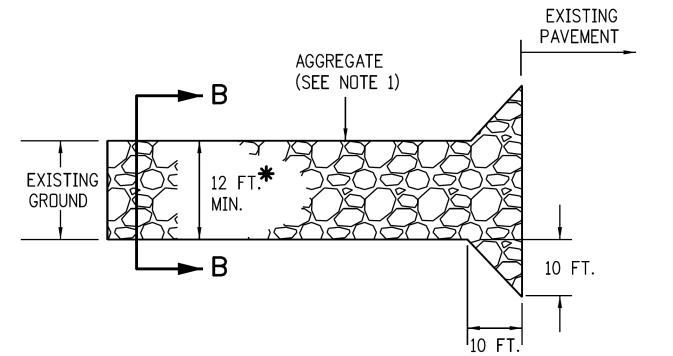


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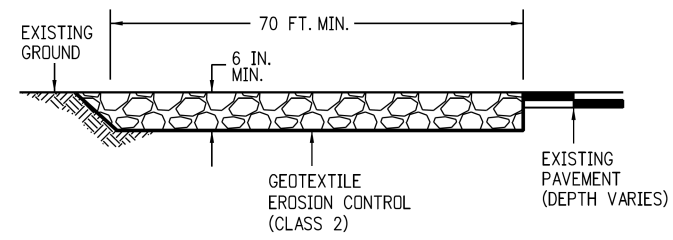
1. A FENCE (PLASTIC) CONFORMING TO SECTION 607 SHALL BE INSTALLED AROUND THE CONCRETE WASHOUT AREA, EXCEPT AT THE OPENING.
2. THE CONCRETE WASHOUT SIGN SHALL HAVE LETTERS AT LEAST 3 INCHES HIGH AND CONFORM TO SUBSECTION 630.02.
3. ALL MATERIALS AND LABOR TO COMPLETE THE CONCRETE WASHOUT STRUCTURE SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
4. THE BOTTOM OF EXCAVATION SHALL BE A MINIMUM OF FIVE FEET ABOVE GROUND WATER. IF NOT, THE BOTTOM OF EXCAVATION SHALL BE IN ACCORDANCE WITH 208.02 (j).
5. THE PAY ITEM NUMBER FOR CONCRETE WASHOUT STRUCTURE (EACH) IS 208-00045.

CONCRETE WASHOUT STRUCTURE

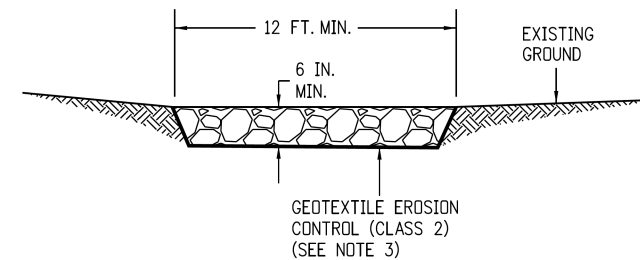


PLAN VIEW

* SHALL EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.



ELEVATION SECTION



SECTION B-B

NOTES:

1. AGGREGATE SHALL CONFORM TO SUBSECTION 208.02 (i).
2. THE CONTRACTOR SHALL PROTECT CURB AND GUTTER THAT CROSSES THE ENTRANCE FROM DAMAGE, WHILE NOT BLOCKING FLOW OF WATER THRU STRUCTURE. PROTECTION OF THE CURB AND GUTTER SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
3. GEOTEXTILE SHALL CONFORM TO SUBSECTION 712.08.
4. ALL MATERIALS AND LABOR TO COMPLETE THE VEHICLE TRACKING PAD SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
5. THE PAY ITEM NUMBER FOR VEHICLE TRACKING PAD (EACH) IS 208-00070.

VEHICLE TRACKING PAD

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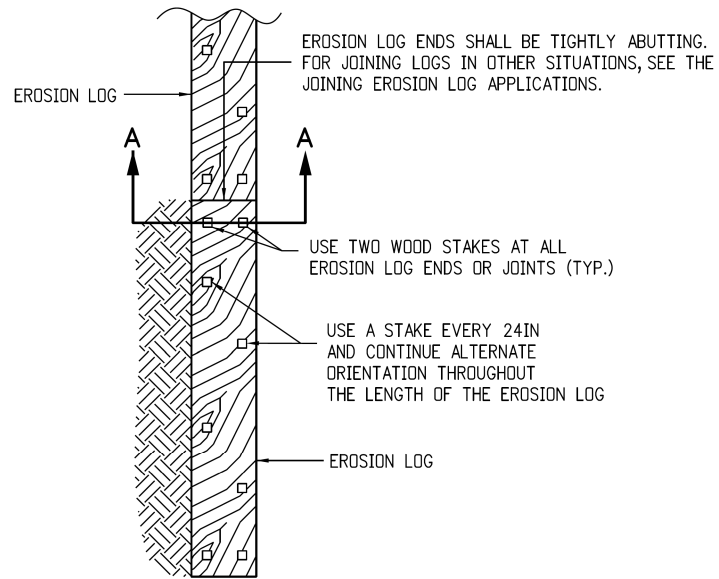
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HIGHWAY 105 PROJECT A STORMWATER MANAGEMENT PLAN CDOT M-STANDARDS	
Designer: S. PARASPATKI	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: M-STD	Subset Sheets: 01 of 14

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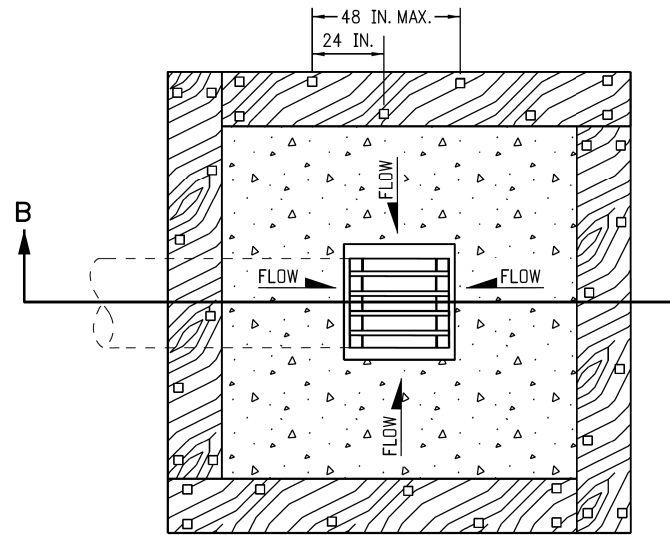
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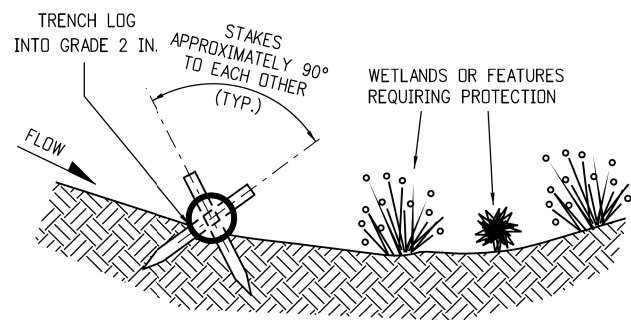


PLAN VIEW

EROSION LOGS PAY ITEMS	
NUMBER	DESCRIPTION
208-00012	TYPE 1 (9 IN.)
208-00002	TYPE 1 (12 IN.)
208-00013	TYPE 1 (20 IN.)
208-00007	TYPE 2 (8 IN.)
208-00008	TYPE 2 (12 IN.)
208-00009	TYPE 2 (18 IN.)
208-00022	TYPE 3 (9 IN.)
208-00023	TYPE 3 (12 IN.)
208-00024	TYPE 3 (20 IN.)



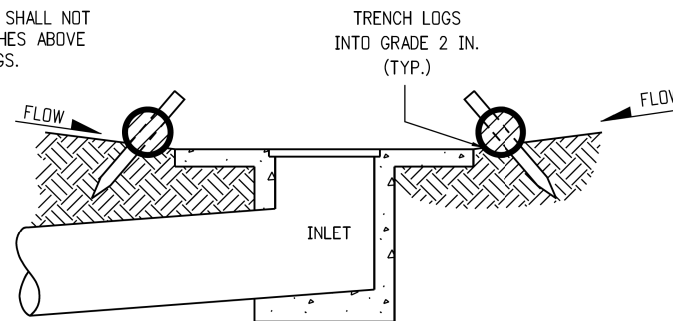
PLAN VIEW



SECTION A-A

TYPICAL STAKE INSTALLATION

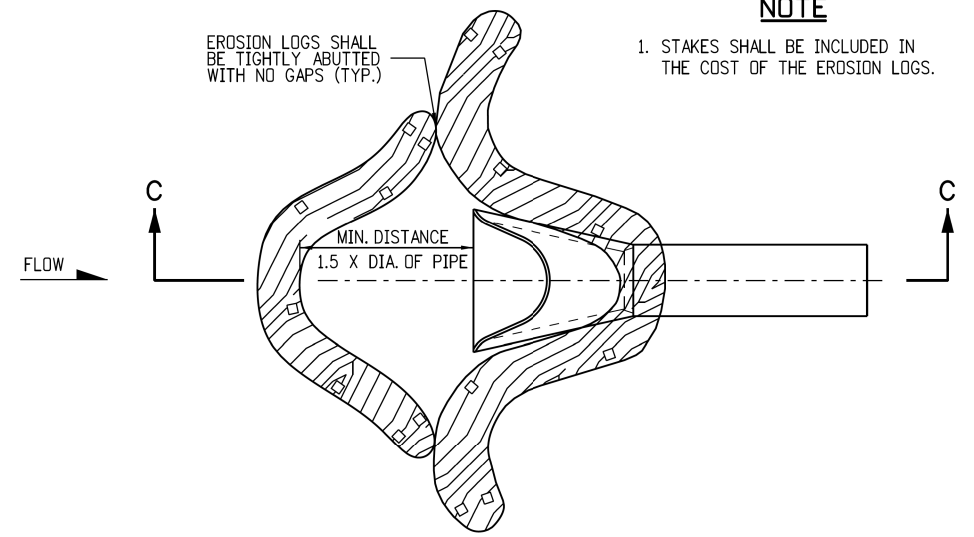
NOTE: THE TOPS OF ALL STAKES SHALL NOT EXTEND MORE THAN 2 INCHES ABOVE THE TOPS OF EROSION LOGS.



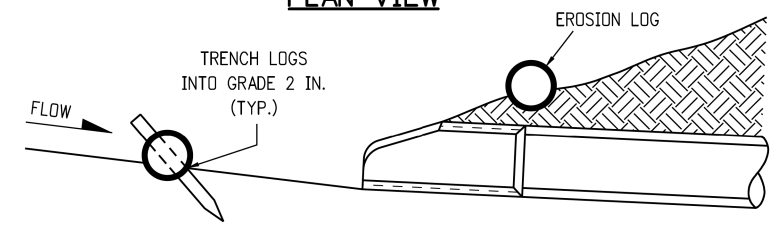
SECTION B-B

EROSION LOG FILTER AT DROP INLET

NOTE: LOCATE EROSION LOGS AT THE OUTSIDE EDGE OF THE CONCRETE APRON.



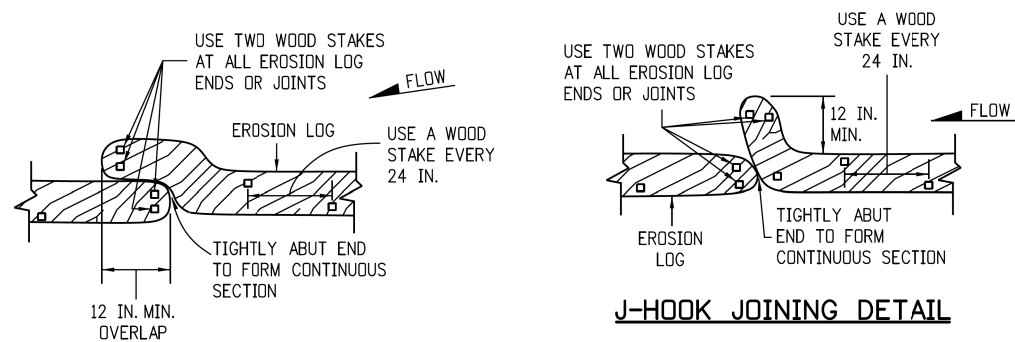
PLAN VIEW



SECTION C-C
(NOT ALL LOGS SHOWN)

NOTE: TOP OF STAKE SHALL NOT EXTEND PAST TOP OF EROSION LOG MORE THAN 2 IN.

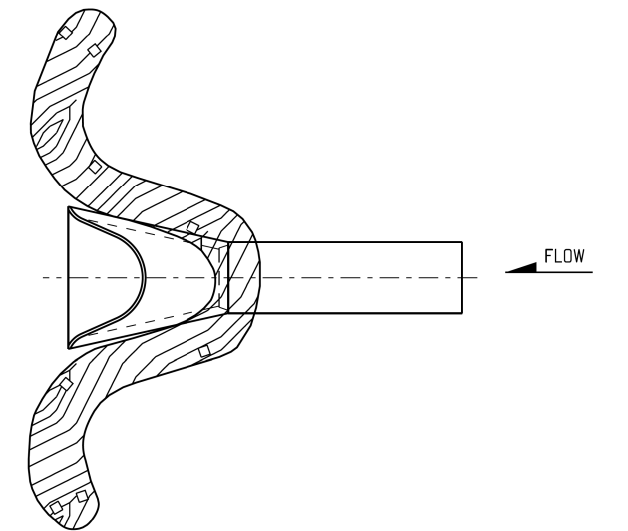
EROSION LOG CULVERT INLET PROTECTION



OVERLAP JOINING DETAIL

J-HOOK JOINING DETAIL

JOINING EROSION LOG APPLICATIONS



EROSION LOG CULVERT OUTLET PROTECTION

EROSION LOG APPLICATIONS

NOTE

1. STAKES SHALL BE INCLUDED IN THE COST OF THE EROSION LOGS.

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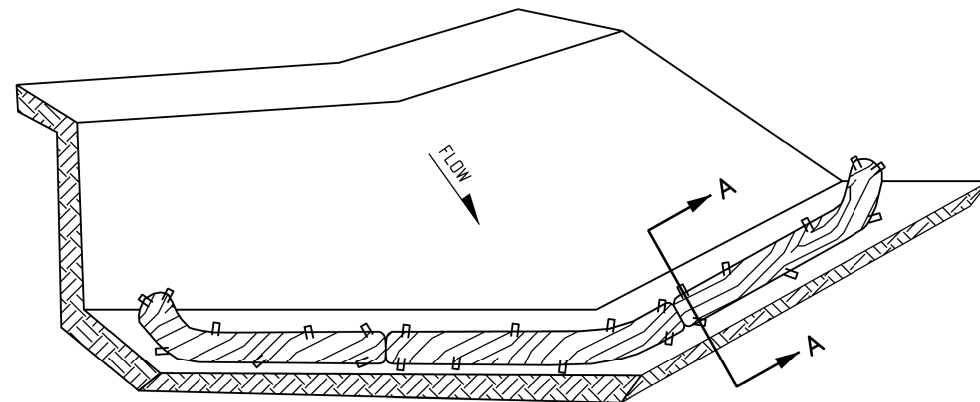
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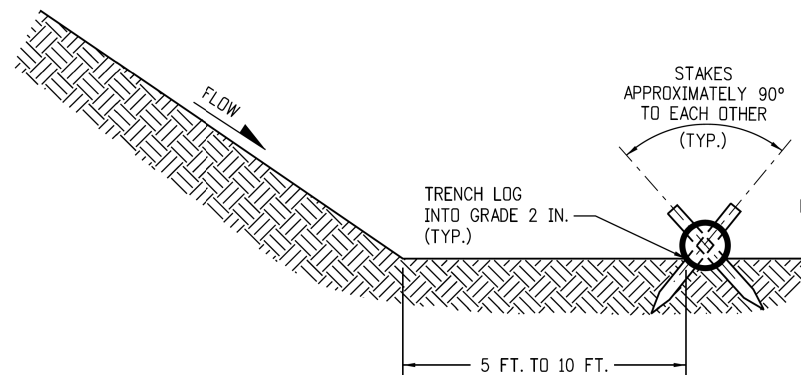
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ISOMETRIC VIEW



SECTION A-A

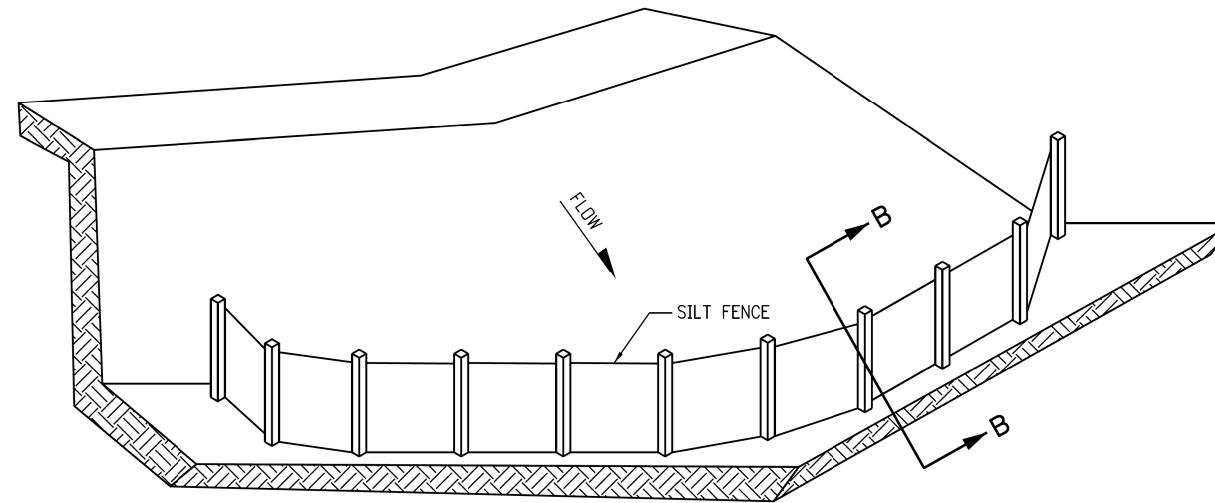
NOTE: THE TOPS OF ALL STAKES SHALL NOT EXTEND MORE THAN 2 INCHES ABOVE THE TOPS OF EROSION LOGS.

EROSION LOGS PAY ITEMS	
NUMBER	DESCRIPTION
208-00012	TYPE 1 (9 IN.)
208-00002	TYPE 1 (12 IN.)
208-00013	TYPE 1 (20 IN.)
208-00007	TYPE 2 (8 IN.)
208-00008	TYPE 2 (12 IN.)
208-00009	TYPE 2 (18 IN.)
208-00022	TYPE 3 (9 IN.)
208-00023	TYPE 3 (12 IN.)
208-00024	TYPE 3 (20 IN.)

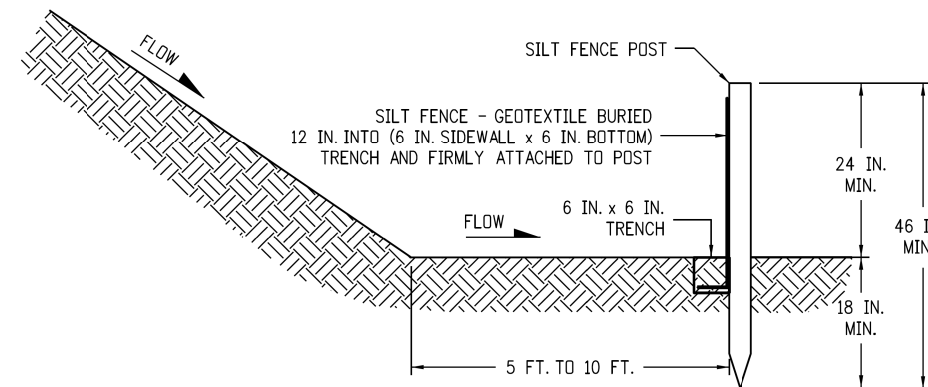
NOTES:

1. EROSION LOGS USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
2. EROSION LOGS SHALL BE PLACED ON THE CONTOUR WITH ENDS FLARED UP SLOPE.
3. SEE SHEET 2 OF 11 FOR JOINING LOGS DETAIL.

EROSION LOG TOE OF SLOPE PROTECTION



ISOMETRIC VIEW



SECTION B-B

SILT FENCE TOE OF SLOPE PROTECTION

NOTE: THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.

NOTES

1. SILT FENCE SHALL HAVE A MAXIMUM DRAINAGE AREA OF ONE-QUARTER ACRE PER 100 FEET OF SILT FENCE LENGTH; MAXIMUM SLOPE LENGTH BEHIND BARRIER IS 100 FEET.
2. SILT FENCE USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
3. SILT FENCE SHALL BE PLACED PARALLEL TO THE CONTOUR WITH ENDS FLARED UP SLOPE.
4. THE MAXIMUM LENGTH OF EROSION LOGS OR SILT FENCES WITHOUT A FLARED END TURNING UPSLOPE IS 150 FEET.

TOE OF SLOPE PROTECTION APPLICATIONS

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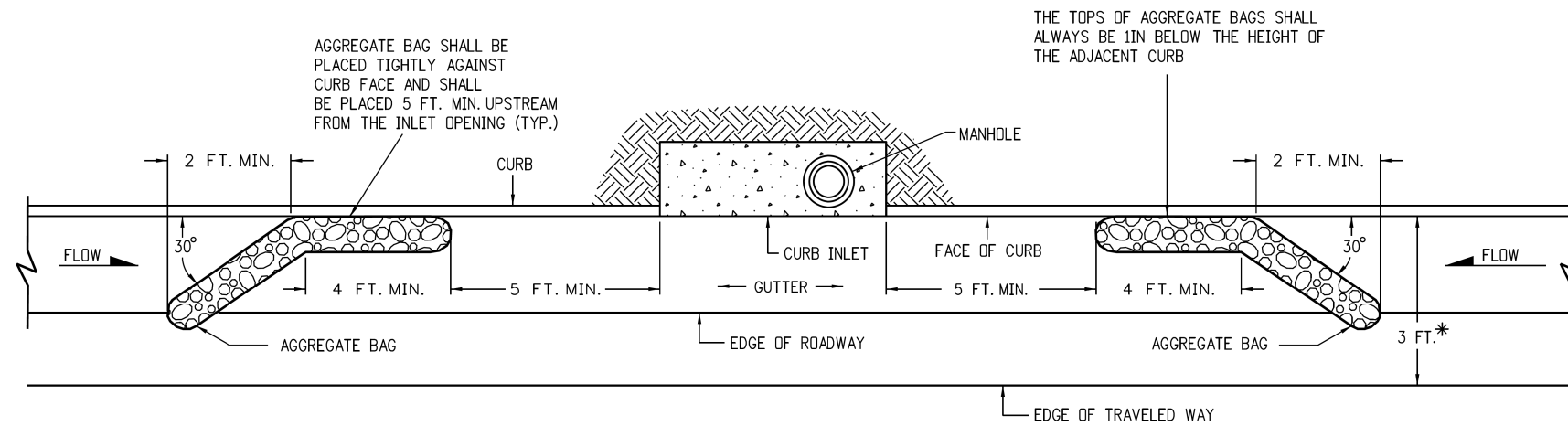
HIGHWAY 105 PROJECT A
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 CDOT M-STANDARDS

Designer: S. PARASPATKI
 Detailer: S. PARASPATKI
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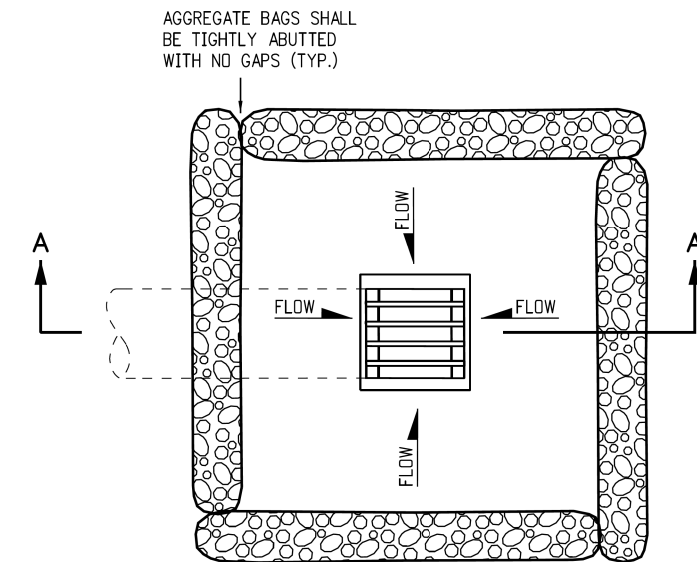


PLAN VIEW

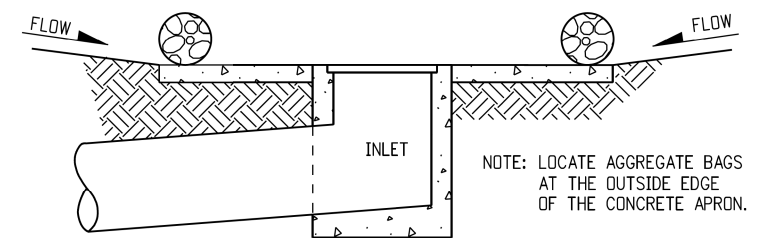
* NOTE: USE AGGREGATE BAGS ONLY WHEN THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY (INCLUDING CONDITIONS DURING DETOURS) TO THE FACE OF CURB.

LENGTH (L) OF INLET FT.	NUMBER OF AGGREGATE BAGS UPSTREAM OF INLET
0 - 5	1
6 - 10	2
L > 10	3

AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I)



PLAN VIEW



SECTION A-A

AGGREGATE BAGS AT DROP INLET

AGGREGATE BAG APPLICATIONS

NOTE: THE PAY ITEM NUMBER FOR AGGREGATE BAG (LF) IS 208-00035

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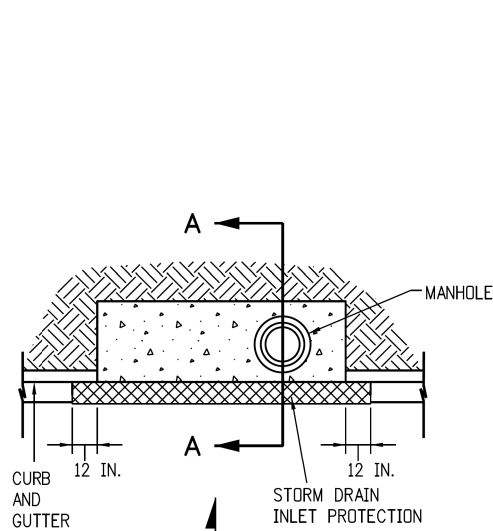
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STORMWATER MANAGEMENT PLAN
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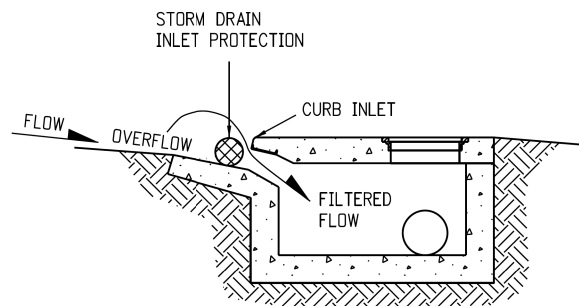
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PLAN VIEW

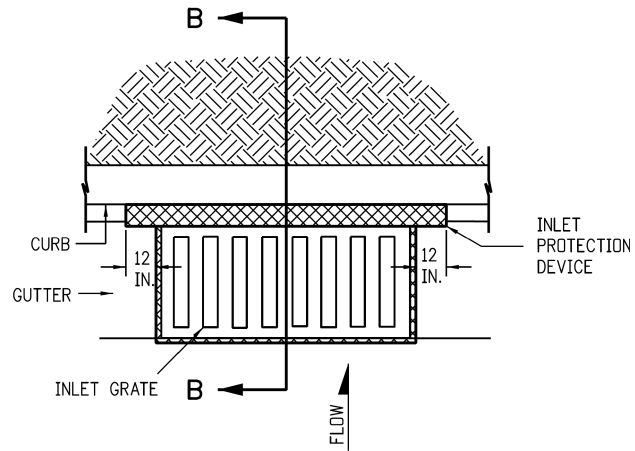


SECTION A-A

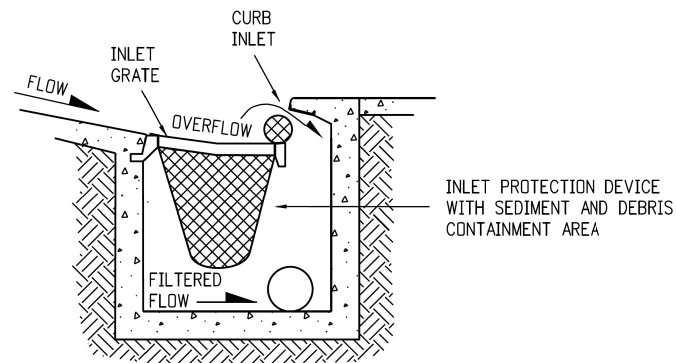
STORM DRAIN INLET PROTECTION (TYPE I)

NOTES:

1. INLET PROTECTION DEVICE SHALL EXTEND 12 INCHES PAST EACH END OF THE INLET.
2. THE PAY ITEM NUMBERS FOR STORM DRAIN INLET PROTECTION (TYPE I) ARE 208-00051 (LF), 208-00053 84 INCHES (EACH), 208-00057 144 INCHES (EACH), AND 208-00058 204 INCHES (EACH).
3. FOR STORM DRAIN INLET TYPES I AND II, IF THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY TO THE FACE OF CURB, USE THE AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I) DETAIL ON SHEET 4 INSTEAD.



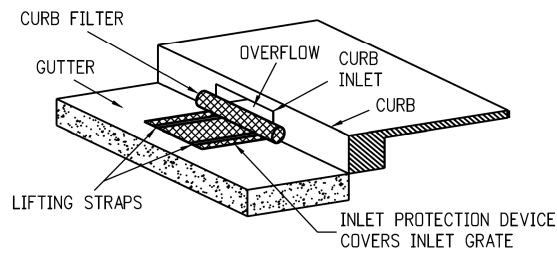
PLAN VIEW



SECTION B-B

OPTION A

STORM DRAIN INLET PROTECTION (TYPE II)

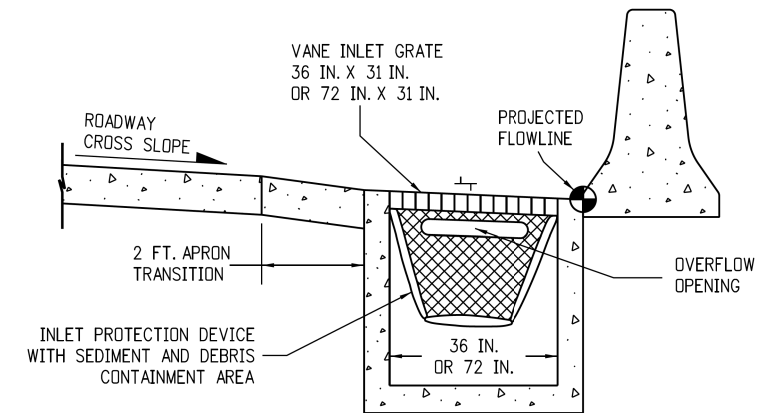


ISOMETRIC VIEW

OPTION B

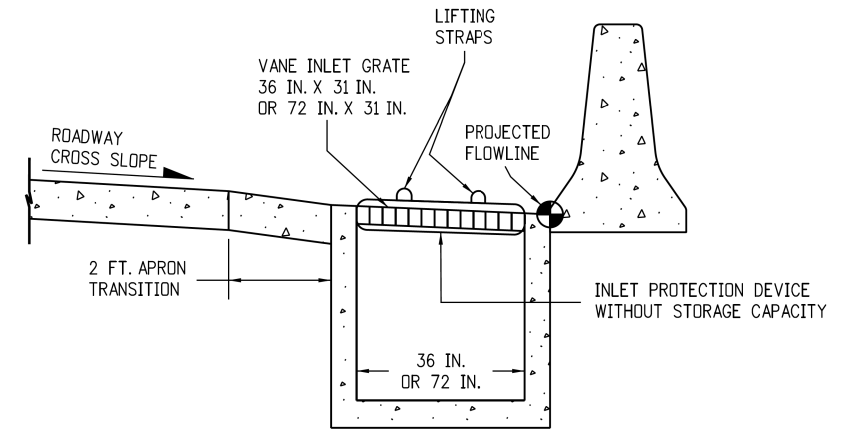
STORM DRAIN INLET PROTECTION (TYPE II)

NOTE: THE PAY ITEM NUMBERS FOR STORM DRAIN INLET PROTECTION (TYPE II) ARE 208-00054 (EACH).



OPTION A

STORM DRAIN INLET PROTECTION (TYPE III)



OPTION B

STORM DRAIN INLET PROTECTION (TYPE III)

NOTE: THE PAY ITEM NUMBER FOR STORM DRAIN INLET PROTECTION (TYPE III) (EACH) IS 208-00056.

STORM DRAIN INLET PROTECTION TYPES

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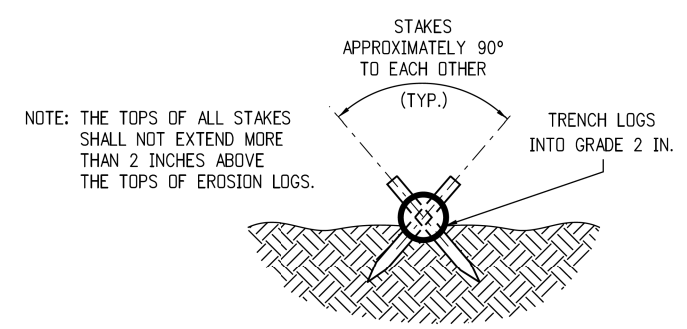
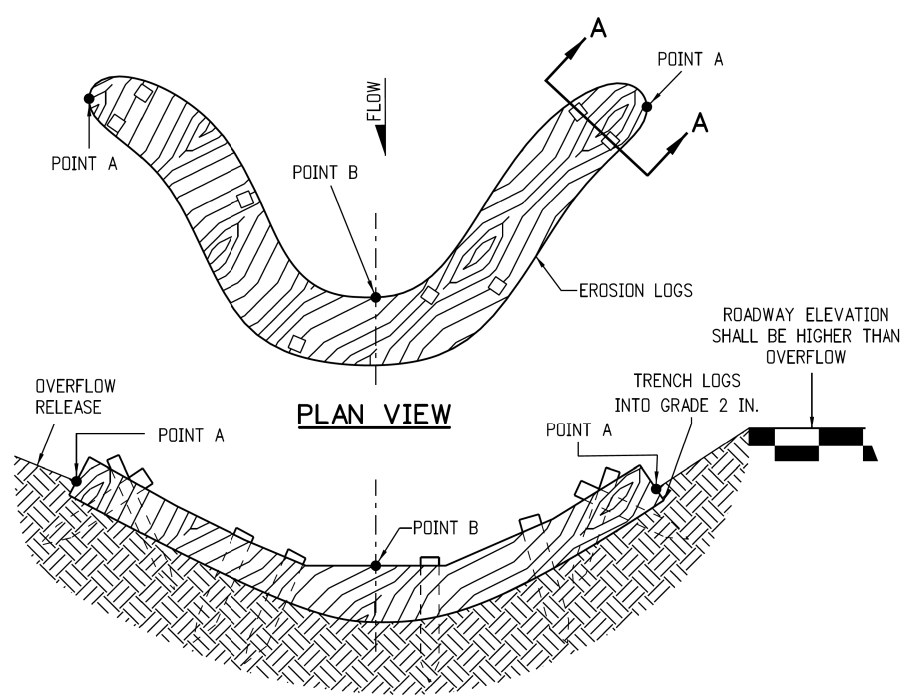
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STORMWATER MANAGEMENT PLAN
CDOT M-STANDARDS

Designer: S. PARASPATKI
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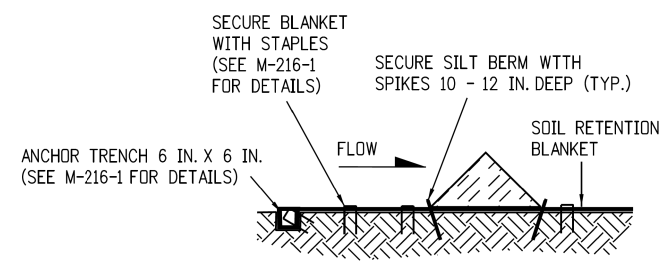
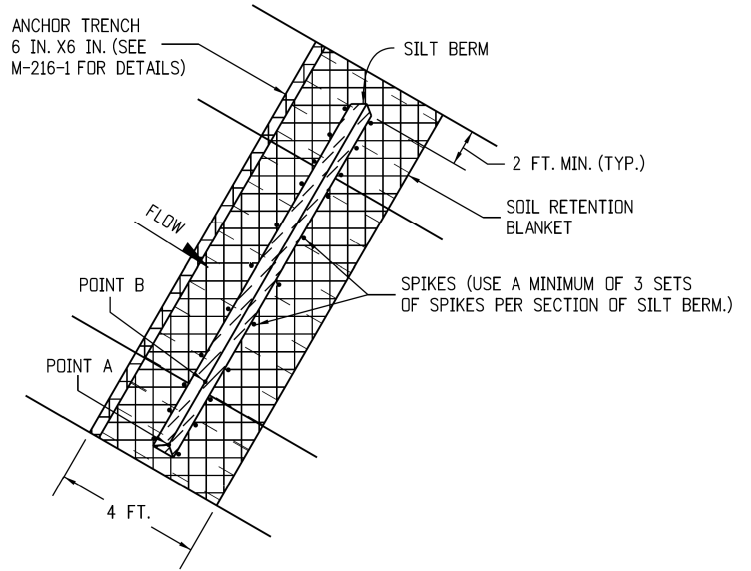
Structure Numbers
 Sheet Subset: M-STD
 Subset Sheets: 05 of 14

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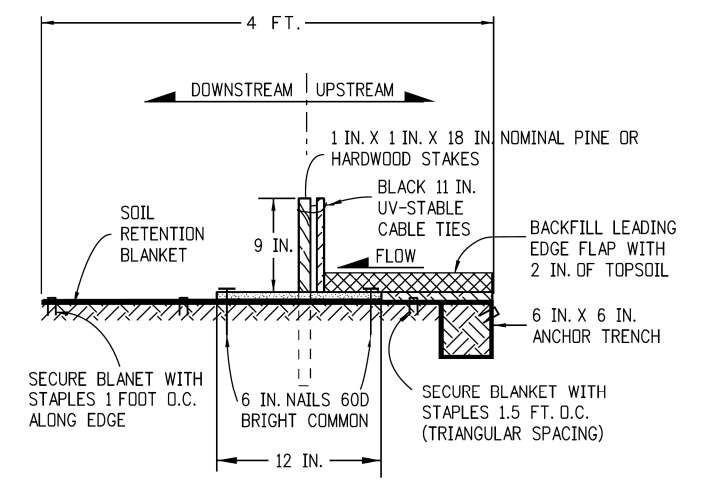


- NOTES:
1. EROSION LOGS SHALL BE EMBEDDED 2 INCHES INTO THE SOIL.
 2. EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.
 3. V-SHAPED TEMPORARY DITCHES SHALL NOT BE USED. DITCHES SHALL BE GRADED IN A PARABOLIC OR TRAPEZOIDAL SHAPE.

EROSION LOG INSTALLATION

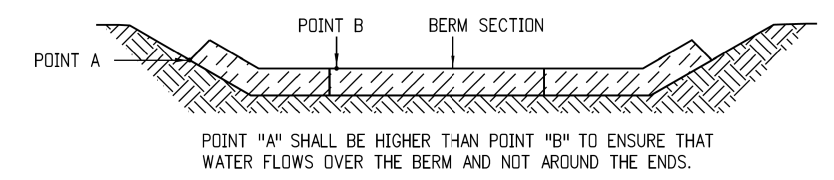


SILT BERM (1) SECTION VIEW



- NOTES:
1. MINIMUM 4 NAILS PER SEGMENT (UPSTREAM).
 2. MINIMUM 2 NAILS PER SEGMENT (DOWNSTREAM).
 3. MINIMUM 2 WOOD STAKES PER SEGMENT.

SILT BERM (2) SECTION VIEW



- NOTES
1. ANCHOR SOIL RETENTION BLANKET INTO TRENCH WITH 8 INCHES MIN. STAPLES PLACED AT 1 FOOT INTERVALS ALONG EDGE.
 2. FILL AND COMPACT TRENCH.
 3. SECTIONS OF THE SILT BERM SHALL BE OVERLAPPED WITH NO GAPS.
 4. FOR SLOPE AND CHANNEL SPACING SEE THE "SECTION VIEW ALONG DITCH FLOWLINE" DETAIL ON SHEET 11 OF 11.
 5. SOIL RETENTION BLANKET SHALL ALWAYS BE REQUIRED.
 6. THE PAY ITEM NUMBER FOR SILT BERM (LF) IS 208-00004.

SILT BERM INSTALLATION

DRAINAGE DITCH APPLICATIONS

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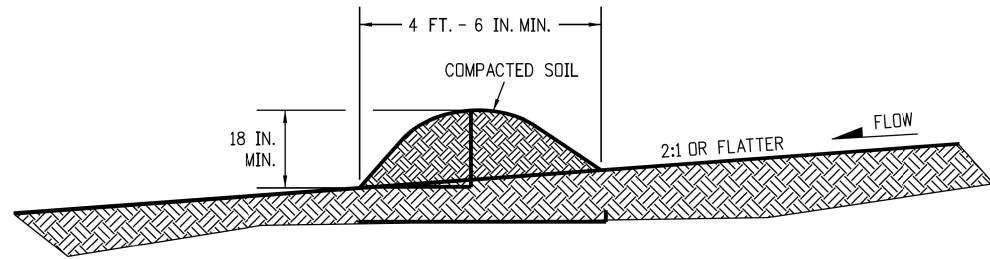
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HIGHWAY 105 PROJECT A STORMWATER MANAGEMENT PLAN CDOT M-STANDARDS	
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Detailer: S. PARASPATKI	
Sheet Subset: M-STD	Subset Sheets: 06 of 14

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Sheet Number 154 of 251

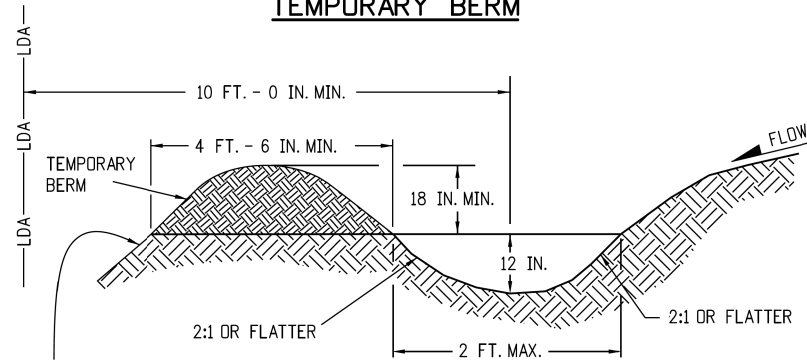
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NOTES:

1. BERMS SHALL HAVE A HEIGHT OF 18 INCHES, SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM BASE WIDTH OF 4 FT. - 6 IN.
2. BERMS SHALL BE USED TO INTERCEPT AND DIVERT DRAINAGE TO A DESIGNATED OUTLET.
3. BERMS SHALL NOT BE USED WHERE DRAINAGE AREA EXCEEDS 10 ACRES.
4. BERMS SHALL BE CONSTRUCTED OUT OF ACCEPTABLE MATERIAL THAT CAN BE COMPACTED AND RECEIVE AT A MINIMUM HEAVY EQUIPMENT WHEEL ROLLED COMPACTION.
5. TEMPORARY BERMS SHALL BE CONSTRUCTED OUT OF EMBANKMENT (SUBSOIL) AND IN NO CIRCUMSTANCE CONSTRUCTED OUT OF SALVAGED TOPSOIL.
6. THE PAY ITEM NUMBER FOR TEMPORARY BERM (LF) IS 208-00300.

TEMPORARY BERM

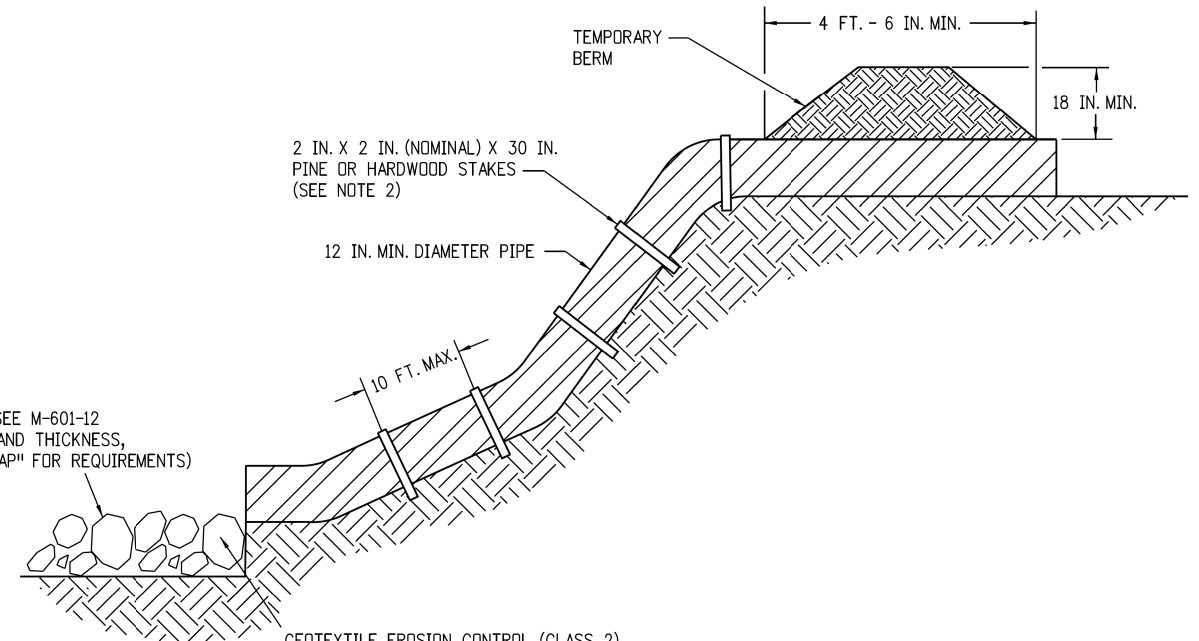


FOR BERMS TALLER THAN 2 FT.,
INSTALL TOE OF SLOPE CONTROL MEASURES.
SEE SHEET 3 OF 11 FOR DETAILS.

NOTES:

1. TEMPORARY DIVERSION DITCHES SHALL BE CONSTRUCTED ACROSS THE SLOPE TO INTERCEPT RUNOFF AND DIRECT IT TO A STABLE OUTLET OR SEDIMENT TRAP.
2. USE THE TEMPORARY DIVERSION DITCH IMMEDIATELY ABOVE A NEW CUT, FILL SLOPE, OR AROUND THE PERIMETER OF A DISTURBED AREA.
3. THE GRADIENT ALONG THE FLOW PATH SHALL HAVE A POSITIVE GRADE TO ASSURE DRAINAGE, BUT SHALL NOT BE SO STEEP AS TO RESULT IN EROSION DUE TO HIGH VELOCITY.
4. THE DIVERSION FLOWLINE SHALL ALWAYS BE LOCATED A MINIMUM 10 FEET FROM THE OUTSIDE LIMITS OF DISTURBED AREA BOUNDARY.
6. DIVERSION BERMS SHALL BE CONSTRUCTED OUT OF EMBANKMENT (SUBSOIL) AND IN NO CIRCUMSTANCE CONSTRUCTED OUT OF SALVAGED TOPSOIL.
5. THE PAY ITEM NUMBER FOR TEMPORARY DIVERSION (LF) IS 208-00301.

TEMPORARY DIVERSION



* RIPRAP OUTLET PROTECTION (SEE M-601-12 FOR MIN. HORIZONTAL LAYOUT AND THICKNESS, AND SPECIFICATION 506 "RIPRAP" FOR REQUIREMENTS)

* RIPRAP SIZE $D_{50} = 6$ IN. OR AS SHOWN ON THE PLANS.

GEOTEXTILE EROSION CONTROL (CLASS 2) SHALL ALWAYS BE REQUIRED

NOTES:

1. ANCHOR SIZE VARIES ACCORDING TO PIPE SIZE
2. TO SECURE THE PIPE, DRIVE STAKES INTO GROUND, THEN TIE A 12 GAUGE WIRE BETWEEN THEM ABOVE AND ACROSS THE PIPE'S WIDTH.
3. THE OUTLET SHALL BE ALIGNED WITH THE FLOW DIRECTION OF THE EXISTING GRADE. PERPENDICULAR DISCHARGE TO A CHANNEL SHALL NOT BE ACCEPTABLE.
4. THE GRADE AROUND THE INLET TO THE PIPE SHALL BE COMPACTED.
5. THE PAY ITEM NUMBER FOR TEMPORARY SLOPE DRAINS (LF) IS 208-00060.

TEMPORARY SLOPE DRAINS

GRADING APPLICATIONS

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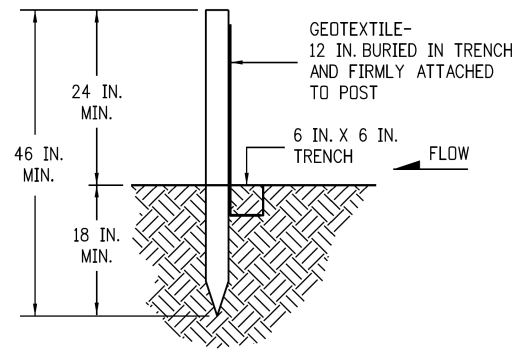
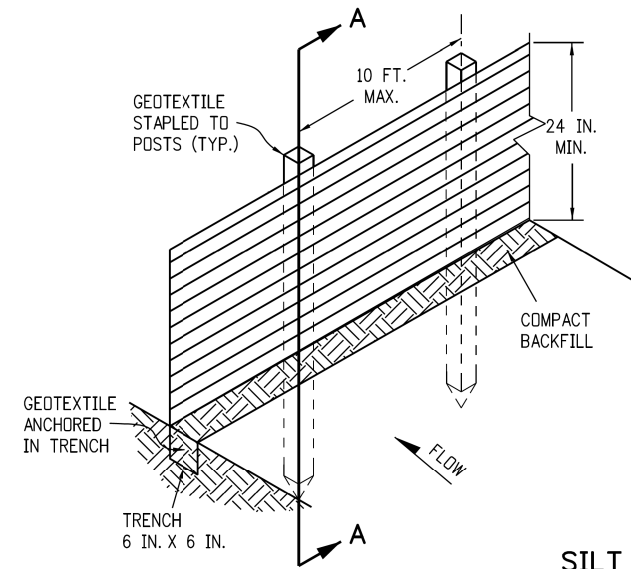
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HIGHWAY 105 PROJECT A STORMWATER MANAGEMENT PLAN CDOT M-STANDARDS		
Designer: S. PARASPATKI	Structure Numbers	
Detailer: S. PARASPATKI		
Sheet Subset: M-STD	Subset Sheets: 07 of 14	

Project No./Code	19734
	STA 105A-014
Sheet Number	155 of 251

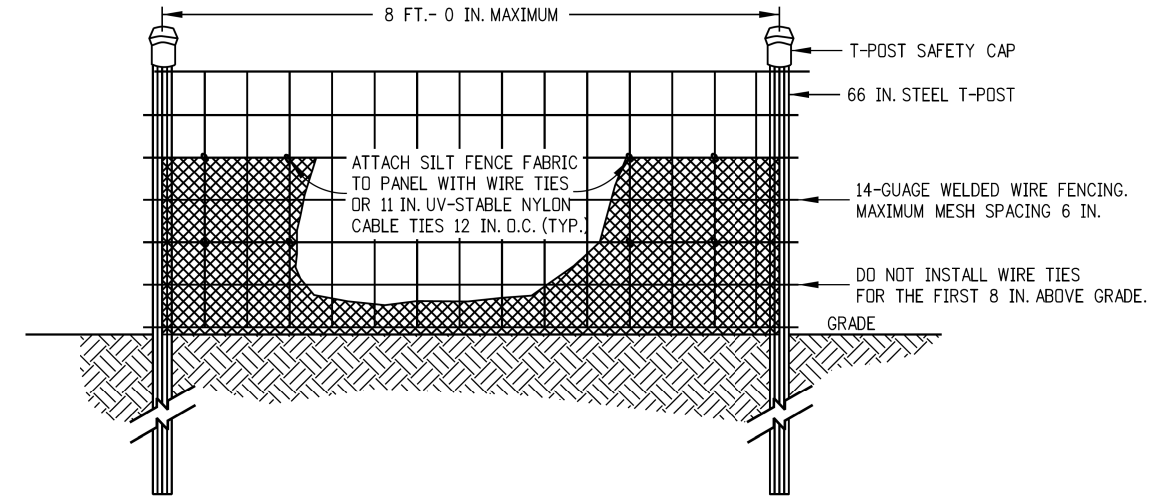


SECTION A-A

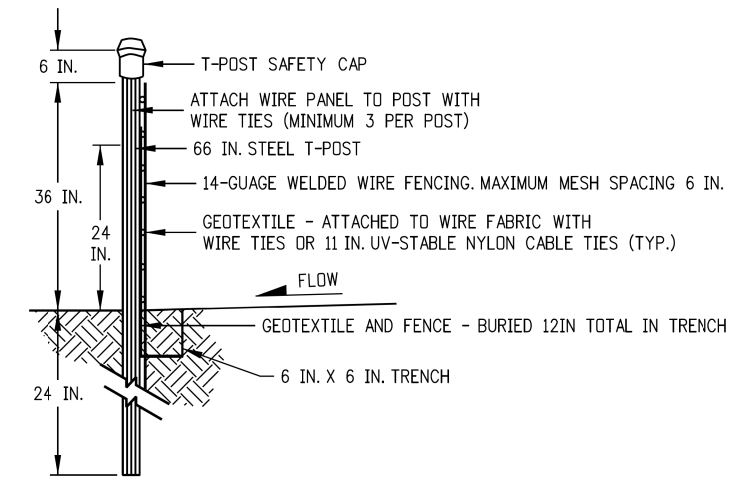
SILT FENCE

NOTES:

1. GEOTEXTILE SHALL BE ATTACHED TO WOOD POSTS WITH THREE OR MORE STAPLES PER POST. STAPLES SHALL BE HEAVY DUTY WIRE AND AT LEAST 1 INCH LONG.
2. WOOD POST SHALL BE 1 IN. X 1 IN. NOMINAL.
3. THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.
4. THE SILT FENCE SHALL BE PLACED ON THE CONTOUR (AT THE SAME ELEVATION ±6 IN.). THE ENDS SHALL BE FLARED UP SLOPE (MINIMUM ELEVATION GAIN OF 18 IN.).



ELEVATION VIEW

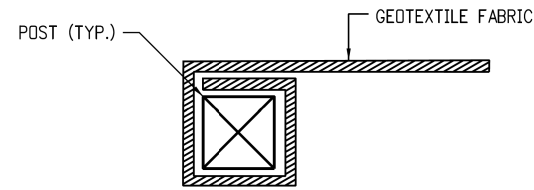


SIDE VIEW

NOTES:

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A STEEL T-POST, THEN SECURED ALONG THE POST WITH WIRE TIES (MINIMUM 3 PER POST).
2. POSTS SHALL BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.
3. SILT FENCES SHALL NOT BE USED FOR CHECK DAMS.
4. THE PAY ITEM NUMBER FOR SILT FENCE (REINFORCED) (LF) IS 208-00021.

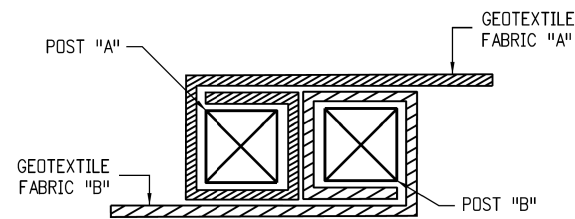
SILT FENCE (REINFORCED)



END SECTION DETAIL (PLAN VIEW)

NOTE:

1. THE END OF THE SILT FENCE FABRIC SHALL BE WRAPPED APPROX. 6 INCHES AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.



JOINING SECTION DETAIL (PLAN VIEW)

NOTES:

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.
2. POSTS SHALL BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.

SILT FENCE APPLICATIONS

Print Date: 10/3/2022
 File Name: 19734DES_SWMP_M Standards.dgn
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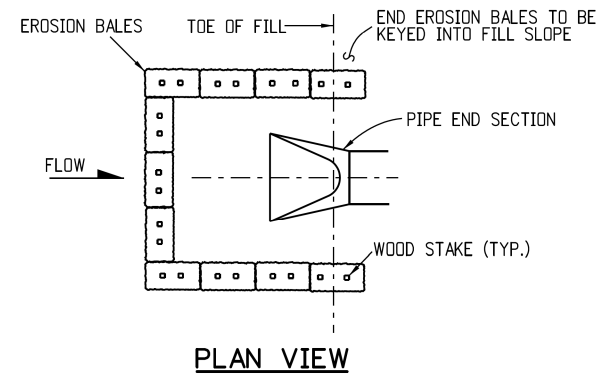
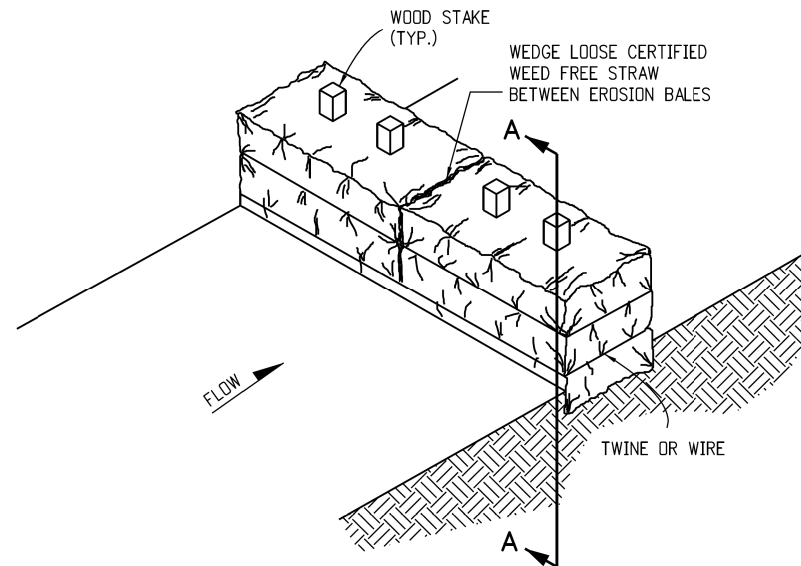
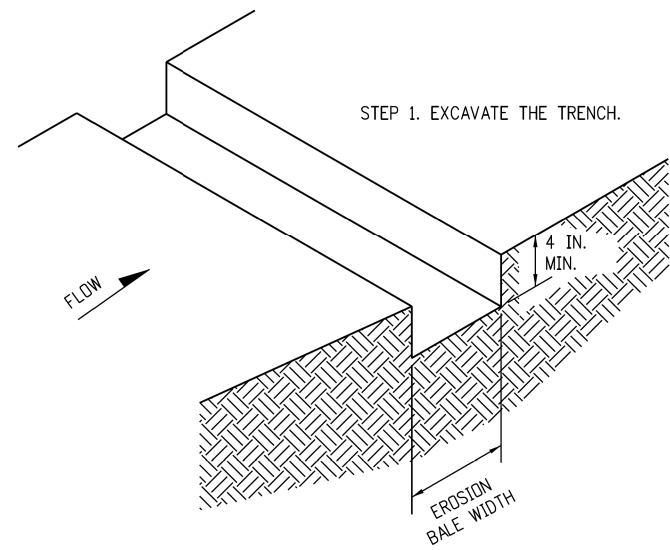
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 CO S.F. Region 02

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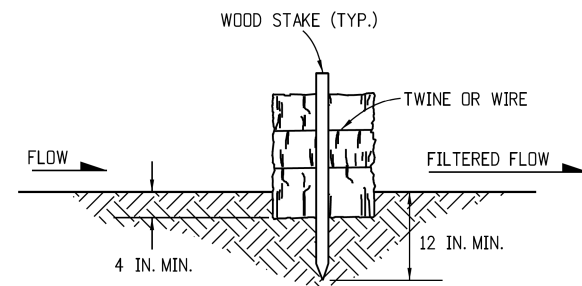
HIGHWAY 105 PROJECT A STORMWATER MANAGEMENT PLAN CDOT M-STANDARDS	
Designer: S. PARASPATKI	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: M-STD	Subset Sheets: 08 of 14

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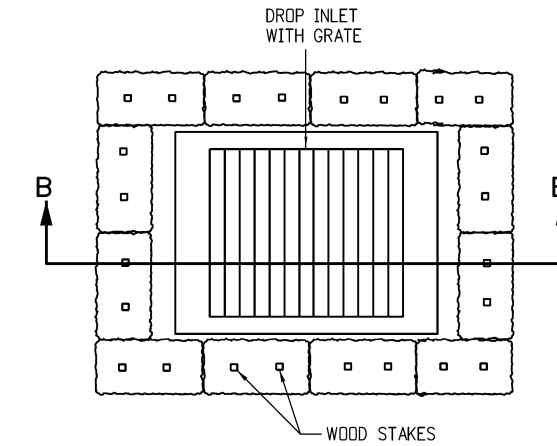
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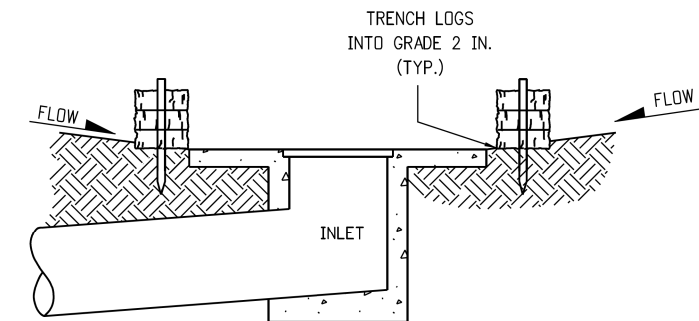
EROSION BALE CULVERT INLET PROTECTION



EROSION BALE TRENCHING AND STAKING



PLAN VIEW



SECTION B-B

NOTE: LOCATE EROSION BALES AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

EROSION LOG FILTER AT DROP INLET

NOTES

1. STAKES SHALL BE WOOD AND SHALL BE 2 IN. X 2 IN. X 30 IN. NOMINAL.
2. EROSION BALES SHALL BE 18 IN. X 18 IN. X 36 IN.
3. EROSION BALES SHALL BE ENTRENCHED 4 IN. MINIMUM INTO THE SOIL, THIGHTLY ABUTTED WITH NO GAPS, STAKED, AND BACKFILLED AROUND THE ENTIRE OUTSIDE PERIMETER.
4. EROSION BALES CANNOT BE USED FOR CHECK DAMS.
5. EROSION BALE FILTER SHALL BE LOWER THAN BERM ELEVATION OR USED IN A SUMP CONDITION.
6. THE PAY ITEM NUMBER FOR EROSION BALES (WEED FREE) (EA) IS 208-00011.

EROSION BALE APPLICATIONS

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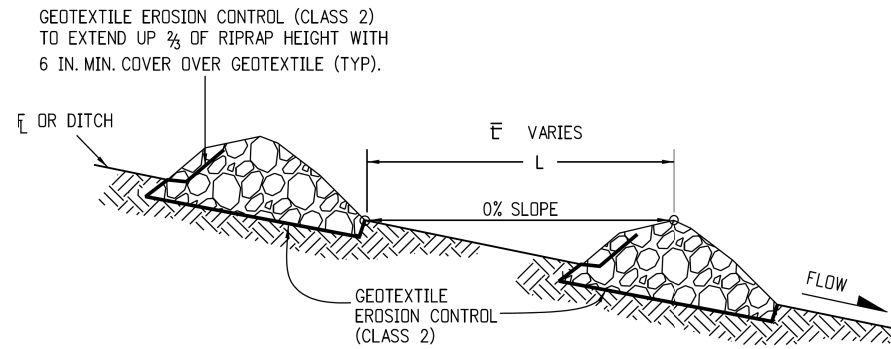
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Detailer: S. PARASPATKI	
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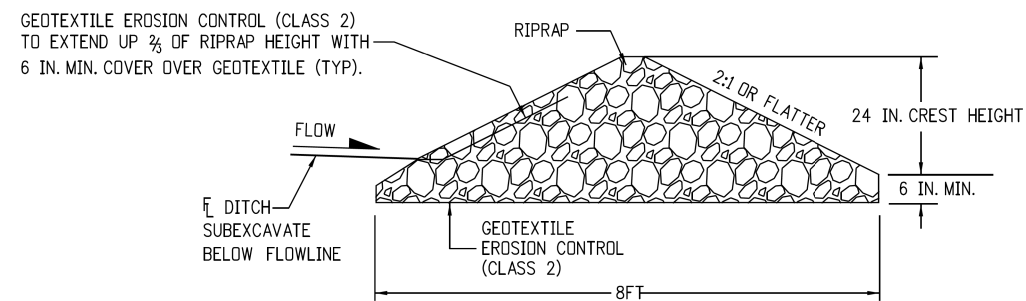
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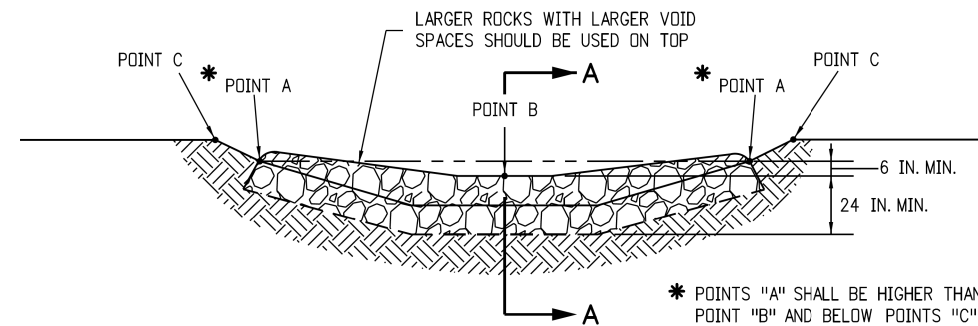
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SECTION VIEW ALONG DITCH FLOWLINE



SECTION A-A



TYPICAL SECTION VIEW

NOTES:

1. RIPRAP SIZE D_{50} = 6IN OR AS SHOWN ON THE PLANS.
2. THE GEOTEXTILE EROSION CONTROL SHALL BE CLASS 2 AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 712.08.
3. THE ENDS OF RIPRAP CHECK DAM SHALL BE A MINIMUM OF 6 IN. HIGHER THAN CENTER OF CHECK DAM.
4. FOR USE AS TEMPORARY CHECK DAMS ONLY AND NOT FOR PERMANENT INSTALLATIONS.
5. THE PAY ITEM NUMBER FOR ROCK CHECK DAM (EA) IS 208-00041.

NOTE: ALL MATERIALS AND LABOR TO COMPLETE THE ROCK CHECK DAM SHALL BE INCLUDED IN THE COST OF WORK.

ROCK CHECK DAM

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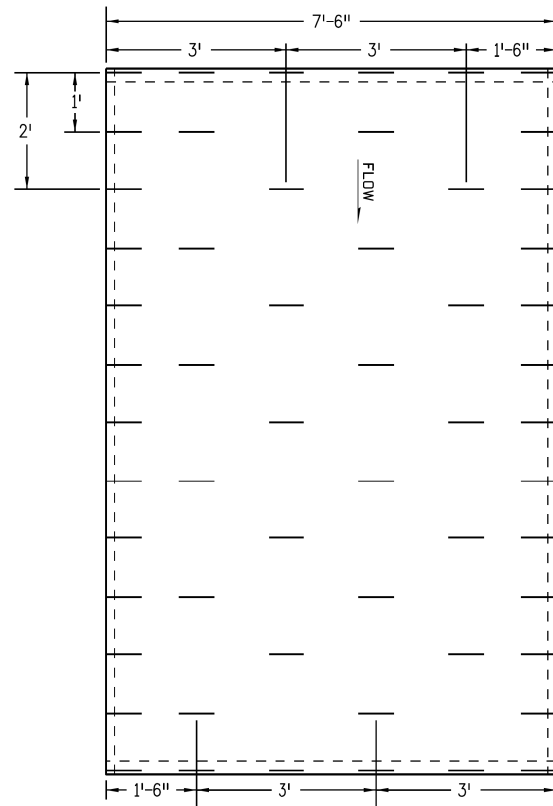
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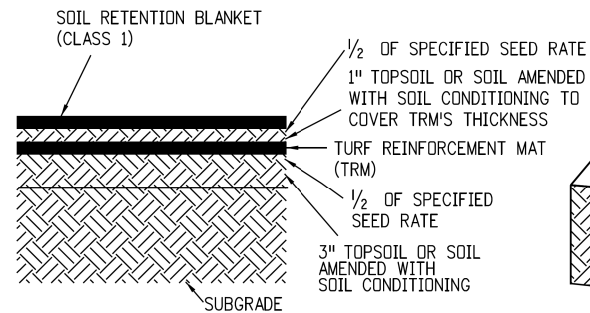
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Designer: S. PARASPATKI	Structure Numbers
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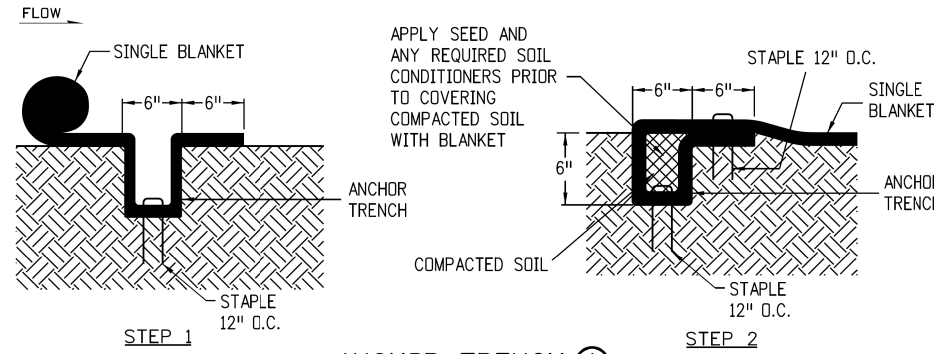
TYPICAL STAPLE PATTERN FOR CHANNEL APPLICATION

SEE SUBSECTION 216.05.



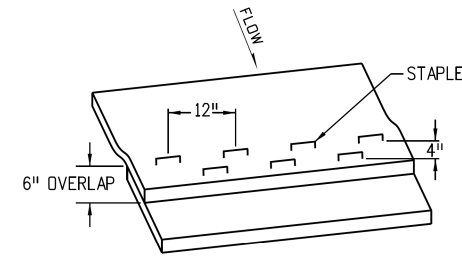
SOIL FILLED TRM APPLICATION

1. PLACE 3" TOPSOIL OR SOIL AMENDED WITH SOIL CONDITIONING.
2. APPLY HALF OF THE SPECIFIED SEED AT THE BROADCAST RATE AND RAKE IT INTO THE SOIL.
3. INSTALL TRM.
4. PLACE 1" TOPSOIL OR SOIL AMENDED WITH SOIL CONDITIONING INTO THE MATRIX TO COVER THE PRODUCT'S THICKNESS.
5. APPLY THE REMAINING HALF OF THE SPECIFIED SEED AT THE BROADCAST RATE AND RAKE IT INTO THE SOIL.
6. INSTALL SOIL RETENTION BLANKET (CLASS 1).



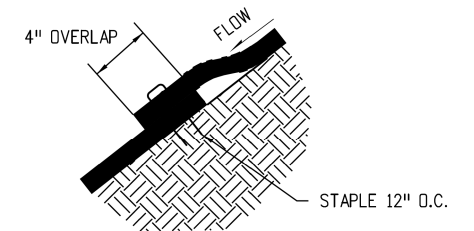
ANCHOR TRENCH (A)

TO BE USED AT THE BEGINNING AND END OF THE CHANNEL ACROSS IT'S ENTIRE WIDTH.



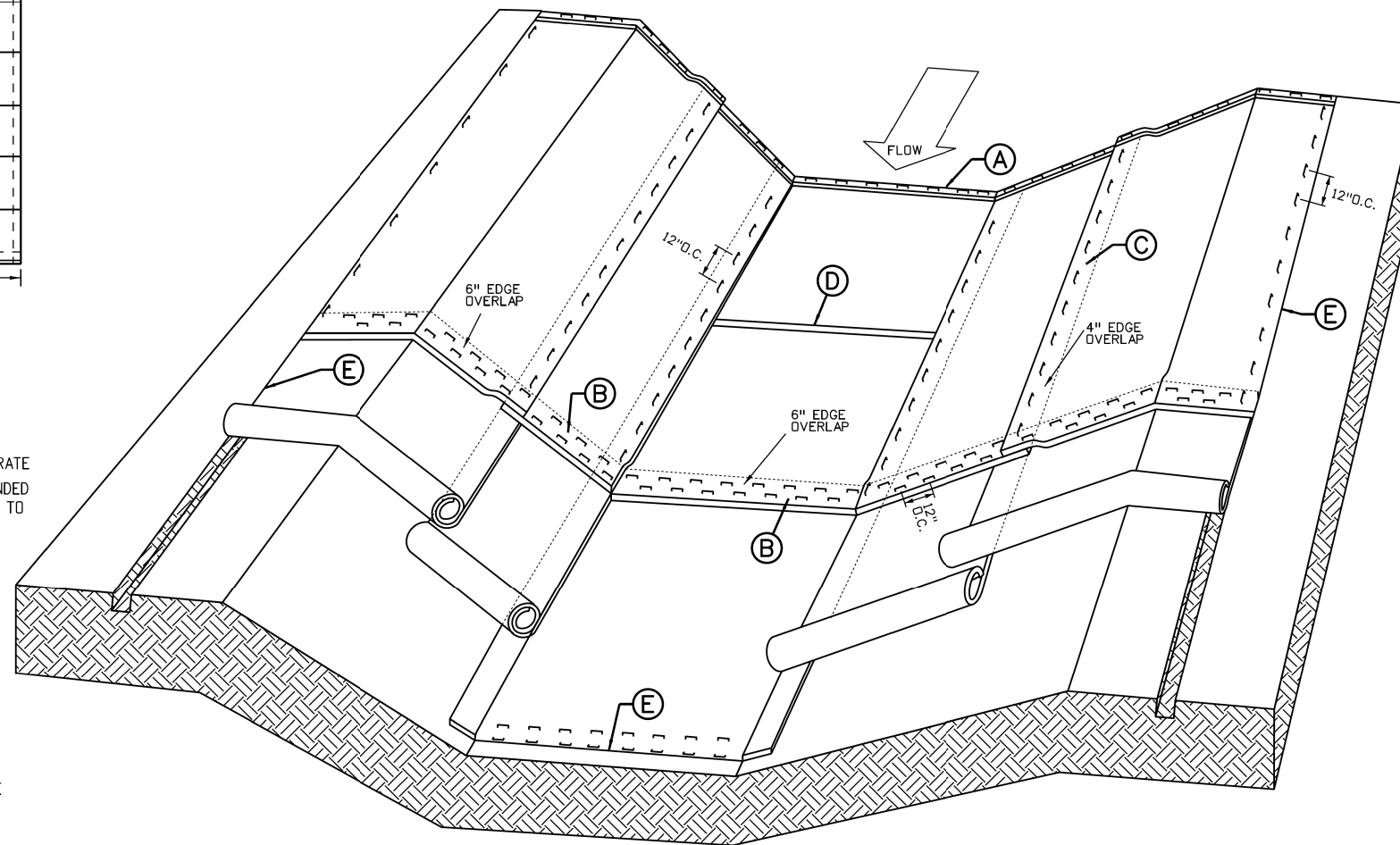
CONSECUTIVE ROLL OVERLAP (B)

TO BE USED WHEREVER ONE ROLL OF BLANKET ENDS AND ANOTHER BEGINS WITH UPSTREAM BLANKET PLACED ON TOP OF THE BLANKET ON THE DOWNSTREAM SIDE.



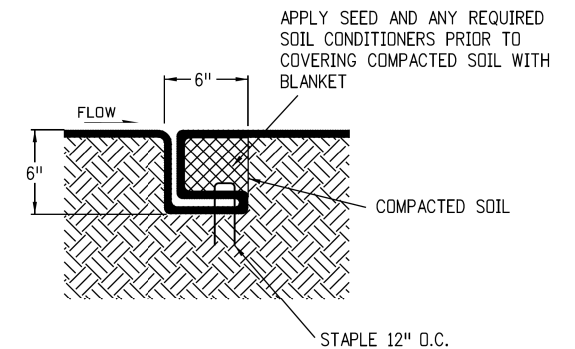
SIDE SEAM OVERLAP (C)

TO BE USED FOR OVERLAP WHEN 2 WIDTHS OF BLANKET ARE APPLIED SIDE BY SIDE WITH THE UPHILL BLANKET PLACED ON TOP OF THE BLANKET ON THE DOWNHILL SIDE.



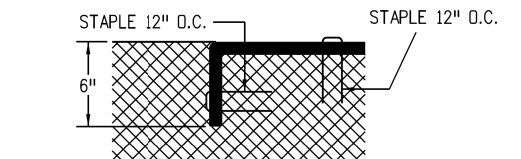
SOIL RETENTION BLANKETS/TURF REINFORCEMENT MATS (TRM) CHANNEL APPLICATION

IN ACCORDANCE WITH SECTION 216.



CHANNEL CHECK SLOT (D)

TO BE USED AT 30' INTERVALS IN CHANNEL FLOWLINE.



TERMINATION OF CHANNEL (E)

GENERAL NOTES

1. Z SHAPED FOLD TO BE USED ON SLOPE EVERY 35 FEET MAXIMUM.
2. STAPLE CHECK LOCATIONS SHOULD BE AT LEAST 15 FEET FROM THE BOTTOM OF SLOPE.

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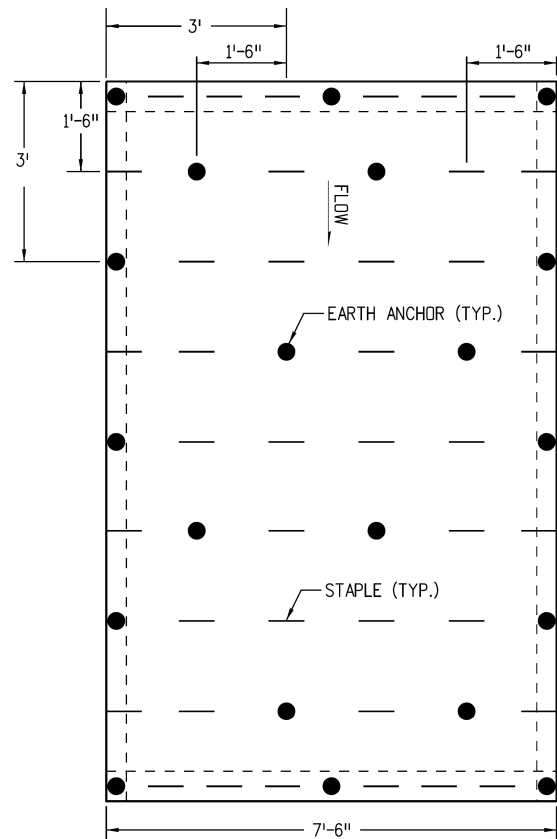
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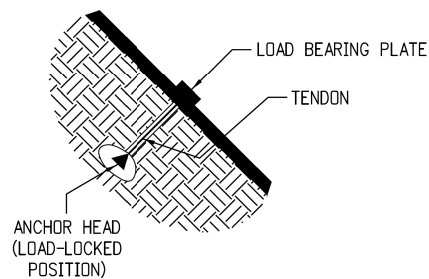
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Designer: S. PARASPATKI	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: M-STD	Subset Sheets: 11 of 14

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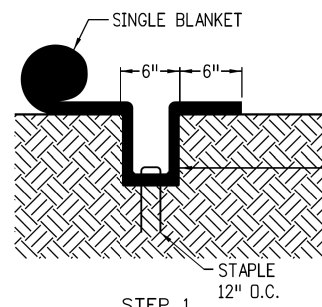
TYPICAL STAPLE OR EARTH ANCHOR PATTERN FOR SLOPE APPLICATION

IF EARTH ANCHORS ARE NOT SPECIFIED ON THE PLANS, ONLY STAPLES SHALL BE USED. SEE SUBSECTION 216.04

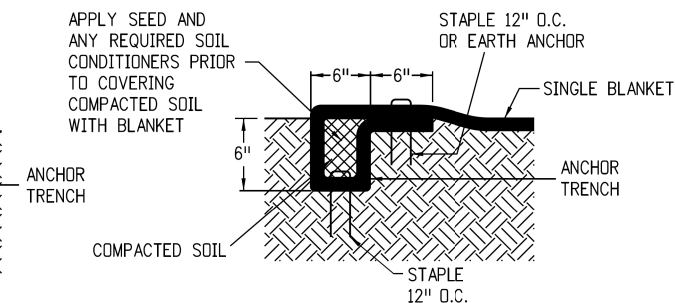


EARTH ANCHOR

- NOTES:
1. EARTH ANCHORS WILL BE USED INSTEAD OF STAPLES WHEN SPECIFIED IN THE PLANS.
 2. EARTH ANCHORS SHALL BE PAID FOR SEPERATLY AS SPECIFIED IN SECTION 216.



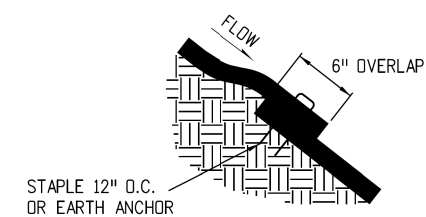
STEP 1



STEP 2

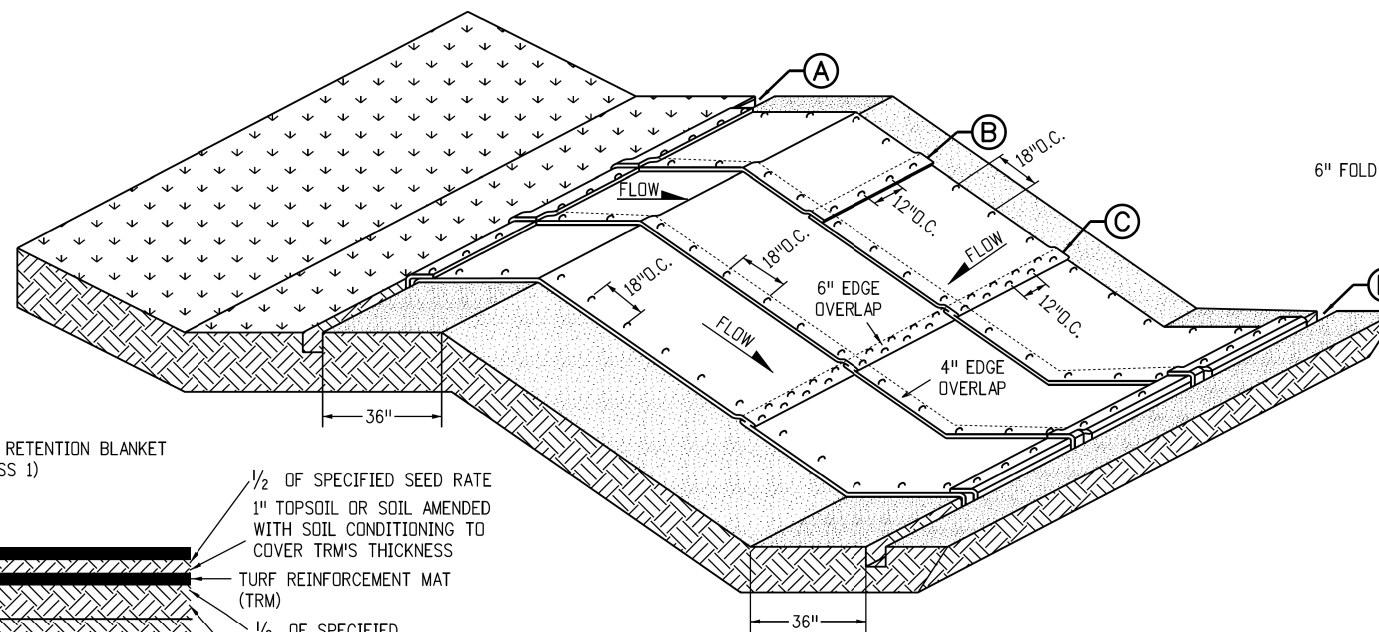
ANCHOR TRENCH (A)

TO BE USED AT THE UPSLOPE AND DOWNSLOPE ENDS OF BLANKET ACROSS THE ENTIRE WIDTH OF SLOPE UNLESS SLOPE RUNS INTO RECEIVING WATER. (SEE DOWNSLOPE END STAPLE CHECK).



CONSECUTIVE ROLL OVERLAP (B)

TO BE USED WHEREVER ONE ROLL OF BLANKET ENDS AND ANOTHER BEGINS WITH THE UPHILL BLANKET PLACED ON TOP OF THE BLANKET ON THE DOWNHILL SIDE.

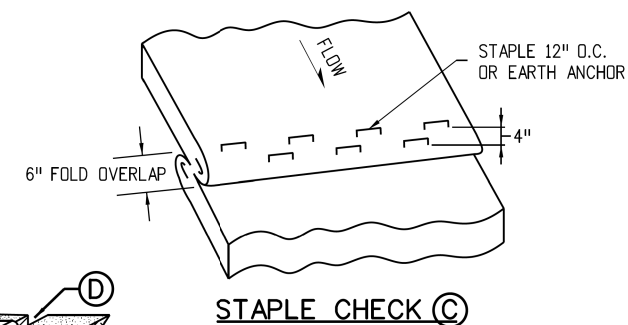


SOIL RETENTION BLANKETS/TURF REINFORCEMENT MATS (TRM) SLOPE APPLICATION

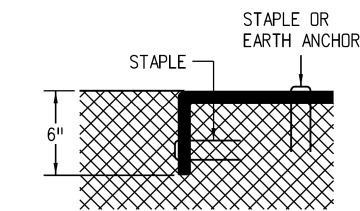
IN ACCORDANCE WITH SECTION 216.

SOIL FILLED TRM APPLICATION

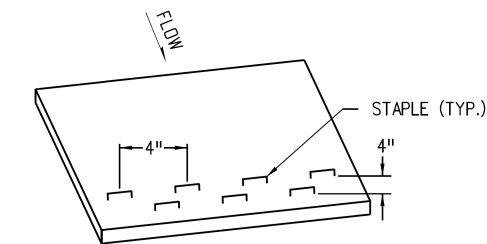
1. PLACE 3" TOPSOIL OR SOIL AMENDED WITH SOIL CONDITIONING.
2. APPLY HALF OF THE SPECIFIED SEED AT THE BROADCAST RATE AND RAKE IT INTO THE SOIL.
3. INSTALL TRM.
4. PLACE 1" TOPSOIL OR SOIL AMENDED WITH SOIL CONDITIONING INTO THE MATRIX TO COVER THE PRODUCT'S THICKNESS.
5. APPLY THE REMAINING HALF OF THE SPECIFIED SEED AT THE BROADCAST RATE AND RAKE IT INTO THE SOIL.
6. INSTALL SOIL RETENTION BLANKET (CLASS 1).



STAPLE CHECK (C)



TERMINATION OF CHANNEL (D)



DOWNSLOPE END STAPLE CHECK

TO BE USED WHEN SLOPE RUNS INTO A RECEIVING WATER AND CANNOT BE EXTENDED 3 FEET BEYOND SLOPE.

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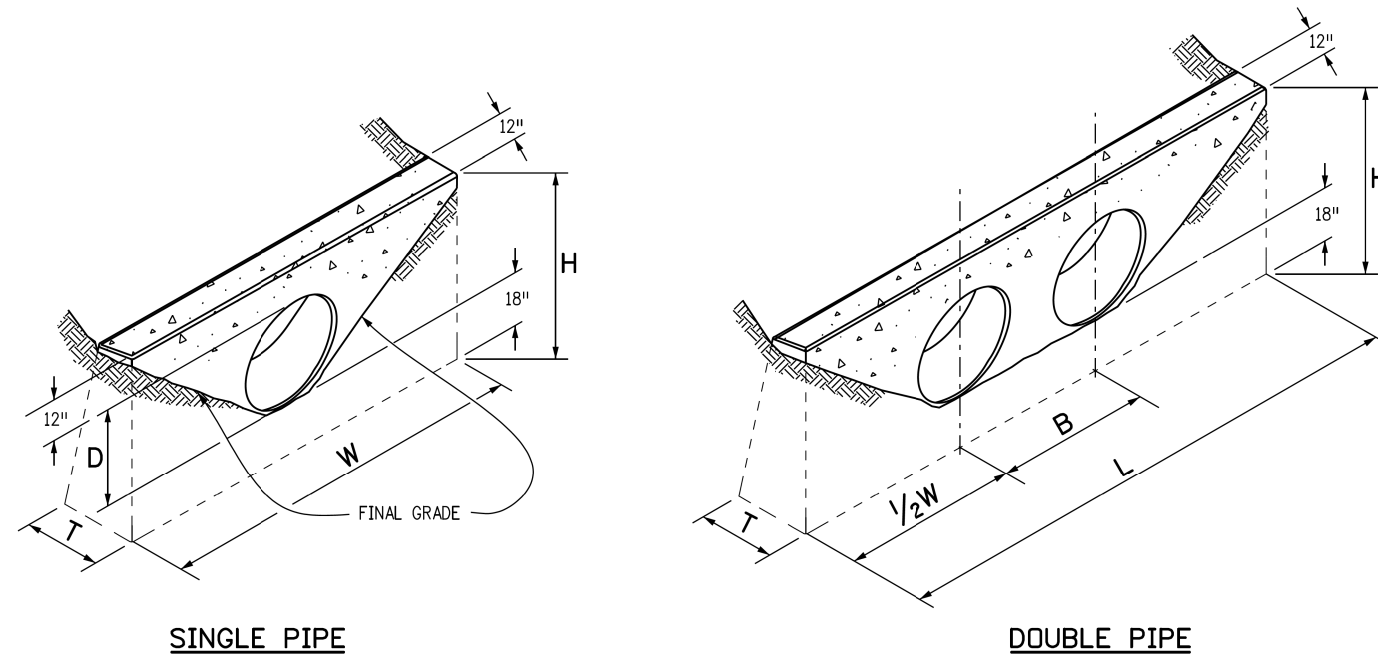
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HIGHWAY 105 PROJECT A STORMWATER MANAGEMENT PLAN CDOT M-STANDARDS

Designer: S. PARASPATKI
 Detailer: S. PARASPATKI

Structure Numbers
 Sheet Subset: M-STD Subset Sheets: 12 of 14

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SINGLE PIPE

DOUBLE PIPE

CONCRETE HEADWALL INSTALLATIONS
SEE STANDARD PLAN M-601-10 FOR REINFORCING DETAILS.

PIPE		PIPE DIAMETER (AND EQUIVALENT DIAMETER) (IN.)											
		18		24		30		36		42		48	
TYPE	MATERIAL	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE	SINGLE	DOUBLE
CIRCULAR	RIGID	1.0	1.3	1.5	2.0	2.0	2.7	2.8	3.6	3.6	4.6	4.6	6.0
	FLEXIBLE	1.1	1.4	1.6	2.1	2.2	3.0	3.0	4.0	3.9	5.3	5.0	6.8
ELLIPTICAL	RIGID	23 x 14		30 x 19		38 x 24		45 x 29		53 x 34		60 x 38	
		0.9	1.2	1.3	1.6	1.7	2.2	2.3	2.9	2.9	3.7	3.5	4.4
ARCH	METAL	22 x 13		29 x 18		36 x 22		43 x 27		50 x 31		58 x 36	
		0.9	1.3	1.4	1.9	1.8	2.4	2.4	3.4	3.2	4.4	3.4	5.0

CONCRETE QUANTITIES FOR ONE CONCRETE HEADWALL (CUBIC YARDS)

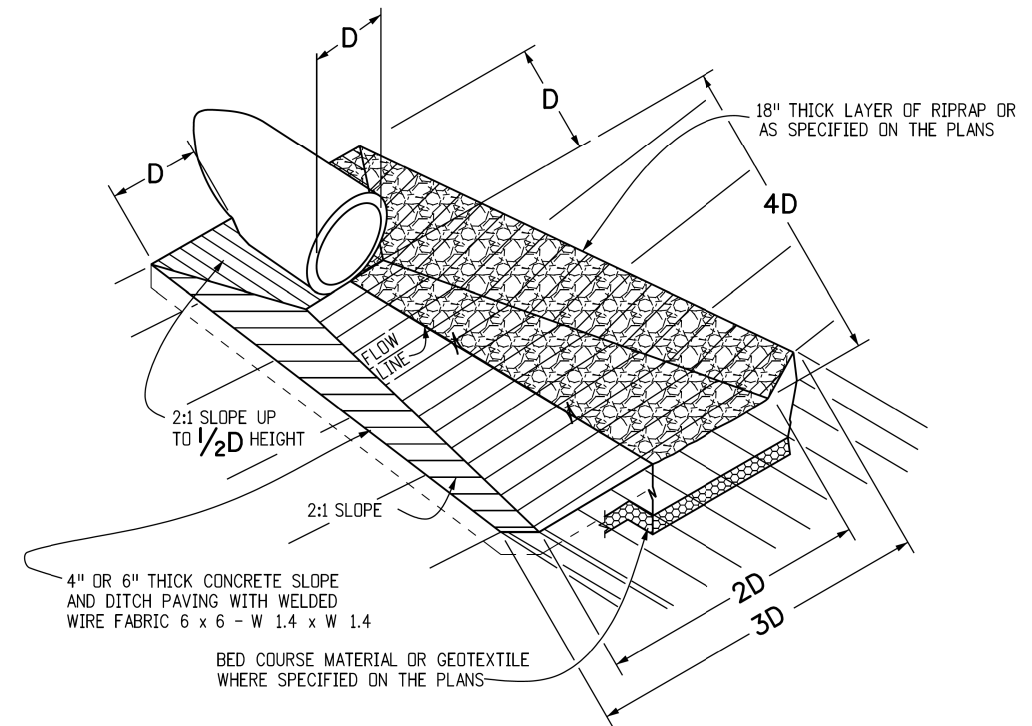
THICKNESS	MATERIAL	PIPE DIAMETER (IN.)					
		18	24	30	36	42	48
4"	CONCRETE	0.4	0.8	1.2			
6"	CONCRETE				2.6	3.6	4.7
18"	RIPRAP	2.0	3.5	5.4	7.8	10.7	13.9

PIPE OUTLET PAVING (CUBIC YARDS)

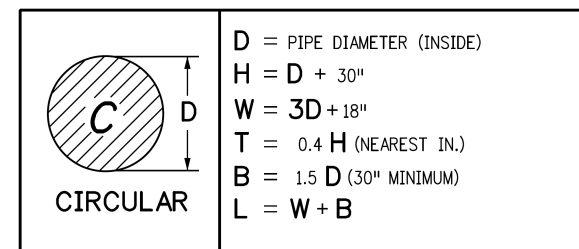
NOTE: VOLUME OCCUPIED BY PIPE HAS BEEN DEDUCTED.

GENERAL NOTES

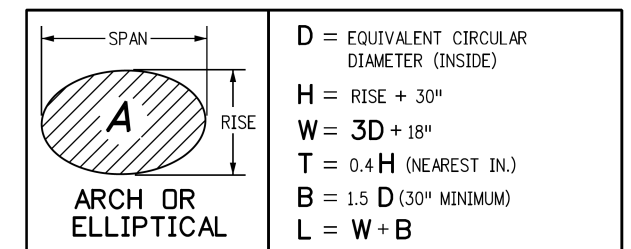
- FOR SIZE AND LOCATION OF PIPES, SEE THE PLANS.
- ALL CONCRETE SHALL BE CLASS B.
- FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED IN ACCORDANCE WITH SUBSECTION 601.09(b).
- EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4 IN.
- HEADWALL SHALL HAVE REINFORCING STEEL INSTALLED IN A PATTERN SIMILAR TO STANDARD PLAN M-601-10.
- THE COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE WORK UNLESS THE STEEL QUANTITIES ARE LISTED IN THE PLANS AND ARE PAID FOR SEPARATELY.



PIPE OUTLET PAVING
MAY BE USED WITH MULTIPLE PIPES.



TYPE OF PIPE HEADWALL DIMENSIONS



TYPE OF PIPE HEADWALL DIMENSIONS

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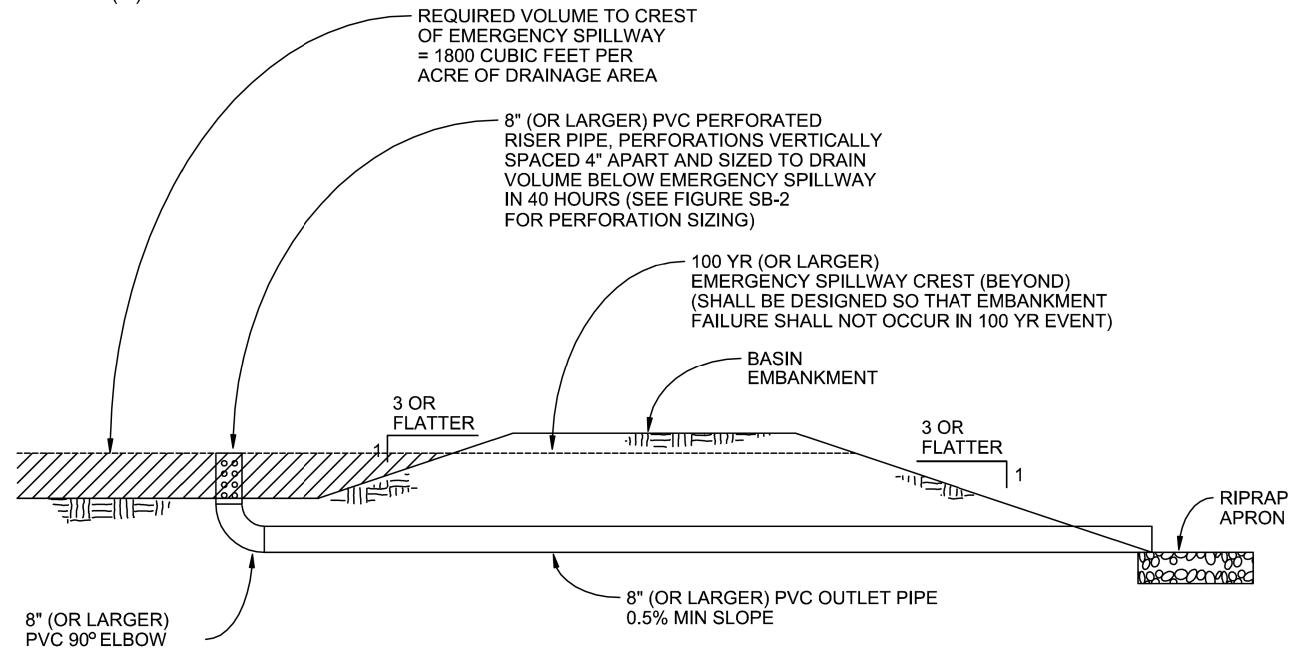
HIGHWAY 105 PROJECT A
STORMWATER MANAGEMENT PLAN
CDOT M-STANDARDS

Designer: S. PARASPATKI
Detailer: S. PARASPATKI
Sheet Subset: M-STD

Structure Numbers
Subset Sheets: 13 of 14

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BASIN GEOMETRY:
 $\frac{\text{LENGTH (L)}}{\text{WIDTH (W)}} \geq 2$



SEDIMENT BASIN
NTS

SEDIMENT BASIN NOTES

INSTALLATION REQUIREMENTS

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

Required Area per Row (in²)

Design Volume (acre-ft)	Depth at Outlet (ft)	Depth at Outlet (ft)							
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73	
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87	
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52	
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35	
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17	
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09	
0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05	
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03	
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02	
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01	

TABLE SB-1

Circular Perforation Sizing

Hole Diameter (in)	Hole Diameter (in)	Area per Row (in ²)		
		n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42
n = Number of columns of perforations				
Minimum steel plate thickness		1/4"	5/16"	3/8"

TABLE SB-2

NOTE: CONTRACTOR TO DETERMINE SIZE OF SEDIMENT BASIN IN THE FIELD.

Print Date: 10/3/2022
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EL PASO COUNTY COLORADO S.F.

CDOT CO Region 02

As Constructed	HIGHWAY 105 PROJECT A STORMWATER MANAGEMENT PLAN CDOT M-STANDARDS		Project No./Code
	No Revisions:		19734
	Revised:	Designer: S. PARASPATKI Detailer: S. PARASPATKI	Structure Numbers STA 105A-014
	Void:	Sheet Subset: M-STD Subset Sheets: 14 of 14	Sheet Number 162 of 251

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GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION 2022 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE PROJECT SPECIFICATIONS AND AS NOTED IN THESE PLANS.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

ALL PLAN DIMENSIONS ARE TRUE HORIZONTAL. VERTICAL DIMENSIONS ARE PLUMB, UNLESS OTHERWISE NOTED.

STRUCTURE EXCAVATION AND BACKFILL SHALL BE AS SHOWN ON THE PLANS, EXCEPT SHORING MAY BE REQUIRED FOR EXCAVATION ADJACENT TO THE EXISTING ROADWAY. SHORING, IF NEEDED, WILL BE PROVIDED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

DESIGN DATA

DESIGN SPECIFICATIONS:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, NINTH EDITION, 2020 WITH 2021 ERRATA

DESIGN METHOD:
LOAD AND RESISTANCE FACTOR DESIGN (LRFD)
LIVE LOAD SURCHARGE IS ASSUMED FOR ALL WALLS.

EARTH PRESSURES ON WALL STRUCTURES AND MATERIAL DENSITIES SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.

GEOTECHNICAL RECOMMENDATIONS WERE PROVIDED BY SHANNON & WILSON, INC, 1321 BANNOCK ST., DENVER, CO REPORT TITLED "GEOTECHNICAL & PAVEMENT DESIGN REPORT, HIGHWAY 105, FULL CORRIDOR DESIGN, EL PASO COUNTY, COLORADO, DATED JULY 6, 2017.

CAST-IN-PLACE AND PRECAST CONCRETE

STRUCTURAL CONCRETE SHALL BE PLACED AS FOLLOWS BY CLASS:

REINFORCED AND PRECAST CONCRETE:

CLASS D (WALL) CONCRETE: $f'c = 4,500$ psi
REINFORCING STEEL: $f_y = 60,000$ psi

CONCRETE SHALL MEET THE SULFATE RESISTANCE REQUIREMENTS OF POTENTIAL EXPOSURE CLASS 0. REFER TO THE STANDARD SPECIFICATIONS FOR THE SECTION 601 STRUCTURAL CONCRETE.

CONCRETE FINISHES SHALL COMPLY WITH SECTION 601.14 OF THE STANDARD SPECIFICATIONS. SEE WALL PLANS AND PROFILES FOR ADDITIONAL AESTHETIC TREATMENTS REQUIRED.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M213.

REINFORCING STEEL

GRADE 60 REINFORCING STEEL IS REQUIRED.

ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.

Ⓝ DENOTES BLACK (UNCOATED) REINFORCING STEEL.

EPOXY COATED REINFORCEMENT SHALL BE USED FOR WALLS LOCATED WITHIN SPLASH ZONES OR IN AREAS EXPOSED TO DEICING SALTS. THE SPLASH ZONE IS DEFINED AS ANYTHING WITHIN 10 FEET HORIZONTALLY OF THE OUTSIDE EDGE OF ROADWAY SHOULDER.

BAR BENDING DIAGRAMS, WHERE SHOWN ON THESE PLANS, INDICATE OUT-TO-OUT DIMENSIONS.

ALL REINFORCING SHALL HAVE A CLEAR MINIMUM COVERAGE OF 2 INCHES UNLESS SHOWN OTHERWISE ON THE PLANS. CLEAR COVERAGE IS MEASURED FROM THE CONCRETE SURFACE TO THE OUTSIDE OF THE REINFORCEMENT.

REINFORCING BAR LAP SPLICES SHALL BE AS DETAILED ON THE PLANS. WHERE SPLICE LENGTHS ARE NOT DETAILED, LENGTHS ARE AS NOTED BELOW:

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR BLACK (UNCOATED) REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER.

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS D CONCRETE	1'-6"	1'-11"	2'-3"	2'-7"	3'-0"	3'-4"	3'-9"	4'-2"

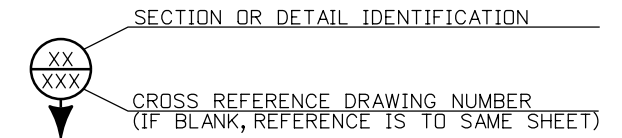
THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER.

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS D CONCRETE	1'-10"	2'-3"	3'-4"	3'-11"	4'-5"	5'-0"	5'-8"	6'-3"

THE ABOVE SPLICE LENGTHS SHALL BE INCREASED BY 20 PERCENT FOR 3 BAR BUNDLES AND 33 PERCENT FOR 4 BAR BUNDLES.

INDEX OF DRAWINGS

- W1 GENERAL NOTES (1 OF 2)
- W2 GENERAL NOTES (2 OF 2)
- W3 SUMMARY OF QUANTITIES
- W4 WALL RW-1 PLAN AND ELEVATION
- W5 WALL RW-2 PLAN AND ELEVATION
- W6 WALL RW-3 PLAN AND ELEVATION
- W7 MSE WALL TYPICAL SECTION
- W8 MSE WALL TYPICAL DETAILS (1 OF 3)
- W9 MSE WALL TYPICAL DETAILS (2 OF 3)
- W10 MSE WALL TYPICAL DETAILS (3 OF 3)
- W11 MSE WALL TOP OF WALL DETAILS
- W12 MSE WALL BOTTOM OF WALL DETAILS
- W13 BLOCK WALL TYPICAL SECTION
- W14 WALL FENCE DETAILS



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Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE

Print Date: 10/5/2022		Sheet Revisions				As Constructed	HIGHWAY 105 PROJECT A RETAINING WALLS GENERAL NOTES (1 OF 2)	Project No./Code
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Horiz. Scale: None Vert. Scale: None						Revised:	STA 105A-014	
Staff Bridge Branch - Unit 0226 Unit Leader DDG						Void:	Sheet Number 163 of 251	
5555 TECH CENTER DRIVE, SUITE 310 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800						Designer: M. DOYLE Structure Numbers		
						Detailer: P. GREHAN		
						Sheet Subset: WALL Subset Sheets: W1 of 14		

MECHANICALLY STABILIZED EARTH (MSE) WALLS (RW-1 AND RW-2)

THE MSE WALLS WILL BE DESIGNED BY AN INDEPENDENT MSE WALL DESIGNER. THESE PLANS ARE LIMITED TO GENERAL GEOMETRY AND DETAILS TO BE USED BY THE MSE WALL DESIGNER. THE MSE WALL DESIGNER SHALL BASE THEIR DESIGN ON THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, NINTH EDITION, 2020, WITH 2021 ERRATA, THE FHWA DESIGN AND CONSTRUCTION OF MECHANICALLY STABILIZED EARTH WALLS AND REINFORCED SLOPES - VOLUMES I AND II (FHWA-NHI-10-024 & FHWA-NHI-10-025), AND THE PROJECT SPECIAL PROVISIONS. THE DESIGN SERVICE LIFE FOR THE WALL SHALL NOT BE LESS THAN 75 YEARS. THE MSE WALL DESIGNER WILL PROVIDE WALL SHOP DRAWINGS AND CALCULATIONS TO THE COUNTY FOR REVIEW AND APPROVAL PRIOR TO FABRICATING ELEMENTS. SHOP DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 504.07 AND SHALL INCLUDE DESIGN OF PANELS, THE WALL SYSTEM, AND ANY CONNECTING ELEMENTS BETWEEN THE PANELS AND SOIL REINFORCEMENTS. CALCULATIONS AND SHOP DRAWINGS SUBMITTED FOR REVIEW SHALL BE SEALED BY AN ENGINEER REGISTERED IN THE STATE OF COLORADO.

THE MSE WALL DESIGNER IS RESPONSIBLE FOR THE INTERNAL STABILITY OF THE WALL, BEARING PRESSURE RESISTANCE, SLIDING STABILITY, OVERTURNING, AND GLOBAL STABILITY. SEE THE GEOTECHNICAL REPORT BY SHANNON & WILSON, INC, 1321 BANNOCK ST., DENVER, CO REPORT TITLED "GEOTECHNICAL & PAVEMENT DESIGN REPORT, HIGHWAY 105, FULL CORRIDOR DESIGN, EL PASO COUNTY, COLORADO, DATED JULY 6, 2017 FOR MSE WALL DESIGN PARAMETERS AND RECOMMENDATIONS. ANTICIPATED SETTLEMENT VALUES ARE GIVEN IN THE GEOTECHNICAL REPORT AND SHALL BE VERIFIED BY THE MSE WALL DESIGNER.

PROVIDE A CONCRETE LEVELING PAD AT THE BASE OF THE WALL. A 2'-0" MINIMUM EMBEDMENT DEPTH MEASURED FROM THE FINISHED GRADE TO THE TOP OF THE LEVELING PAD IS REQUIRED. THIS EMBEDMENT SHALL EXTEND TO A DISTANCE OF 4'-0" FROM THE EXPOSED FACE OF WALL.

AN ANCHORAGE SYSTEM IS OPTIONAL BETWEEN THE PRECAST PANELS AND THE CONCRETE LEVELING PAD. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALIGNMENT REMAINS WITHIN TOLERANCE DURING ALL PHASES OF CONSTRUCTION IF NO ANCHORAGE SYSTEM IS USED.

PANEL LIFTING HOOK EMBEDMENTS AND RELATED HARDWARE SHALL BE FURNISHED, SIZED, AND PLACED BY THE PANEL FABRICATOR IN ACCORDANCE WITH THE FABRICATOR'S DESIGN FOR EACH INDIVIDUAL PANEL.

REFER TO THE CDOT STANDARD SPECIFICATIONS FOR SECTION 601 STRUCTURAL CONCRETE. PRECAST CONCRETE PANEL UNITS SHALL BE FACTORY MADE WITH CLASS D CONCRETE AND MEET THE FOLLOW REQUIREMENTS:

1. MINIMUM CEMENTITIOUS CONTENT: 615 LB./CY.YD.
2. AMBIENT TEMPERATURE SHALL BE A MINIMUM OF 40° AND RISING WHEN CASTING PANELS.
3. PRECAST PANELS SHALL BE CURED IN ACCORDANCE WITH AASHTO M170.

SEE WALL PLANS FROM THE MSE WALL MANUFACTURER FOR ADDITIONAL DETAILS NOT SHOWN.

FOR RW-2, A COLORED STRUCTURAL CONCRETE STAIN FINISH WILL BE REQUIRED, AS SHOWN ON THE LIMITS OF CONCRETE STAIN DETAIL. FINAL COLORS SHALL BE SELECTED FROM TEST PANELS PROVIDED BY THE CONTRACTOR. THE CONCRETE COPING (FRONT AND BACK) SHALL HAVE THREE LAYERS OF WATER RESISTANT OR REPELLANT CONCRETE SEALER APPLIED TO THE CONCRETE BEFORE THE WALL IS OPENED TO TRAFFIC. CONCRETE STAIN SHALL BE APPLIED BEFORE APPLYING THE THREE LAYERS OF CONCRETE SEALER. REFER TO THE PROJECT SPECIAL PROVISIONS FOR MORE INFORMATION.

REFER TO THE CDOT STANDARD SPECIFICATIONS FOR SECTION 206 FOR BACKFILL REQUIREMENTS IN THE MSE REINFORCED ZONE.

REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL FOUNDATION AND BACKFILL REQUIREMENTS NOT SHOWN IN THESE PLANS.

THE CONTRACTOR SHALL COORDINATE THE LOCATION OF POTENTIAL CONFLICTS, INCLUDING BUT NOT LIMITED TO, GUARDRAIL POSTS, MISCELLANEOUS FOUNDATIONS, ETC. DURING CONSTRUCTION TO PREVENT DAMAGE TO THE MSE WALL REINFORCEMENT. REINFORCEMENT DAMAGED BY INSTALLATION OF THESE ITEMS SHALL BE REPAIRED AS DIRECTED BY THE MSE WALL MANUFACTURER. THE MSE WALL DESIGNER SHALL ACCOUNT FOR LOADS THAT MAY OCCUR DUE TO LOAD TRANSFER FROM THESE ITEMS INTO SOIL WITHIN OR NEAR THE MSE WALLS.

THE TOLERANCE ON PANEL THICKNESS SHALL NOT EXCEED ±1/4".

TOTAL LOADS APPLIED TO ANY PANEL DURING CONSTRUCTION SHALL NOT EXCEED 117 PSF UNLESS ALLOWED BY THE MSE WALL DESIGNER.

ANY FLEXURAL CRACKS, SAGS, OR CAMBERS GREATER THAN 1/2" WILL BE CONSIDERED EVIDENCE OF MISHANDLING, OVERLOADING, OR EXCEEDING ALLOWABLE TOLERANCES AND MAY BE CAUSE FOR REJECTING THE PANELS AT THE ENGINEER'S DISCRETION.

SEE THE STANDARD SPECIFICATIONS AND SECTION 504 OF THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

A TECHNICAL REPRESENTATIVE OF THE WALL MANUFACTURER SHALL BE PRESENT DURING THE CONSTRUCTION OF EACH WALL TEST SEGMENT. SEE REVISION OF STANDARD SPECIFICATION 504.11 - TECHNICAL REPRESENTATIVE OF WALL PRODUCT SUPPLIER FOR ADDITIONAL INFORMATION.

