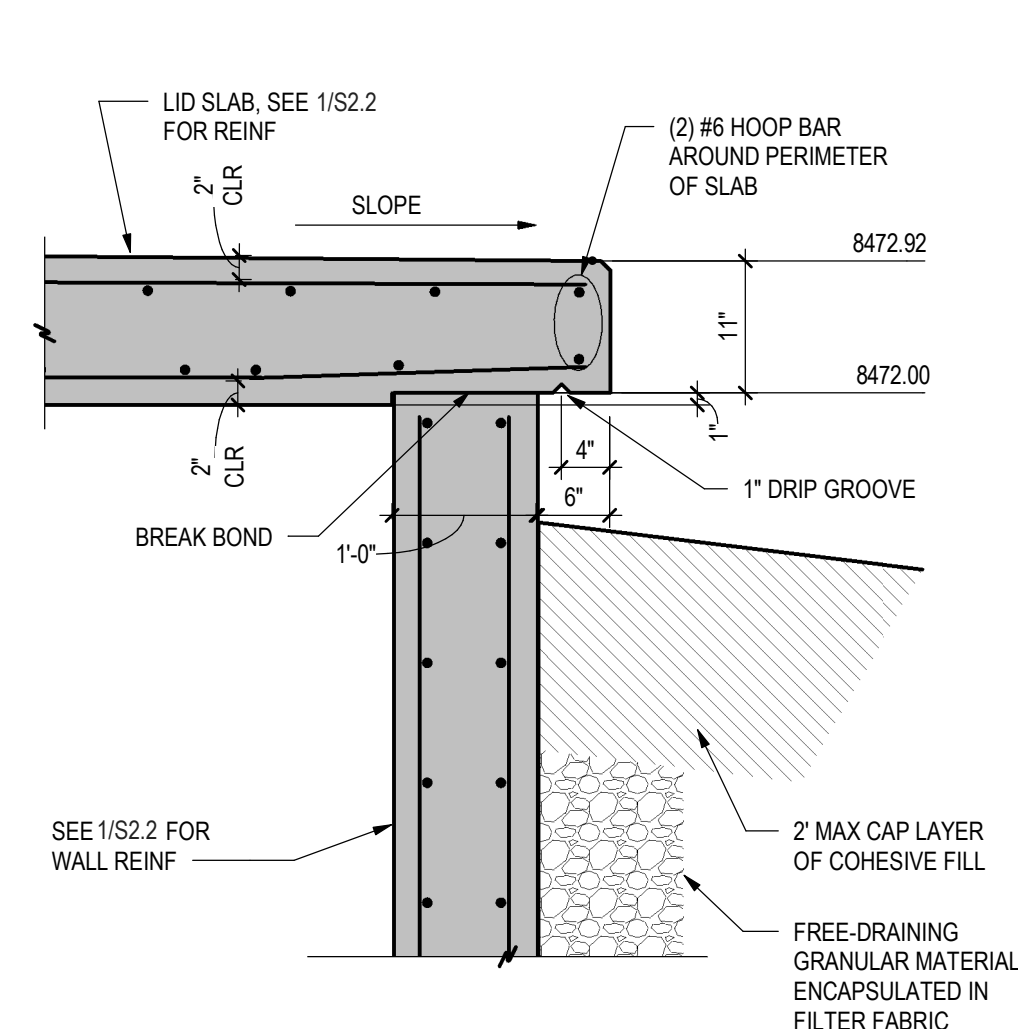
1 SECTION

1/4" = 1'-0"



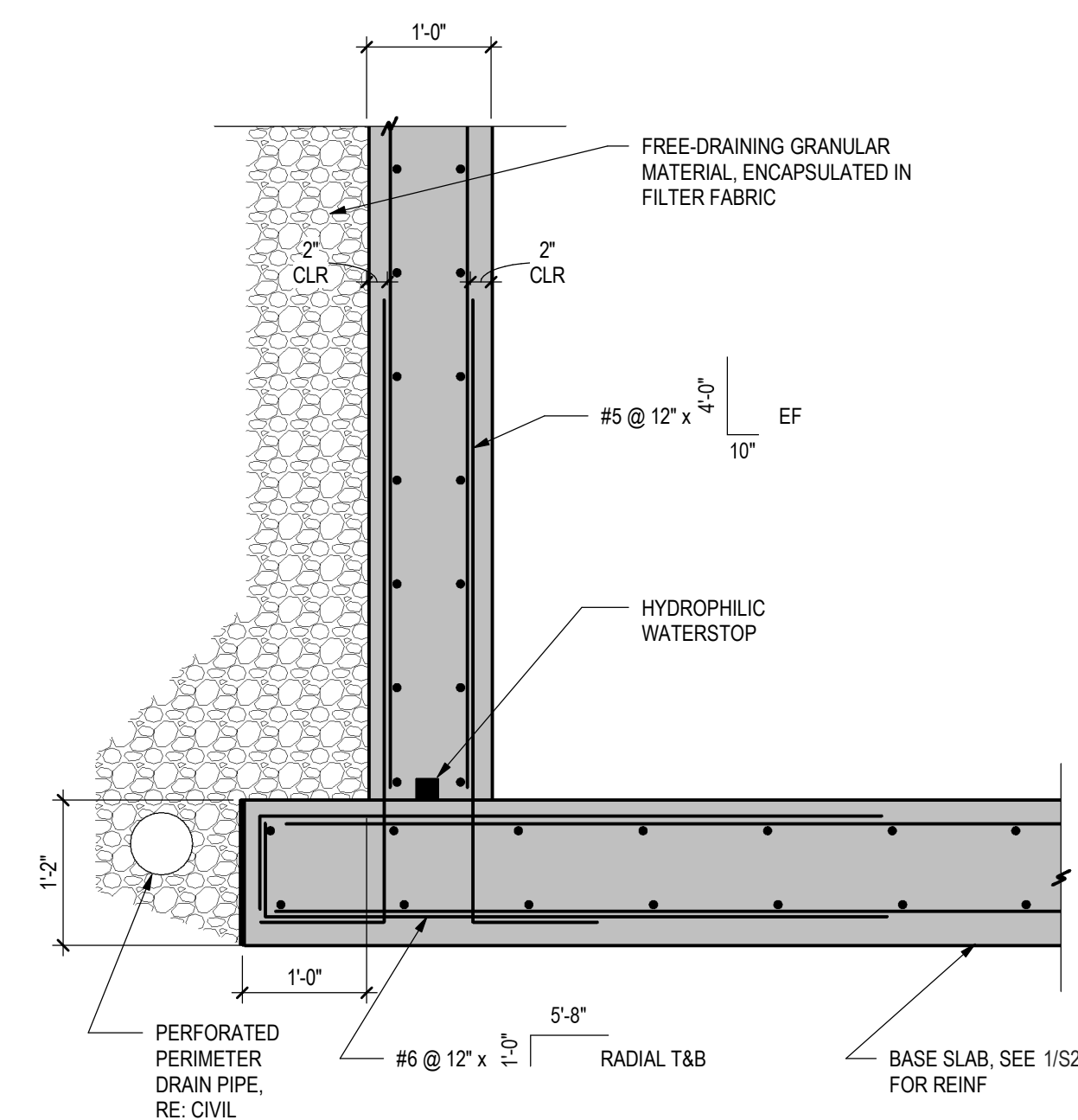
2 SECTION

3/4" = 1'-0"



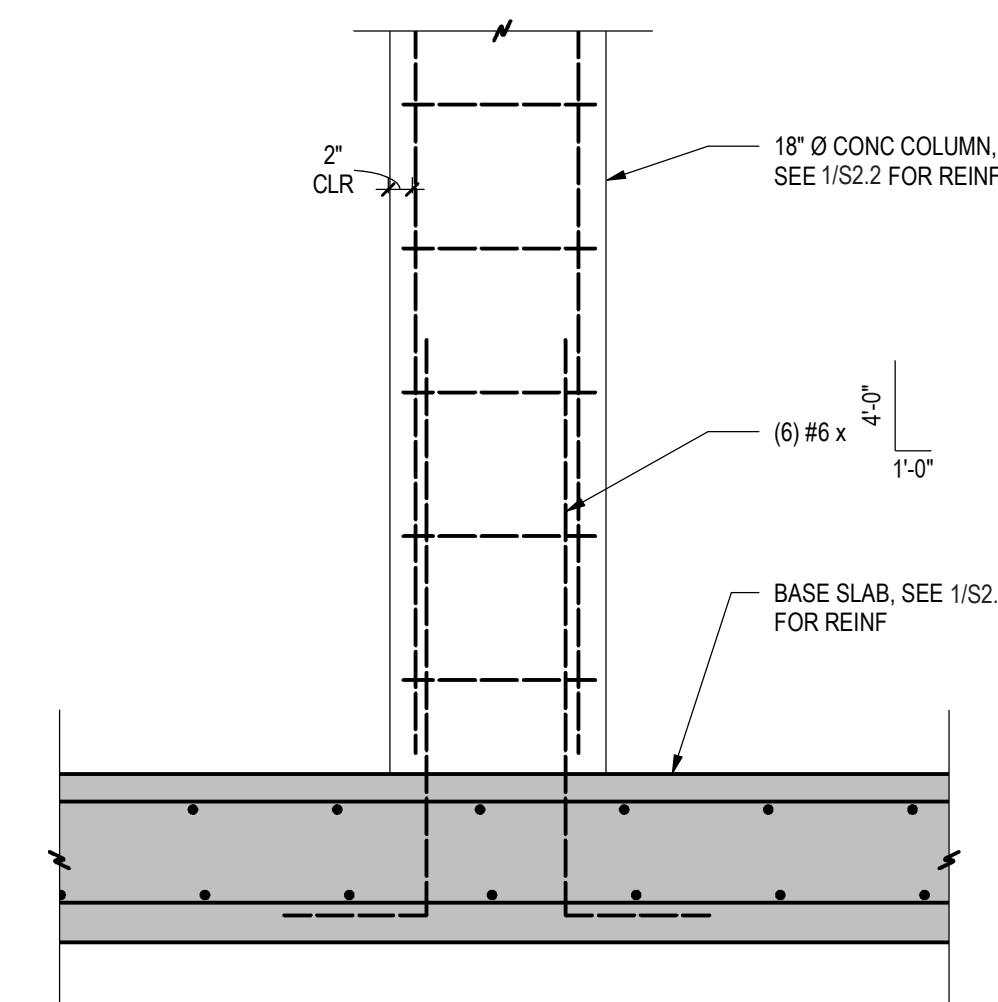
3 SECTION

3/4" = 1'-0"



4 SECTION

3/4" = 1'-0"



5 SECTION

3/4" = 1'-0"

DESIGNED BY: AJT/KLB  
 DRAWN BY: AJT/KLB  
 CHECKED BY: TSS  
 JOB #: 1066e  
 DATE: APRIL 2020

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PROSPECT MOUNTAIN WATER  
 DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO