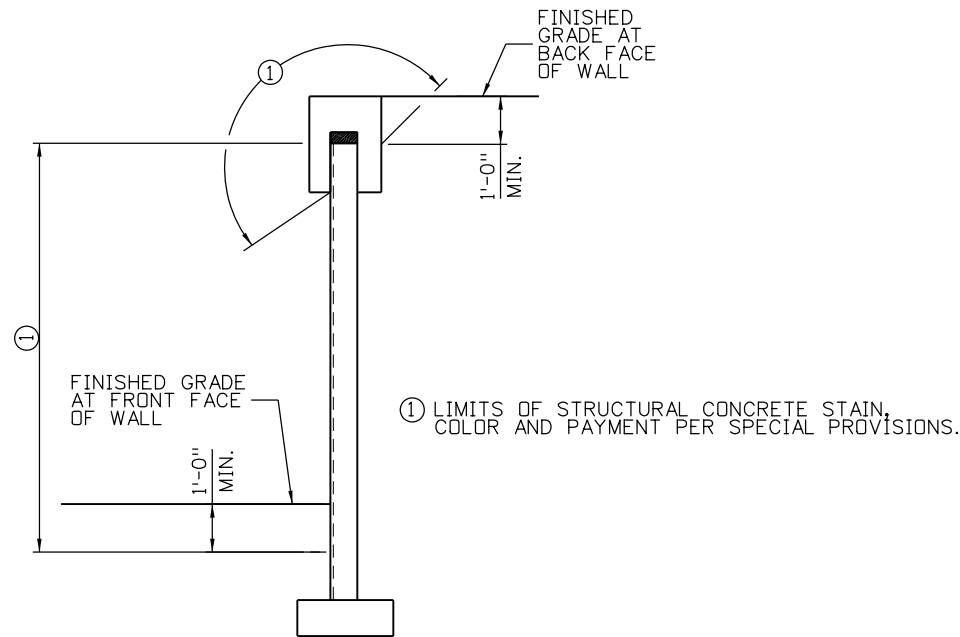
ENGINEERED BLOCK WALL (RW-3)

WALL SHALL BE CONSTRUCTED USING THE REDI-ROCK BLOCK WALL OR APPROVED EQUAL. BLOCK LAYOUT DEPICTED ON SHEET W13 FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S GUIDELINES FOR INSTALLATION USING MANUFACTURER'S STANDARDIZED MANUAL FOR PRE-ENGINEERED BLOCK WALLS AND SPEC BOOK. ALL COURSES OF BLOCKS SHALL BE PLACED LEVEL. REDI-ROCK DESIGN AND INSTALLATION GUIDES CAN BE FOUND AT WWW.EDI-ROCK.COM. DETAILS AND DESIGN PARAMETERS SHOWN IN THE CONTRACT PLANS AND SPECIFICATIONS TAKE PRECEDENCE OVER DETAILS AND PARAMETERS SHOWN IN MANUFACTURER'S GUIDES. SEE PROJECT SPECIFICATIONS FOR MORE INFORMATION.

THE GEOTECHNICAL REPORT FOR THIS PROJECT IS AVAILABLE FOR REVIEW BY THE CONTRACTOR. SEE REPORT TITLED GEOTECHNICAL REPORT BY SHANNON & WILSON, INC, 1321 BANNOCK ST., DENVER, CO REPORT TITLED "GEOTECHNICAL & PAVEMENT DESIGN REPORT, HIGHWAY 105, FULL CORRIDOR DESIGN, EL PASO COUNTY, COLORADO, DATED JULY 6, 2017.

ABBREVIATIONS USED


- DH = DESIGN HEIGHT (FT.)
- MRS = MECHANICAL REINFORCEMENT FOR PRESCRIBED SOIL ZONE (CY)
- PLG = PAY LENGTH FOR GEOMEMBRANE (FT.)
- RL = REINFORCEMENT LENGTH (FT.)
- D = PANEL WIDTH



DETAIL - LIMITS OF CONCRETE COATING AND STAIN
(MSE RW-2 ONLY)

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HIGHWAY 105 PROJECT A
RETAINING WALLS
GENERAL NOTES (2 OF 2)

Designer: M. DOYLE
 Detailer: P. GREHAN
 Sheet Subset: WALL
 Structure Numbers:
 Subset Sheets: W2 of 14

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19734
STA 105A-014
Sheet Number 164 of 251

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SUMMARY OF APPROXIMATE WALL QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	WALL RW-1	WALL RW-2	WALL RW-3	TOTAL
202-00155	REMOVAL OF WALL	LF	-	-	-	SEE NOTE 1
206-00000	STRUCTURE EXCAVATION	CY	6932	3469	-	10401
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY	5547	7722	-	13269
206-00360	MECHANICAL REINFORCEMENT OF SOIL	CY	3388	4428	-	7816
420-00000	GEDMEMBRANE	SY	1626	1923	-	3549
504-04410	BLOCK FACING	SF	-	-	888	888
504-04420	PRECAST PANEL FACING	SF	7632	9584	-	17216
601-03050	CONCRETE CLASS D (WALL)	CY	70	72	-	142
601-40400	STRUCTURAL CONCRETE STAIN	SY	-	1220	-	1220
602-00020	REINFORCING STEEL (EPOXY COATED)	LB	6029	6271	-	12300
607-53143	FENCE CHAIN LINK (SPECIAL) (42 INCH)	LF	570	587	128	1285
609-24000	GUTTER TYPE 2 (SPECIAL)	LF	-	-	129	129

NOTES:

- THE REMOVAL OF EXISTING BLOCK WALL IS QUANTIFIED IN ROADWAY REMOVAL PLANS. REFER TO SECTION 202 OF THE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- ITEMS 601-03050 AND 602-00020 INCLUDE COPING AND LEVELING PAD.

KEY NOTES:


- BLOCK FACING AREA IS MEASURED BY THE VERTICAL AREA OF WALL SURFACE FROM TOP OF LEVELING PAD TO THE TOP OF WALL INCLUDING CAPSTONE. SEE PROJECT SPECIFICATIONS FOR MORE INFORMATION ON MEASUREMENT.

①

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Designed By	06-22	Detailed By	06-22	Quantities By	
Checked By		Checked By		Checked By	



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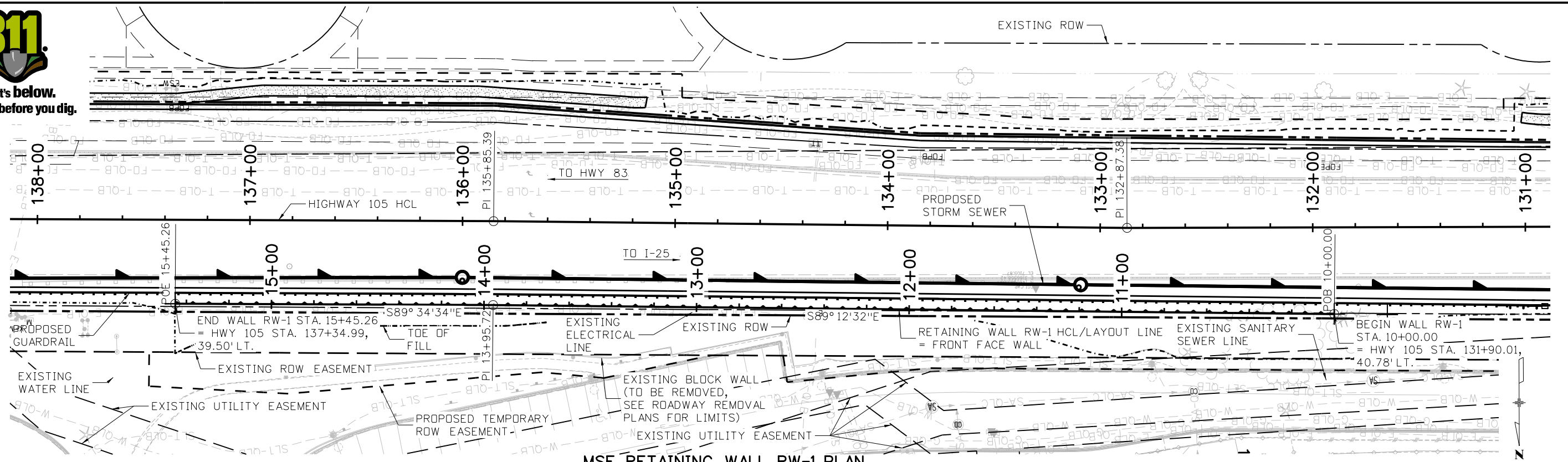
**HIGHWAY 105 PROJECT A
RETAINING WALLS
SUMMARY OF QUANTITIES**

Designer:	M. DOYLE	Structure Numbers	
Detailer:	P. GREHAN	Subset Sheets:	W3 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 165 of 251

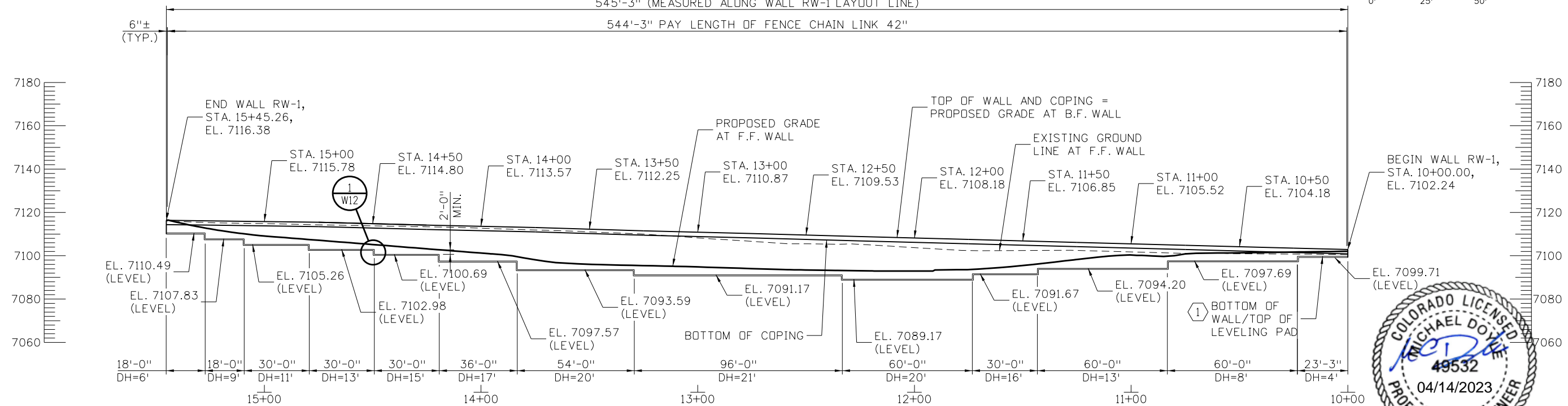
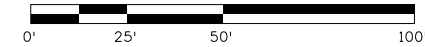


Know what's below.
Call before you dig.



MSE RETAINING WALL RW-1 PLAN

545'-3" (MEASURED ALONG WALL RW-1 LAYOUT LINE)



MSE RETAINING WALL RW-1 ELEVATION

(TAKEN ALONG RW-1 WALL LAYOUT LINE)
(FENCE NOT SHOWN FOR CLARITY)

KEYNOTES:

- 1. BOTTOM OF WALL SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR MAY MODIFY STEP LOCATIONS TO ACCOMMODATE EXCAVATION LIMITS. STEP HEIGHT SHALL NOT EXCEED 2'-6". SEE STEP DETAIL ON SHEET W12.

NOTES:

- 1. NOT ALL EXISTING UTILITIES LABELED, REFER TO THE SUE INVESTIGATION PLAN AND UTILITY MODIFICATION PLAN SHEETS FOR MORE INFORMATION.



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**HIGHWAY 105 PROJECT A
 RETAINING WALLS
 WALL RW-1 PLAN AND ELEVATION**

Designer: M. DOYLE Structure Numbers
 Detailer: P. GREHAN
 Sheet Subset: WALL Subset Sheets: W4 of 14

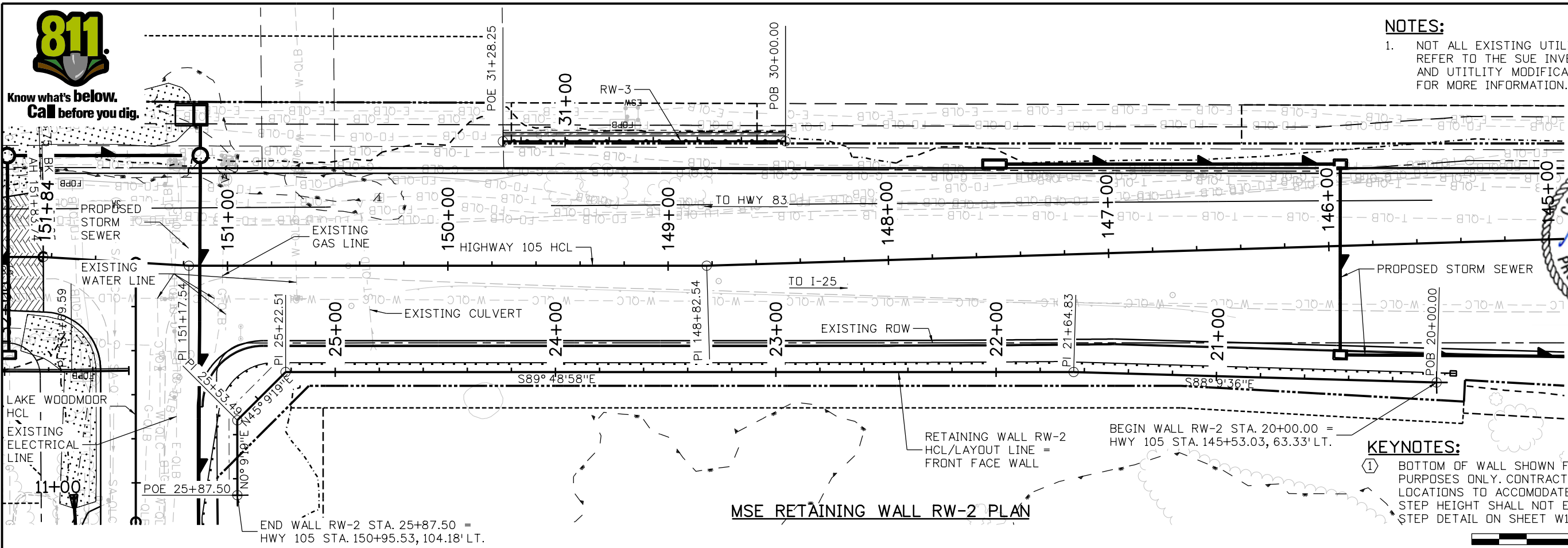
Project No./Code
19734
STA 105A-014
Sheet Number 166 of 251



Know what's below. Call before you dig.

NOTES:

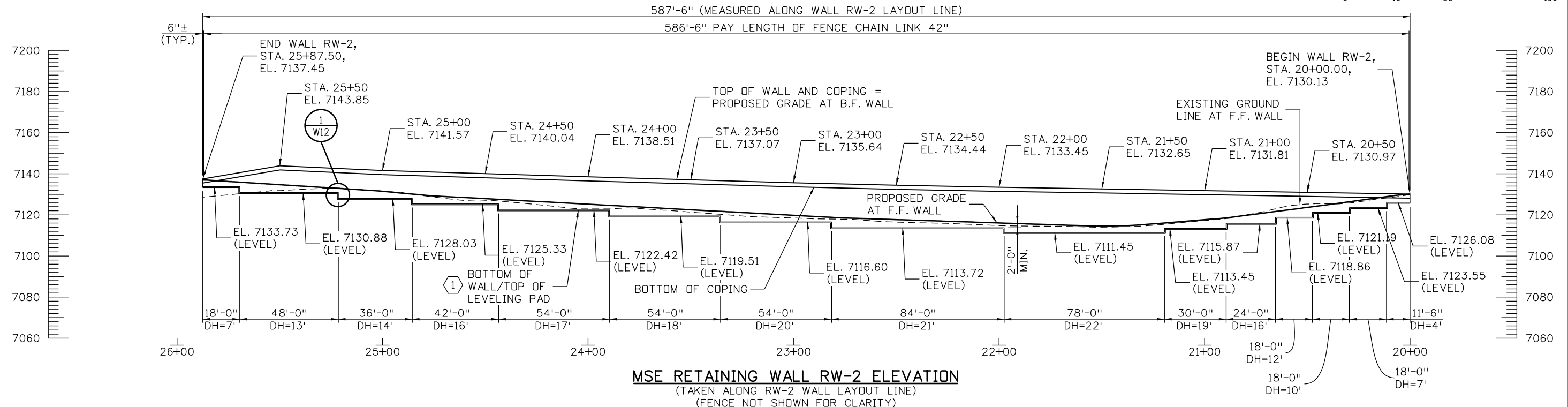
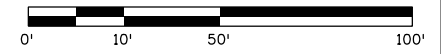
- 1. NOT ALL EXISTING UTILITIES LABELED, REFER TO THE SUE INVESTIGATION PLAN AND UTILITY MODIFICATION PLAN SHEETS FOR MORE INFORMATION.



MSE RETAINING WALL RW-2 PLAN

KEYNOTES:

- 1. BOTTOM OF WALL SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR MAY MODIFY STEP LOCATIONS TO ACCOMMODATE EXCAVATION LIMITS. STEP HEIGHT SHALL NOT EXCEED 2'-6". SEE STEP DETAIL ON SHEET W12.



MSE RETAINING WALL RW-2 ELEVATION

(TAKEN ALONG RW-2 WALL LAYOUT LINE)
(FENCE NOT SHOWN FOR CLARITY)

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Designed By	06-22	Detailed By	06-22	Quantities By	
Checked By		Checked By		Checked By	

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 Staff Bridge Branch - Unit 0226 Unit Leader DDG
HR 5555 TECH CENTER DRIVE, SUITE 310
 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

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Date:	Comments	Init.

EL PASO COUNTY COLORADO

S.F. Region 02

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No Revisions:
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HIGHWAY 105 PROJECT A
 RETAINING WALLS
 WALL RW-2 PLAN AND ELEVATION

Designer: M. DOYLE
 Detailer: P. GREHAN
 Sheet Subset: WALL

Project No./Code	19734
	STA 105A-014
	Sheet Number 167 of 251



Know what's below. Call before you dig.

EXISTING FIBER OPTIC LINE (TO BE RELOCATED DURING CONSTRUCTION)

EXISTING UTILITY EASEMENT

EXISTING ROW

EXISTING ELECTRICAL LINE

APPROXIMATE LIMITS OF BLOCK WALL ①

EXISTING ELECTRICAL PULL BOX (PROTECT IN PLACE)

EXISTING ELECTRICAL SWITCH CABINET (PROTECT IN PLACE)

TYPE 2 GUTTER (SPECIAL)

EXISTING CABLE LINE

PROPOSED ROW EASEMENT

EXISTING UTILITY EASEMENT

POE 31+28.25

31+00

POB 30+00.00

END WALL RW-3 STA. 31+28.23
= HWY 105 STA. 149+75.01,
56.50' RT.

BEGIN WALL RW-3 STA. 30+00.00
= HWY 105 STA. 148+45.01,
55.35' RT.

RETAINING WALL RW-3 HCL/LAYOUT LINE
= FRONT FACE WALL

TO HWY 83

150+00

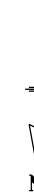
HIGHWAY 105 HCL

149+00

PI 148+82.54

EXISTING FIBER OPTIC LINE

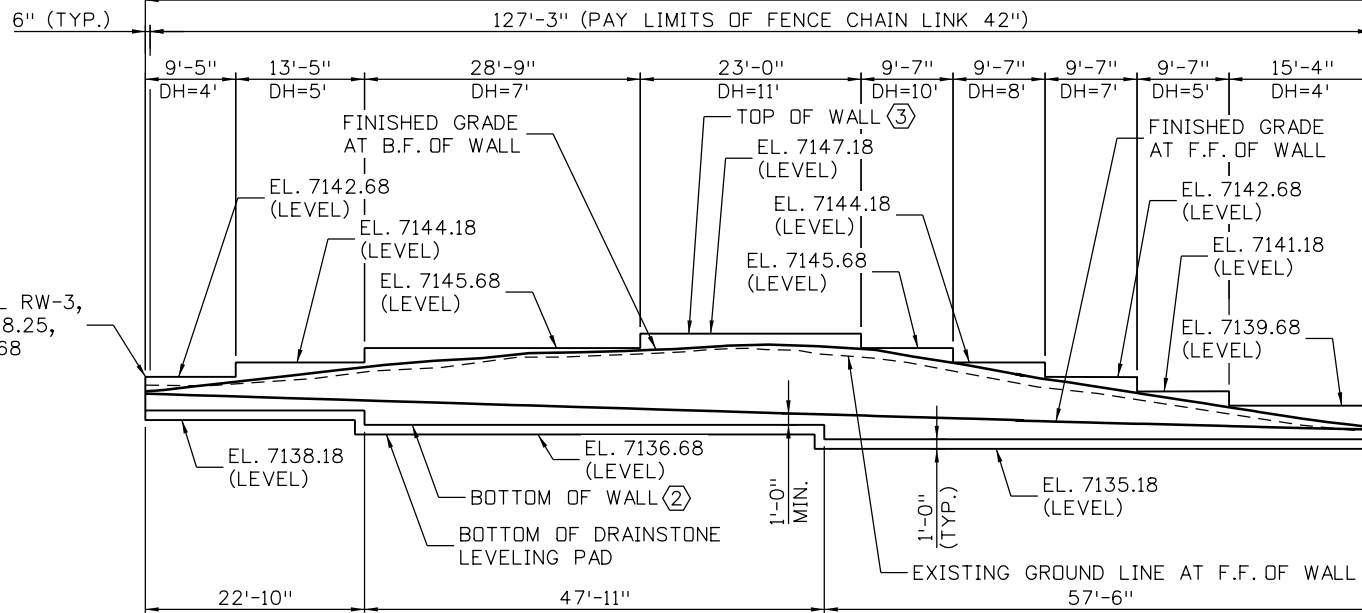
148+00



BLOCK RETAINING WALL RW-3 PLAN

128'-3" (MEASURED ALONG WALL RW-3 LAYOUT LINE)

127'-3" (PAY LIMITS OF FENCE CHAIN LINK 42")



BLOCK RETAINING WALL RW-3 ELEVATION

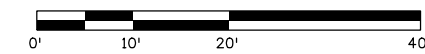
(TAKEN RW-3 WALL LAYOUT LINE)
(FENCE NOT SHOWN FOR CLARITY)

NOTES:

- NOT ALL EXISTING UTILITIES LABELED, REFER TO THE SUE INVESTIGATION PLAN AND UTILITY MODIFICATION PLAN SHEETS FOR MORE INFORMATION.

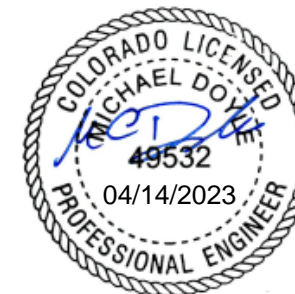
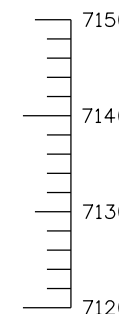
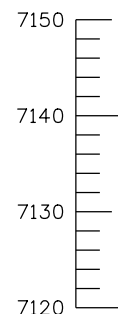
KEYNOTES

- LIMITS TO BE VERIFIED BY CONTRACTOR.
- BOTTOM OF WALL SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR MAY MODIFY STEP LOCATIONS TO ACCOMMODATE EXCAVATION LIMITS. STEP HEIGHT SHALL NOT EXCEED ONE BLOCK IN HEIGHT. CONTRACTOR SHALL PROVIDE DETAIL FOR BLOCK WALL STEPS TO BE APPROVED BY THE PROJECT ENGINEER.
- TOP OF WALL SHALL BE LEVEL AND MATCH INTO EXISTING GRADE BEHIND WALL TO TOLERANCES SHOWN IN BLOCK WALL DETAILS SHEET. MAXIMUM STEP HEIGHT ALONG TOP OF WALL SHALL MAINTAIN POSITIVE DRAINAGE ALONG TOP OF WALL AND DRAIN FREELY TO THE OTHER END.



BEGIN WALL RW-3
STA 30+00.00
EL. 7139.68

END WALL RW-3,
STA 31+28.25,
EL. 7142.68



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Designed By	06-22	Detailed By	06-22	Quantities By	
Checked By		Checked By		Checked By	

Print Date: 10/5/2022

File Name: 19734DES_PnP-WALL-03

Horiz. Scale: 1:20

Vert. Scale: 1:20

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Unit Leader DDG



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Sheet Revisions

Date:	Comments	Init.



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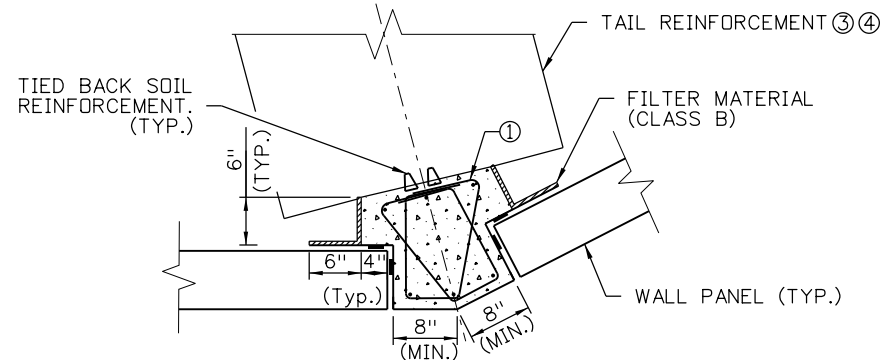
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HIGHWAY 105 PROJECT A RETAINING WALLS WALL RW-3 PLAN AND ELEVATION

Designer:	M. DOYLE	Structure Numbers	
Detailer:	P. GREHAN	Subset Sheets:	W6 of 14

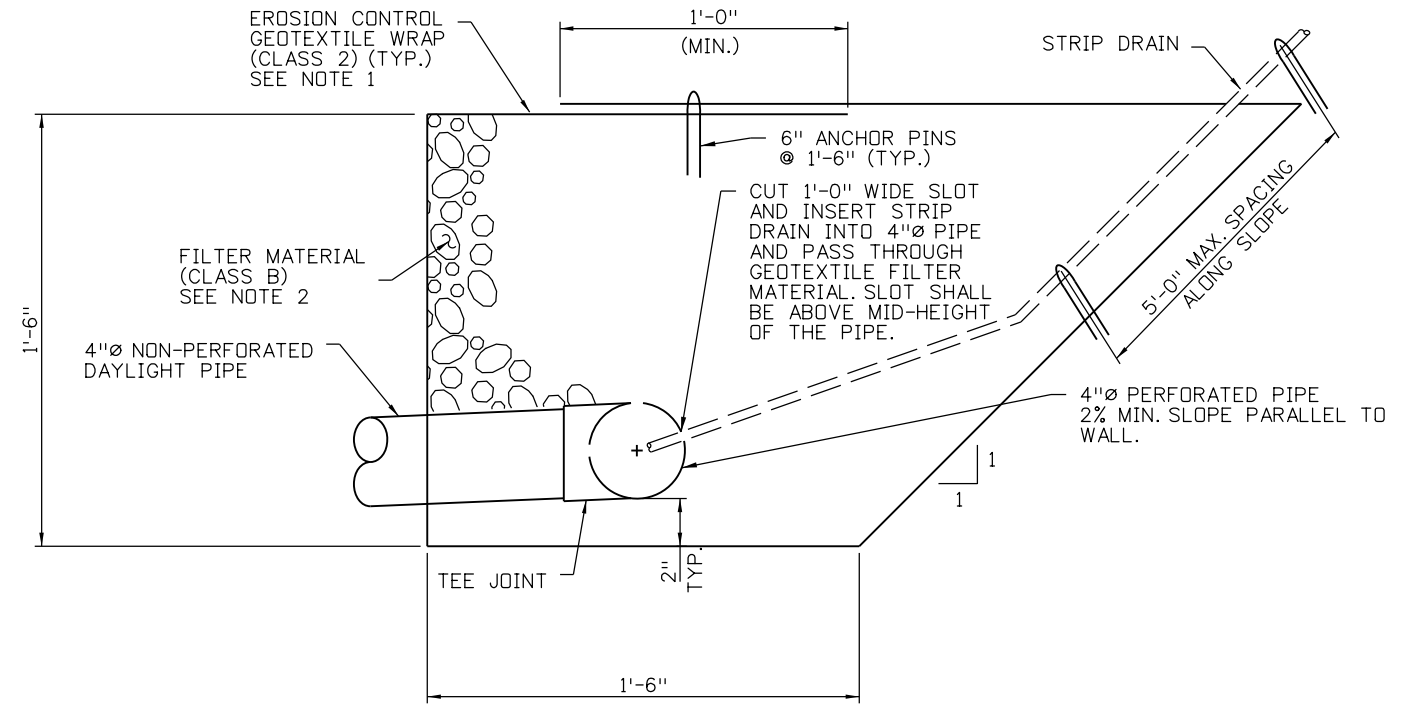
Project No./Code

19734
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Sheet Number 168 of 251



DETAIL - OUTSIDE CORNER

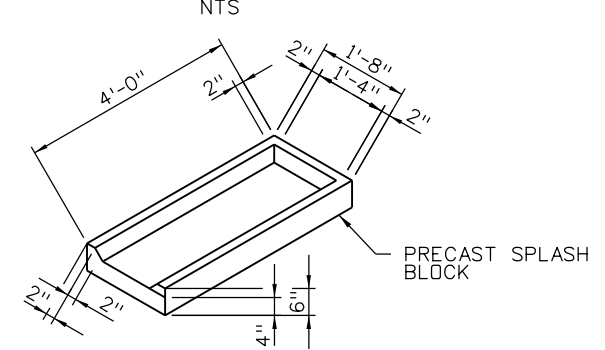
- ① REINFORCED CONCRETE PRECAST PILASTER SHALL BE DESIGNED BY THE CONTRACTOR DURING SHOP DRAWING SUBMITTAL WITH APPROVAL BY THE ENGINEER. THE COST OF THE PILASTER SHALL BE INCLUDED IN THE PRECAST PANEL.
- ② 3/4" CHAMFER (TYP.) (SOIL REINFORCEMENT SHOWN FOR ILLUSTRATION PURPOSES.)
- ③ USE A SINGLE SHEET OF 3'-0" (WIDTH) X 4'-0" (DEPTH) TAIL REINFORCEMENT (PARALLEL TO PRINCIPLE DIRECTION AT ANGLE POINT) BETWEEN MAIN REINFORCEMENTS THROUGH VERTICAL JOINT AT STRESS RELIEF OR ANGLE POINT.
- ④ TAILS SHALL BE BI-AXIAL WOVEN GEOTEXTILE WITH A MINIMUM AVERAGE ROLL VALUE OF 4800 LB./FT. BASED ON ASTM D4595.
- ⑤ IN ADDITION TO TAIL REINFORCEMENT, TIED BACK SOIL REINFORCEMENT SHALL BE DESIGNED AND DETAILED FOR THE 3'-0" WIDE TRIBUTARY LOAD.
- ⑥ ALTERNATE CORNER PANELS MAY BE SUBMITTED FOR REVIEW AND APPROVAL.



NOTES:

1. GEOTEXTILE FABRIC FLOW RATE = 140 GPM/ SQ FT (MIN.) AND CORE FLOW RATE OF 21 GPM/FT (MIN.)
2. FILTER MATERIAL (CLASS B) SHALL BE PAID AS ITEM 206 STRUCTURE BACKFILL (CLASS 1).
3. GEOTEXTILE WRAP (CLASS 2) AND GEOTEXTILE STRIP DRAIN SHALL BE PAID UNDER ITEM 605-00040 4 INCH PERFORATED PIPE UNDERDRAIN SYSTEM.

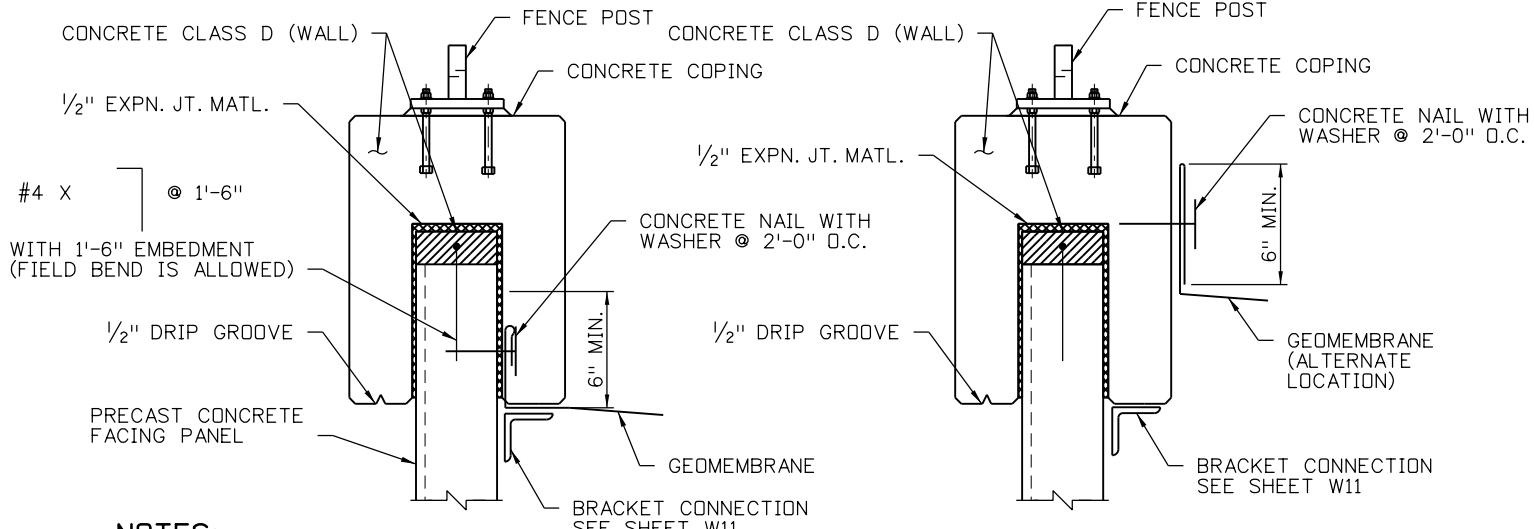
DETAIL - UNDERDRAIN SYSTEM



NOTES:

1. PLACE SPLASH BLOCKS AT ALL PIPE DAYLIGHT LOCATIONS UNLESS INDICATED OTHERWISE.
2. ALL WORK AND MATERIALS ASSOCIATED WITH THE SPLASH BLOCK SHALL BE PAID UNDER ITEM 605-0004 4 INCH NON-PERFORATED PIPE UNDERDRAIN.

DETAIL - SPLASH BLOCK



NOTES:

1. DOWELS ARE ONLY REQUIRED WHEN CONCRETE BUILDUP IS 4" OR THICKER OR AS OTHERWISE SHOWN ON THE PLANS.
2. AT THE CONTRACTORS OPTION, DOWELS MAY BE DRILLED AND EPOXIED INTO THE TOPS OF THE PANELS. DEPTH OF DRILLED HOLES SHALL BE 8". AN EPOXY ON THE APPROVED PRODUCTS LIST SHALL BE USED.
3. NAIL-ON OR GLUE-ON NON-WOVEN GEOTEXTILE (CLASS 2) FABRIC SHALL BE PLACED ACROSS ALL JOINTS IN THE COPING. FABRIC ACROSS JOINT SHALL BE 1'-0" WIDE (MINIMUM) AND EXTEND THE FULL HEIGHT OF THE JOINT ON THE FILL SIDE OF THE COPING.
4. SEE SHEET W14 FOR FENCE CONNECTION REQUIREMENTS. MSE WALL DESIGNER SHALL ACCOUNT FOR THIS FORCE IN THE DESIGN OF THE PANELS AND WALL REINFORCEMENT.
5. CONTRACTOR MAY PROVIDE ALTERNATIVE CONNECTION BETWEEN PRECAST SEGMENTS AND COPING FOR THE ENGINEER'S APPROVAL.

DETAIL - TOP OF PANEL



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Checked By		Checked By		Checked By	

Print Date: 10/5/2022
File Name: 19734WALL_MSE.Det01.dgn
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Date:	Comments	Init.



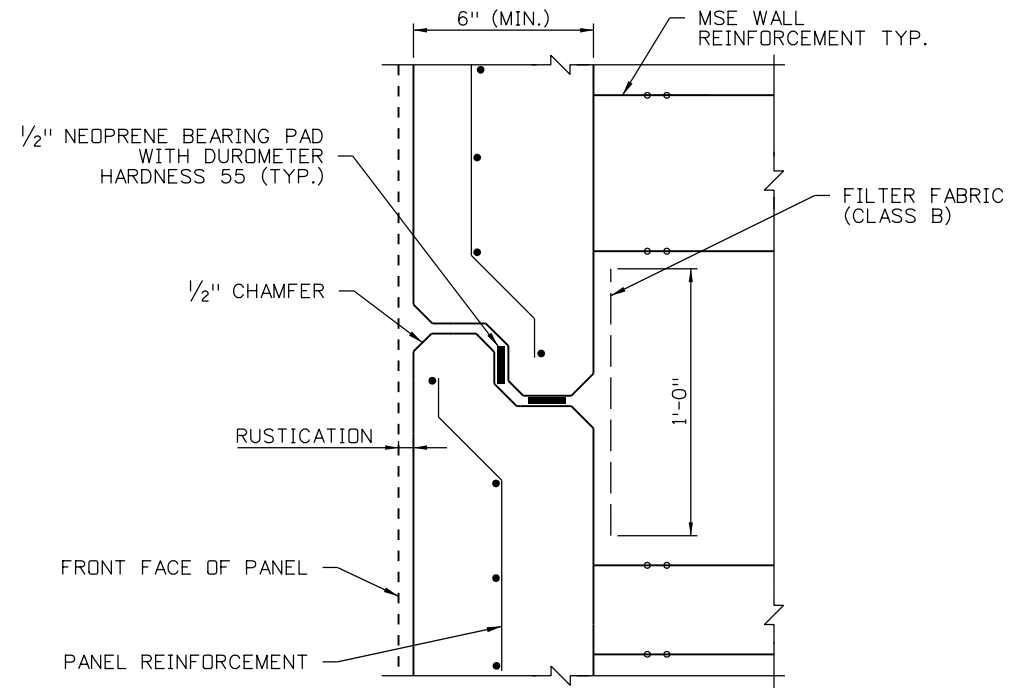
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Designer: M. DOYLE	Structure Numbers
Detailer: P. GREHAN	
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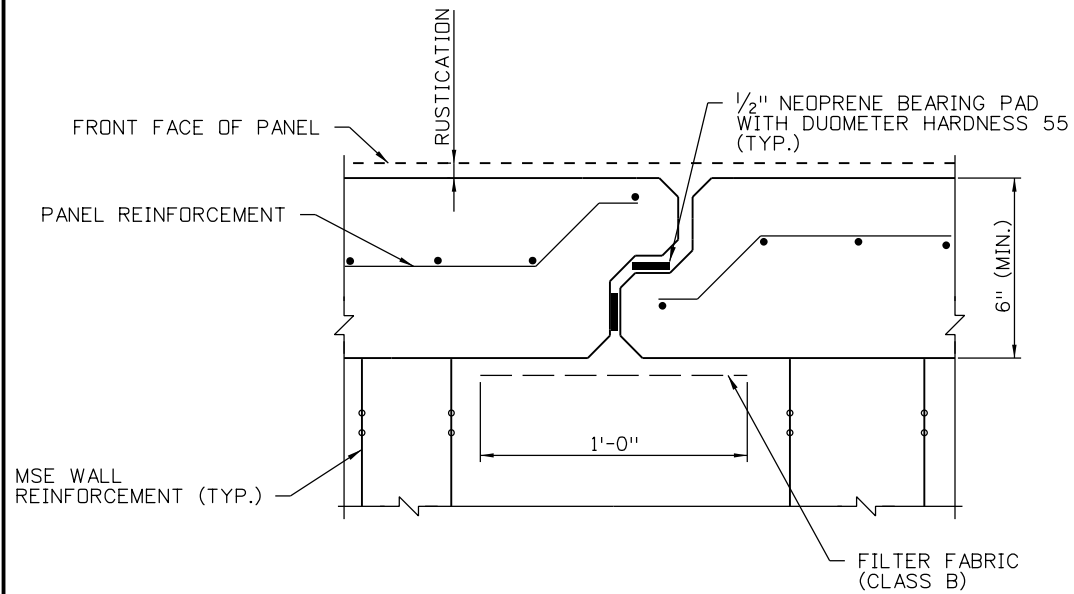
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19734
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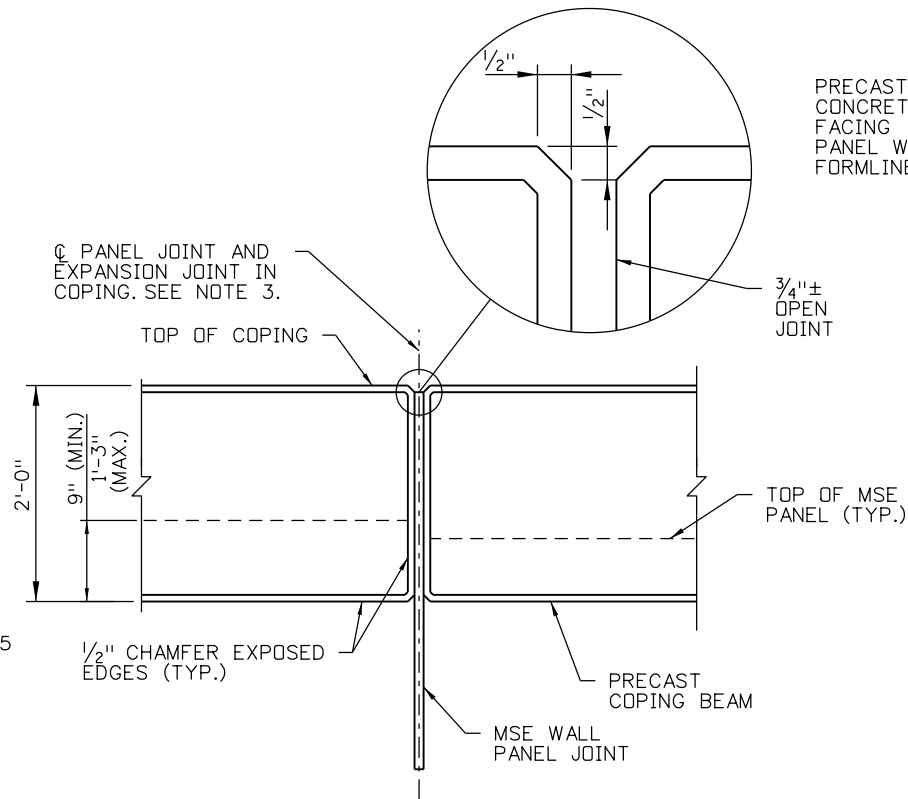
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INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
Designed By	06-22	Detailed By	06-22	Quantities By	
Checked By	MCD	Checked By		Checked By	



DETAIL - HORIZONTAL PANEL JOINT



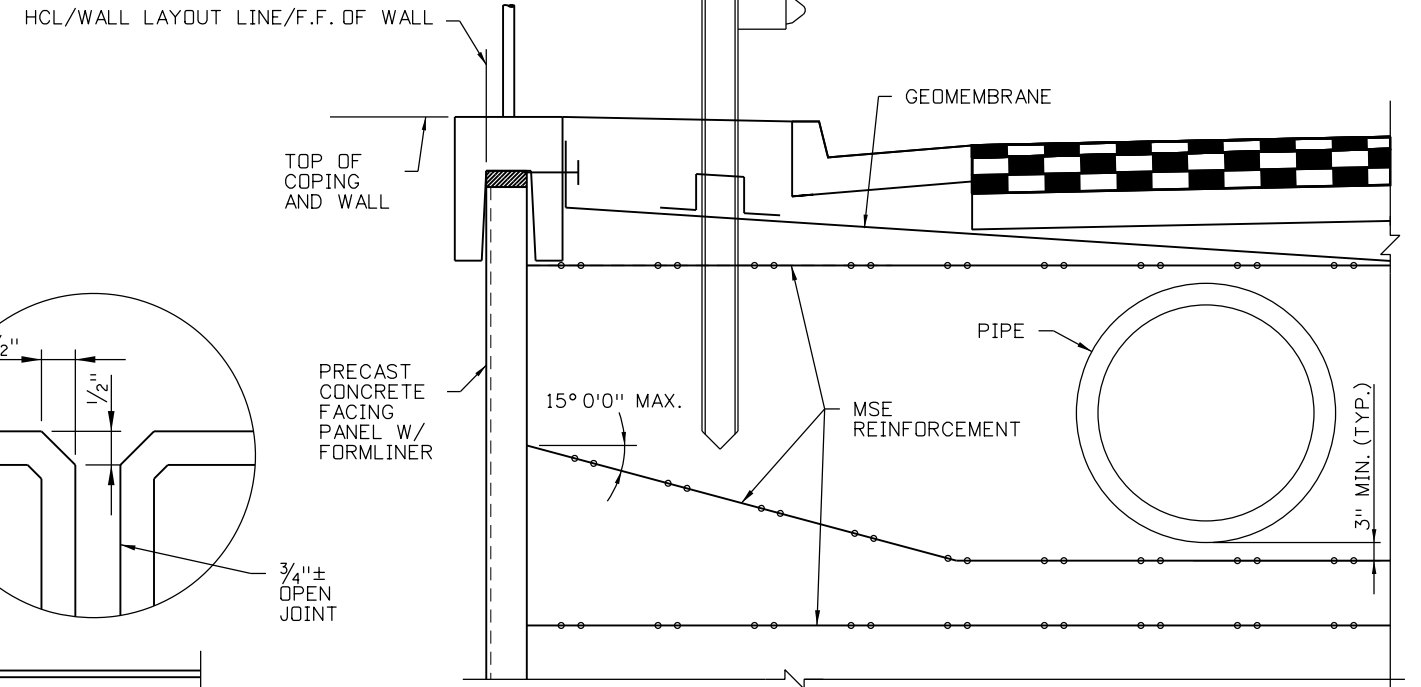
DETAIL - VERTICAL PANEL JOINT



DETAIL - COPING BEAM JOINT

NOTES:

- PANEL SUPPLIER MAY SUBMIT ALTERNATIVE HORIZONTAL AND / OR VERTICAL JOINT DETAILS IN SHOP DRAWINGS FOR ENGINEER'S APPROVAL. JOINTS SHALL BE SHIP-LAP. THE STRENGTH OF THE PROPOSED ALTERNATIVE SHALL BE EQUAL TO OR EXCEED WHAT IS SHOWN IN THESE DETAILS.
- COPING BEAM JOINT AND PANEL JOINT DO NOT NEED TO BE LOCATED AT SAME LOCATION. LOCATION OF COPING BEAM JOINT MAY SHIFT.
- WHERE EARTH IS ADJACENT TO EXPANSION JOINT, PLACE A 1'-0" WIDE FILTER FABRIC BEHIND JOINT TO PREVENT SOIL PENETRATION THROUGH JOINT. SEE VERTICAL PANEL JOINT DETAIL FOR ADDITIONAL INFORMATION.
- TOP OF COPING BEAM SHALL SLOPE SMOOTHLY ACROSS JOINTS. NO STEPS IN COPING BEAM AT JOINTS ALLOWED.



NOTES:

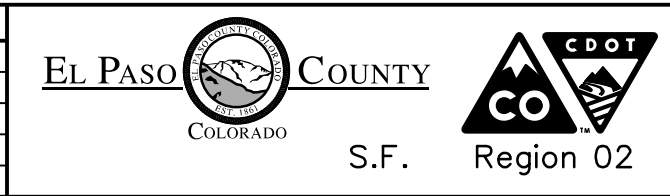
- PIPE CLEARANCES MAY BE REDUCED IF COORDINATED WITH THE MSE WALL DESIGNER/MANUFACTURER. SPLAY ANGLE SHALL NOT EXCEED 15 DEGREES.

DETAIL - PIPE CLEARANCES IN MSE ZONE



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Horiz. Scale: NONE Vert. Scale: NONE
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HR 5555 TECH CENTER DRIVE, SUITE 310 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

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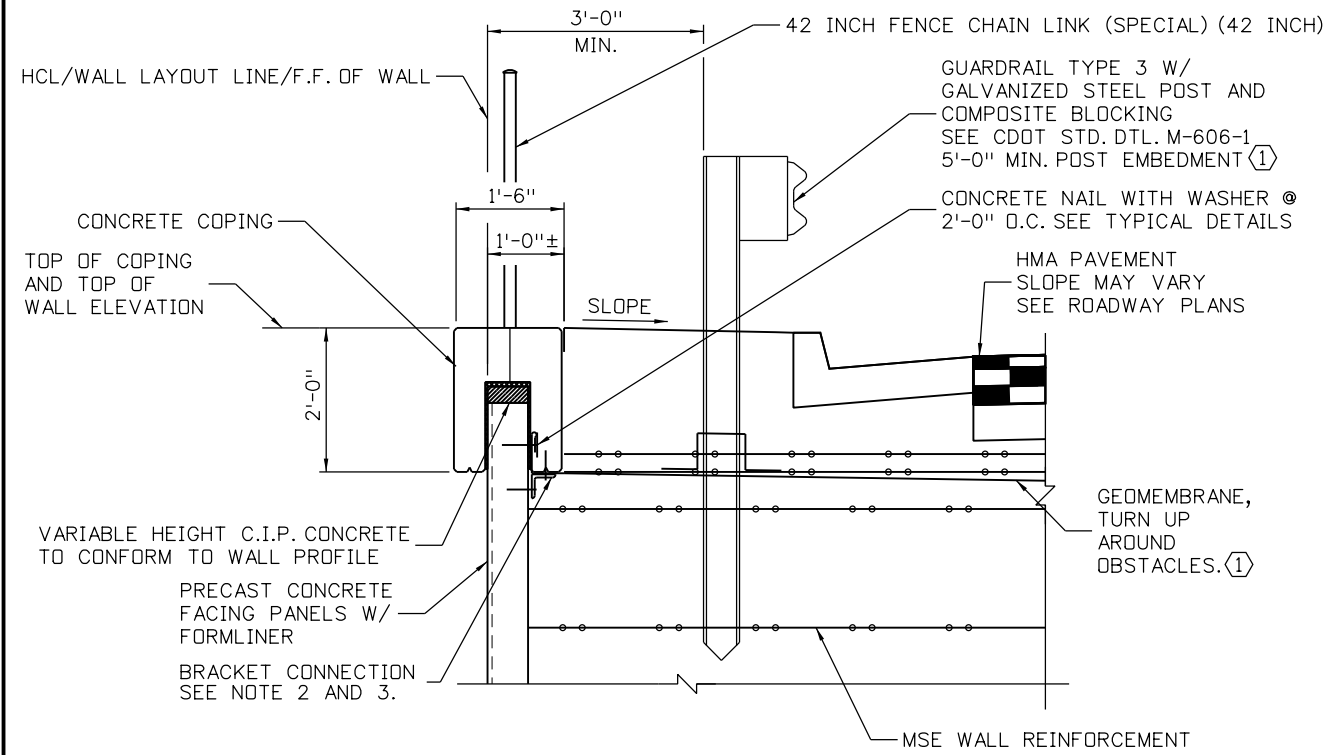
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Detailer:	P. GREHAN	Numbers	
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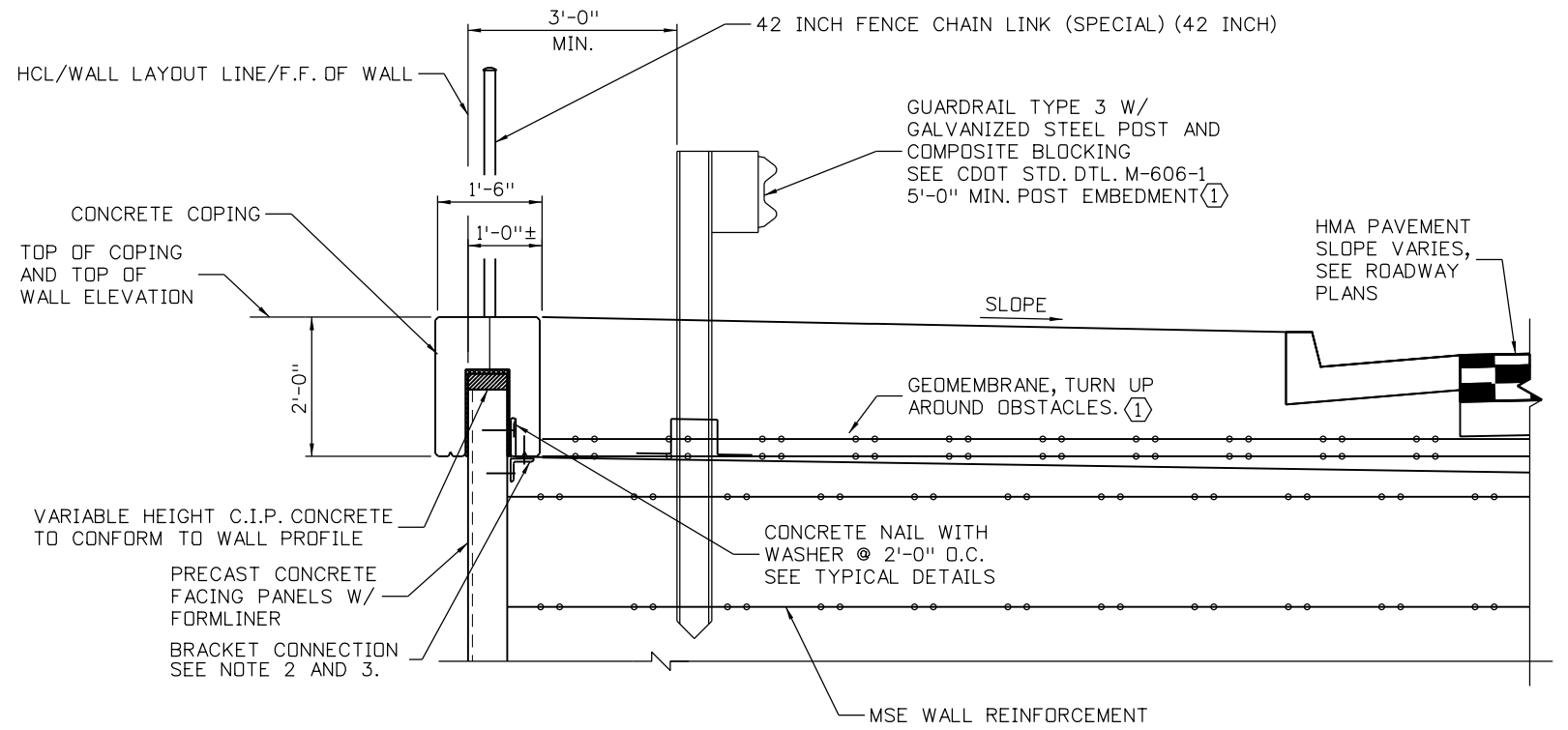
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19734
STA 105A-014
Sheet Number 171 of 251

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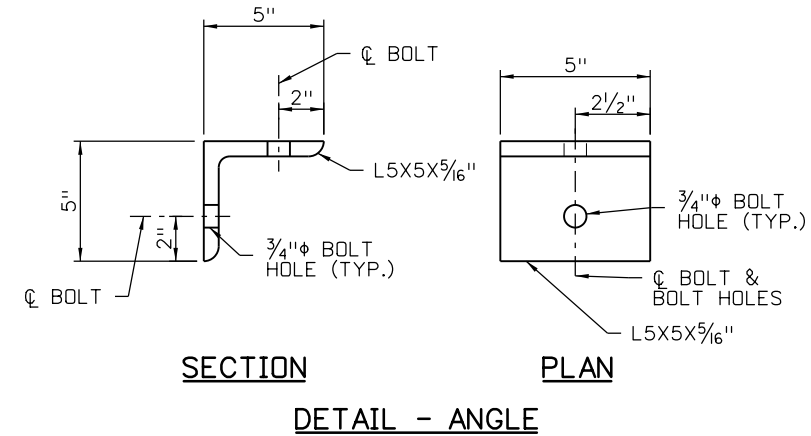
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Checked By		Checked By		Checked By	



WALL 1 - TYPICAL ROADSIDE



WALL 2 - TYPICAL ROADSIDE



KEYNOTES:

- ① COORDINATE INSTALLATION OF TYPE 3 GUARDRAIL POSTS AS NECESSARY TO PREVENT DAMAGE OR CONFLICT WITH REINFORCING STRIPS. PROVIDE A MINIMUM 6" UPTURN IN GEOMEMBRANE ONTO EACH GUARDRAIL POST TO PROVIDE A SEAL.

NOTES:

- 1. TOP OF COPING ELEVATION VARIES. SEE WALL PLAN AND PROFILE FOR ADDITIONAL INFORMATION.
- 2. A BRACKET CONNECTION CONSISTING OF AN L5X5X5/16" AND 5/8"φ X 4" (MIN.) EPOXY ANCHORS SHALL BE USED BETWEEN THE PANEL AND COPING AT 2'-0" SPACING ON CENTER. PLACE BRACKETS ALONG COPING WITHIN 3'-0" OF BOTH SIDES OF FENCE POST LOCATIONS. ANGLE SHALL BE IN ACCORDANCE WITH ASTM A36, GRADE 36. ANCHORS SHALL BE IN ACCORDANCE WITH ASTM A307. ALL HARDWARE SHALL BE GALVANIZED. ANCHORS INTO CONCRETE WITH AN EPOXY ON THE APPROVED PRODUCTS LIST. ALTERNATE SYSTEMS FOR THIS CONNECTION MAY BE SUBMITTED FOR REVIEW AND APPROVAL.
- 3. THE EPOXY ANCHOR INTO THE COPING SEGMENT SHALL BE CENTERED IN THE COPING FLANGE.



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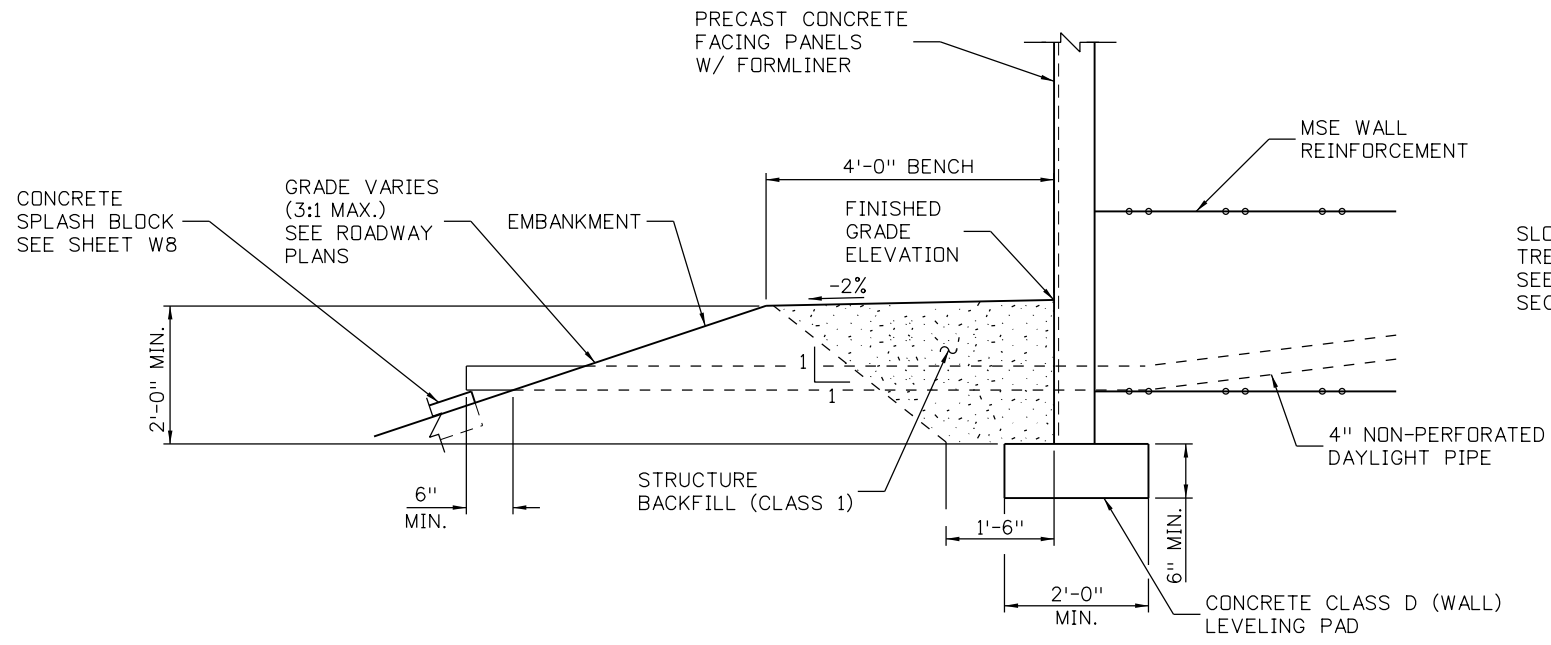
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Designer: M. DOYLE	Structure Numbers
Detailer: P. GREHAN	
Sheet Subset: WALL	Subset Sheets: W11 of 14

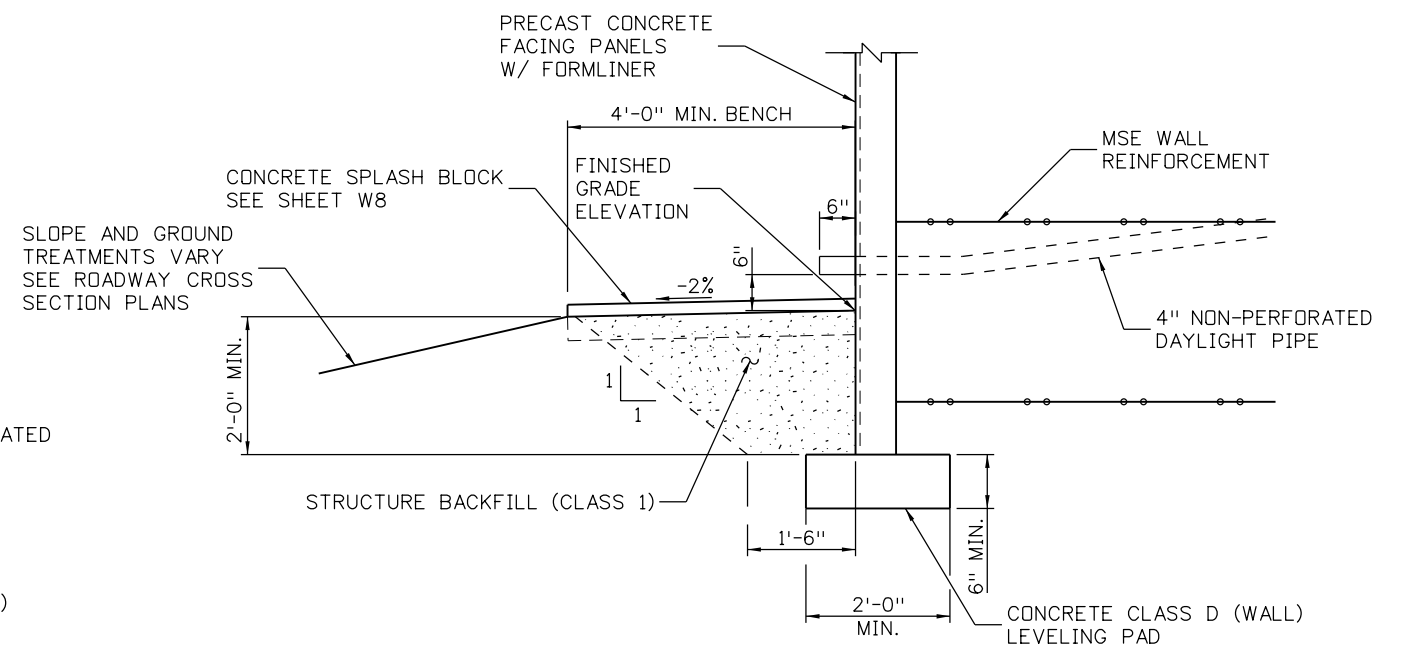
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STA 105A-014
Sheet Number 173 of 251

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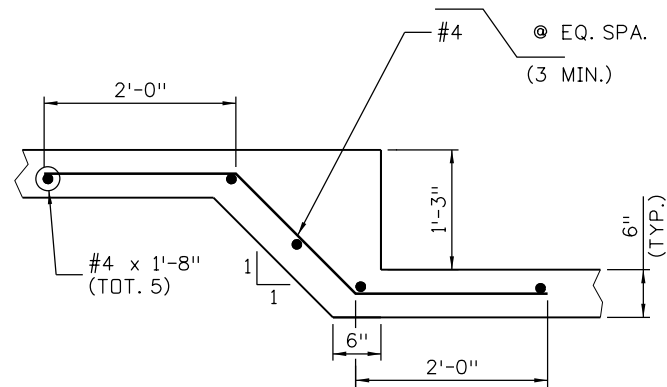
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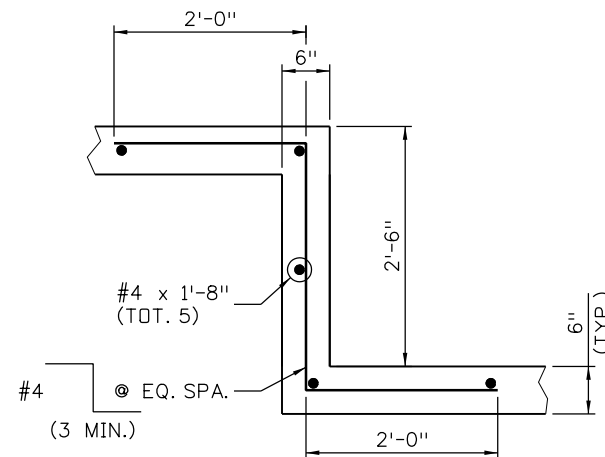
DETAIL 1 - WITH BENCH AND EMBANKMENT



DETAIL 2 - WITH BENCH

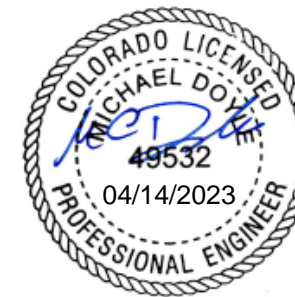


STEP DETAIL - HALF STEP MSE WALL STEPS



STEP DETAIL - FULL STEP MSE WALL STEPS

STEP DETAIL 1 1
W4 W5



- NOTES:**
- NOT ALL ROADWAY ITEMS ARE SHOWN. SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.
 - THE LEVELING PAD REINFORCING OUTSIDE STEP LIMITS SHOWN SHALL BE DESIGNED BY THE MSE WALL DESIGNER.

Print Date: 10/5/2022
File Name: 19734WALL_MSE.BottWallDet01.dgn
Horiz. Scale: 3/8" = 1'-0" Vert. Scale: 3/8" = 1'-0"
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Sheet Revisions			
Date:	Comments	Init.	



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HIGHWAY 105 PROJECT A RETAINING WALLS MSE WALL BOTTOM OF WALL DETAILS			
Designer:	M. DOYLE	Structure	
Detailer:	P. GREHAN	Numbers	
Sheet Subset:	WALL	Subset Sheets:	W12 of 14


Project No./Code
19734
STA 105A-014
Sheet Number 174 of 251

TABULATION OF UTILITIES

STATION		ALIGNMENT	SIDE	202-00035		202-04005		203-01597		210-04010		210-04015		210-04050		613-00200		613-07004		642-00001		Notes	
FROM	TO			Removal of Pipe	Clean Valve Box	Pothing	Adjust Manhole	Modify Manhole	Adjust Valve Box	2 Inch Electrical Conduit	Type Four Pull Box	Utility Coordination Meeting											
				LF	EACH	HOURL	EACH	EACH	EACH	LF	EACH	HOURL											
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.		
104+85.00	105+00.00	HWY 105	LT													30							
104+85.00		HWY 105	39' LT															1				Spaced approx. every 500 feet	
105+00.00	110+33.00	HWY 105	LT													1,066							
110+33.00	112+00.00	HWY 105	LT													334							
110+33.00		HWY 105	39' LT															1				Spaced approx. every 500 feet	
110+98.00		HWY 105	54' LT			1									2							Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification	
110+98.00	112+00.00	HWY 105	LT	102																		Removal of existing waterline, confirm abandonment with WWSD before removal	
111+21.00		HWY 105	51' LT			1									2							Includes Irrigation Tap. Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification	
111+65.00		HWY 105	59' LT						2													Adjust Manhole quantity has been doubled to cover adjustment down and back up per project specification	
112+00.00	112+69.00	HWY 105	LT													138						Removal of existing waterline, confirm abandonment with WWSD before removal	
112+00.00	119+00.00	HWY 105	LT	700																			
112+69.00	115+02.00	HWY 105	LT													472							
112+69.00		HWY 105	39' LT															1				Spaced approx. every 500 feet	
113+79.00	119+00.00	HWY 105	LT	520																		Removal of existing non-potable waterline, confirm abandonment with WWSD before removal	
115+02.00		HWY 105	56' LT															1				Spaced approx. every 500 feet	
115+02.00	119+00.00	HWY 105	LT													802							
117+75.00		HWY 105	78' RT						2													Adjust Manhole quantity has been doubled to cover adjustment down and back up per project specification	
119+00.00	119+97.00	HWY 105	LT													210						Removal of existing waterline, confirm abandonment with WWSD before removal	
119+00.00	119+89.00	HWY 105	LT	89																		Removal of existing non-potable waterline, confirm abandonment with WWSD before removal	
119+00.00	120+55.00	HWY 105	LT	155																		Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification	
119+90.00		HWY 105	41' RT			1									2							Removal of existing waterline, confirm abandonment with WWSD before removal	
119+92.00	120+61.00	HWY 105	LT	77																		Removal of existing waterline, confirm abandonment with WWSD before removal	
119+97.00		HWY 105	71' LT															1				Spaced approx. every 500 feet	
119+97.00	120+94.00	HWY 105	LT													216						Removal of existing waterline, confirm abandonment with WWSD before removal	
10+00.00	10+49.00	KNOLLWOOD DR. (NORTH)	LT	49																		Removal of existing 2" PE gas line, confirm abandonment with BHE before removal	
10+00.00	11+20.00	KNOLLWOOD DR. (NORTH)	LT	123																		Removal of existing non-potable waterline, confirm abandonment with WWSD before removal	
10+00.00	10+50.00	KNOLLWOOD DR. (NORTH)	RT	50																		Removal of existing waterline, confirm abandonment with WWSD before removal	
10+63.00	11+93.00	KNOLLWOOD DR. (NORTH)	RT.	130																			
12+79.00	12+86.00	KNOLLWOOD DR. (NORTH)	LT & RT.	58																			
11+02.00		KNOLLWOOD DR. (SOUTH)	1' RT						2													Adjust Manhole quantity has been doubled to cover adjustment down and back up per project specification	
11+06.00	12+01.00	KNOLLWOOD DR. (SOUTH)	LT & RT	95																		Removal of existing non-potable waterline, confirm abandonment with WWSD before removal	
11+09.00	12+01.00	KNOLLWOOD DR. (SOUTH)	LT	91																		Removal of existing 2" PE gas line, confirm abandonment with BHE before removal	
11+61.00	12+01.00	KNOLLWOOD DR. (SOUTH)	LT	40																		Removal of existing waterline, confirm abandonment with WWSD before removal	
120+35.00		HWY 105	61' RT			1									2							Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification	
SUBTOTALS SHEET 1				2,279	4	0	6	0	8	3,268	5	0											



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 File Name: 19734UT\19734UT_01.dgn
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Sheet Revisions		
Date:	Comments	Init.

EL PASO COUNTY COLORADO

 S.F. Region 02


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 Revised:
 Void:

**HIGHWAY 105 PROJECT A
 UTILITY MODIFICATION PLAN
 UTILITY TABULATION SHEET 1 OF 3**

Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: TABS

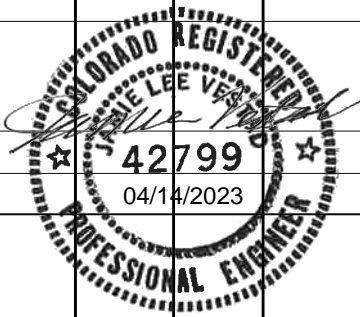
Structure Numbers:
 Subset Sheets: 1 of 3


Project No./Code
 19734
 STA 105A-014
 Sheet Number 177 of 251

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TABULATION OF UTILITIES

STATION		ALIGNMENT	SIDE	202-00035		202-04005		203-01597		210-04010		210-04015		210-04050		613-00200		613-07004		642-00001		Notes
				Removal of Pipe		Clean Valve Box		Potholing		Adjust Manhole		Modify Manhole		Adjust Valve Box		2 Inch Electrical Conduit		Type Four Pull Box		Utility Coordination Meeting		
				LF	AS CONST.	EACH	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
FROM	TO																					
120+79.00		HWY 105	60' LT							2												Adjust Manhole quantity has been doubled to cover adjustment down and back up per project specification
120+94.00		HWY 105	78' LT															1				Spaced approx. every 500 feet
120+94.00	126+00.00	HWY 105	LT													1,048						
126+00.00	126+25.00	HWY 105	LT													50						
126+25.00		HWY 105	46' LT															1				Spaced approx. every 500 feet
126+25.00	130+80.00	HWY 105	LT													910						
130+80.00	133+00.00	HWY 105	LT													440						
130+80.00		HWY 105	43' LT															1				Spaced approx. every 500 feet
133+00.00	135+80.00	HWY 105	LT													560						
135+80.00	140+00.00	HWY 105	LT													840						
135+80.00		HWY 105	43' LT															1				Spaced approx. every 500 feet
138+79.00		HWY 105	28' LT			1												2				Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification
138+82.00		HWY 105	32' LT			1												2				Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification
138+86.00	140+00.00	HWY 105	LT	114																		Removal of existing waterline, confirm abandonment with WWSD before removal
140+00.00	140+62.00	HWY 105	LT													124						
140+00.00	147+00.00	HWY 105	LT	775																		Removal of existing waterline, confirm with WWSD before removal
140+62.00		HWY 105	52' LT															1				Spaced approx. every 500 feet
140+62.00	145+25.00	HWY 105	LT													926						
141+66.00	141+67.00	HWY 105	LT & RT	74																		Removal of existing gas line, confirm abandonment with BHE before removal
141+67.00	147+00.00	HWY 105	RT	535																		Removal of existing 2" steel gas line coated with asbestos, confirm with BHE before removal. Removal, handling and disposal of asbestos containing material shall be done in accordance with the requirements of Section 250 Environmental Health and Safety Management.
145+25.00	147+00.00	HWY 105	LT													350						
145+27.00		HWY 105	57' LT															1				Spaced approx. every 500 feet
147+00.00	150+67.00	HWY 105	LT	367																		Removal of existing waterline, confirm with WWSD before removal
147+00.00	150+83.00	HWY 105	LT													772						
147+00.00	150+99.00	HWY 105	RT	398																		Removal of existing 2" steel gas line coated with asbestos, confirm with BHE before removal. Removal, handling and disposal of asbestos containing material shall be done in accordance with the requirements of Section 250 Environmental Health and Safety Management.
150+69.00		HWY 105	15' LT			1												2				Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification
150+83.00		HWY 105	47' LT																1			Spaced approx. every 500 feet
150+99.00	151+06.00	HWY 105	LT & RT	87																		Removal of existing 2" steel gas line coated with asbestos, confirm with BHE before removal. Removal, handling and disposal of asbestos containing material shall be done in accordance with the requirements of Section 250 Environmental Health and Safety Management.
151+00.00		HWY 105	14' RT	14																		Removal of existing waterline, confirm abandonment with WWSD before removal
SUBTOTALS SHEET 2				2,364		3		0		2		0		6		6,020		7		0		



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Sheet Revisions		
Date:	Comments	Init.

 EL PASO COUNTY COLORADO
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HIGHWAY 105 PROJECT A
UTILITY MODIFICATION PLAN
UTILITY TABULATION SHEET 2 OF 3

Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: TABS

Project No./Code


19734
 STA 105A-014
 Sheet Number 178 of 251

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TABULATION OF UTILITIES

STATION		ALIGNMENT	SIDE	202-00035		202-04005		203-01597		210-04010		210-04015		210-04050		613-00200		613-07004		642-00001		Notes
				Removal of Pipe		Clean Valve Box		Potholing		Adjust Manhole		Modify Manhole		Adjust Valve Box		2 Inch Electrical Conduit		Type Four Pull Box		Utility Coordination Meeting		
FROM	TO			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
151+06.00	153+23.00	HWY105	LT	220																		Removal of existing 2" steel gas line coated with asbestos, confirm with BHE before removal. Removal, handling and disposal of asbestos containing material shall be done in accordance with the requirements of Section 250 Environmental Health and Safety Management.
151+22.00	151+26.00	HWY 105	LT & RT	80																		Removal of existing 2" steel gas line coated with asbestos, confirm with BHE before removal. Removal, handling and disposal of asbestos containing material shall be done in accordance with the requirements of Section 250 Environmental Health and Safety Management.
151+27.00		HWY 105	16' LT			1								2								Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification
151+28.00		HWY 105	47' LT			1								2								Adjust Valve Box quantity has been doubled to cover adjustment down and back up per project specification
151+52.00		HWY 105	26' RT							2												Adjust Manhole quantity has been doubled to cover adjustment down and back up per project specification
153+41.00		HWY 105	24' RT							2												Adjust Manhole quantity has been doubled to cover adjustment down and back up per project specification
10+35.00	13+64.00	LAKE WOODMOOR	LT	329																		Removal of existing 2" steel gas line coated with asbestos, confirm with BHE before removal. Removal, handling and disposal of asbestos containing material shall be done in accordance with the requirements of Section 250 Environmental Health and Safety Management.
10+41.00	13+61.00	LAKE WOODMOOR	LT	321																		Removal of existing 4" PE gas line, confirm abandonment with BHE before removal
12+67.00		LAKE WOODMOOR	13' RT								1											
PROJECT LIMITS			LT & RT					80													1,000	
SUBTOTALS SHEET 3				950		2		80		4		1		4		0		0		1,000		
SUBTOTALS SHEET 2				2,364		3		0		2		0		6		6,020		7		0		
SUBTOTALS SHEET 1				2,279		4		0		6		0		8		3,268		5		0		
PROJECT TOTALS				5,593		9		80		12		1		18		9,288		12		1,000		



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Date:	Comments	Init.



As Constructed	HIGHWAY 105 PROJECT A UTILITY MODIFICATION PLAN UTILITY TABULATION SHEET 3 OF 3	
No Revisions:	Designer: J. VESTAD	Structure Numbers
Revised:	Detailer: D. MADDOCK	
Void:	Sheet Subset: TABS	Subset Sheets: 3 of 3

Project No./Code
 19734
 STA 105A-014
 Sheet Number 179 of 251



Know what's below.
Call before you dig.

GENERAL

- ▲ CONTROL MONUMENT
- PI STATION
- PI STATION STRUCTURE
- ⊕ TESTHOLE
- THXX

ELECTRIC

- GUY POLE
- ↓ GUY WIRE
- ⊕ MANHOLE
- MARKER
- M METER
- ⊕ OUTLET
- E PEDESTAL
- POLE
- EPB PULLBOX
- ESW SWITCH
- TOWER
- XFMR TRANSFORMER
- E VAULT

FIBER OPTIC

- FD MANHOLE
- MARKER
- FD PEDESTAL
- POLE
- FOPB PULLBOX
- FD VAULT

GAS

- G MANHOLE
- MARKER
- M METER
- TANK
- VALVE
- G VAULT
- V VENT

GAS-HP

- HP MARKER
- HP HP METER
- HP HP VALVE
- HP HP VENT

IRRIGATION

- BO BLOWOFF
- IR MANHOLE
- MARKER
- M METER
- IR PEDESTAL
- IRPB PULLBOX
- VALVE
- V VENT

LIGHTING

- MARKER
- L PEDESTAL
- POLE
- LPB PULLBOX

OIL

- MARKER
- M METER
- Q VALVE
- Q WELLHEAD

SANITARY

- CO CLEANOUT
- SA MANHOLE
- MARKER
- VALVE
- SA VAULT
- V VENT

SIGNAL

- CONTROLLER
- MARKER
- SG PEDESTAL
- POLE
- SPB PULLBOX

STORM

- CO CLEANOUT
- < END SECTION
- INLET
- SI MANHOLE
- MARKER

TELEPHONE

- T MANHOLE
- MARKER
- T PEDESTAL
- POLE
- TPB PULLBOX
- VAULT

TELEVISION

- TV MANHOLE
- MARKER
- TV PEDESTAL
- POLE
- TVPB PULLBOX
- TV VAULT

WATER

- BO BLOWOFF
- HYDRANT
- W MANHOLE
- MARKER
- M METER
- VALVE
- W VAULT
- V VENT
- WL WELL

OTHER

- MANHOLE
- MARKER
- M METER
- PEDESTAL
- POLE
- PULLBOX
- VALVE
- VAULT
- V VENT
- ◇ OTHER

- E --- OH --- E --- OH --- E OVERHEAD ELECTRIC LINE
- E-QLB --- E-QLB --- E-QLB UNDERGROUND ELECTRIC LINE
- E-QLC --- E-QLC --- E-QLC
- E-QLD --- E-QLD --- E-QLD
- FO --- OH --- FO --- OH --- F OVERHEAD FIBER OPTIC LINE
- FO-QLB --- FO-QLB --- FO-QLB UNDERGROUND FIBER OPTIC LINE
- FO-QLC --- FO-QLC --- FO-QLC
- FO-QLD --- FO-QLD --- FO-QLD
- G --- OH --- G --- OH --- OVERHEAD GAS
- G-QLB --- G-QLB --- G-QLB UNDERGROUND GAS LINE
- G-QLC --- G-QLC --- G-QLC
- G-QLD --- G-QLD --- G-QLD
- G-HP-QLB --- G-HP-QLB --- UNDERGROUND HIGH PRESSURE GAS LINE
- G-HP-QLC --- G-HP-QLC ---
- G-HP-QLD --- G-HP-QLD ---
- IRR-QLB --- IRR-QLB --- UNDERGROUND IRRIGATION LINE
- IRR-QLC --- IRR-QLC ---
- IRR-QLD --- IRR-QLD ---
- OH --- SLT --- OH --- SLT OVERHEAD LIGHTING LINE
- SLT-QLB --- SLT-QLB --- UNDERGROUND LIGHTING LINE
- SLT-QLC --- SLT-QLC ---
- SLT-QLD --- SLT-QLD ---
- O --- OH --- O --- OH --- OVERHEAD OIL LINE
- O-QLB --- O-QLB --- UNDERGROUND OIL LINE
- O-QLC --- O-QLC ---
- O-QLD --- O-QLD ---
- SA --- OH --- SA --- OVERHEAD SANITARY LINE
- SA-QLB --- SA-QLB --- UNDERGROUND SANITARY SEWER
- SA-QLC --- SA-QLC ---
- SA-QLD --- SA-QLD ---
- CDM --- SA/ST-QLB --- UNDERGROUND SANITARY/STORM SEWER COMBINED
- CDM --- SA/ST-QLC ---
- CDM --- SA/ST-QLD ---
- OH --- SIG --- OH --- SIG OVERHEAD SIGNAL LINE
- SIG-QLB --- SIG-QLB --- UNDERGROUND SIGNAL LINE
- SIG-QLC --- SIG-QLC ---
- SIG-QLD --- SIG-QLD ---
- ST-QLB --- ST-QLB --- UNDERGROUND STORM SEWER
- ST-QLC --- ST-QLC ---
- ST-QLC --- ST-QLC ---
- TDUC-QLB --- TDUC-QLB --- UNDERGROUND TELECOM DUCTBANK
- TDUC-QLC --- TDUC-QLC ---
- TDUC-QLD --- TDUC-QLD ---

- T --- OH --- T --- OH --- T OVERHEAD TELEPHONE LINE
- T-QLB --- T-QLB --- UNDERGROUND TELEPHONE LINE
- T-QLC --- T-QLC ---
- T-QLD --- T-QLD ---
- TV --- OH --- TV --- OH --- T OVERHEAD TELEVISION LINE
- TV-QLB --- TV-QLB --- UNDERGROUND TELEVISION LINE
- TV-QLC --- TV-QLC ---
- TV-QLD --- TV-QLD ---
- W --- OH --- W --- OH --- OVERHEAD WATER LINE
- W-QLB --- W-QLB --- UNDERGROUND WATER LINE
- W-QLC --- W-QLC ---
- W-QLD --- W-QLD ---



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Sheet Revisions		
Date:	Comments	Init.



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HIGHWAY 105 PROJECT A SUE INVESTIGATION LEGEND			
Designer:	J. VESTAD	Structure Numbers	
Detailer:	D. MADDOCK	Subset Sheets:	1 of 14
Sheet Subset:	SUE		

Project No./Code
19734
STA 105A-014
Sheet Number 180 of 251

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Know what's below.
Call before you dig.

UTILITY CONTACT LIST - HIGHWAY 105 RECONSTRUCTION

UTILITY OWNER	UTILITY TYPE	CONTACT	ADDRESS	PHONE	EMAIL
Black Hills Energy (BHE)	Gas	Richie Bailey	10 Primrose St., P.O. Box 668 Palmer Lake, CO 80133	Office: 719-728-9700	richie.bailey@blackhillscorp.com
Comcast	Fiber Optic Television	Steven Creighton	8000 E. Iliff Ave. Denver, CO 80231	Office: 303-603-5621 Mobile: 720-854-5745	steven_creighton@comcast.com
Force Broadband	Fiber Optic	Geoff Cannon	15954 Jackson Creek Pkwy., Unit B Monument, CO 80132	Office: 719-377-7424	geoff@forcebb.com
El Paso County	Electric (Lighting) Storm Sewer Traffic Signals	Tim Stickel	3275 Akers Dr. Colorado Springs, CO 80922	Mobile: 719-337-2837	timstickel@elpasco.com
		Alissa Werre		Mobile: 719-238-8080	alissawerre@elpasoco.com
Lumen (Formerly CenturyLink / Level 3) Represented By Terra Technologies	Design	Robert McLeod (Terra)		Mobile: 303-949-2187	rmcleod@tertechllc.net
	Fiber Optic (National)	Tom Longan (National)	14200 E. Jewell Ave. Aurora, CO 80012	Office: 303-482-9822 Mobile: 720-878-6311	thomas.longan@centurylinkcom
	Telephone	Andy Hekkers (Local)	700 W. Mineral Ave. Littleton, CO 80120	Mobile: 719-355-7346	andrew.hekkers@centurylink.com
Mountain View Electric Association (MVEA)	Electric	Wayne Baab (Design)		Office: 719-487-9292 Mobile: 719-331-1651	wayne@wrbcengcorp.com
		Les Ulfers (Systems Eng)	11140 E. Woodmen Rd. Falcon, CO 80831	Office: 719-494-2682	les.u@mvea.coop
Stratus IQ (Formerly Falcon Broadband)	Fiber Optic	Chris Otrin	555 Hathaway Dr. Colorado Springs, CO 80915	Office: 719-492-6872	cotrin@stratusiq.com
Unite Private Networks	Fiber Optic	Raymond Schwab	317 Main, Ste. 2W Pueblo, CO 81003	Mobile: 720-354-6047	raymond.schwab@upnfiber.com
Verizon Business (Formerly MCI)	Fiber Optic	Jared Williams	2424 Garden of the Gods Rd., Suite 350 Colorado Springs, CO 80919	Mobile: 303-961-0981	jared.williams@verizon.com
		David McAllister		Mobile: 801-301-0937	david.mcallister@verizon.com
Woodmoor Water & Sanitation District (WWSD)	Sanitary Sewer Water	Jessie Schaffer	1845 Woodmoor Dr. Monument, CO 80132	Office: 719-488-2525 x 14	jessies@woodmoorwater.com
		Ariel Hacker (Engineering)		Office: 719-488-2525 x 13	arielh@woodmoorwater.com
		Dan LaFontaine (Operations)		Office: 719-488-2525 x 18	danl@woodmoorwater.com



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Sheet Revisions		
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**HIGHWAY 105 PROJECT A
 SUE INVESTIGATION PLAN
 CONTACT LIST**
 Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: SUE
 Structure Numbers:
 Subset Sheets: 2 of 14

Project No./Code
 19734
 STA 105A-014
 Sheet Number 181 of 251

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Know what's below.
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HDR SUBSURFACE UTILITY ENGINEERING (SUE) NOTES

SURVEYING NOTES:

NOTE S1 - TIME FRAME:

HDR ENGINEERING, INC. PERFORMED SUE LOCATING AND SURVEYING DURING AUGUST AND DECEMBER 2021, AND APRIL 2022.

NOTE S2 - CONTROL:

HDR ENGINEERING, INC. UTILIZED LAND SURVEY CONTROL SET DURING PREVIOUS TOPOGRAPHIC SURVEY AND PROVIDED BY FARNSWORTH GROUP WHILE COMPLETING THE SUE SURVEY. POSITIONAL CHECKING WAS CONDUCTED AT CONTROL POINT 902.

NOTE S3 - EQUIPMENT:

THE UTILITY SURVEY UTILIZED TRIMBLE R8 AND CATALYST RECEIVERS WHICH TRACK GPS GLONASS AND GNSS SATELLITES WITH VRS CORRECTION SERVICE.

NOTE S4 - ACCURACY:

GPS NETWORK QC CHECKS WERE PERFORMED AT PREVIOUSLY ESTABLISHED CONTROL POINT 902. SUE SURVEY GROUND SHOTS WERE COLLECTED AT AN ACCURACY OF 0.26 FEET OR BETTER.

NOTE S5 - PLANIMETRICS:

SYMBOLS AND LINES REPRESENTING TOPOGRAPHIC SURVEY AND OTHER PLANIMETRIC FEATURES WERE PROVIDED BY FARNSWORTH GROUP AND SHOWN AS BACKGROUND INFORMATION ON THE EXISTING UTILITY PLAN. ONLY UTILITY FEATURES WHERE FIELD MEASURED DURING THE SUE INVESTIGATION.

ENGINEERING NOTES:

NOTE E1 - BUNDLED CONDUITS AND CABLES:

UTILITY QUALITY LEVEL LINE DEPICTION IS INTENDED TO INDICATE THE PRESENCE OF AN UNDERGROUND UTILITY AND MAY NOT REPRESENT THE ACTUAL NUMBER OF BUNDLED CONDUITS OR CABLES FOR THAT UTILITY UNLESS OTHERWISE NOTED.

NOTE E2 - OUT OF SERVICE UTILITIES:

OUT OF SERVICE OR ABANDONED UTILITY LINES THAT MAY BE SHOWN ON THE SUE INVESTIGATION PLAN WERE LOCATED DUE TO THE PRESENCE OF ABOVE GROUND APPURTENANCES OR OWNER-PROVIDED MAPPING. THE SUE INVESTIGATION PLAN IS INTENDED TO SHOW ACTIVE UTILITY LINES AND DOES NOT SHOW ALL OUT OF SERVICE UTILITY LINES THAT MAY EXIST IN THE PROJECT AREA. OUT OF SERVICE STATUS WAS DETERMINED VIA OWNER PROVIDED MAPPING OR DIRECTION AND IS NOT AFFIRMED BY HDR ENGINEERING, INC. THE CONTRACTOR SHALL USE CAUTION AROUND OUT OF SERVICE UTILITY LINES AND SHALL TREAT THEM AS IF THEY ARE ACTIVE.

NOTE E3 - CULVERT QUALITY LEVEL:

ALL CULVERTS SHOWN ON THE SUE UTILITY INVESTIGATION PLAN ARE DEPICTED AS QUALITY LEVEL C UNLESS OTHERWISE NOTED. THESE LINES WERE NOT LOCATED USING GEOPHYSICAL MEANS AS THIS LEVEL OF INVESTIGATION WOULD PROVIDE RELATIVELY LITTLE ADDITIONAL USEFUL INFORMATION. DURING PREVIOUS TOPOGRAPHIC SURVEY, SEWER LINES WERE IDENTIFIED VIA PIPE ENDS.

ENGINEERING NOTES (CONT.):

NOTE E4 - CONTRACTOR RESPONSIBILITY:

A PROGRAMMATIC EFFORT HAS BEEN MADE TO SYSTEMATICALLY LOCATE, SURVEY, AND DEPICT UTILITIES WITHIN THE PROJECT AREA TO THE EXTENT PRACTICAL. SUE UTILITY INVESTIGATION PLANS ARE FOR DESIGN PURPOSES ONLY AND REFLECT SUBSURFACE UTILITY CONDITIONS AT THE TIME OF THE SUE INVESTIGATION. EXISTING UTILITY LOCATIONS DEPICTED ON THE PLANS DO NOT SUPERSEDE COLORADO STATE ONE CALL DEMARICATIONS OF BURIED UTILITIES OR RELIEVE THE CONTRACTOR FROM THE LEGAL REQUIREMENT TO CONTACT ONE CALL TWO WORKING DAYS PRIOR TO CONSTRUCTION. HDR ENGINEERING, INC. SHOULD BE NOTIFIED OF ANY DISCREPANCIES BETWEEN THE EXISTING UTILITY PLAN AND ONE CALL DEMARICATIONS. THE CONTRACTOR SHALL USE CAUTION UNTIL SUCH DISCREPANCIES ARE RESOLVED.

NOTE E5 - SERVICE LATERALS:

UTILITY SERVICE LATERALS WERE LOCATED WHEN DEPICTED ON UTILITY OWNER MAPPING AND WHEN EXISTENCE COULD BE VERIFIED IN THE FIELD. IT IS POSSIBLE THAT PREVIOUSLY UNKNOWN SERVICE LATERALS MAY EXIST WITHIN THE PROJECT CORRIDOR. THE CONTRACTOR SHALL VERIFY ALL SERVICE LATERALS WITH PROPERTY AND UTILITY OWNERS AS REQUIRED DURING CONSTRUCTION.

NOTE E6 - UTILITY QUALITY LEVEL ON HWY 105 BETWEEN I-25 ON AND OFF-RAMPS TO LAKE WOODMOOR DRIVE:

SOME WATER MAINS, NON-POTABLE WATER MAINS, ELECTRIC UTILITY LINES, FIBER UTILITY LINES, GAS UTILITY LINES, TELEPHONE UTILITY LINES, STORM SEWER AND SANITARY SEWER MAINS LOCATED ON HWY 105 BETWEEN I-25 ON AND OFF-RAMPS TO LAKE WOODMOOR DRIVE WERE NOT LOCATED USING GEOPHYSICAL MEANS AND ARE DEPICTED AS QUALITY LEVEL C AND D AS NOTED ON THE PLANS. UTILITY LINES DEPICTED AS QUALITY LEVEL C WERE IDENTIFIED DURING PREVIOUS TOPOGRAPHIC SURVEY VIA ABOVE GROUND APPURTENANCES. UTILITY LINES DEPICTED AS QUALITY LEVEL D WERE IDENTIFIED VIA PLANS PROVIDED TO HDR BY THE UTILITY OWNERS. THE CONTRACTOR SHALL TAKE NOTE OF THIS AND COORDINATE DIRECTLY WITH HDR AND THE UTILITY OWNERS DURING EXCAVATION WITHIN THIS AREA.

NOTE E7 - EXISTING BURIED STRATUS/UNITE HANDHOLE:

BASED ON DISCUSSION WITH STRATUS/UNITE, IT IS POSSIBLE THAT A BURIED FIBER HANDHOLE IS PRESENT ALONG THE SOUTH SIDE OF HWY 105 EAST OF KNOLLWOOD DRIVE, ROUGHLY AT STA. 122+50. THE CONTRACTOR SHALL TAKE NOTE OF THIS AND COORDINATE DIRECTLY WITH HDR AND THE UTILITY OWNER DURING EXCAVATION WITHIN THIS AREA.

GENERAL UTILITY NOTES:

- CAUTION: LOCATION OF EXISTING UTILITIES IS SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AS SUPPLIED BY THE UTILITY PROVIDERS INCLUDING TYPE, SIZE, LOCATION, AND NUMBER OF UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AS NECESSARY TO ENSURE THE UTILITIES WILL NOT BE IMPACTED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN THE PROJECT ENGINEER'S APPROVAL PRIOR TO PERFORMING ANY TESTHOLES.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 105.11 OF THE STANDARD SPECIFICATIONS AND THE UTILITY PROJECT SPECIAL PROVISIONS CONCERNING UTILITIES. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH UTILITY OWNERS IN THEIR REMOVAL, ADJUSTMENT, AND/OR RELOCATION OPERATIONS SO THAT THE UTILITY WORK CAN BE ACCOMPLISHED WITHOUT IMPACTING THE CONSTRUCTION SCHEDULE.
- THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1-800-922-1987, TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR NOTING ALL UTILITY LOCATIONS ON THE AS-BUILT SET OF DRAWINGS IF THE DOCUMENTS ARE NOT ACCURATE.
- THE CONTRACTOR SHALL KEEP REQUIRED MINIMUM CLEARANCE FROM ALL OVERHEAD UTILITIES DURING CONSTRUCTION ACTIVITIES.
- UTILITIES ARE DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVELS" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERS' DOCUMENT ASCE 38, "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."



Print Date: 4/13/2023
 File Name: 19734UTIL_SUE_Gen Notes-01.dgn
 Horiz. Scale: 1:1 Vert. Scale: None

5555 TECH CENTER DRIVE, SUITE 310
 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

Sheet Revisions		
Date:	Comments	Init.

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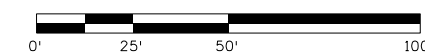
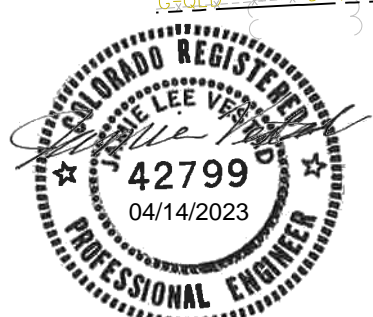
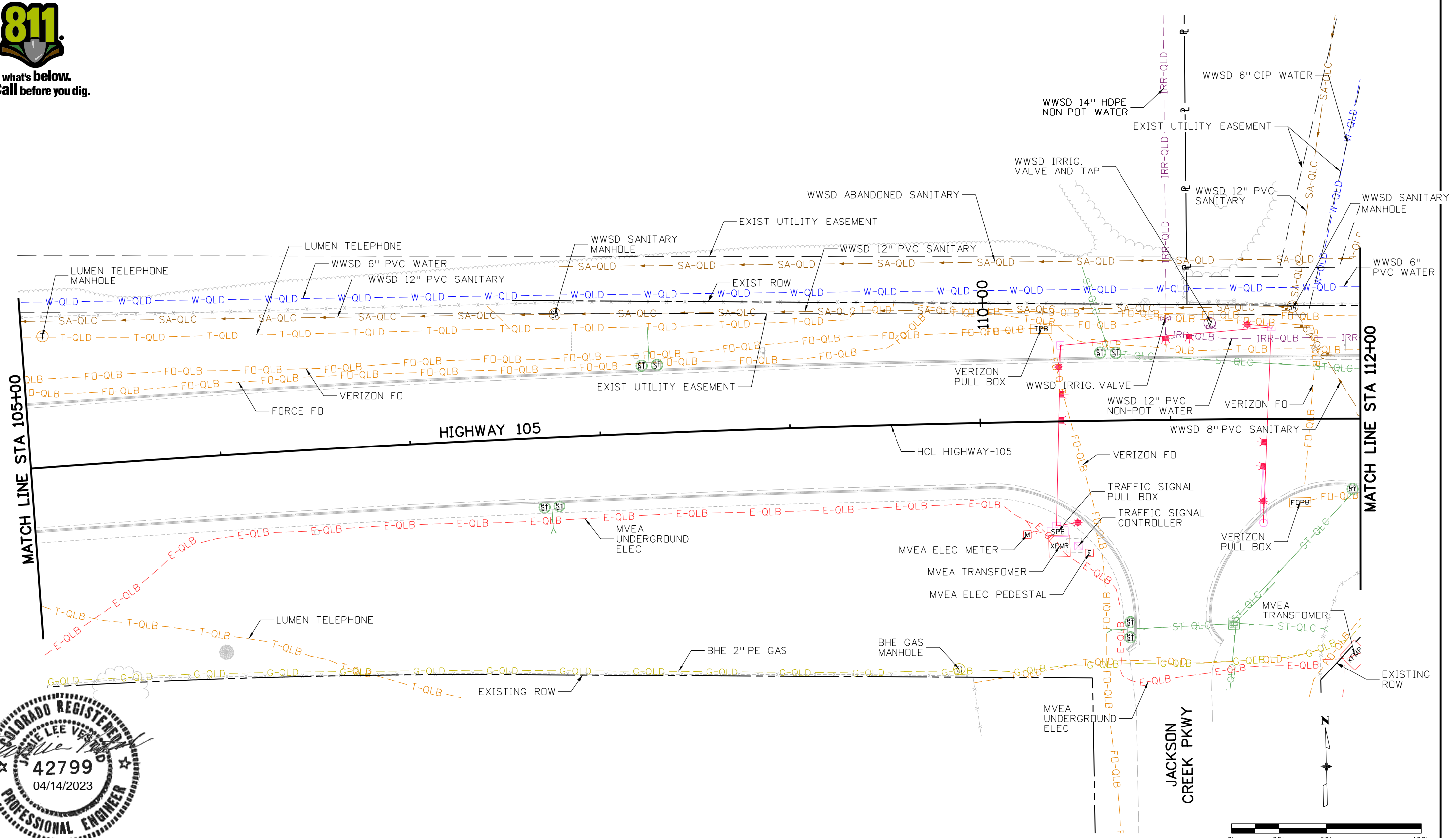
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Designer:	J. VESTAD	Structure Numbers
Detailer:	D. MADDDCK	
Sheet Subset:	SUE	Subset Sheets: 3 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 182 of 251

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 File Name: 19734UTIL_SUE_UT-02.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

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Date:	Comments	Init.



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Void:

**HIGHWAY 105 PROJECT A
 SUE INVESTIGATION PLAN
 STA 105+00 TO 112+00**

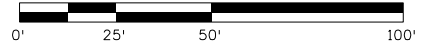
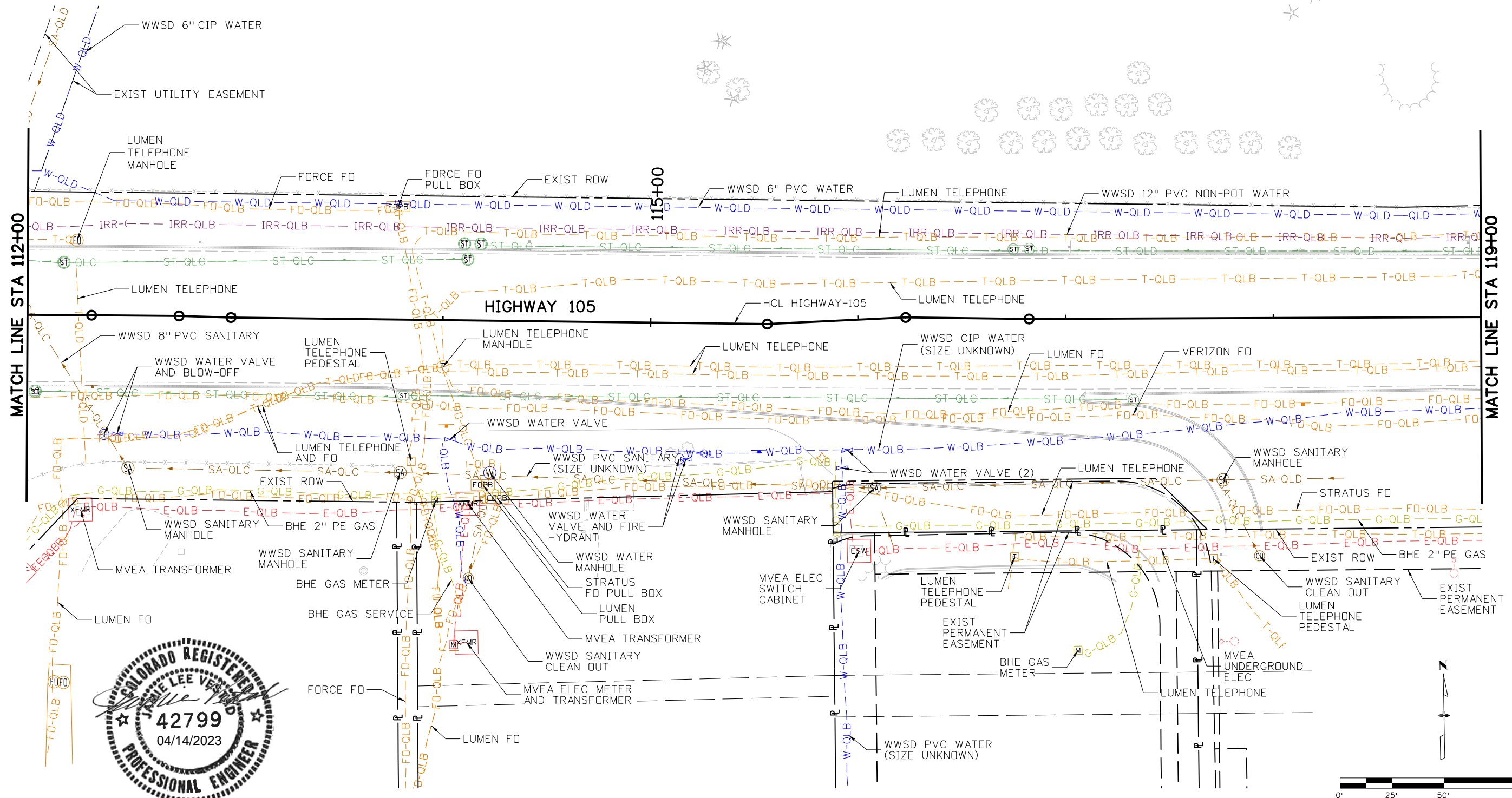
Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: SUE

Project No./Code
19734
STA 105A-014
Sheet Number 184 of 251

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HR 5555 TECH CENTER DRIVE, SUITE 310
 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

Sheet Revisions		
Date:	Comments	Init.



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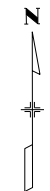
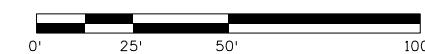
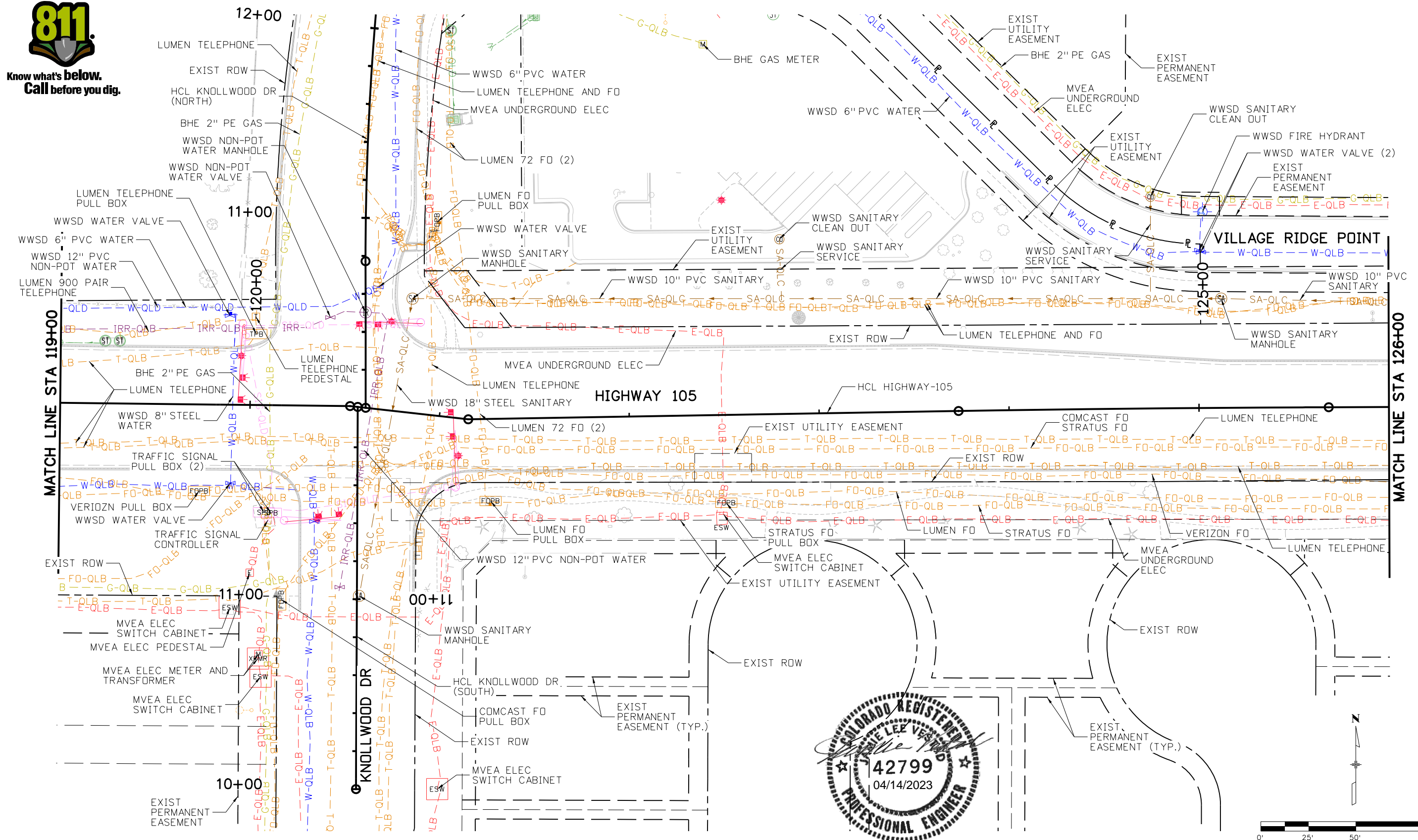
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Designer:	J. VESTAD	Structure Numbers:
Detailer:	D. MADDOCK	
Sheet Subset:	SUE	Subset Sheets: 6 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 185 of 251

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HIGHWAY 105 PROJECT A
SUE INVESTIGATION PLAN
STA 119+00 TO 126+00

Designer:	J. VESTAD	Structure Numbers	
Detailer:	D. MADDOCK	Subset Sheets:	7 of 14
Sheet Subset:	SUE		

Project No./Code

19734

STA 105A-014

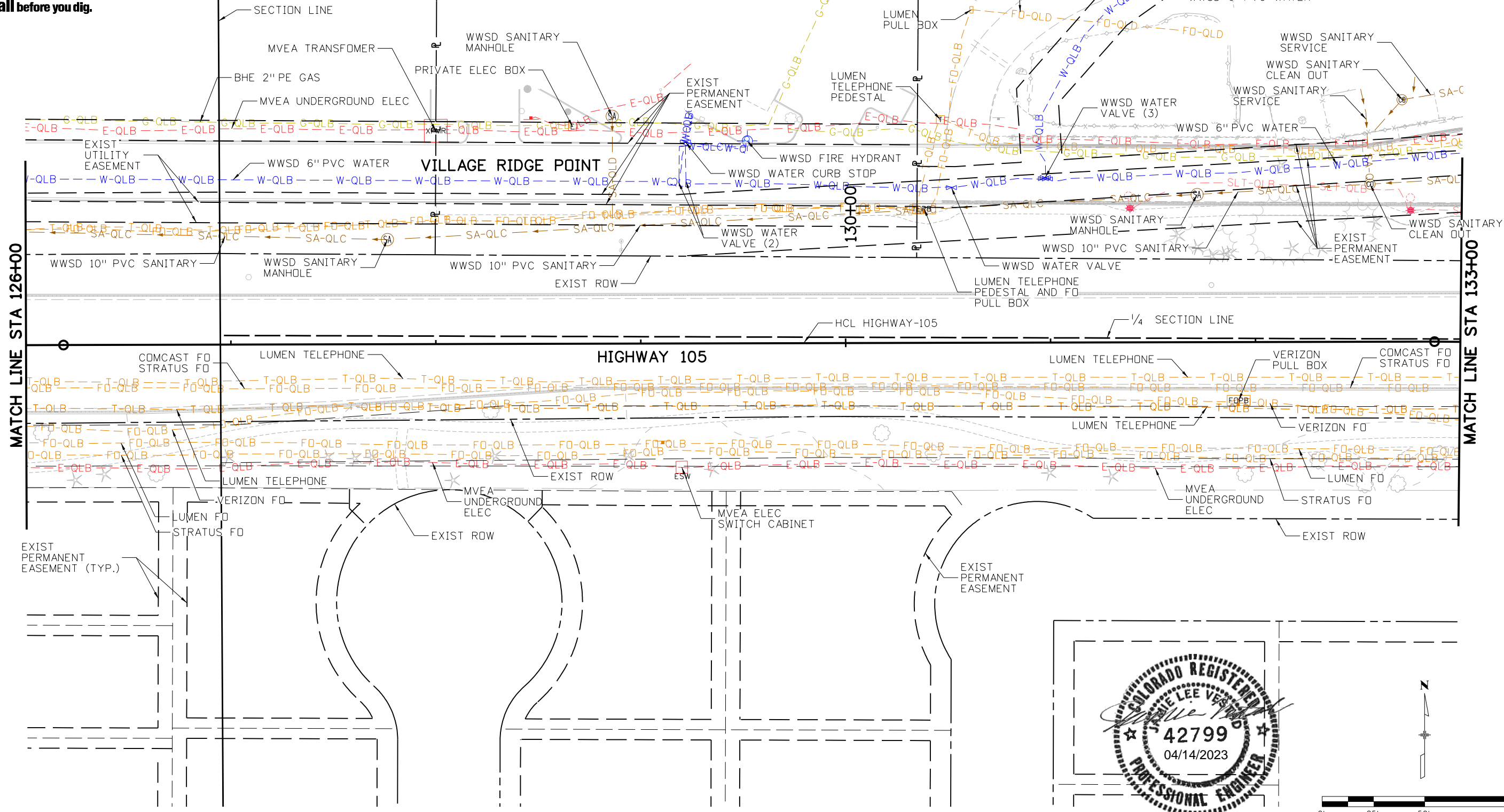
Sheet Number 186 of 251

HR 5555 TECH CENTER DRIVE, SUITE 310
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HIGHWAY 105 PROJECT A
SUE INVESTIGATION PLAN
STA 126+00 TO 133+00

Designer: J. VESTAD
Detailer: D. MADDOCK
Sheet Subset: SUE

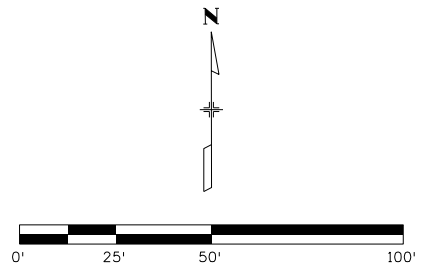
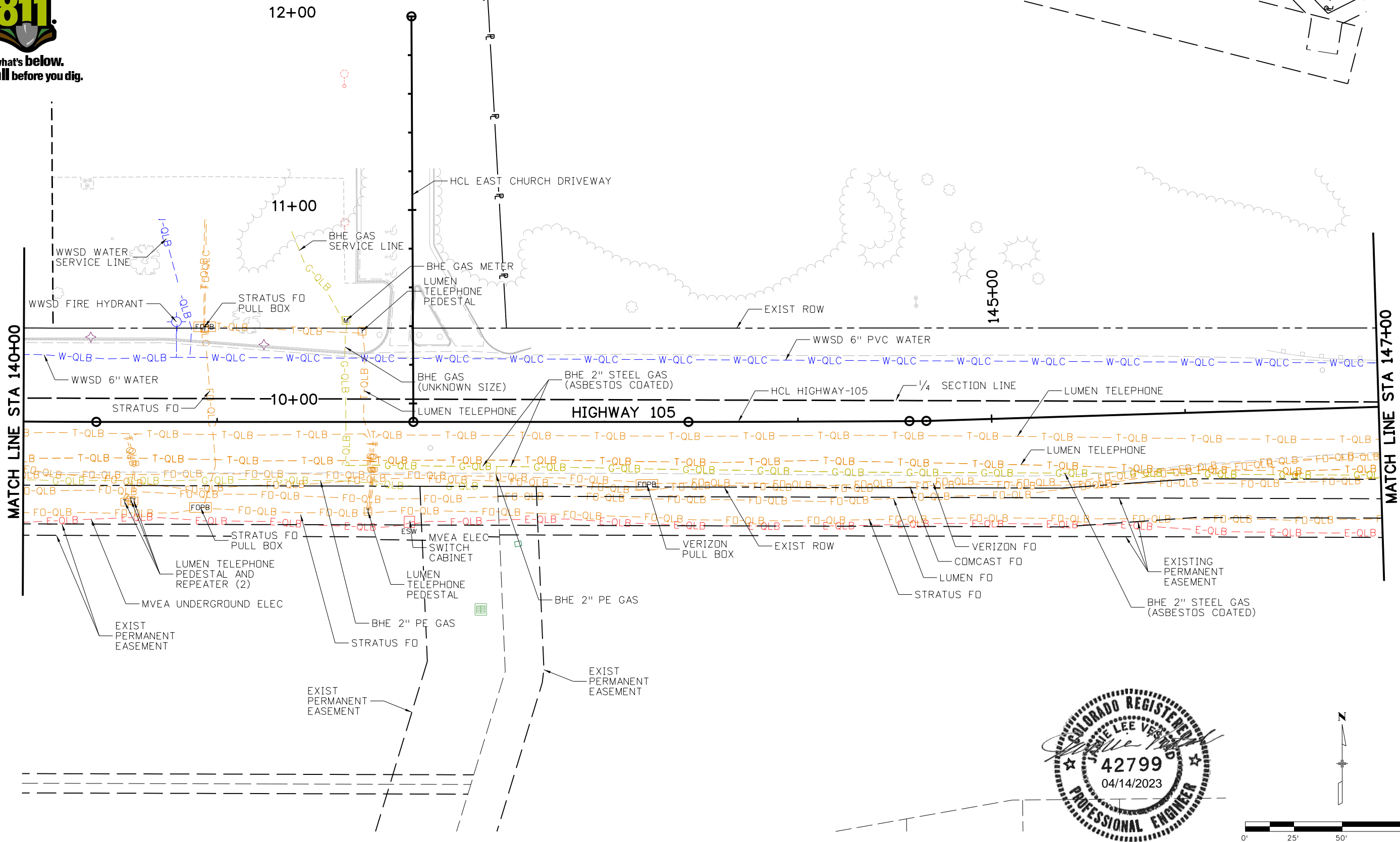
Structure Numbers: Subst Sheets: 8 of 14

Project No./Code
19734
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Sheet Number 187 of 251





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File Name: 19734UTIL_SUE_UT-07.dgn
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Date:	Comments	Init.

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S.F. Region 02

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Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
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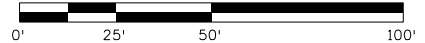
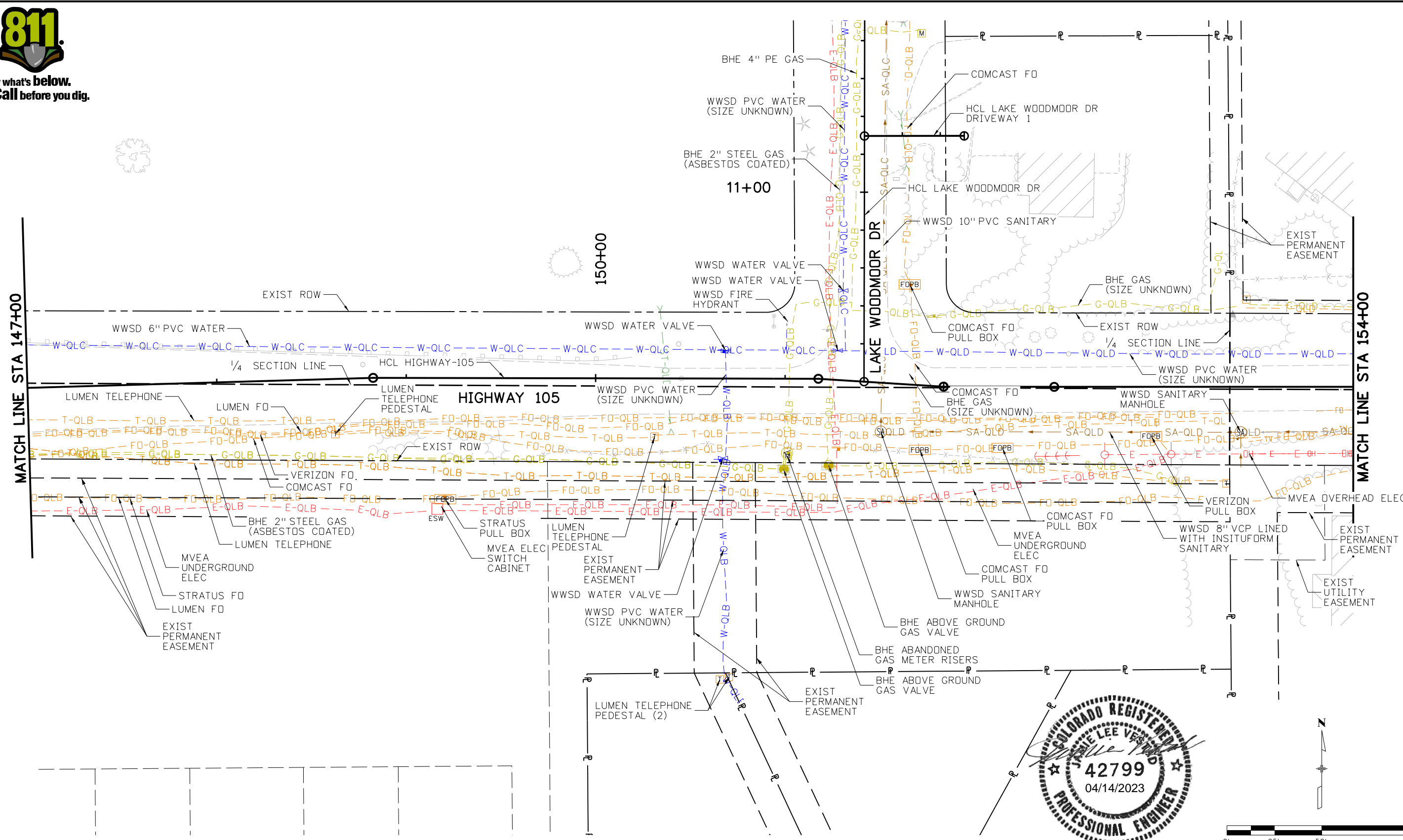
Project No./Code
19734
STA 105A-014
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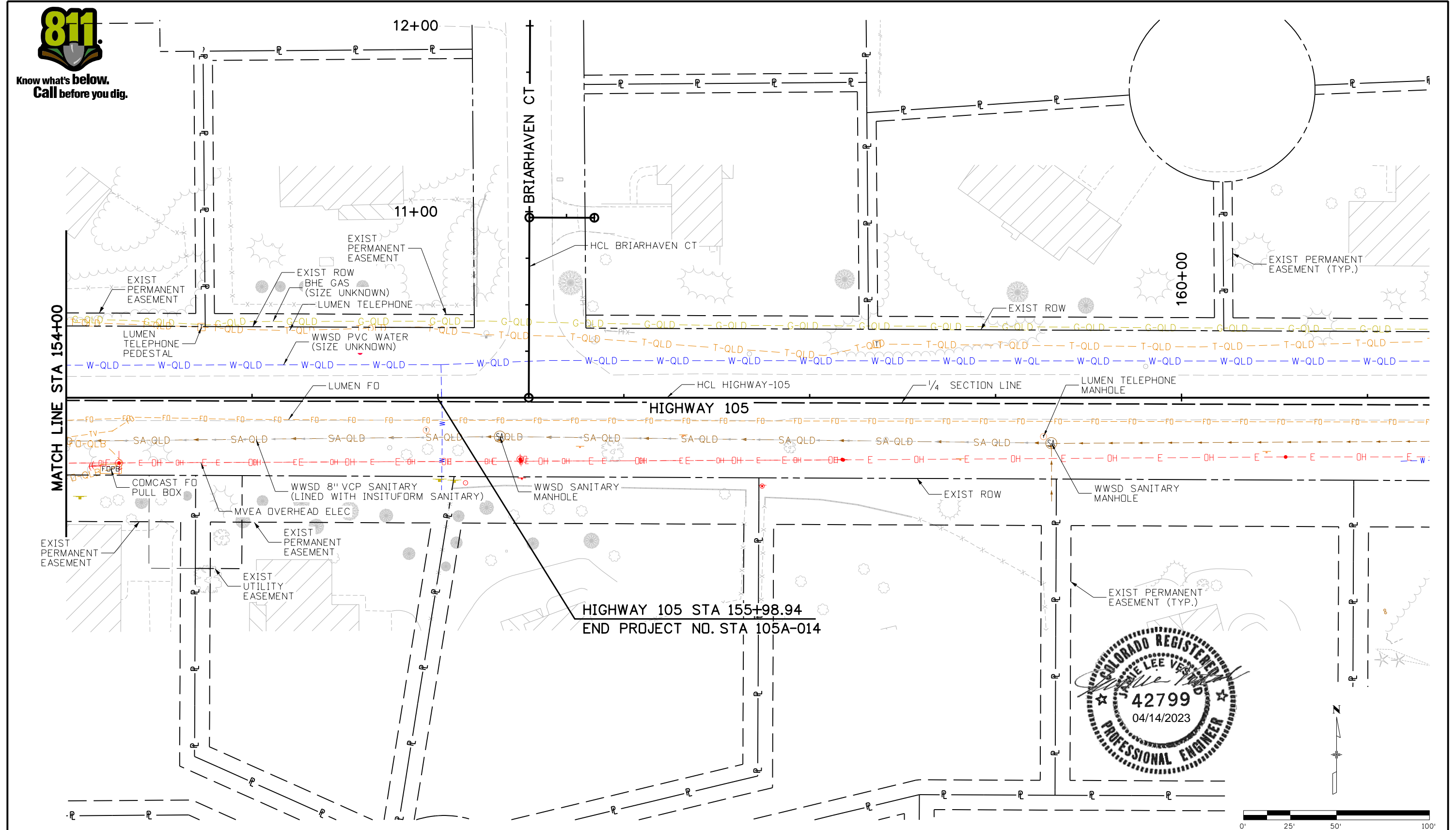
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Designer: J. VESTAD	Structure Numbers:
Detailer: D. MADDOCK	
Sheet Subset: SUE	Subset Sheets: 11 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 190 of 251



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Print Date: 4/13/2023

File Name: 19734UTIL_SUE_UT-09.dgn

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HR 5555 TECH CENTER DRIVE, SUITE 310
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HIGHWAY 105 PROJECT A
SUE INVESTIGATION PLAN
STA 154+00 TO 161+00

Designer: J. VESTAD

Detailer: D. MADDOCK

Sheet Subset: SUE

Structure Numbers

Subset Sheets: 12 of 14

Project No./Code

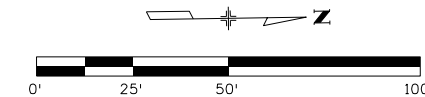
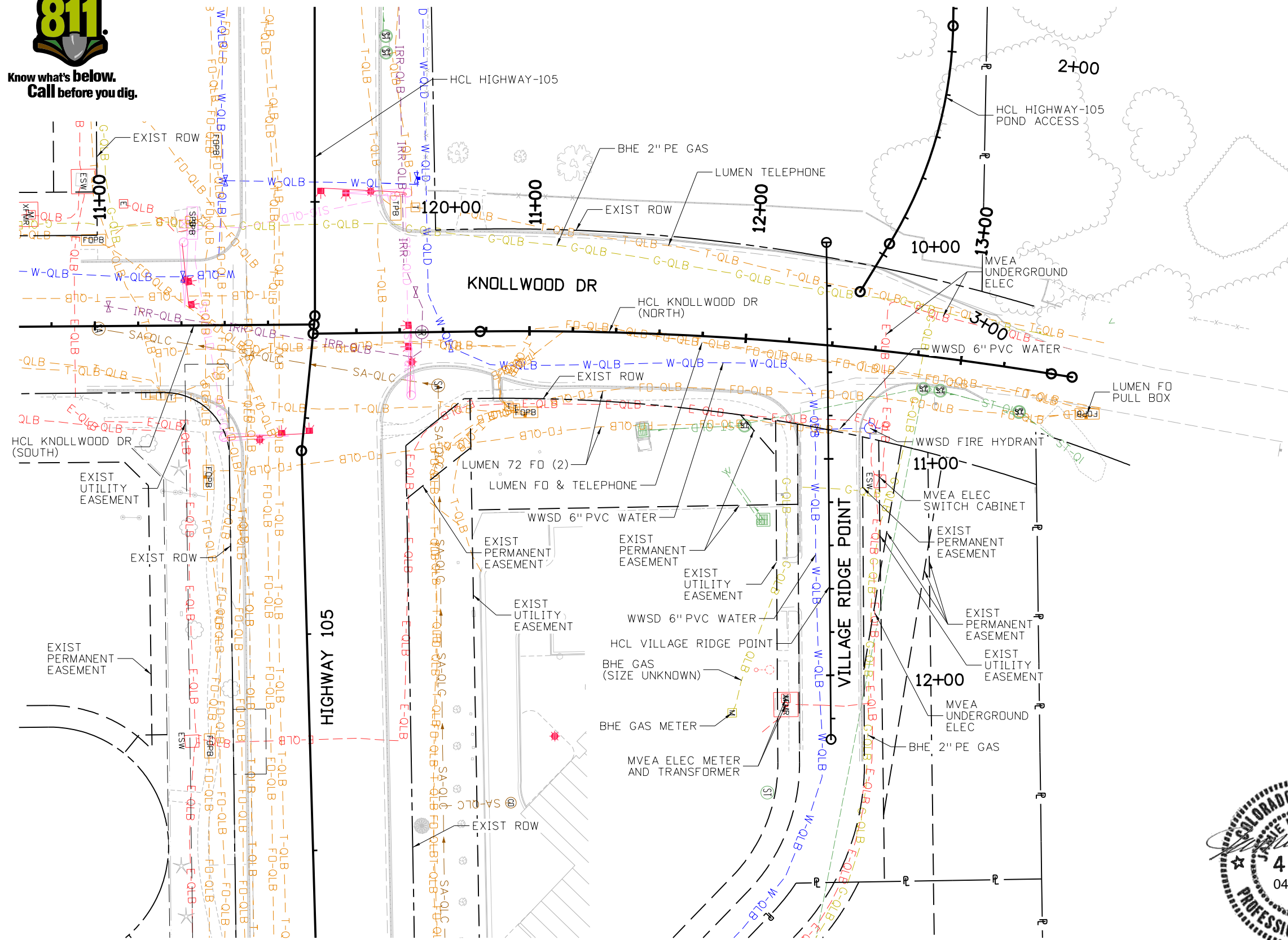
19734

STA 105A-014

Sheet Number 191 of 251



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HIGHWAY 105 PROJECT A
SUE INVESTIGATION PLAN
KNOLLWOOD

Designer:	J. VESTAD	Structure Numbers	
Detailer:	D. MADDOCK		
Sheet Subset:	SUE	Subset Sheets:	13 of 14

Project No./Code

19734

STA 105A-014

Sheet Number 192 of 251



Know what's below.
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Testhole Summary (TH-01 Thru TH-17 Completed by Reconn Utility Services June 2022)												
Testhole #	Testhole Location			Testhole Location and Data								Testhole Notes
	Alignment Name	Station	Distance Lt. / Rt.	Utility Owner Type	Utility Size	Material (Color)	Northing	Easting	Exist Surface Elevation	Measure Down (ft)	Utility Elevation (Top of Utility)	
TH-01	HCL HIGHWAY-105	113+87.60	36' RT	Lumen Telephone Conduit	2"	PVC (Grey)	1460014.190	3184615.240	7045.00	1.92	7043.08	
TH-02	HCL HIGHWAY-105	113+92.59	36' RT	Force Fiber Conduit	1"	HDPE (Orange)	1460013.860	3184620.220	7045.74	2.83	7042.91	Tracer wire attached to outside of conduit.
TH-03	HCL HIGHWAY-105	116+29.87	49' RT	Verizon Fiber Conduit	2"	HDPE (Orange w/ Black Stripe)	1459998.330	3184857.010	7057.23	4.50	7052.73	
TH-04	HCL HIGHWAY-105	119+91.33	30' LT	WWSD Water Main	8"	Steel	1460071.130	3185220.360	7070.45	6.67	7063.78	
TH-05	HCL HIGHWAY-105	120+77.3	34' LT	WWSD Sanitary Main Casing	18"	Steel	1460070.770	3185309.560	7072.59	7.25	7065.34	10" PVC within 18" casing. Measure down is to top of casing.
TH-06	HCL HIGHWAY-105	121+35.36	16' RT	Comcast & Stratus Fiber Conduits	5 x 1"	HDPE (Multi-Color)	1460016.840	3185363.750	7074.23	4.75	7069.48	Conduit bundle with Black, Blue, Green, Orange, Red.
TH-07	HCL HIGHWAY-105	121+36.09	29' RT	Verizon Fiber Conduit	2"	HDPE (Orange w/ Black Stripe)	1460004.220	3185364.650	7074.48	1.83	7072.65	
TH-08	HCL HIGHWAY-105	121+36.21	31' RT	Stratus Fiber Conduits	2 x 1.25"	HDPE (Orange)	1460002.190	3185364.800	7074.73	4.00	7070.73	One conduit (with fiber) owned by Stratus and one conduit (empty) owned by Unite.
TH-09	HCL HIGHWAY-105	127+64.3	21' RT	Comcast & Stratus Fiber Conduits	5 x 1"	HDPE (Multi-Color)	1460016.250	3185992.430	7094.34	4.58	7089.76	Conduit bundle with Black, Blue, Green, Orange, Red.
TH-10	HCL HIGHWAY-105	127+64.19	31' RT	Private Irrigation	4"	PVC (White)	1460006.830	3185992.310	7094.28	2.00	7092.28	Estimated depth, measure down not provided.
				Verizon Fiber Conduit	2"	HDPE (Orange w/ Black Stripe)	1460006.830	3185992.310	7094.28	3.17	7091.11	
				Lumen Telephone Line	1"	Direct Bury (Black)	1460006.830	3185992.310	7094.28	5.33	7088.95	400 Pair (1988)
TH-11	HCL HIGHWAY-105	133+09.62	22' RT	Comcast & Stratus Fiber Conduits	5 x 1"	HDPE (Multi-Color)	1460014.740	3186537.460	7105.39	5.83	7099.56	Conduit bundle with Black, Blue, Green, Orange, Red.
TH-12	HCL HIGHWAY-105	133+09.88	39' RT	Verizon Fiber Conduit	2"	HDPE (Orange w/ Black Stripe)	1459997.760	3186537.470	7106.10	4.33	7101.77	
TH-13	HCL HIGHWAY-105	138+14.95	28' LT	MVEA Electric Conduit	6"	PVC (Red)	1460059.310	3187043.260	7116.54	6.92	7109.62	
TH-14	HCL HIGHWAY-105	139+88.62	6' RT	Lumen Telephone Lines	2 x 1"	Direct Bury (Black)	1460016.520	3187196.210	7118.23	4.33	7113.90	400 Pair and 200 Pair (1978)
TH-15	HCL HIGHWAY-105	139+69.60	20' RT	Lumen FO Conduit	4"	PVC (White)	1460002.770	3187197.080	7117.99	5.00	7112.99	
				Lumen Telephone Line	1"	Direct Bury (Black)	1460002.770	3187197.080	7117.99	5.25	7112.74	400 Pair (1988)
TH-16	HCL HIGHWAY-105	139+70.15	27' RT	Verizon FO Conduit	2"	HDPE (Orange w/ Black Stripe)	1459995.010	3187197.570	7117.68	5.00	7112.68	



Print Date: 4/13/2023
 File Name: 19734UTIL_TH_01_Summary.dgn
 Horiz. Scale: 1:50 Vert. Scale: None
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HIGHWAY 105 PROJECT A
 TESTHOLE PLAN
 TESTHOLE SUMMARY 1 OF 3
 Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: TESTHOLE
 Structure Numbers:
 Subset Sheets: 1 of 14

Project No./Code
 19734
 STA 105A-014
 Sheet Number 194 of 251

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Testhole Summary (TH-18 Thru TH-34 Completed by Recon Utility Services June 2022)

Testhole #	Testhole Location			Testhole Location and Data								Testhole Notes
	Alignment Name	Station	Distance Lt. / Rt.	Utility Owner Type	Utility Size	Material (Color)	Northing	Easting	Exist Surface Elevation	Measure Down (ft)	Utility Elevation (Top of Utility)	
TH-17	HCL HIGHWAY-105	139+99.46	47' RT	Stratus Fiber Conduits	2 x 1.25"	HDPE (Orange)	1459975.120	3187226.740	7117.33	3.75	7113.58	One conduit (with fiber) owned by Stratus and one conduit (empty) owned by Unite.
TH-18	HCL HIGHWAY-105	139+97.84	52' RT	MVEA Electric Conduits	2 x 6"	PVC (Grey)	1459970.160	3187225.080	7117.35	5.25	7112.10	
TH-19	HCL HIGHWAY-105	145+94.36	13' RT	Lumen Telephone Lines	2 x 1"	Direct Bury (Black)	1460011.570	3187822.310	7130.57	4.17	7126.40	400 Pair and 200 Pair (1978)
TH-20	HCL HIGHWAY-105	145+93.85	29' RT	Verizon FO Conduit	2"	HDPE (Orange w/ Black Stripe)	1459995.450	3187822.250	7130.20	2.42	7127.78	
				Lumen FO Conduit	4"	PVC (Grey)	1459995.450	3187822.250	7130.20	3.33	7126.87	
				Lumen Telephone Line	1"	Direct Bury (Black)	1459995.450	3187822.250	7130.20	4.75	7125.45	400 Pair (1988)
TH-21	HCL HIGHWAY-105	145+93.63	36' RT	Comcast FO Conduits	2 x 2"	HDPE (Orange)	1459988.550	3187822.220	7129.38	1.33	7128.05	
TH-22	HCL HIGHWAY-105	151+17.65	15' LT	WWSD Water Main	6"	PVC (WHITE)	1460046.900	3188345.160	7142.92	6.67	7136.25	
TH-23	HCL HIGHWAY-105	151+18.90	20' RT	Verizon FO Conduit	2"	HDPE (Orange w/ Black Stripe)	1460011.440	3188345.060	7144.04	2.17	7141.87	
TH-24	HCL HIGHWAY-105	151+19.03	23' RT	Lumen FO Conduit	4"	PVC (Grey)	1460009.360	3188345.050	7143.99	3.25	7140.74	
TH-25	HCL HIGHWAY-105	151+19.44	29' RT	Lumen Telephone Lines	2 x 1"	Direct Bury (Black)	1460002.530	3188345.040	7143.83	4.00	7139.83	400 Pair and 200 Pair (1978)
TH-26	HCL HIGHWAY-105	151+19.84	36' RT	Comcast FO Conduits	2 x 2"	HDPE (Orange)	1459996.080	3188345.020	7143.49	3.42	7140.07	
TH-27	HCL HIGHWAY-105	151+30.34	49' RT	MVEA Electric Conduit	6"	PVC (Grey)	1459981.890	3188354.640	7143.60	3.83	7139.77	
TH-28	HCL HIGHWAY-105	151+13.11	62' RT	Stratus Fiber Conduits	2 x 1.25"	HDPE (Orange)	1459969.690	3188340.370	7143.52	3.00	7140.52	One conduit (with fiber) owned by Stratus and one conduit (empty) owned by Unite.
TH-29	HCL HIGHWAY-105	151+10.22	68' RT	MVEA Electric Conduits	2 x 6"	PVC (Grey)	1459964.280	3188337.460	7143.71	4.58	7139.13	
TH-30	HCL HIGHWAY-105	139+70.36	30' RT	BHE Gas Main	2"	HDPE (Yellow)	1459992.010	3187197.760	7117.45	3.08	7114.37	
TH-31	HCL HIGHWAY-105	145+93.79	31' RT	BHE Gas Main	-	-	1459993.520	3187822.240	7129.57	-	-	Not found. Test holed to 7 ft depth and swept 3 ft each side of marked utility location
TH-32	HCL KNOLLWOOD DR	12+25.91	35' RT	MVEA Electric Conduit	6"	PVC (Grey)	1460261.300	3185332.010	7067.86	3.75	7064.11	
TH-33	HCL KNOLLWOOD DR	12+68.37	25' RT	MVEA Electric Conduit	6"	PVC (Grey)	1460303.730	3185327.290	7065.37	7.08	7058.29	



Print Date: 4/13/2023
File Name: 19734UTIL_TH_02-Summary.dgn
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Sheet Revisions		
Date:	Comments	Init.

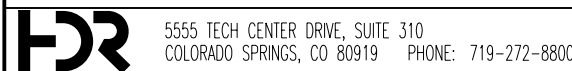


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No Revisions:
Revised:
Void:

HIGHWAY 105 PROJECT A TESTHOLE PLAN TESTHOLE SUMMARY 2 OF 3

Designer: J. VESTAD
Detailer: D. MADDOCK
Sheet Subset: TESTHOLE
Structure Numbers:
Subset Sheets: 2 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 195 of 251



DMADDDCK 7:18:56 AM pw:\P\WAPPD\MA001:NorthCentral_Dmaha\Documents\200716\000000000260510\6_0_CAD_BIM\6.2_Work_1\In_Progress\Utilities\Drawings\A\19734\UTIL_TH_02-Summary.dgn



Know what's below.
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Testhole Summary
(TH-101 Thru TH-127 Completed by Farnsworth Group March 2017)

Testhole #	Testhole Location			Testhole Location and Data								Testhole Notes
	Alignment Name	Station	Distance Lt. / Rt.	Utility Owner Type	Utility Size	Material (Color)	Northing	Easting	Exist Surface Elevation	Measure Down (ft)	Utility Elevation (Top of Utility)	
TH-34	HCL KNOLLWOOD DR	12+80.67	22' RT	BHE Gas Main	2"	HDPE (Yellow)	1460316.120	3185325.910	7065.05	5.83	7059.22	
TH-101	HCL HIGHWAY-105	114+10.40	35' RT	Lumen FO Conduit	4"	PVC (Grey)	1460014.342	3184638.058	7046.01	3.67	7042.34	
TH-102	HCL HIGHWAY-105	116+95.36	43' RT	Lumen FO Conduit	4"	PVC (Grey)	1460002.608	3184923.361	7060.38	3.25	7057.13	
TH-103	HCL HIGHWAY-105	117+0.97	51' LT	WWSD Water Main	6"	PVC (Blue)	1460095.656	3184930.311	7062.46	5.33	7057.13	
TH-107	HCL HIGHWAY-105	120+60.39	74' LT	WWSD Water Main	6"	PVC (White)	1460112.486	3185297.332	7071.49	6.00	7065.49	
TH-108	HCL HIGHWAY-105	120+85.96	77' LT	MVEA Electric Conduit	6"	PVC (Grey)	1460112.383	3185323.067	7071.94	3.33	7068.61	
TH-110	HCL HIGHWAY-105	121+21.65	47' LT	MVEA Electric Conduit	6"	PVC (Grey)	1460080.398	3185349.179	7073.90	4.00	7069.90	
TH-113	HCL HIGHWAY-105	122+50.75	38' LT	MVEA Electric Conduit	6"	PVC (Grey)	1460072.481	3185478.396	7077.53	4.33	7073.20	
TH-114	HCL HIGHWAY-105	124+36.51	28' RT	Lumen Telephone Line	1"	Direct Bury (Black)	1460008.871	3185664.919	7084.05	4.92	7079.13	400 Pair (1988)
TH-115	HCL HIGHWAY-105	124+37.01	14' RT	Lumen Telephone Lines	2 x 1"	Direct Bury (Black)	1460022.789	3185665.287	7084.12	3.92	7080.20	400 Pair and 200 Pair (1978)
TH-116	HCL HIGHWAY-105	127+31.35	18' RT	Lumen Telephone Lines	2 x 1"	Direct Bury (Black)	1460019.522	3185959.483	7093.79	3.67	7090.12	400 Pair and 200 Pair (1978)
TH-118	HCL HIGHWAY-105	133+62.69	30' RT	Comcast Fiber Conduit	4"	PVC (White)	1460006.264	3186590.414	7107.17	3.58	7103.59	
				Lumen Telephone Line	1"	Direct Bury (Black)	1460006.264	3186590.414	7107.17	3.92	7103.25	400 Pair (1988)
TH-119	HCL HIGHWAY-105	133+63.14	17' RT	Lumen Telephone Lines	2 x 1"	Direct Bury (Black)	1460019.511	3186591.043	7106.75	4.17	7102.58	400 Pair and 200 Pair (1978)
TH-120	HCL HIGHWAY-105	139+66.22	33' LT	WWSD Water Main	6"	PVC (White)	1460055.192	3187194.094	7117.99	6.00	7111.99	
TH-122	HCL HIGHWAY-105	139+64.88	36' RT	Lumen FO Conduit	4"	PVC (Grey)	1459986.493	3187192.244	7117.74	3.50	7114.24	
TH-126	HCL HIGHWAY-105	150+43.29	20' RT	Lumen FO Conduit	4"	PVC (Grey)	1460012.081	3188270.688	7140.58	5.58	7135.00	
TH-127	HCL HIGHWAY-105	150+43.04	17' LT	WWSD Water Main	6"	PVC (White)	1460048.857	3188270.560	7139.50	9.42	7130.08	

Print Date: 4/13/2023

File Name: 19734UTIL_TH_03_Summary.dgn

Horiz. Scale: 1:50

Vert. Scale: None

HR 5555 TECH CENTER DRIVE, SUITE 310
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Date:	Comments	Init.



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**HIGHWAY 105 PROJECT A
TESTHOLE PLAN
TESTHOLE SUMMARY 3 OF 3**

Designer: J. VESTAD

Detailer: D. MADDOCK

Sheet Subset: TESTHOLE

Structure Numbers

Subset Sheets: 3 of 14

Project No./Code

19734

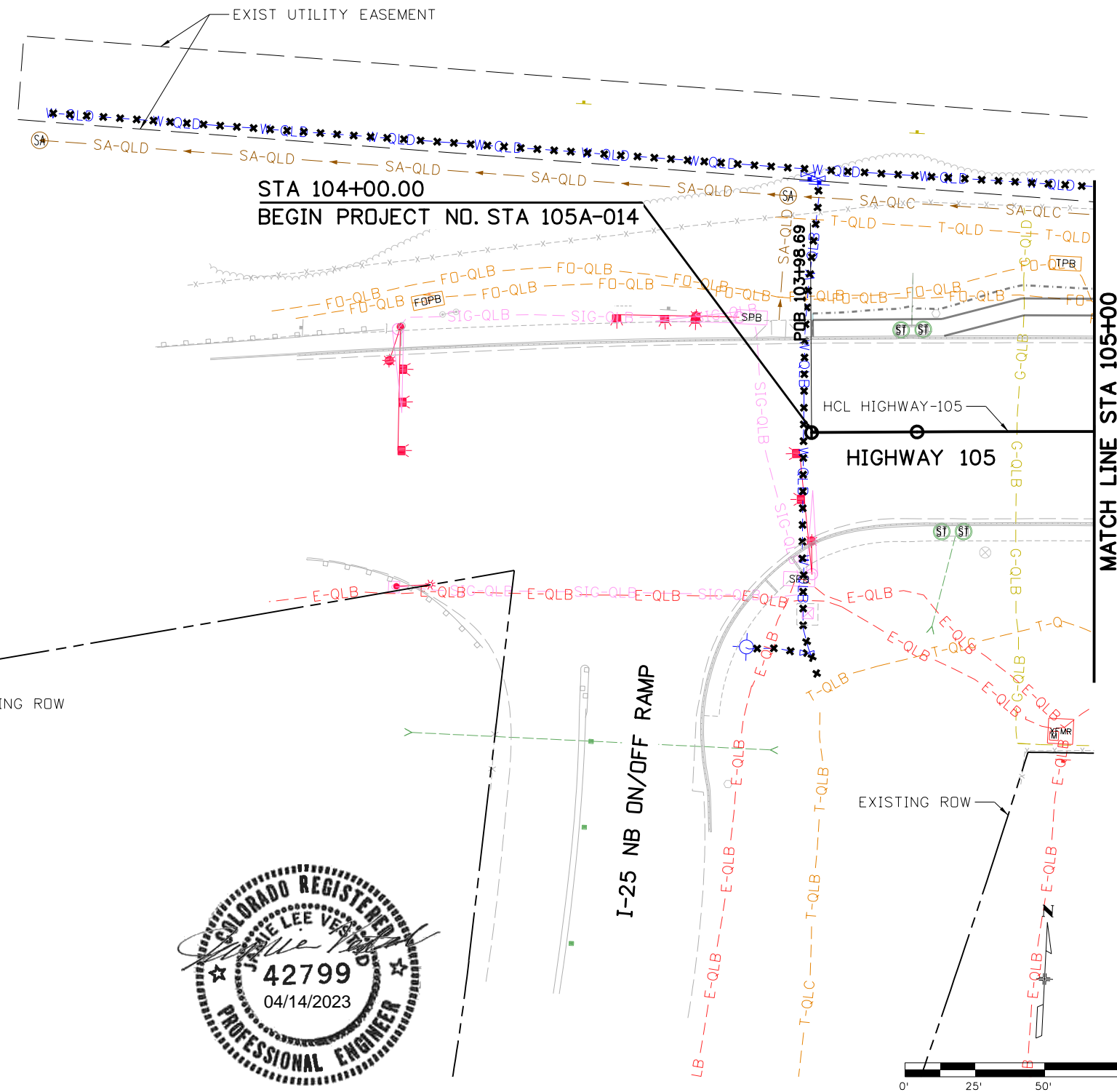
STA 105A-014

Sheet Number 196 of 251

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1/4 SECTION LINE

EXISTING ROW

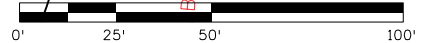
I-25 NB ON/OFF RAMP

EXISTING ROW

MATCH LINE STA 105+00

NOTES:

- SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
- THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
File Name: 19734UTIL_TH_04_Plan.dgn
Horiz. Scale: 1:50 Vert. Scale: None
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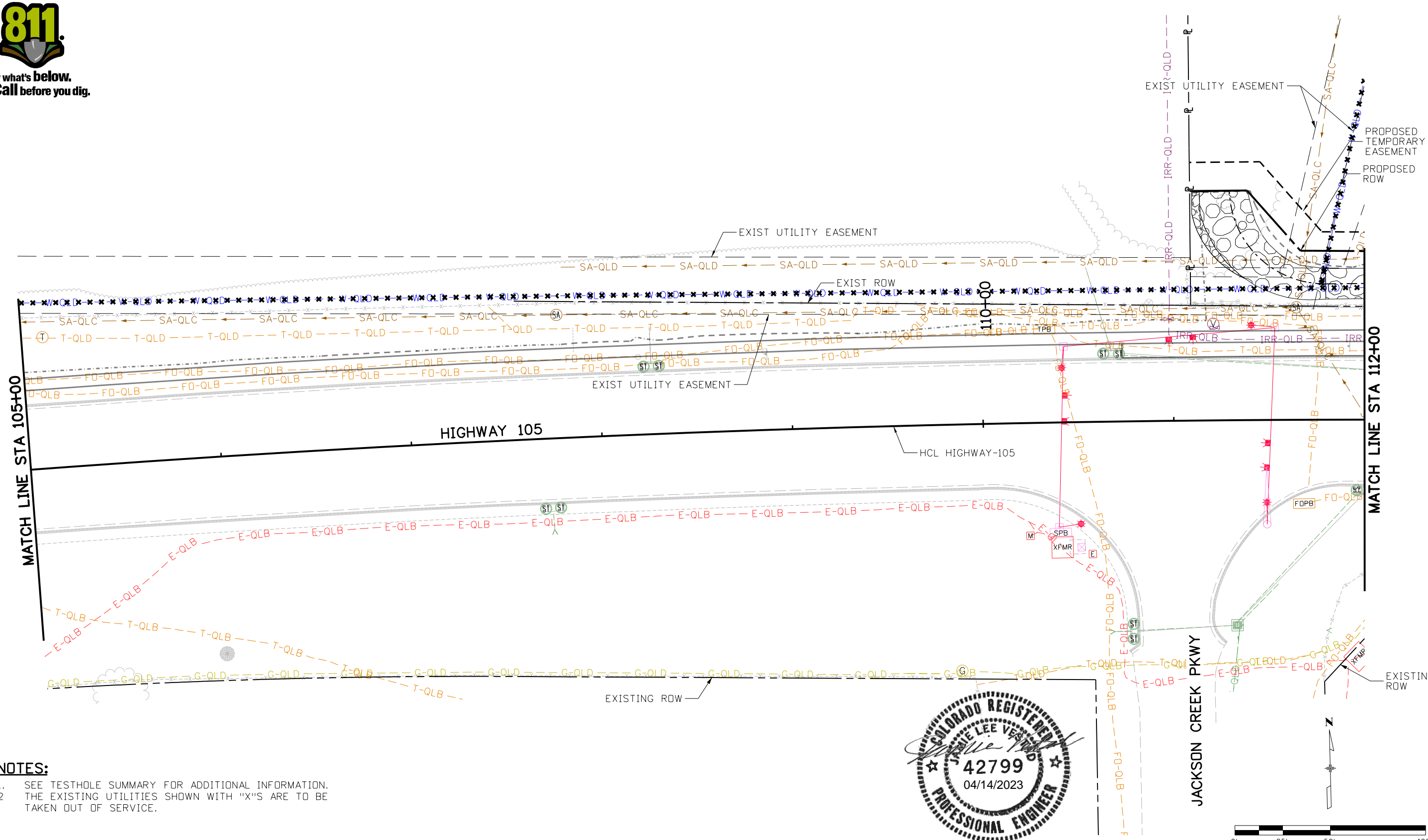
HIGHWAY 105 PROJECT A TESTHOLE PLAN STA 100+00 TO 105+00	
Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: TESTHOLE	Subset Sheets: 4 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 197 of 251

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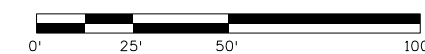


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NOTES:

- SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
- THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



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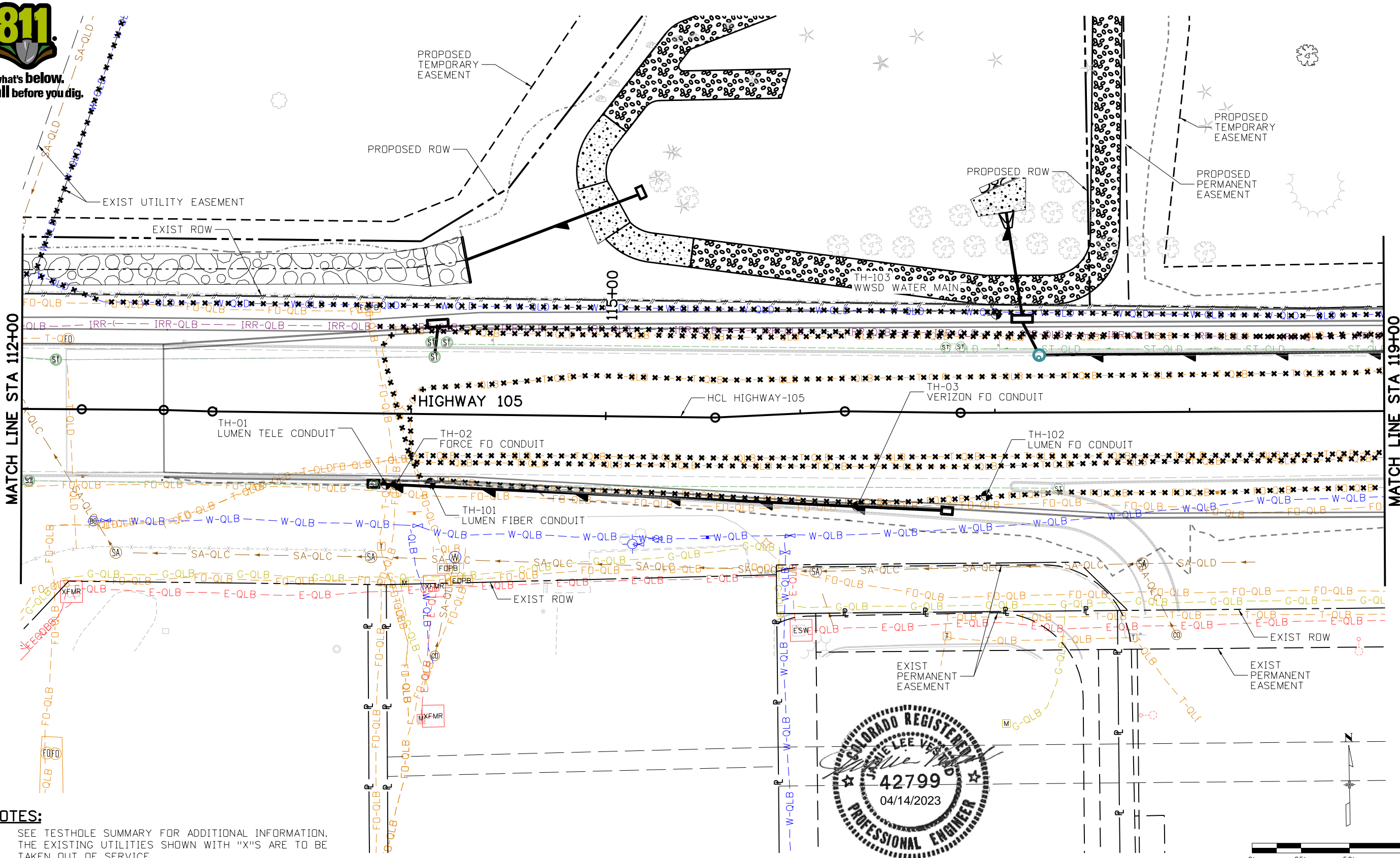
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Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: TESTHOLE	Subset Sheets: 5 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 198 of 251

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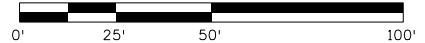


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NOTES:

- 1. SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
- 2. THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



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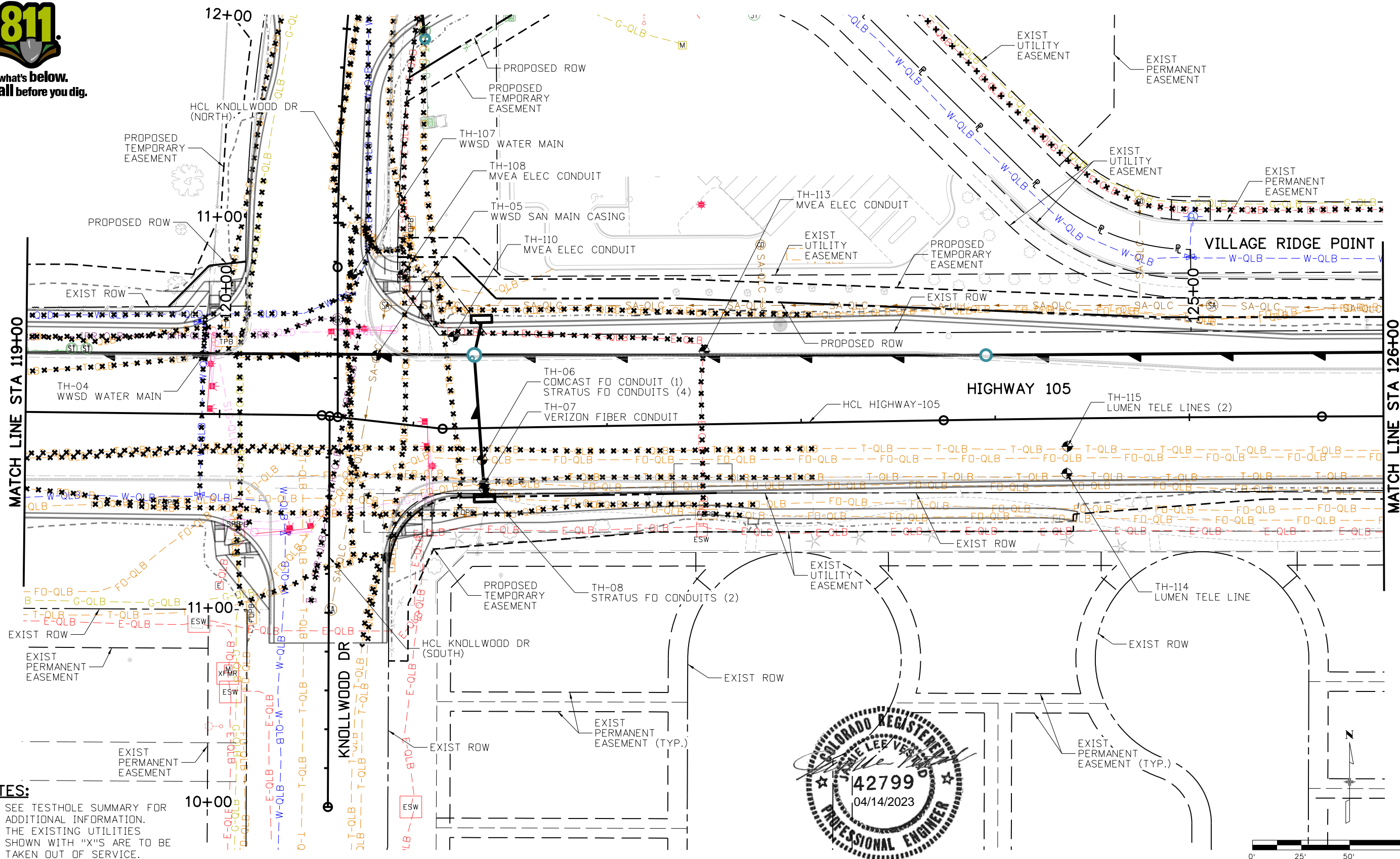
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Designer:	J. VESTAD	Structure	
Detailer:	D. MADDOCK	Numbers	
Sheet Subset:	TESTHOLE	Subset Sheets:	6 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 199 of 251

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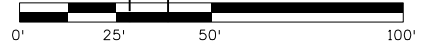


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NOTES:

1. SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
2. THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
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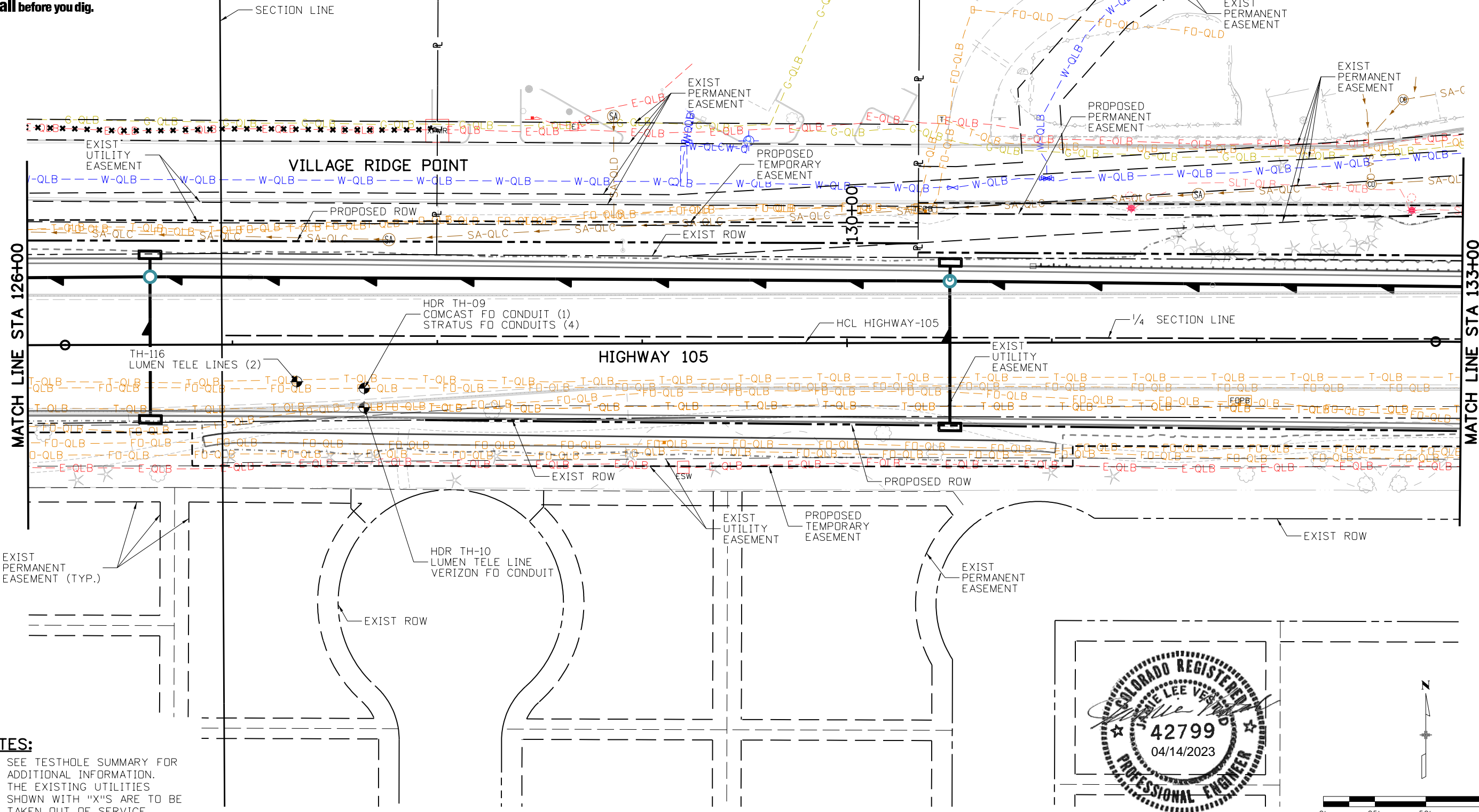
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Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: TESTHOLE	Subset Sheets: 7 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 200 of 251

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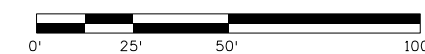


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NOTES:

- SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
- THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023	0000
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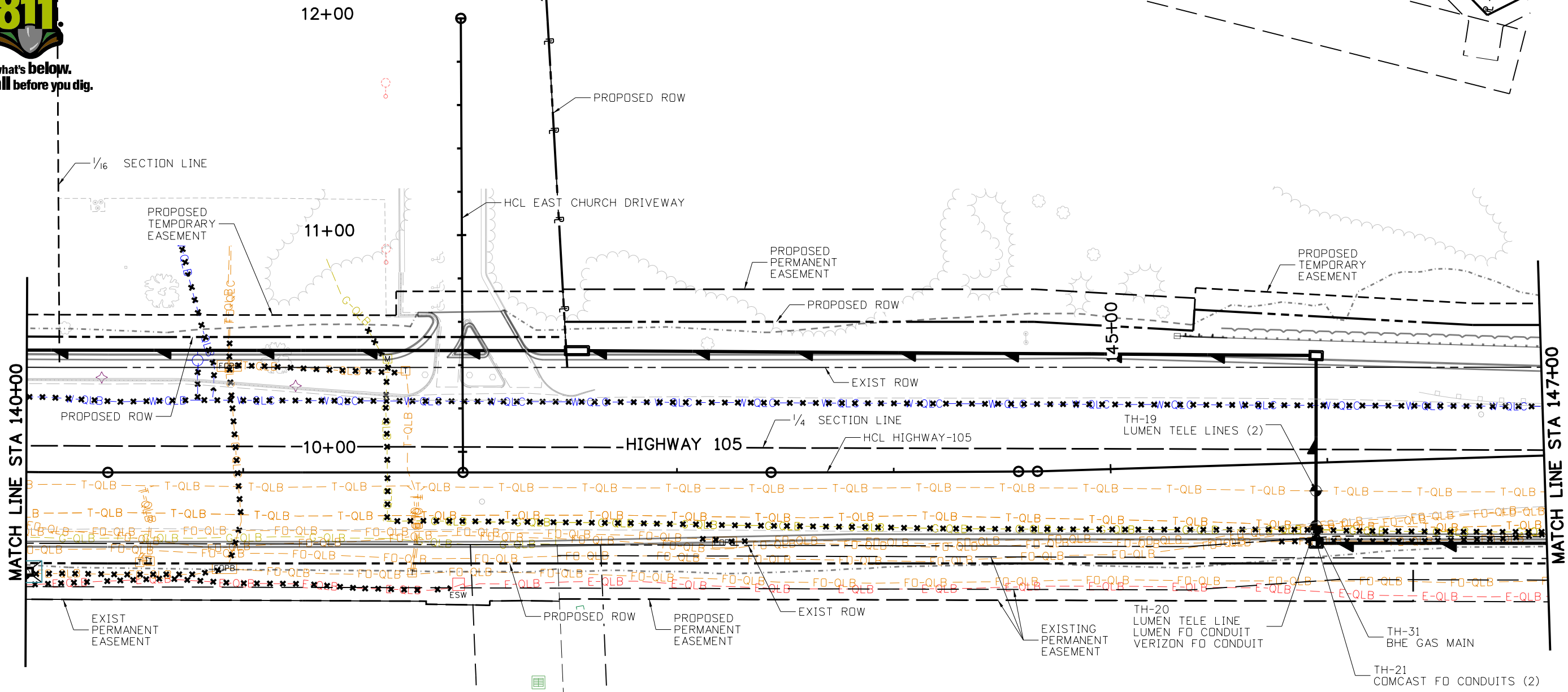
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HIGHWAY 105 PROJECT A TESTHOLE PLAN STA 126+00 TO 133+00	
Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: TESTHOLE	Subset Sheets: 8 of 14

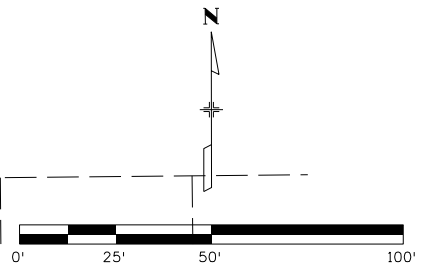
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STA 105A-014
Sheet Number 201 of 251

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NOTES:

1. SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
2. THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
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**HIGHWAY 105 PROJECT A
 TESTHOLE PLAN
 STA 140+00 TO 147+00**

Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: TESTHOLE

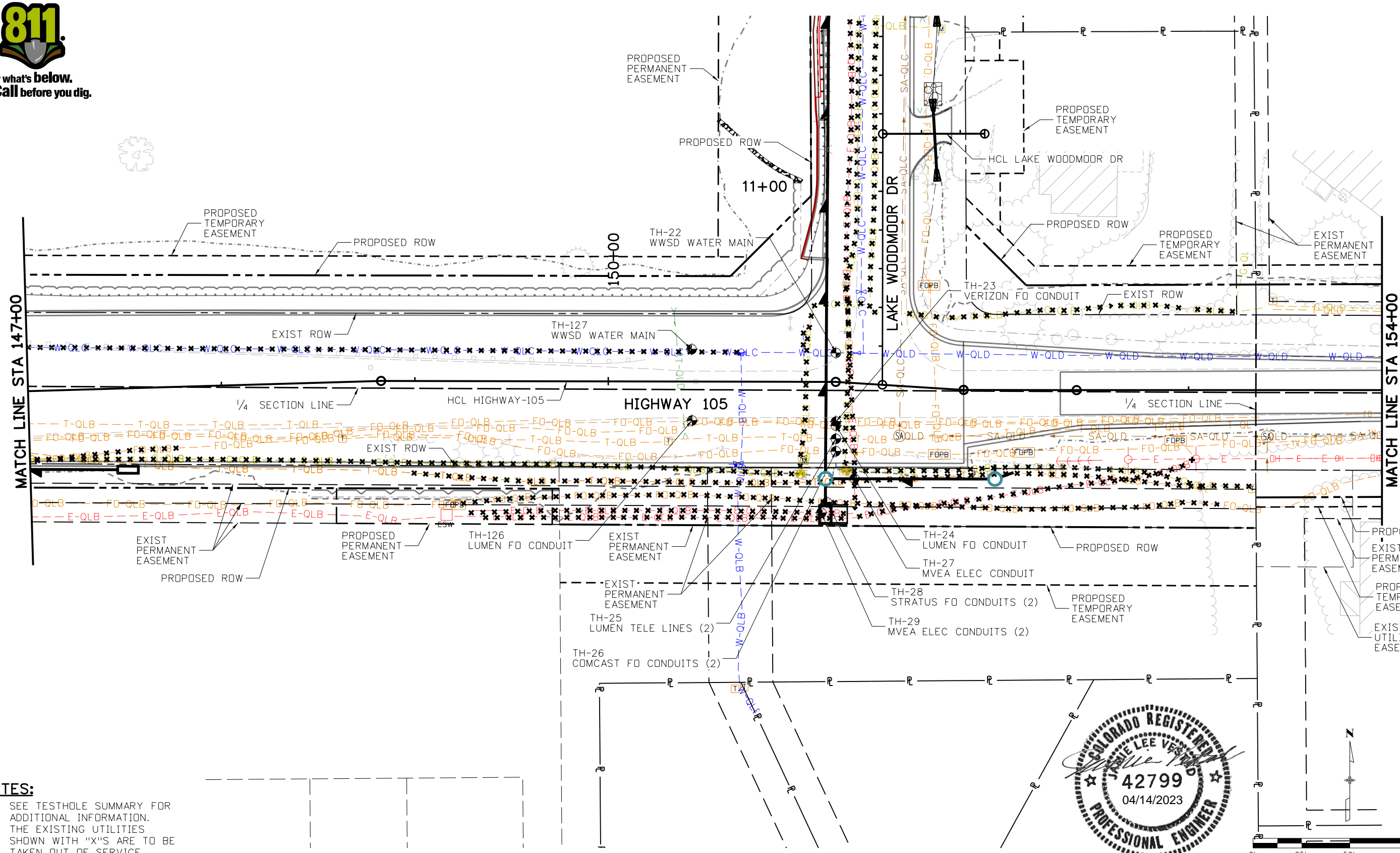
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Project No./Code
 19734
 STA 105A-014
 Sheet Number 203 of 251

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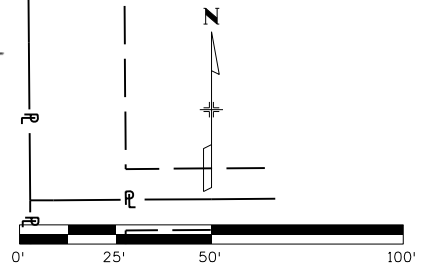


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NOTES:

- SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
- THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
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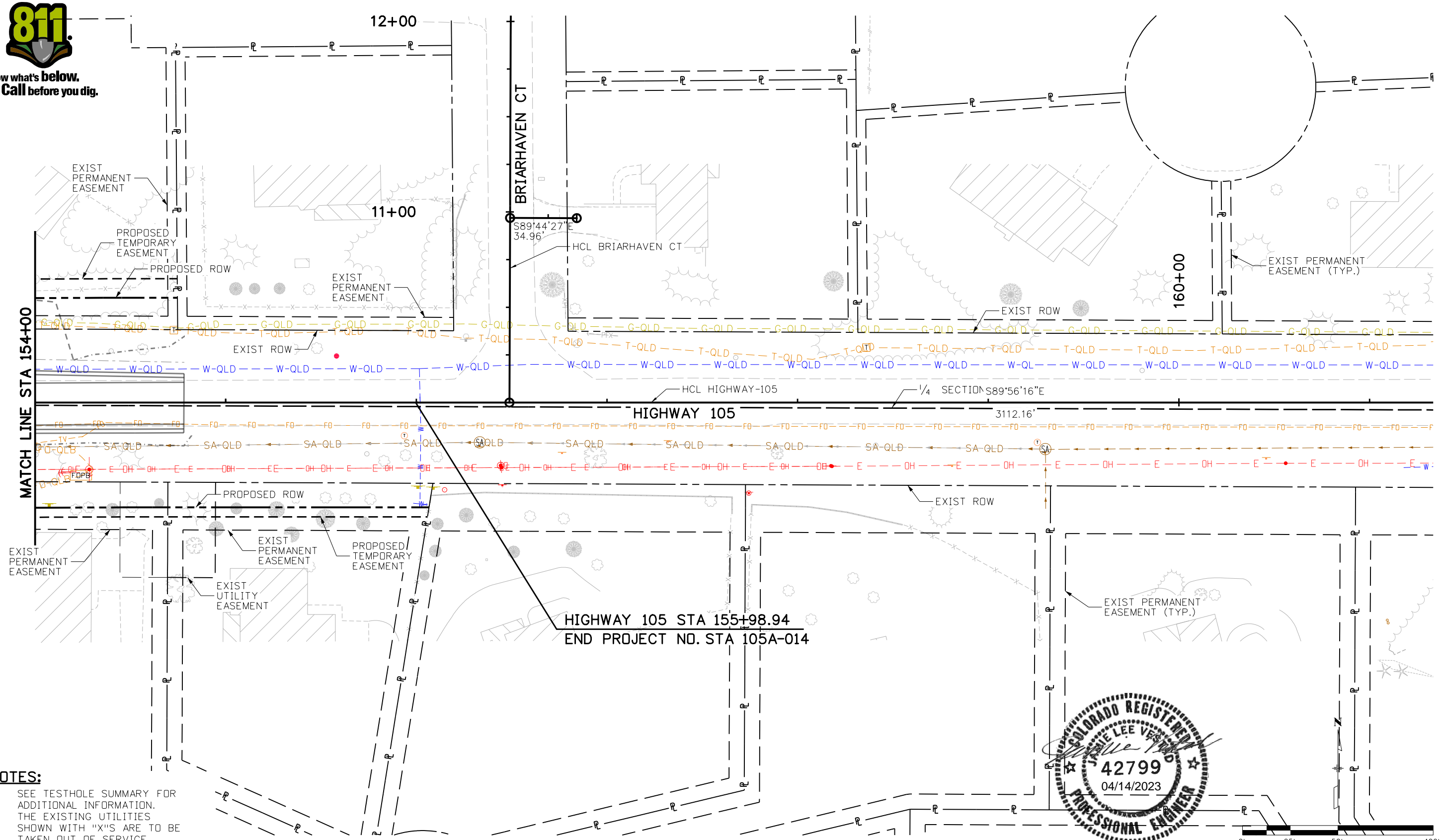
HIGHWAY 105 PROJECT A TESTHOLE PLAN STA 147+00 TO 154+00			
Designer:	J. VESTAD	Structure	
Detailer:	D. MADDOCK	Numbers	
Sheet Subset:	TESTHOLE	Subset Sheets:	11 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 204 of 251

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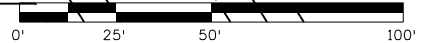


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NOTES:

- 1. SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
- 2. THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
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 Horiz. Scale: 1:50 Vert. Scale: None

Sheet Revisions		
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**HIGHWAY 105 PROJECT A
 TESTHOLE PLAN
 STA 154+00 TO 161+00**

Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: TESTHOLE

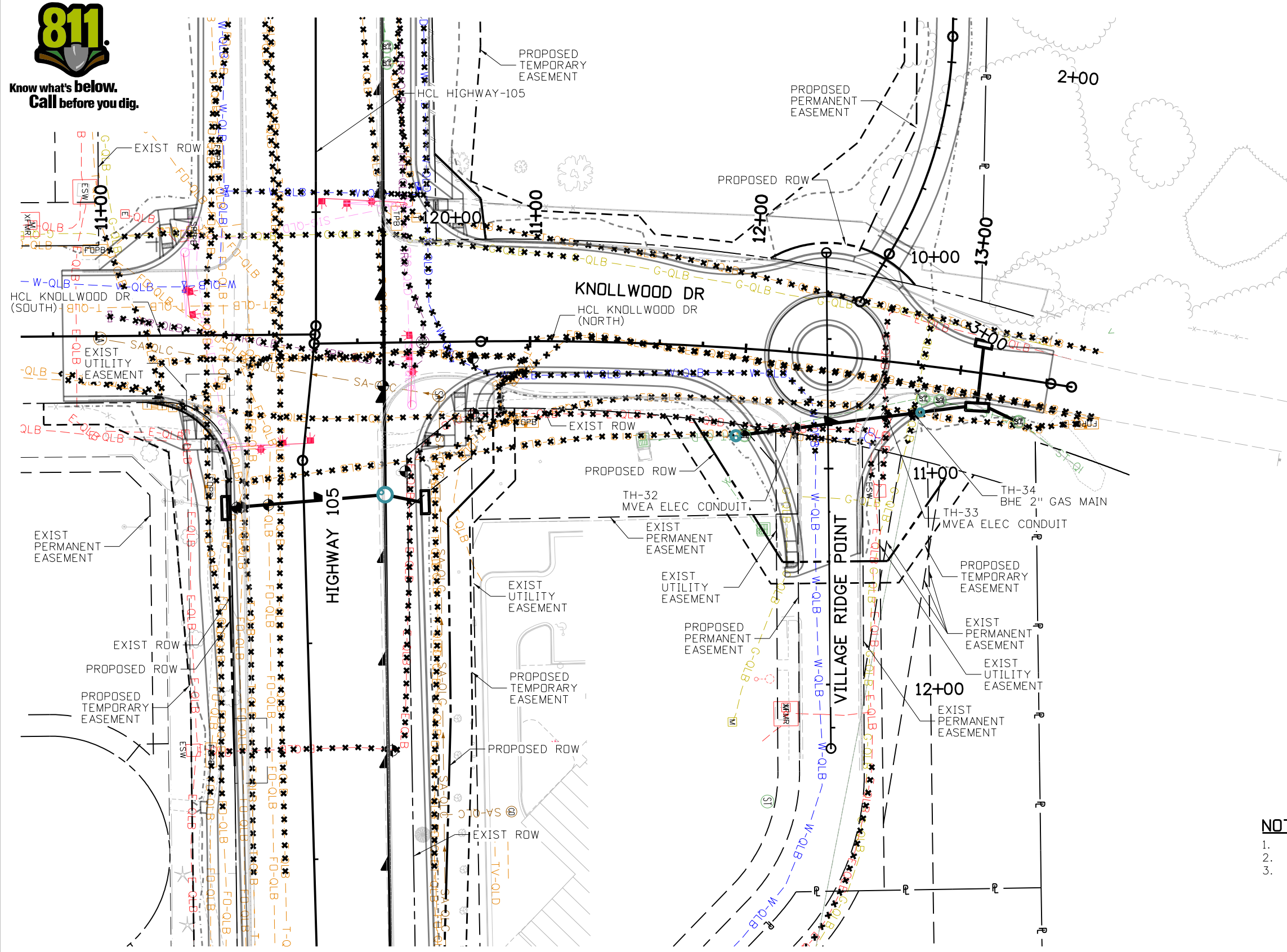
Structure Numbers
 Subset Sheets: 12 of 14

Project No./Code
 19734
 STA 105A-014
 Sheet Number 205 of 251

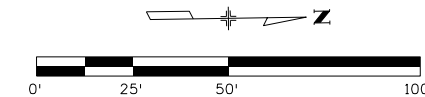
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- NOTES:**
- SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
 - SEE TESTHOLE SHEET 7 FOR HWY-105 TESTHOLE INFO.
 - THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
 File Name: 19734UTIL_TH_13_Plan.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

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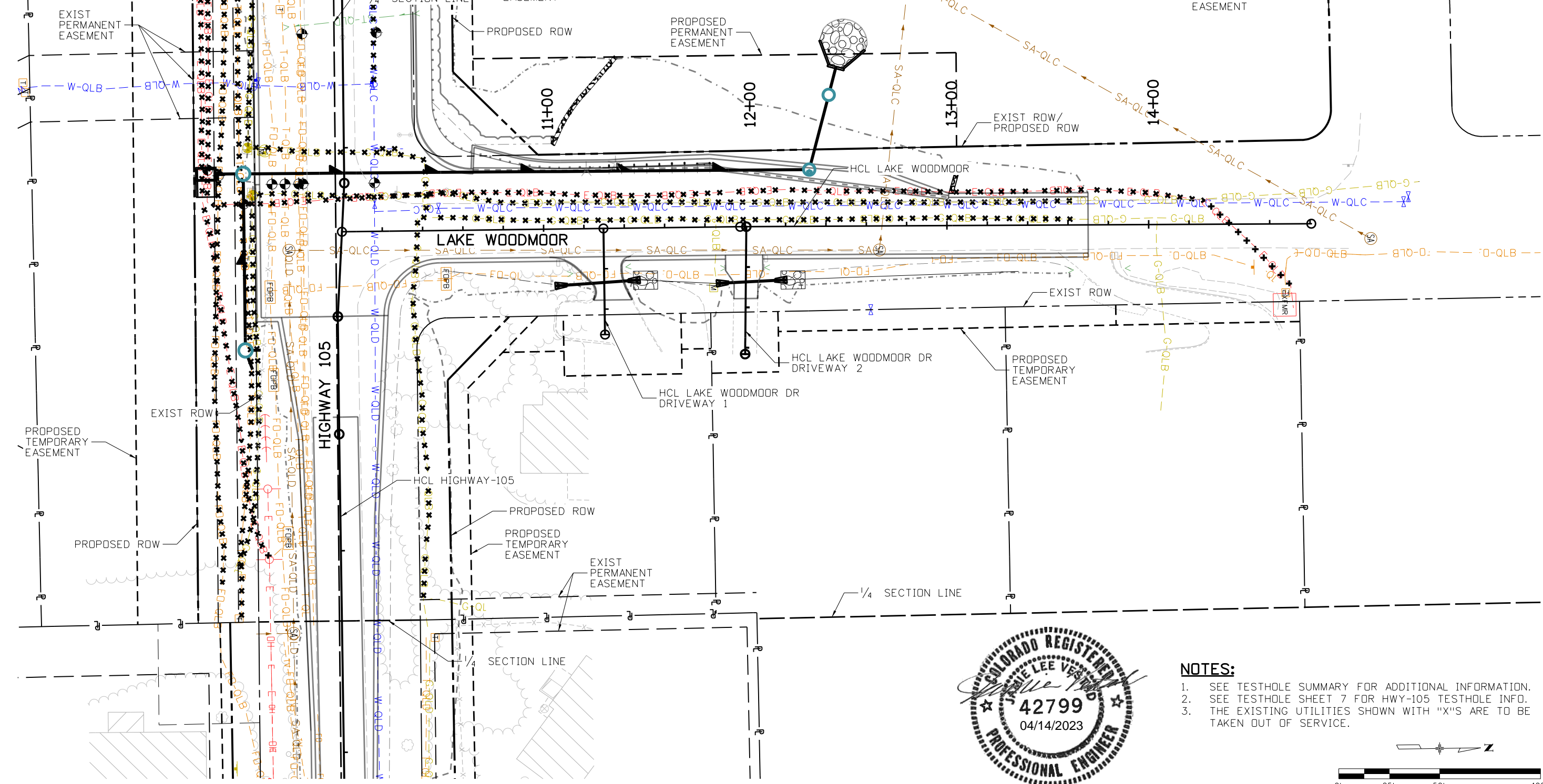
HIGHWAY 105 PROJECT A TESTHOLE PLAN KNOLLWOOD	
Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: TESTHOLE	Subset Sheets: 13 of 14

Project No./Code
19734
STA 105A-014
Sheet Number 206 of 251

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- NOTES:**
- SEE TESTHOLE SUMMARY FOR ADDITIONAL INFORMATION.
 - SEE TESTHOLE SHEET 7 FOR HWY-105 TESTHOLE INFO.
 - THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.

Print Date: 4/13/2023
 File Name: 19734UTIL_TH_14_Plan.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

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**HIGHWAY 105 PROJECT A
 TESTHOLE PLAN
 LAKE WOODMOOR**

Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: TESTHOLE

Structure Numbers:
 Subset Sheets: 14 of 14

Project No./Code

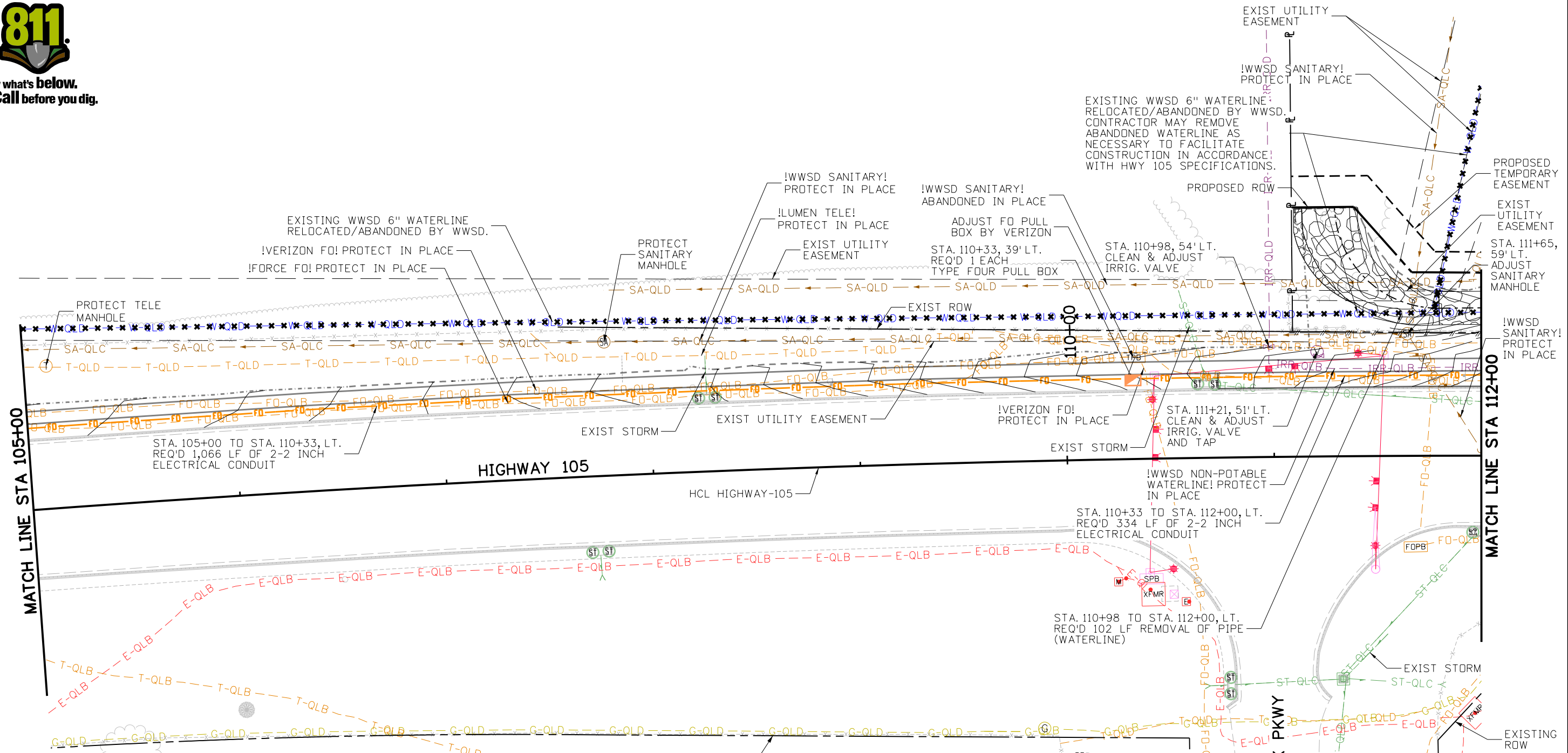
19734
 STA 105A-014
 Sheet Number 207 of 251

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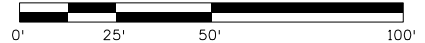


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- NOTES:**
1. ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
 2. ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
 3. THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
File Name: 19734UTIL_UT-02.dgn
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Vert. Scale: None
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Sheet Revisions		
Date:	Comments	Init.

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Revised:
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HIGHWAY 105 PROJECT A UTILITY MODIFICATION PLAN STA 105+00 TO 112+00	
Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: UTILITY	Subset Sheets: 2 of 11

Project No./Code
19734
STA 105A-014
Sheet Number 209 of 251



Know what's below.
Call before you dig.

EXISTING WWSO 6" WATERLINE RELOCATED/
ABANDONED BY WWSO. CONTRACTOR MAY
REMOVE ABANDONED WATERLINE AS
NECESSARY TO FACILITATE CONSTRUCTION
IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

PROPOSED
TEMPORARY
EASEMENT

EXISTING WWSO 12" NON-POTABLE WATERLINE
RELOCATED/ABANDONED BY WWSO.
CONTRACTOR MAY REMOVE ABANDONED
WATERLINE AS NECESSARY TO FACILITATE
CONSTRUCTION IN ACCORDANCE WITH HWY
105 SPECIFICATIONS.

STA. 113+79 TO 119+00, LT.
REQ'D 520 LF REMOVAL
OF PIPE (NON-POTABLE
WATERLINE)

STA. 112+00 TO 119+00, LT.
REQ'D 700 LF REMOVAL
OF PIPE (WATERLINE)

PROPOSED
PERMANENT
EASEMENT

EXISTING LUMEN TELEPHONE AND
FIBER OPTIC LINES RELOCATED/
ABANDONED BY LUMEN.
CONTRACTOR MAY REMOVE
ABANDONED TELEPHONE AND
FIBER OPTIC LINES AS
NECESSARY TO FACILITATE
CONSTRUCTION IN ACCORDANCE
WITH HWY 105 SPECIFICATIONS.

PROPOSED
TEMPORARY
EASEMENT

STA. 115+02 TO STA. 119+00, LT.
REQ'D 802 LF OF 2-2 INCH
ELECTRICAL CONDUIT

STA. 112+69 TO STA. 115+02, LT.
REQ'D 472 LF OF 2-2 INCH
ELECTRICAL CONDUIT

STA. 115+02, 56' LT.
REQ'D 1 EACH
TYPE FOUR PULL BOX

PROPOSED NON-POTABLE
WATERLINE BY WWSO,
SEE NOTE 4

THE CONTRACTOR SHALL COORDINATE WITH
VERIZON FORCES TO PROTECT, SUPPORT /
AND/OR ADJUST IN PLACE FIBER OPTIC LINES

PROPOSED LUMEN FIBER OPTIC AND
TELEPHONE DUCTBANK BY LUMEN

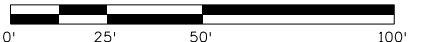
HIGHWAY 105 HCL HIGHWAY-105

THE CONTRACTOR SHALL COORDINATE WITH
LUMEN FORCES TO PROTECT, SUPPORT AND/
OR ADJUST IN PLACE FIBER OPTIC LINES

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NOTES:

1. ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
3. THE EXISTING UTILITIES SHOWN WITH "X'S" ARE TO BE TAKEN OUT OF SERVICE.
4. SEE WOODMOOR WATER AND SANITATION DISTRICT NO. 1 CO 105 UTILITY RELOCATION PHASE 1 PLANS BY JVA, INC. FOR ADDITIONAL INFORMATION.



Print Date: 4/13/2023
File Name: 19734UTIL_UT-03.dgn
Horiz. Scale: 1:50
Vert. Scale: None
5555 TECH CENTER DRIVE, SUITE 310 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

Sheet Revisions		
Date:	Comments	Init.

EL PASO COUNTY COLORADO

S.F. Region 02

CDOT

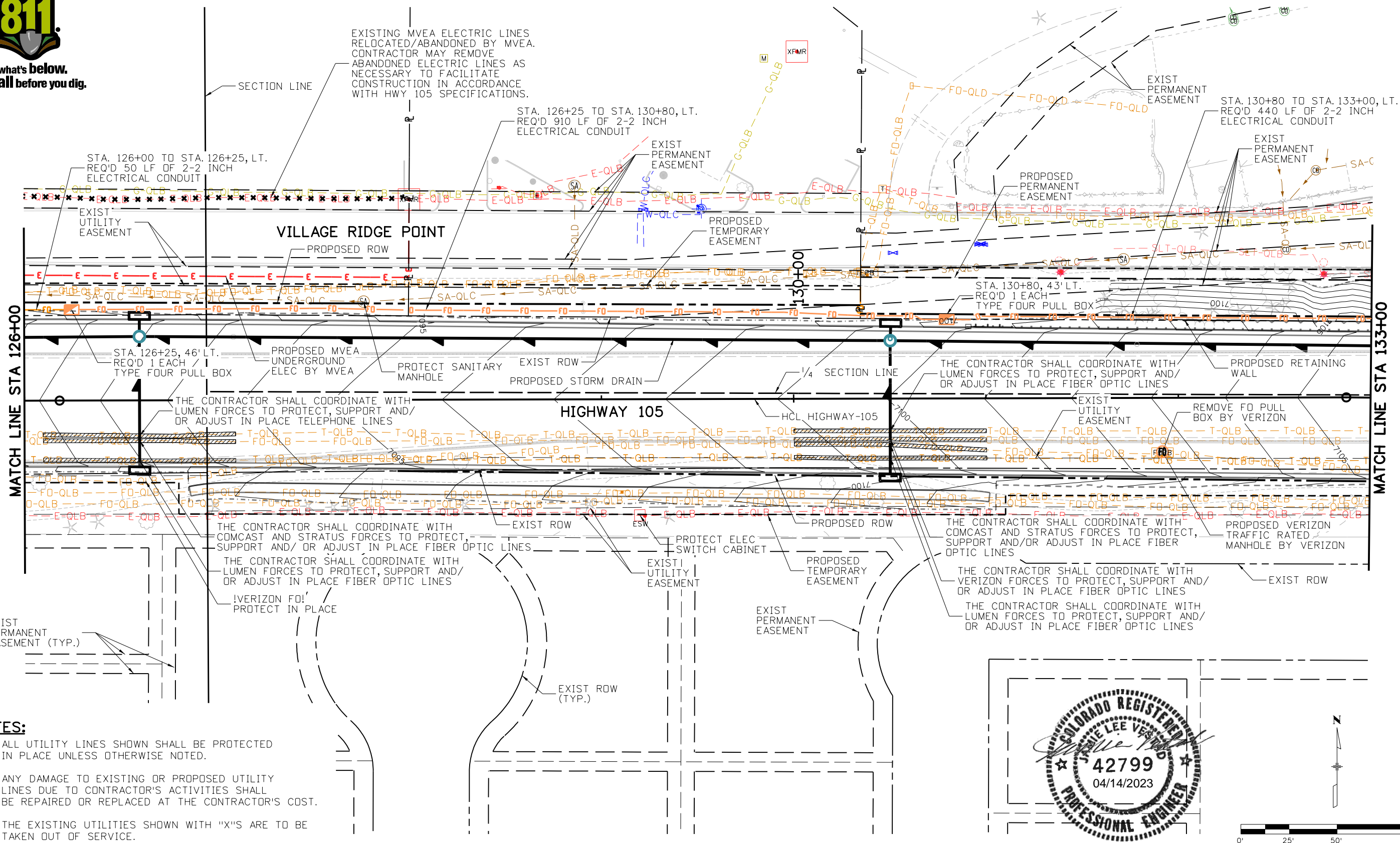
As Constructed
No Revisions:
Revised:
Void:

HIGHWAY 105 PROJECT A UTILITY MODIFICATION PLAN STA 112+00 TO 119+00	
Designer: J. VESTAD	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: UTILITY	Subset Sheets: 3 of 11

Project No./Code
19734
STA 105A-014
Sheet Number 210 of 251



Know what's below.
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- NOTES:**
1. ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
 2. ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
 3. THE EXISTING UTILITIES SHOWN WITH "X'S" ARE TO BE TAKEN OUT OF SERVICE.

Print Date: 4/13/2023
 File Name: 19734UTIL_UT-05.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

Sheet Revisions		
Date:	Comments	Init.

EL PASO COUNTY
 COLORADO

CDOT
 Region 02

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No Revisions: _____
 Revised: _____
 Void: _____

**HIGHWAY 105 PROJECT A
 UTILITY MODIFICATION PLAN
 STA 126+00 TO 133+00**

Designer: J. VESTAD
 Detailer: D. MADDOCK

Sheet Subset: UTILITY Subset Sheets: 5 of 11

Project No./Code

19734
 STA 105A-014
 Sheet Number 212 of 251

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Know what's below.
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FIRE HYDRANT REMOVED BY WWS
PROPOSED TEMPORARY EASEMENT
STA. 140+62, 52' LT. REQ'D 1 EACH TYPE FOUR PULL BOX
STA. 140+00 TO STA. 140+62, LT. REQ'D 124 LF 2-2 INCH ELECTRICAL CONDUIT

WATER SERVICE LINE RELOCATED/ABANDONED BY WWS

PROPOSED ROW
PROPOSED LUMEN TELE PED BY LUMEN
PROPOSED STRATUS FO PULL BOX BY STRATUS
RELOCATE FO PULL BOX BY STRATUS
PROPOSED LUMEN TELE LINE BY LUMEN

HCL EAST CHURCH DRIVEWAY
PROPOSED ROW
EXISTING STRATUS FIBER OPTIC LINES RELOCATED/ABANDONED BY STRATUS. CONTRACTOR MAY REMOVE ABANDONED FIBER OPTIC LINES AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

STA. 140+00 TO STA. 147+00, LT. REQ'D 775 LF REMOVAL OF PIPE (WATERLINE)

STA. 140+62 TO STA. 145+25, LT. REQ'D 926 LF 2-2 INCH ELECTRICAL CONDUIT

EXISTING WWS 6" WATERLINE RELOCATED/ABANDONED BY WWS. CONTRACTOR MAY REMOVE ABANDONED WATERLINE LINE AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

EXISTING BHE GAS LINE RELOCATED/ABANDONED BY BHE. CONTRACTOR MAY REMOVE ABANDONED GAS LINE AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

STA. 145+25 TO STA. 147+00, LT. REQ'D 350 LF 2-2 INCH ELECTRICAL CONDUIT

PROPOSED TEMPORARY EASEMENT

MATCH LINE STA 140+00

MATCH LINE STA 147+00

EXIST PERMANENT EASEMENT
BHE GAS! PROTECT IN PLACE

RELOCATE TELE PED AND REPEATERS (3) BY LUMEN
PROPOSED STRATUS FIBER OPTIC BY STRATUS

EXISTING STRATUS FIBER OPTIC LINES RELOCATED/ABANDONED BY STRATUS. CONTRACTOR MAY REMOVE ABANDONED FIBER OPTIC LINES AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

EXISTING MVEA ELECTRIC LINES RELOCATED/ABANDONED BY MVEA. CONTRACTOR MAY REMOVE ABANDONED ELECTRIC LINES AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

EXIST PERMANENT EASEMENT

RELOCATE TELE PED BY LUMEN
RELOCATE GAS METER BY BHE
LUMEN TELE! PROTECT IN PLACE

BHE GAS! PROTECT IN PLACE
PROPOSED ROW

EXISTING BHE GAS LINE RELOCATED/ABANDONED BY BHE. CONTRACTOR MAY REMOVE ABANDONED GAS LINE AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

STA. 141+66 TO STA. 141+67, LT. & RT. REQ'D 74 LF REMOVAL OF PIPE (GAS LINE)
RELOCATE TELE PED BY LUMEN

EXIST PERMANENT EASEMENT

HIGHWAY 105

HCL HIGHWAY-105

PROPOSED STORM DRAIN

1/4 SECTION LINE

RELOCATE FO PULL BOX BY VERIZON
PROPOSED VERIZON FO PULL BOX BY VERIZON

STA. 145+27, 57' LT. REQ'D 1 EACH TYPE FOUR PULL BOX

THE CONTRACTOR SHALL COORDINATE WITH LUMEN FORCES TO PROTECT, SUPPORT AND/OR ADJUST IN PLACE, TELEPHONES AND FIBER OPTIC LINES

EXIST ROW

EXISTING VERIZON FIBER OPTIC LINE RELOCATED/ABANDONED BY VERIZON. CONTRACTOR MAY REMOVE ABANDONED FIBER OPTIC LINES AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.

STA. 141+67 TO STA. 147+00, RT. REQ'D 535 LF REMOVAL OF PIPE (STEEL ASBESTOS COATED GAS LINE)

EXIST ROW

PROPOSED BHE GAS LINE BY BHE
EXISTING PERMANENT EASEMENT

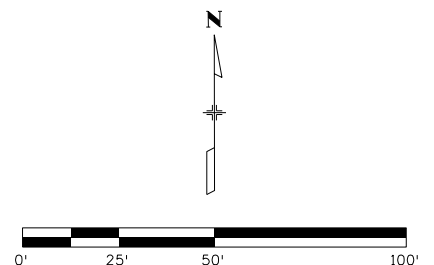
PROPOSED COMCAST FIBER OPTIC DUCTBANK BY COMCAST
THE CONTRACTOR SHALL COORDINATE WITH VERIZON FORCES TO PROTECT, SUPPORT AND/OR ADJUST IN PLACE FIBER OPTIC LINE

PROPOSED COMCAST FO PULL BOX BY COMCAST



NOTES:

1. ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
3. THE EXISTING UTILITIES SHOWN WITH "X" ARE TO BE TAKEN OUT OF SERVICE.
4. EXISTING PE GAS LINE TO BE RELOCATED/LOWERED IN PLACE BY BHE FORCES DURING CONSTRUCTION.



Print Date: 4/13/2023

File Name: 19734UTIL_UT-07.dgn

Horiz. Scale: 1:50

Vert. Scale: None

Sheet Revisions

Date:	Comments	Init.



As Constructed

No Revisions:

Revised:

Void:

**HIGHWAY 105 PROJECT A
UTILITY MODIFICATION PLAN
STA 140+00 TO 147+00**

Designer:	J. VESTAD	Structure Numbers	
Detailer:	D. MADDOCK	Subset Sheets:	7 of 11
Sheet Subset:	UTILITY		

Project No./Code

19734

STA 105A-014

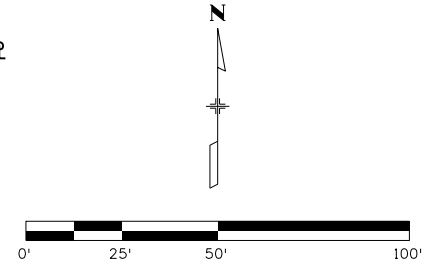
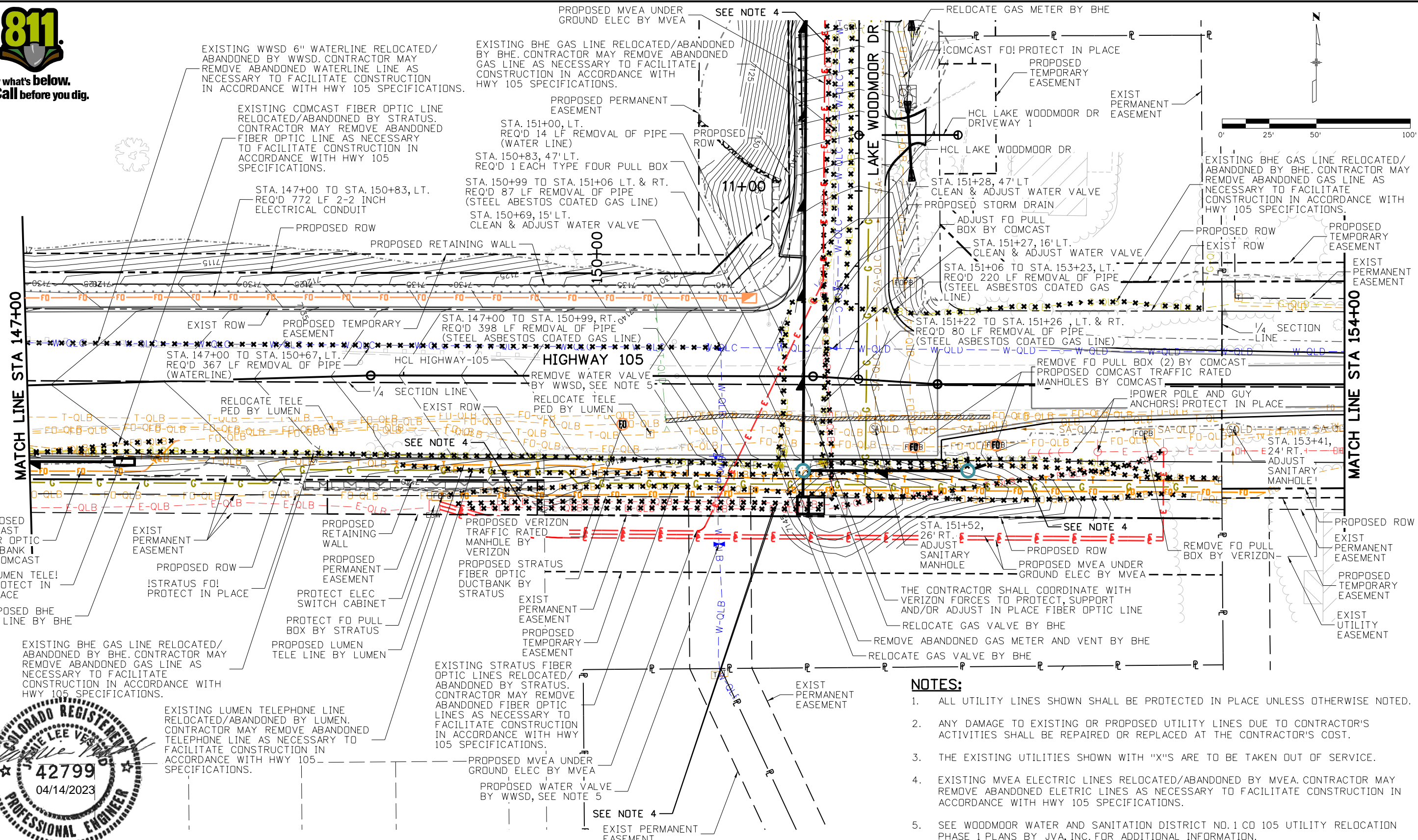
Sheet Number 214 of 251

HR 5555 TECH CENTER DRIVE, SUITE 310
COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800



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- NOTES:**
- ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
 - ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
 - THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.
 - EXISTING MVEA ELECTRIC LINES RELOCATED/ABANDONED BY MVEA. CONTRACTOR MAY REMOVE ABANDONED ELECTRIC LINES AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.
 - SEE WOODMOOR WATER AND SANITATION DISTRICT NO.1 CO 105 UTILITY RELOCATION PHASE 1 PLANS BY JVA, INC. FOR ADDITIONAL INFORMATION.

Print Date: 4/13/2023
 File Name: 19734UTIL_UT-08.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

HR 5555 TECH CENTER DRIVE, SUITE 310
 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

Sheet Revisions		
Date:	Comments	Init.



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 Revised:
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**HIGHWAY 105 PROJECT A
 UTILITY MODIFICATION PLAN
 STA 147+00 TO 154+00**

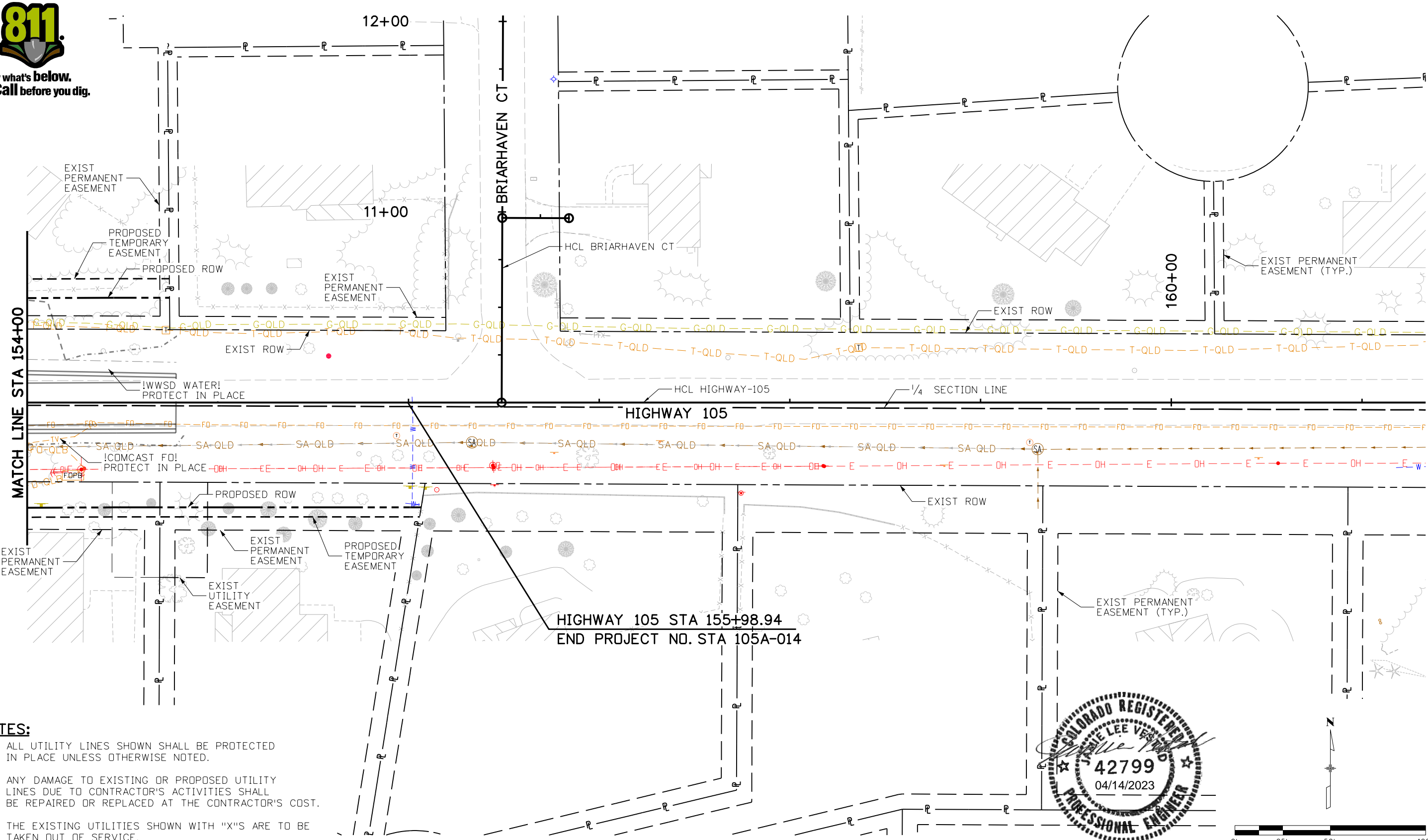
Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: UTILITY

Project No./Code

19734
 STA 105A-014
 Sheet Number 215 of 251

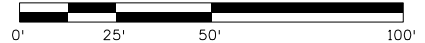


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NOTES:

1. ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
3. THE EXISTING UTILITIES SHOWN WITH "X" ARE TO BE TAKEN OUT OF SERVICE.



Print Date: 4/13/2023
 File Name: 19734UTIL_UT-09.dgn
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Sheet Revisions			
Date:	Comments	Init.	



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No Revisions:
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**HIGHWAY 105 PROJECT A
 UTILITY MODIFICATION PLAN
 STA 154+00 TO 161+00**

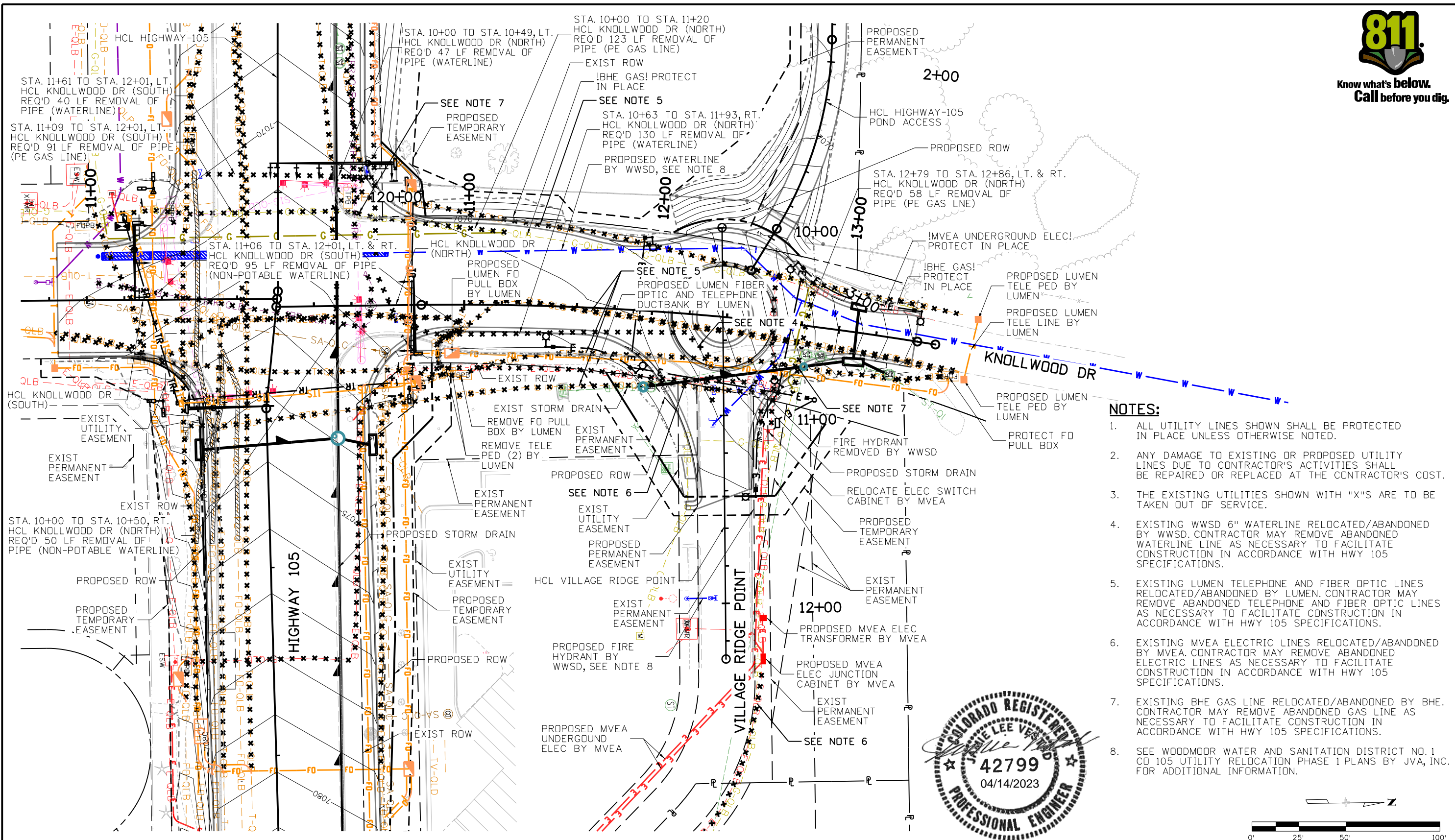
Designer: J. VESTAD
 Detailer: D. MADDOCK
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Structure Numbers
 Subset Sheets: 9 of 11

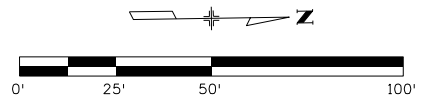
Project No./Code

19734
 STA 105A-014
 Sheet Number 216 of 251

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- NOTES:**
1. ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
 2. ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
 3. THE EXISTING UTILITIES SHOWN WITH "X"'S ARE TO BE TAKEN OUT OF SERVICE.
 4. EXISTING WWSO 6" WATERLINE RELOCATED/ABANDONED BY WWSO. CONTRACTOR MAY REMOVE ABANDONED WATERLINE LINE AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.
 5. EXISTING LUMEN TELEPHONE AND FIBER OPTIC LINES RELOCATED/ABANDONED BY LUMEN. CONTRACTOR MAY REMOVE ABANDONED TELEPHONE AND FIBER OPTIC LINES AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.
 6. EXISTING MVEA ELECTRIC LINES RELOCATED/ABANDONED BY MVEA. CONTRACTOR MAY REMOVE ABANDONED ELECTRIC LINES AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.
 7. EXISTING BHE GAS LINE RELOCATED/ABANDONED BY BHE. CONTRACTOR MAY REMOVE ABANDONED GAS LINE AS NECESSARY TO FACILITATE CONSTRUCTION IN ACCORDANCE WITH HWY 105 SPECIFICATIONS.
 8. SEE WOODMOOR WATER AND SANITATION DISTRICT NO. 1 CD 105 UTILITY RELOCATION PHASE 1 PLANS BY JVA, INC. FOR ADDITIONAL INFORMATION.



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 File Name: 19734UTIL_UT-10.dgn
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Sheet Revisions		
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**HIGHWAY 105 PROJECT A
 UTILITY MODIFICATION PLAN
 KNOLLWOOD**

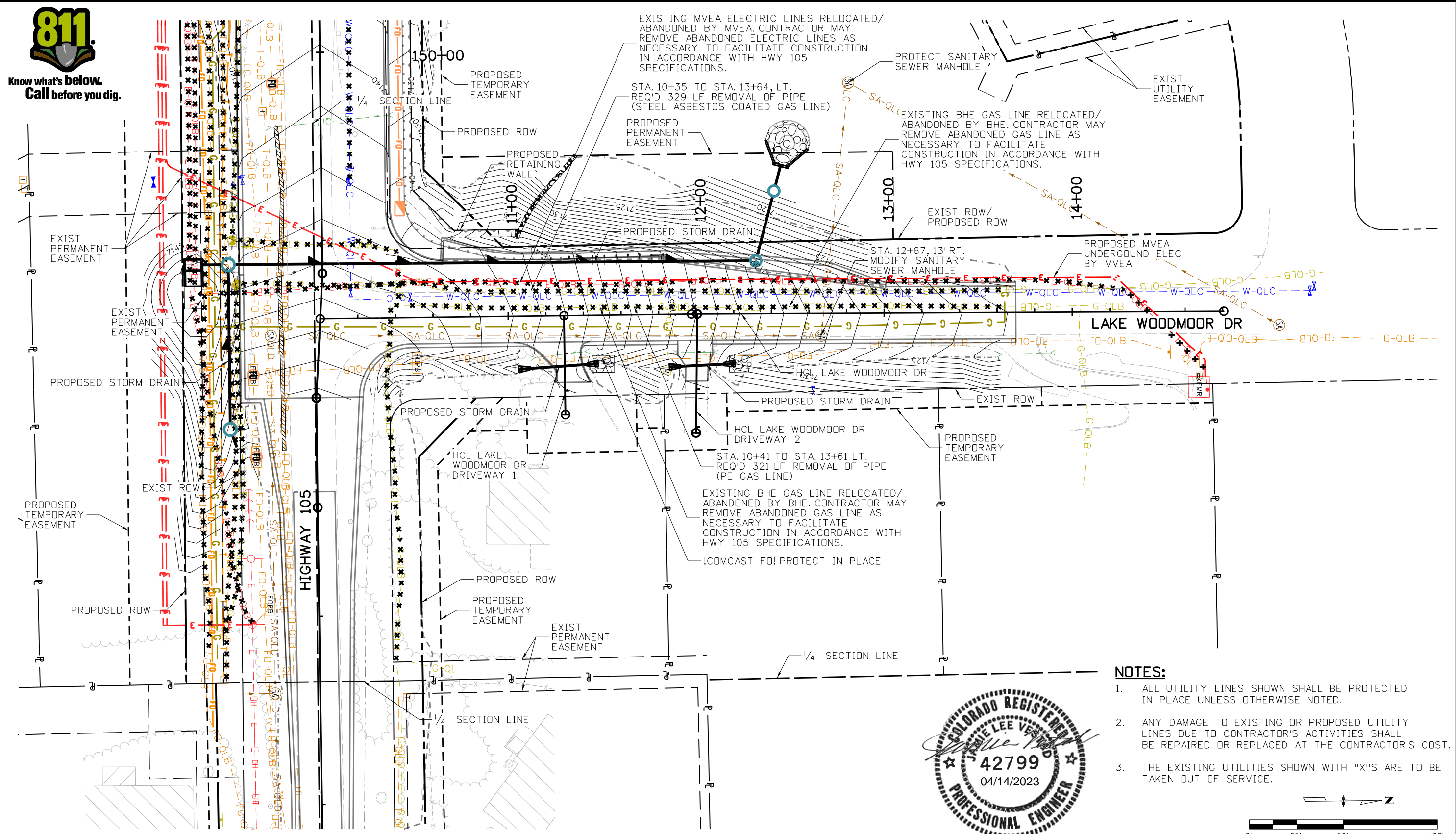
Designer: J. VESTAD
 Detailer: D. MADDOCK
 Sheet Subset: UTILITY

Project No./Code
 19734
 STA 105A-014
 Sheet Number 217 of 251

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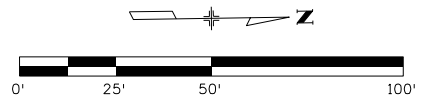


Know what's below.
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NOTES:

1. ALL UTILITY LINES SHOWN SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
2. ANY DAMAGE TO EXISTING OR PROPOSED UTILITY LINES DUE TO CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S COST.
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Print Date: 4/13/2023
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HR 5555 TECH CENTER DRIVE, SUITE 310
 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

Sheet Revisions		
Date:	Comments	Init.



As Constructed

No Revisions:
 Revised:
 Void:

**HIGHWAY 105 PROJECT A
 UTILITY MODIFICATION PLAN
 LAKE WOODMOOR**

Designer: J. VESTAD
 Detailer: D. MADDOCK

Structure Numbers:
 Sheet Subset: UTILITY Subset Sheets: 11 of 11

Project No./Code

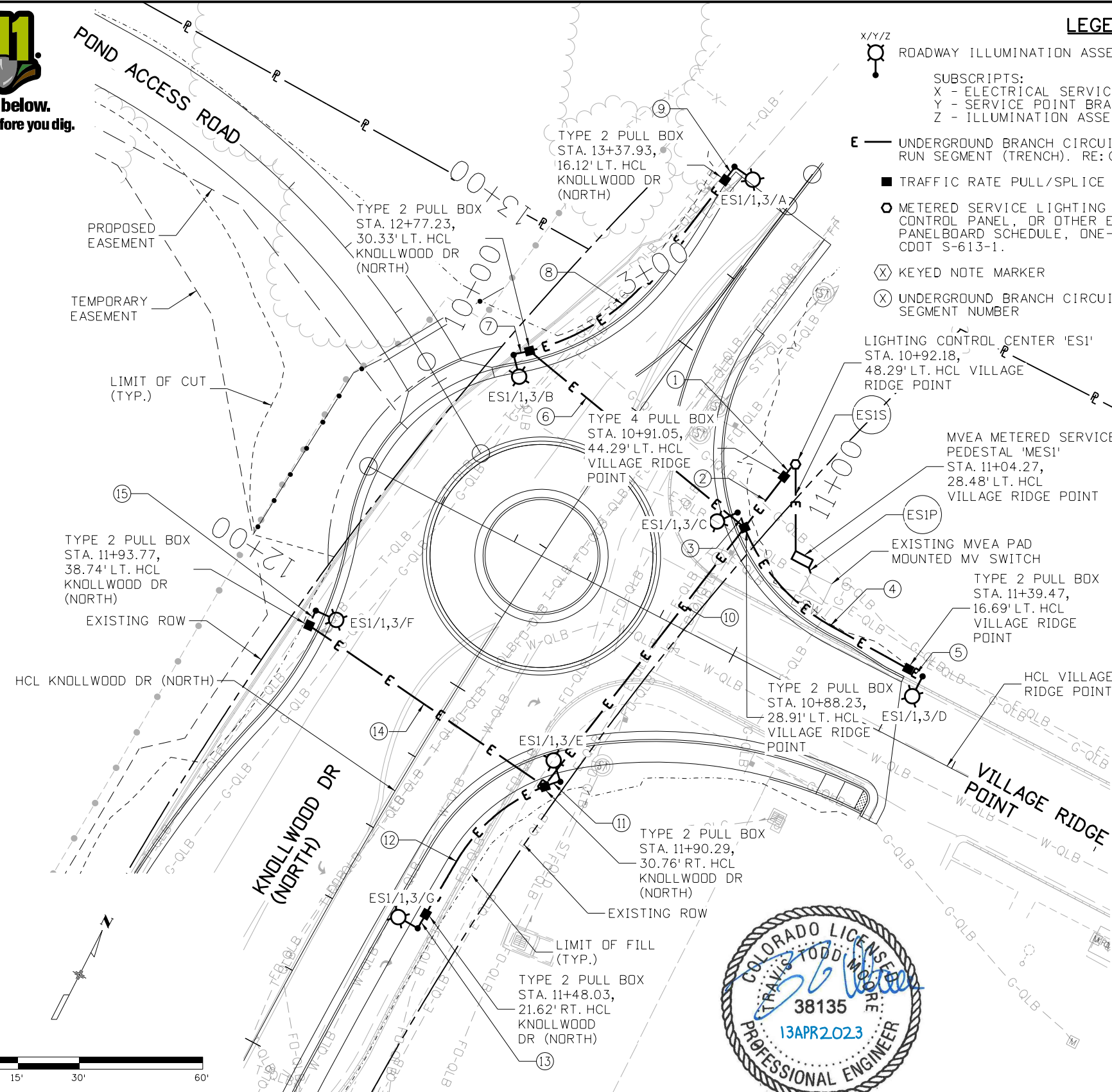
19734
 STA 105A-014
 Sheet Number 218 of 251

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DMADDDCK 7:25:28 AM pw:\V\WAPPD\MA01:NorthCentral_Dmaha\Documents\200716\00000000260510\6.0_CAD_BIM\6.2_Work_In_Progress\Utilities\Project A - Roundabout Lighting\Drawings\19734DES_Lighting-Knollwood-Roundabout.dgn



LEGEND:

- ROADWAY ILLUMINATION ASSEMBLY. RE: CDDT S-613-1
SUBSCRIPTS:
X - ELECTRICAL SERVICE DESIGNATION
Y - SERVICE POINT BRANCH CIRCUIT DESIGNATION
Z - ILLUMINATION ASSEMBLY DESIGNATION NO.
E - UNDERGROUND BRANCH CIRCUIT CONDUIT AND CONDUCTORS RUN SEGMENT (TRENCH). RE: CDDT S-613-1, S-613-3.
TRAFFIC RATE PULL/SPLICE BOX. RE: CDDT S-613-1
METERED SERVICE LIGHTING CONTROL CENTER: PANELBOARD, CONTROL PANEL, OR OTHER EQUIPMENT AT INDICATED. RE: PANELBOARD SCHEDULE, ONE-LINE RISER DIAGRAM, AND CDDT S-613-1.
KEYED NOTE MARKER
UNDERGROUND BRANCH CIRCUIT CONDUIT AND CONDUCTORS' SEGMENT NUMBER

GENERAL NOTES:

- 1. THE ELECTRICAL DESIGN FOR THIS PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST VERSION OF THE NEC, NFPA 70E, CDDT SPECIFICATIONS/STANDARDS, EL PASO COUNTY CONSTRUCTION STANDARDS, AND MVEA STANDARDS. CONTRACTOR SHALL DESIGN AND CONSTRUCT TO MEET APPLICABLE FEDERAL, STATE, AND LOCAL CODES. WHERE THE CRITERIA CONFLICTS, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
2. ALL MATERIALS AND EQUIPMENT SHALL BE THE STANDARD CATALOGUED PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH EQUIPMENT AND MATERIAL, AND SHALL BE THE MANUFACTURER'S LATEST DESIGN. ALL EQUIPMENT AND MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ANSI, ASTM, NEMA, NFPA OR OTHER NATIONAL TRADE ASSOCIATION AS APPLICABLE. WHERE STANDARDS EXIST, MATERIALS AND EQUIPMENT SHALL BEAR THE LABEL AND BE LISTED BY UL OR OTHER RECOGNIZED TESTING ORGANIZATION.
3. ELECTRICAL SPACE SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT. SPACE SHALL PROVIDE CLEARANCES AND WORKING AREAS AS REQUIRED BY CODES. COORDINATE LOCATION TO CONSIDER FACTORS SUCH AS EASE OF MAINTENANCE, VICINITY TO LOADS BEING SERVED AND ACCESSIBILITY.
4. CONTRACTOR SHALL VERIFY, WITH THE UTILITY COMPANIES, THE EXACT LOCATION OF EXISTING AND PROPOSED UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT OR DAMAGE TO THE UTILITIES. THE CONTRACTOR SHALL SEEK THE APPROVAL OF THE COLORADO SPRINGS, CO INSPECTORS PRIOR TO ADJUSTING THE FINAL LOCATION OF ANY ELECTRICAL COMPONENTS.
5. CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, ETC. TO ENSURE A COMPLETE AND OPERABLE SYSTEM WHETHER OR NOT THESE ITEMS ARE SPECIFICALLY SHOWN ON THE PLANS. CONTRACTOR SHALL VISIT THE SITE IN ORDER TO BECOME FAMILIAR WITH THE PROJECT SCOPE AND LIMITS.
6. ALL UNDERGROUND CONDUIT ROUTING WITHIN THESE PLANS ARE SCHEMATIC. EXACT ROUTING TO BE DETERMINED IN THE FIELD PRIOR TO ROUGH-IN.
7. INCIDENTAL ITEMS NOT INDICATED WITHIN THESE PLANS THAT CAN BE LEGITIMATELY AND REASONABLY INFERRED TO THE WORK DESCRIBED OR NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

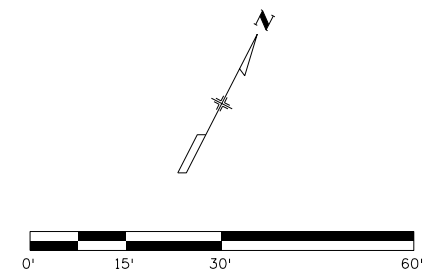


Table with 4 columns: ITEM#, DESCRIPTION, UNIT, QTY. Lists quantities for items like 2 INCH ELECTRICAL CONDUIT (PLASTIC), TYPE TWO PULL BOX, TYPE FOUR PULL BOX, WRING, LUMINAIRE (LED) (18,000 LUMENS), LIGHT STANDARD ALUMINUM (30 FOOT), CONCRETE FOUNDATION PAD, LIGHT STANDARD FOUNDATION, TRANSFORMER BASE ALUMINUM, LIGHTING CONTROL CENTER, METER POWER PEDESTAL, SAFETY SWITCH NEMA 3R, 100 AMPERE, 2-POLE, 240 VOLT.