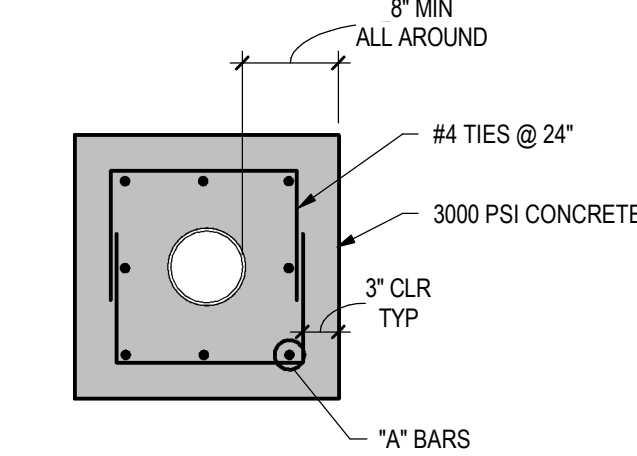
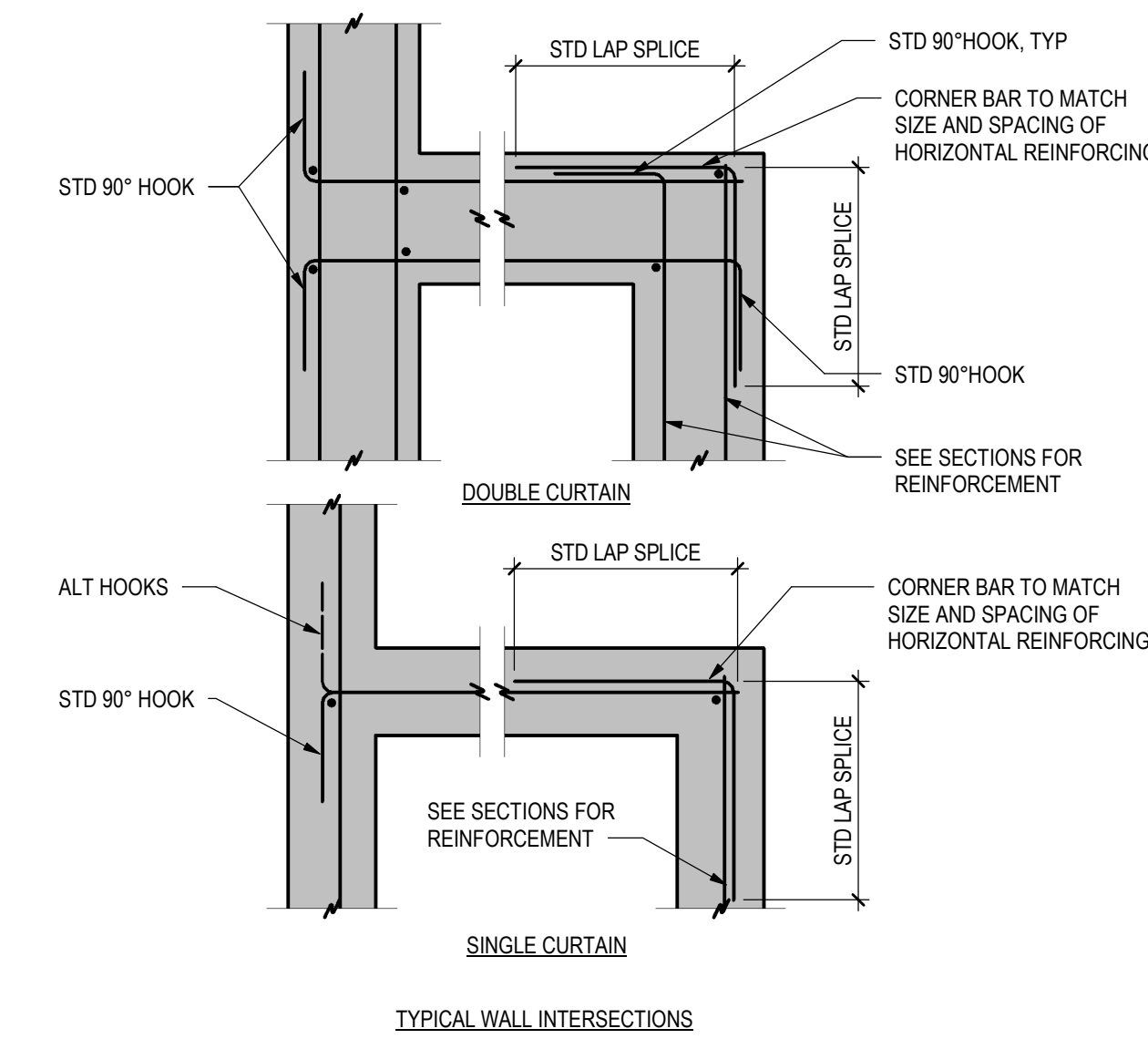
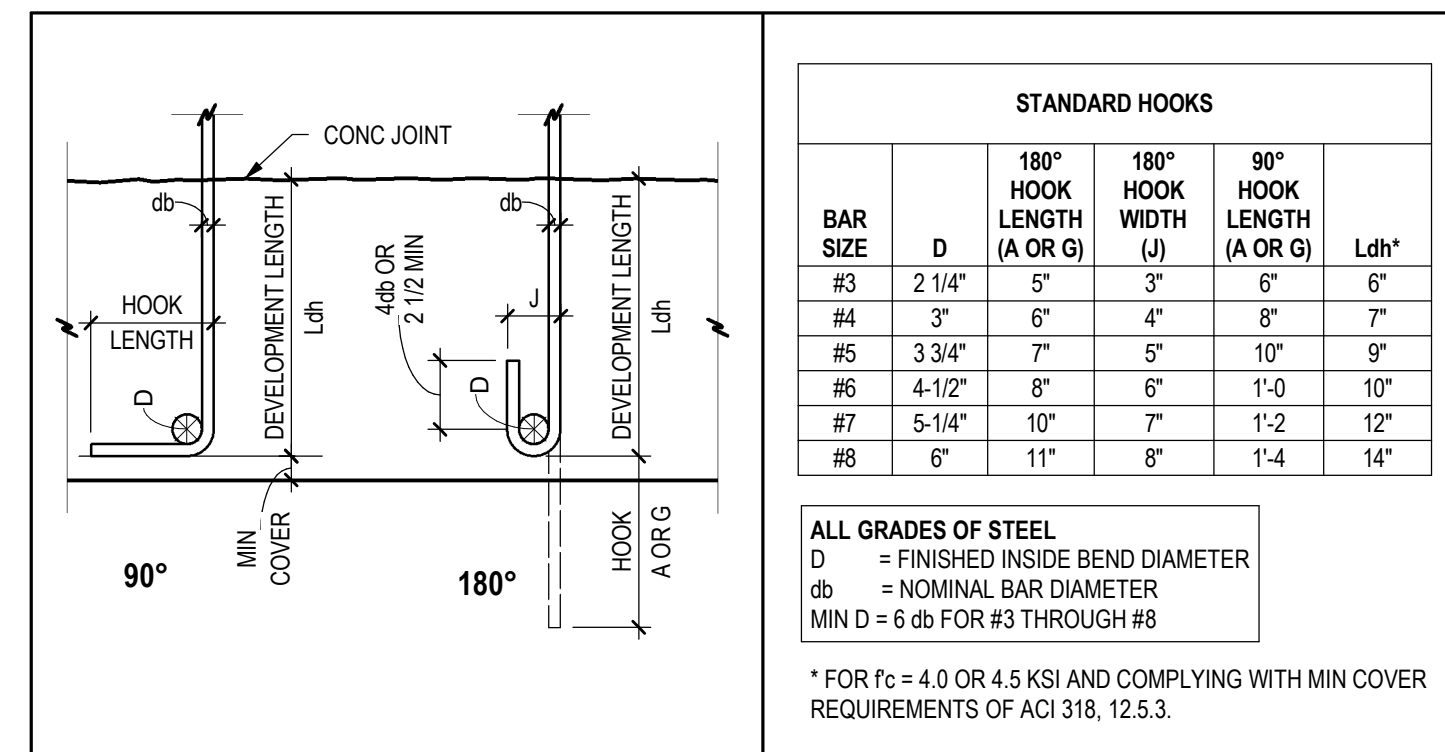
TANK SECTIONS

SHEET NO.  
**S2.2**

BID SET

TYPICAL CONCRETE REINFORCING LAP & EMBEDMENT LENGTHS (UNO)							
BAR SIZE	TYPE	F <sub>c</sub> = 3000 PSI (TOP)	F <sub>c</sub> = 3000 PSI (OTHER)	F <sub>c</sub> = 4000 PSI (TOP)	F <sub>c</sub> = 4000 PSI (OTHER)	F <sub>c</sub> = 5000 PSI (TOP)	F <sub>c</sub> = 5000 PSI (OTHER)
#4	EMBED	29	22	25	19	22	17
	LAP	37	29	32	25	29	22
#5	EMBED	36	28	31	24	28	22
	LAP	47	36	40	31	36	28
#6	EMBED	43	33	37	29	33	26
	LAP	56	43	48	37	43	33
#7	EMBED	63	48	54	42	49	37
	LAP	81	63	70	54	63	49
#8	EMBED	72	55	62	48	55	43
	LAP	93	72	80	62	72	55

NOTES:  
 1. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW BAR  
 2. TABULATED VALUES ARE BASED ON GRADE 60 NON-EPOXY-COATED REINFORCING BARS AND NORMAL WEIGHT CONCRETE  
 3. VALUES ARE IN INCHES



PIPE SIZE "A" BARS  
 4" AND SMALLER PIPE (4)#4  
 5" TO 12" PIPE (6)#4  
 14" TO 36" PIPE (8)#5  
 42" AND LARGER PIPE (12)#5

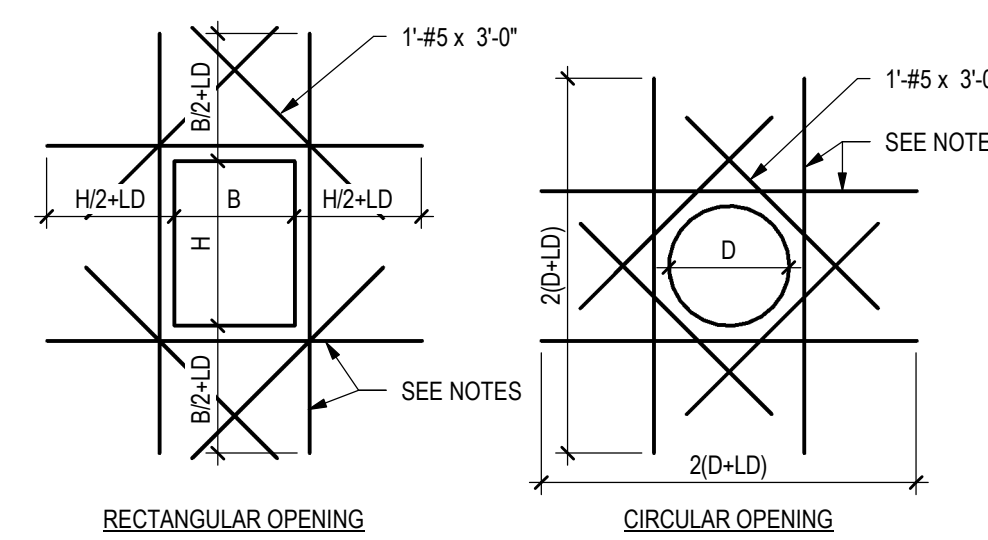
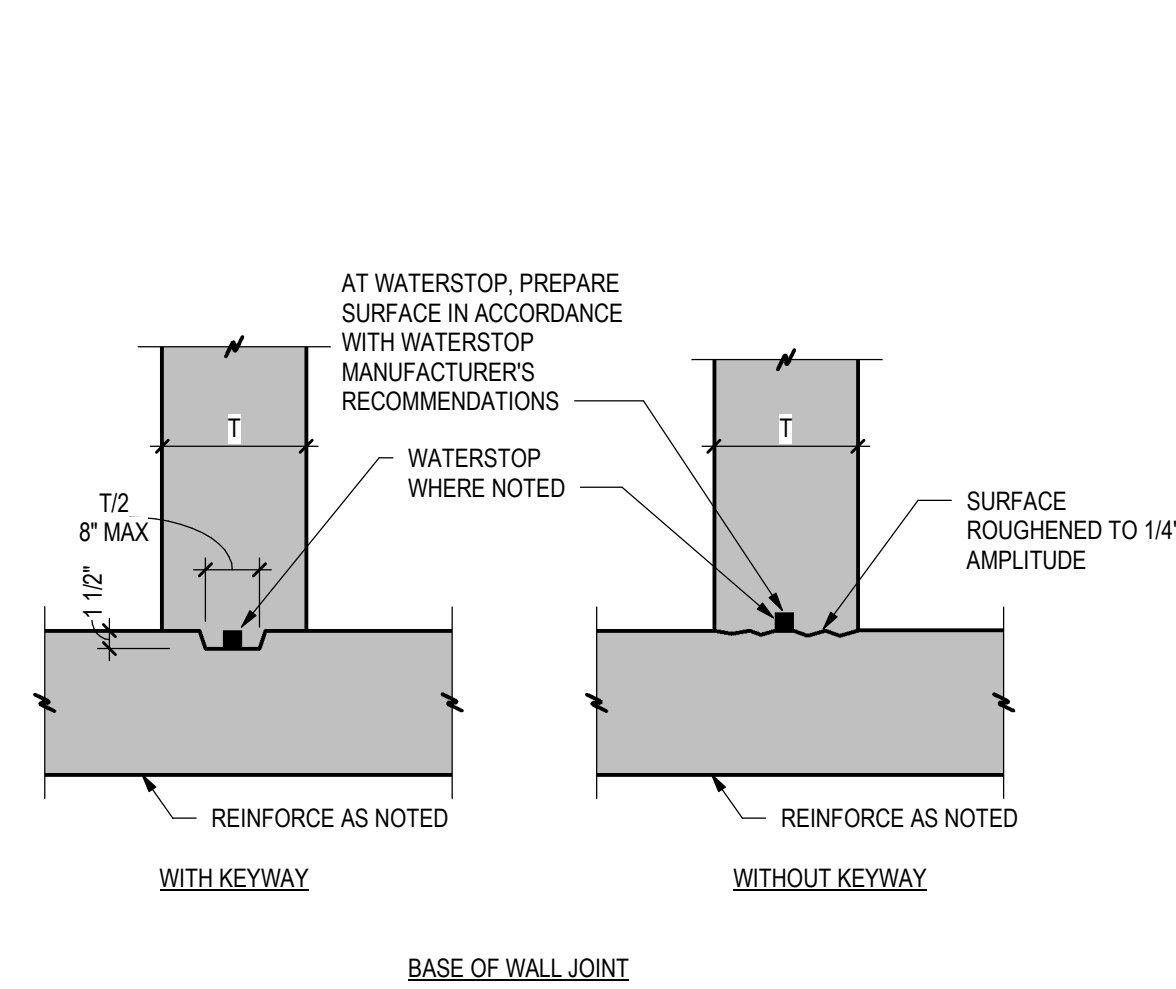
NOTE:  
 EXTEND HORIZONTAL REINF. A MINIMUM OF 12" INTO STRUCTURE

1 SCHEDULE  
 SD0.1 3/4" = 1'-0"

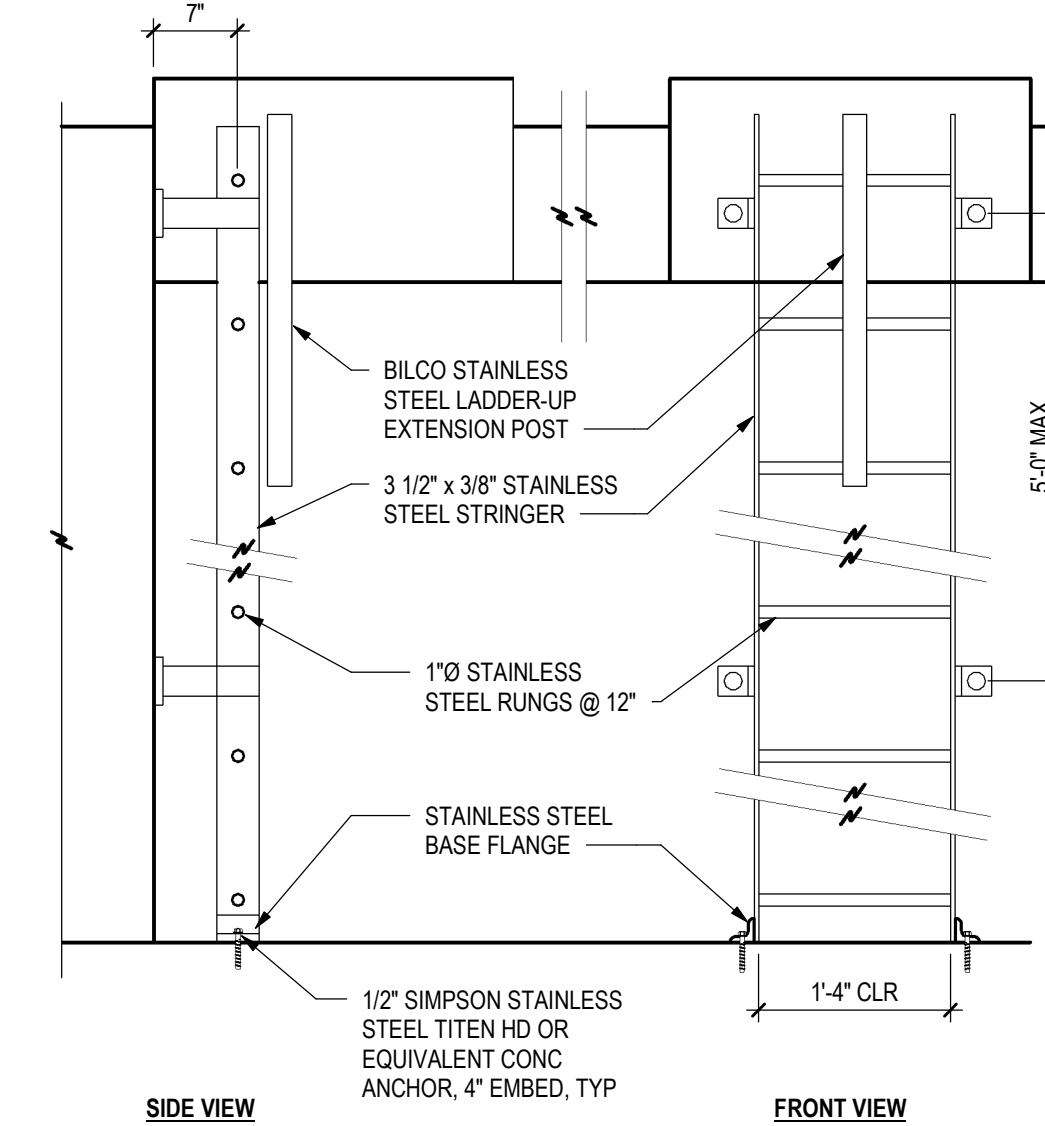
2 SCHEDULE  
 SD0.1 3/4" = 1'-0"

3 WALL INTERSECTIONS  
 SD0.1 3/4" = 1'-0"

4 PIPE ENCASEMENT  
 SD0.1 3/4" = 1'-0"



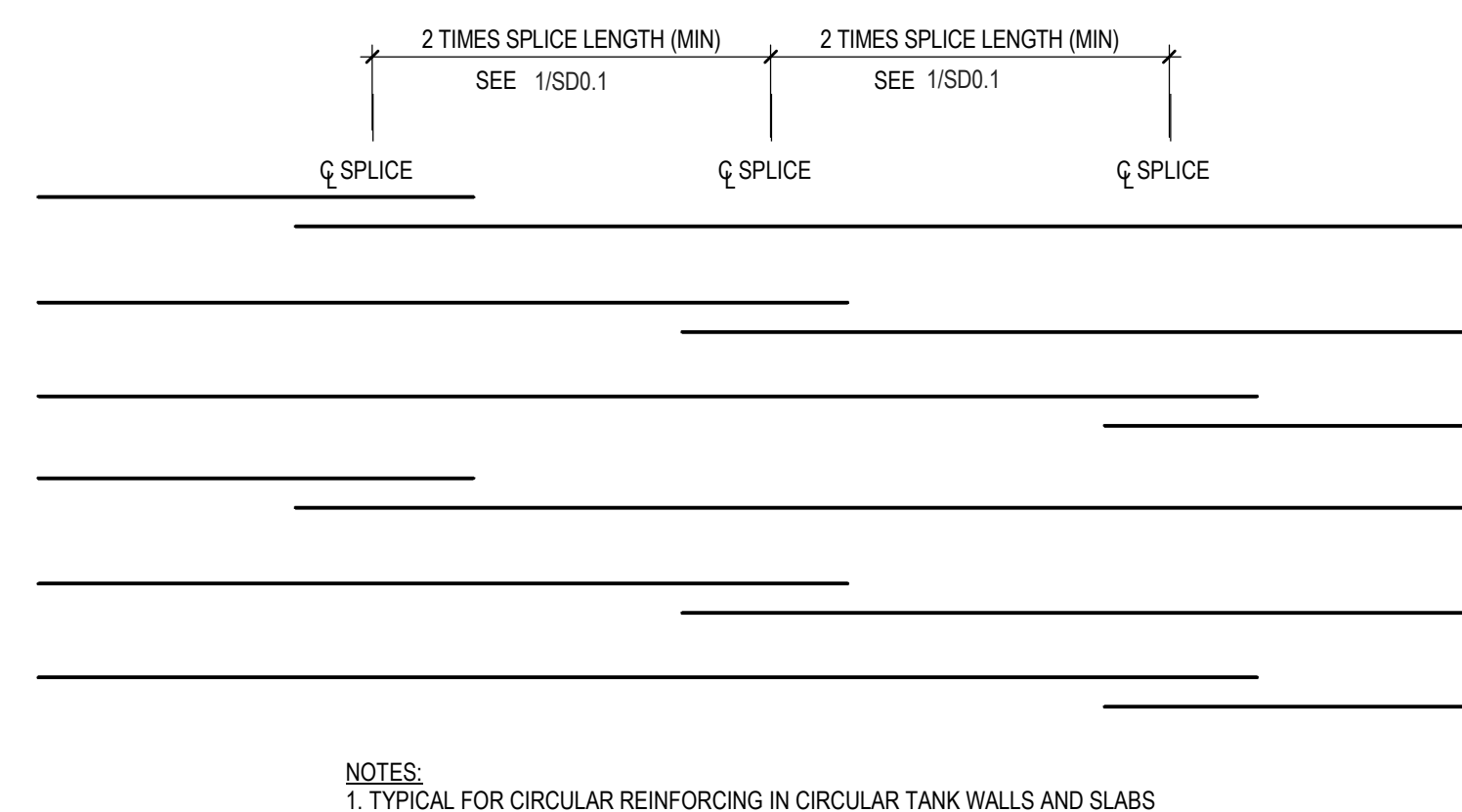
NOTES:  
 1. THESE DETAILS APPLY TO ALL OPENINGS IN CONCRETE WALLS AND SLABS WHEN THE LARGEST OPENING DIMENSION IS GREATER THAN TWO TIMES SECTION THICKNESS OR GREATER THAN REINFORCING SPACING IN THE SECTION, UNLESS OTHERWISE INDICATED IN THE DRAWINGS.  
 2. THE AREA OF ADDITIONAL REINFORCING REQUIRED IN EACH FACE ON EACH SIDE OF AN OPENING SHALL EQUAL OR EXCEED ONE HALF OF THE AREA OF THE INTERCEPTED BARS IN EACH FACE, IN EACH DIRECTION, RESPECTIVELY WITH A MINIMUM OF (1)-#5 BAR EACH FACE.  
 3. PLACE THE ADDED BARS IN THE SAME LAYERS AS THE WALL OR SLAB REINFORCING.  
 4. LD = EMBEDMENT LENGTH, SEE 2/SD0.1



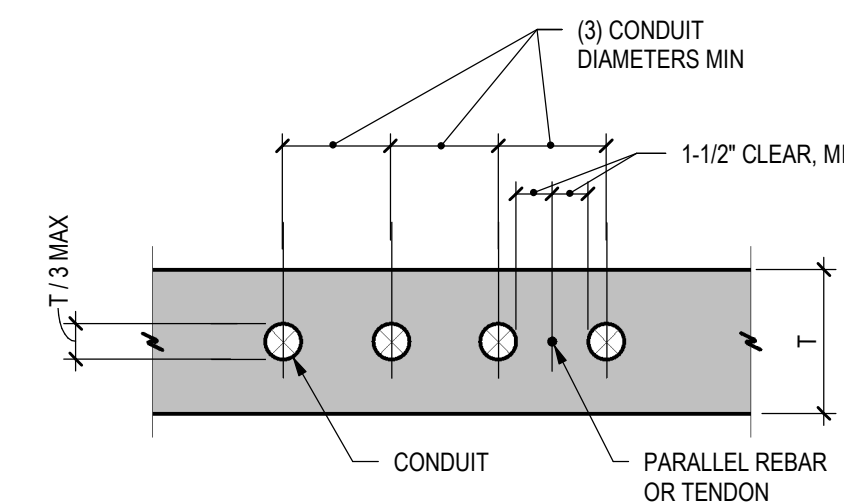
5 CONSTRUCTION JOINT DETAILS  
 SD0.1 3/4" = 1'-0"

6 OPENING THRU WALLS OR SLABS  
 SD0.1 3/8" = 1'-0"

7 LADDER DETAIL  
 SD0.1 3/4" = 1'-0"



NOTES:  
 1. TYPICAL FOR CIRCULAR REINFORCING IN CIRCULAR TANK WALLS AND SLABS



NOTES:  
 1. CONDUITS SHALL NOT BE LARGER IN THE OUTSIDE DIAMETER THAN 1/3 OF THE OVERALL THICKNESS OF THE SLAB IN WHICH THEY ARE EMBEDDED  
 2. CONDUITS SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS OR WIDTHS ON CENTER  
 3. ALUMINUM CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE  
 4. CONDUITS SHALL BE PLACED BETWEEN TOP AND BOTTOM SLAB REINFORCEMENT AND SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE MID-DEPTH OF THE SLAB  
 5. MINIMUM CONCRETE COVER FOR CONDUITS SHALL BE THE SAME AS THAT OF THE SLAB MAIN REINFORCEMENT  
 6. CONDUITS PARALLEL TO REINFORCING BARS SHALL BE SPACED NO CLOSER THAN 1-1/2" CLEAR TO THE ADJACENT PARALLEL BARS  
 7. CONDUITS SHALL BE SUPPORTED BY STD REBAR CHAIRS OR EQUIVALENT

CONDUITS EMBEDDED IN STRUCTURAL SLAB

8 RING BAR SPLICE STAGGER  
 SD0.1 3/4" = 1'-0"

9 CONDUIT IN SLAB  
 SD0.1 3/4" = 1'-0"

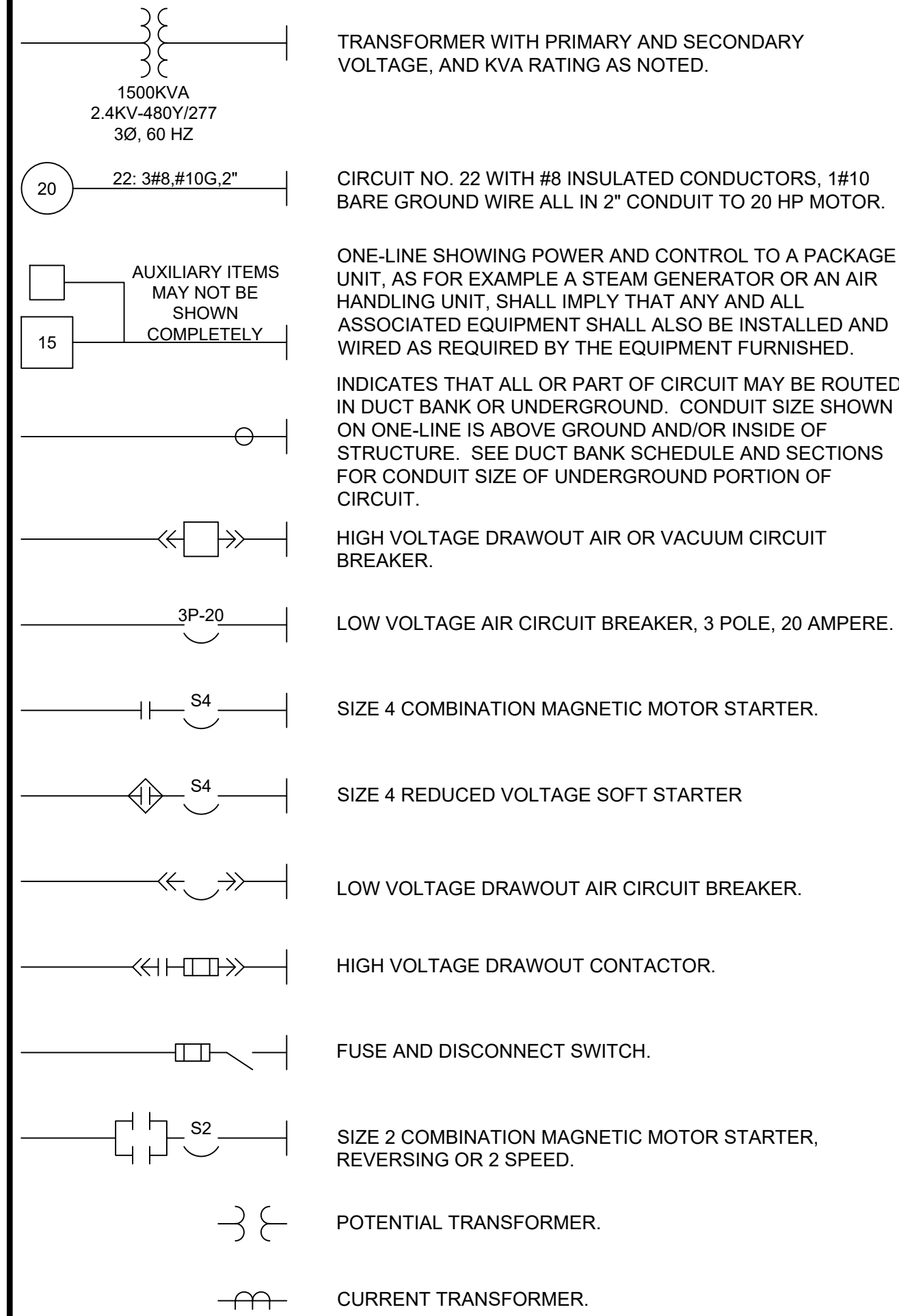
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 DRAWN BY: AJT/KLB  
 CHECKED BY: TSS  
 JOB #: 1066e  
 DATE: APRIL 2020  
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PROSPECT MOUNTAIN WATER  
 DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 DETAILS, SECTIONS & SCHEDULES