Print Date: 4/13/2023
File Name: 19734DES_Lighting-Knollwood-Roundabout.dgn
Horiz. Scale: 1:30 Vert. Scale: None
HDR 5555 TECH CENTER DRIVE, SUITE 310 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

Table with 3 columns: Date, Comments, Init. for Sheet Revisions.

EL PASO COUNTY COLORADO S.F. Region 02 logo and CDOT logo.

Table with 2 columns: As Constructed, No Revisions, Revised, Void.

HIGHWAY 105 PROJECT A LIGHTING PLAN KNOLLWOOD ROUNDABOUT
Designer: G. MARTINEZ
Detailer: D. MADDOCK
Sheet Subset: LIGHTING Subset Sheets: 1 of 5

Table with 2 columns: Project No./Code, 19734, STA 105A-014, Sheet Number 219 of 251.

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ILLUMINATION ASSEMBLY SCHEDULE

ITEM #	MANUFACTURER/ MODEL NUMBER	LAMPS							MOUNTING	HEIGHT	DESCRIPTION	NOTES
		TYPE	TEMP	LUMENS	CRI	VOLTAGE	BUG	VA				
613-13018	SIGNIFY LUMEC #RFM-160W48-3K-G2-4-UNV-DMG-API-RCD7- PH9-SP2-GY3 OR APPROVED EQUAL	LED	3000K	18197	80	UNV	B3-U0-G3	160	POLE BASE (TO TOP OF LUMINAIRE)	30'-0" A.F.G.	LUMINAIRE: SINGLE MOUNTED AT 90° AREA/ ROADWAY COBRA HEAD LUMINAIRE WITH HEAVY-DUTY SINGLE DIE-CAST ALUMINUM HOUSING AND DOOR, INTEGRAL HEAT SINKS FINS, ONE-PIECE SOILD SILICONE GASKET, TOOL-LESS ENTRY SINGLE LATCH HINGE, INTEGRAL BIRD GUARD PROTECTOR, CORROSION RESISTANCE GREY POLYETER POWDER COAT FINISH, UV STABILIZED OPTICAL GRADE POLYMER REFRACTOR OPTICAL LENS, INTEGRAL 0-10V DIMMING CONTROLS, INTEGRAL TOOL-LESS 7-PIN TWIST-LOCK PHOTOCELL RECEPTACLE AND SHORTING CAP, INTEGRAL DRIVER DISCONNECT, INTERGRAL 20KV/10KA SURGE PROTECTION, HIGH OUTPUT LONG-LIFE LEDs, HIGH-EFFICIENCY DRIVER, TM-15 RATED 0% UPLIGHT, TYPE IV (ASYM) DISTRIBUTION OPTICS, INTEGRAL ADJUSTABLE 1-5/8" TO 2-3/8" O.D. TENON MOUNTING, 3G VIBRATION RATED, 0.53 EPA RATING, WET LOCATION RATED. ALUMINUM POLE AND LUMINAIRE ARM: PER CDOT STANDARDS ROADWAY LIGHTING S-613-1 AND CDOT SPECIFICATIONS SECTION 613 LIGHTING AND SECTION 715 LIGHTING AND ELECTRICAL MATERIALS.	1

NOTE:

1) APPROVED EQUAL LUMINAIRE MANUFACTURER TO BE AN APPROVED CDOT ROADWAY ILLUMINATION ASSEMBLY SUPPLIER.



Print Date: 4/13/2023
 File Name: 19734DES_Lighting-Schedules01.dgn
 Horiz. Scale: 1:1 Vert. Scale: None

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Sheet Revisions		
Date:	Comments	Init.



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No Revisions:
Revised:
Void:

HIGHWAY 105 PROJECT A LIGHTING SCHEDULES 1 OF 3 KNOLLWOOD ROUNDABOUT			
Designer:	G. MARTINEZ	Structure Numbers	
Detailer:	D. MADDOCK		
Sheet Subset:	LIGHTING	Subset Sheets:	2 of 5

Project No./Code
19734
STA 105A-014
Sheet Number 220 of 251

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CONDUCTORS AND CONDUIT SUMMARY																				
PANELBOARD	CIRCUIT	SEGMENT NO.	SEGMENT LENGTH (LF)	CONDUIT (LF)			CONDUCTORS (LF)			NOTES										
				613-01200			613-10000													
				CONDT (PVC) (SCH 80) (2")			ELEC CONDR (NO. 1) INSULATED	ELEC CONDR (NO. 6) BARE	ELEC CONDR (NO. 6) INSULATED											
-	-	ES1P	4	2	X	4	=	8			1									
-	-	ES1S	24	1	X	24	=	24	3	X	29	=	87							
ES1	1,3	1	6	1	X	6	=	6		1	X	11	=	11	2	X	11	=	22	
ES1	SPARE			1	X	6	=	6												
ES1	1,3	2	14	1	X	14	=	14		1	X	19	=	19	2	X	19	=	38	
ES1	SPARE			1	X	14	=	14				1	X	19	=	19	2	X	19	=
ES1	1,3	3	8	1	X	8	=	8		1	X	13	=	13	2	X	13	=	26	
ES1	1,3	4	55	1	X	55	=	55		1	X	60	=	60	2	X	60	=	120	
ES1	1,3	5	8	1	X	8	=	8		1	X	13	=	13	2	X	13	=	26	
ES1	1,3	6	69	1	X	69	=	69		1	X	74	=	74	2	X	74	=	148	
ES1	SPARE			1	X	69	=	69												
ES1	1,3	7	8	1	X	8	=	8		1	X	13	=	13	2	X	13	=	26	
ES1	1,3	8	66	1	X	66	=	66		1	X	71	=	71	2	X	71	=	142	
ES1	1,3	9	8	1	X	8	=	8		1	X	13	=	13	2	X	13	=	26	
ES1	1,3	10	84	1	X	84	=	84		1	X	89	=	89	2	X	89	=	178	
ES1	SPARE			1	X	84	=	84				1	X	89	=	89	2	X	89	=
ES1	1,3	11	8	1	X	8	=	8		1	X	13	=	13	2	X	13	=	26	
ES1	1,3	12	39	1	X	39	=	39		1	X	44	=	44	2	X	44	=	88	
ES1	1,3	13	8	1	X	8	=	8		1	X	13	=	13	2	X	13	=	26	
ES1	1,3	14	71	1	X	71	=	71		1	X	76	=	76	2	X	76	=	152	
ES1	SPARE			1	X	71	=	71				1	X	76	=	76	2	X	76	=
ES1	1,3	15	8	1	X	8	=	8		1	X	13	=	13	2	X	13	=	26	
SHEET TOTAL								736		87			719		1438					


NOTE:

1) SERVICE ENTRANCE UNDERGROUND CONDUITS PROVIDED AND INSTALLED BY THE CONTRACTOR FROM SERVICE PAD MOUNTED TRANSFORMER TO METERED SERVICE PEDESTAL. SERVICE ENTRANCE CONDUCTOR TO BE PROVIDED AND INSTALLED BY THE MVEA. COORDINATE SERVICE ENTRANCE REQUIREMENTS WITH MVEA.

ROADWAY ILLUMINATION ASSEMBLY SUMMARY						
SERVICE	CIRCUIT	POLE	STATION	OFFSET	ASSEMBLY TYPE	NOTES
ES1	1,3	A	13+41.88	16.23' LT (KNOLLWOOD)	RE: ILLUMINATION ASSEMBLY SCHEDULE	
ES1	1,3	B	12+74.28	32.96' LT (KNOLLWOOD)	RE: ILLUMINATION ASSEMBLY SCHEDULE	
ES1	1,3	C	10+85.04	31.38' LT (VILLAGE RIDGE POINT WEST)	RE: ILLUMINATION ASSEMBLY SCHEDULE	
ES1	1,3	D	11+43.42	16.67' LT (VILLAGE RIDGE POINT WEST)	RE: ILLUMINATION ASSEMBLY SCHEDULE	
ES1	1,3	E	11+93.33	33.35' RT (KNOLLWOOD)	RE: ILLUMINATION ASSEMBLY SCHEDULE	
ES1	1,3	F	11+97.59	39.25' LT (KNOLLWOOD)	RE: ILLUMINATION ASSEMBLY SCHEDULE	
ES1	1,3	G	11+44.03	21.61' RT (KNOLLWOOD)	RE: ILLUMINATION ASSEMBLY SCHEDULE	



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Date:	Comments	Init.



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 CO
 S.F. Region 02

As Constructed	No Revisions:		HIGHWAY 105 PROJECT A LIGHTING SCHEDULES 2 OF 3 KNOLLWOOD ROUNDABOUT		Project No./Code
	Revised:		Designer: G. MARTINEZ	Structure Numbers	19734
	Void:		Detailer: D. MADDOCK		STA 105A-014
			Sheet Subset: LIGHTING	Subset Sheets: 3 of 5	Sheet Number 221 of 251

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SHORT CIRCUIT ANALYSIS	
PROJECT:	KNOLLWOOD ROUNDABOUT ILLUMINATION
EQUIPMENT:	PANELBOARD 'ES1'
INCOMING TRANSFORMER KVA:	25
TRANSFORMER IMPEDENCE:	2.1
VOLTAGE:	240
PHASE:	1
AVAILABLE TRANSFORMER AMPS:	104.2
S.C. AMPS @ SECONDARY:	5511
FEEDER DISTANCE:	28.0
NUMBER OF SETS:	1.0
FEEDER CONDUCTANCE:	7493.0
LINE LOSSES:	0.1
"M" (MULTIPLIER) VALUE:	0.9
MOTOR CONTRIBUTIONS:	0
TOTAL S.C. AMPS:	5076

SERVICE "ES1" LOAD ANALYSIS				
PROJECT:	Hwy105 Project A - Knollwood Roundabout Illumination			
PROJECT NUMBER:	10024911			
MAIN DISTRIBUTION:	240 VOLT			
TYPE	EXISTING CONNECTED	NEW CONNECTED	NEW DEMAND	
EQUIPMENT:	0	4.2	4.2	AMP
RECEPTACLES:	0	0.8	0.8	AMP
LIGHTING:	0	5.8	7.3	AMP
SUB-TOTAL	0	10.8	12.2	AMP
25% SPARE	0	2.7	3.1	AMP
TOTAL	0	13.4	15.3	AMP
SERVICE VOLTAGE:		240	VOLT	
REQUIRED SERVICE AMPACITY:		100	AMP	
SCHEDULED SERVICE AMPACITY:		100	AMP	




PANELBOARD 'ES1'																													
LOCATION:		SERVICE PEDESTAL 'MES1'				VOLTAGE:		120/240 V		KAIC:		22		BUSSING SHALL BE FULLY RATED															
MOUNTING:		ENCLOSURE				PHASE:		1 P / 3W		CODES:		0=EQPT, 1=RCPT, 2=LTG, 3=A/C, 4=HEAT																	
ENCLOSURE:		PER SPECS				STYLE:		PER SPECS		BUSSING:		100 A		5=CONTINUOUS MOTORS, 6=LRGST MOTOR															
BRKR MTG:		PER SPECS				MCB:		100 A		ACCESSORIES: GROUND BUS, 12 SPACE																			
BREAKERS:		PER SPECS				MLO:		A																					
VOLTAGE DROP		WIRING																											
LENGTH (FT.)	% TOTAL	PHASE	NEUT.	GND	CONDUIT	CODE	BRKR	CIRCUIT DESCRIPTION				CKT	LOAD	A	B	LOAD	CKT	CIRCUIT DESCRIPTION				BRKR	CODE	PHASE	NEUT.	GND	CONDUIT	LENGTH (FT.)	% TOTAL
662	0.73%	RE: CONDUIT & CONDUCTOR SUMMARY																											
-	-	-	-	-	-	2	20/2	ROUNDABOUT LUMINAIRES				1	700	X	-	-	2	SPARE				20/2	-	-	-	-	-	-	-
-	-	-	-	-	-	2	-	-				3	700	-	X	-	4	-				-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	20/2	SPARE				5	-	X	1,000	6	LIGHTING CONTACTOR				30/1	0	#10	#10	#10	3/4"	5	0.03%	
-	-	-	-	-	-	-	-	-				7	-	X	180	8	WEATHERPROOF GFCI RECEPTACLE				20/1	1	#12	#12	#12	3/4"	5	0.16%	
-	-	-	-	-	-	-	20/2	SPARE				9	-	X	-	10	SPARE				20/1	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-				11	-	X	-	12	SPARE				20/1	-	-	-	-	-	-	-	
PHASE A		EQPT VA		RCPT VA		LTG VA		AC/HEAT VA		MOTORS		CONN VA		FTL VA		PANEL VA		PHASE AMP											
PHASE A		1000		0		700		0		0		1700				1875		16											
PHASE B		0		180		700		0		0		880				1055		9											
TOTAL		1000		180		1400		0		0		2580				2930													
PANEL DESIGN KVA: 2.93										PANEL SUBTOTAL: 12 AMPS																			
RESERVE CAPACITY KVA: 0.73										RESERVE CAPACITY: 3 AMPS																			
TOTAL KVA: 3.66										PANEL DESIGN CURRENT: 15 AMPS																			

Print Date: 4/13/2023
 File Name: 19734DES_Lighting-Schedules03.dgn
 Horiz. Scale: 1:1 Vert. Scale: None




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Sheet Revisions		
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EL PASO COUNTY COLORADO



Region 02

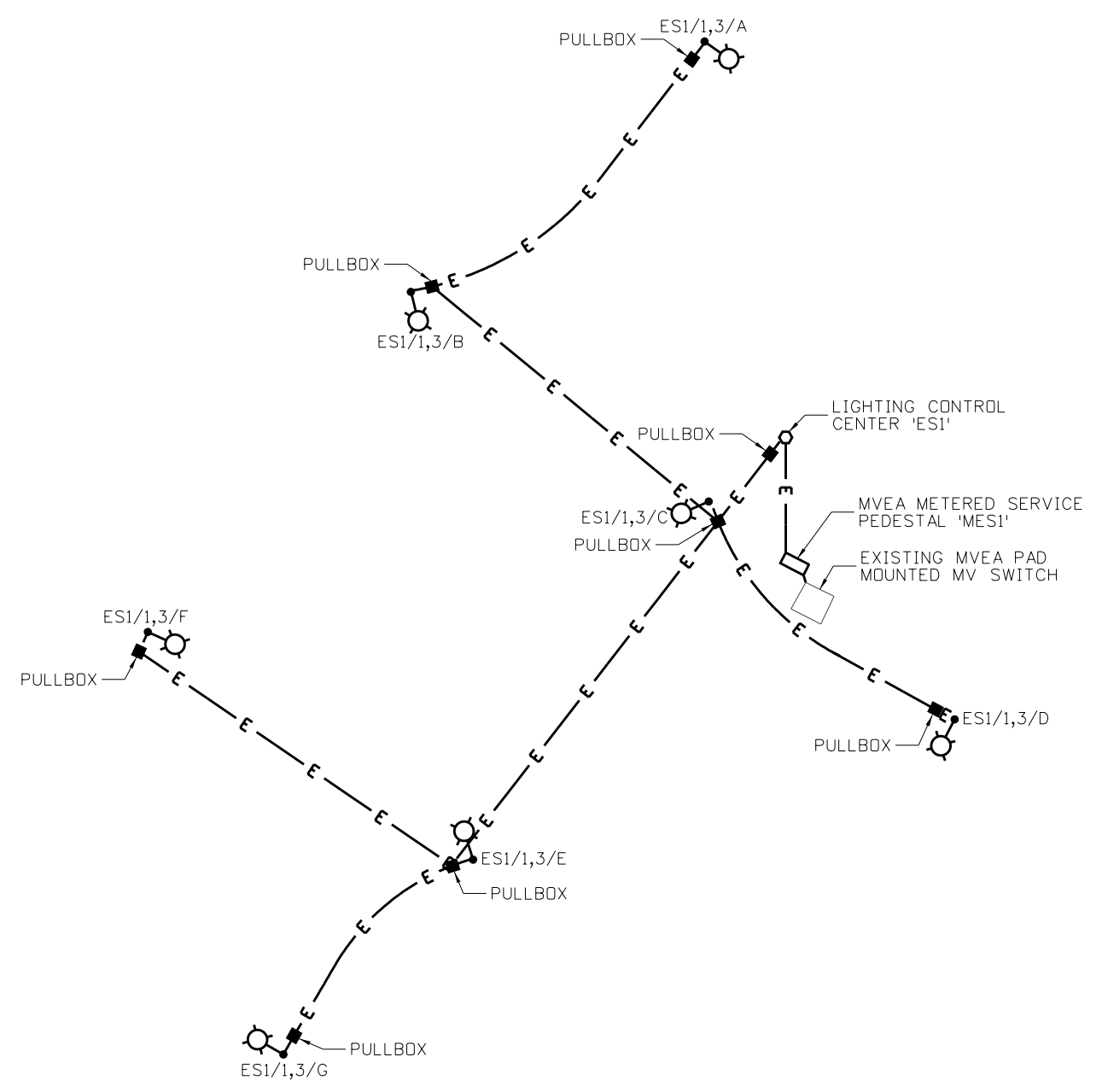
As Constructed
No Revisions:
Revised:
Void:

HIGHWAY 105 PROJECT A
 LIGHTING SCHEDULES 3 OF 3
 KNOLLWOOD ROUNDABOUT

Designer: G. MARTINEZ
 Detailer: D. MADDOCK

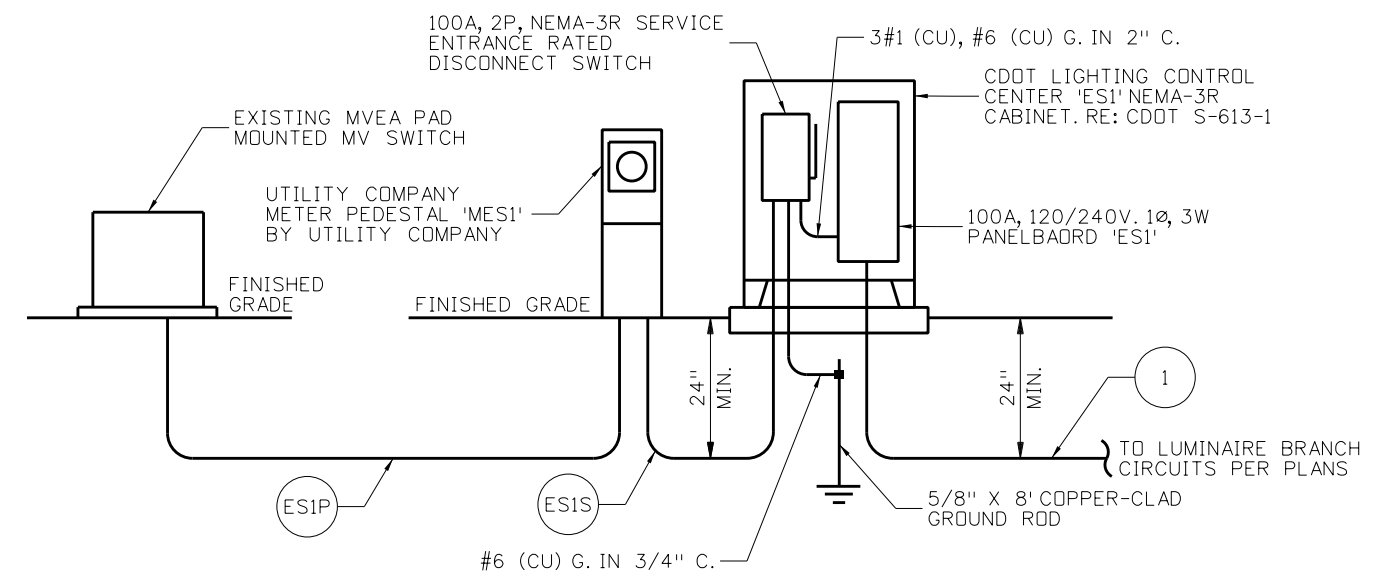
Structure Numbers: -
 Subst Sheets: 4 of 5

Project No./Code
19734
STA 105A-014
Sheet Number 222 of 251



1 ILLUMINATION SCHEMATIC 'ES1'
SCALE: NOT TO SCALE

- NOTES:
1. ALL WORK SHALL BE COMPLETED ACCORDING TO MVEA STANDARDS, CDOT STANDARDS, AND THE NATIONAL ELECTRIC CODE.
 2. CONTRACTOR SHALL COORDINATE FINAL ELECTRICAL SERVICE CONNECTION WITH UTILITY COMPANY PRIOR TO ROUGH IN.
 3. LUMINAIRE BRANCH CIRCUITS TO BE ROUTED THROUGH PHOTOCELL/CONTACTOR CONTROL ASD NOTED IN CDOT STANDARD.



2 ELECTRICAL ONE-LINE RISER DIAGRAM
SCALE: NOT TO SCALE

Print Date: 4/13/2023
 File Name: 19734DES_Lighting-Schematics.dgn
 Horiz. Scale: 1:30 Vert. Scale: None

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 COLORADO SPRINGS, CO 80919 PHONE: 719-272-8800

Sheet Revisions		
Date:	Comments	Init.



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No Revisions:
Revised:
Void:

HIGHWAY 105 PROJECT A LIGHTING SCHEMATICS KNOLLWOOD ROUNDABOUT	
Designer: G. MARTINEZ	Structure Numbers
Detailer: D. MADDOCK	
Sheet Subset: LIGHTING	Subset Sheets: 5 of 5

Project No./Code
19734
STA 105A-014
Sheet Number 223 of 251

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Know what's below.
Call before you dig.

INFORMATION ONLY ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE MEASURED AND PAID FOR AS A LUMP SUM, 630-00016 TRAFFIC CONTROL ITEM (SPECIAL). SEE PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

TABULATION OF TRAFFIC ENGINEERING ITEMS			
ITEM NUMBER	ITEM DESCRIPTION	UNIT	PROJECT TOTALS
630-00000	FLAGGING	HOUR	500
630-00007	TRAFFIC CONTROL INSPECTION	DAY	271
630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	109
630-00016	TRAFFIC CONTROL (SPECIAL)	LS	1
630-80355	PORTABLE MESSAGE SIGN PANEL	EACH	2

NOTES:

Assume 380 working days.

Project to be constructed in accordance with CDOT Standard S-630-1 Case No. 18, 19, & 30 as well as MUTCD TA 3, 6, 10, 17, 21, 24, 28, & 32

TABULATION OF TRAFFIC ENGINEERING ITEMS (FOR INFORMATION ONLY)		
ITEM DESCRIPTION	UNIT	PROJECT TOTALS
REMOVAL OF PAVEMENT MARKING	SF	4856
PAVEMENT MARKING PAINT	GAL	67
BARRICADE (TYPE 3 M-A) (TEMPORARY)	EACH	16
BARRICADE (TYPE 3 M-B) (TEMPORARY)	EACH	2
CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	78
CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	15
ADVANCED WARNING FLASHING OR SEQUENCING ARROW PANEL (A FLASH ARROW PANEL (A TY) TYPE)	EACH	1
DRUM CHANNELIZING DEVICE	EACH	225
DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)	EACH	75
TRAFFIC CONE	EACH	50

TEMPORARY PAVEMENT MARKING (INFORMATION ONLY)			
PHASE	PAVEMENT MARKING PAINT		REMOVAL OF PAVEMENT MARKINGS (SF)
	4" SOLID DOUBLE YELLOW (GAL)	4" SOLID WHITE (GAL)	
Phase 1	22	12	4856
Phase 2	22	12	0
Subtotal	43	24	4856
Total	67		4856

SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES (INFORMATION ONLY)				
SIGNS				
SIGN CODE	LEGEND	DIMENSION (IN x IN)	PANEL SIZE	
			A	B
G20-2	END/ROAD WORK	36 x 18	4	
G20-5P	WORK/ZONE (PLAQUE)	24 x 18	11	
G20-10	XYZ/CONSTRUCTION/THANKS YOU/XXX-XXX-XXXX	48 x 48		6
G20-11	ROAD WORK/MMYY-MMYY/FOR INFORMATION/XXX-XXX-XXXX	48 x 48		6
R2-1	SPEED/LIMIT/40	24 x 30	4	
R2-6P	FINES/DOUBLE	24 x 18	7	
R5-1	DO NOT/ENTER	30 x 30	1	
R9-9	SIDEWALK/CLOSED	24 x 12	8	
R11-2	ROAD/CLOSED	48 x 30		3
R52-6a	BEGIN/FINES/DOUBLE/IN WORK/ZONE	24 x 30	6	
R52-6b	END/FINES/DOUBLE/IN WORK/ZONE	24 x 30	6	
W1-4L	Reverse Curve (LEFT)	36 x 36	1	
W1-4R	Reverse Curve (RIGHT)	36 x 36	1	
W3-4	BE/PREPARED/TO STOP	36 x 36	3	
W4-2R	LANE ENDS	36 x 36	2	
W9-2L	LANE ENDS/MERGE/LEFT	36 x 36	1	
W12-1	DOUBLE ARROW	30 x 30	1	
W20-1	ROAD/WORK/1/2 MILE	36 x 36	2	
W20-1	ROAD/WORK/AHEAD	36 x 36	6	
W20-4	ONE LANE/ROAD/AHEAD	36 x 36	5	
W20-5R	RIGHT/LANE/CLOSED/AHEAD	36 x 36	3	
W20-7	FLAGGER (SYMBOL)	36 x 36	6	
TOTALS			78	15

GENERAL NOTES
TRAFFIC REQUIREMENTS:

- 2-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.
- LANES SHALL BE A MINIMUM OF 11 FT WITH A 2 FT SHOULDER.
- ACCESS TO BUSINESSES, THE LDS CHURCH, AND THE MONUMENT ACADEMY SCHOOL MUST BE MAINTAINED AT ALL TIMES.
- THE CONTRACTOR SHALL ACCOMMODATE FOR THE SCHOOL'S DROP-OFF AND PICK-UP TRAFFIC.
- EXISTING TRAFFIC SIGNAL TIMING AND SIGNAL HEADS AT JACKSON CREEK PKWY AND KNOLLWOOD DR SHALL BE ADJUSTED AS REQUIRED FOR ALL PHASES OF CONSTRUCTION. CONTRACTOR SHALL PROVIDE ADJUSTMENTS IN THEIR MHT'S FOR APPROVAL BY THE ENGINEER. COORDINATION WITH CDDT WILL BE REQUIRED.

Print Date: 4/12/2023

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Horiz. Scale: 1:40

Vert. Scale: None

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Sheet Revisions		
Date:	Comments	Init.



As Constructed

No Revisions:

Revised:

Void:

HIGHWAY 105 PROJECT A
SCHEDULE OF CONSTRUCTION
TRAFFIC CONTROL DEVICES

Designer: A. AMEND

Detailer: S. PARASPATKI

Sheet Subset: CTC

Structure Numbers

Subset Sheets: 1 of 1

Project No./Code

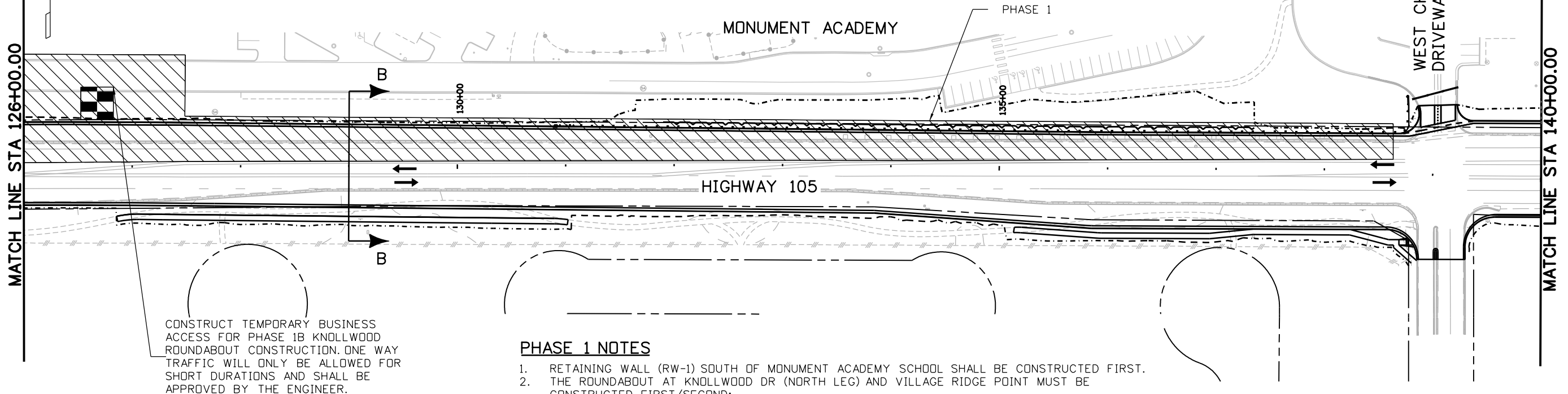
19734

STA 105A-014

Sheet Number 224 of 251

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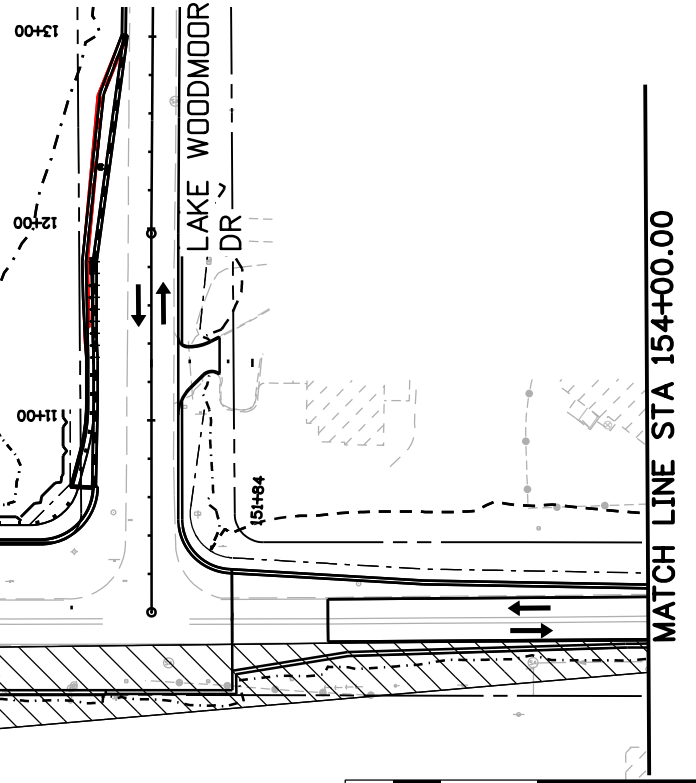
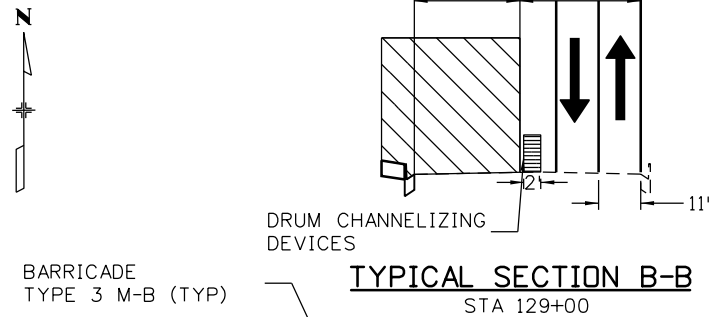
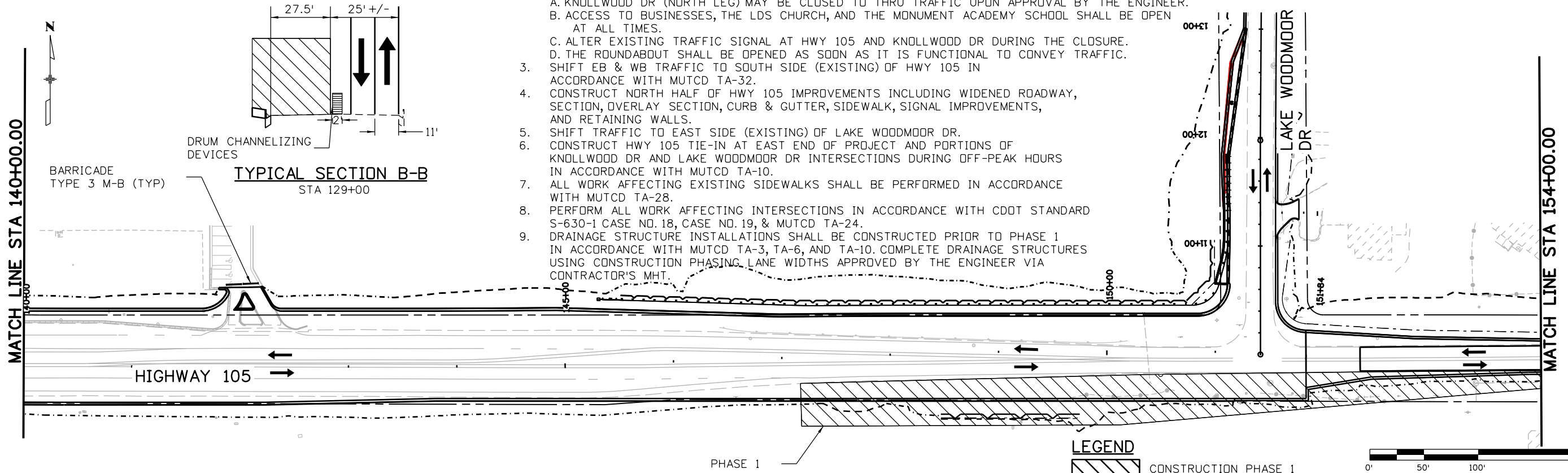
- NOTE:
- 1) UNLESS OTHERWISE NOTED IN PHASE REQUIREMENTS, THIS PLAN IS PROVIDED FOR THE CONTRACTOR'S CONSIDERATION AND DOES NOT DICTATE HOW OR WHEN THE CONTRACTOR CONDUCTS THEIR WORK. CONSTRUCTION PHASING IS THE CONTRACTOR'S RESPONSIBILITY.
 - 2) TEMPORARY STRIPING NOT SHOWN.



CONSTRUCT TEMPORARY BUSINESS ACCESS FOR PHASE 1B KNOLLWOOD ROUNDABOUT CONSTRUCTION. ONE WAY TRAFFIC WILL ONLY BE ALLOWED FOR SHORT DURATIONS AND SHALL BE APPROVED BY THE ENGINEER.

PHASE 1 NOTES

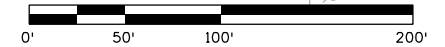
1. RETAINING WALL (RW-1) SOUTH OF MONUMENT ACADEMY SCHOOL SHALL BE CONSTRUCTED FIRST.
2. THE ROUNDABOUT AT KNOLLWOOD DR (NORTH LEG) AND VILLAGE RIDGE POINT MUST BE CONSTRUCTED FIRST/SECOND:
 - A. KNOLLWOOD DR (NORTH LEG) MAY BE CLOSED TO THRU TRAFFIC UPON APPROVAL BY THE ENGINEER.
 - B. ACCESS TO BUSINESSES, THE LDS CHURCH, AND THE MONUMENT ACADEMY SCHOOL SHALL BE OPEN AT ALL TIMES.
 - C. ALTER EXISTING TRAFFIC SIGNAL AT HWY 105 AND KNOLLWOOD DR DURING THE CLOSURE.
 - D. THE ROUNDABOUT SHALL BE OPENED AS SOON AS IT IS FUNCTIONAL TO CONVEY TRAFFIC.
3. SHIFT EB & WB TRAFFIC TO SOUTH SIDE (EXISTING) OF HWY 105 IN ACCORDANCE WITH MUTCD TA-32.
4. CONSTRUCT NORTH HALF OF HWY 105 IMPROVEMENTS INCLUDING WIDENED ROADWAY, SECTION, OVERLAY SECTION, CURB & GUTTER, SIDEWALK, SIGNAL IMPROVEMENTS, AND RETAINING WALLS.
5. SHIFT TRAFFIC TO EAST SIDE (EXISTING) OF LAKE WOODMOOR DR.
6. CONSTRUCT HWY 105 TIE-IN AT EAST END OF PROJECT AND PORTIONS OF KNOLLWOOD DR AND LAKE WOODMOOR DR INTERSECTIONS DURING OFF-PEAK HOURS IN ACCORDANCE WITH MUTCD TA-10.
7. ALL WORK AFFECTING EXISTING SIDEWALKS SHALL BE PERFORMED IN ACCORDANCE WITH MUTCD TA-28.
8. PERFORM ALL WORK AFFECTING INTERSECTIONS IN ACCORDANCE WITH CDDT STANDARD S-630-1 CASE NO. 18, CASE NO. 19, & MUTCD TA-24.
9. DRAINAGE STRUCTURE INSTALLATIONS SHALL BE CONSTRUCTED PRIOR TO PHASE 1 IN ACCORDANCE WITH MUTCD TA-3, TA-6, AND TA-10. COMPLETE DRAINAGE STRUCTURES USING CONSTRUCTION PHASING LANE WIDTHS APPROVED BY THE ENGINEER VIA CONTRACTOR'S MHT.



LEGEND



CONSTRUCTION PHASE 1



Print Date: 4/12/2023
 File Name: 19734DES_Phasing_1-01.dgn
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Sheet Revisions		
Date:	Comments	Init.

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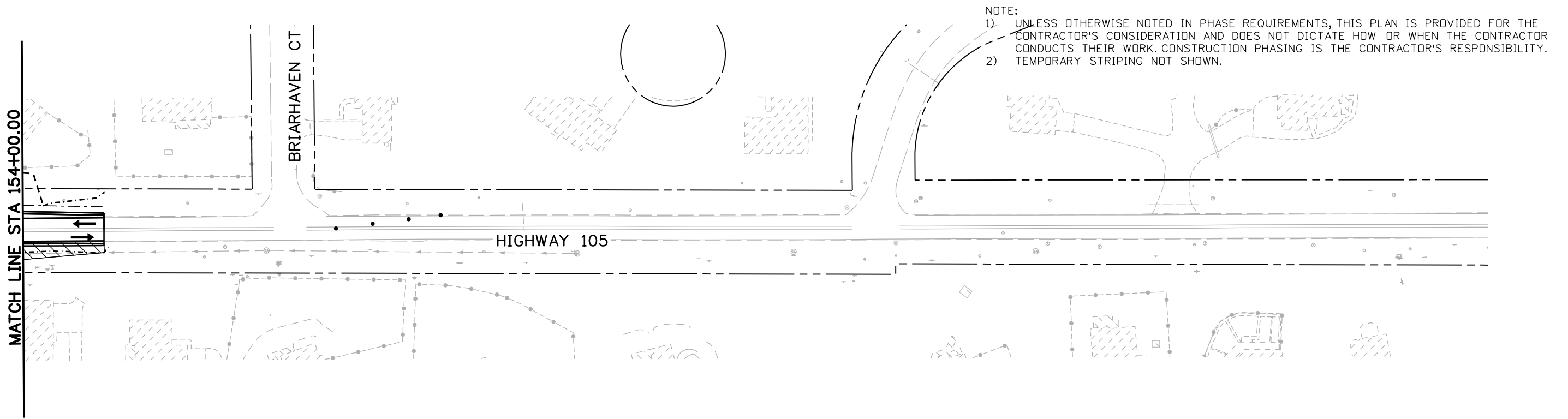
As Constructed
No Revisions:
Revised:
Void:

**HIGHWAY 105 PROJECT A
 CONSTRUCTION PHASING - PHASE 1
 126+00.00 TO 154+00.00**

Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: PHASING

Project No./Code	19734
Structure Numbers	STA 105A-014
Subset Sheets	1 of 8
Sheet Number	225 of 251

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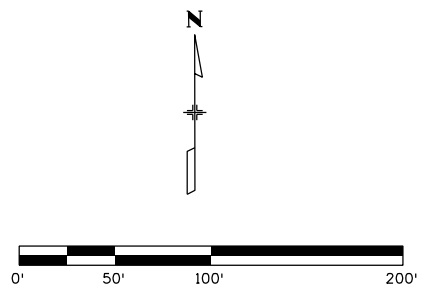


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 2) TEMPORARY STRIPING NOT SHOWN.

PHASE 1 NOTES

1. RETAINING WALL (RW-1) SOUTH OF MONUMENT ACADEMY SCHOOL SHALL BE CONSTRUCTED FIRST.
2. THE ROUNDABOUT AT KNOLLWOOD DR (NORTH LEG) AND VILLAGE RIDGE POINT MUST BE CONSTRUCTED FIRST/SECOND:
 A. KNOLLWOOD DR (NORTH LEG) MAY BE CLOSED TO THRU TRAFFIC UPON APPROVAL BY THE ENGINEER.
 B. ACCESS TO BUSINESSES, THE LDS CHURCH AND THE MONUMENT ACADEMY SCHOOL SHALL BE OPEN AT ALL TIMES.
 C. ALTER EXISTING TRAFFIC SIGNAL AT HWY 105 AND KNOLLWOOD DR DURING THE CLOSURE.
 D. THE ROUNDABOUT SHALL BE OPENED AS SOON AS IT IS FUNCTIONAL TO CONVEY TRAFFIC.
3. SHIFT EB & WB TRAFFIC TO SOUTH SIDE (EXISTING) OF HWY 105 IN ACCORDANCE WITH MUTCD TA-32.
4. CONSTRUCT NORTH HALF OF HWY 105 IMPROVEMENTS INCLUDING WIDENED ROADWAY, SECTION, OVERLAY SECTION, CURB & GUTTER, SIDEWALK, SIGNAL IMPROVEMENTS, AND RETAINING WALLS.
5. SHIFT TRAFFIC TO EAST SIDE (EXISTING) OF LAKE WOODMOOR DR.
6. CONSTRUCT HWY 105 TIE-IN AT EAST END OF PROJECT AND PORTIONS OF KNOLLWOOD DR AND LAKE WOODMOOR DR INTERSECTIONS DURING OFF-PEAK HOURS IN ACCORDANCE WITH MUTCD TA-10.
7. ALL WORK AFFECTING EXISTING SIDEWALKS SHALL BE PERFORMED IN ACCORDANCE WITH MUTCD TA-28.
8. PERFORM ALL WORK AFFECTING INTERSECTIONS IN ACCORDANCE WITH CDOT STANDARD S-630-1 CASE NO. 18, CASE NO. 19, & MUTCD TA-24.
9. DRAINAGE STRUCTURE INSTALLATIONS SHALL BE CONSTRUCTED PRIOR TO PHASE 1 IN ACCORDANCE WITH MUTCD TA-3, TA-6, AND TA-10. COMPLETE DRAINAGE STRUCTURES USING CONSTRUCTION PHASING LANE WIDTHS APPROVED BY THE ENGINEER VIA CONTRACTOR'S MHT.

LEGEND
 CONSTRUCTION PHASE 1



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 File Name: 19734DES_Phasing_1-02.dgn
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Date:	Comments	Init.

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S.F. Region 02

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Void:

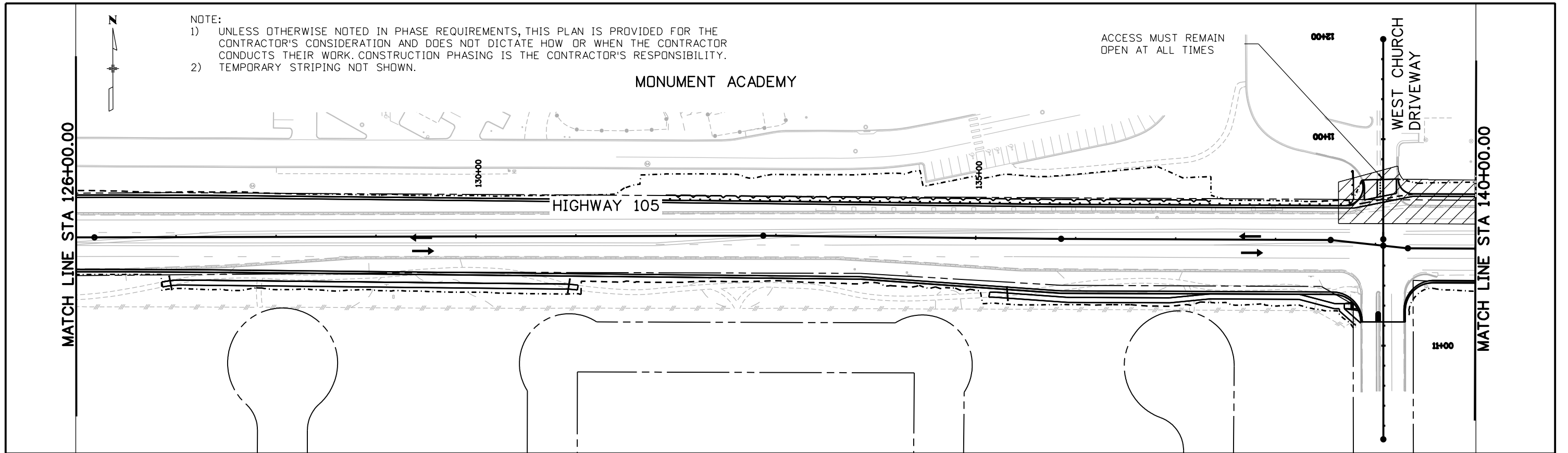
**HIGHWAY 105 PROJECT A
 CONSTRUCTION PHASING - PHASE 1
 154+00.00 TO 165+00.00**

Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: PHASING

Structure Numbers
 Subset Sheets: 2 of 8

Project No./Code
19734
STA 105A-014
Sheet Number 226 of 251

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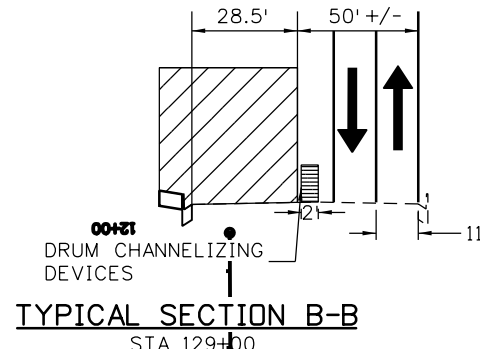
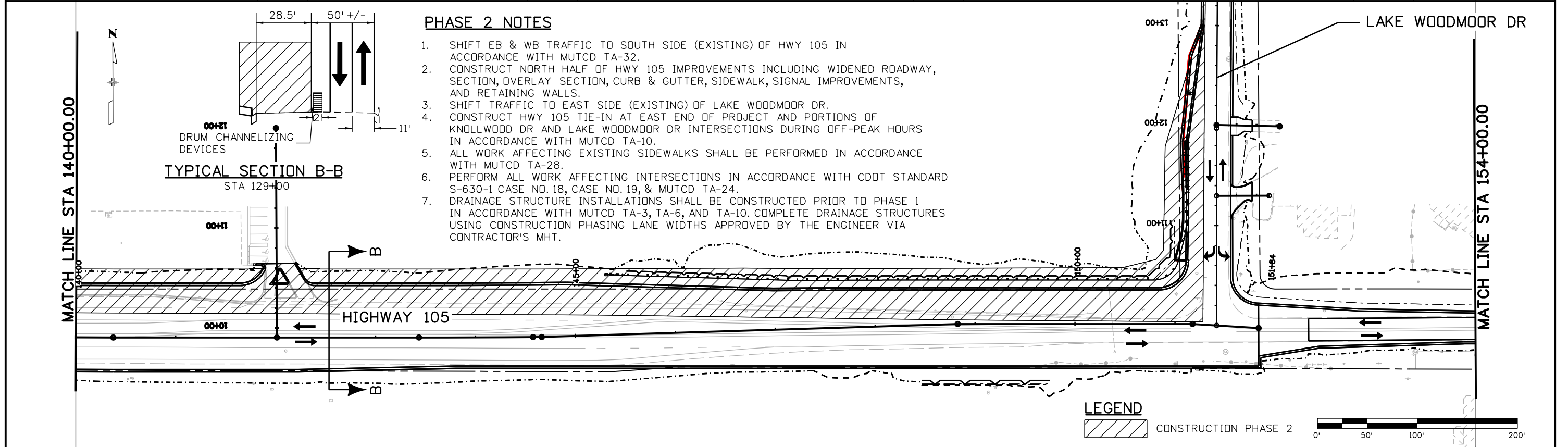
MONUMENT ACADEMY

ACCESS MUST REMAIN OPEN AT ALL TIMES

WEST CHURCH DRIVEWAY

MATCH LINE STA 126+00.00

MATCH LINE STA 140+00.00



PHASE 2 NOTES

1. SHIFT EB & WB TRAFFIC TO SOUTH SIDE (EXISTING) OF HWY 105 IN ACCORDANCE WITH MUTCD TA-32.
2. CONSTRUCT NORTH HALF OF HWY 105 IMPROVEMENTS INCLUDING WIDENED ROADWAY, SECTION, OVERLAY SECTION, CURB & GUTTER, SIDEWALK, SIGNAL IMPROVEMENTS, AND RETAINING WALLS.
3. SHIFT TRAFFIC TO EAST SIDE (EXISTING) OF LAKE WOODMOOR DR.
4. CONSTRUCT HWY 105 TIE-IN AT EAST END OF PROJECT AND PORTIONS OF KNOLLWOOD DR AND LAKE WOODMOOR DR INTERSECTIONS DURING OFF-PEAK HOURS IN ACCORDANCE WITH MUTCD TA-10.
5. ALL WORK AFFECTING EXISTING SIDEWALKS SHALL BE PERFORMED IN ACCORDANCE WITH MUTCD TA-28.
6. PERFORM ALL WORK AFFECTING INTERSECTIONS IN ACCORDANCE WITH CDDT STANDARD S-630-1 CASE NO. 18, CASE NO. 19, & MUTCD TA-24.
7. DRAINAGE STRUCTURE INSTALLATIONS SHALL BE CONSTRUCTED PRIOR TO PHASE 1 IN ACCORDANCE WITH MUTCD TA-3, TA-6, AND TA-10. COMPLETE DRAINAGE STRUCTURES USING CONSTRUCTION PHASING LANE WIDTHS APPROVED BY THE ENGINEER VIA CONTRACTOR'S MHT.

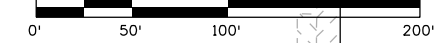
LAKE WOODMOOR DR

MATCH LINE STA 140+00.00

MATCH LINE STA 154+00.00

LEGEND

CONSTRUCTION PHASE 2



Print Date: 4/12/2023
 File Name: 19734DES_Phasing_2-02.dgn
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As Constructed	HIGHWAY 105 PROJECT A CONSTRUCTION PHASING - PHASE 2 126+00.00 TO 154+00.00		Project No./Code 19734
No Revisions:	Designer: A. AMEND	Structure Numbers	STA 105A-014
Revised:	Detailer: S. PARASPATKI	Subset Sheets: 4 of 8	Sheet Number 228 of 251
Void:	Sheet Subset: PHASING		

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PHASE 4 NOTES

1. SHIFT EB & WB TRAFFIC TO NORTH SIDE (NEW) OF HWY 105 IN ACCORDANCE WITH MUTCD TA-21 & TA-32.
2. CONSTRUCT SOUTH HALF OF HWY 105 IMPROVEMENTS INCLUDING WIDENED ROADWAY, SECTION, OVERLAY SECTION, CURB & GUTTER, SIDEWALK, MEDIANS, AND RETAINING WALLS.
3. SHIFT TRAFFIC TO WEST SIDE (NEW) OF LAKE WOODMOOR DR AND CONSTRUCT EAST HALF OF NEW ROADWAY IN ACCORDANCE WITH MUTCD TA-10.
4. CONSTRUCTION OF HWY 105 TIE-IN AT EAST END OF PROJECT AND PORTIONS OF KNOLLWOOD DR AND LAKE WOODMOOR DR INTERSECTIONS SHALL BE CONSTRUCTED DURING OFF-PEAK HOURS IN ACCORDANCE WITH MUTCD TA-10.
5. PERFORM ALL WORK AFFECTING EXISTING SIDEWALKS IN ACCORDANCE WITH MUTCD TA-28.
6. ALL WORK AFFECTING INTERSECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CDDT STANDARD S-630-1 CASE NO. 18, CASE NO. 19, & MUTCD TA-24.

PHASE 5 NOTES

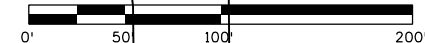
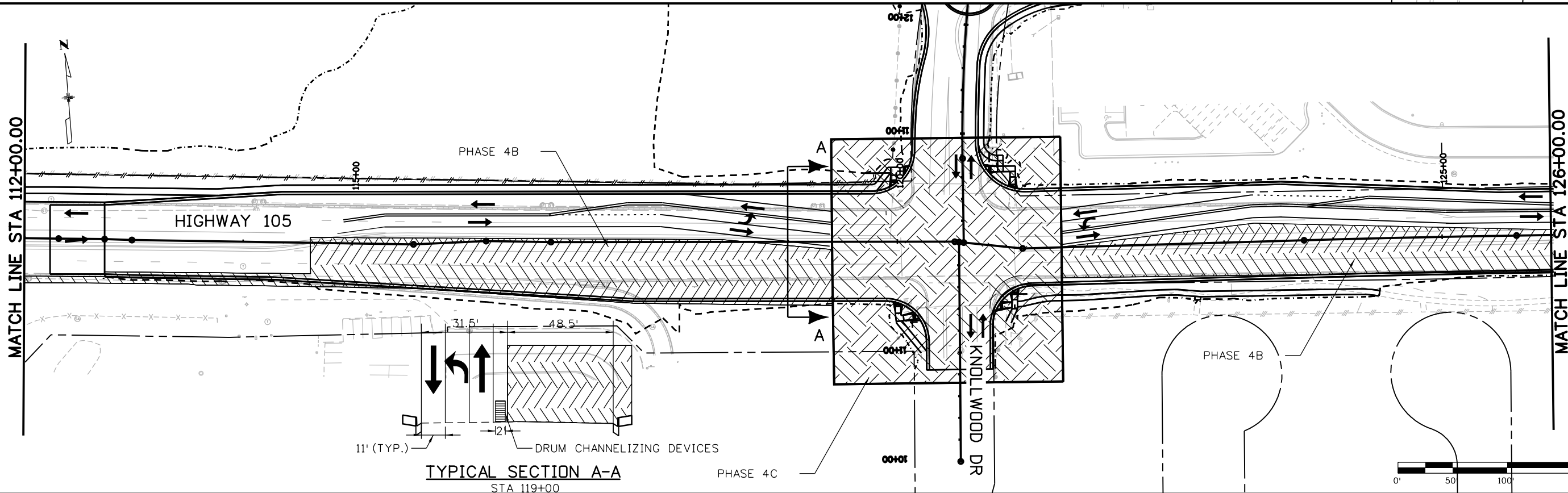
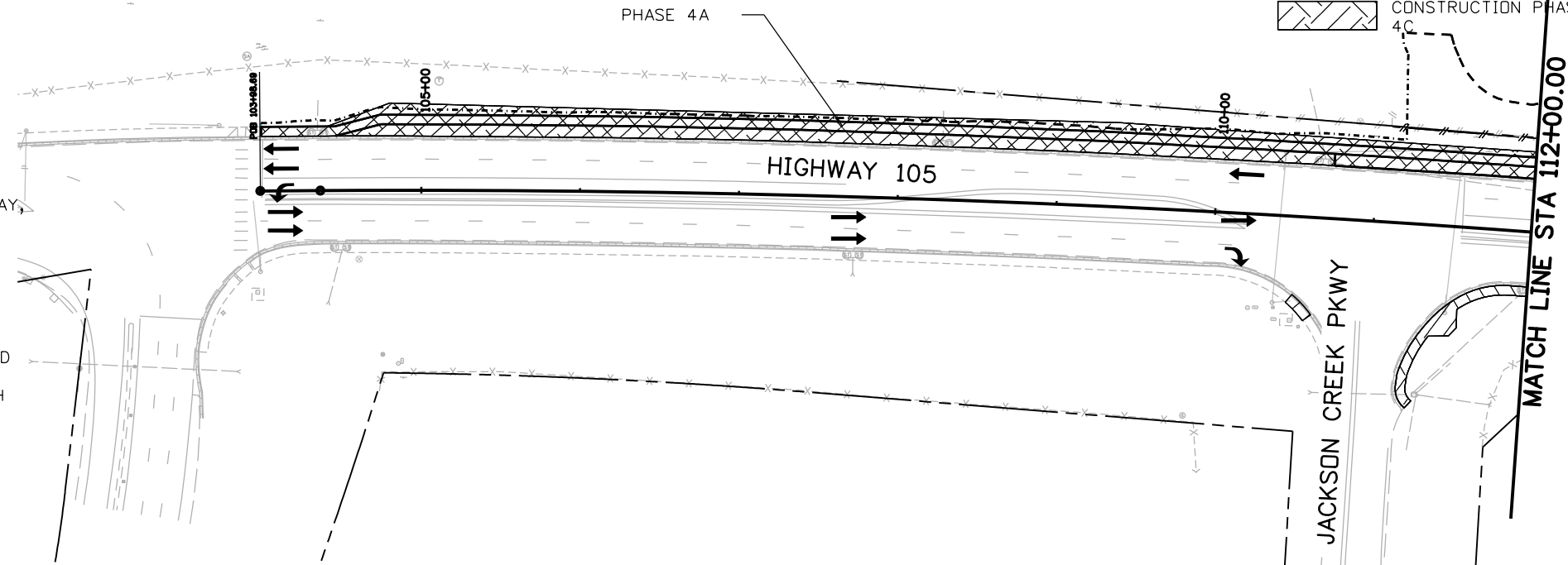
1. PLACE TOP LIFT OF ASPHALT ON HWY 105
2. INSTALL PERMANENT STRIPING IN ACCORDANCE WITH MUTCD TA-17.

NOTE:

- 1) UNLESS OTHERWISE NOTED IN PHASE REQUIREMENTS, THIS PLAN IS PROVIDED FOR THE CONTRACTOR'S CONSIDERATION AND DOES NOT DICTATE HOW OR WHEN THE CONTRACTOR CONDUCTS THEIR WORK. CONSTRUCTION PHASING IS THE CONTRACTOR'S RESPONSIBILITY.
- 2) TEMPORARY STRIPING SHOWN IS NOT EXACT, ONLY FOR REFERENCE.

LEGEND

- CONSTRUCTION PHASE 4A & 4B
- CONSTRUCTION PHASE 4C
- CONSTRUCTION PHASE 4C



Print Date: 4/12/2023

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**HIGHWAY 105 PROJECT A
CONSTRUCTION PHASING - PHASE 4
100+00.00 TO 126+00.00**

Designer: A. AMEND

Detailer: S. PARASPATKI

Sheet Subset: PHASING

Structure Numbers

Subset Sheets: 6 of 8

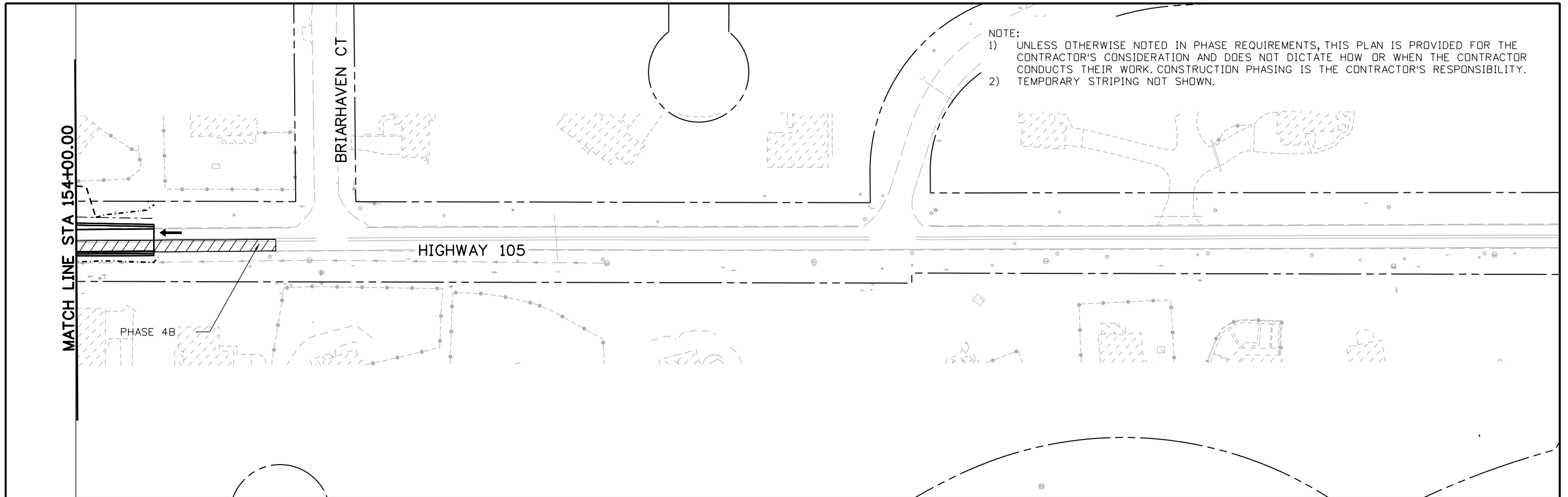
Project No./Code

19734

STA 105A-014

Sheet Number 230 of 251

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 2) TEMPORARY STRIPING NOT SHOWN.

PHASE 4 NOTES

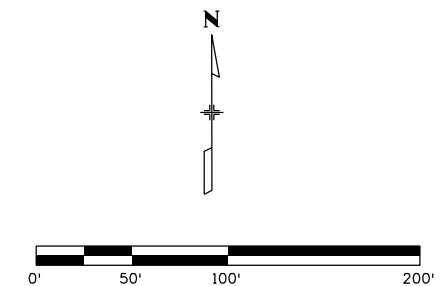
1. SHIFT EB & WB TRAFFIC TO NORTH SIDE (NEW) OF HWY 105 IN ACCORDANCE WITH MUTCD TA-21 & TA-32.
2. CONSTRUCT SOUTH HALF OF HWY 105 IMPROVEMENTS INCLUDING WIDENED ROADWAY, SECTION, OVERLAY SECTION, CURB & GUTTER, SIDEWALK, MEDIANS, AND RETAINING WALLS.
3. SHIFT TRAFFIC TO WEST SIDE (NEW) OF LAKE WOODMOOR DR AND CONSTRUCT EAST HALF OF NEW ROADWAY IN ACCORDANCE WITH MUTCD TA-10.
4. CONSTRUCTION OF HWY 105 TIE-IN AT EAST END OF PROJECT AND PORTIONS OF KNOLLWOOD DR AND LAKE WOODMOOR DR INTERSECTIONS SHALL BE CONSTRUCTED DURING OFF-PEAK HOURS IN ACCORDANCE WITH MUTCD TA-10.
5. PERFORM ALL WORK AFFECTING EXISTING SIDEWALKS IN ACCORDANCE WITH MUTCD TA-28.
6. ALL WORK AFFECTING INTERSECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CDDT STANDARD S-630-1 CASE NO. 18, CASE NO. 19, & MUTCD TA-24.

PHASE 5 NOTES

1. PLACE TOP LIFT OF ASPHALT ON HWY 105
2. INSTALL PERMANENT STRIPING IN ACCORDANCE WITH MUTCD TA-17.

LEGEND

CONSTRUCTION PHASE 4



Print Date: 4/12/2023
 File Name: 19734DES_Phasing_4-03.dgn
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Void:

HIGHWAY 105 PROJECT A
CONSTRUCTION PHASING - PHASE 4
154+00.00 TO 165+00.00

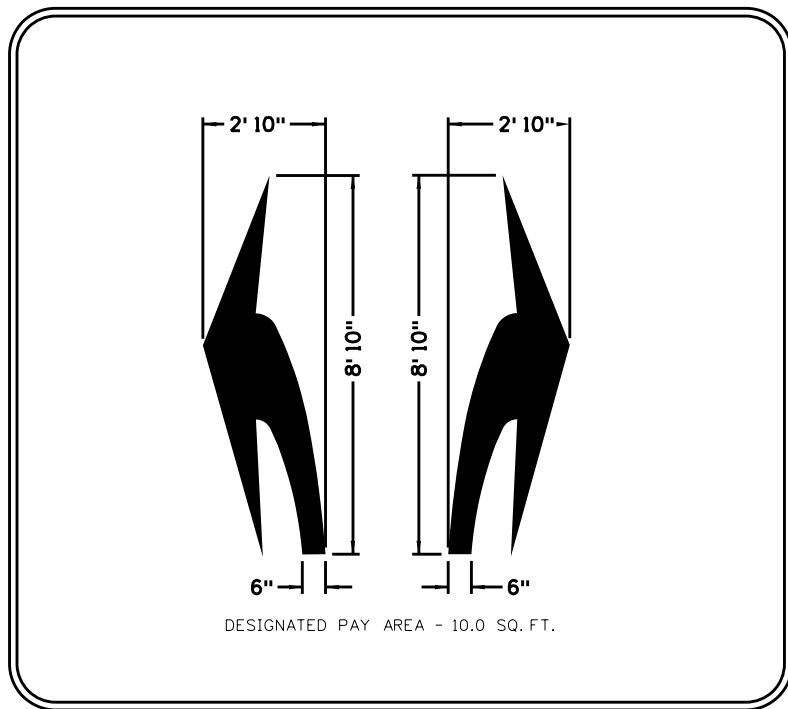
Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: PHASING

Structure Numbers
 Subset Sheets: 8 of 8

Project No./Code
19734
STA 105A-014
Sheet Number 232 of 251



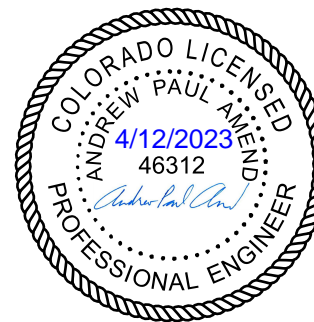
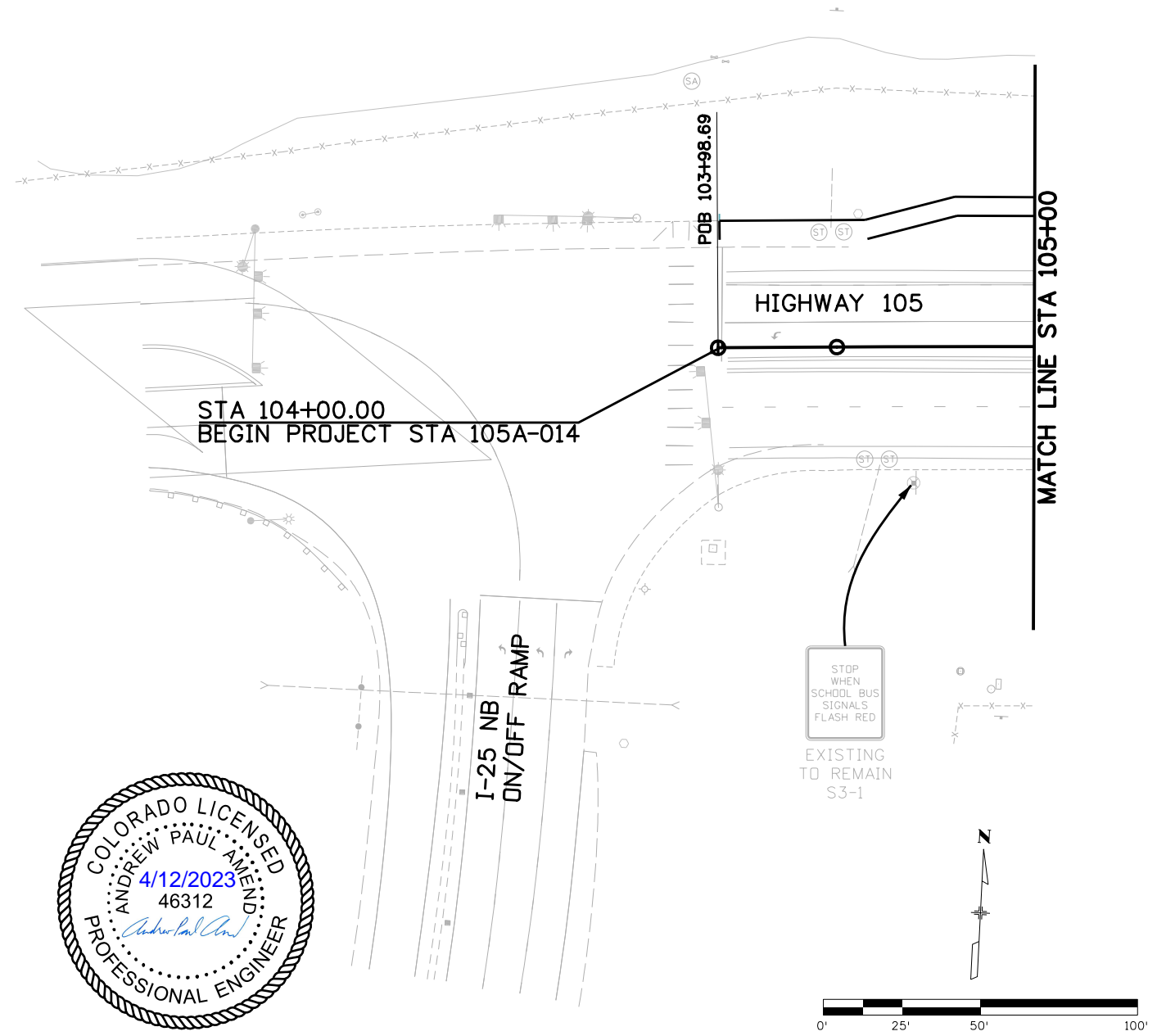
Know what's below.
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ELONGATED TURN ARROW DETAIL

TRAFFIC STRIPING LEGEND

(A) EDGE LINES SOLID WHITE, 6 IN. WIDE	(D) LANE LINES BROKEN WHITE, 4 IN. WIDE	ELONGATED TURN ARROWS (TYP.)
(B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE	(E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE	2'X9' WHITE X-WALK MARKINGS (TYP.)
(C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE	(F) EDGE LINES SOLID YELLOW, 4 IN. WIDE	24" WHITE STOP BAR (TYP.)



Print Date: 4/12/2023
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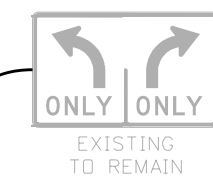
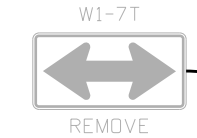
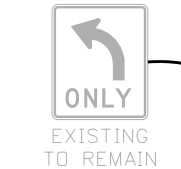
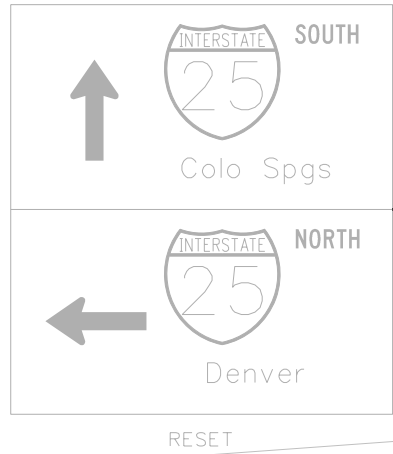
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Designer: A. AMEND	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: SS	Subset Sheets: 1 of 9

Project No./Code
19734
STA 105A-014
Sheet Number 233 of 251

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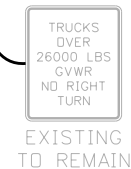
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MATCH LINE STA 105+00

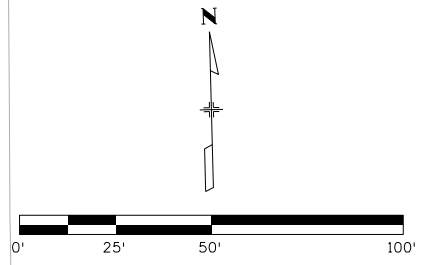
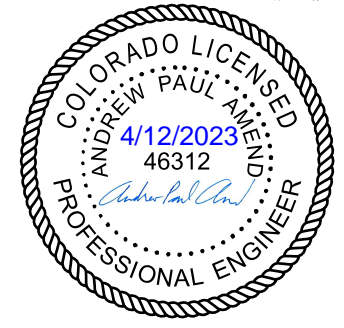
MATCH LINE STA 112+00

HIGHWAY 105



TRAFFIC STRIPING LEGEND

- (A) EDGE LINES SOLID WHITE, 6 IN. WIDE
- (B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE
- (C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE
- (D) LANE LINES BROKEN WHITE, 4 IN. WIDE
- (E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE
- (F) EDGE LINES SOLID YELLOW, 4 IN. WIDE
- ELONGATED TURN ARROWS (TYP.)
- 2'X9' WHITE X-WALK MARKINGS (TYP.)
- 24" WHITE STOP BAR (TYP.)



Print Date: 4/12/2023
 File Name: 19734TRAF_SS-02.dgn
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HIGHWAY 105 PROJECT A SIGNING AND STRIPING STA 105+00 TO STA 112+00	
Designer: A. AMEND	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: SS	Subset Sheets: 2 of 9

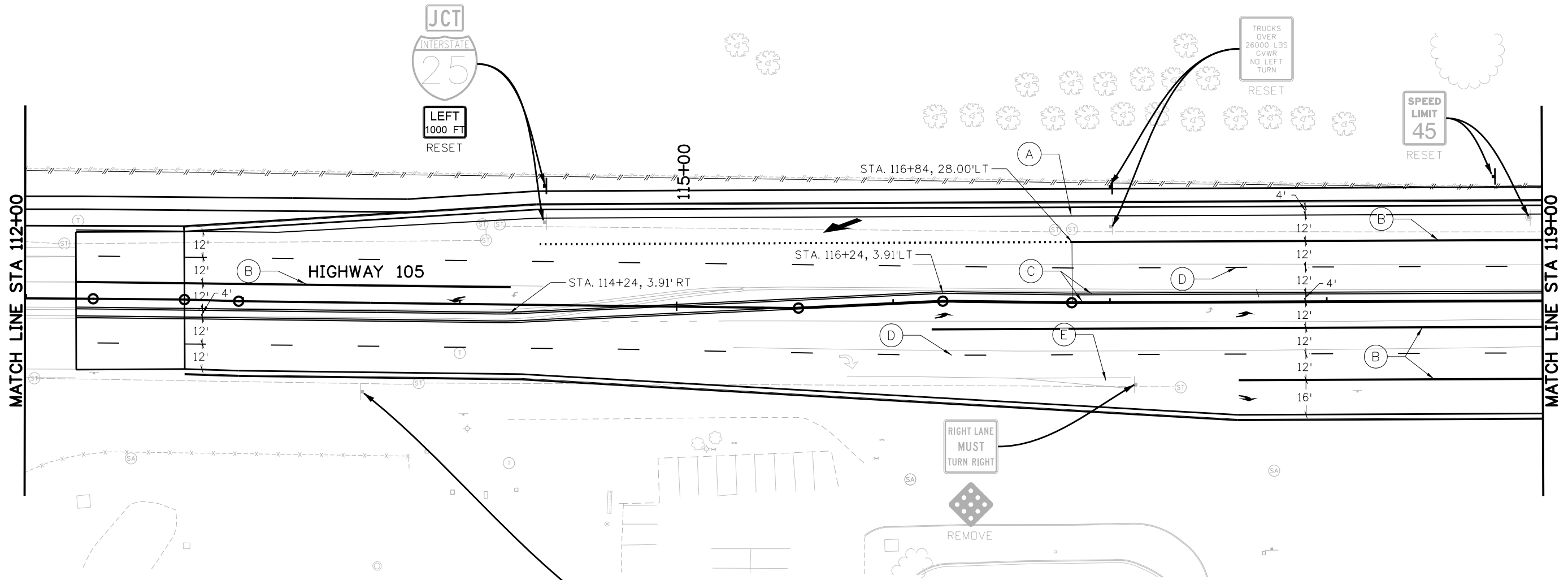
Project No./Code
19734
STA 105A-014
Sheet Number 234 of 251

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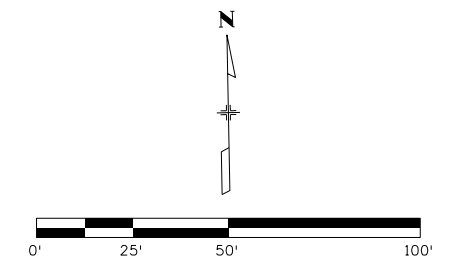
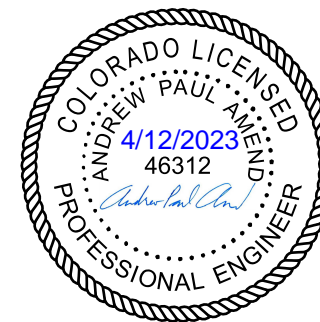
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TRAFFIC STRIPING LEGEND

- (A) EDGE LINES SOLID WHITE, 6 IN. WIDE
- (B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE
- (C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE
- (D) LANE LINES BROKEN WHITE, 4 IN. WIDE
- (E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE
- (F) EDGE LINES SOLID YELLOW, 4 IN. WIDE
- ELONGATED TURN ARROWS (TYP.)
- 2'X9' WHITE X-WALK MARKINGS (TYP.)
- 24" WHITE STOP BAR (TYP.)



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HIGHWAY 105 PROJECT A SIGNING AND STRIPING STA 112+00 TO STA 119+00	
Designer: A. AMEND	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: SS	Subset Sheets: 3 of 9

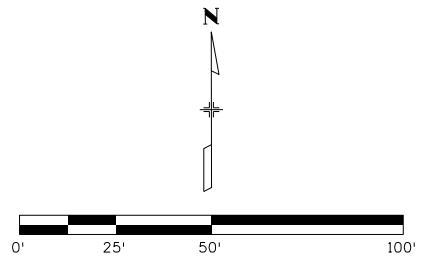
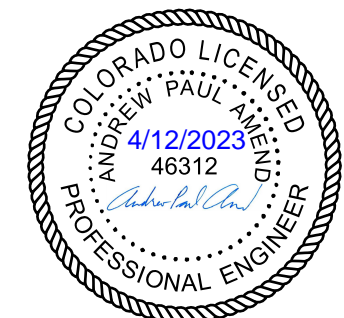
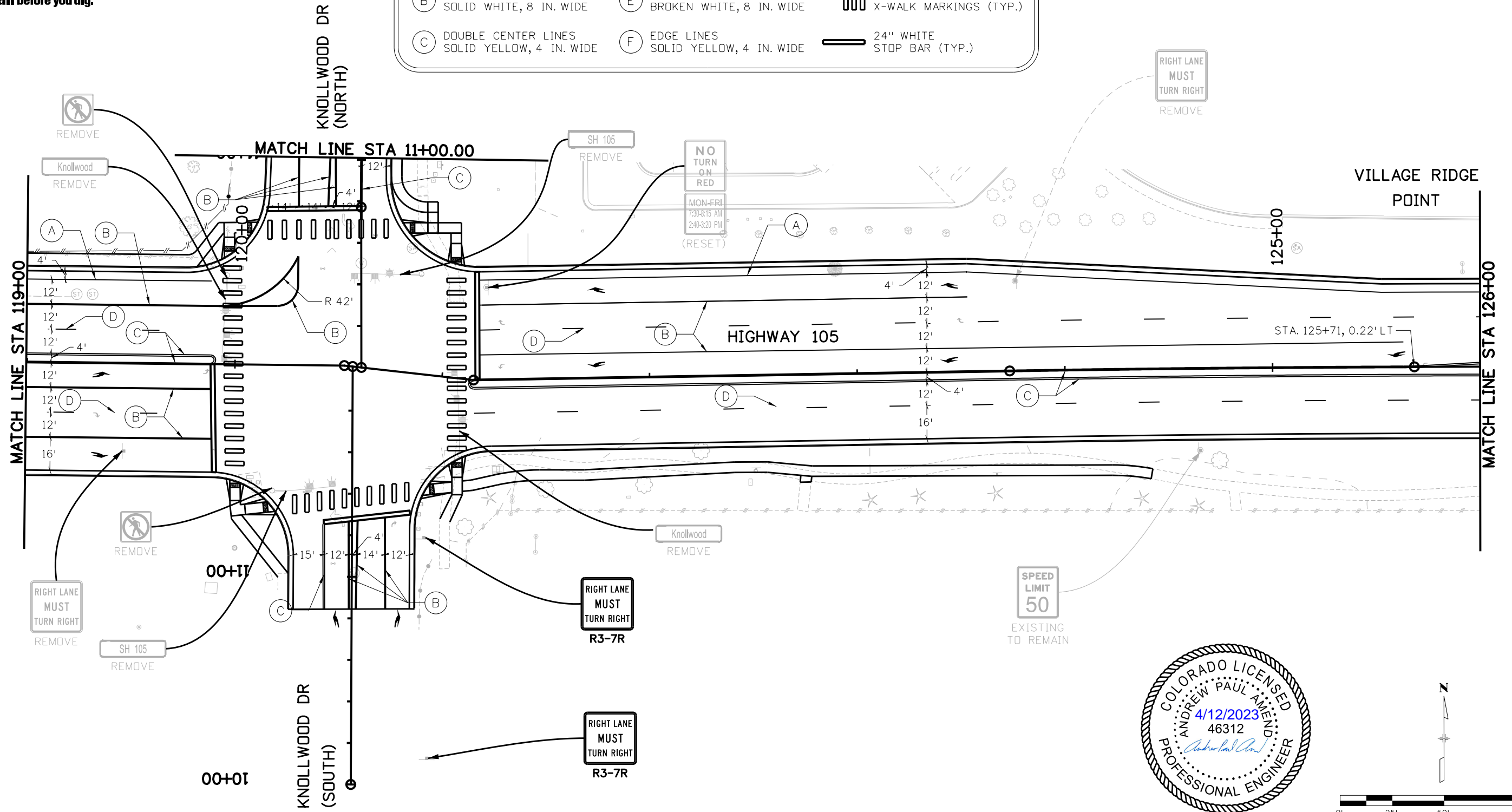
Project No./Code
19734
STA 105A-014
Sheet Number 235 of 251



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TRAFFIC STRIPING LEGEND

- (A) EDGE LINES
SOLID WHITE, 6 IN. WIDE
- (B) CHANNELIZING LINES
SOLID WHITE, 8 IN. WIDE
- (C) DOUBLE CENTER LINES
SOLID YELLOW, 4 IN. WIDE
- (D) LANE LINES
BROKEN WHITE, 4 IN. WIDE
- (E) DOTTED EXTENSION LINES
BROKEN WHITE, 8 IN. WIDE
- (F) EDGE LINES
SOLID YELLOW, 4 IN. WIDE
- ELONGATED TURN
ARROWS (TYP.)
- 2'X9' WHITE
X-WALK MARKINGS (TYP.)
- 24" WHITE
STOP BAR (TYP.)



Print Date: 4/12/2023
 File Name: 19734TRAF_SS-04.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

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 Revised:
 Void:

**HIGHWAY 105 PROJECT A
 SIGNING AND STRIPING
 STA 119+00 TO STA 126+00**

Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: SS Subset Sheets: 4 of 9

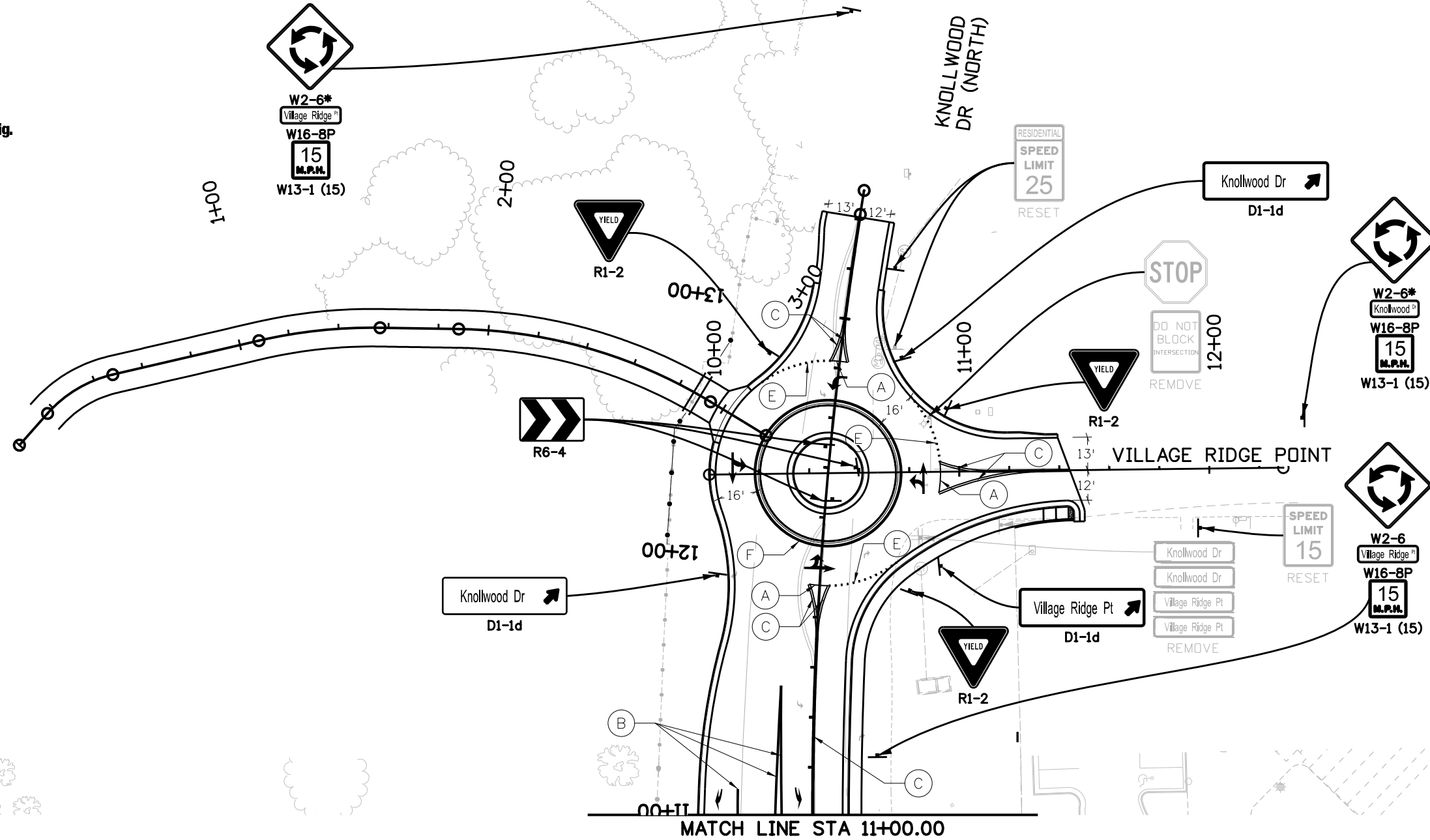
Project No./Code

19734
 STA 105A-014
 Sheet Number 236 of 251

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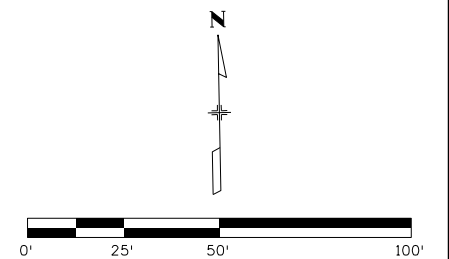
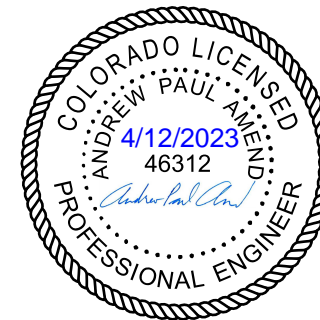
Know what's below.
Call before you dig.



TRAFFIC STRIPING LEGEND

(A) EDGE LINES SOLID WHITE, 6 IN. WIDE	(D) LANE LINES BROKEN WHITE, 4 IN. WIDE	ELONGATED TURN ARROWS (TYP.)
(B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE	(E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE	2'X9' WHITE X-WALK MARKINGS (TYP.)
(C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE	(F) EDGE LINES SOLID YELLOW, 4 IN. WIDE	24" WHITE STOP BAR (TYP.)

* PLACE APPROX. 200'
BEFORE ROUNDABOUT



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 File Name: 19734TRAF_SS-04A.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

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Sheet Revisions		
Date:	Comments	Init.



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HIGHWAY 105 PROJECT A SIGNING AND STRIPING KNOLLWOOD DR (NORTH)	
Designer: A. AMEND	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: SS	Subset Sheets: 4A of 9

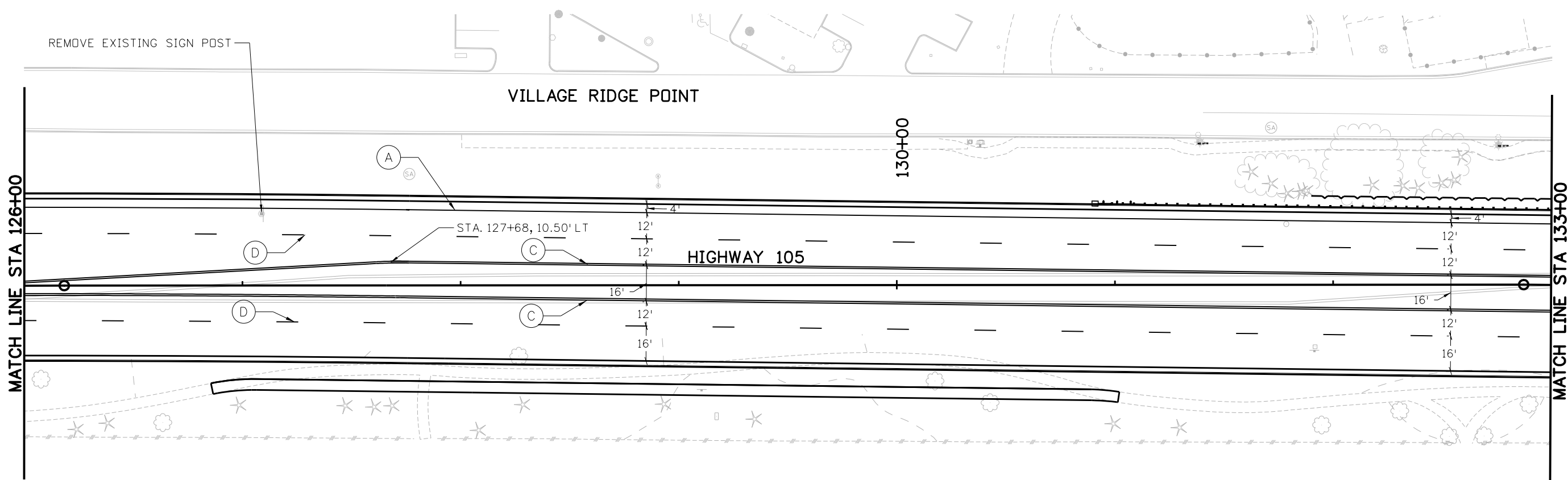
Project No./Code
19734
STA 105A-014
Sheet Number 237 of 251

Grizzly 4:31:39 PM p:\V\WAPP\MA001\NorthCentral\Omaha\Documents\El_Paso_County\El_Paso_TD_2_Hwy_105_Prelim_De\6.0_CAD_BIM\6.2_Work_In_Progress\Traffic\Drawings_A\19734TRAF_SS-04A.dgn



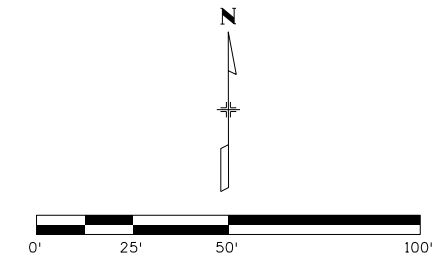
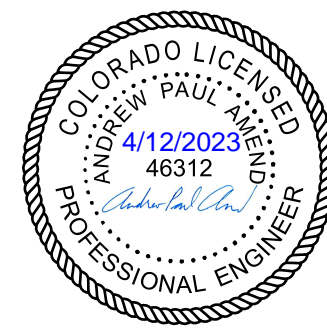
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Grizzly 4:31:42 PM p:\WPAPPD\001\NorthCentral\Omaha\Documents\EL_Paso_County\EL_Paso_County\Traffic\Drawings A\19734TRAF_SS-05.dgn



TRAFFIC STRIPING LEGEND

(A) EDGE LINES SOLID WHITE, 6 IN. WIDE	(D) LANE LINES BROKEN WHITE, 4 IN. WIDE	ELONGATED TURN ARROWS (TYP.)
(B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE	(E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE	2'X9' WHITE X-WALK MARKINGS (TYP.)
(C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE	(F) EDGE LINES SOLID YELLOW, 4 IN. WIDE	24" WHITE STOP BAR (TYP.)



Print Date: 4/12/2023
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**HIGHWAY 105 PROJECT A
 SIGNING AND STRIPING
 STA 126+00 TO STA 133+00**

Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: SS

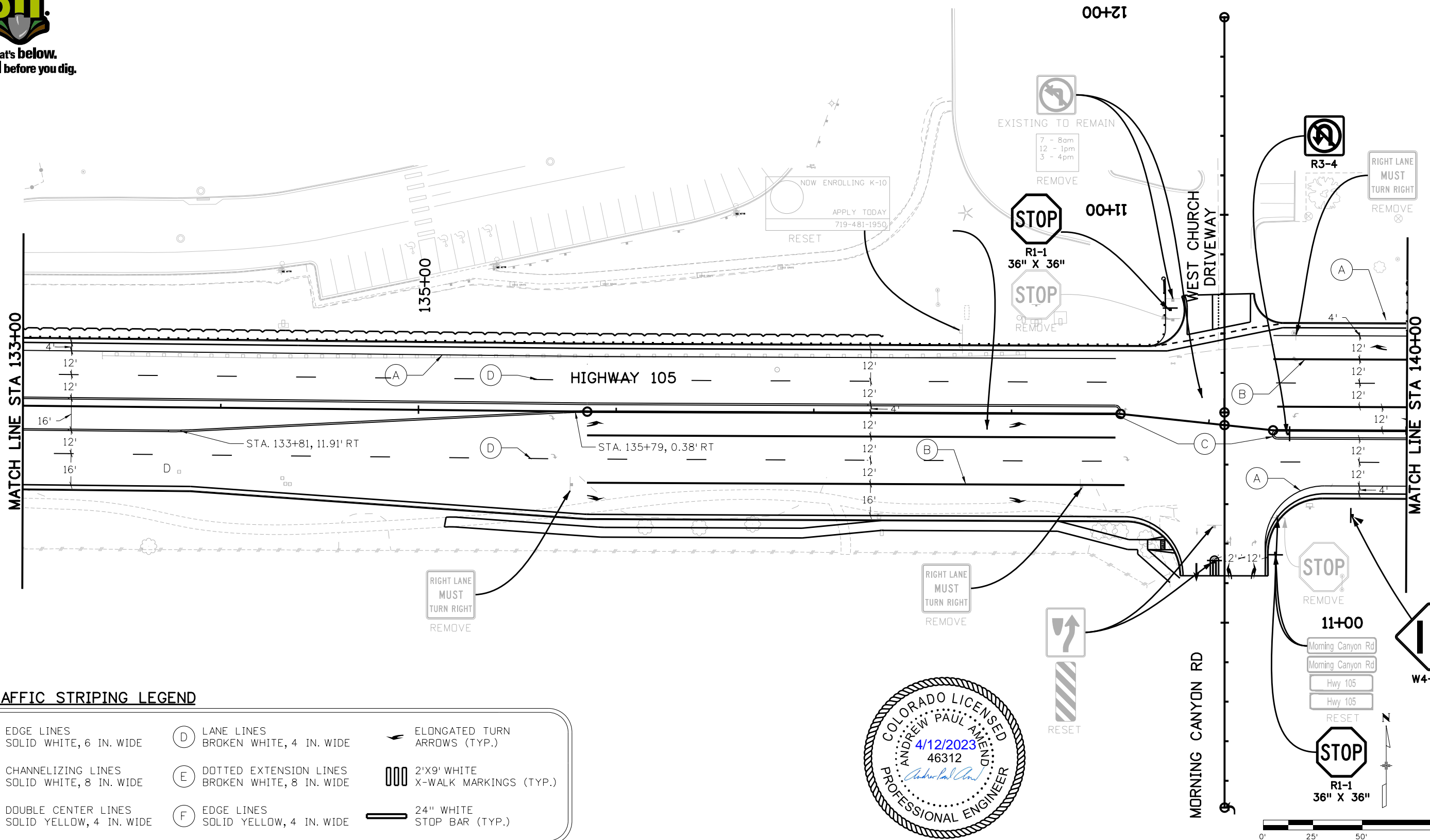
Structure Numbers
 Subset Sheets: 5 of 9

Project No./Code
19734
STA 105A-014
Sheet Number 238 of 251



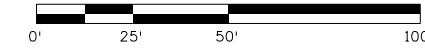
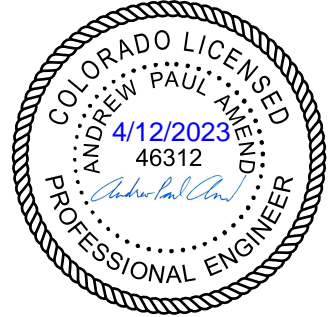
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TRAFFIC STRIPING LEGEND

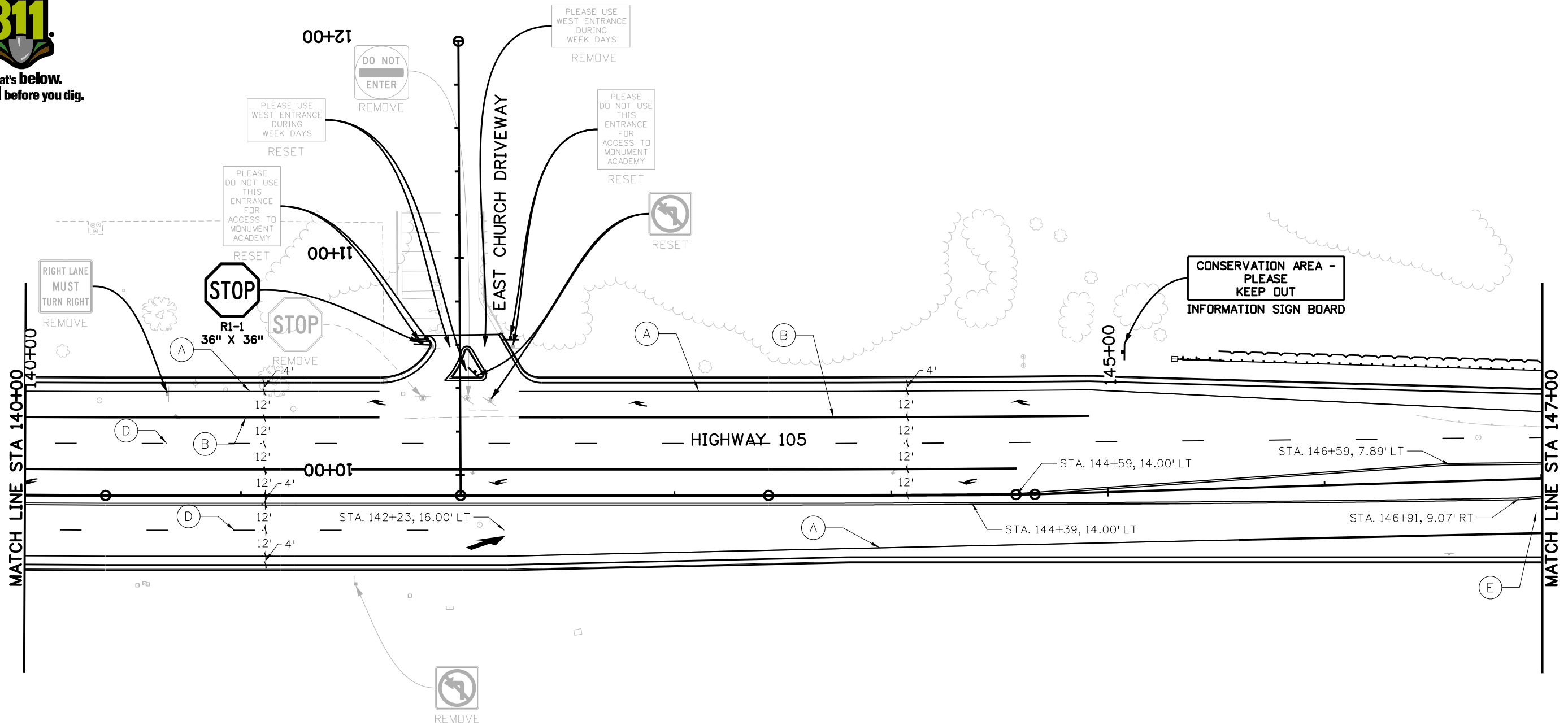
(A) EDGE LINES SOLID WHITE, 6 IN. WIDE	(D) LANE LINES BROKEN WHITE, 4 IN. WIDE	ELONGATED TURN ARROWS (TYP.)
(B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE	(E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE	2'X9' WHITE X-WALK MARKINGS (TYP.)
(C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE	(F) EDGE LINES SOLID YELLOW, 4 IN. WIDE	24" WHITE STOP BAR (TYP.)



Print Date: 4/12/2023	Sheet Revisions					As Constructed	HIGHWAY 105 PROJECT A SIGNING AND STRIPING STA 133+00 TO STA 140+00		Project No./Code 19734
File Name: 19734TRAF_SS-06.dgn	Date:	Comments	Init.				No Revisions:	Designer: A. AMEND	
Horiz. Scale: 1:50					Region 02	Revised:	Detailer: S. PARASPATKI	Sheet Number 239 of 251	
Vert. Scale: None						Void:	Sheet Subset: SS		Subset Sheets: 6 of 9

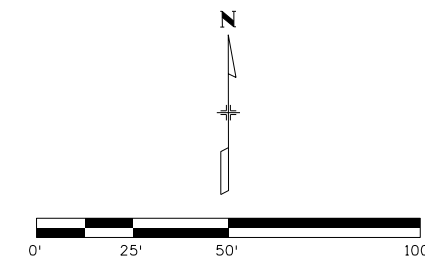
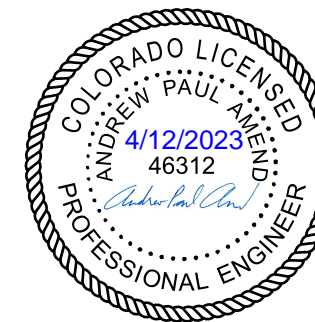


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TRAFFIC STRIPING LEGEND

- (A) EDGE LINES SOLID WHITE, 6 IN. WIDE
- (B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE
- (C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE
- (D) LANE LINES BROKEN WHITE, 4 IN. WIDE
- (E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE
- (F) EDGE LINES SOLID YELLOW, 4 IN. WIDE
- ELONGATED TURN ARROWS (TYP.)
- 2'X9' WHITE X-WALK MARKINGS (TYP.)
- 24" WHITE STOP BAR (TYP.)



Print Date: 4/12/2023
 File Name: 19734TRAF_SS-07.dgn
 Horiz. Scale: 1:50 Vert. Scale: None

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Date:	Comments	Init.



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 Revised:
 Void:

**HIGHWAY 105 PROJECT A
 SIGNING AND STRIPING
 STA 140+00 TO STA 147+00**

Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: SS

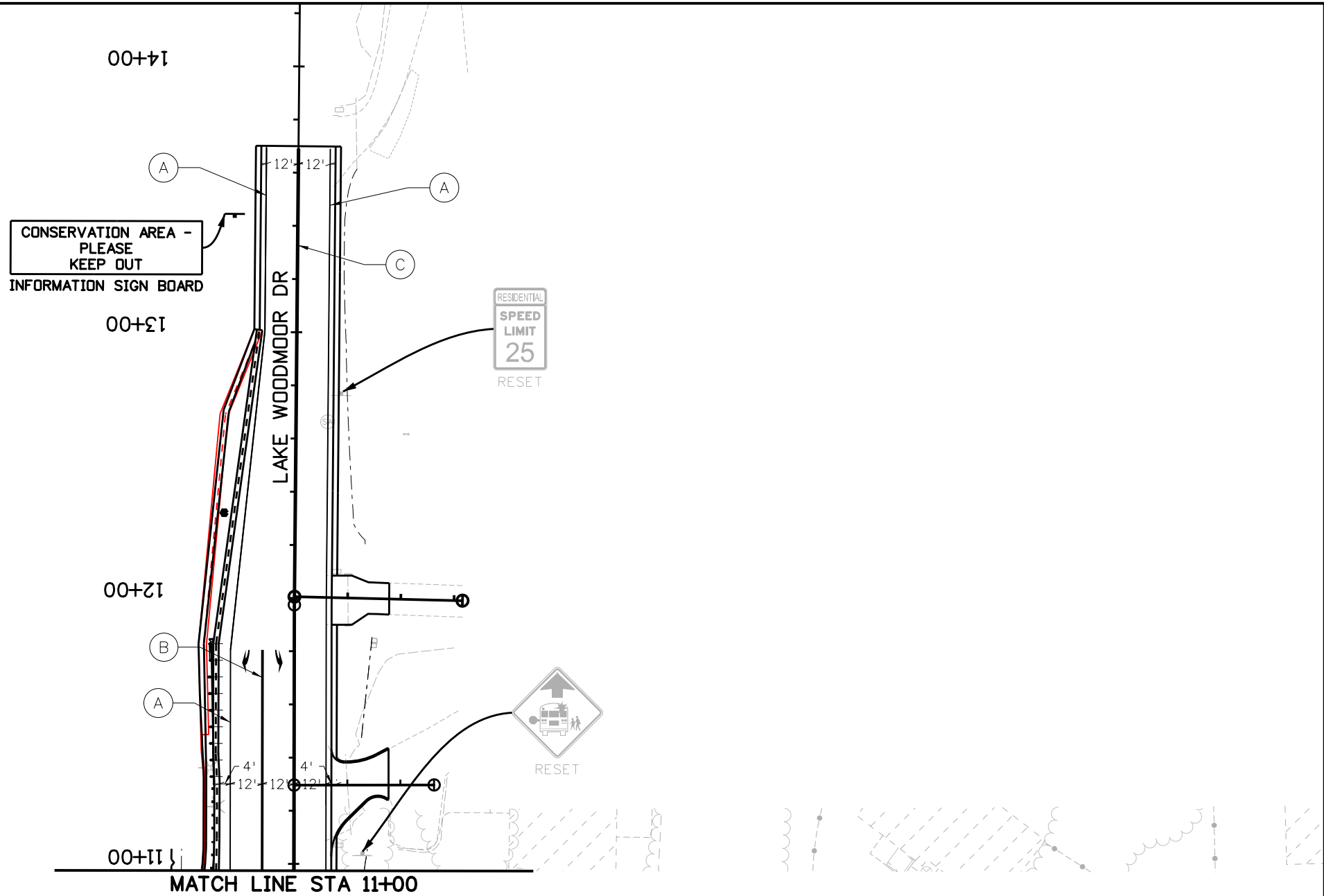
Structure Numbers:
 Subset Sheets: 7 of 9

Project No./Code

19734
 STA 105A-014
 Sheet Number 240 of 251

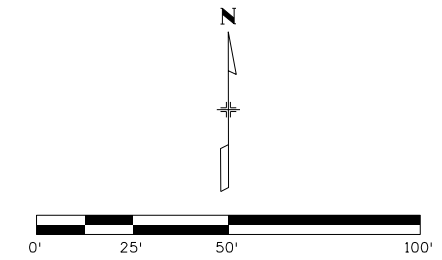
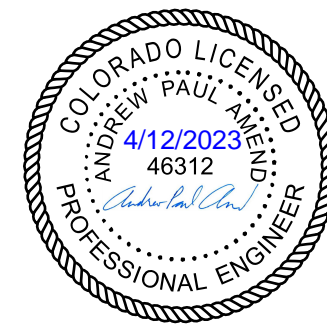


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TRAFFIC STRIPING LEGEND

(A) EDGE LINES SOLID WHITE, 6 IN. WIDE	(D) LANE LINES BROKEN WHITE, 4 IN. WIDE	ELONGATED TURN ARROWS (TYP.)
(B) CHANNELIZING LINES SOLID WHITE, 8 IN. WIDE	(E) DOTTED EXTENSION LINES BROKEN WHITE, 8 IN. WIDE	2'X9' WHITE X-WALK MARKINGS (TYP.)
(C) DOUBLE CENTER LINES SOLID YELLOW, 4 IN. WIDE	(F) EDGE LINES SOLID YELLOW, 4 IN. WIDE	24" WHITE STOP BAR (TYP.)