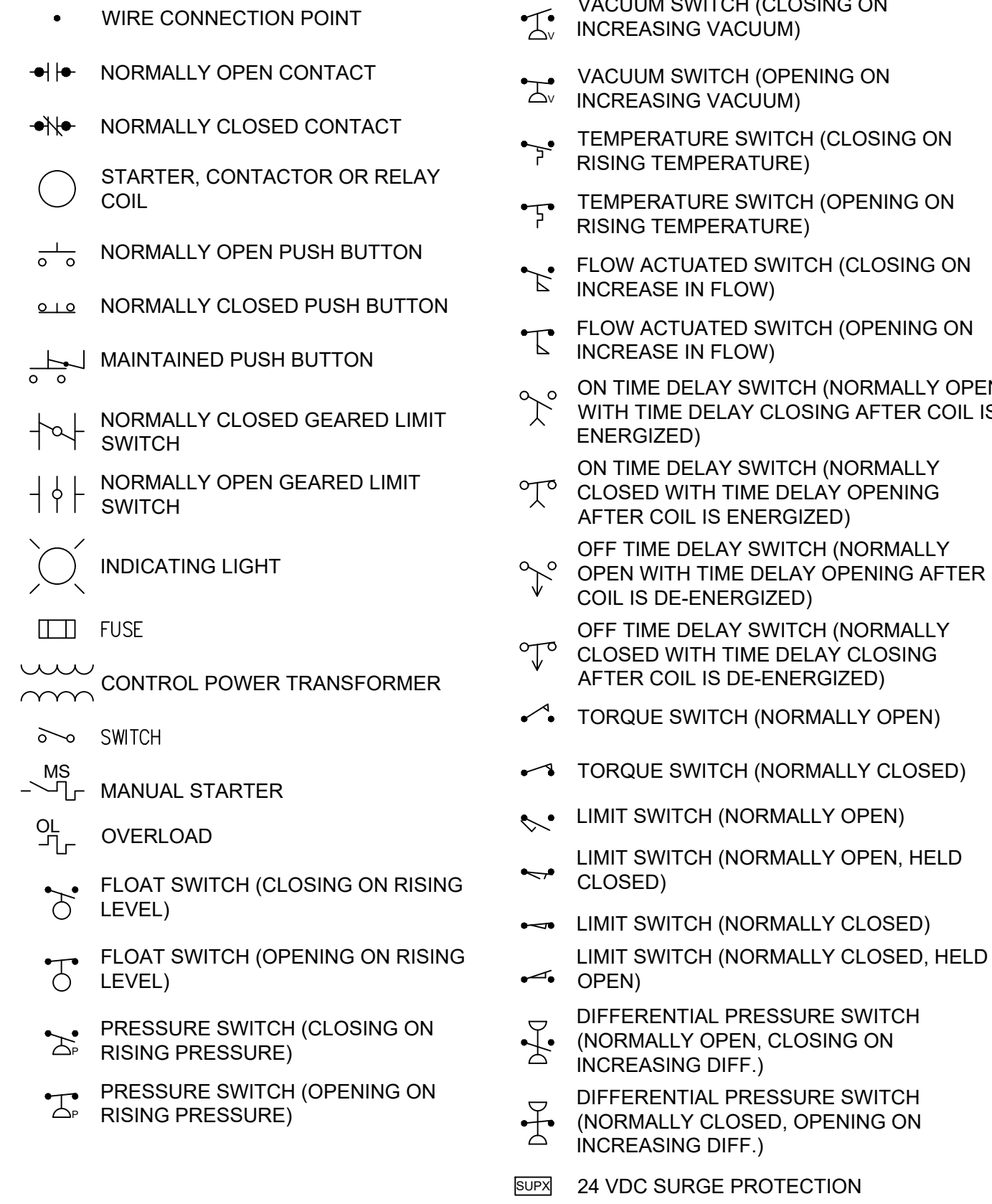
SHEET NO.  
 SD0.1

BID SET

**ONE LINE DIAGRAM LEGEND**



**SCHEMATIC SYMBOLS**



**ABBREVIATIONS**

A	AMBER, AMPERE, ALARM	RECP	RECEPTACLE
AC	ALTERNATING CURRENT	RGS	RIGID GALVANIZED STEEL
AFD	ADJUSTABLE FREQUENCY DRIVE	RTD	RESISTANCE TYPE TEMP DETECTOR
AFF	ABOVE FINISHED FLOOR	RTU	REMOTE TERMINAL UNIT
AM	AMMETER	RVSS	REDUCED VOLTAGE SOLID STATE STARTER
ATO	AUTOMATIC THROWOVER	S2	SIZE 2 STARTER
AWG	AMERICAN WIRE GAUGE	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
C	CLOSE, COUNTER, CONTACTOR	SP	SINGLE POLE
CAP	CAPACITOR	SPDT	SINGLE POLE DOUBLE THROW
CB	CIRCUIT BREAKER	SPST	SINGLE POLE SINGLE THROW
CD	CONTROL DAMPER	SS	SELECTOR SWITCH
CKT	CIRCUIT	SV	SOLENOID VALVE
CL2	CHLORINE	SW	SWITCHBOARD
CP	CONTROL PANEL	SWGR	SWITCHGEAR
CPT	CONTROL POWER TRANSFORMER	T	THERMOSTAT, TIMER, TOTALIZER
CS	CONTROL STATION	TACH	TACHOMETER
CT	CYCLE TIMER, CURRENT TRANSFORMER	TB	TERMINAL BLOCK
CTM	CYCLE TIMER MOTOR	TD	TIME DELAY RELAY
2/C	2 CONDUIT	TEMP	TEMPERATURE
4"C	4" CONDUIT	TQ	TORQUE
DC	DIRECT CURRENT	TS	TEMPERATURE SWITCH
DM	DAMPER MOTOR, DEMAND METER	UG	UNDERGROUND
DPDT	DOUBLE POLE DOUBLE THROW	UPS	UNINTERRUPTIBLE POWER SUPPLY
DPST	DOUBLE POLE SINGLE THROW	V	VOLTS
DPS	DIFFERENTIAL PRESSURE SWITCH	VA	VOLT AMPERE
DS	DISCONNECT SWITCH	VLS	VALVE LIMIT SWITCH
E	ELECTRIC OPERATOR FOR CONTROL DAMPER OR VALVE	VM	VOLTMETER
EMH	ELECTRICAL MANHOLE	W	WHITE, WATTS
ETM	ELAPSED TIME METER	WM	WATT HOUR METER
EX	EXISTING	WP	WEATHERPROOF
F	FORWARD	XFMR	TRANSFORMER
FS	FLOW SWITCH	XP	EXPLOSION PROOF
G	GREEN, GROUND	Y	YELLOW
GFI	GROUND FAULT INTERRUPTER	Z	AUXILIARY RELAY
GLS	GEARED LIMIT SWITCH	ZS	POSITION SWITCH
#8G	#8 GROUND WIRE		
H	HIGH, HUMIDISTAT		
HH	HANDHOLE		
HMT	HIGH MOTOR TEMPERATURE		
HOA	HAND-OFF-AUTO		
HOR	HAND-OFF-REMOTE		
HP	HORSEPOWER		
HWCO	HIGH WATER CUTOFF		
HZ	HERTZ (CYCLE)		
I/O	INPUT/OUTPUT		
J	JUNCTION BOX		
KV	KILOVOLT		
KVA	KILOVOLT AMPERE		
KVAR	KILOVAR		
KW	KILOWATT		
KWH	KILOWATT HOUR		
L	LOW, LEVEL		
LA	LIGHTNING ARRESTOR		
LAN	LOCAL AREA NETWORK		
LP	LIGHTING PANEL		
LS	LIMIT SWITCH, LEVEL SWITCH		
LWCO	LOW WATER CUTOFF		
M	MAGNETIC MOTOR STARTER		
MA	MILLIAMPERE		
MCB	MAIN CIRCUIT BREAKER		
MCC	MOTOR CONTROL CENTER		
MCM	THOUSAND CIRCULAR MIL		
MD	MOISTURE DETECTOR		
MH	MANHOLE, MOUNTING HEIGHT		
MOV	MOTOR OPERATED VALVE		
MS	MANUAL MOTOR STARTER		
MSH	MOTOR SPACE HEATER		
N	NEUTRAL		
NC	NORMALLY CLOSED		
NO	NORMALLY OPEN, NUMBER		
OL	OVERLOAD		
PB	PUSH BUTTON, PULL BOX		
PF	POWER FACTOR METER		
PH	PHASE (CHEMICAL TERM)		
PLC	PROGRAMMABLE LOGIC CONTROLLER		
PP	POWER PANEL		
PS	PRESSURE SWITCH		
PT	POTENTIAL TRANSFORMER, PROGRAM TIMER		
2P	2 POLE		
R	RED, RAISE, RELAY, REVERSE		

**AREA DESIGNATIONS**

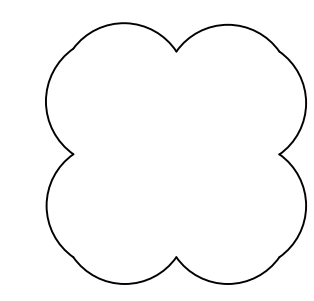
- THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES.
- AREA TYPE 1** INDOOR AND DRY AREA. REQUIRES MINIMUM NEMA TYP 1 ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.
  - AREA TYPE 1A** CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED PVC COATED CONDUIT WITH FITTINGS, AND ACCESSORIES.
  - AREA TYPE 4** INDOOR WET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM.
  - AREA TYPE 7A** CLASS 1, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
  - AREA TYPE 7B** CLASS 1, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
  - AREA TYPE 12** INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.
  - AREA TYPE 4X** OUTDOOR AND INDOOR WET LOCATIONS SUBJECT TO CORROSION. CONDUIT SYSTEM SHOULD BE PVC COATED RIGID GALVANIZED STEEL WITH PVC COATED FITTINGS, BOXES, AND STAINLESS STEEL HARDWARE.

**GENERAL REQUIREMENTS**

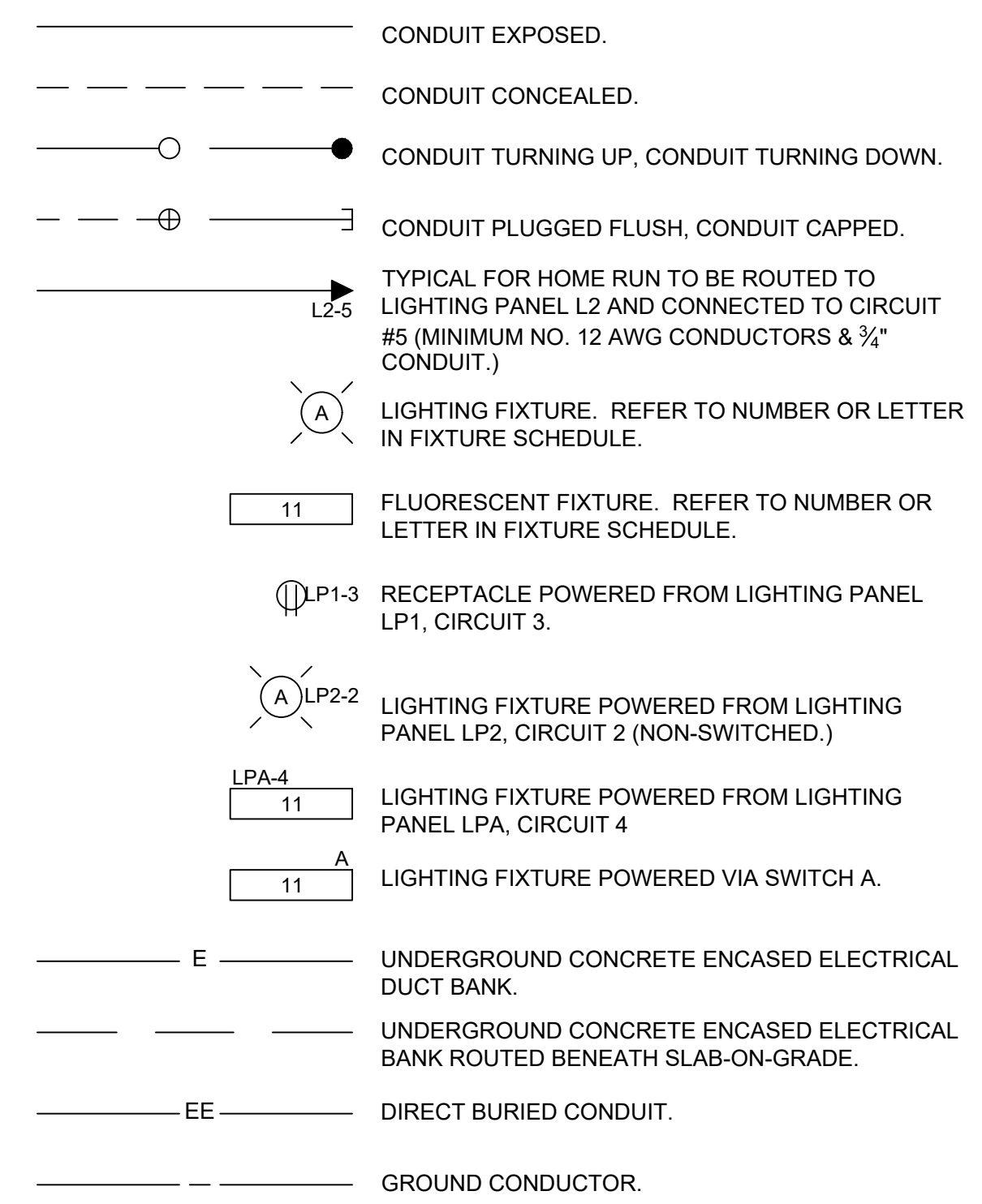
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATIONS.
- SPARE WIRES SHALL BE TAPED AND COILED.
- IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMMODATE THE HIGHER VALUE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
- LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12 AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM 3/4".
- IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC., NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.

**GENERAL NOTES**

- SOLID LINES ——— INDICATE NEW WORK OR EQUIPMENT.
- DOTTED LINES . . . . INDICATE EXISTING WORK OR EQUIPMENT.
- DASHED LINES - - - - INDICATE FUTURE WORK OR EQUIPMENT.
- THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
- INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
  - A. ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
  - B. FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
  - C. SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
  - D. DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.
- CLOUDED MARKINGS INDICATE WORK IN EXISTING AREAS THAT IS NEW OR NEW WORK ON AN EXISTING PIECE OF EQUIPMENT.



**CONDUIT & WIRING INSTALLATION LEGEND**



**SWITCH & OUTLET SYMBOLS**

- S<sup>A</sup> SINGLE POLE SWITCH, A=SWITCH DESIGNATION
- S<sup>A</sup> TWO POLE SWITCH, A=SWITCH DESIGNATION
- S<sup>A</sup> THREE-WAY SWITCH, A=SWITCH DESIGNATION
- S<sup>A</sup> FOUR-WAY SWITCH, A=SWITCH DESIGNATION
- S<sup>A</sup> WEATHERPROOF SWITCH, A=SWITCH DESIGNATION
- S<sup>A</sup> KEY OPERATED SWITCH, A=SWITCH DESIGNATION
- S<sup>A</sup> EXPLOSION PROOF SWITCH, A=SWITCH DESIGNATION
- ⊖ DUPLEX RECEPTACLE 120 VOLT
- ⊖ 240V, 1 PHASE RECEPTACLE, TYPICAL AMPERE RATING NOTED
- ⊖ 480V, 3 PHASE WELDING RECEPTACLE, TYPICAL AMPERE RATING NOTED

**MISCELLANEOUS SYMBOLS**

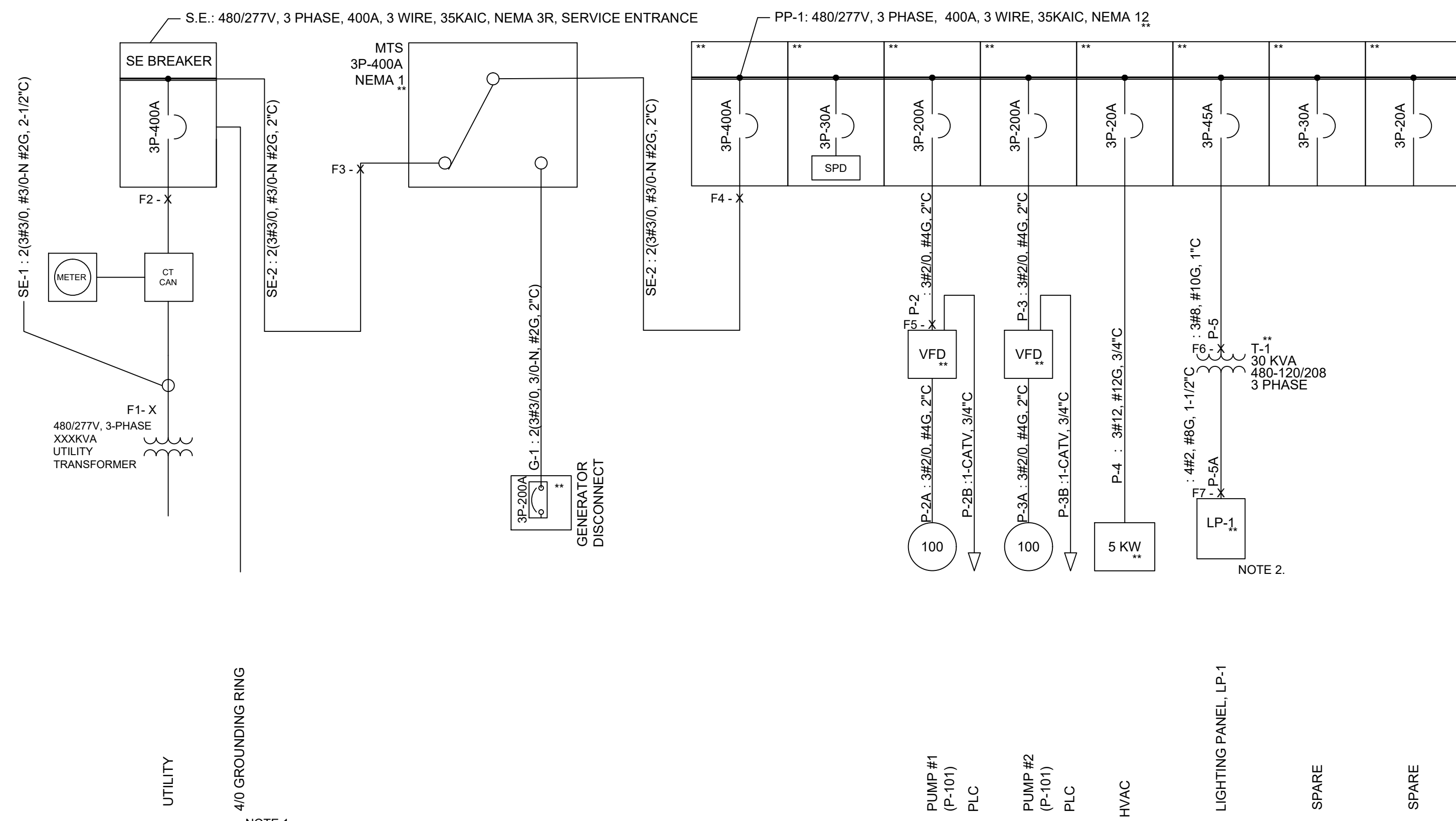
- (E) ETHERNET PORT
- (T) THERMOSTAT
- (J) JUNCTION BOX
- DISCONNECT SWITCH
- COMBINATION STARTER
- POWER PANEL
- LIGHTING PANEL
- MISCELLANEOUS PANEL

REVISION DESCRIPTION

NO.	DATE	DESIGNED BY	DRAWN BY

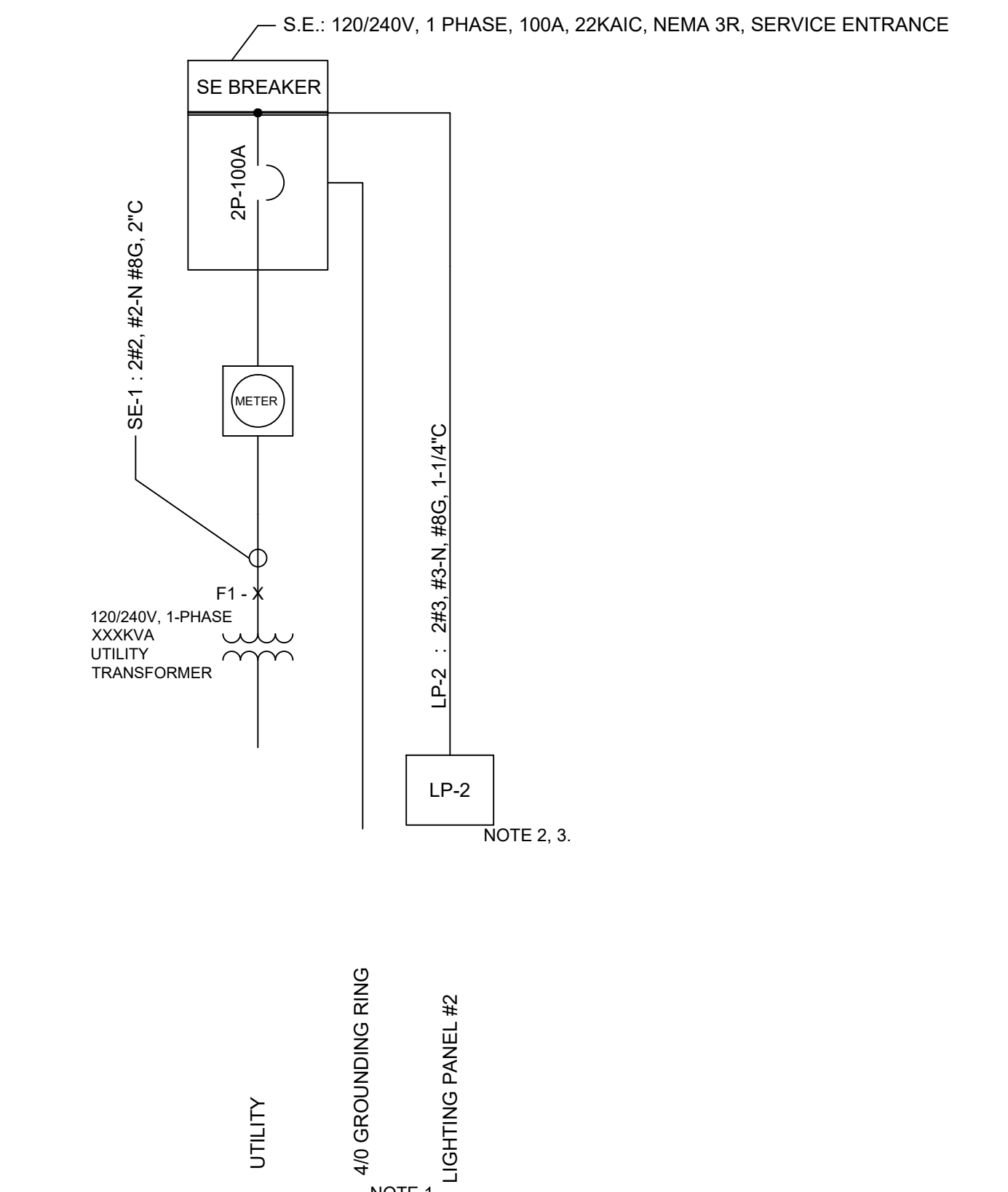
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PROSPECT MOUNTAIN WATER DISTRIBUTION SYSTEM ESTES PARK, COLORADO ELECTRICAL LEGEND



**BOOSTER PUMP STATION SERVICE ENTRANCE & MANUAL TRANSFER SWITCH (MTS) ONE-LINE DIAGRAM**

**POWER PANEL #1 (PP-1) ONE-LINE DIAGRAM**



**TANK INSTRUMENT BLDG SERVICE ENTRANCE & LIGHTING PANEL ONE-LINE DIAGRAM**

NAME: LP-1**			BUS:	COPPER				MAINS:			3P-100			
SERVICE			120/208 VAC	RATING:	225A				LOCATION:			PUMP STATION		
MOUNTING			SURFACE, NEMA 12	AIC RATING:	10,000A									
V.A.			LOAD	PHASE	BREAKER	CIRCUIT BREAKER	BREAKER	PHASE	LOAD	V.A.				
A	B	C								A	B	C		
500			CONTROL PANEL	1	20	1	2	20	1	EXTERIOR LIGHT	300			
	150		FE/FIT101	1	20	3	4	20	1	EXTERIOR RECEPTS		540		
		150	AE/AIT-101	1	20	5	6	15	1	INTERIOR LIGHTS			700	
100			EXHAUST FAN	1	20	7	8	20	1	INTERIOR E. RECEPTS	900			
	500		TELEMETRY PANEL	1	20	9	10	20	1	INTERIOR W. RECEPTS		900		
		0	SPARE	1	20	11	12	20	1	SPARE			0	
0			SPARE	1	20	13	14	20	1	SPARE	0			
	0		SPARE	1	20	15	16	20	1	SPARE		0		
		0	SPARE	1	20	17	18	20	1	SPARE			0	
0				1	20	19	20	20	1		0			
	0			1	20	21	22	20	1			0		
		0		1	20	23	24	20	1				0	
0				1	20	25	26	20	1		0			
	0			1	20	27	28	20	1			0		
		0		1	20	29	30	20	1				0	
600	650	150	TOTALS PER PHASE PER SIDE									1200	1440	700
1800	2090	850	TOTALS PER PHASE											
4740			PANEL TOTAL											

FAULT CURRENT	
F1	25700
F2	24061
F3	23235
F4	22972
F5	21787
F6	10817
F7	4311

NAME: LP-2			BUS:	COPPER				MAINS:			3P-100			
SERVICE			120/240 VAC	RATING:	225A				LOCATION:			INSTR. BLDG		
MOUNTING			SURFACE, NEMA 12	AIC RATING:	10,000A									
V.A.			LOAD	PHASE	BREAKER	CIRCUIT BREAKER	BREAKER	PHASE	LOAD	V.A.				
A	B	C								A	B	C		
500			CONTROL PANEL	1	20	1	2	20	1	EXTERIOR LIGHT	300			
	150		FE/FIT100	1	20	3	4	20	1	EXTERIOR RECEPTS		540		
150			AE/AIT-100	1	20	5	6	20	1	INTERIOR LIGHTS	700			
	1500		UH-1	2	20	7	8	20	1	INTERIOR RECEPTS		900		
		0	SPARE	1	20	9	10	20	1	EXHAUST FAN	100			
0			SPARE	1	20	11	12	20	2	MIXER		1000		
0			SPARE	1	20	13	14	20	1	NOTE 5.	1000			
	0		SPARE	1	20	15	16	20	1	SPARE		0		
0			SPARE	1	20	17	18	20	1	SPARE	0			
	0		SPARE	1	20	19	20	20	1	SPARE		0		
0						21	22	20	1			0		
0						23	24	20	1				0	
0						25	26	20	1				0	
	0					27	28	20	1				0	
		0				29	30	20	1				0	
2150	1650		TOTALS PER PHASE PER SIDE									2100	2440	
4250	4090		TOTALS PER PHASE											
8340			PANEL TOTAL											

FAULT CURRENT	
F1	7400

NOTE 4.