Print Date: 4/12/2023
File Name: 19734TRAF_SS-08A.dgn
Horiz. Scale: 1:50 Vert. Scale: None

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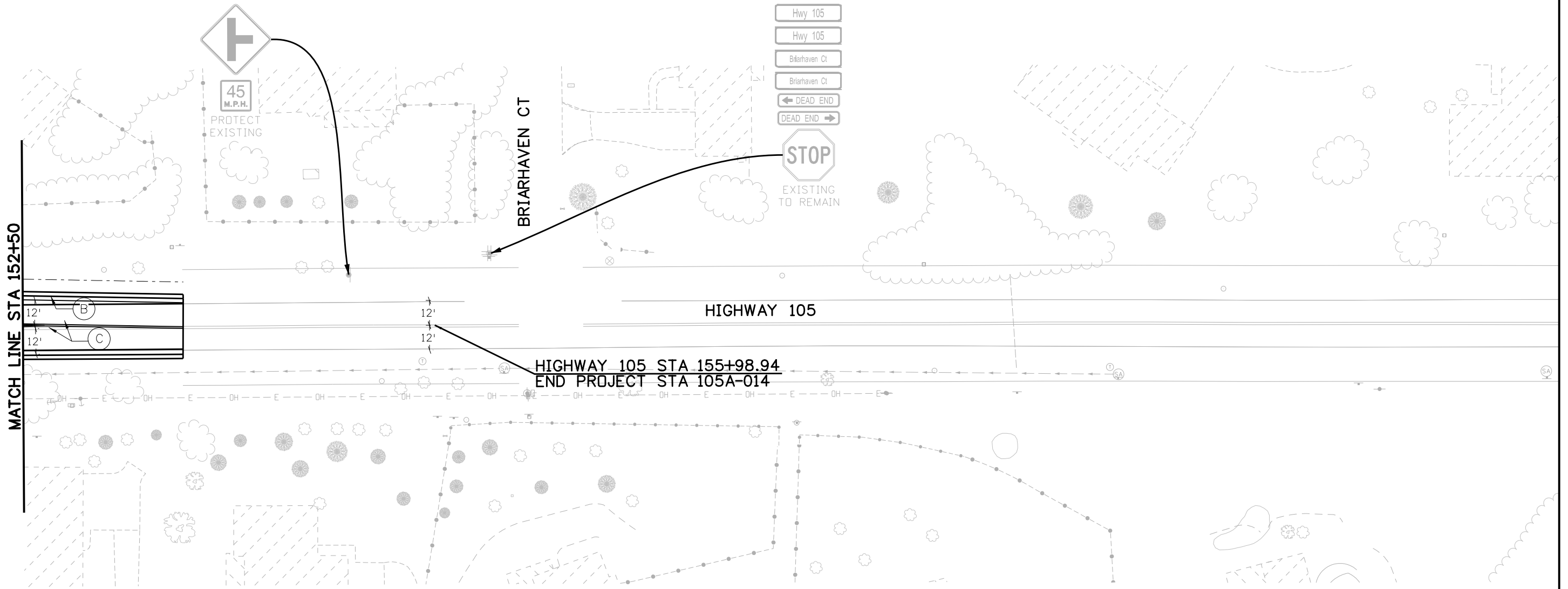
HIGHWAY 105 PROJECT A SIGNING AND STRIPING LAKE WOODMOOR DR		
Designer: A. AMEND	Structure Numbers	
Detailer: K. BURTON		
Sheet Subset: SS	Subset Sheets: 8A of 9	

Project No./Code
19734
STA 105A-014
Sheet Number 242 of 251

Grizzly 4:31:54 PM pwr:\pwwpdm001\NorthCentral\Omaha\Documents\EL_Paso_County\EL_Paso_County\Traffic\Drawings\19734TRAF_SS-08A.dgn

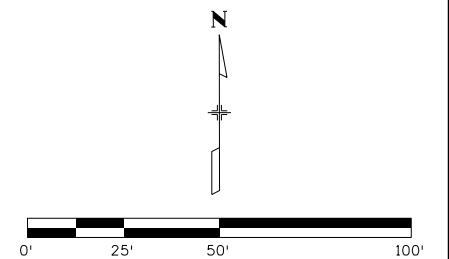
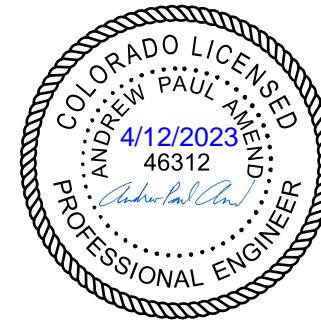


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TRAFFIC STRIPING LEGEND

- | | | |
|---|--|---------------------------------------|
| (A) EDGE LINES
SOLID WHITE, 6 IN. WIDE | (D) LANE LINES
BROKEN WHITE, 4 IN. WIDE | ELONGATED TURN
ARROWS (TYP.) |
| (B) CHANNELIZING LINES
SOLID WHITE, 8 IN. WIDE | (E) DOTTED EXTENSION LINES
BROKEN WHITE, 8 IN. WIDE | 2'X9' WHITE
X-WALK MARKINGS (TYP.) |
| (C) DOUBLE CENTER LINES
SOLID YELLOW, 4 IN. WIDE | (F) EDGE LINES
SOLID YELLOW, 4 IN. WIDE | 24" WHITE
STOP BAR (TYP.) |



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 File Name: 19734TRAF_SS-09.dgn
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No Revisions:
Revised:
Void:

HIGHWAY 105 PROJECT A SIGNING AND STRIPING STA 154+00 TO STA 155+98.94	
Designer: A. AMEND	Structure Numbers
Detailer: S. PARASPATKI	
Sheet Subset: SS	Subset Sheets: 9 of 9

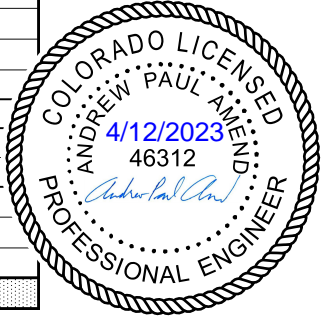
Project No./Code
19734
STA 105A-014
Sheet Number 243 of 251

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TABULATION OF PAVEMENT MARKINGS										
LOCATION	DESCRIPTION	STATION	627-00009					627-00003		COMMENTS
			MODIFIED EPOXY PAVEMENT MARKING (INLAID)					THERMOPLASTIC PAVEMENT MARKING (INLAID)		
			WHITE			YELLOW	YELLOW	X-WALK / STOP BAR / PAVEMENT MARKINGS		
			6 INCH	8 INCH		4 INCH				
EDGE	(BROKEN) LANE	CHANNELIZING	DOTTED EXTENSION	EDGE	DOUBLE CENTER	SF				
JACKSON CREEK PWY	SOUTH APPROACH	-						272	X WALK AND STOP BAR	
HWY 105	WESTBOUND	112+23.25 TO 114+23.80			134					
HWY 105	EASTBOUND	112+23.25 TO 119+91.63		64						
HWY 105	WESTBOUND	112+23.25 TO 119+88.65		64						
HWY 105	EASTBOUND	112+23.25 TO 119+94.86					511			
HWY 105	WESTBOUND	112+23.25 TO 119+94.86					515			
HWY 105	WESTBOUND	112+23.25 TO 114+23.37			134					
HWY 105	WESTBOUND	114+35.33 TO 116+82.59				55				
HWY 105	EASTBOUND	116+60.92 TO 119+90.73			248					
HWY 105	WESTBOUND	117+28.16 TO 120+16.06			277					
HWY 105	EASTBOUND	117+60.55 TO 119+92.52			154					
HWY 105	WESTBOUND	113+95.11						10	ARROW	
HWY 105	EASTBOUND	116+22.90						10	ARROW	
HWY 105	WESTBOUND	115+67.60						58	MERGE ARROW	
HWY 105	EASTBOUND	117+67.89						20	2 ARROWS	
HWY 105	EASTBOUND	119+39.87						20	2 ARROWS	
KNOLLWOOD DR	WEST APPROACH	-						410	X WALK AND STOP BAR	
KNOLLWOOD DR	NORTH APPROACH	-						288	X WALK AND STOP BAR	
KNOLLWOOD DR	EAST APPROACH	-						374	X WALK AND STOP BAR	
KNOLLWOOD DR	SOUTH APPROACH	-						264	X WALK AND STOP BAR	
KNOLLWOOD DR	SOUTH APPROACH	10+66.21 TO 11+05.03					20			
KNOLLWOOD DR	SOUTH APPROACH	10+65.05 TO 11+05.03			20					
KNOLLWOOD DR	SOUTH APPROACH	10+66.46 TO 11+05.03			21					
KNOLLWOOD DR	SOUTH APPROACH	10+66.94 TO 11+05.03			22					
KNOLLWOOD DR	SOUTH APPROACH	11+18.18						20	2 ARROWS	
KNOLLWOOD DR	NORTH APPROACH	10+72.54 TO 11+10.16			23					
KNOLLWOOD DR	NORTH APPROACH	10+72.56 TO 11+51.30			51					
KNOLLWOOD DR	NORTH APPROACH	10+72.56 TO 11+51.30			51					
KNOLLWOOD DR	NORTH APPROACH	11+02.97						20	2 ARROWS	
KNOLLWOOD DR	NORTH APPROACH	10+70.58 TO 11+91.88					97			
KNOLLWOOD DR	ROUNDAABOUT	11+91.88	9		21	62		99		
KNOLLWOOD DR	EAST OF ROUNDAABOUT	-						65		
KNOLLWOOD DR	NORTH OF ROUNDAABOUT	12+81.88 TO 13+40.02						52		
HWY 105	WESTBOUND	121+70.78						20	2 ARROWS	
HWY 105	WESTBOUND	123+40.67						20	2 ARROWS	
HWY 105	WESTBOUND	125+58.48						10	ARROW	
HWY 105	EASTBOUND	121+16.18 TO 142+22.28		169						
HWY 105	WESTBOUND	121+19.06 TO 151+17.07		243						
HWY 105	EASTBOUND	121+16.25 TO 138+55.11						1163		
HWY 105	WESTBOUND	121+16.25 TO 138+55.12						1163		
HWY 105	WESTBOUND	121+18.19 TO 125+63.00			297					
HWY 105	WESTBOUND	121+19.92 TO 123+47.87			157					
HWY 105	WESTBOUND	121+20.78 TO 138+55.11	580							
SHEET 1 SUBTOTALS (SF)			589	540	1589	76	62	3586	1915	



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**HIGHWAY 105 PROJECT A
 PAVEMENT MARKING TABULATION**

Designer: A. AMEND
 Detailer: S. PARASPATK
 Sheet Subset: SS

Structure Numbers
 Subset Sheets: 1 of 2

Project No./Code
 19734

STA 105A-014

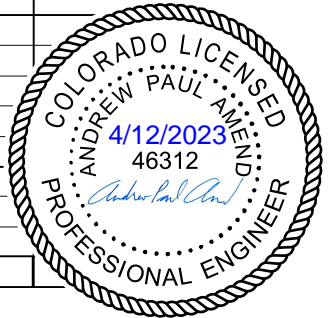
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Grizzly 4:31:59 PM p:\V\WAPPD\MA001\NorthCentral\Omaha\Documents\El_Paso_County\EL_Paso_County\EL_Paso_County\De\6.0_CAD_BIM\6.2_Work_In_Progress\Traffic\Drawings A\19734TRAF_Striping_Tab_1.dgn



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TABULATION OF SIGNS																				
ROADWAY	STATION	ORIENTATION	SIGN CODE	SIGN PANEL SIZE			BACKGROUND COLOR	LEGEND	202-00810	202-00821	210-00810	210-00815	614-00012	614-01503	614-01573	625-00025	INFO ONLY			
				REMOVAL OF GROUND SIGN	REMOVAL OF SIGN PANEL	RESET GROUND SIGN			RESET SIGN PANEL	SIGN PANEL (CLASS II)	STEEL SIGN SUPPORT (2 INCH ROUND) (POST AND SOCKET)	STEEL SIGN SUPPORT (2-1/2 INCH ROUND NP-40) (POST & SLIPBASE)	INFORMATION SIGN BOARD	EXISTING SIGN TO REMAIN						
				W"	x	H"					EACH	EACH	EACH	EACH	SF	EACH	EACH	EACH		
HWY 105	EX SIGNAL	SB	R9-3	24	x	24	WHITE	NO PEDESTRIAN CROSSING (SYMBOL)												
HWY 105	EX SIGNAL	SB	D3-1	72	x	12	GREEN	SH 105												
HWY 105	EX SIGNAL	NB	D3-1	72	x	12	GREEN	SH 105												
HWY 105	EX SIGNAL	EB	D3-1	72	x	12	GREEN	KNOLLWOOD												
KNOLLWOOD DR S	10+82.63	NB	R3-7R	30	x	30	WHITE	RIGHT LANE/MUST/TURN RIGHT					6.25							
KNOLLWOOD DR S	11+88.92	NB	R3-7R	30	x	30	WHITE	RIGHT LANE/MUST/TURN RIGHT					6.25							
HWY 105	119+47.53	EB	R10-11a	24	x	30	WHITE	NO/TURN/ON/RED			1									
HWY 105	119+47.53	EB	R10-20a	24	x	24	WHITE	MON-FRI/7:30-8:15 AM/2:40-3:20 PM			1									
HWY 105	123+48.06	WB	R3-7R	30	x	30	WHITE	RIGHT LANE/MUST/TURN RIGHT	1											
HWY 105	124+65.27	EB	R2-1	36	x	48	WHITE	SPEED/LIMIT/50												1
KNOLLWOOD DR N	11+24.34	NB	W2-6	30	x	30	YELLOW	INTERSECTION WARNING (ROUNDAABOUT)					6.25	1						
KNOLLWOOD DR N	11+24.34	NB	W16-8P	32	x	8	YELLOW	VILLAGE RIDGE PT												
KNOLLWOOD DR N	11+24.34	NB	W13-1 (15)	8	x	18	YELLOW	ADVISORY SPEED (15 M.P.H.)					1.00							
KNOLLWOOD DR N	11+92.04	NB	R1-2	36 x 36 x 36			RED	YIELD					3.94		1					
KNOLLWOOD DR N	12+02.86	EB	D1-1d	60	x	18	GREEN	VILLAGE RIDGE PT/DIRECTIONAL ARROW (DIAGONAL)					7.50		1					
KNOLLWOOD DR N	12+13.94	SB	D3-1	48	x	12	GREEN	KNOLLWOOD DR												
KNOLLWOOD DR N	12+13.94	NB	D3-1	48	x	12	GREEN	KNOLLWOOD DR	1											
KNOLLWOOD DR N	12+13.94	EB	D3-1	48	x	12	BROWN	VILLAGE RIDGE PT												
KNOLLWOOD DR N	12+13.94	WB	D3-1	48	x	12	BROWN	VILLAGE RIDGE PT												
KNOLLWOOD DR N	-	EB	R2-1	24	x	30	WHITE	SPEED/LIMIT/15			1									
KNOLLWOOD DR N	-	WB	W2-6	30	x	30	YELLOW	INTERSECTION WARNING (ROUNDAABOUT)					6.25	1						
KNOLLWOOD DR N	-	WB	W16-8P	32	x	8	YELLOW	KNOLLWOOD DR												
KNOLLWOOD DR N	-	WB	W13-1 (15)	8	x	18	YELLOW	ADVISORY SPEED (15 M.P.H.)					1.00							
KNOLLWOOD DR N	12+67.95	NB	R1-2	36 x 36 x 36			RED	YIELD					3.94		1					
KNOLLWOOD DR N	12+63.38	WB	R1-1	30	x	30	RED	STOP	1											
KNOLLWOOD DR N	12+63.38	WB	R10-7	24	x	30	WHITE	DO NOT/BLOCK/INTERSECTION												
KNOLLWOOD DR N	12+86.36	NB	D1-1d	60	x	18	GREEN	KNOLLWOOD DR/DIRECTIONAL ARROW (DIAGONAL)					7.50		1					
KNOLLWOOD DR N	13+22.10	NB	R2-5cP	24	x	6	WHITE	RESIDENTIAL (PLAQUE)			1									
KNOLLWOOD DR N	13+22.10	NB	R2-1	24	x	30	WHITE	SPEED/LIMIT/30												
KNOLLWOOD DR N	-	SB	W2-6	30	x	30	YELLOW	INTERSECTION WARNING (ROUNDAABOUT)					6.25	1						
KNOLLWOOD DR N	-	SB	W16-8P	32	x	8	YELLOW	VILLAGE RIDGE PT												
KNOLLWOOD DR N	-	SB	W13-1 (15)	8	x	18	YELLOW	ADVISORY SPEED (15 M.P.H.)					1.00							
KNOLLWOOD DR N	12+81.82	SB	R1-2	36 x 36 x 36			RED	YIELD					3.94		1					
KNOLLWOOD DR N	12+60.58	SB	R6-4	30	x	24	WHITE/BLACK	ROUNDAABOUT DIRECTIONAL (2 CHEVRONS)					5.00	1						
KNOLLWOOD DR N	12+44.23	WB	R6-4	30	x	24	WHITE/BLACK	ROUNDAABOUT DIRECTIONAL (2 CHEVRONS)					5.00	1						
KNOLLWOOD DR N	12+13.69	NB	R6-4	30	x	24	WHITE/BLACK	ROUNDAABOUT DIRECTIONAL (2 CHEVRONS)					5.00	1						
KNOLLWOOD DR N	11+93.34	SB	D1-1d	60	x	18	GREEN	KNOLLWOOD DR/DIRECTIONAL ARROW (DIAGONAL)					7.50		1					
HWY 105	127+08.66	WB	-	-	x	-	-	-	1											
HWY 105	135+87.75	EB	R3-7R	30	x	30	WHITE	RIGHT LANE/MUST/TURN RIGHT			1		6.25							
HWY 105	137+74.34	WB	SPECIAL	82	x	33	YELLOW	NOW ENROLLING K-10/APPLY TODAY/7/19-481-1950			1									
HWY 105	138+35.68	EB	R3-7R	30	x	30	WHITE	RIGHT LANE/MUST/TURN RIGHT			1		6.25							
WEST CHURCH DRIVEWAY	138+75.78	SB	R1-1	36	x	36	RED	STOP					9.00	1						
WEST CHURCH DRIVEWAY	138+80.12	SB	R1-1	30	x	30	RED	STOP	1											
SHEET 2 SUBTOTALS									5	0	7	0	105	7	6	0				



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**HIGHWAY 105 PROJECT A
SIGNING TABULATION**

Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: SS
 Subset Sheets: 2 of 3

Project No./Code
19734
STA 105A-014
Sheet Number 247 of 251

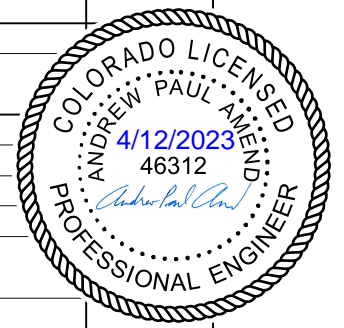
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Know what's below.
Call before you dig.

TABULATION OF SIGNS

ROADWAY	STATION	ORIENTATION	SIGN CODE	SIGN PANEL SIZE			BACKGROUND COLOR	LEGEND	202-00810	202-00821	210-00810	210-00815	614-00012	614-01503	614-01573	625-00025	INFO ONLY	
				REMOVAL OF GROUND SIGN	REMOVAL OF SIGN PANEL	RESET GROUND SIGN			RESET SIGN PANEL	SIGN PANEL (CLASS II)	STEEL SIGN SUPPORT (2 INCH ROUND) (POST AND SOCKET)	STEEL SIGN SUPPORT (2-1/2 INCH ROUND NP-40) (POST & SLIPBASE)	INFORMATION SIGN BOARD	EXISTING SIGN TO REMAIN				
				EACH	EACH	EACH			EACH	SF	EACH	EACH	EACH					
MORNING CANYON RD	139+02.99	SB	R4-7	24	x	30	WHITE											
MORNING CANYON RD	139+02.99	SB	OM3-L	12	x	36	YELLOW			1		3.00	1					
HWY 105	139+08.91	WB	R3-4	24	x	24	WHITE					4.00	1					
MORNING CANYON RD	139+33.85	WB	D3-1	60	x	12	BLUE			1								
MORNING CANYON RD	139+33.85	EB	D3-1	60	x	12	BLUE											
MORNING CANYON RD	139+33.85	NB	D3-1	36	x	12	BLUE											
MORNING CANYON RD	139+33.85	SB	D3-1	36	x	12	BLUE											
MORNING CANYON RD	139+33.85	NB	R1-1	30	x	30	RED		1									
MORNING CANYON RD	139+35.52	NB	R1-1	36	x	36	RED					9.00	1					
HWY 105	139+42.71	WB	R3-7R	30	x	30	WHITE			1		6.25						
HWY 105	139+72.63	WB	W4-2R	36	x	36	YELLOW					9.00		1				
HWY 105	140+37.33	EB	R5-1A	36	x	24	RED					6.00	1					
HWY 105	140+93.80	WB	R3-7R	30	x	30	WHITE			1		6.25						
HWY 105	141+52.60	EB	R3-2	24	x	24	WHITE	1										
EAST CHURCH DRIVEWAY	141+83.06	SB	R1-1	30	x	30	RED											
EAST CHURCH DRIVEWAY	141+83.06	NB	SPECIAL	12	x	18	WHITE			1								
EAST CHURCH DRIVEWAY	141+92.35	SB	R3-2	24	x	24	WHITE			1								
EAST CHURCH DRIVEWAY	142+04.04	NB	R5-1	30	x	30	WHITE	1										
EAST CHURCH DRIVEWAY	142+04.17	NB	SPECIAL	24	x	18	WHITE				1							
EAST CHURCH DRIVEWAY	142+12.05	NB	SPECIAL	24	x	18	WHITE		1									
EAST CHURCH DRIVEWAY	141+83.06	NB	SPECIAL	12	x	18	WHITE			1								
HWY 105	142+49.68	WB	R3-7R	30	x	30	WHITE					6.25	1					
HWY 105	144+60.68	WB	R3-7R	30	x	30	WHITE					6.25	1					
HWY 105	145+10.00	WB	SPECIAL													1		
HWY 105	148+14.06	EB	W2-7R	30	x	30	YELLOW											
HWY 105	148+14.06	EB	W7-3aP	24	x	18	YELLOW			1		3.00						
LAKE WOODMOOR DR	150+98.60	EB	D3-1	60	x	12	GREEN			1								
LAKE WOODMOOR DR	150+98.60	WB	D3-1	60	x	12	GREEN											
LAKE WOODMOOR DR	150+98.60	NB	D3-1	36	x	12	GREEN											
LAKE WOODMOOR DR	150+98.60	SB	D3-1	36	x	12	GREEN											
LAKE WOODMOOR DR	150+98.60	SB	R1-1	30	x	30	RED		1									
LAKE WOODMOOR DR	151+00.50	SB	R1-1	36	x	36	RED					9.00	1					
LAKE WOODMOOR DR	11+07.81	NB	S3-1	30	x	30	YELLOW			1								
KNOLLWOOD DR N	12+81.00	NB	R2-5cP	24	x	6	WHITE			1								
KNOLLWOOD DR N	12+81.00	NB	R2-1	24	x	30	WHITE											
HWY 105	13+60	SB	SPECIAL													1		
HWY 105	155+57.41	WB	W2-2R	30	x	30	YELLOW			1								
HWY 105	155+57.41	WB	W13-1P	24	x	24	YELLOW											
HWY 105	156+25.42	NB	D3-1	36	x	12	GREEN											
HWY 105	156+25.42	SB	D3-1	36	x	12	GREEN											
HWY 105	156+25.42	WB	D3-1	60	x	12	GREEN											
HWY 105	156+25.42	EB	D3-1	60	x	12	GREEN											
HWY 105	156+25.42	WB	W14-1aL	36	x	8	YELLOW										1	
HWY 105	156+25.42	EB	W14-1aR	36	x	8	YELLOW											
HWY 105	156+25.42	SB	R1-1	30	x	30	RED											
SHEET 3 SUBTOTALS								2	3	12	1	68	7	1	2			
PROJECT TOTALS								10	3	26	1	283	15	7	2			



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**HIGHWAY 105 PROJECT A
SIGNING TABULATION**

Designer: A. AMEND
 Detailer: S. PARASPATKI
 Sheet Subset: SS
 Structure Numbers: _____
 Subset Sheets: 3 of 3

Project No./Code

19734
 STA 105A-014
 Sheet Number 248 of 251

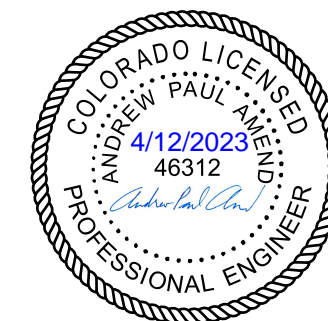
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POLE SCHEDULE

POLE ID	A	B	C	D	E	F	G	H	I	J	K	L	M
TYPE	POLE	PEDESTAL	POST	POST	POLE	PEDESTAL	POST	POLE	PEDESTAL	POST	POLE	POST	PEDESTAL
CDOT STD PLAN	S-614-40A	S-614-44	S-614-45	S-614-45	S-614-40A	S-614-44	S-614-45	S-614-40A	S-614-44	S-614-45	S-614-40	S-614-45	S-614-44
MAST ARM LENGTH	40'	-	-	-	45'	-	-	40'	-	-	65'	-	-
CAISSON DIAMETER	36"	18"	-	-	36"	18"	-	36"	18"	-	48"	-	18"
CAISSON PAY LENGTH	19'	5'	-	-	19'	5'	-	19'	5'	-	21'	-	5'
CONDUIT	1-2" 2-3"	1-3"	1-2"	1-2"	1-2" 2-3"	1-3"	1-2"	1-2" 2-3"	1-3"	1-2"	1-2" 2-3"	1-2"	1-3"
NORTHING	1460112.45	1460109.21	-	-	1459992.10	1459978.11	-	1459964.13	1459974.72	-	1460101.76	-	1460109.68
EASTING	3185313.93	3185333.31	-	-	3185342.81	3185338.58	-	3185245.14	3185225.46	-	3185213.98	-	3185230.02

TRAFFIC SIGNAL TABULATION

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
202-00828	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	L S	1
503-00018	DRILLED CAISSON (18 INCH)	LF	20
503-00036	DRILLED CAISSON (36 INCH)	LF	57
503-00048	DRILLED CAISSON (48 INCH)	LF	21
613-00208	2 INCH ELECTRICAL CONDUIT (BORED)	LF	230
613-00306	3 INCH ELECTRICAL CONDUIT (BORED)	LF	1270
613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	180
613-01300	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	200
613-07004	TYPE FOUR PULL BOX	EA	5
613-07005	TYPE FIVE PULL BOX	EA	1
613-10000	WIRING	L S	1
613-13006	LUMINAIRE (LED) (6000 LUMENS)	EA	4
614-70150	PEDESTRIAN SIGNAL FACE 16 COUNTDOWN	EA	8
614-70336	TRAFFIC SIGNAL FACE (12-12-12)	EA	13
614-70448	TRAFFIC SIGNAL FACE (12-12-12-12)	EA	2
614-72855	TRAFFIC SIGNAL CONTROLLER CABINET	EA	1
614-72860	PEDESTRIAN PUSH BUTTONS	EA	8
614-72863	PEDESTRIAN PUSH BUTTON POST ASSEMBLY	EA	5
614-72885	TRAFFIC SIGNAL VEHICLE DETECTOR (SPECIAL)	EA	4
614-81140	TRAFFIC SIGNAL-LIGHT POLE STEEL (1-40 FOOT MAST ARM)	EA	2
614-81145	TRAFFIC SIGNAL-LIGHT POLE STEEL (1-45 FOOT MAST ARM)	EA	1
614-81165	TRAFFIC SIGNAL-LIGHT POLE STEEL (1-65 FOOT MAST ARM)	EA	1
614-84000	TRAFFIC SIGNAL PEDESTAL POLE STEEL	EA	4



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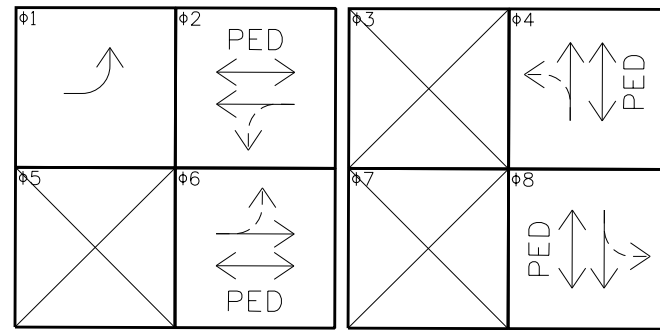
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HIGHWAY 105 PROJECT A
TRAFFIC SIGNAL TABULATION

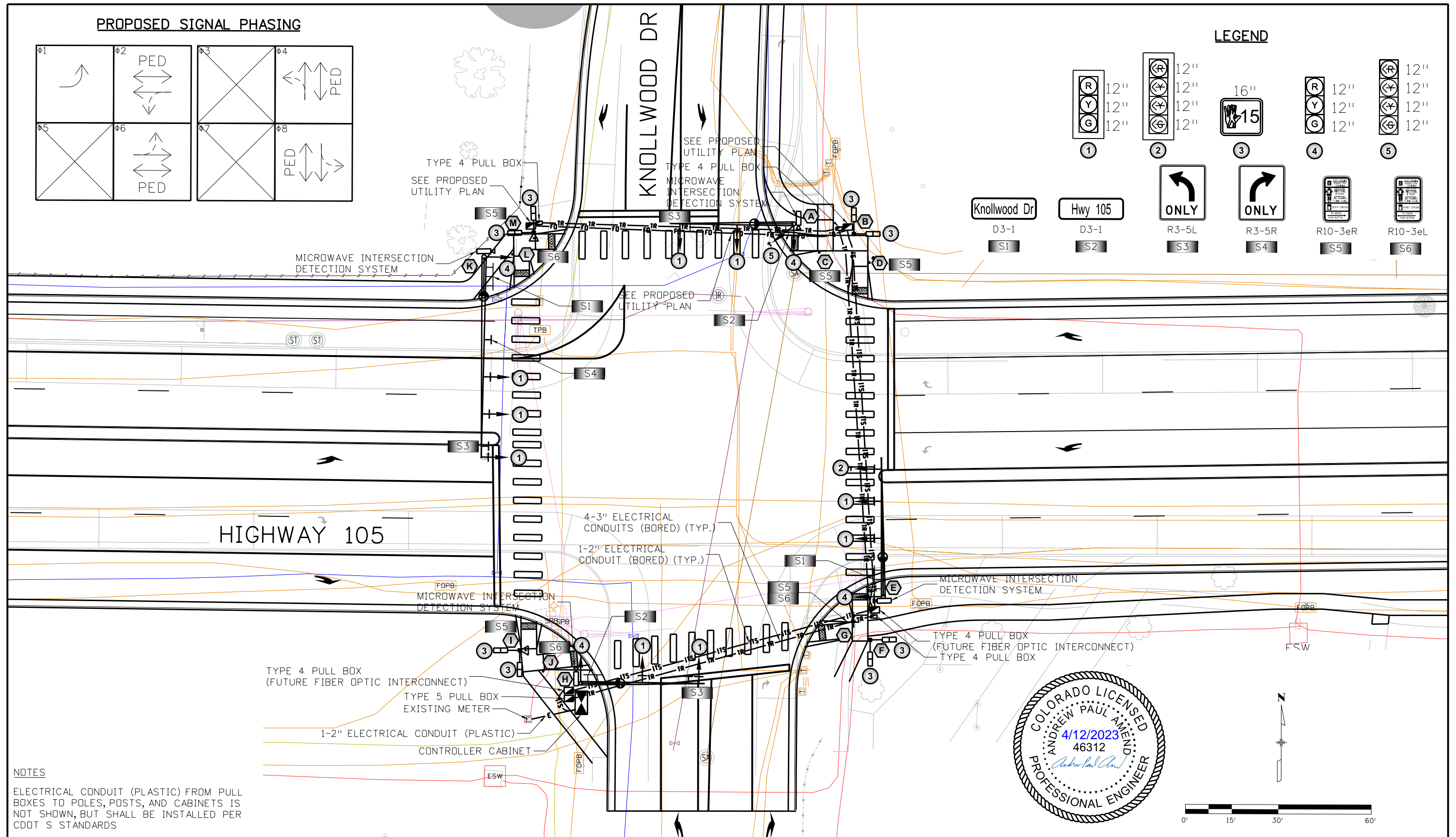
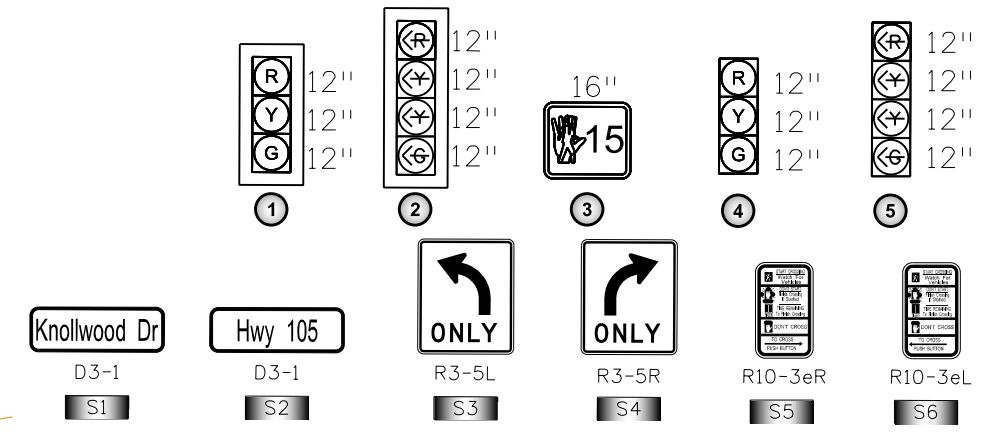
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Project No./Code
19734
STA 105A-014
Sheet Number 250 of 251

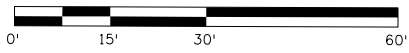
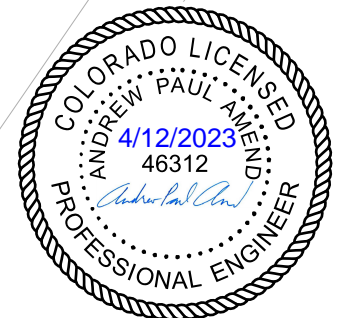
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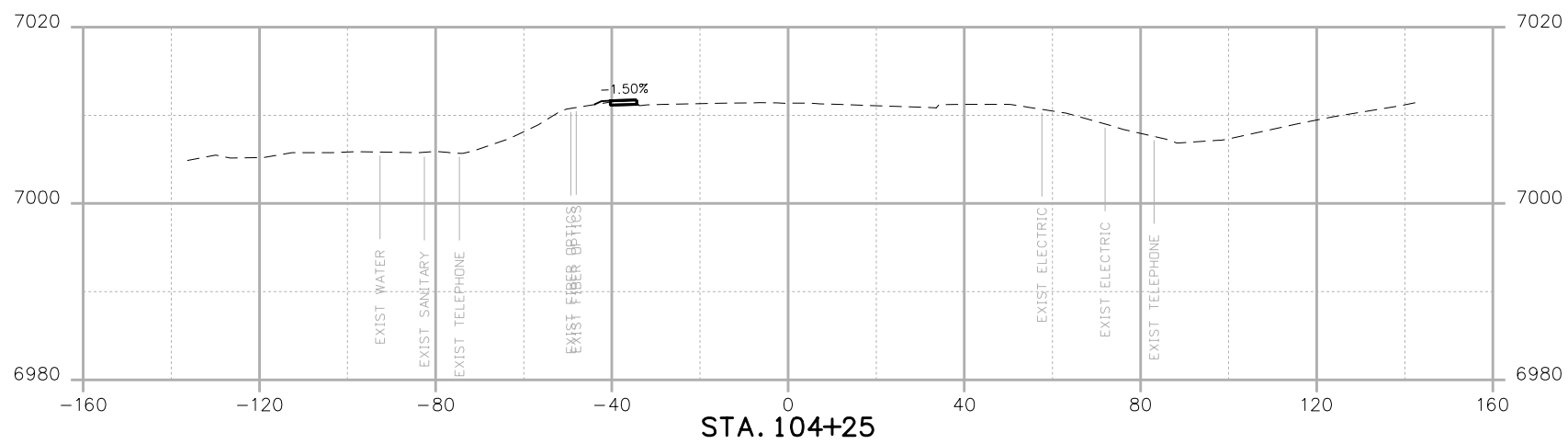
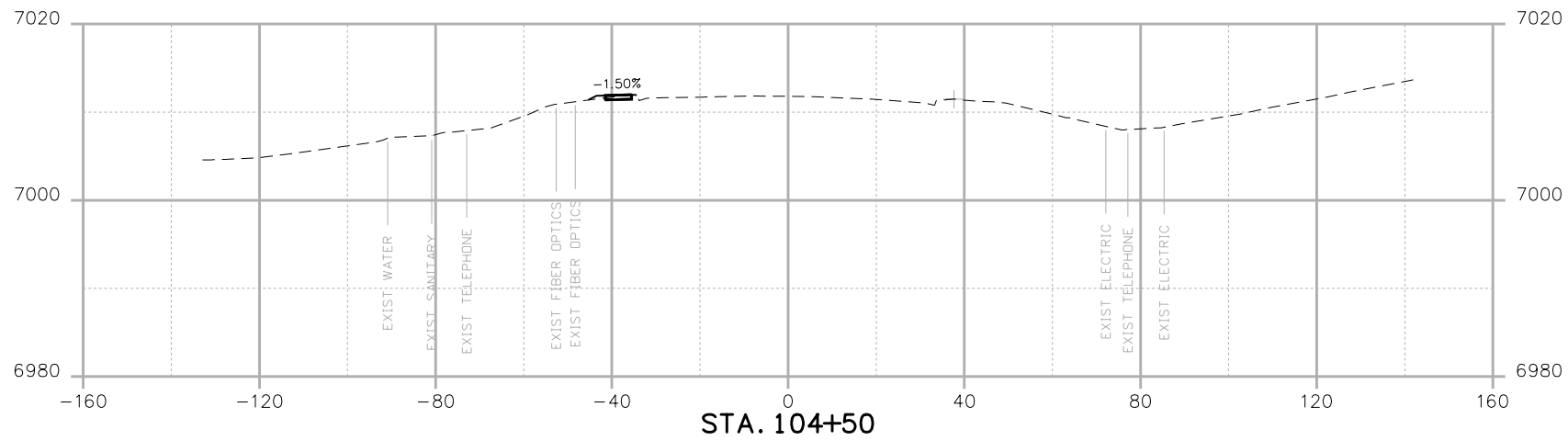
NOTES
 ELECTRICAL CONDUIT (PLASTIC) FROM PULL BOXES TO POLES, POSTS, AND CABINETS IS NOT SHOWN, BUT SHALL BE INSTALLED PER CDOT S STANDARDS




Print Date: 4/12/2023	Sheet Revisions			 EL PASO COUNTY COLORADO S.F.	 CDOT CO Region 02	As Constructed		HIGHWAY 105 PROJECT A		Project No./Code
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 5690 DTC Boulevard, Suite 330W Greenwood Village, CO 80111 Phone: 303-221-2330 Fax: 303-221-2331 www.stolfusandassociates.com						Sheet Subset: SIGNAL	Subset Sheets: 03 of 03			

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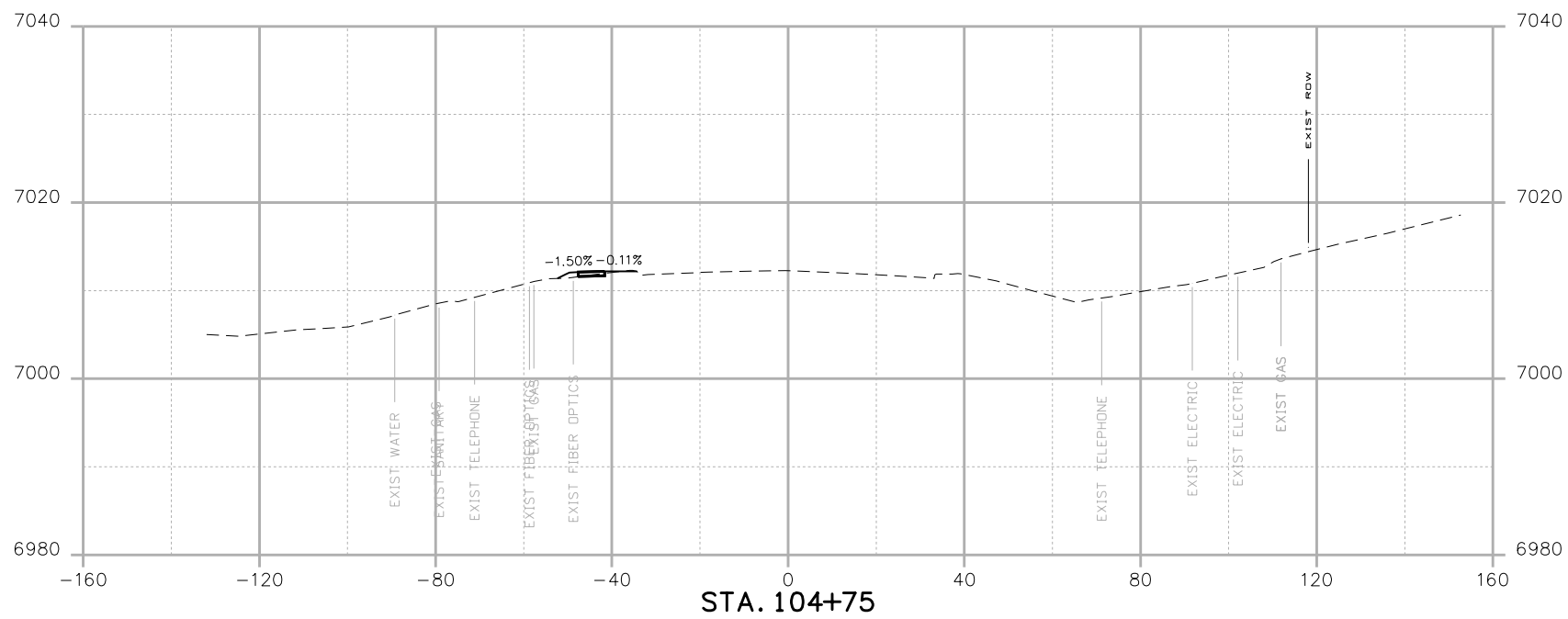
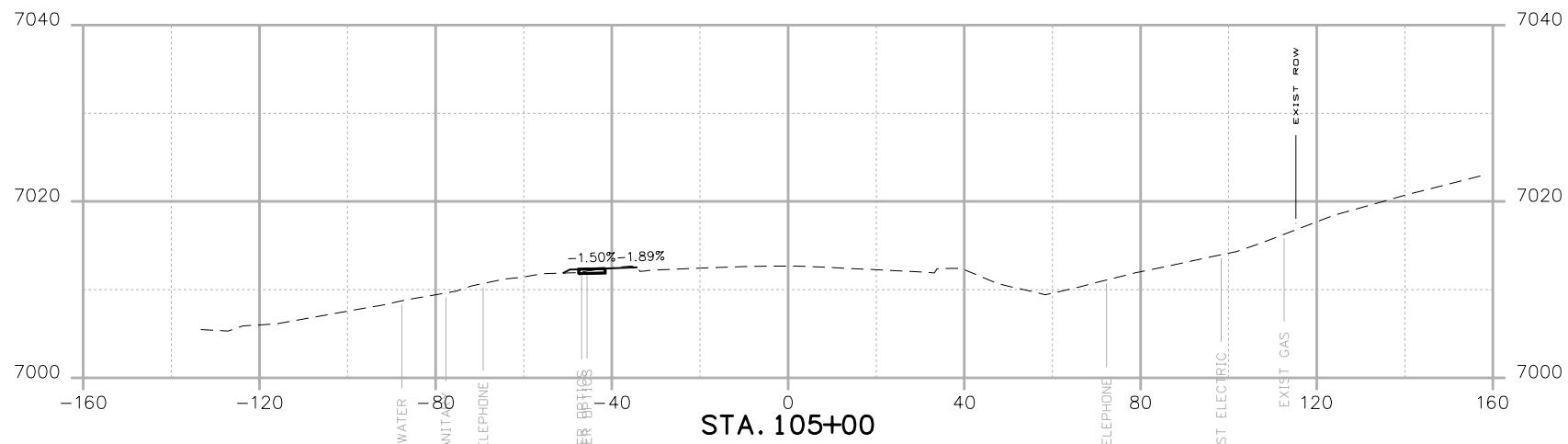
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 PROJECT A
 CROSS SECTIONS**

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Structure Numbers
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19734
 STA 105A-014
 Sheet Number **XC 2** of 119

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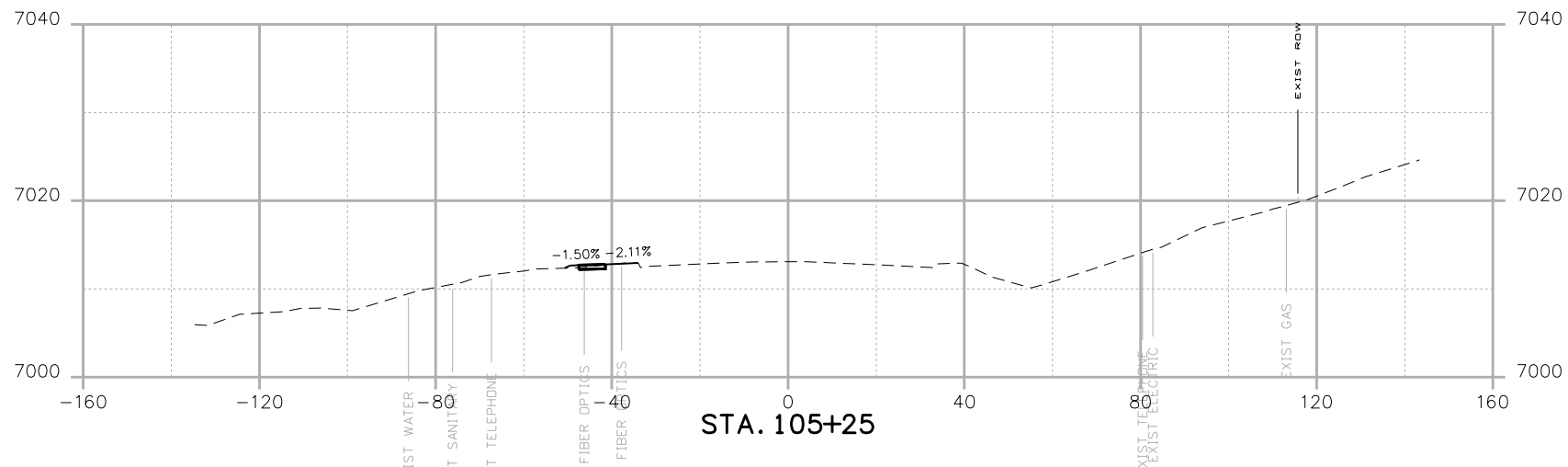
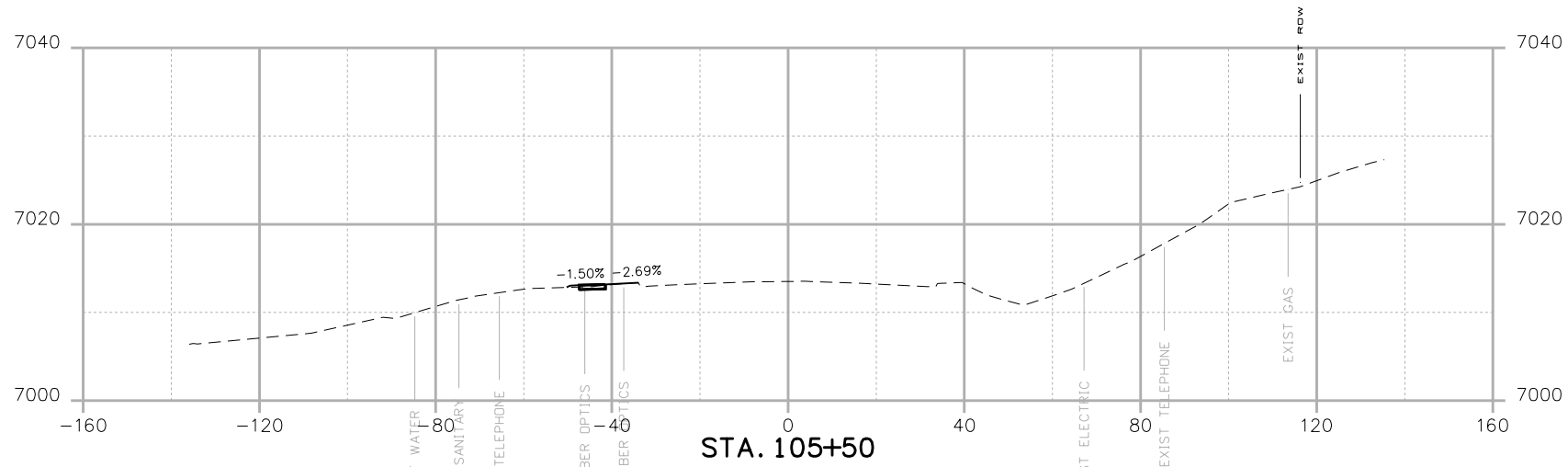
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 PROJECT A
 CROSS SECTIONS**


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19734
 STA 105A-014
 Sheet Number **XC 3** of 119

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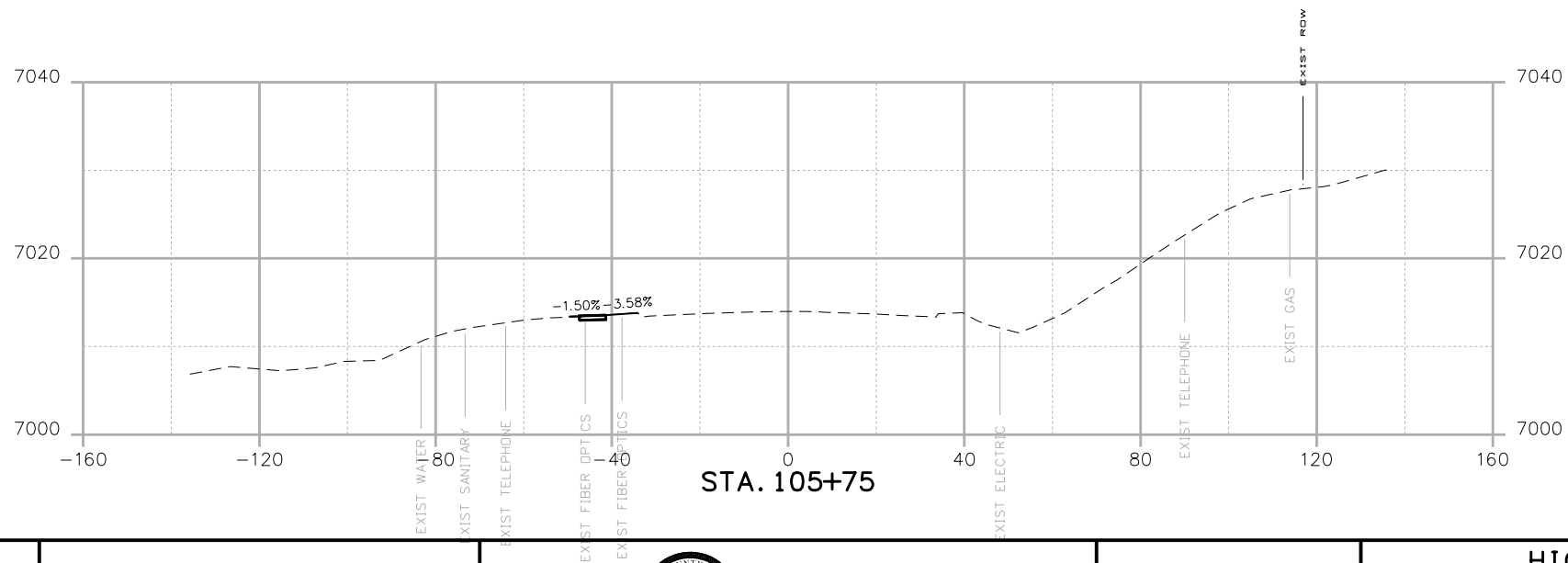
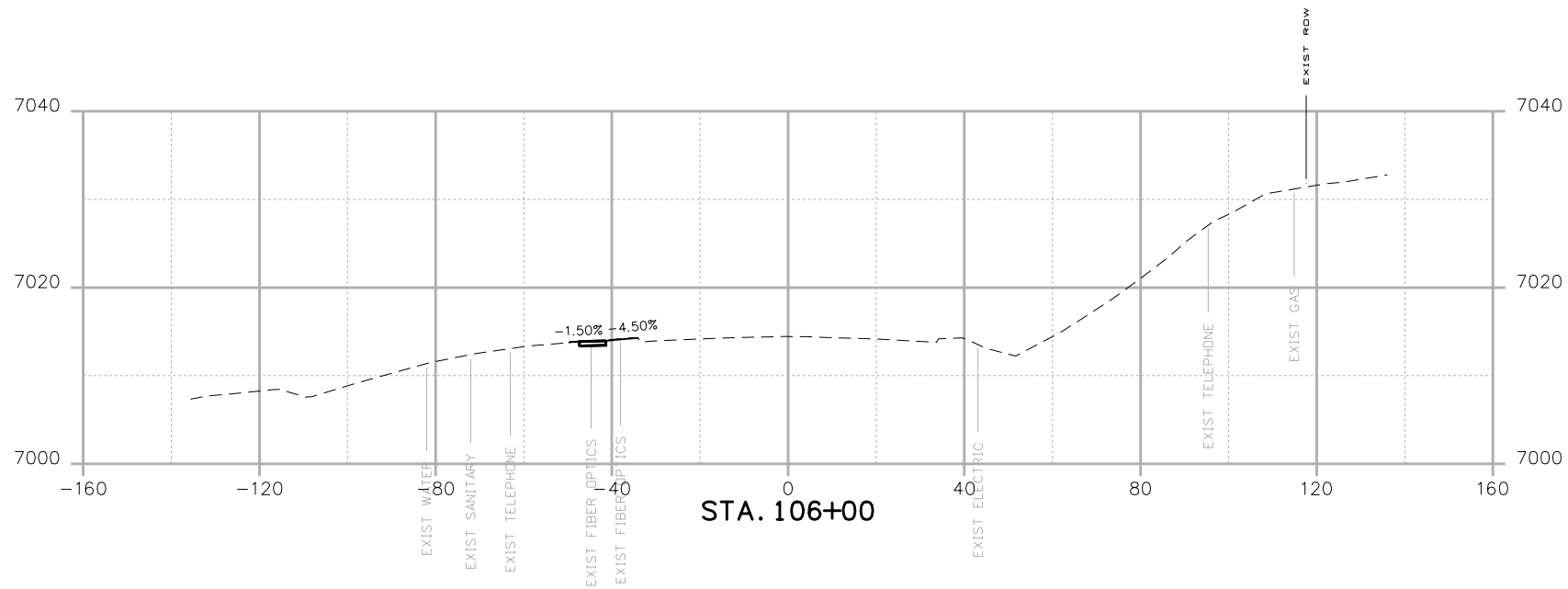



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STA 105A-014
Sheet Number XC 4 of 119

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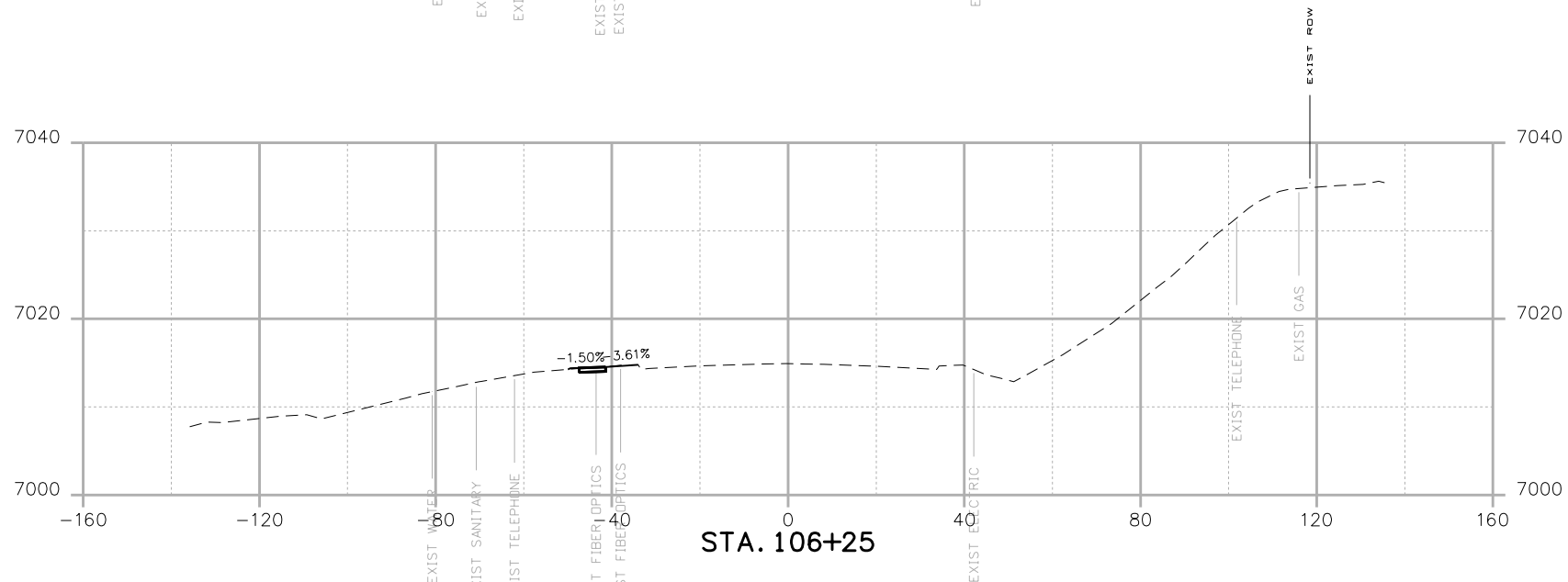
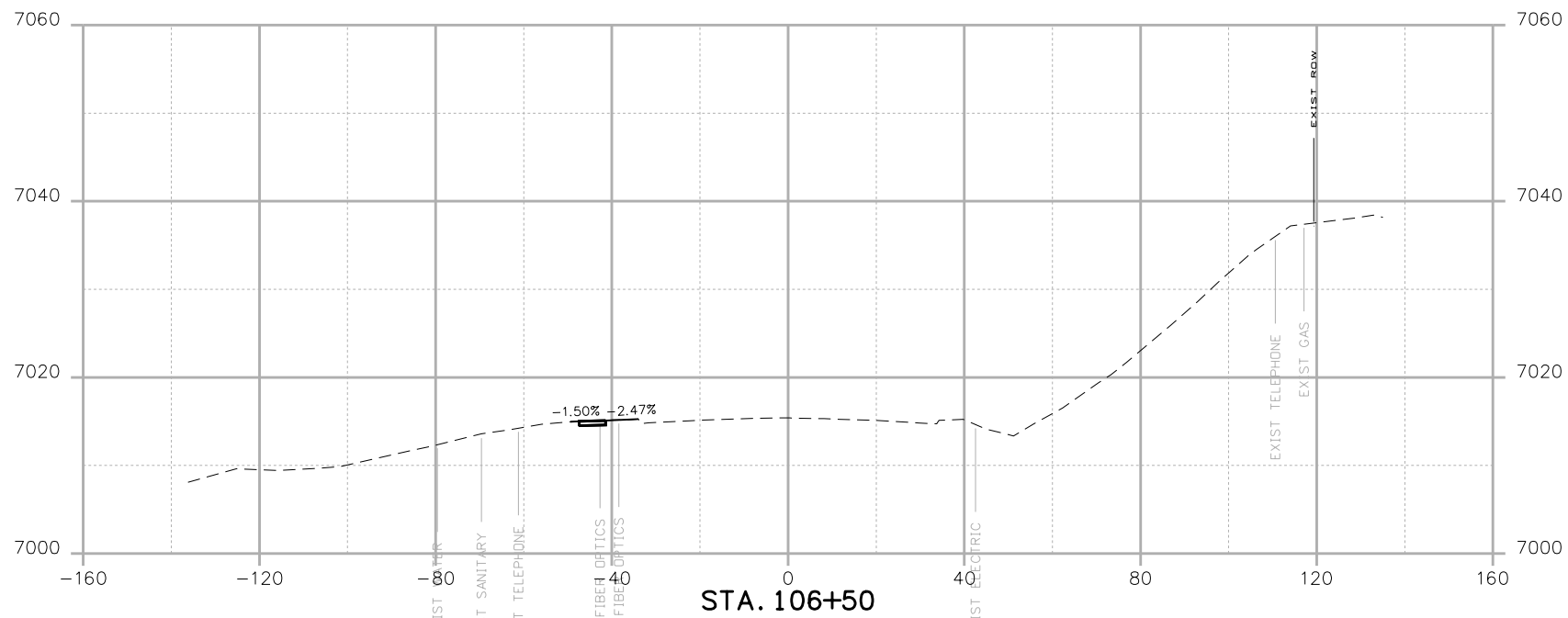


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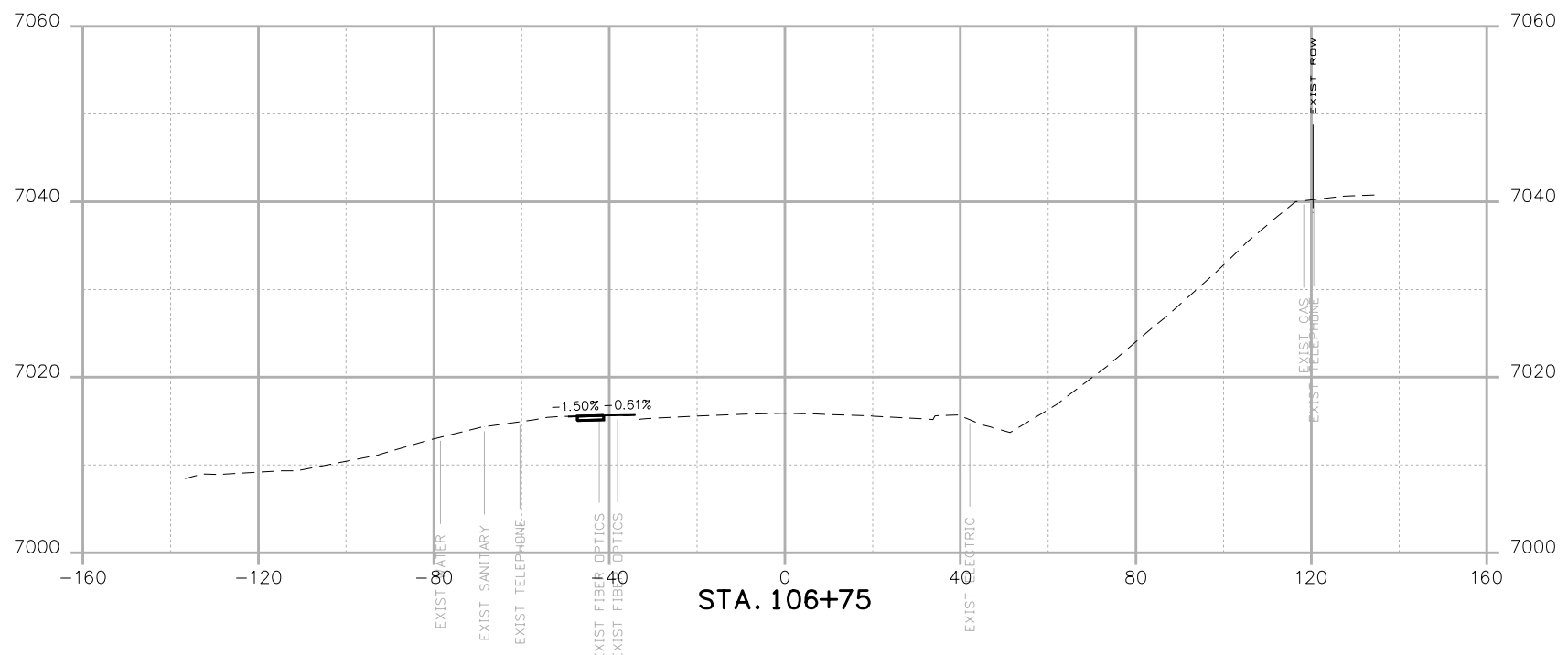
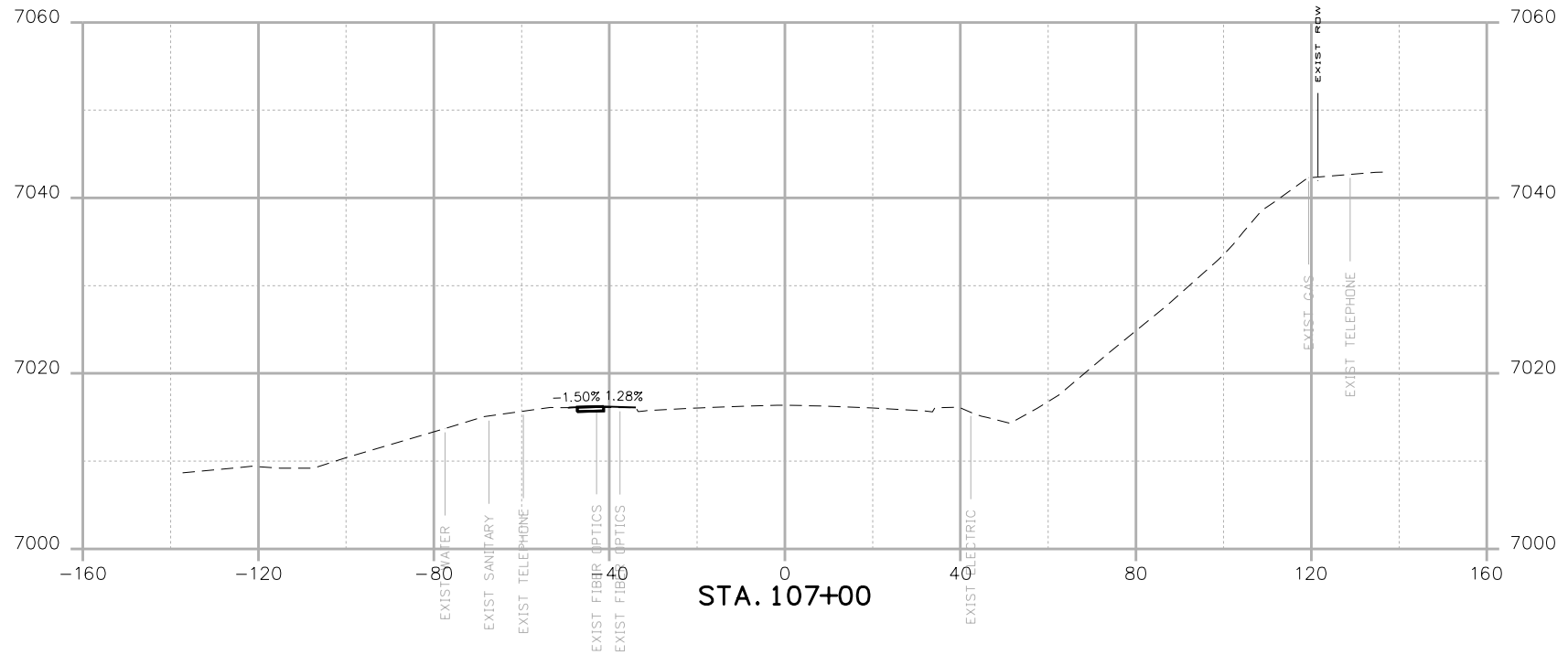
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**HIGHWAY 105
 PROJECT A
 CROSS SECTIONS**

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19734
 STA 105A-014
 Sheet Number **XC 6** of 119

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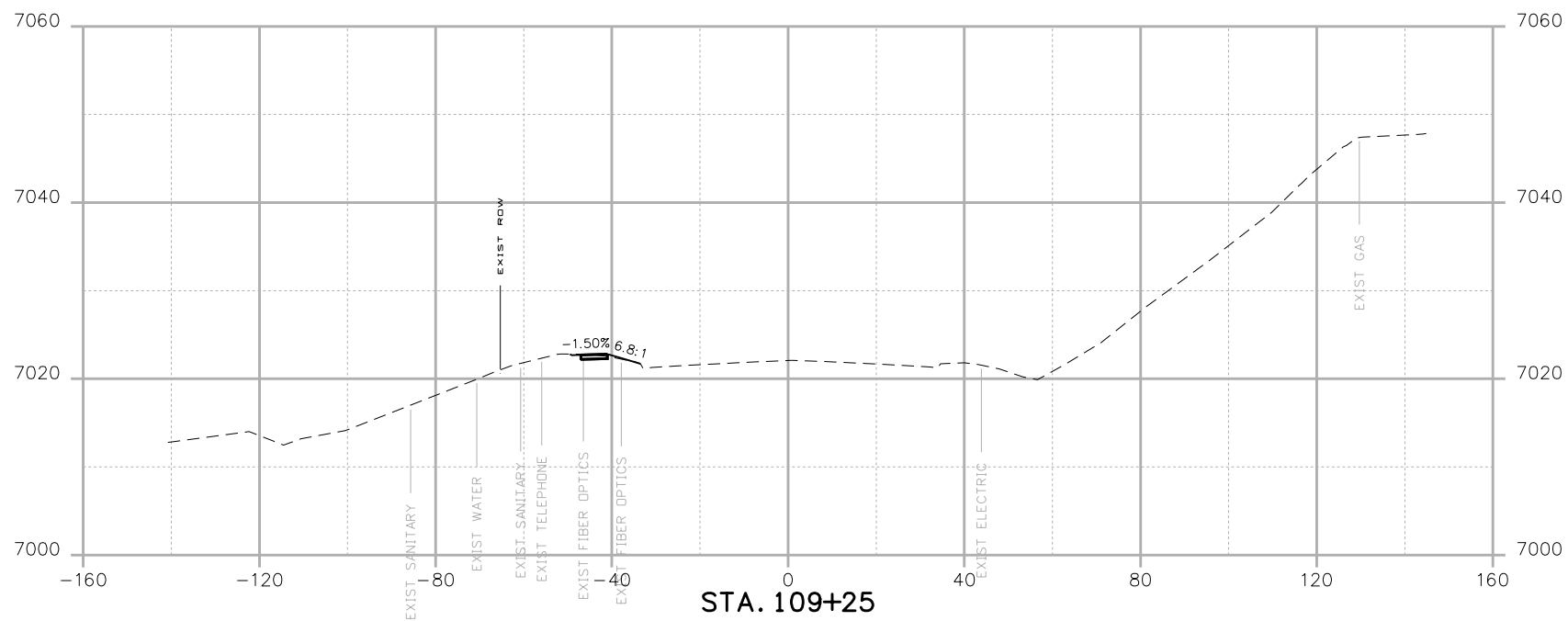
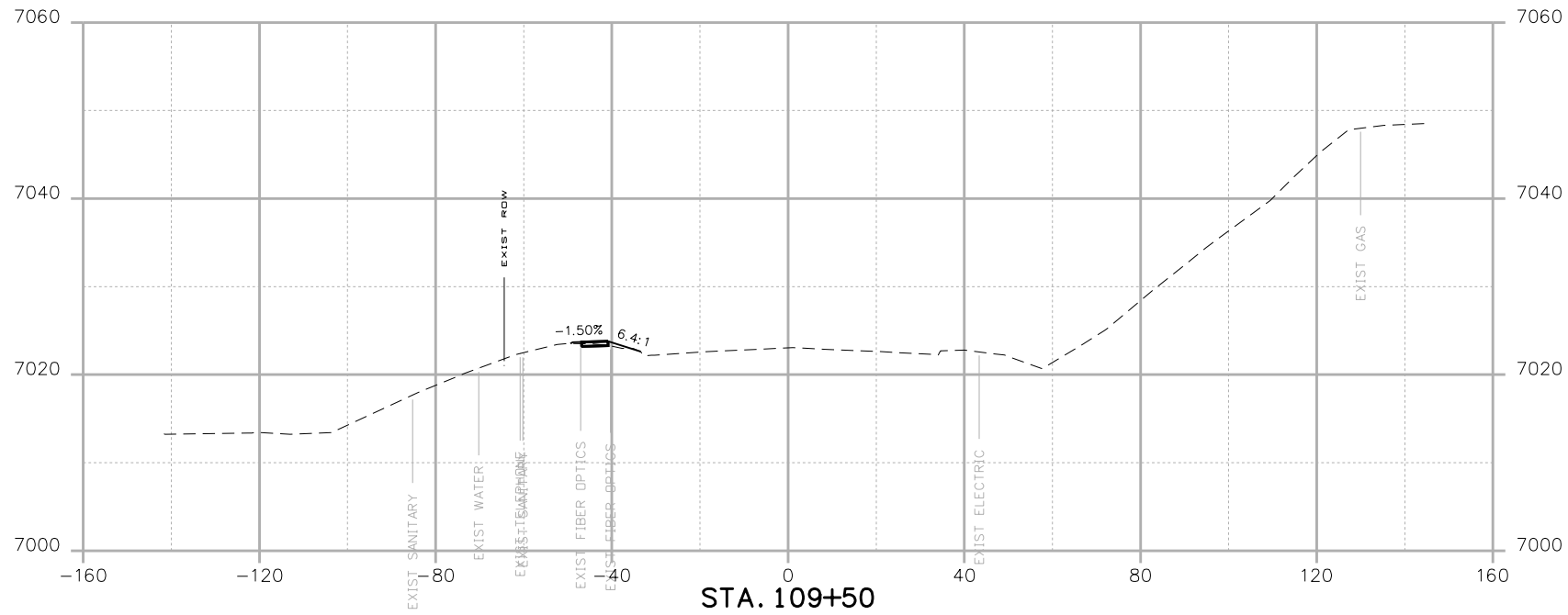
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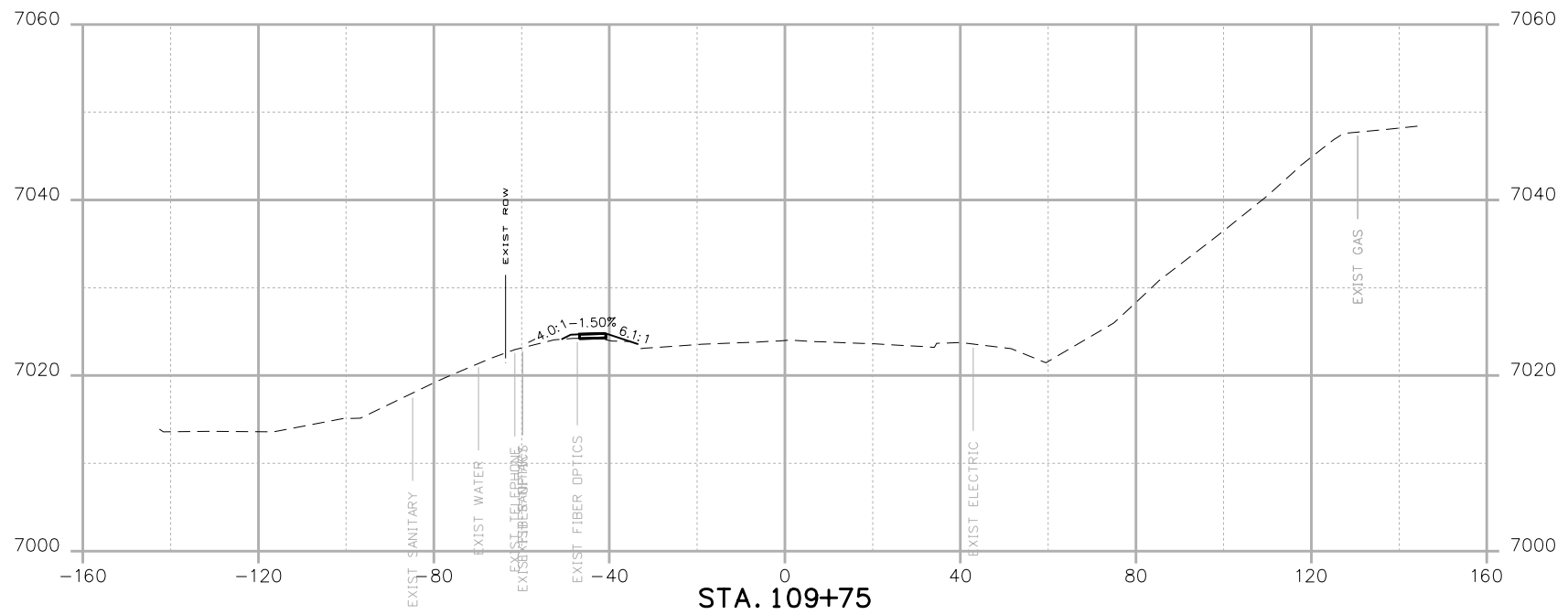
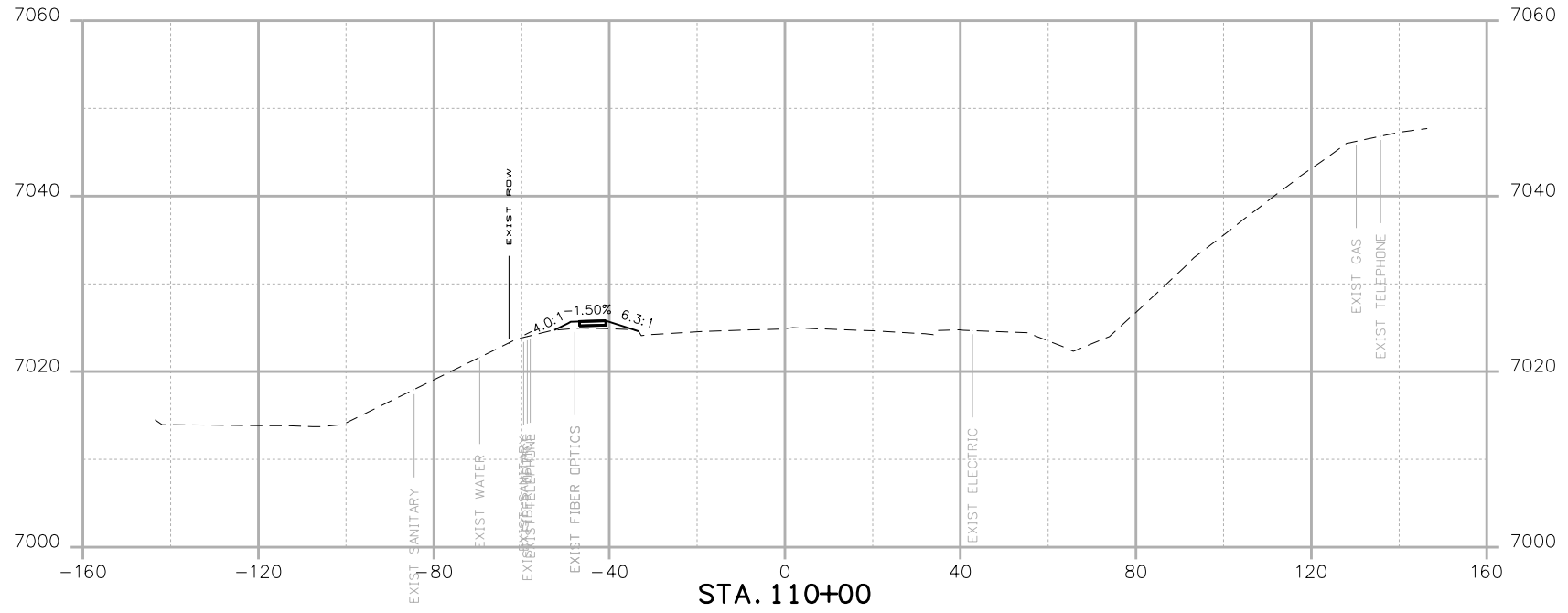
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 PROJECT A
 CROSS SECTIONS**

Designer:
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19734
 STA 105A-014
 Sheet Number XC 12 of 119

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HR 1670 BROADWAY, SUITE 3400 DENVER, COLORADO 80202
 Phone: 303-764-1520 FAX: 303-860-7139

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Date:	Comments	Init.



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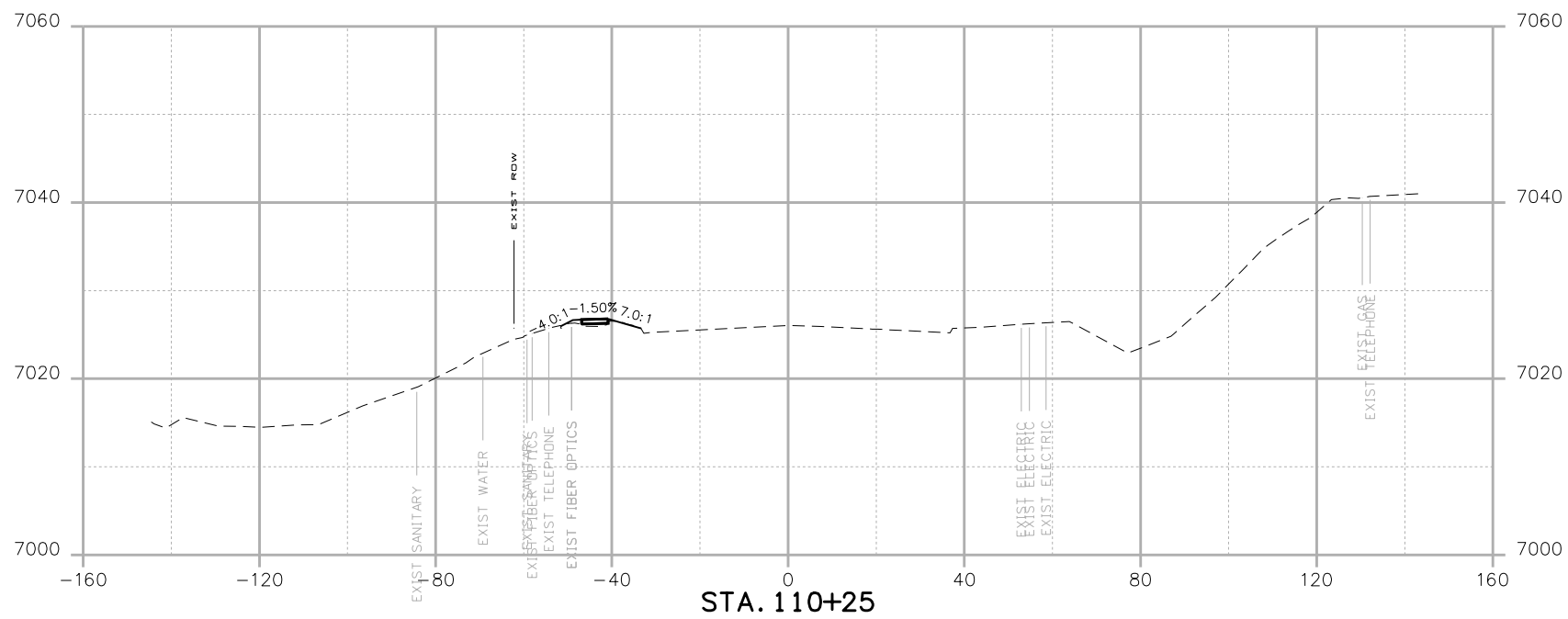
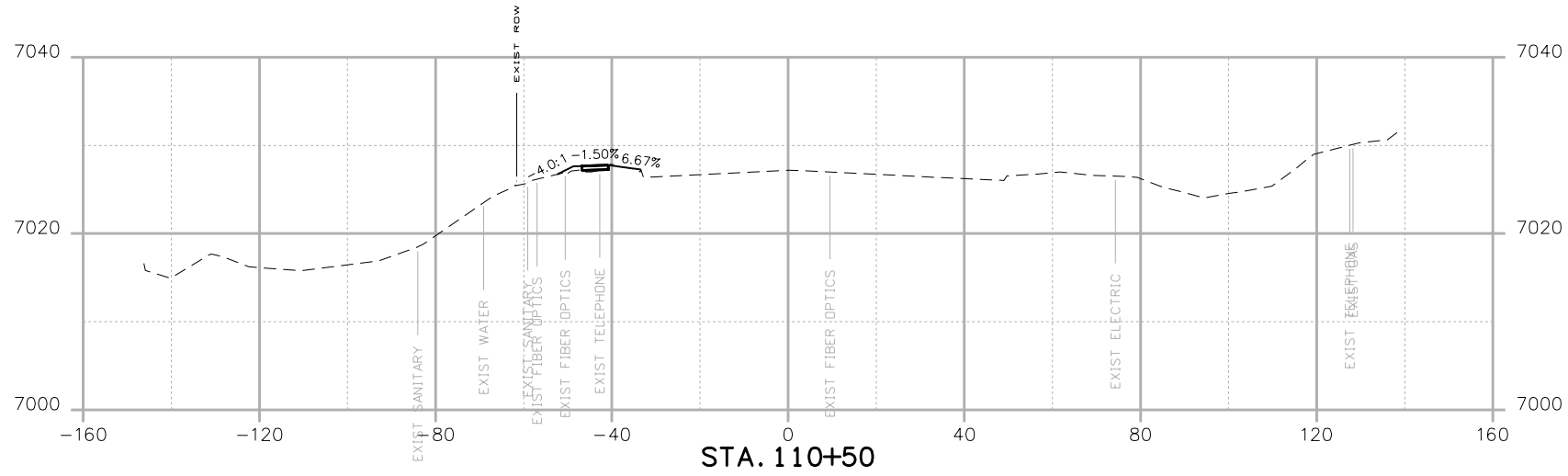
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 PROJECT A
 CROSS SECTIONS**

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Structure Numbers
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 Sheet Number XC 13 of 119

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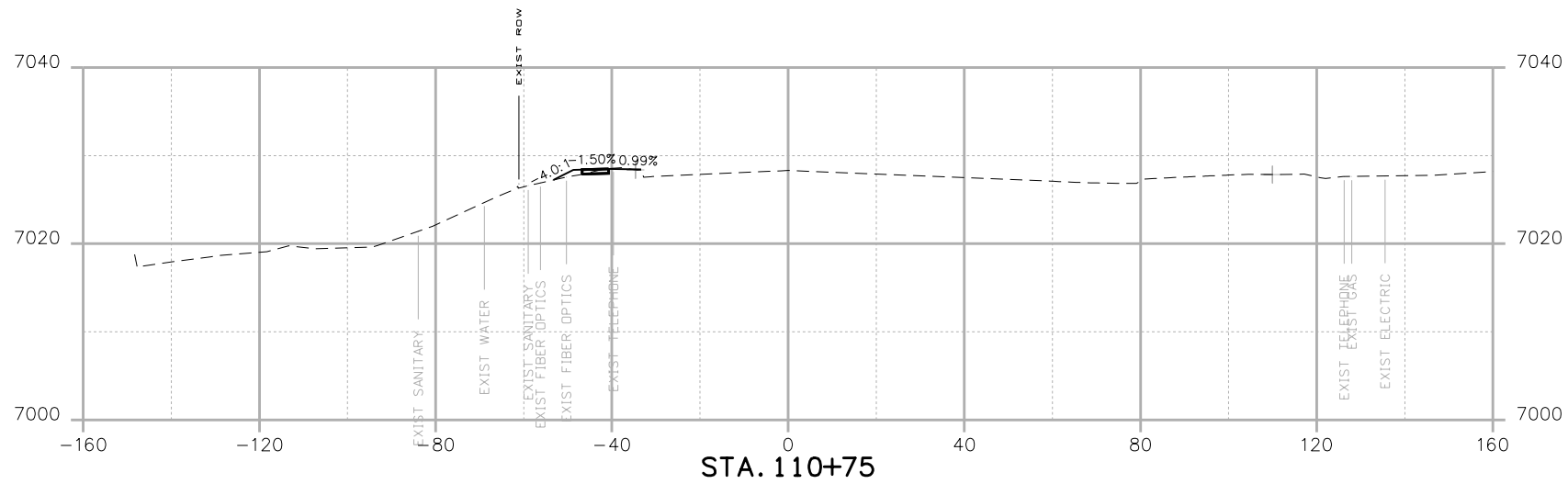
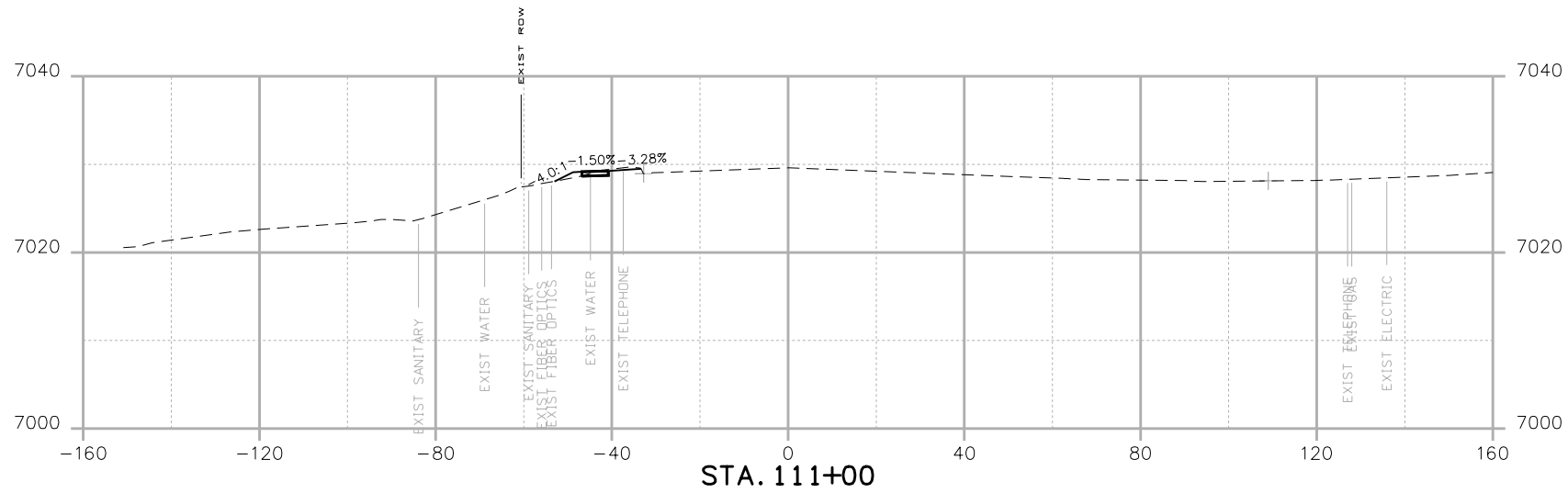
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 CROSS SECTIONS**


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 Sheet Number **XC 14** of 119

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Date:	Comments	Init.



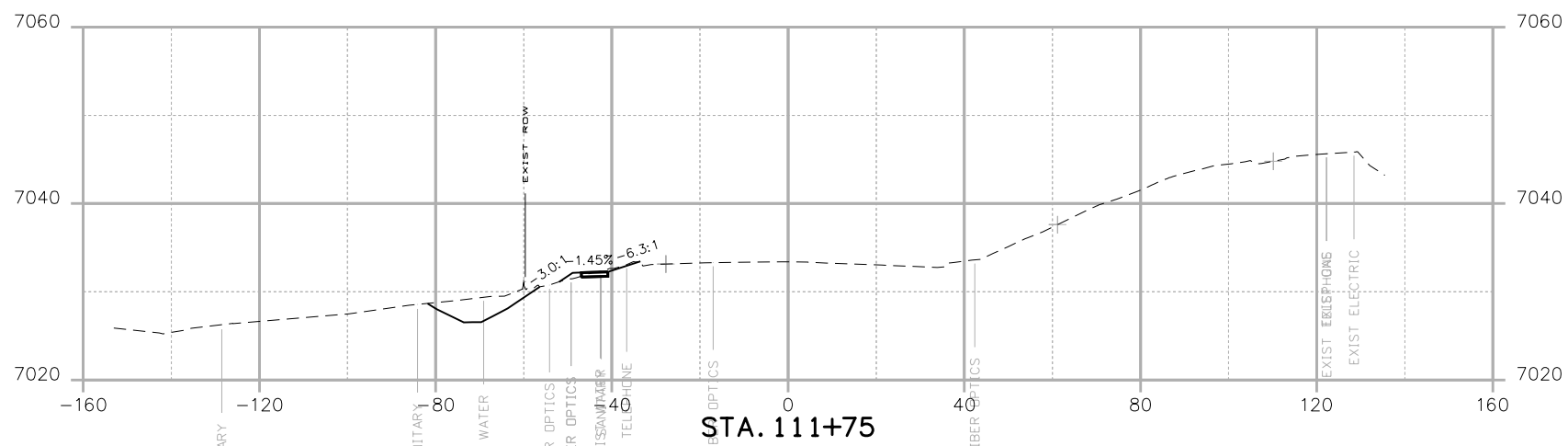
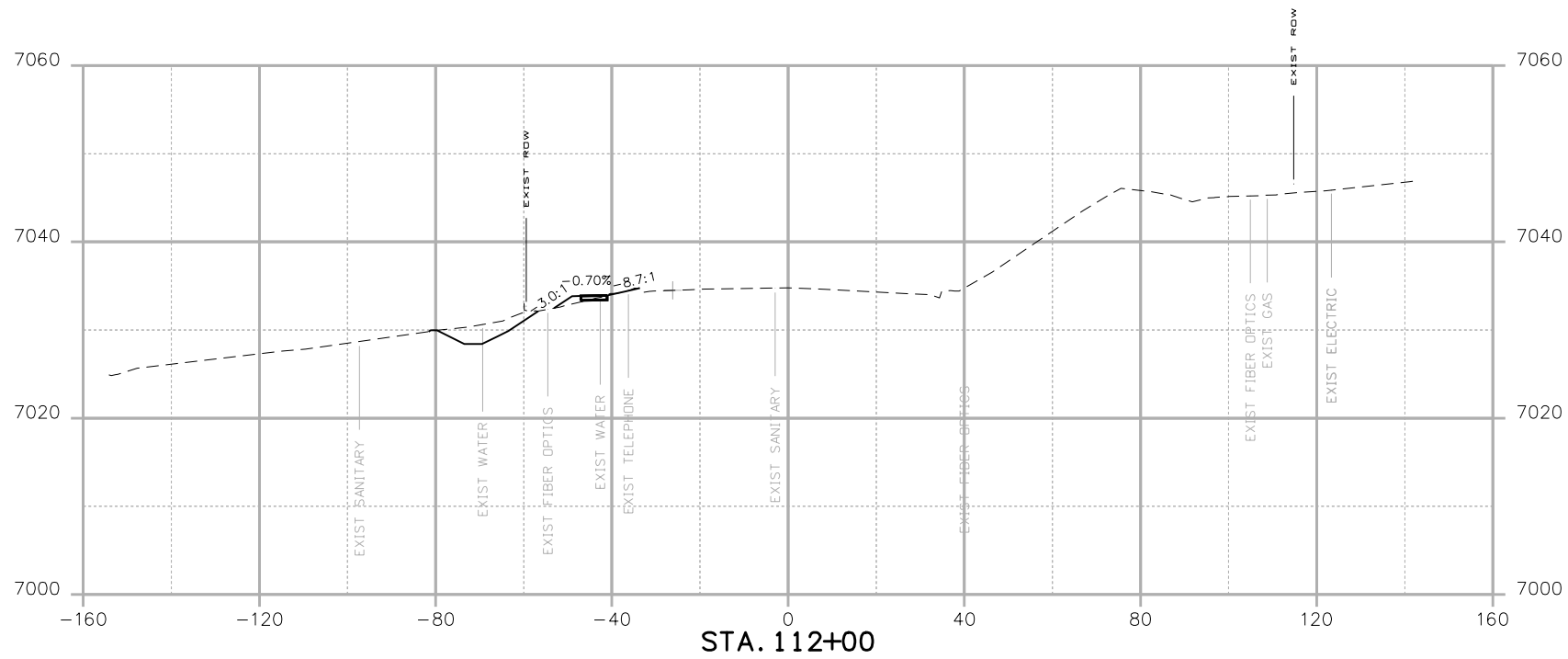
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PROJECT A
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Detailer:	
Sheet Subset:	Subset Sheets: of

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STA 105A-014
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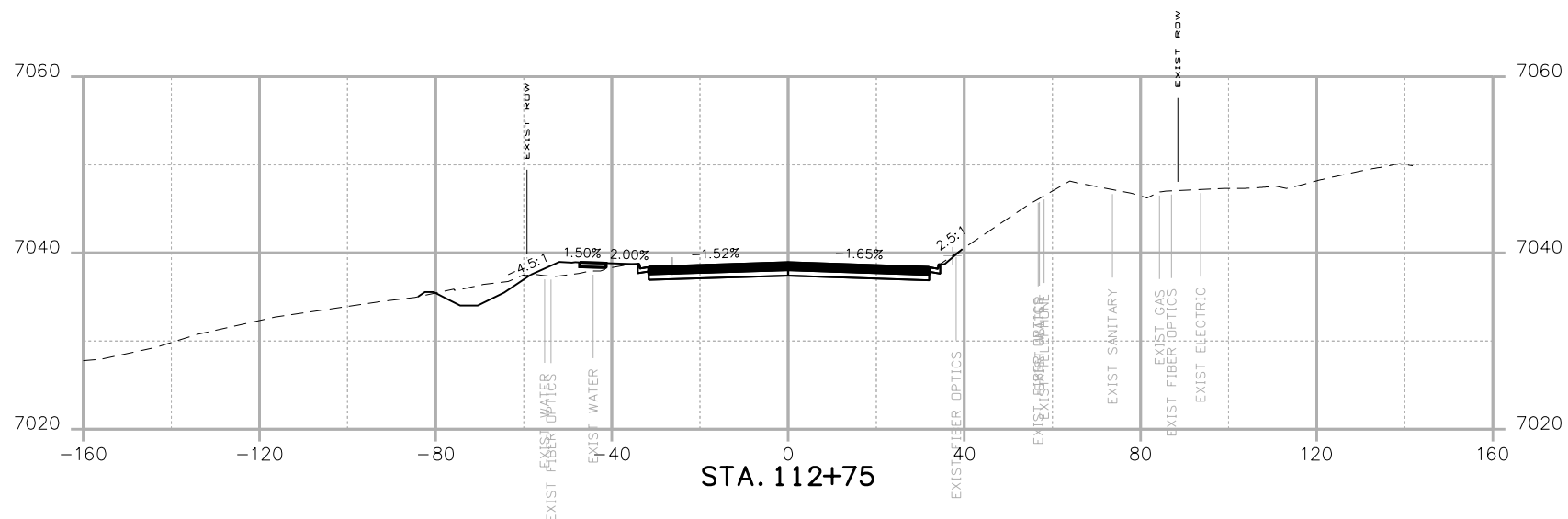
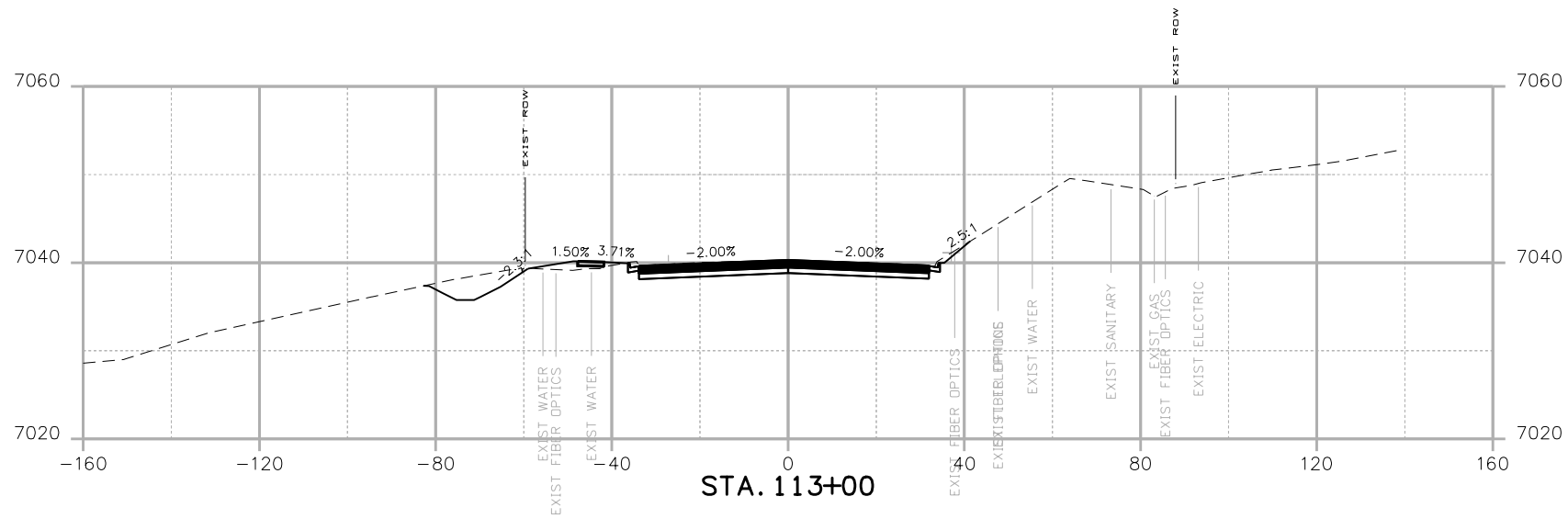
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 STA 105A-014
 Sheet Number XC 17 of 119

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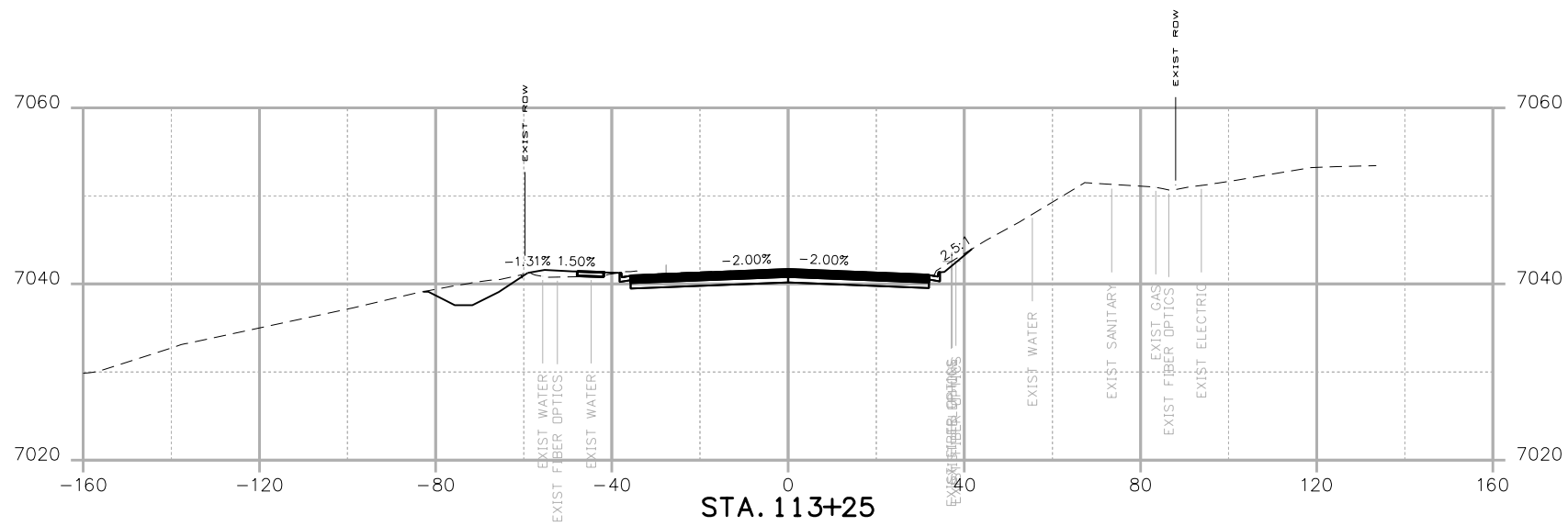
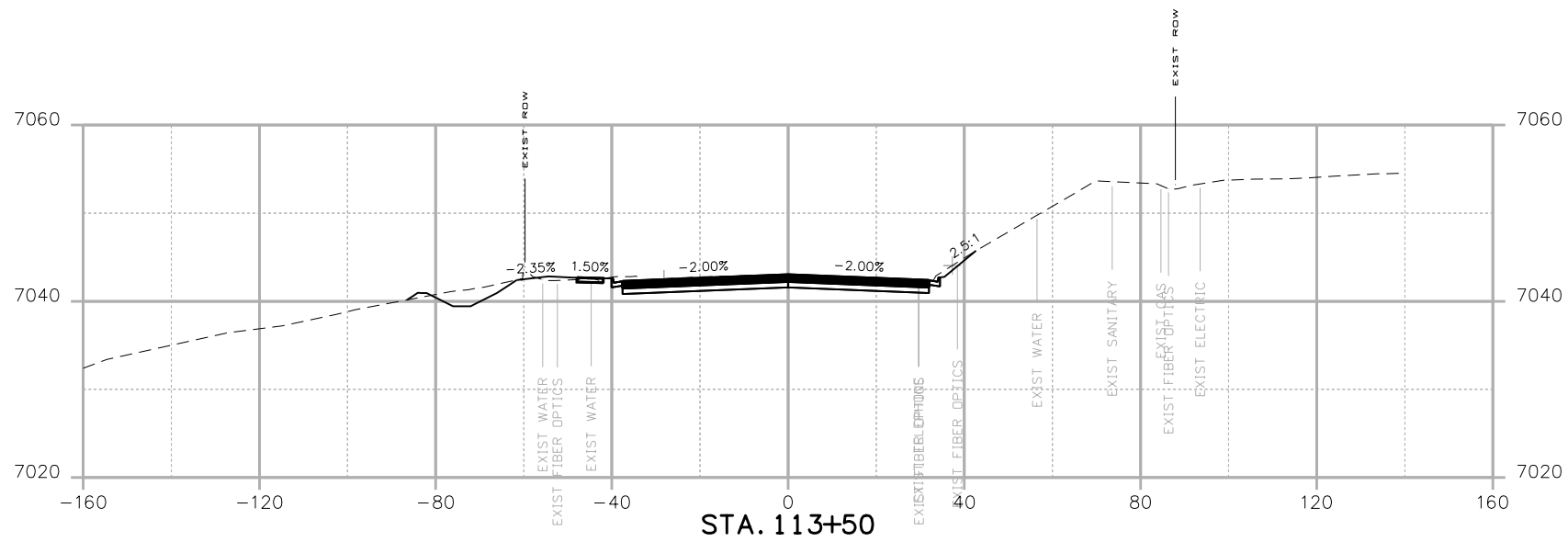
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 Sheet Number **XC 19** of 119

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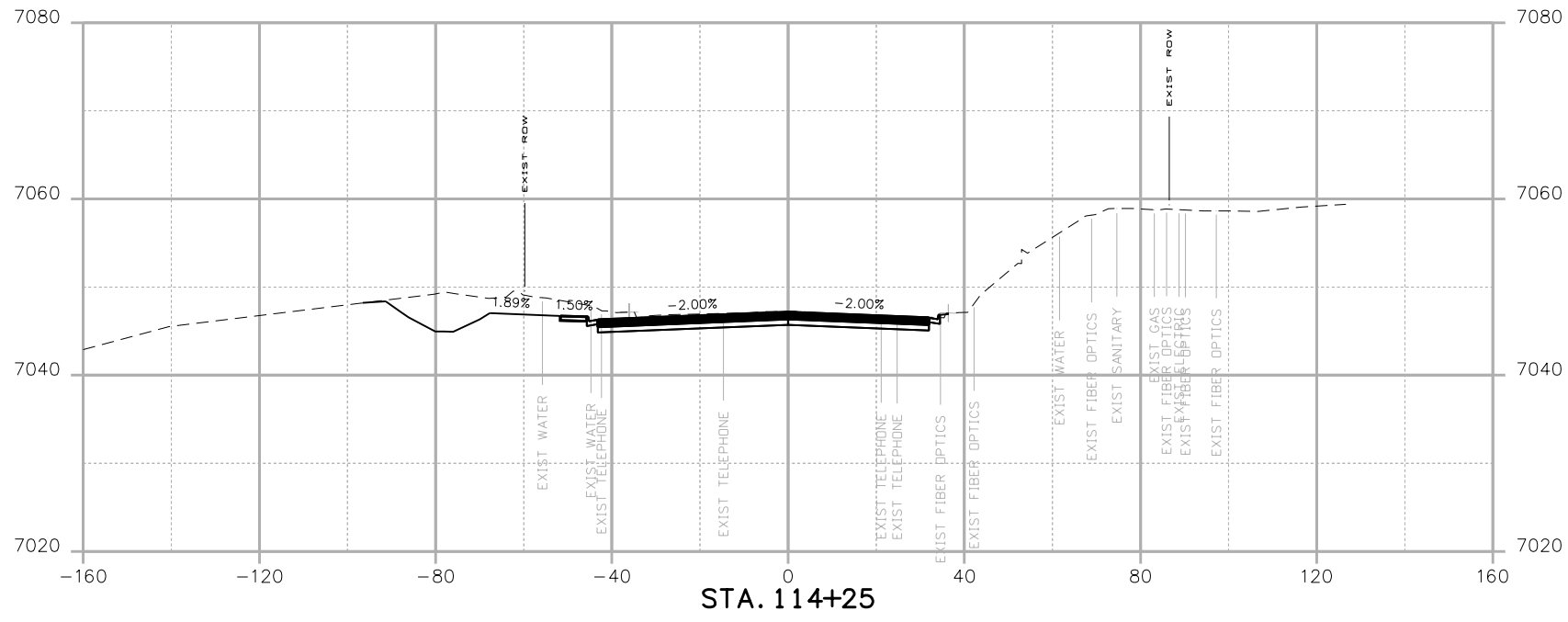
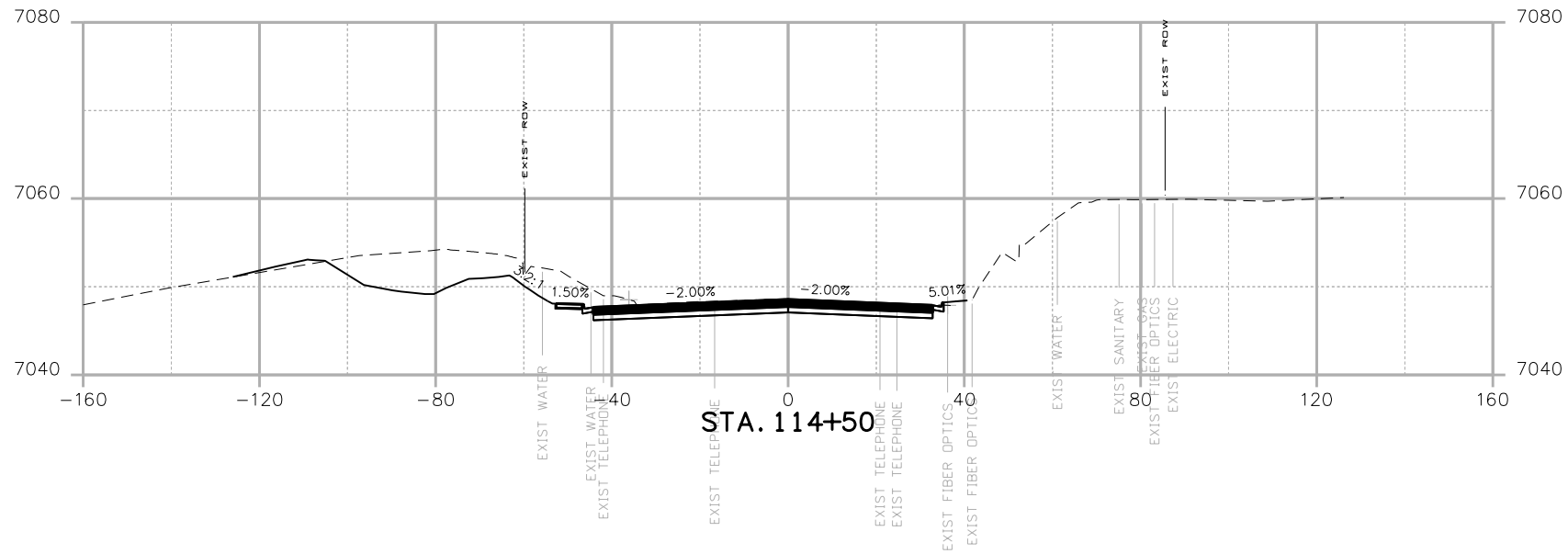
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 STA 105A-014
 Sheet NumberXC 20 of 119

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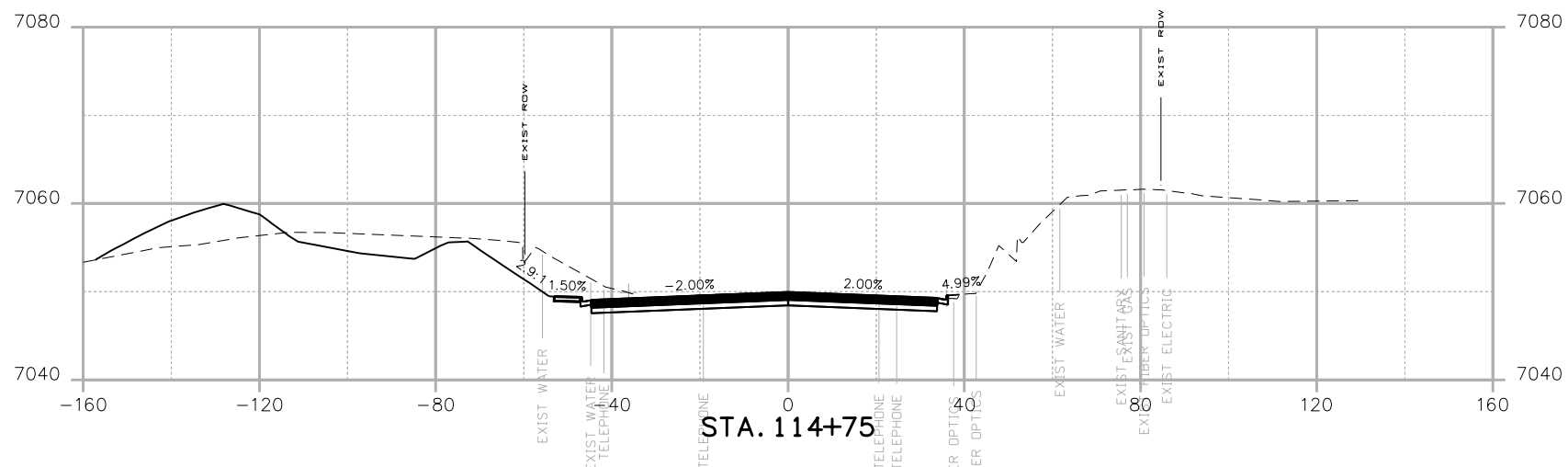
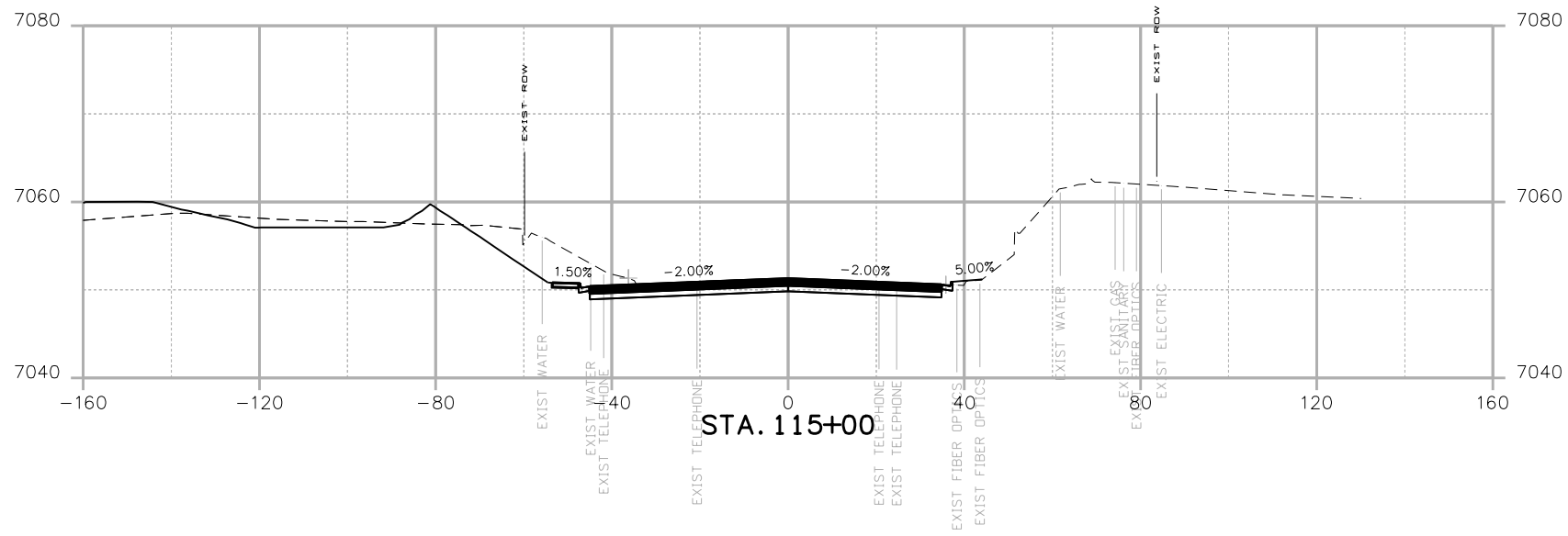
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Detailer:			STA 105A-014
Sheet Subset:	Subset Sheets:	of	Sheet NumberXC 22 of 119

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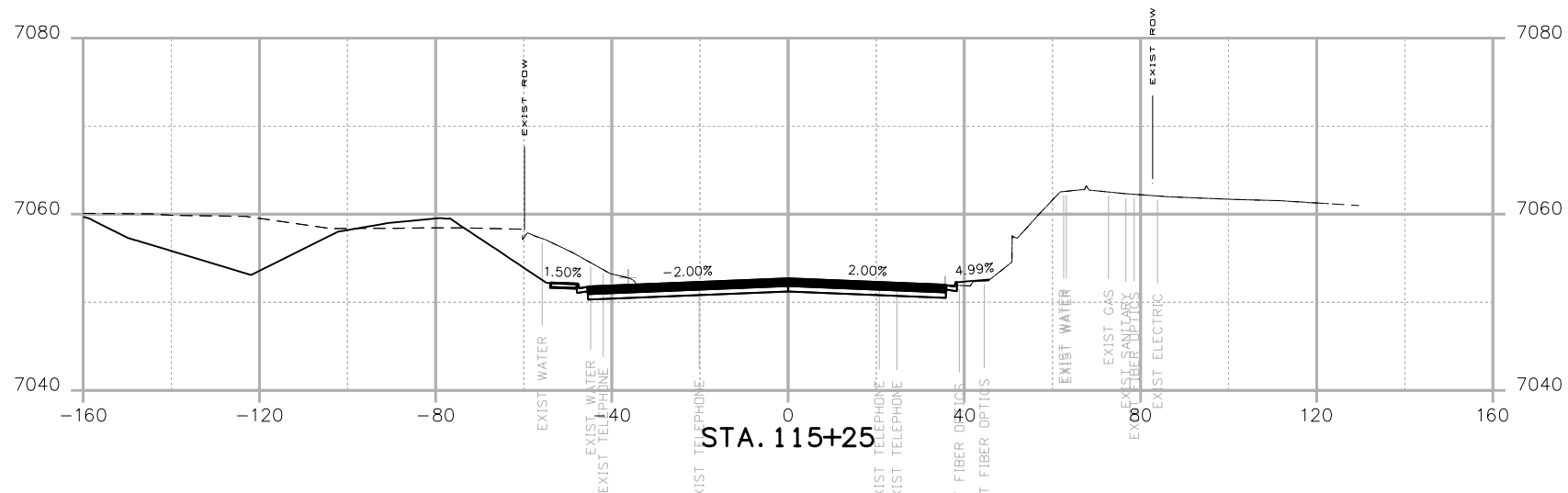
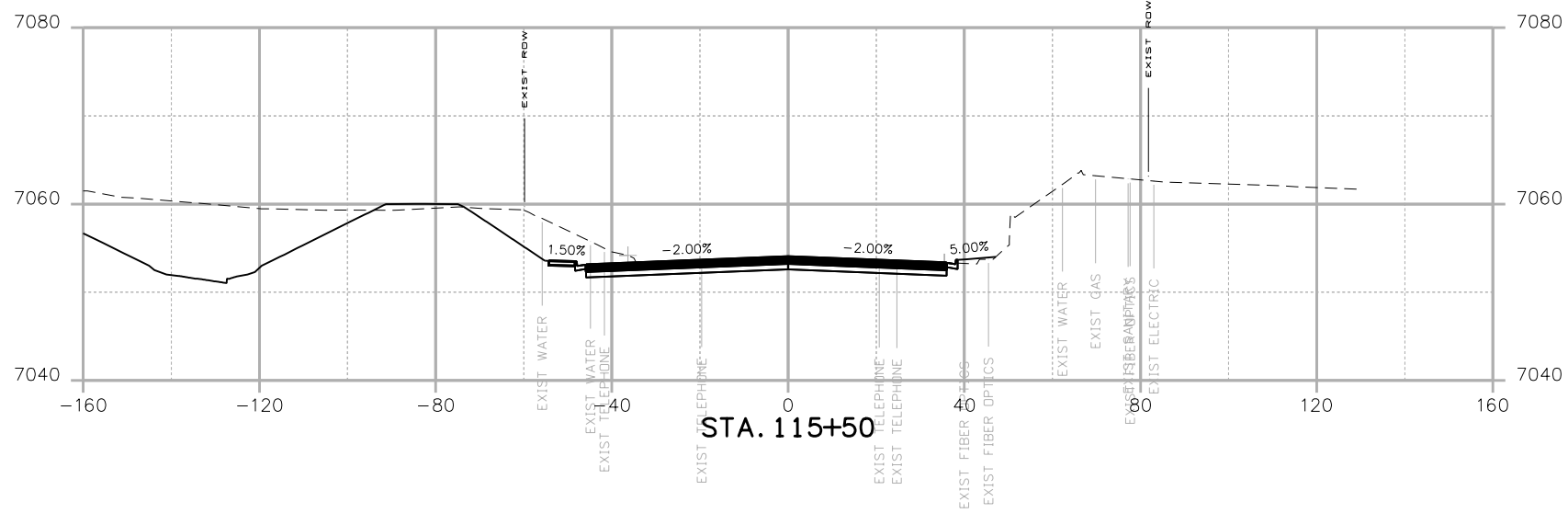
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 CROSS SECTIONS**


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 Sheet Number XC 23 of 119

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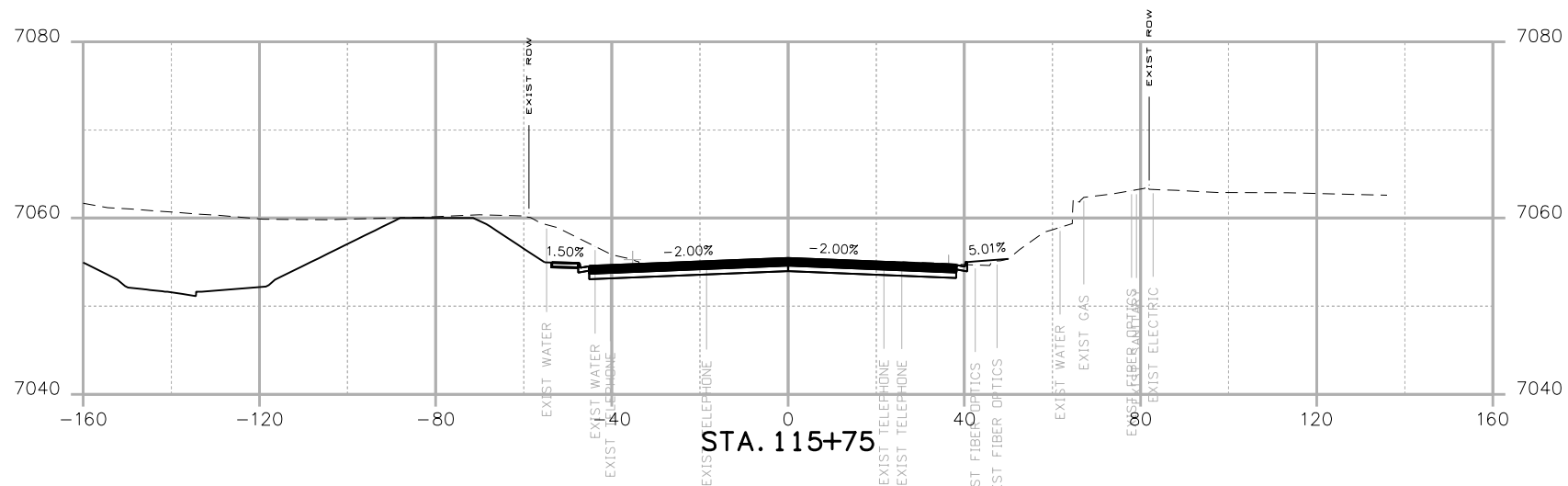
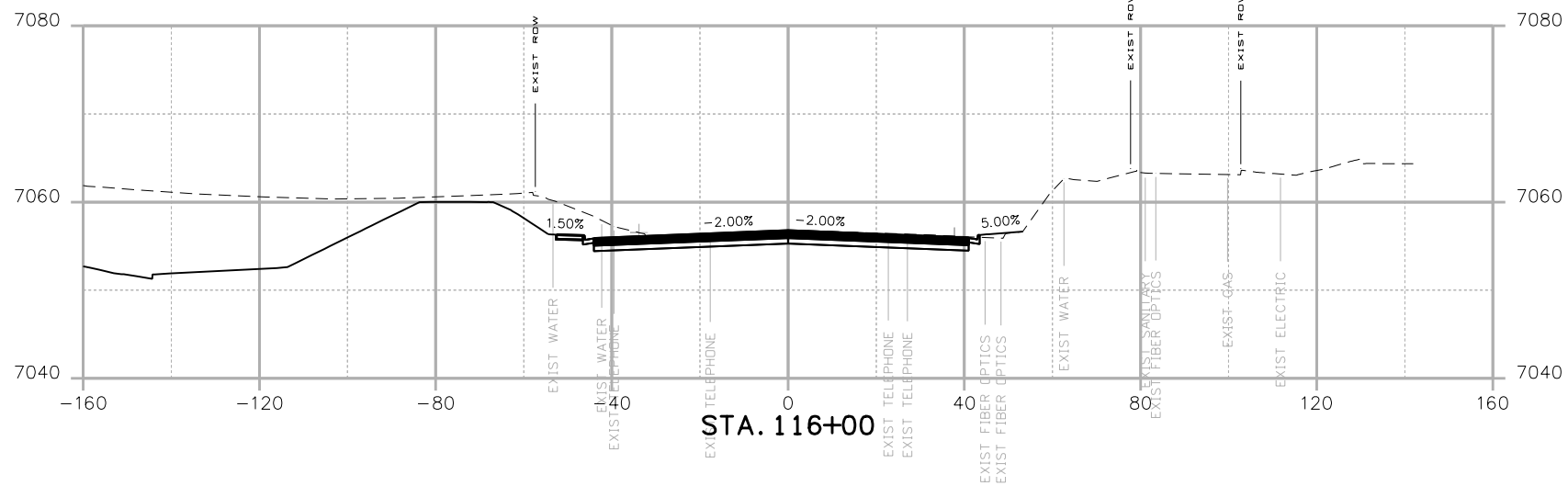
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Sheet Subset:		Subset Sheets: of	Sheet Number XC 24 of 119

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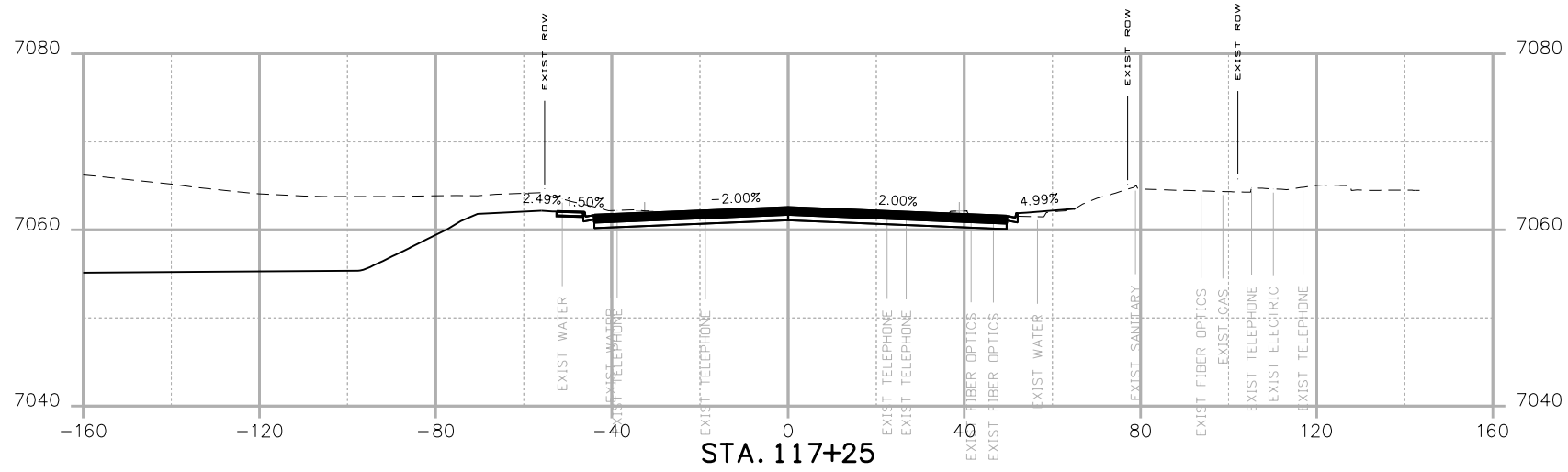
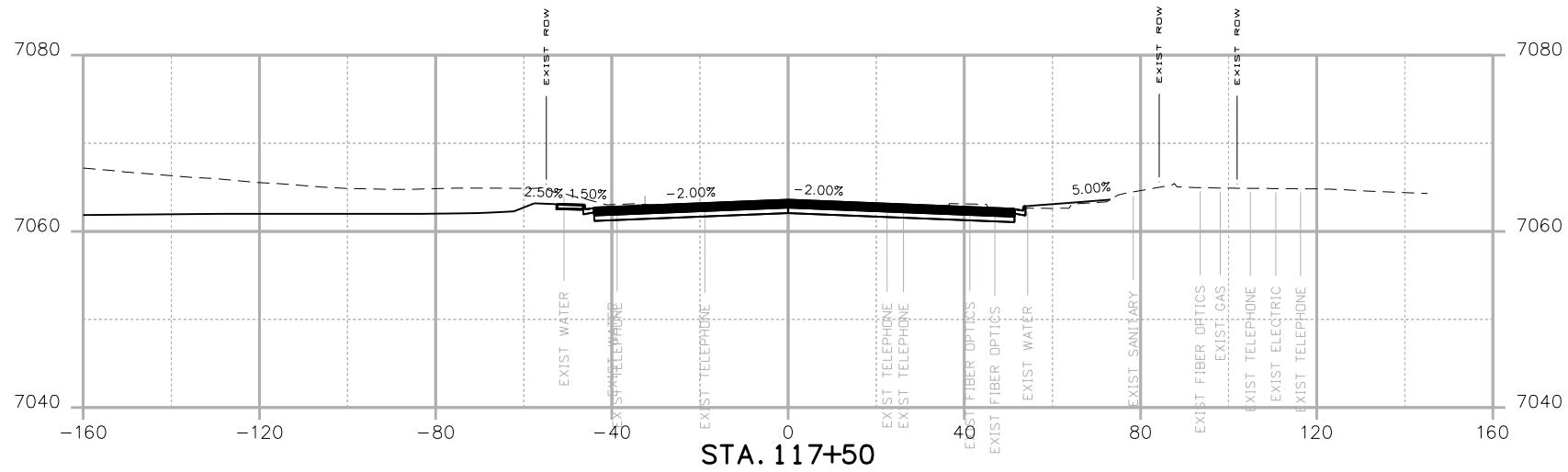
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 CROSS SECTIONS**

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 STA 105A-014
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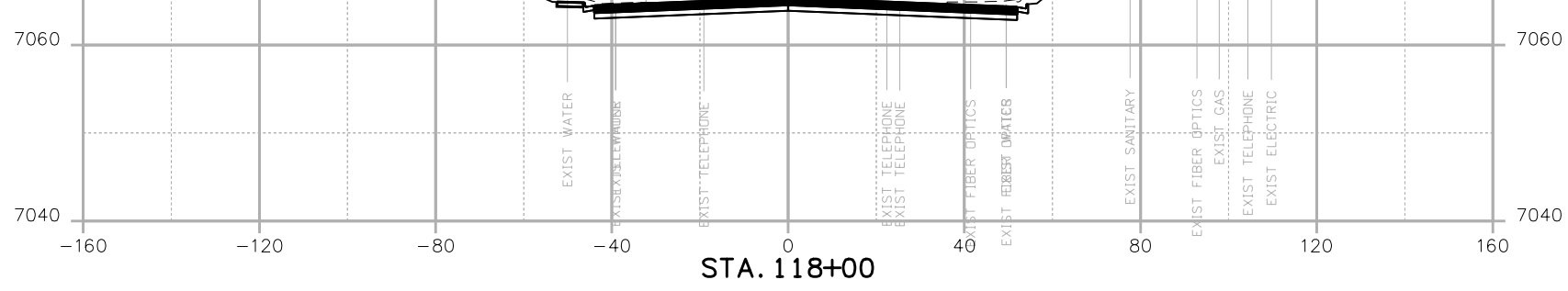
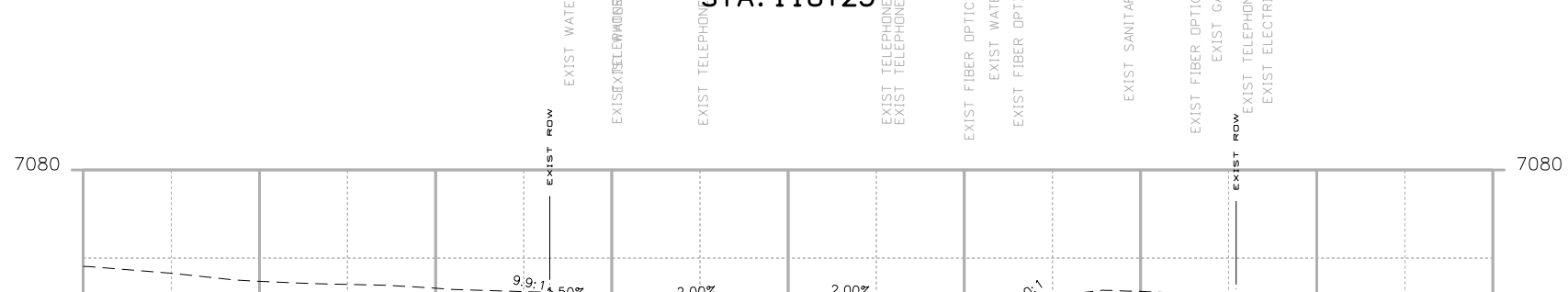
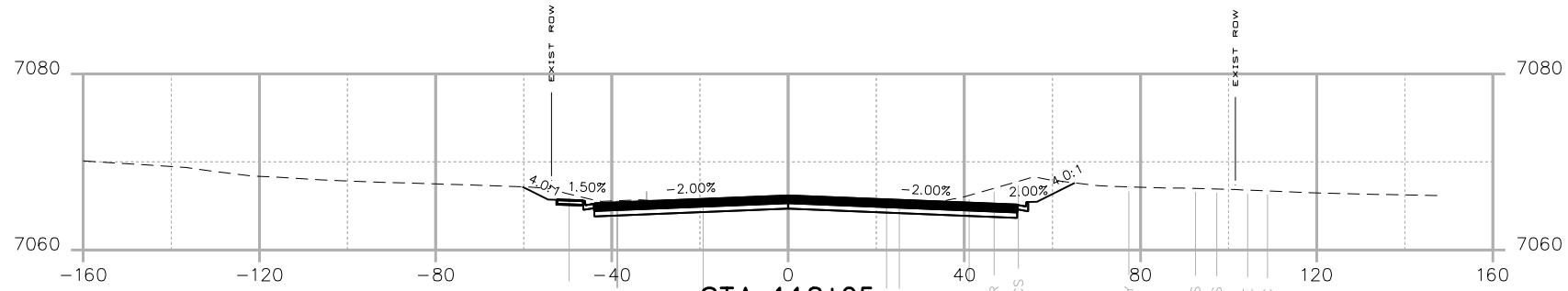
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 CROSS SECTIONS**

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HR 1670 BROADWAY, SUITE 3400 DENVER, COLORADO 80202
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Date:	Comments	Init.