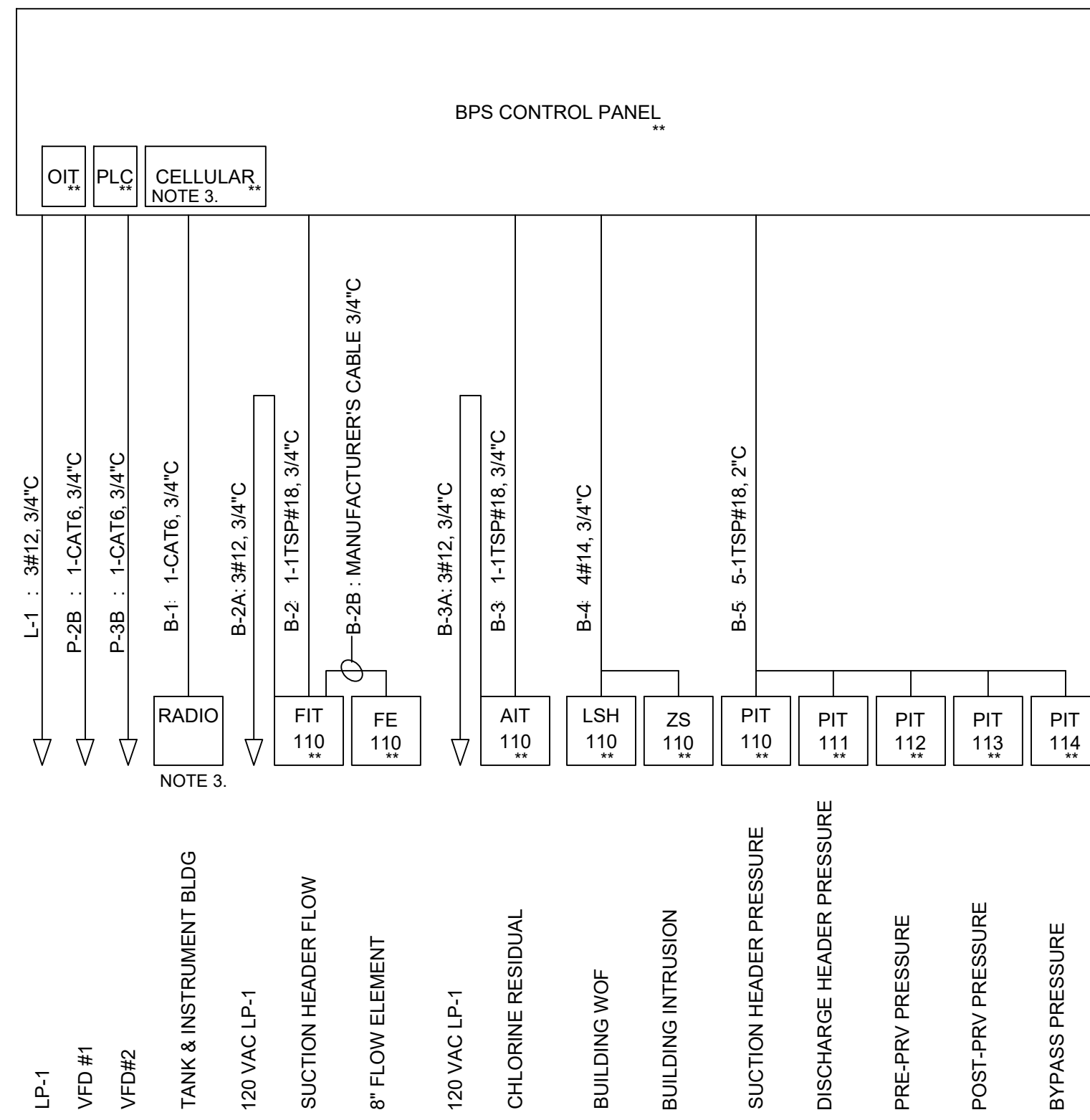
- NOTES:
- BONDING AND GROUNDING SHALL INCLUDE BUILDING STEEL AND PROCESS PIPE AS PER N.E.C.
  - ALL 120VAC CONDUCTORS WITH 20 AMP BREAKER SHALL BE 3#12, 3/4" C. ALL OTHER CONDUCTORS SHALL BE SIZED TO OVER CURRENT PROTECTION.
  - LIGHTING PANEL SHALL INCLUDE A SURGE PROTECTIVE DEVICE
  - FAULT CURRENT CALCULATE AT 150FT DISTANCE BETWEEN UTILITY TRANSFORMER AND SERVICE ENTRANCE DISCONNECT.
  - MIXER SHALL HAVE A SEPARATELY ENCLOSED ACROSS THE LINE STARTER FOR THE ONE (1) HP MOTOR. THERE SHALL BE A LOCAL CONTROL STATION AT TANK BASE TO CONTROL.
  - \*\* INDICATES PACKAGE SYSTEM

NO.	DATE	DESIGN	OWN

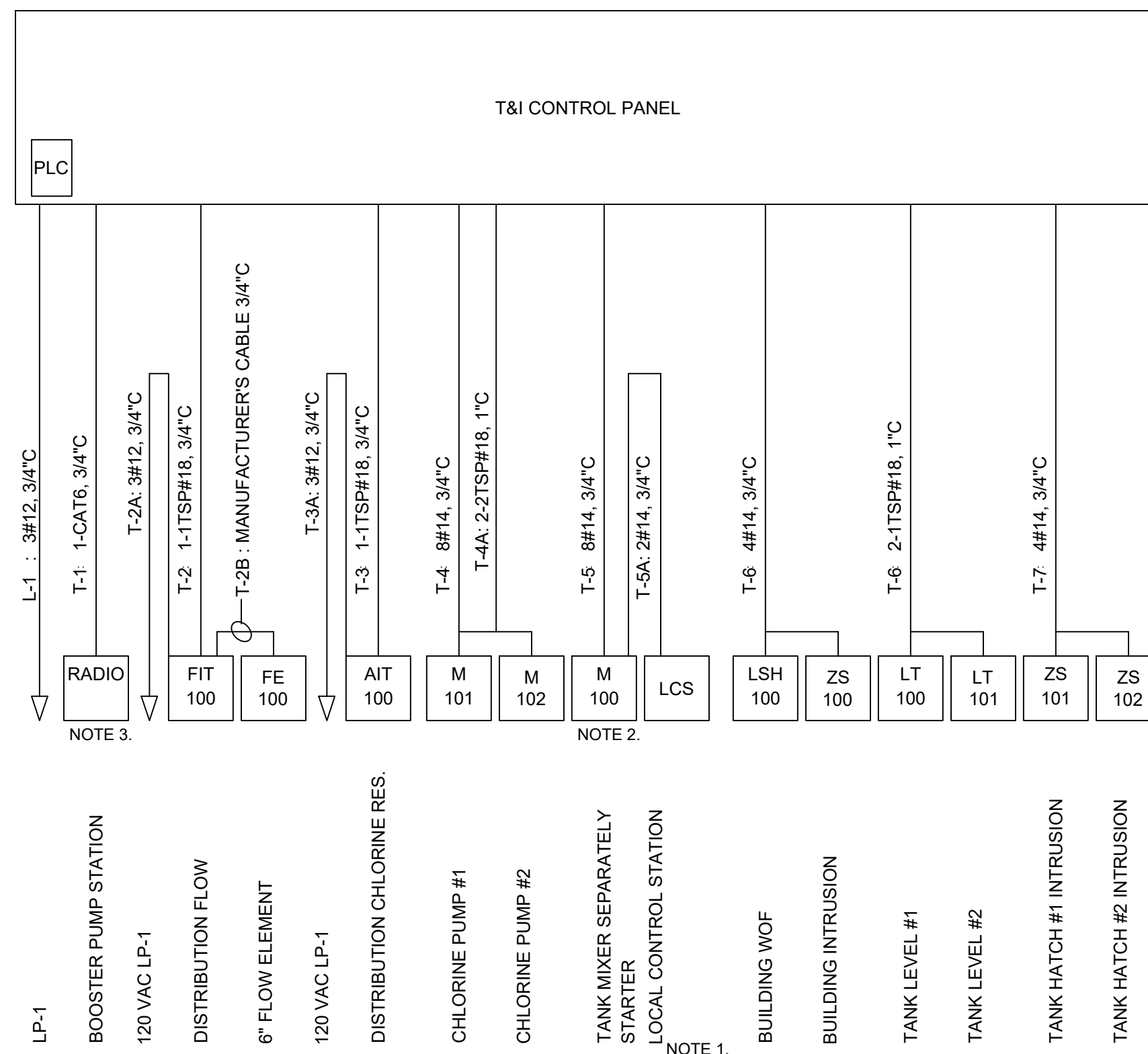
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PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO  
ELECTRICAL ONE-LINE DIAGRAMS



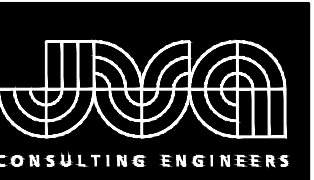


**BOOSTER PUMP STATION CONTROL PANEL ONE-LINE DIAGRAM**



**TANK AND INSTRUMENT BLDG CONTROL PANEL ONE-LINE DIAGRAM**

- NOTES:
- LOCAL CONTROL STATION SHALL INCLUDE BUT IS NOT LIMITED TO:
    - NEMA 4X ENCLOSURE
    - HAND/OFF SWITCH
  - SEPARATELY ENCLOSED STARTER SHALL INCLUDE BUT IS NOT LIMITED TO:
    - SIZE 0 ACROSS-THE-LINE STARTER
    - NEMA 3R ENCLOSURE
    - MINICAS UNIT TO DETECT OVERTEMP AND SEAL LEAK
    - RUN STATUS LIGHT (GREEN)
    - OFF LIGHT (OFF)
    - ALARM LIGHT (AMBER)
    - ELAPSE TIME METER
    - HEATER
  - SEE NETWORK DIAGRAM FOR COMMUNICATION PATH
  - \*\* INDICATES PACKAGE SYSTEM



JVA, Inc. 213 Linden Street, Suite 200  
Fort Collins, CO 80524 970.225.9099  
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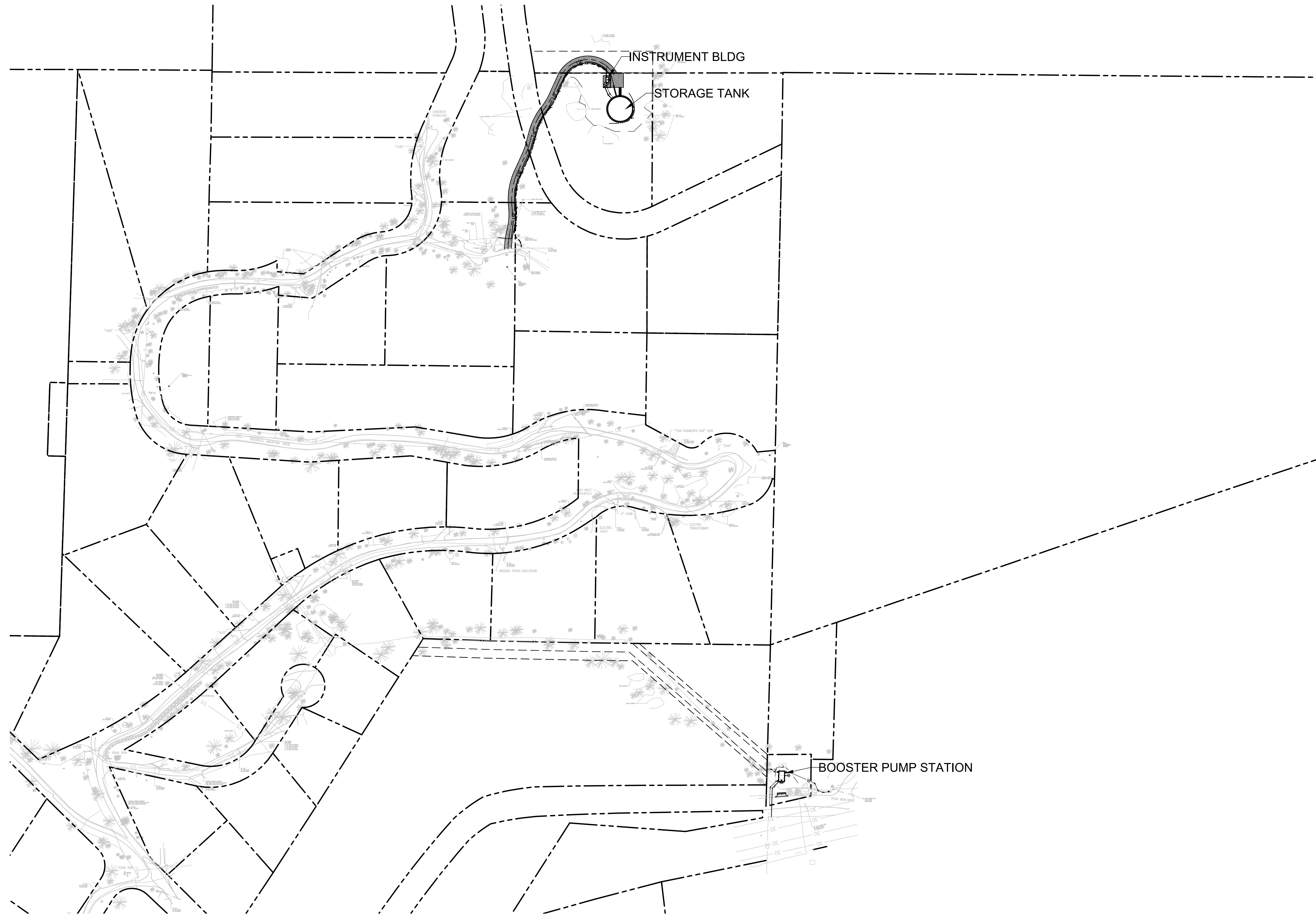


LITTLETON, CO 80127  
(720) 344-7771

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PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO  
ELECTRICAL ONE-LINE DIAGRAMS



PROSPECT MOUNTAIN SITE  
1" = 1000'

NOTE:  
INSTRUMENTATION AND ELECTRICAL EQUIPMENT  
ONLY SHOWN IN PLAN VIEW FOR CLARITY



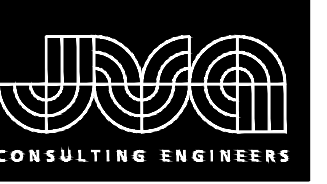
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PROSPECT MOUNTAIN  
WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

PROSPECT MOUNTAIN PLAN VIEW

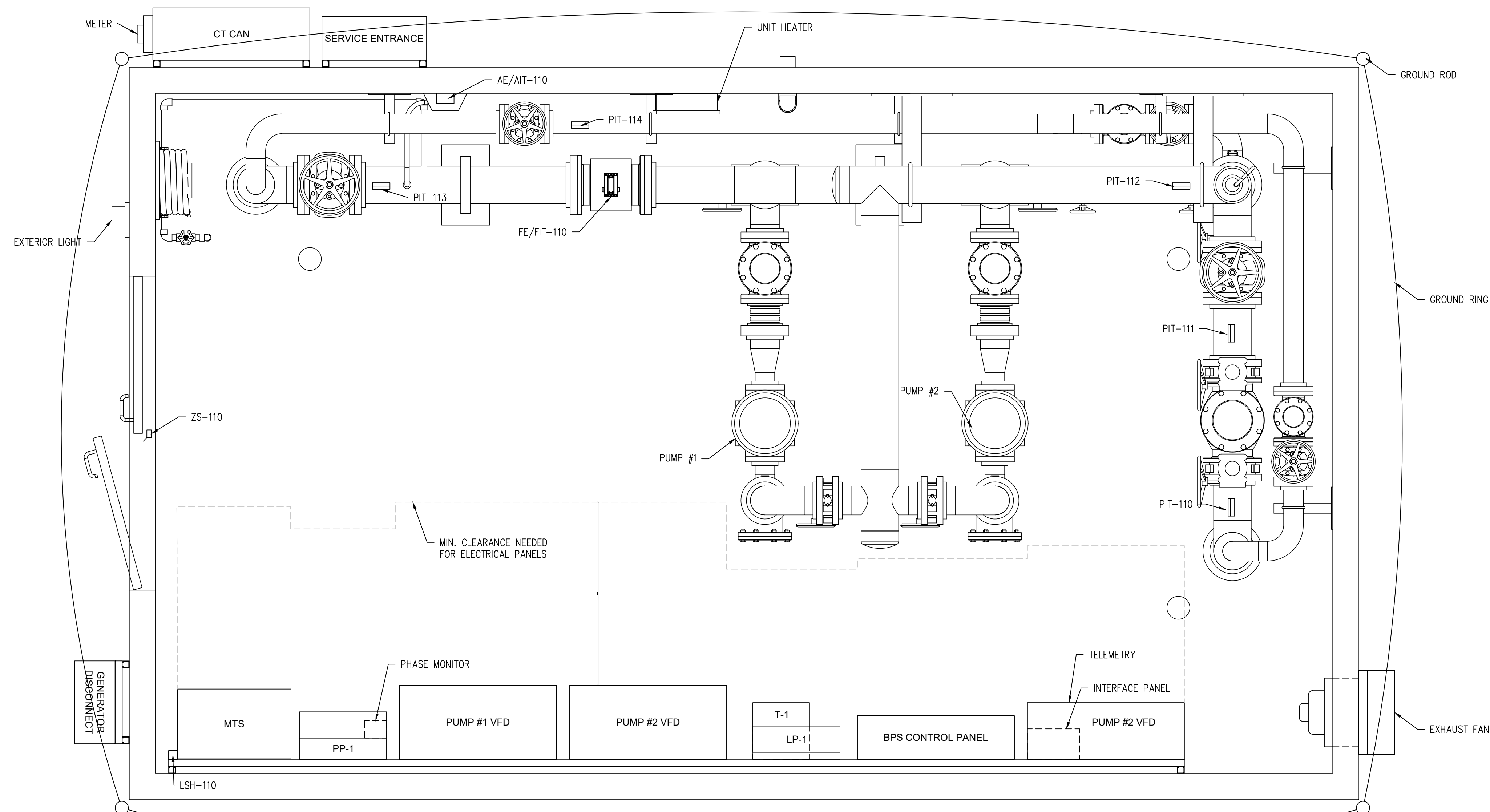
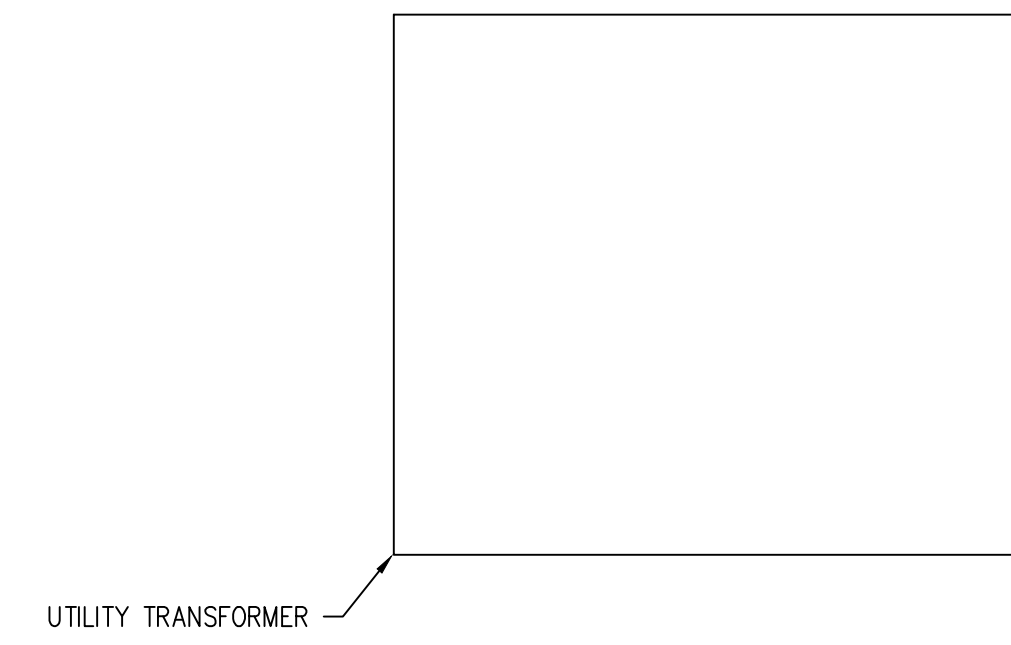
SHEET NO.  
**E3.0**



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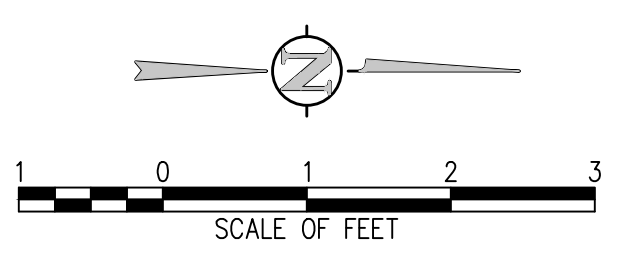
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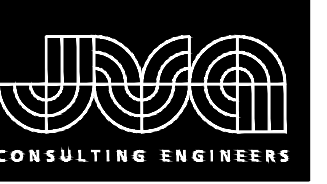
PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 BOOSTER PUMP STATION PLAN VIEW

SHEET NO.  
**E3.1**

**PROSPECT MOUNTAIN BOOSTER PUMP STATION**  
 3/4" = 1'-0"

NOTE:  
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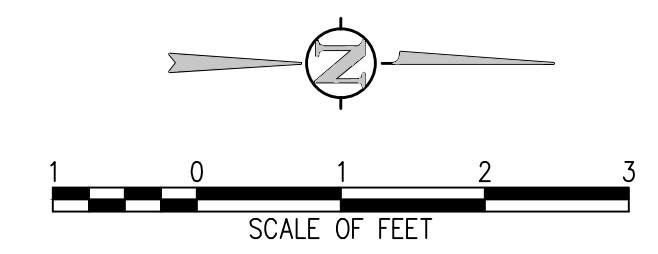
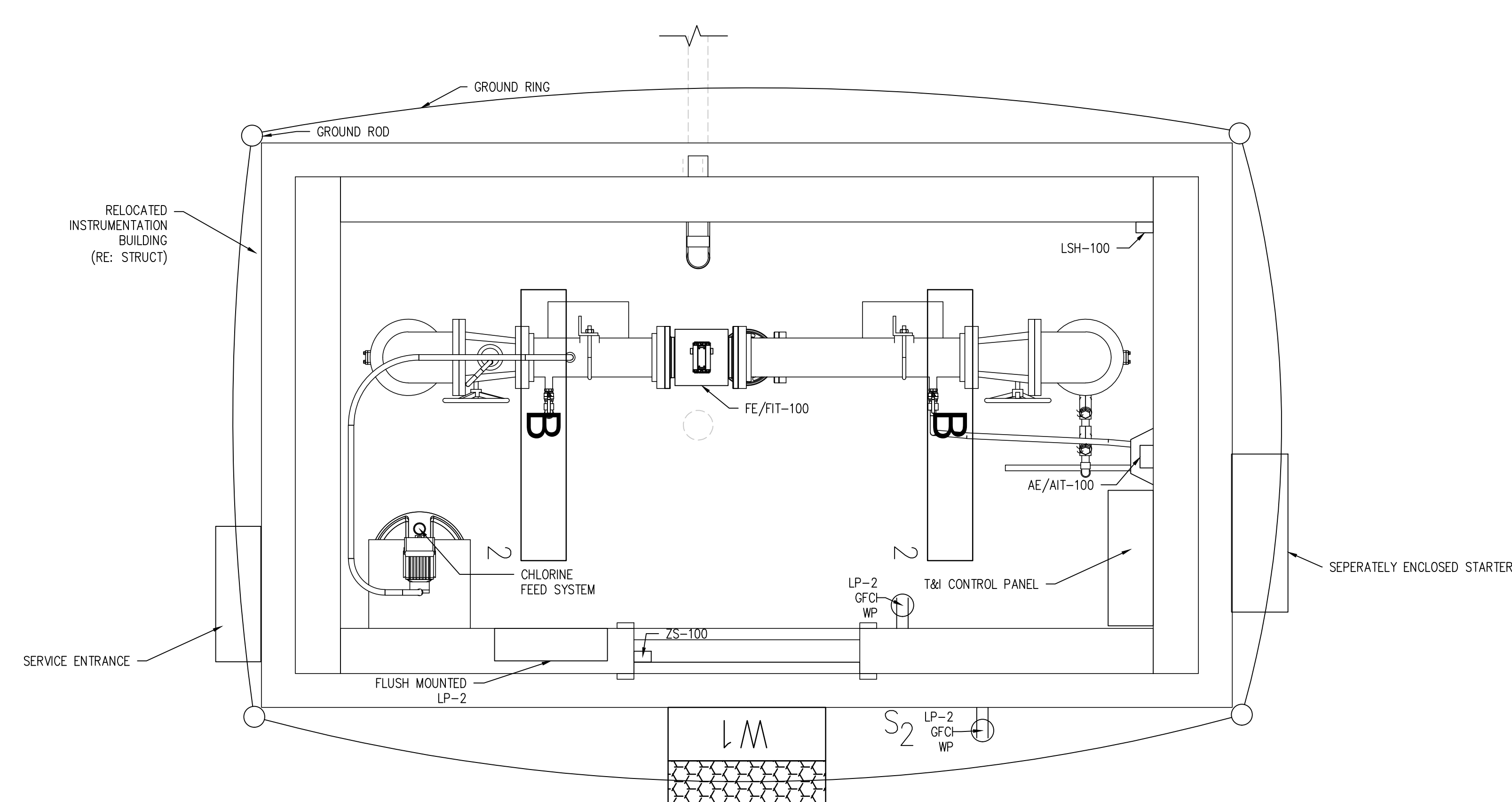
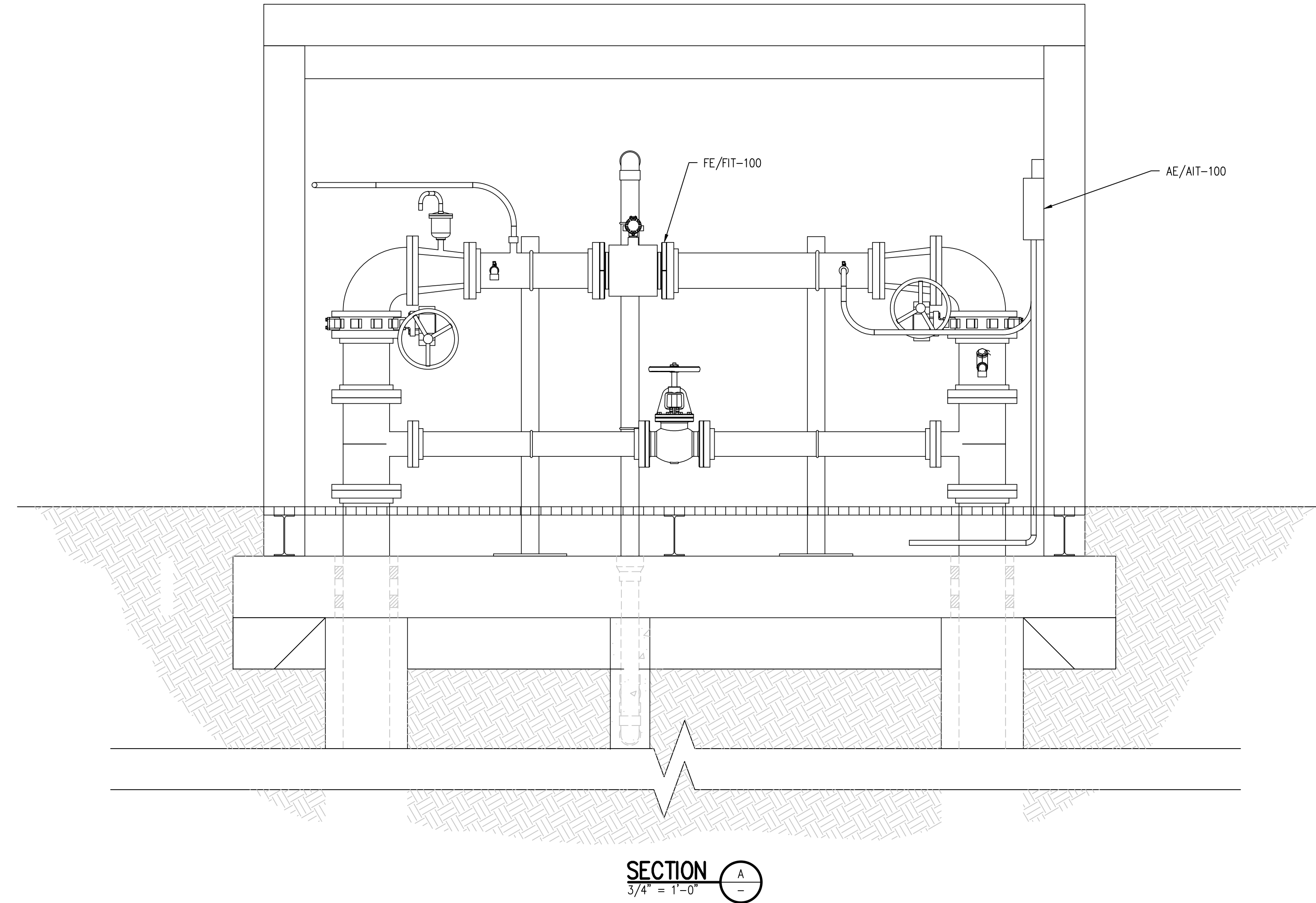