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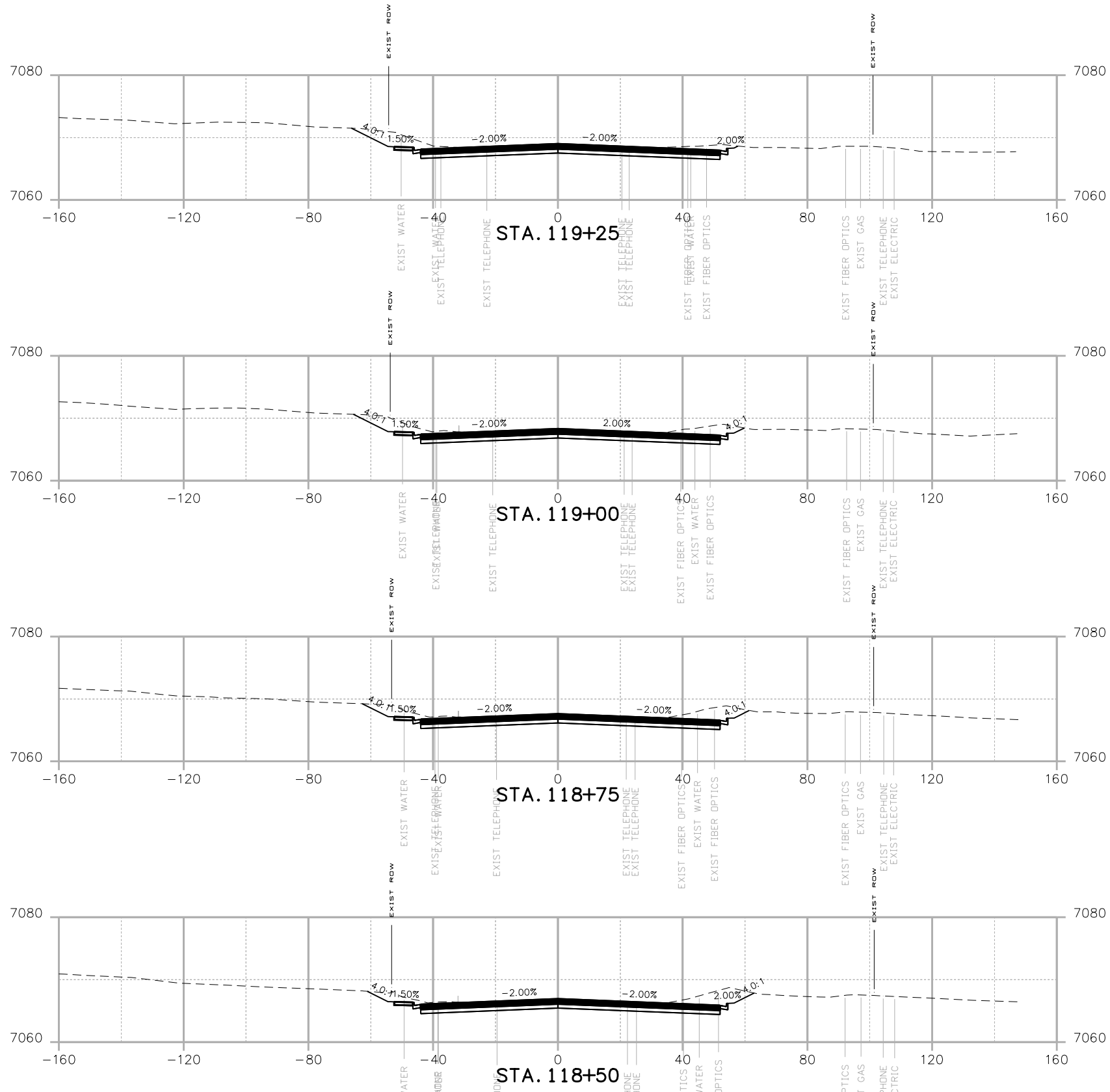
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 Sheet Number XC 29 of 119

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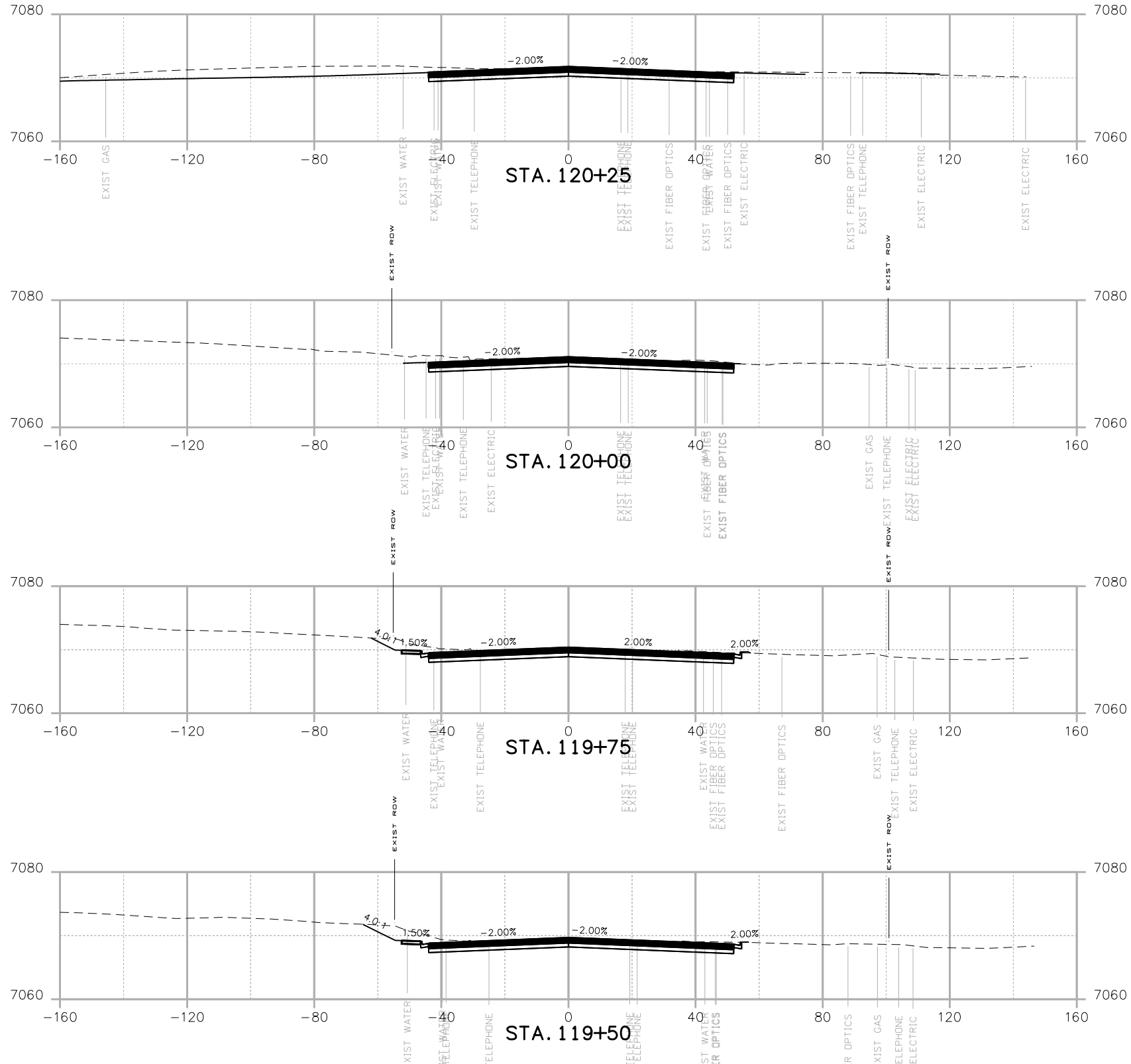



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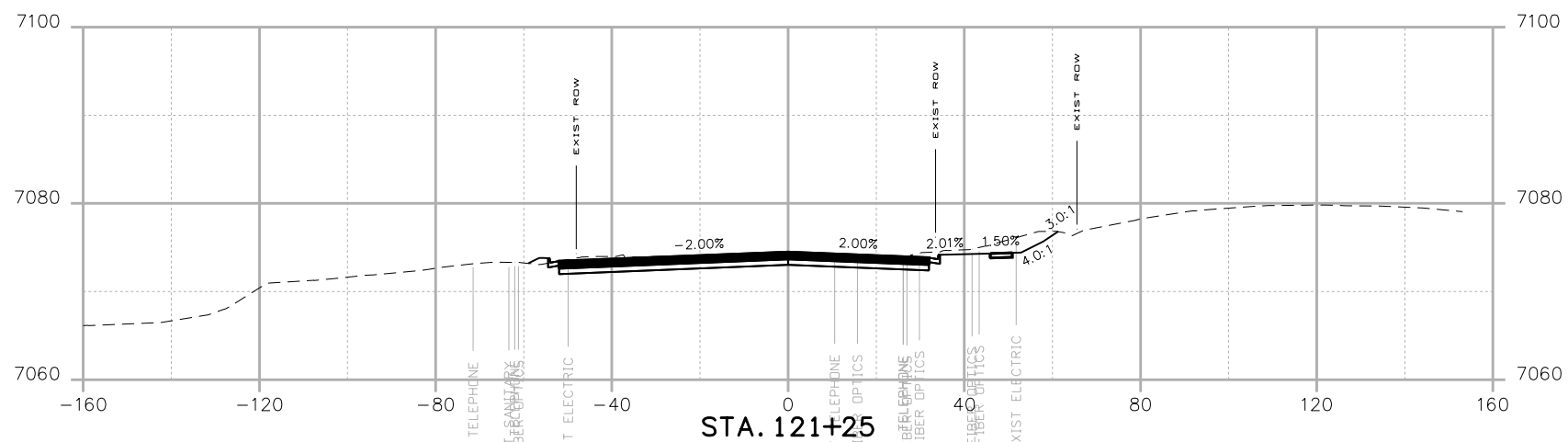
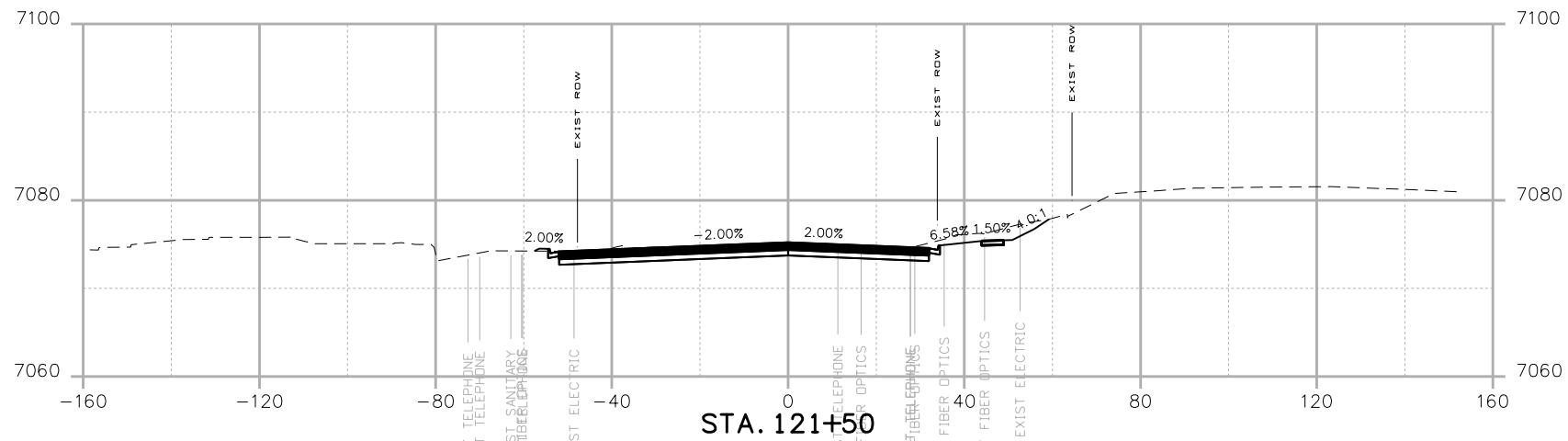
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STA 105A-014
Sheet Number XC 31 of 119

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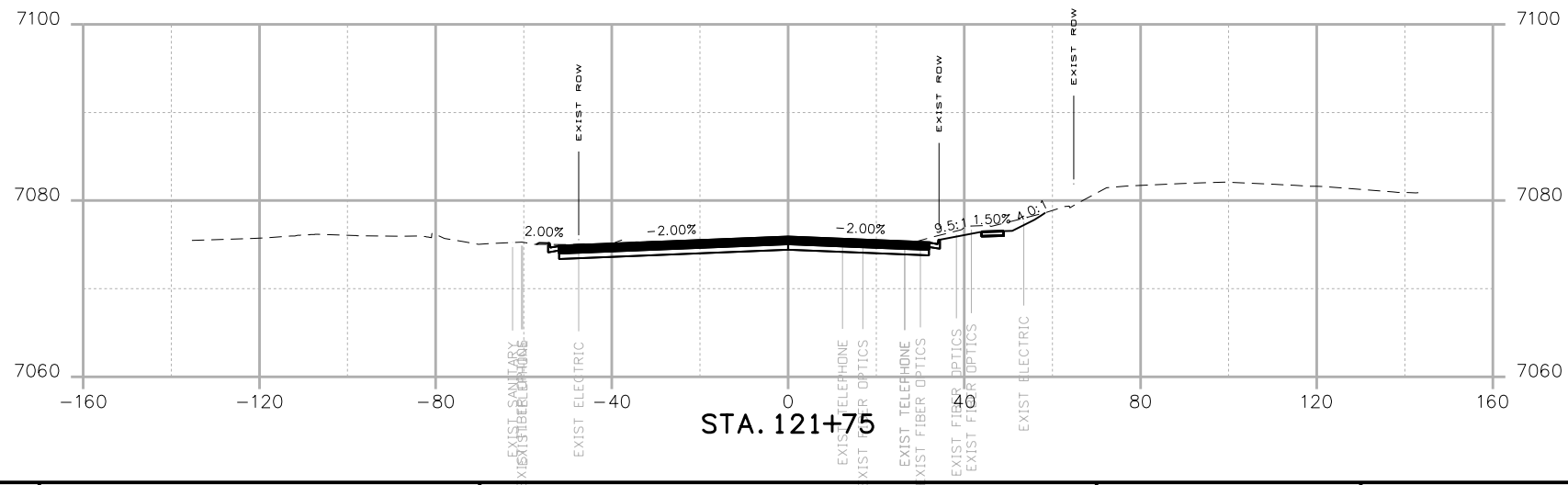
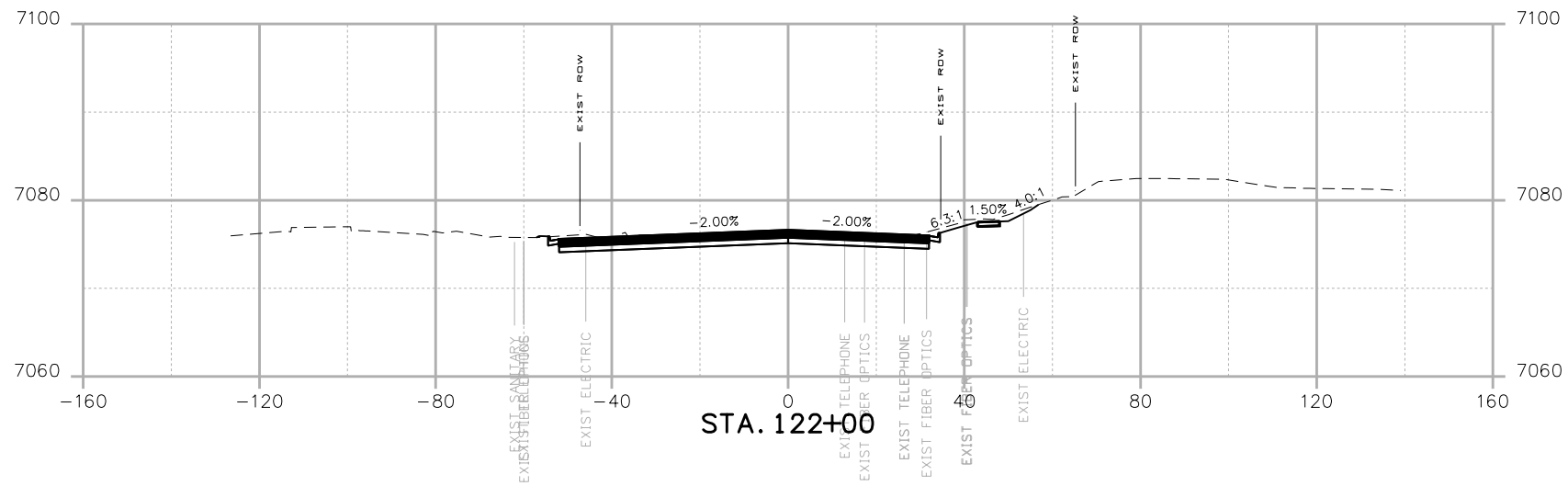
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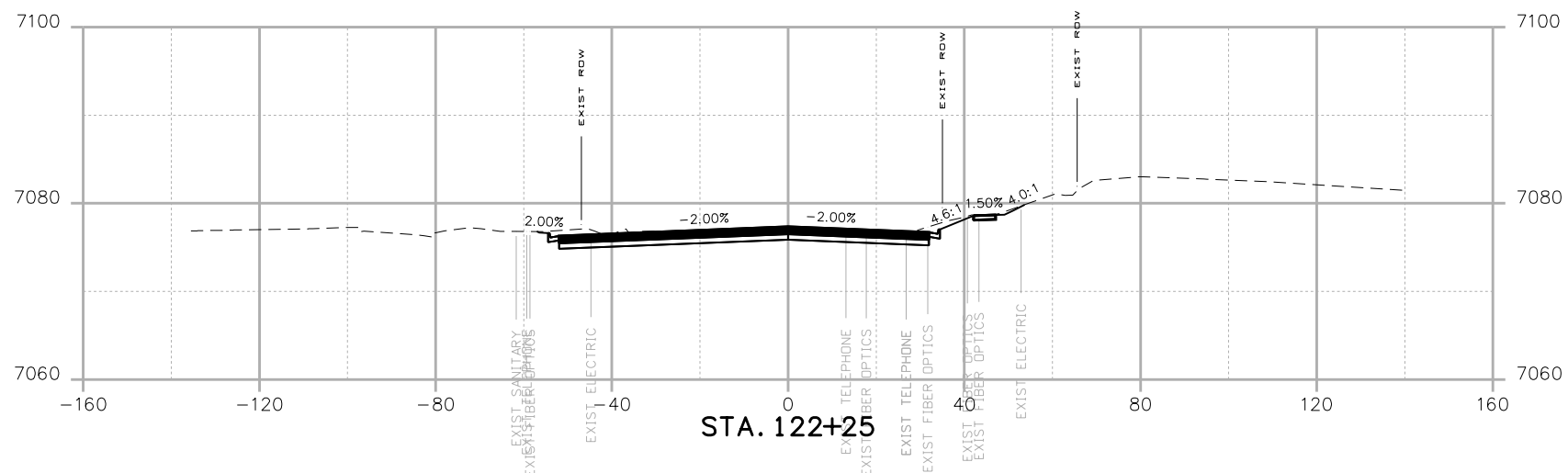
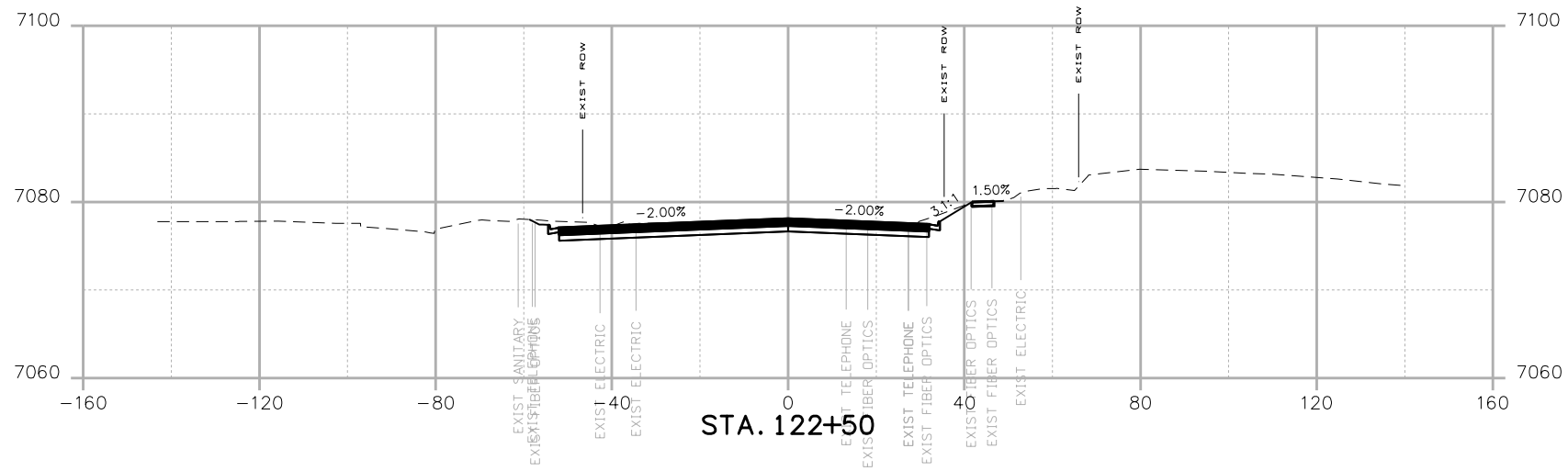
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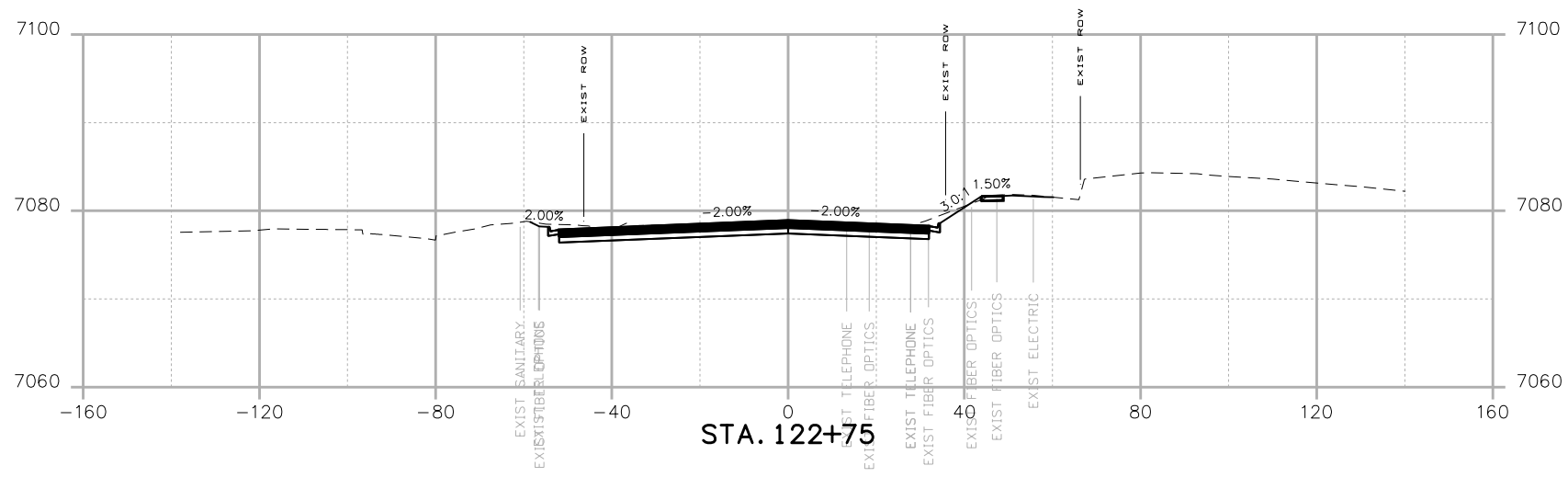
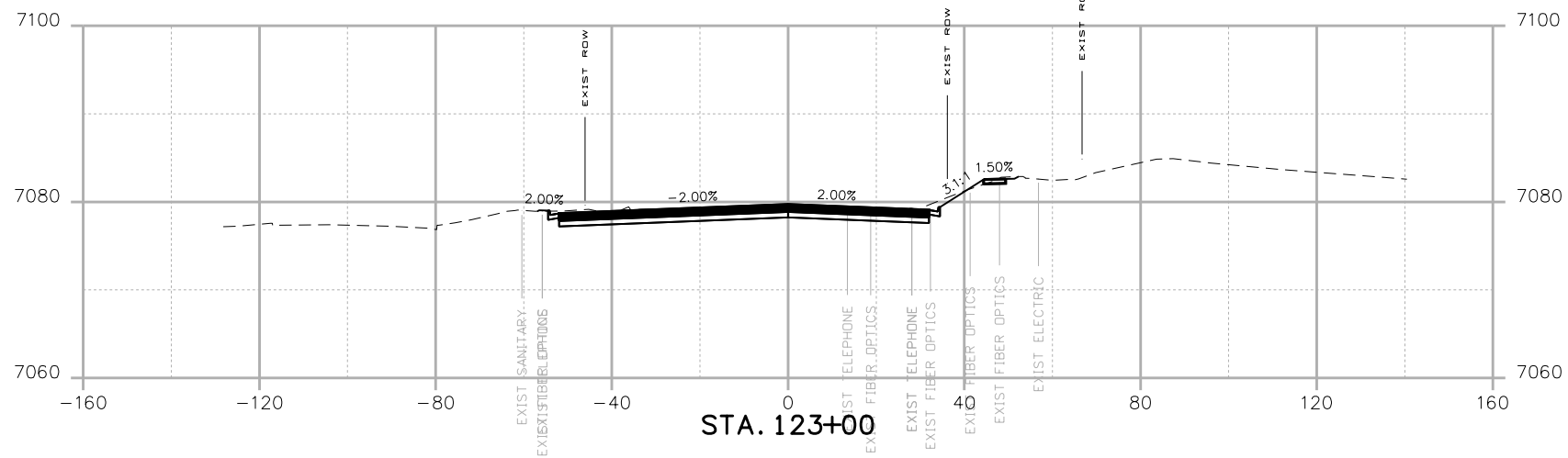
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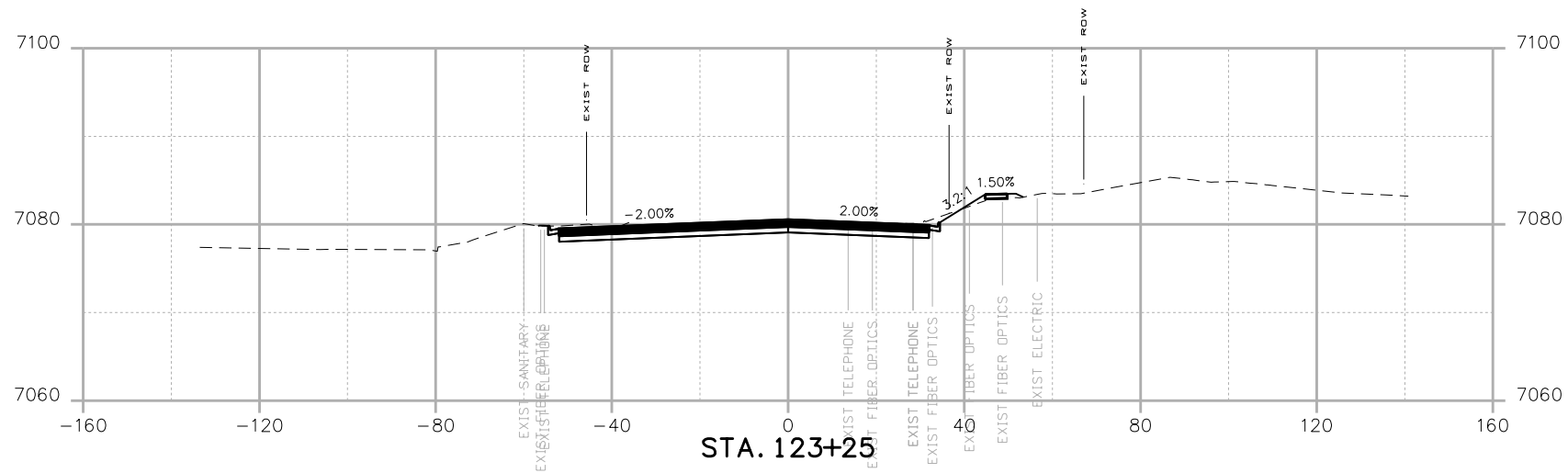
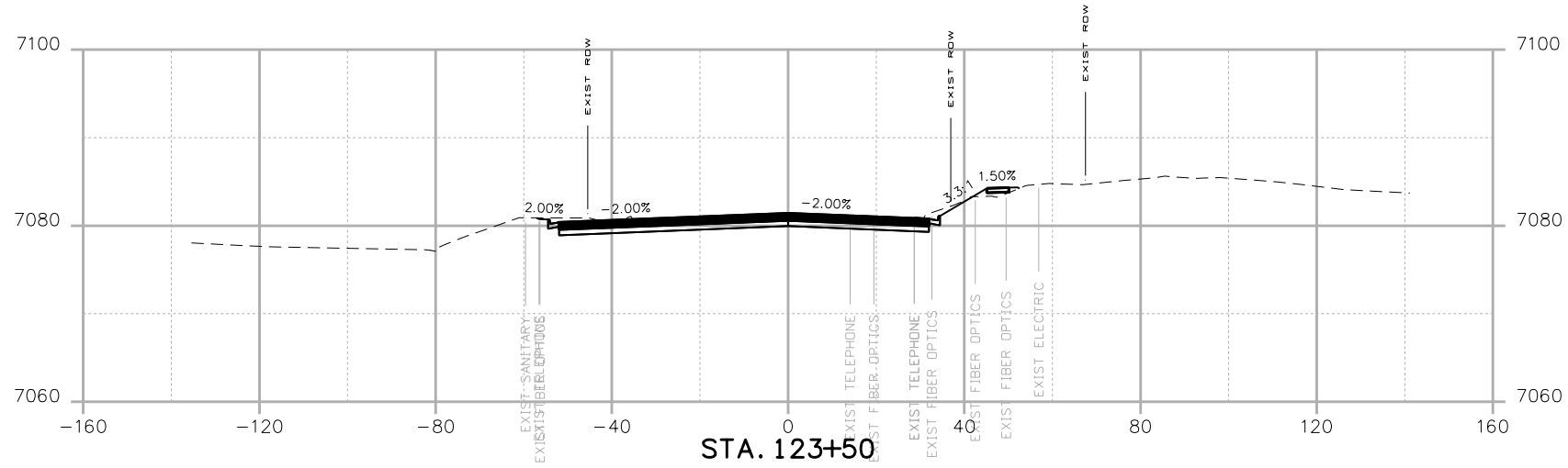
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Sheet Subset:	Subset Sheets: of	Sheet NumberXC 36 of 119	

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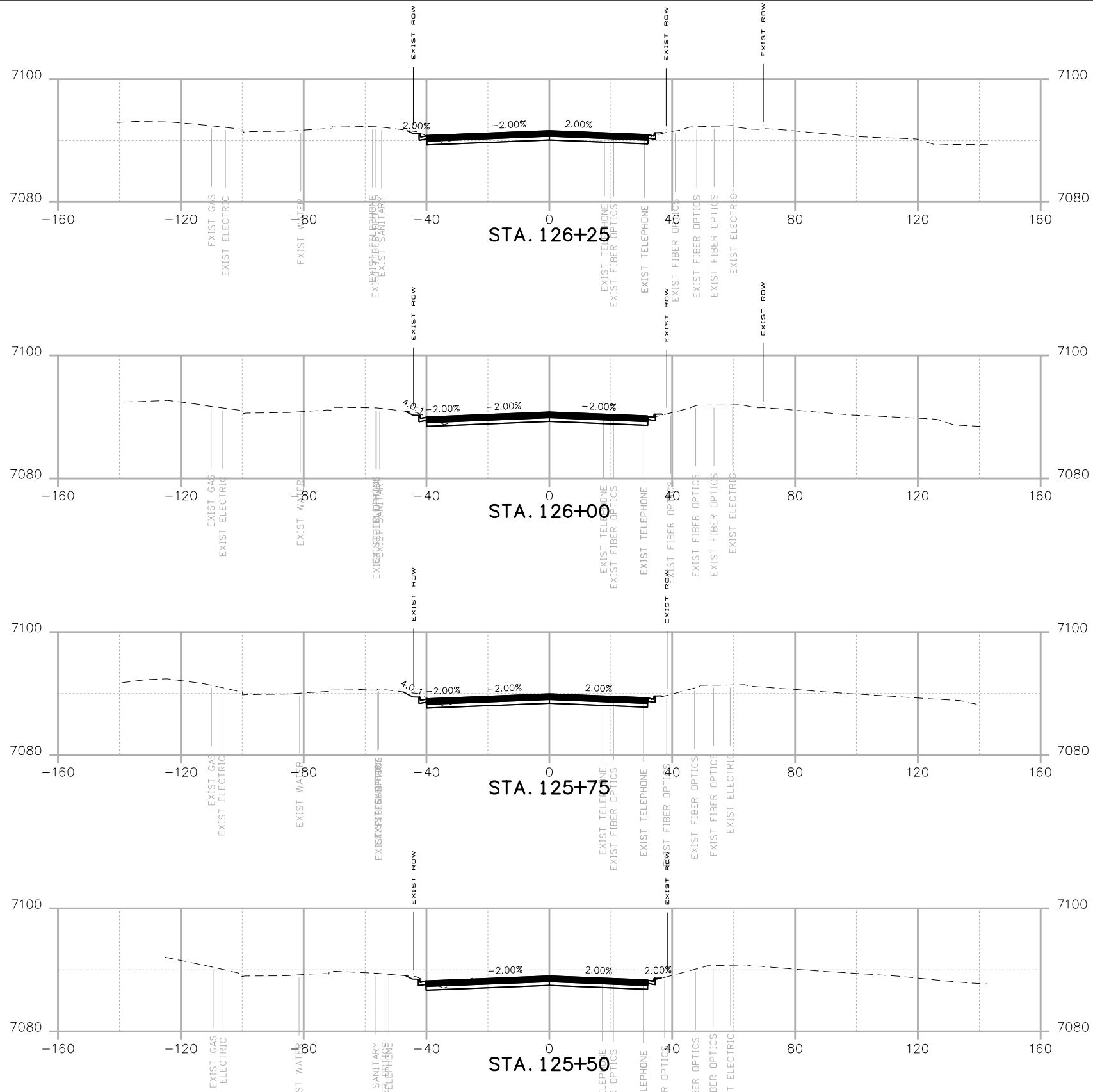
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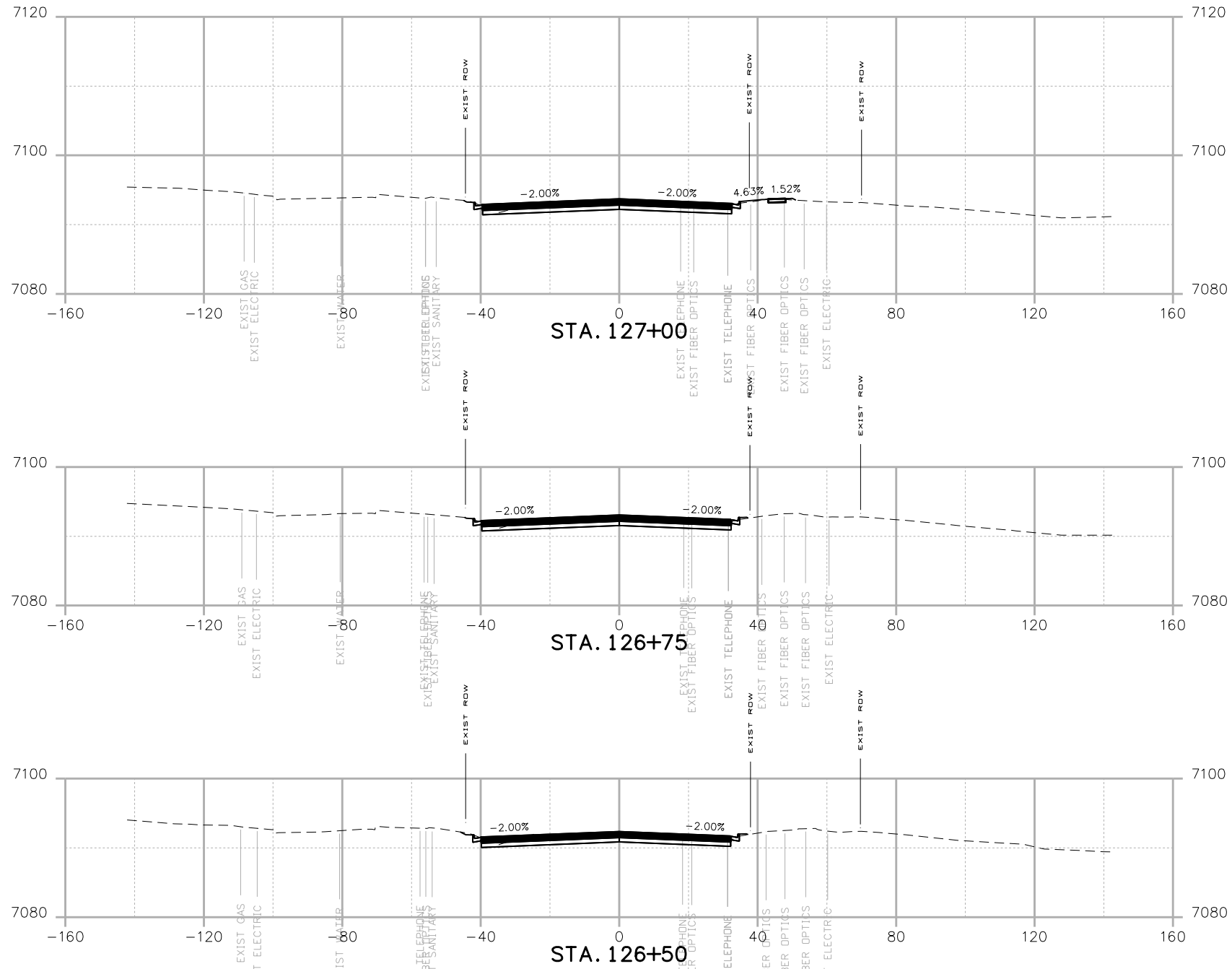
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Structure Numbers
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 STA 105A-014
 Sheet Number XC 41 of 119

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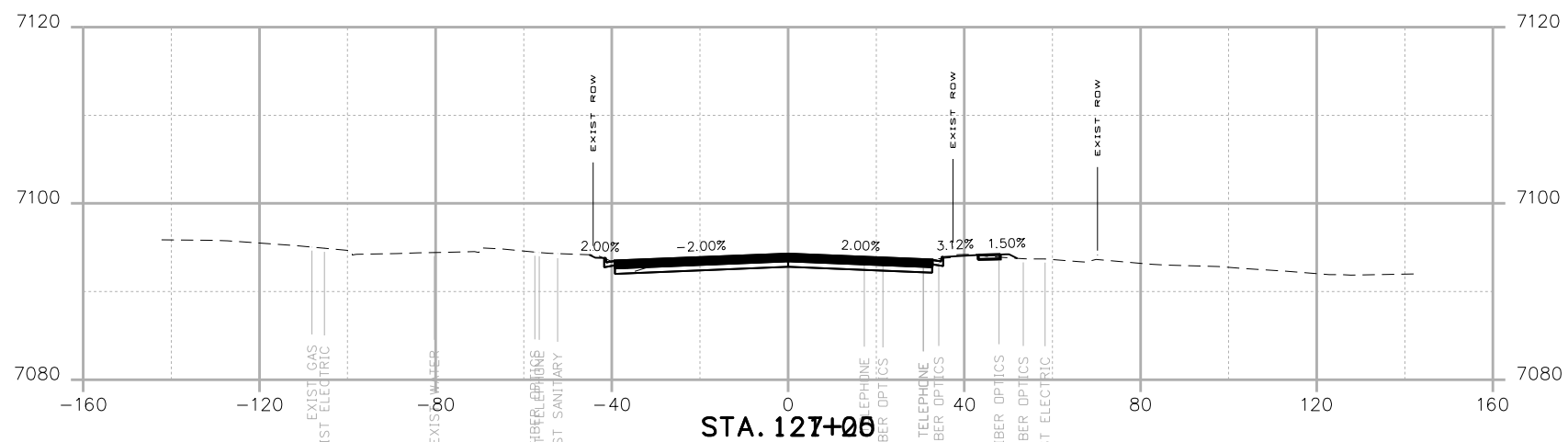
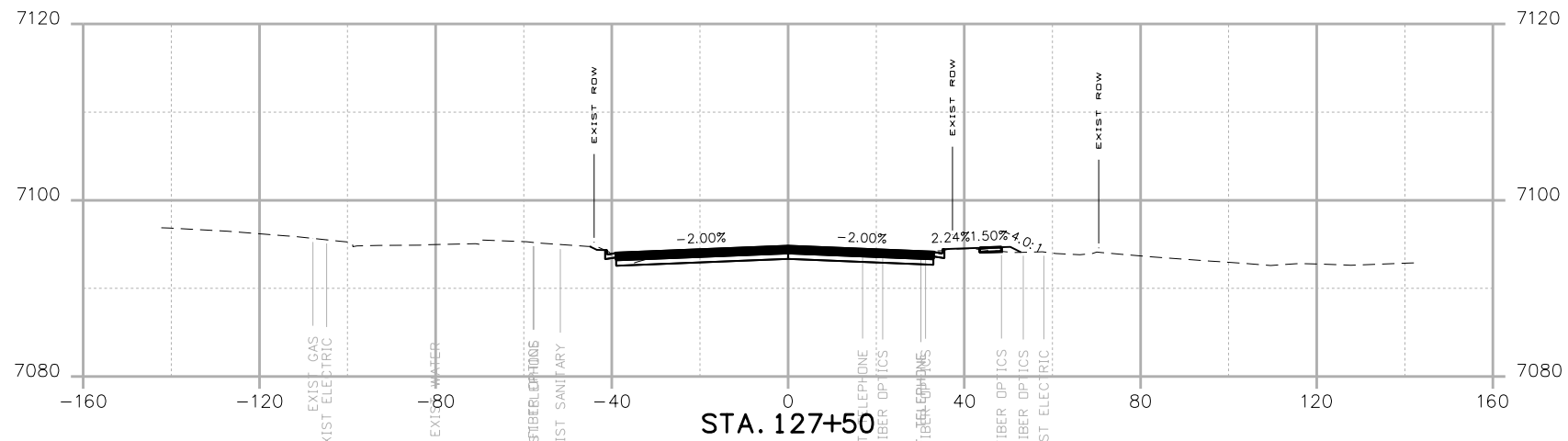
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Detailer:		STA 105A-014	
Sheet Subset:	Subset Sheets: of	Sheet Number XC 42 of 119	

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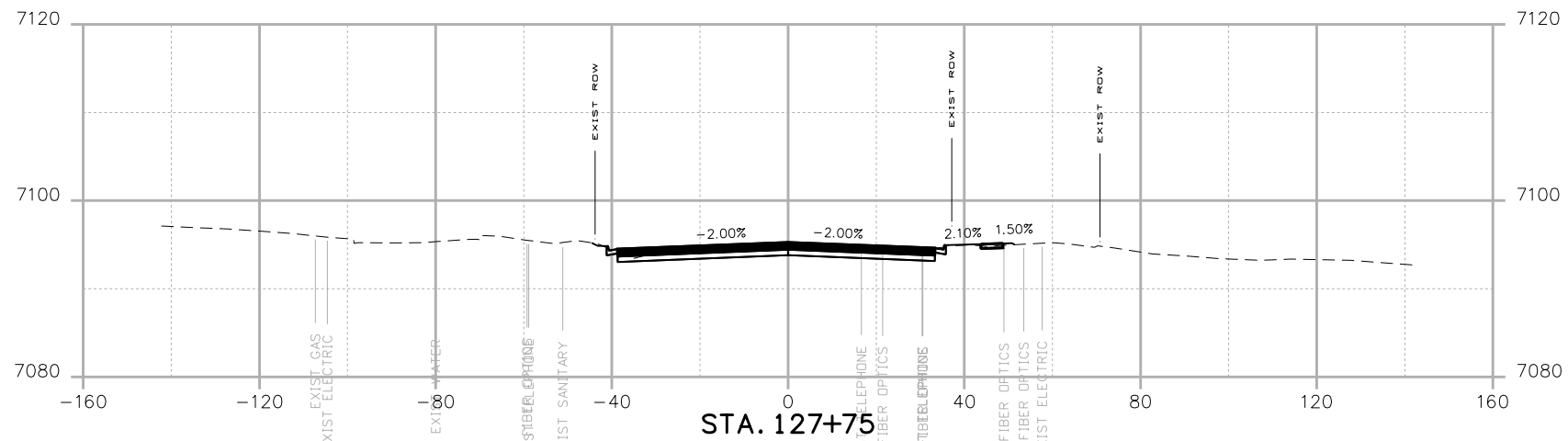
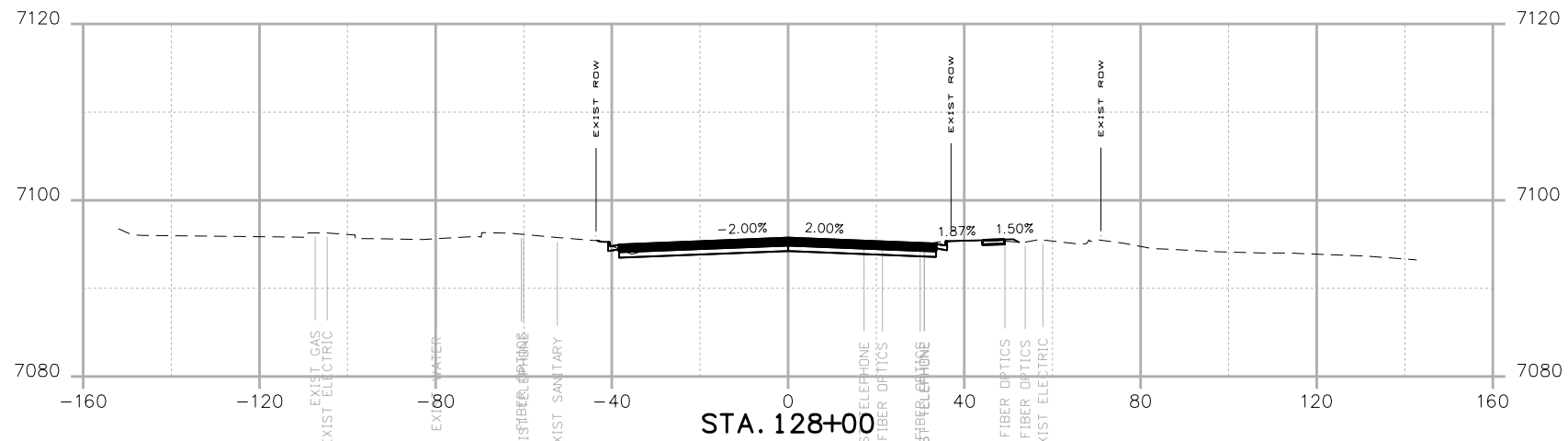
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 PROJECT A
 CROSS SECTIONS**

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 STA 105A-014
 Sheet Number **XC 43** of 119

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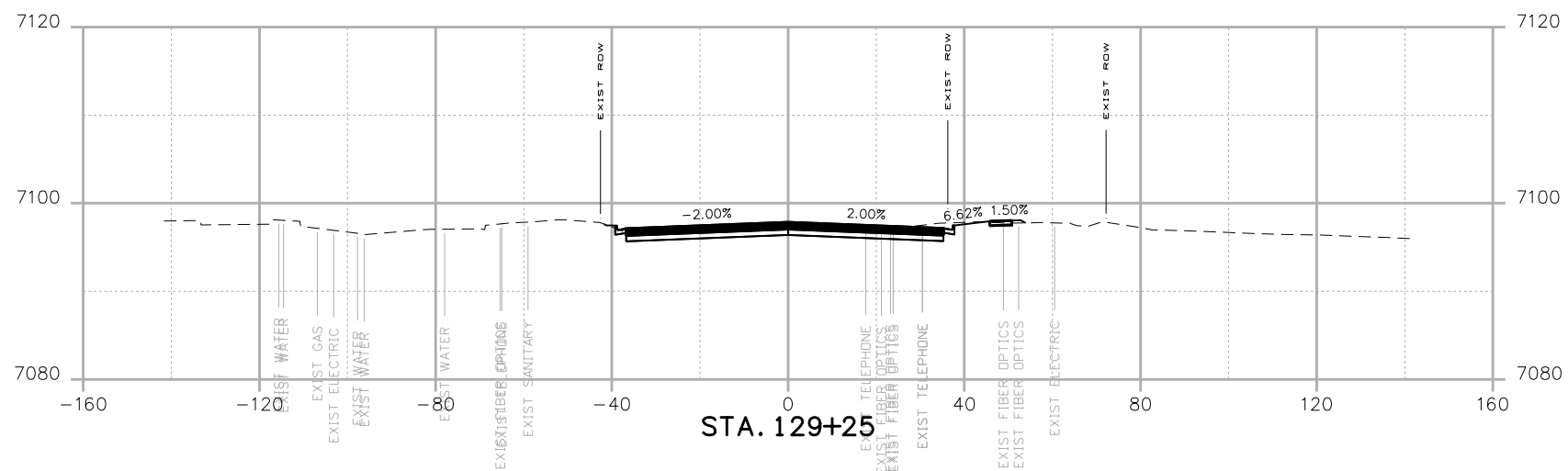
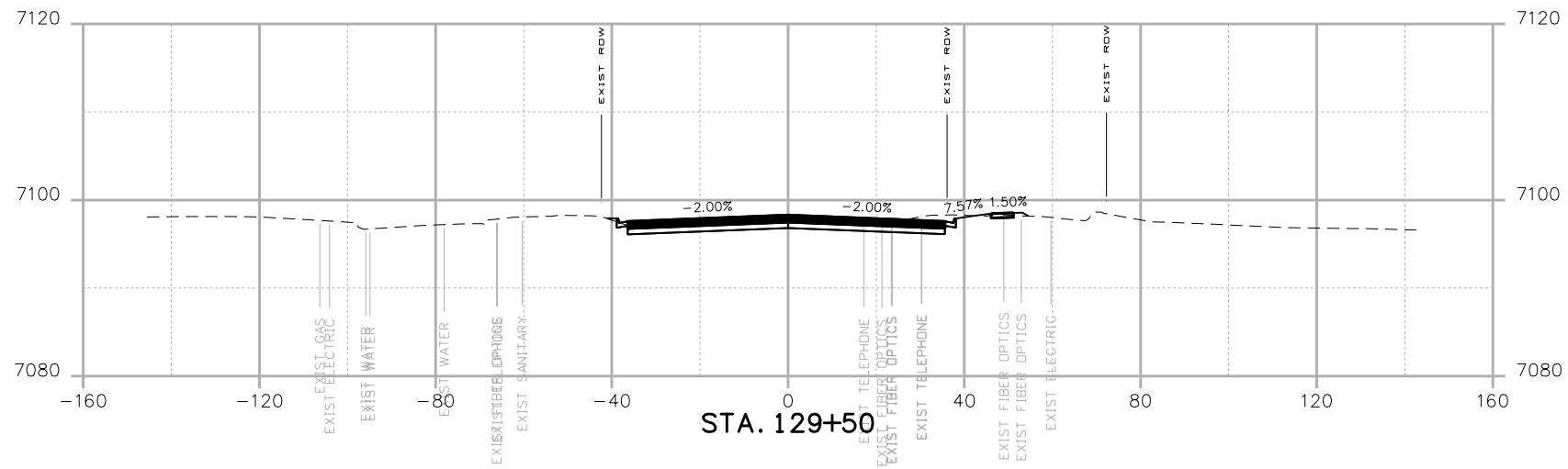
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 STA 105A-014
 Sheet Number **XC 44** of 119

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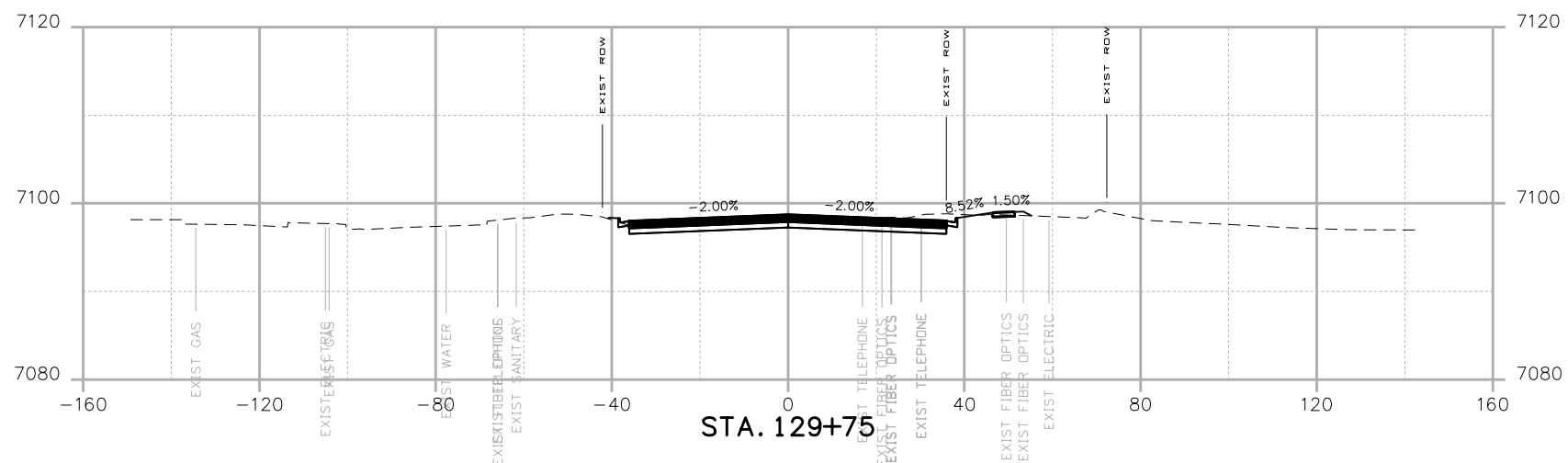
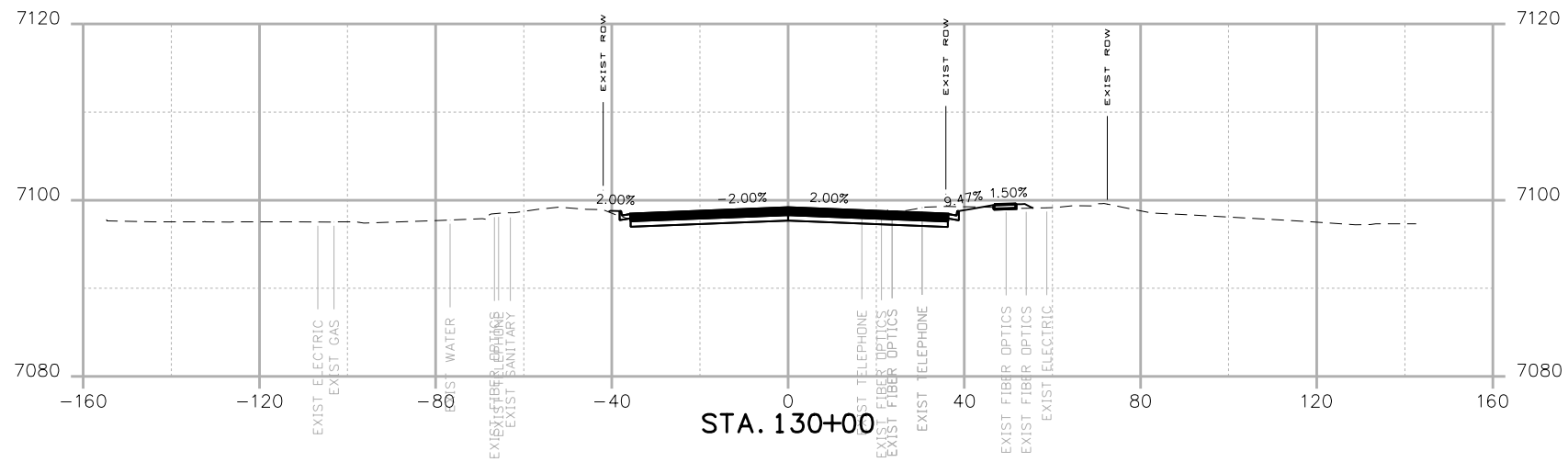
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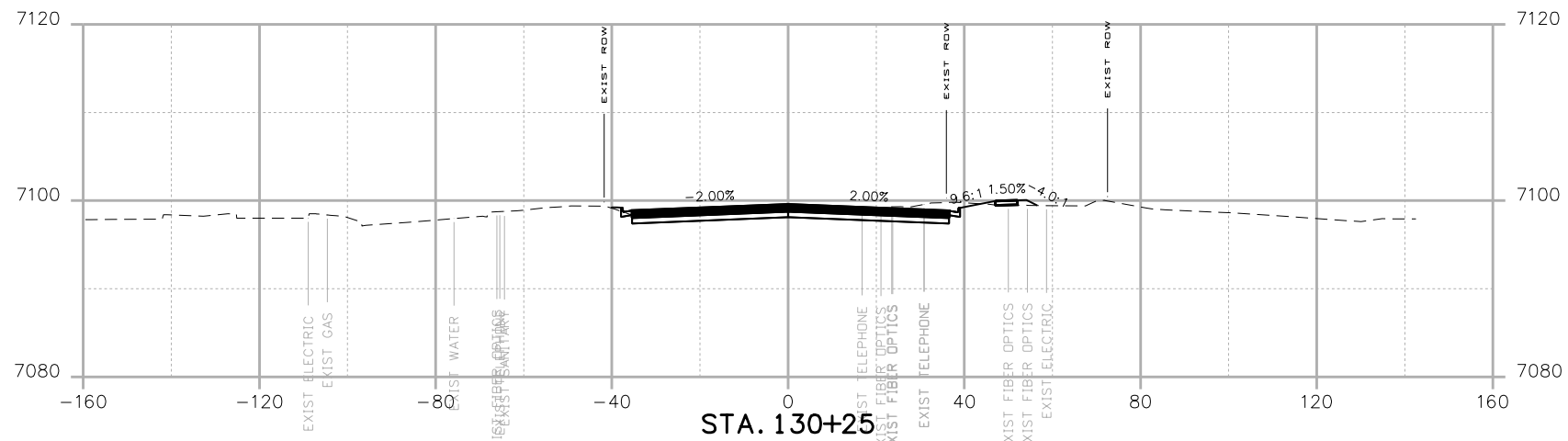
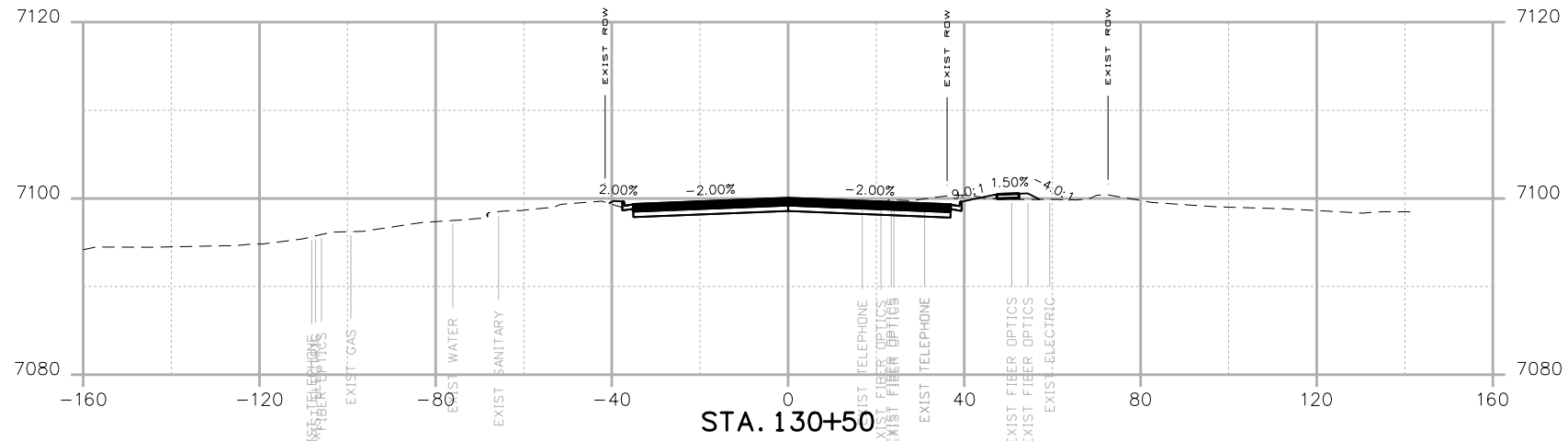
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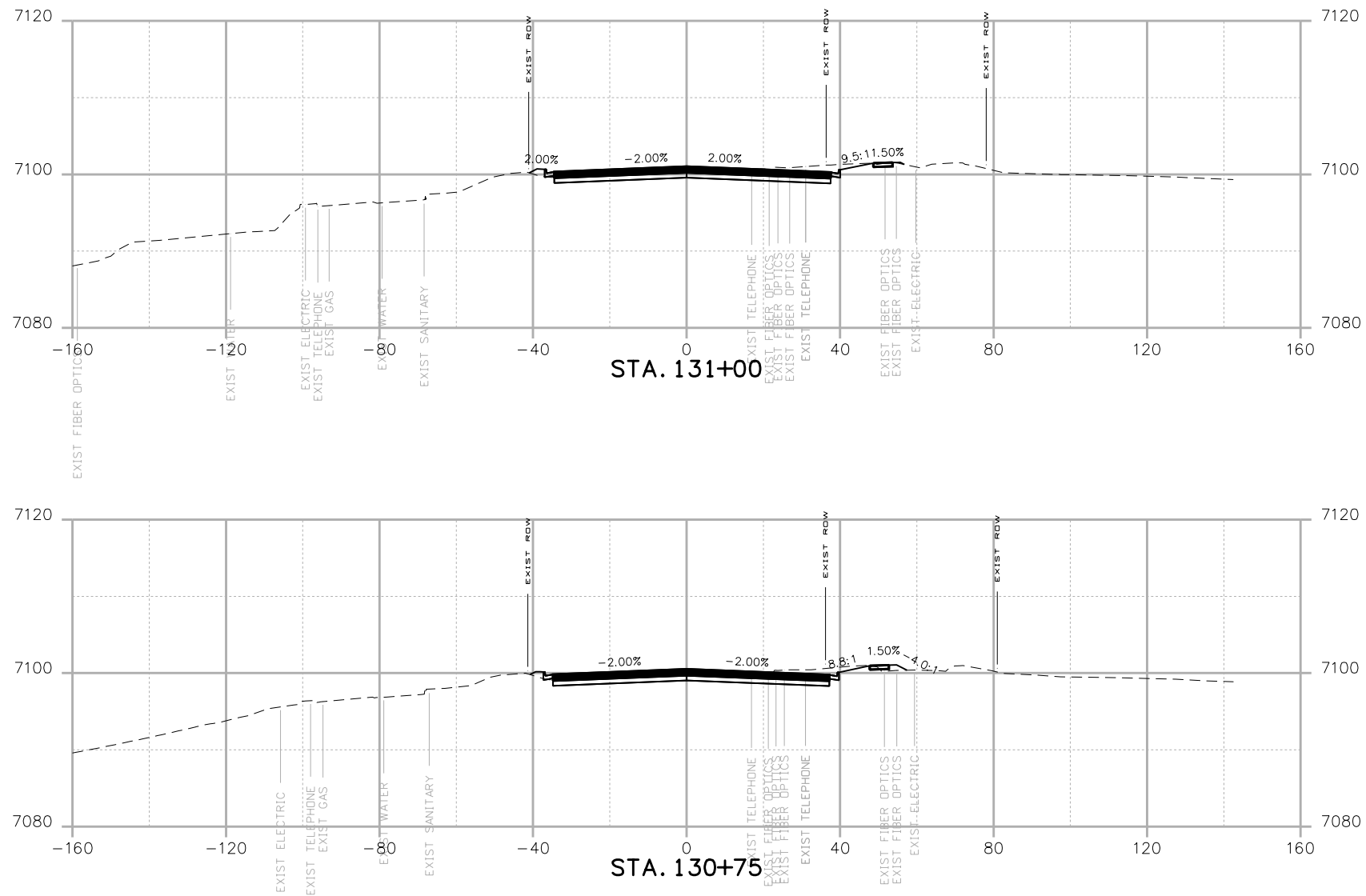
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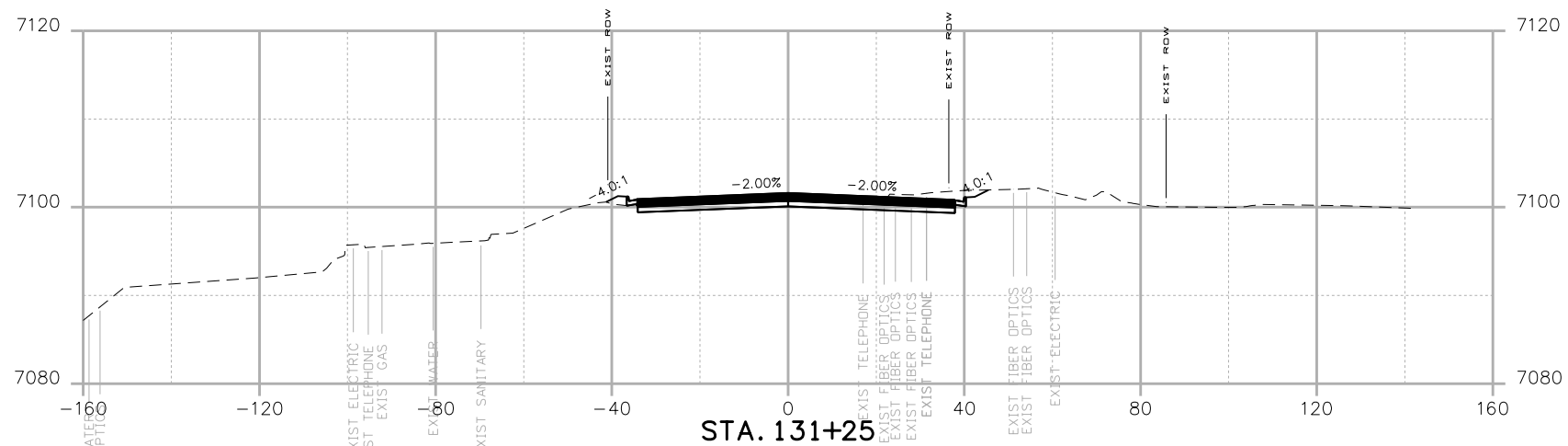
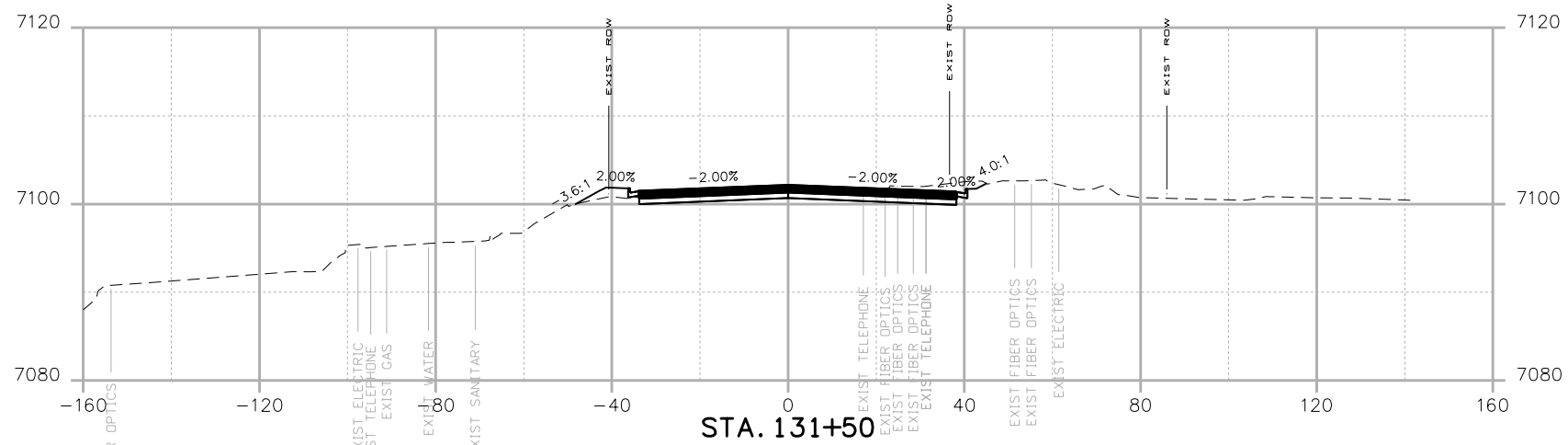
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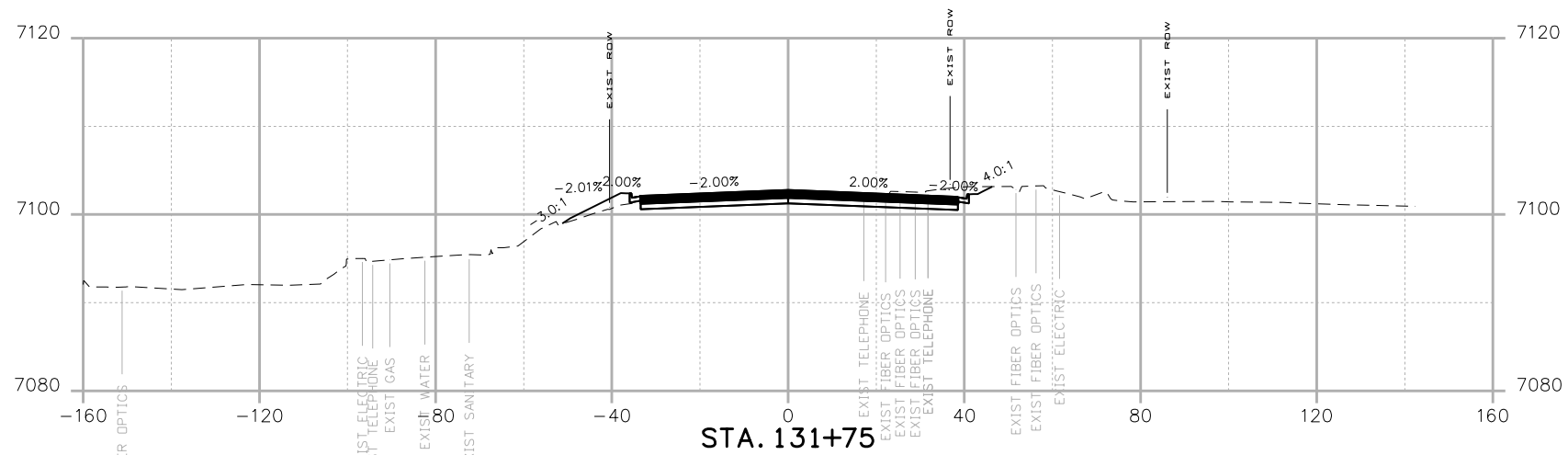
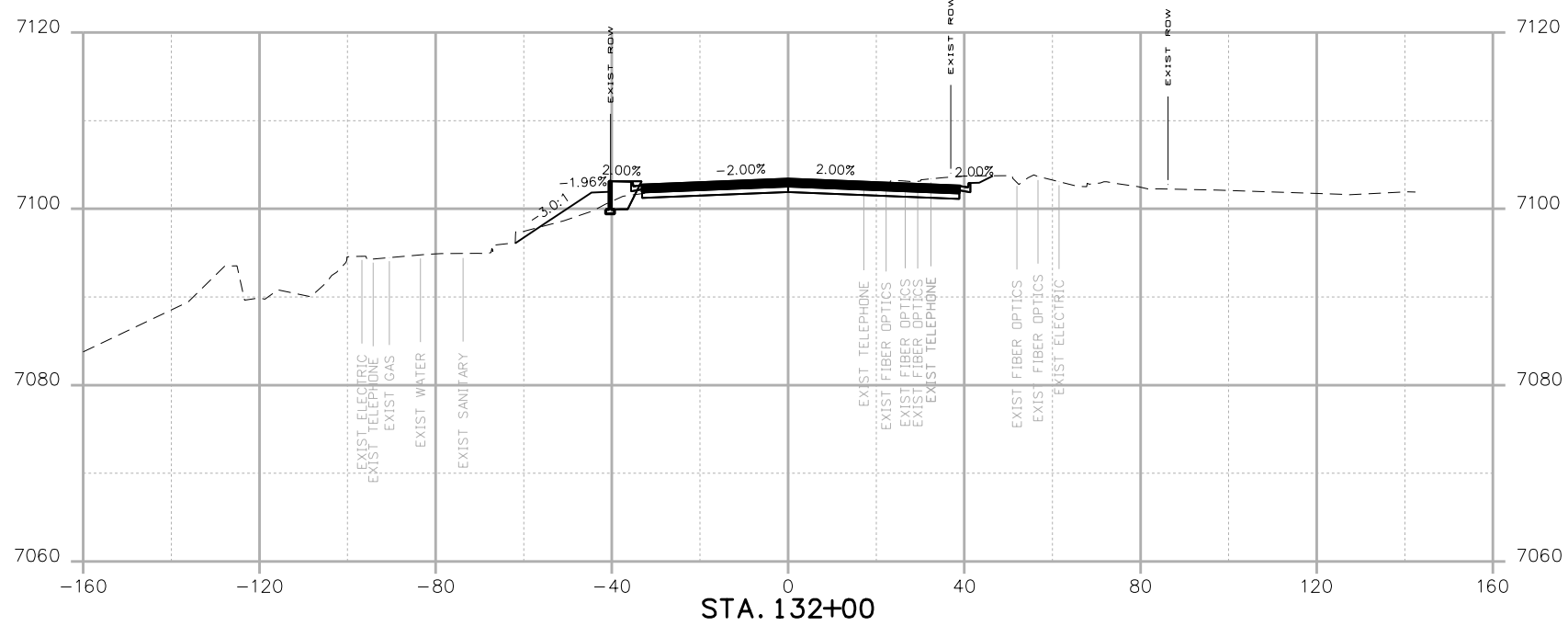
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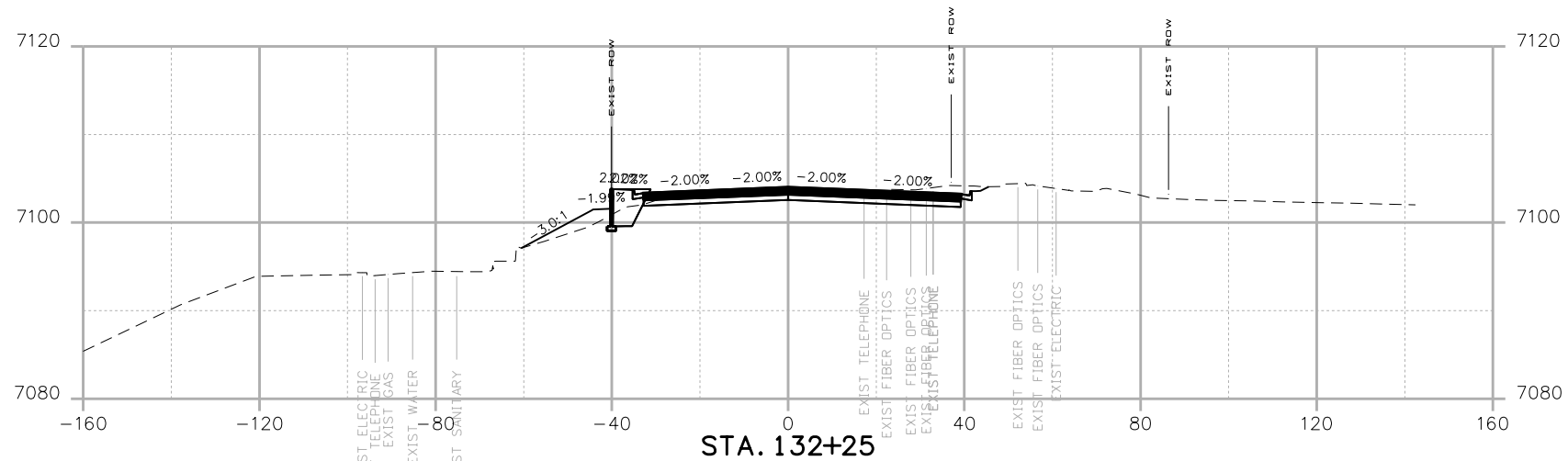
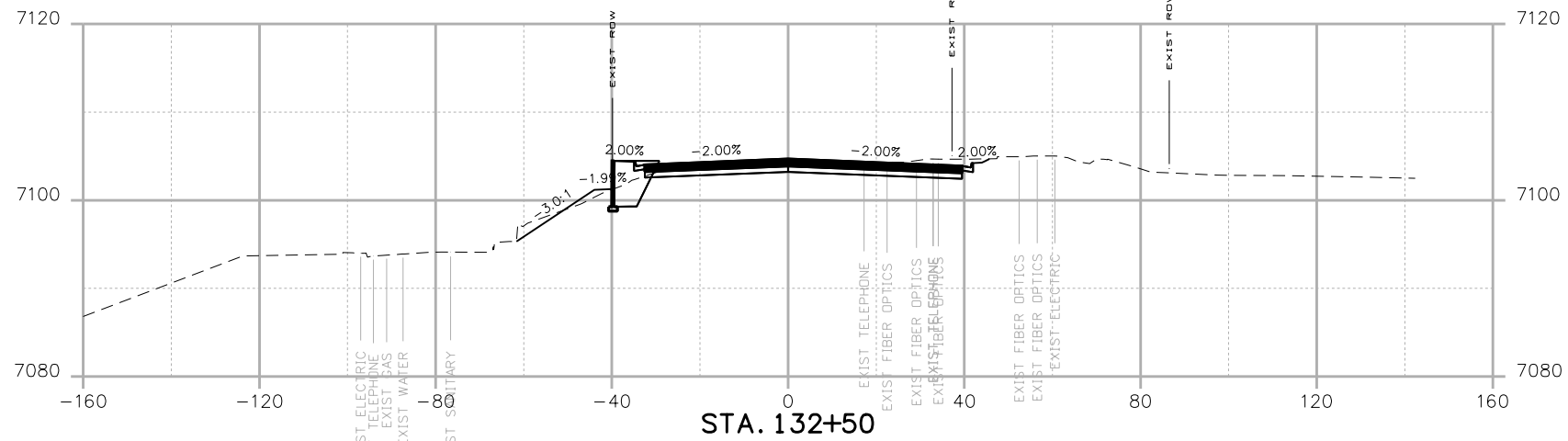
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 Sheet Number XC 52 of 119

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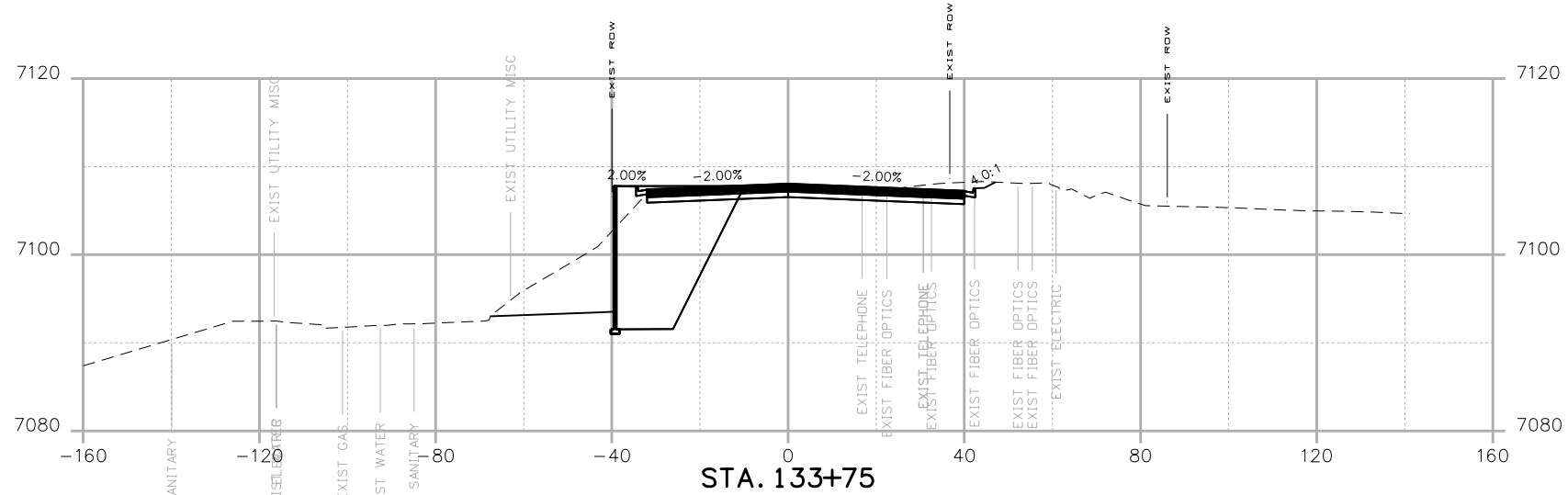
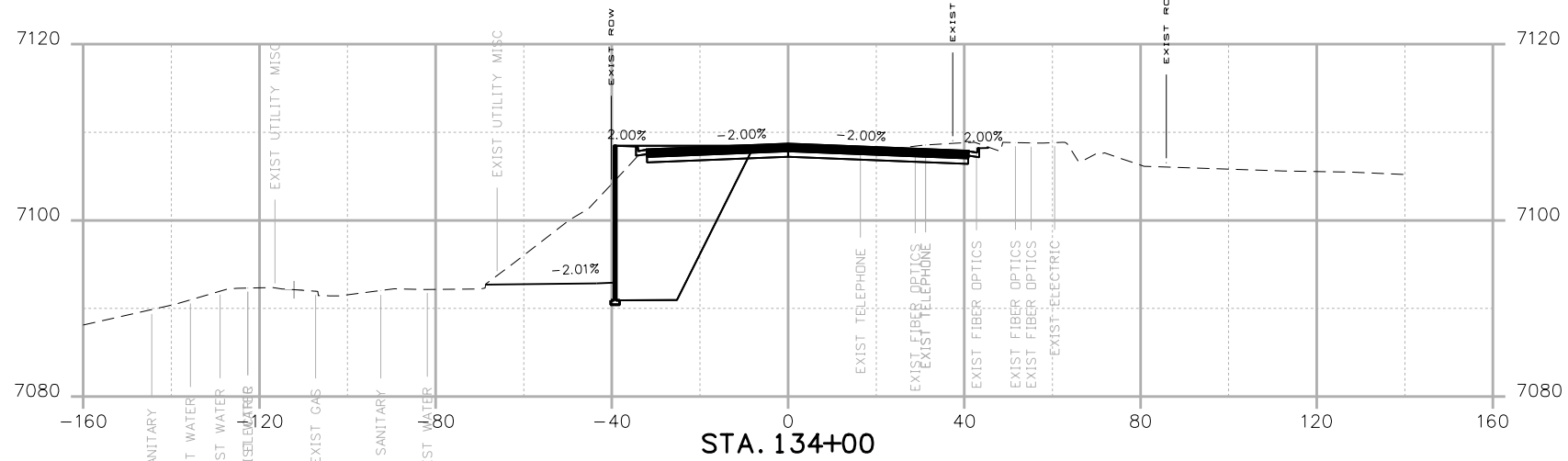


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STA 105A-014
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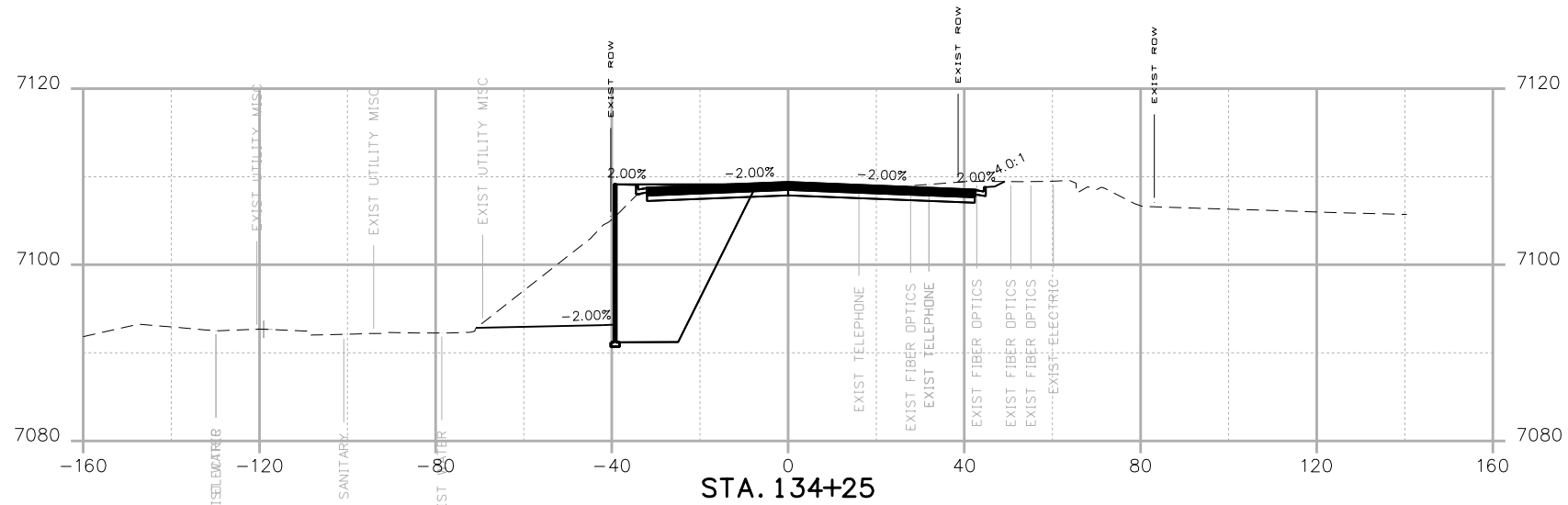
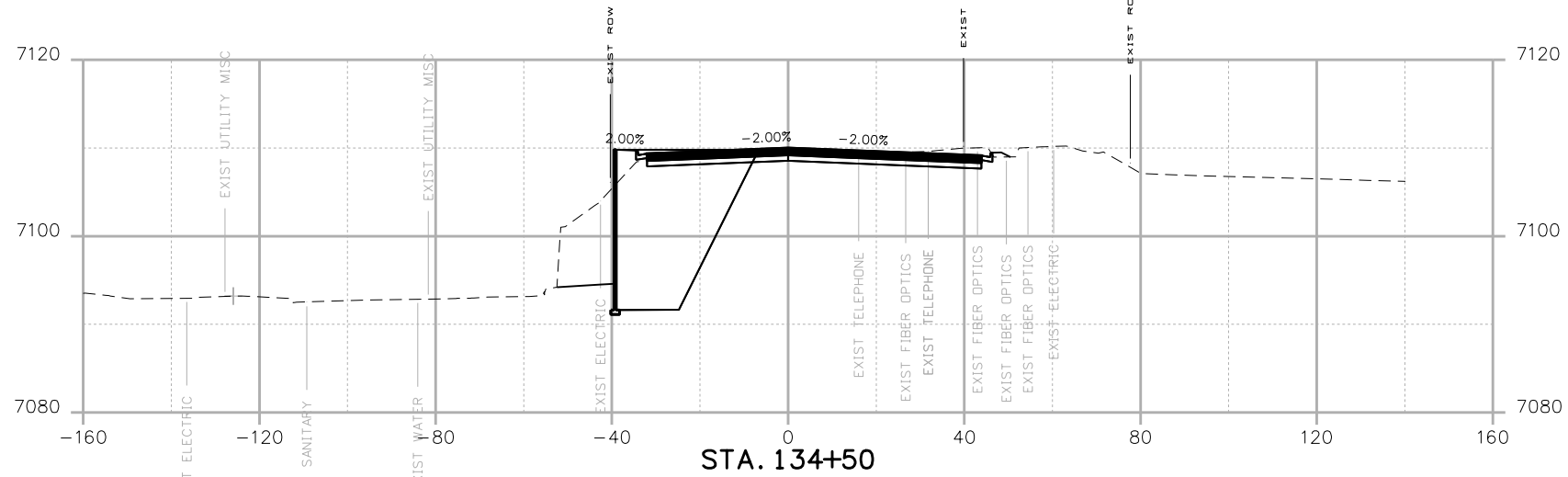
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 Sheet Number XC 56 of 119

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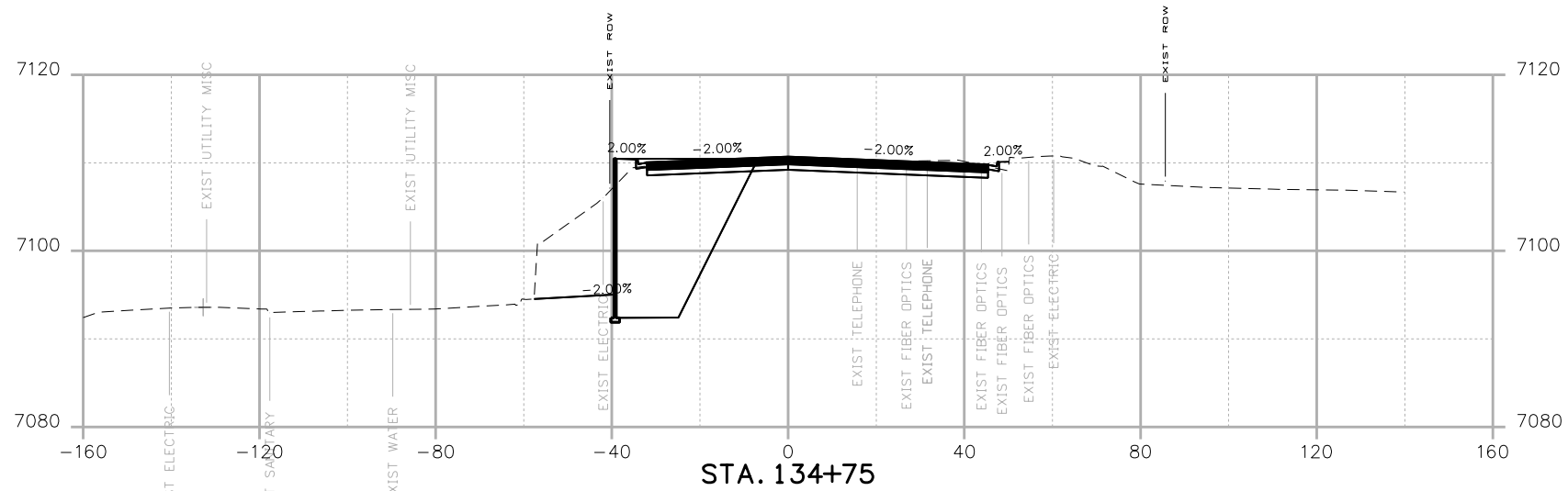
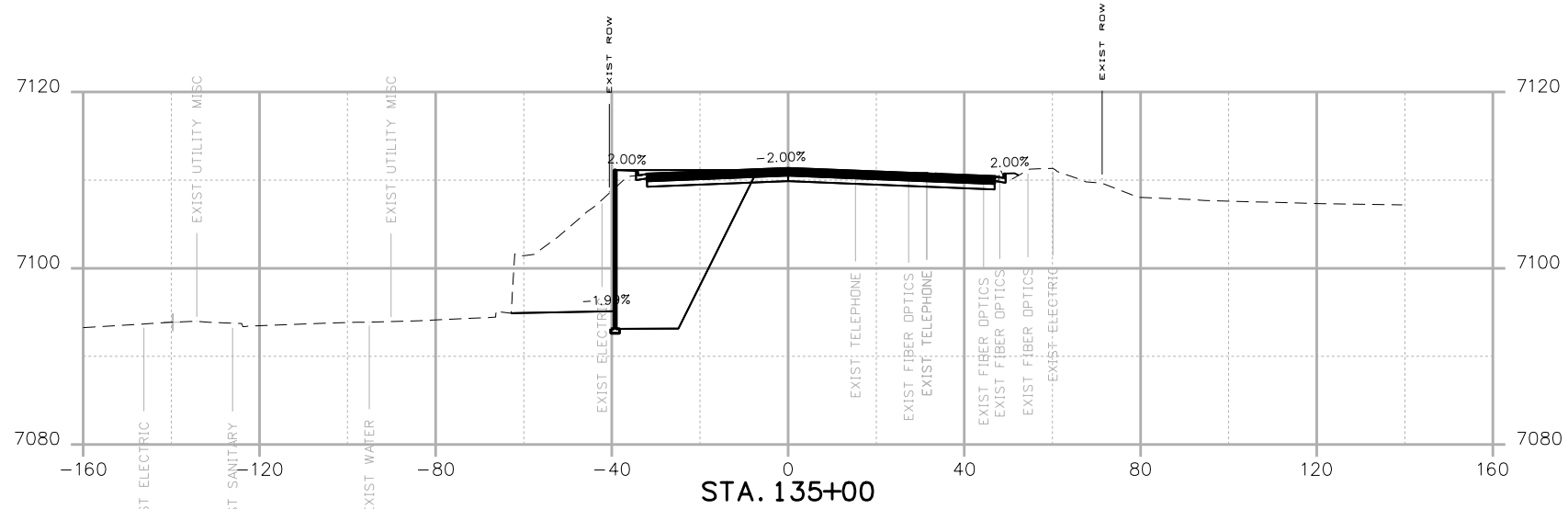
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 Sheet Number XC 57 of 119

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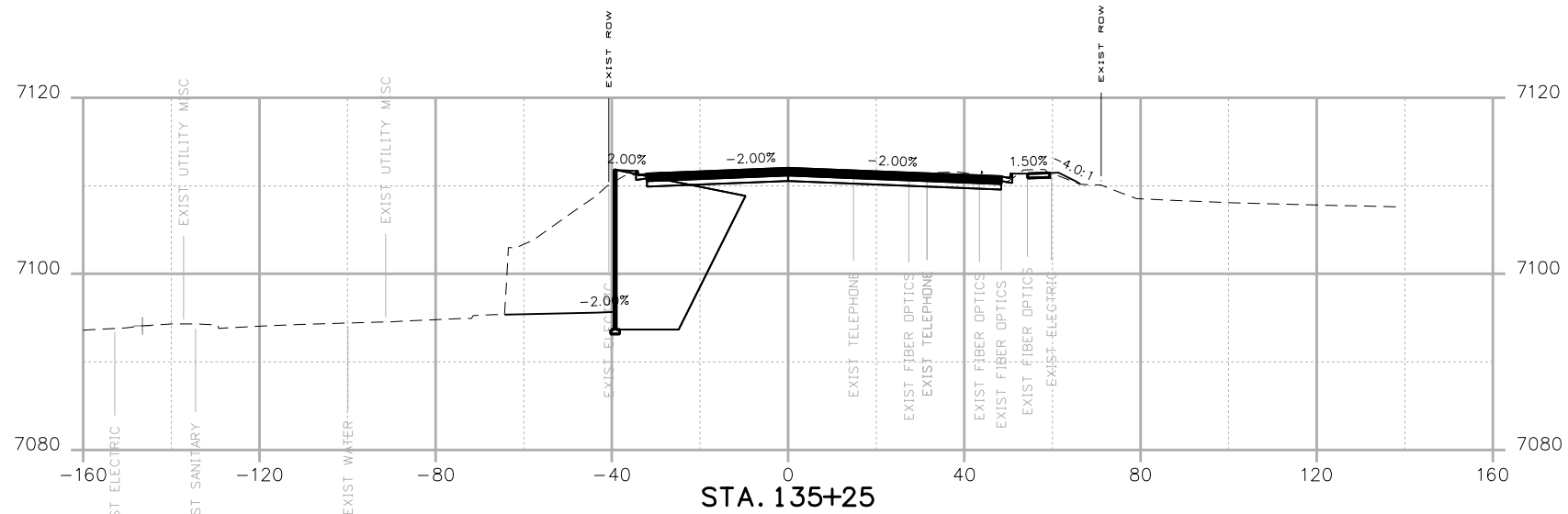
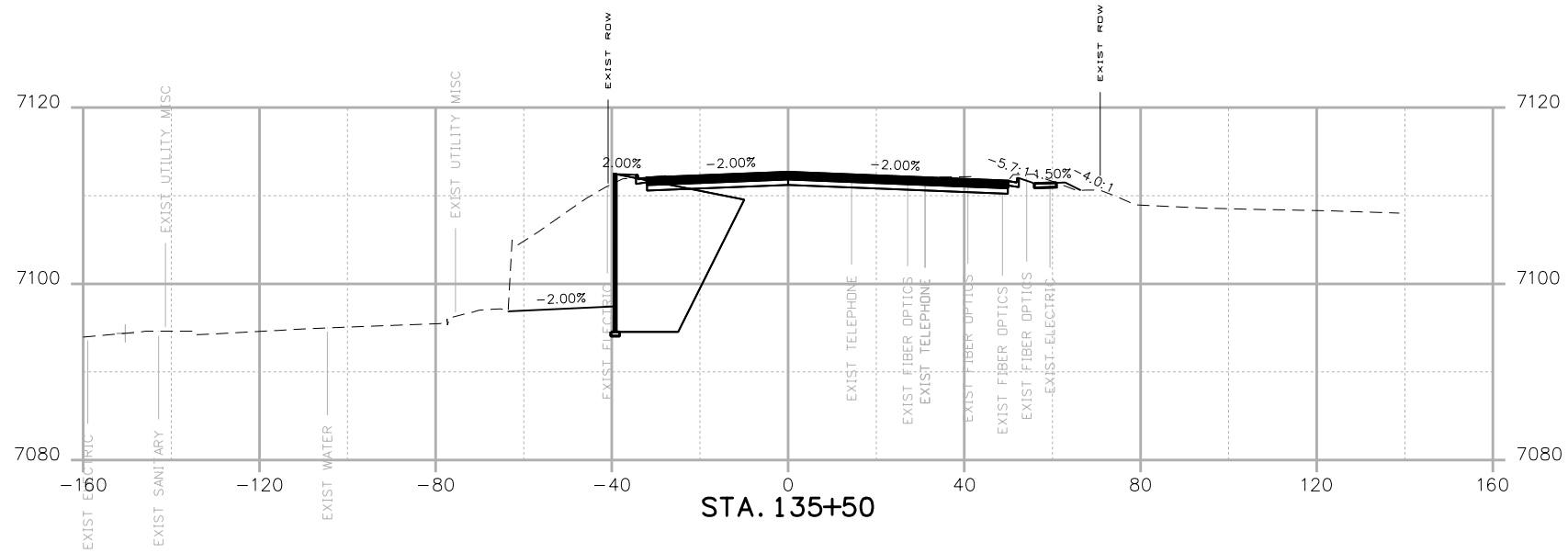
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CROSS SECTIONS**