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LIGHTING FIXTURE SCHEDULE				
SYMBOL	LAMP	MTG HEIGHT	DESCRIPTION	MANUFACTURER
B	LED, 120V	MOUNT AT 10' AFF	4 FOOT FIXTURE-HEAVY DUTY AND MOUNTING HARDWARE SUITABLE FOR WET LOCATIONS	LITHONIA LIGHTING: STL440LEZ1LP840
W1	LED, 120V	1FT ABOVE DOOR	DIE CAST ALUMINUM FOR RUGGED MOUNTING AND HEAT DISSIPATION, SPECULAR REFLECTOR, VERTICAL LAMP AND REFRACTOR WITH PHOTOELECTRIC CONTROL	HUBBEL: LNC-12LU-4K-*PC *MATCH COLOR OF EXISTING EXTERIOR LIGHTING

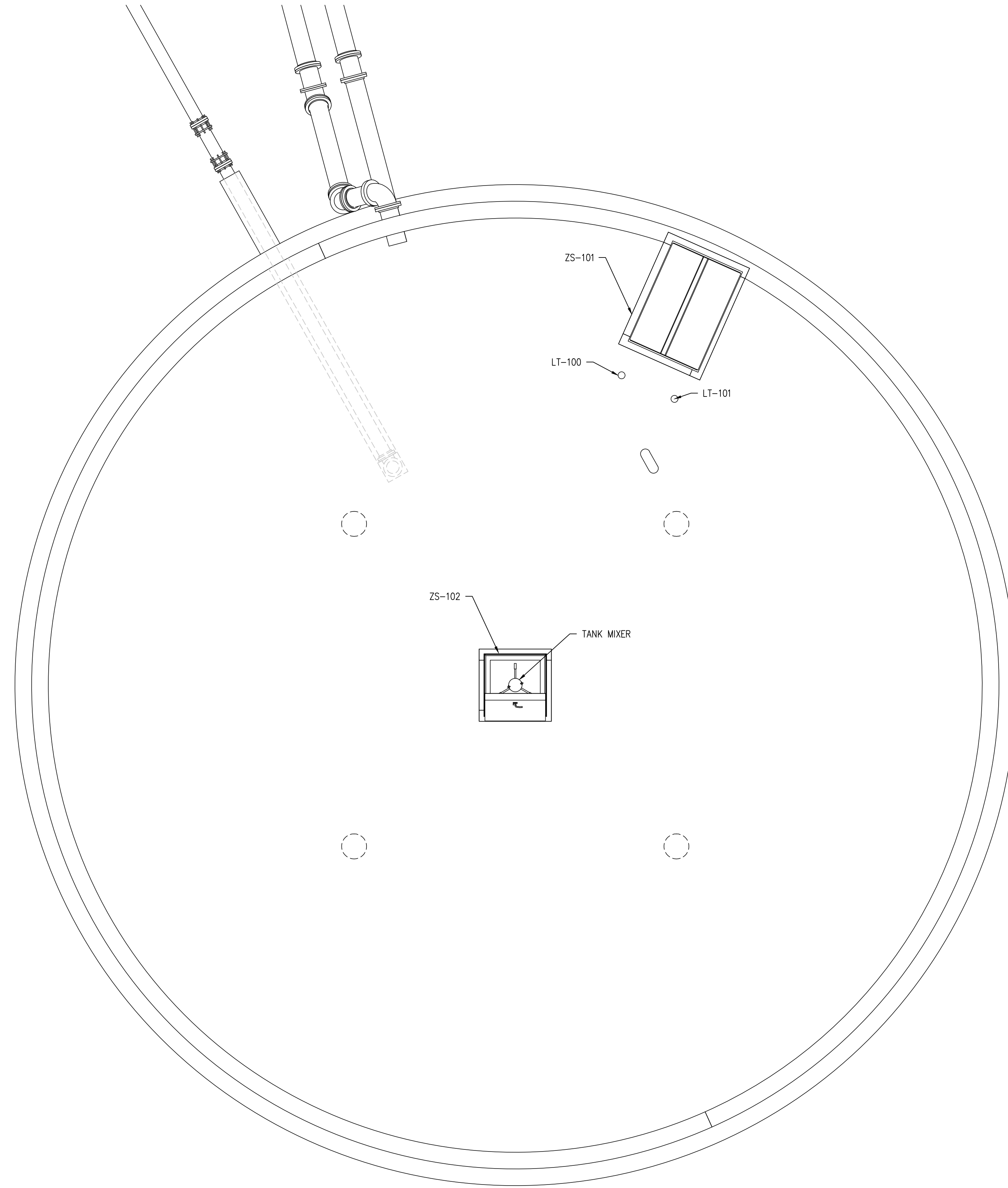


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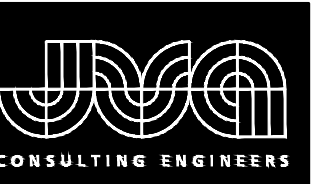
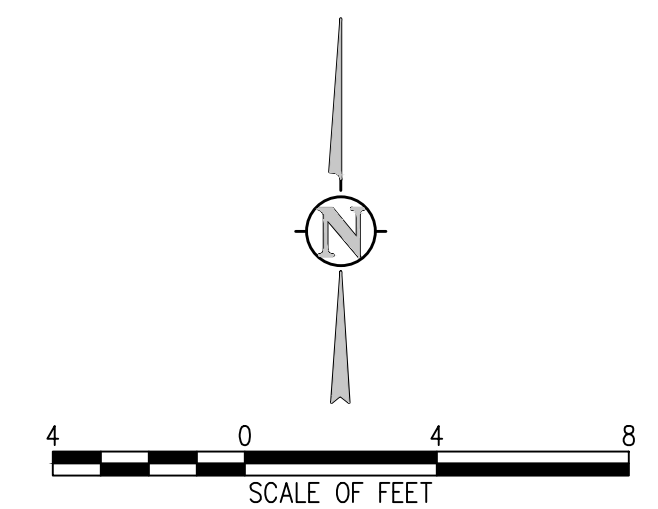
DESIGNED BY:	LBT
DRAWN BY:	LLG
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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 INSTRUMENT BUILDING PLAN VIEW

SHEET NO.  
**E3.2**



**TANK PLAN VIEW**  
1/4" = 1'-0"



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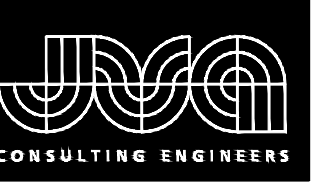
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WATER DISTRIBUTION SYSTEM  
ESTES PARK, COLORADO

SHEET NO.  
**E3.3**

TANK PLAN VIEW

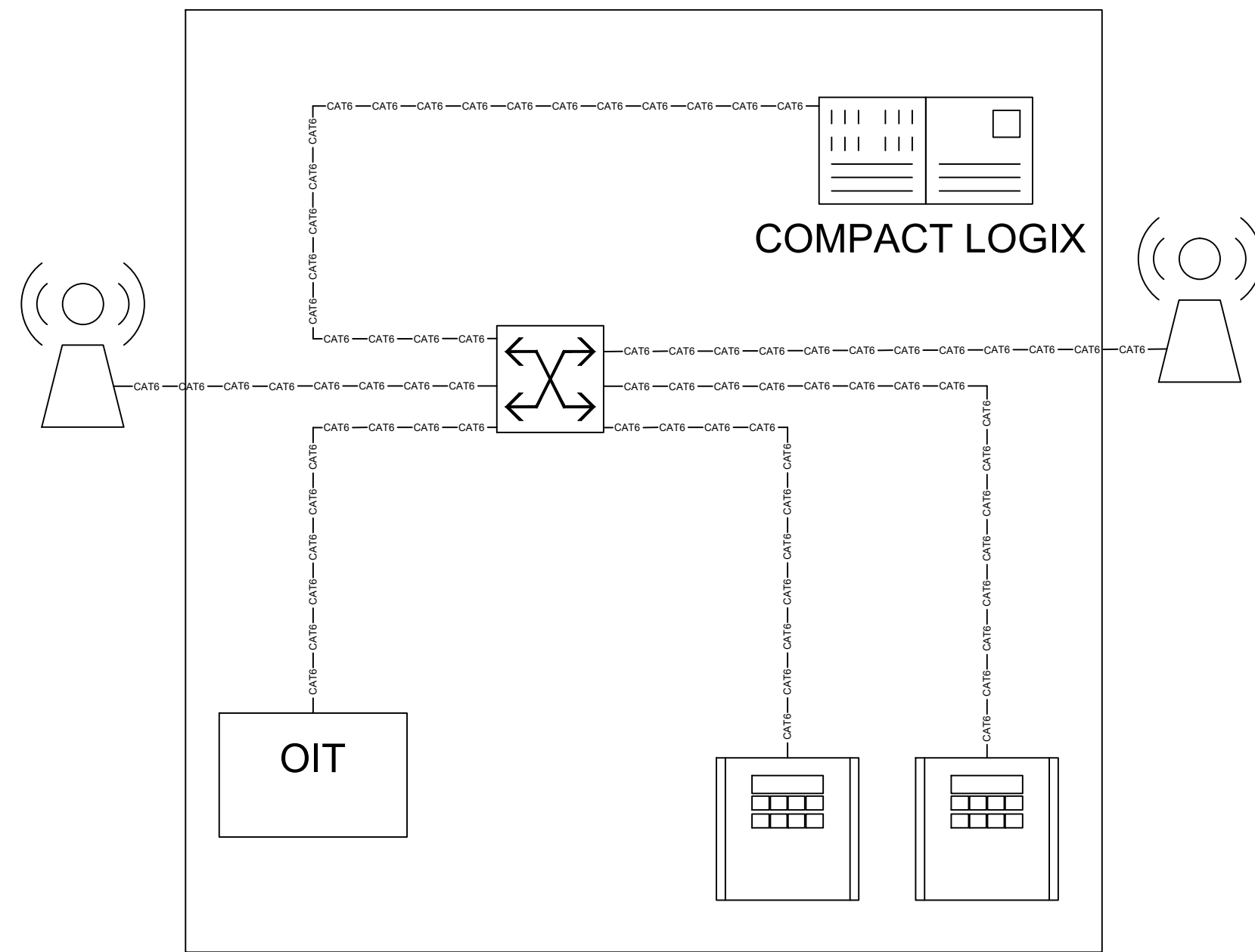


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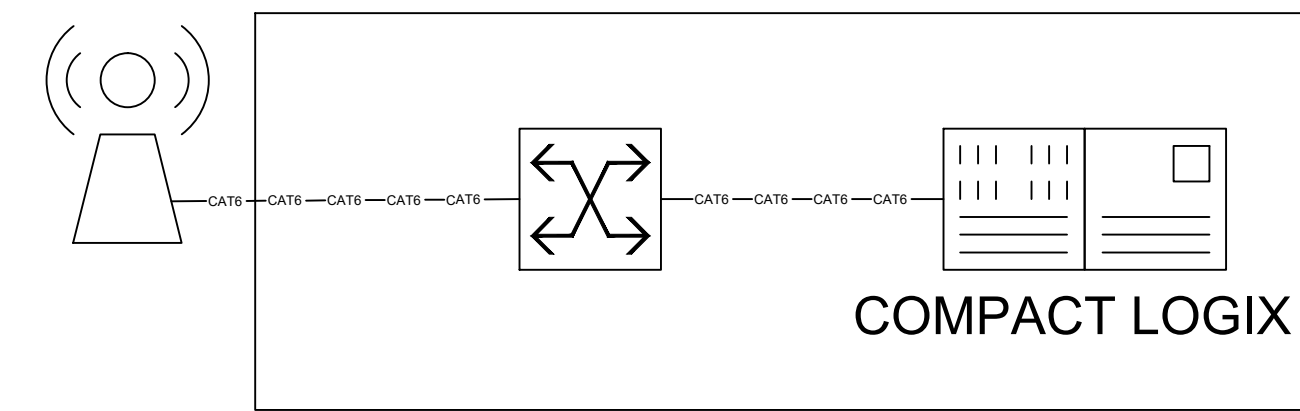


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CELLULAR TO WTP



INSTRUMENTATION BUILDING



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PROSPECT MOUNTAIN  
 WATER DISTRIBUTION SYSTEM  
 ESTES PARK, COLORADO  
 NETWORK DIAGRAM

SHEET NO.  
**E4.0**