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STA 105A-014
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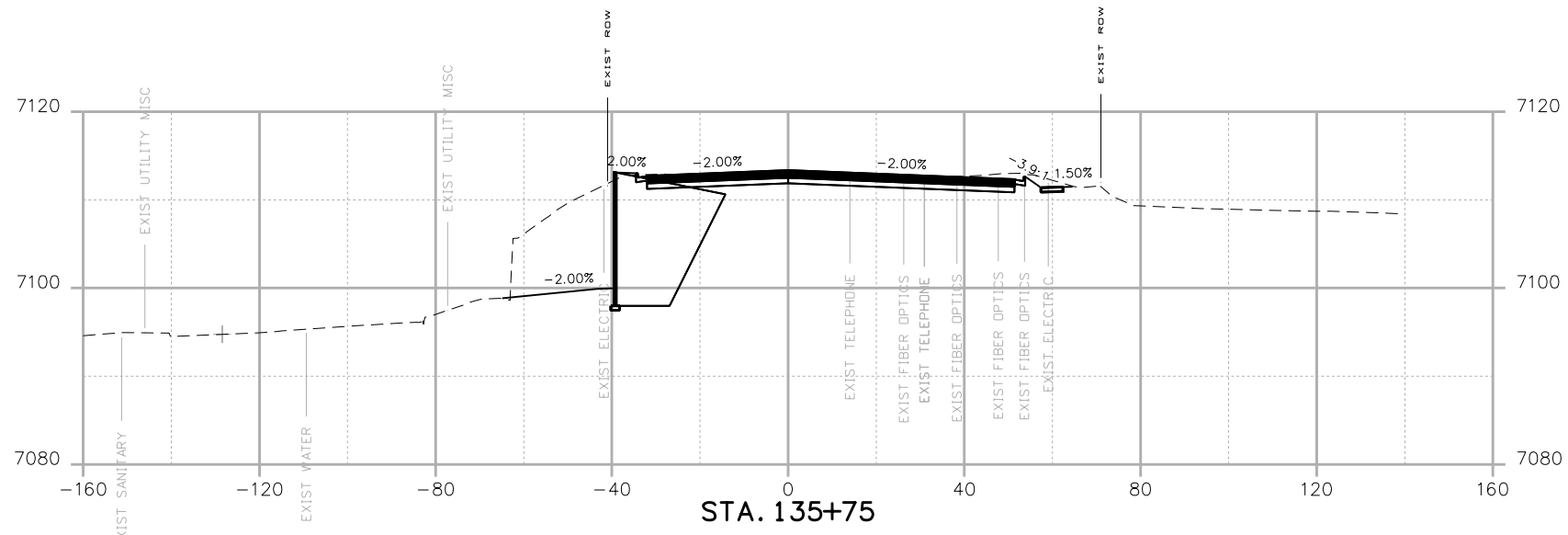
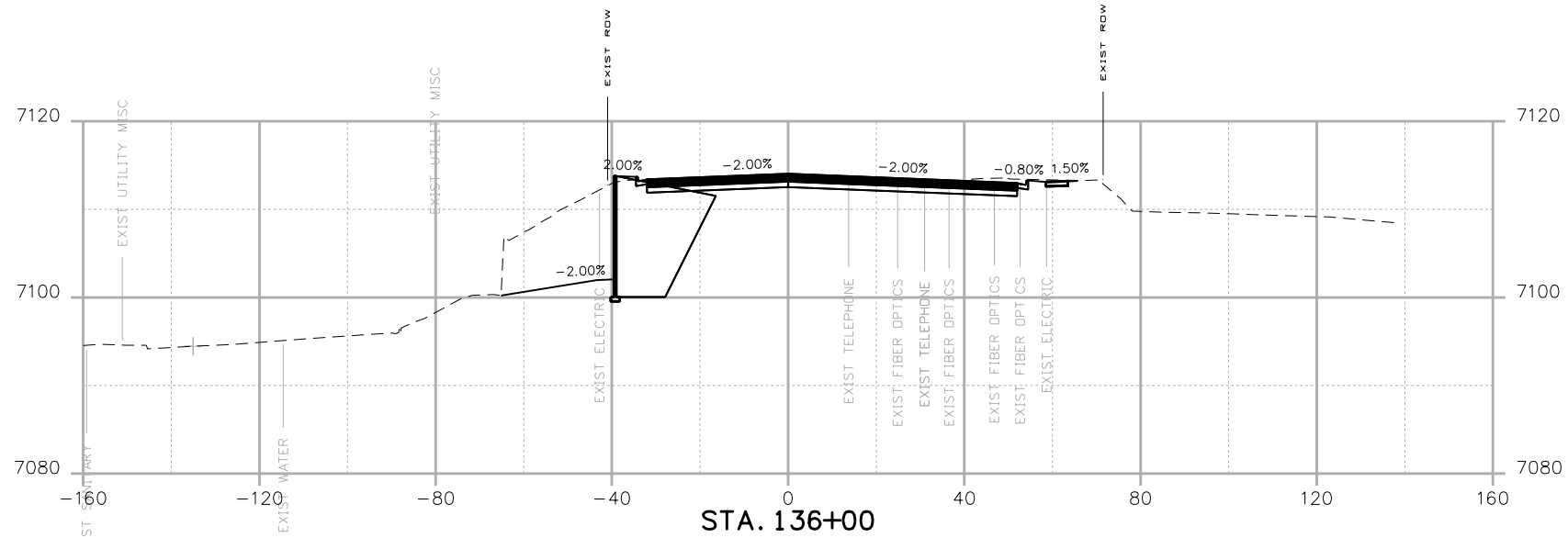
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 CROSS SECTIONS**

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 Sheet Number XC 59 of 119

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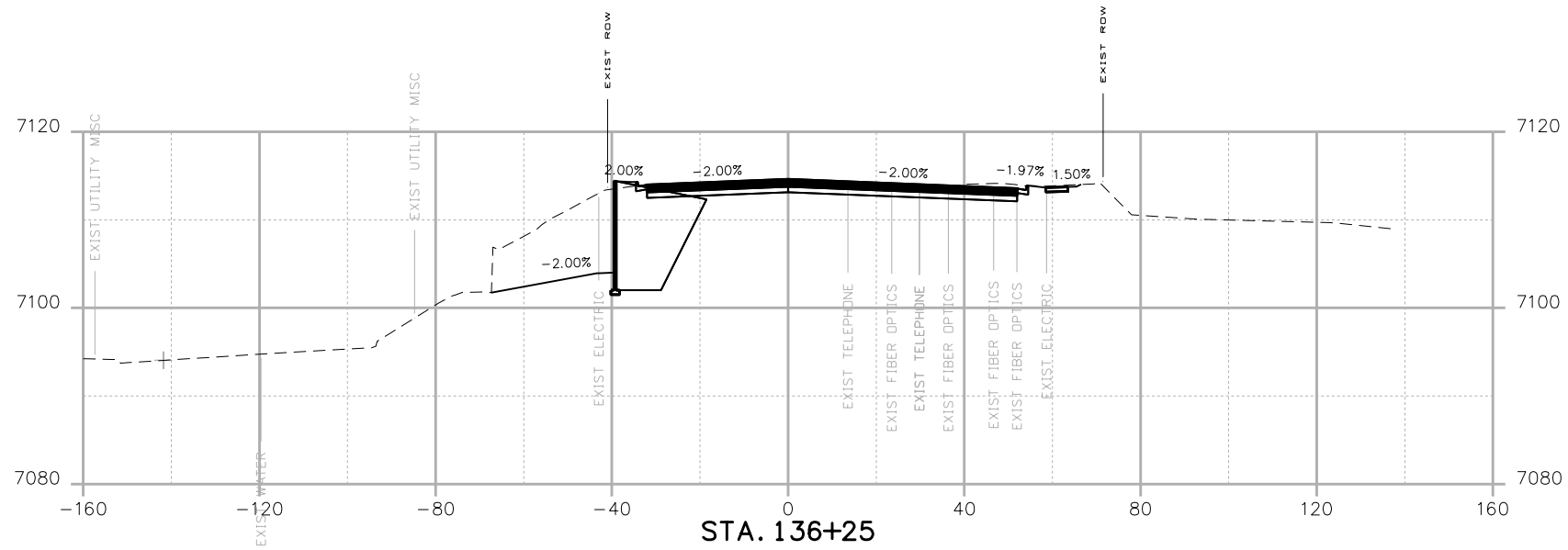
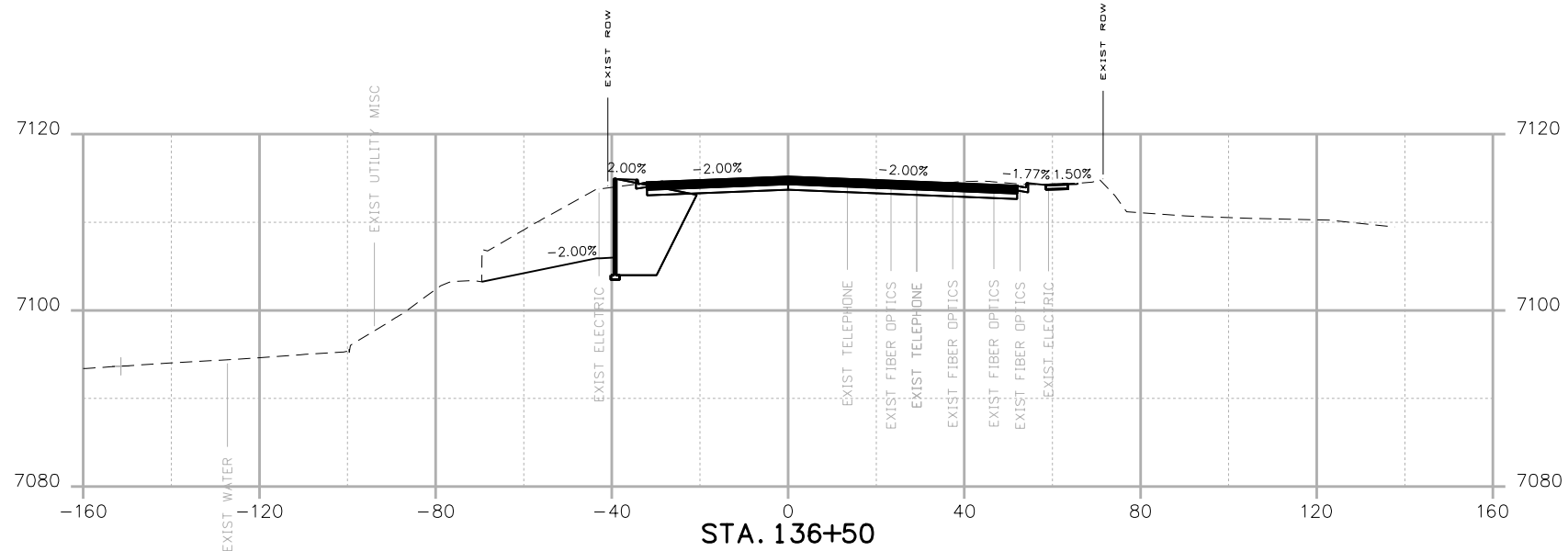
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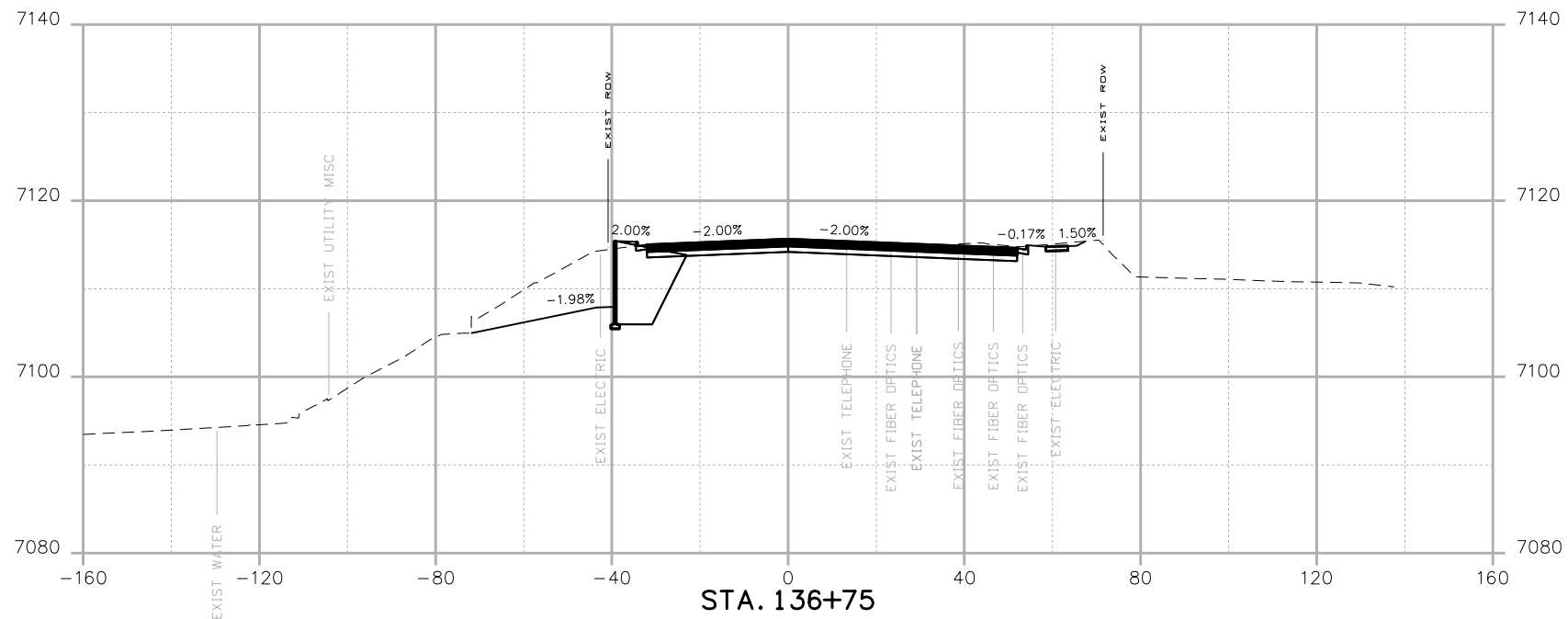
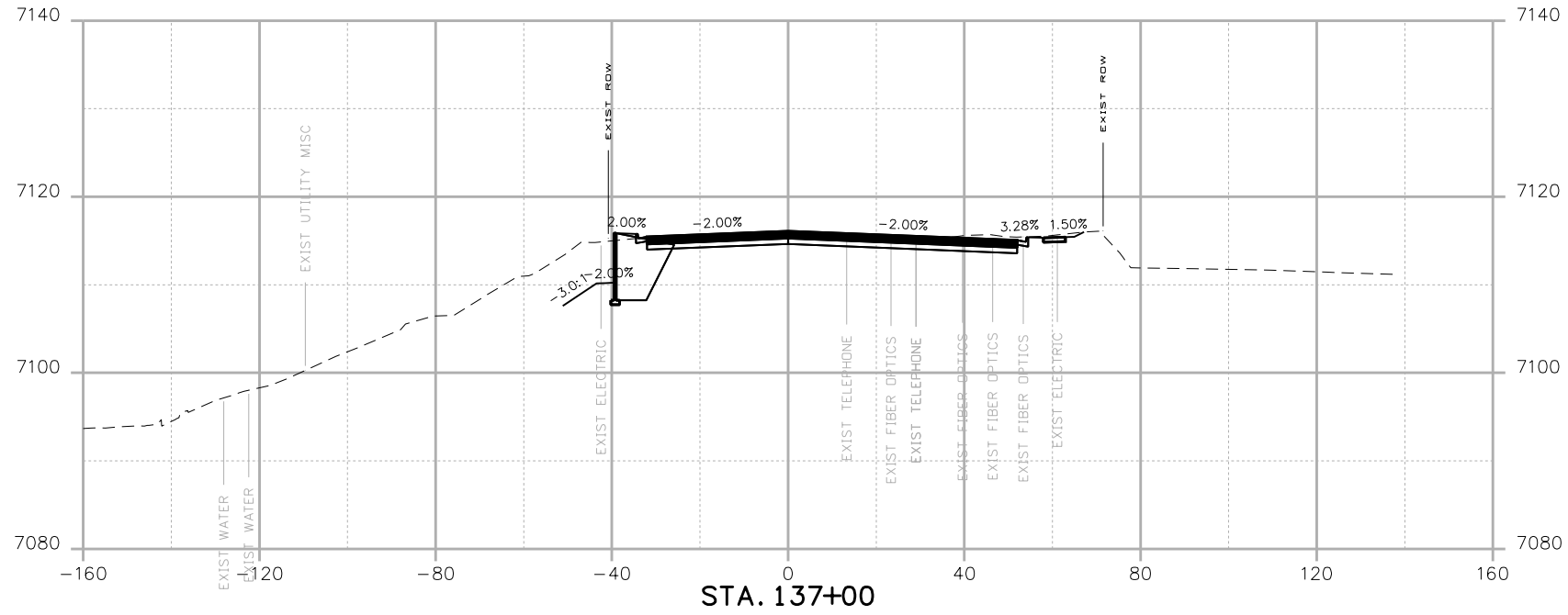
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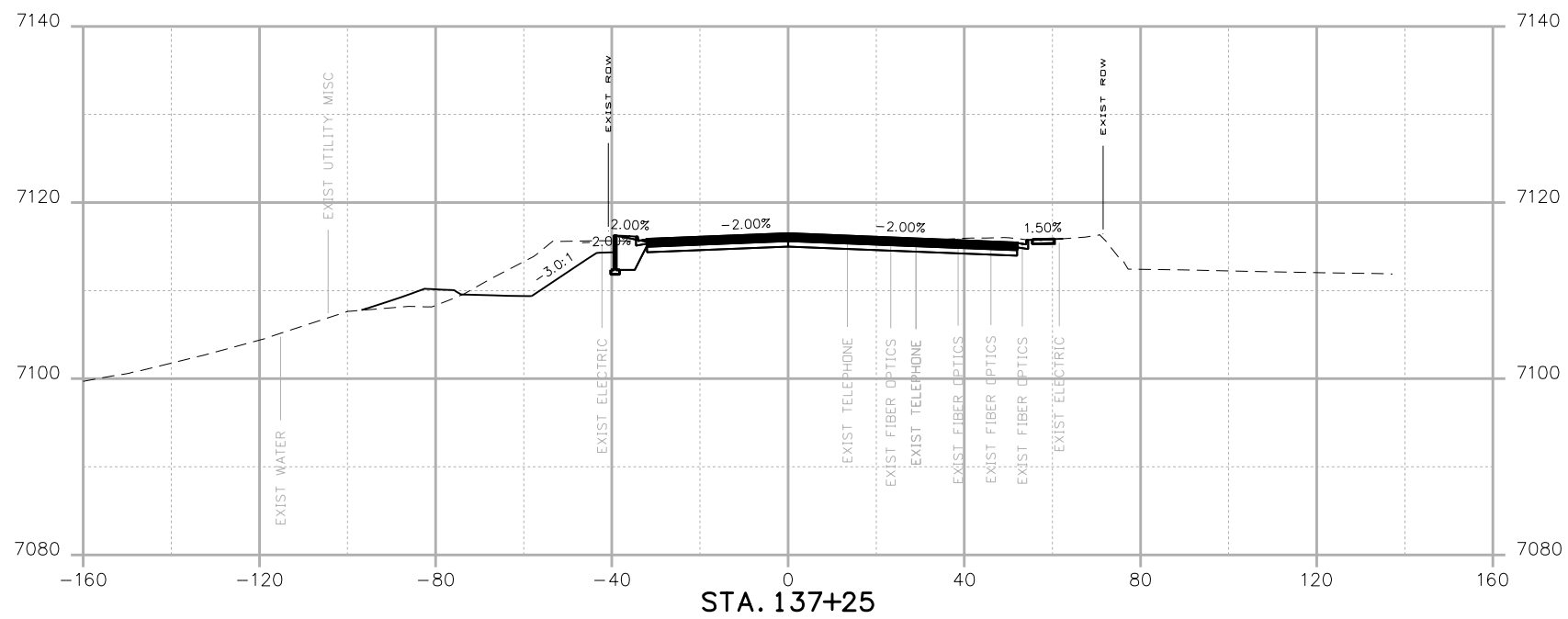
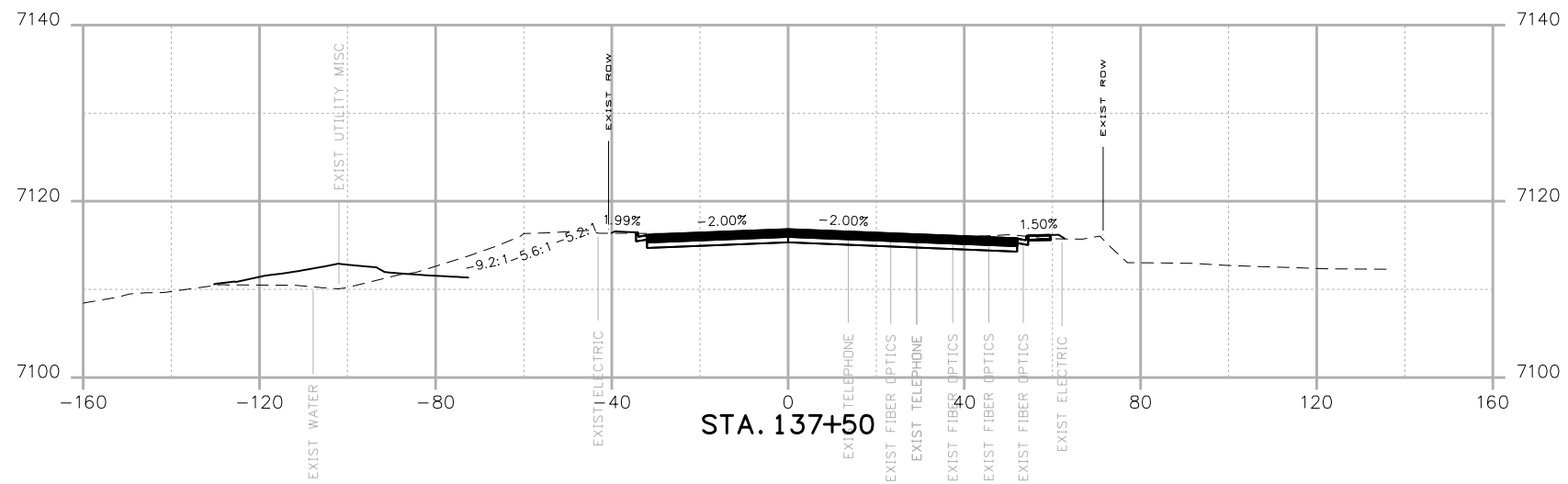
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 Sheet Number **XC 62** of 119

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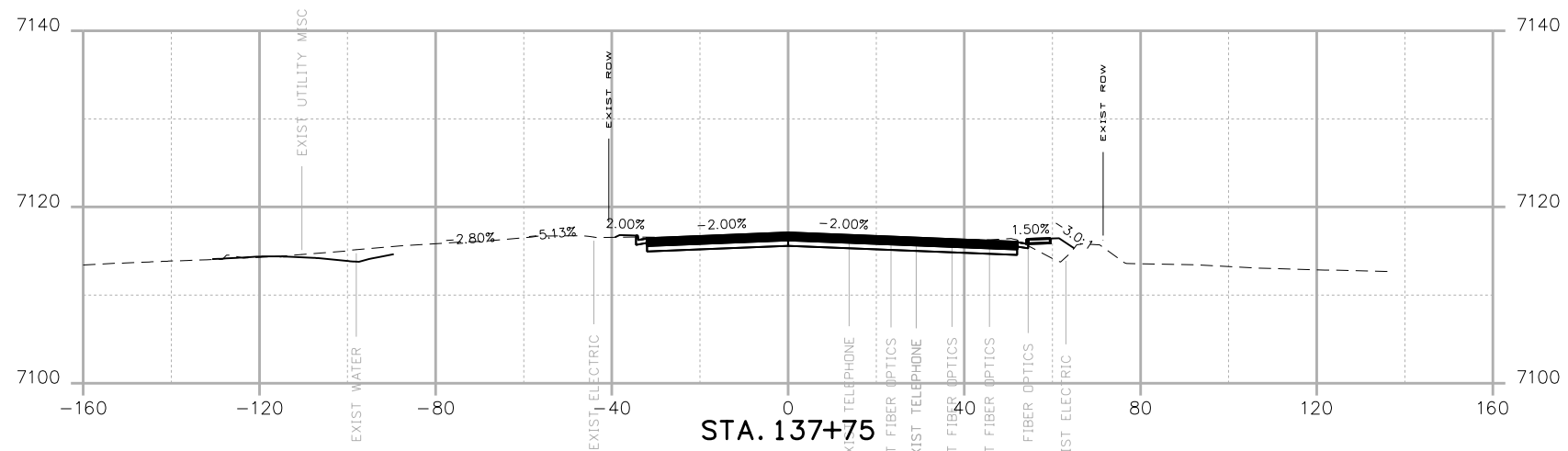
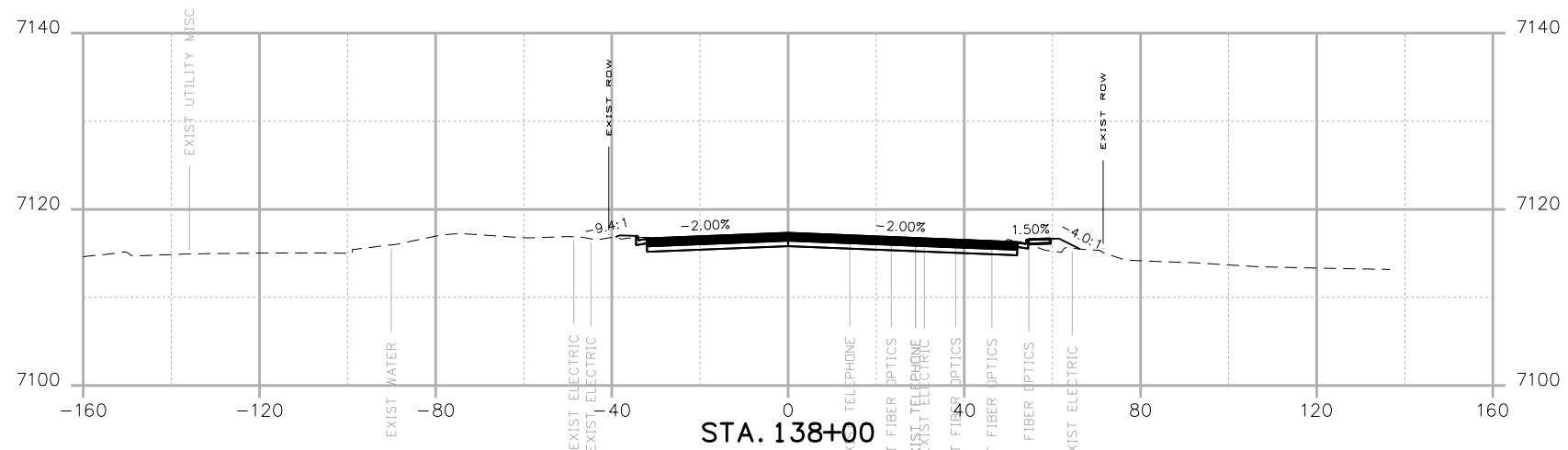
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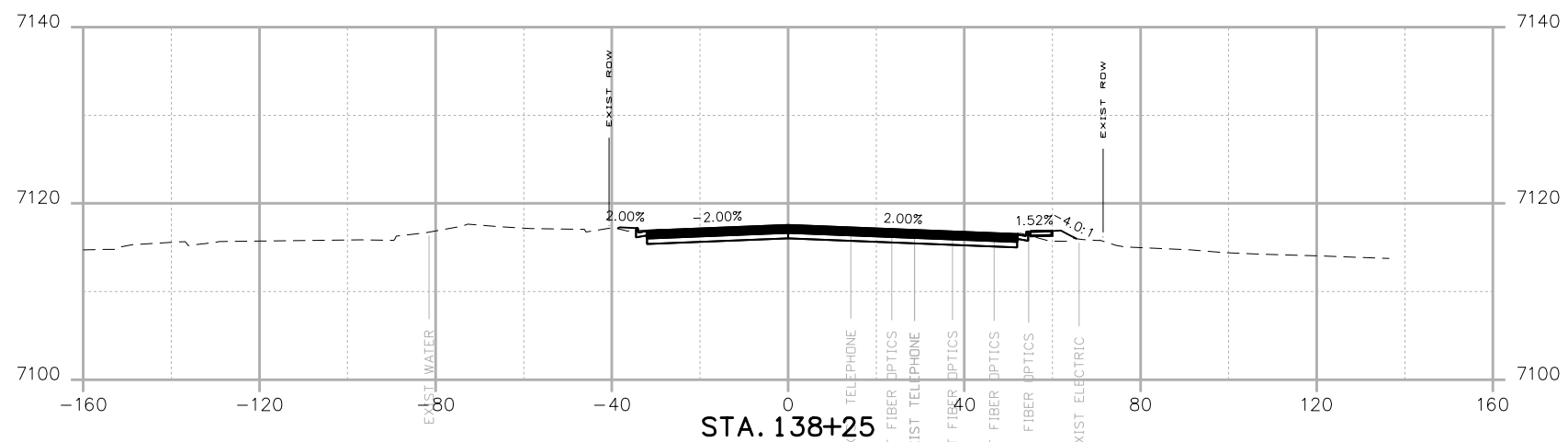
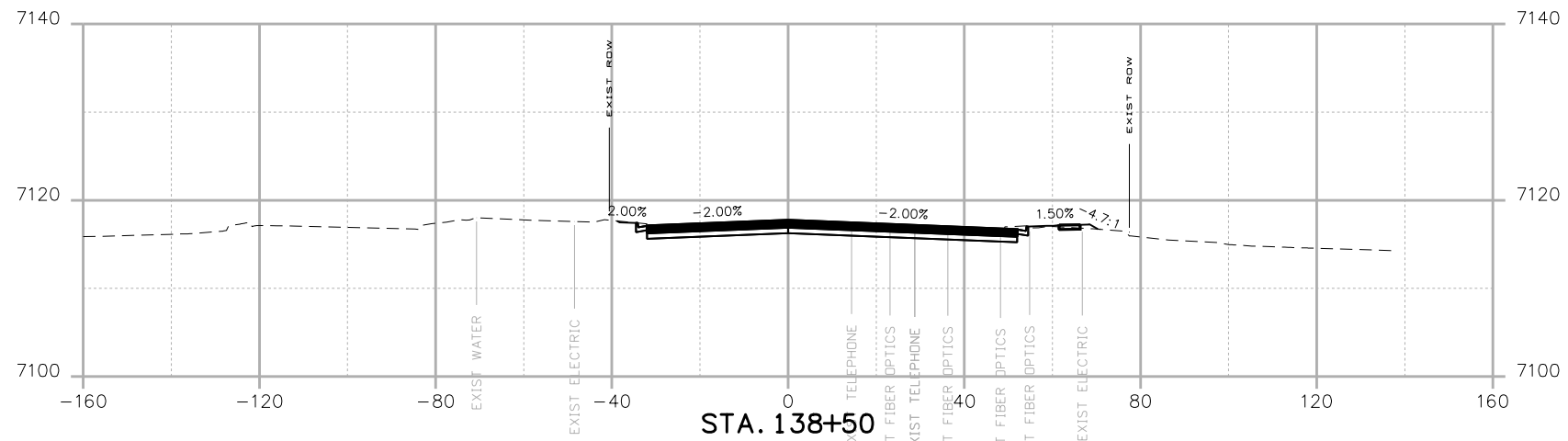
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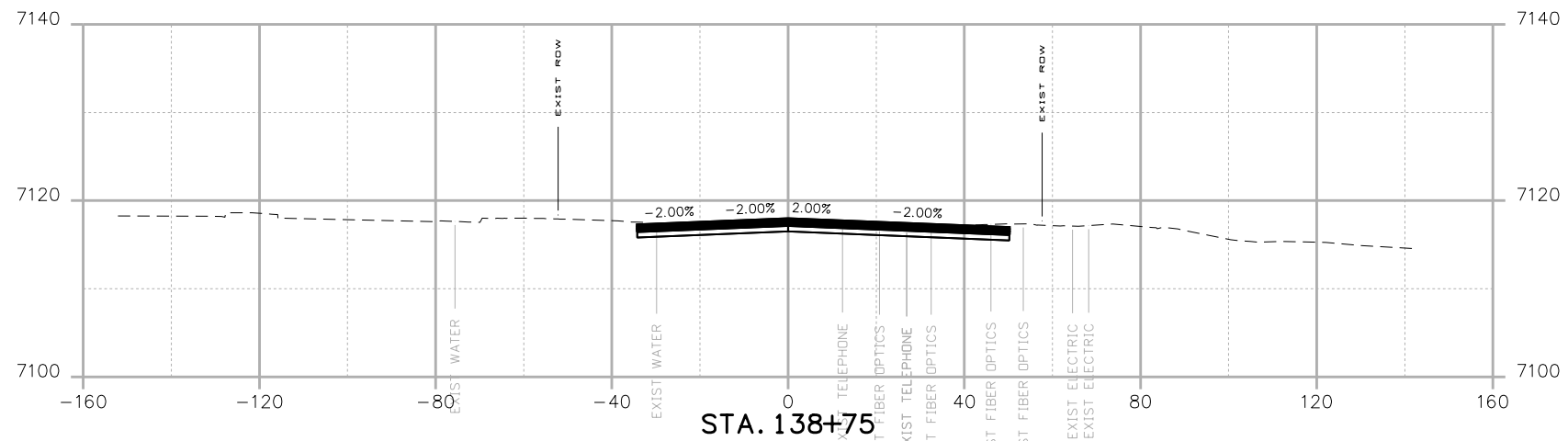
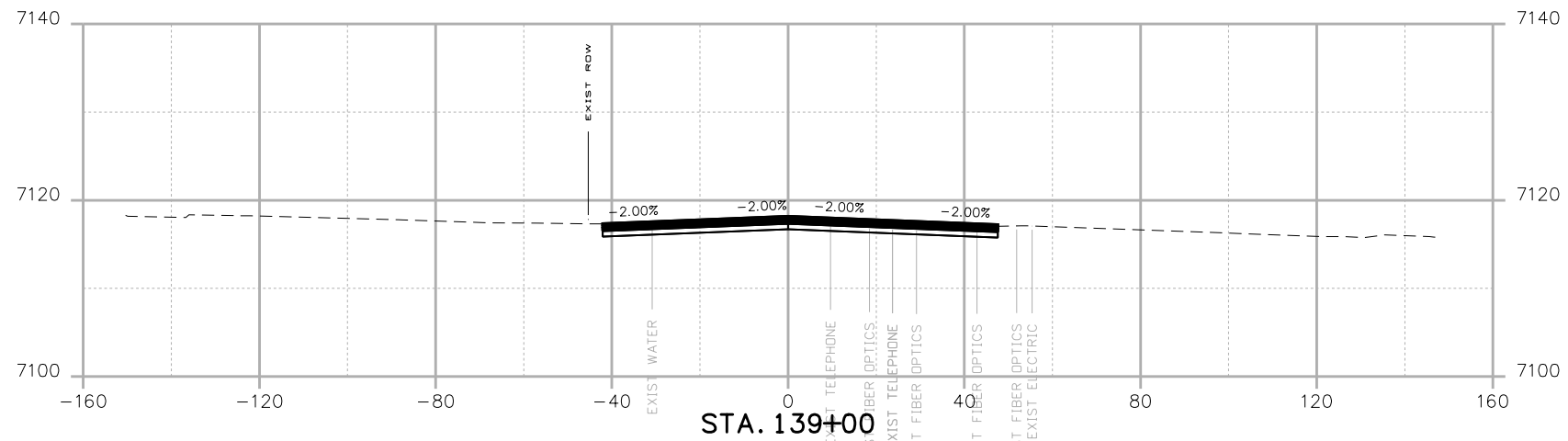
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PROJECT A
CROSS SECTIONS**


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Detailer:
Sheet Subset:

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Subset Sheets: of

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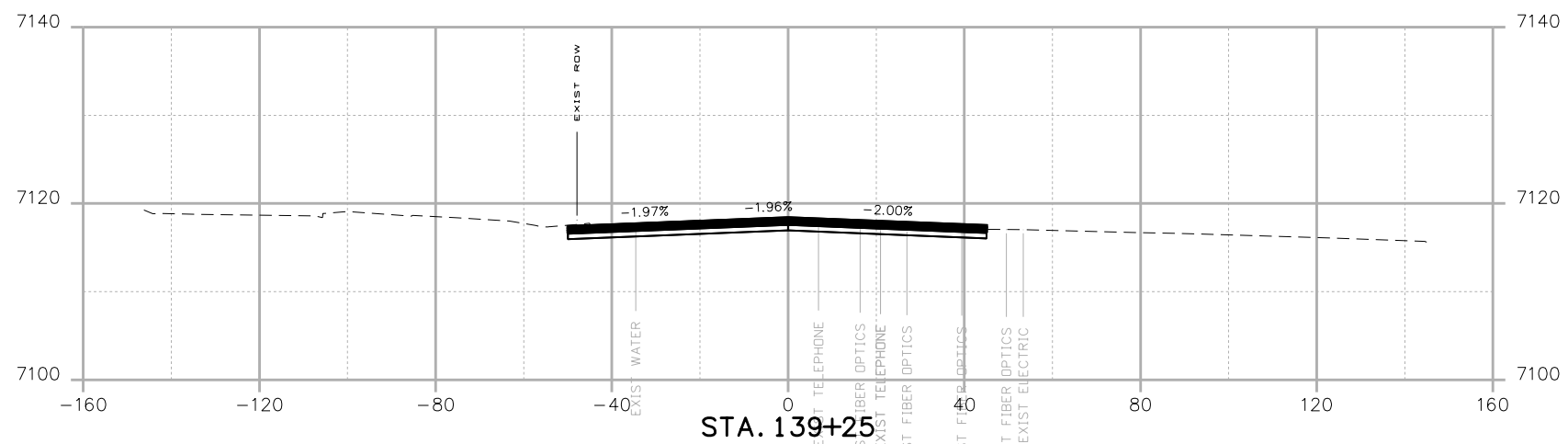
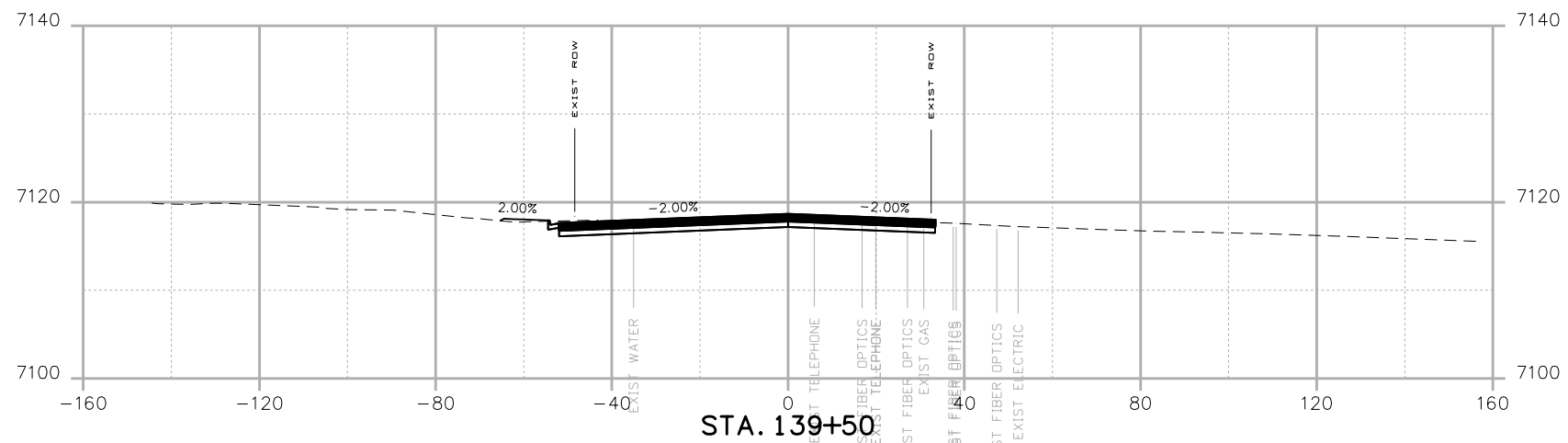
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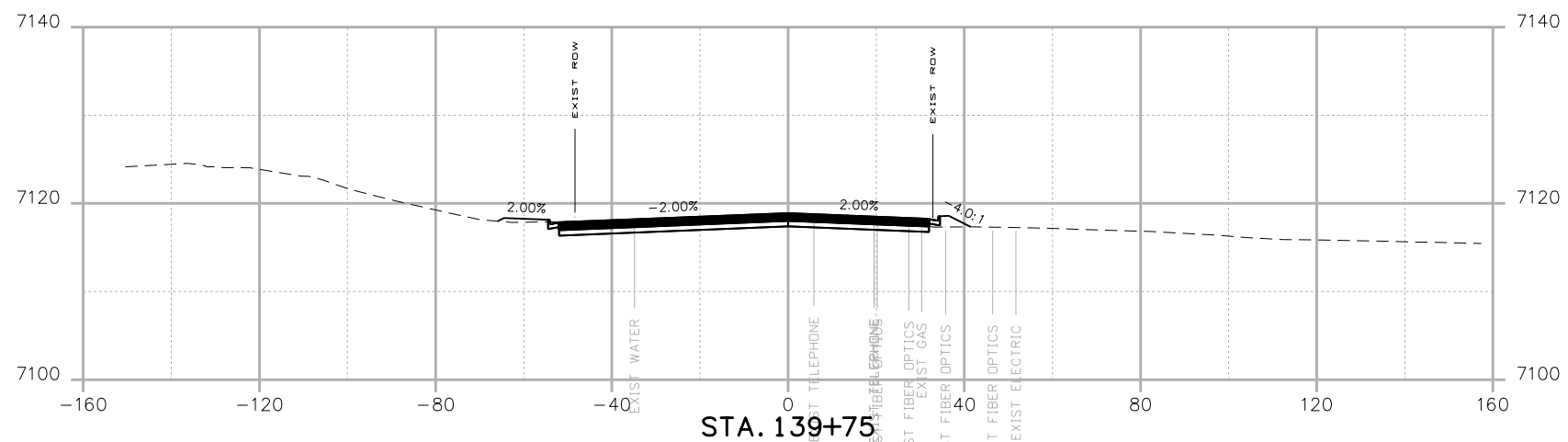
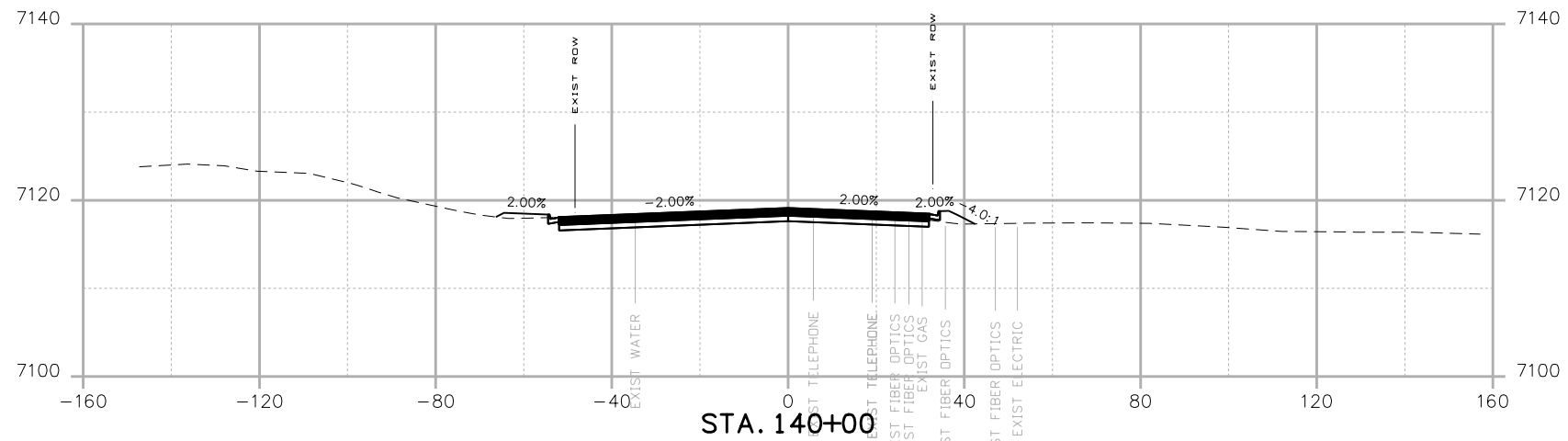
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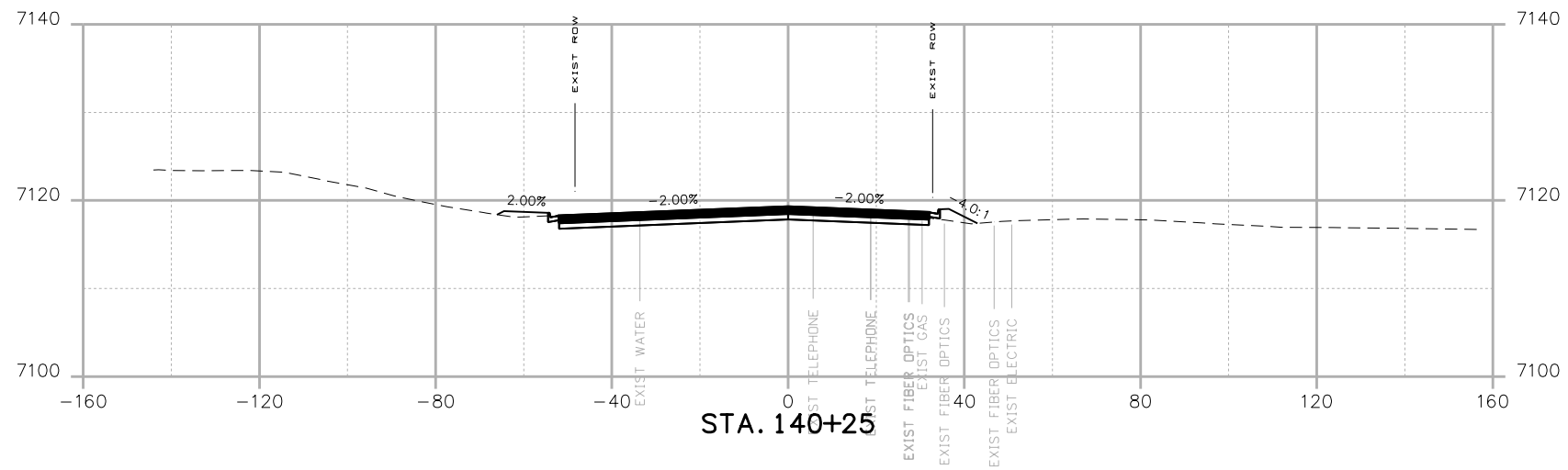
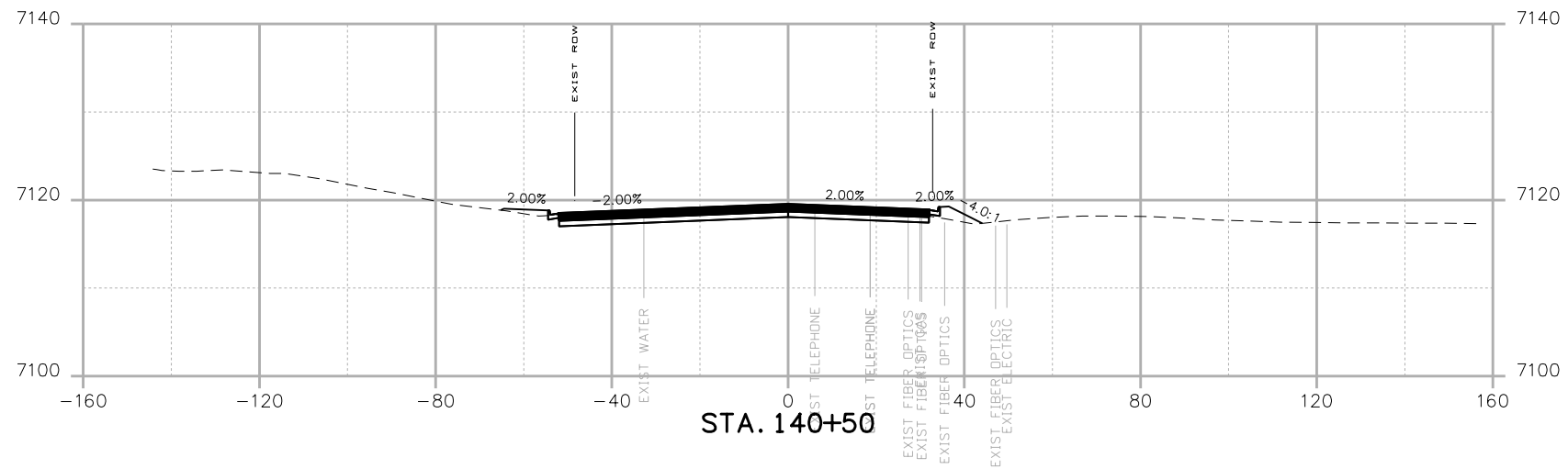
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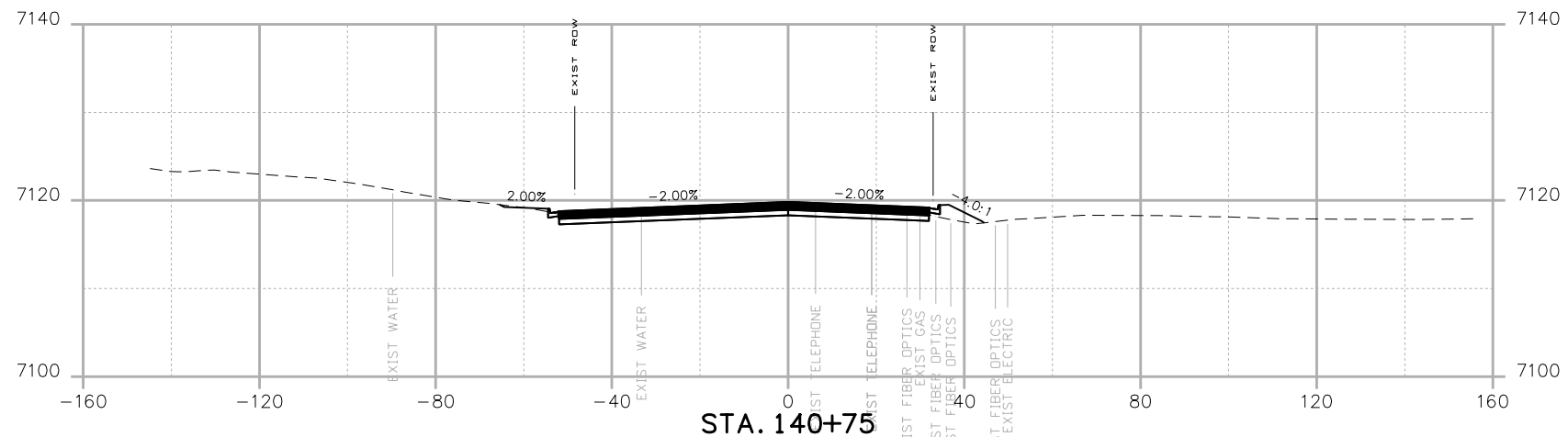
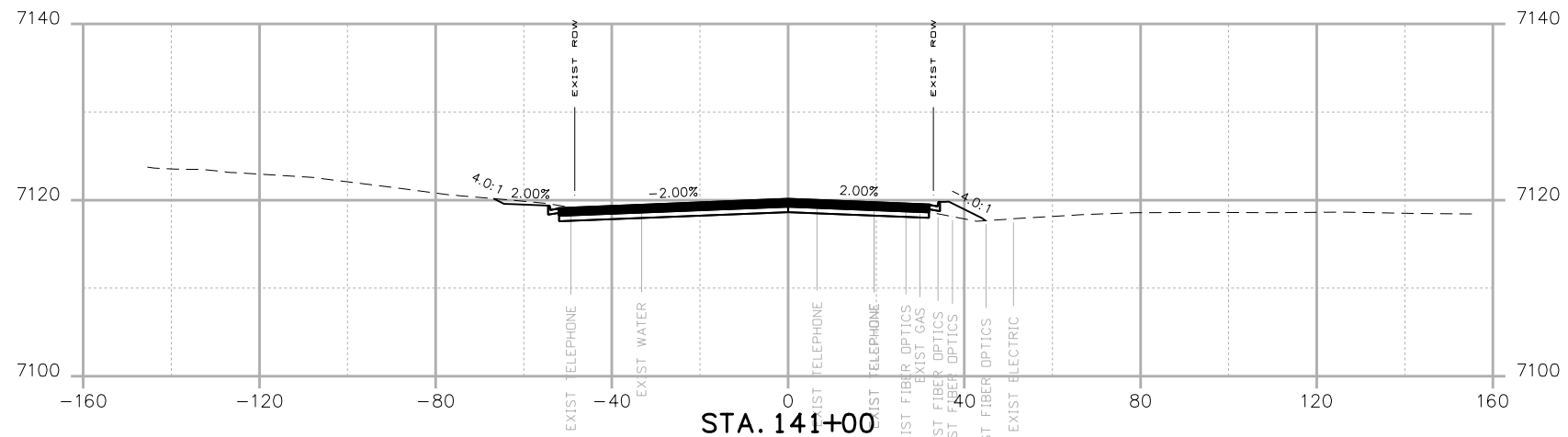
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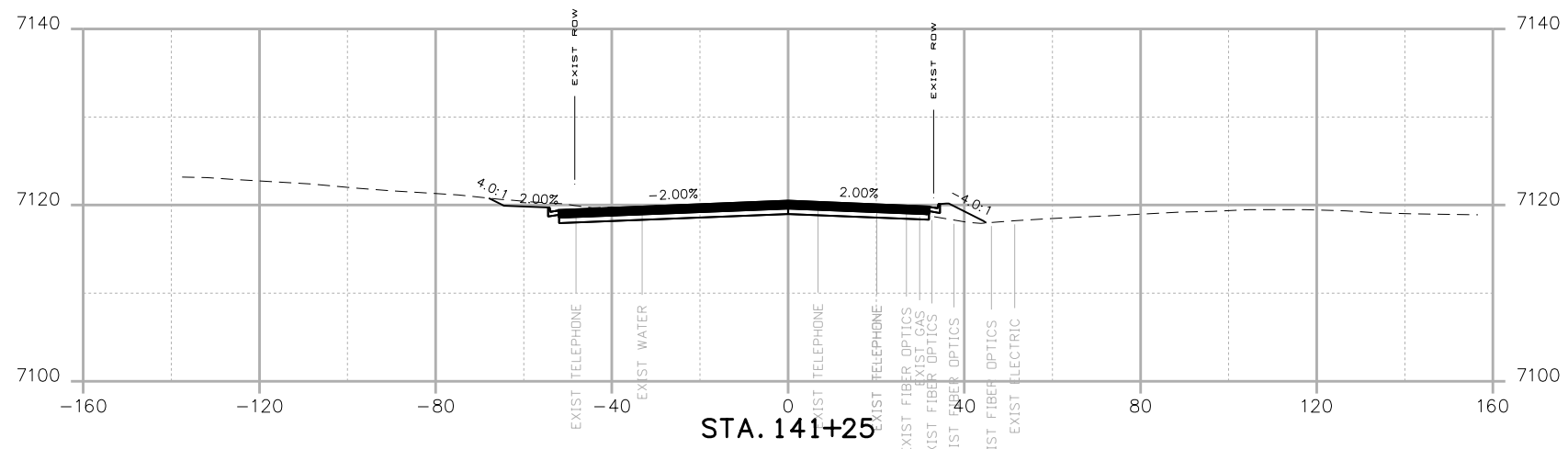
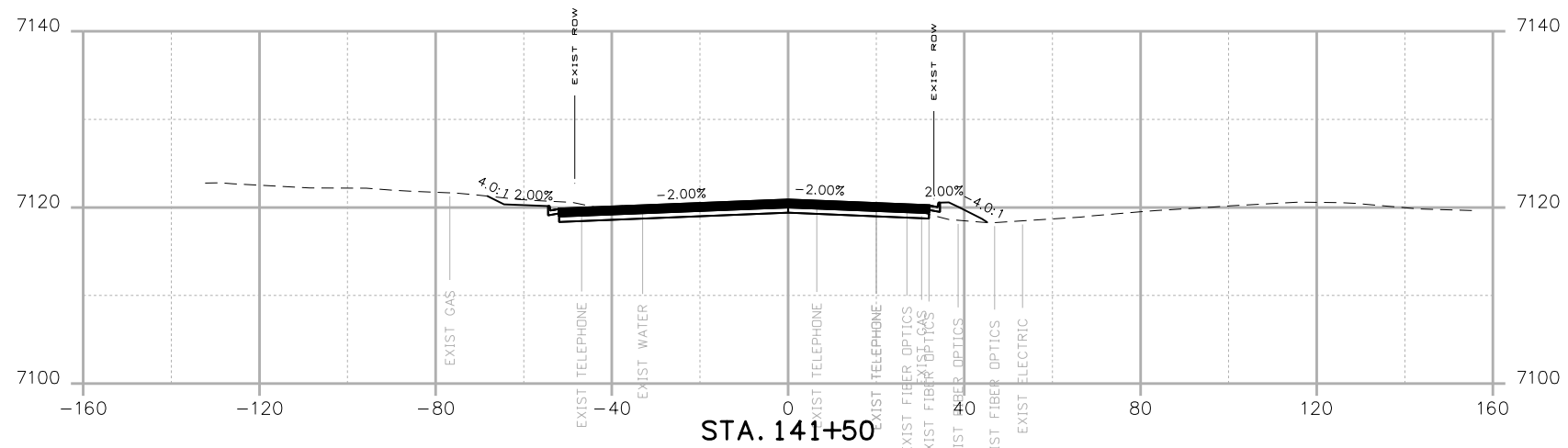
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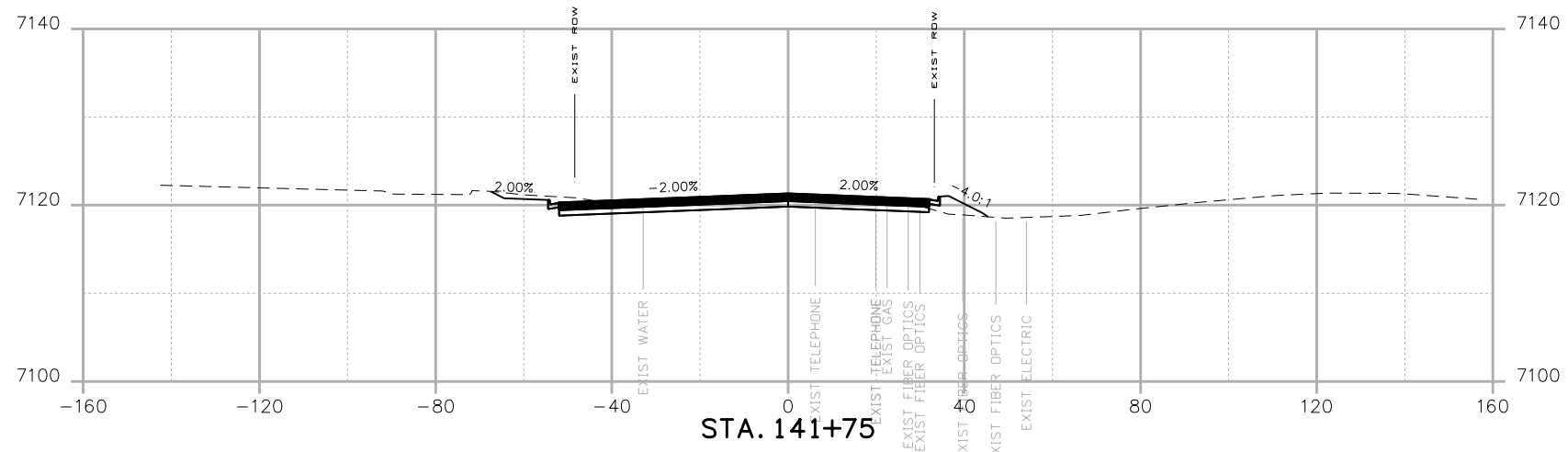
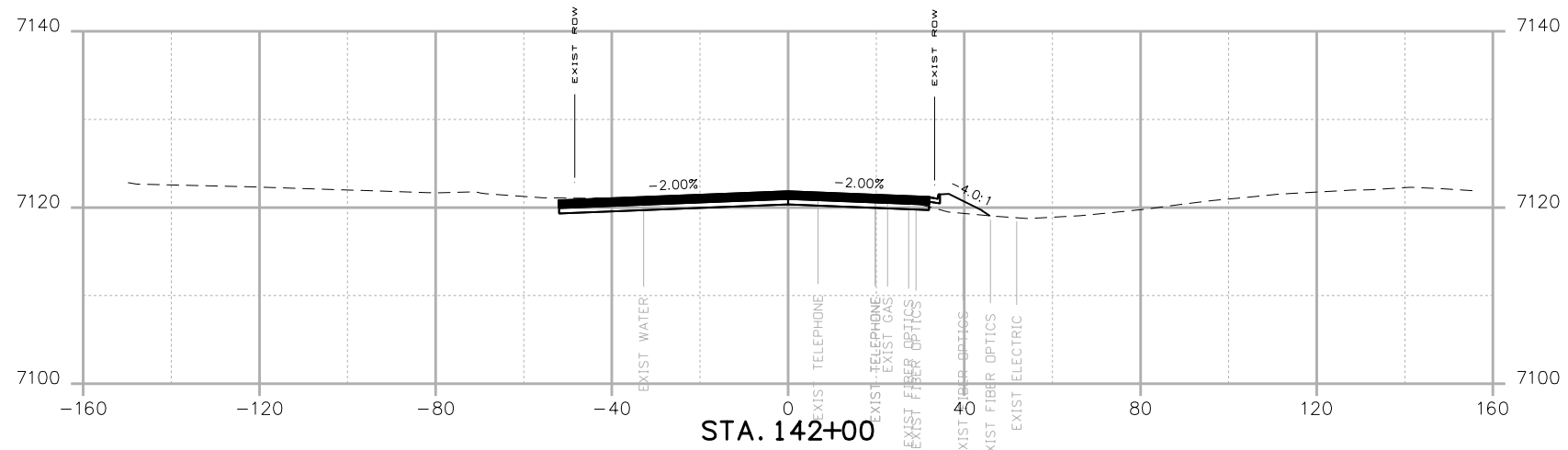
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 CROSS SECTIONS**

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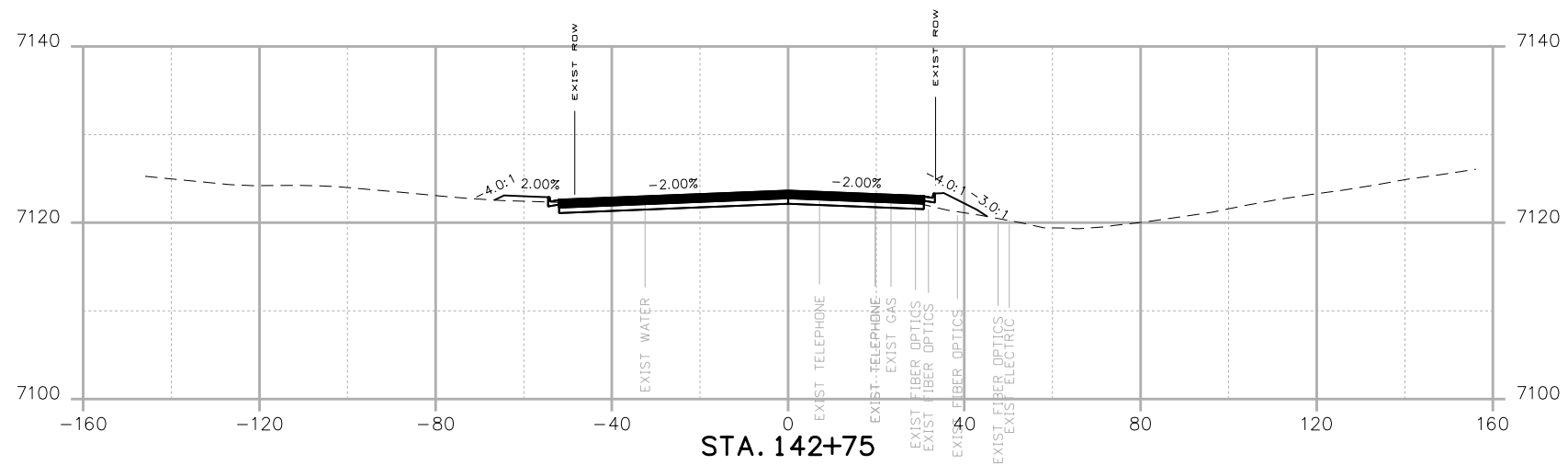
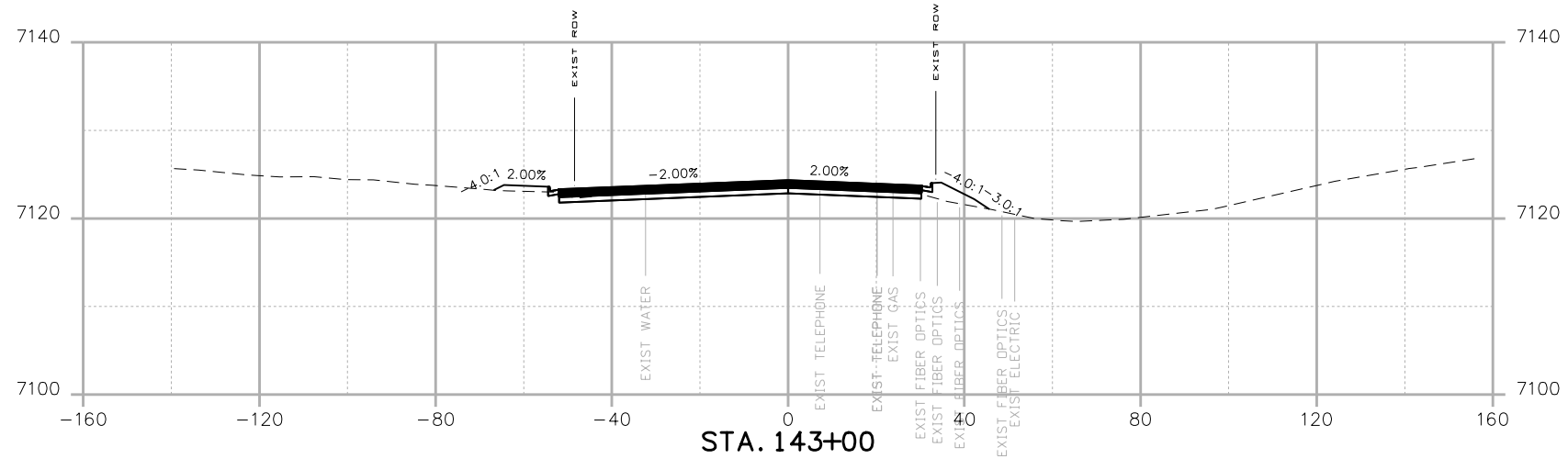
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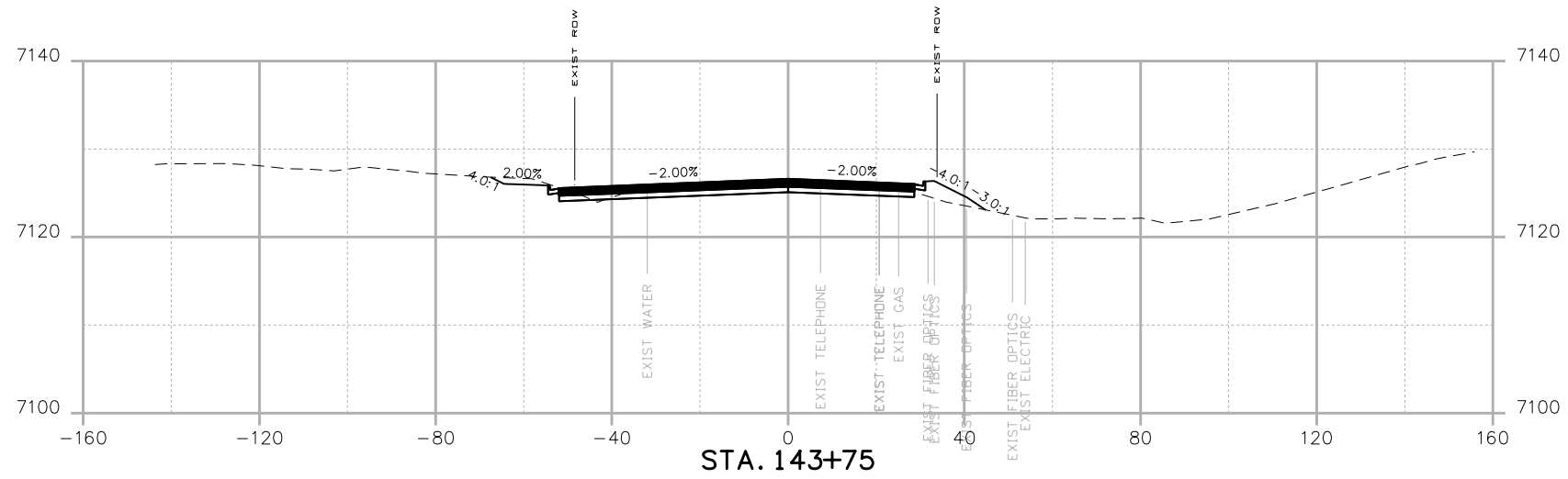
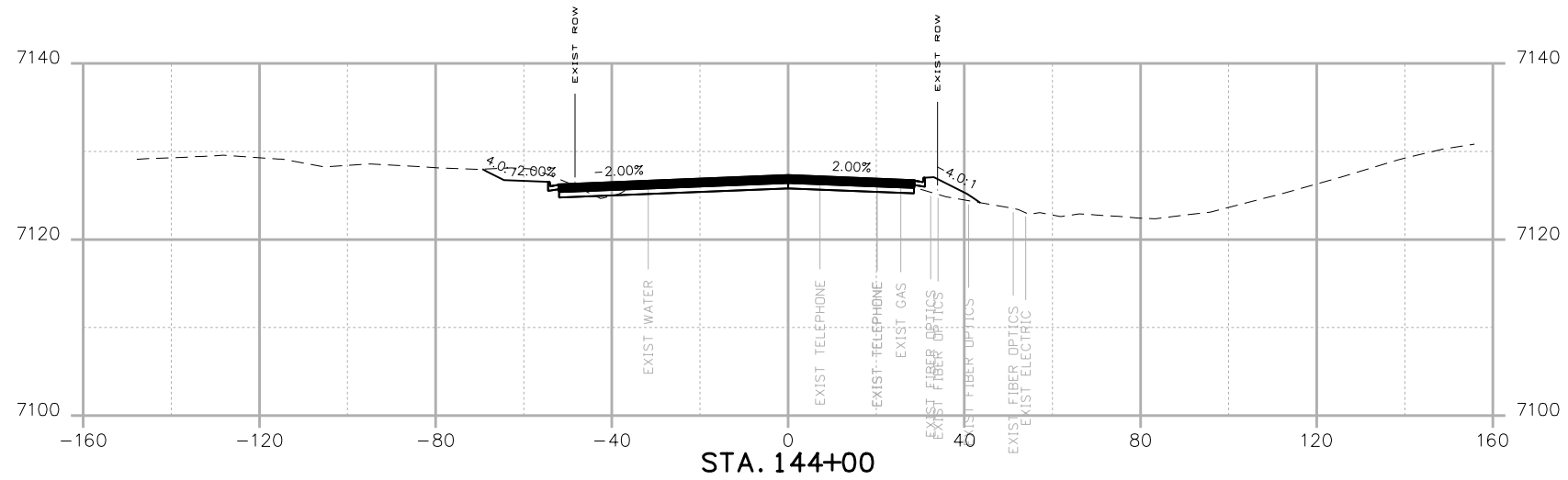
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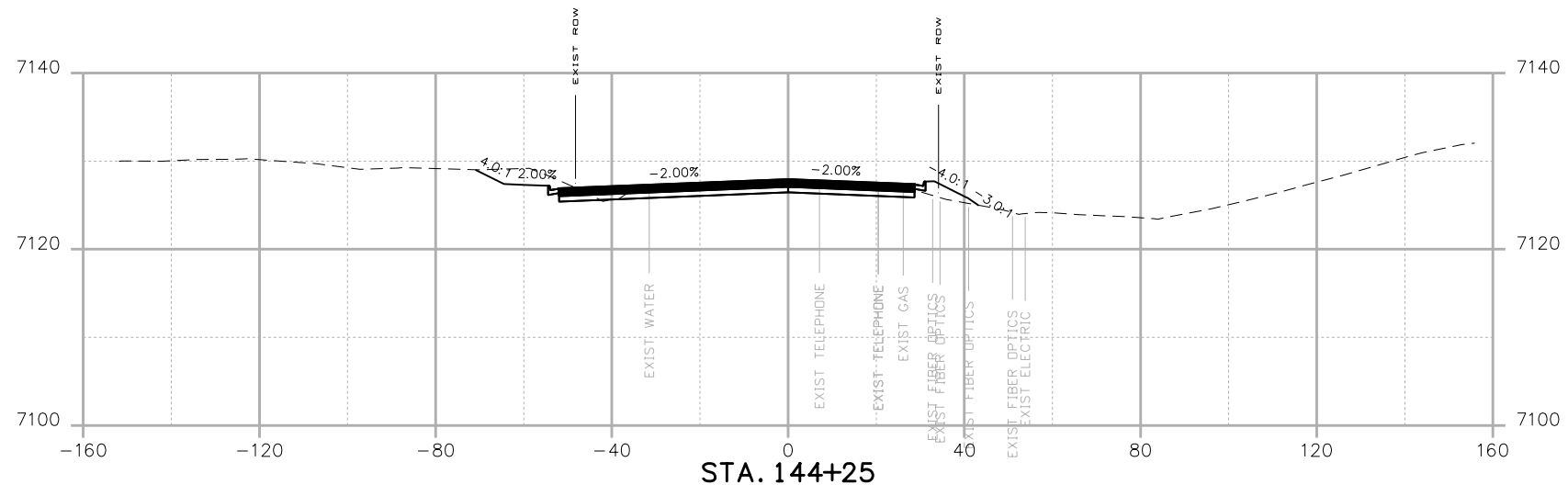
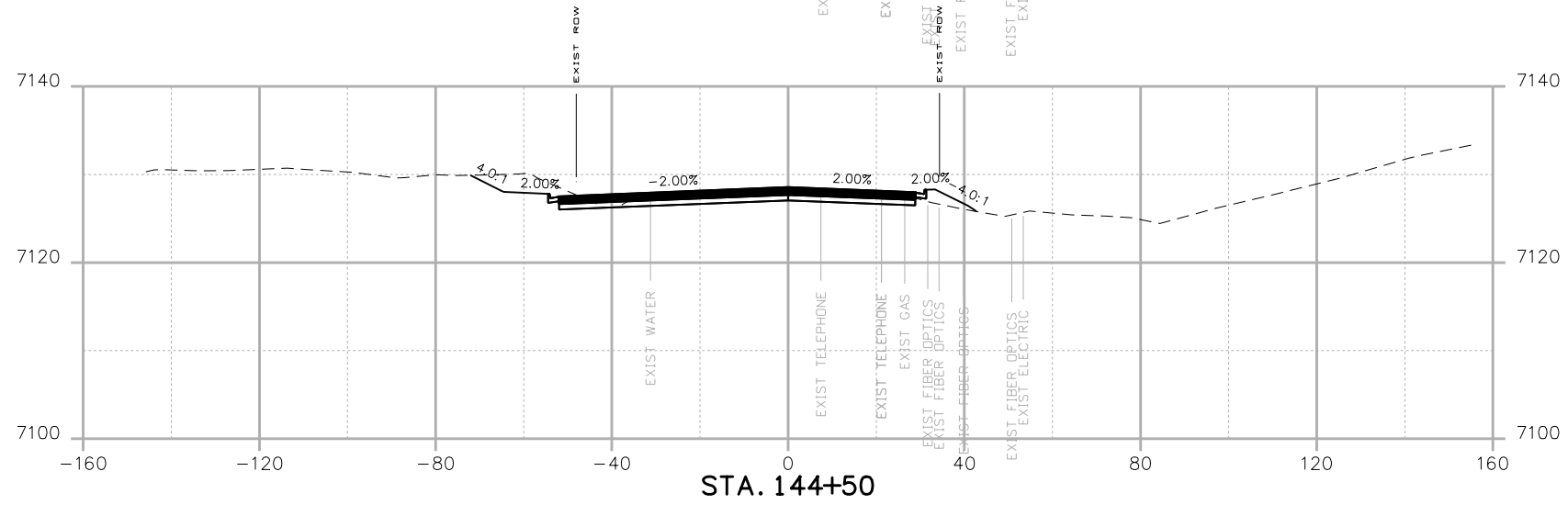
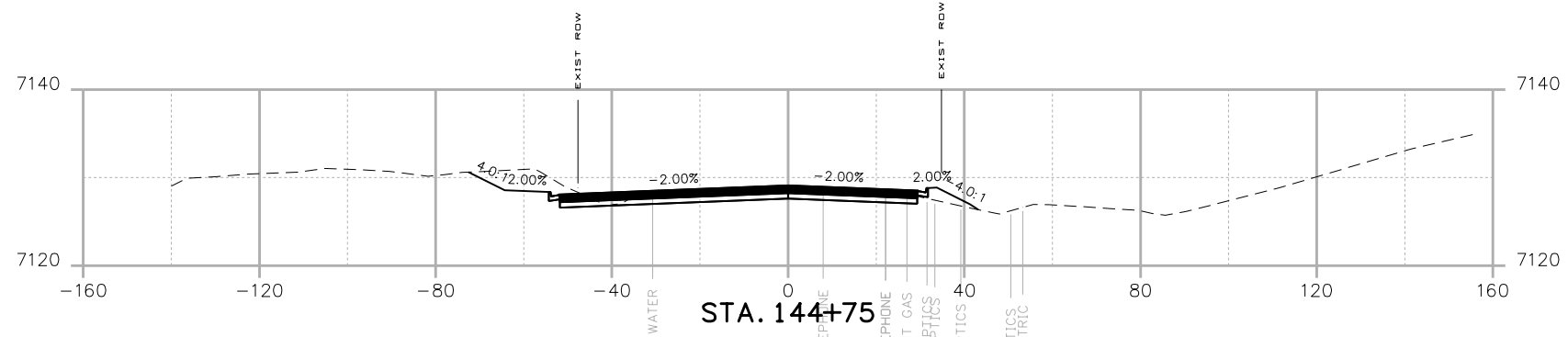
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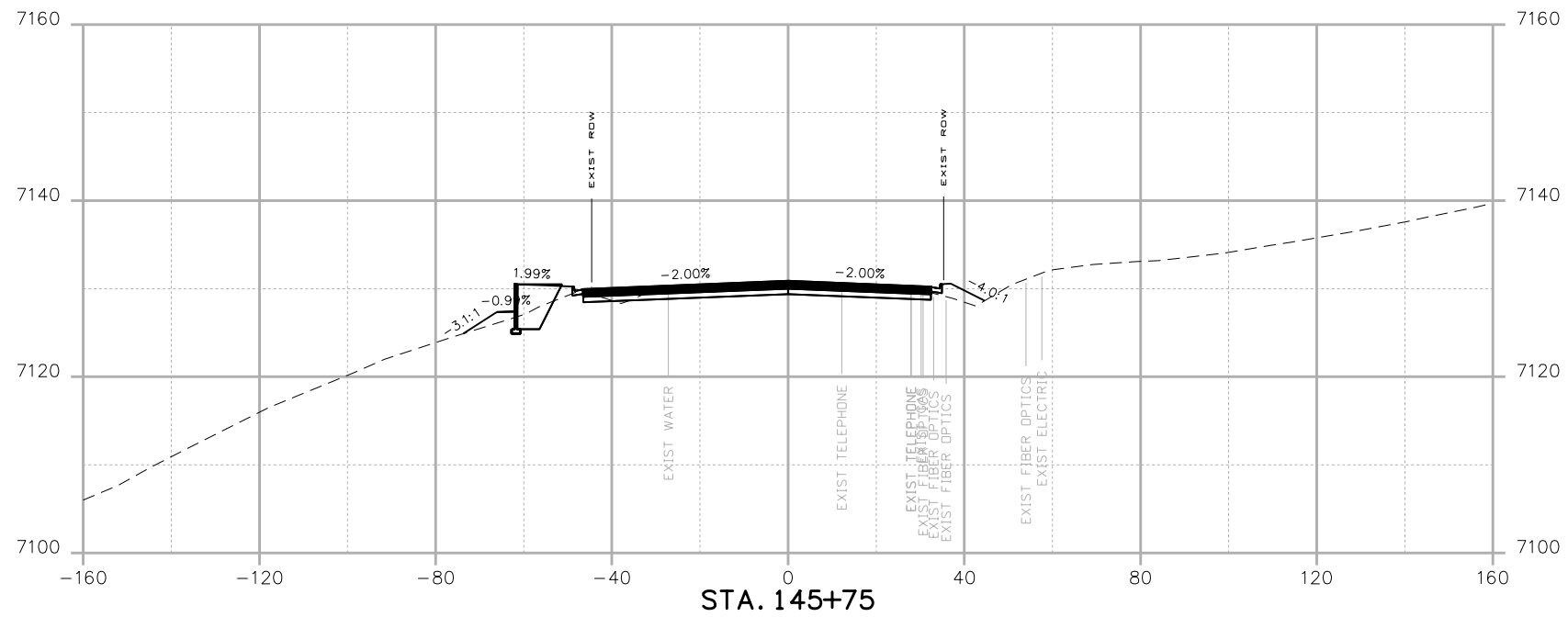
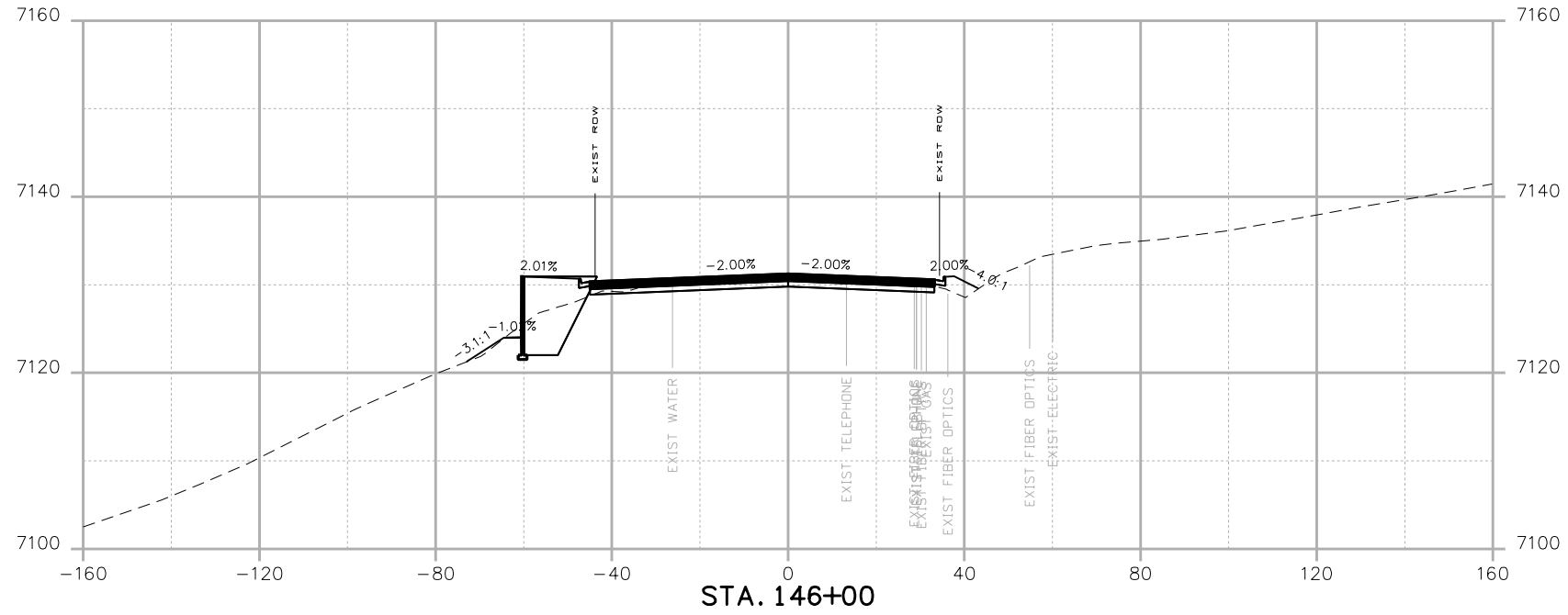
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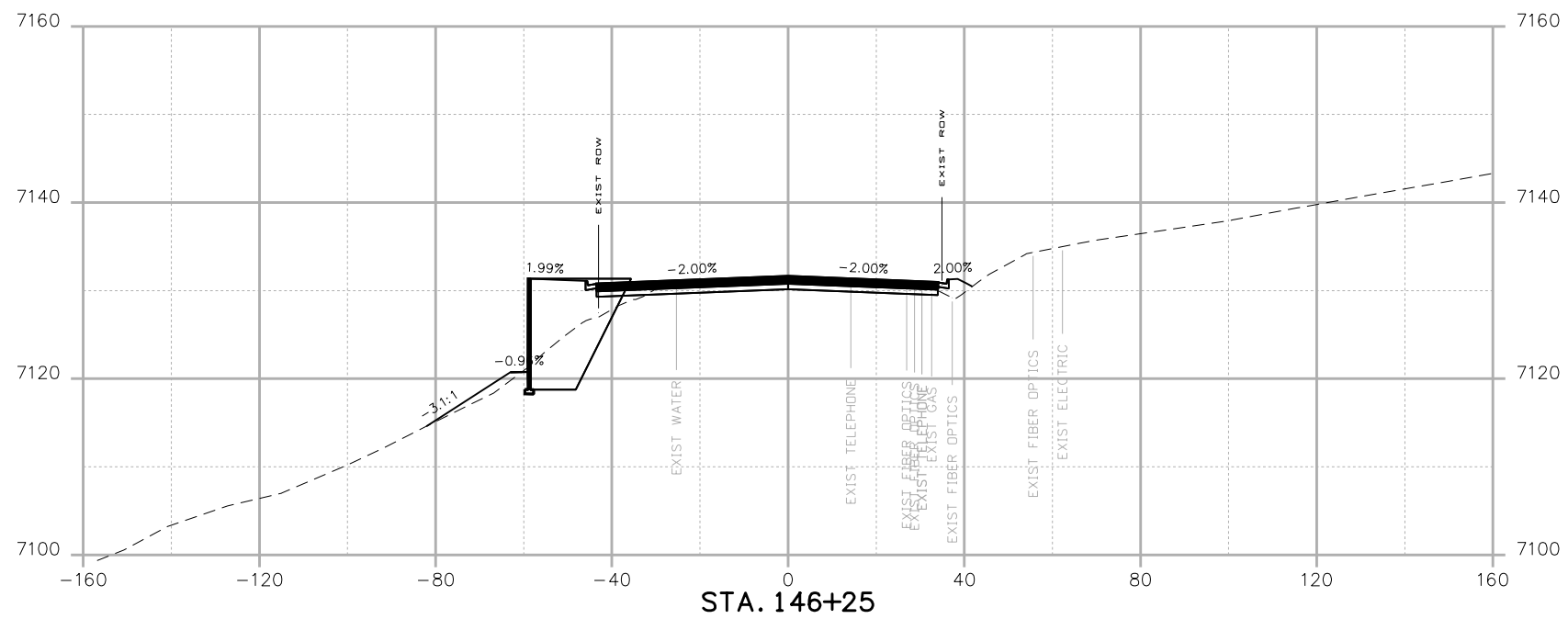
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CROSS SECTIONS**

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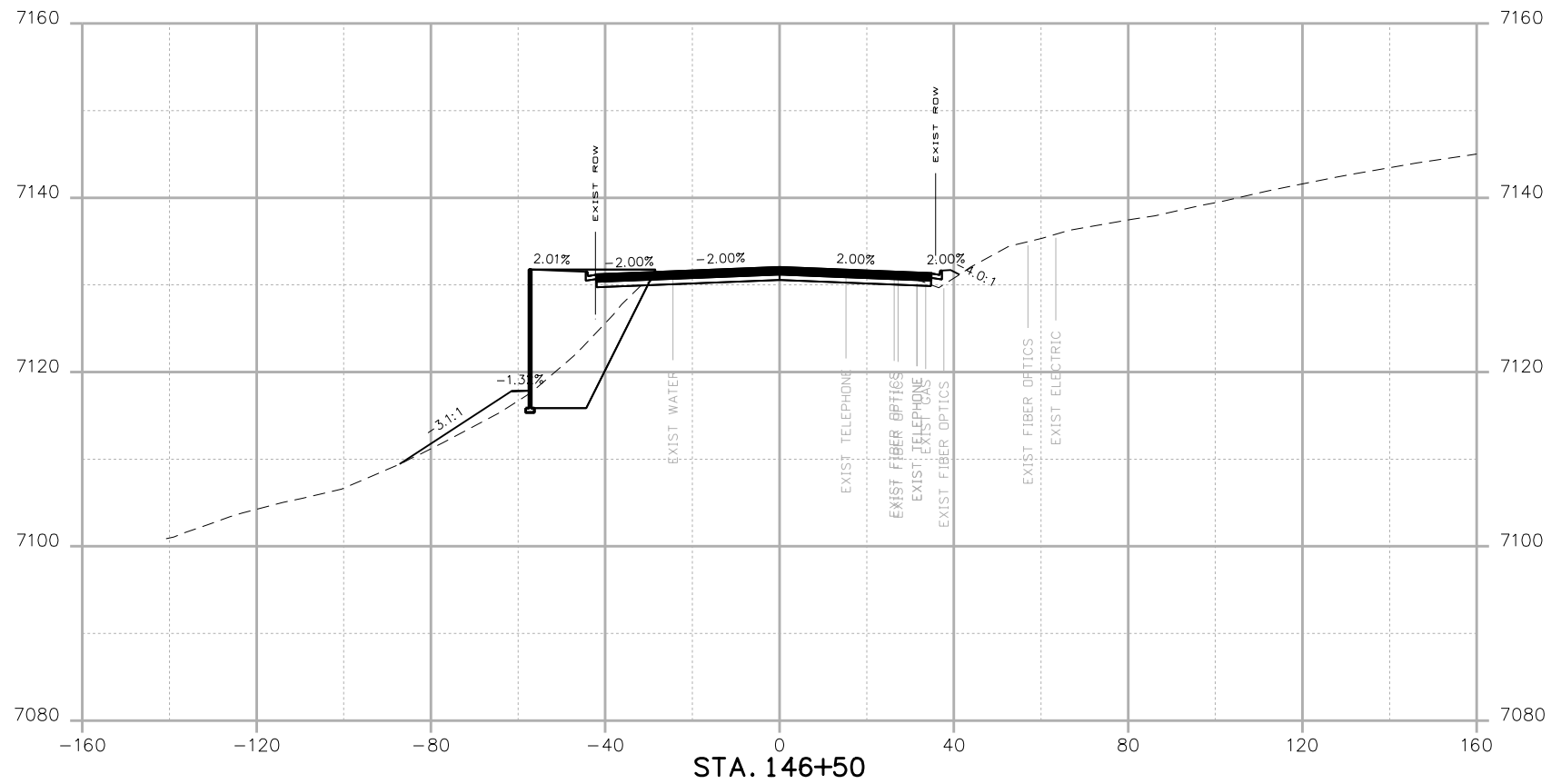



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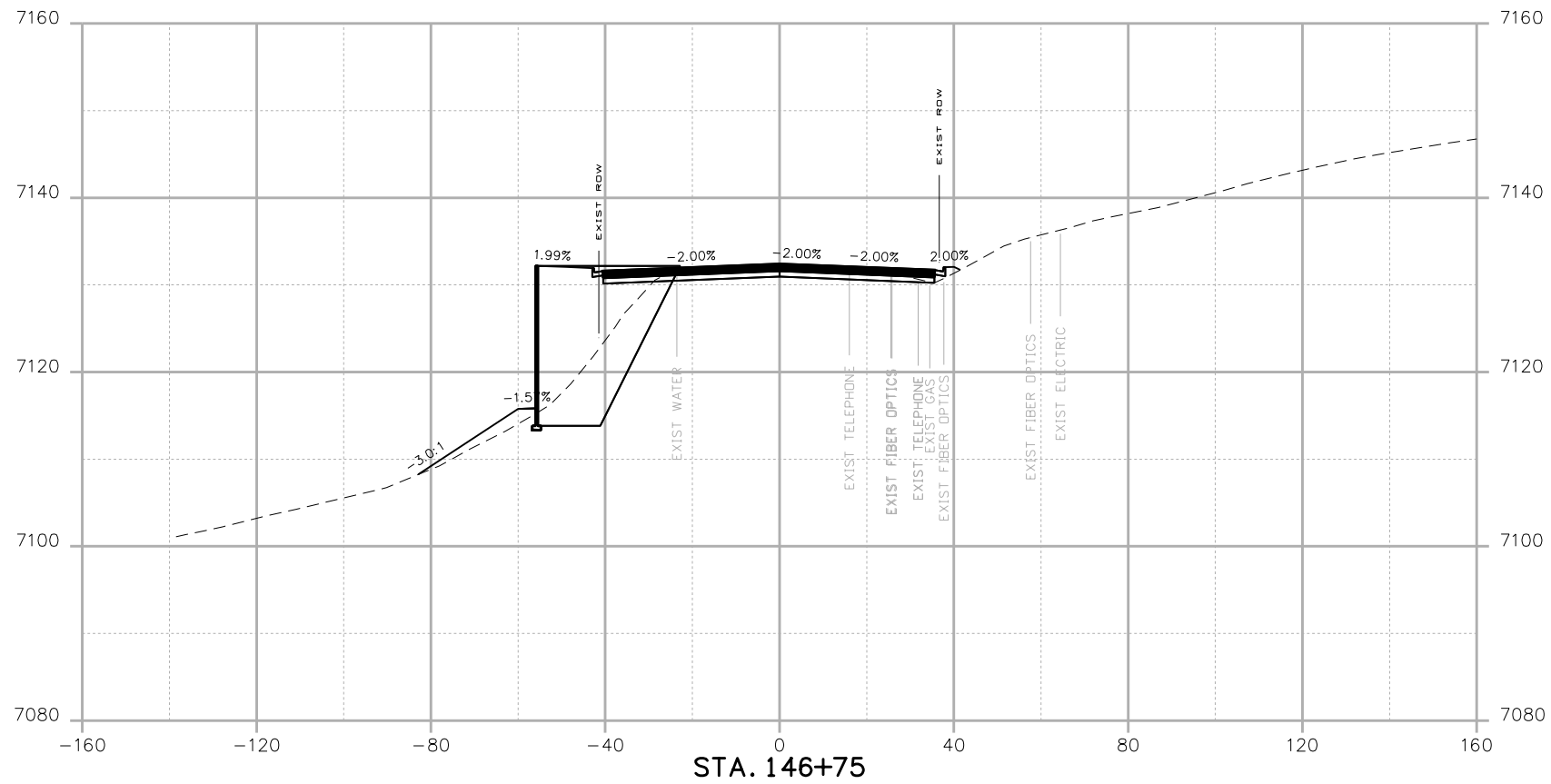



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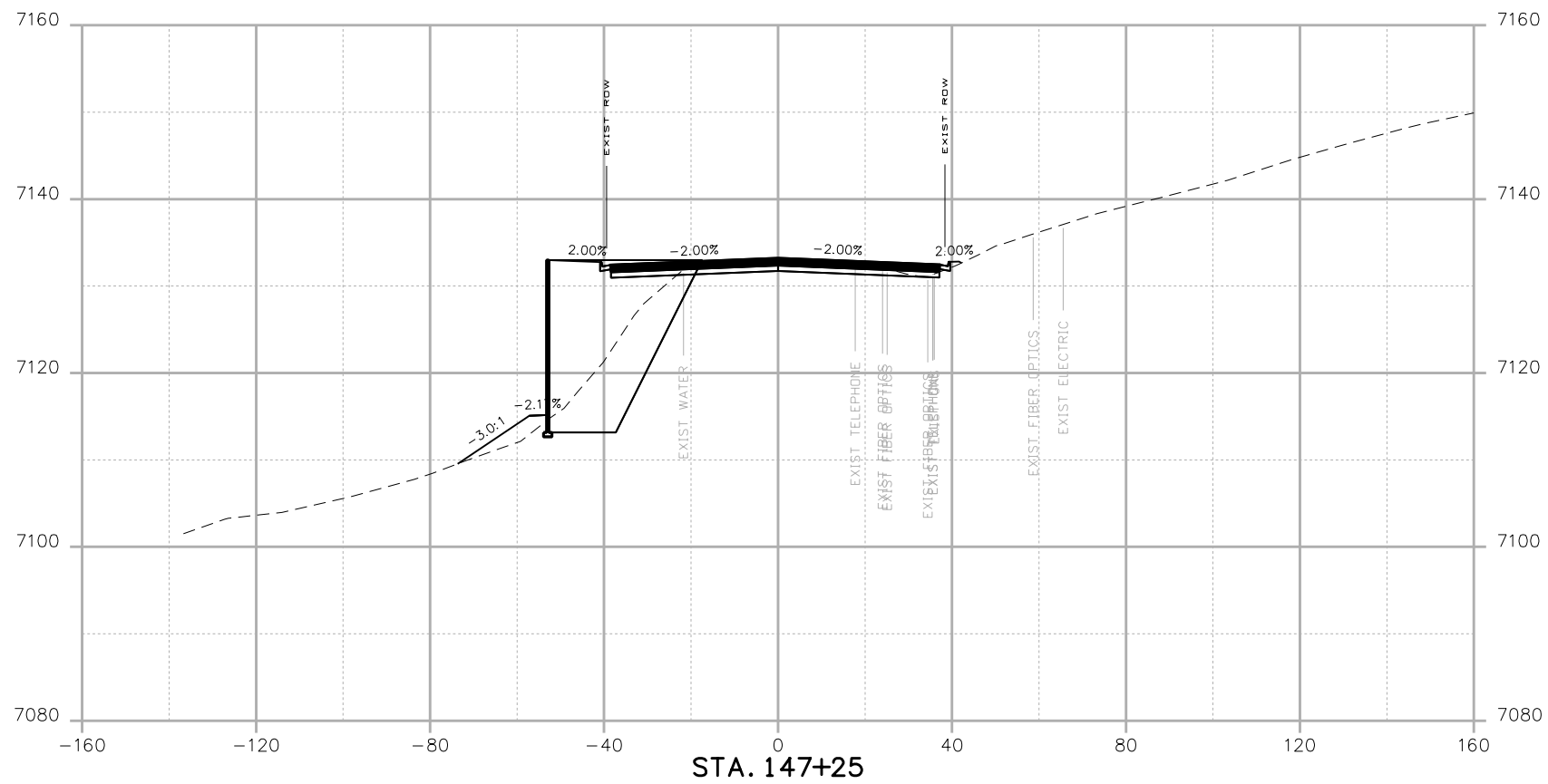


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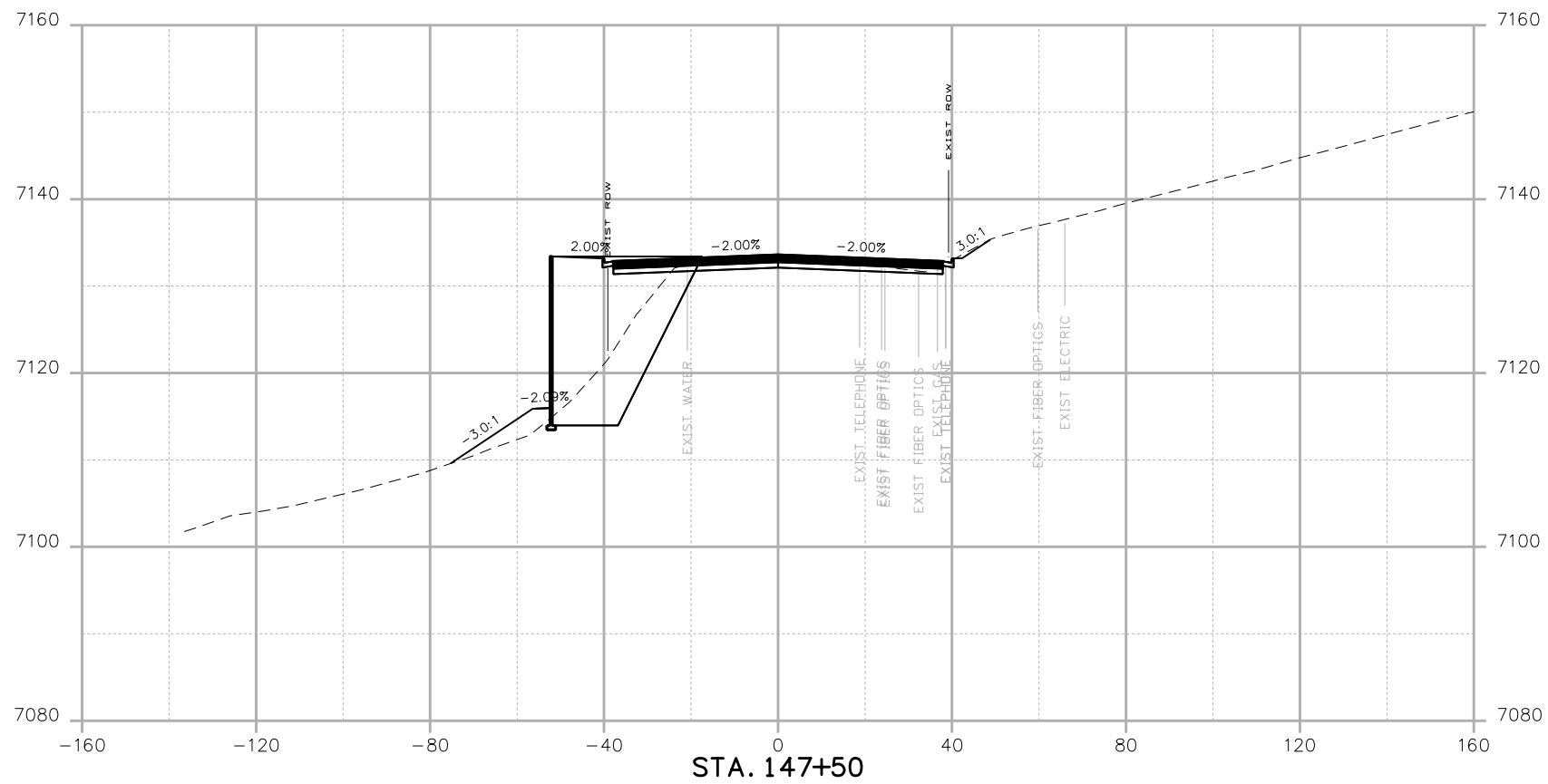
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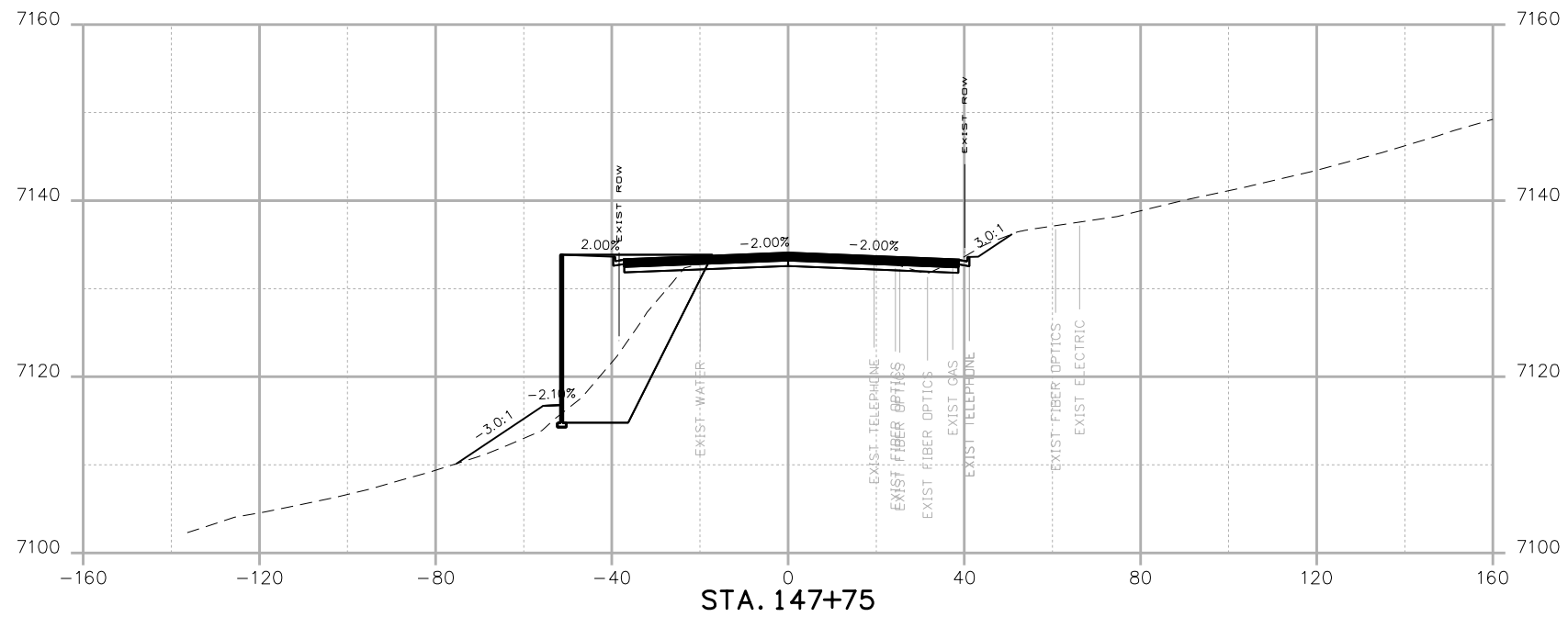
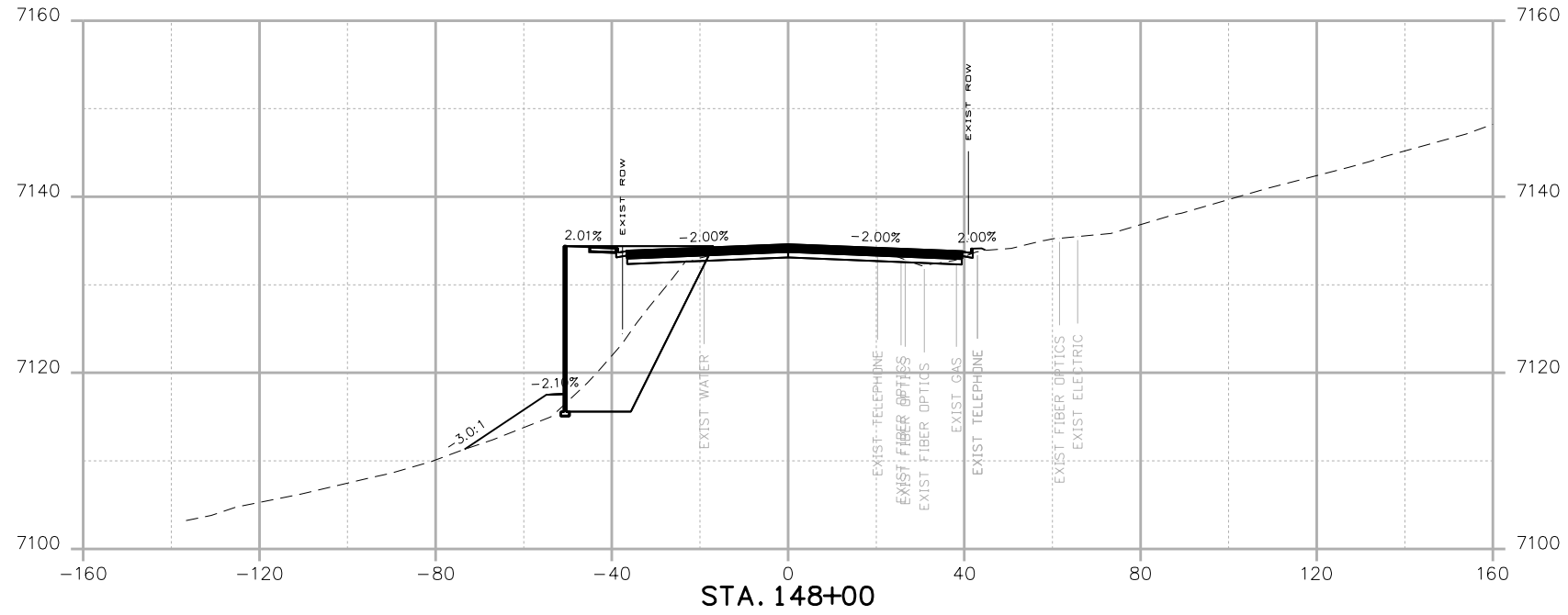



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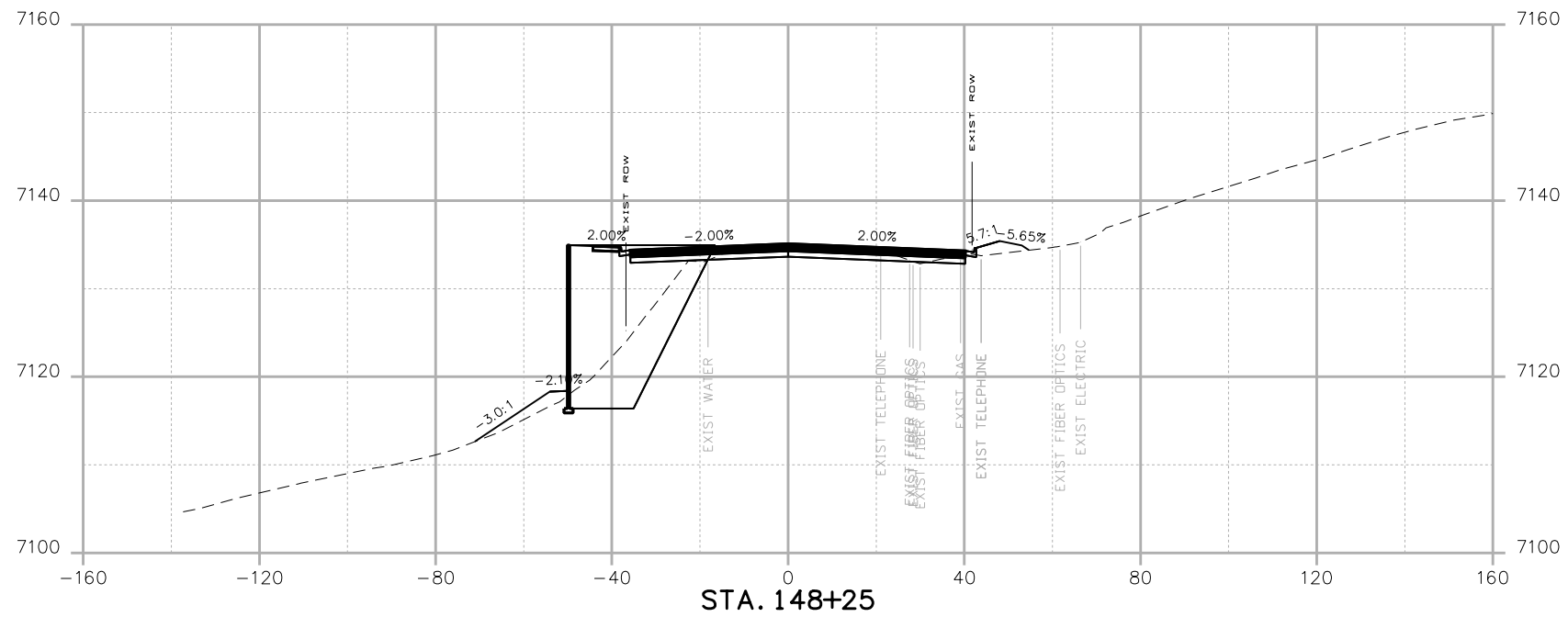
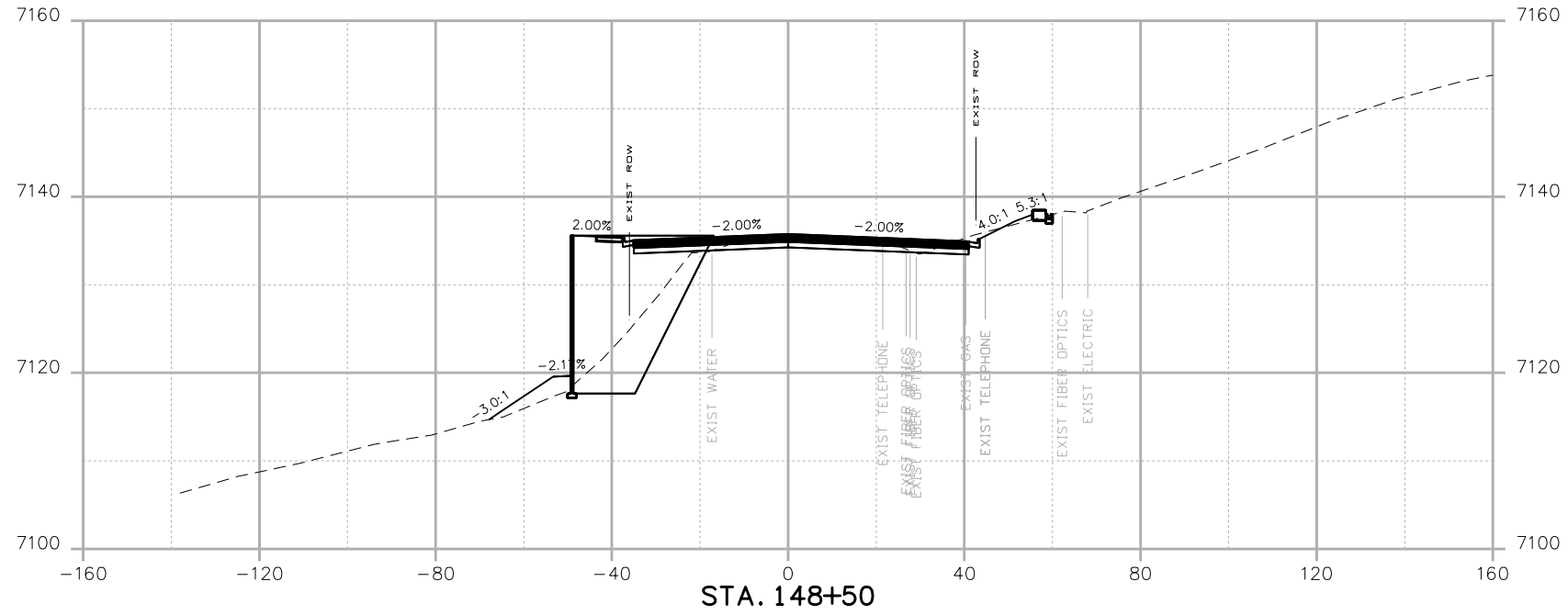


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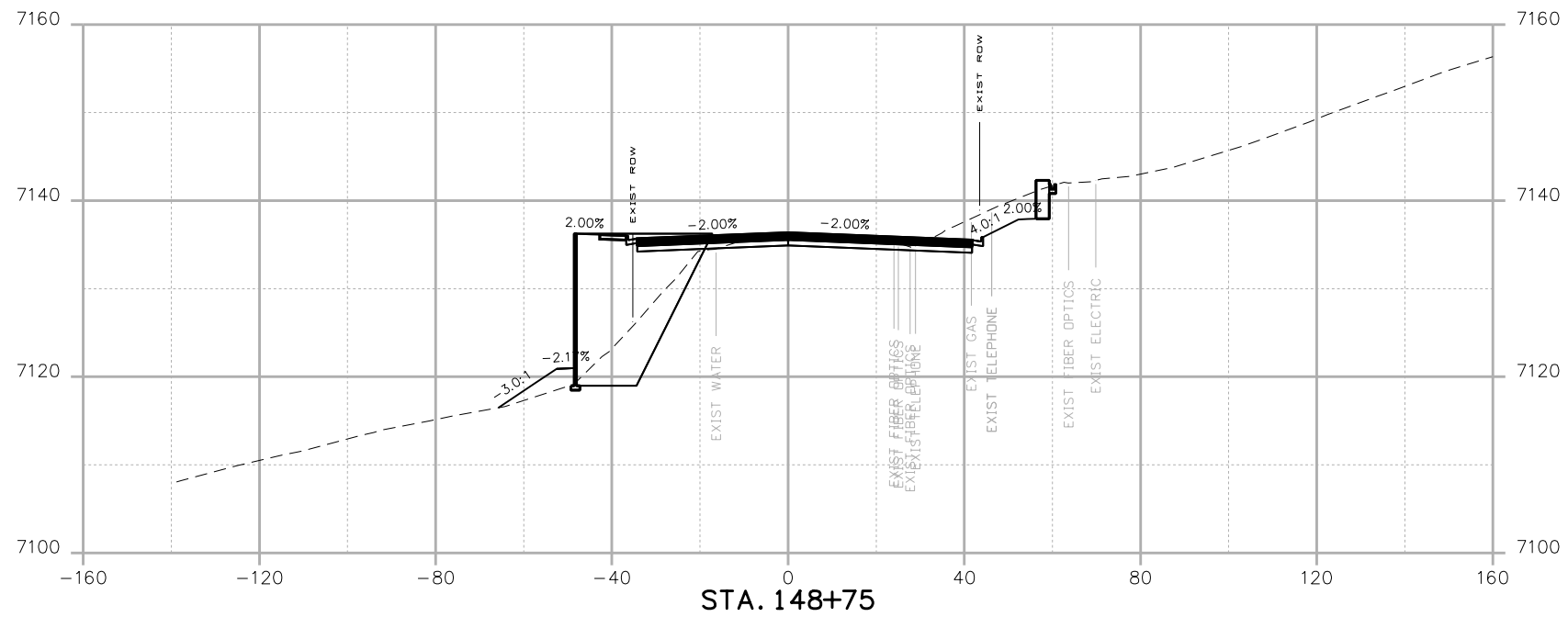
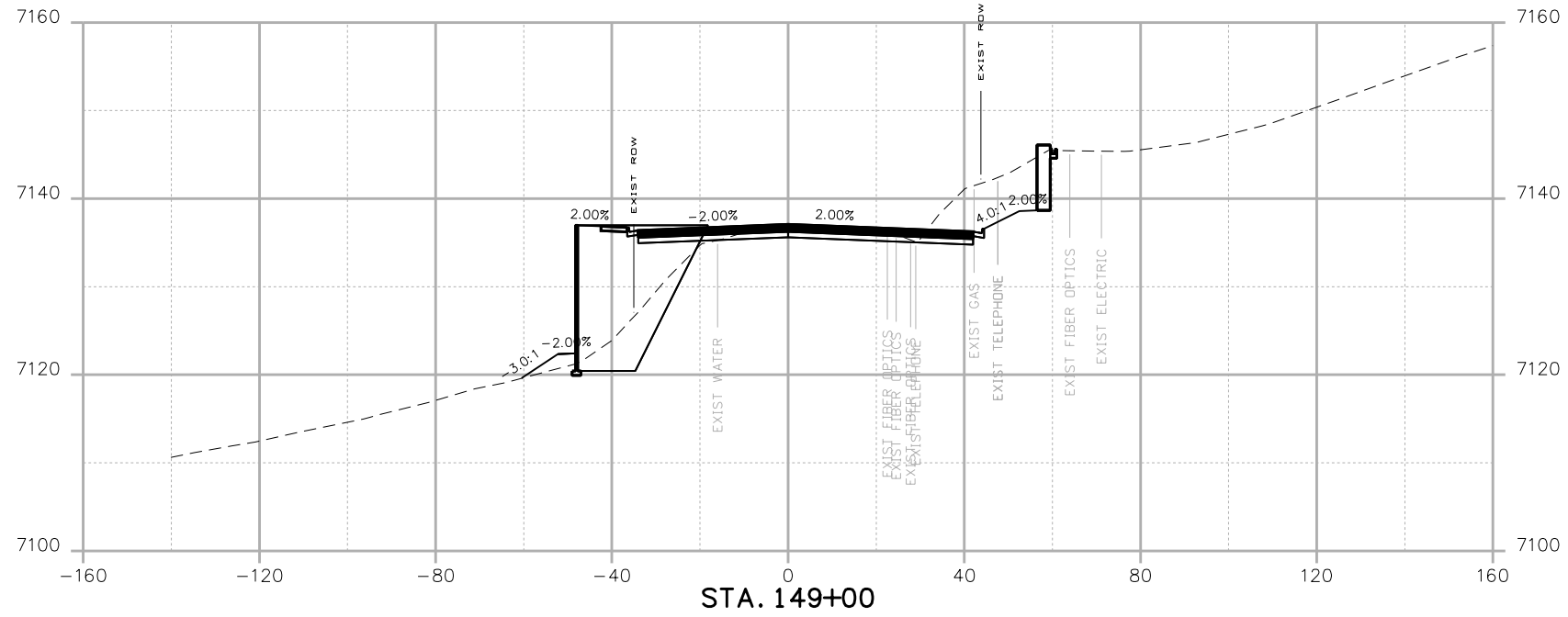
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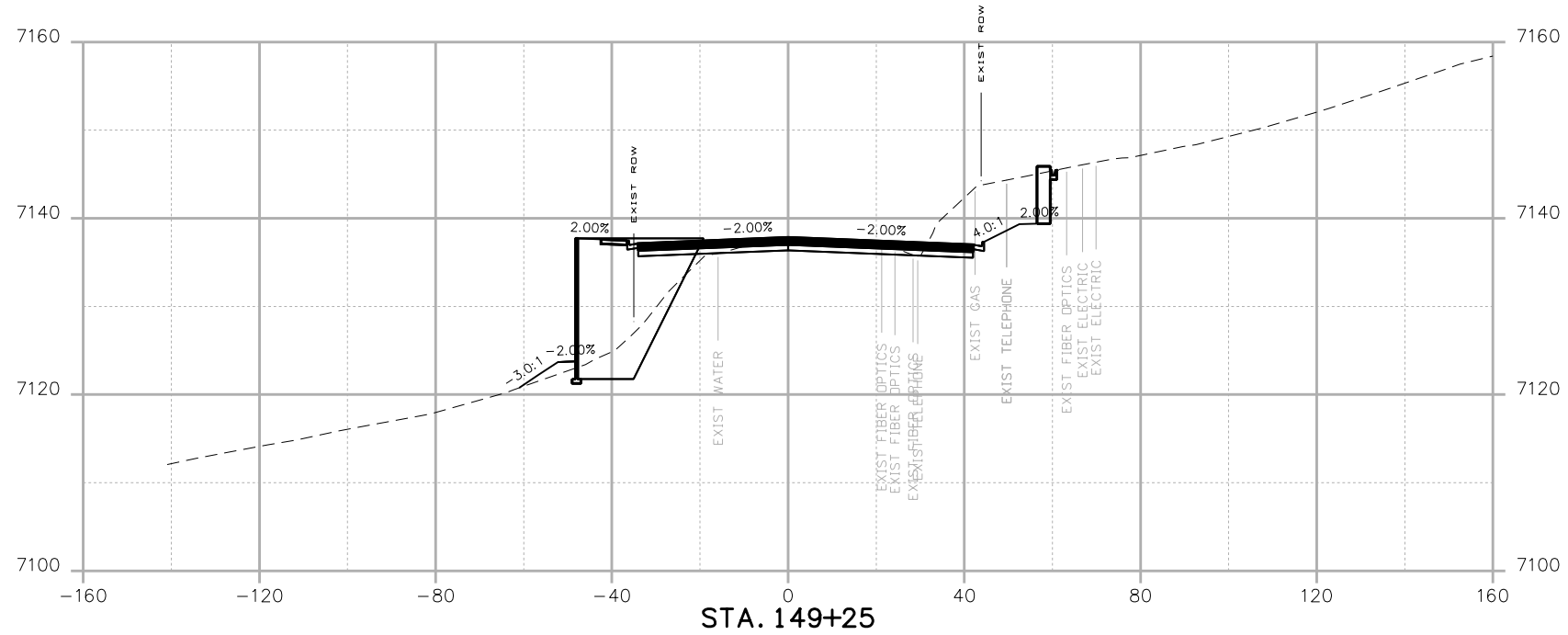
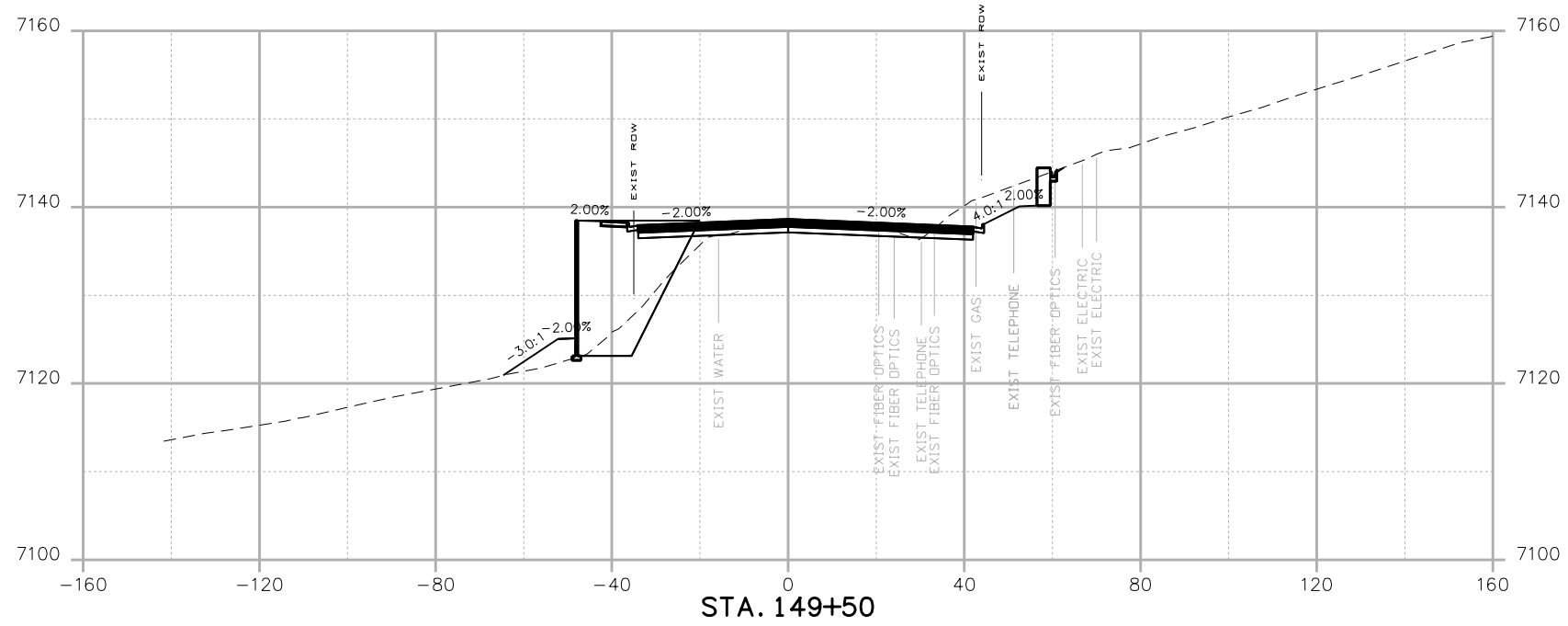



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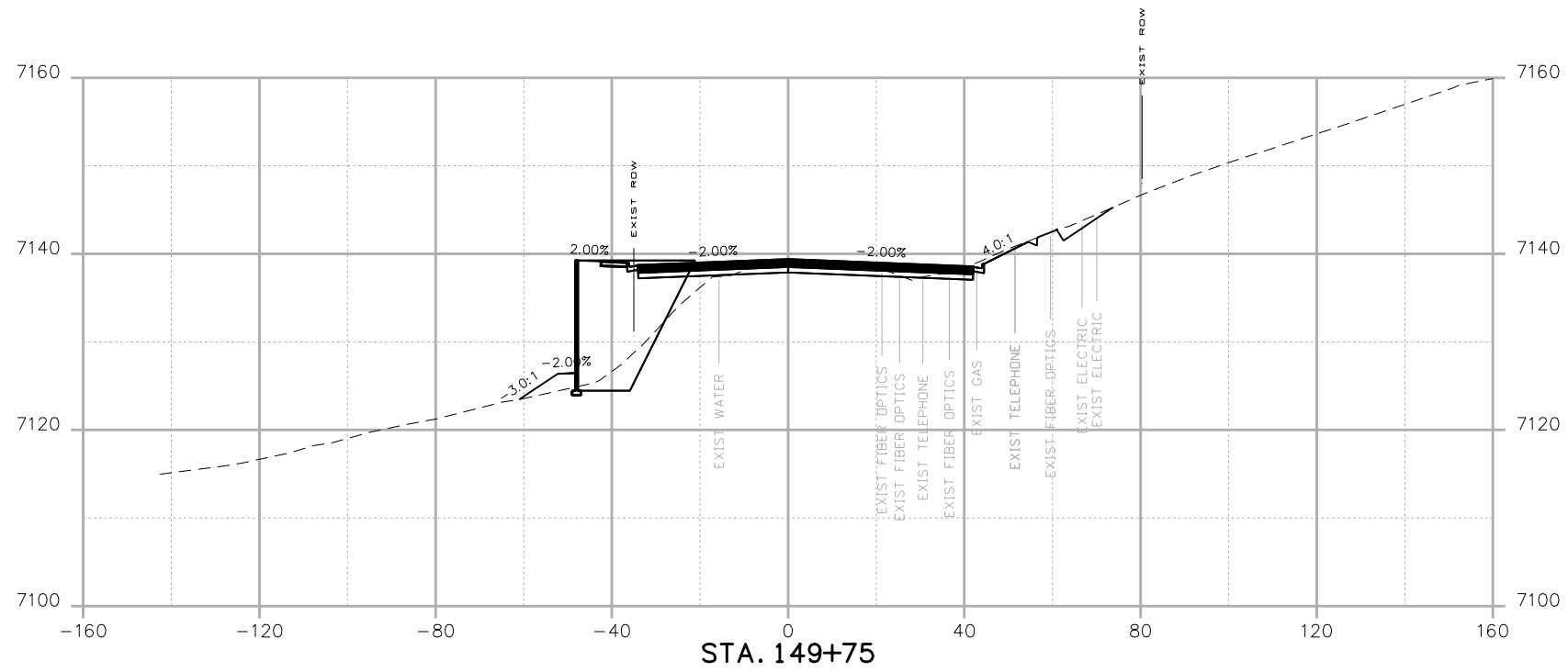


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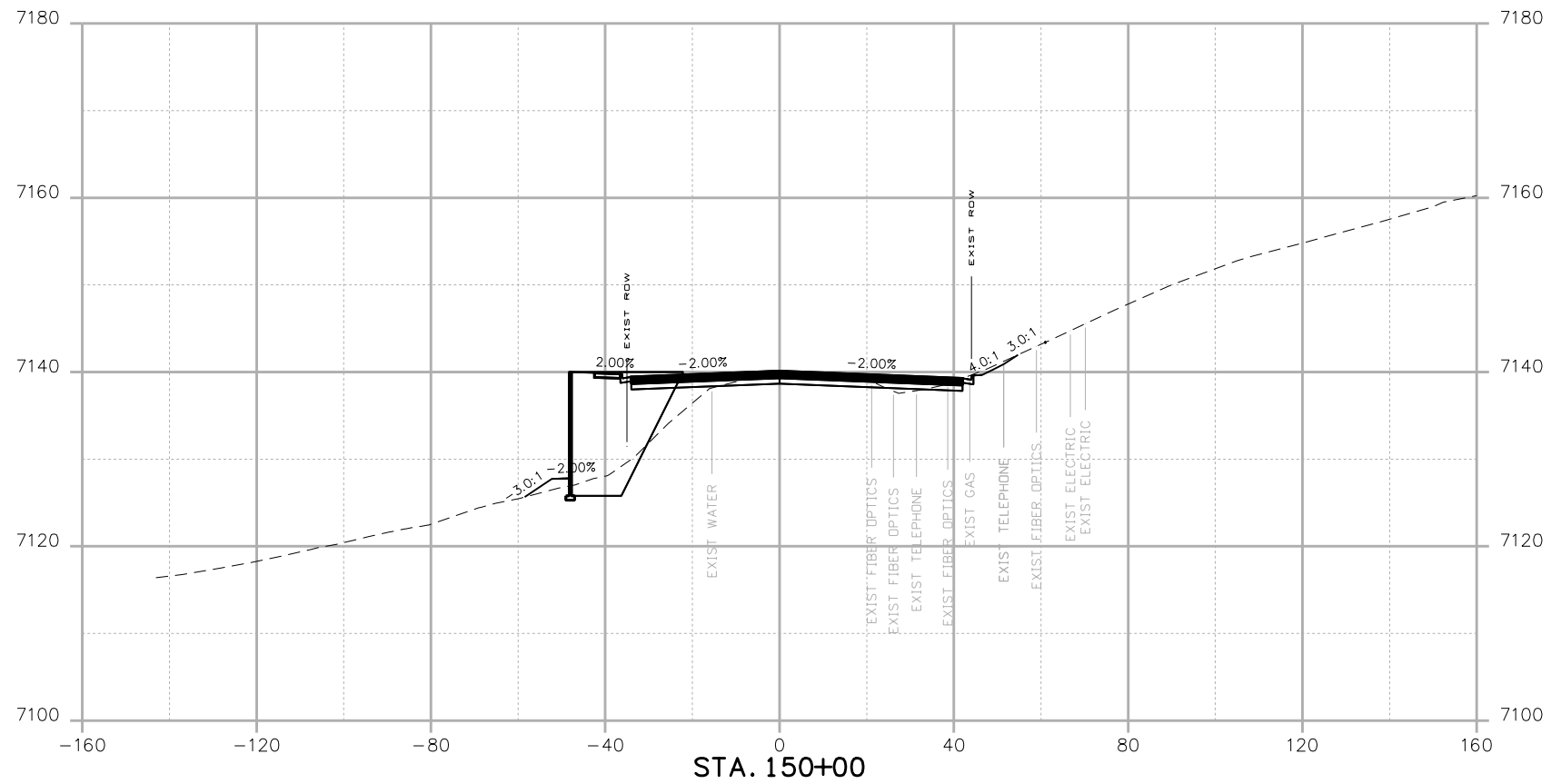
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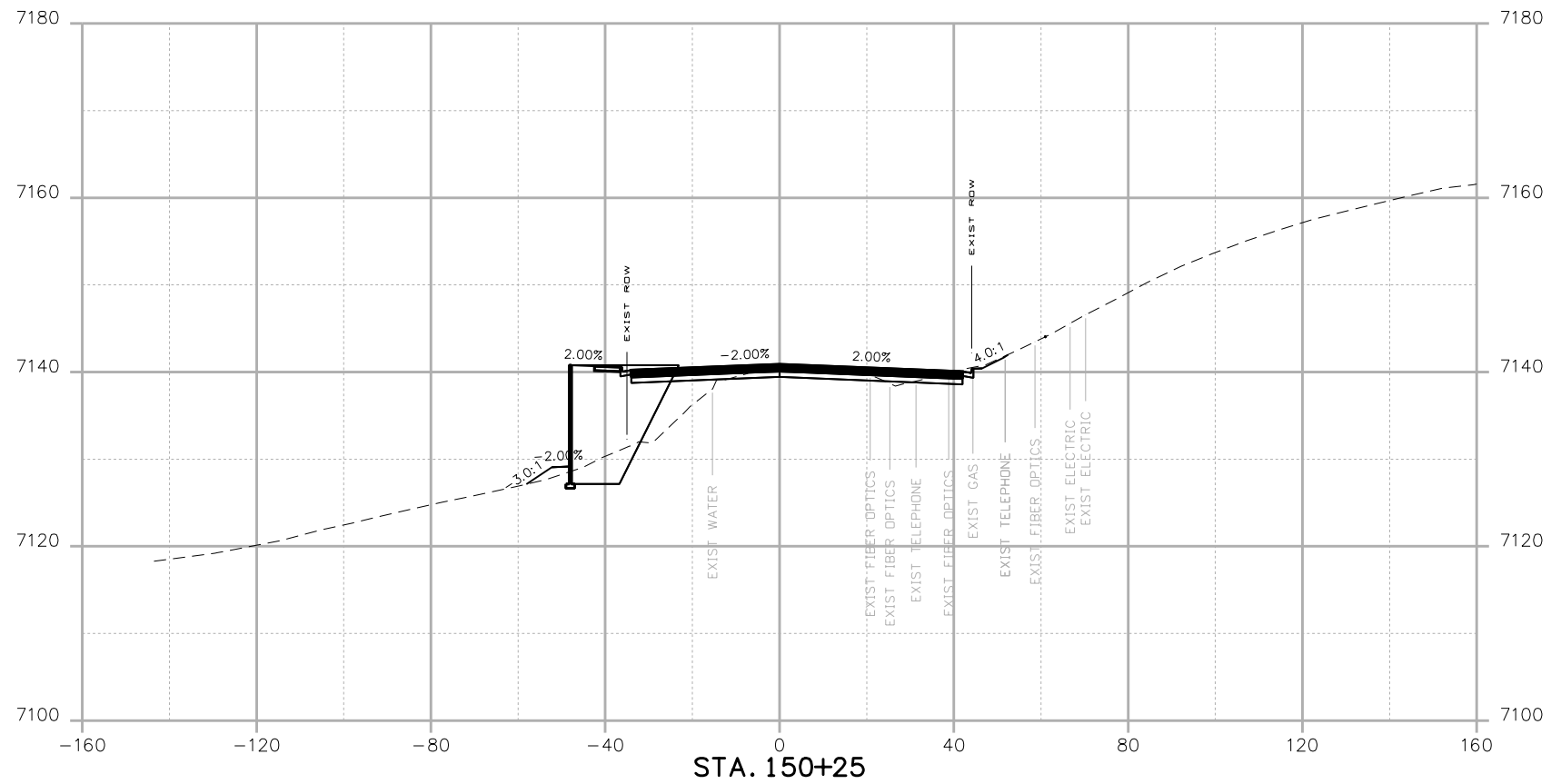



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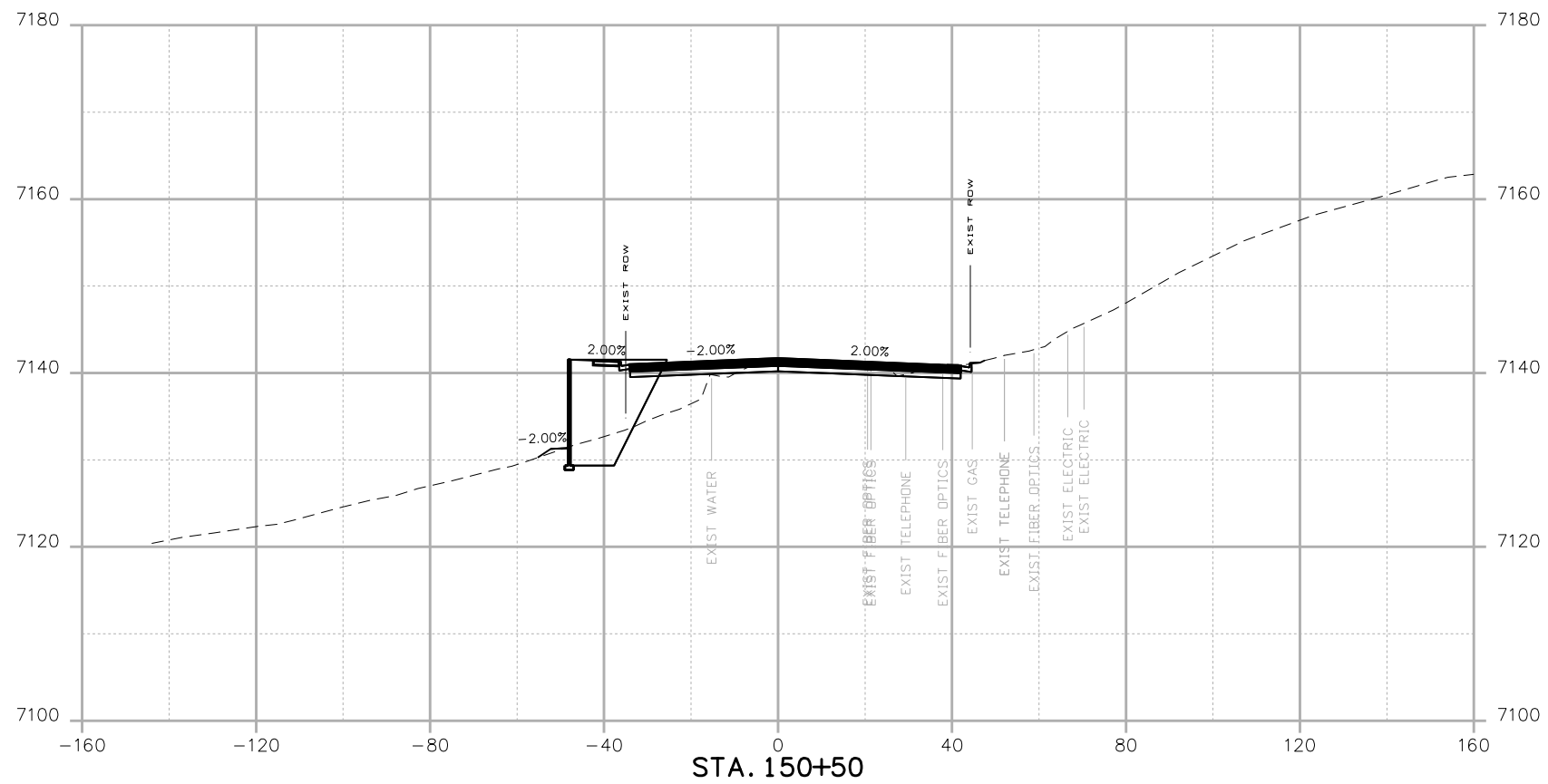



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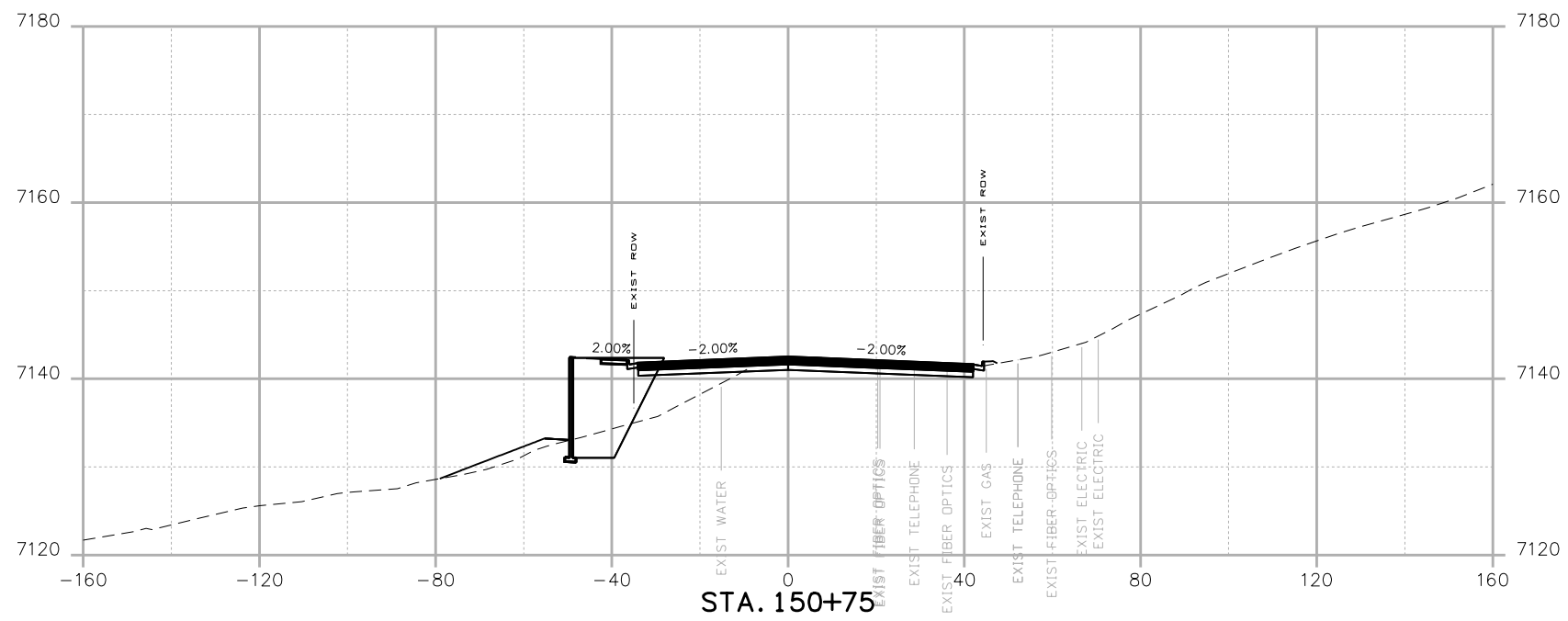
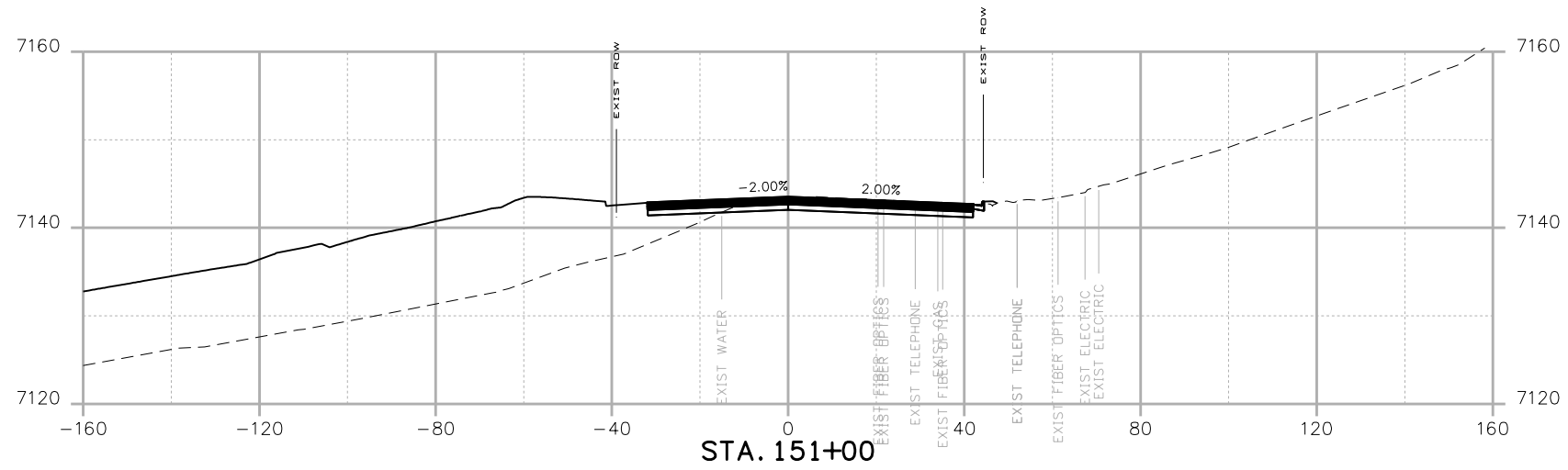



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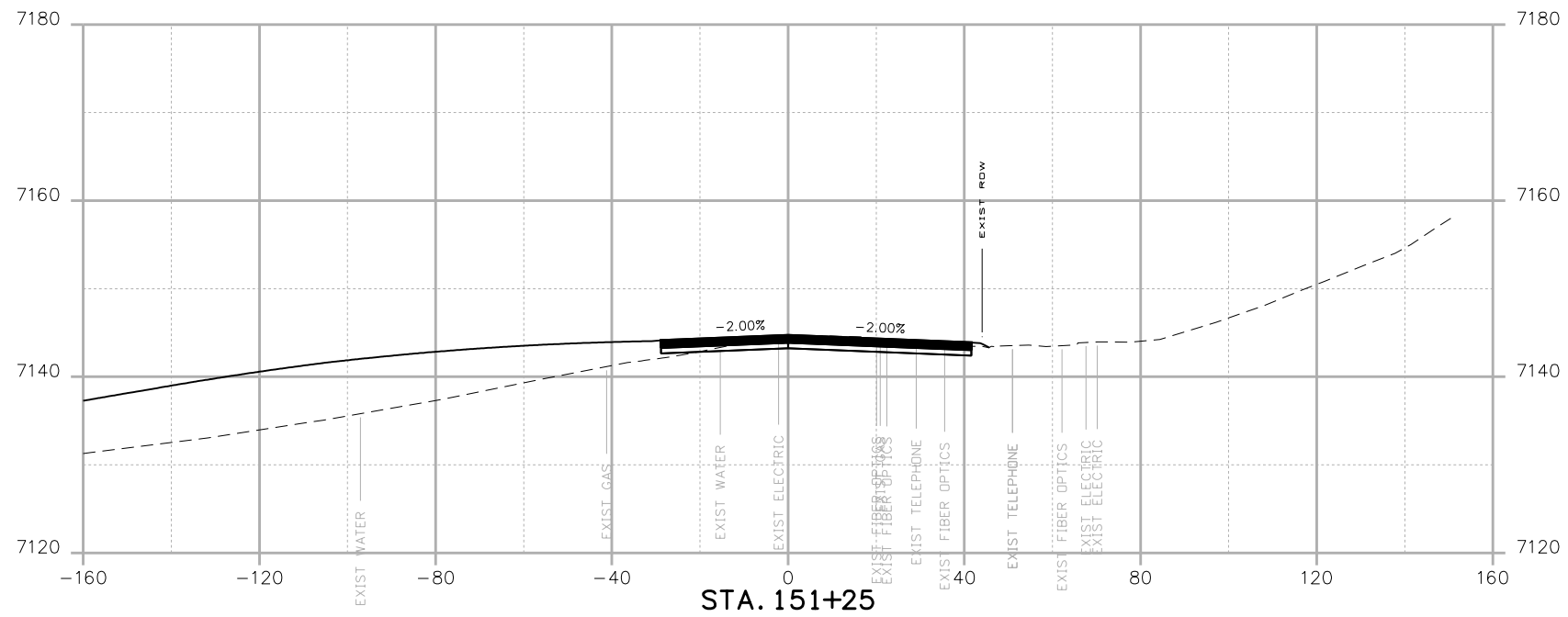
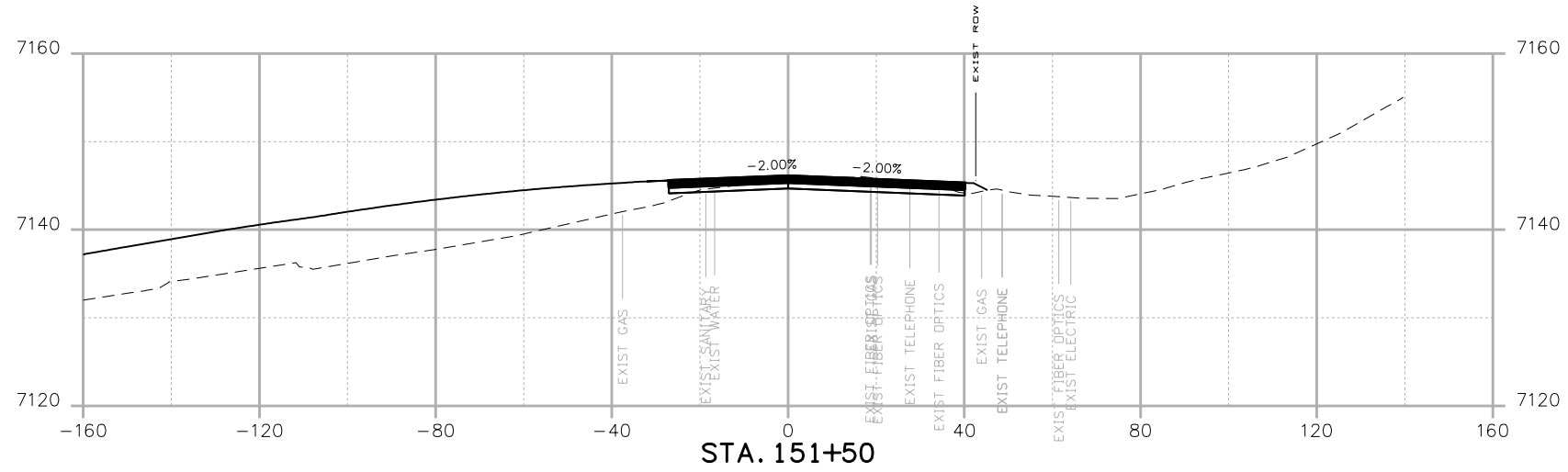


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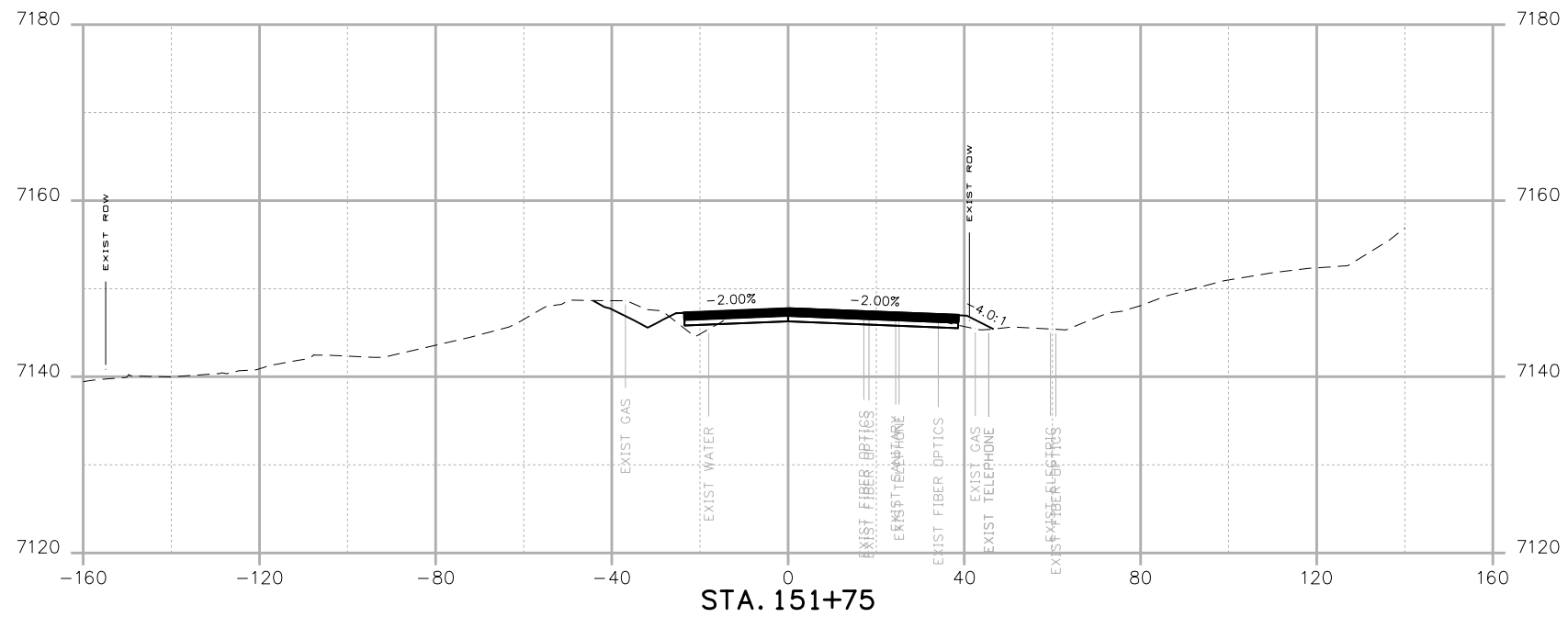
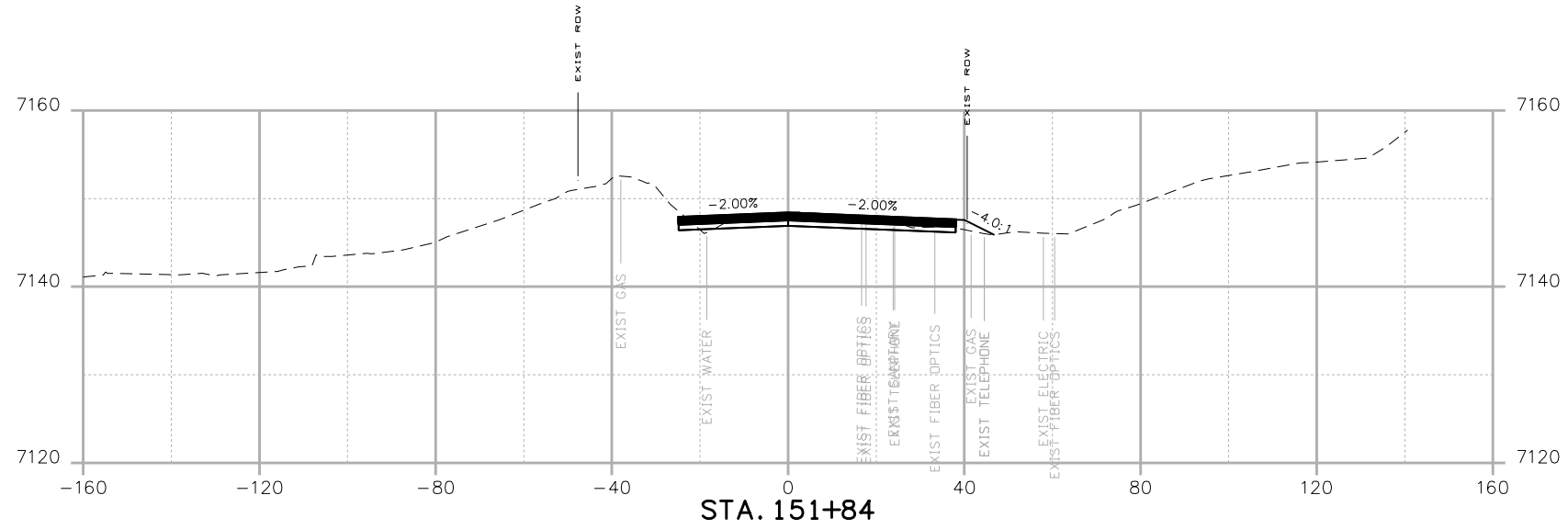
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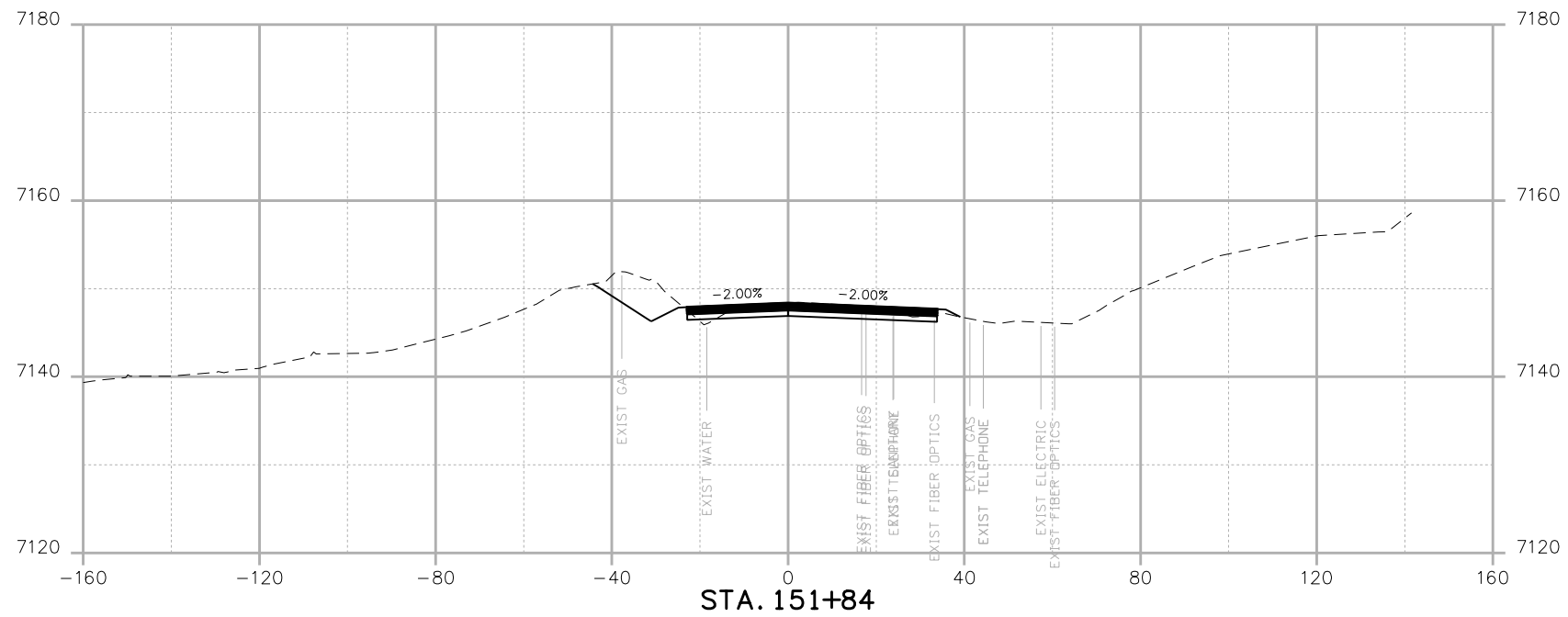
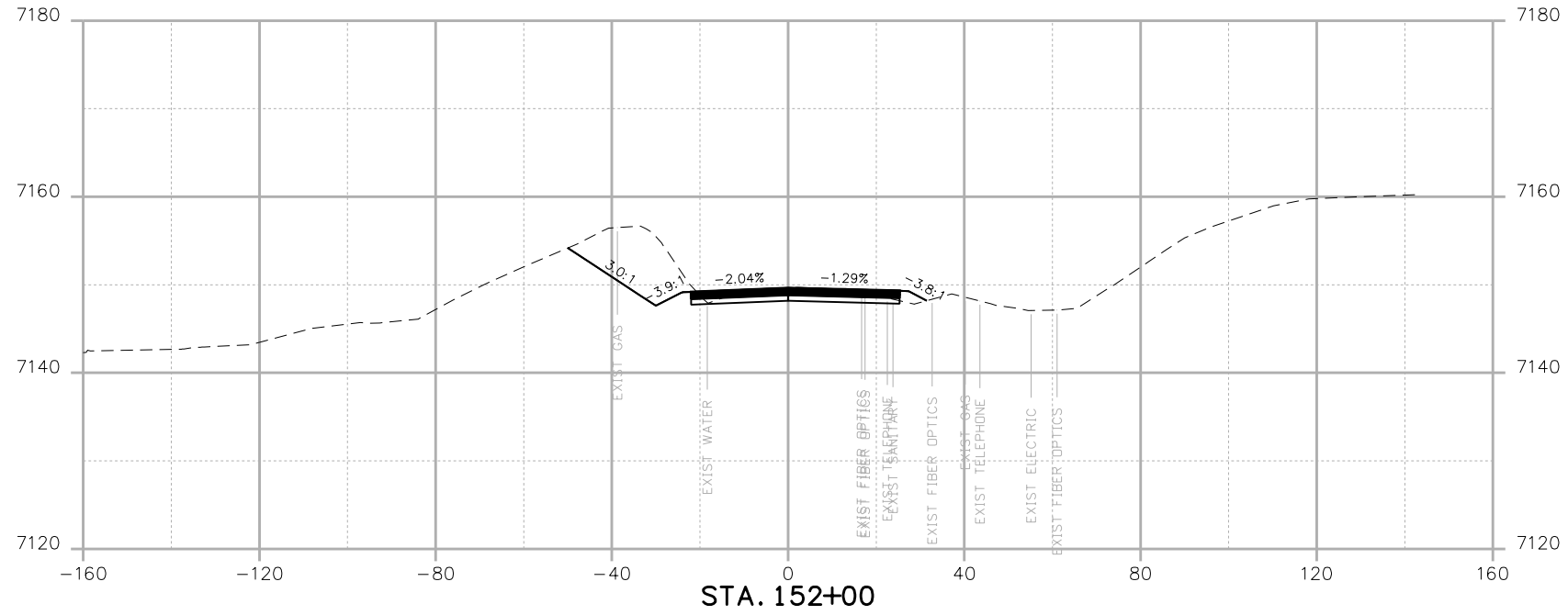
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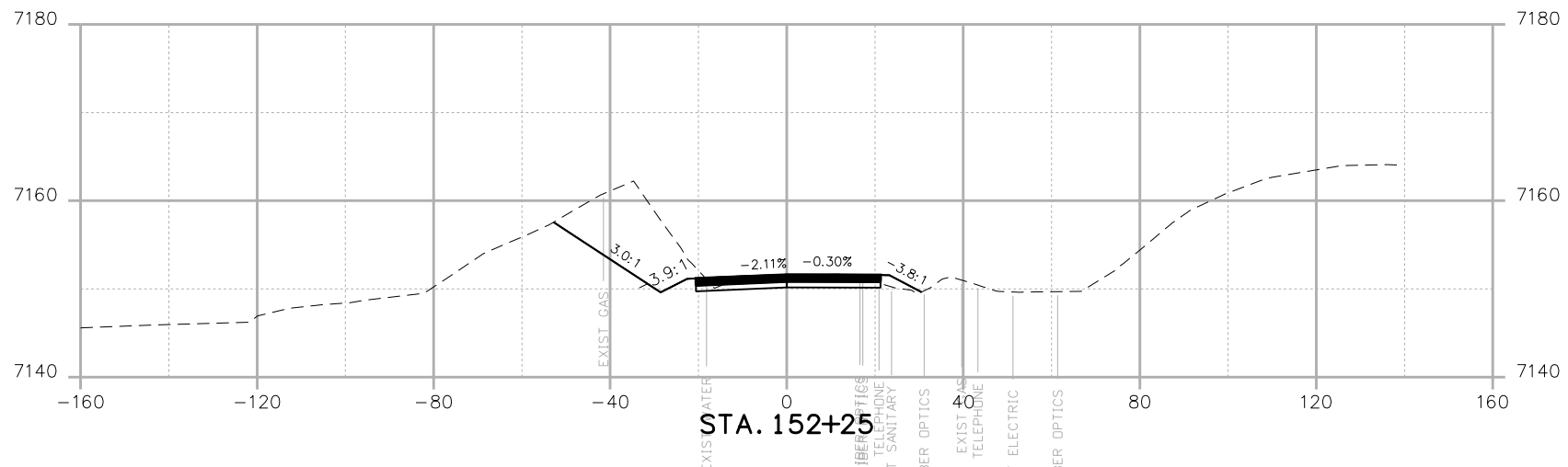
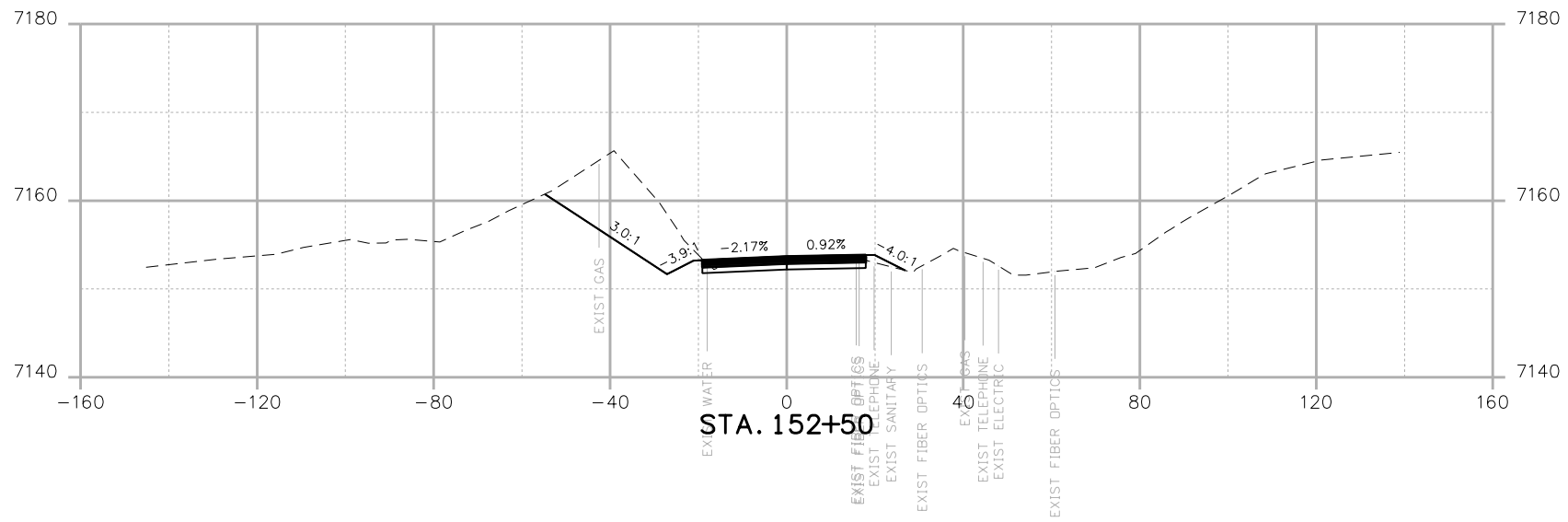
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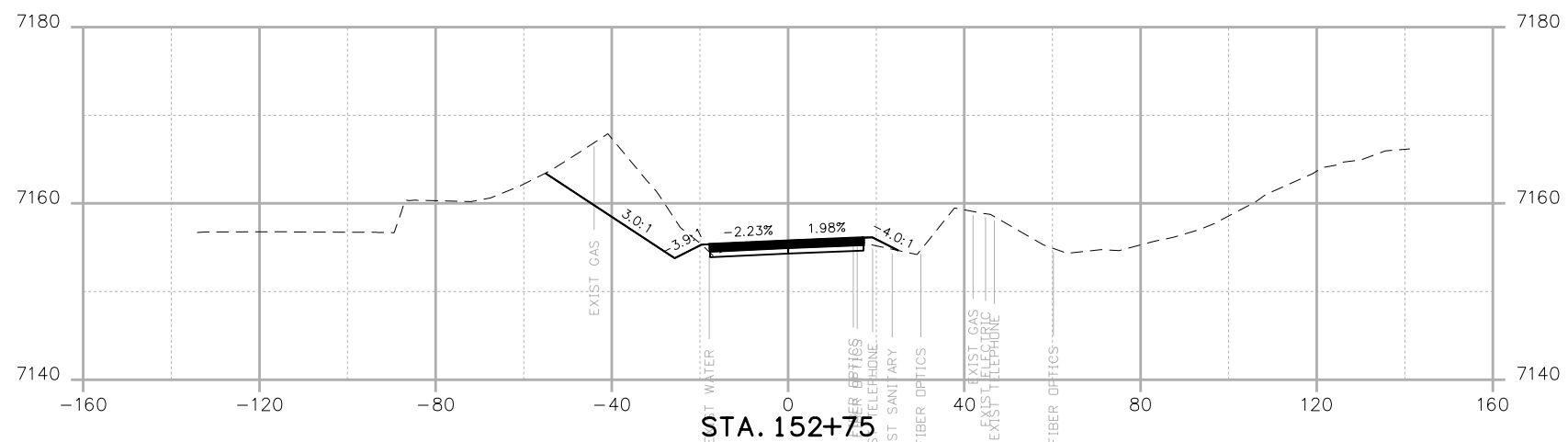
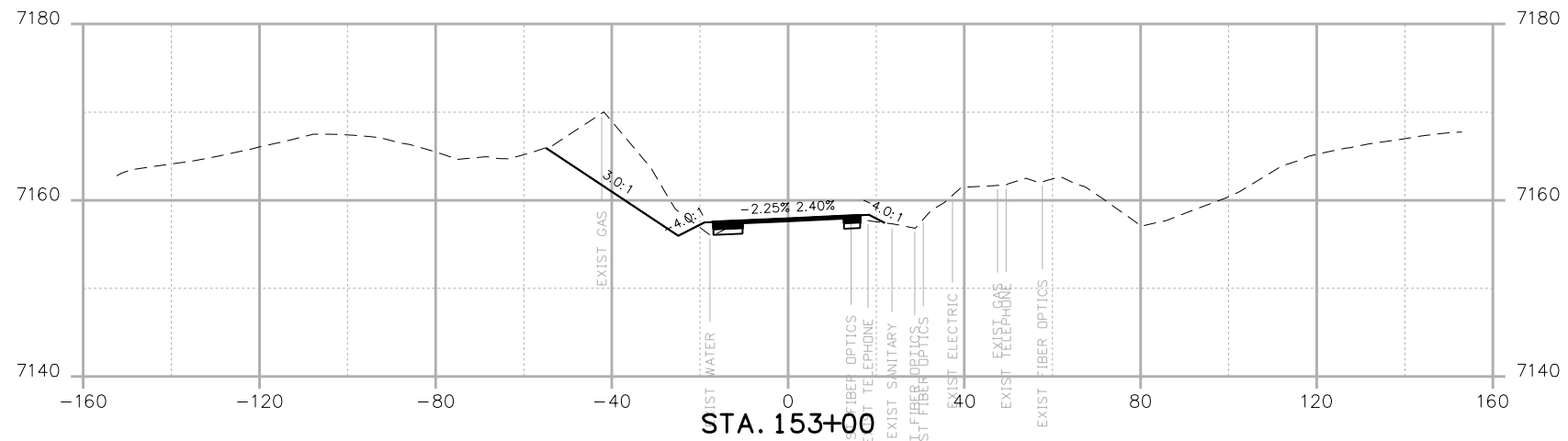
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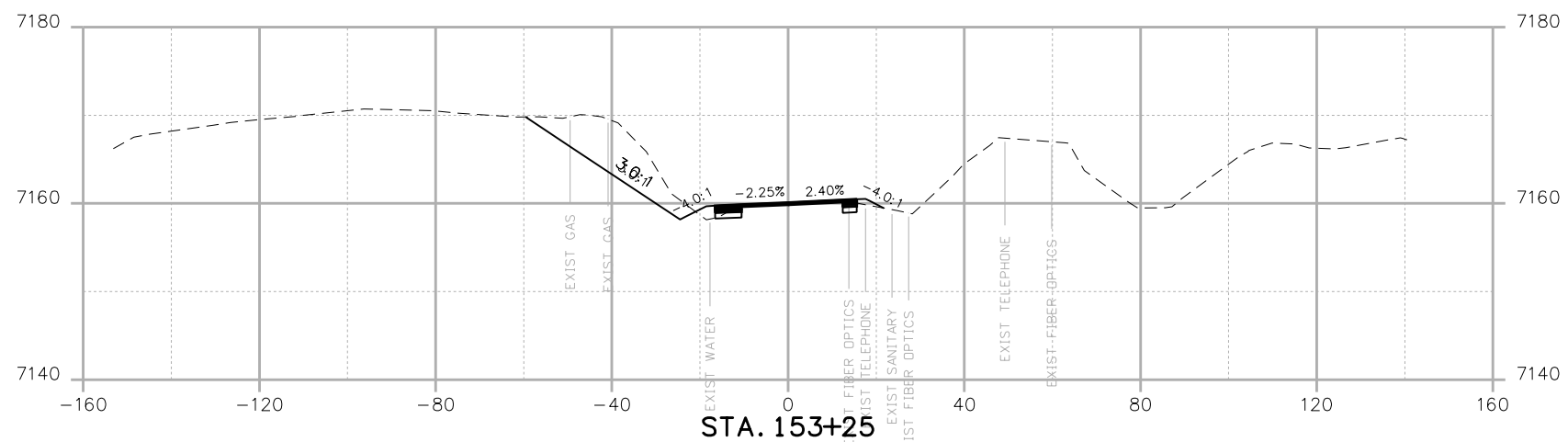
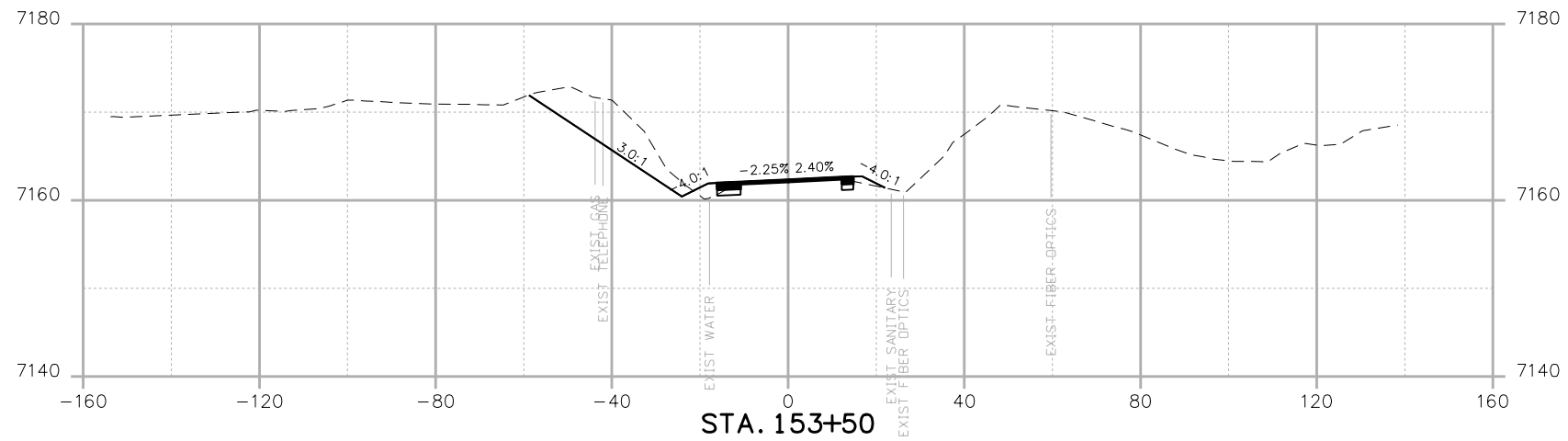
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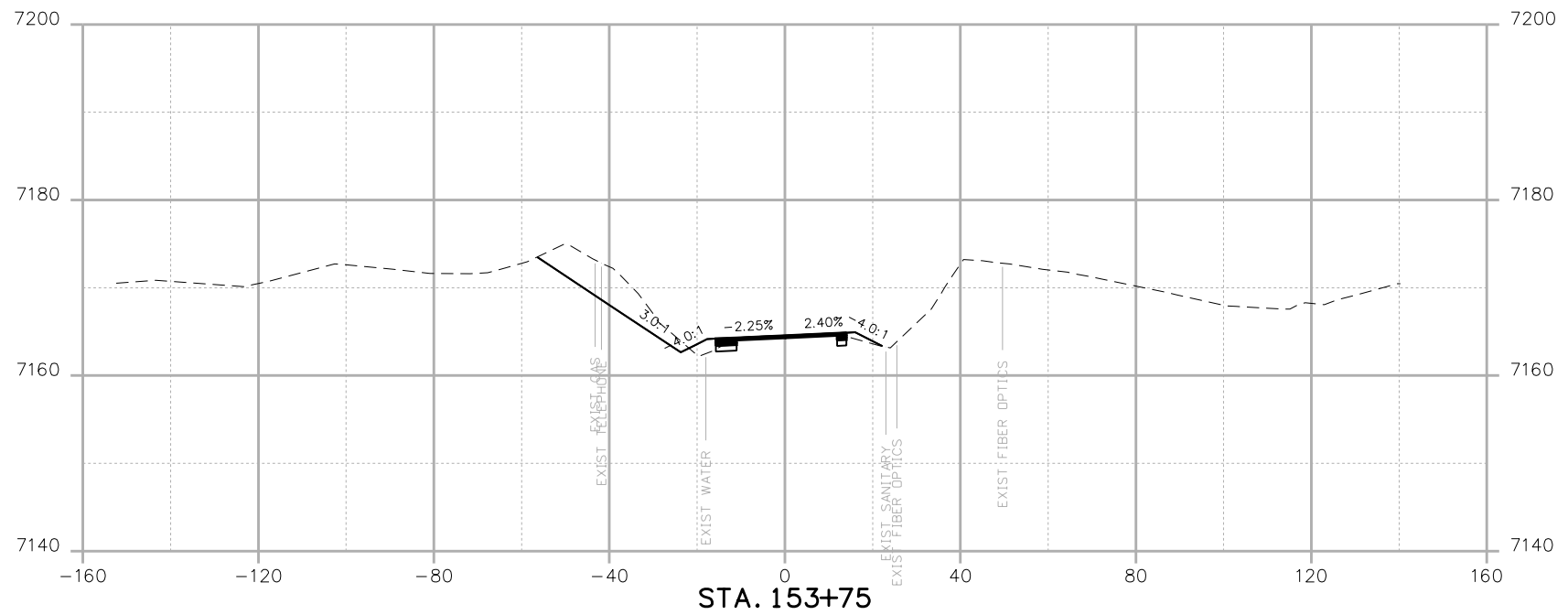
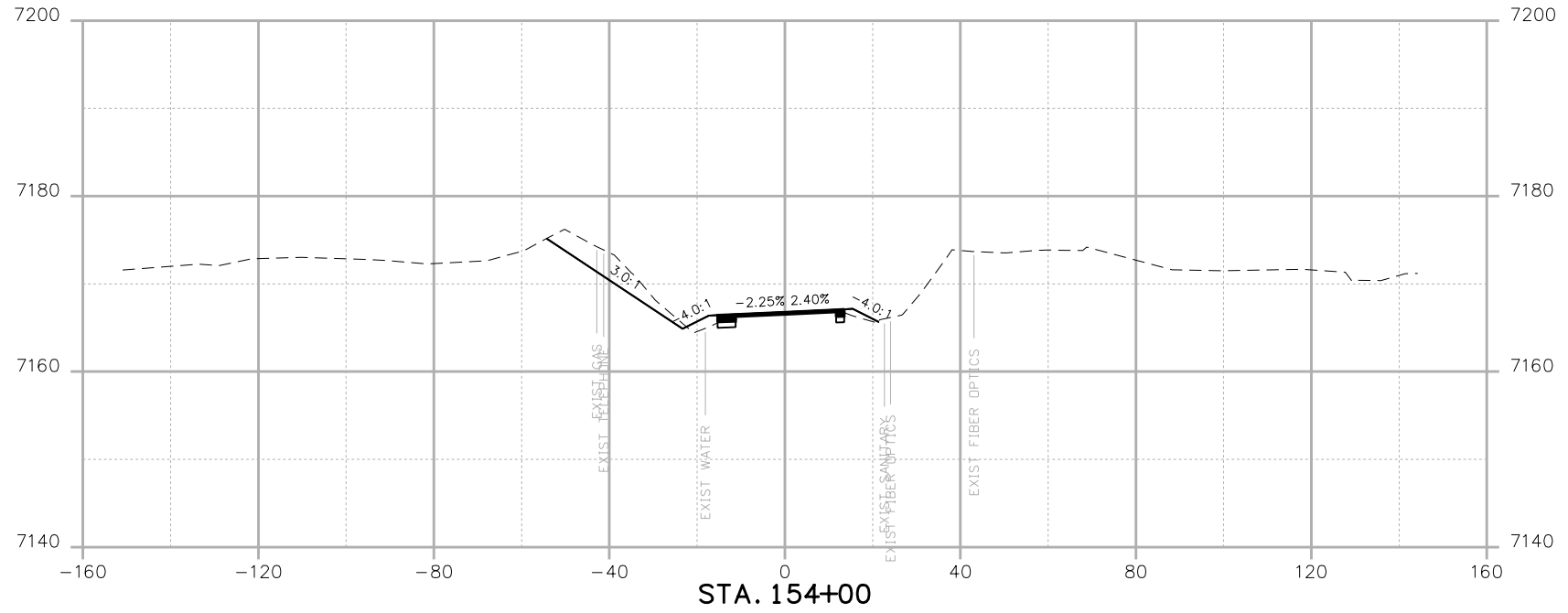
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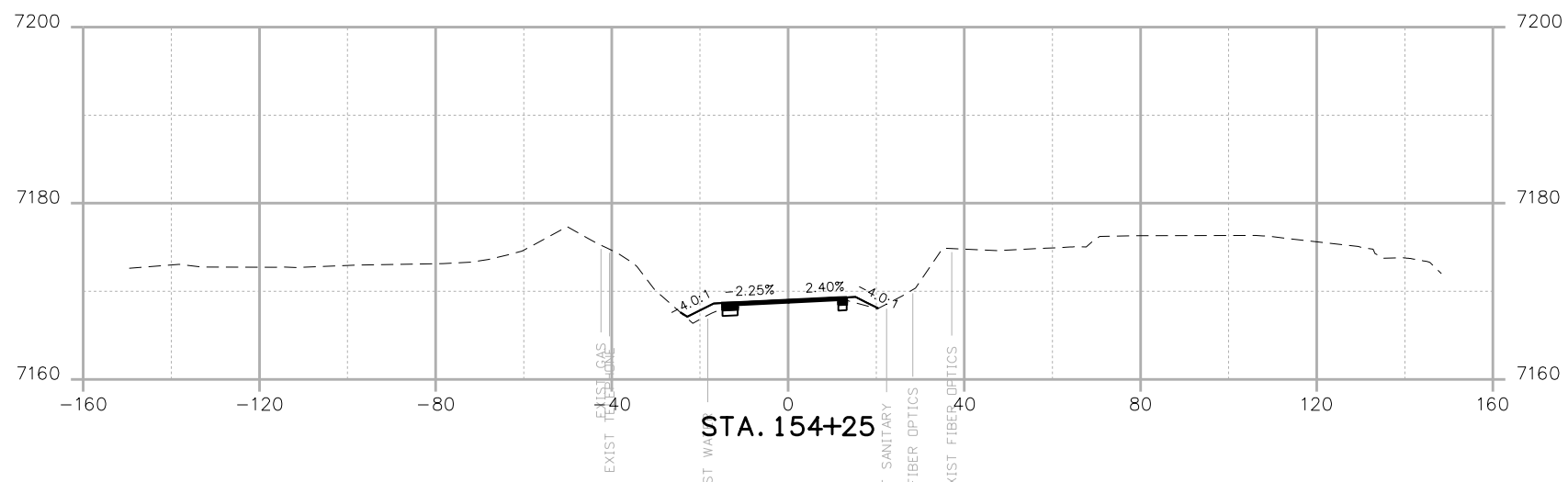
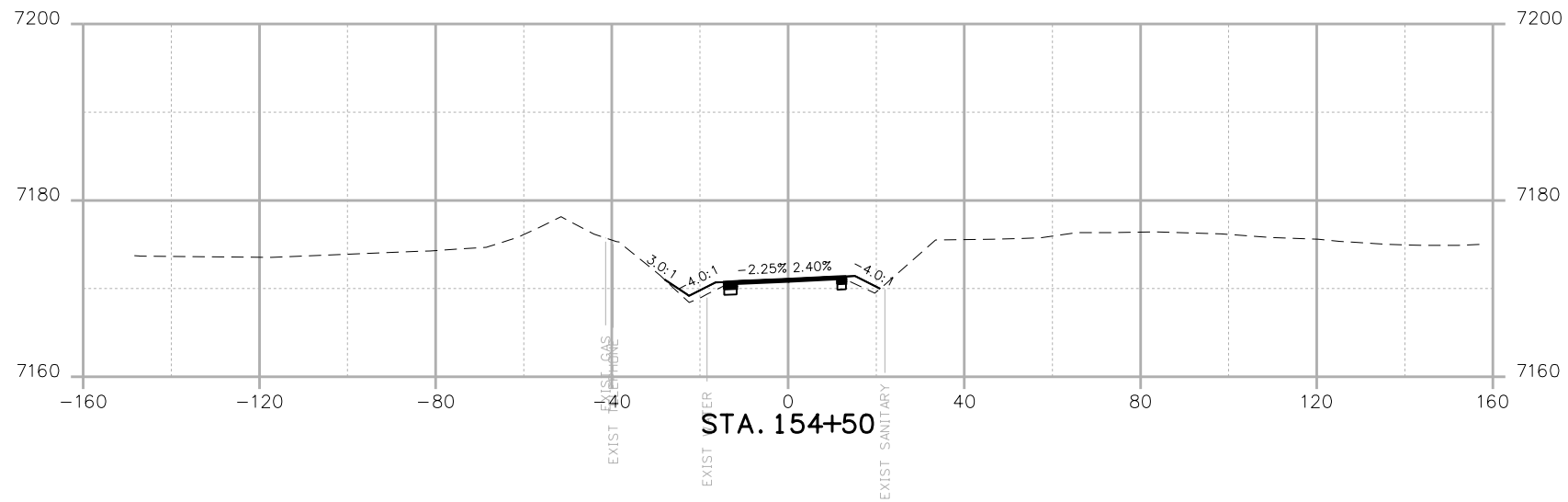


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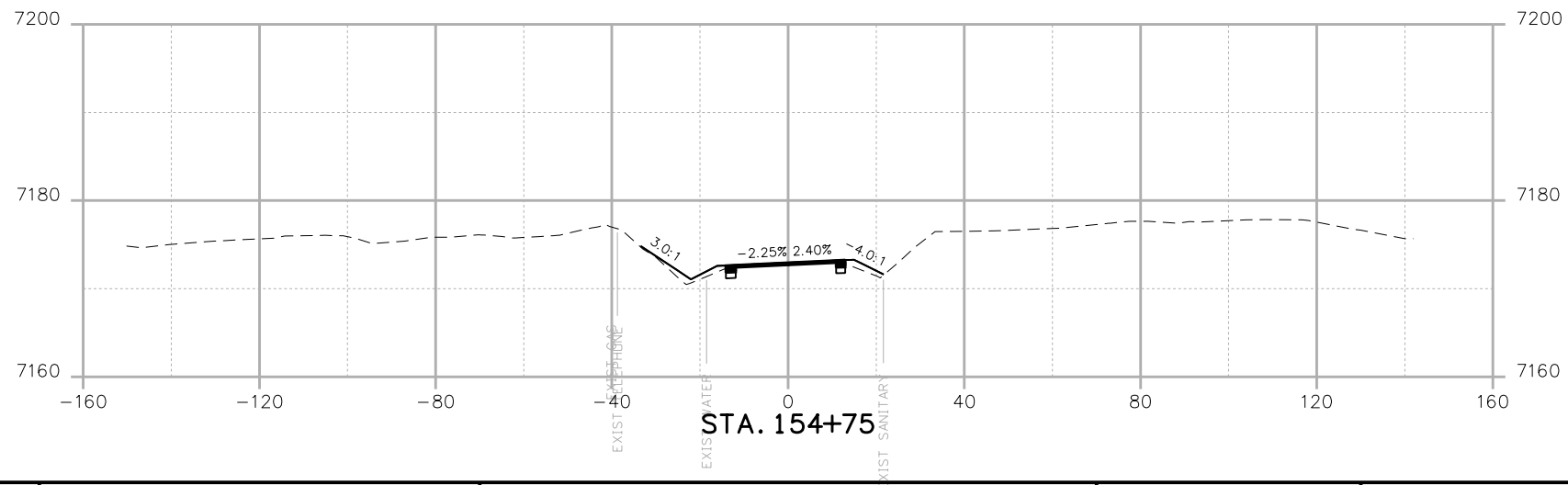
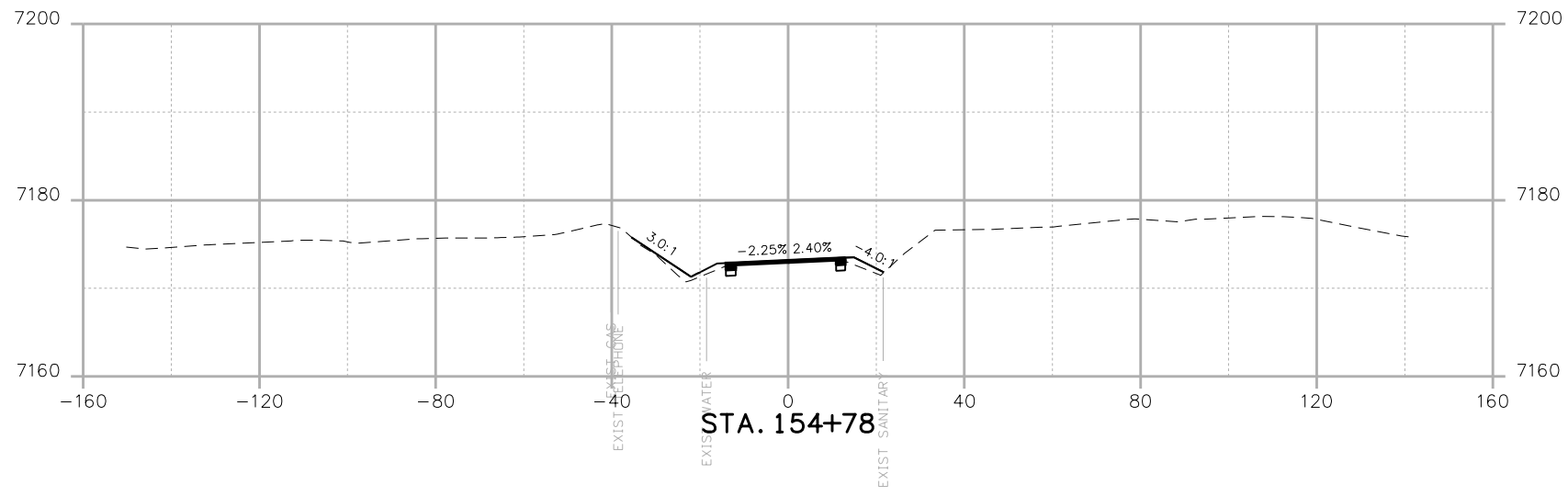
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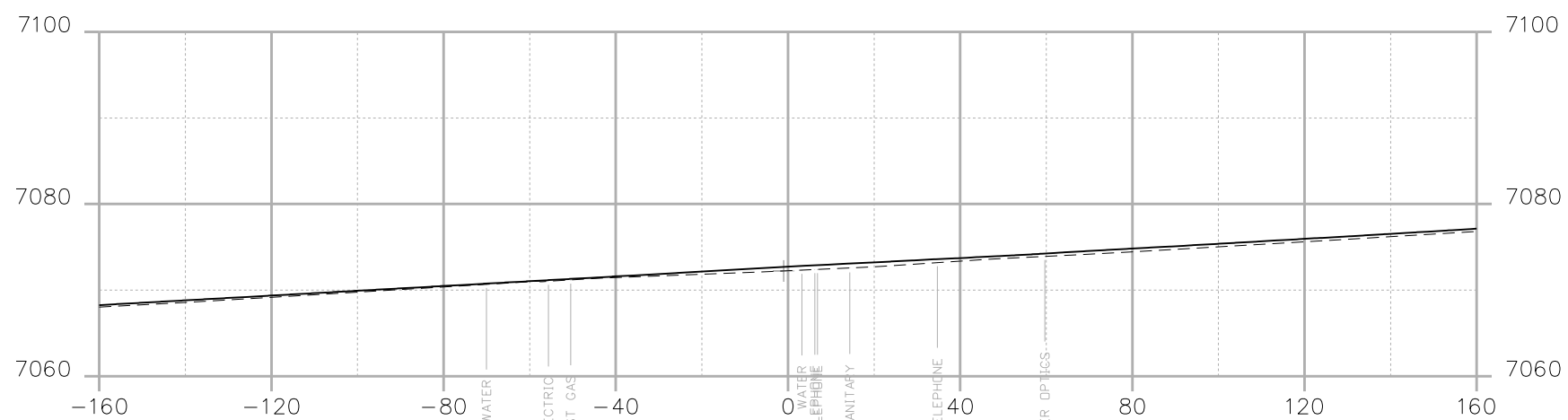
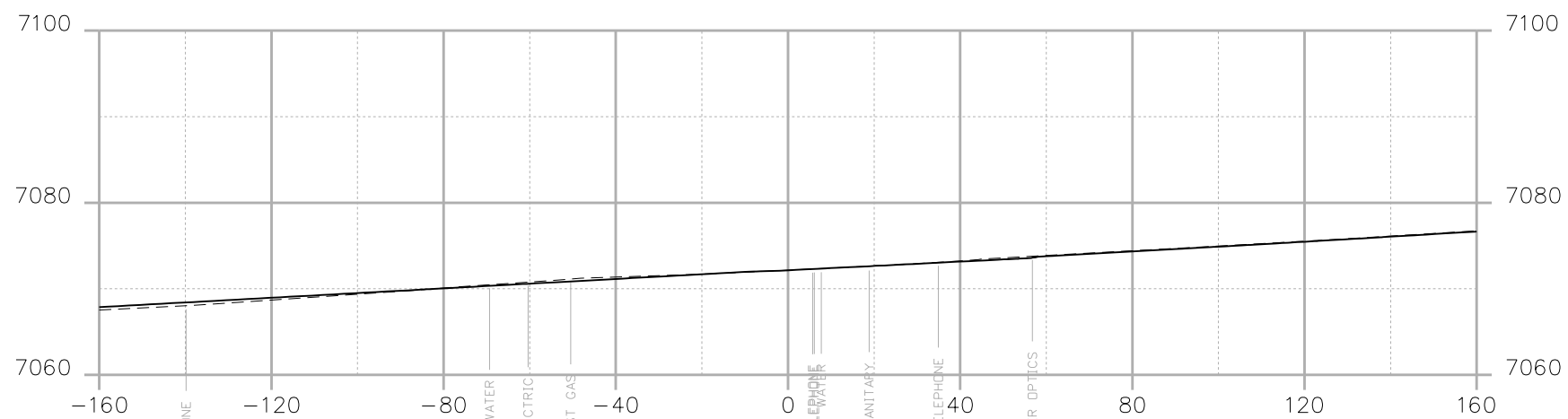
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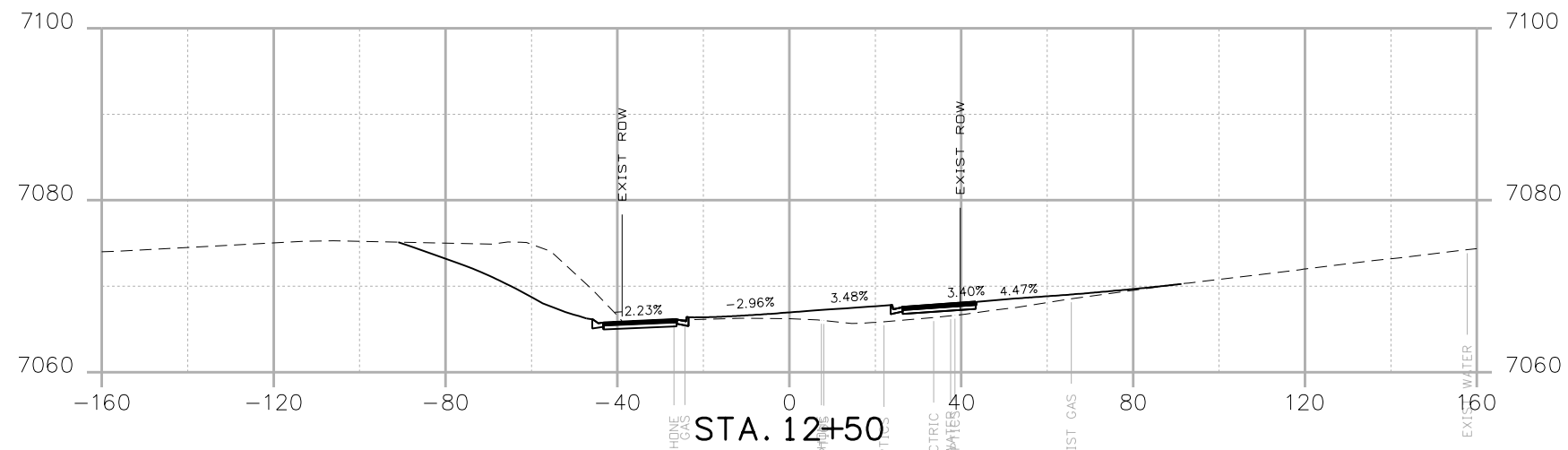
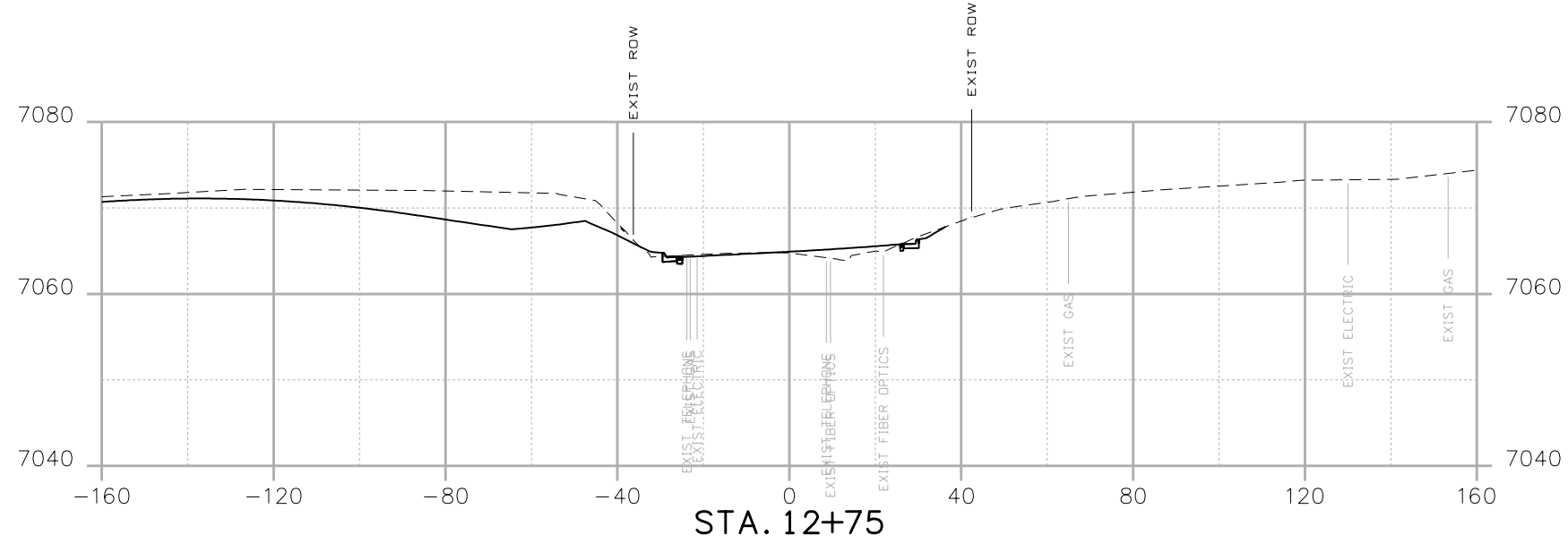
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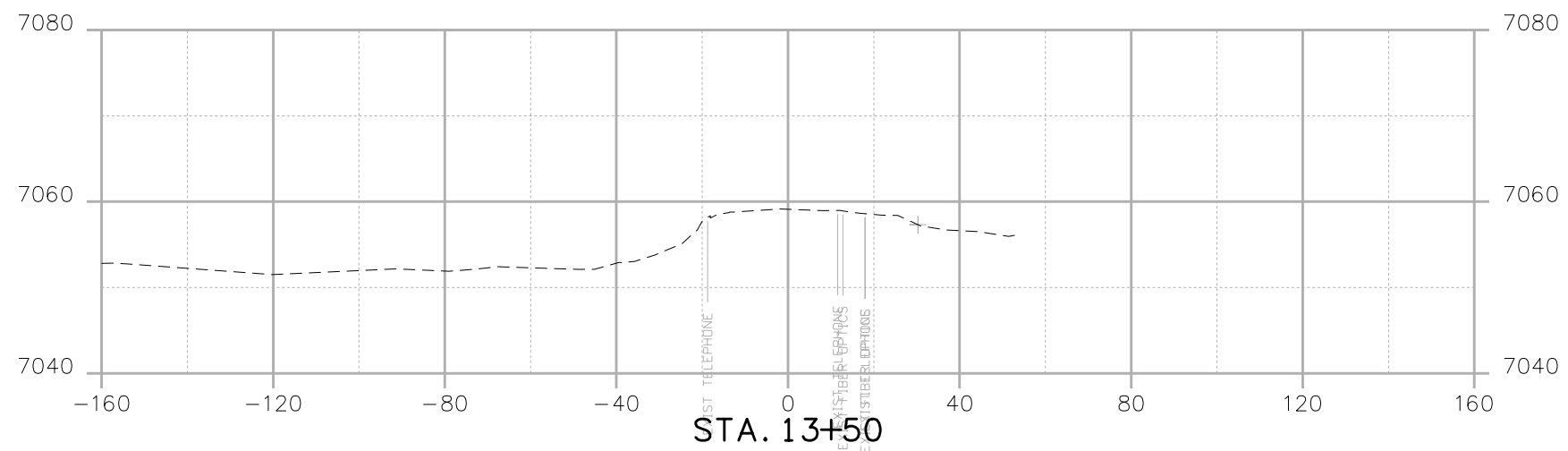
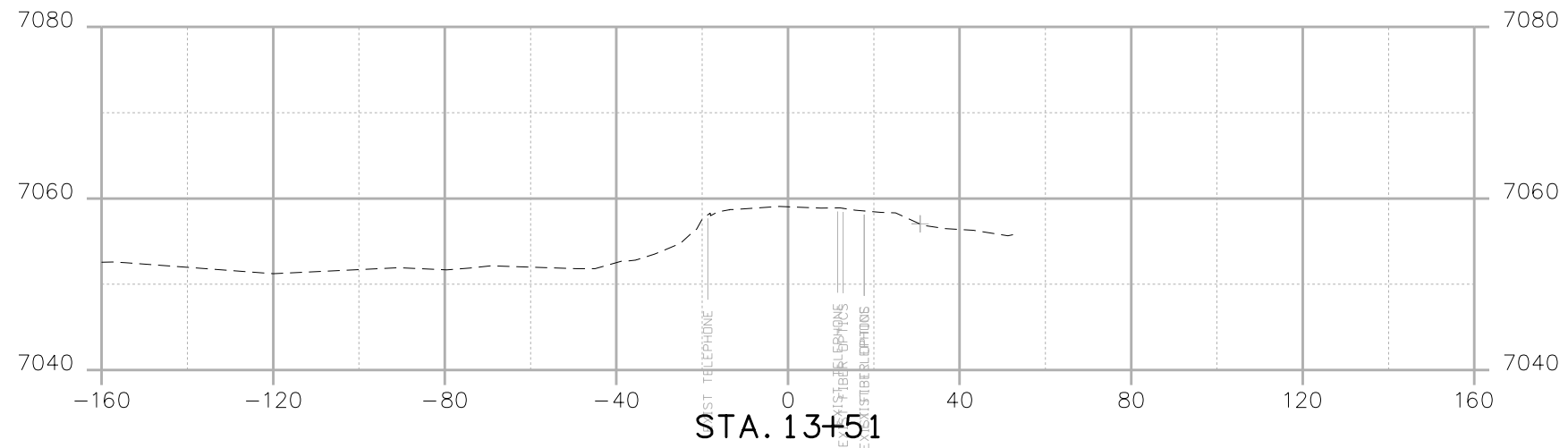
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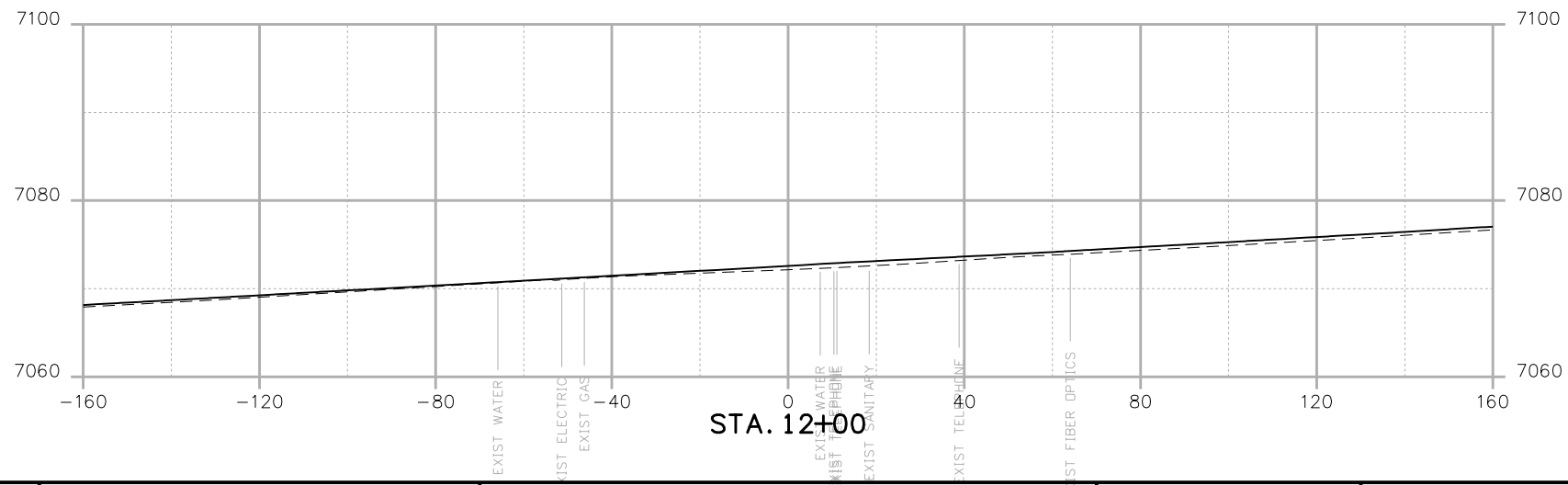
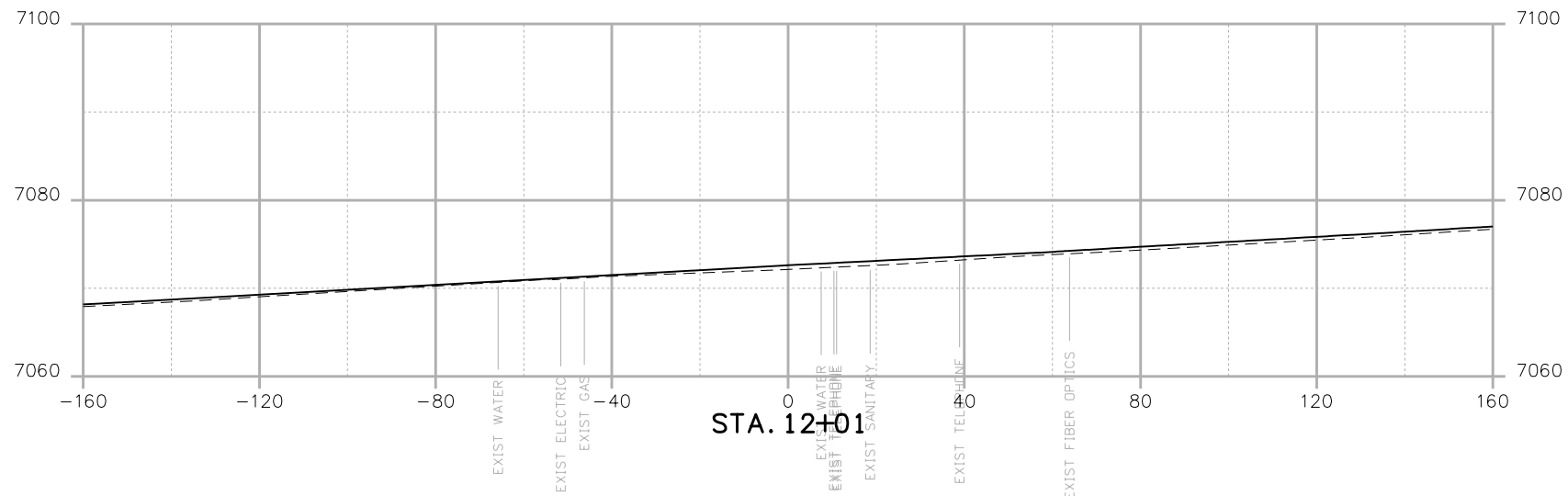
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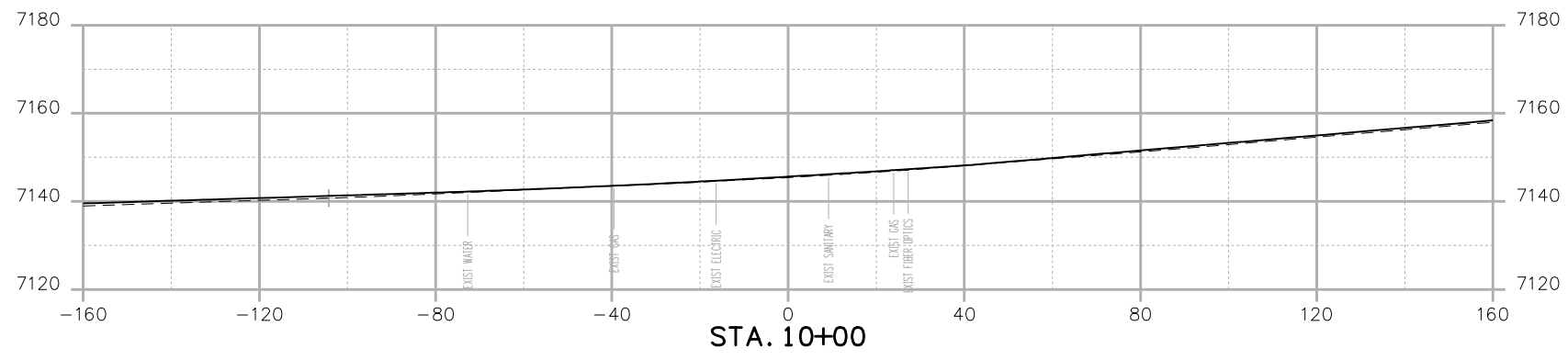
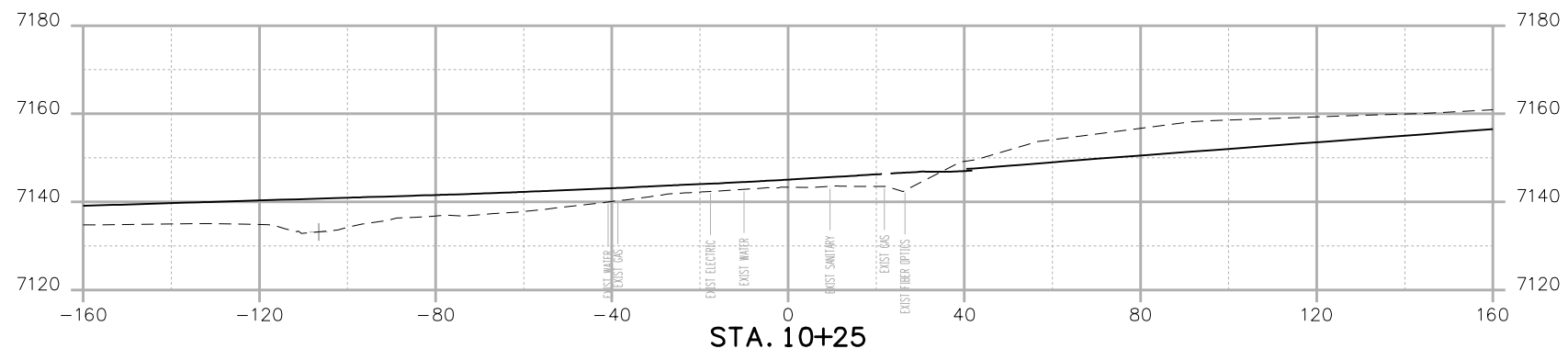
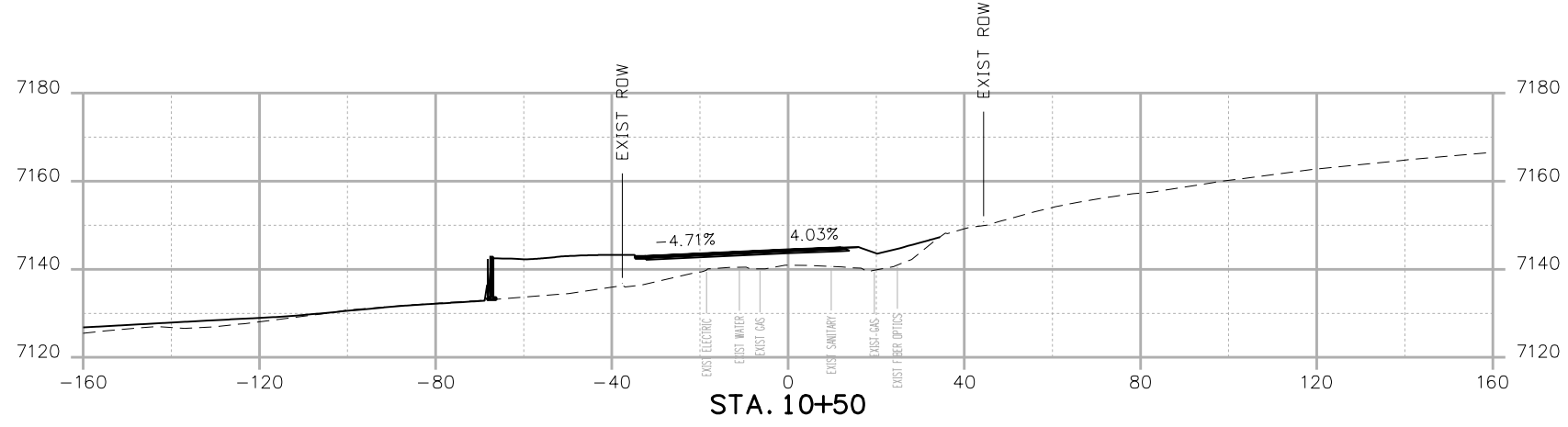
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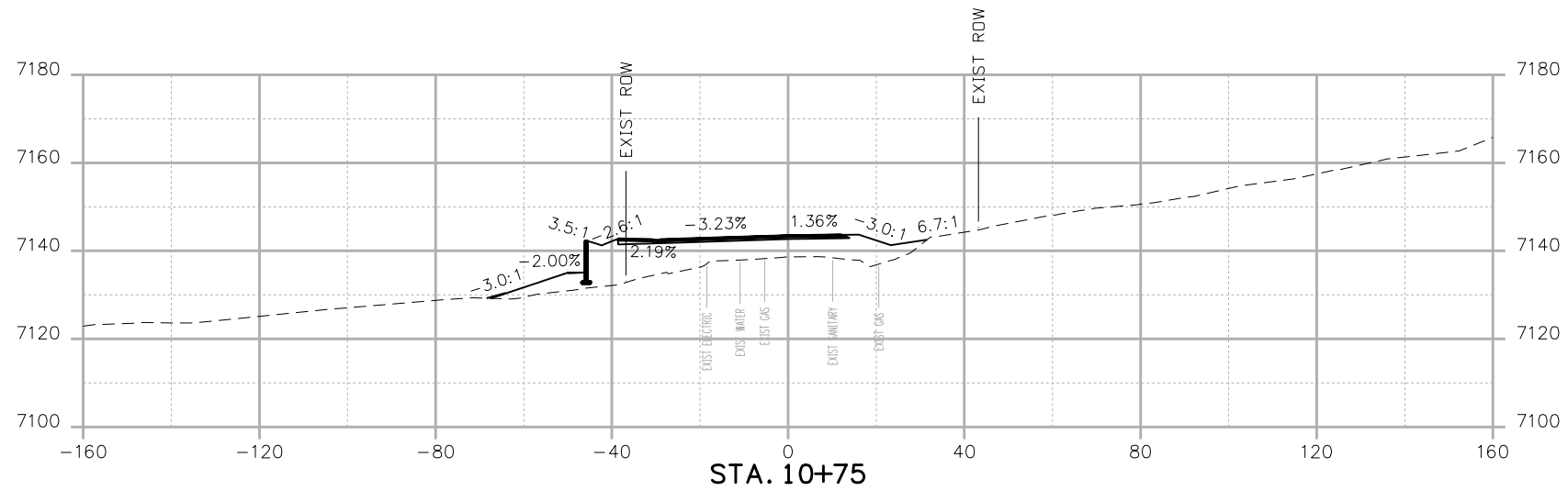
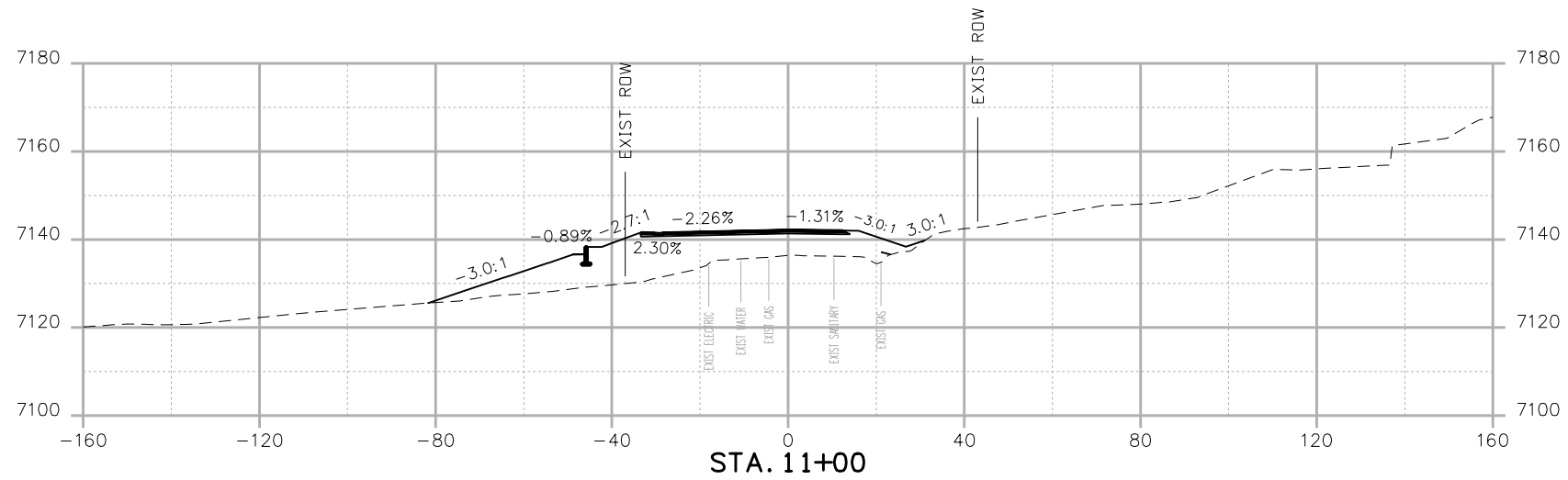
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 STA 105A-014
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Print Date: 4/18/2023
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Date:	Comments	Init.



No Revisions:
 Revised:
 Void:

**LAKE WOODMOOR DRIVE
 PROJECT A
 CROSS SECTIONS**

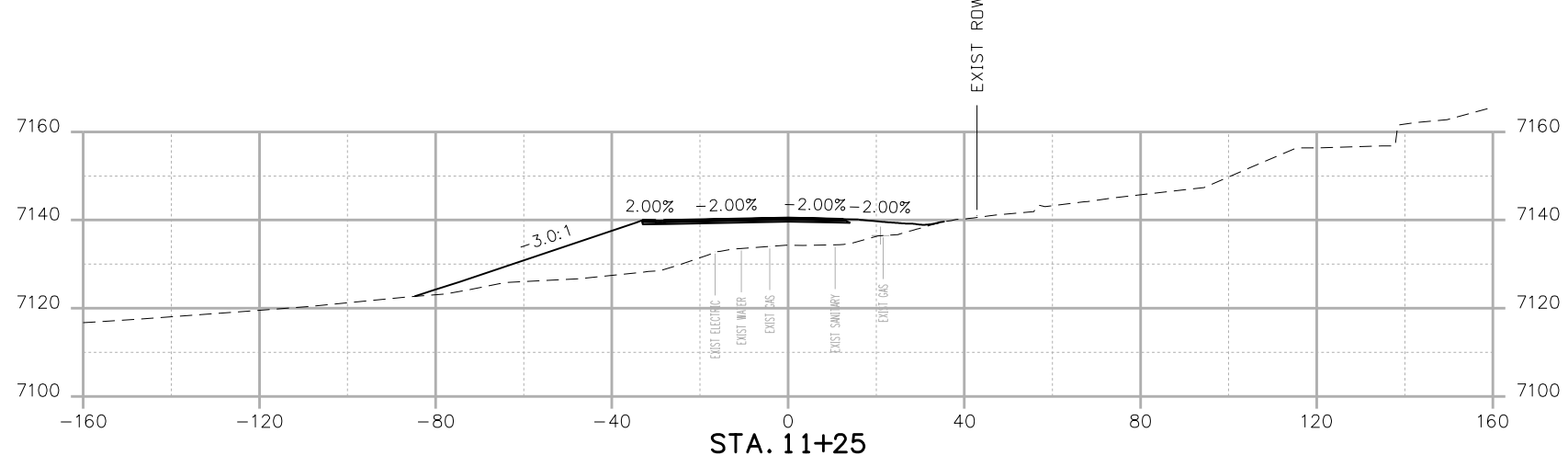
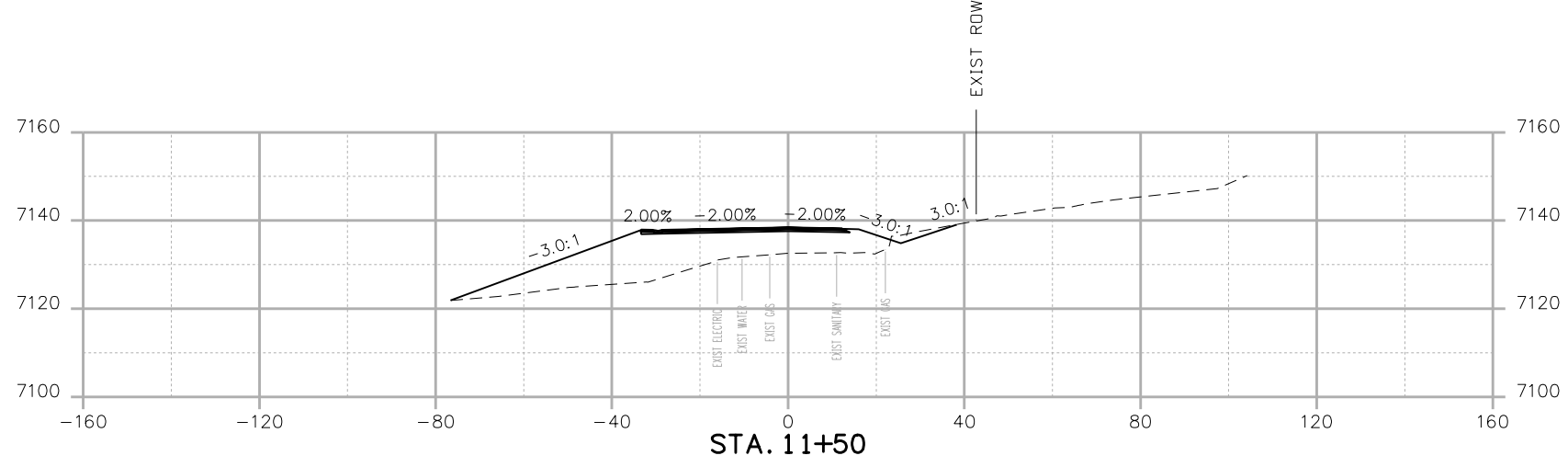
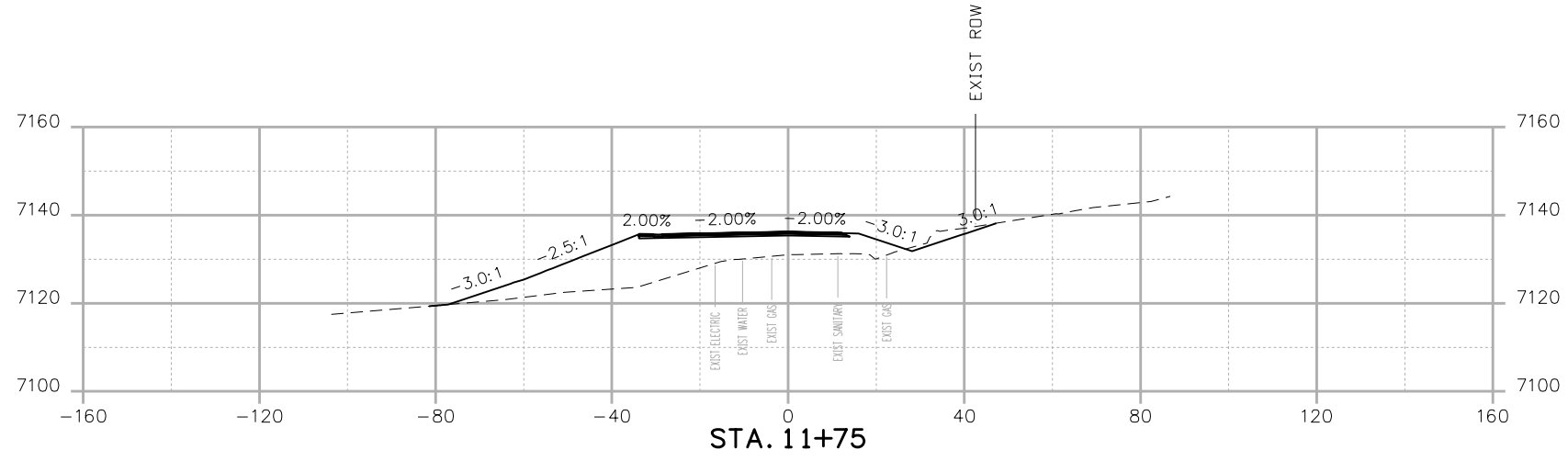
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Structure Numbers
 Subset Sheets: of

19734
 STA 105A-014
 Sheet Number XC 115 of 119



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Print Date: 4/18/2023
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Date:	Comments	Init.



No Revisions:
 Revised:
 Void:

**LAKE WOODMOOR DRIVE
 PROJECT A
 CROSS SECTIONS**

Designer:
 Detailer:
 Sheet Subset:

19734
 STA 105A-014
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